Technical Memorandum 2
Existing Conditions Review

INTRODUCTION

The Lexington Park-California-Chesapeake Ranch Estates Urbanized Area has a population of over 60,000 people. The Calvert-St. Mary's Metropolitan Planning Organization (C-SMMPO) carries out all planning activities within the Urbanized Area. These planning activities include distributing resources to the two transit systems operating within C-SMMPO's jurisdictional area: Calvert County Public Transportation and St. Mary's Transit System. These two transit systems provide a total of ten fixed routes with service in, around, and to the Urbanized Area.

Accessible, well-marked bus stops are one of the foundational elements of an effective fixed route service. The C-SMMPO requested the assistance of a consultant to conduct a physical inventory of all bus stops within its borders. The field survey was undertaken to:

- Assess stop compliance with ADA guidelines (detailed in Technical Memorandum #1)
- Inventory stop amenities
- Identify unmarked/flag stops
- Photograph all surveyed bus stops

The following technical memorandum describes the field survey methodology and presents the results of the field survey with regards to amenities and ADA Compliance.

Figure 2-1, on the following page, is a map of Calvert & St. Mary's County that highlights the bus stops within the MPO.

Figure 2-1: Overview of the Bus Stops in Calvert and St. Mary's Counties

SURVEY TOOL & METHODOLOGY

A survey tool was created to successfully and accurately complete the bus stop inventory. The data dictionary, which assessed the geographic location, signage, amenities, and accessibility of each stop, was uploaded onto a Geographical Positioning Satellite (GPS) hand-held computer. Field surveyors, wearing a reflective vest, would then travel to the location of each stop and fill in the data dictionary on their Trimble device. The complete data dictionary is available in Appendix A. The following sections provide brief descriptions of the data collected for each of the data dictionary's four major categories.

Geographic Location

Using the Trimble, surveyors were able to accurately locate the stop by automatically collecting longitude and latitude coordinates. To further detail the exact location of a stop, the cross street, on street, and the bus stop's location in relation to these two streets (Nearside, Farside, At Location, Across From Location) were also notated. To better contextualize the stops purpose, pertinent land uses (residential, commercial, recreational, etc.) at each location were also collected.

Signage

While assessing each bus stop, the surveyor was tasked with determining if there were any issues with signage, including sign height, installation, and any damage. The signage section also dealt with the presence and accessibility of information cases at the stop.

Amenities

Many bus stops include amenities for the customer's comfort and convenience, these include shelters, benches, trash cans, and publication boxes. These amenities' presence and existing conditions were inventoried for the survey.

Accessibility

The last section of the data dictionary deals with the landing pad and pedestrian connections at each stop location. The landing pad is surveyed for its existence and size, while pedestrian connections are assessed by determining the presence of a sidewalk, curb ramps, crosswalks, and traffic/pedestrian controls at each stop location. Any potential barriers to pedestrians were also surveyed at each stop.

INVENTORY OF BUS STOP FACILITIES

All Calvert County Public Transportation (CCPT) and St. Mary's Transit System (STS) stops that are within the C-SMMPO's boundaries were inventoried and assessed according to the data dictionary described above. The field survey lasted from February 26 to February 28, 2019.

Survey instruments used in the inventory and assessment included:

- Trimble Juno 3B GPS Device
- Tape measure
- Reflective safety vest

The Calvert County and St. Mary's County bus stop GIS files had 125 separate stop locations on record. At the survey's conclusion:

- 111 bus stops were surveyed
- 14 bus stops were in unsuitable locations or deemed to be at the same location as another stop
- 0 new bus stops were found

After the completion of the survey, a post-survey desk review was performed to determine ADA compliance for each stop. Stops were divided into three different compliance categories: Compliant, ADA Non-Compliant, and No Improvements. These categories are defined below:

- **Compliant**: A stop meets all ADA guidelines for bus stops and is connected to a paved pathway.
- **ADA Non-Compliant**: A stop does not meet all ADA guidelines for bus stops.
- **No Improvements**: While technically ADA compliant, this stop is not connected to a paved pedestrian pathway.

Table 2-1 shows the number and percentage of ADA compliant stops in C-SMMPO. 19 (17.1%) of stops were compliant, 37 (33.3%) were ADA non-compliant, and 55 (49.5%) were No Improvements.

Table 2-1: Bus Stops by Compliance Category

Calvert-St. Mary's MPO Compliance Overview				
Stops	**Compliant**	**ADA Non-Compliant**	**No Improvements**	**Total**
Number	19	37	55	111
Percent	17.1%	33.3%	49.5%	

Figure 2-2 shows the distribution of the inventoried stops within C-SMMPO's boundaries, categorized by ADA compliance. Nearly all of the stops in Chesapeake Ranch Estates were classified as no improvements, meaning that there is very little pedestrian infrastructure within the largely residential community. Along major roads (Three Notch Road, Great Mills Road, etc.) in St. Mary's County, many stops were non-compliant, mostly due to a lack of proper boarding areas.

Bus Stop Signage

Of the 111 surveyed stops, only four had any signage indicating that the respective transit provider stopped there. Of the four, three of the stops were served by STS, while the remaining stop was served by CCPT. The three STS signs were attached to shelters, while the CCPT sign was attached to a brick column outside the Southern Branch of the Calvert County Library System. The rest of the stops were unmarked flag stops.

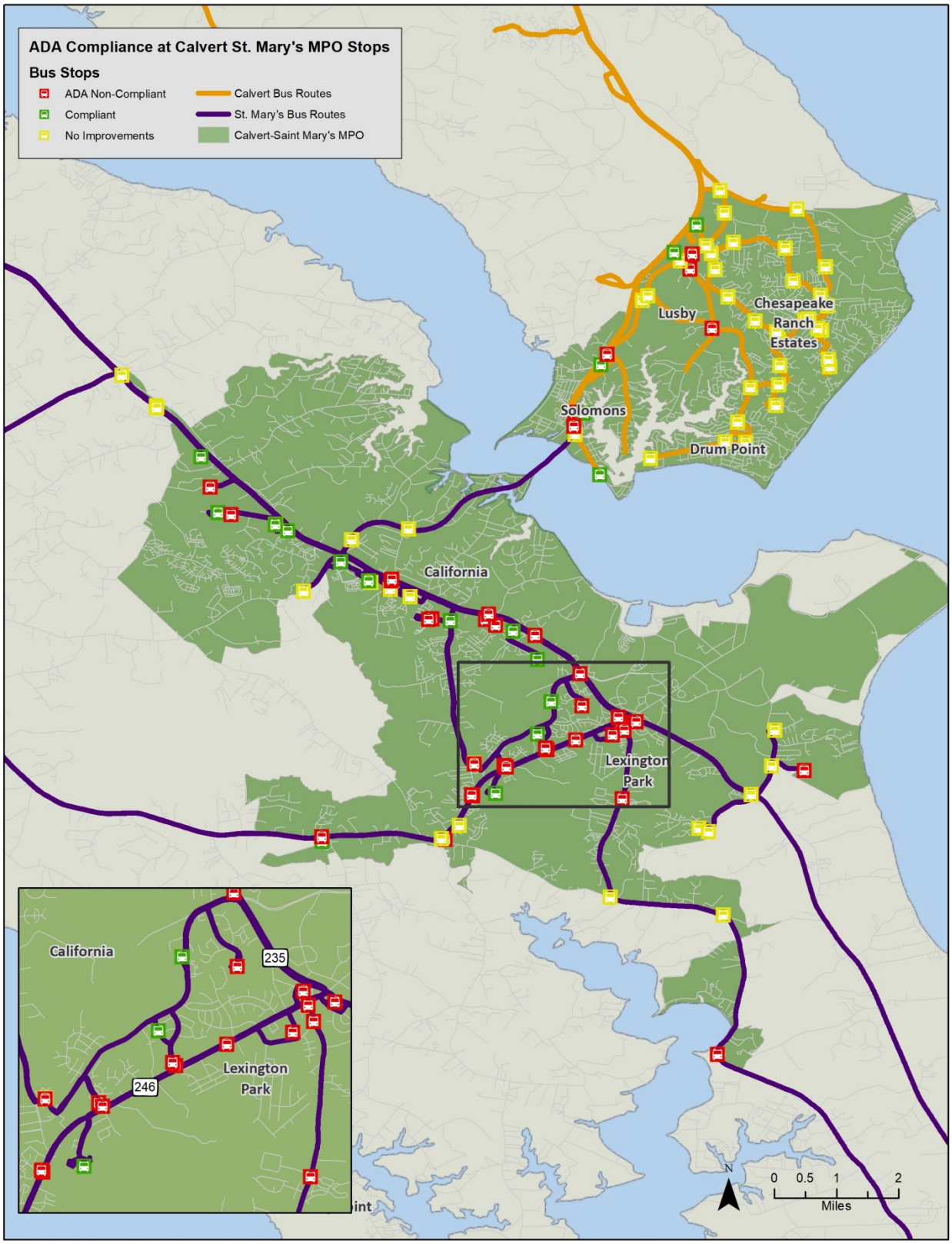
In order to be considered ADA Compliant, bus stop signs must be greater than 80 inches tall or protrude less than four inches from the surface it is attached to. All four signed stops fulfilled these guidelines.

During the field survey, it was noted that the STS bus stop signs were more detailed than the CCPT signs, including a phone number and more noticeable branding elements. Having informative and distinctly designed signage makes both the bus stop and the transit system more visible and provides a direct line for customers to contact the transit agency with any questions or concerns about the system's performance.

Table 2-2: Bus Stop Signage Statistics

Signage Information	Total	Percent
Total Bus Stops	111	
Bus Stops with Signage	4	3.6%
Number of Signed Stops by Operator		
St. Mary's Transit System	3	75%
Calvert County Public Transportation	1	25%
Sign Mount Type		
Shelter	3	75%
Building	1	25%
Sign Height		
80" and greater or protruding less than 4"	4	100%
Sign Damage		
No Damage	4	100%

Figure 2-2: C-SMMPO Bus Stops by ADA Compliance Guidelines



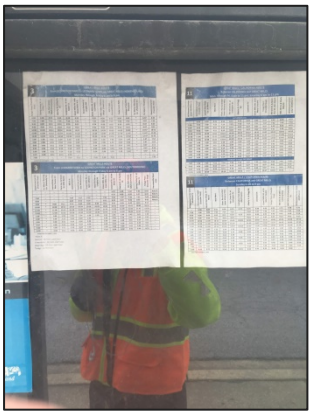
INFORMATION CASE

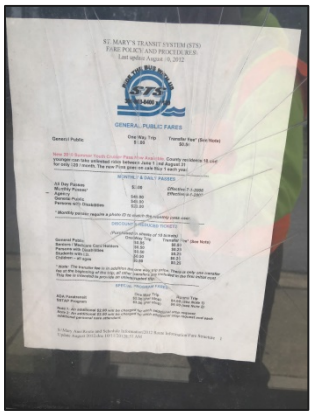
A bus stop information case is defined as anything that is not already included on the sign that provides greater detail about the transit system, routes, estimated bus times, transfer information, or any other transit-related information.

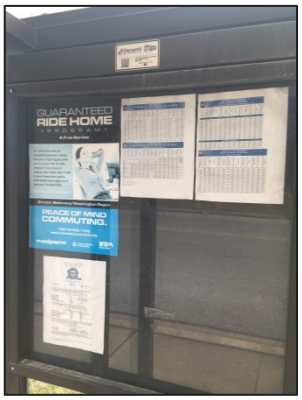
Of the 111 observed stops, 2 had information cases. All stops with information cases were served by STS. Each case was a one sided rectangular glass panel. They both included route schedules, fare information, and contact information. Each information box was located within a shelter. One case was damaged with visible scratches on the glass panel.

Table 2-3: Information Case Statistics

Information Case Statistics	Total	Percent
Total Bus Stops	111	
Stops with Information Cases	2	18.2%
Information Case Type		
Flat Single Sided Panel	2	100%
Information Case Accessibility		
Accessible	2	100%
Obstructed	0	0%
Unpaved	0	0%
Information Case Damage		
No Damage	1	50%
Scratches	1	50%
Information Provided		
Route Schedule	2	100%
Route Map	0	0%
System Map	0	0%
Contact Information	2	100%
Fare Information	2	100%







Boarding and Alighting Areas

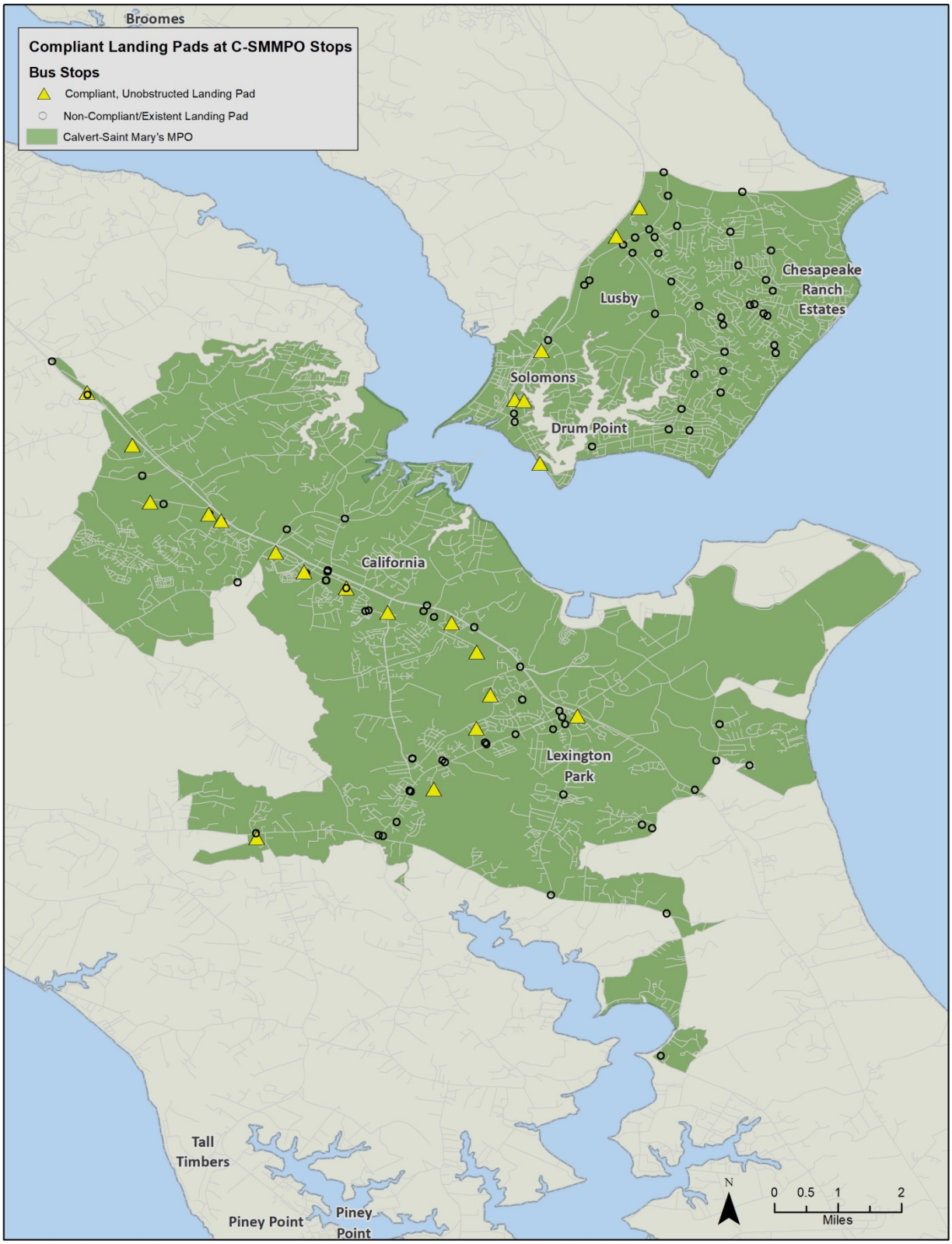
Boarding and alighting areas, often referred to as landing pads, are one of the most important bus stop components to inventory when determining a stop's ADA Compliance. Boarding and alighting areas require a firm and stable surface, an unobstructed landing pad that is 5' wide by 8' deep, and an orientation perpendicular to the roadway.

In total, 21 of the 111 bus stops (18.9%) had an unobstructed landing pad that was connected to both the curb and a paved walkway. Further details about the inventoried landing pads can be found in Table 2-4. Figure 2-3 maps all ADA Compliant Landing Pads within the MPO.

Table 2-4: Landing Pad Statistics

Landing Pad Statistics	Total	Percent
Total Bus Stops	111	
Stops with Compliant Landing Pad	21	18.9%
Landing Pad Size		
No Landing Pad or Sidewalk	66	59.5%
Uses Sidewalk, Less than 8' Deep	13	11.7%
Uses Sidewalk	5	4.5%
Pad Less than 5' by 8'	2	1.8%
Obstructed 5' Wide x 8' Deep Pad	4	3.6%
Unobstructed 5' Wide x 8' Deep Pad	21	18.9%
Landing Pad Surface Problem		
Slope	3	2.7%
Uneven Pavement	2	1.8%
Catch Basin	1	0.9%
None	21	18.9%
Landing Pad Obstructions		
None	22	19.8%
Landing Pad Connected to Sidewalk		
Yes	21	18.9%
No Sidewalk	0	0%
Landing Pad Connected to Curb		
Yes	19	17.1%
No Curb	2	1.8%

Figure 2-3: Compliant Landing Pads within the C-SMMPO



BENCHES

A total of 17 (15.3%) of the surveyed stops have at least one bench for waiting riders. Twelve (12) of the benches are freestanding, while the remaining five were located under a shelter. None of the inventoried benches had any damage. Most bench stops were located at important shopping centers like the California Target and the Lusby Giant. Table 2-5 includes detailed statistics about the observed benches.

Table 2-5: Bench Statistics

Bench Information	Total	Percent
Total Bus Stops	111	
Bus Stops with Benches	17	15.3%
Bench Installation		
Freestanding	12	70.6%
Under Shelter	5	29.4%
Freestanding & Under Shelter	0	0.0%
Bench Damage		
None	17	100.0%

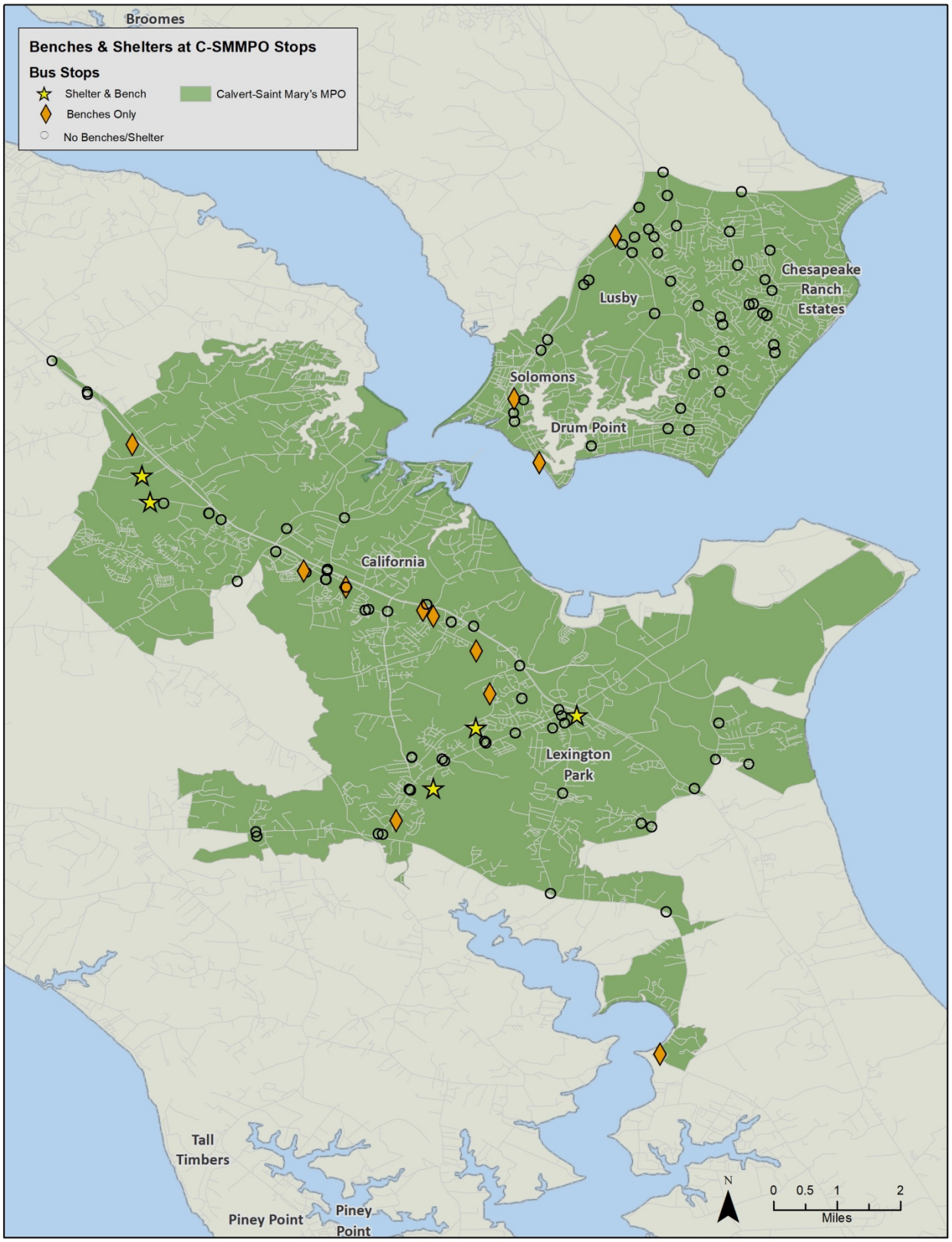
SHELTERS

Five shelters were observed during the field survey. Each shelter featured interior seating, and 3 shelters had concrete foundations, while the other two had dirt or brick foundations. None of the shelters had any advertisements, and only one of the shelters had damage, from graffiti. One shelter was deemed inaccessible because its entrance was blocked by a bench. Table 2-6 outlines the statistics for the shelters observed during the survey. Figure 2-4 shows the distribution of shelters and benches throughout the MPO.

Table 2-6: Shelter Statistics

Shelter Information	Total	Percent
Total Bus Stops	111	
Unique Stops with Shelters	5	4.5%
Shelter Foundation		
Concrete	3	60%
Brick	1	20%
Dirt	1	20%
Shelter Advertisement		
Yes	0	0%
No	5	100%
Shelter Damage		
Graffiti	1	20%
None	4	80%
Shelter Accessible		
Yes	4	80%
No	1	20%

Figure 2-4: Shelters and Benches within the C-SMMPO



Other Stop Amenities

Some bus stops have other amenities in addition to information cases, benches, and shelters. Trash cans, the most common of these amenities, were present at 17 (15.3%) bus stops. Beyond trash cans, four (3.6%) stops had bicycle racks and one (0.9%) had publication boxes. Table 2-6 breaks down the distribution of these amenities at the inventoried stops.

Table 2-7: Other Amenities Statistics

Other Amenities Information	Total	Percent
Total Bus Stops	111	
Trash		
Yes	17	15.3%
No	94	84.7%
Trash Installation		
Freestanding	17	100%
Miscellaneous		
Vendor Publication Boxes	1	0.9%
Bicycle Racks	4	3.6%

Other Observations

The following section seeks to expand on the qualitative findings of the field survey. Since most of the bus stops in the C-SMMPO are flagged stops with little signage or amenities, the quantitative data in the previous sections does not give much detail for many of the bus stops. Among the most notable qualitative observations uncovered during this survey was the presence of stops that were located at intersections that were potentially unsafe due to limited visibility, high speeds, and/or a lack of pedestrian walkways. The rest of this section will focus on a couple of stops that stood out for being unsafe.

Unsafe Stops

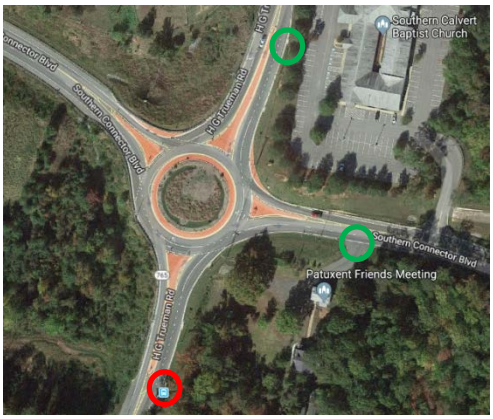
The GIS file that served as the basis of the field survey was derived from ridership assessments conducted during previous planning efforts of known passenger pick-up or drop-off locations. Since so many stops lack any signage or amenities, drivers and waiting riders could influence where the bus stop location based on their discretion or location in relation to an intersection. In some cases, this resulted in several different stop points at the same location. The following subsection will highlight locations where surveyors discovered a lack of clarity in stop location.

Catalina Drive & Sandy Wash Circle

The stop at Catalina Drive & Sandy Wash Circle is located in Chesapeake Ranch Estates at an intersection that is on a sharp bend in the road with limited visibility for drivers in either direction. While the shoulder widens at these locations, there are no sidewalks or designated waiting areas for riders. The winding street design and narrow shoulders in Chesapeake Ranch Estates make it difficult to designate safe bus stops. Stops similar to this one were common in Chesapeake Ranch Estates. Due to the residential zoning in Chesapeake Ranch Estates, it may be difficult to make major improvements to some of the less safe stop locations.

H.G. Trueman Road & Southern Connector Boulevard

This stop, located on the way from Lusby to Solomon's Island is recorded in the GIS as stopping on the nearside of the traffic circle when heading northbound. The speed limit on H.G. Trueman is 50 mph heading northbound, and the stop location which is listed on Google Maps (red circle on bottom right image) is on a narrow shoulder with limited visibility for both drivers and riders. The listed location is unsafe for boarding. The surveyor further examined the intersection and notated a safer potential stop location (green circles on the bottom right image) on the farsides of the traffic circle that would allow for a safer boarding process.



Since most stops are flag stops, directing people to wait for the bus at locations that are safe and visible is extremely important. If somebody at the two nearby churches wanted to board the bus and used their phone to identify the bus pick-up point, it would direct them to cross an intersection without pedestrian walkways and wait on the side of a high-speed road with a narrow shoulder and limited visibility for both drivers and pedestrians.

CONCLUSION

The field survey demonstrated that throughout the C-SMMPO, unimproved flag stops account for half of the boarding opportunities within the area. In general, bus stop signage is extremely limited throughout the survey area. While most of the bus stops have no improvements or amenities, those that do are accessible and have minimal damage.

The next technical memorandum will focus on how to effectively direct future capital investment into bus stops with the C-SMMPO with a goal of providing visible, safe, and accessible bus stops across the system.