



COVE POINT TRAIL STUDY

Collaborating Team:
The Traffic Group | Traffic

Submitted By:



**COVE POINT TRAIL STUDY
CALVERT COUNTY, MARYLAND**

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Table of Contents.....	2
Contributors and Acknowledgements.....	3
Executive Summary.....	4
Project Background.....	5
Regional Context and Importance	
Existing and Planned Transportation Infrastructure	
Existing Bicycle and Pedestrian Trail Network	
Planned Bicycle and Pedestrian Trail Network Expansion and Enhancement Projects	
Study Area – Scope and Limits.....	9
Chesapeake Hills Golf Course	
Utilization of Existing Residential Roadways w/i Chesapeake Ranch and Brianwood	
Establishment of New Trail Corridors Between Residential Roadways	
Establishment of Viable Trailway Corridors	
Existing Conditions.....	13
Traffic Study	
Cove Point Rd (MD 497)	
H.G. Trueman Rd (MD 765)	
Little Cove Point Rd (County owned)	
Significant Considerations w/ Respect to Crash Data	
Calculation of PLoC and BLoS (LTS) Scores	
Design Options.....	16
Shared-use Path vs. Expanded/Enhanced Shoulder Use (Opt. A vs. Opt. B)	
Policy and Precedents: Shared-Use Path	
Policy and Precedents: Expanded/Enhanced Shoulder Use – Ped and Bicycle Lanes	
Project-Specific: Design Option ‘A’ – Shared-Use Path	
Project-Specific: Design Option ‘B’ – Expanded/Enhanced Shoulder Use	
Trail Termination and Nodal Enhancement	
Designing for Accessibility	
Anticipated Outcomes – Enhancements to Levels of Comfort.....	34
Project Cost Estimate.....	37
Final Recommendations and Next Steps.....	38
Report Appendices	
1. Cove Point Trail – Traffic Study Report.....	39
2. Book of Maps - Proposed Routes and Layouts.....	179
3. Probable Project Cost Estimates – Options A & B (Detailed).....	219
4. Little Cove Point Road Geometric Improvement Project (3 Plans).....	221
5. Report (First Draft Version) Review Comments and Consultant Responses.....	224

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Executive Summary

The Cove Point Trail Bicycle and Pedestrian Study was conducted during the period of August 2023 – May 2024 to explore enhancements of and potential improvements to existing and planned infrastructure relating specifically to bicycle and pedestrian amenities. The three primary existing roadways studied include segments of Cove Point Road (MD 497), H.G. Trueman Road (MD 765), and Little Cove Point Road, all of which presently contain few or no amenities geared specifically toward use by bicyclists and pedestrians.

While bicyclists and pedestrians may presently legally use all segments of these roadways included within the study area, the study found that there is currently little-to-no bicycle or pedestrian use, which is likely attributed to the following factors:

- Fear, due to lack of physical amenities, thereby contributing to low levels of comfort
- A perception that the existing roadways are unsafe for use by bicyclists and pedestrians
- A lack of awareness of existing and planned public and private community resources. Enhanced bicycle and pedestrian connectivity and safety can raise awareness and increase the use of existing and planned community resources.

While this study did not include specific public participation and input sessions to validate these statements, we recommend a formal public input study be conducted to confirm this.

The study included both an initial evaluation of existing facilities and a data collection stage, which was primarily conducted by a traffic engineer, The Traffic Group, Inc., in conjunction with the consultant planning firm, MW Studios.

Following the gathering and analysis of critical data, the study explores two primary options for the improvement of the three roadway corridors:

- Option A – New, shared-use path (e.g., a paved bicycle and pedestrian path) that is constructed alongside but separated from existing motor vehicle roadways
- Option B – Enhanced shoulder use (e.g., bicycle and pedestrian “lanes”) formed by expanding and enhancing the existing roadway shoulders

Conceptual routes and pathway layouts for both options were studied at a feasibility level of detail and are included herein. The study also analyzes and estimates the probable cost to complete each option. Final recommendations are provided by the consultant at the conclusion of the report.

In summary, this study finds that in keeping with prior recommendations, goals, and masterplans already established by the Calvert-St. Mary's Metropolitan Planning Organization (C-SMMPO), bicycle and pedestrian-specific infrastructure amenities can feasibly be added along all three roadway corridors included within the limits of the study by utilizing either of the two options or perhaps a “hybridization” of the two options.

Implementing the recommendations of the study will lead to increased bicycle and pedestrian levels of comfort, likely resulting in increased use by both bicyclists and pedestrians, effectively promoting significant connectivity enhancements relating to existing and planned public and private community resources. The anticipated outcome is increased recreational opportunities for bicyclists and pedestrians, as well as potential business growth and development.

Project Background

Regional Context and Importance

Calvert County, Maryland, commissioned the architectural planning consultant MW Studios, Inc. (hereinafter the Consultant) to conduct this study to explore the feasibility of creating and expanding pedestrian and bicycle-related connectivity within the Calvert-St. Mary's Metropolitan Planning Organization (C-SMMPO) area. A project-specific focus of the study is connectivity to Cove Point Park. Cove Point Park is an existing regional park located at the northern end of the MPO, totaling approximately 179 acres, featuring an array of recreational amenities such as ball fields, sports courts, picnic areas and pavilions, a playground, dog park, walking and jogging trails, and Cove Point Pool, a seasonal outdoor pool. The need for this focus study was identified within the 2021 C-SMMPO *Complete Streets Plan* document.

The construction of new paved trails and/or improvements to existing transportation corridors within this area will effectively contribute to and enhance a growing network of pedestrian and bicycle trails within the overall C-SMMPO boundaries.



Figure 01 – C-SMMPO boundaries, with the study area shown in RED

Regional Context and Importance (continued)

Presently, access to Cove Point Park is afforded primarily via personal automobile, as well as the park's singular main entrance driveway, which intersects with Cove Point Road (Maryland Route 497). Cove Point Road, a major collector, is a state-owned and maintained roadway. The Calvert County-operated Lusby Shuttle ("gold" route) also connects to the park's front entrance along Cove Point Road with an existing connection to Prince Frederick and points north, as well as Solomons and points south via a transfer to the "blue" route.

In its present state, Cove Point Road (MD 497), contains little or no shoulders along its 5,200-foot segment length within the area of study. The study segment terminates at the west end with its intersection with H.G. Trueman Road (Maryland Route 765) at the east end with Little Cove Point Road (county-owned). There is no existing provision for pedestrian or bicycle use by way of a sidewalk, path, or trail, paved or otherwise. Pedestrians and bicycles may, by law, utilize the roadway to access the park but must do so within a designated motor vehicular lane of travel. This is commonly referred to as a "share the road" use. The posted speed limit along this segment is 45 mph, and its current level of pedestrian comfort (PLOC) was rated as a "4" by the traffic engineer conducting the study. "4" is the lowest level possible. The bicycle level of stress (BLOS) was rated between "3" and "4", which is nearly the lowest level possible. Park access for pedestrians, bicyclists, and other vulnerable road users (VRUs) is therefore at a significantly elevated risk or otherwise may be considered unavailable due to a perceived barrier. It is worth noting that in addition to prospective users from other areas, there are numerous residential properties located primarily on the south side of this road. It is primarily for this reason that the Cove Point Park Trail was identified within MPO's 2020 Long Range Transportation Plan and listed as a potential Illustrative Project.

The project's preliminary stakeholders and consultants decided to expand the scope of the study to include a segment of H.G. Trueman Road (MD 765) as well as a segment of Little Cove Point Road, which will in theory, provide additional access from points south, east, and west, primarily from the Chesapeake Ranch Estates community and surrounding communities. Refer to **Study Area – Scope and Limits** section of report for additional information and details.

Funding for the Cove Point Trail Study Project became available in 2023 as a Special Study. The study is primarily funded (approximately 80%) by a Federal Department of Transportation (DoT) grant. The remainder of the funding for the study is from the Maryland Department of Transportation (MDOT) – 10%, and from local sources – 10%.

The Calvert County Departments of Planning & Zoning and Parks & Recreation contributed to the study, serving as managing stakeholders.

Existing and Planned Transportation Infrastructure

The basis of our understanding of existing and planned transportation infrastructure within the study area has been informed primarily from three sources:

- Calvert – St. Mary’s Regional Transportation Plan (MDOT document) – Adopted 2020
- C-SMMPO Complete Streets Plan – September 2021 version
- Lusby Town Center Master Plan – October 28, 2022 version
- Dominion Energy Regional Park and Cove Point Park Master Plan – July 2020 version

Existing Bicycle and Pedestrian Trail Network

Based on our research, no known formalized bicycle and pedestrian trail network exists within this area of Calvert County, although bicycle and pedestrian-friendly facilities do exist within the boundaries of Cove Point Park. However, the following elements or “nodal” points exist or are planned within or adjoining the study area. These elements, if connected effectively, can serve as a magnet for increased bicycle and pedestrian activity:

- Cove Point Park
- Dominion Energy Park (planned)
- Chesapeake Hills Golf Course
- The Chesapeake Ranch Estates residential community
- Patuxent and Appeal Elementary Schools
- Lusby Town Center
- Chesapeake Ranch Airport
- Private Business of a commercial and light-industrial nature (various)
- Future nodal enhancements proposed by this study – refer to **Design Options** section

When pedestrian and bicycle amenities are implemented, the cornerstone of a bicycle and pedestrian trail network will have effectively been laid.

Planned Bicycle and Pedestrian Trail Network Expansion and Enhancement Projects

The C-SMMPO Long Range Transportation Plan (LRTP) through 2045, which was adopted on March 6, 2020, identifies the importance of expanding existing facilities to enhance the safety and effectiveness of pedestrian and bicycle transportation modes within the area, as well as to form a more complete “network” of trails, among other transportation initiatives.

The C-SMMPO Complete Streets Plan (September 2021 version) highlighted the specific need for new pedestrian and bicycle connections to existing Cove Point Park at both existing and planned park entrances. As identified within the plan, the residents along Cove Point Road have no means to safely access the park without a motor vehicle. Installing pedestrian and bicycle facilities along the roadway will encourage people to safely visit the park using multi-modal methods¹.

¹ According to the C-SMMPO Complete Streets Plan document – September 2021.

Planned Bicycle and Pedestrian Trail Network Expansion and Enhancement Projects (continued)

The Appeal Lane sidewalk project was also identified within the C-SMMPO Complete Streets Plan. The current extents of the Cove Point Trail Study project include this recommended improvement along its southeast terminus.

The Lusby Town Center Master Plan (October 2023 version), while primarily serving as a zoning regulation document, also speaks to the need for expanded pedestrian and bicycle facilities, preferably those which are “buffered” from motor vehicle lanes.

Study Area – Scope and Limits

The Consultant was tasked with evaluating potential pedestrian and bicycle trail corridors within the defined study area illustrated below.



Figure 02 – Map showing Cove Point Trail Study limits and extents

Initially, the study was not confined to the use of existing roadways. Therefore, the Consultant explored potential corridors that included the following:

- Utilization of land within the county-owned Chesapeake Hills Golf Course
- Utilization of a series of existing roadways that are classified as local “residential” and/or minor collector, including:
 - Tomahawk Trail
 - Gunsmoke Trail
 - Rawhide Road
 - Commanche Road
- Establishment of new trail corridors between existing roadways that are classified as local “residential” and/or minor collector, some of which are noted above. Note: Early on, it was determined that these solutions would require significant land acquisition.

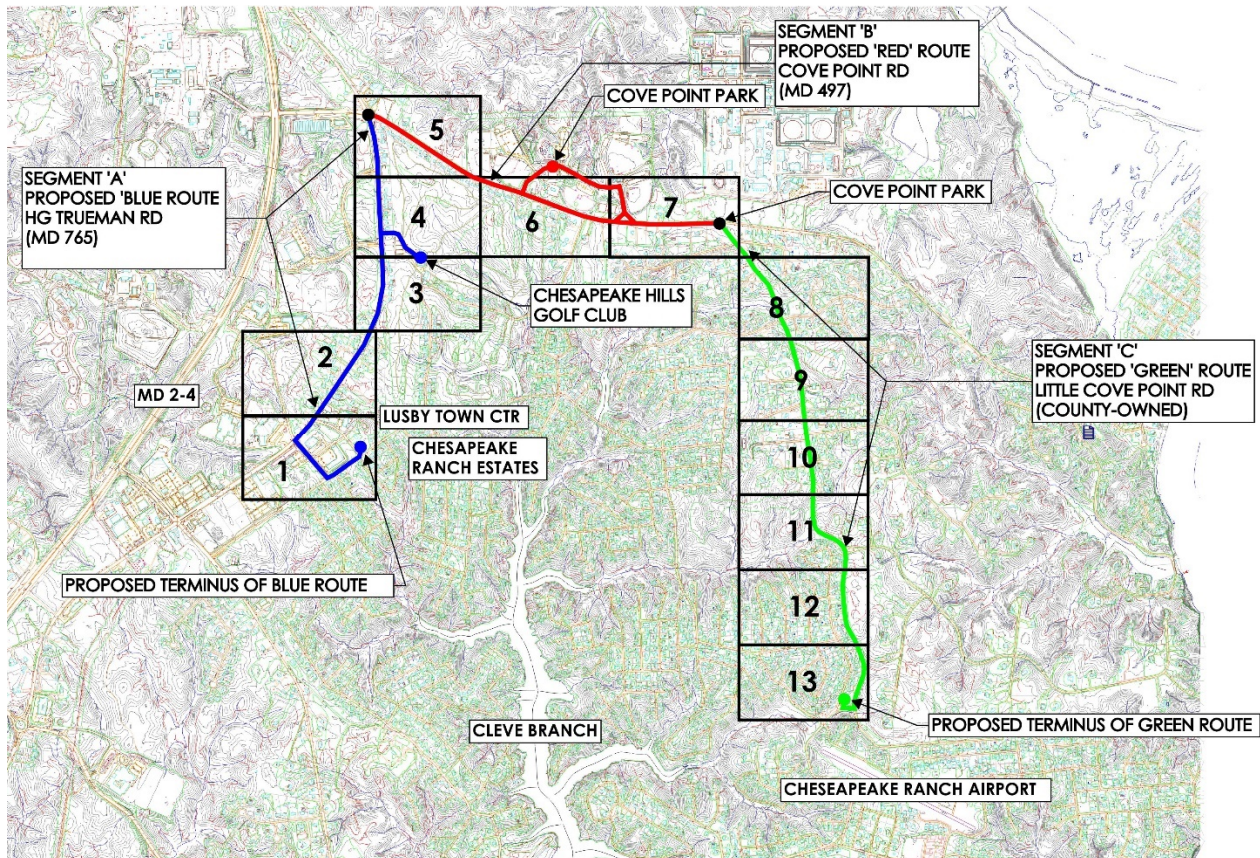


Figure 03 – Map showing Cove Point Trail Study – Map Book Grids
(Refer to Appendix 2 for additional information and detail)

Chesapeake Hills Golf Course

The Consultant determined that the golf facility makes extremely efficient use of its land. Furthermore, the golf course is bound on three sides: north, east, and west, by land that is already developed for residential uses. It is bound on the west by HG Trueman Road and land that is already developed with residential uses.

Very little unused land exists within the golf facility. Establishing a new trail corridor through the golf course was immediately determined not to be feasible. The creation of a corridor alongside the golf course was considered. This would require the pathway to “skirt” existing golf fairways and would need to cross a series of streams and waterways. Some additional land acquisition would be required to accomplish this. Potential safety concerns from flying golf balls were noted. Protective netting could be installed at a cost that would likely make this solution less palatable. Therefore, any further exploration of pathways through or around the golf course was ruled out during the initial phase of the study.

Utilization of Existing “Residential” Roadways within the Chesapeake Ranch Estates and Brianwood Communities

Existing residential roadways that can potentially serve as pedestrian and bicycle connections were evaluated. However, there are no existing direct pathways from the south leading directly to Cove Point Park. It should be noted that many of these residential roadways are currently posted with a 25-mph speed limit, which theoretically would allow for pedestrian and bicycle use at a moderate-to-high level of pedestrian and bicycle comfort. Furthermore, the “network” of existing roadways, particularly within the northern section of the Chesapeake Ranch Estates, could already serve to encourage and facilitate pedestrian and bicycle traffic in an east-west manner toward new nodes or trail termini, if located at key locations. However, to move the traffic in the desired north-south direction, additional land acquisition would be required – see paragraph below.

Establishment of New Trail Corridors Between Existing Roadways within the Chesapeake Ranch Estates and Brianwood Communities

In conjunction with utilization of existing residential roadways noted in paragraph above, new trail corridors could be established by acquiring land in between the existing network of roadways which facilitate east-west movement. Land acquisitions could occur at the following potential locations:

- Between Sitting Bull Circle and Leisure Lane
- Between Sitting Bull Circle and Platinum Drive
- Between Platinum Drive and Cove Point Road (Maryland Route 497)
- Between Commanche Road and Rudolph Lane
- Land immediately alongside the golf course’s eastern property lines

Establishment of New Trail Corridors Between Existing Roadways within the Chesapeake Ranch Estates and Brianwood Communities (continued)

This privately owned land is substantially improved with building structures for residential use. In our experience, land acquisitions of this nature and magnitude can be problematic due to the following:

- Extended timeframes relating to sales negotiations and buyouts
- Likely potential for individual property owners and community resistance
- Prohibitively high cost of land acquisition
- The litigious and uncertain nature of ‘land taking’ involving the utilization of eminent domain – typically a “last resort” method of acquisition

The Consultant recommended abandoning further exploration of land acquisition as a vehicle for creating new trail corridors through the existing communities.

Establishment of Viable Trailway Corridors

Following the preliminary exploration of viable options, the Consultant, with the support of the committee, established the following corridors for expanded study:

- Existing right-of-way associated with Cove Point Road (Maryland Route 497)
 - Between the intersections of HG Trueman Road and Little Cove Point Road
 - With potentially limited acquisitions and easements
 - E.g., the **RED** route
- Existing right-of-way associated with HG Trueman Road (Maryland Route 765)
 - Between the intersections of Cove Point Road and Town Square Drive
 - With potentially limited acquisitions and easement
 - E.g., the **BLUE** route
- Existing right-of-way associated with Little Cove Point Road (county-owned)
 - Between the intersections of Cove Point Road and Big Sandy Run
 - With potentially limited acquisitions and easements
 - E.g., the **GREEN** route

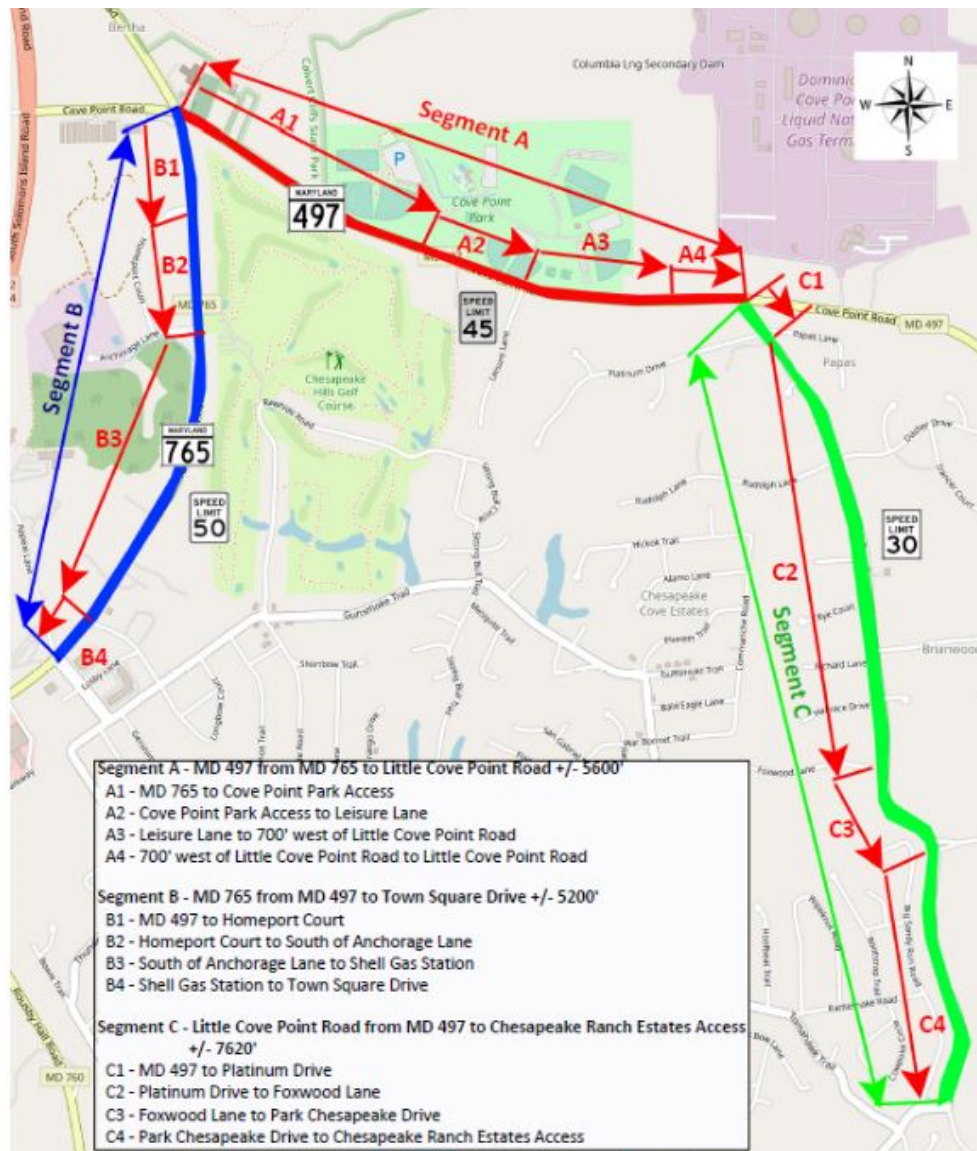
These three corridors became the continued focus of the study.

Existing Conditions

Traffic Study

A traffic study was conducted by the Consultant team in September of 2023. The Traffic Group, Inc., one of the nation's leading traffic engineering firms, collected information and data pertaining to existing roadway and traffic conditions, as well as accident data. The traffic study was performed "in the field" as well as from the firm's Baltimore, Maryland office. The ultimate purpose of the traffic study was to calculate the pedestrian levels of comfort (PLoC) and bicycle levels of traffic stress (BLTS) within the designated study corridor areas.

- Cove Point Road (MD Route 497) – Segment 'A' – Henceforth the **RED** route
- HG Trueman Road (MD Route 765) – Segment 'B' – Henceforth the **BLUE** route
- Little Cove Point Road (County-owned) – Segment 'C' – Henceforth the **GREEN** route



• **Figure 04** – Map showing traffic study segments (corridors)

Traffic Study (continued)

Data collection occurred during a 48-hour period starting on Wednesday, September 6, and ending on Thursday, September 7, 2023. This data collection period was specifically chosen to measure peak travel that typically occurs immediately following the start of the school year. The study methodology and specific data, traffic volumes, et cetera, can be found in the appendix: See [Appendix 1 – Cove Point Trail Traffic Study Report](#).

Cove Point Road (Maryland Route 497) – Segment ‘A’ – RED route

Segment A extends from MD 765 to Little Cove Point Road for a distance of approximately 5,600 feet. The roadway is operated and maintained by the Maryland Department of Transportation State Highway Administration (MDOT SHA) and is signed as MD 497. The posted speed limit for this roadway segment is 45 MPH. MDOT SHA classifies the roadway as a major collector. MD 497 generally travels in the east-west direction. The segment under consideration is approximately 5,200 feet. There are numerous residential properties located primarily along the south side of the road. Cove Point Park is situated on the north side. The roadway generally features one travel lane in each direction with minimal shoulders or other amenities for pedestrians or bicyclists. There are no marked crosswalks within the roadway segment. At the west study boundary, the intersection of MD 765 and MD 497 features traffic signalization; However, there are no pedestrian amenities at this location.

HG Trueman Road (Maryland Route 765) – Segment ‘B’ – BLUE route

Segment B extends approximately 5,200 feet from MD 497 southerly to Town Square Drive. MDOT SHA also operates and maintains this segment of roadway. It is classified as a major collector with a posted speed limit of 50 MPH. The roadway generally features one travel lane in each direction with limited shoulders on either side. The roadway widens at several key intersections to facilitate turning lanes. Traffic signalization is featured at the intersections with MD 497 and Town Square Drive. The southern signal features crosswalks on the south and east legs; however, they are not considered high visibility.

Little Cove Point Road (county-owned) – Segment ‘C’ – GREEN route

Segment C extends approximately 7,620 feet from MD 497 southerly to Chesapeake Ranch Estates. This roadway is maintained by Calvert County. The posted speed limit is 30 MPH. Little Cove Point Road generally features one travel lane in each direction with minimal shoulders. There are no marked crosswalks within this segment.

Each of the three segments was further divided based on changes to the cross-section, which could involve a number of lane widths or roadside features.

Significant Considerations with Respect to Crash Data

Crash data dating back to 2020 was obtained from various sources by The Traffic Group, Inc., and included within the Traffic Study Report – see Attachment ‘A’.

Segment ‘A’ (RED): In summary, eight crashes occurred during the reporting period, which primarily involved property-damage only and were centered near the intersection of HG Truman Rd and Cove Point Road. None of these crashes involved a pedestrian or bicyclist. One crash in 2021 involved a single vehicle leaving the roadway, a type of crash that could potentially impact pedestrians or bicyclists.

Segment ‘B’ (BLUE): In summary, twenty-three crashes occurred during the reporting period, which involved a mixture of property damage and bodily injury. The majority of crashes occurred near the intersection with Town Square Drive/Appeal Lane, and typically involved rear-end or head-on collisions. No fatalities were reported.

Segment ‘C’ (GREEN): In summary, seventeen crashes occurred during the reporting period, with an uptick of 380% more crashes occurring in 2021 compared to the previous year, which is particularly noteworthy. Many of the crashes involved vehicles leaving the roadway, which is also significant as it relates to pedestrian and bicycle safety. Of particular concern, as noted within the traffic study report, is the intersection with Park Chesapeake Drive, which is located along a reverse curve on Little Cove Point Road. Please refer to the report for specific details.

Calculation of Pedestrian Level of Comfort (PLOC) and Bicycle Level of Stress (BLOS)

Upon the collection and analysis of data, The Traffic Group, Inc. calculated both the PLoC and the BLoS for existing conditions within the study area. Detailed information can be found within the Traffic Study Report – see [Appendix 1](#).

In summary:

Segment ‘A’ (RED): Received the lowest possible PLoC score of ‘4’ and the lowest possible BLoS score of ‘4’ along its entire length.

Segment ‘B’ (BLUE): Received the lowest possible PLoC score of ‘4’ and mixed BLoS scores between ‘3-4’ along its entire length.

Segment ‘C’ (GREEN): Received mixed PLoC scores of ‘3-4’ and the lowest possible BLoS score of ‘4’ along its entire length.

In conclusion, all segments in their existing condition operate at or near the lowest levels possible with regard to pedestrian levels of comfort and bicycle levels of stress. On- and off-roadway improvements and enhancement of safety features will be required to bring these existing segments to an ideal or acceptable level of PLoC and/or BLoS.

Design Options

Shared-Use Path vs. Expanded Shoulder Use (Option 'A' vs. Option 'B' respectively)

Upon analyzing all available data, the Consultant determined two potential solutions that are likely feasible. These were studied in greater detail:

- Construction of new shared-use paths, which are partially or completely separated from the existing motor vehicle portion of the roadway and designated for use by pedestrians, bicyclists, and other approved, generally non-motorized vehicles only.
- Enhancement of existing shoulders and/or construction of new or widened shoulders along the existing motor vehicle roadways in conjunction with the addition of roadway safety enhancements at key locations.

Policy and Precedents: Shared-use Path

Shared-use paths have been utilized as a complement to primary roadways for many years within the United States, and even longer in countries such as Germany. National guidelines for the establishment, construction, and use of shared-use paths were updated in the 2012 version of the *AASHTO Guide for the Development of Bicycle Facilities*, fourth edition. In Maryland, SHA/MDOT's latest version of the *Bicycle Policy & Design Guidelines*, January 2015 edition, addresses the topic and provides general guidance and standards for construction.

Federal and State funding is available for the construction of shared-use paths that are a 'complement' to the primary roadway. The shared-use path constructed alongside Maryland Route 450 in the Bowie area of Prince George's County is a prime example of this type of project. There is an ongoing study in the Ten Oaks area of Howard County, Maryland, which is being undertaken with local, state, and federal funding to explore the construction of a shared-use path along five miles of Ten Oaks Road.

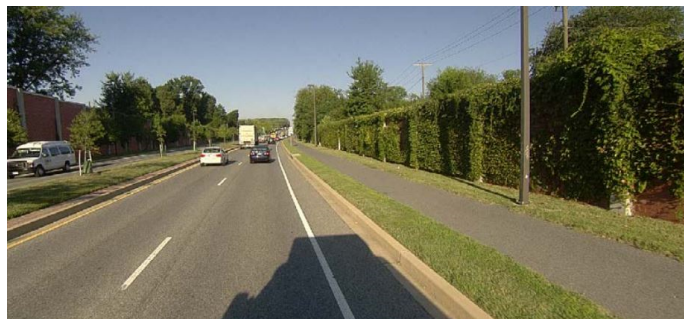


Figure 05 – Existing shared-use path along MD Rte. 450 in Bowie, Prince George's County

Image Courtesy of Maryland SHA

Shared-use paths are physically separated from motorized traffic by an open space, curb, or barrier and are typically located within the right-of-way of the primary roadway or within their own independent right-of-way. Shared-use paths are customarily open to use by both pedestrians and other authorized users, such as bicyclists, hence the term "shared-use". Restrictions on use typically exclude all motorized vehicles or many motorized vehicles above a certain class. For example, Class I, II, and III electric bicycles, or e-bikes, are allowed to utilize shared-use paths in Calvert County.

Policy and Precedents: Expanded Shoulder Use: Pedestrians and Bicycle Lanes

Bicycle lanes are a well-established feature on many Maryland state highways and are also addressed within SHA/MDOT's *Bicycle Policy & Design Guidelines*, January 2015 edition. However, for the purpose of this study, the Consultant explored an expansion of use for the typical 'bike lane' to better facilitate pedestrians.

It is important to recognize the legality of pedestrian use of vehicular roadways. State law in Maryland allows pedestrian use of "non-restricted" roadways, including most non-access-controlled state highways: *The pedestrian shall walk along the outmost edge(s) of the roadway as practicable in a direction that opposes the regulated flow of traffic.*² Therefore, while not always ideal from a safety standpoint, the roadways in question are already "open" to legal pedestrian traffic. Option 'B' seeks to enhance the safety of the existing condition by providing awareness and protection for pedestrians and bicyclists, leading to a calculated increase in PLoC and BLoS.

The Federal Highway Administration already recognizes the need in certain instances for "shoulder use" by pedestrians: *In rural or suburban areas, where [separated] walkways are not always feasible, roadway shoulders for pedestrians to walk next to the roadway can be provided, although these are in some cases, not preferable.*³



Figure 06 - Expanded shoulder use.

Image courtesy of Federal Highway Administration

The State of Maryland does not currently offer design standards or guidelines for a shoulder use condition that is shared by both pedestrians and bicyclists. Upon conducting research on the matter, the Consultant found no examples of a SHA-funded project that utilizes this specific design feature. However, this configuration is known to exist regionally in at least two area locations:

- State of Delaware, Coastal Highway 1 – Between the towns of Bethany Beach and Dewey Beach. Posted speed limit: 50 mph.
- State of Maryland, Brooks Robinson Drive (county-owned, state administered) – located in Pikesville, Baltimore County, Maryland. Posted speed limit: 40 mph.

² Maryland Transportation Code Title 21- Subtitle 5 – Section 506.

³ US Department of Transportation Federal Highway Administration FHWA-SA-21-047: Walkways Guide #508.



Figure 07A – Expanded shoulder for pedestrian/bicycle use – State of Delaware Coastal Hwy 1



Figure 07B – Expanded shoulder for pedestrian/bicycle use – State of Maryland – Brooks Robinson Drive Pikesville, MD

Proceeding with Option ‘B’ – expanded shoulder use for pedestrians and bicyclists would, therefore, represent a novel approach to enhanced safety of vulnerable roadway users (VRU’s) along both the State- and County-owned roadways located within the study area.

Project-Specific Designs: Option ‘A’ - Shared-use Path

For this project in particular, the Consultant recommends that under Option ‘A,’ shared-use paths be constructed in accordance with Maryland State Highway Administration standards, generally, as follows:

- Physical separation from motor vehicle portion of the roadway
- 10-foot minimum width for two-directional pedestrian and bicycle traffic
- Reductions to an 8-foot width under special circumstances (obstructions, et cetera)
- Lane markings near intersections and at areas where heavy use is anticipated; unmarked elsewhere
- 2-foot wide (minimum) shoulders
- 2% cross slope
- Paved asphalt surfacing
- 20-mph maximum user speed limit
- Reconfiguration of critical intersections as required – refer to next page and **Appendix 2 – Book of Maps**
- ADA Accessibility

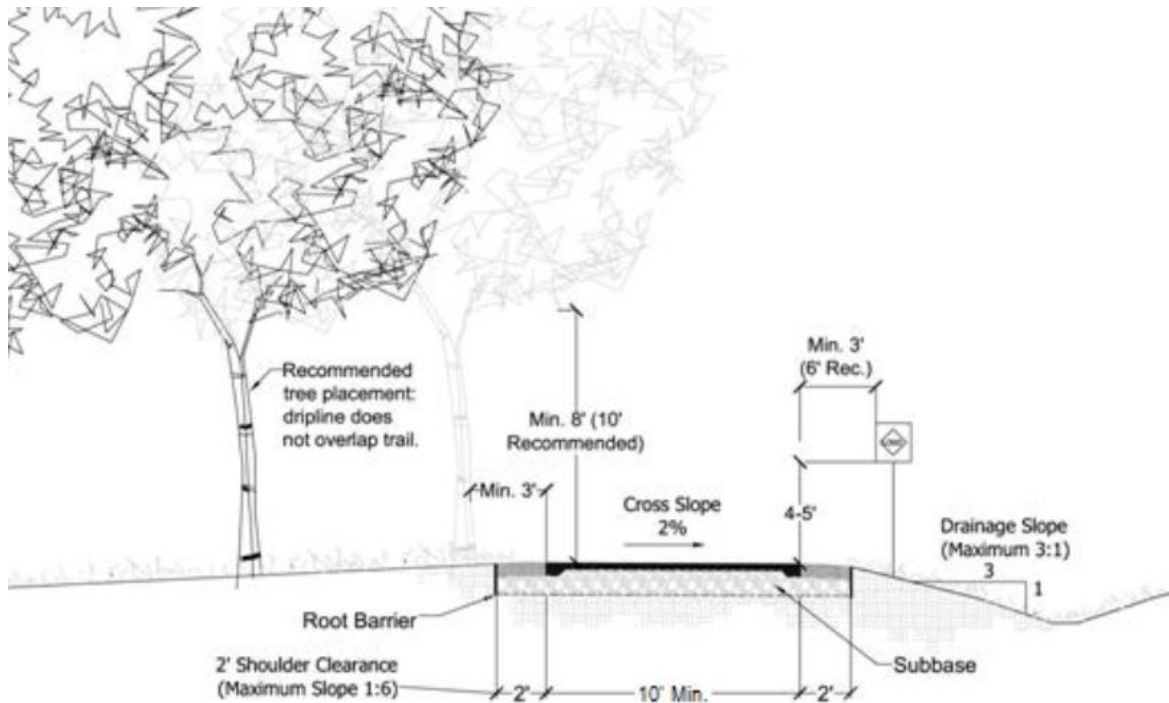


Figure 08 – Shared-use path construction guidelines – Courtesy of Maryland SHA/MDOT

The study includes charting the pathways for Option 'A' to a conceptual level of detail. Refer to [Appendix 2 – Book of Maps](#) for proposed locations, maps, and details relating to the pathway.

In summary, the following reconfigurations and improvements are recommended by the Consultant:

Intersection of Cove Point Road (MD 497) at HG Trueman Road (MD 765):

- Future consultant(s) should consider if re-configuring and/or re-phasing of existing traffic signals could potentially enhance crossing times and safety for pedestrians and bicyclists
- Install three new marked crosswalks
- Enhance existing islands – refuge islands
- Consider the installation of a physical barrier along the west side of MD 765
- Reconfigured roadway markings

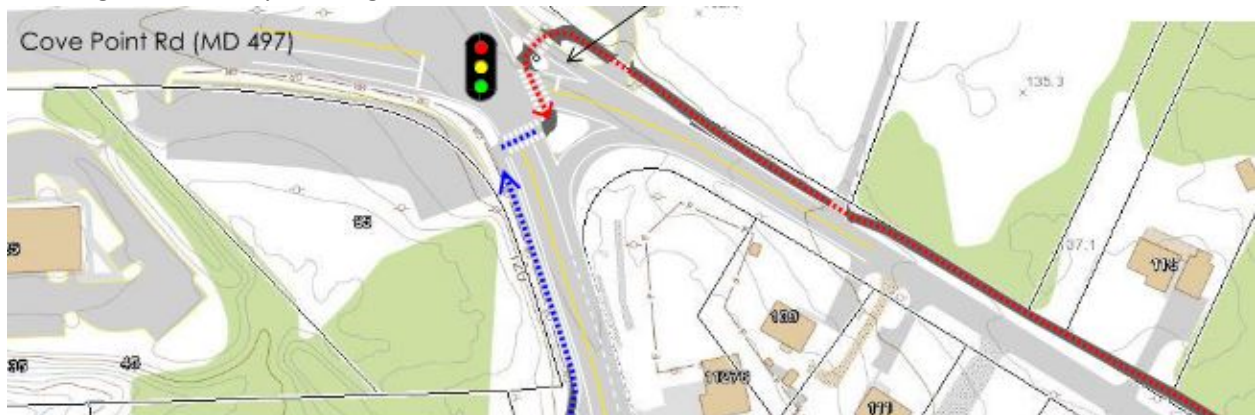


Figure 09 – Intersection of Cove Point Road (MD 497) at HG Trueman Road (MD 765) – Design Option A

Intersection of Cove Point Road (MD 497) at Cove Point Park Entrance Road:

- Install a new marked crosswalk across the park entrance road
- Extend shared-use path into Cove Point Park – separate the pedestrian and bicycle traffic from the entrance road motorized traffic
- Prohibit pedestrian crossing of roadway at Cove Point Park Road at park entrance (optional)

Intersection of Cove Point Road (MD 497) at Little Cove Point Road:

- Install new marked crosswalk across MD 497 at east side of intersection.
 - This location aligns best with the proposed location of the trailway and would likely lead to a reduction of vehicle and non-motor-vehicle conflicts when compared to other crosswalk placement locations within the subject intersection.

Intersection of HG Trueman Road (MD 765) at Anchorage Lane/Chesapeake Hills Golf Course Entrance Rd:

- Reconfigure “dogleg” intersection to include the following:
 - Install new pedestrian refuge island
 - Remark lanes / turn lanes
 - Install new marked crosswalk across MD 765:
 - There are no marked pedestrian crossings along the approximately 5,000 foot-long segment of MD 765 between the intersections of Cove Pt Rd (MD 497) and Town Square Dr. During the course of this study, stakeholders indicated that adding a pedestrian crossing at this intersection may encourage pedestrians and bicyclists to safely utilize the modes of transit to access the county-owned golf course.
- Install new marked crosswalk across Anchorage Lane
- Extend shared-use path partially into the Chesapeake Hills Golf Course property – separate pedestrian and bicycle traffic from motor vehicle traffic at the intersection

Continued...

Intersection of HG Trueman Road (MD 765) at Appeal Lane/Town Square Drive

- Future consultant(s) should consider if re-configuring and/or re-phasing of existing traffic signals could potentially enhance crossing times and safety for pedestrians and bicyclists
- Install two new marked crosswalks
 - Crosswalks already exist across MD 765 south of Appeal Ln/Town Square Dr, and across Town Square Dr east of MD 765. We recommend adding another crosswalk across D 765 north of Appeal Ln/Town Square Dr because the proposed trailway terminates at the northwest corner of the subject intersection. The introduction of a larger pedestrian and bicyclist “load” at this corner warrants the added crosswalk.
- Consider installing “no turn on red” NTOR signage prohibiting southbound traffic on MD 765 from turning on red. Based on a larger pedestrian and bicyclist load at this transition point, a NTOR signage option may be warranted as a safety enhancement.
- Install the MUTCD R5-6 and R9-3 signage: bicyclist and pedestrian restrictions, in the northbound direction of MD 765 just beyond Town Square Drive. Since a separated trailway is being provided under Option A, pedestrians and cyclists should be prohibited from using the motor vehicle portion of the roadway along this segment, which will likely lead to enhanced safety.
- Transition to “bike lane ends” / “share the road” on MD 765 south of the intersection
- Install “share the road” signage along Town Square Drive



Figure 10 – Intersection of HG Trueman Road (MD 765) at Town Sq Dr – Design Option A
(Signage References are to Maryland-MUTCD sign manual – latest edition)

Little Cove Point Road – Along its Length (Minor Intersections)

- Install new marked crosswalks where indicated
- Reconfigure and re-stripe existing roadway where indicated

Little Cove Point Road at Park Chesapeake Drive

A particular note about this segment of Little Cove Point Road: While this study was underway, a parallel project known as the “Little Cove Point Road Geometric Improvements” project was undertaken to design and engineer roadway improvements to this segment of Little Cove Point Road at the intersection with Park Chesapeake Drive. **Three plans from this project have been included for illustrative purposes – see Appendix 4.**

- Add new marked crosswalks across Park Chesapeake Drive
- Add a series of concrete islands along the east side of Little Cove Point Road for physical separation of motor vehicles and pedestrian/bicycle traffic
- Reconfigure intersection as shown:
 - Add a secondary vehicle travel lane in the southbound direction with a bias toward the right lane. The secondary (left lane) can be used for passing, left turns, and acceleration when entering from Park Chesapeake Drive
 - Add a right turn movement lane to the northbound side of Little Cove Point Road at eastbound Park Chesapeake Drive.
 - This reconfiguration is intended to reduce head-on and rear-end collisions at the intersection

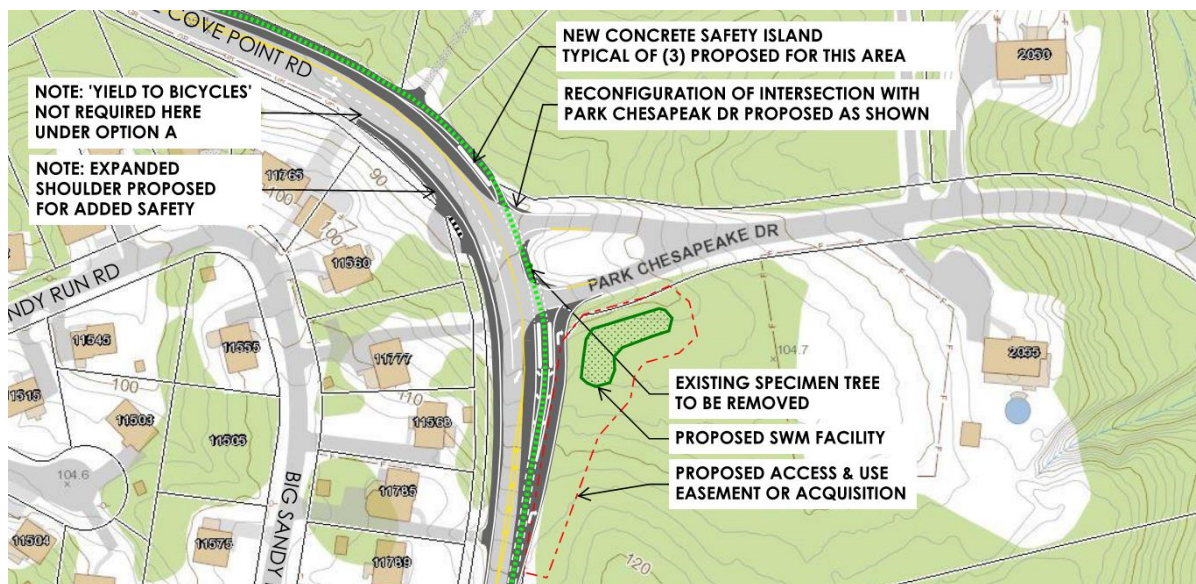


Figure 11 – Intersection of Little Cove Pt Rd at Park Chesapeake Dr – Design Option A

Little Cove Point Road at Big Sandy Run Road

- Install new marked crosswalk across Little Cove Point Road south of the intersection
- Install metal guardrails or physical barriers along Little Cove Point Road for physical separation of motor vehicles and pedestrian/bicycle traffic
- Install 'share the road' signage on Big Sandy Run Road

Refer to Appendix 2 – Book of Maps for Full Design Option 'A' Details and Layouts

Project-Specific Designs: Option 'B' – Expanded Shoulder Use

The Consultant recommends that the existing roadway shoulders be enhanced, expanded, and re-constructed, generally, as follows:

- Maintain bi-directional motor vehicle travel lanes: 12-foot minimum widths as required by SHA
- Add two-to-three-foot wide painted 'theoretical' buffer, between motor vehicle lanes and pedestrian/bicycle lanes, consisting of one of the following options:
 - Double white line, spread 2-3 feet apart. Use 4" or 8" thick white line markings
 - Rumble strip, between lines – advised
 - Flex posts, between lines – advised
 - Physical barriers, where appropriate or necessary for enhanced safety - optional
 - 5-foot wide (minimum) bicycle-designated lanes: bicycle traffic moves in the same direction as motorized vehicles
 - 4-foot wide (minimum) pedestrian-designated lanes: pedestrian traffic direction opposes bicycle and motor vehicle traffic
 - 2-foot wide (minimum) shoulder or curb/gutter
- All pavement specifications in accordance with SHA standards
- Reconfiguration of critical intersections as required – refer to subsequent pages and [Appendix 2 – Book of Maps](#)
- ADA Accessibility
- Consideration for reductions of speed limits along improved routes: 30 mph (ideal), 35 mph (acceptable), 40 mph (maximum):
 - Option B recommends pedestrian and bicycle trail lanes located within the existing and expanded paved roadway section. Since roadways will be shared between motor vehicles, bicycles, and pedestrians at the same elevation, we recommend consideration of a speed limit reduction for enhanced safety. This is not without precedent in Maryland. In 2020, MDOT SHA recommended, implemented, and/or initiated more than 100 projects or studies on 20 corridors located in Montgomery County, Maryland (District 3), with the goal of reducing severe and fatal crashes, including crashes involving pedestrians. This resulted in a recommendation of speed limit reduction in sixteen documented cases⁴.
- Refer to the diagram on the following page

⁴ Maryland Department of Transportation Pedestrian Safety Enhancement Report, June 2020.

The hybridization of Options A and B, specifically by placing a physical curb or barrier between the motor vehicle and bicycle/pedestrian portions of the roadway, effectively converting an existing roadway into one that features a shared-use 'side path,' can be considered a solution. However, this typically removes all motor vehicle access to the bike and pedestrian shoulder, which when otherwise left unseparated, can be alternatively used by motor vehicles as an emergency or breakdown lane.

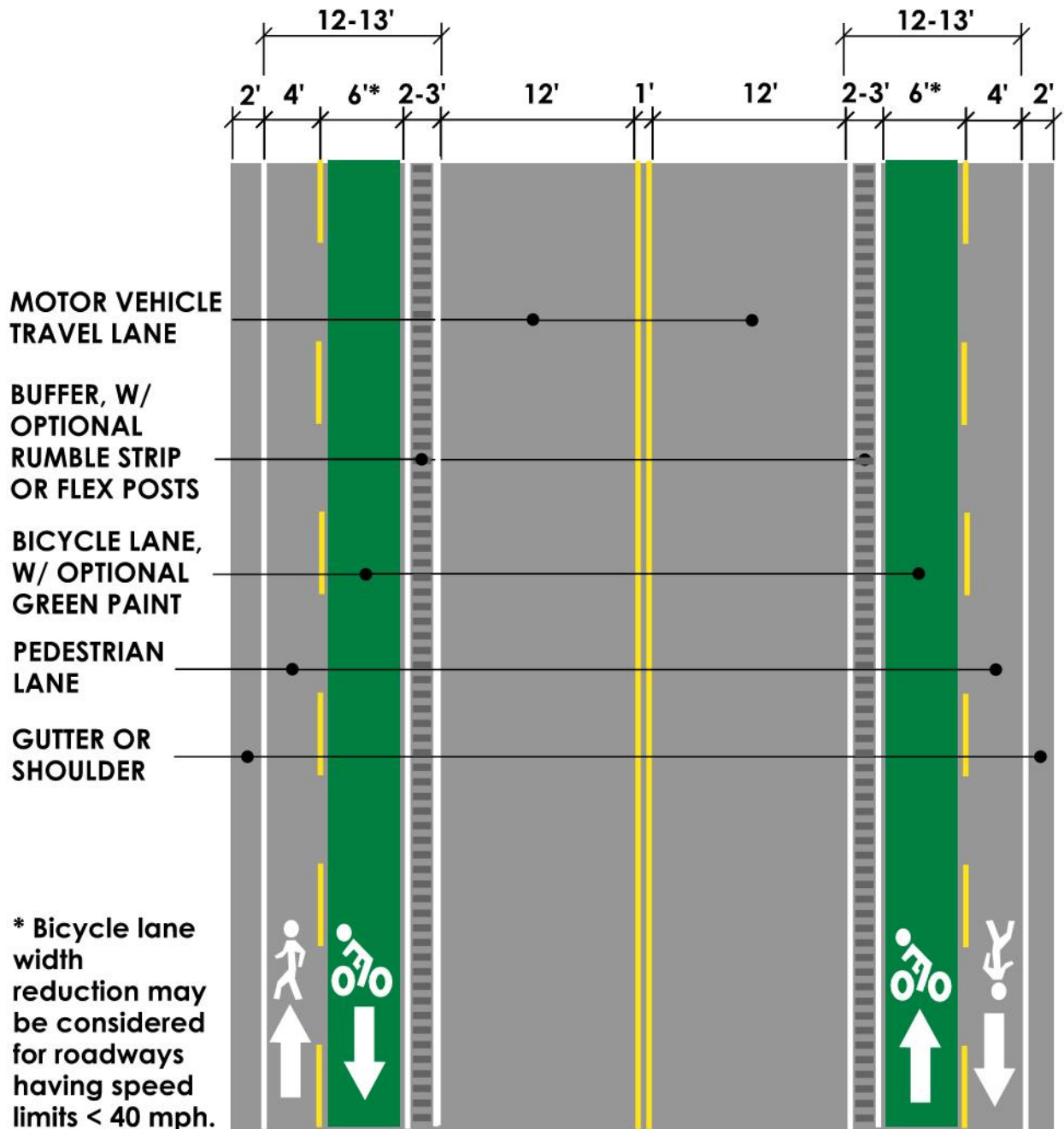


Figure 12 – Expanded roadway shoulder for pedestrian and bicycle use

Intersection of Cove Point Road (MD 497) at HG Trueman Road (MD 765):

- Future consultant(s) should consider if re-configuring and/or re-phasing of existing traffic signals could potentially enhance crossing times and safety for pedestrians and bicyclists
- Install four new marked crosswalks:
 - Four crosswalks are required under Option B to provide access to all bicycle and pedestrian lanes, which exist on both sides of each roadway segment under this option – refer to figure below.
- Enhance existing islands – refuge islands
- Reconfigure roadway markings

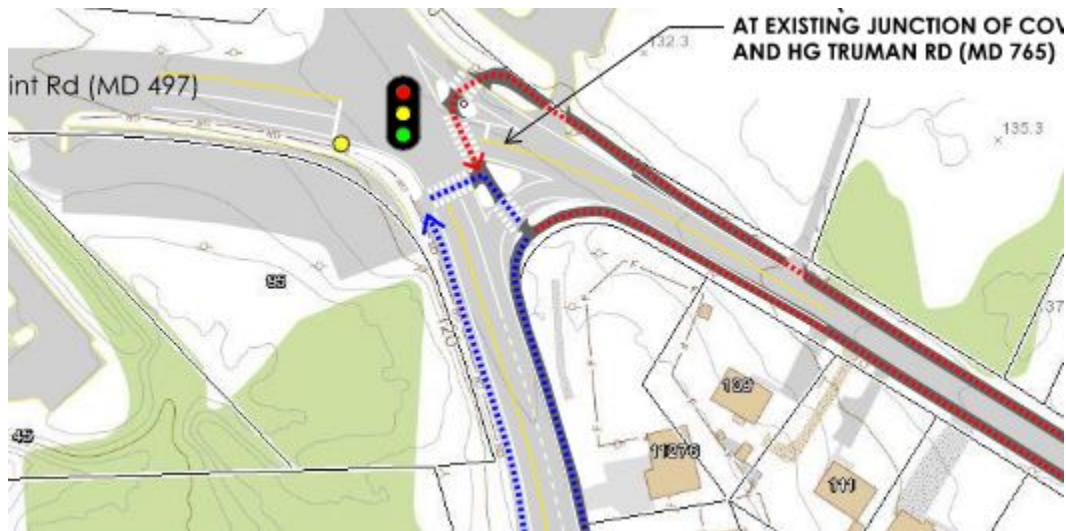


Figure 13 – Intersection of Cove Point Road (MD 497) at HG Trueman Road (MD 765) – Design Option B

Continued...

Intersection of Cove Point Road (MD 497) at Cove Point Park Entrance Road:

- Install new marked crosswalk across park entrance road:
 - Under Option B, pedestrian and bicycle lanes are recommended along both sides of the roadway. Pedestrians along the south side of the roadway will need to cross in order to enter Cove Point Park to the north. This crosswalk provides a safe and legal way to cross the road at the park entrance.
- Extend shared-use path into Cove Point Park – separate the pedestrian and bicycle traffic from the entrance road traffic
- Install new marked crosswalk across Cove Point Road
- Install new concrete islands along the south side of Cove Point Road as a safety enhancement
- Reconfigure intersection as shown

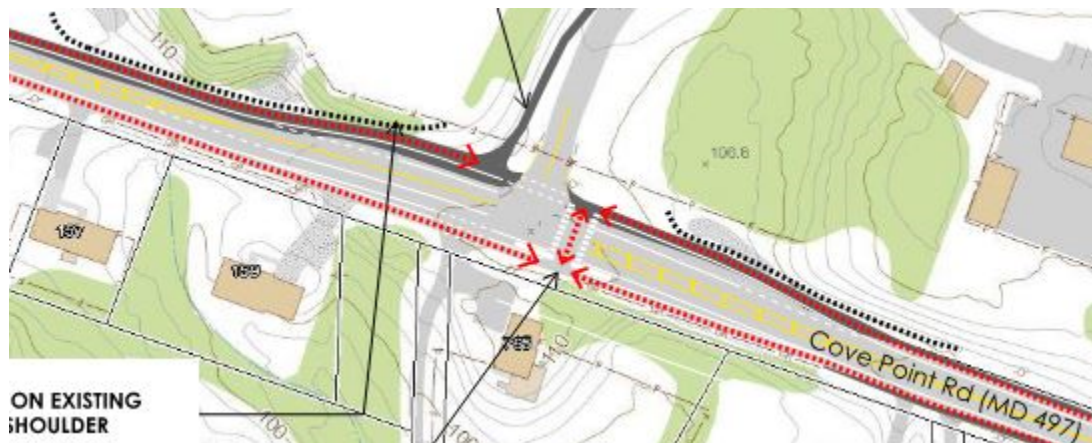


Figure 14 – Intersection of Cove Point Road (MD 497) at Park Entrance – Design Option B

Continued...

Intersection of Cove Point Road (MD 497) at Little Cove Point Road:

- Install new marked crosswalk across MD 497 at east side of intersection
 - Under Option B, trail/bicycle lanes are proposed from both sides of both roadways (MD 497 and Little Cove Point Rd). Due to the proposed trail alignment, providing a crosswalk at the east side of the intersection will provide a safe and legal crossing at this location.
- Install new marked crosswalk across Little Cove Point Road
- Enhance existing islands – refuge islands
- Install new concrete islands along the south side of Cove Point Road as a safety enhancement

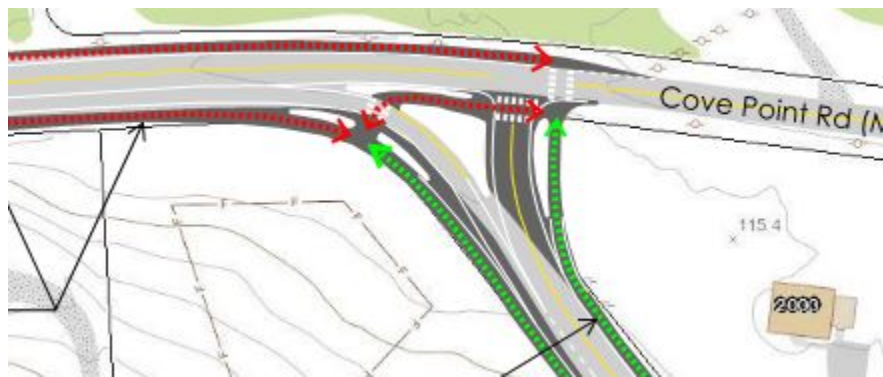


Figure 15 – Intersection of Cove Point Rd (MD 497) at Little Cove Point Rd – Design Option B

Continued...

Intersection of HG Trueman Rd (MD 765) at Anchorage La/Chesapeake Hills Golf Course Entrance Rd:

- Reconfigure “dogleg” intersection to include the following:
 - Install new pedestrian refuge island
 - Remark lanes / turn lanes
 - Install new marked crosswalk across MD 765
- Install new marked crosswalk across Anchorage Lane
 - There are no marked pedestrian crossings along the approximately 5,000 foot-long segment of MD 765 between the intersections of Cove Pt Rd (MD 497) and Town Square Dr. During the course of this study, stakeholders indicated that adding a pedestrian crossing at this intersection may encourage pedestrians and bicyclists to safely utilize the modes of transit to access the county-owned golf course.
- Install new marked crosswalk across Chesapeake Hills Golf Course entrance road
- Extend shared-use path partially into the Chesapeake Hills Golf Course property – separate pedestrian and bicycle traffic from motorized vehicles at the intersection



Figure 16 – Intersection of HG Trueman Rd (MD 765) at Little Cove Point Rd – Under Design Option B

Intersection of HG Trueman Road (MD 765) at Appeal Lane/Town Square Drive

- Future consultant(s) should consider if re-configuring and/or re-phasing of existing traffic signals could potentially enhance crossing times and safety for pedestrians and bicyclists
- Install two new marked crosswalks
- Transition to “bike lane ends” / “share the road” on MD 765 south of the intersection
Install a new concrete island on the northbound side of HG Truman Road as a safety enhancement
- Install “share the road” signage along Town Square Drive

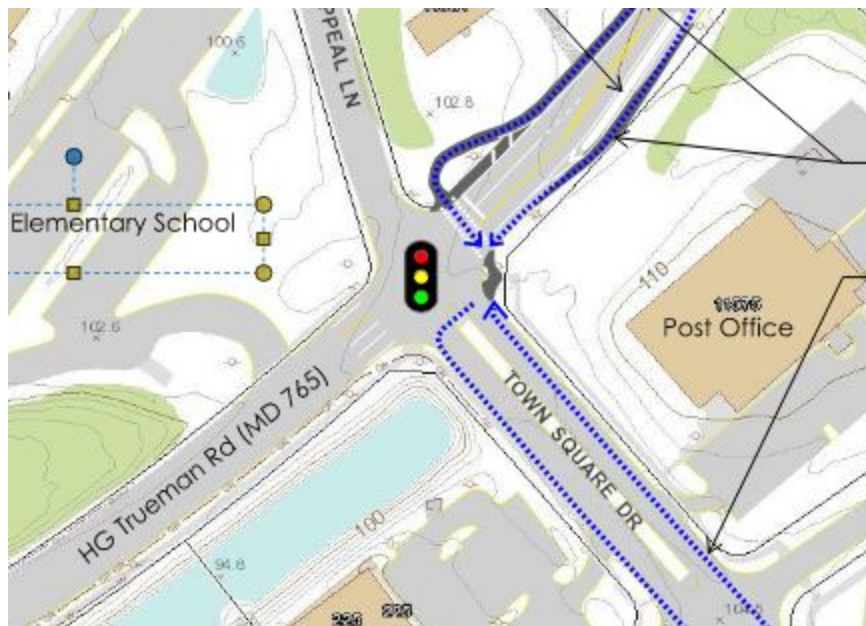


Figure 17 – Intersection of HG Trueman Rd (MD 765) at Town Sq Dr – Under Design Option B

Little Cove Point Road – Along its Length (Minor Intersections)

- Install new marked crosswalks where indicated
- Reconfigure and re-stripe existing roadway where indicated

Continued...

Little Cove Point Road at Park Chesapeake Drive

A particular note about this segment of Little Cove Point Road: While this study was underway, a parallel project known as the “Little Cove Point Road Geometric Improvements” project was undertaken to design and engineer roadway improvements to this segment of Little Cove Point Road at the intersection with Park Chesapeake Drive. **Three plans from this project have been included for illustrative purposes – see Appendix 4.**

- Add new marked crosswalks across Park Chesapeake Drive
- Add a series of concrete islands along the east side of Little Cove Point Road for physical separation of motor vehicles and pedestrian/bicycle traffic
- Reconfigure intersection as shown:
 - Add a secondary vehicle travel lane in the southbound direction with a bias toward the right lane. The secondary (left lane) can be used for passing, left turns, and acceleration when entering from Park Chesapeake Drive.
 - Add a right turn movement lane to the northbound side of the Little Cove Point Road at eastbound Park Chesapeake Drive.
 - This reconfiguration is intended to reduce head-on and rear-end collisions at the intersection

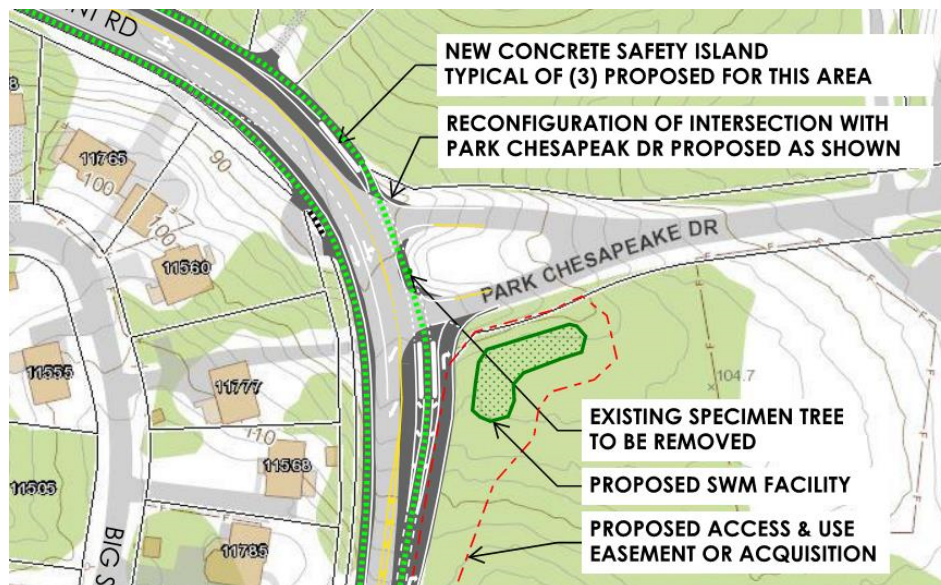


Figure 18 – Intersection of Little Cove Pt Rd and Park Chesapeake Dr – Design Option B

Little Cove Point Road at Big Sandy Run Road

- Install new marked crosswalk across Little Cove Point Road south of the intersection
- Install metal guardrails or physical barriers along Little Cove Point Road for physical separation of motor vehicles and pedestrian/bicycle traffic
- Install ‘share the road’ signage on Big Sandy Run Road

Refer to Appendix 2 – Book of Maps for Full Design Option ‘B’ Details and Layouts

Trail Terminations and Nodal Enhancement

The study explored enhancements at the termini of each route and at selected “nodes”. Specifically, the Consultant recommends:

- Installation of a new parking lot near the intersection of Gunsmoke Trail and Longbow Court. Trail users can park their motor vehicles at this lot to transition to a pedestrian or bicycle mode.
- Installation of new parking lot near the intersection of Little Cove Point Road and Big Sandy Run Road. Trail users can park their motor vehicles at this lot to transition to a pedestrian or bicycle mode.
- Enhancements at Cove Point Park’s existing (main) entrance, and the construction of a new secondary entrance serving pedestrians and bicyclists only.

Refer to Appendix 2 – Book of Maps for Full Details and Layouts

Continued...

Continental Crosswalks

Continental crosswalks have been shown to be more visible to approaching vehicles and improve yielding behavior.⁵ For this reason, we recommend that continental crosswalks be utilized for all new crosswalks and existing crosswalks that occur along the subject segments.

Designing for Accessibility

A goal of this study includes ADA compliance for all recommended improvements. In addition to providing safer facilities with enhanced comfort levels for pedestrians and bicyclists, the use of facilities should be expanded to include those using wheelchairs and other motor-assisted mobility devices, and for use by those with other mobility-related disabilities.

For streets, roadways, sidewalks, and separated pedestrian and bicycle pathways, there are no specific slope requirements established by the Americans with Disabilities Act Accessibility Guidelines (ADAAG) or Title II. However, various subject matter experts recommend pathways be constructed with longitudinal (running) slopes not exceeding 5 - 8.33% maximum and a cross slope of +/- 2%. It is worth noting that ADAAG allows handicapped-accessible ramps to be constructed at a maximum slope of 8.33%.

Option A – Shared-use Path – will naturally provide greater opportunities to achieve running slopes of 8.33%, and potentially far less, by physically separating the pathway from the motorized vehicle roadway. Doing so creates opportunities for re-grading the pathway slope and providing “transitional” grading between the road and side path, which will facilitate better “flatness”.

Under Option B – Enhanced Roadway Shoulders – running slopes for the pedestrian and bicycle facilities will be constrained by the existing roadway’s running and cross slopes and potentially by other features present within the already-constructed roadways. While the scope of this study did not evaluate the slopes of all existing roadways, it is believed the study segments for both Cove Point Road (MD 497) and H.G. Trueman Road (Maryland Route 765) do not presently exceed 8% in their running slopes. However, at least one segment of existing Little Cove Point Road within the study area likely exceeds 8%.

It is recommended that all improved roadway crossings be constructed in accordance with the latest ADA compliance rules, which include the following elements:

- Flush surface, barrier-free crossings
- ADA-compliant curb ramps at all raised curb locations
- Placement of detectable warning surface (DWS) material where required by code
- Improvements to intersection signalization for both visually and hearing-impaired users

⁵ Maryland Department of Transportation Pedestrian Safety Enhancement Report, June 2020.

Anticipated Outcomes – Enhancements to Levels of Comfort

The anticipated outcomes are based on an established methodology developed by the Montgomery County, Maryland, Department of Planning to objectively quantify pedestrian level of comfort (PLOC) and bicycle level of stress (BLOS) or LTS⁶. Using different roadway criteria, the methodology quantifies the pedestrian and bicycle experience on a numerical scale ranging from very conformable down to undesirable. Note, this system measures anticipated comfort levels only and does *not* directly correlate to anticipated improvements in safety, which are significantly harder to predict, measure, and quantify.

Pedestrian Comfort Levels		Level of Traffic Stress (LTS)		
Score	Comfort Levels	LTS Score	Target Audience	Bicycle Facility Types
1	Very Comfortable	0	All ages and abilities	Rail-Trails, Shared-Use Paths
1.5	Comfortable	1	Almost Everyone	Protected Bikeway, Sidepaths
2	Somewhat Comfortable	2	Interested But Concerned	Bike Lanes, Bike Boulevards
2.5	Somewhat Uncomfortable	3	Enthusied And Confident	Bike Lanes, Shared Lanes, Shoulders
3	Uncomfortable	4	Strong And Fearless	No Bike Facility or Bike Lane on a Major Roadway
3.5	Very Uncomfortable	5	Bicycle Access Prohibited	Bicycle Access is Prohibited by Managing Roadway Agency
4	Undesirable			

Figure 19 – PLoC and BLoS Scoring Criteria

For additional details relating to this rating method, including a summary of how the ratings for the existing conditions were derived, refer to **Appendix 1 – Cove Point Trail Traffic Study Report**.

MDoT's level of traffic stress (LTS) analysis of all public roadways is available online at: <https://data.imap.maryland.gov/datasets/maryland::maryland-bicycle-level-of-traffic-stress-lts/about>

Continued...

⁶ While developed by Montgomery County, Maryland, the Maryland Department of Transportation has adopted, revised, and implemented the Traffic Level of Stress methodology, as it relates to bicycle use.

Anticipated Outcomes – Enhancements to Levels of Comfort

Option A – Shared-use Path:

	Levels of Pedestrian Comfort (PLOC)		Bicycle Level of Stress (BLOS)		Percentage Improvement
	Existing	Anticipated	Existing	Anticipated	
Segment A1	4	1	4	0	350%
Segment A2	4	1	4	1	325%
Segment A3	4	1	4	0	300%
Segment A4	4	1	4	0	350%
497/765 Intersection	4	2	-		200%
497 Cove Pt Park Intersection	4	1.5	-		250%
765/Anchorage Ln Intersection	4	2.5	-		150%
497 Little Cove Pt Rd Intersection	4	1.5	-		250%
765/Town Sq Dr Intersection	4	2			200%
Segment B1	4	1	3 / 4	1	250%
Segment B2	4	1.5	3 / 4	1	225%
Segment B3	4	1	3 / 4	1	300%
Segment B4	4	2	4	3	150%
Segment C1	4	1	4	1	325%
Segment C2	4	1	4	1	300%
Segment C3	4	2.5	4	3	125%
Segment C4	4	2	4	2	200%
Totals (Average)	4	1.5	3.875	1.167	300%

Continued...

Anticipated Outcomes – Enhancements to Levels of Comfort

Option B – Enhanced Roadway Shoulder:

	Levels of Pedestrian Comfort (PLoC)		Bicycle Level of Stress (BLoS)		Percentage Improvement
	Existing	Anticipated	Existing	Anticipated	
Segment A1	4	3	4	3	100%
Segment A2	4	2.5	4	2	150%
Segment A3	4	2	4	2	200%
Segment A4	4	2.5	4	2	125%
497/765 Intersection	4	2	-		200%
497 Cove Pt Park Intersection	4	2	-		200%
765/Anchorage Ln Intersection	4	2.5	-		150%
497 Little Cove Pt Rd Intersection	4	1.5	-		250%
765/Town Sq Dr Intersection	4	2			200%
Segment B1	4	2.5	3 / 4	2	125%
Segment B2	4	2.5	3 / 4	3	100%
Segment B3	4	2	3 / 4	2	175%
Segment B4	4	3	4	3	150%
Segment C1	4	2.5	4	2	150%
Segment C2	4	3	4	2	125%
Segment C3	4	2	4	3	125%
Segment C4	4	3	4	3	100%
Totals (Average)	4	2.382	3.875	2.417	240%

Anticipated Outcome – Enhancements to Levels of Comfort: Summary

Utilizing these rating systems, we anticipate a probable overall level of comfort increase of 300% if Option A is implemented and 240% if Option B is implemented. Generally speaking, this means pedestrians and bicyclists would be 3 times more encouraged to utilize the improved corridors under Option A and 2.4 times more encouraged to utilize the improved corridors under Option B when compared to the existing condition.

Project Cost Estimate

Both Option A and B have been evaluated on a segment-by-segment basis with regard to anticipated or probable project costs, which include the following:

- Project Base Construction Costs – the estimated/anticipated cost of labor, materials, and work required to implement each segment
- Estimated Engineering Costs
- Estimated Anticipated Land Acquisition and Anticipated Cost of Easements
- Project Contingency
- Anticipated Cost Escalation – for the event the Project should be constructed on a timeline or take a phased approach.

The anticipated total estimated project costs are as follows:

Option A – Shared-use Path: \$ 12.7 million

Option B – Enhanced Shoulder Use: \$ 18.3 million

Refer to the Probable Project Cost Estimates tables located within the report appendix for additional information and detail.

Final Recommendations and Next Steps

We recommend consideration of implementing the improvements associated with Option A – Shared-use Path. The basis of this recommendation considers that the probable cost to improve all existing corridors by adding a separated shared-use path or some variation thereof, is estimated to be approximately \$12.7 million⁷ and as such, is anticipated to result in a 345% increase in level of comfort. Option B presents a significantly higher anticipated cost of approximately \$18.3 million², as it essentially consists of extensive widening of both Maryland 497 Cove Point Road and county-owned Little Cove Point Road, the likely result of which is an anticipated 240% increase in level of comfort.

Although Option A is the lesser cost, the outcomes and recommendations associated with Option B should not be wholly discounted. Being that this study did not include public input or review of outside agencies, such as the Maryland Department of Transportation (MDOT) who owns and maintains two out of the three primary corridors, we recommend that the next steps include both communication and engagement with the public and all other stakeholders, including MDOT. These engagements may yield further considerations and recommendations that may not have been fully unearthed during this study.

Perhaps “hybridization” or combining the best features of both Options A and B may ultimately result. For example, the cost analysis shows that the blue route, Maryland 765 HG Trueman Road, could likely be improved under Option B for a significantly lower cost when compared to constructing a new separated path along this corridor, since wide shoulders already exist along the majority of this segment. This approach could be combined with Option A for the red and green routes, likely resulting in the lowest overall projected cost estimate.

It is important to note that the consultant recommends a re-evaluation and consideration of a speed limit reduction along any Option B (enhanced shoulder use) route should this option be given further consideration.

Following a community, stakeholder, and public agency engagement period, we recommend refinement of the selected or finalized design option(s), which would proceed into environmental study phase, engineering, and finally, construction/implementation.

Finally, SHA wishes to note that the State’s fiscally unconstrained Highway Needs Inventory (HNI), the State’s long-range plan, includes projects that are critical to Maryland’s transportation needs. SHA’s HNI does not include any recommended roadway projects on either [state] roadway. This feasibility study project is being conducted in conjunction with long-term recommendations made by the S-SMMPO. We recommend that the two agencies coordinate efforts related to future roadway improvements.

⁷ Refer to Project Cost Estimate Section for detail

Cove Point Trail

Calvert County, Maryland
September 27, 2023

Traffic Study

INTRODUCTION

The Traffic Group, Inc. has prepared this traffic study to detail existing Pedestrian Levels of Comfort (PLOC) and Bicycle Levels of Traffic Stress (LTS) along several roadways within the Cove Point area of Calvert County. Specifically, the following segments were reviewed:

- Cove Point Road (MD 97) from MD 765 easterly to Little Cove Point Road
- MD 765 from MD 497 southerly to Town Square Drive
- Little Cove Point Road from Cove Point Road southerly to Chesapeake Ranch Estates Access

This document will detail that all existing road segments feature limited amenities for pedestrians and bicyclists.

Study Methodology

- Review roadway characteristics using Google Earth and Street View to quantify roadway widths and roadside features.
- Collect traffic data for a 48-hour period including classification counts and speed studies along two locations at each segment.
- Develop PLOC findings for each roadway segment using criteria established by Montgomery County Department of Planning.
- Calculate Bicycle LTS using criteria established by the Maryland Department of Transportation.
- Review crash data along each roadway segment to determine any existing safety concerns.
- Summarize all findings.

Study Area

In order to determine future needs with regard to pedestrian and bicycle trails, Calvert County has requested a Traffic Study for three road segments within the Cove Point section of the county. Below, each of the road segments is detailed along with its general characteristics.

Segment A – MD 497 (Cove Point Road)

Segment A extends from MD 765 to Little Cove Point Road for a distance of approximately 5,600 ft. The roadway is maintained by the Maryland Department of Transportation State Highway Administration (MDOT SHA) as MD 497. The posted speed limit for this roadway segment is 45 MPH. MDOT SHA classifies the roadway as a Major Collector.

MD 497 generally travels in the east-west direction. The segment under consideration is approximately 5,200 ft. There are numerous residential properties located primarily along the south side of the road. Cove Point Park is situated on the north side. The roadway generally features one travel lane in each direction with minimal shoulders or other amenities for pedestrians or bicyclists. There are no marked crosswalks within the roadway segment. At the west study boundary, the intersection of MD 765 at MD 497 features traffic signalization, however, there are no pedestrian amenities at this location.

Segment B – MD 765 (H.G. Trueman Road)

Segment B extends for approximately 5,200 ft from MD 497 southerly to Town Square Drive. MDOT SHA also operates this segment of roadway. It is classified as a Major Collector with a posted speed limit of 50 MPH. The roadway generally features one travel lane in each direction with limited shoulders on either side of the road. The roadway widens at several key intersections to facilitate turning lanes.

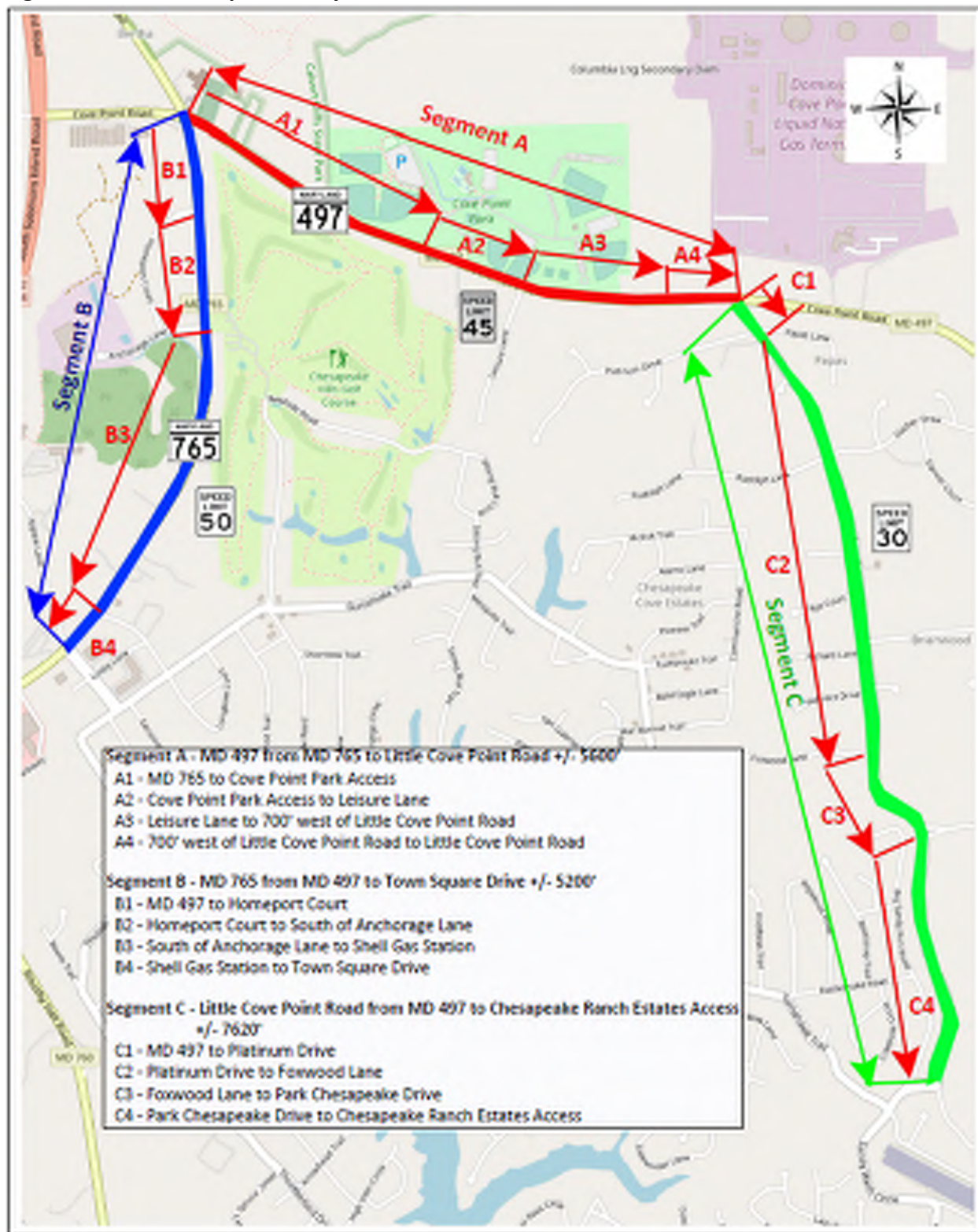
Traffic signalization is featured at the intersections with MD 497 and at Town Square Drive. The southern signal features crosswalks on the south and east legs, however, they are not considered high visibility.

Segment C – Little Cove Point Road

Segment C extends for approximately 7,620 ft from MD 497 southerly to Chesapeake Ranch Estates. This roadway is maintained by Calvert County. The posted speed limit is 30 MPH. Little Cove Point Road generally features one travel lane in each direction with minimal shoulders. There are no marked crosswalks within this segment.

Each of the three segments was further divided based on changes to the cross section which could involve number of lane widths or roadside features. Figure 1 includes a summary of the segments.

Figure 1. Location Map for Study Area



Traffic Volumes

In order to establish existing conditions, traffic volumes were collected at two locations within each segment for a 48-hour period on Wed., Sept. 6 and Thurs., Sept. 7, 2023. Specifically, classification counts and speed studies were obtained for each roadway segment using pneumatic tubes placed across the roadway. The tubes send air pulses to a processing unit which is able to obtain traffic data. Table 1 summarizes the daily traffic volumes associated with each roadway segment. In addition, the 85th percentile speed for each segment was also calculated. This metric represents the speed at which 85% of the vehicles travel at or below. In this case, the 85th percentile speed was generally within 10 MPH of the posted speed limit, which is generally considered appropriate. Full details on all traffic data can be found in Appendix A.

Table 1. Summary of Traffic Data Collection

Location	Daily Traffic Volumes			Post Speed (MPH)	85th Percentile Speed (MPH)	
	Direction 1	Direction 2	ADT		Direction 1	Direction 2
Segment A - MD 497						
500' west of Park Access	4059	4193	8252	45	51	49
900' west of Little Cove Point Rd	3794	3920	7714		49	50
Segment B - MD 765						
500' south of MD 497	4711	3975	8686	50	49	49
800' north of Town Square Dr	4016	3491	7507		51	52
Segment C - Little Cove Point Road						
500' south of Rudolph Lane	2578	2473	5051	30	40	41
550' north of Chesapeake Ranch Estates	2077	1950	4027		39	38

PEDESTRIAN LEVEL OF COMFORT

Montgomery County Department of Planning has developed a methodology to objectively quantify PLOC. Using different roadway criteria, the methodology quantifies the pedestrian experience on a numerical scale from very comfortable (Score 1) down to undesirable (Score 4).

The methodology is divided into two separate components: one set of scoring for roadways that feature pathways that are designated for pedestrians such as sidewalks, shared use paths, or trails. A no pathway designation would account for a roadway segment in which pedestrians are required to share roadways with other modes, including motor vehicles and bicycles. Table 2 summarizes the pedestrian comfort levels.

Table 2. Pedestrian Comfort Levels

Pedestrian Comfort Levels	
Score	Comfort Levels
1	Very Comfortable
1.5	Comfortable
2	Somewhat Comfortable
2.5	Somewhat Uncomfortable
3	Uncomfortable
3.5	Very Uncomfortable
4	Undesirable

With regard to the roadway itself, the functional classification is taken into consideration. All three segments are classified as Major Collectors, which for the purpose of the methodology are more broadly considered Primary Residential or greater for roadways that have no separate pathway.

The adjacent land use for all roadways within this area would be considered non-urban as residential units primarily populate the area. Traditionally, pedestrians are less likely to travel along roadways in non-urban areas.

The posted speed limit is another consideration in determining the PLOC. The methodology considers any posted speed limit above 40 as the highest maximum limit because safety outcomes including injuries and fatalities do not vary greatly if a pedestrian is struck by a vehicle moving at a speed greater than 40 MPH. It is important to recognize that posted speed limits cannot be changed by themselves under typical conditions to improve the PLOC score. Instead, additional engineering techniques would likely be required, such as construction of a separated path.

As mentioned above, each of the three segments was further divided into sub-segments based on changes in roadway cross section which could involve lane widths or roadside features. Each of the sub-segments is detailed on the pages that follow with the PLOC criteria from Montgomery County Planning Department. In this case, the methodology is all based on the “no pedestrian pathway criteria.” As shown, each of the 12 sub-segments feature Score 4 – Undesirable. In order for the PLOC to reduce to a more comfortable level, a separate pathway would need to be added or travel speeds would need to be reduced to 25 MPH or less, which would not be feasible without additional traffic calming measures.

Crossings were also reviewed in the study area. In this case, there were no controlled crossings or crosswalks with the exception of MD 765 at Town Square Drive. Sheets detailing potential pedestrian crossings are also contained on the pages that follow. As shown, all crossings are also considered undesirable as a result of the lack of existing crosswalks. Full details on the methodology can be found in Appendix B.

Pedestrian Pathway Level of Comfort

Segment: A1 (MD 497 From MD 765 to Cove Point Park Access)

Length: 2,500'



No Pedestrian Pathway Criteria ^{1/}

Context	Master Plan of Highways And Transitways (MPOHT) Functional Classification	Parking Allowed	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
Urban	Any	No/Yes	4	4	4	4	4
Non-Urban	Less Than Primary Residential	No	2	3	4	4	4
		Yes	2	3	4	4	4
	Primary Residential Or Greater	No	2	4	4	4	4
		Yes	3	4	4	4	4

1. Non-Urban Area
2. No Pathway
3. Less than primary residential
4. Post Speed 45 MPH
5. No parking allowed

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 12.

Pedestrian Pathway Level of Comfort

Segment: A2 (MD 497 From Cove Point Park Access to Leisure Lane)

Length: 1,000'



No Pedestrian Pathway Criteria ^{1/}

Context	Master Plan of Highways And Transitways (MPOHT) Functional Classification	Parking Allowed	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
Urban	Any	No/Yes	4	4	4	4	4
Non-Urban	Less Than Primary Residential	No	2	3	4	4	4
		Yes	2	3	4	4	4
	Primary Residential Or Greater	No	2	4	4	4	4
		Yes	3	4	4	4	4

1. Non-Urban Area
2. No Pathway
3. Less than primary residential
4. Post Speed 45 MPH
5. No parking allowed

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 12.

Pedestrian Pathway Level of Comfort

Segment: A3 (MD 497 From Leisure Lane To 700' west of Little Cove Point Rd)

Length: 1,400'



No Pedestrian Pathway Criteria ^{1/}

Context	Master Plan of Highways And Transitways (MPOHT) Functional Classification	Parking Allowed	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
Urban	Any	No/Yes	4	4	4	4	4
Non-Urban	Less Than Primary Residential	No	2	3	4	4	4
		Yes	2	3	4	4	4
	Primary Residential Or Greater	No	2	4	4	4	4
		Yes	3	4	4	4	4

1. Non-Urban Area
2. No Pathway
3. Less than primary residential
4. Post Speed 45 MPH
5. No parking allowed

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 12.

Pedestrian Pathway Level of Comfort

Segment: A4 (MD 497 From 700' west of Little Cove Point Rd to Little Cove Point Rd)

Length: 700'



No Pedestrian Pathway Criteria ^{1/}

Context	Master Plan of Highways And Transitways (MPOHT) Functional Classification	Parking Allowed	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
Urban	Any	No/Yes	4	4	4	4	4
Non-Urban	Less Than Primary Residential	No	2	3	4	4	4
		Yes	2	3	4	4	4
	Primary Residential Or Greater	No	2	4	4	4	4
		Yes	3	4	4	4	4

1. Non-Urban Area
2. No Pathway
3. Less than primary residential
4. Post Speed 45 MPH
5. Parking allowed

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 12.

Pedestrian Crossing Level of Comfort

Location: MD 497 at MD 765



Controlled Crossing (Signalized or Stop-Controlled) Criteria ^{1/}

# of Lanes	Median Type	Crosswalk Type	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
1 to 3	Raised Refuge Island	HighVisibility	1	1	1	2	2
		Marked	1	1	2	2	2
		Unmarked	1	1	3	3	4
	Raised/Hardened Centerline	HighVisibility	1	1	2	2	3
		Marked	1	1	2	2	3
		Unmarked	1	2	3	4	4
	Painted/None	HighVisibility	1	1	2	3	3
		Marked	1	1	2	3	3
		Unmarked	1	2	3	4	4
4 to 5	Raised Refuge Island	HighVisibility	1	1	2	3	3
		Marked	1	1	2	3	3
		Unmarked	1	3	3	4	4
	Raised/Hardened Centerline	HighVisibility	2	2	2	3	3
		Marked	2	2	3	3	4
		Unmarked	2	3	4	4	4
	Painted/None	HighVisibility	2	2	2	3	3
		Marked	3	3	3	3	4
		Unmarked	4	4	4	4	4

1. Controlled Crossing
2. 2 Lane Cross Section
3. Post Speed 45 MPH
4. No Median
5. No Crosswalk

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 13.

Pedestrian Crossing Level of Comfort

Location: MD 497 at Cove Point Park Access



Uncontrolled Crossing ^{1/}

# of Lanes	Median Type	Crosswalk Type	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
1 to 3*	Raised Refuge Island	HighVisibility	1	1	2	3	4
		Marked	1	1	3	3	4
		Unmarked	2	2	4	4	4
	Raised/Hardened Centerline	HighVisibility	1	1	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	2	4	4	4
	Painted/None	HighVisibility	1	2	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	3	4	4	4
4 to 5	Raised Refuge Island	HighVisibility	1	2	2	3	4
		Marked	1	2	2	3	4
		Unmarked	2	3	4	4	4
	Raised/Hardened Centerline	HighVisibility	2	2	3	4	4
		Marked	3	3	3	4	4
		Unmarked	4	4	4	4	4
	Painted/None	HighVisibility	4	4	4	4	4
		Marked	4	4	4	4	4
		Unmarked	4	4	4	4	4

1. Uncontrolled Crossing
2. 4 Lane Cross Section
3. Post Speed 45 MPH
4. No Median
5. No Crosswalk

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 14.

Pedestrian Crossing Level of Comfort

Location: MD 497 at Leisure Lane



Uncontrolled Crossing ^{1/}

# of Lanes	Median Type	Crosswalk Type	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
1 to 3*	Raised Refuge Island	HighVisibility	1	1	2	3	4
		Marked	1	1	3	3	4
		Unmarked	2	2	4	4	4
	Raised/Hardened Centerline	HighVisibility	1	1	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	2	4	4	4
	Painted/None	HighVisibility	1	2	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	3	4	4	4
4 to 5	Raised Refuge Island	HighVisibility	1	2	2	3	4
		Marked	1	2	2	3	4
		Unmarked	2	3	4	4	4
	Raised/Hardened Centerline	HighVisibility	2	2	3	4	4
		Marked	3	3	3	4	4
		Unmarked	4	4	4	4	4
	Painted/None	HighVisibility	4	4	4	4	4
		Marked	4	4	4	4	4
		Unmarked	4	4	4	4	4

1. Uncontrolled Crossing
2. 2 Lane Cross Section
3. Post Speed 45 MPH
4. No Median
5. No Crosswalk

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 14.

Pedestrian Crossing Level of Comfort

Location: MD 497 at Little Cove Point Road



Uncontrolled Crossing ^{1/}

# of Lanes	Median Type	Crosswalk Type	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
1 to 3*	Raised Refuge Island	HighVisibility	1	1	2	3	4
		Marked	1	1	3	3	4
		Unmarked	2	2	4	4	4
	Raised/Hardened Centerline	HighVisibility	1	1	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	2	4	4	4
	Painted/None	HighVisibility	1	2	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	3	4	4	4
4 to 5	Raised Refuge Island	HighVisibility	1	2	2	3	4
		Marked	1	2	2	3	4
		Unmarked	2	3	4	4	4
	Raised/Hardened Centerline	HighVisibility	2	2	3	4	4
		Marked	3	3	3	4	4
		Unmarked	4	4	4	4	4
	Painted/None	HighVisibility	4	4	4	4	4
		Marked	4	4	4	4	4
		Unmarked	4	4	4	4	4

1. Uncontrolled Crossing
2. 3 Lane Cross Section
3. Post Speed 45 MPH
4. No Median
5. No Crosswalk

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 14.

Pedestrian Pathway Level of Comfort

Segment: B1 (MD 765 From MD 497 to Homeport Ct)

Length: 800'



No Pedestrian Pathway Criteria ^{1/}

Context	Master Plan of Highways And Transitways (MPOHT) Functional Classification	Parking Allowed	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
Urban	Any	No/Yes	4	4	4	4	4
Non-Urban	Less Than Primary Residential	No	2	3	4	4	4
		Yes	2	3	4	4	4
	Primary Residential Or Greater	No	2	4	4	4	4
		Yes	3	4	4	4	4

1. Non-Urban Area
2. No Pathway
3. Less than primary residential
4. Post Speed 50 MPH
5. Parking allowed (one side)

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 12.

Pedestrian Pathway Level of Comfort

Segment: B2 (MD 765 From Homeport Ct to 350' south of Anchorage Ln)

Length: 1,450'



No Pedestrian Pathway Criteria ^{1/}

Context	Master Plan of Highways And Transitways (MPOHT) Functional Classification	Parking Allowed	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
Urban	Any	No/Yes	4	4	4	4	4
Non-Urban	Less Than Primary Residential	No	2	3	4	4	4
		Yes	2	3	4	4	4
	Primary Residential Or Greater	No	2	4	4	4	4
		Yes	3	4	4	4	4

1. Non-Urban Area
2. No Pathway
3. Less than primary residential
4. Post Speed 50 MPH
5. Parking allowed (both side)

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 12.

Pedestrian Pathway Level of Comfort

Segment: B3 (MD 765 from south of Anchorage Ln to Shell Gas Station)

Length: 2,600



No Pedestrian Pathway Criteria ^{1/}

Context	Master Plan of Highways And Transitways (MPOHT) Functional Classification	Parking Allowed	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
Urban	Any	No/Yes	4	4	4	4	4
Non-Urban	Less Than Primary Residential	No	2	3	4	4	4
		Yes	2	3	4	4	4
	Primary Residential Or Greater	No	2	4	4	4	4
		Yes	3	4	4	4	4

1. Non-Urban Area
2. No Pathway
3. Less than primary residential
4. Post Speed 50 MPH
5. Parking allowed (both side)

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 12.

Pedestrian Pathway Level of Comfort

Segment: B4 (MD 765 from Shell Station to Town Square Rd)

Length: 350'



No Pedestrian Pathway Criteria ^{1/}

Context	Master Plan of Highways And Transitways (MPOHT) Functional Classification	Parking Allowed	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
Urban	Any	No/Yes	4	4	4	4	4
Non-Urban	Less Than Primary Residential	No	2	3	4	4	4
		Yes	2	3	4	4	4
	Primary Residential Or Greater	No	2	4	4	4	4
		Yes	3	4	4	4	4

1. Non-Urban Area
2. No Pathway
3. Less than primary residential
4. Post Speed 50 MPH
5. No Parking allowed

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 12.

Pedestrian Crossing Level of Comfort

Location: MD 765 at MD 497



Controlled Crossing (Signalized or Stop-Controlled) Criteria ^{1/}

# of Lanes	Median Type	Crosswalk Type	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
1 to 3	Raised Refuge Island	HighVisibility	1	1	1	2	2
		Marked	1	1	2	2	2
		Unmarked	1	1	3	3	4
	Raised/Hardened Centerline	HighVisibility	1	1	2	2	3
		Marked	1	1	2	2	3
		Unmarked	1	2	3	4	4
	Painted/None	HighVisibility	1	1	2	3	3
		Marked	1	1	2	3	3
		Unmarked	1	2	3	4	4
4 to 5	Raised Refuge Island	HighVisibility	1	1	2	3	3
		Marked	1	1	2	3	3
		Unmarked	1	3	3	4	4
	Raised/Hardened Centerline	HighVisibility	2	2	2	3	3
		Marked	2	2	3	3	4
		Unmarked	2	3	4	4	4
	Painted/None	HighVisibility	2	2	2	3	3
		Marked	3	3	3	3	4
		Unmarked	4	4	4	4	4

1. Controlled Crossing
2. 3 Lane Cross Section
3. Post Speed 50 MPH
4. No Median
5. No Crosswalk

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 13.

Pedestrian Crossing Level of Comfort

Location: MD 765 at Homeport Ct



Uncontrolled Crossing ^{1/}

# of Lanes	Median Type	Crosswalk Type	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
1 to 3*	Raised Refuge Island	HighVisibility	1	1	2	3	4
		Marked	1	1	3	3	4
		Unmarked	2	2	4	4	4
	Raised/Hardened Centerline	HighVisibility	1	1	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	2	4	4	4
	Painted/None	HighVisibility	1	2	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	3	4	4	4
4 to 5	Raised Refuge Island	HighVisibility	1	2	2	3	4
		Marked	1	2	2	3	4
		Unmarked	2	3	4	4	4
	Raised/Hardened Centerline	HighVisibility	2	2	3	4	4
		Marked	3	3	3	4	4
		Unmarked	4	4	4	4	4
	Painted/None	HighVisibility	4	4	4	4	4
		Marked	4	4	4	4	4
		Unmarked	4	4	4	4	4

1. Uncontrolled Crossing (MD 765)

2. 4 Lane Cross Section

3. Post Speed 50 MPH

4. No Median

5. No Crosswalk

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 14.

Pedestrian Crossing Level of Comfort

Location: MD 765 at Anchorage Ln



Uncontrolled Crossing ^{1/}

# of Lanes	Median Type	Crosswalk Type	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
1 to 3*	Raised Refuge Island	HighVisibility	1	1	2	3	4
		Marked	1	1	3	3	4
		Unmarked	2	2	4	4	4
	Raised/Hardened Centerline	HighVisibility	1	1	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	2	4	4	4
	Painted/None	HighVisibility	1	2	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	3	4	4	4
4 to 5	Raised Refuge Island	HighVisibility	1	2	2	3	4
		Marked	1	2	2	3	4
		Unmarked	2	3	4	4	4
	Raised/Hardened Centerline	HighVisibility	2	2	3	4	4
		Marked	3	3	3	4	4
		Unmarked	4	4	4	4	4
	Painted/None	HighVisibility	4	4	4	4	4
		Marked	4	4	4	4	4
		Unmarked	4	4	4	4	4

1. Uncontrolled Crossing (MD 765)

2. 3 Lane Cross Section

3. Post Speed 50 MPH

4. Painted Median

5. No Crosswalk

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 14.

Pedestrian Crossing Level of Comfort

Location: MD 765 at Town Square Dr



Controlled Crossing (Signalized or Stop-Controlled) Criteria ^{1/}

# of Lanes	Median Type	Crosswalk Type	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
1 to 3*	Raised Refuge Island	HighVisibility	1	1	1	2	2
		Marked	1	1	2	2	2
		Unmarked	1	1	3	3	4
	Raised/Hardened Centerline	HighVisibility	1	1	2	2	3
		Marked	1	1	2	2	3
		Unmarked	1	2	3	4	4
	Painted/None	HighVisibility	1	1	2	3	3
		Marked	1	1	2	3	3
		Unmarked	1	2	3	4	4
4 to 5	Raised Refuge Island	HighVisibility	1	1	2	3	3
		Marked	1	1	2	3	3
		Unmarked	1	3	3	4	4
	Raised/Hardened Centerline	HighVisibility	2	2	2	3	3
		Marked	2	2	3	3	4
		Unmarked	2	3	4	4	4
	Painted/None	HighVisibility	2	2	2	3	3
		Marked	3	3	3	3	4
		Unmarked	4	4	4	4	4

1. Control Crossing
2. 4 Lane Cross Section
3. Post Speed 50 MPH
4. No Median
5. No Crosswalk

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 13.

Pedestrian Pathway Level of Comfort

Segment: C1 (Little Cove Point Rd from MD 497 to Platinum Dr)

Length: 320'



No Pedestrian Pathway Criteria ^{1/}

Context	Master Plan of Highways And Transitways (MPOHT) Functional Classification	Parking Allowed	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
Urban	Any	No/Yes	4	4	4	4	4
Non-Urban	Less Than Primary Residential	No	2	3	4	4	4
		Yes	2	3	4	4	4
	Primary Residential Or Greater	No	2	4	4	4	4
		Yes	3	4	4	4	4

1. Non-Urban Area
2. No Pathway
3. Less than primary residential
4. Post Speed 30 MPH
5. No Parking allowed (no shoulder)

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 12.

Pedestrian Pathway Level of Comfort

Segment: C2 (Little Cove Point Rd from Platinum Dr to Foxwood Ln)

Length: 4,100'



No Pedestrian Pathway Criteria ^{1/}

Context	Master Plan of Highways And Transitways (MPOHT) Functional Classification	Parking Allowed	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
Urban	Any	No/Yes	4	4	4	4	4
Non-Urban	Less Than Primary Residential	No	2	3	4	4	4
		Yes	2	3	4	4	4
	Primary Residential Or Greater	No	2	4	4	4	4
		Yes	3	4	4	4	4

1. Non-Urban Area
2. No Pathway
3. Less than primary residential
4. Post Speed 30 MPH
5. No parking allowed (no shoulder)

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 12.

Pedestrian Pathway Level of Comfort

Segment: C3 (Little Cove Point Rd from Foxwood Ln to Park Chesapeake Dr)

Length: 800'



No Pedestrian Pathway Criteria ^{1/}

Context	Master Plan of Highways And Transitways (MPOHT) Functional Classification	Parking Allowed	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
Urban	Any	No/Yes	4	4	4	4	4
Non-Urban	Less Than Primary Residential	No	2	3	4	4	4
		Yes	2	3	4	4	4
	Primary Residential Or Greater	No	2	4	4	4	4
		Yes	3	4	4	4	4

1. Non-Urban Area
2. No Pathway
3. Less than primary residential
4. Post Speed 30 MPH
5. No parking allowed (narrow shoulder)

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 12.

Pedestrian Pathway Level of Comfort

Segment: C4 (Little Cove Point Rd from Park Chesapeake Dr to Chesapeake Ranch Estates)

Length: 2,400'



No Pedestrian Pathway Criteria ^{1/}

Context	Master Plan of Highways And Transitways (MPOHT) Functional Classification	Parking Allowed	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
Urban	Any	No/Yes	4	4	4	4	4
Non-Urban	Less Than Primary Residential	No	2	3	4	4	4
		Yes	2	3	4	4	4
	Primary Residential Or Greater	No	2	4	4	4	4
		Yes	3	4	4	4	4

1. Non-Urban Area
2. No Pathway
3. Less than primary residential
4. Post Speed 30 MPH
5. No Parking allowed (no shoulder)

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 12.

Pedestrian Crossing Level of Comfort

Location: Little Cove Point Rd at MD 497



Controlled Crossing (Signalized or Stop-Controlled) Criteria ^{1/}

# of Lanes	Median Type	Crosswalk Type	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
1 to 3	Raised Refuge Island	HighVisibility	1	1	1	2	2
		Marked	1	1	2	2	2
		Unmarked	1	1	3	3	4
	Raised/Hardened Centerline	HighVisibility	1	1	2	2	3
		Marked	1	1	2	2	3
		Unmarked	1	2	3	4	4
	Painted/None	HighVisibility	1	1	2	3	3
		Marked	1	1	2	3	3
		Unmarked	1	2	3	4	4
4 to 5	Raised Refuge Island	HighVisibility	1	1	2	3	3
		Marked	1	1	2	3	3
		Unmarked	1	3	3	4	4
	Raised/Hardened Centerline	HighVisibility	2	2	2	3	3
		Marked	2	2	3	3	4
		Unmarked	2	3	4	4	4
	Painted/None	HighVisibility	2	2	2	3	3
		Marked	3	3	3	3	4
		Unmarked	4	4	4	4	4

1. Controlled Crossing
2. 3 Lane Cross Section
3. Post Speed 30 MPH
4. Raised Reguge Island
5. No Crosswalk

Score 3 Uncomfortable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 13.

Pedestrian Crossing Level of Comfort

Location: Little Cove Point Rd at Platinum Dr



Uncontrolled Crossing ^{1/}

# of Lanes	Median Type	Crosswalk Type	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
1 to 3*	Raised Refuge Island	HighVisibility	1	1	2	3	4
		Marked	1	1	3	3	4
		Unmarked	2	2	4	4	4
	Raised/Hardened Centerline	HighVisibility	1	1	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	2	4	4	4
	Painted/None	HighVisibility	1	2	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	3	4	4	4
4 to 5	Raised Refuge Island	HighVisibility	1	2	2	3	4
		Marked	1	2	2	3	4
		Unmarked	2	3	4	4	4
	Raised/Hardened Centerline	HighVisibility	2	2	3	4	4
		Marked	3	3	3	4	4
		Unmarked	4	4	4	4	4
	Painted/None	HighVisibility	4	4	4	4	4
		Marked	4	4	4	4	4
		Unmarked	4	4	4	4	4

1. Uncontrolled Crossing
2. 3 Lane Cross Section
3. Post Speed 30 MPH
4. No Median
5. No Crosswalk

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 14.

Pedestrian Crossing Level of Comfort

Location: Little Cove Point Rd at Junes Ln



Uncontrolled Crossing ^{1/}

# of Lanes	Median Type	Crosswalk Type	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
1 to 3*	Raised Refuge Island	HighVisibility	1	1	2	3	4
		Marked	1	1	3	3	4
		Unmarked	2	2	4	4	4
	Raised/Hardened Centerline	HighVisibility	1	1	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	2	4	4	4
	Painted/None	HighVisibility	1	2	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	3	4	4	4
4 to 5	Raised Refuge Island	HighVisibility	1	2	2	3	4
		Marked	1	2	2	3	4
		Unmarked	2	3	4	4	4
	Raised/Hardened Centerline	HighVisibility	2	2	3	4	4
		Marked	3	3	3	4	4
		Unmarked	4	4	4	4	4
	Painted/None	HighVisibility	4	4	4	4	4
		Marked	4	4	4	4	4
		Unmarked	4	4	4	4	4

1. Uncontrolled Crossing
2. 3 Lane Cross Section
3. Post Speed 30 MPH
4. Painted Median
5. No Crosswalk

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 14.

Pedestrian Crossing Level of Comfort

Location: Little Cove Point Rd at Rudolph Ln



Uncontrolled Crossing ^{1/}

# of Lanes	Median Type	Crosswalk Type	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
1 to 3*	Raised Refuge Island	HighVisibility	1	1	2	3	4
		Marked	1	1	3	3	4
		Unmarked	2	2	4	4	4
	Raised/Hardened Centerline	HighVisibility	1	1	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	2	4	4	4
	Painted/None	HighVisibility	1	2	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	3	4	4	4
4 to 5	Raised Refuge Island	HighVisibility	1	2	2	3	4
		Marked	1	2	2	3	4
		Unmarked	2	3	4	4	4
	Raised/Hardened Centerline	HighVisibility	2	2	3	4	4
		Marked	3	3	3	4	4
		Unmarked	4	4	4	4	4
	Painted/None	HighVisibility	4	4	4	4	4
		Marked	4	4	4	4	4
		Unmarked	4	4	4	4	4

1. Uncontrolled Crossing
2. 3 Lane Cross Section
3. Post Speed 30 MPH
4. No Median
5. No Crosswalk

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 14.

Pedestrian Crossing Level of Comfort

Location: Little Cove Point Rd at Hummingbird Dr



Uncontrolled Crossing ^{1/}

# of Lanes	Median Type	Crosswalk Type	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
1 to 3*	Raised Refuge Island	High Visibility	1	1	2	3	4
		Marked	1	1	3	3	4
		Unmarked	2	2	4	4	4
	Raised/Hardened Centerline	High Visibility	1	1	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	2	4	4	4
	Painted/None	High Visibility	1	2	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	3	4	4	4
4 to 5	Raised Refuge Island	High Visibility	1	2	2	3	4
		Marked	1	2	2	3	4
		Unmarked	2	3	4	4	4
	Raised/Hardened Centerline	High Visibility	2	2	3	4	4
		Marked	3	3	3	4	4
		Unmarked	4	4	4	4	4
	Painted/None	High Visibility	4	4	4	4	4
		Marked	4	4	4	4	4
		Unmarked	4	4	4	4	4

1. Uncontrolled Crossing
2. 2 Lane Cross Section
3. Post Speed 30 MPH
4. No Median
5. No Crosswalk

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 14.

Pedestrian Crossing Level of Comfort

Location: Little Cove Point Rd at Rye Ct



Uncontrolled Crossing ^{1/}

# of Lanes	Median Type	Crosswalk Type	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
1 to 3*	Raised Refuge Island	HighVisibility	1	1	2	3	4
		Marked	1	1	3	3	4
		Unmarked	2	2	4	4	4
	Raised/Hardened Centerline	HighVisibility	1	1	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	2	4	4	4
	Painted/None	HighVisibility	1	2	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	3	4	4	4
4 to 5	Raised Refuge Island	HighVisibility	1	2	2	3	4
		Marked	1	2	2	3	4
		Unmarked	2	3	4	4	4
	Raised/Hardened Centerline	HighVisibility	2	2	3	4	4
		Marked	3	3	3	4	4
		Unmarked	4	4	4	4	4
	Painted/None	HighVisibility	4	4	4	4	4
		Marked	4	4	4	4	4
		Unmarked	4	4	4	4	4

1. Uncontrolled Crossing
2. 3 Lane Cross Section
3. Post Speed 30 MPH
4. No Median
5. No Crosswalk

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 14.

Pedestrian Crossing Level of Comfort

Location: Little Cove Point Rd at Brians Way



Uncontrolled Crossing ^{1/}

# of Lanes	Median Type	Crosswalk Type	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
1 to 3*	Raised Refuge Island	HighVisibility	1	1	2	3	4
		Marked	1	1	3	3	4
		Unmarked	2	2	4	4	4
	Raised/Hardened Centerline	HighVisibility	1	1	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	2	4	4	4
	Painted/None	HighVisibility	1	2	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	3	4	4	4
4 to 5	Raised Refuge Island	HighVisibility	1	2	2	3	4
		Marked	1	2	2	3	4
		Unmarked	2	3	4	4	4
	Raised/Hardened Centerline	HighVisibility	2	2	3	4	4
		Marked	3	3	3	4	4
		Unmarked	4	4	4	4	4
	Painted/None	HighVisibility	4	4	4	4	4
		Marked	4	4	4	4	4
		Unmarked	4	4	4	4	4

1. Uncontrolled Crossing
2. 2 Lane Cross Section
3. Post Speed 30 MPH
4. No Median
5. No Crosswalk

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 14.

Pedestrian Crossing Level of Comfort

Location: Little Cove Point Rd at Richard Ln



Uncontrolled Crossing ^{1/}

# of Lanes	Median Type	Crosswalk Type	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
1 to 3*	Raised Refuge Island	HighVisibility	1	1	2	3	4
		Marked	1	1	3	3	4
		Unmarked	2	2	4	4	4
	Raised/Hardened Centerline	HighVisibility	1	1	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	2	4	4	4
	Painted/None	HighVisibility	1	2	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	3	4	4	4
4 to 5	Raised Refuge Island	HighVisibility	1	2	2	3	4
		Marked	1	2	2	3	4
		Unmarked	2	3	4	4	4
	Raised/Hardened Centerline	HighVisibility	2	2	3	4	4
		Marked	3	3	3	4	4
		Unmarked	4	4	4	4	4
	Painted/None	HighVisibility	4	4	4	4	4
		Marked	4	4	4	4	4
		Unmarked	4	4	4	4	4

1. Uncontrolled Crossing
2. 2 Lane Cross Section
3. Post Speed 30 MPH
4. No Median
5. No Crosswalk

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 14.

Pedestrian Crossing Level of Comfort

Location: Little Cove Point Rd at Haltrace Dr



Uncontrolled Crossing ^{1/}

# of Lanes	Median Type	Crosswalk Type	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
1 to 3*	Raised Refuge Island	HighVisibility	1	1	2	3	4
		Marked	1	1	3	3	4
		Unmarked	2	2	4	4	4
	Raised/Hardened Centerline	HighVisibility	1	1	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	2	4	4	4
	Painted/None	HighVisibility	1	2	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	3	4	4	4
4 to 5	Raised Refuge Island	HighVisibility	1	2	2	3	4
		Marked	1	2	2	3	4
		Unmarked	2	3	4	4	4
	Raised/Hardened Centerline	HighVisibility	2	2	3	4	4
		Marked	3	3	3	4	4
		Unmarked	4	4	4	4	4
	Painted/None	HighVisibility	4	4	4	4	4
		Marked	4	4	4	4	4
		Unmarked	4	4	4	4	4

1. Uncontrolled Crossing
2. 2 Lane Cross Section
3. Post Speed 30 MPH
4. No Median
5. No Crosswalk

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 14.

Pedestrian Crossing Level of Comfort

Location: Little Cove Point Rd at Foxwood Ln



Uncontrolled Crossing ^{1/}

# of Lanes	Median Type	Crosswalk Type	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
1 to 3*	Raised Refuge Island	HighVisibility	1	1	2	3	4
		Marked	1	1	3	3	4
		Unmarked	2	2	4	4	4
	Raised/Hardened Centerline	HighVisibility	1	1	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	2	4	4	4
	Painted/None	HighVisibility	1	2	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	3	4	4	4
4 to 5	Raised Refuge Island	HighVisibility	1	2	2	3	4
		Marked	1	2	2	3	4
		Unmarked	2	3	4	4	4
	Raised/Hardened Centerline	HighVisibility	2	2	3	4	4
		Marked	3	3	3	4	4
		Unmarked	4	4	4	4	4
	Painted/None	HighVisibility	4	4	4	4	4
		Marked	4	4	4	4	4
		Unmarked	4	4	4	4	4

1. Uncontrolled Crossing
2. 2 Lane Cross Section
3. Post Speed 30 MPH
4. Painted Median
5. No Crosswalk

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 14.

Pedestrian Crossing Level of Comfort

Location: Little Cove Point Rd at Park Chesapeake Dr



Uncontrolled Crossing ^{1/}

# of Lanes	Median Type	Crosswalk Type	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
1 to 3*	Raised Refuge Island	HighVisibility	1	1	2	3	4
		Marked	1	1	3	3	4
		Unmarked	2	2	4	4	4
	Raised/Hardened Centerline	HighVisibility	1	1	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	2	4	4	4
	Painted/None	HighVisibility	1	2	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	3	4	4	4
4 to 5	Raised Refuge Island	HighVisibility	1	2	2	3	4
		Marked	1	2	2	3	4
		Unmarked	2	3	4	4	4
	Raised/Hardened Centerline	HighVisibility	2	2	3	4	4
		Marked	3	3	3	4	4
		Unmarked	4	4	4	4	4
	Painted/None	HighVisibility	4	4	4	4	4
		Marked	4	4	4	4	4
		Unmarked	4	4	4	4	4

1. Uncontrolled Crossing
2. 2 Lane Cross Section
3. Post Speed 30 MPH
4. No Median
5. No Crosswalk

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 14.

Pedestrian Crossing Level of Comfort

Location: Little Cove Point Rd at Chesapeake Ranch Estates Access



Uncontrolled Crossing ^{1/}

# of Lanes	Median Type	Crosswalk Type	Posted Speed Limit				
			< 25 mph	25 mph	30 mph	35 mph	>= 40 mph
1 to 3*	Raised Refuge Island	HighVisibility	1	1	2	3	4
		Marked	1	1	3	3	4
		Unmarked	2	2	4	4	4
	Raised/Hardened Centerline	HighVisibility	1	1	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	2	4	4	4
	Painted/None	HighVisibility	1	2	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	3	4	4	4
4 to 5	Raised Refuge Island	HighVisibility	1	2	2	3	4
		Marked	1	2	2	3	4
		Unmarked	2	3	4	4	4
	Raised/Hardened Centerline	HighVisibility	2	2	3	4	4
		Marked	3	3	3	4	4
		Unmarked	4	4	4	4	4
	Painted/None	HighVisibility	4	4	4	4	4
		Marked	4	4	4	4	4
		Unmarked	4	4	4	4	4

1. Uncontrolled Crossing
2. 2 Lane Cross Section
3. Post Speed 30 MPH
4. No Median
5. No Crosswalk

Score 4 Undesirable

Note: 1. Criteria obtained from Pedestrian Level of Comfort Methodology version 1.2, Montgomery County Planning Department, December 21, 2020. Page 14.

BICYCLE LEVEL OF TRAFFIC STRESS

The Maryland Department of Transportation utilizes bicycle LTS to quantify the “bikeability” of roadway segments. The LTS is based on criteria established by the Mineta Transportation Institute (MTI) in Report 11-19. Separate scoring categories are available for the following conditions:

- **Mixed Traffic Criteria** – Bicycles must share roadways with other vehicles.
- **Bike Lanes and Shoulders Not Adjacent to Parking** – Minimum shoulder width of 4 ft with no adjacent parking.
- **Bike Lanes Adjacent to Parking** – 12-foot-wide minimum bike lane.

LTS is scored from 0 to 5 with LTS 0 featuring a target audience of all ages and abilities down to LTS 5 where bicycle access is prohibited. Table 3 details the different LTS scores.

Table 3. Level of Traffic Stress

Level of Traffic Stress (LTS)		
LTS Score	Target Audience	Bicycle Facility Types
0	All ages and abilities	Rail-Trails, Shared-Use Paths
1	Almost Everyone	Protected Bikeway, Sidepaths
2	Interested But Concerned	Bike Lanes, Bike Boulevards
3	Enthusied And Confident	Bike Lanes, Shared Lanes, Shoulders
4	Strong And Fearless	No Bike Facility or Bike Lane on a Major Roadway
5	Bicycle Access Prohibited	Bicycle Access is Prohibited by Managing Roadway Agency

The three study segments within the Cove Point Trail area primarily feature mixed traffic criteria. There are several segments, however, which feature bike lanes and shoulders not adjacent to parking. It is important to recognize these segments have shoulders on one side only and not both sides of the road. As a result, the final score is determined by the lower LTS.

The criteria used to quantify LTS is based on the number of lanes, range of average daily traffic, and prevailing speed. Similar to the methodology for PLOC, each of the segments is detailed in the pages that follow to quantify the LTS. LTS 4 – For a Target Audience of Strong and Fearless Bikers – was found for all roadway segments. This represents a facility type that has no bike facility or bike lane on a major roadway. Full details on the methodology can be found in Appendix B.

Bike Lane Level of Traffic Stress

Segment: A1 (MD 497 From MD 765 to Cove Point Park Access)

Length: 2,500'



Mixed Traffic Criteria ^{1/}

Number of Lanes	Effective ADT	Prevalling Speed						
		< 20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50+ mph
Unlaned 2-way Street (No centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	1	1	2	3	3	3	4
	1501 ~ 3000	2	2	2	3	4	4	4
	3000 +	2	3	3	3	4	4	4
1 thru lane per direction (1-way, 1 lane street or 2-way street with centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	2	2	2	3	3	3	4
	1501 ~ 3000	2	3	3	3	4	4	4
	3000 +	3	3	3	4	4	4	4
2 thru lnes per direction	0 ~ 8000	3	3	3	3	4	4	4
	8001 +	3	3	4	4	4	4	4
3+ thru lanes per direction	Any	3	3	4	4	4	4	4

1. 1 Thru lane per direction
2. Daily Traffic Volumes - 8252
3. Prevalling Speed: 51/49 MPH

LTS Score 4 - Strong and Fearless
 - No Bike facility or bike lane on Major roadway

Note: 1. Criteria obtained from Maryland Bicycle Level of Traffic Stress (LTS), page 1 - Mixed Traffic Criteria

Bike Lane Level of Traffic Stress

Segment: A2 (MD 497 From Cove Point Park Access to Leisure Lane)

Length: 1,000'



Mixed Traffic Criteria ^{1/}

Number of Lanes	Effective ADT	Prevalling Speed						
		< 20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50+ mph
Unlaned 2-way Street (No centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	1	1	2	3	3	3	4
	1501 ~ 3000	2	2	2	3	4	4	4
	3000 +	2	3	3	3	4	4	4
1 thru lane per direction (1-way, 1 lane street or 2-way street with centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	2	2	2	3	3	3	4
	1501 ~ 3000	2	3	3	3	4	4	4
	3000 +	3	3	3	4	4	4	4
2 thru lnes per direction	0 ~ 8000	3	3	3	3	4	4	4
	8001 +	3	3	4	4	4	4	4
3+ thru lanes per direction	Any	3	3	4	4	4	4	4

1. 1 Thru lane per direction
2. Daily Traffic Volumes - 8252
3. Prevalling Speed: 51/49 MPH

LTS Score 4 - Strong and Fearless
 - No Bike facility or bike lane on Major roadway

Note: 1. Criteria obtained from Maryland Bicycle Level of Traffic Stress (LTS), page 1 - Mixed Traffic Criteria

Bike Lane Level of Traffic Stress

Segment: A3 (MD 497 From Leisure Lane To 700' west of Little Cove Point Rd)

Length: 1,400'



Mixed Traffic Criteria ^{1/}

Number of Lanes	Effective ADT	Prevalling Speed						
		< 20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50+ mph
Unlaned 2-way Street (No centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	1	1	2	3	3	3	4
	1501 ~ 3000	2	2	2	3	4	4	4
	3000 +	2	3	3	3	4	4	4
1 thru lane per direction (1-way, 1 lane street or 2-way street with centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	2	2	2	3	3	3	4
	1501 ~ 3000	2	3	3	3	4	4	4
	3000 +	3	3	3	4	4	4	4
2 thru lnes per direction	0 ~ 8000	3	3	3	3	4	4	4
	8001 +	3	3	4	4	4	4	4
3+ thru lanes per direction	Any	3	3	4	4	4	4	4

1. 1 Thru lane per direction

2. Daily Traffic Volumes - 7714

3. Prevalling Speed: 49/50 MPH

LTS Score 4

- Strong and Fearless

- No Bike facility or bike lane on Major roadway

Note: 1. Criteria obtained from Maryland Bicycle Level of Traffic Stress (LTS), page 1 - Mixed Traffic Criteria

Bike Lane Level of Traffic Stress

Segment: A4 (MD 497 From 700' west of Little Cove Point Rd to Little Cove Point Rd)

Length: 700'



Mixed Traffic Criteria ^{1/}

Number of Lanes	Effective ADT	Prevalling Speed						
		< 20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50+ mph
Unlaned 2-way Street (No centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	1	1	2	3	3	3	4
	1501 ~ 3000	2	2	2	3	4	4	4
	3000 +	2	3	3	3	4	4	4
1 thru lane per direction (1-way, 1 lane street or 2-way street with centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	2	2	2	3	3	3	4
	1501 ~ 3000	2	3	3	3	4	4	4
	3000 +	3	3	3	4	4	4	4
2 thru lanes per direction	0 ~ 8000	3	3	3	3	4	4	4
	8001 +	3	3	4	4	4	4	4
3+ thru lanes per direction	Any	3	3	4	4	4	4	4

Bike Lanes and Shoulders Not Adjacent to Parking Criteria ^{2/}

Number of Lanes	Bike Lane Width	25 mph	30 mph	35 mph	40 mph	45 mph	50+ mph
1 thru lane per direction or unlaned	6'+	1	2	2	3	3	3
	4' - 5'	2	2	2	3	3	4
2 thru lanes per direction	6'+	2	2	2	3	3	3
	4' - 5'	2	2	2	3	3	4
3+ thru lanes per direction	Any	3	3	3	4	4	4

1. 1 Thru lane per direction

2. 5' shoulder (one side)

2. Daily Traffic Volumes - 7714

3. Prevalling Speed: 49/50 MPH

LTS Score 4

- Based on highest score

- Strong and Fearless

- No Bike facility or bike lane on Major roadway

Note: 1. Criteria obtained from Maryland Bicycle Level of Traffic Stress (LTS), page 1 - Mixed Traffic Criteria

2. Criteria obtained from Maryland Bicycle Level of Traffic Stress (LTS), page 2 - Bike Lanes and Shoulder Not Adjacent to Parking

Bike Lane Level of Traffic Stress

Segment: B1 (MD 765 From MD 497 to Homeport Ct)

Length: 800'



Mixed Traffic Criteria ^{1/}

Number of Lanes	Effective ADT	Prevalling Speed						
		< 20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50+ mph
Unlaned 2-way Street (No centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	1	1	2	3	3	3	4
	1501 ~ 3000	2	2	2	3	4	4	4
	3000 +	2	3	3	3	4	4	4
1 thru lane per direction (1-way, 1 lane street or 2-way street with centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	2	2	2	3	3	3	4
	1501 ~ 3000	2	3	3	3	4	4	4
	3000 +	3	3	3	4	4	4	4
2 thru lnes per direction	0 ~ 8000	3	3	3	3	4	4	4
	8001 +	3	3	4	4	4	4	4
3+ thru lanes per direction	Any	3	3	4	4	4	4	4

Bike Lanes anf Shoulders Not Adjacent to Parking Criteria ^{2/}

Number of Lanes	Bike Lane Width	25 mph	30 mph	35 mph	40 mph	45 mph	50+ mph
1 thru lane per direction or unlaned	6'+	1	2	2	3	3	3
	4' - 5'	2	2	2	3	3	4
2 thru lanes per direction	6'+	2	2	2	3	3	3
	4' - 5'	2	2	2	3	3	4
3+ thru lanes per direction	Any	3	3	3	4	4	4

1. 1 Thru lane per direction
2. 6'+ Shoulder (one side)
3. Daily Traffic Volumes - 8686
4. Prevalling Speed: 49/49 MPH, Post Speed 50 MPH

LTS Score 4

- Based on highest score
- Strong and Fearless
- No Bike facility or bike lane on Major roadway

Note: 1. Criteria obtained from Maryland Bicycle Level of Traffic Stress (LTS), page 1 - Mixed Traffic Criteria

2. Criteria obtained from Maryland Bicycle Level of Traffic Stress (LTS), page 2 - Bike Lanes and Shoulder Not Adjacent to Parking

Bike Lane Level of Traffic Stress

Segment: B2 (MD 765 From Homeport Ct to 350' south of Anchorage Ln)

Length: 1,450'



Mixed Traffic Criteria ^{1/}

Number of Lanes	Effective ADT	Prevalling Speed						
		< 20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50+ mph
Unlaned 2-way Street (No centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	1	1	2	3	3	3	4
	1501 ~ 3000	2	2	2	3	4	4	4
	3000 +	2	3	3	3	4	4	4
1 thru lane per direction (1-way, 1 lane street or 2-way street with centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	2	2	2	3	3	3	4
	1501 ~ 3000	2	3	3	3	4	4	4
	3000 +	3	3	3	4	4	4	4
2 thru lnes per direction	0 ~ 8000	3	3	3	3	4	4	4
	8001 +	3	3	4	4	4	4	4
3+ thru lanes per direction	Any	3	3	4	4	4	4	4

Bike Lanes anf Shoulders Not Adjacent to Parking Criteria ^{2/}

Number of Lanes	Bike Lane Width	25 mph	30 mph	35 mph	40 mph	45 mph	50+ mph
1 thru lane per direction or unlaned	6'+	1	2	2	3	3	3
	4' - 5'	2	2	2	3	3	4
2 thru lanes per direction	6'+	2	2	2	3	3	3
	4' - 5'	2	2	2	3	3	4
3+ thru lanes per direction	Any	3	3	3	4	4	4

1. 1 Thru lane per direction
2. 6'+ Shoulder (one side)
3. Daily Traffic Volumes - 8686
4. Prevalling Speed: 49/49 MPH, Post Speed 50 MPH

LTS Score 4

- Based on highest score
- Strong and Fearless
- No Bike facility or bike lane on Major roadway

Note: 1. Criteria obtained from Maryland Bicycle Level of Traffic Stress (LTS), page 1 - Mixed Traffic Criteria

2. Criteria obtained from Maryland Bicycle Level of Traffic Stress (LTS), page 2 - Bike Lanes and Shoulder Not Adjacent to Parking

Bike Lane Level of Traffic Stress

Segment: B3 (MD 765 from south of Anchorage Ln to Shell Gas Station)

Length: 2,600'



Mixed Traffic Criteria ^{1/}

Number of Lanes	Effective ADT	Prevalling Speed						
		< 20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50+ mph
Unlaned 2-way Street (No centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	1	1	2	3	3	3	4
	1501 ~ 3000	2	2	2	3	4	4	4
	3000 +	2	3	3	3	4	4	4
1 thru lane per direction (1-way, 1 lane street or 2-way street with centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	2	2	2	3	3	3	4
	1501 ~ 3000	2	3	3	3	4	4	4
	3000 +	3	3	3	4	4	4	4
2 thru lnes per direction	0 ~ 8000	3	3	3	3	4	4	4
	8001 +	3	3	4	4	4	4	4
3+ thru lanes per direction	Any	3	3	4	4	4	4	4

Bike Lanes anf Shoulders Not Adjacent to Parking Criteria ^{2/}

Number of Lanes	Bike Lane Width	25 mph	30 mph	35 mph	40 mph	45 mph	50+ mph
1 thru lane per direction or unlaned	6'+	1	2	2	3	3	3
	4' - 5'	2	2	2	3	3	4
2 thru lanes per direction	6'+	2	2	2	3	3	3
	4' - 5'	2	2	2	3	3	4
3+ thru lanes per direction	Any	3	3	3	4	4	4

1. 1 Thru lane per direction
2. 6'+ Shoulder (one side)
3. Daily Traffic Volumes - 8686
4. Prevalling Speed: 51/52 MPH, Post Speed 50 MPH

LTS Score 4

- Based on highest score
- Strong and Fearless
- No Bike facility or bike lane on Major roadway

Note: 1. Criteria obtained from Maryland Bicycle Level of Traffic Stress (LTS), page 1 - Mixed Traffic Criteria

2. Criteria obtained from Maryland Bicycle Level of Traffic Stress (LTS), page 2 - Bike Lanes and Shoulder Not Adjacent to Parking

Bike Lane Level of Traffic Stress

Segment: B4 (MD 765 from Shell Station to Town Square Rd)

Length: 350'



Mixed Traffic Criteria ^{1/}

Number of Lanes	Effective ADT	Prevalling Speed						
		< 20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50+ mph
Unlaned 2-way Street (No centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	1	1	2	3	3	3	4
	1501 ~ 3000	2	2	2	3	4	4	4
	3000 +	2	3	3	3	4	4	4
1 thru lane per direction (1-way, 1 lane street or 2-way street with centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	2	2	2	3	3	3	4
	1501 ~ 3000	2	3	3	3	4	4	4
	3000 +	3	3	3	4	4	4	4
2 thru lnes per direction	0 ~ 8000	3	3	3	3	4	4	4
	8001 +	3	3	4	4	4	4	4
3+ thru lanes per direction	Any	3	3	4	4	4	4	4

1. 1 Thru lane per direction
2. Daily Traffic Volumes - 7507
3. Prevalling Speed: 51/52 MPH

LTS Score 4 - Strong and Fearless
 - No Bike facility or bike lane on Major roadway

Note: 1. Criteria obtained from Maryland Bicycle Level of Traffic Stress (LTS), page 1 - Mixed Traffic Criteria

Bike Lane Level of Traffic Stress

Segment: C1 (Little Cove Point Rd from MD 497 to Platinum Dr)

Length: 320'



Mixed Traffic Criteria ^{1/}

Number of Lanes	Effective ADT	Prevalling Speed						
		< 20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50+ mph
Unlaned 2-way Street (No centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	1	1	2	3	3	3	4
	1501 ~ 3000	2	2	2	3	4	4	4
	3000 +	2	3	3	3	4	4	4
1 thru lane per direction (1-way, 1 lane street or 2-way street with centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	2	2	2	3	3	3	4
	1501 ~ 3000	2	3	3	3	4	4	4
	3000 +	3	3	3	4	4	4	4
2 thru lnes per direction	0 ~ 8000	3	3	3	3	4	4	4
	8001 +	3	3	4	4	4	4	4
3+ thru lanes per direction	Any	3	3	4	4	4	4	4

1. 1 Thru lane per direction
2. Daily Traffic Volumes - 5051
3. Prevalling Speed: 40/41 MPH

LTS Score 4 - Strong and Fearless
 - No Bike facility or bike lane on Major roadway

Note: 1. Criteria obtained from Maryland Bicycle Level of Traffic Stress (LTS), page 1 - Mixed Traffic Criteria

Bike Lane Level of Traffic Stress

Segment: C2 (Little Cove Point Rd from Platinum Dr to Foxwood Ln)

Length: 4,100'



Mixed Traffic Criteria ^{1/}

Number of Lanes	Effective ADT	Prevalling Speed						
		< 20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50+ mph
Unlaned 2-way Street (No centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	1	1	2	3	3	3	4
	1501 ~ 3000	2	2	2	3	4	4	4
	3000 +	2	3	3	3	4	4	4
1 thru lane per direction (1-way, 1 lane street or 2-way street with centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	2	2	2	3	3	3	4
	1501 ~ 3000	2	3	3	3	4	4	4
	3000 +	3	3	3	4	4	4	4
2 thru lnes per direction	0 ~ 8000	3	3	3	3	4	4	4
	8001 +	3	3	4	4	4	4	4
3+ thru lanes per direction	Any	3	3	4	4	4	4	4

1. 1 Thru lane per direction
2. Daily Traffic Volumes - 5051
3. Prevalling Speed: 40/41 MPH

LTS Score 4 - Strong and Fearless
 - No Bike facility or bike lane on Major roadway

Note: 1. Criteria obtained from Maryland Bicycle Level of Traffic Stress (LTS), page 1 - Mixed Traffic Criteria

Bike Lane Level of Traffic Stress

Segment: C3 (Little Cove Point Rd from Foxwood Ln to Park Chesapeake Dr)

Length: 800'



Mixed Traffic Criteria ^{1/}

Number of Lanes	Effective ADT	Prevalling Speed						
		< 20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50+ mph
Unlaned 2-way Street (No centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	1	1	2	3	3	3	4
	1501 ~ 3000	2	2	2	3	4	4	4
	3000 +	2	3	3	3	4	4	4
1 thru lane per direction (1-way, 1 lane street or 2-way street with centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	2	2	2	3	3	3	4
	1501 ~ 3000	2	3	3	3	4	4	4
	3000 +	3	3	3	4	4	4	4
2 thru lnes per direction	0 ~ 8000	3	3	3	3	4	4	4
	8001 +	3	3	4	4	4	4	4
3+ thru lanes per direction	Any	3	3	4	4	4	4	4

1. 1 Thru lane per direction

2. Daily Traffic Volumes - 4027

3. Prevalling Speed: 39/38 MPH

LTS Score 4

- Strong and Fearless

- No Bike facility or bike lane on Major roadway

Note: 1. Criteria obtained from Maryland Bicycle Level of Traffic Stress (LTS), page 1 - Mixed Traffic Criteria

Bike Lane Level of Traffic Stress

Segment: C4 (Little Cove Point Rd from Park Chesapeake Dr to Chesapeake Ranch Estates)

Length: 2,400'



Mixed Traffic Criteria ^{1/}

Number of Lanes	Effective ADT	Prevalling Speed						
		< 20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50+ mph
Unlaned 2-way Street (No centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	1	1	2	3	3	3	4
	1501 ~ 3000	2	2	2	3	4	4	4
	3000 +	2	3	3	3	4	4	4
1 thru lane per direction (1-way, 1 lane street or 2-way street with centerline)	0 ~ 750	1	1	2	2	3	3	3
	751 ~ 1500	2	2	2	3	3	3	4
	1501 ~ 3000	2	3	3	3	4	4	4
	3000 +	3	3	3	4	4	4	4
2 thru lnes per direction	0 ~ 8000	3	3	3	3	4	4	4
	8001 +	3	3	4	4	4	4	4
3+ thru lanes per direction	Any	3	3	4	4	4	4	4

1. 1 Thru lane per direction
2. Daily Traffic Volumes - 4027
3. Prevalling Speed: 39/38 MPH

LTS Score 4 - Strong and Fearless
 - No Bike facility or bike lane on Major roadway

Note: 1. Criteria obtained from Maryland Bicycle Level of Traffic Stress (LTS), page 1 - Mixed Traffic Criteria

CRASH DATA

The Maryland Open Data Portal was reviewed to determine the number of traffic crashes within each of the segments during calendar years 2020 through 2022. Below, each of the segments is reviewed with its crash data.

Segment A – MD 497 from MD 765 to Little Cove Point Road

Traffic crashes have increased slightly over the past 3 years from 3 crashes in 2020 to 8 crashes in 2022. Most of the crashes involved property damage only. Crashes tended to be centered near the intersection with Little Cove Point Road and H.G. Trueman Road (the end points of the roadway segment). Table 4 details the crashes that have occurred within this segment. As shown, none of the crashes involved pedestrians or bicyclists. One crash in 2021 involved a single vehicle run off the road crash which could potentially impact pedestrians or bicyclists.

Segment B – MD 765 from MD 497 to Town Square Drive

This segment of roadway had 6 crashes in 2020, 10 in 2021, and 7 in 2022. As detailed in Table 5, none of the crashes involved pedestrians or bicyclists. A significant majority of the crashes appeared to occur at the signalized intersection with Town Square Drive/Appeal Lane. Typical crashes at the signalized intersection involve same direction rear end and head-on left turn, which are somewhat expected at traffic signals. The crashes were generally a mixture of injury and property damage. There were no fatalities reported.

Segment C – Little Cove Point Road from MD 497 to Chesapeake Ranch Estates Access

Along this segment of roadway, crashes have increased from 5 in 2020 to 12 in 2021 up to 19 in 2022. A significant number of the crashes in 2022 involved single vehicle property damage crashes. Many involved run off the road or fixed object strikes. A further review of the data in Table 6 shows a majority of the crashes occurred at Park Chesapeake Drive.

The intersection of Little Cove Point Road and Park Chesapeake Drive features stop control for the minor approach. Park Chesapeake Drive provides access to additional residential units and intersects Little Cove Point Road in a reverse curve. Given the number of single vehicle crashes that have occurred at this location, additional investigation should be undertaken to determine if other remedial measures could enhance safety at this location such as signing, lighting, or pavement condition.

Table 4. Crash Data for Segment A

YEAR	JUNCTION	COLLISION TYPE	REPORT NO	REPORT TYPE	ACC DATE	ACC TIME	Harm Event	RTE NO	ROUTE TYPE	LOG MILE	MAINROAD NAME	REFERENCE NO	REFERENCE TYPE	REFERENCE ROAD NAME
Segment A - MD 497 From MD 765 to Little Cove Point Road														
Year 2020 - 3 crashes														
2020	Intersection Related	Same Direction Rear End	ZD6655003K	Property Damage	20201219	20:41:00	Other Vehicle	497	MD	0.25	COVE POINT RD	765	MD	H G TRUEMAN RD
2020	Non Intersection	Same Movement Angle	ZD6911001G	Injury Crash	20200703	12:54:00	Other Vehicle	497	MD	1.3	COVE POINT RD	75	CO	LITTLE COVE POINT RD
2020	Non Intersection	Same Direction Left Turn	ZD70950008	Injury Crash	20200723	16:00:00	Other Vehicle	497	MD	1.3	COVE POINT RD	75	CO	LITTLE COVE POINT RD
Year 2021 - 4 crashes														
2021	Intersection	Same Movement Angle	ZD7606000F	Injury Crash	20210604	16:30:00	Other Vehicle	497	MD	0.25	COVE POINT RD	765	MD	H G TRUEMAN RD
2021	Non Intersection	Same Direction Rear End	MSP535700NB	Injury Crash	20211018	15:22:00	Other Vehicle	497	MD	0.25	COVE POINT RD	765	MD	H G TRUEMAN RD
2021	Not Applicable	Single Vehicle	ZD4796000Z	Injury Crash	20210709	9:52:00	Off Road	497	MD	0.74	COVE POINT RD	0	UU	FUN WAY (ENT TO COVE POINT PARK)
2021	Not Applicable	Same Direction Rear End	ZD4796001B	Property Damage	20211216	17:21:00	Parked Vehicle	497	MD	0.74	COVE POINT RD	0	UU	FUN WAY (ENT TO COVE POINT PARK)
Year 2022 - 8 crashes														
2022	Intersection	Head On Left Turn	ZD4796001J	Injury Crash	20220131	18:57:00	Other Vehicle	497	MD	0.25	COVE POINT RD	765	MD	H G TRUEMAN RD
2022	Intersection	Head On	ZD4796001K	Injury Crash	20220206	19:11:00	Other Vehicle	497	MD	0.25	COVE POINT RD	765	MD	H G TRUEMAN RD
2022	Intersection	Same Direction Rear End	MSP7455000J	Property Damage	20221105	15:39:00	Other Vehicle	497	MD	0.25	COVE POINT RD	765	MD	H G TRUEMAN RD
2022	Intersection Related	Head On Left Turn	ZD5782000P	Property Damage	20221003	20:11:00	Other Vehicle	497	MD	0.25	COVE POINT RD	765	MD	H G TRUEMAN RD
2022		Same Movement Angle	ZD3933002H	Property Damage	20220829	14:40:00	Other Vehicle	497	MD	1.3	COVE POINT RD	75	CO	LITTLE COVE POINT RD
2022	Not Applicable	Single Vehicle	ZD6043005S	Property Damage	20221109	1:10:00	Animal	497	MD	1.3	COVE POINT RD	75	CO	LITTLE COVE POINT RD
2022	Intersection	Same Movement Angle	ZD73390027	Property Damage	20221130	17:39:00	Other Vehicle	497	MD	1.3	COVE POINT RD	75	CO	LITTLE COVE POINT RD
2022	Intersection	Same Movement Angle	ZD7280001K	Injury Crash	20221225	18:12:00	Other Vehicle	497	MD	1.3	COVE POINT RD	75	CO	LITTLE COVE POINT RD

Table 5. Crash Data for Segment B

YEAR	JUNCTION	COLLISION TYPE	REPORT NO	REPORT TYPE	ACC DATE	ACC TIME	Harm Event	RTE NO	ROUTE TYPE	LOG MILE	MAINROAD NAME	REFERENCE NO	REFERENCE TYPE	REFERENCE ROAD NAME
Segment B - MD 765 from MD 497 to Town Square Drive														
Year 2020 - 6 crashes														
2020		Not Applicable	ZD5982002N	Property Damage	20200706	13:22:00	Explosion or Fire	765	MD	2.23	H G TRUEMAN RD	143	CO	APPEAL LA
2020	Non Intersection	Same Direction Rear End	ZD7095000G	Property Damage	20200927	17:54:00	Other Vehicle	765	MD	2.23	H G TRUEMAN RD	143	CO	APPEAL LA
2020	Non Intersection	Single Vehicle	ZD58350059	Injury Crash	20200823	11:20:00	Off Road	765	MD	2.36	H G TRUEMAN RD	0	UU	ENT TO BUSINESS
2020	Intersection Related	Other	ZD66550036	Injury Crash	20200908	12:17:00	Other Vehicle	765	MD	2.847	H G TRUEMAN RD	1765	CO	ANCHORAGE LN
2020	Non Intersection	Same Direction Rear End	ZD3933001V	Injury Crash	20201213	17:30:00	Other Vehicle	765	MD	2.847	H G TRUEMAN RD	1765	CO	ANCHORAGE LN
2020	Non Intersection	Single Vehicle	ZD6911001M	Property Damage	20201001	13:40:00	Not Applicable	765	MD	3.23	H G TRUEMAN RD	497	MD	COVE POINT RD
Year 2021 - 10 crashes														
2021	Intersection Related	Same Direction Rear End	ZD4902001Y	Injury Crash	20210524	19:46:00	Other Vehicle	765	MD	2.23	H G TRUEMAN RD	1188	CO	TOWN SQUARE DR
2021	Intersection	Same Direction Rear End	ZD73280006	Property Damage	20210526	10:36:00	Other Vehicle	765	MD	2.23	H G TRUEMAN RD	143	CO	APPEAL LA
2021	Not Applicable	Single Vehicle	ZD52000007	Injury Crash	20211216	19:09:00	Other Object	765	MD	2.23	H G TRUEMAN RD	1188	CO	TOWN SQUARE DR
2021	Intersection	Head On Left Turn	ZD6911002Q	Property Damage	20211024	20:40:00	Other Vehicle	765	MD	2.23	H G TRUEMAN RD	143	CO	APPEAL LA
2021	Non Intersection	Head On Left Turn	ZD5855003Z	Property Damage	20211030	11:38:00	Other Vehicle	765	MD	2.36	ST LEONARD RD	1007	CO	MATTAPANY RD
2021	Not Applicable	Head On	MSP6911003S	Property Damage	20210709	14:27:00	Other Vehicle	765	MD	2.78	ST LEONARD RD	131	OP	WOODS RD
2021	Intersection	Single Vehicle	ZD73430004	Injury Crash	20210327	13:42:00	Fixed Object	765	MD	3.23	H G TRUEMAN RD	497	MD	COVE POINT RD
2021	Intersection	Angle Meets Left Turn	ZD77520004	Property Damage	20210826	11:24:00	Other Vehicle	765	MD	3.23	H G TRUEMAN RD	497	MD	COVE POINT RD
2021	Non Intersection	Other	ZD49020024	Property Damage	20210624	22:15:00	Fixed Object	765	MD	3.23	H G TRUEMAN RD	497	MD	COVE POINT RD
2021	Non Intersection	Single Vehicle	ZD7343000T	Property Damage	20211224	20:06:00	Fixed Object	765	MD	3.23	H G TRUEMAN RD	497	MD	COVE POINT RD
Year 2022 - 7crashes														
2022	Not Applicable	Same Direction Rear End	ZD4796001F	Injury Crash	20220121	18:13:00	Other Vehicle	765	MD	2.23	H G TRUEMAN RD	143	CO	APPEAL LA
2022	Intersection	Other	ZD6905003B	Property Damage	20220324	17:00:00	Other Vehicle	765	MD	2.23	H G TRUEMAN RD	1188	CO	TOWN SQUARE DR
2022	Non Intersection	Single Vehicle	ZD5272002W	Injury Crash	20220624	16:51:00	Off Road	765	MD	2.23	H G TRUEMAN RD	1188	CO	TOWN SQUARE DR
2022	Intersection	Other	ZD5835006Z	Injury Crash	20220819	20:41:00	Other Vehicle	765	MD	2.23	H G TRUEMAN RD	1188	CO	TOWN SQUARE DR
2022	Non Intersection	Head On	MSP694500JJ	Injury Crash	20221031	13:38:00	Other Vehicle	765	MD	2.78	ST LEONARD RD	131	OP	WOODS RD
2022	Non Intersection	Single Vehicle	ZD73420015	Injury Crash	20220316	1:30:00	Off Road	765	MD	2.847	H G TRUEMAN RD	1765	CO	ANCHORAGE LN
2022	Intersection	Opposite Direction Sideswipe	ZD76560018	Property Damage	20221203	15:33:00	Other Vehicle	765	MD	3.23	H G TRUEMAN RD	497	MD	COVE POINT RD

Table 6. Crash Data for Segment C

YEAR	JUNCTION	COLLISION TYPE	REPORT NO	REPORT TYPE	ACC DATE	ACC TIME	Harm Event	RTE NO	ROUTE TYPE	LOG MILE	MAINROAD NAME	REFERENCE NO	REFERENCE TYPE	REFERENCE ROAD NAME
Segment C - Little Cove Point Road from MD 497 to Chesapeake Ranch Estates Access														
Year 2020 - 5 crashes														
2020	Not Applicable	Single Vehicle	ZD6641002S	Property Damage	20200207	9:30:00				0	LITTLE COVE POINT RD			PLATINUM DR
2020	Not Applicable	Head On	MSP5974005G	Property Damage	20200822	8:55:00	Other Vehicle	75	CO	0.33	LITTLE COVE POINT RD	1053	CO	DASHER DR
2020	Non Intersection	Single Vehicle	ZD6043004X	Property Damage	20201029	19:10:00	Other Object	75	CO	1.03	LITTLE COVE POINT RD	796	CO	PARK CHESAPEAKE DR
2020	Non Intersection	Single Vehicle	ZD6643005P	Property Damage	20200909	12:21:00	Off Road	75	CO	1.03	LITTLE COVE POINT RD	796	CO	PARK CHESAPEAKE DR
2020	Non Intersection	Single Vehicle	ZD60430053	Property Damage	20201229	19:30:00	Fixed Object	75	CO	1.03	LITTLE COVE POINT RD	796	CO	PARK CHESAPEAKE DR
Year 2021 - 12 crashes														
2021	Non Intersection	Single Vehicle	ZD6913003Y	Injury Crash	20210211	21:45:00	Off Road			0	LITTLE COVE POINT RD			PARK CHESAPEAKE DR
2021	Non Intersection	Single Vehicle	ZD73290007	Injury Crash	20210528	17:21:00	Other			0	LITTLE COVE POINT RD			FOXWOOD LN
2021	Non Intersection	Single Vehicle	ZD39570013	Property Damage	20210123	1:26:00	Animal	75	CO	0.07	LITTLE COVE POINT RD	285	CO	PAPAS LA
2021	Not Applicable	Single Vehicle	ZD45460015	Property Damage	20210527	14:13:00	Animal	75	CO	0.07	LITTLE COVE POINT RD	1803	CO	PLATINUM DR
2021	Non Intersection	Other	ZD6911001W	Property Damage	20210129	13:26:00	Other Vehicle	75	CO	0.172	LITTLE COVE POINT RD	1163	CO	STRIPED BASS CT
2021	Not Applicable	Single Vehicle	MSP6911003B	Property Damage	20210115	18:44:00	Off Road	75	CO	0.744	LITTLE COVE POINT RD	881	OP	HALTRACE DR
2021	Non Intersection	Single Vehicle	ZD6911001T	Property Damage	20210102	0:22:00	Off Road	75	CO	1.03	LITTLE COVE POINT RD	796	CO	PARK CHESAPEAKE DR
2021	Intersection	Single Vehicle	ZD5835005Q	Property Damage	20210207	10:09:00	Off Road	75	CO	1.03	LITTLE COVE POINT RD	796	CO	PARK CHESAPEAKE DR
2021	Non Intersection	Single Vehicle	ZD7344000Q	Property Damage	20210828	12:31:00	Fixed Object	75	CO	1.03	LITTLE COVE POINT RD	796	CO	PARK CHESAPEAKE DR
2021	Non Intersection	Head On	ZD7344000P	Property Damage	20210818	17:37:00	Other Vehicle	75	CO	1.03	LITTLE COVE POINT RD	796	CO	PARK CHESAPEAKE DR
2021	Not Applicable	Single Vehicle	ZD4902001Z	Property Damage	20210528	21:55:00	Fixed Object	75	CO	1.03	LITTLE COVE POINT RD	796	CO	PARK CHESAPEAKE DR
2021	Not Applicable	Single Vehicle	MSP68500032	Property Damage	20211025	17:26:00	Off Road	75	CO	1.03	LITTLE COVE POINT RD	796	CO	PARK CHESAPEAKE DR
Year 2022 - 19 crashes														
2022	Intersection Related	Single Vehicle	ZD4902002T	Property Damage	20220305	2:20:00	Off Road			0	LITTLE COVE POINT ROAD			PARK CHESAPEAKE DRIVE
2022	Not Applicable	Single Vehicle	ZD4902002Z	Property Damage	20220416	22:40:00	Off Road			0	LITTLE COVE POINT ROAD			PARK CHESAPEAKE DRIVE
2022	Not Applicable	Other	ZD4902003M	Property Damage	20220930	17:28:00	Other			0	LITTLE COVE POINT ROAD			FOXWOOD LANE
2022	Non Intersection	Head On	MSP7038001X	Injury Crash	20221220	15:30:00	Other Vehicle	75	CO	0	LITTLE COVE POINT RD	497	MD	COVE POINT RD
2022	Not Applicable	Same Movement Angle	ZD5550004Y	Injury Crash	20220911	14:07:00	Other Vehicle	75	CO	0.172	LITTLE COVE POINT RD	1163	CO	STRIPED BASS CT
2022	Not Applicable	Single Vehicle	ZD78660004	Property Damage	20221004	10:57:00	Off Road	75	CO	0.172	LITTLE COVE POINT RD	1163	CO	STRIPED BASS CT
2022	Non Intersection	Single Vehicle	ZD52000022	Property Damage	20221112	5:00:00	Overturn	75	CO	0.172	LITTLE COVE POINT RD	1163	CO	STRIPED BASS CT
2022	Non Intersection	Single Vehicle	ZD7095002R	Property Damage	20221209	5:14:00	Animal	75	CO	0.5	LITTLE COVE POINT RD	814	CO	HUMMINGBIRD DR
2022	Non Intersection	Single Vehicle	ZD7606001M	Property Damage	20221012	6:32:00	Animal	75	CO	0.73	LITTLE COVE POINT RD	679	CO	SANDIA CT
2022	Not Applicable	Single Vehicle	ZD3512001B	Injury Crash	20220307	19:57:00	Fixed Object	75	CO	1.03	LITTLE COVE POINT RD	796	CO	PARK CHESAPEAKE DR
2022	Non Intersection	Single Vehicle	ZD6976000C	Property Damage	20220115	20:19:00	Overturn	75	CO	1.03	LITTLE COVE POINT RD	796	CO	PARK CHESAPEAKE DR
2022	Not Applicable	Single Vehicle	ZD5550004L	Property Damage	20220414	20:37:00	Fixed Object	75	CO	1.03	LITTLE COVE POINT RD	796	CO	PARK CHESAPEAKE DR
2022	Not Applicable	Single Vehicle	ZD3512001H	Injury Crash	20220726	13:34:00	Fixed Object	75	CO	1.03	LITTLE COVE POINT RD	796	CO	PARK CHESAPEAKE DR
2022	Not Applicable	Single Vehicle	MSP5974005T	Property Damage	20220715	6:15:00	Off Road	75	CO	1.03	LITTLE COVE POINT RD	796	CO	PARK CHESAPEAKE DR
2022	Non Intersection	Single Vehicle	ZD60740039	Property Damage	20220903	23:37:00	Fixed Object	75	CO	1.03	LITTLE COVE POINT RD	796	CO	PARK CHESAPEAKE DR
2022	Non Intersection	Single Vehicle	ZD7846000T	Property Damage	20221005	10:45:00	Fixed Object	75	CO	1.03	LITTLE COVE POINT RD	796	CO	PARK CHESAPEAKE DR
2022	Non Intersection	Not Applicable	ZD4543001C	Property Damage	20221024	9:28:00	Off Road	75	CO	1.03	LITTLE COVE POINT RD	796	CO	PARK CHESAPEAKE DR
2022	Not Applicable	Single Vehicle	ZD3933002L	Property Damage	20221024	6:13:00	Fixed Object	75	CO	1.03	LITTLE COVE POINT RD	796	CO	PARK CHESAPEAKE DR
2022	Non Intersection	Single Vehicle	ZD6072006J	Property Damage	20221003	8:15:00	Off Road	75	CO	1.03	LITTLE COVE POINT RD	796	CO	PARK CHESAPEAKE DR

SUMMARY AND CONCLUSIONS

This Traffic Study has detailed that the existing pedestrian and bicycle facilities in the Cove Point Trail area are currently undesirable. This is a result of the fact that pedestrians and bicyclists typically must share the road with other modes of travel. In order to enhance walkability and bikeability, consideration to be given to providing separate pathways.

A recent pattern of crashes shows the intersection of Little Cove Point Road at Park Chesapeake Drive has a significant number of single vehicle crashes. Further review should be undertaken at this location to determine if further improvements would be beneficial.

APPENDIX A

Traffic Data



Little Cove Point Road
500 Feet South of Rudolph Lane
Calvert County, Maryland

The Traffic Group, Inc.

(800) 583-8411

www.trafficgroup.com

Merging Innovation and Excellence

Northbound

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/06/23	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
01:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
02:00	0	11	2	0	0	0	0	0	0	0	0	0	0	0	13
03:00	0	34	18	0	0	0	0	0	0	0	0	0	0	0	52
04:00	0	88	23	0	3	0	0	0	0	0	0	0	0	0	114
05:00	1	140	57	1	10	0	0	0	0	0	0	0	0	0	209
06:00	0	221	60	2	8	0	0	0	0	0	0	0	0	0	291
07:00	2	244	44	4	13	0	0	0	0	0	0	0	0	0	307
08:00	0	167	34	1	3	0	0	0	0	0	0	0	0	0	205
09:00	0	112	35	1	9	0	0	0	0	0	0	0	0	0	157
10:00	2	106	21	0	4	0	0	1	1	0	0	0	0	0	135
11:00	0	99	15	1	4	0	0	0	0	0	0	0	0	0	119
12 PM	0	85	15	0	6	0	0	1	0	0	0	0	0	0	107
13:00	1	81	21	1	2	0	0	0	0	0	0	0	0	0	106
14:00	0	74	15	2	2	0	0	0	0	0	0	0	0	0	93
15:00	0	73	20	3	5	2	0	1	0	0	0	0	0	0	104
16:00	0	98	23	2	4	0	0	1	0	0	0	0	0	0	128
17:00	1	142	35	2	4	1	0	0	0	0	0	0	0	0	185
18:00	1	76	20	2	0	0	0	0	0	0	0	0	0	0	99
19:00	1	55	7	0	1	0	0	0	0	0	0	0	0	0	64
20:00	0	30	5	0	1	0	0	0	0	0	0	0	0	0	36
21:00	0	18	4	0	0	0	0	0	0	0	0	0	0	0	22
22:00	0	10	5	0	1	0	0	0	0	0	0	0	0	0	16
23:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
Total	9	1977	482	22	80	3	0	4	1	0	0	0	0	0	2578
Percent	0.3%	76.7%	18.7%	0.9%	3.1%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	06:00	07:00	07:00			10:00	10:00						
Vol.	2	244	60	4	13			1	1						
PM Peak	13:00	17:00	17:00	15:00	12:00	15:00		12:00							
Vol.	1	142	35	3	6	2		1							
Grand Total	9	1977	482	22	80	3	0	4	1	0	0	0	0	0	2578
Percent	0.3%	76.7%	18.7%	0.9%	3.1%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

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Southbound

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/06/23	0	11	2	0	2	0	0	0	0	0	0	0	0	0	15
01:00	0	12	1	0	2	0	0	0	0	0	0	0	0	0	15
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
04:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
05:00	0	11	2	1	1	0	0	0	0	0	0	0	0	0	15
06:00	0	21	6	5	4	0	0	0	0	0	0	0	0	1	37
07:00	0	34	13	3	6	0	0	1	0	0	0	0	0	0	57
08:00	0	52	21	4	8	0	0	0	0	0	0	0	0	1	86
09:00	0	56	10	1	3	0	0	0	0	0	0	0	0	0	70
10:00	1	64	20	0	3	0	0	0	0	0	0	0	0	0	88
11:00	0	68	16	0	9	0	0	0	0	0	0	0	1	0	94
12 PM	1	89	27	1	8	1	0	1	0	0	0	0	0	0	128
13:00	0	87	28	1	3	0	0	0	0	0	0	0	0	0	119
14:00	0	123	32	2	8	0	0	0	0	0	0	0	0	0	165
15:00	1	177	43	5	14	0	0	2	0	0	0	0	0	1	243
16:00	1	224	67	3	7	1	0	0	0	0	0	0	0	0	303
17:00	1	258	62	1	7	0	2	0	0	0	0	0	0	0	331
18:00	0	151	32	1	4	0	0	0	0	0	0	0	0	0	188
19:00	2	146	44	0	4	0	0	0	0	0	0	0	0	0	196
20:00	1	114	18	0	5	0	0	0	0	0	0	0	0	0	138
21:00	0	75	9	0	2	0	0	0	0	0	0	0	0	1	87
22:00	0	47	10	0	1	0	0	0	0	0	0	0	0	0	58
23:00	0	24	2	0	0	0	0	0	0	0	0	0	0	0	26
Total	8	1857	466	28	101	2	2	4	0	0	0	0	1	4	2473
Percent	0.3%	75.1%	18.8%	1.1%	4.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	
AM Peak	10:00	11:00	08:00	06:00	11:00			07:00					11:00	06:00	
Vol.	1	68	21	5	9			1					1	1	
PM Peak	19:00	17:00	16:00	15:00	15:00	12:00	17:00	15:00						15:00	
Vol.	2	258	67	5	14	1	2	2						1	
Grand Total	8	1857	466	28	101	2	2	4	0	0	0	0	1	4	2473
Percent	0.3%	75.1%	18.8%	1.1%	4.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	

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Northbound

Start Time	05	610	1115	1620	2125	2630	3135	3640	4145	4650	5155	5660	6165	6670	71250	Total
09/06/23	0	0	0	0	0	0	2	1	2	0	0	0	0	0	0	5
01:00	0	0	0	0	0	1	1	2	0	1	0	0	0	0	0	5
02:00	0	0	0	0	0	0	4	7	2	0	0	0	0	0	0	13
03:00	0	0	0	0	0	3	13	18	12	5	1	0	0	0	0	52
04:00	0	0	0	0	0	3	27	51	28	4	1	0	0	0	0	114
05:00	0	0	0	0	0	6	67	99	31	5	1	0	0	0	0	209
06:00	0	0	0	1	0	16	124	115	31	4	0	0	0	0	0	291
07:00	0	0	0	0	2	18	117	133	31	4	2	0	0	0	0	307
08:00	0	0	0	0	2	11	97	74	18	3	0	0	0	0	0	205
09:00	0	0	0	0	0	10	65	61	20	1	0	0	0	0	0	157
10:00	0	0	0	0	1	14	45	52	19	4	0	0	0	0	0	135
11:00	0	0	0	1	0	10	44	45	15	4	0	0	0	0	0	119
12 PM	0	0	0	0	1	4	40	41	19	2	0	0	0	0	0	107
13:00	0	0	0	0	0	5	29	46	25	1	0	0	0	0	0	106
14:00	0	0	0	1	1	5	36	33	13	4	0	0	0	0	0	93
15:00	0	0	0	0	1	7	27	40	23	5	1	0	0	0	0	104
16:00	0	0	0	0	0	9	36	55	19	8	1	0	0	0	0	128
17:00	0	0	0	0	0	4	55	87	33	6	0	0	0	0	0	185
18:00	0	0	0	0	1	4	29	48	12	4	1	0	0	0	0	99
19:00	0	0	0	0	1	6	26	27	4	0	0	0	0	0	0	64
20:00	0	0	0	0	0	3	12	16	3	2	0	0	0	0	0	36
21:00	0	0	0	0	0	0	10	9	2	1	0	0	0	0	0	22
22:00	0	0	0	0	0	1	4	5	3	2	0	1	0	0	0	16
23:00	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	6
Total	0	0	0	3	10	140	913	1068	365	70	8	1	0	0	0	2578
Grand Total	0	0	0	3	10	140	913	1068	365	70	8	1	0	0	0	2578

Stats
15th Percentile : 31 MPH
50th Percentile : 36 MPH
85th Percentile : 40 MPH
95th Percentile : 44 MPH

Mean Speed(Average) : 37 MPH
10 MPH Pace Speed : 31-40 MPH
Number in Pace : 1981
Percent in Pace : 76.8%
Number of Vehicles > 30 MPH : 2425
Percent of Vehicles > 30 MPH : 94.1%

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Southbound

Start Time	05	610	1115	1620	2125	2630	3135	3640	4145	4650	5155	5660	6165	6670	71250	Total
09/06/23	0	0	0	0	0	0	3	6	3	1	1	0	1	0	0	15
01:00	0	0	0	0	0	1	4	4	4	1	1	0	0	0	0	15
02:00	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	1	3	2	0	0	0	0	0	0	6
04:00	0	0	0	0	0	1	1	1	3	0	0	0	0	0	0	6
05:00	0	0	0	0	0	2	2	6	3	1	1	0	0	0	0	15
06:00	0	0	0	0	0	6	12	11	8	0	0	0	0	0	0	37
07:00	0	0	0	0	0	3	22	19	10	1	2	0	0	0	0	57
08:00	0	0	0	0	0	7	27	34	13	4	1	0	0	0	0	86
09:00	0	0	0	0	2	7	23	25	9	4	0	0	0	0	0	70
10:00	0	0	0	0	0	3	39	23	17	5	1	0	0	0	0	88
11:00	0	0	0	0	0	7	28	38	16	5	0	0	0	0	0	94
12 PM	0	0	0	3	3	8	45	40	24	5	0	0	0	0	0	128
13:00	0	0	0	0	0	6	42	47	18	4	2	0	0	0	0	119
14:00	0	0	2	2	2	12	43	67	32	4	1	0	0	0	0	165
15:00	0	0	3	1	9	18	72	99	32	8	1	0	0	0	0	243
16:00	0	0	0	0	3	25	86	122	57	9	0	1	0	0	0	303
17:00	0	0	0	0	1	14	100	145	62	6	2	1	0	0	0	331
18:00	0	0	0	0	0	11	56	75	33	11	2	0	0	0	0	188
19:00	0	0	0	0	0	19	81	76	16	3	1	0	0	0	0	196
20:00	0	0	0	0	0	15	43	52	25	3	0	0	0	0	0	138
21:00	0	0	0	0	1	13	25	31	12	4	1	0	0	0	0	87
22:00	0	0	0	0	0	5	17	24	10	2	0	0	0	0	0	58
23:00	0	0	0	0	0	2	4	12	7	0	1	0	0	0	0	26
Total	0	0	5	6	21	185	776	961	417	81	18	2	1	0	0	2473
Grand Total	0	0	5	6	21	185	776	961	417	81	18	2	1	0	0	2473

Stats
15th Percentile : 30 MPH
50th Percentile : 36 MPH
85th Percentile : 41 MPH
95th Percentile : 44 MPH

Mean Speed(Average) : 37 MPH
10 MPH Pace Speed : 31-40 MPH
Number in Pace : 1737
Percent in Pace : 70.2%
Number of Vehicles > 30 MPH : 2256
Percent of Vehicles > 30 MPH : 91.2%

Little Cove Point Road
550 Feet North of Chesapeake Family Estates
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Northbound

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/06/23	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
01:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
02:00	0	7	2	0	0	0	0	0	0	0	0	0	0	0	9
03:00	0	30	14	0	4	0	0	0	0	0	0	0	0	0	48
04:00	0	74	31	0	5	0	0	0	0	0	0	0	0	0	110
05:00	0	109	59	0	11	0	0	0	0	0	0	0	0	0	179
06:00	0	161	70	2	9	0	0	0	0	0	0	0	0	0	242
07:00	1	174	61	4	14	1	0	0	0	0	0	0	0	0	255
08:00	0	107	37	0	4	0	0	0	0	0	0	0	0	0	148
09:00	0	89	38	2	10	0	0	0	0	0	0	0	0	0	139
10:00	2	65	26	0	6	0	0	0	1	0	0	0	0	1	101
11:00	0	61	22	1	5	0	0	0	0	0	0	0	0	0	89
12 PM	0	50	19	0	4	0	0	1	0	0	0	0	0	0	74
13:00	2	57	22	1	4	0	0	0	0	0	0	0	0	0	86
14:00	0	48	23	4	1	0	0	1	0	0	0	0	0	0	77
15:00	1	43	27	1	6	2	0	1	0	0	0	0	0	0	81
16:00	0	72	17	5	5	0	0	1	0	0	0	0	0	1	101
17:00	1	104	31	0	6	0	0	1	0	0	0	0	0	0	143
18:00	0	52	23	2	3	0	0	0	0	0	0	0	0	0	80
19:00	1	36	15	0	0	0	0	0	0	0	0	0	0	0	52
20:00	0	22	7	0	1	0	0	0	0	0	0	0	0	0	30
21:00	0	17	6	0	0	0	0	0	0	0	0	0	0	0	23
22:00	0	9	4	0	2	0	0	0	0	0	0	0	0	0	15
23:00	0	4	2	0	1	0	0	0	0	0	0	0	0	0	7
Total	8	1397	559	22	101	3	0	5	1	0	0	0	0	2	2098
Percent	0.4%	66.6%	26.6%	1.0%	4.8%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	
AM Peak	10:00	07:00	06:00	07:00	07:00	07:00			10:00					10:00	
Vol.	2	174	70	4	14	1			1					1	
PM Peak	13:00	17:00	17:00	16:00	15:00	15:00		12:00						16:00	
Vol.	2	104	31	5	6	2		1						1	

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Northbound

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/07/23	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3
01:00	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
02:00	0	6	2	0	0	0	0	0	0	0	0	0	0	0	8
03:00	0	27	15	0	4	0	0	0	0	0	0	0	0	0	46
04:00	0	69	35	0	4	0	0	0	0	0	0	0	0	0	108
05:00	0	93	50	0	10	0	0	0	0	0	0	0	0	0	153
06:00	1	179	71	2	15	0	0	0	0	0	0	0	0	0	268
07:00	1	163	54	3	6	0	0	0	0	0	0	0	0	0	227
08:00	0	93	37	1	4	1	0	0	0	0	0	0	0	0	136
09:00	0	90	31	1	6	0	0	0	0	0	0	0	0	0	128
10:00	1	72	22	0	5	0	0	0	0	0	0	0	0	0	100
11:00	0	62	26	0	8	0	1	0	0	0	0	0	0	0	97
12 PM	1	59	20	0	2	0	0	0	0	0	0	0	0	0	82
13:00	0	48	24	0	4	0	0	1	0	0	0	0	0	0	77
14:00	0	47	15	4	7	1	0	0	0	0	0	0	0	0	74
15:00	2	42	29	1	5	0	0	0	0	0	0	0	0	0	79
16:00	0	61	22	4	5	0	0	1	0	0	0	0	0	0	93
17:00	1	95	39	2	7	0	0	0	0	0	0	0	0	1	145
18:00	0	62	14	1	5	0	0	0	0	0	0	0	0	0	82
19:00	0	44	18	0	1	0	0	0	0	0	0	0	0	1	64
20:00	0	20	6	0	2	0	0	0	0	0	0	0	0	0	28
21:00	0	17	5	0	0	0	0	0	0	0	0	0	0	0	22
22:00	0	14	4	0	0	0	0	0	0	0	0	0	0	0	18
23:00	0	7	3	0	0	0	0	0	0	0	0	0	0	0	10
Total	8	1379	542	19	100	2	1	2	0	0	0	0	0	2	2055
Percent	0.4%	67.1%	26.4%	0.9%	4.9%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	
AM Peak	00:00	06:00	06:00	07:00	06:00	08:00	11:00								
Vol.	1	179	71	3	15	1	1								
PM Peak	15:00	17:00	17:00	14:00	14:00	14:00		13:00						17:00	
Vol.	2	95	39	4	7	1		1						1	
Grand Total	16	2776	1101	41	201	5	1	7	1	0	0	0	0	4	4153
Percent	0.4%	66.8%	26.5%	1.0%	4.8%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	

Little Cove Point Road
550 Feet North of Chesapeake Family Estates
Calvert County, Maryland

The Traffic Group, Inc.

(800) 583-8411

www.trafficgroup.com

Merging Innovation and Excellence

Southbound

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/06/23	0	8	2	0	2	0	0	0	0	0	0	0	0	0	12
01:00	0	12	0	0	2	0	0	0	0	0	0	0	0	0	14
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
04:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
05:00	0	10	1	0	1	0	0	0	0	0	0	0	0	0	12
06:00	0	18	5	8	1	0	0	1	0	0	0	0	0	0	33
07:00	0	24	13	3	5	0	0	1	0	0	0	0	0	0	46
08:00	0	38	14	3	5	0	0	0	0	0	0	0	0	0	60
09:00	0	41	11	1	4	0	0	0	0	0	0	0	0	0	57
10:00	1	42	19	0	2	0	0	0	0	0	0	0	0	0	64
11:00	0	50	14	0	8	0	0	1	0	0	0	0	0	0	73
12 PM	1	61	26	1	5	1	0	0	0	0	0	0	0	0	95
13:00	0	57	21	1	4	0	1	1	0	0	0	0	0	0	85
14:00	1	89	40	3	8	0	0	0	0	0	0	0	0	0	141
15:00	0	131	46	2	12	0	0	1	0	0	0	0	0	0	192
16:00	0	171	62	4	8	0	0	1	0	0	0	0	0	0	246
17:00	1	197	56	1	6	0	0	0	0	0	0	0	0	0	261
18:00	0	126	32	1	3	0	0	0	0	0	0	0	0	0	162
19:00	0	113	44	0	3	0	0	0	0	0	0	0	0	0	160
20:00	2	86	16	0	6	0	0	0	0	0	0	0	0	0	110
21:00	0	61	9	0	2	0	0	0	0	0	0	0	0	0	72
22:00	0	45	8	0	2	0	0	0	0	0	0	0	0	0	55
23:00	0	35	3	0	0	0	0	0	0	0	0	0	0	0	38
Total	6	1427	443	28	89	1	1	6	0	0	0	0	0	0	2001
Percent	0.3%	71.3%	22.1%	1.4%	4.4%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	11:00	10:00	06:00	11:00			06:00							
Vol.	1	50	19	8	8			1							
PM Peak	20:00	17:00	16:00	16:00	15:00	12:00	13:00	13:00							
Vol.	2	197	62	4	12	1	1	1							

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Southbound

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/07/23	0	11	0	0	2	0	0	0	0	0	0	0	0	0	13
01:00	0	6	2	0	0	0	0	0	0	0	0	0	0	0	8
02:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	4	2	0	0	0	0	0	0	0	0	0	0	0	6
04:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
05:00	0	5	4	0	1	0	0	0	0	0	0	0	0	0	10
06:00	0	21	7	6	1	0	0	0	0	0	0	0	0	0	35
07:00	0	20	7	3	4	0	0	1	0	0	0	0	0	0	35
08:00	0	33	13	3	4	1	0	0	0	0	0	0	0	0	54
09:00	0	33	13	1	3	0	0	0	0	0	0	0	0	0	50
10:00	0	39	19	0	7	0	0	0	0	0	0	0	0	0	65
11:00	0	53	15	0	5	0	0	0	0	0	0	0	0	0	73
12 PM	0	61	15	1	2	0	0	1	0	0	0	0	0	0	80
13:00	0	49	18	0	7	0	0	0	0	0	0	0	0	0	74
14:00	0	87	33	3	8	1	0	0	0	0	0	0	0	0	132
15:00	1	104	61	2	8	0	0	0	0	0	0	0	0	0	176
16:00	0	174	57	5	8	0	0	0	0	0	0	0	0	0	244
17:00	2	169	47	1	9	1	1	1	0	0	0	0	0	0	231
18:00	1	141	18	0	5	0	0	0	0	0	0	0	0	0	165
19:00	0	128	31	0	6	0	0	1	0	0	0	0	0	0	166
20:00	0	94	17	0	6	0	0	0	0	0	0	0	0	0	117
21:00	0	51	15	0	0	0	0	0	0	0	0	0	0	0	66
22:00	0	46	7	0	1	0	0	0	0	0	0	0	0	0	54
23:00	0	31	6	0	1	0	0	0	0	0	0	0	0	0	38
Total	4	1364	409	25	88	3	1	4	0	0	0	0	0	0	1898
Percent	0.2%	71.9%	21.5%	1.3%	4.6%	0.2%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.		11:00 53	10:00 19	06:00 6	10:00 7	08:00 1		07:00 1							
PM Peak Vol.	17:00 2	16:00 174	15:00 61	16:00 5	17:00 9	14:00 1	17:00 1	12:00 1							
Grand Total	10	2791	852	53	177	4	2	10	0	0	0	0	0	0	3899
Percent	0.3%	71.6%	21.9%	1.4%	4.5%	0.1%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Little Cove Point Road
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Northbound

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 250	Total
09/06/23	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	3
01:00	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	6
02:00	0	0	0	0	0	0	3	5	1	0	0	0	0	0	0	9
03:00	0	0	0	0	0	3	17	23	4	1	0	0	0	0	0	48
04:00	0	0	0	0	0	0	38	56	15	1	0	0	0	0	0	110
05:00	0	1	0	0	0	11	69	84	13	1	0	0	0	0	0	179
06:00	0	0	0	0	2	12	94	115	18	1	0	0	0	0	0	242
07:00	0	0	0	0	0	8	96	125	24	2	0	0	0	0	0	255
08:00	0	0	0	0	1	14	61	59	11	2	0	0	0	0	0	148
09:00	0	0	0	0	3	10	58	58	10	0	0	0	0	0	0	139
10:00	0	0	0	0	4	11	45	34	7	0	0	0	0	0	0	101
11:00	0	0	0	0	0	6	39	37	7	0	0	0	0	0	0	89
12 PM	0	0	0	0	1	4	30	34	2	3	0	0	0	0	0	74
13:00	0	0	0	0	0	2	26	48	9	1	0	0	0	0	0	86
14:00	0	0	0	0	1	3	26	34	13	0	0	0	0	0	0	77
15:00	0	0	0	0	0	3	37	34	7	0	0	0	0	0	0	81
16:00	0	0	0	0	0	7	42	40	12	0	0	0	0	0	0	101
17:00	0	0	0	0	0	8	45	73	17	0	0	0	0	0	0	143
18:00	0	0	0	0	1	6	31	33	7	1	1	0	0	0	0	80
19:00	0	0	0	0	1	6	23	17	5	0	0	0	0	0	0	52
20:00	0	0	0	0	1	4	12	8	4	1	0	0	0	0	0	30
21:00	0	0	0	0	1	2	9	8	3	0	0	0	0	0	0	23
22:00	0	0	0	0	0	2	3	5	5	0	0	0	0	0	0	15
23:00	0	0	0	0	0	2	3	2	0	0	0	0	0	0	0	7
Total	0	1	0	0	16	125	811	936	194	14	1	0	0	0	0	2098

Little Cove Point Road
550 Feet North of Chesapeake Family Estates
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Northbound

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 250	Total
09/07/23	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	3
01:00	0	0	0	0	0	1	1	5	0	0	0	0	0	0	0	7
02:00	0	0	0	0	0	0	3	2	2	1	0	0	0	0	0	8
03:00	0	0	0	0	0	2	12	23	9	0	0	0	0	0	0	46
04:00	0	0	0	0	0	2	42	52	11	1	0	0	0	0	0	108
05:00	0	0	0	0	0	6	50	84	12	0	1	0	0	0	0	153
06:00	0	0	0	1	1	14	102	136	14	0	0	0	0	0	0	268
07:00	0	0	0	0	0	5	72	122	25	3	0	0	0	0	0	227
08:00	0	0	0	0	0	10	58	57	11	0	0	0	0	0	0	136
09:00	0	0	0	0	0	8	54	57	8	1	0	0	0	0	0	128
10:00	0	0	0	0	5	12	47	32	4	0	0	0	0	0	0	100
11:00	0	0	0	0	1	7	43	38	8	0	0	0	0	0	0	97
12 PM	0	0	0	0	0	5	27	40	10	0	0	0	0	0	0	82
13:00	0	0	0	0	1	7	25	30	13	1	0	0	0	0	0	77
14:00	0	0	0	0	2	6	30	29	6	1	0	0	0	0	0	74
15:00	0	0	0	0	0	6	30	33	10	0	0	0	0	0	0	79
16:00	0	0	0	0	1	8	32	39	13	0	0	0	0	0	0	93
17:00	0	0	0	0	1	3	52	74	15	0	0	0	0	0	0	145
18:00	0	0	0	0	1	6	29	36	9	1	0	0	0	0	0	82
19:00	0	0	1	0	0	7	26	21	6	3	0	0	0	0	0	64
20:00	0	0	0	0	1	4	14	9	0	0	0	0	0	0	0	28
21:00	0	0	0	0	2	2	10	7	0	1	0	0	0	0	0	22
22:00	0	0	0	0	0	2	7	6	3	0	0	0	0	0	0	18
23:00	0	0	0	0	0	1	3	3	2	1	0	0	0	0	0	10
Total	0	0	1	1	16	125	769	935	193	14	1	0	0	0	0	2055
Grand Total	0	1	1	1	32	250	1580	1871	387	28	2	0	0	0	0	4153

Stats
15th Percentile : 31 MPH
50th Percentile : 35 MPH
85th Percentile : 39 MPH
95th Percentile : 42 MPH

Mean Speed(Average) : 36 MPH
10 MPH Pace Speed : 31-40 MPH
Number in Pace : 3451
Percent in Pace : 83.1%
Number of Vehicles > 30 MPH : 3868
Percent of Vehicles > 30 MPH : 93.1%

Little Cove Point Road
550 Feet North of Chesapeake Family Estates
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Southbound

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 250	Total
09/06/23	0	0	0	0	0	0	4	5	3	0	0	0	0	0	0	12
01:00	0	0	0	0	0	2	4	6	2	0	0	0	0	0	0	14
02:00	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	3	2	1	0	0	0	0	0	0	0	6
04:00	0	0	0	0	0	1	2	1	1	0	0	0	0	0	0	5
05:00	0	0	0	0	0	1	6	5	0	0	0	0	0	0	0	12
06:00	0	0	0	0	2	5	16	10	0	0	0	0	0	0	0	33
07:00	0	0	0	0	0	5	25	13	2	0	1	0	0	0	0	46
08:00	0	0	0	0	1	6	26	25	2	0	0	0	0	0	0	60
09:00	0	0	0	0	0	3	32	19	3	0	0	0	0	0	0	57
10:00	0	0	0	0	0	7	29	23	5	0	0	0	0	0	0	64
11:00	0	0	0	0	1	3	41	24	4	0	0	0	0	0	0	73
12 PM	0	0	0	1	2	10	41	35	6	0	0	0	0	0	0	95
13:00	0	0	0	0	2	8	35	38	1	1	0	0	0	0	0	85
14:00	0	0	0	0	0	5	73	60	3	0	0	0	0	0	0	141
15:00	0	0	0	0	0	25	103	57	6	1	0	0	0	0	0	192
16:00	0	0	0	0	0	17	143	72	14	0	0	0	0	0	0	246
17:00	0	0	0	0	1	11	155	84	10	0	0	0	0	0	0	261
18:00	0	0	0	0	0	10	66	78	8	0	0	0	0	0	0	162
19:00	0	0	0	0	0	30	78	46	5	1	0	0	0	0	0	160
20:00	0	0	0	0	2	23	57	24	3	1	0	0	0	0	0	110
21:00	0	0	0	0	0	9	48	14	1	0	0	0	0	0	0	72
22:00	0	0	0	0	1	9	21	21	3	0	0	0	0	0	0	55
23:00	0	0	0	0	1	6	16	12	3	0	0	0	0	0	0	38
Total	0	0	0	1	13	199	1024	674	85	4	1	0	0	0	0	2001

Little Cove Point Road
550 Feet North of Chesapeake Family Estates
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Southbound

Start Time	05	610	1115	1620	2125	2630	3135	3640	4145	4650	5155	5660	6165	6670	71250	Total
09/07/23	0	0	0	0	0	2	4	5	2	0	0	0	0	0	0	13
01:00	0	0	0	0	0	1	5	2	0	0	0	0	0	0	0	8
02:00	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	3
03:00	0	0	0	0	0	1	2	2	1	0	0	0	0	0	0	6
04:00	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	3
05:00	0	0	0	0	0	1	5	4	0	0	0	0	0	0	0	10
06:00	0	0	0	0	4	8	12	7	4	0	0	0	0	0	0	35
07:00	0	0	0	0	0	3	13	16	2	1	0	0	0	0	0	35
08:00	0	0	0	0	2	6	22	18	6	0	0	0	0	0	0	54
09:00	0	0	0	0	0	4	18	19	9	0	0	0	0	0	0	50
10:00	0	0	0	0	0	7	35	18	4	1	0	0	0	0	0	65
11:00	0	0	0	0	0	10	34	26	3	0	0	0	0	0	0	73
12 PM	0	0	0	0	0	4	36	33	7	0	0	0	0	0	0	80
13:00	0	0	0	0	0	6	40	25	3	0	0	0	0	0	0	74
14:00	0	0	0	1	0	14	55	51	10	1	0	0	0	0	0	132
15:00	0	0	0	0	0	9	76	75	14	2	0	0	0	0	0	176
16:00	0	0	0	0	0	31	120	81	12	0	0	0	0	0	0	244
17:00	0	0	0	0	0	29	106	87	8	0	1	0	0	0	0	231
18:00	0	0	0	0	0	11	75	63	16	0	0	0	0	0	0	165
19:00	0	0	0	0	6	15	101	37	7	0	0	0	0	0	0	166
20:00	0	0	0	0	0	13	65	37	2	0	0	0	0	0	0	117
21:00	0	0	0	0	0	7	37	21	1	0	0	0	0	0	0	66
22:00	0	0	0	1	1	7	20	19	5	1	0	0	0	0	0	54
23:00	0	0	0	0	0	4	22	11	0	1	0	0	0	0	0	38
Total	0	0	0	2	13	195	904	658	118	7	1	0	0	0	0	1898
Grand Total	0	0	0	3	26	394	1928	1332	203	11	2	0	0	0	0	3899

Stats
15th Percentile : 30 MPH
50th Percentile : 33 MPH
85th Percentile : 38 MPH
95th Percentile : 40 MPH

Mean Speed(Average) : 35 MPH
10 MPH Pace Speed : 31-40 MPH
Number in Pace : 3260
Percent in Pace : 83.6%
Number of Vehicles > 30 MPH : 3476
Percent of Vehicles > 30 MPH : 89.2%

MD 497
500 Feet West of Park Access
Calvert County, Maryland

The Traffic Group, Inc.

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Merging Innovation and Excellence

Eastbound

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/06/23	0	14	4	0	2	0	0	0	0	0	0	0	0	0	20
01:00	0	13	1	0	2	0	0	0	0	0	0	0	0	0	16
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	7	0	0	1	0	0	0	0	0	0	0	0	0	8
04:00	0	12	6	0	1	0	0	0	0	0	0	0	0	0	19
05:00	1	36	29	0	10	0	0	0	0	0	0	0	0	0	76
06:00	0	88	53	5	13	0	0	0	0	0	0	0	0	0	159
07:00	0	78	38	4	12	0	0	1	0	0	0	0	0	0	133
08:00	0	84	39	5	10	0	0	0	0	0	0	0	0	1	139
09:00	0	76	26	3	9	0	1	0	0	0	0	0	0	1	116
10:00	0	115	32	1	7	0	0	1	0	0	0	0	0	0	156
11:00	0	109	50	1	10	0	0	1	0	0	0	0	0	0	171
12 PM	1	155	56	1	13	1	0	0	0	0	0	0	0	0	227
13:00	0	128	51	1	7	0	0	0	0	0	0	0	0	1	188
14:00	1	194	53	3	11	1	0	0	0	0	0	0	0	0	263
15:00	2	266	82	7	16	0	2	2	0	0	0	0	0	2	379
16:00	1	334	105	4	20	1	0	0	0	0	0	0	0	1	466
17:00	4	372	90	1	17	0	0	0	0	0	0	0	0	1	485
18:00	1	252	64	1	10	0	0	1	0	0	0	0	0	0	329
19:00	3	217	62	0	10	0	0	0	0	0	0	0	0	1	293
20:00	1	157	33	0	7	0	0	0	0	0	0	0	0	0	198
21:00	0	105	11	0	2	0	0	0	0	0	0	0	0	0	118
22:00	0	60	11	0	1	0	0	0	0	0	0	0	0	0	72
23:00	0	48	5	0	2	0	0	0	0	0	0	0	0	0	55
Total	15	2922	901	37	193	3	3	6	0	0	0	0	0	8	4088
Percent	0.4%	71.5%	22.0%	0.9%	4.7%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	
AM Peak	05:00	10:00	06:00	06:00	06:00		09:00	07:00						08:00	
Vol.	1	115	53	5	13		1	1						1	
PM Peak	17:00	17:00	16:00	15:00	16:00	12:00	15:00	15:00						15:00	
Vol.	4	372	105	7	20	1	2	2						2	

MD 497
500 Feet West of Park Access
Calvert County, Maryland

The Traffic Group, Inc.

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Merging Innovation and Excellence

Eastbound

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/07/23	0	19	1	0	2	0	0	0	0	0	0	0	0	0	22
01:00	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
02:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	3	2	0	0	0	0	0	0	0	0	0	0	0	5
04:00	0	10	5	0	3	0	0	0	0	0	0	0	0	0	18
05:00	2	35	29	0	9	0	0	0	0	0	0	0	0	0	75
06:00	0	81	48	5	13	0	0	0	0	0	0	0	0	0	147
07:00	1	74	33	5	9	1	0	3	0	1	0	0	0	0	127
08:00	1	94	38	6	10	0	0	1	0	0	0	0	0	0	150
09:00	0	88	32	1	5	0	0	1	1	0	0	0	0	0	128
10:00	0	97	32	1	14	1	1	0	0	1	0	0	0	0	147
11:00	0	130	43	0	6	0	0	0	0	0	0	0	0	0	179
12 PM	0	125	57	1	11	0	0	1	1	0	0	0	0	1	197
13:00	2	118	53	0	10	0	0	2	0	0	0	0	0	0	185
14:00	1	181	55	3	14	0	1	0	0	0	0	0	0	0	255
15:00	2	231	100	8	17	0	0	0	0	0	0	0	0	0	358
16:00	1	317	109	5	17	0	0	1	0	0	0	0	0	1	451
17:00	5	364	100	1	20	0	1	0	0	0	0	0	0	1	492
18:00	2	278	49	0	13	0	0	0	0	0	0	0	0	0	342
19:00	2	252	55	0	11	0	0	0	0	0	0	0	0	1	321
20:00	0	150	26	0	5	0	0	0	0	0	0	0	0	0	181
21:00	0	89	19	0	1	0	0	0	0	0	0	0	0	0	109
22:00	0	64	14	0	1	0	0	0	0	0	0	0	0	0	79
23:00	0	42	7	0	1	0	0	0	0	0	0	0	0	0	50
Total	19	2852	909	36	192	2	3	9	2	2	0	0	0	4	4030
Percent	0.5%	70.8%	22.6%	0.9%	4.8%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	
AM Peak	05:00	11:00	06:00	08:00	10:00	07:00	10:00	07:00	09:00	07:00					
Vol.	2	130	48	6	14	1	1	3	1	1					
PM Peak	17:00	17:00	16:00	15:00	17:00		14:00	13:00	12:00					12:00	
Vol.	5	364	109	8	20		1	2	1					1	
Grand Total	34	5774	1810	73	385	5	6	15	2	2	0	0	0	12	8118
Percent	0.4%	71.1%	22.3%	0.9%	4.7%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	

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Merging Innovation and Excellence

Westbound

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/06/23	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
01:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
02:00	0	10	2	0	0	0	0	0	0	0	0	0	0	0	12
03:00	0	40	18	0	0	0	0	0	0	0	0	0	0	0	58
04:00	0	97	28	0	5	0	0	0	0	0	0	0	0	0	130
05:00	1	153	72	1	10	0	0	0	0	0	0	0	0	0	237
06:00	1	306	83	3	11	0	1	1	0	0	0	0	0	0	406
07:00	2	340	74	4	19	0	1	1	0	0	0	0	0	0	441
08:00	1	260	54	5	8	0	1	0	0	0	0	0	0	0	329
09:00	0	186	53	2	13	0	0	0	0	0	0	0	0	0	254
10:00	2	155	48	1	6	0	0	2	1	0	0	0	0	1	216
11:00	0	144	46	1	8	0	1	0	0	0	0	0	0	1	201
12 PM	0	139	29	1	11	0	0	1	0	0	0	0	0	0	181
13:00	2	134	42	1	3	0	0	0	0	0	0	0	0	1	183
14:00	0	135	41	3	12	0	0	1	0	0	0	0	0	1	193
15:00	1	153	63	2	13	3	1	0	0	0	0	0	0	1	237
16:00	1	184	61	7	11	1	0	0	0	0	0	0	0	1	266
17:00	1	218	58	3	10	1	0	0	0	0	0	0	0	1	292
18:00	3	183	45	2	5	0	0	0	0	0	0	0	0	0	238
19:00	2	116	28	0	4	0	1	0	0	0	0	0	0	0	151
20:00	0	57	14	0	5	0	0	0	0	0	0	0	0	0	76
21:00	0	28	8	0	1	0	0	0	0	0	0	0	0	0	37
22:00	0	20	4	0	1	0	0	0	0	0	0	0	0	0	25
23:00	0	10	3	0	0	0	0	0	0	0	0	0	0	0	13
Total	17	3077	875	36	156	5	6	6	1	0	0	0	0	7	4186
Percent	0.4%	73.5%	20.9%	0.9%	3.7%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	
AM Peak	07:00	07:00	06:00	08:00	07:00			06:00	10:00	10:00				10:00	
Vol.	2	340	83	5	19			1	2	1				1	
PM Peak	18:00	17:00	15:00	16:00	15:00	15:00	15:00	12:00						13:00	
Vol.	3	218	63	7	13	3	1	1						1	

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Westbound

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/07/23	1	7	1	0	0	0	0	0	0	0	0	0	0	0	9
01:00	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
02:00	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
03:00	0	35	18	0	3	0	0	0	0	0	0	0	0	0	56
04:00	1	92	41	0	3	0	0	0	0	0	0	0	0	0	137
05:00	1	145	57	0	9	0	0	1	0	0	0	0	0	0	213
06:00	1	311	87	3	13	0	0	1	0	0	0	0	0	1	417
07:00	1	331	66	4	8	0	0	0	0	0	0	0	0	0	410
08:00	1	240	56	4	9	0	0	0	0	0	0	0	0	0	310
09:00	0	200	39	2	11	0	0	1	1	0	0	0	0	0	254
10:00	2	138	47	1	7	1	0	0	1	0	0	0	0	0	197
11:00	0	156	68	1	11	1	1	0	1	0	0	0	0	0	239
12 PM	1	141	45	0	9	0	1	1	1	0	0	0	0	0	199
13:00	1	115	42	0	8	0	1	1	0	0	0	0	0	0	168
14:00	4	135	37	4	12	0	0	0	0	0	0	0	0	0	192
15:00	3	136	76	2	9	0	1	0	0	0	0	0	0	1	228
16:00	1	190	59	6	12	0	3	1	0	0	0	0	0	2	274
17:00	1	225	53	2	14	0	1	2	0	0	0	0	0	1	299
18:00	5	169	41	1	7	0	0	0	0	0	0	0	0	1	224
19:00	1	174	48	0	7	0	2	0	0	0	0	0	0	0	232
20:00	0	32	11	0	2	0	0	0	0	0	0	0	0	0	45
21:00	0	30	7	0	2	0	0	0	0	0	0	0	0	0	39
22:00	0	21	4	0	0	0	0	0	0	0	0	0	0	0	25
23:00	0	13	3	0	0	0	0	0	0	0	0	0	0	0	16
Total	25	3051	907	30	156	2	10	8	4	0	0	0	0	6	4199
Percent	0.6%	72.7%	21.6%	0.7%	3.7%	0.0%	0.2%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	
AM Peak Vol.	10:00 2	07:00 331	06:00 87	07:00 4	06:00 13	10:00 1	11:00 1	05:00 1	09:00 1					06:00 1	
PM Peak Vol.	18:00 5	17:00 225	15:00 76	16:00 6	17:00 14		16:00 3	17:00 2	12:00 1					16:00 2	
Grand Total	42	6128	1782	66	312	7	16	14	5	0	0	0	0	13	8385
Percent	0.5%	73.1%	21.3%	0.8%	3.7%	0.1%	0.2%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	

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Eastbound

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 250	Total
09/06/23	0	0	0	0	0	0	1	0	4	6	6	0	1	2	0	20
01:00	0	0	0	0	0	0	0	2	3	4	3	4	0	0	0	16
02:00	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
03:00	0	0	0	0	0	0	0	1	2	2	3	0	0	0	0	8
04:00	0	0	0	0	0	0	0	1	2	9	4	3	0	0	0	19
05:00	0	0	0	0	0	0	0	1	24	38	12	1	0	0	0	76
06:00	0	0	0	0	0	0	1	8	47	66	32	3	1	1	0	159
07:00	0	0	0	0	0	1	1	17	36	49	26	3	0	0	0	133
08:00	0	0	0	1	0	0	6	9	43	53	21	6	0	0	0	139
09:00	0	0	0	0	0	1	1	12	33	45	21	3	0	0	0	116
10:00	0	0	0	0	0	1	0	10	41	71	30	3	0	0	0	156
11:00	0	0	0	0	0	0	2	13	61	65	25	5	0	0	0	171
12 PM	0	0	0	0	1	1	1	14	74	91	39	2	3	1	0	227
13:00	0	0	0	0	0	0	3	5	49	87	38	6	0	0	0	188
14:00	0	0	0	0	0	0	3	9	64	124	55	7	1	0	0	263
15:00	0	0	0	1	0	4	3	33	120	156	56	6	0	0	0	379
16:00	0	0	0	0	1	1	2	24	162	206	61	8	1	0	0	466
17:00	0	0	0	0	2	1	1	27	160	205	81	8	0	0	0	485
18:00	0	0	0	0	0	0	1	13	86	144	72	13	0	0	0	329
19:00	0	0	0	0	1	0	2	34	95	129	30	1	1	0	0	293
20:00	0	0	0	0	0	0	1	22	70	74	24	5	1	1	0	198
21:00	0	0	0	0	0	1	1	10	30	53	15	7	0	0	1	118
22:00	0	0	0	0	0	0	0	3	23	25	17	4	0	0	0	72
23:00	0	0	0	0	0	1	1	4	15	19	10	3	1	1	0	55
Total	0	0	0	2	5	12	31	272	1244	1722	682	101	10	6	1	4088

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Eastbound

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 250	Total
09/07/23	0	0	0	0	0	0	0	2	3	10	5	1	1	0	0	22
01:00	0	0	0	0	0	0	0	0	1	4	2	0	0	0	0	7
02:00	0	0	0	0	0	0	0	0	2	2	0	0	0	0	1	5
03:00	0	0	0	0	0	0	0	0	2	1	2	0	0	0	0	5
04:00	0	0	0	0	0	0	0	1	3	9	2	3	0	0	0	18
05:00	0	0	0	0	0	0	0	0	19	38	12	5	1	0	0	75
06:00	0	0	0	0	0	0	1	8	42	58	32	4	2	0	0	147
07:00	0	0	0	0	0	1	5	12	41	44	22	2	0	0	0	127
08:00	0	0	0	1	0	0	1	26	39	57	20	6	0	0	0	150
09:00	0	0	0	0	0	0	1	13	51	40	17	5	1	0	0	128
10:00	0	0	0	0	0	1	5	14	41	58	23	5	0	0	0	147
11:00	0	0	1	1	0	2	0	16	56	72	25	6	0	0	0	179
12 PM	0	0	0	0	0	0	2	10	67	85	27	6	0	0	0	197
13:00	0	0	0	0	0	0	0	21	47	80	32	4	1	0	0	185
14:00	0	0	0	0	0	0	4	22	59	113	45	8	3	1	0	255
15:00	0	0	0	2	4	0	13	37	116	147	35	2	2	0	0	358
16:00	0	0	0	0	4	5	4	50	117	195	66	9	1	0	0	451
17:00	0	0	0	0	0	0	2	33	192	192	62	10	1	0	0	492
18:00	0	0	0	0	0	0	0	22	99	151	62	7	1	0	0	342
19:00	0	0	0	0	1	1	3	28	143	113	29	3	0	0	0	321
20:00	0	0	0	0	0	0	2	13	68	66	23	8	1	0	0	181
21:00	0	0	0	0	0	0	0	8	29	46	20	5	1	0	0	109
22:00	0	0	0	0	0	1	0	6	21	29	14	6	2	0	0	79
23:00	0	0	0	0	0	0	0	3	16	19	10	2	0	0	0	50
Total	0	0	1	4	9	11	43	345	1274	1629	587	107	18	1	1	4030
Grand Total	0	0	1	6	14	23	74	617	2518	3351	1269	208	28	7	2	8118

Stats
15th Percentile : 40 MPH
50th Percentile : 46 MPH
85th Percentile : 51 MPH
95th Percentile : 54 MPH

Mean Speed(Average) : 47 MPH
10 MPH Pace Speed : 41-50 MPH
Number in Pace : 5869
Percent in Pace : 72.3%
Number of Vehicles > 45 MPH : 4865
Percent of Vehicles > 45 MPH : 59.9%

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Westbound

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 250	Total
09/06/23	0	0	0	0	0	0	0	1	2	1	0	1	0	0	0	5
01:00	0	0	0	0	0	0	0	1	1	1	2	0	0	0	0	5
02:00	0	0	0	0	0	0	0	2	3	6	0	1	0	0	0	12
03:00	0	0	0	0	1	0	0	3	18	23	11	1	1	0	0	58
04:00	0	0	0	0	1	0	0	3	24	57	34	8	3	0	0	130
05:00	0	0	0	0	0	1	0	24	72	99	35	6	0	0	0	237
06:00	0	0	0	0	5	7	6	35	149	151	50	3	0	0	0	406
07:00	0	0	0	0	0	0	2	32	169	193	43	1	1	0	0	441
08:00	0	1	1	1	0	8	13	26	114	128	33	4	0	0	0	329
09:00	0	0	1	0	1	0	11	17	84	108	28	3	1	0	0	254
10:00	0	0	0	1	1	1	7	34	81	64	23	4	0	0	0	216
11:00	0	0	0	0	0	0	7	23	70	74	22	5	0	0	0	201
12 PM	0	0	0	0	0	0	7	28	60	65	16	5	0	0	0	181
13:00	0	0	0	0	1	1	3	22	70	64	21	1	0	0	0	183
14:00	0	0	1	0	1	0	10	27	66	70	15	3	0	0	0	193
15:00	0	0	1	0	4	2	5	24	70	102	26	0	3	0	0	237
16:00	0	0	0	0	0	0	3	26	93	102	36	6	0	0	0	266
17:00	0	0	0	0	1	0	10	34	101	103	39	4	0	0	0	292
18:00	0	0	0	0	0	1	10	26	64	101	30	6	0	0	0	238
19:00	0	0	0	0	0	1	17	45	47	30	10	1	0	0	0	151
20:00	0	0	0	0	0	0	5	27	23	19	1	0	1	0	0	76
21:00	0	0	0	0	0	1	2	9	9	10	5	1	0	0	0	37
22:00	0	0	0	0	0	0	1	1	10	7	2	3	0	1	0	25
23:00	0	0	0	0	0	1	0	1	6	2	1	0	1	0	1	13
Total	0	1	4	2	16	24	119	471	1406	1580	483	67	11	1	1	4186

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Westbound

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 250	Total
09/07/23	0	0	0	0	0	0	1	2	1	2	2	1	0	0	0	9
01:00	0	0	0	0	0	0	0	1	1	3	1	1	1	0	0	8
02:00	0	0	0	0	0	0	0	0	1	5	0	2	0	0	0	8
03:00	0	0	0	0	0	0	0	4	15	23	10	4	0	0	0	56
04:00	0	0	0	0	1	0	0	1	36	60	30	7	2	0	0	137
05:00	0	0	0	0	0	0	1	11	72	97	28	4	0	0	0	213
06:00	0	0	0	0	0	1	5	33	149	180	42	5	1	1	0	417
07:00	0	0	0	0	1	0	0	17	137	196	50	9	0	0	0	410
08:00	0	0	1	0	1	0	5	27	117	119	34	5	1	0	0	310
09:00	0	0	0	0	0	0	2	25	102	93	28	3	1	0	0	254
10:00	0	0	0	0	1	0	2	37	82	58	15	2	0	0	0	197
11:00	0	0	0	0	2	1	10	39	82	79	23	2	1	0	0	239
12 PM	0	0	0	0	0	4	5	24	70	76	17	3	0	0	0	199
13:00	0	0	0	0	0	0	2	26	61	59	16	4	0	0	0	168
14:00	0	0	1	0	1	0	4	36	73	44	29	3	0	1	0	192
15:00	0	0	0	1	1	0	4	25	67	89	35	4	2	0	0	228
16:00	0	0	0	0	0	0	5	34	94	97	36	8	0	0	0	274
17:00	0	0	0	0	0	0	5	43	107	106	33	5	0	0	0	299
18:00	0	0	1	0	1	0	13	32	54	91	28	4	0	0	0	224
19:00	0	0	1	0	0	4	22	90	76	25	12	2	0	0	0	232
20:00	0	0	0	0	0	0	9	5	13	13	4	1	0	0	0	45
21:00	0	0	0	0	0	0	2	5	15	12	4	0	0	1	0	39
22:00	0	0	0	0	0	0	1	2	9	8	4	1	0	0	0	25
23:00	0	0	0	0	0	0	0	2	6	5	2	1	0	0	0	16
Total	0	0	4	1	9	10	98	521	1440	1540	483	81	9	3	0	4199
Grand Total	0	1	8	3	25	34	217	992	2846	3120	966	148	20	4	1	8385

Stats
15th Percentile : 39 MPH
50th Percentile : 45 MPH
85th Percentile : 49 MPH
95th Percentile : 53 MPH

Mean Speed(Average) : 45 MPH
10 MPH Pace Speed : 41-50 MPH
Number in Pace : 5966
Percent in Pace : 71.2%
Number of Vehicles > 45 MPH : 4259
Percent of Vehicles > 45 MPH : 50.8%

MD 497
900 Feet West of Little Cove Point Road
Calvert County, Maryland

The Traffic Group, Inc.

(800) 583-8411

www.trafficgroup.com

Merging Innovation and Excellence

Eastbound

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/06/23	0	14	4	0	2	0	0	0	0	0	0	0	0	0	20
01:00	0	13	1	0	2	0	0	0	0	0	0	0	0	0	16
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	6	0	0	1	0	0	0	0	0	0	0	0	0	7
04:00	0	13	6	0	1	0	0	0	0	0	0	0	0	0	20
05:00	1	35	26	1	10	0	0	0	0	0	0	0	0	0	73
06:00	0	87	48	7	13	0	0	0	0	0	0	0	0	0	155
07:00	0	68	38	6	11	0	0	1	0	0	0	0	0	0	124
08:00	0	79	37	6	10	0	0	0	0	0	0	0	0	0	132
09:00	1	70	26	2	11	0	0	0	0	0	0	0	0	0	110
10:00	1	103	36	1	8	0	0	0	0	0	0	0	0	0	149
11:00	1	97	45	0	13	0	0	1	0	0	0	0	0	0	157
12 PM	1	149	56	1	12	1	1	1	0	0	0	0	0	0	222
13:00	0	125	49	1	9	0	0	0	0	0	0	0	0	0	184
14:00	0	183	46	4	10	0	0	0	0	0	0	0	0	0	243
15:00	2	249	78	6	20	0	0	1	0	0	0	0	0	2	358
16:00	1	311	97	3	16	1	1	0	0	0	0	0	0	0	430
17:00	3	310	80	1	17	0	0	0	0	0	0	0	0	0	411
18:00	1	223	62	1	8	0	0	1	0	0	0	0	0	0	296
19:00	4	212	63	0	11	0	0	0	0	0	0	0	0	1	291
20:00	1	155	36	0	6	0	0	0	0	0	0	0	0	0	198
21:00	0	101	12	0	2	0	0	0	0	0	0	0	0	0	115
22:00	0	61	13	0	1	0	0	0	0	0	0	0	0	0	75
23:00	0	47	5	0	2	0	0	0	0	0	0	0	0	0	54
Total	17	2713	864	40	196	2	2	5	0	0	0	0	0	3	3842
Percent	0.4%	70.6%	22.5%	1.0%	5.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	
AM Peak	05:00	10:00	06:00	06:00	06:00			07:00							
Vol.	1	103	48	7	13			1							
PM Peak	19:00	16:00	16:00	15:00	15:00	12:00	12:00	12:00						15:00	
Vol.	4	311	97	6	20	1	1	1						2	

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Eastbound

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/07/23	0	18	1	0	2	0	0	0	0	0	0	0	0	0	21
01:00	0	7	2	0	0	0	0	0	0	0	0	0	0	0	9
02:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
03:00	0	4	2	0	0	0	0	0	0	0	0	0	0	0	6
04:00	0	10	6	0	2	0	0	0	0	0	0	0	0	0	18
05:00	2	31	27	0	10	0	0	0	0	0	0	0	0	0	70
06:00	0	86	43	5	12	0	0	0	0	0	0	0	0	1	147
07:00	0	66	26	4	10	1	0	3	1	0	0	0	0	2	113
08:00	0	81	40	4	11	0	0	1	0	0	0	0	0	1	138
09:00	0	77	32	1	6	0	0	1	1	0	0	0	0	0	118
10:00	0	90	32	1	15	1	0	0	0	1	0	0	0	1	141
11:00	0	115	36	0	8	0	0	0	0	0	0	0	0	0	159
12 PM	0	118	57	1	9	0	0	1	1	0	0	0	0	0	187
13:00	2	112	51	0	12	0	0	2	0	0	0	0	0	1	180
14:00	1	172	53	3	15	0	0	0	0	0	0	0	0	0	244
15:00	2	214	100	6	16	0	1	0	0	0	0	0	0	0	339
16:00	0	313	101	4	14	0	2	1	0	0	0	0	0	0	435
17:00	5	286	72	1	18	0	0	0	0	0	0	0	0	0	382
18:00	2	247	44	0	14	0	2	0	0	0	0	0	0	1	310
19:00	2	248	54	0	12	0	1	0	0	0	0	0	0	1	318
20:00	0	147	24	0	7	0	0	0	0	0	0	0	0	0	178
21:00	0	82	19	0	1	0	0	0	0	0	0	0	0	0	102
22:00	0	61	17	0	1	0	0	0	0	0	0	0	0	0	79
23:00	0	39	7	0	2	0	0	0	0	0	0	0	0	0	48
Total	16	2627	847	30	197	2	6	9	3	1	0	0	0	8	3746
Percent	0.4%	70.1%	22.6%	0.8%	5.3%	0.1%	0.2%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	
AM Peak	05:00	11:00	06:00	06:00	10:00	07:00		07:00	07:00	10:00				07:00	
Vol.	2	115	43	5	15	1		3	1	1				2	
PM Peak	17:00	16:00	16:00	15:00	17:00		16:00	13:00	12:00					13:00	
Vol.	5	313	101	6	18		2	2	1					1	
Grand Total	33	5340	1711	70	393	4	8	14	3	1	0	0	0	11	7588
Percent	0.4%	70.4%	22.5%	0.9%	5.2%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	

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MD 497

900 Feet West of Little Cove Point Road

Calvert County, Maryland

Westbound

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/06/23	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
01:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
02:00	0	11	2	0	0	0	0	0	0	0	0	0	0	0	13
03:00	0	39	17	0	1	0	0	0	0	0	0	0	0	0	57
04:00	0	93	28	0	6	0	0	0	0	0	0	0	0	0	127
05:00	1	151	68	1	11	0	1	0	0	0	0	0	0	0	233
06:00	1	299	82	3	14	0	1	1	0	0	0	0	0	0	401
07:00	2	332	70	4	22	0	0	1	0	0	0	0	0	0	431
08:00	0	245	53	5	11	0	0	0	0	0	0	0	0	1	315
09:00	0	180	49	2	14	0	0	0	0	0	0	0	0	0	245
10:00	2	146	45	1	10	0	0	0	1	0	0	0	0	1	206
11:00	0	137	49	1	9	0	1	0	0	0	0	0	0	0	197
12 PM	0	126	29	0	11	0	0	1	0	0	0	0	0	1	168
13:00	3	126	36	1	4	0	0	0	0	0	0	0	0	0	170
14:00	0	118	41	4	15	0	1	0	0	0	0	0	0	1	180
15:00	1	142	61	3	14	2	1	0	0	0	0	0	0	0	224
16:00	1	183	57	6	7	0	0	1	0	0	0	0	0	2	257
17:00	1	212	54	2	11	1	1	0	0	0	0	0	0	1	283
18:00	2	147	43	2	4	0	1	0	0	0	0	0	0	0	199
19:00	1	75	14	0	5	0	1	0	0	0	0	0	0	0	96
20:00	0	44	10	0	4	0	0	0	0	0	0	0	0	0	58
21:00	0	26	8	0	1	0	0	0	0	0	0	0	0	0	35
22:00	0	17	5	0	1	0	0	0	0	0	0	0	0	0	23
23:00	0	10	2	0	1	0	0	0	0	0	0	0	0	0	13
Total	15	2868	824	35	176	3	8	4	1	0	0	0	0	7	3941
Percent	0.4%	72.8%	20.9%	0.9%	4.5%	0.1%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	
AM Peak	07:00	07:00	06:00	08:00	07:00			05:00	06:00	10:00				08:00	
Vol.	2	332	82	5	22			1	1	1				1	
PM Peak	13:00	17:00	15:00	16:00	14:00	15:00	14:00	12:00						16:00	
Vol.	3	212	61	6	15	2	1	1						2	

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MD 497

900 Feet West of Little Cove Point Road

Calvert County, Maryland

Westbound

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/07/23	1	6	2	0	0	0	0	0	0	0	0	0	0	0	9
01:00	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
02:00	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
03:00	0	36	18	0	2	0	0	0	0	0	0	0	0	0	56
04:00	1	88	37	0	6	0	0	0	0	0	0	0	0	0	132
05:00	1	140	59	0	9	0	1	1	0	0	0	0	0	0	211
06:00	3	310	81	3	15	0	0	1	0	0	0	0	0	0	413
07:00	1	314	69	4	8	0	0	0	0	0	0	0	0	0	396
08:00	0	228	53	4	10	0	0	0	0	0	0	0	0	0	295
09:00	0	191	42	1	10	0	0	1	1	0	0	0	0	0	246
10:00	1	133	50	1	7	0	2	0	1	0	0	0	0	0	195
11:00	0	140	65	1	9	1	1	0	1	0	0	0	0	1	219
12 PM	1	131	39	0	8	0	0	1	1	0	0	0	0	0	181
13:00	1	107	37	0	9	0	0	1	0	0	0	0	0	0	155
14:00	3	129	28	4	17	0	0	0	0	0	0	0	0	1	182
15:00	3	123	73	3	9	1	0	0	0	0	0	0	0	0	212
16:00	1	180	58	5	12	0	0	2	0	0	0	0	0	0	258
17:00	1	218	63	3	15	0	0	1	0	0	0	0	0	1	302
18:00	5	147	35	1	7	0	0	0	0	0	0	0	0	0	195
19:00	0	82	25	0	3	0	0	0	0	0	0	0	0	0	110
20:00	0	28	10	0	2	0	0	0	0	0	0	0	0	0	40
21:00	0	28	6	0	2	0	0	0	0	0	0	0	0	0	36
22:00	0	18	4	0	0	0	0	0	0	0	0	0	0	0	22
23:00	0	13	4	0	0	0	0	0	0	0	0	0	0	0	17
Total	23	2805	859	30	160	2	4	8	4	0	0	0	0	3	3898
Percent	0.6%	72.0%	22.0%	0.8%	4.1%	0.1%	0.1%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	
AM Peak	06:00	07:00	06:00	07:00	06:00	11:00	10:00	05:00	09:00					11:00	
Vol.	3	314	81	4	15	1	2	1	1					1	
PM Peak	18:00	17:00	15:00	16:00	14:00	15:00		16:00	12:00					14:00	
Vol.	5	218	73	5	17	1		2	1					1	
Grand Total	38	5673	1683	65	336	5	12	12	5	0	0	0	0	10	7839
Percent	0.5%	72.4%	21.5%	0.8%	4.3%	0.1%	0.2%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	

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Merging Innovation and Excellence

MD 497
900 Feet West of Little Cove Point Road
Calvert County, Maryland

Eastbound

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 250	Total
09/06/23	0	0	0	0	0	0	2	0	5	5	4	2	0	0	2	20
01:00	0	0	0	0	0	0	1	3	3	3	4	2	0	0	0	16
02:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
03:00	0	0	0	0	0	1	0	1	0	4	1	0	0	0	0	7
04:00	0	0	0	0	0	0	0	2	3	9	3	3	0	0	0	20
05:00	0	0	0	0	0	0	0	6	27	31	8	1	0	0	0	73
06:00	0	0	0	0	0	1	2	19	49	61	19	3	1	0	0	155
07:00	0	0	0	0	0	1	7	7	41	43	22	3	0	0	0	124
08:00	0	0	0	0	0	0	1	12	52	47	18	2	0	0	0	132
09:00	0	0	0	0	0	0	0	11	40	48	11	0	0	0	0	110
10:00	0	0	1	0	0	0	1	16	53	58	18	2	0	0	0	149
11:00	0	0	0	2	1	1	2	26	51	55	18	1	0	0	0	157
12 PM	0	0	0	0	0	0	2	36	71	72	35	5	1	0	0	222
13:00	0	0	0	0	0	1	1	12	81	64	24	1	0	0	0	184
14:00	0	0	0	0	0	1	2	18	82	101	32	7	0	0	0	243
15:00	0	0	0	0	0	0	5	41	159	107	41	5	0	0	0	358
16:00	0	0	0	0	0	1	7	61	161	152	43	4	1	0	0	430
17:00	0	0	0	0	0	4	15	24	128	179	59	1	1	0	0	411
18:00	0	0	0	0	0	0	2	22	101	132	34	5	0	0	0	296
19:00	0	0	0	0	0	1	6	44	129	92	17	1	0	1	0	291
20:00	0	0	0	0	0	0	7	36	85	54	14	2	0	0	0	198
21:00	0	0	0	0	0	0	3	17	44	38	8	4	0	1	0	115
22:00	0	0	0	0	0	0	3	9	21	29	9	4	0	0	0	75
23:00	0	0	0	0	0	0	3	6	18	18	8	0	0	1	0	54
Total	0	0	1	2	1	12	72	429	1405	1403	450	58	4	3	2	3842

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Eastbound

Start Time	05	610	1115	1620	2125	2630	3135	3640	4145	4650	5155	5660	6165	6670	71250	Total
09/07/23	0	0	0	0	0	0	2	0	5	10	3	1	0	0	0	21
01:00	0	0	0	0	0	0	0	1	5	2	1	0	0	0	0	9
02:00	0	0	0	0	0	0	0	1	1	1	0	0	1	0	0	4
03:00	0	0	0	0	0	0	0	0	2	3	1	0	0	0	0	6
04:00	0	0	0	0	0	0	0	2	2	10	3	0	1	0	0	18
05:00	0	0	0	0	0	0	0	1	26	28	11	3	1	0	0	70
06:00	0	0	0	0	1	2	2	8	40	67	19	7	1	0	0	147
07:00	0	0	0	0	1	3	4	12	36	35	18	4	0	0	0	113
08:00	0	0	0	0	0	1	9	15	35	53	19	6	0	0	0	138
09:00	0	0	0	0	0	0	0	13	46	33	20	6	0	0	0	118
10:00	0	0	0	0	0	0	3	18	63	39	14	4	0	0	0	141
11:00	0	0	0	0	0	2	3	26	50	56	19	3	0	0	0	159
12 PM	0	0	0	0	0	0	3	14	69	81	16	4	0	0	0	187
13:00	0	0	0	0	0	0	3	22	61	68	23	2	1	0	0	180
14:00	0	0	0	0	0	3	18	26	81	80	30	6	0	0	0	244
15:00	0	0	0	0	0	4	9	54	141	104	23	4	0	0	0	339
16:00	0	0	0	0	0	1	5	61	165	162	37	3	1	0	0	435
17:00	0	0	0	0	0	0	4	32	140	161	40	4	1	0	0	382
18:00	0	0	0	0	0	0	3	31	107	132	33	4	0	0	0	310
19:00	0	0	0	2	0	1	7	64	143	84	15	2	0	0	0	318
20:00	0	0	0	0	0	0	4	27	76	49	17	4	1	0	0	178
21:00	0	0	0	0	0	0	3	17	36	31	11	3	1	0	0	102
22:00	0	0	0	0	0	0	1	10	23	37	5	2	1	0	0	79
23:00	0	0	0	0	0	0	1	11	19	15	1	1	0	0	0	48
Total	0	0	0	2	2	17	84	466	1372	1341	379	73	10	0	0	3746
Grand Total	0	0	1	4	3	29	156	895	2777	2744	829	131	14	3	2	7588

Stats
15th Percentile : 40 MPH
50th Percentile : 44 MPH
85th Percentile : 49 MPH
95th Percentile : 53 MPH

Mean Speed(Average) : 45 MPH
10 MPH Pace Speed : 41-50 MPH
Number in Pace : 5521
Percent in Pace : 72.8%
Number of Vehicles > 45 MPH : 3723
Percent of Vehicles > 45 MPH : 49.1%

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MD 497

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Calvert County, Maryland

Westbound

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 250	Total
09/06/23	0	0	0	0	0	0	0	2	0	1	0	2	0	0	0	5
01:00	0	0	0	0	0	0	0	0	2	3	0	0	0	0	0	5
02:00	0	0	0	0	0	0	2	1	4	2	4	0	0	0	0	13
03:00	0	0	0	0	0	1	0	3	22	23	7	1	0	0	0	57
04:00	0	0	0	0	0	0	1	13	38	36	30	8	1	0	0	127
05:00	0	0	0	0	0	0	0	26	76	104	23	3	1	0	0	233
06:00	0	0	0	1	1	2	1	28	138	173	48	9	0	0	0	401
07:00	0	0	0	0	0	0	0	24	137	198	59	12	0	1	0	431
08:00	0	0	0	0	2	0	6	19	90	142	48	7	1	0	0	315
09:00	0	0	0	0	0	0	2	18	72	112	34	6	1	0	0	245
10:00	0	0	0	0	0	1	5	26	75	67	28	3	1	0	0	206
11:00	0	0	0	0	0	0	1	19	70	78	22	7	0	0	0	197
12 PM	0	0	0	0	0	1	5	13	58	66	23	2	0	0	0	168
13:00	0	0	0	0	0	0	4	17	61	65	20	2	0	1	0	170
14:00	0	0	0	1	0	4	6	17	65	70	15	2	0	0	0	180
15:00	0	0	0	0	0	0	0	14	72	106	29	2	1	0	0	224
16:00	0	0	0	0	0	1	1	11	77	105	51	9	2	0	0	257
17:00	0	0	0	0	0	0	5	17	97	106	45	10	2	1	0	283
18:00	0	0	0	0	0	2	0	18	50	96	29	3	0	1	0	199
19:00	0	0	0	0	0	0	2	15	38	31	9	1	0	0	0	96
20:00	0	0	0	0	0	0	1	14	19	18	6	0	0	0	0	58
21:00	0	0	0	0	0	0	2	6	12	12	2	0	1	0	0	35
22:00	0	0	0	0	0	0	1	5	4	8	2	2	0	1	0	23
23:00	0	0	0	0	0	0	1	1	4	4	1	0	1	0	1	13
Total	0	0	0	2	3	12	46	327	1281	1626	535	91	12	5	1	3941

MD 497
900 Feet West of Little Cove Point Road
Calvert County, Maryland

The Traffic Group, Inc.

(800) 583-8411

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Westbound

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 250	Total
09/07/23	0	0	0	0	0	0	1	0	2	4	1	1	0	0	0	9
01:00	0	0	0	0	0	0	1	0	1	5	0	0	1	0	0	8
02:00	0	0	0	0	0	0	1	0	2	3	0	2	0	0	0	8
03:00	0	0	0	0	0	0	3	9	12	24	7	1	0	0	0	56
04:00	0	0	0	0	0	0	0	8	38	60	21	3	1	0	1	132
05:00	0	0	0	0	0	0	0	18	70	85	35	3	0	0	0	211
06:00	0	0	1	1	2	1	1	29	140	181	50	5	1	1	0	413
07:00	0	0	2	3	0	1	1	22	126	168	64	8	1	0	0	396
08:00	0	0	0	0	0	0	2	21	92	130	46	3	0	0	1	295
09:00	0	0	0	0	0	0	1	20	79	105	33	7	0	1	0	246
10:00	0	0	0	0	0	0	0	16	85	69	23	2	0	0	0	195
11:00	0	0	0	0	0	1	5	19	57	87	46	4	0	0	0	219
12 PM	0	0	0	0	0	2	0	18	51	82	23	5	0	0	0	181
13:00	0	0	0	0	0	0	1	13	42	64	27	5	3	0	0	155
14:00	0	0	0	0	0	0	0	22	57	71	24	6	1	1	0	182
15:00	0	0	0	0	0	1	5	18	65	81	36	3	3	0	0	212
16:00	0	0	0	0	0	0	4	15	74	115	41	9	0	0	0	258
17:00	0	0	0	0	0	1	2	26	75	146	48	4	0	0	0	302
18:00	0	0	3	1	0	1	3	15	56	74	35	5	1	0	1	195
19:00	0	0	0	0	0	2	2	18	37	30	15	6	0	0	0	110
20:00	0	0	0	0	0	0	2	10	8	17	2	0	1	0	0	40
21:00	0	0	0	0	0	0	0	3	12	18	2	0	0	0	1	36
22:00	0	0	0	0	0	0	0	4	7	6	5	0	0	0	0	22
23:00	0	0	0	0	0	0	1	2	5	6	2	1	0	0	0	17
Total	0	0	6	5	2	10	36	326	1193	1631	586	83	13	3	4	3898
Grand Total	0	0	6	7	5	22	82	653	2474	3257	1121	174	25	8	5	7839

Stats
15th Percentile : 40 MPH
50th Percentile : 46 MPH
85th Percentile : 50 MPH
95th Percentile : 54 MPH

Mean Speed(Average) : 46 MPH
10 MPH Pace Speed : 41-50 MPH
Number in Pace : 5731
Percent in Pace : 73.1%
Number of Vehicles > 45 MPH : 4590
Percent of Vehicles > 45 MPH : 58.6%

MD 765
500 Feet South of MD 497
Calvert County, Maryland

The Traffic Group, Inc.

(800) 583-8411

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Merging Innovation and Excellence

NB 1, NB 2

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/06/23	0	12	2	0	1	0	0	0	0	0	0	0	0	0	15
01:00	0	15	6	0	1	0	0	0	0	0	0	0	0	0	22
02:00	0	20	2	0	0	0	0	0	0	0	0	0	0	0	22
03:00	0	28	8	0	3	0	0	0	0	0	0	0	0	0	39
04:00	0	98	25	0	6	0	0	0	0	0	0	0	0	0	129
05:00	1	131	38	0	12	0	0	0	0	0	0	0	0	0	182
06:00	2	229	56	4	15	0	0	0	0	0	0	0	0	0	306
07:00	3	271	69	5	16	0	0	0	0	0	0	0	0	1	365
08:00	0	211	67	6	12	0	0	0	0	0	0	0	0	0	296
09:00	2	202	43	7	8	0	0	1	0	0	0	0	0	0	263
10:00	0	179	46	1	11	2	0	1	0	0	0	0	0	0	240
11:00	0	205	51	2	11	0	0	2	0	0	0	0	0	0	271
12 PM	0	193	47	4	14	1	0	0	0	0	0	0	0	0	259
13:00	0	160	44	1	17	0	0	0	0	0	0	0	0	1	223
14:00	1	222	52	6	11	0	0	0	0	0	0	0	0	0	292
15:00	1	211	80	7	7	0	1	2	0	0	0	0	0	0	309
16:00	0	249	62	5	12	2	0	0	0	0	0	0	0	0	330
17:00	0	263	69	2	22	0	0	0	0	0	0	0	0	1	357
18:00	0	251	72	0	11	2	0	0	0	0	0	0	0	0	336
19:00	6	190	61	0	8	0	0	1	0	0	0	0	0	0	266
20:00	1	107	21	0	0	0	0	0	0	0	0	0	0	0	129
21:00	0	73	14	0	1	1	0	0	0	0	0	0	0	0	89
22:00	0	41	3	0	0	0	0	0	0	0	0	0	0	0	44
23:00	0	15	1	0	1	0	0	0	0	0	0	0	0	0	17
Total	17	3576	939	50	200	8	1	7	0	0	0	0	0	3	4801
Percent	0.4%	74.5%	19.6%	1.0%	4.2%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	
AM Peak	07:00	07:00	07:00	09:00	07:00	10:00		11:00						07:00	
Vol.	3	271	69	7	16	2		2						1	
PM Peak	19:00	17:00	15:00	15:00	17:00	16:00	15:00	15:00						13:00	
Vol.	6	263	80	7	22	2	1	2						1	

MD 765
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NB 1, NB 2

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/07/23	0	9	0	0	0	0	0	0	0	0	0	0	0	0	9
01:00	0	3	1	0	1	0	1	0	0	0	0	0	0	0	6
02:00	0	20	5	0	0	0	0	0	0	0	0	0	0	0	25
03:00	0	35	8	0	2	0	0	0	0	0	0	0	0	0	45
04:00	0	74	25	0	4	0	0	0	0	0	0	0	0	0	103
05:00	0	134	41	0	9	2	0	0	0	0	0	0	0	0	186
06:00	0	201	61	6	14	1	0	1	0	1	0	0	0	0	285
07:00	0	260	71	4	14	1	0	0	1	0	0	0	0	1	352
08:00	2	210	62	3	15	1	0	0	0	0	0	0	0	1	294
09:00	0	178	52	8	4	0	0	0	0	0	0	0	0	1	243
10:00	3	182	37	0	20	4	0	0	0	0	0	0	0	0	246
11:00	0	157	53	2	11	1	1	2	0	0	0	0	0	1	228
12 PM	0	165	74	1	14	0	0	1	0	0	0	0	0	0	255
13:00	1	177	57	1	18	4	0	2	0	0	0	0	0	0	260
14:00	2	206	55	5	12	1	0	1	0	0	0	0	0	0	282
15:00	3	215	64	6	12	0	0	0	0	0	0	0	0	1	301
16:00	1	257	72	7	15	0	0	0	1	0	0	0	1	0	354
17:00	2	279	91	2	20	0	0	1	0	0	0	0	0	0	395
18:00	0	210	73	0	17	2	0	0	0	0	0	0	0	0	302
19:00	1	172	49	1	8	0	0	0	0	0	0	0	0	0	231
20:00	0	76	16	0	3	0	0	0	0	0	0	0	0	0	95
21:00	0	55	8	0	1	0	0	0	0	0	0	0	0	0	64
22:00	0	33	3	0	0	0	0	0	0	0	0	0	0	0	36
23:00	0	18	4	0	1	0	0	0	0	0	0	0	0	0	23
Total	15	3326	982	46	215	17	2	8	2	1	0	0	1	5	4620
Percent	0.3%	72.0%	21.3%	1.0%	4.7%	0.4%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	
AM Peak Vol.	10:00 3	07:00 260	07:00 71	09:00 8	10:00 20	10:00 4	01:00 1	11:00 2	07:00 1	06:00 1				07:00 1	
PM Peak Vol.	15:00 3	17:00 279	17:00 91	16:00 7	17:00 20	13:00 4		13:00 2	16:00 1				16:00 1	15:00 1	
Grand Total	32	6902	1921	96	415	25	3	15	2	1	0	0	1	8	9421
Percent	0.3%	73.3%	20.4%	1.0%	4.4%	0.3%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	

MD 765
500 Feet South of MD 497
Calvert County, Maryland

The Traffic Group, Inc.

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Merging Innovation and Excellence

SB 1, SB 2

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/06/23	0	14	1	0	1	0	0	0	0	0	0	0	0	0	16
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	19	3	0	2	1	0	0	0	0	0	0	0	0	25
05:00	0	42	12	0	4	0	0	0	0	0	0	0	0	0	58
06:00	0	124	31	3	2	0	0	0	0	0	0	0	0	0	160
07:00	0	146	44	4	10	1	0	0	0	0	0	0	0	0	205
08:00	2	190	38	6	7	1	0	0	0	0	0	0	0	0	244
09:00	0	165	22	1	9	1	0	1	0	0	0	0	0	0	199
10:00	0	163	31	2	4	0	0	1	0	0	0	0	0	0	201
11:00	0	148	40	0	15	0	0	1	0	0	0	0	0	0	204
12 PM	0	169	43	0	7	0	0	0	0	0	0	0	0	0	219
13:00	0	180	40	2	8	0	0	1	0	0	0	0	0	0	231
14:00	0	203	43	5	15	0	0	0	0	0	0	0	0	0	266
15:00	1	237	70	4	12	1	0	2	0	0	0	0	0	0	327
16:00	1	298	69	5	19	1	0	0	0	0	0	0	0	0	393
17:00	3	326	67	0	18	2	0	1	0	0	0	0	0	0	417
18:00	1	206	60	1	12	2	0	1	0	0	0	0	0	0	283
19:00	2	186	34	1	6	1	0	0	0	0	0	0	0	0	230
20:00	1	108	19	0	5	1	0	1	0	0	0	0	0	0	135
21:00	0	54	12	0	2	0	0	0	0	0	0	0	0	0	68
22:00	0	32	7	0	0	0	0	0	0	0	0	0	0	0	39
23:00	0	18	3	0	2	0	0	0	0	0	0	0	0	0	23
Total	11	3037	689	34	160	12	0	9	0	0	0	0	0	0	3952
Percent	0.3%	76.8%	17.4%	0.9%	4.0%	0.3%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	08:00	07:00	08:00	11:00	04:00		09:00							
Vol.	2	190	44	6	15	1		1							
PM Peak	17:00	17:00	15:00	14:00	16:00	17:00		15:00							
Vol.	3	326	70	5	19	2		2							

MD 765
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Merging Innovation and Excellence

SB 1, SB 2

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/07/23	0	9	2	0	0	0	0	0	0	0	0	0	0	0	11
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
03:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	12	3	1	1	2	0	0	0	0	0	0	0	0	19
05:00	0	51	17	0	3	0	0	1	0	0	0	0	0	0	72
06:00	1	98	36	3	3	0	0	0	0	0	0	0	0	0	141
07:00	0	153	45	7	9	2	0	2	0	0	0	0	0	1	219
08:00	2	183	36	1	7	3	0	1	0	0	0	0	0	0	233
09:00	0	146	33	3	7	0	0	0	0	0	0	0	0	0	189
10:00	1	117	42	0	13	0	0	1	0	0	0	0	0	0	174
11:00	1	191	49	0	11	0	1	0	0	0	0	0	0	0	253
12 PM	0	171	53	0	10	1	0	2	0	0	0	0	0	0	237
13:00	1	177	45	2	10	1	0	0	0	0	0	0	0	0	236
14:00	3	169	53	5	13	0	1	0	0	0	0	0	0	0	244
15:00	0	266	73	5	16	1	0	0	0	0	0	0	0	1	362
16:00	3	276	78	4	13	1	0	1	0	0	0	0	0	0	376
17:00	1	284	54	1	13	2	0	0	0	0	0	0	0	0	355
18:00	3	241	50	0	10	2	0	1	0	0	0	0	0	1	308
19:00	0	220	63	0	6	1	0	1	0	0	0	0	0	0	291
20:00	1	96	27	0	2	0	0	0	0	0	0	0	0	0	126
21:00	0	47	12	0	0	0	0	0	0	0	0	0	0	0	59
22:00	0	39	9	0	0	0	0	2	0	0	0	0	0	0	50
23:00	0	26	3	0	2	0	0	0	0	0	0	0	0	0	31
Total	17	2983	784	32	149	16	2	12	0	0	0	0	0	3	3998
Percent	0.4%	74.6%	19.6%	0.8%	3.7%	0.4%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	
AM Peak	08:00	11:00	11:00	07:00	10:00	08:00	11:00	07:00						07:00	
Vol.	2	191	49	7	13	3	1	2						1	
PM Peak	14:00	17:00	16:00	14:00	15:00	17:00	14:00	12:00						15:00	
Vol.	3	284	78	5	16	2	1	2						1	
Grand Total	28	6020	1473	66	309	28	2	21	0	0	0	0	0	3	7950
Percent	0.4%	75.7%	18.5%	0.8%	3.9%	0.4%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

MD 765
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NB 1, NB 2

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 250	Total
09/06/23	0	0	0	0	0	0	0	1	1	9	3	0	1	0	0	15
01:00	0	0	0	0	0	0	0	0	2	7	8	3	2	0	0	22
02:00	0	0	0	0	0	0	0	0	1	19	1	1	0	0	0	22
03:00	0	0	0	0	0	0	0	1	8	18	7	3	2	0	0	39
04:00	0	0	0	0	0	0	0	4	33	48	38	6	0	0	0	129
05:00	0	0	0	0	0	0	0	4	54	86	35	2	1	0	0	182
06:00	0	0	1	0	0	0	2	21	132	115	27	3	2	1	2	306
07:00	0	0	0	0	0	1	7	31	101	174	44	4	1	0	2	365
08:00	0	0	0	0	0	0	4	15	81	137	53	4	2	0	0	296
09:00	0	1	1	4	2	10	9	25	83	100	20	3	1	0	4	263
10:00	0	0	0	0	0	0	1	11	100	97	26	4	1	0	0	240
11:00	0	0	0	0	1	1	2	24	103	114	23	3	0	0	0	271
12 PM	0	0	0	1	1	0	4	31	107	90	21	2	1	1	0	259
13:00	0	0	0	0	1	0	2	12	87	83	32	5	1	0	0	223
14:00	0	0	0	1	0	1	8	24	113	110	30	5	0	0	0	292
15:00	0	0	0	0	0	2	1	22	113	134	29	5	2	0	1	309
16:00	0	1	0	5	3	4	1	15	96	153	45	5	1	0	1	330
17:00	0	0	0	2	0	2	6	24	103	161	53	5	1	0	0	357
18:00	0	0	0	0	0	0	2	25	86	174	37	11	1	0	0	336
19:00	0	0	1	0	0	2	1	29	116	97	20	0	0	0	0	266
20:00	0	0	0	0	0	0	2	21	64	36	6	0	0	0	0	129
21:00	0	0	0	0	0	2	1	9	34	32	9	2	0	0	0	89
22:00	0	0	0	0	0	0	1	5	17	17	3	1	0	0	0	44
23:00	0	0	0	0	0	0	0	1	6	6	2	1	1	0	0	17
Total	0	2	3	13	8	25	54	355	1641	2017	572	78	21	2	10	4801

MD 765
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NB 1, NB 2

Start Time	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	Total
09/07/23	0	0	0	0	0	0	0	0	1	2	4	2	0	0	0	0	9
01:00	0	0	0	0	0	0	0	0	0	2	2	1	1	0	0	0	6
02:00	0	0	0	0	0	0	0	0	0	3	6	14	0	2	0	0	25
03:00	0	0	0	0	0	0	0	0	2	11	24	7	1	0	0	0	45
04:00	0	0	0	0	0	0	0	0	2	19	57	15	6	1	0	3	103
05:00	0	0	0	0	0	0	0	0	8	70	84	19	3	2	0	0	186
06:00	0	1	3	0	2	4	11	21	95	111	34	2	0	0	0	1	285
07:00	0	0	1	0	0	5	8	26	111	143	50	7	0	0	0	1	352
08:00	0	0	0	1	0	0	2	25	111	111	33	8	1	0	0	2	294
09:00	0	0	0	0	1	3	14	25	89	85	20	6	0	0	0	0	243
10:00	0	1	0	1	1	1	0	22	101	98	20	0	0	0	0	1	246
11:00	0	0	0	0	1	2	4	12	65	110	28	6	0	0	0	0	228
12 PM	0	0	0	0	0	0	1	20	82	105	35	11	0	0	0	1	255
13:00	0	0	0	0	0	1	3	24	86	105	36	4	1	0	0	0	260
14:00	0	3	0	2	3	8	3	15	89	107	41	8	3	0	0	0	282
15:00	0	0	1	0	0	2	1	16	105	132	38	5	1	0	0	0	301
16:00	0	2	3	10	8	5	5	31	99	148	39	3	1	0	0	0	354
17:00	0	0	0	1	1	1	8	25	137	170	40	11	1	0	0	0	395
18:00	0	0	0	0	0	0	1	22	95	131	45	7	1	0	0	0	302
19:00	0	0	0	1	0	0	6	35	83	86	17	2	1	0	0	0	231
20:00	0	0	0	0	1	0	1	10	39	34	8	2	0	0	0	0	95
21:00	0	0	0	0	0	0	2	8	16	26	10	2	0	0	0	0	64
22:00	0	0	0	0	0	0	0	4	20	12	0	0	0	0	0	0	36
23:00	0	0	0	0	0	0	0	0	9	10	2	2	0	0	0	0	23
Total	0	7	8	16	18	32	70	354	1539	1901	554	97	15	0	0	9	4620
Grand Total	0	9	11	29	26	57	124	709	3180	3918	1126	175	36	2	0	19	9421

Stats
15th Percentile : 40 MPH
50th Percentile : 45 MPH
85th Percentile : 49 MPH
95th Percentile : 53 MPH

Mean Speed(Average) : 46 MPH
10 MPH Pace Speed : 41-50 MPH
Number in Pace : 7098
Percent in Pace : 75.3%
Number of Vehicles > 50 MPH : 1358
Percent of Vehicles > 50 MPH : 14.4%

MD 765
500 Feet South of MD 497
Calvert County, Maryland

The Traffic Group, Inc.

(800) 583-8411

www.trafficgroup.com

Merging Innovation and Excellence

SB 1, SB 2

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 250	Total
09/06/23	0	0	1	0	0	0	2	2	2	3	4	2	0	0	0	16
01:00	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
02:00	0	0	0	0	0	0	0	0	1	3	2	0	0	0	0	6
03:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	1	0	5	5	8	2	1	0	0	3	25
05:00	0	0	0	0	0	0	2	6	22	24	3	0	0	0	1	58
06:00	0	0	0	0	0	0	7	15	61	63	12	1	1	0	0	160
07:00	0	0	0	0	0	0	1	28	84	74	16	1	1	0	0	205
08:00	0	0	2	0	4	1	18	35	94	70	15	4	1	0	0	244
09:00	0	0	0	0	0	33	5	25	78	41	13	3	1	0	0	199
10:00	0	0	0	0	1	28	2	22	78	49	15	6	0	0	0	201
11:00	0	0	0	1	1	1	18	32	84	58	8	1	0	0	0	204
12 PM	0	0	0	0	12	1	16	24	90	50	25	1	0	0	0	219
13:00	0	0	0	0	0	0	26	39	99	52	14	1	0	0	0	231
14:00	0	0	0	0	0	0	12	51	74	82	29	6	0	0	12	266
15:00	0	0	0	0	1	0	4	29	119	121	38	7	2	0	6	327
16:00	0	0	0	0	0	3	11	44	147	123	31	6	2	0	26	393
17:00	0	0	0	0	1	1	3	35	146	161	60	7	2	1	0	417
18:00	0	0	0	0	0	3	3	29	103	86	51	3	4	1	0	283
19:00	0	0	0	0	0	0	0	19	90	77	39	3	1	1	0	230
20:00	0	0	1	0	0	1	2	18	53	43	15	1	0	1	0	135
21:00	0	0	0	0	0	0	2	6	26	23	9	1	0	0	1	68
22:00	0	0	0	0	0	0	0	1	14	14	7	2	0	1	0	39
23:00	0	0	1	1	0	0	0	5	6	5	3	1	1	0	0	23
Total	0	0	5	2	20	73	134	472	1476	1230	411	59	16	5	49	3952

MD 765
500 Feet South of MD 497
Calvert County, Maryland

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SB 1, SB 2

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 250	Total
09/07/23	0	0	0	0	0	0	0	0	6	3	2	0	0	0	0	11
01:00	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	1	3	3	0	0	0	0	0	7
03:00	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	3
04:00	0	0	0	0	0	0	1	4	7	6	1	0	0	0	0	19
05:00	0	0	0	0	0	0	0	7	35	24	4	2	0	0	0	72
06:00	0	0	0	0	0	0	4	28	44	55	9	0	0	0	1	141
07:00	0	0	1	0	0	1	2	24	93	63	14	2	0	12	7	219
08:00	0	0	0	0	0	0	2	30	78	68	21	2	1	29	2	233
09:00	0	0	0	0	0	1	2	19	69	55	15	8	0	18	2	189
10:00	0	0	0	0	0	0	2	31	67	57	10	7	0	0	0	174
11:00	0	1	0	0	7	17	7	44	108	53	13	3	0	0	0	253
12 PM	0	0	0	0	0	1	7	55	95	68	6	4	1	0	0	237
13:00	0	0	0	0	0	1	5	48	102	67	8	3	2	0	0	236
14:00	0	0	0	0	0	1	11	39	89	76	21	6	0	0	1	244
15:00	0	1	0	0	0	0	5	47	147	112	24	3	19	0	4	362
16:00	0	0	0	0	0	1	10	61	125	130	41	4	3	0	1	376
17:00	0	0	0	0	0	3	7	32	130	128	43	3	0	4	5	355
18:00	0	0	0	1	0	0	1	23	119	106	18	7	17	0	16	308
19:00	0	0	0	0	1	0	2	32	106	108	26	4	11	1	0	291
20:00	0	0	0	0	0	0	0	17	53	37	12	7	0	0	0	126
21:00	0	0	0	0	0	0	0	8	19	28	4	0	0	0	0	59
22:00	0	0	0	0	0	0	2	4	15	20	9	0	0	0	0	50
23:00	0	0	0	1	0	0	0	2	13	8	4	2	1	0	0	31
Total	0	2	1	2	8	26	70	557	1524	1278	305	67	55	64	39	3998
Grand Total	0	2	6	4	28	99	204	1029	3000	2508	716	126	71	69	88	7950

Stats 15th Percentile : 39 MPH
 50th Percentile : 44 MPH
 85th Percentile : 49 MPH
 95th Percentile : 54 MPH

Mean Speed(Average) : 45 MPH
 10 MPH Pace Speed : 41-50 MPH
 Number in Pace : 5508
 Percent in Pace : 69.3%
 Number of Vehicles > 50 MPH : 1070
 Percent of Vehicles > 50 MPH : 13.5%

MD 765
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Merging Innovation and Excellence

Northbound

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/06/23	0	11	3	0	0	0	0	0	0	0	0	0	0	0	14
01:00	0	15	2	0	1	0	0	0	0	0	0	0	0	0	18
02:00	0	10	4	0	0	0	0	0	0	0	0	0	0	0	14
03:00	0	16	11	0	3	0	0	0	0	0	0	0	0	0	30
04:00	0	62	35	0	2	0	0	0	0	0	0	0	0	0	99
05:00	1	106	46	0	9	2	0	0	0	0	0	0	0	0	164
06:00	3	179	48	5	17	2	0	0	0	0	0	0	0	1	255
07:00	3	241	61	4	17	0	0	0	0	0	0	0	0	0	326
08:00	0	173	52	9	12	3	0	0	0	0	0	0	0	0	249
09:00	1	159	44	8	11	0	0	0	1	0	0	0	0	0	224
10:00	0	144	34	1	15	1	0	2	0	0	0	0	0	0	197
11:00	0	148	49	0	14	2	0	2	0	0	0	0	0	0	215
12 PM	0	159	51	3	16	2	0	1	0	0	0	0	0	0	232
13:00	1	145	36	1	11	0	2	0	0	0	0	0	0	0	196
14:00	1	183	35	5	10	1	0	0	0	0	0	0	0	0	235
15:00	1	194	62	6	6	1	0	2	0	0	0	0	0	0	272
16:00	0	233	46	6	13	1	0	1	0	0	0	0	0	0	300
17:00	0	230	53	2	17	1	0	3	0	0	0	0	0	2	308
18:00	0	210	52	1	7	0	0	0	0	0	0	0	0	1	271
19:00	6	162	41	0	3	0	0	1	0	0	0	0	0	1	214
20:00	2	97	15	0	2	0	0	0	0	0	0	0	0	0	116
21:00	0	65	8	0	1	1	0	0	0	0	0	0	0	0	75
22:00	0	26	5	0	0	0	0	0	0	0	0	0	0	1	32
23:00	0	14	0	0	1	0	0	0	0	0	0	0	0	0	15
Total	19	2982	793	51	188	17	2	12	1	0	0	0	0	6	4071
Percent	0.5%	73.2%	19.5%	1.3%	4.6%	0.4%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	
AM Peak	06:00	07:00	07:00	08:00	06:00	08:00		10:00	09:00					06:00	
Vol.	3	241	61	9	17	3		2	1					1	
PM Peak	19:00	16:00	15:00	15:00	17:00	12:00	13:00	17:00						17:00	
Vol.	6	233	62	6	17	2	2	3						2	

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Northbound

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/07/23	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
01:00	0	5	1	0	1	0	0	0	0	0	0	0	0	0	7
02:00	0	10	4	0	3	0	0	0	0	0	0	0	0	0	17
03:00	0	19	14	0	1	0	0	0	0	0	0	0	0	0	34
04:00	0	61	26	0	2	1	0	0	0	0	0	0	0	0	90
05:00	0	105	44	0	10	1	0	0	0	0	0	0	0	0	160
06:00	0	186	48	5	15	0	0	0	0	0	0	0	0	0	254
07:00	0	241	67	4	13	1	0	1	1	0	0	0	0	1	329
08:00	2	166	56	3	11	1	0	1	0	0	0	0	0	1	241
09:00	0	155	43	8	6	1	0	0	0	0	0	0	0	0	213
10:00	2	133	42	0	13	2	0	0	0	0	0	0	0	1	193
11:00	0	134	49	0	13	0	1	0	0	0	0	0	0	1	198
12 PM	0	154	57	2	13	0	0	1	0	0	0	0	0	2	229
13:00	1	136	40	1	10	2	1	1	0	0	0	0	0	1	193
14:00	2	183	34	5	9	1	0	1	0	0	0	0	0	0	235
15:00	5	187	52	5	10	0	0	0	0	0	0	0	0	0	259
16:00	2	236	51	8	18	0	0	1	0	0	0	0	1	0	317
17:00	3	249	71	2	15	1	0	1	0	0	0	0	0	0	342
18:00	3	187	43	0	15	0	0	0	0	0	0	0	0	0	248
19:00	1	158	36	0	7	0	0	0	0	0	0	0	0	0	202
20:00	0	73	9	0	2	1	0	0	0	0	0	0	0	0	85
21:00	0	48	8	0	1	0	0	0	0	0	0	0	0	0	57
22:00	0	29	3	0	0	0	0	0	1	0	0	0	0	0	33
23:00	0	12	3	0	2	0	0	0	0	0	0	0	0	0	17
Total	21	2875	801	43	190	12	2	7	2	0	0	0	1	7	3961
Percent	0.5%	72.6%	20.2%	1.1%	4.8%	0.3%	0.1%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	
AM Peak	08:00	07:00	07:00	09:00	06:00	10:00	11:00	07:00	07:00					07:00	
Vol.	2	241	67	8	15	2	1	1	1					1	
PM Peak	15:00	17:00	17:00	16:00	16:00	13:00	13:00	12:00	22:00				16:00	12:00	
Vol.	5	249	71	8	18	2	1	1	1				1	2	
Grand Total	40	5857	1594	94	378	29	4	19	3	0	0	0	1	13	8032
Percent	0.5%	72.9%	19.8%	1.2%	4.7%	0.4%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	

MD 765
800 Feet North of Town Square Drive
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Merging Innovation and Excellence

Southbound

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/06/23	0	14	1	0	0	0	0	0	0	0	0	0	0	0	15
01:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
02:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	13	3	1	2	0	0	0	0	0	0	0	0	0	19
05:00	0	26	7	0	0	0	0	0	0	0	0	0	0	0	33
06:00	0	76	22	2	5	0	0	0	0	0	0	0	0	1	106
07:00	0	127	33	3	10	0	0	1	0	0	0	0	0	1	175
08:00	0	128	41	11	6	0	0	0	0	0	0	0	0	0	186
09:00	0	111	24	3	9	0	0	0	0	0	0	0	0	1	148
10:00	0	123	36	2	5	0	1	1	0	0	0	0	0	0	168
11:00	0	143	49	0	18	0	1	1	0	0	0	0	0	0	212
12 PM	0	136	45	0	10	1	0	1	0	0	0	0	0	0	193
13:00	0	146	46	2	11	0	0	1	0	0	0	0	0	0	206
14:00	0	159	51	6	8	0	0	1	0	0	0	0	0	1	226
15:00	1	218	69	4	12	0	2	1	0	0	0	0	0	0	307
16:00	1	245	74	6	18	1	0	1	0	0	0	0	0	1	347
17:00	3	274	68	0	20	0	2	1	0	0	0	0	0	0	368
18:00	1	198	62	0	11	1	2	1	0	0	0	0	0	0	276
19:00	3	180	38	1	10	0	0	0	0	0	0	0	0	0	232
20:00	0	112	19	0	4	0	0	1	0	0	0	0	0	0	136
21:00	0	52	10	0	2	0	0	0	0	0	0	0	0	0	64
22:00	0	35	4	0	0	0	0	0	0	0	0	0	0	0	39
23:00	0	17	4	0	1	0	0	0	0	0	0	0	0	0	22
Total	9	2544	706	41	162	3	8	11	0	0	0	0	0	5	3489
Percent	0.3%	72.9%	20.2%	1.2%	4.6%	0.1%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	
AM Peak Vol.		11:00 143	11:00 49	08:00 11	11:00 18			10:00 1	07:00 1						
PM Peak Vol.	17:00 3	17:00 274	16:00 74	14:00 6	17:00 20	12:00 1	15:00 2	12:00 1						14:00 1	

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Southbound

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
09/07/23	0	10	1	0	0	0	0	0	0	0	0	0	0	0	11
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
03:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	9	3	1	1	1	0	0	0	0	0	0	0	0	15
05:00	0	30	11	0	1	0	0	0	0	0	0	0	0	0	42
06:00	0	77	20	3	3	0	0	0	0	0	0	0	0	0	103
07:00	0	113	43	7	8	1	0	2	0	0	0	0	0	1	175
08:00	0	143	38	3	6	0	0	1	0	0	0	0	0	0	191
09:00	0	107	34	6	7	0	0	0	0	0	0	0	0	0	154
10:00	0	97	50	0	6	0	0	0	0	0	0	0	0	1	154
11:00	0	138	57	1	13	0	1	0	0	0	0	0	0	3	213
12 PM	0	124	51	0	15	0	1	2	0	0	0	0	0	0	193
13:00	1	140	47	1	13	1	0	0	0	0	0	0	0	1	204
14:00	3	149	45	5	11	0	0	0	0	0	0	0	0	0	213
15:00	0	226	64	5	15	0	2	0	0	0	0	0	0	1	313
16:00	2	222	75	6	15	0	1	1	0	0	0	0	0	2	324
17:00	2	274	55	1	14	0	1	0	0	0	0	0	0	1	348
18:00	2	213	56	0	10	0	0	1	0	0	0	0	0	1	283
19:00	0	196	71	0	8	0	2	1	0	0	0	0	0	0	278
20:00	1	95	25	0	2	0	1	0	0	0	0	0	0	0	124
21:00	0	51	10	0	0	0	0	0	0	0	0	0	0	0	61
22:00	1	39	11	0	1	0	0	1	0	0	0	0	0	0	53
23:00	0	26	3	0	0	0	0	0	0	0	0	0	0	0	29
Total	12	2490	771	39	149	3	9	9	0	0	0	0	0	11	3493
Percent	0.3%	71.3%	22.1%	1.1%	4.3%	0.1%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	
AM Peak Vol.		08:00 143	11:00 57	07:00 7	11:00 13	04:00 1	11:00 1	07:00 2						11:00 3	
PM Peak Vol.	14:00 3	17:00 274	16:00 75	16:00 6	12:00 15	13:00 1	15:00 2	12:00 2						16:00 2	
Grand Total	21	5034	1477	80	311	6	17	20	0	0	0	0	0	16	6982
Percent	0.3%	72.1%	21.2%	1.1%	4.5%	0.1%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	

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Northbound

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 250	Total
09/06/23	0	0	0	0	0	0	0	0	2	6	4	2	0	0	0	14
01:00	0	0	0	0	1	1	1	1	0	2	7	2	2	1	0	18
02:00	0	0	0	0	0	0	0	0	3	5	5	1	0	0	0	14
03:00	0	0	0	0	0	0	0	1	7	13	5	3	1	0	0	30
04:00	0	0	0	0	0	0	2	8	18	28	31	11	1	0	0	99
05:00	0	0	0	0	0	0	2	5	29	66	48	12	2	0	0	164
06:00	0	0	0	0	0	2	5	37	66	90	45	7	2	1	0	255
07:00	0	0	3	2	5	5	6	33	84	116	62	10	0	0	0	326
08:00	0	0	0	0	0	1	5	28	61	94	50	9	1	0	0	249
09:00	0	0	0	0	0	4	6	36	83	62	24	7	2	0	0	224
10:00	0	0	0	0	1	1	8	21	53	84	22	4	2	0	1	197
11:00	0	0	1	0	0	4	7	30	63	74	31	4	1	0	0	215
12 PM	0	0	0	0	0	1	9	22	89	77	28	4	1	0	1	232
13:00	0	0	0	0	0	1	4	26	63	72	24	6	0	0	0	196
14:00	0	0	0	2	0	9	9	14	76	87	31	7	0	0	0	235
15:00	0	0	0	2	5	4	7	32	85	97	35	5	0	0	0	272
16:00	0	0	0	1	1	2	6	36	91	98	56	9	0	0	0	300
17:00	0	0	0	0	0	1	8	22	82	118	67	8	2	0	0	308
18:00	0	0	0	1	1	1	9	26	73	108	39	12	1	0	0	271
19:00	0	0	1	0	0	2	9	14	68	79	33	6	2	0	0	214
20:00	0	0	0	0	1	0	3	13	37	39	18	4	1	0	0	116
21:00	0	0	0	0	0	0	2	6	21	27	15	4	0	0	0	75
22:00	0	0	0	0	0	0	3	1	6	9	7	4	2	0	0	32
23:00	0	0	0	0	0	0	0	0	2	4	6	0	2	1	0	15
Total	0	0	5	8	15	39	111	412	1162	1455	693	141	25	3	2	4071

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Northbound

Start Time	05	610	1115	1620	2125	2630	3135	3640	4145	4650	5155	5660	6165	6670	71250	Total
09/07/23	0	0	0	0	0	0	0	0	1	3	4	0	0	0	0	8
01:00	0	0	0	0	0	0	0	2	0	1	4	0	0	0	0	7
02:00	0	0	0	0	0	0	0	0	2	9	4	2	0	0	0	17
03:00	0	0	0	0	0	1	0	0	10	13	6	4	0	0	0	34
04:00	0	0	0	0	0	0	0	3	14	35	23	13	2	0	0	90
05:00	0	0	0	0	0	0	0	9	41	57	39	12	2	0	0	160
06:00	0	0	0	0	0	1	7	20	57	110	50	6	2	1	0	254
07:00	0	0	3	4	4	3	5	33	89	124	49	12	1	0	2	329
08:00	0	0	0	0	0	1	8	31	70	87	39	4	1	0	0	241
09:00	0	0	0	0	0	0	3	29	73	71	34	3	0	0	0	213
10:00	0	1	0	2	1	2	4	32	55	63	29	4	0	0	0	193
11:00	0	0	1	2	1	2	4	20	56	78	30	3	1	0	0	198
12 PM	0	0	1	0	0	5	6	23	79	71	35	9	0	0	0	229
13:00	0	0	1	0	1	0	5	18	55	70	33	7	2	1	0	193
14:00	0	0	0	0	1	1	8	26	68	88	28	10	4	1	0	235
15:00	0	0	1	3	2	5	8	32	75	91	29	12	1	0	0	259
16:00	0	0	0	1	0	0	10	50	76	122	51	6	1	0	0	317
17:00	0	0	1	0	1	1	5	22	97	134	64	14	1	2	0	342
18:00	0	0	0	2	1	0	4	38	60	103	29	10	1	0	0	248
19:00	0	0	0	1	0	0	6	19	64	74	32	4	2	0	0	202
20:00	0	0	0	0	0	0	0	8	21	35	15	5	1	0	0	85
21:00	0	0	0	0	1	0	1	4	10	20	16	3	1	1	0	57
22:00	0	0	0	0	0	1	3	3	8	14	4	0	0	0	0	33
23:00	0	0	0	0	0	0	0	0	3	8	3	1	2	0	0	17
Total	0	1	8	15	13	23	87	422	1084	1481	650	144	25	6	2	3961
Grand Total	0	1	13	23	28	62	198	834	2246	2936	1343	285	50	9	4	8032

Stats
15th Percentile : 40 MPH
50th Percentile : 46 MPH
85th Percentile : 51 MPH
95th Percentile : 54 MPH

Mean Speed(Average) : 46 MPH
10 MPH Pace Speed : 41-50 MPH
Number in Pace : 5182
Percent in Pace : 64.5%
Number of Vehicles > 50 MPH : 1691
Percent of Vehicles > 50 MPH : 21.1%

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Southbound

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 250	Total
09/06/23	0	0	0	0	0	0	0	2	2	4	5	1	0	1	0	15
01:00	0	0	0	0	0	0	1	0	2	0	0	0	1	0	0	4
02:00	0	0	0	0	0	0	0	0	0	2	3	0	1	0	0	6
03:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	1	2	5	6	2	2	1	0	0	19
05:00	0	0	0	0	0	0	0	3	5	9	13	2	1	0	0	33
06:00	0	0	0	1	0	1	8	14	27	31	20	4	0	0	0	106
07:00	0	0	2	0	1	3	3	6	35	82	30	11	2	0	0	175
08:00	0	0	0	0	0	1	4	12	48	72	36	12	1	0	0	186
09:00	0	0	0	0	1	0	6	23	47	44	23	3	1	0	0	148
10:00	0	0	0	0	0	0	1	16	51	51	42	7	0	0	0	168
11:00	0	0	0	0	0	3	5	34	53	75	40	2	0	0	0	212
12 PM	0	0	0	0	0	0	2	24	60	75	25	7	0	0	0	193
13:00	0	0	1	0	1	0	2	13	89	74	19	7	0	0	0	206
14:00	0	0	0	1	2	5	6	25	61	79	37	8	2	0	0	226
15:00	0	0	0	1	6	11	7	20	75	106	71	10	0	0	0	307
16:00	0	0	0	0	0	8	7	32	99	135	60	4	2	0	0	347
17:00	0	0	0	1	0	0	7	33	97	134	84	11	0	0	1	368
18:00	0	0	1	2	2	0	6	13	59	110	73	8	2	0	0	276
19:00	0	0	0	0	0	0	6	29	73	84	32	5	2	0	1	232
20:00	0	0	0	0	0	1	2	12	42	48	25	3	1	0	2	136
21:00	0	0	0	0	0	0	3	4	12	23	16	4	0	2	0	64
22:00	0	0	0	0	0	0	0	3	1	18	15	0	1	1	0	39
23:00	0	0	0	0	0	0	0	1	4	9	4	0	3	1	0	22
Total	0	0	4	6	13	33	77	322	947	1271	675	111	21	5	4	3489

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Southbound

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 250	Total
09/07/23	0	0	0	0	0	0	1	0	4	4	1	0	1	0	0	11
01:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
02:00	0	0	0	0	0	1	0	0	0	3	2	1	0	0	0	7
03:00	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	4
04:00	0	0	0	0	0	0	0	1	5	5	4	0	0	0	0	15
05:00	0	0	0	0	0	0	0	2	11	17	8	4	0	0	0	42
06:00	0	0	0	0	0	1	4	15	27	29	20	6	1	0	0	103
07:00	0	0	1	0	3	3	8	24	32	64	31	8	0	0	1	175
08:00	0	0	0	0	0	0	5	19	43	88	26	8	2	0	0	191
09:00	0	0	0	0	0	2	5	18	45	45	31	7	1	0	0	154
10:00	0	0	1	0	0	4	5	18	38	51	30	6	1	0	0	154
11:00	0	1	0	0	0	3	5	25	56	80	39	4	0	0	0	213
12 PM	0	0	0	0	0	1	3	23	50	74	32	6	4	0	0	193
13:00	0	0	0	0	0	0	7	11	49	91	42	3	1	0	0	204
14:00	0	0	0	0	0	1	7	16	58	86	33	9	3	0	0	213
15:00	0	0	1	1	6	8	4	19	95	103	69	6	1	0	0	313
16:00	0	0	0	0	0	1	8	29	86	131	57	12	0	0	0	324
17:00	0	0	0	0	0	1	3	18	76	138	99	10	3	0	0	348
18:00	0	0	2	0	0	0	8	27	88	97	47	13	1	0	0	283
19:00	0	0	0	0	0	2	5	27	86	107	45	5	1	0	0	278
20:00	0	0	0	0	0	0	1	14	32	39	28	10	0	0	0	124
21:00	0	0	0	0	0	0	0	2	16	24	15	4	0	0	0	61
22:00	0	0	0	0	0	2	1	4	5	25	14	2	0	0	0	53
23:00	0	0	0	0	0	1	0	1	6	13	6	1	1	0	0	29
Total	0	1	5	1	9	31	80	313	910	1316	680	125	21	0	1	3493
Grand Total	0	1	9	7	22	64	157	635	1857	2587	1355	236	42	5	5	6982

Stats
15th Percentile : 40 MPH
50th Percentile : 46 MPH
85th Percentile : 52 MPH
95th Percentile : 54 MPH

Mean Speed(Average) : 46 MPH
10 MPH Pace Speed : 41-50 MPH
Number in Pace : 4444
Percent in Pace : 63.6%
Number of Vehicles > 50 MPH : 1643
Percent of Vehicles > 50 MPH : 23.5%

APPENDIX B

Traffic Analysis Methodology





APPENDIX: A

Pedestrian Level of Comfort Methodology



Pedestrian Level of Comfort Methodology

Version 1.2

Montgomery County Planning Department

December 21, 2020

I. Introduction

When people walk (or when using a mobility device, roll) along pedestrian pathways, trails and roadways, they may experience varying levels of comfort. A quiet residential street with a 25-mile-per-hour speed limit, low motor vehicle traffic volumes, and pedestrian pathways separated from the road by trees creates a comfortable walking or rolling experience for most people. In contrast, a six-lane suburban highway with a 40-mile-per-hour speed limit and narrow pedestrian pathways directly adjacent to the street may be undesirable. Fewer people are likely to walk or roll in less comfortable environments, and for those who must, the experience is more uncomfortable than it might be with a different design. The Pedestrian Level of Comfort (PLOC) methodology captures how comfortable it is to walk and roll in different conditions in Montgomery County. A variety of pathway and crossing factors are considered to determine a comfort score for each crossing and pathway segment. The four main scores are: undesirable (score = 4), uncomfortable (score = 3), somewhat comfortable (score = 2), and very comfortable (score = 1). Half-point scores are also possible as certain contextual information becomes available. If an area receives a relatively poor score, changes may be needed to make it a place where more people will feel comfortable walking.

Not all factors that influence pedestrian comfort are included due to the lack of available data. However, some such factors can have outsized impacts on comfort (such as pedestrian and street lighting or the presence of a Leading Pedestrian Interval at crossings). Therefore, they are scored separately. As data for these additional factors become available, they will be integrated to provide a more complete analysis of the pathway or crossing. However, the basic PLOC score can be calculated in their absence.

“Comfort” as a concept should be thought of differently from “safety”. While safety will always be the bedrock principle of the transportation system, this analysis is a tool to create a pedestrian environment in Montgomery County that is more than safe – one that is enjoyable and comfortable for people of all ages. In situations where comfort and safety may appear to diverge, safety is paramount.

There are four main scoring tables: Pathway, No Pathway (where a pedestrian must share the road with vehicle traffic), Controlled Crossing and Uncontrolled Crossing. These four tables can be found later in this document. An additional table further assesses pathways and crossings on factors related to accessibility. This accessibility evaluation serves as a separate overlay to allow independent consideration of broader factors that impact pedestrian comfort as well as ADA compliance and access for all. Similarly, an additional crossing overlay table assesses crossing characteristics, such as the presence of a Leading Pedestrian Interval and crosswalk lighting standards.

II. Pathway Factors

A “pathway” is a place designated for pedestrians such as sidewalks, shared use paths and trails. “No pathway” describes a place where a pedestrian must share the road with motor vehicles. A variety of factors influence the ultimate PLOC score for a pathway or no-pathway segment. Pathway scores consider land use, pathway width, posted speed limit, pathway buffer width, pathway condition, on-street separation and traffic volume. Since traffic volume is not universally collected in

Montgomery County, roadway functional classifications—Major Highway, Arterial, Business District and Primary Residential, for example—stand in for a roadway’s traffic volume in this analysis.¹ Major highways are assumed to have high traffic volume while secondary residential roads are assumed to have low traffic volume and so on. “No pathway” scores consider land use, posted speed limit, traffic volume or roadway functional classification and whether curbside parking is allowed. Each factor used in the PLOC evaluation is detailed below.

Land Use

Land use, classified as “urban” and “non-urban,” indicates the volume of likely pedestrian activity on a given pathway segment. Urban pathways are those within the following zones: Commercial/Residential (CR), Life Sciences Center (LSC) or their floating zone equivalents (areas designated for these purposes but with undetermined locations). Pathways within multifamily residential zones (R-10, R-20, R-30) and townhouse zones (RT) receive an “urban” designation if they are adjacent to CR, LSC or floating zones. Pathways that are not adjacent to these land uses are considered “non-urban.” The “urban” versus “non-urban” designation affects the score of the pathway because pathways in urban areas are expected to be wider to accommodate more pedestrians.²

Pathway Width

In urban areas, wider pathways are preferred to accommodate more pedestrians and to reduce conflict and discomfort between people walking and biking. Urban pathways that are not sufficiently wide will receive a lower score and can be prioritized for improvements, such as wider shared use paths or separating walking from bicycling.³ The functional path width is the pedestrian clear space. This excludes the furnishing (space for obstacles like utility poles and signposts) and frontage zones (area adjacent to building fronts where café seating, etc. may be located). Overall width categories are indicated below:

- **Urban score categories (best to worst):** ≥10 feet, ≥8 feet to 10 feet, ≥5 feet to 8 feet, and <5 feet
- **Non-urban score categories (best to worst):** ≥8 feet, ≥5 feet to 8 feet, and <5 feet

Posted Speed Limit

Posted speed limit refers to the posted speed limit of the roadway parallel to the pathway. The maximum posted speed limit scoring cutoff is 40 mph because research shows that safety outcomes (injuries and fatalities) do not vary greatly for pedestrians when struck by a vehicle traveling at speeds higher than 40 mph. Posted speed limits are a stand-in for observed vehicular travel speeds which are not widely available in Montgomery County. Posted speeds cannot typically be changed in isolation to improve the PLOC score. Additional engineering efforts will likely be required. If observed speed data are available, it can be used with Planning staff and MCDOT approval.

- **Score categories (best to worst):** <25 mph, 25 mph, 30 mph, 35 mph, and ≥40 mph

Pathway Buffer Width

Pathway buffer refers to the distance between the pedestrian clear space (path width) and the curb or edge of pavement. Buffers of different widths provide varying benefits. Those between two and five feet separate moving vehicles from pedestrians which affords some amount of comfort benefit compared to no buffer at all. Having no buffer at all may force

¹ References to functional classification will be updated to reflect the street typologies in the Complete Streets Design Guide when that document is approved by County Council and the street classifications have been mapped.

² References to “urban” and “non-urban” will be updated to reflect the Downtown and Town Center designations identified by the Complete Streets Design Guide when that document is approved by County Council.

³ For more detailed width determination when designing a shared use facility, bicycle and pedestrian volume data are required and the FHWA Shared Use Path Level of Service Calculator is the recommended analytical tool to use: <https://www.fhwa.dot.gov/publications/research/safety/pedbike/05138/>.

pedestrians to “shy” away from travel lanes, thereby reducing the effective width of the pathway.⁴ Pathway buffers of at least five feet allow the planting of larger street trees to provide robust physical separation from traffic, shade canopy and a sense of enclosure for pedestrians.⁵ ⁶ Vertical buffers, such as railings, guardrails or jersey barriers are scored as equivalent to a five-foot buffer. Pathway buffers exceeding eight feet may provide all the benefits afforded by a five-foot buffer plus additional physical separation from traffic.

- **Score categories (best to worst):** ≥8 feet, 5 feet to <8 feet (includes vertical buffers), 2 to <5 feet, 0 to <2 feet

⁴ San Francisco Department of Public Health. 2012. "Pedestrian Environmental Quality Index: Street Auditor's Manual." San Francisco, CA.

⁵ Ibid.

⁶ Toole, J. 2010. Update of the AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities. Transportation Research Board of The National Academies, National Cooperative Highway Research Program. (NCHRP 20-07/Task 263)

Pathway Condition

Research indicates that pathway condition affects pedestrian comfort and this variable is included in other leading pedestrian comfort indices.^{7 8 9} Montgomery County is currently collecting information about pathway condition throughout the county including cross slope (helps drain water and prevent pooling), tripping hazards, cracks, severe spalling (surface peeling or cracking of concrete), obstructions (to be accounted for in the Accessibility Evaluation), and missing sections. A sample survey is provided below.

HOT BUTTONS							
Ramps		Pathways		Crosswalks		Bus pads	
Detectable Warning Surface (DWS)	Yes/No	Surface Type	Concrete, Asphalt or Other	Slope		Minimum Size (5' x 8')	Yes/No
DWS Type	Cast in Place, Nail Down or Other	Width	In Feet	Marking Type	Solid, Standard, Continental, Dashed, Zebra, Ladder, None	Bus Stop Connected to Pathway (100' of pathway or nearest intersection)	Yes/No
DWS Color	Red, Yellow, Gray or Other	Cross Slope (2% or less but greater than 0)	Yes/No	Centered with Ramp	Yes/No	Midblock	Yes/No
DWS Size	In Feet	Trip Hazard 1/4" or greater	Yes/No	Pedestrian Signal	Yes/No		
Ramp Width	In Feet	Multiple Cracks in one section	Yes/No	Pushbutton	Yes/No		
Ramp Slope (8.33% or less)	Yes/No	Severe Spalling	Yes/No	Pushbutton	Heights, Distance from Pathway, Raised Tactile, Tone, Audible Indication, Actuated Indicator		
Ramp Landing area (2% or less)	Yes/No	Obstructions (less than 36" opening)	Yes/No				
Ramp Landing Area (5' x 5')	Yes/No	Obstruction Type	Utility, Vegetation, Sign or Other				
		Missing Sections Lengths	In Feet				

Montgomery County Pathway Condition Survey

⁷ Clifton, Kelly J., Andrea D. Livi Smith, and Daniel Rodriguez. 2007. "The development and testing of an audit for the pedestrian environment." *Landscape and Urban Planning*; 95-110.

⁸ San Francisco Department of Public Health, 2012.

⁹ Oregon DOT. 2018. "Multimodal Analysis." Chap. 14 in *Analysis Procedure Manual*.

In the PLOC, pathway condition is calculated based on the total number of issues counted on a given segment. For example, a poor pathway section could have obstructions, severe spalling and trip hazards, while a fair segment may have only cracking. A pathway is assumed to be in good condition unless data are available to identify any of the above issues. If the pathway is determined to be in fair condition, 0.5 will be added to its base score from the Pedestrian Pathway Table (table included in the Pathway Evaluation section). If determined to be in poor condition, 1 will be added to the base score (with a maximum score of 4).

The following issues can impact pathway condition:

- Cross slope – <0 or >2%
 - Trip hazards – 1/4" or greater
 - Cracks – Multiple cracks in one section
 - Severe spalling – Surface peeling or flaking of concrete
 - Obstructions – As defined above
 - Missing sections – Any linear feet of missing pathway in a given segment
- **Score categories:** Good (no known issues), Fair (1-2 issues), Poor (3+ issues)

On-Street Buffer (Designated Parking Lane or Separated Bike Lane)

Research shows that the presence of an on-street buffer, such as a parking lane or bike lane, can increase pedestrian comfort by providing additional separation between pedestrians and moving vehicles.^{10 11} Designated parking lanes include striped parking lanes, parking between curb extensions and metered parking. On-street parking that is not identified with striping, curb extensions or parking meters is not considered designated parking as vehicles may travel in that space in the absence of parked cars. The wider the on-street separation, the larger the effect on the overall score.

- **Score categories (best to worst):** Two-way separated bike lanes or combined designated parking lane and separated bike lanes (one- or two-way), designated parking lane or one-way separated bike lane, no designated parking lane or separated bike lane

Traffic Volume or Roadway Functional Classification

Traffic volume or roadway functional classification (which may serve as a proxy for roadway volume) can influence a pathway score in two possible ways. First, pathways without buffers and no-pathway segments with lower roadway functional classifications (and presumably lower traffic volume) may score better than those with higher traffic volume.

Second, “no pathway” segments receiving an “uncomfortable” score may be improved to “somewhat comfortable” due to low traffic volume. The PLOC accounts for a “low volume” variable which is applied to Tertiary Residential streets, residential cul-de-sacs (that do not terminate in a parking lot), and connector streets that serve as redundant residential routes with assumed low traffic volumes. A pathway that is already receiving a “somewhat comfortable” or “very comfortable” ranking remains unchanged.

Parking (“No Pathway” Segments Only)

¹⁰ Landis, Bruce W., Vattijuti R Venkat, Russell M. Ottenberg, Douglas S. McLeod, and Martin Guttenplan. 2001. "Modeling the Roadside Walking Environment: Pedestrian Level of Service." Transportation Research Record: Journal of the Transportation Research Board.

¹¹ Moyano et al. 2019. "Station avenue: high speed rail's missing link. Assessing pedestrian city station routes for edge stations in Spanish small cities." Journal of Housing and the Built Environment: 175-193.

On “No Pathway” segments (roadways without sidewalks or shared use paths), on-street parking forces pedestrians to walk in the path of motor vehicles. On streets without parking, pedestrians can more easily walk curbside, away from motor vehicles. Therefore, prohibition of on-street parking on streets with low speed limits may positively impact the PLOC score.

III. Crossing Factors

Crossings are scored using different metrics, depending on whether they are uncontrolled (no stop sign or traffic signal present) or controlled (stop sign or traffic signal present). Factors considered in all crossing evaluations include crossing control, presence of a channelized right turn or interstate ramp, number of lanes crossed, highest posted speed limit of the intersection, median type and crosswalk type. Only signalized crossings are affected and scored by the presence of a “No Right Turn on Red” sign.

Crossing Control

Traffic control can improve pedestrian safety and the specific controls used have varying pedestrian comfort benefits. Data providing the types of phasing at signalized intersections are currently unavailable. Therefore, crossings are characterized as controlled or uncontrolled. Controlled crossings include signalized and stop-controlled intersections (where a stop sign is present). Controlled crossings and uncontrolled crossings are scored differently. With all other factors equal, a controlled crossing is scored as more comfortable than an uncontrolled crossing.

Right Turn on Red

At signalized intersections, the presence of a “No Right Turn on Red” sign improves the final crossing score by a half point.

Channelized Right Turn or Interstate Ramp

Channelized turn lanes (separated from the main intersection by curbs or other delineators) and interstate on- and off-ramps encourage higher vehicle speeds and present unique safety challenges for pedestrian crossings—especially for people with visual disabilities.¹² The crossing of a channelized right turn lane or interstate ramp without traffic control automatically scores “undesirable” unless a raised crosswalk, vehicle-slowng geometry, or other treatments are in place that reduce speeds, improve visibility, and further mitigate conflicts between pedestrians and motor vehicles. In instances where such treatments are in place, an “uncomfortable” score is possible. Ramps and channelized right turns with signals are scored the same as one-lane signalized crossings.

Number of Lanes Crossed

As pedestrians cross more travel lanes to cross the street, exposure to crash risk increases and comfort decreases.^{13 14 15 16} The total number of lanes should be used (not lanes per direction); this variable does not change with the presence of a raised refuge island.¹⁷

- **Score categories (best to worst):** 1-3 lanes, 4-5 lanes, 6+ lanes

Highest Posted Speed Limit of the Intersection

The highest posted speed limit of all roads comprising an intersection is taken into account for both oncoming traffic and the speed of turning vehicles. Part of the discomfort pedestrians experience while traveling along high-speed roads is

¹² Schroeder, B. J., Rouphail, N. M., & Emerson, R. S. W. 2006. Exploratory Analysis of Crossing Difficulties for Blind and Sighted Pedestrians at Channelized Turn Lanes. Transportation Research Record, 1956(1): 94–102. <https://doi.org/10.1177/0361198106195600112>

¹³ Oregon DOT. 2018.

¹⁴ Fitzpatrick et al. 2006. "Improving Pedestrian Safety at Unsignalized Crossings." Transit Cooperative Research Program Report 112, National Cooperative Highway Research Program Report 562.

¹⁵ Fitzpatrick et al. 2016. Will You Stop for Me? Roadway Design and Traffic Control Device Influences on Drivers Yielding to Pedestrians in a Crosswalk with a Rectangular Rapid-Flashing Beacon. Center for Transportation Safety, Texas A&M Transportation Institute.

¹⁶ Turner et al. 2017. Synthesis of Methods for Estimating Pedestrian and Bicyclist Exposure to Risk at Areawide Levels and on Specific Transportation Facilities. Federal Highway Administration, U.S. Department of Transportation.

¹⁷ If available, the curb to curb (or edge of pavement to edge of pavement) width of a crossing can be used instead of the number of lanes. The crossing width translates to the number of lanes by dividing total width by 11.

vehicles turning into their path. Even if those vehicles are turning onto a low-speed street, they can rapidly approach and be perceived as still travelling at high speed. Additionally, drivers turning left across a high-speed street onto a low-speed street may be more focused on finding a gap in traffic than on any pedestrians crossing the low-speed street. Residential crossings may benefit from traffic calming improvements, such as hardened centerlines on the perpendicular street, crossing islands, turn wedges, or curb extensions.¹⁸ For midblock crossings, the scoring uses the posted speed limit of the road being crossed.

- **Score categories (best to worst):** <25 mph, 25 mph, 30 mph, 35 mph, and ≥40 mph.

Median Type

While raised refuge islands have the greatest crossing safety and comfort benefits, medians that do not meet the criteria for a refuge may also have pedestrian safety benefits.¹⁹ A raised refuge island is a median of six feet to accommodate the width of a bicycle, a person using a wheelchair or a person pushing a stroller.²⁰ In addition, raised medians that are narrower than six feet may have safety benefits for pedestrians compared to no median.²¹ Hardened centerlines and grass medians also fall in this category as they provide physical separation between travel lanes but do not provide the full safety and comfort benefits of a raised refuge island. This variable is categorized as follows:

- **Score categories (best to worst):** Raised refuge island (raised median ≥6'); raised median <6', curbless landscaped (including grass) median of any width, or hardened centerline; painted/no median

Crosswalk Type

High-visibility crosswalks have proven pedestrian safety benefits over standard crosswalk markings.^{22 23} High-visibility crosswalk markings include continental, ladder, zebra and solid. Standard crosswalk markings include stamped concrete, standard and dashed marking patterns. Unmarked crossings have no pavement markings to denote the crosswalk.²⁴

- **Score categories (best to worst):** High-visibility, standard, or unmarked

Traffic Volume

Uncontrolled crossings on roads that are designated as low volume (Tertiary Residential streets, residential cul-de-sacs that do not terminate in a parking lot, and connector streets that serve as redundant residential routes with assumed low traffic volumes) will receive an automatic score of 'somewhat comfortable' unless the uncontrolled crossing parallels a road with a speed limit >25mph or MPOHT class of primary residential or higher.

¹⁸ NYCDOT. 2016. Don't Cut Corners: Left Turn Pedestrian and Bicyclist Crash Study. <http://home.nyc.gov/html/dot/downloads/pdf/left-turn-pedestrian-and-bicycle-crash-study.pdf>

¹⁹ Federal Highway Administration, U.S. Department of Transportation. 2019. Proven Safety Countermeasures. <https://safety.fhwa.dot.gov/provencountermeasures/>.

²⁰ Rosenbloom, Toval, and Avihu Pereg. 2012. "A within-subject design of comparison of waiting time of pedestrians before crossing three successive road crossings." Transportation Research Part F 625-634.

²¹ Bahar, Geni, Maurice Masliah, Rhys Wolff, and Peter Park. 2008. Desktop Reference for Crash Reduction Factors. Washington, D.C.: Federal Highway Administration, U.S. Department of Transportation.

²² FHWA. 2019. Proven Safety Countermeasures.

²³ Knoblauch, Richard, and Paula D Raymond. 2000. The Effect of Crosswalk Markings on Vehicle Speeds in Maryland, Virginia, and Arizona Report No. FHWA-RD-00-101. Washington, D.C.: Federal Highway Administration, U.S. Department of Transportation.

²⁴ Locations where crossings are legally prohibited are treated as "unmarked" for purposes of PLOC assessment.

IV. Comfort Levels

The comfort level scale allows for a basic four-point ranking system, while half-points add further nuance when additional data are available to refine the evaluation. For example, a crossing might be upgraded from a score of 3 to 2.5 if an additional safety or comfort treatment, such as lighting or a “No Turn on Red” sign, is present.²⁵

1 = Very Comfortable

1.5 = Comfortable

2 = Somewhat Comfortable

2.5 = Somewhat Uncomfortable

3 = Uncomfortable

3.5 = Very Uncomfortable

4 = Undesirable

²⁵ Achieving the desired PLOC score may not always be possible in a given location due to limited right-of-way, impractical traffic operations requirements, cost, or other feasibility concerns.

V. Pathway Evaluation

Pedestrian pathways will be scored using the following table. A separate scoring table for roadways with no pedestrian pathway follows.

Pedestrian Pathway Table

This table is categorized along the vertical axis by land use (urban, non-urban) and compares pathway width (broken down into speed categories) to total buffer width, further classified by on-street buffer type. On-street buffers are abbreviated as DPL (designated parking lane), SBL (separated bike lane) and 2SBL (two-way separated bike lane). These variables were considered because a pathway's relative distance from a roadway (i.e. the buffer plus on-street separation), its width, and the speed of that roadway have interrelated effects on pedestrian comfort. *The scores in this table assume the pathway is in good condition. If the pathway is in fair condition, 0.5 will be added to the score. For poor condition, 1 will be added to the score (with a maximum score of 4).*

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

	PATHWAY WIDTH	POSTED SPEED LIMIT	PATHWAY BUFFER WIDTH / ON-STREET SEPARATION											
			0 ft to <2 ft			2 to <5 ft			5 to <8 ft			≥8 ft		
			No DPL or SBL	DPL or 1SBL	2SBL or DPL & SBL	No DPL or SBL	DPL or 1SBL	2SBL or DPL & SBL	No DPL or SBL	DPL or 1SBL	2SBL or DPL & SBL	No DPL or SBL	DPL or 1SBL	2SBL or DPL & SBL
NON-URBAN	No walkway		Use “No Pathway” Table											
	Less than 5ft	< 25 mph	2	2	1	2	1	1	2	1	1	1	1	1
		25 mph	2/3*	2	1	2	1	1	2	1	1	1	1	1
		30 mph	4	3	1	3	2	1	2	1	1	1	1	1
		35 mph	4	3	2	3	2	2	3	2	1	2	1	1
		≥ 40 mph	4	4	3	4	3	2	3	2	2	2	1	1
	≥5 to 8 ft	< 25 mph	2	2	1	2	1	1	2	1	1	1	1	1
		25 mph	2/3*	2	1	2	1	1	2	1	1	1	1	1
		30 mph	4	3	1	3	2	1	2	1	1	1	1	1
		35 mph	4	3	2	3	2	2	3	2	1	2	1	1
		≥ 40 mph	4	4	3	4	3	2	3	2	2	2	1	1
	≥8 ft	< 25 mph	2	1	1	2	1	1	1	1	1	1	1	1
		25 mph	2	2	1	2	1	1	1	1	1	1	1	1
		30 mph	4	3	1	3	2	1	2	1	1	1	1	1
		35 mph	4	3	2	3	2	2	3	2	1	1/2^	1	1
		≥ 40 mph	4	4	3	4	3	2	3	2	2	1/2^	1	1

* If the road category is less than Primary Residential in the Master Plan of Highways and Transitway, it will score as a 2, otherwise it will score a 3.

^If the pathway buffer width is 15' or greater, it will score as a 1, otherwise it will score as a 2.

No Pedestrian Pathway Table

Streets with no pathway receive special consideration because they cannot be scored based on path width or buffer. The most important considerations on these streets are posted speed, amount of vehicle traffic, land use and parking presence. In this table, functional class is used as a substitute for vehicle traffic volumes, since traffic volume data are not available on all roads. No road without a pathway can receive a perfect score of 1 using the available variables.²⁶ Parking on Less than Primary Residential streets may decrease pedestrian comfort by forcing pedestrians to share a narrower right of way with vehicular traffic, thereby contributing to potential conflicts.

CONTEXT	MASTER PLAN OF HIGHWAYS AND TRANSITWAYS (MPOHT) FUNCTIONAL CLASSIFICATION	PARKING ALLOWED	POSTED SPEED LIMIT				
			< 25 mph	25 mph	30 mph	35 mph	≥ 40 mph
URBAN	Any	No / Yes	4	4	4	4	4
NON-URBAN	Less than Primary Residential	No	2	3	4	4	4
		Yes	2	3	4	4	4
	Primary Residential or Greater	No	2	4	4	4	4
		Yes	3	4	4	4	4

²⁶ In the future, M-NCPPC may collect data on traffic calming measures, neighborhood slow zones with traffic calming, neighborhood shared streets or commercial shared streets, all of which would receive a score of 1 with speeds of less than 25 mph. All other scores for these contexts would remain the same.

VI. Crossings Evaluation

Crossings are scored using two main tables and an overlay table for factors that, if evaluated, can affect the base score. The two primary crossing tables are mutually exclusive (controlled or uncontrolled crossings). After crossings are scored, the overlay bonus can be assessed, as described in the crossing overlays section.

Controlled Crossings (Signalized or Stop-Controlled) Table

The following variables are considered for signalized crossings or stop-controlled crossings: number of lanes, median type, crosswalk type and posted speed limit. The highest posted speed limit of the segments that comprise the crossing is the speed limit used for scoring. These variables interact to produce the scores below.

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

Uncontrolled Crossings Table

The same primary variables are considered for uncontrolled crossings as signalized crossings or stop controlled crossings, however, the scoring is specific to uncontrolled crossings.

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

*In locations where a 3-lane road does not include a turn lane, the crossing should be scored as if it has 4 travel lanes.

VII. Crossing Overlays

Overlays are used for crossings that have additional safety and comfort features present as follows:

Lighting

All crossings should be evaluated for lighting where data are available. If lit to MCDOT standards, a crossing's score is improved by a half point.

Protected Pedestrian Phase or Leading Pedestrian Interval (LPI)

Scores for controlled crossings are improved by the presence of either a protected pedestrian phase (fully protected or protected/permissive) or an LPI that allows the pedestrian a head start into an intersection before vehicle traffic signals turn green.

Rectangular Rapid Flashing Beacon (RRFB)

The presence of an RRFB, a traffic control device that improves motorist yielding compliance at uncontrolled crossing locations, improves a crossing's score by a half-point.

No Right Turn on Red Signage (No RTOR)

At signalized intersections, the presence of a "No Right Turn on Red" sign improves the final crossing score by a half point.

Traffic Calming

At all crossing locations, treatments that slow traffic speeds, improve visibility, and increase yield compliance improve the crossing score by a half point. Such treatments can include raised centerlines, raised intersections, raised crossings, or turn wedges.

Overlay Scoring

The total maximum scoring adjustment for the crossing overlays is 0.5, with the exception of any combination including traffic calming, where the maximum scoring adjustment is 1.0. An overlay category can be ignored if data for that feature are not yet available.

CROSSING TYPE	CROSSING OVERLAY FEATURE	PRESENT	BONUS POINTS	ADDITIVE
Controlled Crossings	Protected Pedestrian Phase or Leading Pedestrian Interval	Yes	0.5	No
		No	0	
	No Right Turn on Red Signage Present (Signalized)	Yes	0.5	No
		No	0	
Uncontrolled Crossings	Rectangular Rapid Flashing Beacon	Yes	0.5	No
		No	0	
All Crossings	Lighting to MCDOT Standards	Yes	0.5	No
		No	0	
	Traffic Calming	Yes	0.5	Yes
		No	0	

VIII. Accessibility Evaluation

In addition to the PLOC evaluation, an accessibility evaluation is recommended for both street blocks and crossings. If a street block or crossing has a score of greater than zero, it may have accessibility issues that need to be addressed.

	ADA CONDITION	YES/NO	SCORE	NOTES
Street Block (Score each segment)	Pathway is under 5' wide	Yes	1	Sum = number of ADA issue categories. Score of 0 = No known accessibility issues from available data.
		No	0	
	Trip hazards of 1/4" or greater	Yes	1	
		No	0	
	Cross slope less than 0% or greater than 2%	Yes	1	
		No	0	
	Obstruction(s) creating a less than 36"*** pedestrian access route (PAR)	Yes	1	
		No	0	
	Missing pathway section(s) within segment	Yes	1	
		No	0	
Crossings (Score each crossing direction or crosswalk)	Lacking detectable warning surface (DWS)	Yes	1	Sum = number of ADA issue categories. Score of 0 = No known accessibility issues from available data.
		No	0	
	Ratio of DWS width / Ramp width is less than 1	Yes	1	
		No	0	
	Ramp width is less than 36"***	Yes	1	
		No	0	
	Ramp slope is less than 0% or greater than 8.33%	Yes	1	
		No	0	
	Ramp landing area slope is less than 0% or greater than 2%	Yes	1	
		No	0	
	Ramp landing area is less than 5' x 5'	Yes	1	
		No	0	
	Accessible pushbutton not present (when pedestrian signal is present)	Yes	1	
		No	0	

*Current ADA Standards from the U.S. Department of Justice/Federal Highway Administration (USDOT)/FHWA require 36" minimum width for segments (with 60" passing space every 200' minimum for segments). When adopted, Public Right of Way Accessibility Guidelines (PROWAG) will require a 48" minimum and recommend a 60" width for segments. Obstructions include any fixed object, such as signs, planters, utility poles, tree trunks/pits, etc.

**Current ADA Standards (USDOT/FHWA) recommend a 48" minimum curb ramp with a minimum of 36" required in locations where space is restricted. PROWAG recommends 48" minimum width for curb ramps at all locations.

IX. Conclusion

Montgomery County Planning will use the PLOC evaluation and associated connectivity analyses to identify locations in the county with the greatest pedestrian comfort needs and recommend projects to address these needs in collaboration with MCDOT and other relevant jurisdictions. Used in conjunction with the accessibility overlay table and other pedestrian planning and prioritization tools, such as equity emphasis areas, the PLOC methodology provides a powerful tool for Montgomery County to improve pedestrian comfort and make it easier for the county's residents and visitors to walk.

X. Scoring Examples

The following examples illustrate the PLOC evaluation (including Crossing Overlay score, where applicable) for several pathway and crossing examples in Montgomery County. Examples do not include ADA assessment as the full assessment requires more information than can be gathered using a photo.

Pathway Examples

1220 Noyes Drive, Silver Spring

Non-urban area, no pathway, less than primary residential, no parking allowed, 25 mph.

Score: 3 - Uncomfortable



408 North Horners Lane, Rockville

Left: Non-urban area, primary residential, 4-foot pathway, no buffer, designated parking lane, 25 mph, good condition.

Score: 2 - Somewhat Comfortable

Right: Non-urban area, primary residential, 3.5-foot pathway, 2-foot buffer, no on-street separation, 25 mph, good condition.

Score: 2 - Somewhat Comfortable



Maryland 119 in Gaithersburg

Non-urban area, 8-foot pathway, 5-foot buffer, no parking lane or SBL, 50 mph, good condition.

Score: 3 - Uncomfortable



898 Silver Spring Avenue, Silver Spring

Urban, 8-foot pathway, 5-foot buffer, striped parking lane, good condition, 25 mph.

Score: 1 - Very Comfortable



7431 Arlington Road, Bethesda

Left: Urban, 5.5-foot pathway, no buffer, no parking lane or SBL, 30 mph, good condition.

Score: 4 - Undesirable

Right: Urban, 6-foot pathway, no buffer, no parking lane or SBL, 30 mph, fair condition (utility pole obstructions create <36-inch Pedestrian Access Route).

Score: 4 - Undesirable



*Crossing Examples***University Boulevard West and Georgia Avenue, Wheaton**

All sides: Signalized, highest posted speed: 35 mph, high-visibility crosswalk, permissive signal phasing, 6+ lanes crossed, raised median.

Score: 3 - Uncomfortable



Edwin Street and Bluhill Road, Wheaton

Stop controlled, highest posted speed: 25 mph.

All sides: Unmarked crosswalk, two lanes crossed, painted/no median.

Score: 2 - Somewhat Comfortable



Washington Street and Martins Lane, Rockville

Signalized, highest posted speed: 30 mph.

North and South sides: Standard crosswalk, four lanes crossed, painted/no median.

Score: 3 - Uncomfortable

West side: Standard crosswalk, three lanes crossed, painted/no median.

Score: 1 - Very Comfortable



Hitching Post Lane & Montrose Road, North Bethesda (facing west)

Signalized, highest posted speed: 40 mph.

Note: This intersection has evidence of pedestrian-scale and overhead lighting; hypothetical scores provided if MCDOT standards are confirmed.

North (right) side: Standard crosswalk, three lanes crossed, painted/no median.

Score: 3 - Uncomfortable

Score (with lighting): 2.5 – Somewhat Uncomfortable

South (left) side: Standard crosswalk, four lanes crossed, painted/no median.

Score: 4 - Undesirable

Score (with lighting): 3.5 – Very Uncomfortable

East (foreground) side: High-visibility crosswalk, seven lanes crossed, raised refuge island.

Score: 3 - Uncomfortable

Score (with lighting): 2.5 - Somewhat Uncomfortable

West (background) side: Standard crosswalk, seven lanes crossed, raised refuge island.

Score: 3 - Uncomfortable

Score (with lighting): 2.5 - Somewhat Uncomfortable



Sussex Road and Park Crest Drive, Silver Spring

Highest posted speed: 25 mph

North(background) and south (foreground) sides: Uncontrolled, two lanes crossed, unmarked, painted/no median.

Score: 3 - Uncomfortable

West (left) side: Stop-controlled, two lanes crossed, unmarked, painted/no median.

Score: 2 - Somewhat comfortable



v1.2 Changelog (10/20/2020)

- Clarified low volume designation for “no pathway” and crossing segments.

Maryland Department of Transportation

Maryland Bicycle Level of Traffic Stress (LTS)

The Maryland Department of Transportation is transitioning from using the Bicycle Level of Comfort (BLOC) to using the Level of Traffic Stress (LTS) for measuring the “bikeability” of the roadway network. This transition is in coordination with the implementation of MDOT SHA’s Context Driven Design Guidelines and other national and departmental initiatives. LTS is preferred over BLOC as LTS requires fewer variables to calculate including:

- Presence and type of bicycle facility
- Speed Limit
- Number of Through Lanes/Traffic Volume

Traditionally, the Level of Traffic Stress (LTS) (scale “1” to “4”) is a measure for assessing the quality of the roadway network for its comfort with various bicycle users. The lower the LTS score, the more inviting the bicycle facility is for more audiences.

LTS Methodology

MDOT’s LTS methodology is based on the metrics established by the Mineta Transportation Institute (MTI) [Report 11-19](#) “Low-Stress Bicycling and Network Connectivity (May 2012 [additional criteria](#) refined by Dr. Peter G. Furth (June 2017) below and Montgomery County’s [Revised Level of Traffic Stress](#). .

Mixed Traffic Criteria

Number of Lanes	Effective ADT	Prevailing Speed						
		<20mph	25mph	30mph	35mph	40mph	45mph	50+mph
Unlaned 2-way street (No centerline)	0-750	1	1	2	2	3	3	3
	751-1500	1	1	2	3	3	3	4
	1501-3000	2	2	2	3	4	4	4
	3000+	2	3	3	3	4	4	4
1 thru lane per direction (1-way, 1 lane street or 2-way street with centerline)	0-750	1	1	2	2	3	3	3
	751-1500	2	2	2	3	3	3	4
	1501-3000	2	3	3	3	4	4	4
	3000+	3	3	3	4	4	4	4
2 thru lanes per direction	0-8000	3	3	3	3	4	4	4
	8001+	3	3	4	4	4	4	4
3+ thru lanes per direction	Any	3	3	4	4	4	4	4

Effective ADT = ADT for two-way roads. Effective ADT – 1.5’ ADT for one-way roads

Bike Lanes and Shoulders Not Adjacent to Parking

Number of Lanes	Bike Lane Width	25mph	30mph	35mph	40mph	45mph	50+mph
1-thru lane per direction or unlaned	6'+	1	2	2	3	3	3
	4'-5'	2	2	2	3	3	4
2 thru lanes per direction	6'+	2	2	2	3	3	3
	4'-5'	2	2	2	3	3	4
3+ thru lanes per direction	Any	3	3	3	4	4	4

Notes:

1. If bike lane/shoulder is frequently blocked, use mixed traffic criteria.
2. Qualifying bike lane/shoulder should extend at least 4' from a curb and at least 3.5' from a pavement edge or discontinuous gutter pan seam.
3. Bike lane width includes any marked buffer next to the bike lane.

Bike Lanes Adjacent to Parking

Number of Lanes	Bike Lane Reach = Bike + Parking Lane Width	25mph	30mph	35mph
1 lane per direction	15'+	1	2	3
	12'-14'	2	2	3
2 lanes per direction (2-way) 2-3 lanes per direction (1-way)	15'+	2	3	3
Other multilanes		3	3	3

Notes:

1. If bike lane/shoulder is frequently blocked, use mixed traffic criteria.
2. Qualifying bike lane reach must be at least 12'
3. Bike lane width includes any marked buffer next to the bike lane.

MDOT's LTS rating includes two additional scores: "0" to represent shared-use paths and similar facilities that are suitable for people of all ages and abilities to bicycle and "5" to represent roadways where bicycle access is prohibited. The below chart describes the LTS score in terms of facility types and the corresponding target bicycling audience that might be expected to use them.

LTS	Target Audience	Bicycle Facility Types
0	All ages and abilities	Rail-trails, shared-use paths
1	Almost everyone	Protected bikeways, sidepaths
2	Interested but concerned	Bike lanes, bike boulevards
3	Enthusied and confident	Bike lanes, shared lanes, shoulders
4	Strong and fearless	No bike facility or bike lane on a major roadway
5	Bicycle Access Prohibited	Bicycle access is prohibited by managing roadway agency

One Maryland One Centerline (OMOC)

MDOT's initial LTS efforts were included in a nationwide Open Street Map-based (OSM) study conducted by the University of Minnesota. As this dataset was crowdsourced, data reliability varied and did not allow MDOT to measure improvements over time. To manage data and conduct analysis more accurately, MDOT used the State Highway Administration's (MDOT SHA's) One Maryland One Centerline (OMOC) linear referencing system to implement LTS. OMOC was developed to manage roadway inventory and data reporting to the Federal Highway Administration (FHWA) and includes a variety of

roadway variables including speed limits, the number of through lanes on a roadway segment, functional classification, shoulder presence and width, lighting, signs, pavement markings and signals. OMOC can produce a variety of reports using geospatial tools and allows for the integration of a broad range of the geospatial data across the state. This makes OMOC the preferred platform to develop, measure and track LTS. Data within OMOC is more accurate on state roadways as speed limits for most local roadways were not captured in OMOC. To estimate the speed limit for local roadways, the roadway's functional classification was used to determine the speed limit as:

- Local – 25 mph
- Minor collector – 30 mph
- Major collector – 35 mph
- Minor arterial – 35 mph
- Principal Arterial (other) – 40 mph
- Principal Arterial (other Freeways and Expressways) – 50 mph
- Interstate – 55 mph

An additional assumption for roadway records addresses the use of number of through lanes and traffic volumes. The number of through lanes is available for all roadway records in OMOC. Traffic volumes are derived from MDOT State Highway Administration's Traffic Monitoring System, the clearinghouse for all traffic volume records. Since the number of through lanes on a roadway is based on the current and projected traffic volumes, both values can be used interchangeably. Where available, the traffic volume for roadway records was used to determine a more accurate LTS score. Where traffic volumes are not available, the number of through lanes is used to determine LTS.

Shared-use Path Data Development and Complimentary *Road Separated Bike Routes* Dataset

A complimentary dataset – *Road Separated Bike Routes*, was completed prior to this roadway dataset. It has been provided to the public via Maryland iMAP (<https://data-maryland.opendata.arcgis.com/datasets/road-separated-bike-routes/explore?location=38.860602%2C-76.981833%2C8.85>). This first dataset is an inventory of all shared-use paths open to public, two-way bicycle access which contribute to the bicycle transportation network. Shared-use paths and sidepaths were assigned an LTS score of "0" to indicate minimal interaction with motor vehicle traffic. Many paved loop trails entirely within parks, which had no connection to the adjacent roadway network, were not included but may be included in future iterations.

Sidepaths, where a shared-use path runs parallel to an adjacent roadway, are included in this complimentary *Road Separated Bike Routes* Dataset. Sidepaths do not have as an inviting biking environment as shared-use paths with an independent alignment due to the proximity of motor vehicle traffic in addition to greater likelihood of intersections with more roadways and driveways. Future iterations of the LTS will assign an LTS score of "1" to sidepaths.

On-street Bicycle Facility Data Development

This second dataset includes all on-road bicycle facilities which have a designated roadway space for bicycle travel including bike lanes and protected bike lanes. Marked shared lanes in which bicycle and motor vehicle traffic share travel lanes were not included. Shared lanes, whether sharrows, bike

boulevards or signed routes were inventoried but treated as mixed traffic for LTS analysis. The bicycle facilities included in the analysis include:

- **Standard Bike Lanes** – A roadway lane designated for bicycle travel at least 5-feet-wide. Bike lanes may be located against the curb or between a parking lane and a motor vehicle travel lane. Buffered bike lanes without vertical separation from motor vehicle traffic are included in this category. Following AASHTO and MDOT SHA design standards, bike lanes are assumed to be at least 5-feet-wide even through some existing bike lanes are less than 5-feet-wide.
- **Protected Bike Lanes** – Bike lanes located within the street but are separated from motor vehicle travel lanes by a vertical buffer, whether by a row of parked cars, flex posts or concrete planters.
- **Shoulders** – Roadway shoulders are commonly used by bicycle traffic. As such, roadways with shoulders open to bicycle traffic were identified and rated for LTS in relation to adjacent traffic speeds and volumes as well as the shoulder width. Shoulders less than 5-feet-wide, the standard bike lane width, were excluded from analysis and these roadway segments were treated as mixed traffic.

The Office of Highway Development at MDOT SHA provided the on-street bicycle facility inventory data for state roadways. The shared-use path inventory and on-street bicycle facility inventory was compiled from local jurisdiction's open-source download or shared form the GIS/IT departments. Before integrating into OMOC, these datasets were verified by conducting desktop surveys and site visits, and by consulting with local officials and residents.

Bicycle Infrastructure Specifics

In addition to identifying protected bike lanes and standard bike lanes, additional metrics were collected with the initial analysis. These metrics were identified to enable network analysis once the initial analysis was performed. These metrics include:

- **Side of roadway** – Not all bike lanes are on both sides of the roadway, therefore the bike lane was assigned whether it is on the left, right or both sides of the street based on the cardinality of the route. This metric is applied to better calculate LTS in addition to bike lane miles per side of the roadway.
- **Traffic flow** – Each on-street bike facility was assigned whether it allows for one or two-way travel. This metric is applied to allow for contraflow bicycle lanes and bi-directional cycletracks in addition to allowing future network analysis and routing.
- **Vertical Separation** – The presence of a vertical separator provides a physical barrier between bicycle and motor vehicle traffic. This separation reduces the likelihood and severity of crashes between motor vehicles and bikes, thus creating a more inviting bicycle experience. While Montgomery County's methodology distinguishes between the types of barriers such as flex posts and parked cars, MDOT's methodology only identifies if there is a vertical delineator within the buffer.

Several factors which help further define LTS were unavailable during the initial analysis. These factors include bike lane width, width of buffers between bike lanes and parking or travel lanes, bike lane reach and the presence of on-street parking. Due to the lack of data on existing bicycle facilities, all bike lanes are assumed to be at least 5' wide and not adjacent to on-street parking. Shoulder width data is available on most roadway records which helped produce more accurate LTS results. For roadways with a bikeable

shoulder, but not marked as a bike lane, the shoulder width was used to calculate the LTS. As MDOT continues to expand data collection for OMOC, these additional factors will be included to refine LTS scores. See the following charts for the bike facility LTS recommendations.

Standard Bike Lanes

Number of Lanes	Vertical Separation	≤25mph	30mph	35mph	40mph	45mph	50+mph
1-thru lane per direction or unlaned	No	1	2	3	3	4	4
2 thru lanes per direction	No	2	3	3	3	4	4
3+ thru lanes per direction	No	3	3	4	4	4	4

Protected Bike Lanes

Number of Lanes	Vertical Separation	≤25mph	30mph	35mph	40mph	45mph	50+mph
1	Yes	1	1	1	1	2	3
2	Yes	1	1	1	2	3	3
3+	Yes	1	1	2	2	3	4

Roadways With Bikeable Shoulders

Number of Lanes	Shoulder Width	25mph	30mph	35mph	40mph	45mph	50+mph
1-thru lane per direction or unlaned	6'+	1	2	2	3	3	3
	4'-5'	2	2	2	3	3	4
2 thru lanes per direction	6'+	2	2	2	3	3	3
	4'-5'	2	2	2	3	3	4
3+ thru lanes per direction	Any	3	3	3	4	4	4

Prohibited Routes

Bicycles are prohibited from using all interstates and most limited-access roadways in the State of Maryland. A list of prohibited routes is available on MDOT SHA's website. In addition to these routes, MDOT SHA District Offices have designated additional roadways prohibited for bicycle access, typically on higher speed roadways without shoulders. All state and district-designated prohibited routes were identified with an LTS score of 5.

Bicycle Nomenclature Subcategory

A bicycle facility subcategory is also provided in the on-street dataset. The facility subcategory is provided to account for the various names of bicycle facilities used by Maryland jurisdictions. The subcategory designation will also enable easier data maintenance when receiving data from local jurisdictions. Protected bike lanes are also referred to as cycletracks, protected cycletracks, and buffered bike lanes. Standard bike lanes include subcategories such as bike lanes, buffered bike lanes without vertical separation and contraflow bike lanes. The subcategory also allows bicycle infrastructure to be catalogued where bicycle and motor vehicle traffic share a travel lane, such as shared lanes (sharrows), bike

boulevards and signed bike routes. The following tables includes the Bicycle Facility and Subcategory Types:

Bicycle Facility Type	Subcategory	Vertical Separation	LTS Score
Shared-use Path	transportation trail	Yes	LTS 0
	multi-use trail		
	sidepath		
	gravel path		
Protected Bike Lane	cycletrack	Yes	LTS 1 – 4 See Protected Bike Lanes Chart for Criteria
	separated bike Lane		
	buffered bike lane		
	parking protected bike lane		
	protected contraflow bike lane		
Standard Bike Lane	separated bike Lane	No	LTS 1 – 4 See Standard Bike Lanes Chart for Criteria
	buffered bike lane		
	bike lane		
	contraflow bike lane		
	pocket bike lane		
All Other On-Street Bicycle Infrastructure With By Both Bicycle and Motor Vehicle Traffic	bicycle boulevard	No	LTS 1 – 4 See chart for Mixed Traffic for Criteria
	neighborhood greenway		
	sharrow		
	shared lane		
	share the road		
	shared street		
	shared bus and bike lane		
	signed bike route		
Roadways Where Bicycle Traffic Uses The Shoulder	shoulder	No	LTS 1 – 4 See Roadways with Bikeable Shoulders for Criteria
Roadways Prohibited to Bicycle Traffic	All roadways	No	LTS 5

On-street Parking

On-street parking presence is a variable in the LTS rating of bike lanes. Bike lanes which are located between motor vehicle travel lanes and on-street parallel parking are less inviting than bike lanes without adjacent parking. Parked cars create a less predictable travel experience for bicyclists as parked car doors may be opened into the bike lanes or parked cars may pull into the bike lane to merge into traffic.

On-street parking is not maintained in OMOC, therefore bike lane LTS rating were applied assuming the existence of on-street parking. This assumption may artificially increase LTS for some bike lanes but future iterations will be refined as parking data is created in OMOC. Shoulder information is maintained

in OMOC and was used for scoring. The on-street parking inventory was developed from geodata information shared by local and regional departments of transportation, public works and information technology.

Secondary (Non-Inventory) Routes

OMOC was established for roadway asset inventory and management. All roadways follow a single direction for inventorying roadway assets such as signs, guardrails, streetlights. Where roadways are physically divided, a secondary route of the same roadway is established in OMOC with an inverse mileage. These secondary routes are established to illustrate divided roadways, but the secondary routes are not used to inventory assets. Because the primary routes contain the inventoried information, such as speed limit, through lanes and other metrics, secondary routes do not have these associated metrics to determine LTS. To address such data gaps, metrics associated with primary routes were applied to secondary routes to inform the assignment of an LTS score. In most cases, such divided roadways were on major arterial roadways with an LTS score of 4.

Preliminary Analysis and Quality Control

With LTS metrics established, an algorithm was developed to run the model through Roads & Highways Segment Analyzer GIS program. The LTS model included all combinations of roadways with and without bicycle facilities, traffic volumes or through lanes and speed limits. The model was then expanded to accommodate exception cases, such as MD 650 (New Hampshire Avenue) in White Oak where a six-lane roadway had standard bike lanes on each side of the roadway. The combination of traffic volumes and the 40-mph speed limit assigned the roadway segment an LTS 4. Additional revisions were made until most roadway records were assigned an LTS score.

Data Uses

The 2022 LTS data produced through this process can be used in a variety of planning exercises. The consistent metrics applied across the state will help inform bicycle mobility and accessibility decisions at state and local levels. Primarily, the LTS analysis illustrates how bikeable Maryland roads are where the greatest barriers lie. While most roads in the state are an LTS 1, the main roadways which link residential areas with community services are typically LTS 4. In the coming months, MDOT will use the LTS in variety of way including:

- Conducting a bicycle network analysis to develop accessibility measures and potential performance metrics.
- Cross referencing with state crash location data;
- Performing gap analysis to help inform project prioritization.

Data Limitations

As a principle of data governance MDOT strives to provide the best possible data products. While the initial LTS analysis of Maryland's bicycle network has many uses, it should be used with a clear understanding of the current limitations the data presents.

1. **Assumptions** – As noted earlier in this document, some of the metrics used to determine LTS score were estimated. Speed limits for many local roadways were not included in the original data and were assigned based on the functional classification of the roadway. Speed limits are also based on the posted speed limit, not the prevailing operating vehicle speeds which can vary

greatly. Such discrepancies between actual and assumed conditions could introduce margins of error in some cases. As data quality improves with future iterations, the LTS scoring accuracy will also improve.

2. **Generalization** – MDOT’s LTS methodology follows industry standards but needs to account for varying roadway conditions and data reliability from various sources. The LTS methodology aims to accurately capture Maryland’s bicycle conditions and infrastructure but must consider data maintenance requirements. To limit data maintenance generalizations were made in the methodology so that a score could be assigned. Specifically, factors such as intersections, intersection approaches and bike lane blockages are not included in this initial analysis. LTS scores may be adjusted in the future based on MDOT review, updated industry standards, and additional LTS metrics being included in OMOC such as parking and buffer widths.
 3. **Timestamped** - As the LTS score is derived from a dynamic linear referencing system (LRS), any LTS analysis performed reflects the data available in OMOC. Each analysis must be considered ‘timestamped’ and becoming less reliable with age. As variables within OMOC change, whether through documented roadway construction, bikeway improvements or a speed limit reduction, LTS scores will also change. Fortunately, as this data is updated in the linear referencing system, the data becomes more reliable and LTS scores become more accurate.
-

Level of Traffic Stress (LTS) Attribute Metadata

OBJECTID

GIS Object ID

State ID (ID)

Unique identification number provided by Maryland State Highway Administration (MDOT SHA)

Route ID (ROUTEID)

Unique identification number for the roadway segment/record as determined by Maryland State Highway Administration (MDOT SHA)

From Measure (FROMMEASURE)

The mileage along the roadway record that the specific roadway conditions change and maintain the same conditions until *To Measure*

To Measure (TOMEASURE)

The mileage along the roadway record that the specific roadway conditions change and maintain the same conditions since FROMMEASURE

Roadway Functional Class (FUNCTIONAL_CLASS)

The functional classification of the roadway as determined by the Federal Highway Administration in coordination with the Maryland Department of Transportation State Highway Administration (MDOT SHA). All roadway records have a functional classification value. The following values represent the functional classification:

- 1 - Interstate

- 2 - Principal Arterial (other Freeways and Expressways)
- 3 - Principal Arterial (other)
- 4 - Minor arterial
- 5 - Major collector
- 6 - Minor collector
- 7 – Local

Annual Average Daily Traffic (AADT)

The Annual Average Daily Traffic (AADT) represents the average number of motor vehicles that pass along a roadway segment during a 24-hour period. The value is derived from MDOT SHA's Traffic Monitoring System (TMS), the state's clearinghouse for all traffic volume records.

Roadway Speed Limit (SPEED_LIMIT)

The posted speed limit for a roadway segment as assigned by the MDOT SHA for state roadways and the local jurisdiction's transportation management agency. Values for SPEED_LIMIT are measured in miles per hour (mph) in 5 mph increments from 5 mph through 70 mph.

Roadway Access Control (ACCESS_CONTROL)

The access control indicates the types of entry points along the roadway segment, ranging from full to no access control. Interstates and other state roadways with no at-grade crossings are full access control, whereas a neighborhood street open to all modes of traffic represents a roadway with no access control. The values in ACCESS_CONTROL include:

- 0 – Access control information is missing
- 1 – Full access control
- 2 – Partial access control
- 3 – No access control

Bike Facility Type (BIKE_FACILITY_TYPE)

The type of on-street bicycle facility a roadway segment has. Values for BIKE_FACILITY_TYPE include:

- Standard – an on-street bicycle lane adjacent to a motor vehicle travel lane. Based on AASHTO guidance, standard bike lanes are assumed to be at least 5-feet-wide.
- Protected – an on-street bicycle lane separated from adjacent motor vehicle travel lanes by a vertical feature, whether a row of parked cars, planters, concrete barriers, flex posts or other materials. The vertical feature located in a buffer zone between the bike lane and travel lane increase the amount of protection for people using the bike lane.
- Shared Lane – a travel lanes shared by bicycle and motor vehicle traffic but designated by the managing agency for bicycle travel. Shared lanes include roadways with shared-lane markings (sharrows), signed bicycle routes, bicycle boulevards or neighborhood greenways. Shared lanes are treated as a <Null> value when calculating the level of traffic stress (LTS).

Pocket Lane (POCKET_LANE)

A bicycle lane which continues through an intersection typically with a through travel lane located to the left and a right-turn lane (s) located to the right. Pocket lane information was derived from MDOT SHA's Office of Highway Development's Bicycle Facility Inventory.

Bike Eligible (BIKE_ELIGIBLE)

Designates if a roadway segment currently has or is eligible for future bicycle improvements. This value is derived from MDOT SHA statewide and district determination based on the roadway conditions and available shoulders. Value ranges from 0 to 1 where 0 indicates that the route is not eligible to have a standard bike lane and 1 indicates that the route currently has a bicycle facility or could potential support (at least) a standard bike lane.

Number of Motor Vehicle Lanes (NUMBER_THRU_LANES)

The number of motor vehicle travel lanes proceeding along a roadway segment. This value ranges from 0 to 13.

Speed Limit Derived (SPEEDLIMIT_DERIVED)

This field indicates if the speed limit information was available in OMOC or if the speed limit needed to be inferred from the FUNCTIONAL_CLASS value. Values for SPEEDLIMIT_DERIVED range from 0 representing that the speed limit was available in OMOC and was not needed to be inferred, to 1 representing that the speed limit was NOT available in OMOC and is based on the FUNCTIONAL_CLASS of the roadway. Roadway records where the SPEEDLIMIT_DERIVED value is "1" is based on the below assumed speed limit based on the FUNCTIONAL_CLASS:

- Local – 25 mph
- Minor collector – 30 mph
- Major collector – 35 mph
- Minor arterial – 35 mph
- Principal Arterial (other) – 40 mph
- Principal Arterial (other Freeways and Expressways) – 50 mph
- Interstate – 55 mph

AADT Derived (AADT_DERIVED)

This field indicates if the traffic volume metric for calculating LTS is based on the AADT or the NUMBER_THRU_LANES. Since both metrics can represent the amount of traffic along a roadway, AADT was primarily used to determine LTS. Where the AADT is available and used to calculate LTS, AADT_DERIVED field is represented by a "0" value. If the AADT was not available, the NUMBER_THRU_LANES is used, represented by a value of "1".

Shoulder Exist (SHOULDER_EXIST)

This field indicates if a bikeable shoulder is available on a roadway segment. If a bikeable shoulder is present, the value is "1". If a bikeable shoulder is not available, the value is "0".

Left Shoulder Width (Feet) (SHOULDER_WD_LT)

The width of the shoulder on the left side of the roadway. Values are measured in 'feet' and range from 0 to 50. The shoulder width is used to calculate LTS where the roadway has a bikeable shoulder but is not marked as a bike lane. This is represented where the BICYCLE_FACILITY_TYPE value is <Null>. the SHOULDER_EXISTING value is 1 and the SHOULDER_WD_LT value is based on Bike Lane Reach.

Right Shoulder Width (Feet) (SHOULDER_WD_RT)

The width of the shoulder on the right side of the roadway. Values are measured in 'feet' and range from 0 to 50. The shoulder width is used to calculate LTS where the roadway has a bikeable shoulder but is not marked as a bike lane. This is represented where the BICYCLE_FACILITY_TYPE value is <Null>. the SHOULDER_EXISTING value is 1 and the SHOULDER_WD_RT value is based on Bike Lane Reach.

LTS Score (Preliminary) (LTS_SCORE)

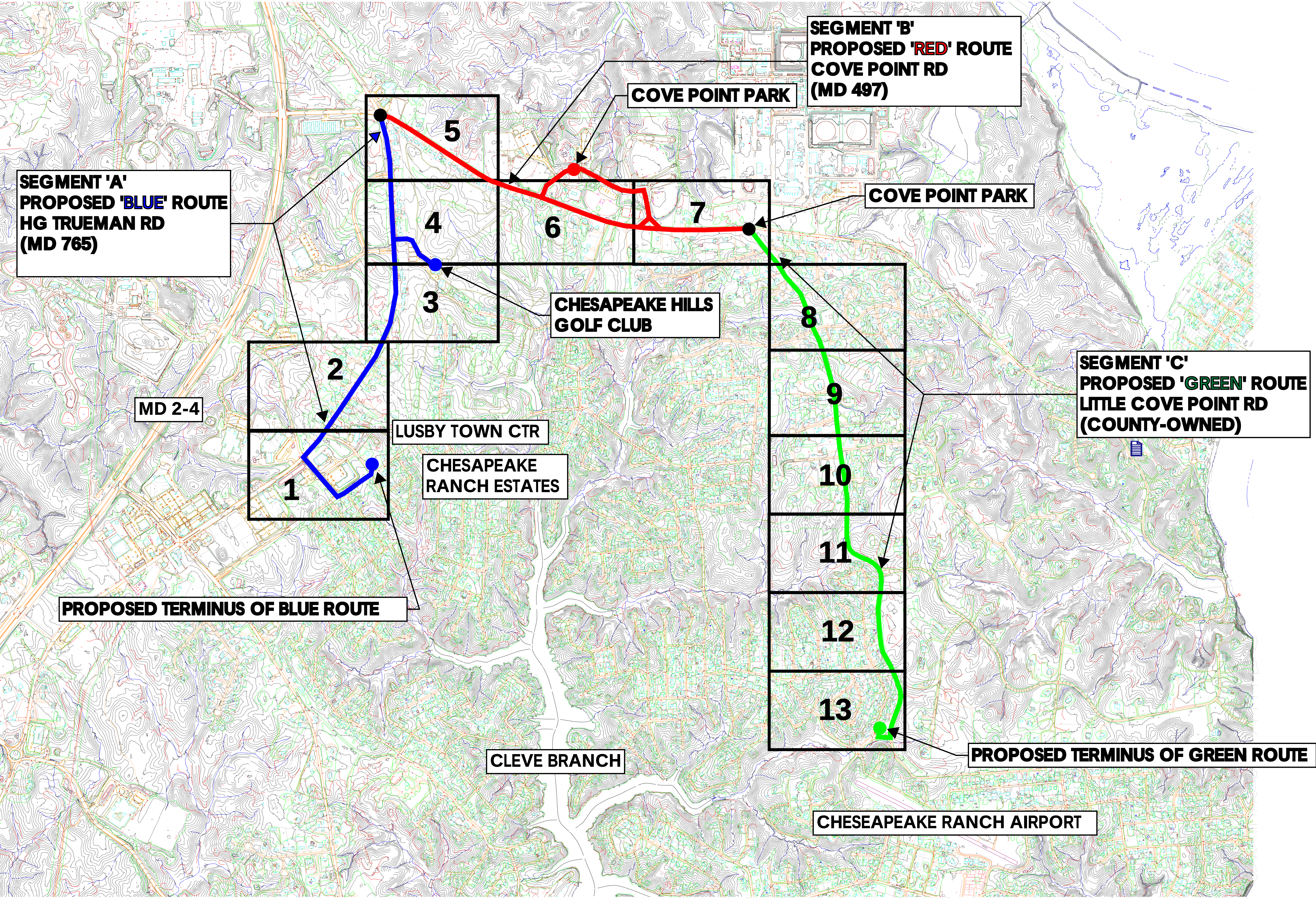
Based on the MDOT LTS methodology, the LTS_SCORE is calculated based on the MDOT LTS methodology for on-street bicycle facilities. These values range includes 1, 2, 3, 4, 5 and 9. Values 1 through 5 are calculated more accurately where values of "9" indicates other fields are missing information to calculate an LTS score. Values of "9" are reflected mostly in secondary routes where the inventoried information is only available on the primary route. Routes with "9" values were corrected in the LTS_ADJUSTED field mostly reflecting the conditions on the parallel, primary route.

LTS Score (Adjusted) LTS_ADJUSTED

The more accurate LTS score for a roadway segment based on the MDOT LTS methodology or corrected to eliminate null values. This is the most important attribute for most applications that make use of this dataset as it represents the more accurate LTS score.

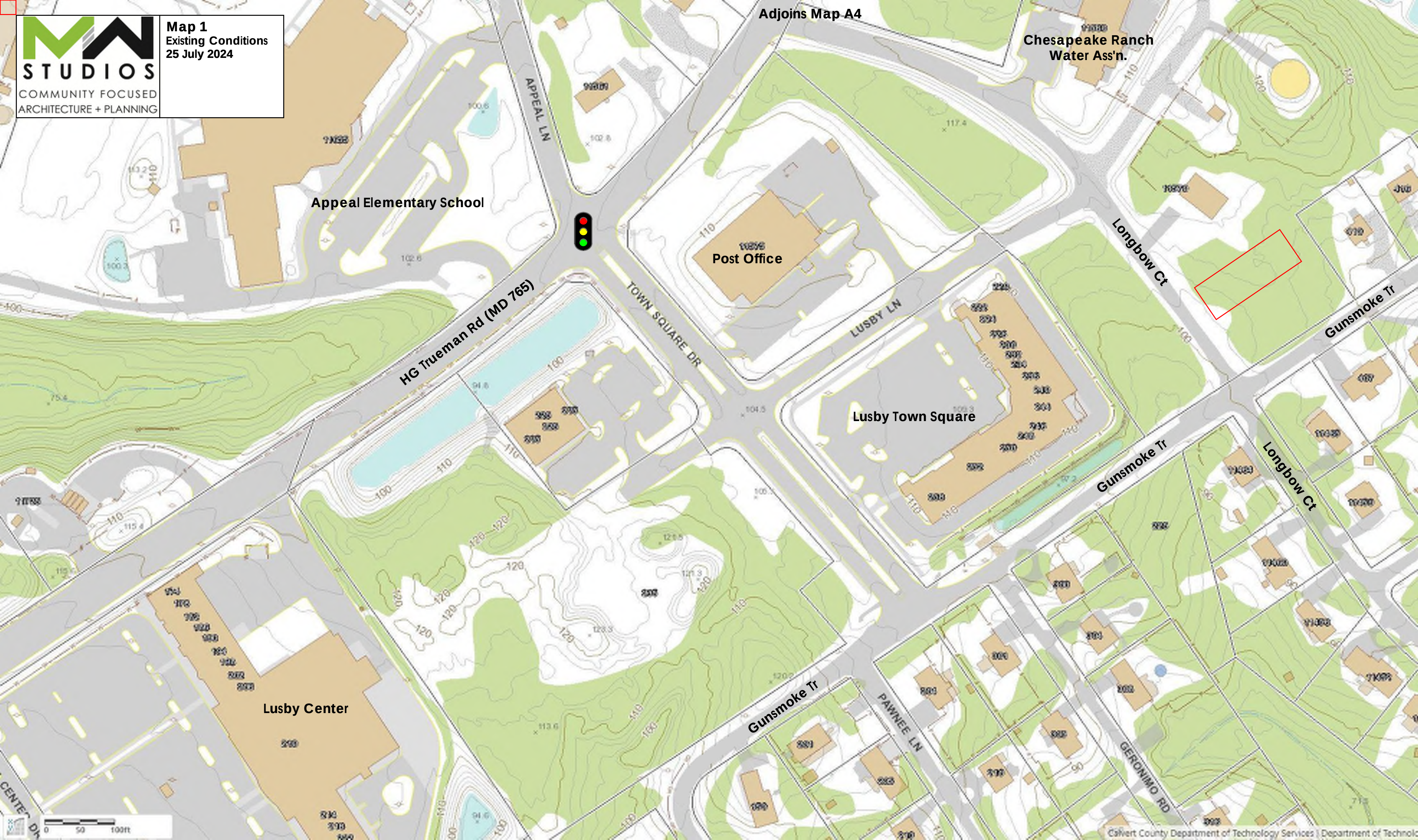
GIS Shape Length (SHAPE_Length)

The length of the roadway segment based on the output from LTS model.





Map 1
Existing Conditions
25 July 2024



Adjoins Map A4

Chesapeake Ranch
Water Ass'n.

Appeal Elementary School



Post Office

HG Trueman Rd (MD 765)

TOWN SQUARE DR

LUSBY LN

Lusby Town Square

Longbow Ct

Gunsmoke Tr

Gunsmoke Tr

Longbow Ct

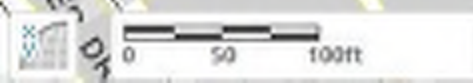
Lusby Center

Gunsmoke Tr

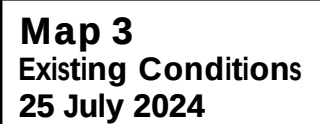
PAWNEE LN

GERONIMO RD

CENTER DR







RD



1

1



1

12

111

100

1998

17

100

5)

769

MD

(1) p

n R

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True

GT

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1

1

names

1

1

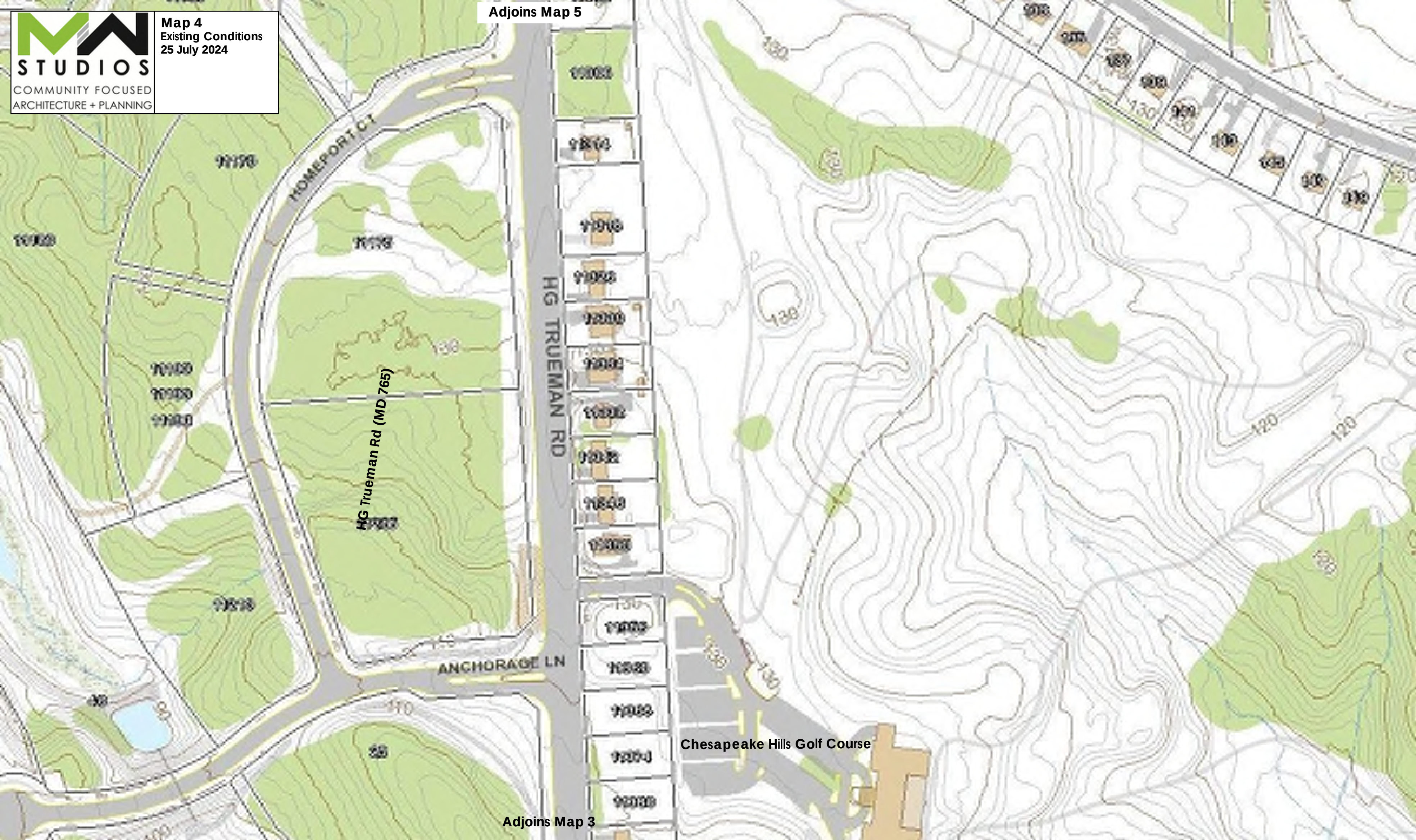


2

Adjoins Map 2

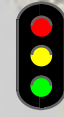
Calvert County Department of Technology Services | Department of Technology

Adjoins Map 5



Adjoins Map 3

Cove Point Rd (MD 497)



HG Truman Rd (MD 765)

Homeport Ct

Adjoins Map 4

Cove Point Rd (MD 497)

Adjoins Map 6

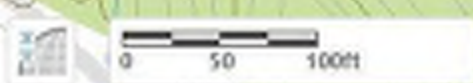
Adjoins Map 5



Map 6
Existing Conditions
25 July 2024



Adjoins Map 7





Map 7
Existing Conditions
25 July 2024



Adjoins Map 6

Cove Point Rd (MD 497)

Cove Point Rd (MD 497)

Papas La

Little Cove Point Rd

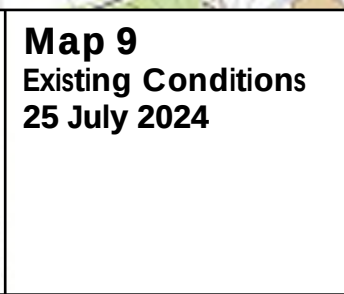
Platinum Dr

Platinum Dr

Adjoins Map 8

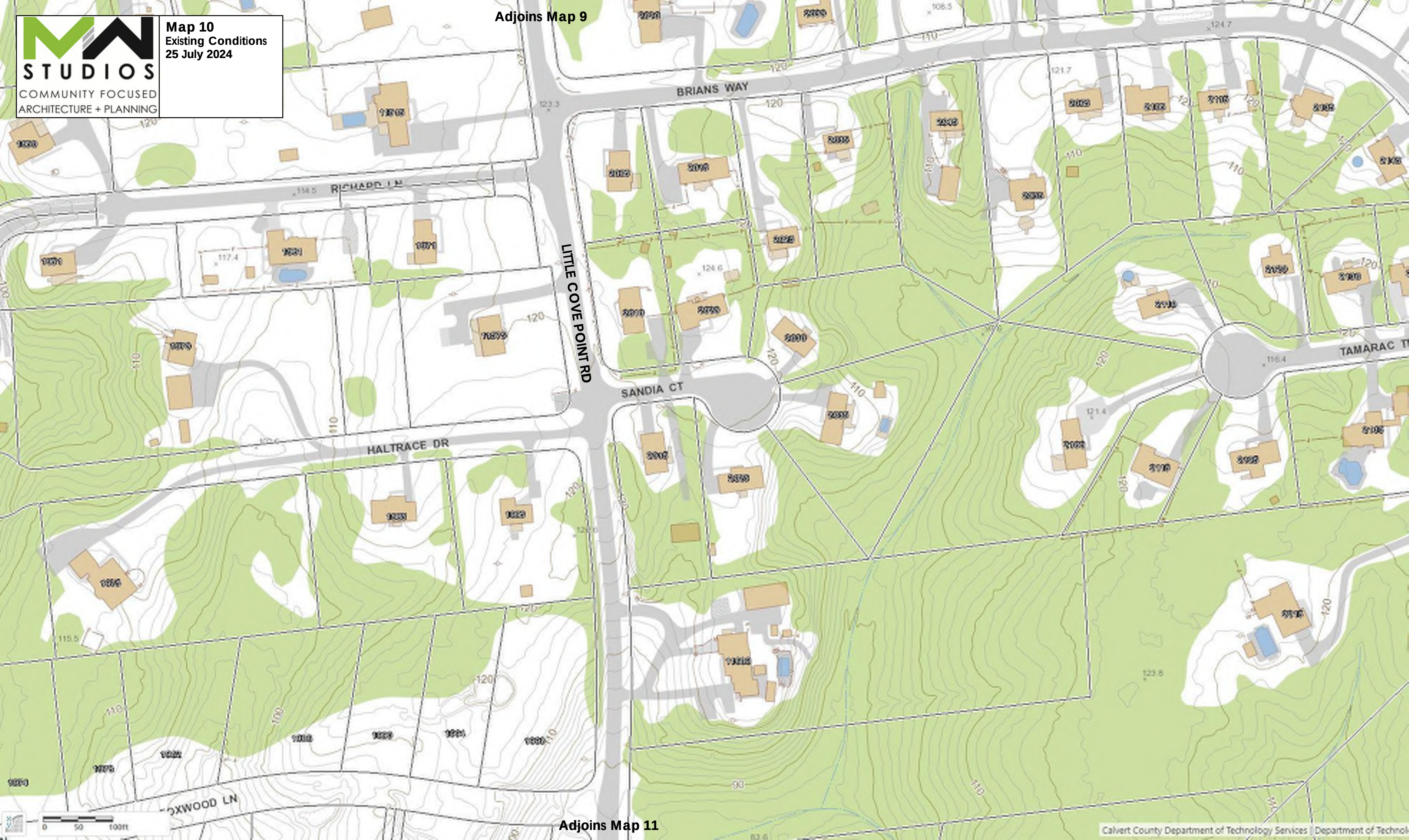






Adjoins Map 10

Calvert County Department of Technology Services | Department of Technology

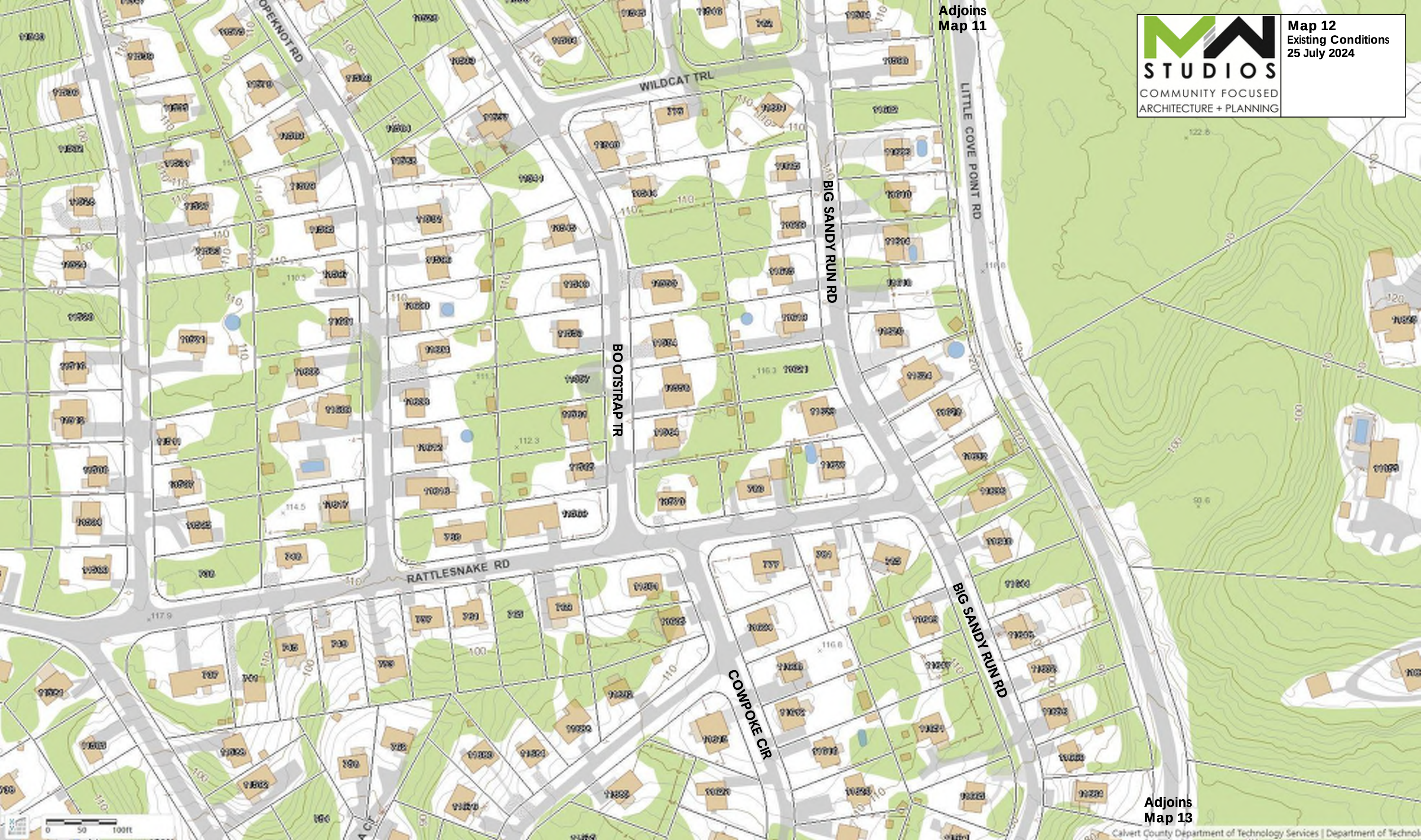




Adjoins
Map 11

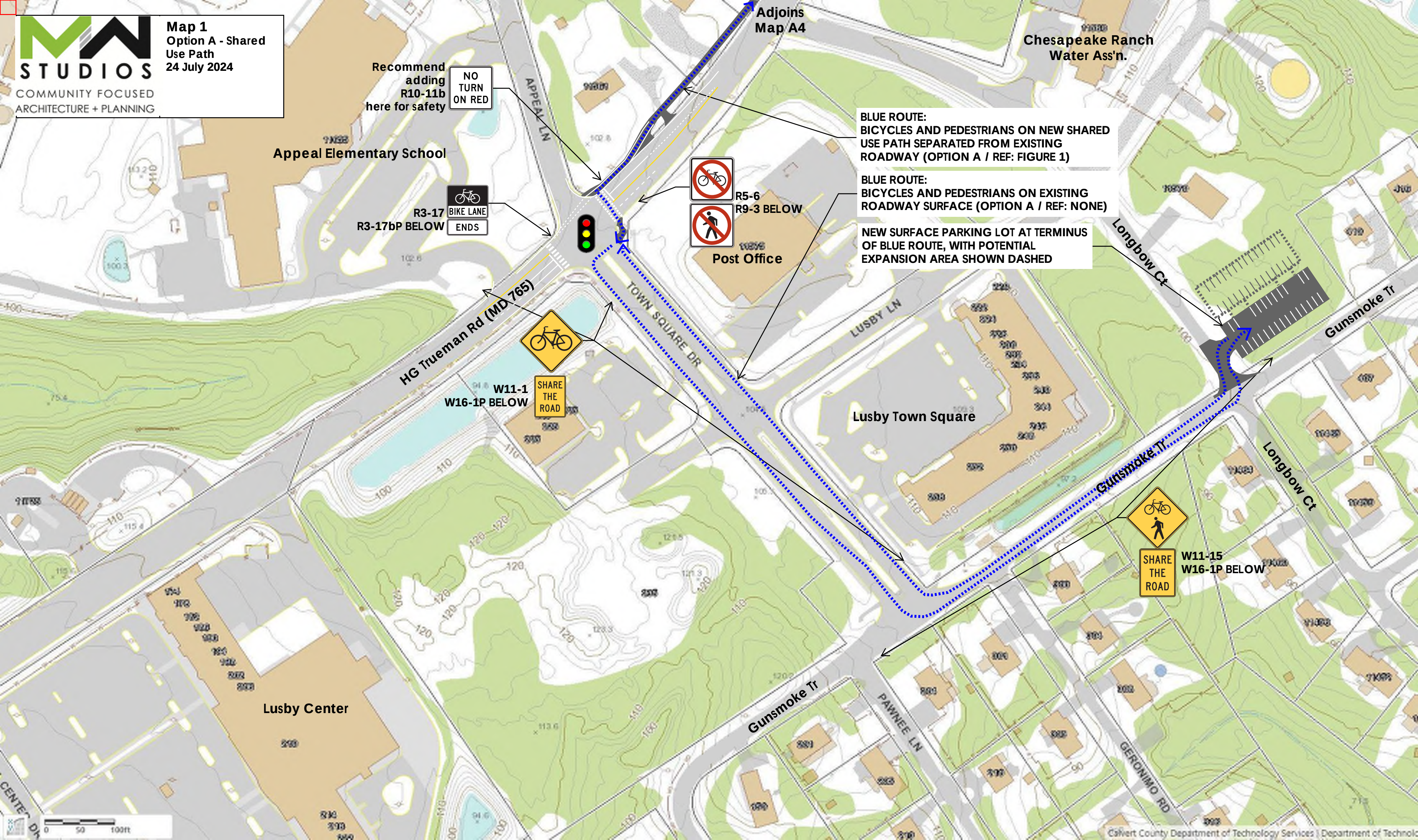


Map 12
Existing Conditions
25 July 2024



Adjoins
Map 13





Recommend
adding
R10-11b
here for safety

NO
TURN
ON RED

Appeal Elementary School

R3-17
R3-17bP BELOW

BIKE LANE
ENDS



R5-6
R9-3 BELOW

Post Office

BLUE ROUTE:
BICYCLES AND PEDESTRIANS ON NEW SHARED
USE PATH SEPARATED FROM EXISTING
ROADWAY (OPTION A / REF: FIGURE 1)

BLUE ROUTE:
BICYCLES AND PEDESTRIANS ON EXISTING
ROADWAY SURFACE (OPTION A / REF: NONE)

NEW SURFACE PARKING LOT AT TERMINUS
OF BLUE ROUTE, WITH POTENTIAL
EXPANSION AREA SHOWN DASHED

HG Trueman Rd (MD 765)

W11-1
W16-1P BELOW



SHARE
THE
ROAD

Lusby Town Square



SHARE
THE
ROAD

W11-15
W16-1P BELOW

Lusby Center

Gunsmoke Tr

Gunsmoke Tr

Longbow Ct

Gunsmoke Tr

Chesapeake Ranch
Water Ass'n.

Longbow Ct

PAWNEE LN

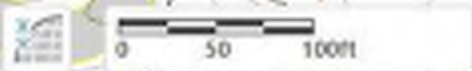
GERONIMO RD

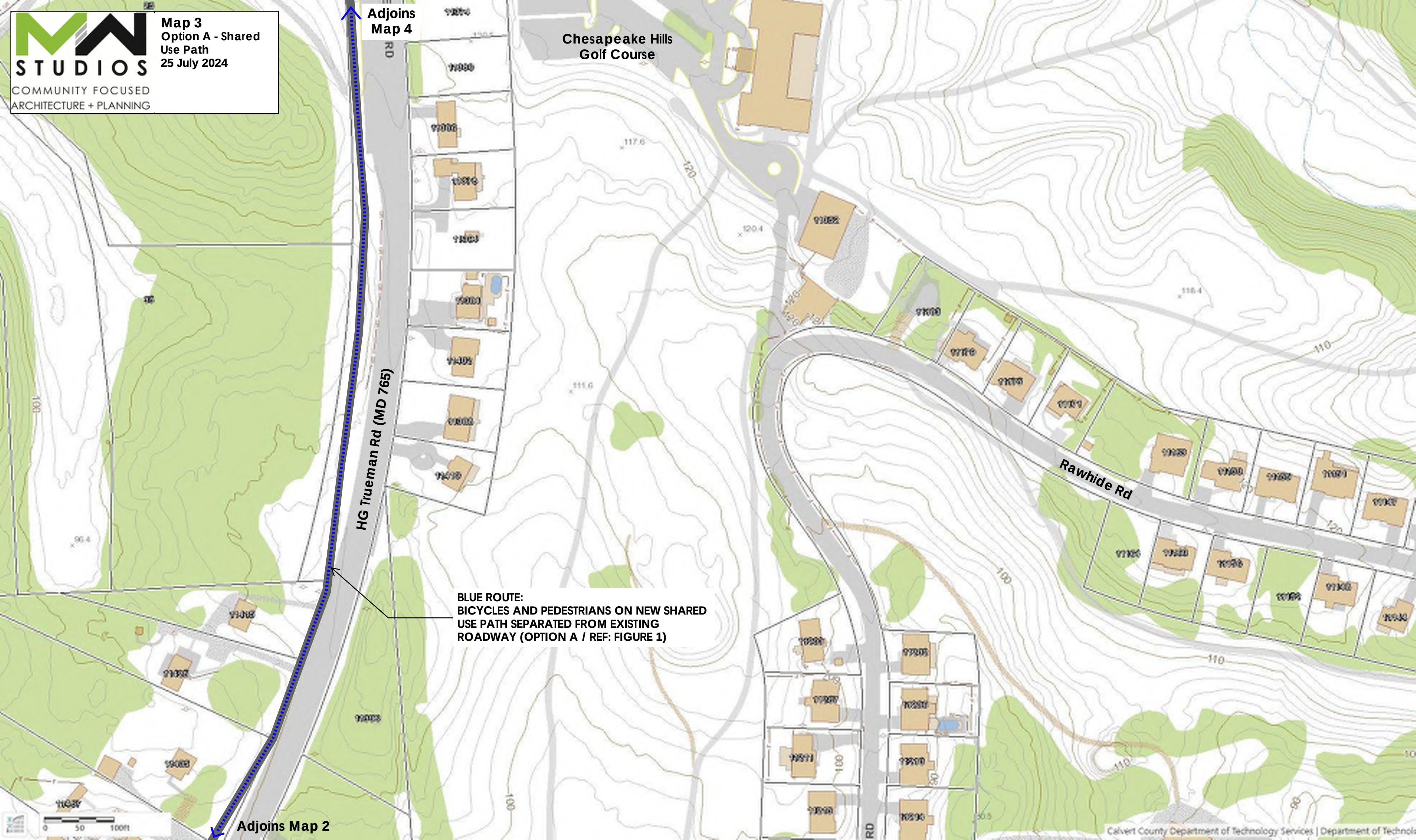


Map 2
Option A - Shared
Use Path
25 July 2024



BLUE ROUTE:
BICYCLES AND PEDESTRIANS ON NEW SHARED
USE PATH SEPARATED FROM EXISTING
ROADWAY (OPTION A / REF: FIGURE 1)





Map 3
Option A - Shared
Use Path
25 July 2024

Adjoins
Map 4

Chesapeake Hills
Golf Course

HG Trueman Rd (MD 765)

Rawhide Rd

BLUE ROUTE:
BICYCLES AND PEDESTRIANS ON NEW SHARED
USE PATH SEPARATED FROM EXISTING
ROADWAY (OPTION A / REF: FIGURE 1)

Adjoins Map 2

BLUE ROUTE:
BICYCLES AND PEDESTRIANS ON NEW SHARED
USE PATH SEPARATED FROM EXISTING
ROADWAY (OPTION A / REF: FIGURE 1)

W11-15
W11-15P BELOW
W16-9P BELOW



**PARTIAL ROADWAY WIDENING AS REQUIRED TO
ACCOMMODATE (5) FULL-WIDTH TRAVEL LANES**

**NOTE: UNDER OPTION B - INTERSECTION WITH
ANCHORAGE LANE IS RECONFIGURED.
NEW CONCRETE SAFETY ISLANDS AND
CROSSWALK PROPOSED. NEW PAVED
PEDESTRIAN/BICYCLE CONNECTION TO
CHESAPEAKE HILLS GOLF COURSE PROPOSED.**

W11-15
W11-15P BELOW
W16-7P BELOW



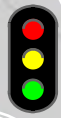
Chesapeake Hills Golf Course

W11-15
W11-15P BELOW
W16-9P BELOW



NEW SAFETY CROSSWALKS AND TRAFFIC SIGNAL PHASING (TO INCOPORATE PEDESTRIAN CYCLE)
AT EXISTING JUNCTION OF COVE PT RD (MD 497)
AND HG TRUMAN RD (MD 765)

Cove Point Rd (MD 497)



HG Truman Rd (MD 765)

Cove Point Rd (MD 497)

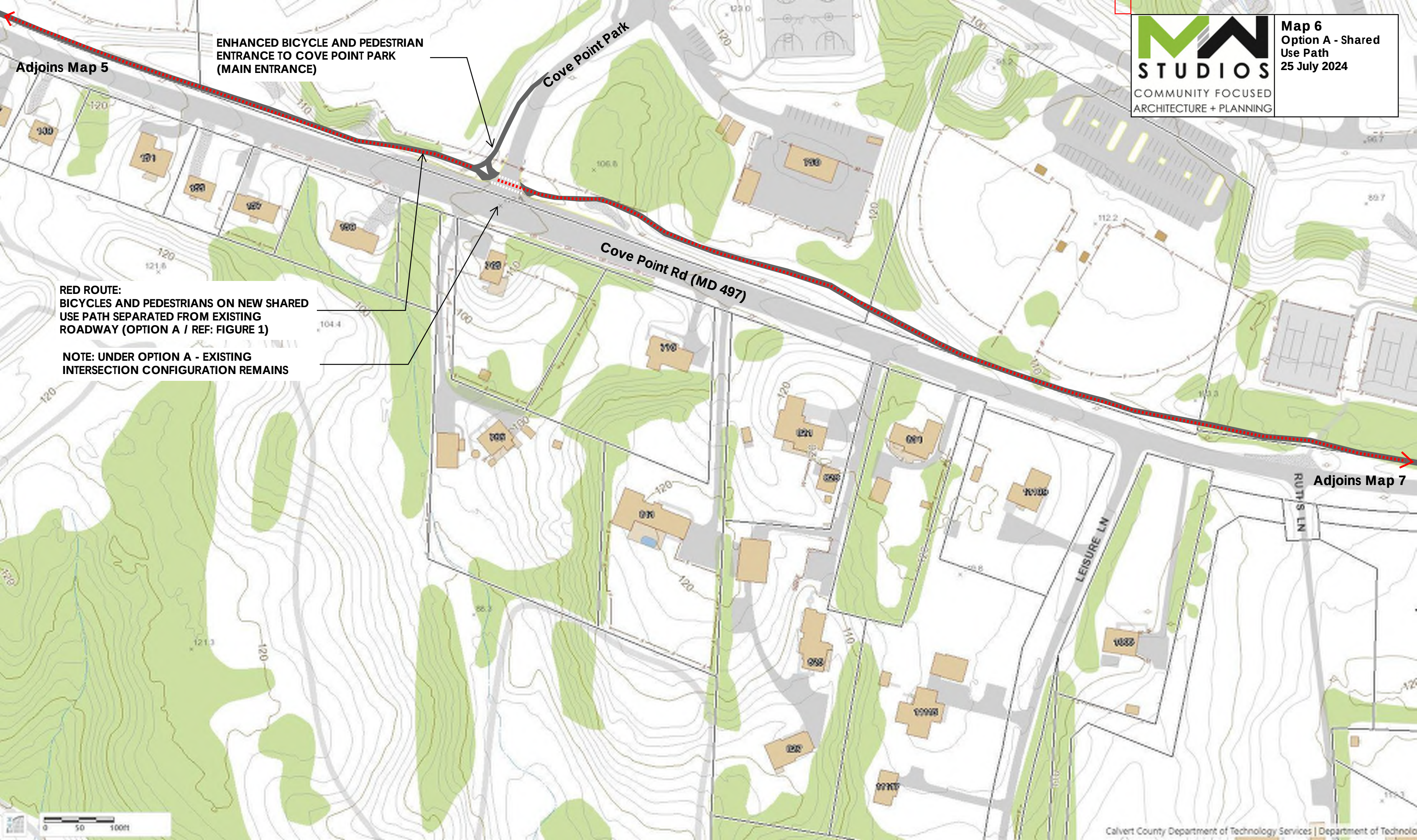
RED ROUTE:
BICYCLES AND PEDESTRIANS ON NEW SHARED
USE PATH SEPARATED FROM EXISTING
ROADWAY (OPTION A / REF: FIGURE 1)

BLUE ROUTE:
BICYCLES AND PEDESTRIANS ON NEW SHARED
USE PATH SEPARATED FROM EXISTING
ROADWAY (OPTION A / REF: FIGURE 1)

Homeport Ct

Adjoins
Map 4

Adjoins Map 6



Adjoins Map 5

ENHANCED BICYCLE AND PEDESTRIAN
ENTRANCE TO COVE POINT PARK
(MAIN ENTRANCE)

Cove Point Park

Cove Point Rd (MD 497)



Map 6
Option A - Shared
Use Path
25 July 2024

RED ROUTE:
BICYCLES AND PEDESTRIANS ON NEW SHARED
USE PATH SEPARATED FROM EXISTING
ROADWAY (OPTION A / REF: FIGURE 1)

NOTE: UNDER OPTION A - EXISTING
INTERSECTION CONFIGURATION REMAINS

Adjoins Map 7

LEISURE LN

RUTHS LN



NEW BICYCLE AND PEDESTRIAN
ENTRANCE TO COVE POINT PARK
(SECONDARY ENTRANCE)

Adjoins Map 6

NOTE: UNDER OPTION A - PEDESTRIAN AND
BICYCLE CROSSING PROHIBITED AT THIS LOCATION

Cove Point Rd (MD 497)

RED ROUTE:
BICYCLES AND PEDESTRIANS ON NEW SHARED
USE PATH SEPARATED FROM EXISTING
ROADWAY (OPTION A / REF: FIGURE 1)

GREEN ROUTE:
BICYCLES AND PEDESTRIANS ON NEW SHARED
USE PATH SEPARATED FROM EXISTING
ROADWAY (OPTION A / REF: FIGURE 1)

Cove Point Rd (MD 497)

Papas La

Platinum Dr

Little Cove Point Rd

Adjoins Map 8

Platinum Dr

GREEN ROUTE:
BICYCLES AND PEDESTRIANS ON NEW SHARED
USE PATH SEPARATED FROM EXISTING
ROADWAY (OPTION A / REF: FIGURE 1)

LITTLE COVE POINT RD

PRANCER CT

DONNER CT

DANCER CT

DASHER DR

DASHER DR

RUDOLPH LA

Adjoins
Map 8

GREEN ROUTE:
BICYCLES AND PEDESTRIANS ON NEW SHARED
USE PATH SEPARATED FROM EXISTING
ROADWAY (OPTION A / REF: FIGURE 1)

**Solomons Volunteer
Rescue Squad and
Fire Dept. Annex**

Adjoins
Map 10





Map 10
Option A - Shared
Use Path
25 July 2024



Adjoins
Map 9

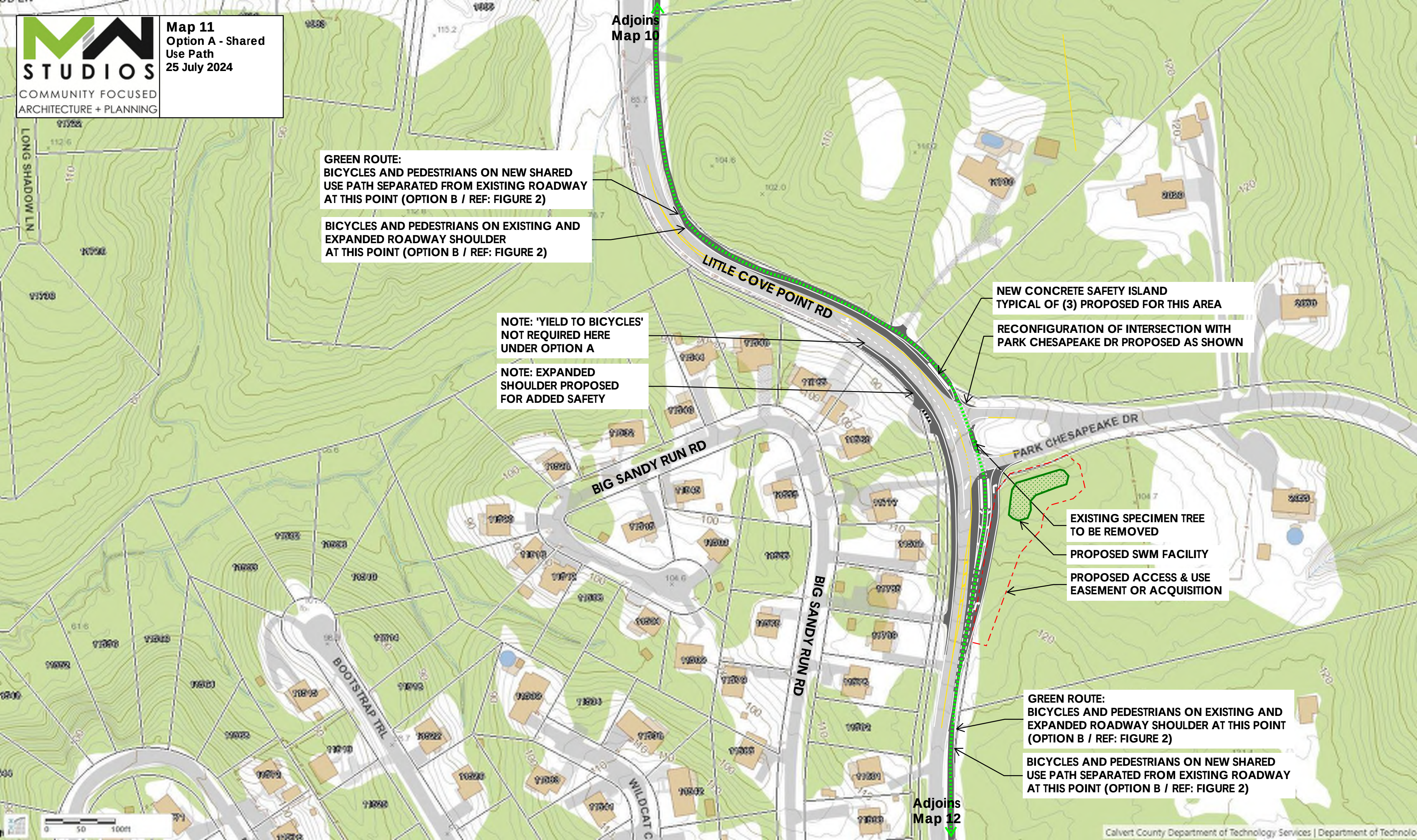
LITTLE COVE POINT RD

GREEN ROUTE:
BICYCLES AND PEDESTRIANS ON NEW SHARED
USE PATH SEPARATED FROM EXISTING
ROADWAY (OPTION A / REF: FIGURE 1)

Adjoins
Map 11



Map 11
Option A - Shared
Use Path
25 July 2024



GREEN ROUTE:
BICYCLES AND PEDESTRIANS ON NEW SHARED
USE PATH SEPARATED FROM EXISTING ROADWAY
AT THIS POINT (OPTION B / REF: FIGURE 2)

BICYCLES AND PEDESTRIANS ON EXISTING AND
EXPANDED ROADWAY SHOULDER
AT THIS POINT (OPTION B / REF: FIGURE 2)

NOTE: 'YIELD TO BICYCLES'
NOT REQUIRED HERE
UNDER OPTION A

NOTE: EXPANDED
SHOULDER PROPOSED
FOR ADDED SAFETY

NEW CONCRETE SAFETY ISLAND
TYPICAL OF (3) PROPOSED FOR THIS AREA

RECONFIGURATION OF INTERSECTION WITH
PARK CHESAPEAKE DR PROPOSED AS SHOWN

EXISTING SPECIMEN TREE
TO BE REMOVED

PROPOSED SWM FACILITY

PROPOSED ACCESS & USE
EASEMENT OR ACQUISITION

GREEN ROUTE:
BICYCLES AND PEDESTRIANS ON EXISTING AND
EXPANDED ROADWAY SHOULDER AT THIS POINT
(OPTION B / REF: FIGURE 2)

BICYCLES AND PEDESTRIANS ON NEW SHARED
USE PATH SEPARATED FROM EXISTING ROADWAY
AT THIS POINT (OPTION B / REF: FIGURE 2)

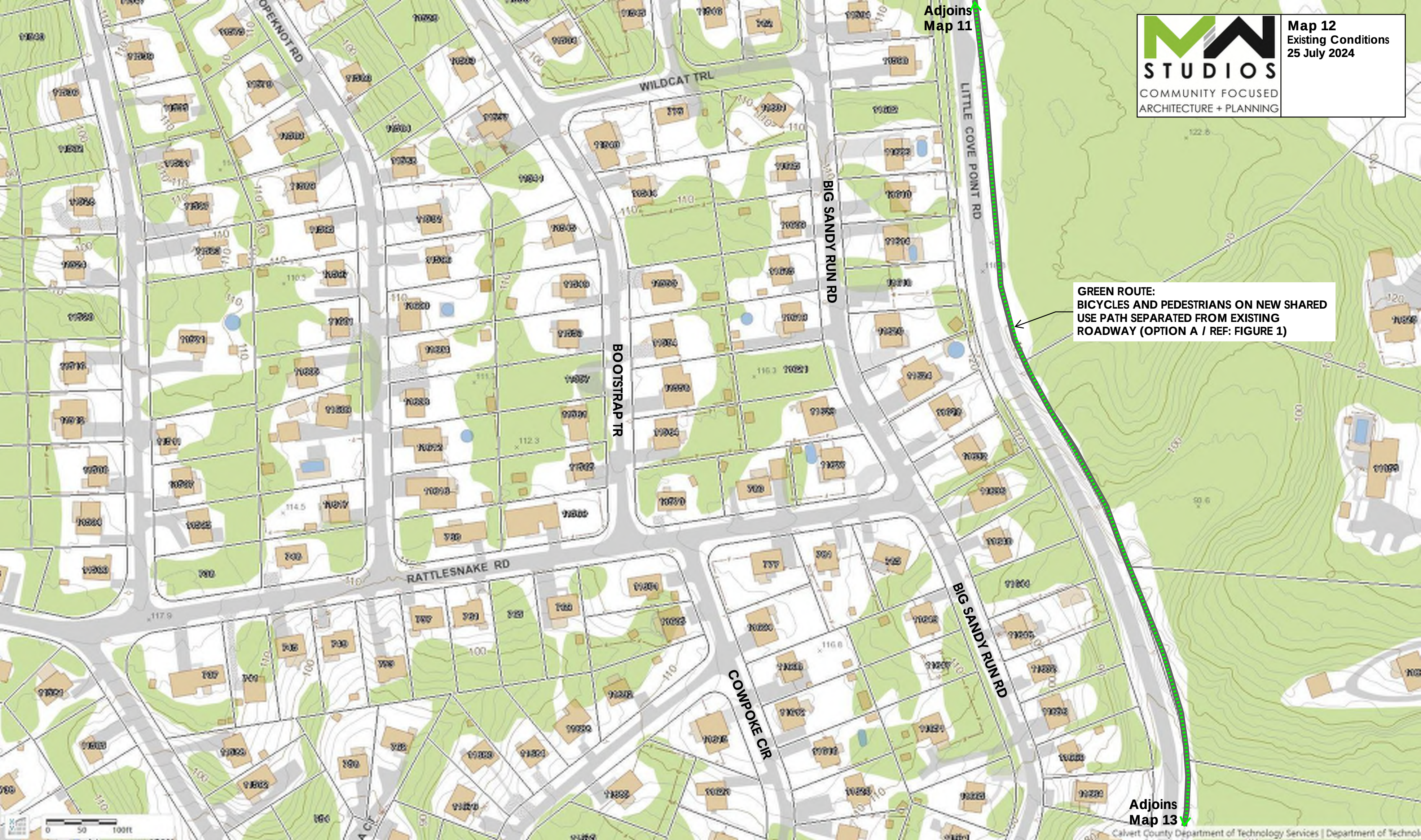
Adjoins
Map 11



Map 12
Existing Conditions
25 July 2024

GREEN ROUTE:
BICYCLES AND PEDESTRIANS ON NEW SHARED
USE PATH SEPARATED FROM EXISTING
ROADWAY (OPTION A / REF: FIGURE 1)

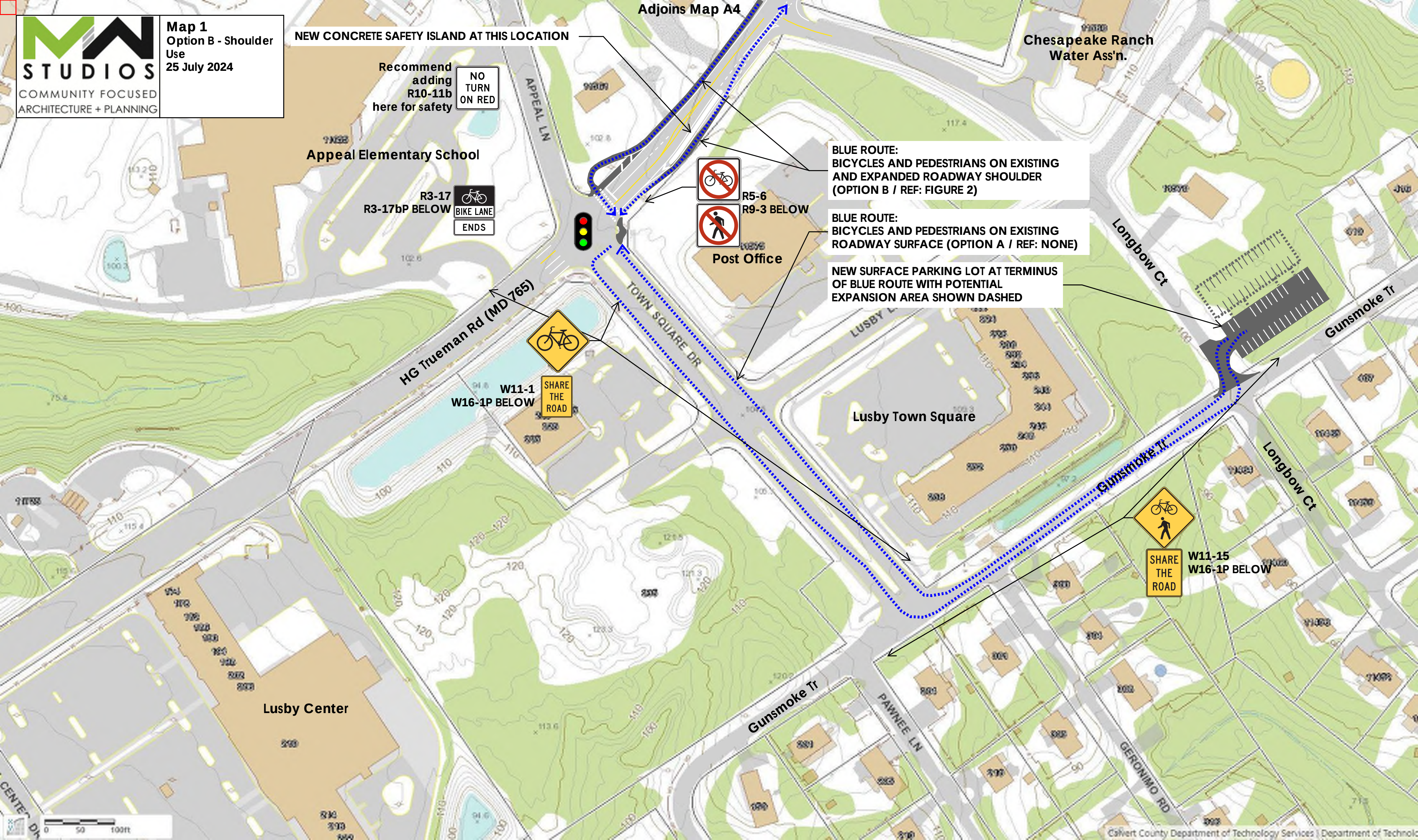
Adjoins
Map 13







Map 1
Option B - Shoulder
Use
25 July 2024



NEW CONCRETE SAFETY ISLAND AT THIS LOCATION

Recommend adding R10-11b here for safety

NO TURN ON RED

Appeal Elementary School

R3-17
R3-17bP BELOW

BIKE LANE
ENDS

Adjoins Map A4

BLUE ROUTE:
BICYCLES AND PEDESTRIANS ON EXISTING AND EXPANDED ROADWAY SHOULDER (OPTION B / REF: FIGURE 2)

R5-6
R9-3 BELOW

Post Office

BLUE ROUTE:
BICYCLES AND PEDESTRIANS ON EXISTING ROADWAY SURFACE (OPTION A / REF: NONE)

NEW SURFACE PARKING LOT AT TERMINUS OF BLUE ROUTE WITH POTENTIAL EXPANSION AREA SHOWN DASHED

HG Trueman Rd (MD 765)

W11-1
W16-1P BELOW

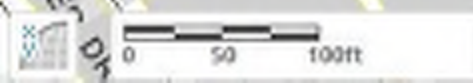


Lusby Town Square



W11-15
W16-1P BELOW

Lusby Center





Adjoins
Map 3

BLUE ROUTE:
BICYCLES AND PEDESTRIANS ON EXISTING
ROADWAY SHOULDER (OPTION B / FIGURE 2)

Adjoins
Map 1

Adjoins
Map 4

Chesapeake Hills
Golf Course

HG Trueman Rd (MD 765)

Rawhide Rd

BLUE ROUTE:
BICYCLES AND PEDESTRIANS ON EXISTING
ROADWAY SHOULDER (OPTION B / REF: FIGURE 2)

Adjoins Map 2

BLUE ROUTE:
BICYCLES AND PEDESTRIANS ON EXISTING
ROADWAY SHOULDER (OPTION A / REF: FIGURE 2)

R3-17
BIKE LANE

W11-15
W11-15P BELOW
W16-9P BELOW
TRAIL
X-ING



R3-17
BIKE LANE

NOTE: UNDER OPTION A - INTERSECTION WITH
ANCHORAGE LANE IS RECONFIGURED.
NEW CONCRETE 'REFUGE' SAFETY ISLANDS
AND CROSSWALK PROPOSED. NEW PAVED
PEDESTRIAN/BICYCLE CONNECTION TO
CHESAPEAKE HILLS GOLF COURSE PROPOSED.



W11-15
W11-15P BELOW
W16-7P BELOW



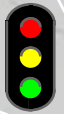
W11-15
W11-15P BELOW
W16-9P BELOW

Chesapeake Hills Golf Course

Adjoins Map 3

NEW SAFETY CROSSWALKS AND TRAFFIC SIGNAL PHASING (TO INCOPORATE PEDESTRIAN CYCLE) AT EXISTING JUNCTION OF COVE PT RD (MD 497) AND HG TRUMAN RD (MD 765)

Cove Point Rd (MD 497)



Cove Point Rd (MD 497)

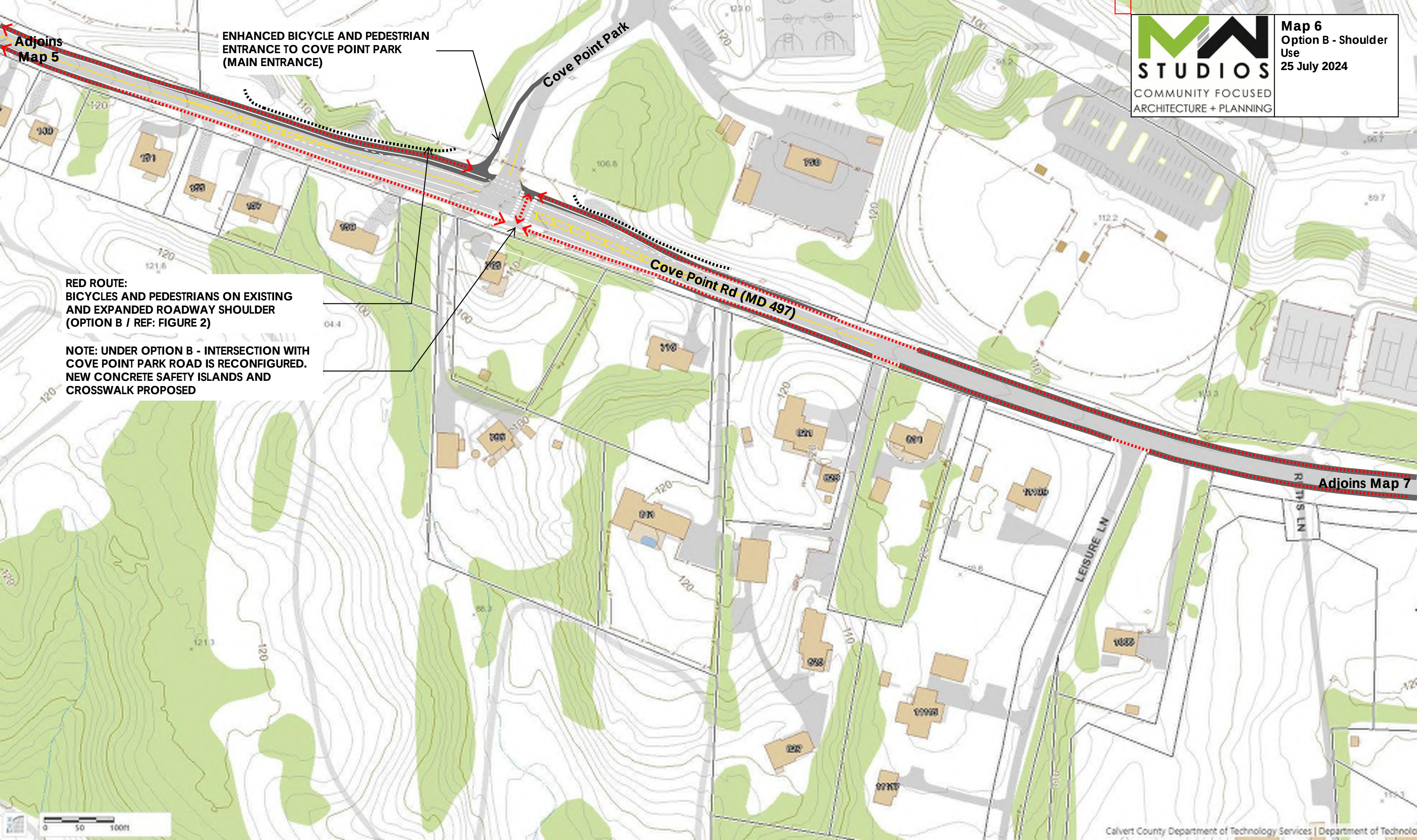
RED ROUTE:
BICYCLES AND PEDESTRIANS ON EXPANDED
ROADWAY SHOULDER (OPTION B / REF: FIGURE 2)

BLUE ROUTE:
BICYCLES AND PEDESTRIANS ON EXISTING
AND EXPANDED ROADWAY SHOULDER
(OPTION B / REF: FIGURE 2)

Homeport Ct

Adjoins
Map 4

Adjoins Map 6



Adjoins Map 5

ENHANCED BICYCLE AND PEDESTRIAN ENTRANCE TO COVE POINT PARK (MAIN ENTRANCE)

Cove Point Park

Cove Point Rd (MD 497)

RED ROUTE:
BICYCLES AND PEDESTRIANS ON EXISTING AND EXPANDED ROADWAY SHOULDER (OPTION B / REF: FIGURE 2)

NOTE: UNDER OPTION B - INTERSECTION WITH COVE POINT PARK ROAD IS RECONFIGURED. NEW CONCRETE SAFETY ISLANDS AND CROSSWALK PROPOSED



Map 6
Option B - Shoulder Use
25 July 2024

Adjoins Map 7





Map 7
Option B - Shoulder Use
25 July 2024

**NEW BICYCLE AND PEDESTRIAN
ENTRANCE TO COVE POINT PARK
(SECONDARY ENTRANCE)**

Adjoins Map 6

**NOTE: PEDESTRIAN AND BICYCLE CROSSING
PROHIBITED AT THIS LOCATION**

Cove Point Rd (MD 497)

Cove Point Rd (MD 497)

**RED ROUTE:
BICYCLES AND PEDESTRIANS ON EXISTING
AND EXPANDED ROADWAY SHOULDER
(OPTION B / REF: FIGURE 2)**

**GREEN ROUTE:
BICYCLES AND PEDESTRIANS ON EXISTING
AND EXPANDED ROADWAY SHOULDER
(OPTION B / REF: FIGURE 2)**

Papas La

Platinum Dr

Little Cove Point Rd

Platinum Dr

**Adjoins
Map 8**





GREEN ROUTE:
BICYCLES AND PEDESTRIANS ON EXISTING
AND EXPANDED ROADWAY SHOULDER
(OPTION B / REF: FIGURE 2)

LITTLE COVE POINT RD

RUDOLPH LA

PRANCER CT

DASHER DR

DANCER CT

DONNER CT

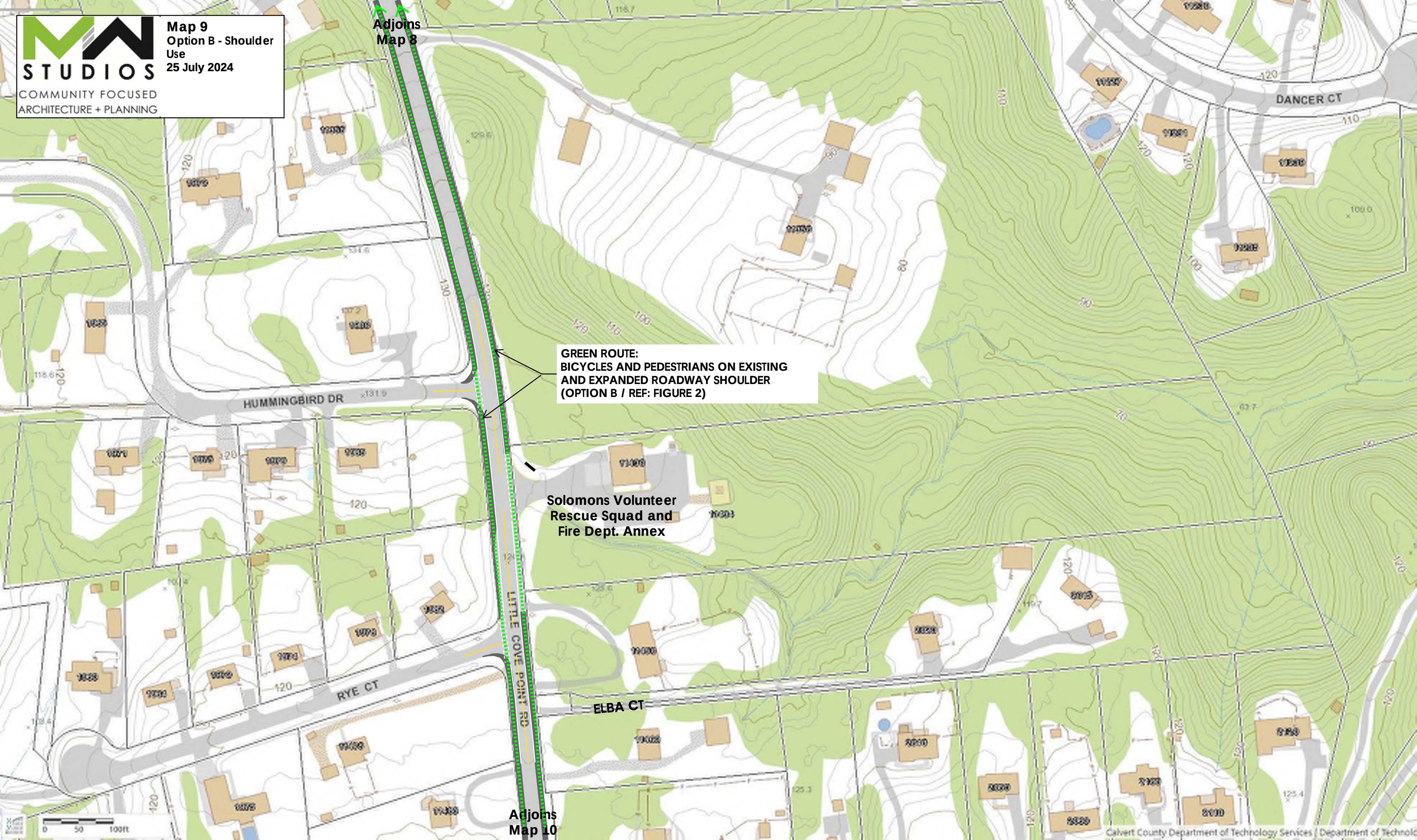
DASHER DR

Adjoins
Map 8

GREEN ROUTE:
BICYCLES AND PEDESTRIANS ON EXISTING
AND EXPANDED ROADWAY SHOULDER
(OPTION B / REF: FIGURE 2)

**Solomons Volunteer
Rescue Squad and
Fire Dept. Annex**

Adjoins
Map 10





NOTE: ROADWAY RECONFIGURATION
RECOMMENDED HERE UNDER OPTION B
LEFT TURN MOVEMENT LANES ADDED

GREEN ROUTE:
BICYCLES AND PEDESTRIANS ON EXISTING
AND EXPANDED ROADWAY SHOULDER
(OPTION B / REF: FIGURE 2)

Adjoins
Map 11



Map 11
Option B - Shoulder
Use
25 July 2024

GREEN ROUTE:
BICYCLES AND PEDESTRIANS ON EXISTING
AND EXPANDED ROADWAY SHOULDER
(OPTION B / REF: FIGURE 2)

Adjoins
Map 10

LITTLE COVE POINT RD

BIG SANDY RUN RD

NEW CONCRETE SAFETY ISLAND
TYPICAL OF (3) PROPOSED FOR THIS AREA

RECONFIGURATION OF INTERSECTION WITH
PARK CHESAPEAKE DR PROPOSED AS SHOWN

PARK CHESAPEAKE DR

EXISTING SPECIMEN TREE
TO BE REMOVED

PROPOSED SWM FACILITY

PROPOSED ACCESS & USE
EASEMENT OR ACQUISITION

GREEN ROUTE:
BICYCLES AND PEDESTRIANS ON EXISTING
AND EXPANDED ROADWAY SHOULDER
(OPTION B / REF: FIGURE 2)

Adjoins
Map 12



Adjoins
Map 11



Map 12
Option B - Shoulder
Use
25 July 2024

GREEN ROUTE:
BICYCLES AND PEDESTRIANS ON
EXPANDED ROADWAY SHOULDER
(OPTION B / REF: FIGURE 2)



Adjoins
Map 13



APPENDIX 3

COVE POINT TRAIL STUDY - PROBABLE PROJECT COST ESTIMATE

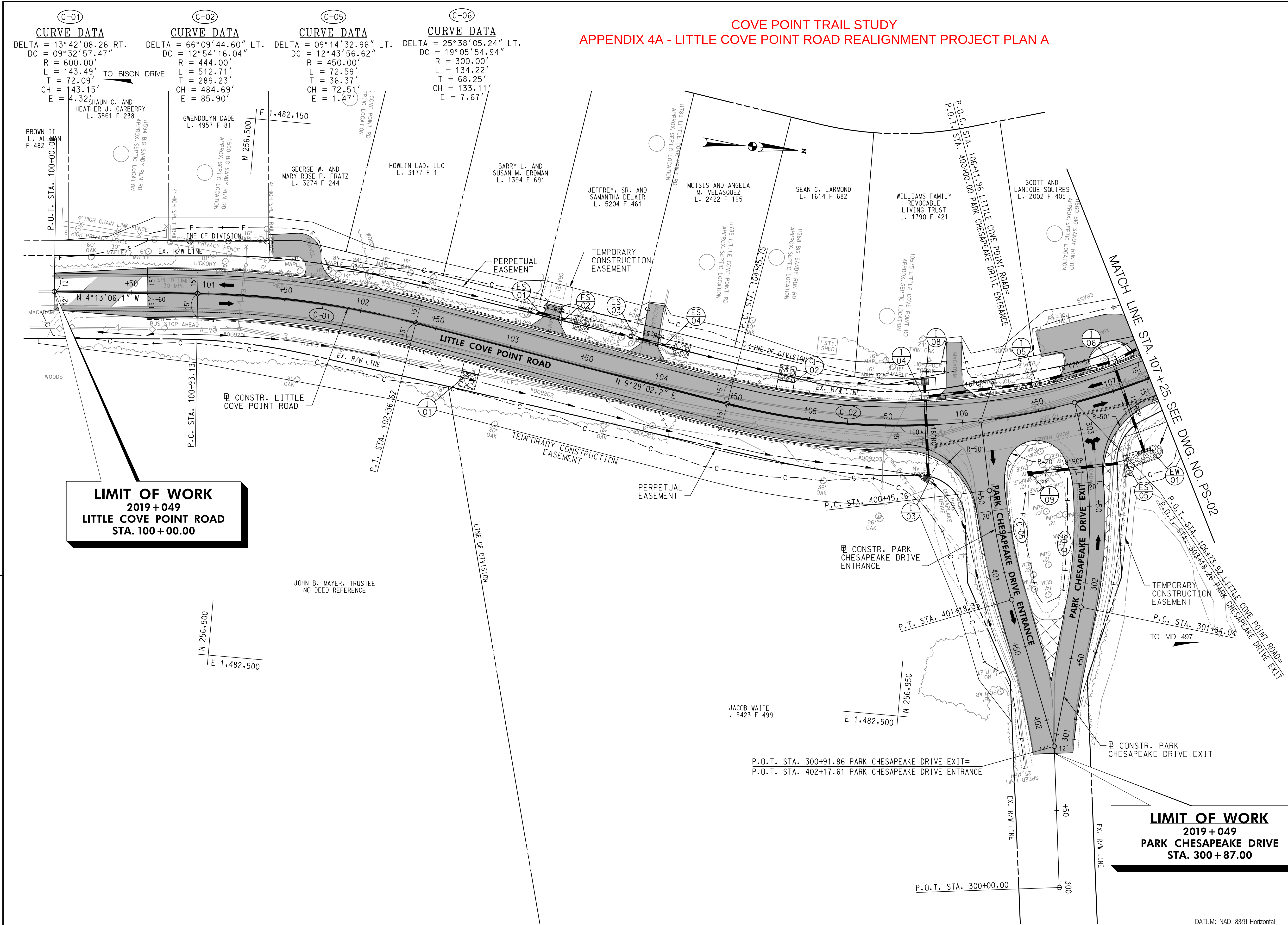
Option A (Shared Use Pathways)

				Blue Route		Red Route		Green Route			
CSI Division		Description	Unit	Unit Cost		MD 765-HG Trueman Road		MD 497-Cove Point Road		Little Cove Point Road (County)	
				Quantity	Extension	Quantity	Extension	Quantity	Extension		
BASE PROJECT:											
01 0000	General Conditions	Percent	--								
03 3000	Concrete Median - 10 ft wide	1 lin. ft	\$	218.00	10% \$	195,901	10% \$	163,002	10% \$	363,840	
26 5600	Roadway Lighting	Lump	\$	15,000.00	80.0 \$	17,440	24.0 \$	5,232	75.0 \$	16,350	
31 1100	Clearing and Grubbing - Significant	1 sq ft	\$	1.19	1.3 \$	19,500	1.0 \$	15,000	2.0 \$	30,000	
31 2000	Earth Moving - Significant Re-Grading	1 sq ft	\$	1.90	20,000.0 \$	23,800	67,000.0 \$	79,730	91,080.0 \$	108,385	
31 2500	Stormwater Management Facility - Micro Bioretention	Each	\$	39,000.00	30,000.0 \$	57,000	78,000.0 \$	148,200	145,728.0 \$	276,883	
32 1200	Shared Use Path: Base + 2" Thk. Top Course, 10-ft width	1 lin. ft	\$	169.00	4.0 \$	156,000	4.0 \$	156,000	6.0 \$	234,000	
32 1200	Construct Paved Parking Area: Asphalt	1 sq ft	\$	14.95	5,808.0 \$	981,552	6390.0 \$	1,079,910	13,800.0 \$	2,332,200	
32 1200	Construct Roadway Widening: 12-ft width	1 lin. ft	\$	132.84	10,800.0 \$	161,460	0.0 \$	-	10,800.0 \$	161,460	
32 1713	Pavement Markings - Roadway Restriping	1 lin. ft	\$	19.00	1,200.0 \$	159,408	0.0 \$	-	1,200.0 \$	159,408	
32 1723	Install New Crosswalk - Thermoplastic Pavement Marking	Each	\$	2,700.00	2,640.0 \$	50,160	1320.0 \$	25,080	2,400.0 \$	45,600	
32 1900	Roadway Panel Signage - Static	Each	\$	549.00	6.0 \$	16,200	4.0 \$	10,800	10.0 \$	27,000	
32 1910	Roadway Signage - Dynamic Driver Feedback "Speed" Singage	Each	\$	21,490.00	10.0 \$	5,490	8.0 \$	4,392	24.0 \$	13,176	
32 3213	Retaining Walls	1 sq ft	\$	33.00	2.0 \$	42,980	2.0 \$	42,980	2.0 \$	42,980	
32 5200	Galvanized Steel Guardrail	l lin. ft	\$	59.00	- \$	-	400.0 \$	13,200	1,600.0 \$	52,800	
34 4113	Traffic Signal Reconfiguration and Re-Programming	Each	\$	99,000.00	- \$	-	0.0 \$	-	240.0 \$	14,160.00	
35 0500	Site Utilities - Pipes, Manholes, and Culverts	1 lin. ft	\$	249.00	1.5 \$	148,500	0.5 \$	49,500	- \$	-	
				480.0 \$	119,520	227.0 \$	56,523	498.0 \$	124,002.00		
Sub-Total, Base Project:				\$ 2,154,911		\$ 1,849,549		\$ 4,002,245			
STANDARD PROJECT MULTIPLIERS:											
00 0000	Permits, Bonds, Insurance, and Fees	Percent			6% \$	129,295	6% \$	110,973	6% \$	240,135	
00 0000	Project Engineering	Percent			18% \$	387,884	18% \$	332,919	18% \$	720,404	
00 0000	Wage Scale	Percent			7% \$	150,844	7% \$	129,468	7% \$	280,157.14	
00 0000	Project Contingency	Percent			20% \$	430,982	20% \$	369,910	20% \$	800,449	
Sub-Total, Multipliers:				\$ 1,099,005		\$ 943,270		\$ 2,041,145			
ANTICIPATED LAND ACQUISITION AND EASEMENTS:											
00 0000	LAND ACQUISITION	1 sq ft	\$	3.90	13,200.00 \$	51,480	8000 \$	31,200	76230 \$	297,297.00	
00 0000	EASEMENTS	1 sq ft	\$	1.95	52,800.00 \$	102,960	39600 \$	77,220	76230 \$	148,648.50	
Sub-Total, Land Acquisition and Easements:				\$ 154,440		\$ 108,420		\$ 445,945.50			
Segment Subtotal Anticipated Probable Cost:				\$ 3,408,356		\$ 2,901,240		\$ 6,489,335.21			
Anticipated TOTAL Probable Project Cost:										\$ 12,798,930.41	
In Anticipated 2025 Q4 US Dollars											
POTENTIAL PROJECT COST ESCALATION:			If Constructed in 2026		If Constructed in 2027		If Constructed in 2028		If Constructed in 2029		
			7.5% \$ 13,758,850.19		5% \$ 14,446,792.70		5% \$ 15,169,132.34		5% \$ 15,927,588.96		

COVE POINT TRAIL STUDY - PROBABLE PROJECT COST ESTIMATE

Option B (Enhanced Shoulders)

				Blue Route		Red Route		Green Route	
CSI Division Description		Unit	Unit Cost	MD 765-HG Trueman Road		MD 497-Cove Point Road		Little Cove Point Road (County)	
				Quantity	Extension	Quantity	Extension	Quantity	Extension
BASE PROJECT:									
01 0000	General Conditions	Percent	-- -	10%	\$ 81,203	10%	\$ 398,076	10%	\$ 621,242
03 3000	Concrete Median - 10 ft wide	1 lin. ft	\$ 218.00	80.0	\$ 17,440	48.0	\$ 10,464	96.0	\$ 20,928
26 5600	Roadway Lighting	Lump	\$ 15,000.00	1.4	\$ 21,000	1.0	\$ 15,000	2.5	\$ 37,500
31 1100	Clearing and Grubbing - Significant	1 sq ft	\$ 1.19	11,500.0	\$ 13,685	84,250.0	\$ 100,258	113,250.0	\$ 134,768
31 2000	Earth Moving - Significant Re-Grading	1 sq ft	\$ 1.90	14,985.0	\$ 28,472	124,050.0	\$ 235,695	305,985.0	\$ 581,372
31 2500	Stormwater Management Facility - Micro Bioretention	Each	\$ 39,000.00	3.0	\$ 117,000	6.0	\$ 234,000	9.0	\$ 351,000
32 1200	Shared Use Path: Base + 2" Thk. Top Course, 10-ft width	1 lin. ft	\$ 169.00	150.0	\$ 25,350	384.0	\$ 64,896	140.0	\$ 23,660
32 1200	Construct Paved Parking Area: Asphalt	1 sq ft	\$ 14.95	10,800.0	\$ 161,460	0.0	\$ -	10,800.0	\$ 161,460
32 1200	Construct Roadway Widening: 12-ft width	1 lin. ft	\$ 228.00	670.0	\$ 152,760	10,400.0	\$ 2,371,200	15,240.0	\$ 3,474,720
32 1713	Pavement Markings - Roadway Restriping	1 lin. ft	\$ 19.00	1,600.0	\$ 30,400	40,800.0	\$ 775,200	60,480.0	\$ 1,149,120
32 1723	Install New Crosswalk - Thermoplastic Pavement Marking	Each	\$ 2,700.00	6.0	\$ 16,200	6.0	\$ 16,200	10.0	\$ 27,000
32 1900	Roadway Panel Signage - Static	Each	\$ 549.00	28.0	\$ 15,372	28.0	\$ 15,372	38.0	\$ 20,862
32 1910	Roadway Signage - Dynamic Driver Feedback "Speed" Singage	Each	\$ 21,490.00	2.0	\$ 42,980	2.0	\$ 42,980	2.0	\$ 42,980
32 3213	Retaining Walls	1 sq ft	\$ 33.00	-	\$ -	800.0	\$ 26,400	2,200.0	\$ 72,600
32 5200	Galvanized Steel Guardrail	l lin. ft	\$ 59.00	-	\$ -	400.0	\$ 23,600	640.0	\$ 37,760.00
34 4113	Traffic Signal Reconfiguration and Re-Programming	Each	\$ 99,000.00	1.5	\$ 148,500	0.5	\$ 49,500	-	\$ -
35 0500	Site Utilities - Pipes, Manholes, and Culverts	1 lin. ft	\$ 249.00	86.0	\$ 21,414	196.0	\$ 48,804	308.0	\$ 76,692.00
Sub-Total, Base Project:				\$ 893,236		\$ 4,427,645		\$ 6,833,663	
STANDARD PROJECT MULTIPLIERS:									
00 0000	Permits, Bonds, Insurance, and Fees	Percent		6%	\$ 53,594	5%	\$ 221,382	5%	\$ 341,683
00 0000	Project Engineering	Percent		18%	\$ 160,782	15%	\$ 664,147	15%	\$ 1,025,049
00 0000	Wage Scale	Percent		7%	\$ 62,527	7%	\$ 309,935	7%	\$ 478,356.42
00 0000	Project Contingency	Percent		20%	\$ 178,647	20%	\$ 885,529	20%	\$ 1,366,733
Sub-Total, Multipliers:				\$ 455,550		\$ 2,080,993		\$ 3,211,822	
ANTICIPATED LAND ACQUISITION AND EASEMENTS:									
00 0000	LAND ACQUISITION	1 sq ft	\$ 3.90	6,800.00	\$ 26,520	8,000	\$ 31,200	36,879	\$ 143,828.10
00 0000	EASEMENTS	1 sq ft	\$ 1.95	30,250.00	\$ 58,988	29,200	\$ 56,940	38,400	\$ 74,880.00
Sub-Total, Land Acquisition and Easements:				\$ 85,508		\$ 88,140		\$ 218,708.10	
Segment Subtotal Anticipated Probable Cost:				\$ 1,434,293		\$ 6,596,778		\$ 10,264,192.86	
Anticipated TOTAL Probable Project Cost:								\$ 18,295,264.42	
In Anticipated 2025 Q4 US Dollars									
POTENTIAL PROJECT COST ESCALATION:		If Constructed in 2026		If Constructed in 2027		If Constructed in 2028		If Constructed in 2029	
		7.5% \$ 19,667,409.25		5% \$ 20,650,779.71		5% \$ 21,683,318.70		5% \$ 22,767,484.63	



COVE POINT TRAIL STUDY
APPENDIX 4A - LITTLE COVE POINT ROAD REALIGNMENT PROJECT PLAN A

QUANTITY NOTES

TYPE D CURB & GUTTER, 12 INCH GUTTER PAN, 6 INCH DEPTH (CALVERT CO. STD. RD-19B)	
500 L.F.	LITTLE COVE POINT ROAD - STA.100+60 TO STA.105+61, RT.
659 L.F.	LITTLE COVE POINT ROAD - STA.100+60 TO STA.107+25, LT.

REMOVAL OF EXISTING PIPE	
147 L.F.	LITTLE COVE POINT ROAD - STA.105+82 TO STA.107+25, RT.

REMOVAL OF EXISTING MASONRY	
6 C.Y.	LITTLE COVE POINT ROAD - STA.105+67, RT.(INLET)

6" PERFORATED CIRCULAR PIPE LONGITUDINAL UNDERDRAIN (MD 387.II)	
191 L.F.	LITTLE COVE POINT ROAD - STA.100+60 TO STA.102+55, RT.
317 L.F.	LITTLE COVE POINT ROAD - STA.102+84 TO STA.105+83, RT.
238 L.F.	LITTLE COVE POINT ROAD - STA.102+24 TO STA.104+62, LT.
84 L.F.	LITTLE COVE POINT ROAD - STA.104+37 TO STA.105+74, LT.
68 L.F.	LITTLE COVE POINT ROAD - STA.105+79 TO STA.106+49, LT.
47 L.F.	LITTLE COVE POINT ROAD - STA.106+54 TO STA.107+04, LT.
15 L.F.	LITTLE COVE POINT ROAD - STA.107+09 TO STA.107+25, LT.

6" PERFORATED CIRCULAR PIPE UNDERDRAIN OUTLETS	
12 L.F.	LITTLE COVE POINT ROAD - STA.102+55 TO STA.102+63, RT.
11 L.F.	LITTLE COVE POINT ROAD - STA.104+05 TO STA.104+12, RT.
12 L.F.	LITTLE COVE POINT ROAD - STA.104+62 TO STA.104+71, LT.
11 L.F.	LITTLE COVE POINT ROAD - STA.105+83, RT. TO I-03

CLASS IRIPRAP FOR CHANNEL PROTECTION (SEE DD-02)	
13 S.Y.	LITTLE COVE POINT ROAD - STA.102+79, RT., L=11', W=10'
9 S.Y.	LITTLE COVE POINT ROAD - STA.103+36, LT., L=10' W=9.25'
9 S.Y.	LITTLE COVE POINT ROAD - STA.104+03, LT., L=10', W=9.25'
12 S.Y.	LITTLE COVE POINT ROAD - STA.104+81, LT., L=11', W=10'
25 S.Y.	LITTLE COVE POINT ROAD - STA.106+96, RT., L=10', W=10.5'

REMOVAL OF EXISTING PAVEMENT	
30 C.Y.	PARK CHESAPEAKE DRIVE ENTRANCE - STA.400+17 TO STA.401+76, LT.
23 C.Y.	PARK CHESAPEAKE DRIVE EXIT - STA.301+55 TO STA.303+04, RT.

DRIVEWAY ENTRANCE (CALVERT CO. STD. RD-15C)	
1 EA.	LITTLE COVE POINT ROAD - STA.101+60, LT.
1 EA.	LITTLE COVE POINT ROAD - STA.103+21, LT.
1 EA.	LITTLE COVE POINT ROAD - STA.103+87, LT.
1 EA.	LITTLE COVE POINT ROAD - STA.105+97, LT.
1 EA.	LITTLE COVE POINT ROAD - STA.106+86, LT.

REMOVE AND RESET EXISTING FENCE	
63 L.F.	LITTLE COVE POINT ROAD - STA.100+75 TO STA.101+35, LT.

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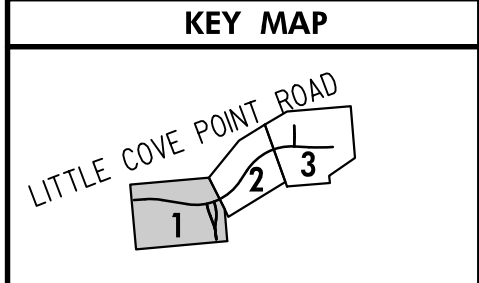
LITTLE COVE POINT ROAD
GEOMETRIC IMPROVEMENTS

ROADWAY PLAN

SCALE 1" = 30'	DATE JUN 2021	CONTRACT NO. 2019-049
DESIGNED BY S.A.T.	COUNTY CALVERT	
DRAWN BY S.A.T.	ELECTION DISTRICT 1	
CHECKED BY M.J.B.		
DRAWING NO. PS-01	OF 03	SHEET NO. 11 OF 60

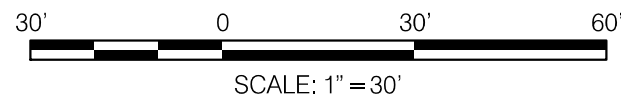
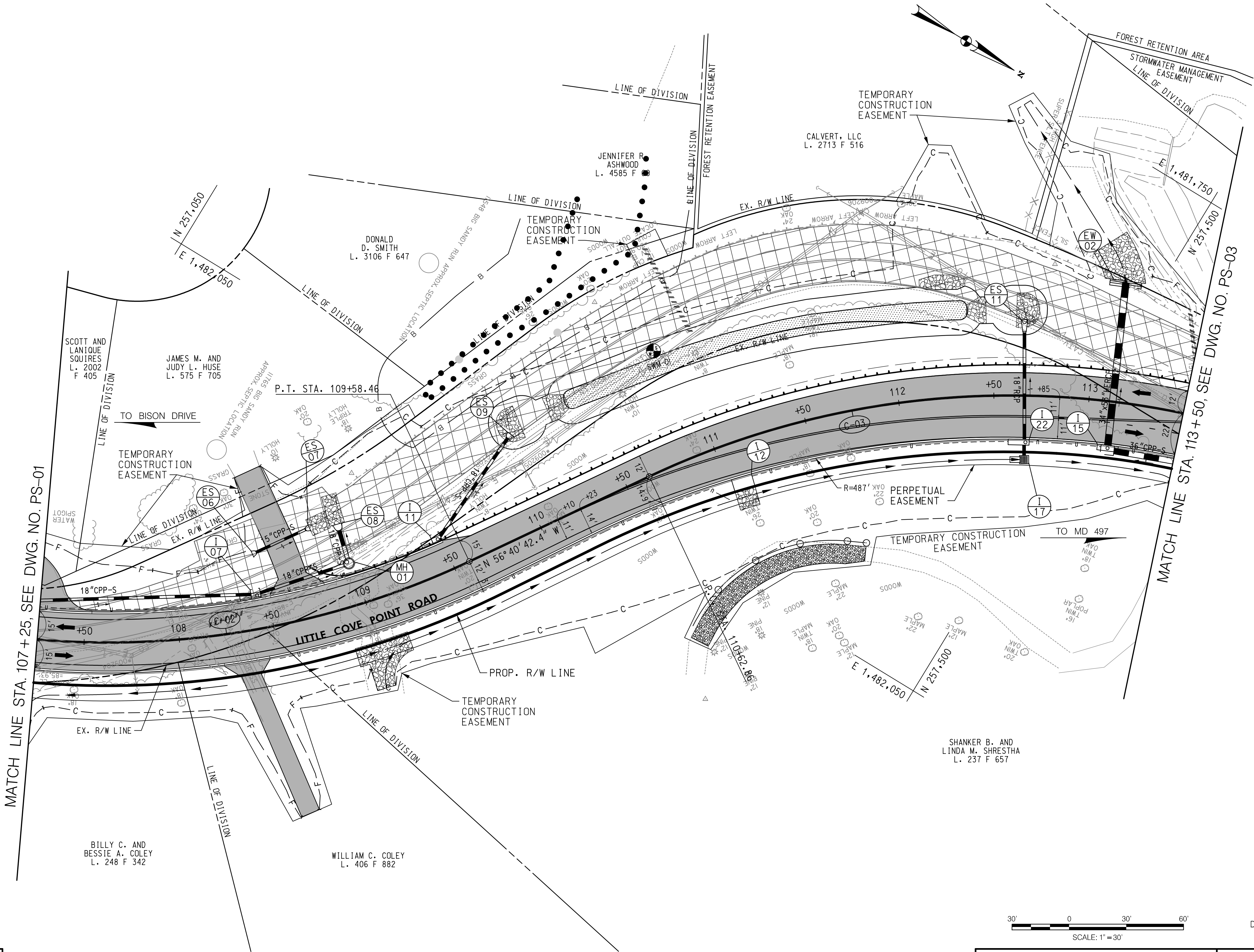
WALLACE MONTGOMERY
ENGINEERS-PLANNERS-SURVEYORS-CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

LEGEND	
	FULL DEPTH ASPHALT PAVING
	GRINDING & ASPHALT RESURFACING
	PAVEMENT REMOVAL
	IRIPRAP
	CELLULAR CONFINEMENT ACCESS ROAD
	CONSTRUCTION



COVE POINT TRAIL STUDY
APPENDIX 4B - LITTLE COVE POINT ROAD REALIGNMENT PROJECT PLAN B

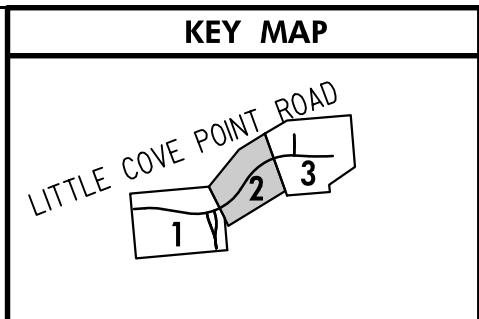
C-02	C-03
CURVE DATA	CURVE DATA
DELTA = 66°09'44.60" LT.	DELTA = 59°45'42.63" RT.
DC = 12°54'16.04"	DC = 12°54'16.04"
R = 444.00'	R = 444.00'
L = 512.71'	L = 463.11'
T = 289.23'	T = 255.11'
CH = 484.69'	CH = 442.40'
E = 85.90'	E = 68.07'



DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

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LEGEND
FULL DEPTH ASPHALT PAVING
GRINDING & ASPHALT RESURFACING
PAVEMENT REMOVAL
RIPRAP
CELLULAR CONFINEMENT ACCESS ROAD
CONSTRUCTION SYMBOLS



CROSS REFERENCE	REVISIONS
ITEM	DRAWING NOs.
TYPICAL SECTIONS	TS-01 TO TS-02
PAVEMENT DETAILS	DE-01
SUPERELEVATION TABLE	SE-01
GEOMETRIC LAYOUT	GS-01
ROADWAY PLANS	PS-01 TO PS-03
ROADWAY PROFILES	PR-01 TO PR-04
DRIVEWAY PLAN AND PROFILES	DI-01 TO DI-05
STORMWATER MANAGEMENT PLANS	SW-01 TO SW-02
PIPE & DRAINAGE SCHEDULE	DD-01
DRAINAGE PROFILES	DP-01 TO DP-03
EROSION & SEDIMENT CONTROL PLANS	ES-01 TO ES-03

QUANTITY NOTES	
TYPE D CURB & GUTTER, 12 INCH GUTTER PAN, 6 INCH DEPTH (CALVERT CO. STD. RD-19B)	
620 L.F.	LITTLE COVE POINT ROAD - STA.107+25 TO STA.113+50, RT.
217 L.F.	LITTLE COVE POINT ROAD - STA.107+25 TO STA.109+50, LT.
REMOVAL OF EXISTING PIPE	
20 L.F.	LITTLE COVE POINT ROAD - STA.108+17 TO STA.108+37, LT.
50 L.F.	LITTLE COVE POINT ROAD - STA.111+02 TO STA.111+09, LT.
33 L.F.	LITTLE COVE POINT ROAD - STA.113+44 TO STA.113+50, LT.
6" PERFORATED CIRCULAR PIPE LONGITUDINAL UNDERDRAIN (MD 387.11)	
111 L.F.	LITTLE COVE POINT ROAD - STA.107+25 TO STA.108+41, LT.
95 L.F.	LITTLE COVE POINT ROAD - STA.108+46 TO STA.109+45, LT.
385 L.F.	LITTLE COVE POINT ROAD - STA.107+25 TO STA.111+03, RT.
142 L.F.	LITTLE COVE POINT ROAD - STA.111+13 TO STA.112+64, RT.
39 L.F.	LITTLE COVE POINT ROAD - STA.112+69 TO STA.113+10, RT.
33 L.F.	LITTLE COVE POINT ROAD - STA.113+15 TO STA.113+50, RT.
6" PERFORATED CIRCULAR PIPE UNDERDRAIN OUTLETS	
7 L.F.	LITTLE COVE POINT ROAD - STA.108+17, RT.
14 L.F.	LITTLE COVE POINT ROAD - STA.111+02, RT.
CLASS I RIPRAP FOR CHANNEL PROTECTION (SEE DD-02)	
53 S.Y.	LITTLE COVE POINT ROAD - STA.109+00, RT., L=28', W=10'
17 S.Y.	LITTLE COVE POINT ROAD - STA.109+00, LT., L=10', W=12'
20 S.Y.	LITTLE COVE POINT ROAD - STA.110+08, LT., L=10', W=10.5'
12 S.Y.	LITTLE COVE POINT ROAD - STA.111+11, RT., L=11', W=10'
20 S.Y.	LITTLE COVE POINT ROAD - STA.112+67, LT., L=10', W=10.5'
50 S.Y.	LITTLE COVE POINT ROAD - STA.113+11, LT., L=22', W=20'
REMOVAL OF EXISTING PAVEMENT	
802 C.Y.	LITTLE COVE POINT ROAD - STA.107+40 TO STA.113+50, LT.
TRAFFIC BARRIER W BEAM USING 6 FOOT POST (MD 605.31)	
485 L.F.	LITTLE COVE POINT ROAD - STA.108+75 TO STA.113+50, LT.
REMOVAL AND DISPOSAL OF EXISTING TRAFFIC BARRIER	
499 L.F.	LITTLE COVE POINT ROAD - STA.109+10 TO STA.113+50, LT.
DRIVEWAY ENTRANCE (CALVERT CO. STD. RD-15C)	
1 EA.	LITTLE COVE POINT ROAD - STA.107+36, LT.
1 EA.	LITTLE COVE POINT ROAD - STA.108+33, RT.
1 EA.	LITTLE COVE POINT ROAD - STA.108+67, LT.
TRAFFIC BARRIER W-BEAM RADIUS END TREATMENT TYPE L (MD 605.13)	
1 EA.	LITTLE COVE POINT ROAD - STA.109+00, LT.

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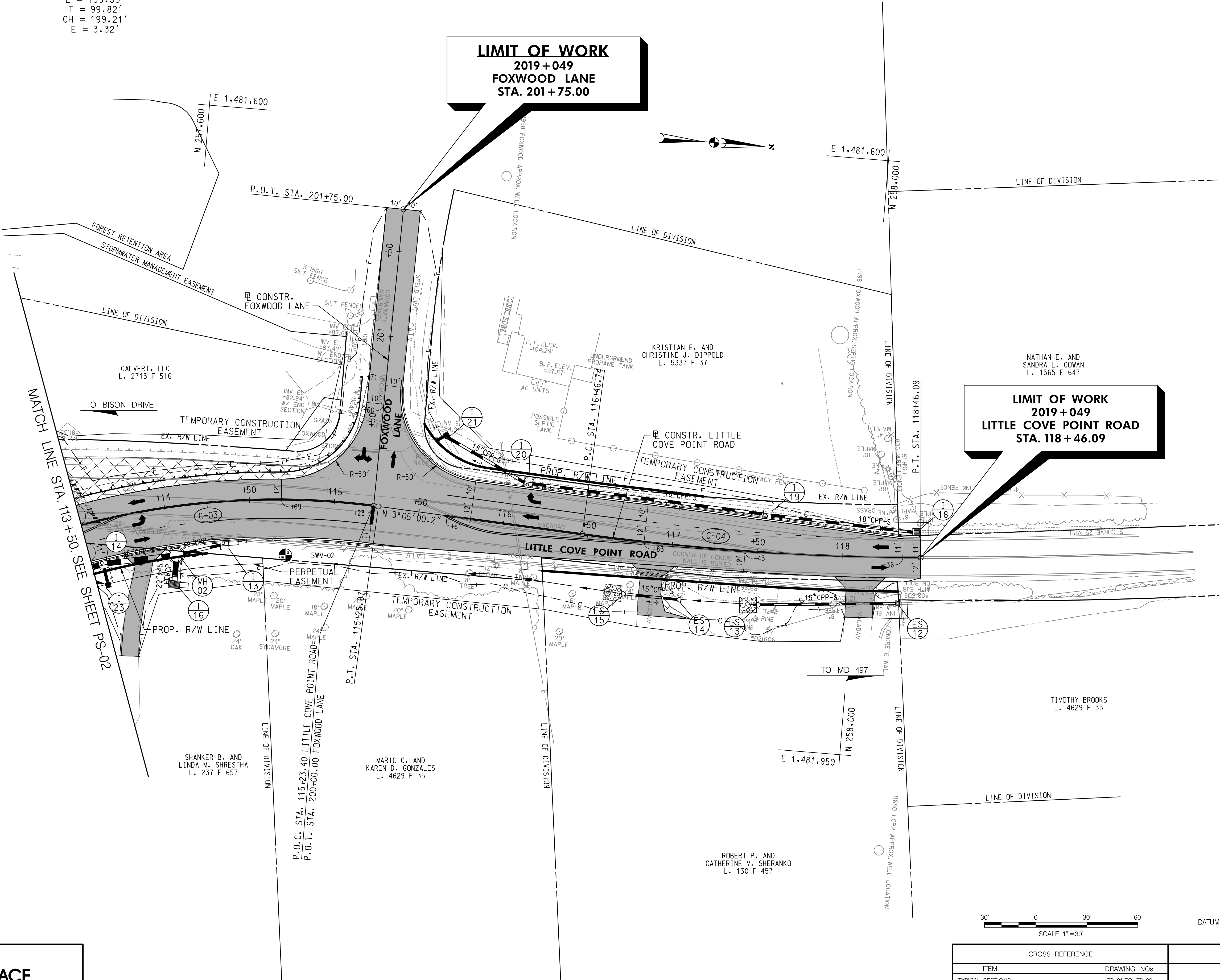
**LITTLE COVE POINT ROAD
GEOMETRIC IMPROVEMENTS**

ROADWAY PLAN

SCALE 1" = 30'	DATE JUNE 2021	CONTRACT NO. 2019-049
DESIGNED BY S.A.T.	COUNTY CALVERT	
DRAWN BY S.A.T.	ELECTION DISTRICT 1	
CHECKED BY M.J.B.		
DRAWING NO. PS-02	OF 03	SHEET NO. 12 OF 60

COVE POINT TRAIL STUDY
APPENDIX 4C - LITTLE COVE POINT ROAD REALIGNMENT PROJECT PLAN C

C-03	C-04
CURVE DATA	CURVE DATA
DELTA = 59°45'42.63" RT.	DELTA = 07°36'53.27" LT.
DC = 12°54'16.04"	DC = 03°49'10.99"
R = 444.00'	R = 1,500.00'
L = 463.11'	L = 199.35'
T = 255.11'	T = 99.82'
CH = 442.40'	CH = 199.21'
E = 68.07'	E = 3.32'



QUANTITY NOTES	
TYPE D CURB & GUTTER, 12 INCH GUTTER PAN, 6 INCH DEPTH (CALVERT CO. STD. RD-19B)	
164 L.F.	LITTLE COVE POINT ROAD - STA. 113+50 TO STA. 115+23, RT.
340 L.F.	FOXWOOD LANE - STA. 200+71, RT. TO STA. 118+46, LT.
REMOVAL OF EXISTING PIPE	
34 L.F.	LITTLE COVE POINT ROAD - STA. 113+50, LT. TO STA. 113+60, RT.
20 L.F.	LITTLE COVE POINT ROAD - STA. 116+81 TO STA. 117+01, RT.
6" PERFORATED CIRCULAR PIPE LONGITUDINAL UNDERDRAIN (MD 387.11)	
4 L.F.	LITTLE COVE POINT ROAD - STA. 113+50 TO STA. 113+54, RT.
67 L.F.	LITTLE COVE POINT ROAD - STA. 113+60 TO STA. 114+31, RT.
83 L.F.	LITTLE COVE POINT ROAD - STA. 114+36 TO STA. 115+23, RT.
137 L.F.	LITTLE COVE POINT ROAD - STA. 116+14 TO STA. 117+52, LT.
84 L.F.	LITTLE COVE POINT ROAD - STA. 117+57 TO STA. 118+41, LT.
CLASS IRIPRAP FOR CHANNEL PROTECTION (SEE DD-02)	
10 S.Y.	LITTLE COVE POINT ROAD - STA. 116+74, RT., L=10', W=9.25'
10 S.Y.	LITTLE COVE POINT ROAD - STA. 117+52, RT., L=10', W=9.25'
REMOVAL OF EXISTING PAVEMENT	
117 C.Y.	LITTLE COVE POINT ROAD - STA. 113+50, LT. TO STA. 201+57, LT.
TRAFFIC BARRIER W BEAM USING 6 FOOT POST (MD 605.31)	
220 L.F.	LITTLE COVE POINT ROAD - STA. 113+50, LT. TO STA. 200+85, LT.
REMOVAL AND DISPOSAL OF EXISTING TRAFFIC BARRIER	
220 L.F.	LITTLE COVE POINT ROAD - STA. 113+50, LT. TO STA. 201+85, LT.
DRIVEWAY ENTRANCE (CALVERT CO. STD. RD-15C)	
1 EA.	LITTLE COVE POINT ROAD - STA. 113+85, RT.
1 EA.	LITTLE COVE POINT ROAD - STA. 116+90, RT.
1 EA.	LITTLE COVE POINT ROAD - STA. 118+11, RT.
TRAFFIC BARRIER W-BEAM ONE-SIDED DOWNSTREAM END TREATMENT (TYPE K) (MD 605.10)	
1 EA.	FOXWOOD LANE - STA. 200+85, LT.

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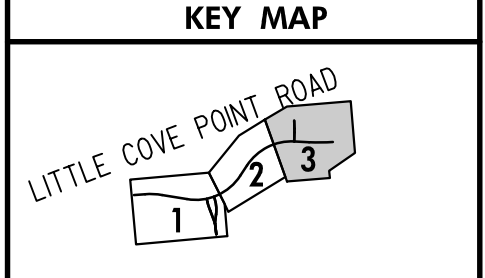
**LITTLE COVE POINT ROAD
GEOMETRIC IMPROVEMENTS**

ROADWAY PLAN

SCALE 1" = 30'	DATE JUN 2021	CONTRACT NO. 2019-049
DESIGNED BY S.A.T.	COUNTY CALVERT	
DRAWN BY S.A.T.	ELECTION DISTRICT 1	
CHECKED BY M.J.B.		
DRAWING NO. PS-03	OF 03	SHEET NO. 13 OF 60

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CONSTRUCTION
INLET
STORM DRAIN
SECTION MANHOLE
ENDWALL





Jessicca Gaetano
Planner III, Long Range Planning
Calvert County Department of Planning & Zoning
205 Main Street
Prince Frederick, MD 20678

Finalized on January 14, 2025

RE: RESPONSES TO REVIEW COMMENTS – COVE POINT TRAIL STUDY REPORT

Dear Ms. Gaetano:

Below, please find our responses to the comments received, compiled by us, which we understand have been submitted by various stakeholders who reviewed the “first draft” copy of the report. Responses in ***bold italic*** represent corrective action that will be taken by us (e.g., the “Consultant”) to revise the report accordingly. If further clarifications are needed or additional questions arise, please contact us at your earliest convenience.

COMMENTS & RESPONSES:

No. Comment and Consultant’s Response:

1	COMMENT: [Kevin E. Shraver – DPW]: Project Description: Geometric improvements along approximately ¼ mile, located approximately 1 mile south of the intersection with Cove Point Road. Sight distance, S-curve realignment and super-elevation improvements along Little Cove Point Road. Project status: The plans are 100% complete, appraisals for right-of-way acquisition is complete, bid specification package is 75% complete. \$500,000 has been budgeted for the design and right-of-way acquisition phases of the project. Construction is currently proposed to be funded at \$2,000,000 in FY 2027.
	RESPONSE: It’s our understanding the roadway improvement project referenced above and the Cove Point Trail Study feasibility study project were being completed during the same timeframe. <i>A narrative section will be added to the Cove Point Feasibility Study Report to explain why the roadway improvement project may supersede the trail study’s findings and recommendations, as a result of the two design efforts occurring simultaneously.</i> Continued...

2	COMMENT: [Gbenga Olowokande – SHA District 5]: Provide all proposed widening detailed plans for SHA review. RESPONSE: The project is a feasibility study. The production of detailed designs, plans, and engineering is not included within the study project’s scope of work. The requested plans should be provided during future phase(s) of design, if the project is approved to move forward.
3	COMMENT: [Gbenga Olowokande – SHA District 5]: Review all signs for accurate sign designations. RESPONSE: The sign references used were taken from the MD-MUTCD. Detailed sign construction details should be provided during future phase(s) of design, if the project is approved to move forward.
4	COMMENT: [Gbenga Olowokande – SHA District 5]: Project-Specific Designs: Option ‘A’ - Shared Use Path Intersection of Cove Point Road (MD 497) at HG Trueman Road (MD 765): • Re-phase existing traffic signal to enhance crossing times for pedestrians and bicyclists - o Provide signal phasing analysis to show the effect of this treatment on the existing operations including peak periods. RESPONSE: We recommend that consultant(s) participating in the next phase of the project consider re-phasing and, if warranted, provide the requested signal phasing analysis. <i>This recommendation will be added to the project report.</i>
5	COMMENT: [Gbenga Olowokande – SHA District 5]: : Project-Specific Designs: Option ‘A’ - Shared Use Path Intersection of Cove Point Road (MD 497) at HG Trueman Road (MD 765): Install three new marked crosswalks o Consider implementing continental crosswalks for all proposed locations per MDSHA context guide RESPONSE: Agreed. <i>This recommendation will be added to the project report.</i>
6	COMMENT: [Gbenga Olowokande – SHA District 5]: : Project-Specific Designs: Option ‘A’ - Shared Use Path Intersection of Cove Point Road (MD 497) at Little Cove Point Road: • Install new marked crosswalk across MD 497 at east side of intersection - o Provide crosswalk detail and justification for crosswalk RESPONSE: This location aligns best with the proposed location of the trailway and would likely lead to a reduction of vehicle and non-motor-vehicle conflicts when compared to other crosswalk placement locations within the subject intersection. <i>An explanation will be added to the project report.</i>

RESPONSES TO REVIEW COMMENTS – COVE POINT TRAIL STUDY REPORT

7	COMMENT: [Gbenga Olowokande – SHA District 5]: : Project-Specific Designs: Option ‘A’ - Shared Use Path Intersection of HG Trueman Road (MD 765) at Anchorage Lane/Chesapeake Hills Golf Course Entrance Rd: • Reconfigure “dogleg” intersection to include the following: - o Remark lanes / turn lanes - o Provide justification for reconfiguration of existing lane setup. - o Install new marked crosswalk across MD 765 - o Provide justification for the marked crosswalk (Impact on existing operation and accompanying signage)
	RESPONSE: There are no marked pedestrian crossings along the approximately 5,000 foot-long segment of MD 765 between the intersections of Cove Pt Rd (MD 497) and Town Square Dr. During the course of this study, stakeholders indicated that adding a pedestrian crossing at this intersection may encourage pedestrians and bicyclists to safely utilize the modes of transit to access the county-owned golf course. Note: All other existing auxiliary, turn, acceleration, and deceleration lanes would be retained as part of the recommended reconfiguration. <i>An explanation will be added to the project report.</i>
8	COMMENT: [Gbenga Olowokande – SHA District 5]: : Project-Specific Designs: Option ‘A’ - Shared Use Path Intersection of HG Trueman Road (MD 765) at Appeal Lane/Town Square Drive: • Re-phase existing traffic signal to enhance crossing times for pedestrians and bicyclists - o Provide justification for phasing change and impact on exiting operation • Install two new marked crosswalks - o Implement continental crosswalks per MDSHA context guide and provide justification for location of crosswalk
	RESPONSE: The project is a feasibility study. The requested phasing analysis is not included within our approved SOW at this time. The requested analysis can be provided during future phase(s) of designs, should the project be approved to move forward. We agree that continental crosswalks should be utilized for all new crosswalks being provided. Crosswalks already exist across MD 765 south of Appeal La/Town Square Dr, and across Town Square Dr east of MD 765. We recommend adding another crosswalk across D 765 north of Appeal Ln/Town Square Dr because the proposed railway terminates at the northwest corner of the subject intersection. The introduction of a larger pedestrian and bicyclist “load” at this corner warrants the added crosswalk. <i>An explanation will be added to the project report.</i>

RESPONSES TO REVIEW COMMENTS – COVE POINT TRAIL STUDY REPORT

9	COMMENT: [Gbenga Olowokande – SHA District 5]: : Project-Specific Designs: Option ‘A’ - Shared Use Path Figure 10: Intersection of HG Trueman Road (MD 765) at Town Sq Dr – Design Option A: • Provide justification for No Turn On Red (NTOR) • Provide justification for restriction of pedestrian and bicycle along northbound MD 765
	RESPONSE: Based on a larger pedestrian and bicyclist load at this transition point, a NTOR signage option may be warranted as a safety enhancement. Since a separated trailway is being provided under Option A, pedestrians and cyclists should be prohibited from using the motor vehicle portion of the roadway along this segment, which will likely lead to enhanced safety. <i>An explanation will be added to the project report.</i>
10	COMMENT: [Gbenga Olowokande – SHA District 5]: Project-Specific Designs: Option ‘B’ – Expanded Shoulder Use • Reconfiguration of critical intersections as required – refer to subsequent pages and Appendix 2 – Book of Maps - o Provide justification for all critical intersection justification including impact to existing operation • Consideration for reductions of speed limits along improved routes - 30 mph (ideal), 35 mph (acceptable), 40 mph (maximum) - o Provide justification for consideration for speed reduction
	RESPONSE: Dogleg intersection of MD 765 at Anchorage Ln/Chesapeake Hills Golf Club: Response #7 is applicable to this comment as well. Intersection of MD 497 at Cove Point Park Entrance: Under Option B, this intersection is recommended to be reconfigured to introduce a new crosswalk across MD 497 with an associated concrete protection island. Option B recommends a bicycle/pedestrian lane be added to both (e.g., north and south) sides of MD 497. There is anticipated to be pedestrians and cyclists who will want to cross from the south of MD 497 to gain access to Cove Point Park. Note, the study recommends expanding the total roadway pavement width such that all existing acceleration, deceleration, and dedicated turning movement lanes can be retained. Option B recommends pedestrian and bicycle trail lanes located within the existing and expanded paved roadway section. Since roadways will be shared between motor vehicles, bicycles, and pedestrians at the same elevation, we recommend consideration of a speed limit reduction for enhanced safety. This is not without precedent in Maryland. In 2020, MDoT SHA recommended, implemented, and/or initiated more than 100 projects or studies on 20 corridors located in Montgomery County, Maryland (District 3), with the goal of reducing severe and fatal crashes, including crashes involving pedestrians. This resulted in a recommendation of speed limit reduction in sixteen documented cases. <i>An explanation will be added to the project report.</i>

RESPONSES TO REVIEW COMMENTS – COVE POINT TRAIL STUDY REPORT

11	COMMENT: [Gbenga Olowokande – SHA District 5]: Project-Specific Designs: Option ‘B’ – Expanded Shoulder Use Figure 12 – Expanded roadway shoulder for pedestrian and bicycle use o The requirement for a bike lane is 6ft for corridors with speeds greater than 40 MPH. Update bike lane width per 2015 Bike Policy. The 2015 Bike policy requires 10’ for shared-use paths excluding a 2’ shoulder. Update figure to reflect 10’ shared path.
	RESPONSE: <i>Figure 12 on page 22 will be updated</i>, changing the recommended bike lane width from 5 feet to 6 feet. Note, the Study was completed using a minimum paving width of 54 feet. Additional expansions to this width may be explored during the next phases of design.
12	COMMENT: [Gbenga Olowokande – SHA District 5]: Project-Specific Designs: Option ‘B’ – Expanded Shoulder Use Intersection of Cove Point Road (MD 497) at HG Trueman Road (MD 765): • Re-phase existing traffic signal to enhance crossing times for pedestrians and bicyclists - o Provide justification for phasing change and effect on existing operations • Install four new marked crosswalks - o Implement continental crosswalk per MDSHA context guide • Reconfigure roadway markings - o Justify lane reconfiguration and effect on current operations
	RESPONSE: We recommend that consultant(s) participating in the next phase of the project consider re-phasing and, if warranted, provide the requested signal phasing analysis. <i>This recommendation will be added to the project report.</i> Four crosswalks are required under Option B to provide access to all bicycle and pedestrian lanes, which exist on both sides of each roadway segment under this option. <i>An explanation will be added to the project report.</i> We recommend that continental crosswalks be utilized for all crosswalks within the study. Note: All existing acceleration, deceleration, and dedicated turning movement lanes have been incorporated into the proposed reconfiguration.
13	COMMENT: [Gbenga Olowokande – SHA District 5]: Project-Specific Designs: Option ‘B’ – Expanded Shoulder Use Intersection of Cove Point Road (MD 497) at Cove Point Park Entrance Road: • Install new marked crosswalk across Cove Point Road - o Justify mid-block crosswalk
	RESPONSE: Under Option B, pedestrian and bicycle lanes are recommended along both sides of the roadway. Pedestrians along the south side of the roadway will need to cross in order to enter Cove Point Park to the north. This crosswalk provides a safe and legal way to cross the road at the park entrance. <i>An explanation will be added to the project report.</i>

RESPONSES TO REVIEW COMMENTS – COVE POINT TRAIL STUDY REPORT

14	COMMENT: [Gbenga Olowokande – SHA District 5]: Project-Specific Designs: Option ‘B’ – Expanded Shoulder Use Intersection of Cove Point Road (MD 497) at Little Cove Point Road: • Install new marked crosswalk across MD 497 at east side of intersection - o Justify crosswalk
	RESPONSE: Under Option B, trail/bicycle lanes are proposed from both sides of both roadways (MD 497 and Little Cove Point Rd). Due to the proposed trail alignment, providing a crosswalk at the east side of the intersection will provide a safe and legal crossing at this location. <i>An explanation will be added to the project report.</i>
15	COMMENT: [Gbenga Olowokande – SHA District 5]: Project-Specific Designs: Option ‘B’ – Expanded Shoulder Use Intersection of HG Trueman Rd (MD 765) at Anchorage La/Chesapeake Hills Golf Course Entrance Rd: • Reconfigure “dogleg” intersection to include the following: - o Remark lanes / turn lanes ☐ Justify proposed lane reconfiguration - o Install new marked crosswalk across MD 765 ☐ Justify effect of proposed crosswalk
	RESPONSE: There are no marked pedestrian crossings along the approximately 5,000 foot-long segment of MD 765 between the intersections of Cove Pt Rd (MD 497) and Town Square Dr. During the course of this study, stakeholders indicated that adding a pedestrian crossing at this intersection may encourage pedestrians and bicyclists to safely utilize the modes of transit to access the county-owned golf course. Note: All other existing auxiliary, turn, acceleration, and deceleration lanes would be retained as part of the recommended reconfiguration. <i>An explanation will be added to the project report.</i>
16	COMMENT: [Gbenga Olowokande – SHA District 5]: Project-Specific Designs: Option ‘B’ – Expanded Shoulder Use Intersection of HG Trueman Road (MD 765) at Appeal Lane/Town Square Drive: • Re-phase existing traffic signal to enhance crossing times for pedestrians and bicyclists - o Justify phasing modification and impact on current operations • Install two new marked crosswalks - o Consider continental crosswalks per MDSHA context guide RESPONSE: We recommend that consultant(s) participating in the next phase of the project consider re-phasing and, if warranted, provide the requested signal phasing analysis. <i>This recommendation will be added to the project report.</i>

RESPONSES TO REVIEW COMMENTS – COVE POINT TRAIL STUDY REPORT

17	COMMENT: [Gbenga Olowokande – SHA District 5]: The signs shown are numbered, but the sign designation and sizes are not shown. Include standard sign designation as provided by the Maryland Standard Sign Book. • The tie-in point for the pocket lane and the shoulder marking should be open. Refer to section 2.6 of the 2015 Bike Policy and Design Guidelines
	RESPONSE: The sign references used were taken from the MD-MUTCD. Detailed sign construction details should be provided during future phase(s) of design, if the project is approved to move forward. The tie-in point for pocket lanes is “open,” but MD-MUTCD Type I dotted lines are recommended, and these are already included in the Study drawings. Note, there are many locations along Little Cove Point Road where pocket lanes could be considered, however, initially these are not recommended since under Option B pedestrians would also be using the “shoulder”.
18	COMMENT: [SHA RIPD] This plan aligns with Calvert County’s most recent 2024 transportation priorities letter. For example, this plan notes the need to enhance bicycle and pedestrian safety along H.G. Trueman Road (MD 765) and Cove Point Road (MD 497).
	RESPONSE: Noted for the record.
19	COMMENT: [SHA RIPD] SHA recommends use of the SHA Context Driven Guide (https://experience.arcgis.com/experience/3476e680584c49e48303fe6d52ceeda9) to ensure any plans developed incorporate tools recommended within the Context Driven Guide. The feasibility study recommendations for separated bicycle and pedestrian facilities are consistent with the Context Driven Guide. As recommendations are implemented, please ensure that state and federal design standards for all facilities are followed.
	RESPONSE: Noted for the record.
20	COMMENT: [SHA RIPD] For all sidewalk improvements to SHA roadway facilities, please provide for and maintain bicycle facilities as well as full ADA-compliant pedestrian facilities. Coordinate design with Luis Gonzalez, Division Chief, SHA Active Transportation Division, at 410-545-8826 or lgonzalez@mdot.maryland.gov.
	RESPONSE: The study focuses specifically on roadway improvements that enhance both bicycle and pedestrian safety and uses. ADA-compliance is taken into consideration. Future project developments will be coordinated with Luis Gonzalez
21	COMMENT: [SHA RIPD] MD 497 and MD 765: The State’s fiscally unconstrained Highway Needs Inventory (HNI), the State’s long-range plan, includes projects that are critical to Maryland’s transportation needs. SHA’s Highway Needs Inventory, does not include any recommended roadway projects on either roadway.
	RESPONSE: This project is being conducted in conjunction with long-term recommendations made by the C-SMMPO. The study consultant recommends that the two agencies coordinate efforts related to future roadway improvements. <i>The recommendation will be added to the report.</i>

RESPONSES TO REVIEW COMMENTS – COVE POINT TRAIL STUDY REPORT

22	COMMENT: [SHA RIPD] MD 497 and MD 765: The concept along MD 497 (Cove Point Road) and MD 765 (HG Trueman Road) for the Shared Use Path will need to be coordinated with SHA District 5. Please coordinate with Chau Chiem, SHA District 5 Team Leader, Engineering Systems at 410-841-1000 or cchiem@mdot.maryland.gov.
	RESPONSE: It's our understanding the study was reviewed by District 5 – see additional comments below.
23	COMMENT: [SHA RIPD] MD 497 and MD 765: Page 18 – Intersection of Cove Point Road (MD 497) at HG Trueman Road (MD 765) Re-phasing existing traffic signal to enhance crossing times for pedestrians and bicyclists will need to be coordinated with the Office of Traffic and Safety (OOTs). Please coordinate with Chau Chiem, SHA District 5 Team Leader, Engineering Systems at 410-841-1000 or cchiem@mdot.maryland.gov. All concepts throughout the Feasibility Study that involve changing signal timing, installing new marked crosswalks, and/or installing signage will need to be coordinated with SHA District 5 and/or OOTS. Please coordinate with Chau Chiem, SHA District 5 Team Leader, Engineering Systems at 410-841-1000 or cchiem@mdot.maryland.gov.
	RESPONSE: The project is a feasibility study. Additional design and engineering will be required to implement any recommendations proposed by the study. The future design will be coordinated and submitted to SHA, should the project move forward.
24	COMMENT: [SHA RIPD] MD 497 and MD 765: Page 4 - Executive Summary - The second paragraph indicates that there is currently little-to-no bicycle or pedestrian use on roadways within the study area. Were pedestrian and bicycle traffic counts conducted to document existing use? If not, please indicate so in this section.
	RESPONSE: Yes. Please refer to the Traffic Study Report conducted by The Traffic Group, Inc.: pgs. 59-173.
25	COMMENT: [SHA RIPD] MD 497 and MD 765: Page 4 – Executive Summary: The first two bullets essentially indicate the same concept that personal safety from traffic conditions hinders pedestrian and bicycle activity on roadways within the subject area. Was a public survey conducted to as part of this study to verify these statements? If not, please consider removing these statements or allude to these general safety concepts in the preceding paragraph.
	RESPONSE: A public survey was not part of the scope of this specific study. The referenced statement is the opinion of the study consultant based on the observation of the existing conditions and analysis of data collected as part of the study. <i>We recommend adding language following the referenced statement as follows: “but we recommend a formal public input study be conducted to confirm this.”</i>

RESPONSES TO REVIEW COMMENTS – COVE POINT TRAIL STUDY REPORT

26	COMMENT: [SHA RIPD] MD 497 and MD 765: Page 7: Existing and Planned Transportation Infrastructure: The Maryland Department of Transportation's 2050 Maryland Bicycle and Pedestrian Master Plan (BPMP) (2024) does not recommend infrastructure within the study area but does provide guidance on how to select appropriate bike facilities with regard to roadway speeds and volumes as well as surrounding land use context. The 2024 BPMP also developed a level of traffic stress (LTS) roadway analysis with a subsequent network analysis to gauge how bikeable a community is based on the number of amenities available on the low-stress network. These publicly available analyses could have been the basis for this study.
	RESPONSE: We understand the sponsors of this study decided to take a focused approach on how connect specific “nodal” areas and existing/planned amenities, including Cove Point Park, the town center, and the various established residential communities in and around the limited study area. However, both of the referenced master plans could and should be taken into consideration for the future planning and development of any improvements.
27	COMMENT: [SHA RIPD] MD 497 and MD 765: Page 16 – Policy and Precedents: Shared-Use Path Please rephrase the second sentence for accuracy as: For example, Class I, II and III electric-bicycles, or e-bikes, are allowed to utilize shared-use paths in Calvert County.
	RESPONSE: <i>We agree with this clarification and will rephrase the subject sentence accordingly.</i>
28	COMMENT: [SHA RIPD] MD 497 and MD 765: Page 21 – Project-Specific Designs Please strike the 4th sub-bullet from the 2nd bullet: “Green paint, between lines – optional. Note, green paint is typically utilized to demarcate a ‘bicycle lane’ as this is incorrect guidance for a bike lane buffer treatment. Green pavement treatment must only be used in the bike lane/bike area of travel, specifically at intersections or conflict points with motor vehicle traffic.
	RESPONSE: We have revised the figure, showing “optional” green paint within the bicycle lane – not the “buffer” or barrier area.
29	COMMENT: [SHA RIPD] MD 497 and MD 765: Page 22 – Figure 12 – Expanded roadway shoulder for pedestrian and bicycle use. Related to the above comment, please remove the green treatment within the barrier area.
	RESPONSE: See response to comment above.
30	COMMENT: [SHA RIPD] MD 497 and MD 765: Page 29 – Anticipated Outcomes, Figure 10 – PloC and BloS Scoring Criteria. The Level of Traffic Stress (LTS) chart on Page 29 reflects the Maryland Department of Transportation’s LTS Score, not the Montgomery County LTS score as referenced in the paragraph above. Please correct the reference in the above paragraph.
	RESPONSE: <i>We will add this clarification to the report.</i>
31	COMMENT: [SHA RIPD] MD 497 and MD 765: Page 29 – Anticipated Outcomes Please strike the last sentence as incorrect since increased separation between bicycle and motor vehicle traffic DOES correlate to improvements in safety, as referenced in numerous transportation studies.
	RESPONSE: We believe this “disclaimer” sentence is an important consideration for “lay” people or those not familiar with the rating system(s). Upon reviewing this language with other stakeholders, it was determined to be retained within the report.

RESPONSES TO REVIEW COMMENTS – COVE POINT TRAIL STUDY REPORT

32	COMMENT: [SHA RIPD] MD 497 and MD 765: Page 30 - Anticipated Outcomes Please adjust the Anticipated Bicycle Level of Stress (BLoS) for Segments A1, A2, A3, A4, B3 and C1 to LTS 1. These segments are considered sidepaths, or shared-use paths running parallel to the adjacent roadway, which has an LTS score of 1. Being parallel to the adjacent roadway, sidepaths are more exposed to adjacent motor vehicle traffic speeds and intersecting driveways thus reducing the overall LTS score to 1.
	RESPONSE: We have taken a second look at the calculation of BLoS/LTS as it relates to Option A. Note, along segments A1, A3, and A4, the side path was specifically placed to the north of the existing roadway because there are no intersecting driveways or roadways along those segments. The remainder of the segments and overall score have been adjusted accordingly. <i>Anticipated Outcomes – Option A – calculations and table within report, have been revised accordingly.</i>
33	COMMENT: [SHA RIPD] Appendix 1, Page 1 – Study Methodology On the 4th bullet, “Calculate bicycle LTS using criteria established by the Maryland Department of Transportation”, it should be noted that MDOT's level of traffic stress analysis of all public roadways is available online at: https://experience.arcgis.com/experience/ad84c74c270f4a018a8da81d7e16e917/#data_s=id%3A0ced71a127604e59b36907e373f1046e-1853c00b27a-layer-6-1853bf87ef8-layer-4%3A1315 The LTS score is available for local jurisdictions to maximize project efficiency and reduce discrepancies in bicycle-related projects across the state. The subsequent bicycle network analysis (BNA) provides a ‘bikescore’ for Maryland census blocks based on how many community services are available via the low-stress network (LTS 0-2) compared to automobile access.
	RESPONSE: We have reviewed the recently-published LTS data as it relates to the roadway segments included within the study and found that there has been no change since the initial ratings were assigned. <i>A link to MDOT's web site showing LTS data for all public roadways has been added to the report under the Anticipated Outcomes – Enhancements to Levels of Comfort section of the report.</i>
34	COMMENT: Calvert County Parks & Rec.: I would like to see the overall map on pg 174 of the document- located within the plan itself and not just in the appendices. This map lays out the mapping quadrants- and I think would help tie everything together more- if shown in the body of the document- maybe in the beginning. My biggest complaint is not having a “road map” to reference.
	RESPONSE: <i>We have added the gridded map to the Study Area section of the report.</i>
35	COMMENT: Page 3: please correct the typo – spelling of the name of the Calvert County President of the Board of Commissioners.
	RESPONSE: <i>The previous typo in the BOC president's name has been corrected in the report.</i>

RESPONSES TO REVIEW COMMENTS – COVE POINT TRAIL STUDY REPORT

36	COMMENT: Various pages: please revise all instances of “Recreation and Parks” to instead read: “Parks & Recreation”.
	RESPONSE: <i>This has been corrected.</i> Note that we only found (2) instances of this phrase being used within the report.
37	COMMENT: Page 7: various locations: please revise C-SMMPO reference from 2020 to the more recent version (2024).
	RESPONSE: Upon receiving this comment, it was subsequently discussed that the 2020 reference would be retained since that version was used for the development of the report.
38	COMMENT: Page 9: correct the typo.
	RESPONSE: <i>This will be corrected.</i>
39	COMMENT: Page 2: the phrase “Shared Use” is highlighted in pink.
	RESPONSE: <i>All instances of “shared use” have been revised to “shared-use” (i.e., hyphen added between words).</i>
40	COMMENT: Page 5: the word “pedestrian-” is highlighted in pink.
	RESPONSE: <i>The hyphen following the word “pedestrian” was removed.</i>
41	COMMENT: Page 6: text highlighted in pink.
	RESPONSE: <i>All instances of “Planning and Zoning” have been revised to “Planning & Zoning”.</i>
42	COMMENT: Page 7: Lusby Town Center Master Plan, 2023 version is highlighted in pink with a reference to change to 2022. Also: Add Dominion Energy Regional Park and Cove Point Park Master Plan – July 2020 version.
	RESPONSE: <i>This will be corrected/added.</i>
43	COMMENT: Page 7: “SCMMPO” is highlighted in pink
	RESPONSE: <i>This typo was corrected.</i>
44	COMMENT: Page 8: Lusby Town Center Master Plan (October 2023 version) is highlighted in pink.
	RESPONSE: <i>Revised to 2022 version.</i>
45	COMMENT: Page 13: The text “7 th ,” is highlighted in pink.
	RESPONSE: <i>We have removed the numerical suffix.</i>
46	COMMENT: Page 15: The request is to remove the reference and photo to the German example of a bike trail.
	RESPONSE: <i>We have removed this reference and photo.</i>
47	COMMENT: Page 15: Question: Where is Figure 4? Page 16: Update all figure numbers throughout.
	RESPONSE: <i>The figure numbers have been corrected.</i>
48	COMMENT: Page 19: Define R-10-11b or remove please.

	RESPONSE: This is a MD-MUTCD sign reference. The SHA reviewers make reference to these labels, so we would prefer not to remove. <i>We can define the meaning of these labels within the report.</i>
49	COMMENT: Page 21: Correct the typos and language (revise from “optional” to “advised”).
	RESPONSE: <i>Typos have been correct and we have revised the wording, as requested.</i>
50	COMMENT: Page 23: Fix the comment/text that is cut off and fix the arrowhead w/o a comment box.
	RESPONSE: <i>The image was “re cropped” to correct these issues.</i>
51	COMMENT: [SMARTA]: I find it interesting that Option A comes out to be a big winner over Option B in cost as well as performance. I think if SHA were to do this sort of analysis on other active transportation studies, then bike lanes could finally go out of favor. It’s incomprehensible to me that SHA will pay for highway widening with two sidewalks and 3-foot bike lanes as the bicycle/pedestrian accommodation. A single 10-foot multiuse trail would require less cost with far more utility (and safety).
	RESPONSE: We appreciate the comment. However, we want to point out that in this particular case, Option A with a shared-use side path, appears to be both the safer and more economical option overall. This is not typically the case, as bike lanes are usually the more economical solution, and sometimes favorable for other reasons. In this Study, the Option B “bike lane” option, is noted to have a lower probable cost for the BLUE route only, while Option A has a lower probable cost for the other two routes.
52	COMMENT: [SMARTA]: On Page 17, the consultant suggests a trail user speed limit of 20 MPH. Sort of sporty on a short multiuse trail in a congested area. How about 15 MPH – the slower speed limit would only add roughly a minute of time for a one-mile trail.
	RESPONSE: 20-mph is the maximum recommended speed limit for a multi-use trail. This aligns with SHA’s recommendations within the Bicycle Policy & Design Guidelines manual – January 2015 edition. A lower speed limit could certainly be considered for the more congested areas of the trail.
53	COMMENT: [SMARTA]: On Page 18 the consultant calls for three traffic lights and safe islands at the MD 497/MD 765 intersection. I particularly like the signal for right turning traffic. I find the right on red traffic to be dangerous – I was almost run over by a St. Mary’s Sheriff Deputy at the MD 235/Chancellors Run Road intersection when he was taking a slowdown and take a right against a red light. New signals called out on page 19 – again need protection against right on red for bike/ped crossings.
	RESPONSE: For clarity, the study recommends the following safety enhancements at the intersection of MD 497/MD 765: Traffic signal re-phasing study, added and enhanced crosswalks, possible no turn on red (NTOR) signage and prohibitions to be considered. Note, all turn lanes and turning movement lanes would be retained under the recommendations of this study. Please note the previous comment from the SHA reviewer, which relates to this same topic.

Respectfully Submitted,

MIKE GERDING

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