

Bicycle and Pedestrian Priority Area Plan

June 2017

The Village of Tilghman



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I. INTRODUCTION

As part of the Maryland Department of Transportation’s (MDOT) goal of enhancing multimodal transportation options, the Bicycle and Pedestrian Priority Areas (BPPA) program coordinates the Maryland Department of Transportation State Highway Administration’s (MDOT SHA) planning of bicycle and pedestrian facilities with local jurisdictions. According to the Annotated Code of Maryland, a BPPA is defined as a “geographical area where the enhancement of bicycle and pedestrian traffic is a priority.” Once an area is designated as a BPPA by MDOT, the development of a Bicycle and Pedestrian Priority Area Plan (BPPAP) begins.

In 2016, in response to an application submitted by Talbot County, MDOT designated MD 33 (Tilghman Island Road) within the Village of Tilghman in Talbot County as a BPPA. The BPPA designation was given to this historical working watermen’s community due to the lack of pedestrian and bicycle facilities in an area that experiences pedestrian and bicycle traffic along the main street, MD 33 (Tilghman Island Road). Homes, marinas, restaurants, lodging, parks, an environmental center, and an elementary school are all located directly along MD 33 (Tilghman Island Road) within the BPPA. However, as shown in **Figure 1**, the lack of sidewalks and roadway shoulders causes users of all modes, including pedestrians and bicyclists, to travel in the vehicular lanes. Most of the time, automobile drivers accommodate walkers or bikers in the roadway by slowly driving around them but, this condition is not ideal and poses as a safety concern as one bicyclist was hit by an automobile in 2016.

Figure 1 – MD 33 (Tilghman Island Road)

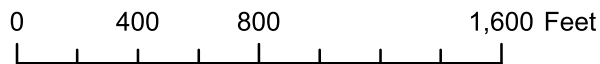


Expanding the transportation system to include designated space for pedestrians and bicyclists can benefit all residents and visitors, and can support economic growth within the Village of Tilghman, centered on heritage tourism. Community benefits of designated facilities for walking and bicycling include:

- Expanded travel choices for those living and working in the area;
- Support for tourism and the local economy; and
- More active lifestyles.

The purpose of this BPPAP is to document the existing conditions within the Village of Tilghman BPPA, identify options for potential bicycle and pedestrian improvements, and generally assess the potential impacts that would result with each option.

The study area, shown in **Figure 2**, extends along MD 33 (Tilghman Island Road) in Talbot County for a length of approximately one mile. The southern study limit is the point where MDOT SHA maintenance of MD 33 (Tilghman Island Road) begins, which is approximately 500 feet south of the Phillips Road/Wharf Road intersection. The northern study limit is the northern Camper Circle intersection.



Village of Tilghman Bicycle and Pedestrian Priority Area Plan



BPPAP Boundary

Figure 2

June 2017

II. EXISTING CONDITIONS SURVEY

The existing conditions survey was collected using two methods: 1) a desktop review of available data and information; and 2) a field visit. The desktop review of the existing conditions included reviewing the study limits on Google Streetview, reading Talbot County's application to the BPPA program, obtaining available Geographic Information Systems (GIS) data, and examining the output from MDOT's Model of Sustainability and Integrated Corridors. The field visit was conducted on February 28, 2017 and was attended by representatives from MDOT, Talbot County, and the consultant team (RK&K and Toole Design Group). The findings from the existing conditions survey are presented below.

Roadway

Within the study area, MD 33 (Tilghman Island Road) is a two-lane, undivided highway with no access control, and an annual average daily traffic volume of 2,421 vehicles. The posted speed limit is 25 miles per hour through the study area and the roadway functions as a rural major collector. The lane widths vary between ten and 12 feet, and the typical section includes an open section with no paved shoulder, as shown in **Figure 3**. According to the most recent GIS data from Talbot County and the State of Maryland, the right-of-way width of the existing roadway is approximately 30 feet between Mission Road and Knapps Narrows and approximately 50 feet for the remainder of the study area.

In most cases, a ditch is located immediately adjacent to the paved roadway to capture stormwater runoff. Due to the relatively flat topography of Tilghman Island and the study area, maintaining positive drainage is a challenge. During the field visit, many of the ditches were observed to have standing water, despite not having rain for the previous three days, as shown in **Figure 4**.

While there are no signalized intersections in the study area, there are 13 unsignalized intersections and numerous private driveway entrances.

The one bridge structure within the study area is the drawbridge over Knapps Narrows, which is pictured in **Figure 5**. On both approaches to the bridge, gates are lowered when the drawbridge is open to prevent pedestrian, bicycle, and automobile traffic from using the bridge. The typical section on the bridge includes one vehicular lane in each direction and a 4.33-foot-wide sidewalk adjacent to the southbound lane.

Figure 3 – Existing MD 33 (Tilghman Island Road) Typical Section

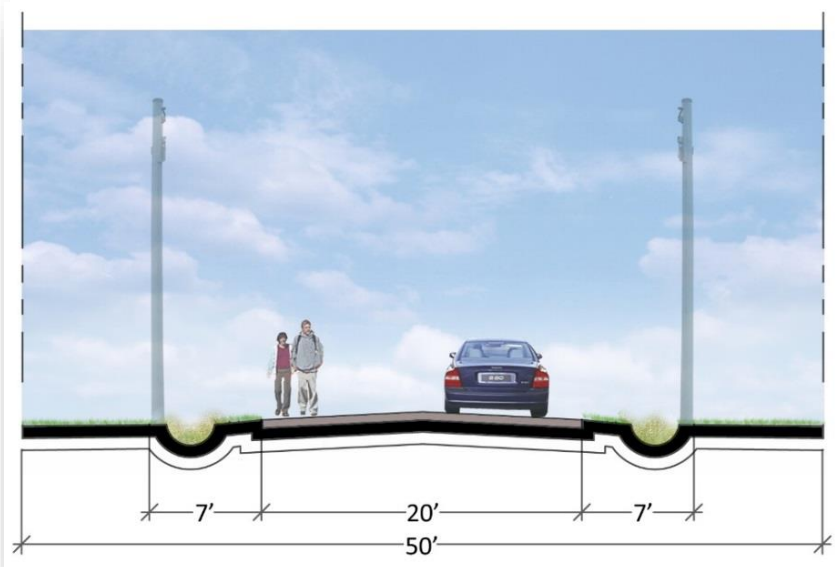


Figure 4 – Existing Roadway and Drainage System (Looking south from Chicken Point Road)



Figure 5 – Knapps Narrows Drawbridge (Looking north from Phillips Wharf Environmental Center)



Pedestrian and Bicycle Facilities

North of the BPPA, wide shoulders with pavement markings and signage support bicycling along MD 33 (Tilghman Island Road). Within the BPPA, the existing pedestrian facilities along the corridor are limited and sporadic and there are no dedicated bicycle facilities besides the travel lanes. There is only about 1,470 feet of existing pedestrian facilities within the BPPA, which is approximately 14 percent of the corridor (when both sides of the roadway are included). In addition to the existing pedestrian facilities presented in **Table 1**, there are a total of five pedestrian curb ramps within the study area. Only portions of the pedestrian facilities and none of the pedestrian curb ramps meet the current Americans with Disabilities Act (ADA) guidelines. **Figures 6 through 8** include pictures of some of the pedestrian facilities described above.

During the field visit, several pedestrians were observed walking along MD 33 (Tilghman Island Road) within the automobile travel lanes. To maneuver around the pedestrians, vehicles would often cross the double-yellow centerline and travel in the opposing lane for a short distance.

Table 1 - Existing Pedestrian Facilities

Direction	Location	Length	Description
Northbound	Tilghman United Methodist Church	50 feet	Brick sidewalk
Northbound	Chicken Point Road to Phillips Wharf Environmental Center	240 feet	Gravel path
Northbound	Phillips Wharf Environmental Center to Drawbridge over Knapps Narrows	200 feet	Asphalt sidewalk
Southbound	Knapp's Narrows Marina & Inn to Oyster Shell Road	720 feet	Concrete/asphalt sidewalk
Southbound	Tilghman Elementary School	260 feet	Concrete sidewalk

Figure 6 – Existing Brick Sidewalk at Tilghman United Methodist Church (Looking south)



Figure 7 – Existing Gravel Path (Looking north at entrance to Phillips Wharf Environmental Center)



Figure 8 – Existing Concrete Sidewalk at Tilghman Elementary School (Looking south)



Crash History

For the three-year period beginning on January 1, 2013 and ending on December 31, 2015, a total of five crashes occurred within the study area, including one pedestrian crash. All five crashes occurred under dry roadway conditions and between Gibsontown Road and the northern study limit, Camper Circle. The pedestrian crash involved a person that was struck while crossing Gibsontown Road by a vehicle turning left onto Gibsontown Road. Three of the five crashes occurred between 5:00 PM and 8:00 PM. The type and severity of each crash is listed below. Note that a sideswipe crash is defined as a crash where the side of one vehicle hits the side of another vehicle, and an angle crash is defined as a crash where the front of one vehicle hits the side of another vehicle. Sideswipe crashes occur between vehicles traveling in the same direction while angle crashes typically occur at intersections where a turning vehicle collides with a through vehicle.

1. Sideswipe (property damage)
2. Angle (property damage)
3. Pedestrian (injury)
4. Fixed Object (property damage due to alcohol)
5. Other (injury due to falling asleep, fainting, etc.)

Utilities

Through most of the study area, utility poles for overhead electric lines are located along both sides of MD 33 (Tilghman Island Road), as shown in **Figure 9**. In many cases, the utility poles are located within or just beyond a roadside drainage ditch, and within ten feet of the adjacent travel lane. Underground utilities were not investigated in this study.

Figure 9 – Existing Utility Poles Along Both Sides of MD 33 (Looking south from Gibsontown Road)



Cultural Resources

According to GIS data from the State of Maryland and Talbot County, there are 49 properties near the Village of Tilghman BPPA that are listed on the Maryland Inventory of Historic Places (MIHP). Of the 49 properties, 16 are located directly adjacent to MD 33 (Tilghman Island Road). In addition, nearly the entire BPPA from the southern study limit to Knapps Narrows is located within the Tilghman Island Historic District. Twelve of the 49 properties listed on the MIHP are also listed on the National Register of Historic Places. However, all 12 properties listed on both registers are skipjacks within the local marinas and none of them are located directly along the MD 33 (Tilghman Island Road) corridor. The 16 properties that are listed on the MIHP and are located directly along MD 33 (Tilghman Island Road) are presented in **Table 2**.

Table 2 – Properties Along MD 33 (Tilghman Island Road) Listed on the MIHP

MIHP Inventory Number	Name
T-486	Tilghman Island Bridge
T-836	W.H. Cummings House
T-837	Tilghman United Methodist Church
T-838	Ben Harrison House
T-844	Harry Howeth House
T-845	Howeth Department Store
T-846	Howeth Barber Shop
T-847	Tilghman Bank
T-848	Sinclair House
T-854	Tilghman Country Store
T-855	Red Men’s Hall
T-856	Jackson House
T-859	Lee House
T-861	Mary McCarty’s Store
T-862	Tilghman Pool Hall
T-864	Miss Hett’s House

Natural Resources

According to the latest available GIS data from the Department of Natural Resources, there are ten wetlands near the Village of Tilghman BPPA. However, none of the ten wetlands are located directly along MD 33 (Tilghman Island Road).

In addition to the crossing of the Knapps Narrows, there is one additional body of water along MD 33 (Tilghman Island Road) in the study area. An unnamed tributary to the Choptank River starts at the shoulder of MD 33 (Tilghman Island Road) and runs perpendicular to MD 33 (Tilghman Island Road) near the driveway entrance to Dogwood Harbor.

There are two locations within the study area where MD 33 (Tilghman Island Road) is within a Federal Emergency Management Agency (FEMA) 100-Year Floodplain. The first location is near the driveway entrance to Dogwood Harbor and the second location is between the Chicken Point Road intersection and the bridge over Knapps Narrows.

Most of the Village of Tilghman BPPA is located within a Chesapeake Bay Critical Area that is classified as a Limited Development Area (LDA). The southernmost 400 feet of the BPPA is the only section of the BPPA that is not located within the Critical Area and is consequently not classified as a LDA.

There are two properties that are classified as Protected Lands along MD 33 (Tilghman Island Road) within the Village of Tilghman BPPA. The first property is Dogwood Cove Park, which is located at Dogwood Harbor and is a 1.28-acre site federally protected by the United States Park Service. The second property is Tilghman Back Creek Park which is locally protected.

III. RELATED PROJECTS

Master Plan Recommendations

In 2016, Talbot County began the development of the *Tilghman Village Master Plan* and a first draft of the master plan was published in February 2017 for public review and comment. Subsequent drafts have been produced, with the latest draft published in May 2017. While the draft master plan does not primarily focus on transportation, it does recommend the identification of ways to increase opportunities for pedestrian and bicycle safety along MD 33 (Tilghman Island Road) without affecting the existing character of the roadway and/or the surrounding environment. However, there are differing opinions between the lifelong residents of Tilghman and the newer or part-time residents on not

Figure 10 – Tilghman Village Master Plan



only the type of pedestrian improvements that should be implemented, but also the need for improvements in the first place. This is further discussed in Section IV: Public Input.

The master plan also discusses the possibility of re-designating portions of the existing LDA Critical Area as an Intensely Developed Area (IDA). A re-designation to an IDA would allow for more concentrated development, which could increase pedestrian and bicycle traffic within the Village of Tilghman BPPA. Although the actual boundaries of the IDA designation would be determined as part of the master plan implementation, the draft master plan suggests considering an IDA designation that coincides with the recommended boundaries of an overlay zoning district. The boundaries of the overlay district recommended in the draft master plan include the Village of Tilghman BPPA boundaries.

Chesapeake Country Scenic Byways

The Michener’s Chesapeake Country Scenic Byway includes MD 33 (Tilghman Island Road) through the Village of Tilghman BPPA. The mission of the Maryland Scenic Byways Program is:

“To enhance the quality of life and pride in local communities and visitor appeal by identifying and promoting, as well as encouraging the responsible management and preservation of the state’s most scenic, cultural and historic roads and surrounding resources.”

The Michener’s Chesapeake Country Scenic Byway Corridor Management Plan (Management Plan) describes the priorities and goals to help highlight and interpret the region’s rich history and accentuate its rural character, maritime culture, and natural resources. According to the Management Plan, the two

most important variables that affect the overall travel experience of the Scenic Byway are: 1) the way in which the roadway is designed and used; and 2) the way the adjoining lands are designed and managed.

The Management Plan discusses the pedestrian safety issues within the Village of Tilghman and identifies the need for more space for pedestrians and bicyclists due to the lack of paved shoulders along the Scenic Byway through Tilghman. The Management Plan also provides specific types of improvements, such as “share the road” signing for bicyclists, or removing vegetation that encroaches upon the roadway as methods for improving bicycle and pedestrian safety that are alternatives to constructing new paved facilities. In congested or high crash-rate areas, the Management Plan encourages a feasibility study be conducted to analyze the possibility of constructing a new, paved, pedestrian or bicycle facility, so long as it does not detract from the character-defining features of the Scenic Byway.

Other Studies

Other than the ongoing work with the *Tilghman Village Master Plan*, there are no known pedestrian or bicycle studies at this time.

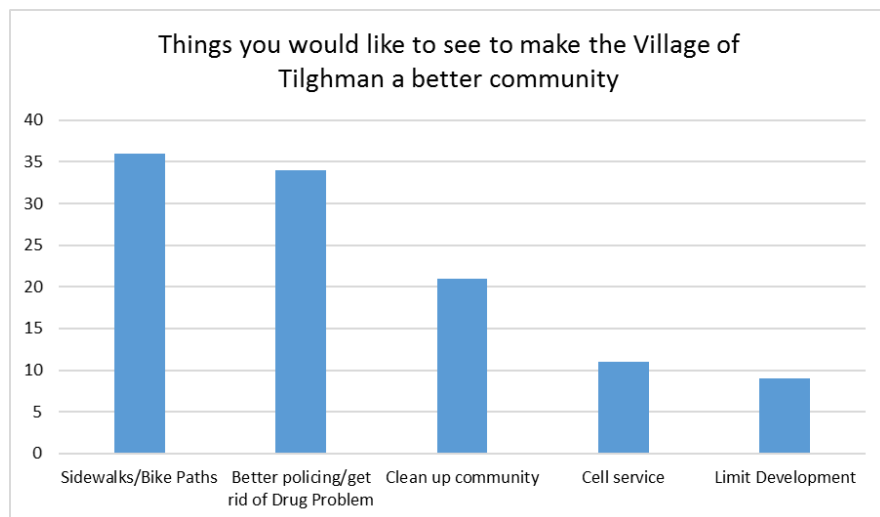
Planned MDOT SHA Projects

Three of the five existing non-compliant pedestrian curb ramps are expected to be reconstructed to meet ADA compliance under the Fiscal Year 2018 areawide contract managed by MDOT SHA. There are no additional plans for sidewalk and bicycle improvements within the BPPA at this time.

IV. PUBLIC INPUT

While public outreach activities were not included for the development of this BPPAP, Talbot County conducted a public survey in the Summer of 2016 with 128 respondents to gather input to be used in developing the *Tilghman Village Master Plan*. The results of the survey are reflective of the differing communities and views on Tilghman Island with respect to the need for pedestrian

Figure 11 – Tilghman Village Master Plan Public Survey Results



and bicycle facilities. For example, **Figure 11** illustrates respondents’ desire for “sidewalks or bike paths” when asked an open-ended question about what residents would like to see to make the Village of Tilghman a better community. Additionally, “sidewalks” was the third-most popular answer for another open-ended question on the specific improvements that would enhance the quality of life on Tilghman Island. Some responses indicated that bicycle or pedestrian improvements are desired, specifically on a minimal scale. One respondent supported constructing a shoulder along one side of MD 33 (Tilghman Island Road) to be used by pedestrians and bicyclists instead of constructing new sidewalk.

Throughout the survey responses and during public outreach meetings, there was also a group of residents that did not want to see overdevelopment on the Island or major changes along MD 33 (Tilghman Island Road). Multi-generational Tilghman residents felt that the traditional way of life respected the unwritten rule of “share the road” and saw no need for sidewalks and other bicycle and pedestrian improvements. This was in contrast with newer Tilghman residents who expressed concern for having a more safe and dedicated place to walk.

V. IMPLEMENTATION CONSIDERATIONS

Location of Pedestrian and Bicycle Facilities

Most rural roadways such as MD 33 (Tilghman Island Road) are centered on the right-of-way with a drainage ditch on each side and often narrow or no shoulders. Space available for pedestrians and bicyclists is limited, with no more than two to five feet for wide shoulders or a shared-use path. Where the ditch is shallow and there is adequate space, the shared-use path can be built between the ditch and the roadway. As described in the next chapter, the proposed alignment along MD 33 (Tilghman Island Road) includes crossings of MD 33 in order to minimize property and drainage system impacts.

Right-of-Way

As described in the existing conditions inventory, the existing roadway right-of-way along MD 33 (Tilghman Island Road) within the BPPA varies between 30 feet and 50 feet. Where the existing right-of-way is only 30 feet, right-of-way acquisition, easement establishment, or a right-of-entry agreement may be needed. It is cautioned though that acquiring property from adjacent land owners can be a difficult process and needs to be handled carefully.

An alternate solution, when long stretches of right-of-way are not available for construction of a continuous path, is to build short path connections to key destinations or to close gaps between existing pathways. These pathway projects typically result from being retrofitted into local roadway right-of-way. Property owners may be more comfortable with shorter paths that connect to schools and parks than a long continuous path that requires additional right-of-way.

Drainage

Constructing a new trail or sidewalk with an impervious material like asphalt or concrete will increase the stormwater run-off, which could result in changes to the stormwater management system. Using pervious materials would reduce the amount of run-off into the existing drainage system. Please note, MDOT SHA would need to approve the use of pervious materials for any new facilities along state roads, as the standard is to use concrete or asphalt.

Safety (Roadway Crossings)

A pathway parallel to the roadway, especially where the pathway is only on one side of the roadway, requires designated locations for pedestrians and bicyclists to cross to the other side, and to cross side-street intersections, as shown in **Figure 12**. As described in the next chapter, the proposed alignment along MD 33 (Tilghman Island Road) would result in four crossings of MD 33 and numerous side street crossings. The four MD 33 crossings would be located at the intersections with Foster Road, Sinclair Avenue, Tongers Basin Road, and the entrance to the Knapp’s Narrows Marina and Inn.

Figure 12 – Crossing at Side Street Intersection



Maintenance

It is important to consider who will be responsible for maintaining the proposed facility, especially if it is along a new alignment. Per the Maryland Vehicle Law Annotated, shared-use paths and sidewalks will not be maintained by MDOT SHA. Therefore, Talbot County will be responsible for maintaining any proposed sidewalk or shared-use path that is constructed along MD 33 (Tilghman Island Road).

MUTCD Guidelines

The latest version of the *Manual on Uniform Traffic Control Devices* (MUTCD) should be used to determine the type, size, location, and spacing for any proposed signing and marking improvements along the corridor. Talbot County should also coordinate any improvements with MDOT SHA Office of Traffic and Safety.

Scenic Byway

Since MD 33 (Tilghman Island Road) through the Village of Tilghman is part of the Michener’s Chesapeake Country Scenic Byway, all design guidelines and specifications issued in the Byway’s Corridor Management Plan should be followed for any improvement that is implemented. In general, any proposed improvement should not detract from the character-defining features of the Byway.

VI. RECOMMENDED PEDESTRIAN AND BICYCLE IMPROVEMENTS

The options for the MD 33 corridor within the Village of Tilghman BPPA are limited by the context of the roadway and surrounding community and by the available right-of-way. As described in the previous sections, while bicycle and pedestrian improvements are supported by some of the residents, there is also a concern that the improvements fit within the character of the rest of the Island and the existing roadway. The right-of-way constraints limit the recommendations that are available to pursue, but do allow for safe

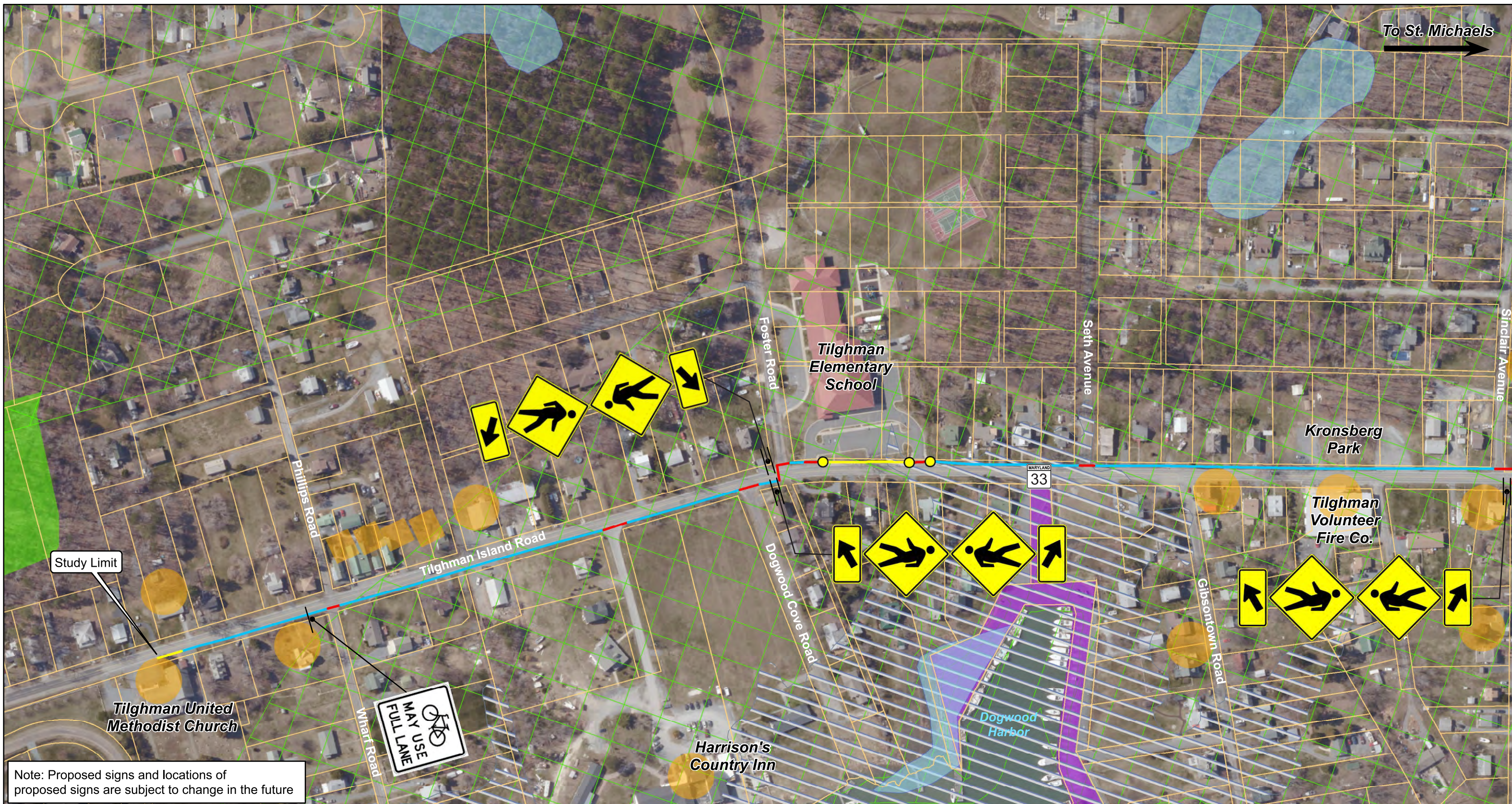
and comfortable pedestrian and bicycle facilities to be implemented. Four options were developed for the Village of Tilghman BPPA.

Option A includes minor, low-cost improvements such as upgrading the existing pedestrian facilities to meet ADA compliance and installing signs.

Options B, C, and D call for the improvements included in Option A, as well as the construction of new pedestrian and/or bicycle facilities. The locations of the new facilities are the same for Options B, C, and D, and are shown on **Figures 13 and 14**. The difference between the options is the type of improvement that is recommended. **Table 3** summarizes the improvements included in each option and more detailed information is included below.

Table 3 – Recommended Improvements

	Option A	Option B	Option C	Option D
Pedestrian Improvements	Reconstruct existing pedestrian facilities to meet ADA compliance	Option A plus construct new 5' sidewalk	Option A plus construct new 10' shared-use path	Option A plus construct new 10' shared-use path
Bicycle Improvements	Install signing upgrades	Option A	Option A plus construct new 10' shared-use path	Option A plus construct new 10' shared-use path
Other Improvements	None	None	None	Install street trees and improve drainage swales



Study Limit

Tilghman United Methodist Church

WHARF ROAD
BICYCLE
MAY USE
FULL LANE

Harrison's Country Inn

Dogwood Harbor

Tilghman Volunteer Fire Co.

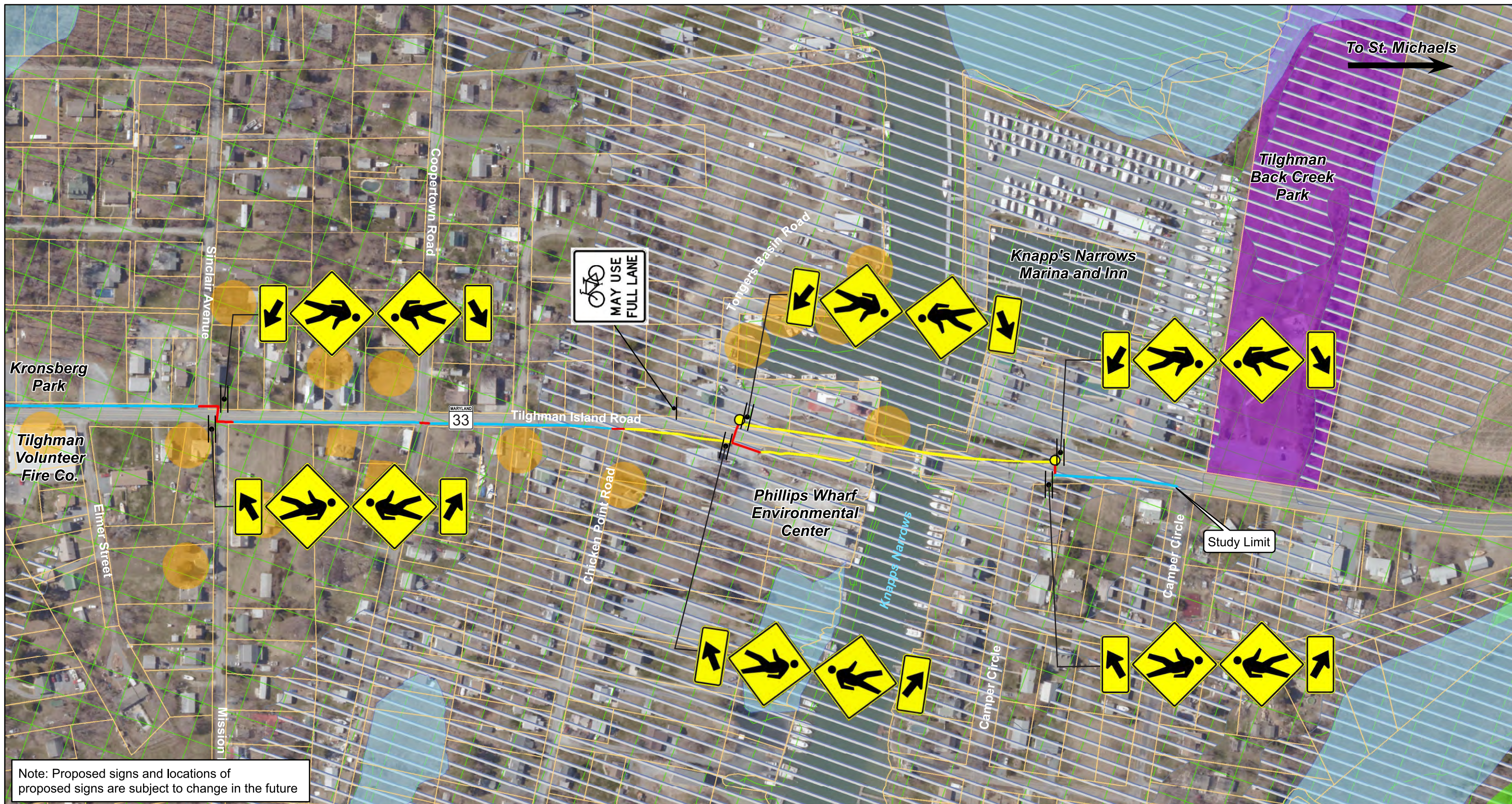
Tilghman Elementary School

Kronsberg Park

To St. Michaels












Note: Proposed signs and locations of proposed signs are subject to change in the future

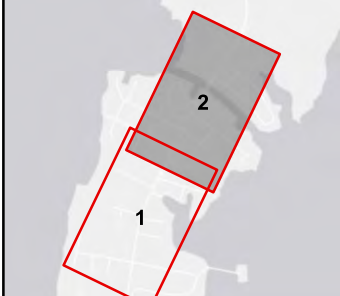
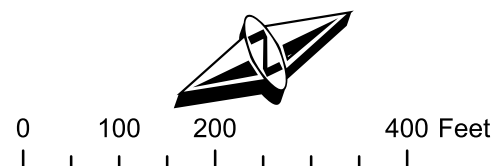
Legend <ul style="list-style-type: none"> ● Reconstruct Existing ADA Curb Ramp — Construct New Pedestrian/Bicycle Facility — Reconstruct Existing Pedestrian/Bicycle Facility — Install New Crosswalk ● Install New Sign 		<ul style="list-style-type: none"> DNR Wetlands FEMA 100-Year Floodplains Critical Areas Forested Area Protected Lands 		<ul style="list-style-type: none"> MD Inventory of Historic Properties 								Village of Tilghman Bicycle and Pedestrian Priority Area Plan <i>Recommended Improvements</i> Map 1 of 2	
						Figure 13		June 2017					



Note: Proposed signs and locations of proposed signs are subject to change in the future

Legend

-  Reconstruct Existing ADA Curb Ramp
-  Construct New Pedestrian/Bicycle Facility
-  Reconstruct Existing Pedestrian/Bicycle Facility
-  Install New Crosswalk
-  Install New Sign
-  DNR Wetlands
-  FEMA 100-Year Floodplains
-  Critical Areas
-  Forested Area
-  Protected Lands
-  MD Inventory of Historic Properties



Village of Tilghman Bicycle and Pedestrian Priority Area Plan

Recommended Improvements
Map 2 of 2

Figure 14

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Option A – Reconstruction of Existing Facilities and Signage

Option A includes reconstructing the existing pedestrian facilities to meet ADA requirements and installing appropriate signing along MD 33 (Tilghman Island Road) to prompt automobile drivers of the potential for bicyclists in the roadway.

As described in the Existing Conditions section, there are several outdated ADA curb ramps and a few minor segments of sidewalk along MD 33 (Tilghman Island Road), but portions of the sidewalk and none of the curb ramps are ADA-compliant. While the curb ramps are expected to be reconstructed in Fiscal Year 2018, Option A would involve reconstructing the remaining non-compliant pedestrian facilities to meet ADA-compliance.

Option A would also include installing signing upgrades, such as the regulatory/informational “Bicycles May Use Full Lane” sign (R4-11) at both the southern and northern limits of the BPPA (**Figure 15**). Usage of the R4-11 sign at these locations would be consistent with the guidance in MDOT SHA’s *Bicycle Policy and Design Guidelines* (January 2015); however, the most recent version of the MUTCD should be used in determining the exact signing and placement to be used if signing upgrades are implemented. The MDOT SHA guidelines allow for the use of the R4-11 sign at intervals of one-half mile through areas with lane widths less than 13 feet, so it may be appropriate to also install a R4-11 sign for both directions at the midpoint of the BPPA.

Figure 15 – MUTCD R4-11



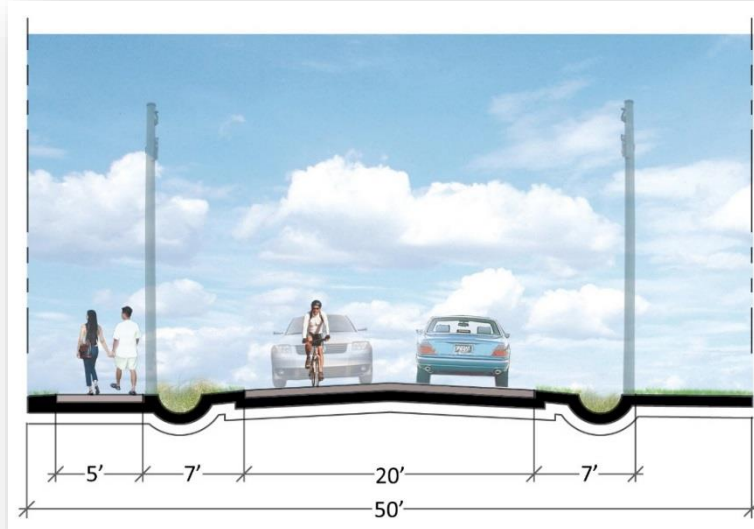
Option A provides the lowest impact and lowest cost option, but it does not provide a separated facility for pedestrians or bicyclists to use instead of the roadway. This is currently not an issue that has caused any serious crashes or fatalities mostly because of the low traffic volumes, but as mentioned in the Scenic Byways Management Plan, traffic speeds need to be addressed and a separate facility should be explored and not precluded. Option A also does not enhance the existing drainage system or swales, or provide street trees or streetscape treatments. The recommendations included in Option A are also included in the recommendations for Options B, C, and D.

Option B – Construct New 5’ Sidewalk

In addition to the improvements recommended in Option A, Option B would include constructing new sidewalk along the alignment shown on **Figures 13 and 14**, installing new crosswalk striping and signage at four intersections for crossings of MD 33 (Tilghman Island Road), and installing new crosswalk striping at multiple side street crossings.

The sidewalk would be five feet wide, in accordance with MDOT SHA standards, and would be located on the outside of the existing drainage ditch, as shown in **Figure 16**. The existing utility poles may be impacted where the pole locations are further from the roadway and drainage ditch and would impede the proposed sidewalk alignment. The sidewalk could potentially be constructed with a material such as pervious asphalt or porous concrete, to decrease the stormwater run-off and reduce ponding along the walkway.

Figure 16 – Option B Proposed Typical Section



The proposed alignment of the sidewalk in Option B covers the entire length of the Village of Tilghman BPPA, but is only proposed along one side of MD 33, due to the constrained right-of-way, existing roadside drainage issues, and anticipated pedestrian volumes. The proposed sidewalk location was chosen based on the side that would be the easiest to implement from a right-of-way and drainage perspective. For example, immediately north of the Phillips Road intersection, there is a small parking area directly adjacent to the southbound travel lane for a restaurant and museum. If the improvements were to be located on that side of MD 33 (Tilghman Island Road), the parking for the businesses would be eliminated. The same situation occurs along the southbound lane near the Coopertown Road intersection where a business and several homes are located close to the roadway. Therefore, the proposed sidewalk in Option B is located as follows:

- Along the east side of MD 33 between the southern BPPA limit and Foster Road;
- Along the west side of MD 33 between Foster Road and Sinclair Avenue;
- Along the east side MD 33 between Sinclair Avenue and Tongers Basin Road;
- Along the west side of MD 33 between Tongers Basin Road and the entrance to Knapp's Narrows Marina and Inn; and
- Along the east side of MD 33 between the entrance to Knapp's Narrows Marina and Inn and Camper Circle.

The proposed alignment results in four crossings of MD 33 (Tilghman Island Road) within the BPPA, which could be accommodated with painted crosswalks and signing. If the proposed alignment is selected, the MDOT SHA Office of Traffic and Safety would need to review and approve the four crossing locations. Based on guidance in the *Maryland Manual on Uniform Traffic Control Devices for Streets and Highways*, the appropriate signing to include at each crossing would include the W11-2 pedestrian crossing sign, in combination with the W16-7P diagonal downward-pointing arrow sign, as shown in **Figure 17**. As shown on **Figures 13 and 14**, the proposed crosswalk locations are at the following intersections:

- Foster Road;
- Sinclair Avenue;
- Tongers Basin Road; and
- Entrance to Knapp's Narrows Marina and Inn.

Figure 17 – MUTCD
W11-2 and W16-7P



Only striping is proposed at the proposed crosswalks for the multiple side street crossings.

In locations where there is already an existing pedestrian facility along the proposed alignment of Option B, the existing facility could either be reconstructed to ADA-compliance using the existing material as proposed in Option A, or it could be reconstructed with the five-foot-wide sidewalk proposed in Option B to be consistent with the new construction within the rest of the BPPA. For example, Option B proposes to reconstruct the existing brick sidewalk in front of Tilghman United Methodist Church. The existing brick sidewalk could be replaced in-kind with brick, as long as it is also upgraded to ADA-compliance and the brick sidewalk is not a contributing element of the property's MIHP listing, or it could be replaced with the pervious asphalt or porous concrete that is used for all of the new pedestrian facilities in Option B.

Option B would provide a separate facility for pedestrians and could be constructed within the existing right-of-way for most of the corridor. Where the existing roadway right-of-way width is 50 feet, the proposed sidewalk in Option B could be designed to be completely within the right-of-way. Where the existing right-of-way width is only 30 feet, the County would need to consider that a right-of-entry agreement would need to be established with the property owner. Temporary easements on private property may also be required during construction to provide adequate space for the contractor to work. Option B could create conflicts between pedestrians and bicyclists if the modes mix on the sidewalks. Other than the signing upgrades described in Option A that would be installed, Option B would not include any constructed facility improvements for bicyclists. Option B also would not enhance the existing drainage system or swales, or provide street trees or streetscape treatments.

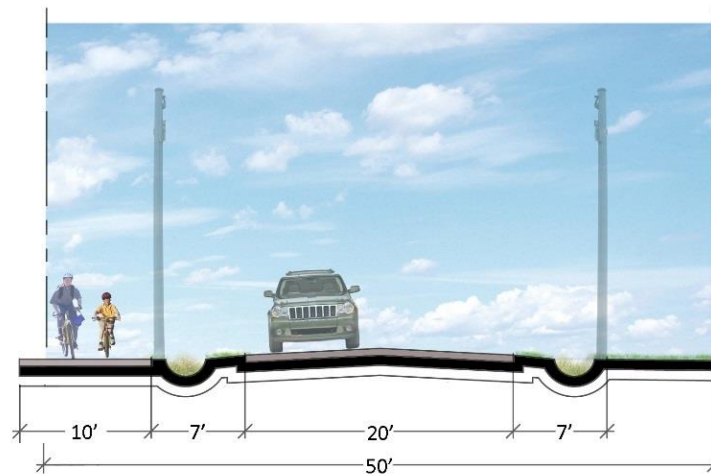
Option C – Construct New 10' Shared-Use Path

In addition to the improvements recommended in Option A, Option C would include constructing a new shared-use path along the alignment shown on **Figures 13 and 14**, installing new crosswalk striping and signage at four intersections for crossings of MD 33 (Tilghman Island Road), and installing new crosswalk striping at multiple side street crossings.

The shared-use path would be ten feet wide and would be located on the outside of the existing drainage ditch, as shown in **Figure 18**. The existing utility poles may be impacted where the pole locations are further from the roadway and drainage ditch and would impede the proposed shared-use path alignment. The shared-use path could potentially be constructed with a material such as pervious asphalt or porous concrete, to decrease the stormwater run-off and reduce ponding along the path.

The alignment of the shared-use path and the locations of the proposed crosswalk striping and signing would be the same as in Option B. As previously described, the alignment strategically jogs back and forth across MD 33 to minimize the right-of-way and drainage impacts.

Figure 18 – Option C Proposed Typical Section



In locations where there is already an existing pedestrian facility along the proposed alignment of Option C, the existing facility could either be reconstructed in-kind to meet ADA-compliance as proposed in Option A, or it could be reconstructed with the ten foot-wide shared-use path proposed in Option C to be consistent with the new construction within the rest of the BPPA. For example, Option C proposes to reconstruct the sidewalk on the bridge over Knapps Narrows. However, it is not recommended that the sidewalk be replaced with the shared-use path that is proposed in Option C due to the cost to widen the bridge.

Option C would provide a facility for bicycle and pedestrians that is separated from the main roadway and could be constructed mostly within the existing right-of-way for most of the corridor. As shown in **Figure 18**, where the existing roadway right-of-way width is 50 feet and the drainage ditch width is seven feet, the proposed shared-use path in Option C would extend beyond the right-of-way line by two feet. Note that the actual width of the drainage ditch varies, meaning Option C could be completely within the existing right-of-way in some locations. However, where the existing right-of-way width is only 30 feet, a right-of-entry agreement would need to be established with the property owner. Temporary easements on private property may also be required during construction to provide adequate space for the contractor to work. Option C would also include the signing upgrades proposed in Option A, which would benefit any cyclists that prefer to travel within the main roadway. Option C would not enhance the existing drainage system or swales, or provide street trees or streetscape treatments.

Examples in Other Communities

Some examples of shared-use paths that are along waterways and function as an “out-and-back” corridor similar to Village of Tilghman are in Nantucket Island, Massachusetts and along the Outer Banks in North Carolina.

The Sconset Path and the Mandaket route in Nantucket Island (**Figure 19**) provide transportation options for traveling locally without a motor vehicle. In fact, many short trips take less time on foot or bicycle. The pathways along North Carolina’s Outer Banks (**Figure 20**) support tourism and provide mobility options for residents. A study by the North Carolina Department of Transportation shows that these paths affect vacation decisions by those who come to the area. Visitors and residents appreciate the safety the trails provide, in addition to the health, fitness, and quality of life benefits. The shared-use path on

Emerald Isle, North Carolina (**Figure 21**) includes walkways across the drainage ditch and periodic crosswalks, similar to the alignment proposed above.

Figure 19 – Shared-Use Path in Nantucket Island, MA



Figure 20 – Shared-Use Path in the Outer Banks, NC



Figure 21 – Shared-Use Path in Emerald Isle, NC

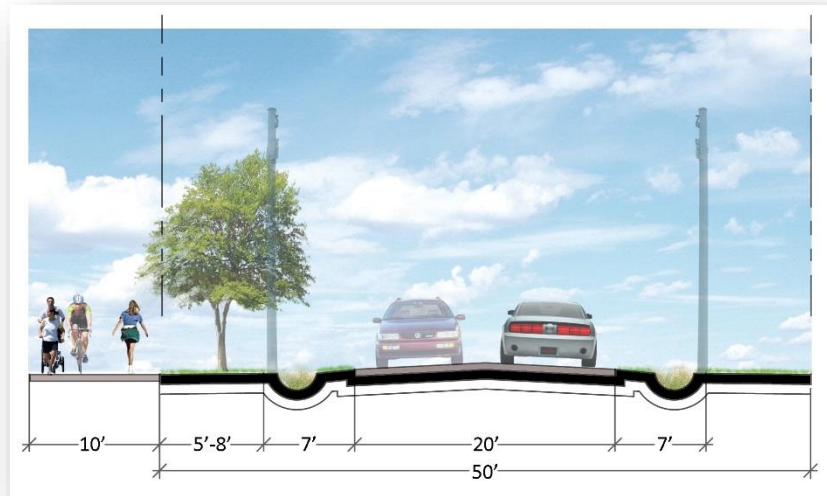


Option D – Construct New 10' Shared-Use Path and Street Trees

In addition to the improvements recommended in Option A, Option D would include constructing a new shared-use path along the alignment shown on **Figures 13 and 14**, installing new crosswalk striping and signage at four intersections for crossings of MD 33, and installing new crosswalk striping at multiple side street crossings. In addition, street trees and drainage improvements would be made in the buffer between MD 33 (Tilghman Island Road) and the proposed shared-use path to enhance the aesthetics of the roadway.

Figure 22 – Option D Proposed Typical Section

The shared-use path would be ten feet wide and would be located on the outside of the existing drainage ditch and a proposed five- to eight-foot-wide buffer for tree plantings, as shown in **Figure 22**. The tree lawn/buffer area may vary in width depending on available space and impacts to right-of-way costs. The existing utility poles can be avoided by constructing the new facility outside the utility corridor. The



path could potentially be constructed with a material such as pervious asphalt or porous concrete, to decrease the stormwater run-off and reduce ponding along the path.

The alignment of the shared-use path and the locations of the proposed crosswalk striping and signing would be the same as in Option B. As previously described, the alignment jogs back and forth across MD 33 (Tilghman Island Road) to minimize the right-of-way and drainage impacts.

In locations where there is already an existing pedestrian facility along the proposed alignment of Option D, the existing facility could either be reconstructed with the ten-foot-wide shared-use path proposed in Option D, or in-kind to ADA-compliance, as proposed in Option A. For example, due to cost, Option D proposes to only reconstruct the sidewalk on the bridge over Knapps Narrows instead of replacing it with the shared-use path in Option D, which requires widening the bridge.

Option D would provide the best user experience along the corridor because it provides a facility for bicycles and pedestrians that is separated from the main roadway, enhances the existing swale and drainage system, and provides aesthetically-pleasing street trees along the corridor. It also includes the signing upgrades proposed in Option A, benefiting any cyclists that prefer to use MD 33 (Tilghman Island Road) instead of the proposed path. However, Option D would be the most difficult option to implement due to costs and right-of-way impacts along most of the corridor. Differing views may arise from the public as some residents may feel the improvements do not match the character of the existing roadway or community, while other residents may prefer Option D for the pedestrian and bicycling, drainage, and aesthetic improvements.

Potential Impacts

This section includes a brief discussion of the potential impacts that would be expected with each of the four options. For comparison, the four options and the estimated impacts associated with each option are presented in **Table 4**. Note that the comparisons used in the table are relative to the other options, and do not indicate an overall level of benefit or impact.

Table 4 – Potential Impacts of the Recommended Improvements

	Option A	Option B	Option C	Option D
Quality of Pedestrian Improvements	Low	Moderate	High	High
Quality of Bicycle Improvements	Low	Low	High	High
Quality of Other Improvements	None	None	None	High
Cost	Low	Moderate	Moderate	High
Right-of-Way Impacts	None	Minor	Moderate	Major
Utility Impacts	None	Minor	Minor	Minor
Cultural Resource Impacts	None	Minor	Minor	Moderate
Wetland Impacts	None	None	None	None
Stream Impacts	None	None	None	None
Floodplain Impacts	Minor	Minor	Minor	Minor
Critical Area Impacts	Minor	Moderate	Moderate	Moderate
Protected Land Impacts	None	None	None	None

Quality of Pedestrian Improvements

While Option A would improve the existing pedestrian facilities by making them ADA-compliant, the overall benefit within the BPPA of implementing Option A would be low for pedestrians. Pedestrians would still need to walk in the street in areas with no sidewalk, which would not improve accessibility along the corridor.

Option B would moderately improve the pedestrian facilities along the corridor, as people would have a continuous path to walk along the corridor that is ADA-compliant and physically separated from the main roadway. However, the sidewalk would be five feet wide and four crossings of MD 33 (Tilghman Island Road) would be required to stay on the continuous walkway.

While Options C and D would also include four crossings of MD 33 (Tilghman Island Road), they would provide a facility that is wider and could accommodate pedestrians and bicyclists on an alignment that is off the main roadway.

Quality of Bicycle Improvements

The signing installed in Options A and B would benefit bicyclists as it would remind drivers to share the roadway with cyclists and could result in a safer environment. However, the overall benefit of the Options A and B improvements would be lower compared to Options C and D; the latter options provide a route for bicyclists to travel that is separated from the main roadway. The type of bicycle improvements should match the types of cyclists that are expected to travel along MD 33 (Tilghman Island Road) through the Village of Tilghman. More experienced cyclists may prefer to use the existing roadway, so the

improvements in Option A would be adequate. Whereas less experienced bicyclists may prefer to travel on a separated facility, such as the shared-use path proposed in Options C and D.

Quality of Other Improvements

Option D is the only option that proposes improvements that are beyond pedestrian or bicycle improvements, as it includes drainage system enhancements and the planting of street trees. Drainage system upgrades would help manage runoff during weather events and landscaping with street trees would improve the aesthetics of the corridor. These improvements would result in more benefits compared to the other options.

Right-of-Way

Since Option A only includes reconstruction of the existing pedestrian facilities and installation of new signing, it could be implemented completely within the existing MD 33 (Tilghman Island Road) right-of-way.

Option B could be implemented completely within the existing MD 33 (Tilghman Island Road) right-of-way for the areas where it is 50 feet wide and Option C could be implemented mostly within the right-of-way for those areas. Where the right-of-way is 30 feet wide, between Mission Road and the Knapps Narrows bridge, a right-of-entry agreement would need to be established with the property owners for both Options B and C.

Option D would require easements for right-of-way for the entire length of the BPPA.

Utilities

The existing utilities are generally located within or immediately outside of the existing roadside ditches.

There would be no anticipated utility impacts with Option A as the improvements only include reconstruction of the existing pedestrian facilities and installation of new signing.

For Options B, C, and D, the proposed typical sections call for the improvements to be constructed behind the existing utility poles. The utility pole offsets may vary and thus the associated impacts may vary but, there could be some poles that are impacted by the improvements. Without more detailed utility information and detailed alignments of the proposed improvements, the assumption is that the utility impacts will be minor for Options B, C, and D.

Cultural Resources

All four options propose improvements within the Tilghman Island Historic District. However, there would be no anticipated cultural resource impacts with Option A as the improvements only include reconstruction of the existing pedestrian facilities and installation of new signing.

Of the 16 properties along MD 33 (Tilghman Island Road) within the BPPA that are listed on the MIHP, five of them are located along the same side of the roadway as the proposed improvements in Options B, C, and D as shown in **Table 5**.

Table 5 – MIHP Potentially Affected by the Proposed Improvements

MIHP Inventory Number	Name
T-837	Tilghman United Methodist Church
T-838	Ben Harrison House
T-856	Jackson House
T-859	Lee House
T-864	Miss Hett’s House

While Options B and C would not be expected to require right-of-way from the Tilghman United Methodist Church (T-837), the Ben Harrison House (T-838), or the Jackson House (T-856), both options would require either a right-of-entry agreement or right-of-way from the Lee House (T-859) and Miss Hett’s House (T-864). Option D impacts right-of-way at all five properties. Consultation with the Maryland Historical Trust would be required to determine the effect that Options B, C, and D may have on these historic properties or on the Tilghman Island Historic District as a whole.

Wetlands

There are no existing wetlands immediately adjacent to MD 33 (Tilghman Island Road) so no impacts are anticipated with any of the four options.

Streams

The options are not expected to impact the existing stream in the corridor that runs along the east side of MD 33 (Tilghman Island Road) near the entrance to Dogwood Harbor.

Floodplains

All options would include work within the 100-year FEMA floodplain near the Knapps Narrows. Option A includes reconstruction of existing facilities that are within the floodplain. Options B, C, and D include additional work within the 100-year floodplain for a short distance near Dogwood Harbor as that floodplain spans across MD 33 (Tilghman Island Road). However, the improvements are only within the floodplain for a short distance so the impacts are still assumed to be minor.

Chesapeake Bay Critical Areas

Since the entire BPPA is within the Critical Area except for the southernmost 400 feet, all four options would include work within the Critical Area. While this should not be an issue with Option A as it only includes reconstruction activities, Options B, C, and D could face larger hurdles because they include new development. However, the proposed improvements for those options could be constructed with pervious materials, which could help mitigate the impacts to the Critical Area.

Protected Lands

The options are not expected to impact the federally-protected land at Dogwood Harbor or the locally-protected land at Tilghman Back Creek Park.

VII. CONCLUSION

Four options for improvements were developed for the Village of Tilghman BPPA. The options range from low-cost reconstruction and signing improvements in Option A to a high-cost shared-use path and street tree enhancements in Option D. The range of options provides a wide array of possible solutions, as the options could be mixed and matched with each other to develop a hybrid option that best meets the needs of the residents of Tilghman, yet is feasible to build based on available funding. For example, drainage improvements could be added to Options A, B, or C, or the proposed alignment could be shortened to only provide a connection through an area that receives the most pedestrian or bicycle traffic. Selecting any of the options, including the modest improvements in Option A, would be expected to improve the safety of the pedestrian and bicycling environment within the BPPA over the existing conditions.

The low-cost improvements in Option A could likely be implemented in the near-term due to their relatively small scale and lack of right-of-way impacts. Option A would improve the condition of the existing pedestrian facilities to meet ADA-compliance and would improve bicycle safety by reminding drivers to share the road with cyclists. Options B, C, and D would all provide a continuous pedestrian path along the corridor and Options C and D would provide a facility for recreational bicyclists to use that is separated from MD 33. The streetscape elements of Option D, such as planting street trees and improving the drainage, would come at an additional cost but would improve the aesthetics and better control the stormwater runoff along the corridor.

A phased approach could also be used for implementing the options. For example, reconstructing the existing pedestrian facilities to ADA-compliance and installing signing upgrades as called for in Option A would not preclude the future construction of any of the other options. Using a phased approach could allow the Option A improvements to be implemented in the short-term, while funding is secured and design is progressed for the longer-term improvements.

MDOT SHA and Talbot County should closely track other planned projects along MD 33 within the Village of Tilghman BPPA, as it may be feasible to include some of the recommended improvements in this BPPAP in other projects. For example, if MD 33 (Tilghman Island Road) is planned to be resurfaced in the near future, the resurfacing project could potentially include ADA upgrades, signing, and striping improvements to the existing pedestrian and bicycle facilities.

Any preferred option, or combination of options, selected by Talbot County should be communicated to MDOT SHA to ensure coordination during future projects on MD 33 (Tilghman Island Road). This coordination is particularly important when there would be a need to reserve adequate right-of-way. It is important to note that once the improvements are designed and constructed, maintenance of the facilities will be the responsibility of Talbot County.