

MD 4 - Thomas Johnson Memorial Bridge Planning Study (Solomons Island Road/Patuxent Beach Road)

From MD 2 (Solomon Island Road) to MD 235 (Three Notch Road)

Calvert and St. Mary's Counties, Maryland

Purpose and Need Statement Project No. SM 351A11



**Maryland State Highway Administration
Office of Planning and Preliminary Engineering
707 North Calvert Street
Baltimore, Maryland 21202**

May 2008

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MD 4 Purpose and Need Statement

Purpose and Need Summary

Project Location and Description

The study limits for MD 4 (Solomons Island Road/Patuxent Beach Road) extend from the MD 235 Intersection in St. Mary's County to the MD 2/MD 4 split in Calvert County, Maryland. (**Figure 1**) The MD 4 corridor is approximately 2.91 miles in length, and includes the Thomas Johnson Memorial Bridge. **Figure 2** illustrates the general study area's limits in the context of the surrounding geographic region and transportation network.

MD 4 is one of Maryland's original state roads. It extends approximately 65 miles from the District of Columbia (DC) to its terminus at MD 5, just south of Leonardtown, Maryland. The highway runs from DC to the southeast, connecting with I-495. After crossing I-495, MD 4 continues in a southward direction for a short distance before intersecting Marlboro Pike (a former alignment of MD 4); it then turns east and upgrades into a four-lane limited-access highway. Between 1962 and 1972, MD 4 was diverted along Southern Maryland Boulevard (then MD 416) and combined with MD 2. During this time, MD 4 replaced MD 2's companion route MD 416 for almost the entire length of Calvert County. MD 2-4, a four-lane at-grade divided highway, ended simultaneously at the southern tip of Calvert County. After the Thomas Johnson Memorial Bridge was built in 1977, MD 4 was extended across the bridge into St. Mary's County to its terminus at MD 5.

Purpose of the Project

The purpose of the project is to improve existing capacity and traffic operations, and to increase vehicular, pedestrian and bicycle safety along the MD 4 study corridor while supporting existing and planned development in the area. MD 4 provides commuters in the area with access to points north, including the District of Columbia (DC), as well as points south, including the Patuxent Naval Air Station. MD 4 is also the main evacuation route for the Calvert Cliffs Nuclear Power Station. The enhancements to the MD 4 study corridor would improve access, mobility, and safety for local, regional, and inter-regional traffic, including passenger and transit vehicles.

Project Need

Traffic volumes across the Thomas Johnson Memorial Bridge have increased from 12,900 vehicles per day in 1990 to 27,000 vehicles per day in the year 2007. The residential development in the area just north of Solomons Island has increased substantially over the past few years. Over 43 percent of Calvert County residents commute outside of the county. In St. Mary's County, the Patuxent Naval Air Station now hosts over 21,000 people, including active-duty service members, civil-service employees, defense contractor employees, and military dependents. The total employment for St. Mary's County is approximately 49,000 persons, including the Patuxent Naval Air Station. In addition to high traffic volumes along northbound and southbound MD 4 during AM and PM peak periods, the traffic congestion on Thomas Johnson Memorial Bridge is problematic. Inadequate shoulder widths along the bridge cause major traffic delays and/or closures during crashes and maintenance activities for both northbound and southbound traffic on the bridge. Currently, all maintenance activities on the bridge must be completed during late night to

MD 4 Purpose and Need Statement

early morning hours to avoid causing major traffic delays during the AM and PM peak traffic hours.

In addition to the need for capacity and safety improvements, bicycle and pedestrian access is restricted to the southern portion of the study area. There is currently bicycle and pedestrian access along MD 4 south of the bridge in St. Mary's County, but it ends at the bridge. The Thomas Johnson Memorial Bridge does not provide a dedicated bicycle/pedestrian lane.

Existing Traffic and Future Travel Demand

Travel demand forecasts were developed for MD 4. The forecasts were based on the Washington Council of Governments regional model Round 6.4A socio-economic data. The forecasts show that the traffic volumes will grow to over 32,000 vehicles per day on all sections of the roadway from MD 235 to MD 2 within the study area. All intersections and the two lane mainline segments are failing in both the AM and PM peak hours. With failing levels of service along MD 4, the MD 231 crossing of the Patuxent River will see an increase in traffic volumes. Also, major congestion along MD 4 will change the travel path of many motorists. Motorists will begin to use alternate routes such as MD 5, MD 234, and MD 235 to make trips to and from the Lexington Park, Leonardtown and California areas.

Travel Demand/Level of Service (LOS)

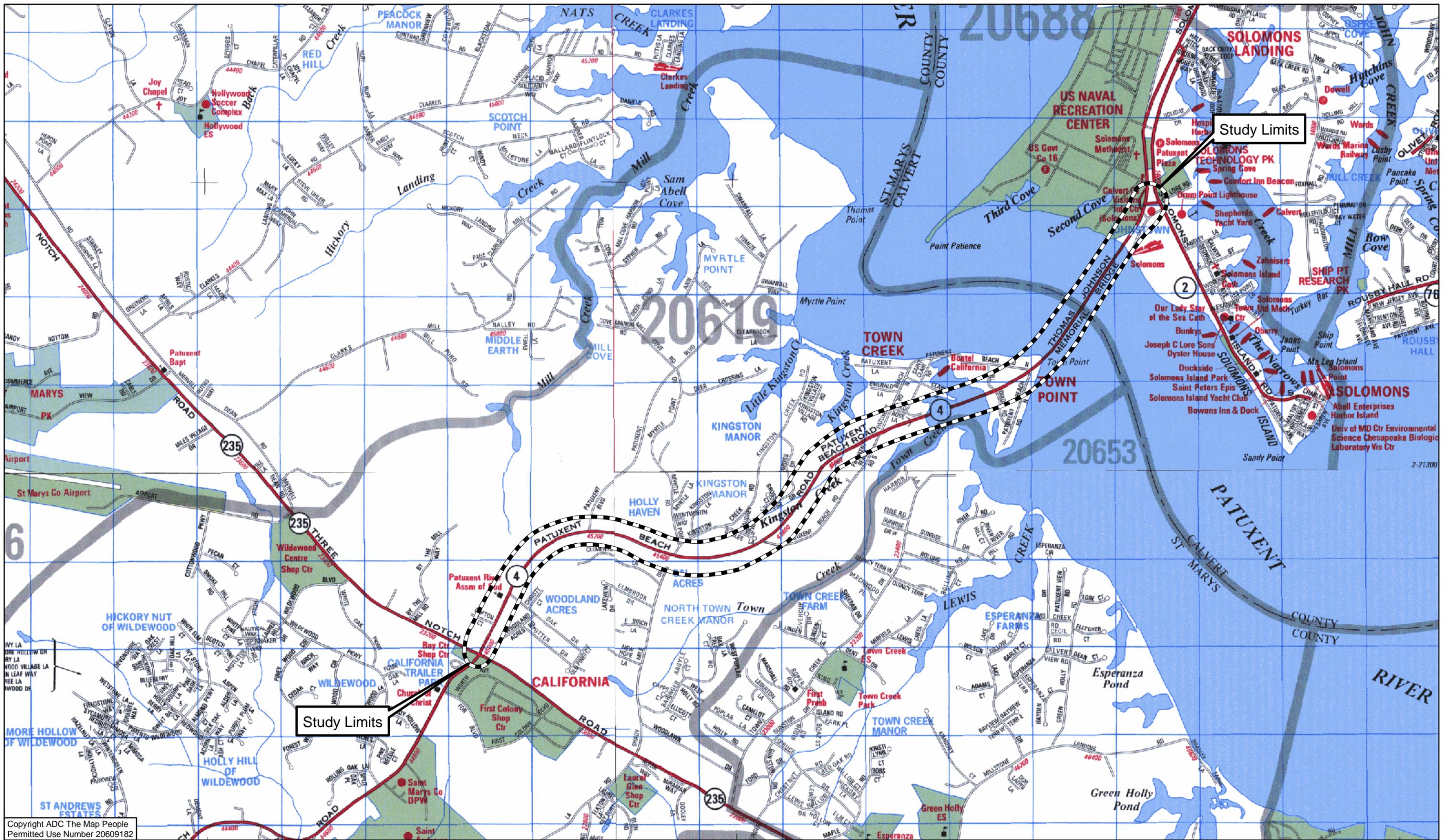
The highest weekday peak period volumes along MD 4 occur between the MD 235 intersection and the Patuxent Boulevard intersection (**Figure 1**). By 2030, the same section of MD 4 will experience a 24% increase in the Average Daily Traffic (ADT) (**Table 1**). The ADT within the study area will increase 18% by 2030.

Table 1. Average Daily Traffic

Limits	2007 Volume	2030 Volume	Percent Growth
	Average Daily Traffic (Vehicles/Day)		
MD 235 (north of MD 4)	40,300	N/A	N/A
MD 235 (south of MD 4)	55,800	N/A	N/A
South of MD 235	17,000	18,600	9%
MD 235 to Patuxent Boulevard	28,300	35,200	24%
Patuxent Boulevard to Kingston Creek Road	27,900	33,600	20%
Kingston Creek Road to MD 2*	27,000	32,500	20%

¹AM and PM peak hour volumes represent the highest volumes in the peak direction that occur on an average weekday (Monday through Friday). AM peak hour times are from 6 AM to 9 AM and PM peak hour times are from 4 PM to 7 PM.

* Limits include the Thomas Johnson Memorial Bridge.

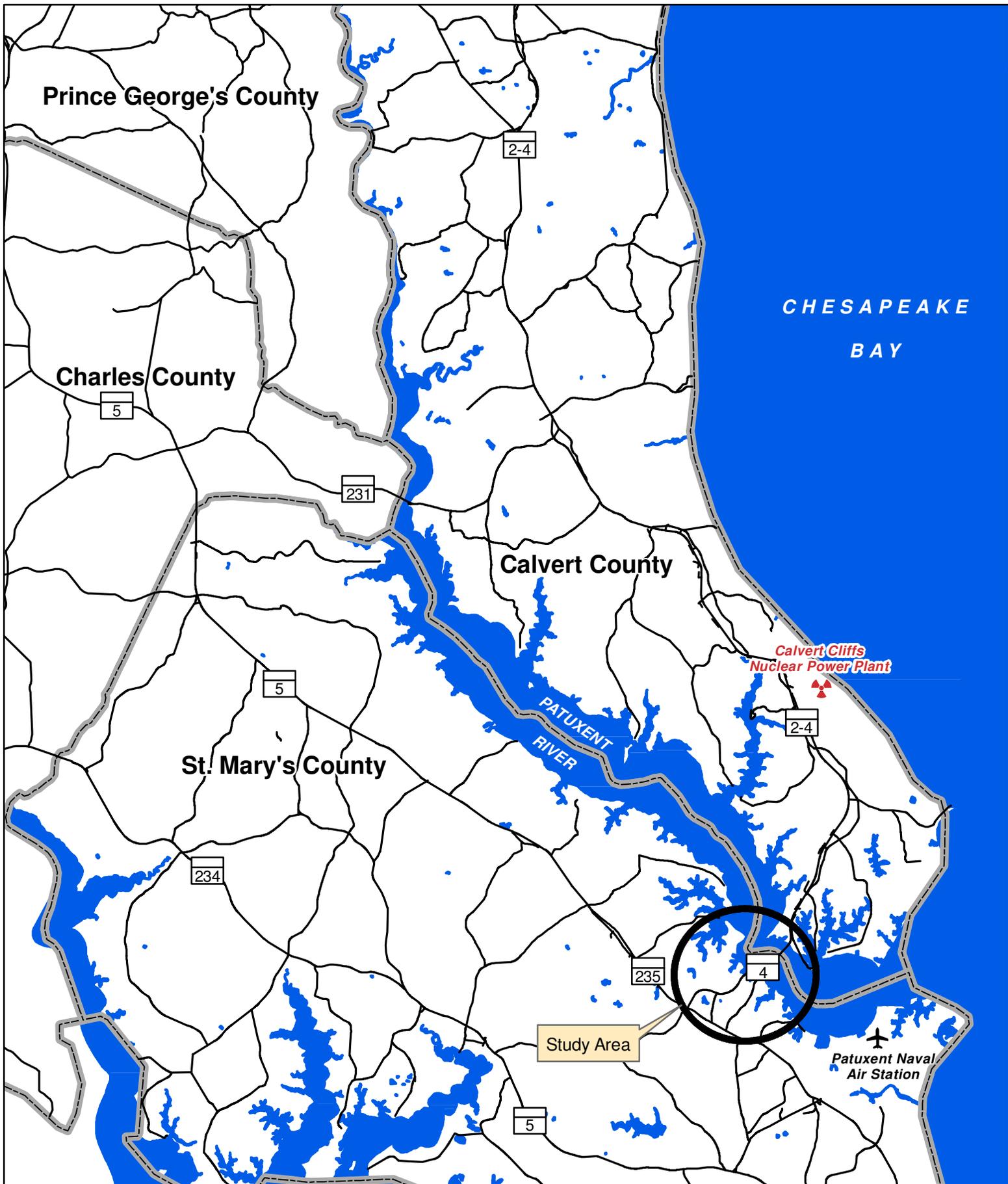


Copyright ADC The Map People
Permitted Use Number 20609182



Figure 1: Project Area Map
MD 4 Project Planning Study
ADC Map of Calvert and St. Mary's Counties, MD
 Scale: 1" = 2000'





**Figure 2: Vicinity Map
MD 4 Project Planning Study**

Scale: 1" = 3.5 miles

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Currently, both AM (6 AM to 9 AM) and PM (4 PM to 7 PM) peak hours for the study area have a failing Level of Service (LOS) F. By 2030, the LOS will remain failing during both AM and PM peak hours (**Table 2**) if no improvements are made. The vehicle/capacity ratios for the mainline segments and major intersections will increase approximately 17% average, from 2007 to 2030. The MD 4/MD 235, MD 4/Patuxent Parkway, and MD 4/Kingston Creek Road intersections have a LOS E during the current PM peak hours, which will become LOS F by the year 2030.

Table 2. Levels of Service (including vehicle/capacity ratios)

Limits	2007 LOS		2030 LOS	
	AM	PM	AM	PM
MD 4 Mainline (MD 235 to MD 2)	F	F	F	F
MD 4/MD 235 Intersection	F (1.06)	E	F (1.27)	F (1.21)
MD 4/Patuxent Boulevard Intersection to Kingston Creek Road	F (1.02)	E	F (1.19)	F (1.13)
MD 4/Kingston Creek Road Intersection	F (1.03)	E	F (1.18)	F (1.13)

*The limits in this table represent the all major intersections and MD 4 mainline segments within the study area.

Safety

The Maryland State Highway Administration, Office of Traffic and Safety (SHA-OOTS) provided crash data for the 2.91-mile study area from 2003 to 2005. During that three-year period, a total of 123 crashes were reported, 1 fatal crash, 56 injury crashes, and 66 property damage crashes.

Table 3 summarizes reported crashes within the MD 4 study area by crash type for the years 2003, 2004, and 2005. The crash information in **Appendix A** indicates that the crash rate is greater than the statewide average on MD 4 from FDR Boulevard to MD 235 and the rate for rear end collisions across the Thomas Johnson Memorial Bridge (located in the St. Mary's County Line to MD 2 section in Table 3) is also higher than the statewide rate. Please refer to **Appendix A** for more crash information for the study area.

Table 3. Crash Report Data

Severity	2003	2004	2005	Total	Study Rate	Statewide Average Rate
MD 4: FDR Boulevard to MD 235						
Fatal	-	-	-	-	0.0	1.3
Injury	4	3	1	8	181.8*	81.2
Property Damage	2	5	2	9	204.6*	107.2
Pedestrian	1	-	-	1	22.7	4.4
Total Crashes	6	8	3	17	386.4*	189.7

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Table 3. Crash Report Data

Severity	2003	2004	2005	Total	Study Rate	Statewide Average Rate
MD 4: MD 235 to Patuxent Boulevard						
Fatal	-	-	-	-	0.0	1.3
Injury	5	3	2	10	45.4	57.3
Property Damage	4	8	6	18	81.8	67.8
Pedestrian	1	-	-	1	4.5	1.8
Total Crashes	9	11	8	28	127.2	126.4
MD 4: Patuxent Boulevard to Kingston Creek Road						
Fatal	-	-	-	-	0.0	1.4
Injury	-	-	-	-	0.0	59.7
Property Damage	-	3	-	3	27.2	70.9
Pedestrian	-	-	-	-	0	2.0
Total Crashes	-	3	-	3	27.2	131.9
MD 4: Kingston Creek Road to Calvert County Line						
Fatal	-	-	-	-	0.0	1.3
Injury	3	4	4	11	17.2	56.6
Property Damage	4	10	3	17	26.6	66.8
Pedestrian	-	-	-	-	0	1.7
Total Crashes	7	14	7	28	43.8	124.6
MD 4: St. Mary's County Line to MD 2						
Fatal	-	-	-	-	0.0	1.2
Injury	4	4	5	13	61.9	53.7
Property Damage	1	5	1	7	33.3	63.0
Pedestrian	-	-	-	-	0	1.4
Total Crashes	5	9	6	20	95.2	117.9
MD 2: MD 4 to Patuxent Point Parkway						
Fatal	-	1	-	1	4.1	1.5
Injury	8	4	2	14	57.1	64.8
Property Damage	3	4	5	12	49.0	77.6
Pedestrian	-	-	-	-	0	2.5
Total Crashes	11	9	7	27	110.2	143.8
Total Crashes for the Study Area	38	54	31	123	N/A	N/A

*Study area crash rates are significantly higher than the statewide average rate

Land Use/Economic Development

MD 4 is a widely used transportation facility that influences inter- and intra-regional road transportation within Calvert and St. Mary's Counties. Changes to county land-development

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policies and plans will strongly influence the pace and location of growth along the corridor. Maryland's 1997 Smart Growth and Neighborhood Conservation Act (Smart Growth Act) directs state infrastructure funds to areas within or connecting county-designated and state-certified Priority Funding Areas (PFAs). The study area is located within both Calvert and St. Mary's county-designated and state-certified PFAs. **(Figure 3)**

The percentage of residents that commute outside of St. Mary's County (27%) is notably lower than Calvert County (43%). Much of this is due to the location of the Patuxent River Naval Air Station and associated private businesses. As of 2000, the Patuxent River Naval Air Station provided over 72% of the existing jobs in St. Mary's County.

The number of households in Calvert County increased from 5,540 in 1970 to 25,447 in 2000. During that 30-year period, Calvert County was the fastest growing county in the State of Maryland. In response to the dramatic population increase in Calvert County over the past 30 years, the labor force began to grow. In 1992, the civilian labor force in Calvert County was 30,991; by 2002 the labor force had increased over 30% to 40,358. In December 2003, the Calvert County Planning Commission adopted a plan to limit the buildout to 37,000 households. The entire section of the MD 4 study area in Calvert County is located within a county designated Town Center District. **(Figure 4)** Town Center Districts are Calvert County's primary designated growth areas that encourage residential and business growth, and provide amenities for visitors.

The number of households in St. Mary's County increased from 25,500 in 1990 to 34,125 in 2005. The highest concentration of St. Mary's County population occurs in the Lexington Park/California area. During a similar period (1994 to 1999), the labor force in St. Mary's County has increased 32% to a total 49,019. According to the St. Mary's County Comprehensive Master Plan, the entire portion of the MD 4 study area in St. Mary's County is located within the Lexington Park Development District. **(Figure 5)** The goal of this district is to establish an area of interconnected neighborhoods and a distinct town center. Because of the Patuxent Naval Air Station, a majority of the district is in an Air Installation Compatible Use Zone (AICUZ). The AICUZ restricts development and requires significant open space. Because of the AICUZ, the district will include many neighborhoods and commercial areas with large amounts of open space.

Regional Consistency

The MD 4 project is consistent with the goals and objectives of state, regional and local planning documents. Improvements to MD 4 within the study area are included in SHA's long range plan, the Highway Needs Inventory (HNI), the 2004 Comprehensive Plan for Calvert County, St. Mary's County Growth Management Plan, and the 2006 St. Mary's County Transportation Plan.

The 2004 Comprehensive Plan for Calvert County (December 2004), St. Mary's County Growth Management Plan (2001), and the 2006 St. Mary's County Transportation Plan govern the land use for the study area. All three master plans identify the need for improved capacity and safety along the section of MD 4 within the study area.

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Other Related Transportation Projects

A number of on-going or recently completed studies and projects have focused on various transportation improvements within and around the MD 4 study area. The following is a list of transportation projects and studies:

Lusby Connector

- The construction of a new east-west roadway connection from MD 765 to MD 2-4 in Lusby
- It will be developed in conjunction with County's Southern Connector Road
- Estimated open to traffic by Fall 2008

MD 760 / 765

- Referred to as the Lusby Streetscape Project
- The project limits are along MD 760 from east of MD 765 to west of MD 765 and along MD 765 from Appeal Lane to south of MD 760
- This project is only funded for preliminary engineering

MD 2 Solomon's Museum Ramp

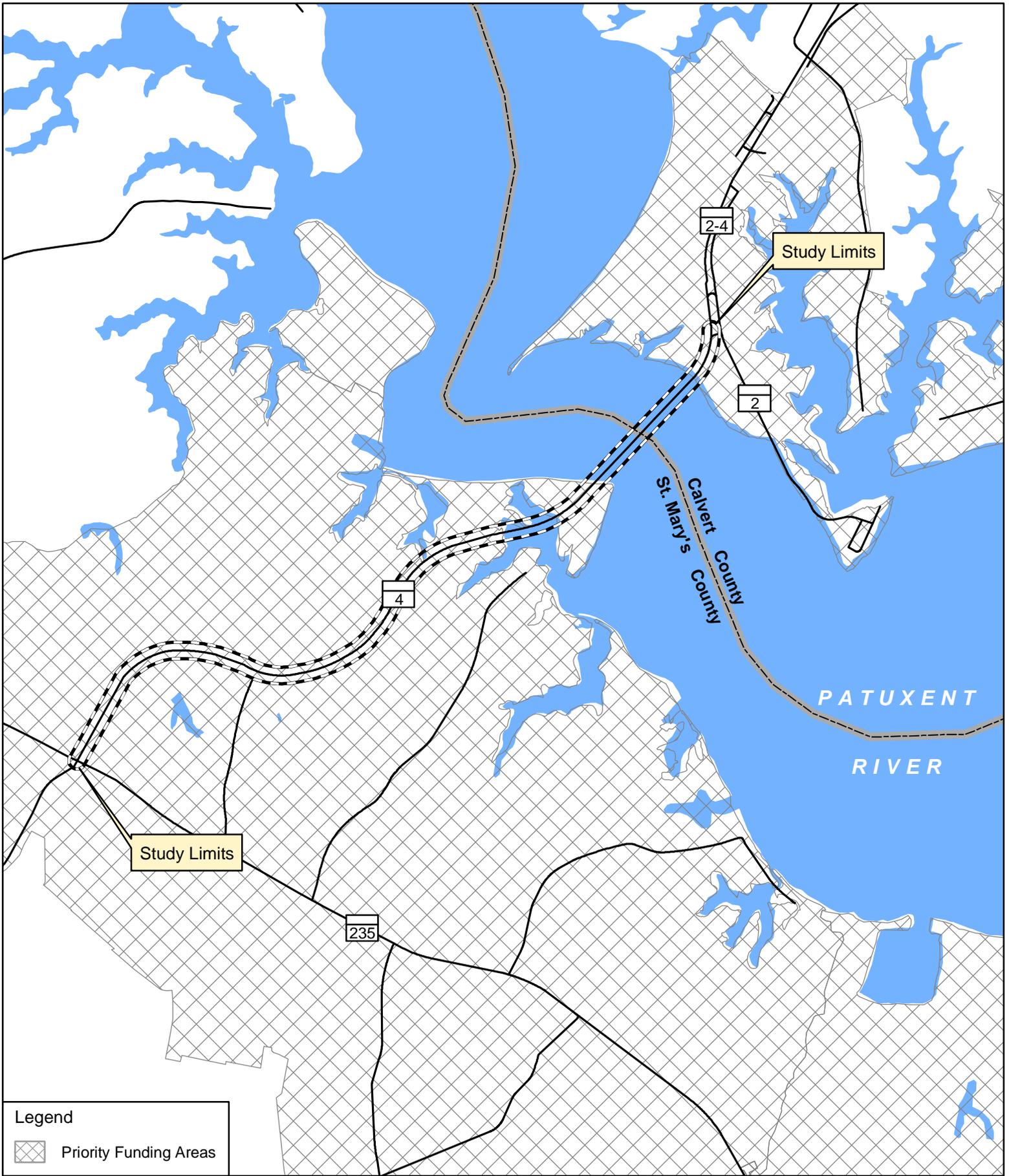
- Involves the realignment of the intersection, adjustment of sidewalks, and a channelized median
- Estimated completion date of Summer 2007

MD 237 from MD 235 to Pegg Road

- The upgrade and widening of MD 237 to a multi-lane highway
- Projects includes sidewalks for pedestrians and wide curb lanes to serve bicyclists
- The projects includes six signalized intersections; all other access points will be right-in, right-outs
- Estimated open to traffic by Fall 2010

Conclusion

The MD 4 corridor is one of the most frequently used roadways in both Calvert and St. Mary's Counties. Currently, the portion of MD 4, including the Thomas Johnson Memorial Bridge, within the study area experiences traffic volumes during the AM and PM peak periods that causes failing conditions. The study area falls within both of the counties' designated growth and designated Priority Funding Areas, therefore the area is expected to continue to grow. The study area's proximity to the Patuxent Naval Air Station will provide additional residential and commercial development opportunities. The proposed improvements are needed to address existing and future capacity and safety issues while supporting existing and planned residential and economic development noted in the counties' Master Plans.



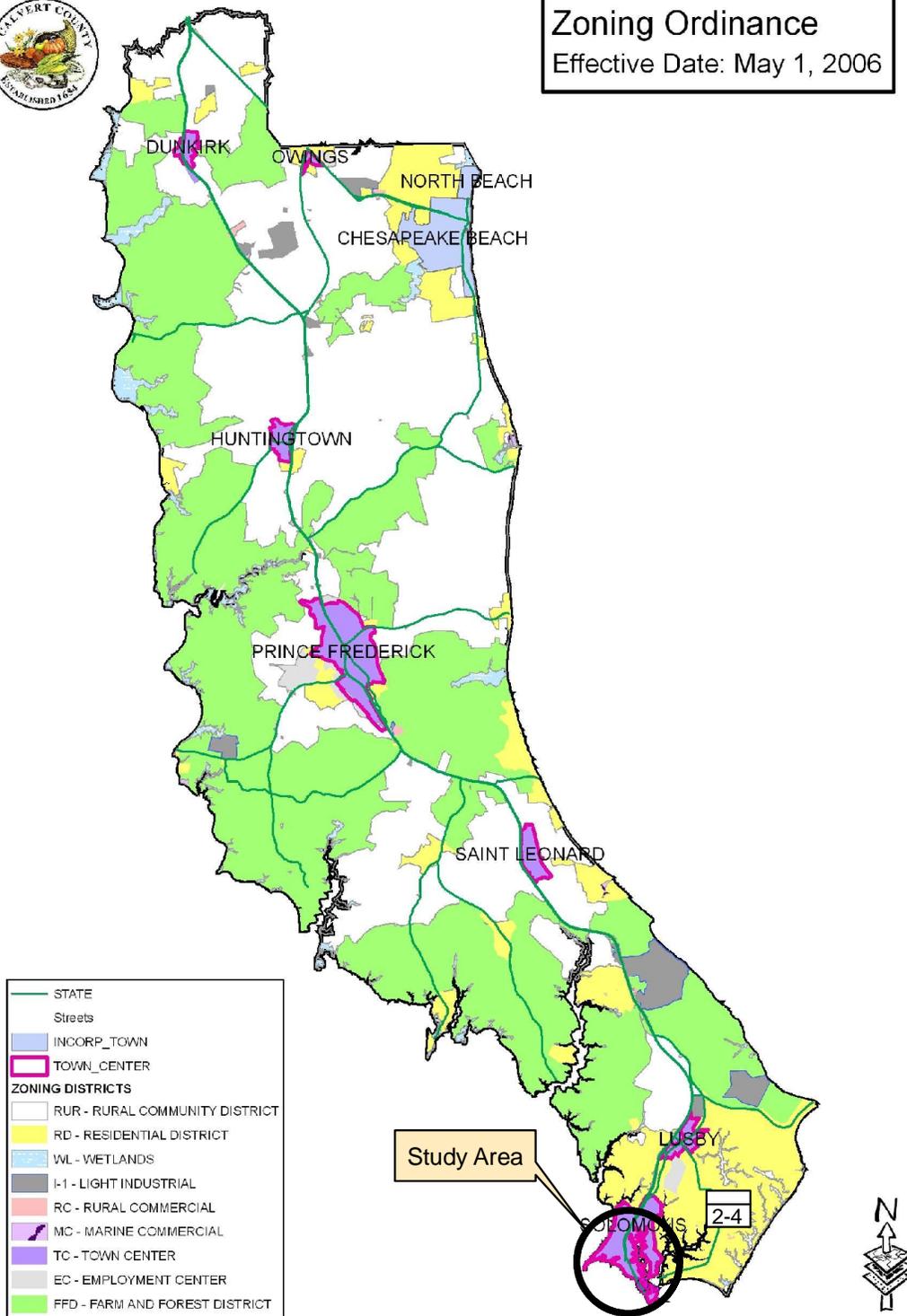
**Figure 3: Priority Funding Area Map
MD 4 Project Planning Study**

Scale: 1" = 3000'





Zoning Ordinance
 Effective Date: May 1, 2006

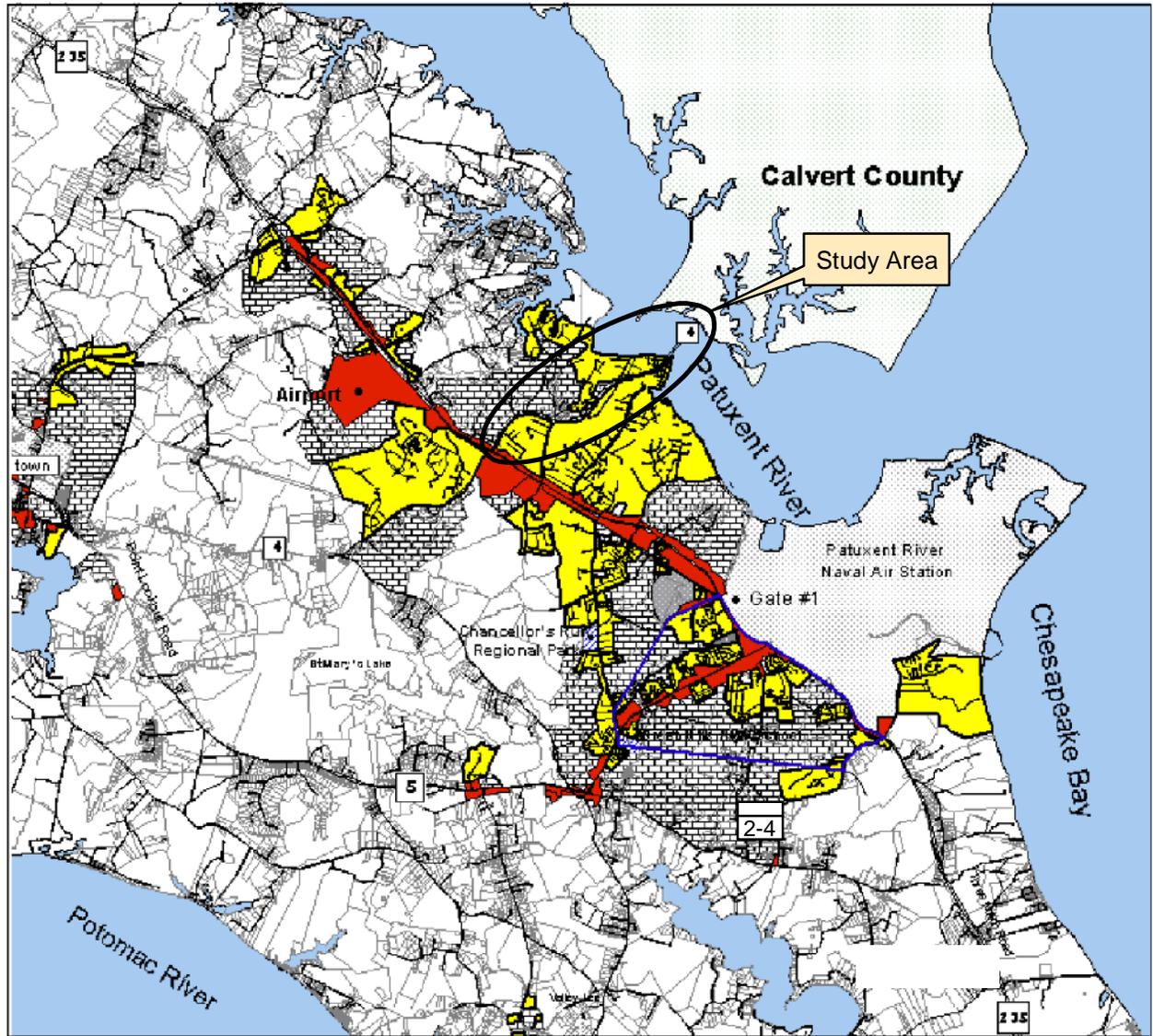


Source: Calvert County, Maryland

Figure 4: Calvert County Town Center District Location Map

Not to Scale





Development District Concept Plan

Lexington Park



Quality of Life in St. Mary's County
A Strategy for the 21st Century

LEGEND:

- Commercial/Industrial
- Public/Semi-Public
- Growth Areas
- Residential
- Employment Centers
- Property Lines
- Roads
- Lex. Park Rev. Dist.

Source: St. Mary's County Comprehensive Plan
Quality of Life in St. Mary's County:
A Strategy for the 21st Century
March 2003

Figure 5: St. Mary's County Lexington Park Development District Map



Not to Scale

MD 4 Purpose and Need Statement

Environmental Summary

Land use in the study area consists primarily of residential, forested, and institutional lands (**Figure 6**). Areas designated for commercial uses are located at the western end of the study area, while natural features, such as the Patuxent River, are concentrated towards the eastern end. Future land use in the study area anticipates growth in residential land within the St. Mary's County portion of the study area, and a growth of commercial and residential land in the Calvert County portion of the study area.

The two master plans that govern the study area are the 2004 Comprehensive Plan for Calvert County and the St. Mary's County Growth Management Plan (2001). The Comprehensive Plan for Calvert County states that one of the transportation objectives is to ensure that MD 4 & MD 2/4 remain the county's primary transportation corridors. The Plan states that it would like to see the MD 4 & MD 2/4 corridor converted into a controlled access expressway. Calvert County requires that all long-term impacts of the bridge expansion be investigated and that alternatives be considered. The St. Mary's County Growth Management Plan identifies the portion of the study area that is within St. Mary's County as the Lexington Park Development District. The MD 4 project is located entirely within a Priority Funding Areas in the two counties. There are no public parks located within the study area. One public school, Town Creek Elementary School, is located within the study area. A Calvert County visitor's information center is located at the northern terminus of the study area, where MD 4 and MD 2 split, and the public boat launch is located along MD 4 on the eastern end of the Thomas Johnson Memorial Bridge.

Based on an initial review of census data, Environmental Justice populations were not identified within the study area. Further research of the socioeconomic resources and characteristics will be conducted to ensure that SHA is not disproportionately or adversely affecting any EJ communities. Both air and noise studies will be conducted once detailed alternatives are developed.

There is a gas station and an auto salvage yard within the study area. These facilities typically generate, handle, or store hazardous materials.

There are two identified archeological sites along the project corridor within Calvert County. Site 18CV359 is a prehistoric site located near the Patuxent Naval Recreation Center and the sewage plant. Nearby is Site 18CV254, which is also a prehistoric site. Eligibility determinations have not been made for these resources. There is one identified archeological site along the alignment in St. Mary's County, Site 18ST620. This site is an historic era site and has been determined not eligible for listing in the National Register of Historic Places. The project corridor has high potential for terrestrial archeological resources outside of improved areas.

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The project corridor also has high potential for submerged archeological resources in the Patuxent River and in Town Creek in areas that have not been subjected to dredging. Shomette's archival review found that two ships that were part of Barney's flotilla in the War of 1812 (Gunboats No. 137 and No. 138) were reportedly scuttled to the north of the bridge area. Additional ships, particularly British vessels, may have been lost during the War of 1812 in the study area. Furthermore, two unidentified vessels, an Alexandria schooner and a bay boat, were reportedly sunken in a storm in 1807 near the MD 4 bridge crossing. An underwater survey is anticipated in both the Patuxent River and in Town Creek. Additional coordination will be required after alternatives have been developed for the project.

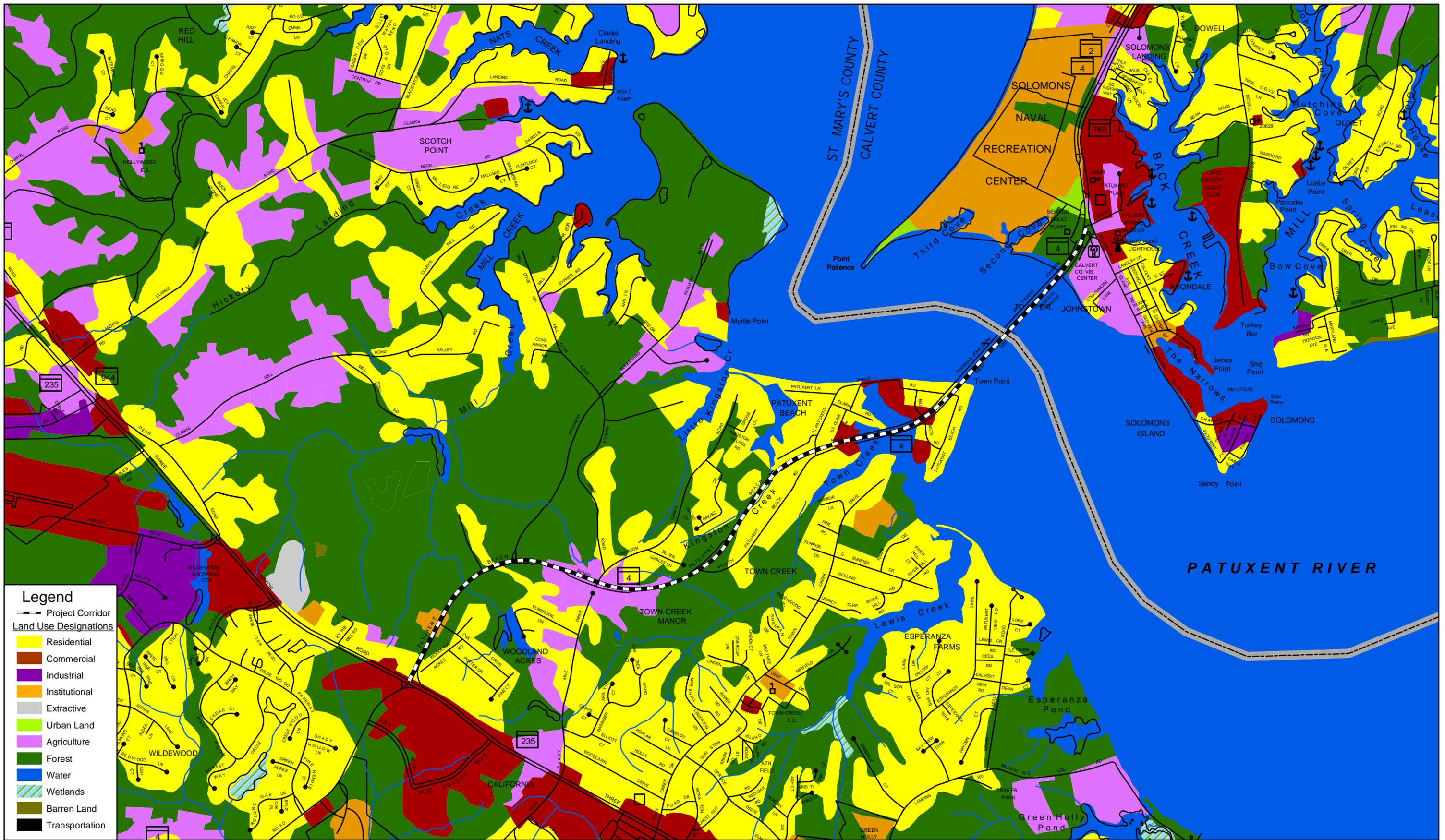
Approximately 147 MHT-inventoried properties form a potential Solomons Island Historic District, located to the east and southeast of the Thomas Johnson Memorial Bridge. Most properties in this potential district were originally surveyed in 1986, and one, CT-0070, St. Peter's Episcopal Church, was formally determined eligible for the National Register of Historic Places. Three other resources in the potential district: the Drum Point Lighthouse (CT-0068), the William Tennison boat (CT-799) and the J.C. Lore Oyster House (CT-788), have been listed on the National Register. The Calvert Marine Museum and Drum Point Lighthouse are also a MHT Easement (E-82) property. Fourteen other resources have been inventoried in Calvert County within one mile of the Thomas Johnson Memorial Bridge and they include Point Patience (CT-0069), the Solomons Methodist Cemetery (CT-888), and the U.S. Naval Amphibious Training Base (Calvert Marina) (CT-800). In St. Mary's County, six resources have been inventoried, and three of them are included in the Myrtle Point MHT Easement (E-478) property.

The Patuxent River is a designated river within the State of Maryland Scenic and Wild Rivers Program. The study area also includes portions of the "Critical Area", which are governed by the Critical Area Act of 1984. The law identifies the "Critical Area" as all land within 1,000 feet of the Mean High Water Line of tidal waters or the landward edge of tidal wetlands and all waters of and lands under the Chesapeake Bay and its tributaries. Any encroachment within the "Critical Area" will require further coordination with the Critical Area Commission.

Coordination with the U.S. Fish and Wildlife Service (USFWS) and Maryland Department of Natural Resources (DNR) was initiated to determine whether any state or federally listed threatened or endangered species are present within the study area (see Attachments 2 and 3). The Department of Natural Resource Wildlife and Heritage service indicated that there is a breeding record for the American Peregrine Falcon (*Falco peregrinus anatum*); the birds are known to nest underneath the middle spans of the Thomas Johnson Memorial Bridge. The last breeding pair of peregrine falcons officially recorded by DNR/USFWS occurred in 2004. The species has In Need of Conservation status in Maryland, and DNR recommends no construction activity occur within ¼ mile of the nest site during the nesting season (February to August). Correspondence from the USFWS indicated that there are no federally listed endangered or threatened species known to occur within the study area except for the occasional transient individual.

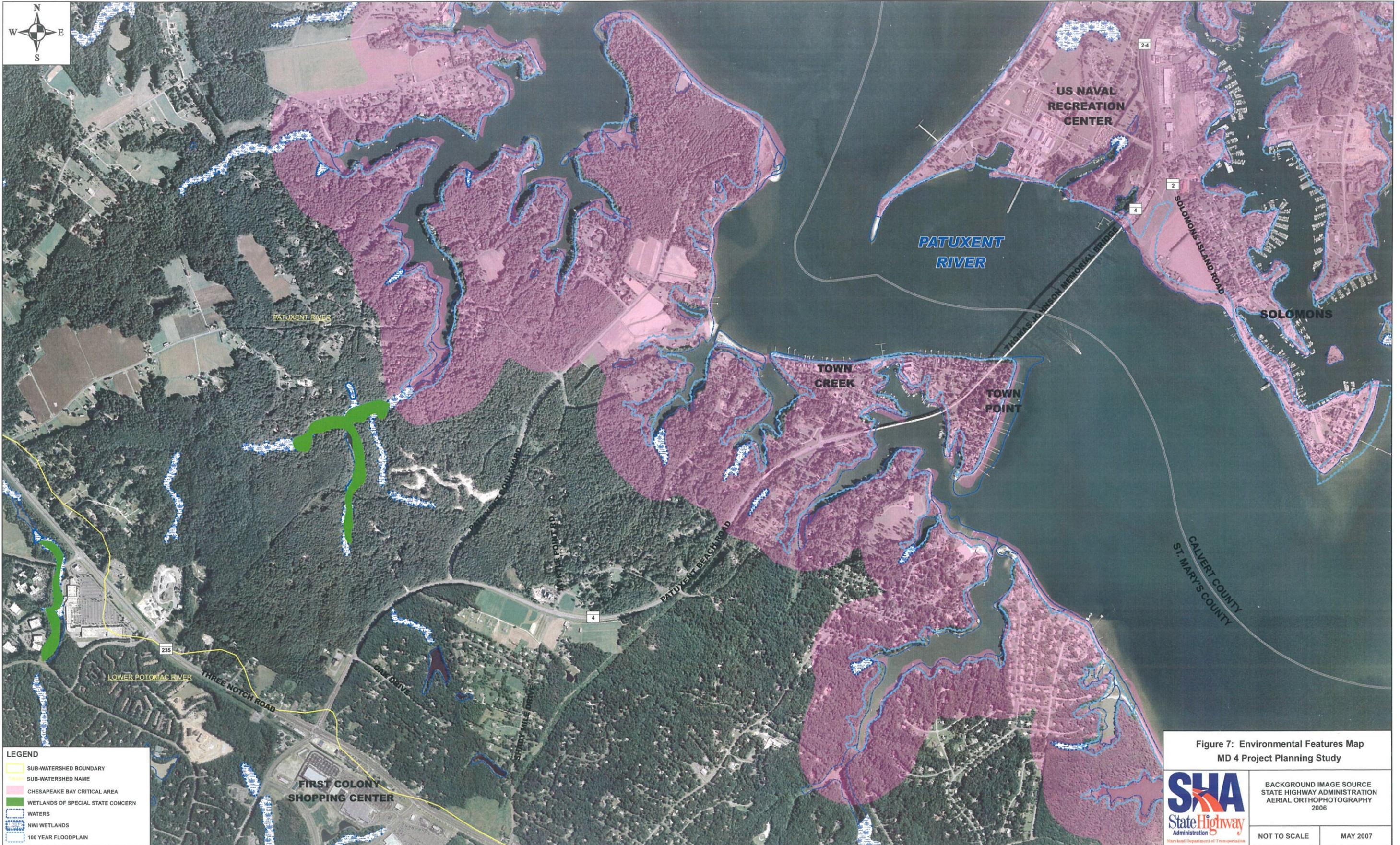
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Coordination with DNR indicated that the study area which incorporates the Patuxent River and tributaries are in the Patuxent River Drainage Area (**Figure 7**). The Patuxent River and its tributaries are classified as Use II waters (Support of Estuarine and Marine Aquatic Life and Shellfish Harvesting). Use II streams do not permit in-stream work from June 1 through September 30, inclusive, during any year. Other than the Patuxent River and its tributaries, there are no other stream crossings anticipated within the study area. Review of NWI and DNR non-tidal wetland mapping (see Attachment 4) indicates that palustrine wetlands are located within the study area. Should there be any disturbance to either wetlands or waterways, including modifications to existing drainage structures, permits will be required from Maryland Department of the Environment (MDE), U.S. Army Corps of Engineers (USACE), and the U.S. Coast Guard (USCG).



**Figure 6: 2002 Land Use Map
MD 4 Project Planning Study
Calvert and St. Mary's Counties, MD**

Scale: 1" = 2000'



LEGEND

-  SUB-WATERSHED BOUNDARY
-  SUB-WATERSHED NAME
-  CHESAPEAKE BAY CRITICAL AREA
-  WETLANDS OF SPECIAL STATE CONCERN
-  WATERS
-  NWI WETLANDS
-  100 YEAR FLOODPLAIN

Figure 7: Environmental Features Map
MD 4 Project Planning Study



BACKGROUND IMAGE SOURCE
STATE HIGHWAY ADMINISTRATION
AERIAL ORTHOPHOTOGRAPHY
2006

NOT TO SCALE MAY 2007

MD 4 Purpose and Need Statement

References

St. Mary's County Comprehensive Plan, *Quality of Life in St. Mary's County: A Strategy for the 21st Century*, March 2003

St. Mary's County Department of Public Works, *St. Mary's County Transportation Plan*. August 2006

Calvert County Planning and Zoning, *Solomons Master Plan and Zoning Ordinance*, May 2006

St. Mary's County Government Home Page: www.co.saint-marys.md.us

Calvert County Government Home Page: <http://www.co.cal.md.us>

Maryland Department of Planning Home Page: <http://www.mdp.state.md.us>

MD 4 Purpose and Need Statement

APPENDIX A

HIGHWAY NEEDS INVENTORY

St. Mary's County - Primary

(revised 2004)

Map Ref.	Route-Route Name Limits	Length	Improvement Type Cost (\$000)
1	MD 4 Patuxent Beach Road MD 235 to Begin Bridge	2.4	Divided highway reconstr. Includes Patuxent River bridge/interch. At MD 235 \$69,300
2	MD 4 Patuxent Beach Road Begin Bridge to Calvert County line	0.8	Bridge construct (50 percent cost) \$137,100
3	MD 5 Three Notch Road MD 235 to Charles County line	6.9	Divided highway reconstruct includes interchange at MD 235 \$102,600
4	MD 235 Three Notch Road MD 4 to Clarks Landing Road	2.1	Divided highway reconstruct with access improvements \$25,660
5	MD 235 Three Notch Road Clarks Landing Road to MD 5	12.0	Access control improvements \$138,800

**Maryland Department of Transportation
State Highway Administration**

from the desk of

Chanel Torsell

DATE: March 27, 2007

**RE: MD 4 (Thomas Johnson Bridge)
MD 2 to MD 235**

PROJECT NO: SM351A11

Ms. Felicia Alexander
Project Manager

Attached please find the requested accident data for the subject project planning study.

If you have any questions, please feel free to contact me at the phone number listed below or Bill Matheny of the Traffic Safety Analysis Division at 410-787-5850.

Thank you.

Chanel Torsell

Attachments



Martin O'Malley, Governor
Anthony Brown, Lt. Governor

John D. Porcari, Secretary
Neil J. Pedersen, Administrator

Maryland Department of Transportation

MEMORANDUM

TO: Mr. Bruce M. Grey
Deputy Director
Office of Planning and
Preliminary Engineering

ATTN: Ms. Chanel Torsell
Project Planning Division

FROM: William Matheny
Traffic Development & Support Division

DATE: March 26, 2007

SUBJECT: Contract No. SM351A11
Accident Data
MD 4 from FDR Boulevard to MD 2 (five various sections)
MD 2 from MD 4 to Patuxent Point Parkway
Calvert & St. Mary's Counties

William Matheny

RECEIVED
TRAVEL FORECASTING SECTION
07 MAR 27 PM 3:05
JOB NO.

Thank you for your recent memorandum requesting accident information for the above-cited locations. Attached are accident summaries, study worksheets and line diagrams for the three-year study period, 2003 through 2005. These forms portray the accident experience by year, severity, collision type, probable cause, location, accident rate per 100 million vehicle miles of travel (acc/100mvm) and comparable weighted statewide average accident rate for all similarly designed highways under state maintenance.

Any *significantly high* accident categories are indicated as such on the study worksheets with an asterisk (*). All AADT's (*annual average daily traffic*) used for this study were provided by the Project Planning Division.

The only *Priority* Candidate Safety Improvement Location (*CSIL*) within the subject study areas during the three-year study period was MD 2 at Patuxent Point Parkway in 2003, which was a *Priority* Candidate Safety Improvement Intersection (*CSII*). Should you have questions regarding this information, please contact me at (410) 787-5850, or via e-mail at: wmatheny@sha.state.md.us.

Attachments

cc: Mr. Gene Simmers Ms Kimberly Tran Mr. Gregory Welker

Location: MD 4 FROM FDR BOULEVARD TO MD 235

Logmile: From 005.85 To 006.10 Length: 0.25

County: St. Mary's Period: January 1, 2003 To December 31, 2005

Note(s):

Type Controls: 8U-80% 5U-20%

* Significantly Higher than Statewide

YEAR ▶	2003	2004	2005	TOTAL	STUDYRATE	STWDRATE
FATAL					0.0	1.3
No. KILLED						
INJURY	4	3	1	8	181.8 *	81.2
No. INJURED	4	3	2	9		
PROP DAMAGE	2	5	2	9	204.6 *	107.2
TOTAL ACC	6	8	3	17	386.4 *	189.7
RATE	480.8	549.0	177.0			
WAADT	13700	15900	18600			
VMT(millions)	1.2	1.5	1.7	4.4		
OPPOSITE DIR					0.0	10.0
REAR END	2	1	1	4	90.9	61.9
SIDESWIPE		3		3	68.2 *	8.9
LEFT TURN		1		1	22.7	16.3
ANGLE	1		2	3	68.2 *	33.2
PEDESTRIAN	1			1	22.7	4.4
PARKED VEH					0.0	5.3
FIXED OBJECT	1	2		3	68.2 *	28.5
OTHER	1	1		2	45.5	13.7
U-TURN						
BACKING						
ANIMAL						
RAILROAD						
EXPL./FIRE						
OVERTURN	1			1		
OTHER/UNK		1		1		
TRUCK REL ACC		1		1	22.7	11.7
NIGHTTIME	2	2	2	6	35 %	32 %
WET SURFACE		2	1	3	17 %	28 %
ALCOHOL REL		3		3	17 %	8 %
INTERSEC REL	4	5	2	11		
TOTAL VEH	10	14	6	30		
TOTAL TRUCKS		1		1		
PERCENT TRKS	0.0	7.1	0.0	3.3		

Comments:

Location: MD 4 FROM FDR BOULEVARD TO MD 235

Logmile: From 005.85 To 006.10 Length: 0.25

County: St. Mary's

Period: January 1, 2003 To December 31, 2005

Note(s):

SEVERITY	Fatal	Injury	P-Damage	Total	DAY OF THE WEEK							
Accidents		8	9	17	SUN	MON	TUE	WED	THU	FRI	SAT	UNK
Veh Occ		8			2	4		2	5	2	2	
Pedestrian		1										

MONTH OF THE YEAR													CONDITION:	DRIVER	PED
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	UNK	Normal:	11	1
2	2	1	1	1		1	1	4	1	2	1		ALCOHOL:	3	
													Other:	3	

TIME	12	01	02	03	04	05	06	07	08	09	10	11	UNK	VEHICLES INVOLVED PER ACCIDENT								
AM:												1		1	2	3	4	5	6+	UNK	TOTAL	
PM:		3		1	2	3	2	2	1	1		1		5	11	1						30

VEHICLE TYPE		SURFACE		MOVEMENTS											
1 M_Cycle/Moped	Trk_Trailer	3	WET	NORTH			SOUTH			EAST			WEST		
14 Passenger Veh	Passenger Bus	14	DRY	LF	ST	RT	LF	ST	RT	LF	ST	RT	LF	ST	RT
8 Light Truck	School Bus		SNO/ICE	1	9		1	11		1		1		3	2
1 Heavy Truck	Emergency Veh		MUD											
6 Other Types			OTHER	OTHER MOVEMENTS 1											

PROBABLE CAUSES		COLLISION TYPES		FAT	INJ	PROP	TOTAL
1 Inf. of Drugs	Improper Parking	OPPOSITE DIR	RELATED:				
1 Inf. of Alcohol	Passenger Interfere/Obstr.		UNRELATED:				
Inf. of Medication	Illegally in Roadway	REAR END	RELATED:			3	3
Inf. of Combined Substance	Bicycle Violation		UNRELATED:			1	1
Physical/Mental Difficulty	Clothing not Visible	SIDESWIPE	RELATED:		1	2	3
Fell Asleep/Fainted etc.	Smog, Smoke		UNRELATED:				
9 Fail to give full attent.	Sleet, Hail, Frz. Rain	LEFT TURN	RELATED:			1	1
Lic. Restr. Non-comply	Blowing Sand, Soil, Dirt		UNRELATED:				
1 Fail to Yield Rightofway	Severe Crosswinds	ANGLE	RELATED:		2		2
Fail to Obey Stop Sign	Rain, Snow		UNRELATED:			1	1
Fail to Obey Traffic Sig	Animal	PEDESTRIAN	RELATED:		1		1
Fail to Obey Other Contr.	Vision Obstruction		UNRELATED:				
Fail to Keep Right of Ctr	Vehicle Defect	PARKED VEH.	RELATED:				
Fail to Stop for Sch. Bus	1 Wet		UNRELATED:				
Wrong Way on One Way	Icy or Snow Covered	OTHER CT	RELATED:		1		1
Exceeded Speed Limit	Debris or Obstruction		UNRELATED:			1	1
Too Fast for Conditions	Ruts, Holes, Bumps	F BRIDGE	01				
2 Followed too Closely	Road Under Construction	I BUILDING	02				
Improper Turn	Traffic Cntrl Device Inop.	X CULVERT/DITCH	03		1		1
1 Improper Lane Change	Shoulders Low, Soft, High	E CURB	04		2		2
Improper Backing		D GUARDRAIL/BARRIER	05				
Improper Passing	1 Other or Unknown	O EMBANKMENT	06				
Improper Signal		O FENCE	07				
		B LIGHT POLE	08				
		J SIGN POST	09				
		E OTHER POLE	10				
		C TREE/SHRUBBERY	11				
		T CONSTR. BARRIER	12				
		S CRASH ATTENUATOR	13				
		OTHER FIXED OBJECT					

WEATHER	ILLUMINATION	TOTALS	
15 CLEAR/CLDY	11 DAY		E OTHER POLE 10
FOGGY	DAWN/DUSK		C TREE/SHRUBBERY 11
2 RAINING	2 DARK - LIGHTS ON	2003 6	T CONSTR. BARRIER 12
SNOW/SLEET	4 DARK - NO LIGHTS	2004 8	S CRASH ATTENUATOR 13
OTHER	OTHER	2005 3	OTHER FIXED OBJECT



Office of Traffic & Safety
 Traffic Development & Support Division
 Crash Analysis Safety Team

Location: MD 4 from FDR Boulevard to MD 235

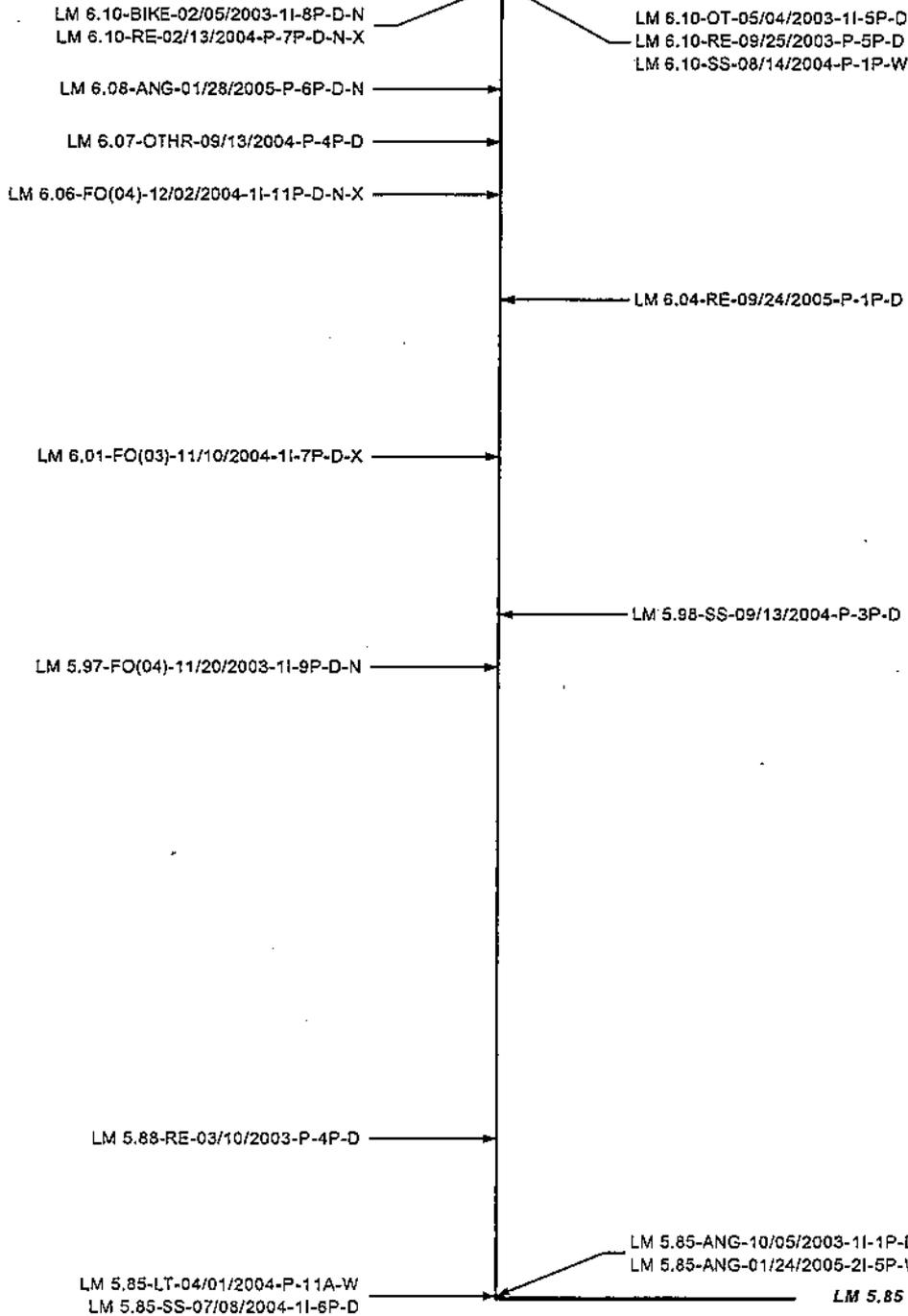
County: ST MARYS

Study Period: 01/01/2003 to 12/31/2005

Analyst: Dennis McMullen Date: 03/23/2007



LM 6.10 MD 235 THREE NOTCH RD



MARYLAND
4
 SOUTH
 BOUND

MARYLAND
4
 NORTH
 BOUND

LM 5.85 CO 1305 FDR BLVD

KEY: Log Mile - Collision Type (Fixed Object Struck) - Date - Severity - Time - Surface - Illumination - Alcohol

template 06-27-08

F - Fatalities	SS - Sideswipe	FO - Fixed Object	OFFRD - Off Road	00 - Not Applicable	08 - Light Support Pole	N - Night
I - Injury	PARKD - Parked Vehicle	O OBJ - Other Object	RUNWY - Downhill Runaway	01 - Bridge or Overpass	09 - Sign Support Pole	X - Alcohol
P - Property Damage	PED - Pedestrian	OT - Overturn	FIRE - Explosion Fire	02 - Building	10 - Other Pole	D - Dry Surface
OD - Opposite Direction	BIKE - Bicycle	SPILL - Spilled Cargo	BCKNG - Backing	03 - Culvert or Ditch	11 - Tree Shrubbery	W - Wet Surface
LT - Left Turn	PEDAL - Other Pedalcycle	JCKKNF - Jackknife	UTURN - U-Turn	04 - Curb	12 - Construction Barrier	I - Icy Surface
RE - Rear End	CONVY - Other Conveyance	SPRTD - Units Separated	OTHR - Other	05 - Guardrail or Barrier	13 - Crash Attenuator	S - Snowy Surface
ANG - Angle	ANIML - Animal	NCOLL - Other Non Collision	UNK - Unknown	06 - Embankment	88 - Other	
				07 - Fence	99 - Unknown	

Location: MD 4 FROM MD 235 TO PATUXENT BOULEVARD

Logmile: From 006.10 To 006.83 Length: 0.73

County: St. Mary's

Period: January 1, 2003 To December 31, 2005

Note(s):

Type Controls: 3U-33% 4U-67%

* Significantly Higher than Statewide

YEAR ▶	2003	2004	2005	TOTAL	STUDYRATE	STWDRATE
FATAL					0.0	1.3
No. KILLED	-----					
INJURY	5	3	2	10	45.4	57.3
No. INJURED	10	3	2	15		
PROP DAMAGE	4	8	6	18	81.8	67.8
TOTAL ACC	9	11	8	28	127.2	126.4
RATE	124.0	149.7	108.1			
WAADT	27300	27500	27800			
VMT (millions)	7.3	7.3	7.4	22.0		
OPPOSITE DIR	1			1	4.5	5.6
REAR END	4	6	4	14	63.6	46.3
SIDESWIPE		1		1	4.5	5.2
LEFT TURN		1		1	4.5	15.1
ANGLE		1		1	4.5	21.1
PEDESTRIAN	1			1	4.5	1.8
PARKED VEH					0.0	1.8
FIXED OBJECT	1	2	1	4	18.2	13.6
OTHER	2		3	5	22.7	6.5
U-TURN			1	1		
BACKING						
ANIMAL			2	2		
RAILROAD						
EXPL./FIRE	1			1		
OVERTURN	1			1		
OTHER/UNK						
TRCK REL ACC		1		1	4.5	8.1
NIGHTTIME	1	3	4	8	28 %	32 %
WET SURFACE	1	4		5	17 %	28 %
ALCOHOL REL		2	1	3	10 %	8 %
INTERSEC REL	5	7	2	14		
TOTAL VEH	17	20	15	52		
TOTAL TRUCKS		1		1		
PERCENT TRKS	0.0	5.0	0.0	1.9		

Comments:



Office of Traffic & Safety
 Traffic Development & Support Division
 Crash Analysis Safety Team

Location: MD 4 from MD 235 to Patuxent Boulevard

County: ST MARYS

Study Period: 01/01/2003 to 12/31/2005

Analyst: Dennis McMullen Date: 03/23/2007

LM 6.83 CO 1013 PATUXENT BLVD

LM 6.83-LT-01/09/2004-P-8A-S

LM 6.82-FO(10)-06/11/2005-11-11P-D-N-X



MARYLAND
4
 SOUTH
 BOUND

MARYLAND
4
 NORTH
 BOUND

LM 6.68-RE-07/02/2004-11-4P-D
 LM 6.68-RE-08/05/2005-11-4P-D

LM 6.66-FO(05)-06/16/2003-P-8P-D

LM 6.64-ANIML-11/14/2005-P-12A-D-N

LM 6.53-RE-05/23/2004-11-11A-D

LM 6.48-FIRE-01/21/2003-P-4P-D

LM 6.41-RE-09/21/2005-P-5P-D

LM 6.40-RE-09/09/2004-P-4P-D

LM 6.39-ANG-10/20/2004-11-6A-W

LM 6.39-OD-10/18/2003-4I-9A-D

LM 6.39 CO 234 OAK DR

LM 6.37-UTURN-07/29/2005-P-12A-D-N

LM 6.29-RE-06/16/2004-P-4P-W

LM 6.19-FO(04)-06/07/2004-P-1A-D-N-X

LM 6.12-RE-05/08/2003-2I-1P-W

LM 6.12-RE-07/29/2003-2I-5P-D

LM 6.11-ANIML-11/11/2005-P-8P-D-N

LM 6.11-RE-05/02/2003-P-5P-D

LM 6.10-BIKE-02/05/2003-1I-8P-D-N

LM 6.10-RE-02/13/2004-P-7P-D-N-X

LM 6.16-RE-03/08/2004-P-11A-D

LM 6.13-RE-02/23/2005-P-5P-D

LM 6.11-RE-03/30/2005-P-4P-D

LM 6.11-FO(04)-11/23/2004-P-3A-W-N

LM 6.10-OT-05/04/2003-1I-5P-D

LM 6.10-RE-09/25/2003-P-5P-D

LM 6.10-SS-08/14/2004-P-1P-W

LM 6.10 MD 235 THREE NOTCH RD

KEY: LogMile-CollisionType (FixedObjectStruck) -Date-Severity-Time-Surface-Illumination-Alcohol

template 06-27-05

F - Fatalities	SS - Sideswipe	FO - Fixed Object	OFFRD - Off Road	00 - Not Applicable	08 - Light Support Pole	N - Night
I - Injury	PARKD - Parked Vehicle	OOBJ - Other Object	RUNWY - Downhill Runaway	01 - Bridge or Overpass	09 - Sign Support Pole	X - Alcohol
P - Property Damage	PEO - Pedestrian	OT - Overturn	FIRE - Explosion Fire	02 - Building	10 - Other Pole	D - Dry Surface
OD - Opposite Direction	BIKE - Bicycle	SPIII - Spilled Cargo	BCKNG - Backing	03 - Culvert or Ditch	11 - Tree Shrubbery	W - Wet Surface
LT - Left Turn	PEDAL - Other Pedalcycle	JCKKNF - Jackknife	UTURN - U-Turn	04 - Curb	12 - Construction Barrier	I - Icy Surface
RE - Rear End	CONVY - Other Conveyance	SPRTD - Units Separated	OTHR - Other	05 - Guardrail or Barrier	13 - Crash Attenuator	S - Snowy Surface
ANG - Angle	ANIML - Animal	NCOLL - Other Non Collision	UNK - Unknown	06 - Embankment	88 - Other	
				07 - Fence	99 - Unknown	

Location: MD 4 FROM PATUXENT BLVD TO KINGSTON CREEK RD
 County: St. Mary's Period: January 1, 2003 To December 31, 2005
 Type Controls: 3U-54% 4U-46%

Logmile: From 006.83 To 007.20 Length: 0.37

Note(s):

* Significantly Higher than Statewide

YEAR ▶	2003	2004	2005	TOTAL	STUDYRATE	STWDRATE
FATAL					0.0	1.4
<u>No. KILLED</u>	-----					
INJURY					0.0	59.7
<u>No. INJURED</u>	-----					
PROP DAMAGE		3		3	27.2	70.9
TOTAL ACC		3		3	27.2	131.9
RATE	0.0	81.4	0.0			
WAADT	27000	27200	27500			
VMT(millions)	3.6	3.7	3.7	11.0		
OPPOSITE DIR					0.0	4.6
<u>REAR END</u>		1		1	9.1	50.9
SIDESWIPE					0.0	6.9
<u>LEFT TURN</u>		1		1	9.1	14.2
ANGLE					0.0	20.8
PEDESTRIAN					0.0	2.0
PARKED VEH					0.0	1.9
<u>FIXED OBJECT</u>					0.0	14.7
OTHER		1		1	9.1	7.8
<u>U-TURN</u>	-----					
BACKING	-----					
<u>ANIMAL</u>		1		1		
RAILROAD	-----					
<u>EXPL./FIRE</u>	-----					
OVERTURN	-----					
<u>OTHER/UNK</u>	-----					
TRCK REL ACC					0.0	8.7
NIGHTTIME		1		1	33 %	32 %
<u>WET SURFACE</u>	-----					
ALCOHOL REL					0 %	8 %
INTERSEC REL		1		1		
TOTAL VEH	0	5	0	5		
TOTAL TRUCKS						
PERCENT TRKS	***.*	0.0	***.*	0.0		

Comments:

Location: MD 4 FROM PATUXENT BLVD TO KINGSTON CREEK RD Logmile: From 006.83 To 007.20 Length: 0.37
 County: St. Mary's Period: January 1, 2003 To December 31, 2005 Note(s):

SEVERITY		Fatal	Injury	P-Damage	Total	DAY OF THE WEEK							UNK
Accidents				3	3	SUN	MON	TUE	WED	THU	FRI	SAT	UNK
Veh Occ									2		1		
Pedestrian													

MONTH OF THE YEAR												CONDITION: DRIVER PED			
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	UNK	Normal:	ALCOHOL:	Other:
2									1						3

TIME	12	01	02	03	04	05	06	07	08	09	10	11	UNK	VEHICLES INVOLVED PER ACCIDENT							
AM:									1			1		1	2	3	4	5	6+	UNK	TOTAL
PM:					1										1	2					5

VEHICLE TYPE		SURFACE		MOVEMENTS											
M_Cycle/Moped	Trk_Trailer	WET		NORTH			SOUTH			EAST			WEST		
4 Passenger Veh	Passenger Bus	2 DRY		LF	ST	RT	LF	ST	RT	LF	ST	RT	LF	ST	RT
1 Light Truck	School Bus	1 SNO/ICE		1	2			2							
Heavy Truck	Emergency Veh	MUD													
Other Types		OTHER		OTHER MOVEMENTS											

PROBABLE CAUSES			COLLISION TYPES		FAT	INJ	PROP	TOTAL
Inf. of Drugs	Improper Parking		OPPOSITE DIR	RELATED:				
Inf. of Alcohol	Passenger Interfere/Obstr.			UNRELATED:				
Inf. of Medication	Illegally in Roadway		REAR END	RELATED:				
Inf. of Combined Substance	Bicycle Violation			UNRELATED:			1	1
Physical/Mental Difficulty	Clothing not Visible		SIDESWIPE	RELATED:				
Fell Asleep/Painted etc.	Smog, Smoke			UNRELATED:				
2 Fail to give full attent.	Sleet, Hail, Frz. Rain		LEFT TURN	RELATED:			1	1
Lic. Restr. Non-comply	Blowing Sand, Soil, Dirt			UNRELATED:				
Fail to Yield Rightofway	Severe Crosswinds		ANGLE	RELATED:				
Fail to Obey Stop Sign	Rain, Snow			UNRELATED:				
Fail to Obey Traffic Sig	1 Animal		PEDESTRIAN	RELATED:				
Fail to Obey Other Contr.	Vision Obstruction			UNRELATED:				
Fail to Keep Right of Ctr	Vehicle Defect		PARKED VEH.	RELATED:				
Fail to Stop for Sch. Bus	Wet			UNRELATED:				
Wrong Way on One Way	Icy or Snow Covered		OTHER CT	RELATED:				
Exceeded Speed Limit	Debris or Obstruction			UNRELATED:			1	1
Too Fast for Conditions	Ruts, Holes, Bumps		F BRIDGE	01				
Followed too Closely	Road Under Construction		I BUILDING	02				
Improper Turn	Traffic Cntrl Device Inop.		X CULVERT/DITCH	03				
Improper Lane Change	Shoulders Low, Soft, High		E CURB	04				
Improper Backing			D GUARDRAIL/BARRIER	05				
Improper Passing	Other or Unknown		I EMBANKMENT	06				
Improper Signal			O FENCE	07				
			B LIGHT POLE	08				
			J SIGN POST	09				
			E OTHER POLE	10				
			C TREE/SHRUBBERY	11				
			T CONSTR. BARRIER	12				
			S CRASH ATTENUATOR	13				
			I OTHER FIXED OBJECT					

WEATHER	ILLUMINATION	TOTALS	
2 CLEAR/CLDY	2 DAY		
FOGGY	DAWN/DUSK		
RAINING	DARK - LIGHTS ON	2003	0
1 SNOW/SLEET	1 DARK - NO LIGHTS	2004	3
OTHER	OTHER	2005	0



Office of Traffic & Safety
 Traffic Development & Support Division
 Crash Analysis Safety Team

Location: MD 4 from Patuxent Boulevard to Kingston Creek Road

County: ST MARYS

Study Period: 01/01/2003 to 12/31/2005

Analyst: Dennis McMullen Date: 03/23/2007

LM 7.20 CO 211 KINGSTON CREEK RD



LM 7.14-RE-01/07/2004-P-5P-D-N

MARYLAND

4

SOUTH
BOUND

MARYLAND

4

NORTH
BOUND

LM 6.84-ANIML-10/06/2004-P-11A-D

LM 6.83-LT-01/09/2004-P-8A-S

LM 6.83 CO 1013 PATUXENT BLVD

KEY: Log Mile - Collision Type (Fixed Object Struck) - Date - Severity - Time - Surface - Illumination - Alcohol

template 06-27-05

F - Fatalities	SS - Sideswipe	FO - Fixed Object	OFFRD - Off Road	00 - Not Applicable	06 - Light Support Pole	N - Night
I - Injury	PARKD - Parked Vehicle	OOBJ - Other Object	RUNWY - Downhill Runaway	01 - Bridge or Overpass	08 - Sign Support Pole	X - Alcohol
P - Property Damage	PED - Pedestrian	OT - Overturn	FIRE - Explosion Fire	02 - Building	10 - Other Pole	D - Dry Surface
OD - Opposite Direction	BIKE - Bicycle	SPILL - Spilled Cargo	BCKNG - Backing	03 - Culvert or Ditch	11 - Tree Shrubbery	W - Wet Surface
LT - Left Turn	PEDAL - Other Pedalcycle	JCKKNF - Jackknife	UTURN - U-Turn	04 - Curb	12 - Construction Barrier	I - Icy Surface
RE - Rear End	CONVY - Other Conveyance	SPRTD - Units Separated	OTHR - Other	05 - Guardrail or Barrier	13 - Crash Attenuator	S - Snowy Surface
ANG - Angle	ANIML - Animal	NCOLL - Other Non Collision	UNK - Unknown	06 - Embankment	88 - Other	
				07 - Fence	89 - Unknown	

Location: MD 4 FROM KINGSTON CREEK RD TO CALVERT COUNTY LINE
 County: St. Mary's Period: January 1, 2003 To December 31, 2005
 Type Controls: 3U-26% 4U-74%

Logmile: From 007.20 To 009.36 Length: 2.16
 Note(s): * Significantly Higher than Statewide

YEAR ▶	2003	2004	2005	TOTAL	STUDYRATE	STWDRATE
FATAL					0.0	1.3
NO. KILLED						
INJURY	3	4	4	11	17.2	56.6
NO. INJURED	3	10	5	18		
PROP DAMAGE	4	10	3	17	26.6	66.8
TOTAL ACC	7	14	7	28	43.8	124.6
RATE	32.9	65.6	32.9			
WAADT	27000	27000	27000			
VMT(millions)	21.3	21.3	21.3	63.9		
OPPOSITE DIR		1	2	3	4.7	5.9
REAR END	2	8	2	12	18.8	44.7
SIDESWIPE		1		1	1.6	4.6
LEFT TURN	1			1	1.6	15.4
ANGLE					0.0	21.2
PEDESTRIAN					0.0	1.7
PARKED VEH	1		1	2	3.1	1.7
FIXED OBJECT	2	1		3	4.7	13.2
OTHER	1	3	2	6	9.4	6.0
U-TURN			1	1		
BACKING						
ANIMAL	1	1	1	3		
RAILROAD						
EXPL./FIRE						
OVERTURN						
OTHER/UNK		2		2		
TRCK REL ACC		1		1	1.6	7.9
NIGHTTIME	1	1	1	3	10 %	32 %
WET SURFACE		7		7	25 %	28 %
ALCOHOL REL		1	1	2	7 %	8 %
INTERSEC REL	1	3		4		
TOTAL VEH	12	34	15	61		
TOTAL TRUCKS		1		1		
PERCENT TRKS	0.0	2.9	0.0	1.6		

Comments:

Location: MD 4 FROM KINGSTON CREEK RD TO CALVERT COUNTY LINE Logmile: From 007.20 To 009.36 Length: 2.16
 County: St. Mary's Period: January 1, 2003 To December 31, 2005 Note(s):

SEVERITY	Fatal	Injury	P-Damage	Total	DAY OF THE WEEK							
Accidents		11	17	28	SUN	MON	TUE	WED	THU	FRI	SAT	UNK
Veh Occ		18			4	4	2	4	10	3	1	
Pedestrian												

MONTH OF THE YEAR													CONDITION:	DRIVER	PED
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	UNK	Normal:	20	
1	2	3	3		2		7	1	3	3	3		ALCOHOL:	2	
													Other:	6	

TIME	12	01	02	03	04	05	06	07	08	09	10	11	UNK	VEHICLES INVOLVED PER ACCIDENT								
AM:							2	1		1				1	2	3	4	5	6+	UNK	TOTAL	
PM:	1	2	2	6	4	5	1	1		1				6	14	5	3					61

VEHICLE TYPE		SURFACE	MOVEMENTS											
M_Cycle/Moped	Trk_Trailer	7 WET	NORTH			SOUTH			EAST			WEST		
30 Passenger Veh	Passenger Bus	20 DRY	LF	ST	RT	LF	ST	RT	LF	ST	RT	LF	ST	RT
10 Light Truck	School Bus	1 SNO/ICE	2	18		24								2
1 Heavy Truck	1 Emergency Veh	MUD	-----											
19 Other Types		OTHER	OTHER MOVEMENTS 15											

PROBABLE CAUSES			COLLISION TYPES	FAT	INJ	PROP	TOTAL
Inf. of Drugs	Improper Parking		OPPOSITE DIR RELATED:		1		1
1 Inf. of Alcohol	Passenger Interfere/Obstr.		UNRELATED:		2		2
1 Inf. of Medication	Illegally in Roadway		REAR END RELATED:		1		1
Inf. of Combined Substance	Bicycle Violation		UNRELATED:		3	8	11
Physical/Mental Difficulty	Clothing not Visible		SIDESWIPE RELATED:			1	1
3 Fell Asleep/Fainted etc.	Smog, Smoke		UNRELATED:				
11 Fail to give full attent.	Sleet, Hail, Frz. Rain		LEFT TURN RELATED:		1		1
Lic. Restr. Non-comply	Blowing Sand, Soil, Dirt		UNRELATED:				
1 Fail to Yield Rightofway	Severe Crosswinds		ANGLE RELATED:				
Fail to Obey Stop Sign	Rain, Snow		UNRELATED:				
Fail to Obey Traffic Sig	2 Animal		PEDESTRIAN RELATED:				
Fail to Obey Other Contr.	Vision Obstruction		UNRELATED:				
Fail to Keep Right of Ctr	1 Vehicle Defect		PARKED VEH. RELATED:				
Fail to Stop for Sch. Bus	Wet		UNRELATED:		1	1	2
Wrong Way on One Way	Icy or Snow Covered		OTHER CT RELATED:				
Exceeded Speed Limit	Debris or Obstruction		UNRELATED:		1	5	6
3 Too Fast for Conditions	Ruts, Holes, Bumps		F BRIDGE	01			
2 Followed too Closely	Road Under Construction		I BUILDING	02			
1 Improper Turn	Traffic Cntrl Device Inop.		X CULVERT/DITCH	03			
Improper Lane Change	Shoulders Low, Soft, High		E CURB	04			
Improper Backing			D GUARDRAIL/BARRIER	05	1	1	2
Improper Passing	2 Other or Unknown		EMBANKMENT	06			
Improper Signal			O FENCE	07			
			B LIGHT POLE	08			
			J SIGN POST	09			
			E OTHER POLE	10			
			C TREE/SHRUBBERY	11		1	1
			T CONSTR. BARRIER	12			
			S CRASH ATTENUATOR	13			
			OTHER FIXED OBJECT				

WEATHER	ILLUMINATION	TOTALS
22 CLEAR/CLDY	21 DAY	
FOGGY	4 DAWN/DUSK	
5 RAINING	DARK - LIGHTS ON	2003 7
1 SNOW/SLEET	3 DARK - NO LIGHTS	2004 14
OTHER	OTHER	2005 7



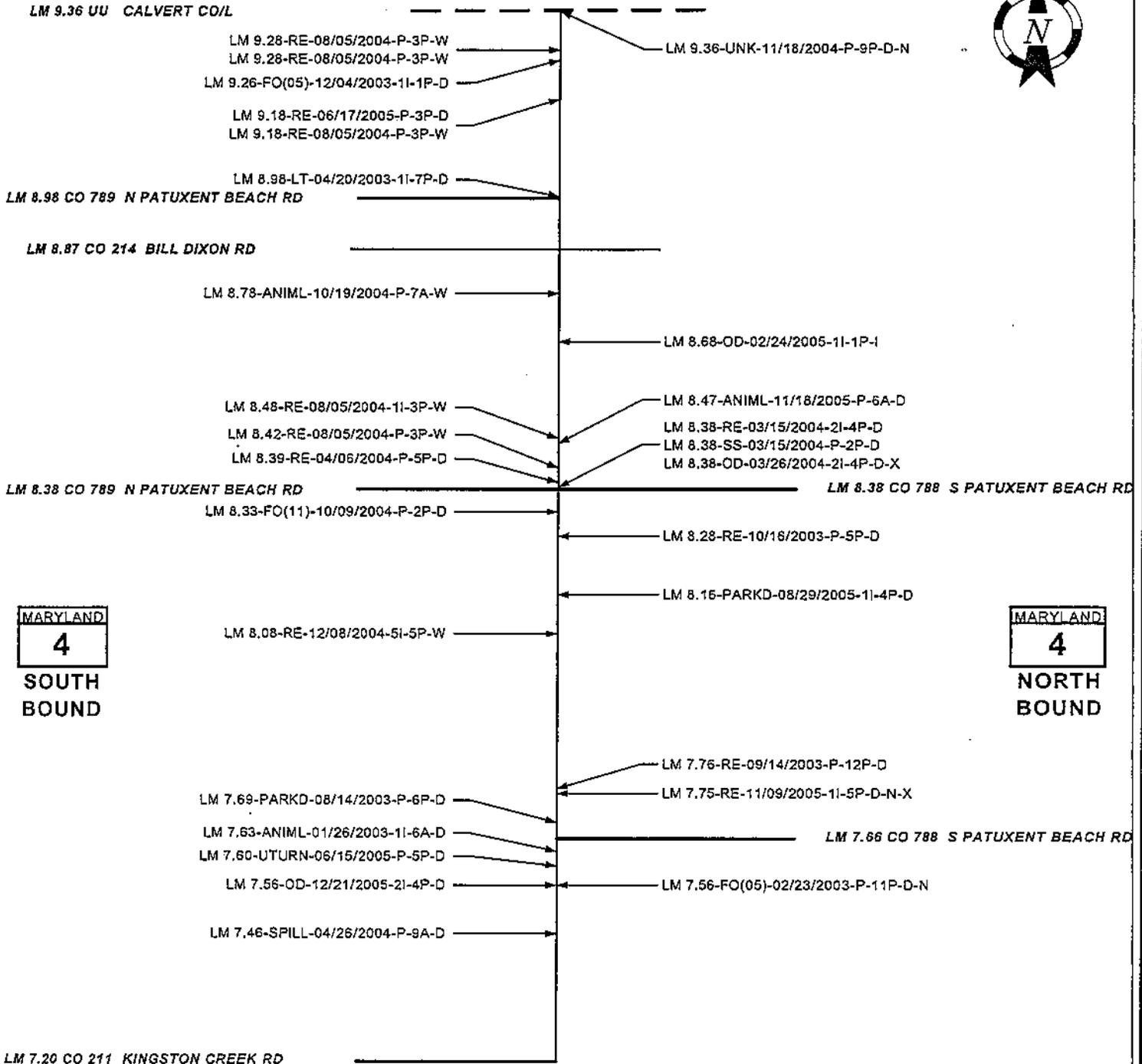
Office of Traffic & Safety
 Traffic Development & Support Division
 Crash Analysis Safety Team

Location: MD 4 from Kingston Creek Road to the Calvert County Line

County: ST MARYS

Study Period: 01/01/2003 to 12/31/2005

Analyst: Dennis McMullen Date: 03/23/2007



KEY: LogMile-CollisionType (FixedObjectStruck) -Date-Severity-Time-Surface-Illumination-Alcohol

template 06-27-05

F - Fatalities	SS - Sideswipe	FO - Fixed Object	OFFRD - Off Road	00 - Not Applicable	06 - Light Support Pole	N - Night
I - Injury	PARKD - Parked Vehicle	OOBJ - Other Object	RUNWY - Downhill Runaway	01 - Bridge or Overpass	09 - Sign Support Pole	X - Alcohol
P - Property Damage	PED - Pedestrian	OT - Overturn	FIRE - Explosion Fire	02 - Building	10 - Other Pole	D - Dry Surface
OD - Opposite Direction	BIKE - Bicycle	SPILL - Spilled Cargo	BCKNG - Backing	03 - Culvert or Ditch	11 - Tree Shrubbery	W - Wet Surface
LT - Left Turn	PEDAL - Other Pedalcycle	JCKKNF - Jackknife	UTURN - U-Turn	04 - Curb	12 - Construction Barrier	I - Icy Surface
RE - Rear End	CONVY - Other Conveyance	SPRTD - Units Separated	OTHR - Other	05 - Guardrail or Barrier	13 - Crash Attenuator	S - Snowy Surface
ANG - Angle	ANIML - Animal	NCOLL - Other Non Collision	UNK - Unknown	08 - Embankment	38 - Other	
				07 - Fence	99 - Unknown	

Location: MD 4 FROM THE ST. MARY'S COUNTY LINE TO MD 2
 County: Calvert Period: January 1, 2003 To December 31, 2005
 Type Controls: 4U-100%

Logmile: From 000.00 To 000.71 Length: 0.71

Note(s):
 * Significantly Higher than Statewide

YEAR ▶	2003	2004	2005	TOTAL	STUDYRATE	STWDRATE
FATAL					0.0	1.2
No. KILLED						
INJURY	4	4	5	13	61.9	53.7
No. INJURED	8	11	10	29		
PROP DAMAGE	1	5	1	7	33.3	63.0
TOTAL ACC	5	9	6	20	95.2	117.9
RATE	71.5	128.3	85.8			
WAADT	27000	27000	27000			
VMT(millions)	7.0	7.0	7.0	21.0		
OPPOSITE DIR		1	1	2	9.5	7.1
REAR END	4	7	3	14	66.6 *	32.0
SIDESWIPE					0.0	2.6
LEFT TURN					0.0	16.6
ANGLE			1	1	4.8	21.6
PEDESTRIAN					0.0	1.4
PARKED VEH					0.0	1.6
FIXED OBJECT	1	1		2	9.5	11.9
OTHER			1	1	4.8	4.4
U-TURN						
BACKING						
ANIMAL						
RAILROAD						
EXPL./FIRE						
OVERTURN						
OTHER/UNK			1	1		
TRCK REL ACC	1	1	1	3	14.3	7.3
NIGHTTIME	1	1	1	3	15 %	32 %
WET SURFACE		1		1	5 %	28 %
ALCOHOL REL		1		1	5 %	8 %
INTERSEC REL		1	2	3		
TOTAL VEH	11	21	17	49		
TOTAL TRUCKS	1	1	1	3		
PERCENT TRKS	9.1	4.8	5.9	6.1		

Comments:

Location: MD 4 FROM THE ST. MARY'S COUNTY LINE TO MD 2 Logmile: From 000.00 To 000.71 Length: 0.71
 County: Calvert Period: January 1, 2003 To December 31, 2005 Note(s):

SEVERITY	Fatal	Injury	P-Damage	Total	DAY OF THE WEEK							
					SUN	MON	TUE	WED	THU	FRI	SAT	UNK
Accidents		13	7	20								
Veh Occ		29			2	5	3	2	3	3	2	
Pedestrian												

MONTH OF THE YEAR													CONDITION:	DRIVER	PED
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	UNK	Normal:	18	
	1	1	1	1	2	4	3	4	2		1		ALCOHOL:	1	
													Other:	1	

TIME	12	01	02	03	04	05	06	07	08	09	10	11	UNK	VEHICLES INVOLVED PER ACCIDENT									
AM:		1				1	1	2							1	2	3	4	5	6+	UNK	TOTAL	
PM:	2	1	3	1	1	2	3	1		1					2	11	3	4					49

VEHICLE TYPE		SURFACE	MOVEMENTS											
			NORTH			SOUTH			EAST			WEST		
			LF	ST	RT	LF	ST	RT	LF	ST	RT	LF	ST	RT
17	M_Cycle/Moped Passenger Veh	Trk_Trailer Passenger Bus	19											
11	Light Truck	School Bus	1	19			17							1
3	Heavy Truck	Emergency Veh												
18	Other Types		OTHER MOVEMENTS 11											

PROBABLE CAUSES			COLLISION TYPES		FAT	INJ	PROP	TOTAL
	Inf. of Drugs	Improper Parking	OPPOSITE DIR	RELATED:		1		1
1	Inf. of Alcohol	Passenger Interfere/Obstr.		UNRELATED:		1		1
	Inf. of Medication	Illegally in Roadway	REAR END	RELATED:		1		1
	Inf. of Combined Substance	Bicycle Violation		UNRELATED:		6	7	13
	Physical/Mental Difficulty	Clothing not Visible	SIDESWIPE	RELATED:				
1	Fell Asleep/Fainted etc.	Smog, Smoke		UNRELATED:				
11	Fail to give full attent.	Sleet, Hail, Frz. Rain	LBFT TURN	RELATED:				
	Lic. Restr. Non-comply	Blowing Sand, Soil, Dirt		UNRELATED:				
	Fail to Yield Rightofway	Severe Crosswinds	ANGLE	RELATED:		1		1
	Fail to Obey Stop Sign	Rain, Snow		UNRELATED:				
	Fail to Obey Traffic Sig	Animal	PEDESTRIAN	RELATED:				
	Fail to Obey Other Contr.	1 Vision Obstruction		UNRELATED:				
1	Fail to Keep Right of Ctr	Vehicle Defect	PARKED VEH.	RELATED:				
	Fail to Stop for Sch. Bus	Wet		UNRELATED:				
	Wrong Way on One Way	Icy or Snow Covered	OTHER CT	RELATED:				
	Exceeded Speed Limit	Debris or Obstruction		UNRELATED:		1		1
2	Too Fast for Conditions	Ruts, Holes, Bumps	F BRIDGE			01		
1	Followed too Closely	Road Under Construction	I BUILDING			02		
2	Improper Turn	Traffic Cntrl Device Inop.	X CULVERT/DITCH			03		
	Improper Lane Change	Shoulders Low, Soft, High	E CURB			04		
	Improper Backing		D GUARDRAIL/BARRIER			05	2	2
	Improper Passing	Other or Unknown	EMBANKMENT			06		
	Improper Signal		O FENCE			07		
			B LIGHT POLE			08		
			J SIGN POST			09		
			E OTHER POLE			10		
			C TREE/SHRUBBERY			11		
			T CONSTR. BARRIER			12		
			S CRASH ATTENUATOR			13		
			OTHER FIXED OBJECT					

WEATHER	ILLUMINATION	TOTALS		
17 CLEAR/CLDY	15 DAY		J	SIGN POST
1 FOGGY	2 DAWN/DUSK		E	OTHER POLE
2 RAINING	3 DARK - LIGHTS ON	2003 5	C	TREE/SHRUBBERY
	DARK - NO LIGHTS	2004 9	T	CONSTR. BARRIER
	OTHER	2005 6	S	CRASH ATTENUATOR
				OTHER FIXED OBJECT



Office of Traffic & Safety
 Traffic Development & Support Division
 Crash Analysis Safety Team

Location: MD 4 from the St. Mary's County Line to MD 2

County: CALVERT

Study Period: 01/01/2003 to 12/31/2005

Analyst: Dennis McMullen Date: 03/23/2007



LM .71 MD 2 SOLOMONS ISLAND RD (AHEAD)

LM .61-OD-05/13/2004-3I-12P-D

LM .61-RE-07/04/2005-4I-10P-D-N

LM .54-RE-08/08/2003-2I-5P-D

LM .55-FO(09)-09/13/2005-1I-2P-D

LM .54 MD 2 G NO NAME

LM .50-FO(05)-07/27/2004-1I-6A-W

LM .46-RE-09/08/2003-P-5A-D

MARYLAND

4

SOUTH
BOUND

MARYLAND

4

NORTH
BOUND

LM .29-RE-08/25/2005-P-1P-D

LM .11-ANG-10/19/2005-2I-12P-D

LM .10-RE-04/25/2004-P-1A-D-N-X

LM .10-RE-07/03/2004-2I-7P-D

LM .00-FO(05)-09/27/2003-2I-6P-D
 LM .00-RE-03/19/2004-P-7A-D
 LM .00-RE-06/01/2004-P-7A-D
 LM .00-RE-09/13/2004-P-2P-D

LM .00-RE-02/14/2003-1I-6P-D-N
 LM .00-RE-12/24/2003-3I-2P-D
 LM .00-RE-07/19/2004-P-5P-D
 LM .00-RE-08/01/2004-5I-3P-D
 LM .00-OD-06/30/2005-2I-6P-D
 LM .00-RE-10/31/2005-1I-4P-D

LM .00 UU ST MARYS COIL

KEY: LogMile-CollisionType (FixedObject/Struck) -Date-Severity-Time-Surface-Illumination-Alcohol

template 06-27-06

F - Fatalities	SS - Sideswipe	FO - Fixed Object	OFFRD - Off Road	00 - Not Applicable	08 - Light Support Pole	N - Night
I - Injury	PARKD - Parked Vehicle	O OBJ - Other Object	RUNWY - Downhill Runaway	01 - Bridge or Overpass	09 - Sign Support Pole	X - Alcohol
P - Property Damage	PED - Pedestrian	OT - Overturn	FIRE - Explosion Fire	02 - Building	10 - Other Pole	D - Dry Surface
OD - Opposite Direction	BIKE - Bicycle	SPILL - Spilled Cargo	BCKNG - Backing	03 - Culvert or Ditch	11 - Tree Shrubbery	W - Wet Surface
LT - Left Turn	PEDAL - Other Pedalcycle	JCKKNF - Jackknife	UTURN - U-Turn	04 - Curb	12 - Construction Barrier	I - Icy Surface
RE - Rear End	CONVY - Other Conveyance	SPRTD - Units Separated	OTHR - Other	05 - Guardrail or Barrier	13 - Crash Attenuator	S - Snowy Surface
ANG - Angle	ANIML - Animal	NCOLL - Other Non Collision	UNK - Unknown	06 - Embankment	86 - Other	
				07 - Fence	89 - Unknown	

Location: MD 2 FROM MD 4 TO PATUXENT POINT PARKWAY
 County: Calvert Period: January 1, 2003 To December 31, 2005
 Type Controls: 3U-100%

Logmile: From 000.17 To 001.11 Length: 0.94

Note(s):

* Significantly Higher than Statewide

YEAR ▶	2003	2004	2005	TOTAL	STUDYRATE	STWDRATE
FATAL		1		1	4.1	1.5
<u>NO. KILLED</u>		<u>1</u>		<u>1</u>		
INJURY	8	4	2	14	57.1	64.8
<u>NO. INJURED</u>	<u>14</u>	<u>11</u>	<u>3</u>	<u>28</u>		
PROP DAMAGE	3	4	5	12	49.0	77.6
TOTAL ACC	11	9	7	27	110.2	143.8
RATE	136.1	109.9	84.9			
WAADT	23600	23800	24000			
VMT(millions)	8.1	8.2	8.2	24.5		
OPPOSITE DIR		1		1	4.1	2.4
<u>REAR END</u>		<u>2</u>	<u>5</u>	<u>7</u>	<u>28.6</u>	<u>61.1</u>
SIDESWIPE					0.0	10.5
<u>LEFT TURN</u>	<u>7</u>	<u>2</u>		<u>9</u>	<u>36.7 *</u>	<u>12.1</u>
ANGLE	3	2		5	20.4	20.1
PEDESTRIAN					0.0	2.5
PARKED VEH			1	1	4.1	2.1
<u>FIXED OBJECT</u>	<u>1</u>		<u>1</u>	<u>2</u>	<u>8.2</u>	<u>17.0</u>
OTHER		2		2	8.2	10.7
U-TURN						
BACKING						
ANIMAL						
RAILROAD						
EXPL./FIRE						
OVERTURN						
<u>OTHER/UNK</u>		<u>2</u>		<u>2</u>		
TRCK REL ACC					0.0	9.8
NIGHTTIME	3		2	5	18 %	32 %
<u>WET SURFACE</u>		<u>2</u>		<u>2</u>	<u>7 %</u>	<u>28 %</u>
ALCOHOL REL			1	1	3 %	8 %
INTERSEC REL	10	5	1	16		
TOTAL VEH	22	20	13	55		
TOTAL TRUCKS						
PERCENT TRKS	0.0	0.0	0.0	0.0		

Comments:

Location: MD 2 FROM MD 4 TO PATUXENT POINT PARKWAY Logmile: From 000.17 To 001.11 Length: 0.94
 County: Calvert Period: January 1, 2003 To December 31, 2005 Note(s):

SEVERITY	Fatal	Injury	P-Damage	Total	DAY OF THE WEEK							UNK
					SUN	MON	TUE	WED	THU	FRI	SAT	
Accidents	1	14	12	27								
Veh Occ	1	28			5	7	1	3	1	8	2	
Pedestrian												

MONTH OF THE YEAR													CONDITION:	DRIVER	PED
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	UNK	Normal:		23
2	3		4	4	3	2	2	3	2		2		ALCOHOL:		1
													Other:		3

TIME	12	01	02	03	04	05	06	07	08	09	10	11	UNK	VEHICLES INVOLVED PER ACCIDENT							
AM:				1			1	2	1				3	1	2	3	4	5	6+	UNK	TOTAL
PM:	3	1	3		1	4	4			1	1	1		3	21	2	1				55

VEHICLE TYPE		SURFACE		MOVEMENTS											
				NORTH			SOUTH			EAST			WEST		
				LF	ST	RT	LF	ST	RT	LF	ST	RT	LF	ST	RT
M_Cycle/Moped	Trk_Trailer	2	WET												
34 Passenger Veh	Passenger Bus	23	DRY	6	18		3	19		1	1				3
8 Light Truck	School Bus	2	SNO/ICE												
Heavy Truck	1 Emergency Veh		MUD												
12 Other Types			OTHER	OTHER MOVEMENTS 4											

PROBABLE CAUSES			COLLISION TYPES		FAT	INJ	PROP	TOTAL
Inf. of Drugs	Improper Parking		OPPOSITE DIR	RELATED:				
1 Inf. of Alcohol	Passenger Interfere/Obstr.		UNRELATED:		1			1
Inf. of Medication	Illegally in Roadway		REAR END	RELATED:			2	2
Inf. of Combined Substance	Bicycle Violation		UNRELATED:		2	3		5
Physical/Mental Difficulty	Clothing not Visible		SIDESWIPE	RELATED:				
1 Fell Asleep/Fainted etc.	Smog, Smoke		UNRELATED:					
11 Fail to give full attent.	Sleet, Hail, Frz. Rain		LEFT TURN	RELATED:	1	6	2	9
Lic. Restr. Non-comply	Blowing Sand, Soil, Dirt		UNRELATED:					
6 Fail to Yield Rightofway	Severe Crosswinds		ANGLE	RELATED:		5		5
Fail to Obey Stop Sign	Rain, Snow		UNRELATED:					
Fail to Obey Traffic Sig	Animal		PEDESTRIAN	RELATED:				
Fail to Obey Other Contr.	Vision Obstruction		UNRELATED:					
1 Fail to Keep Right of Ctr	1 Vehicle Defect		PARKED VEH.	RELATED:				
Fail to Stop for Sch. Bus	Wet		UNRELATED:			1		1
Wrong Way on One Way	Icy or Snow Covered		OTHER CT	RELATED:				
Exceeded Speed Limit	Debris or Obstruction		UNRELATED:			2		2
1 Too Fast for Conditions	Ruts, Holes, Bumps		F BRIDGE	01				
4 Followed too Closely	Road Under Construction		I BUILDING	02				
Improper Turn	Traffic Cntrl Device Inop.		X CULVERT/DITCH	03		1		1
1 Improper Lane Change	Shoulders Low, Soft, High		E CURB	04				
Improper Backing			D GUARDRAIL/BARRIER	05				
Improper Passing	Other or Unknown		EMBANKMENT	06				
Improper Signal			O FENCE	07				
			B LIGHT POLE	08				
			J SIGN POST	09		1		1
			E OTHER POLE	10				
			C TREE/SHRUBBERY	11				
			T CONSTR. BARRIER	12				
			S CRASH ATTENUATOR	13				
			OTHER FIXED OBJECT					

WEATHER	ILLUMINATION	TOTALS
24 CLEAR/CLDY	21 DAY	
FOGGY	1 DAWN/DUSK	
1 RAINING	5 DARK - LIGHTS ON	2003 11
2 SNOW/SLEET	DARK - NO LIGHTS	2004 9
OTHER	OTHER	2005 7



Office of Traffic & Safety
Traffic Development & Support Division
Crash Analysis Safety Team

Location: MD 2 from MD 4 to Patuxent Point Parkway

County: CALVERT

Study Period: 01/01/2003 to 12/31/2005

Analyst: Dennis McMullen Date: 03/26/2007



LM 1.11 MD 765 Y PATUXENT POINT PKWY

- LM 1.11-ANG-01/15/2003-11-11A-D
- LM 1.11-LT-02/14/2003-P-1P-D
- LM 1.11-LT-06/30/2003-2I-6P-D
- LM 1.11-ANG-07/11/2003-3I-9P-D-N
- LM 1.11-LT-08/31/2003-2I-11A-D
- LM 1.11-LT-09/22/2003-P-2P-D
- LM 1.11-LT-12/31/2003-3I-5P-D-N
- LM 1.11-LT-04/30/2004-1I-6P-D
- LM 1.11-LT-06/12/2004-1FSI-12P-D

LM 1.11 OP 816 PATUXENT POINT PKWY

- LM 1.11-LT-05/12/2003-1I-12P-D
- LM 1.11-ANG-02/07/2004-2I-7A-W
- LM 1.11-ANG-09/24/2004-1I-8A-D
- LM 1.11-RE-10/22/2004-P-2P-D
- LM 1.11-RE-06/06/2005-P-4P-D

LM .92 MD 2 W CRESTON LA

LM .86-RE-04/16/2004-P-7A-D

MARYLAND

2

SOUTH
BOUND

MARYLAND

2

NORTH
BOUND

LM .52-FO(09)-02/27/2003-P-11P-S-N

LM .46-RE-05/29/2005-P-5P-D

LM .36-RE-05/29/2005-1I-5P-D

LM .31-ANG-07/04/2003-1I-2P-D
LM .31-LT-12/01/2003-1I-12P-D

LM .21-OD-01/26/2004-2I-6A-S
LM .21-RE-05/08/2005-P-10P-D-N

LM .17-FO(01)-09/01/2004-P-11A-D

LM .25-SPRTD-08/01/2004-P-6P-W

LM .23-RE-04/05/2005-2I-5P-D

LM .22-FO(03)-10/10/2005-P-3A-D-N-X

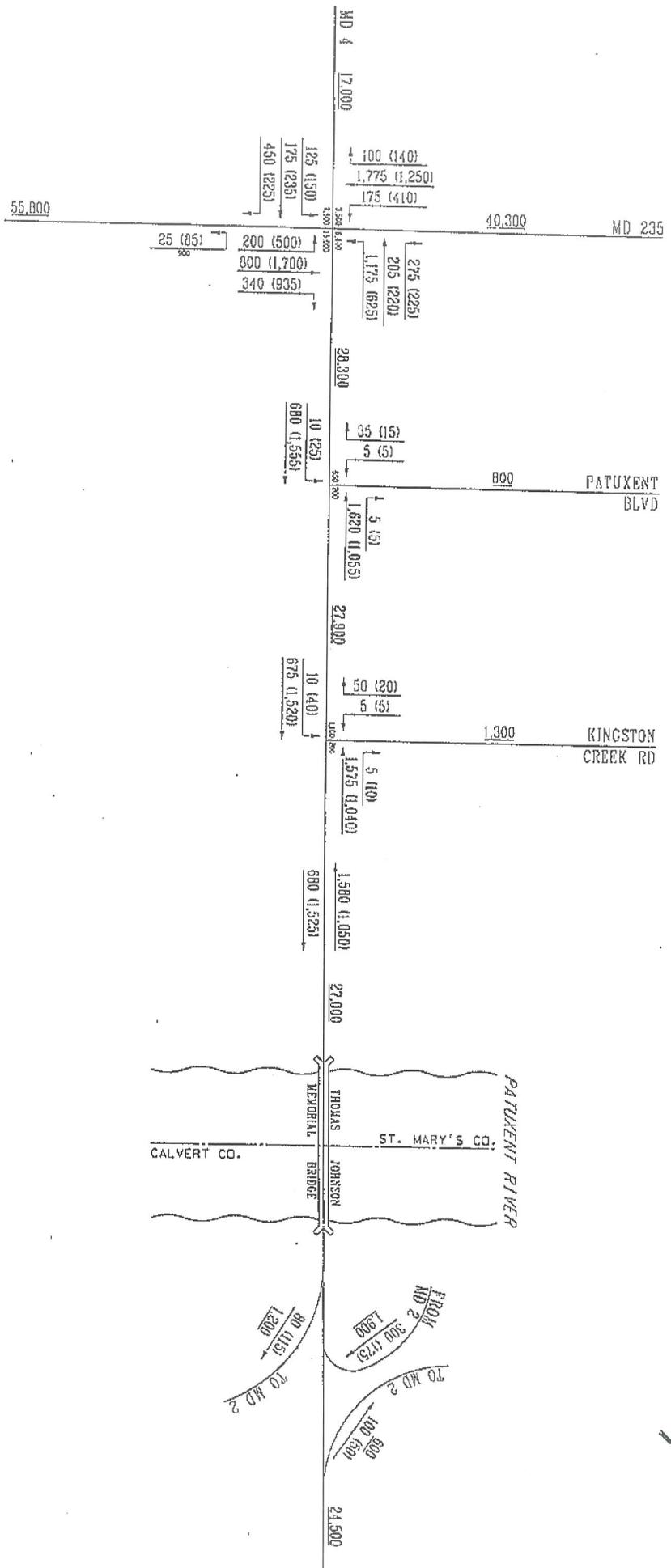
LM .20-PARKD-04/15/2005-P-6P-D

LM .17 MD 4 SOLOMONS ISLAND RD

KEY: Log Mile - Collision Type (Fixed Object/Struck) - Date - Severity - Time - Surface - Illumination - Alcohol

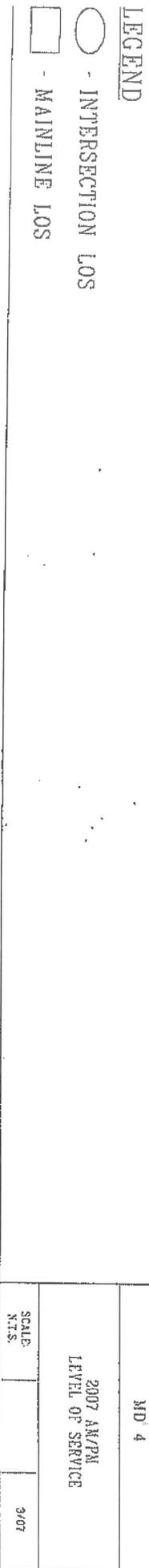
template 05-27-05

F - Fatalities	SS - Sideswipe	FO - Fixed Object	OFFRD - Off Road	00 - Not Applicable	08 - Light Support Pole	N - Night
I - Injury	PARKD - Parked Vehicle	OOBJ - Other Object	RUNWY - Downhill Runaway	01 - Bridge or Overpass	09 - Sign Support Pole	X - Alcohol
P - Property Damage	PED - Pedestrian	OT - Overtum	FIRE - Explosion Fire	02 - Building	10 - Other Pole	D - Dry Surface
OD - Opposite Direction	BIKE - Bicycle	SPILL - Spilled Cargo	BACKNG - Backing	03 - Culvert or Ditch	11 - Tree/Shrubbery	W - Wet Surface
LT - Left Turn	PEDAL - Other Pedalcycle	JCKKNF - Jackknife	UTURN - U-Turn	04 - Curb	12 - Construction Barrier	I - Icy Surface
RE - Rear End	CONVY - Other Convoyance	SPRTD - Unlis Separated	OTHR - Other	05 - Guardrail or Barrier	13 - Crash Attenuator	S - Snowy Surface
ANG - Angle	ANIML - Animal	NCOLL - Other Non Collision	UNK - Unknown	06 - Embankment	33 - Other	
				07 - Fence	99 - Unknown	



MD 4	
2007 AMPM	
PEAK HOUR TRAFFIC	
AVERAGE DAILY TRAFFIC	
SCALE:	3/07
RTS:	

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3/20/2007



LEGEND

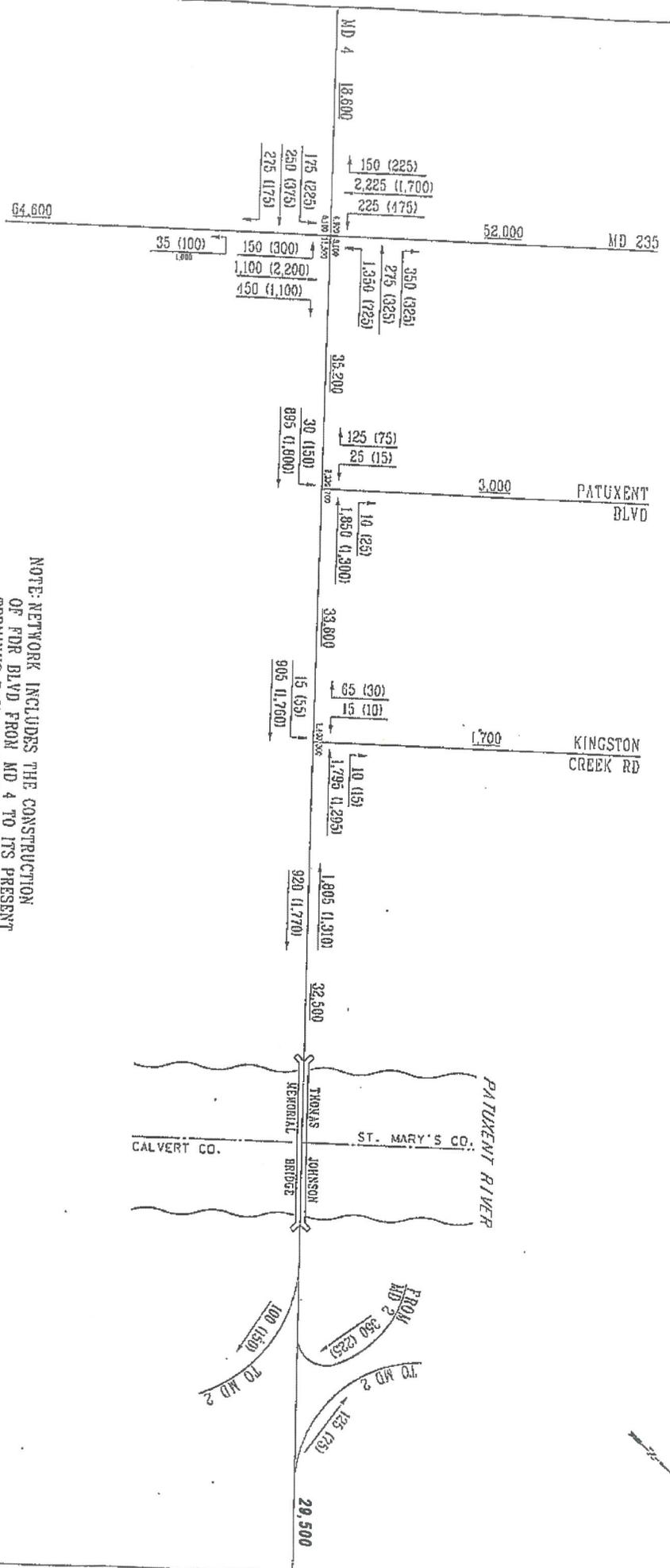
○ - INTERSECTION LOS

□ - MAINLINE LOS

MD 4		
2007 AM/PM LEVEL OF SERVICE		
SCALE N.T.S.		3/07

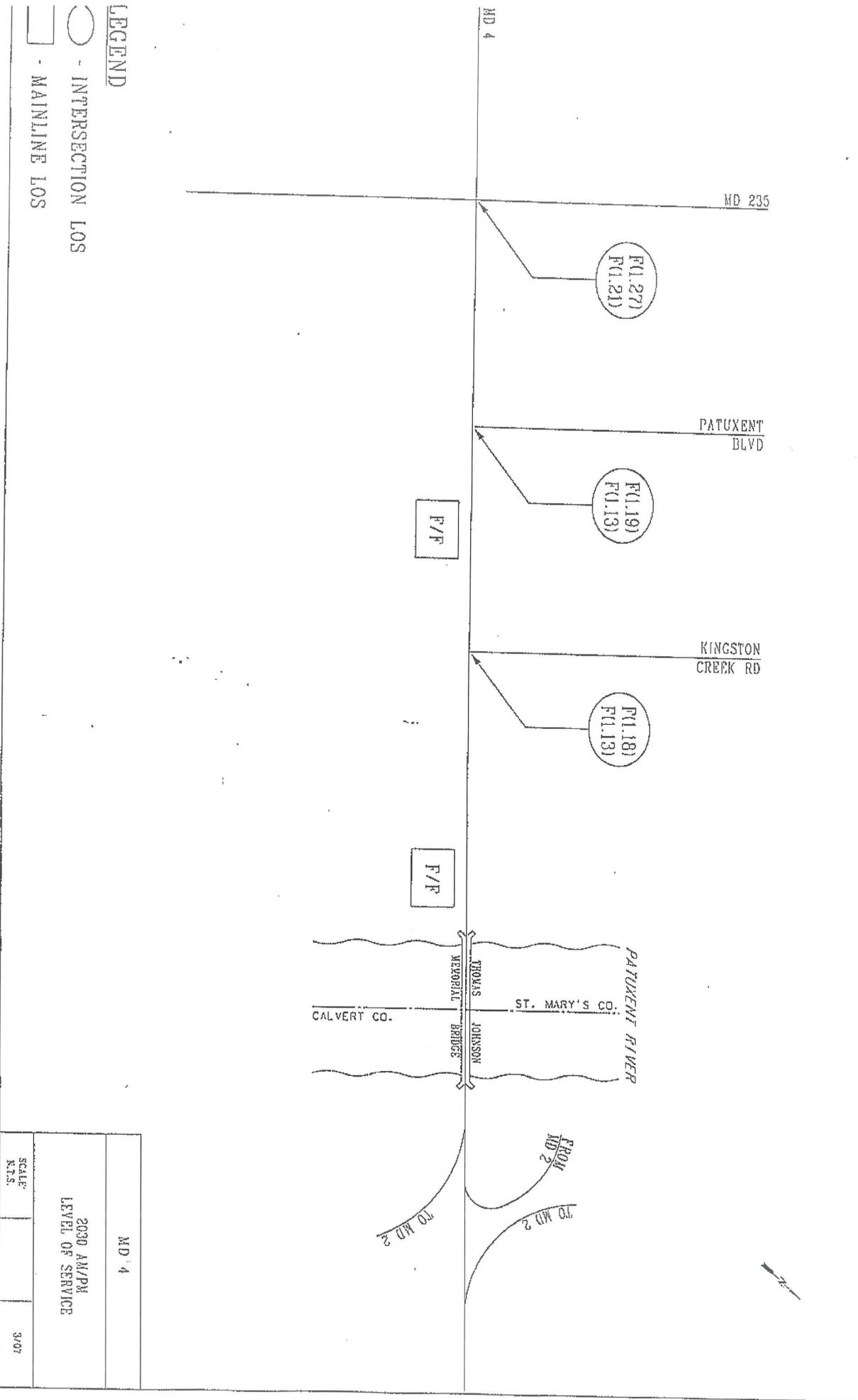
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3/19/2007

NOTE: NETWORK INCLUDES THE CONSTRUCTION
 OF FDR BLVD FROM MD 4 TO ITS PRESENT
 TERMINUS EAST OF PEGG ROAD.



MD 4	2030 AM(PM)	3/07
	PEAK HOUR TRAFFIC	
	AVERAGE DAILY TRAFFIC	
	NO BUILD	
SCALE:		
K.T.S.		

Q:\SUD\007-TrafficTemp\Rob\md4_vols.dgn
 3/19/2007



LEGEND

- - INTERSECTION LOS
- - MAINLINE LOS

MD 4		
2030 AM/PM		
LEVEL OF SERVICE		
SCALE:		3/07
K.T.S.		

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3/19/2007