CHAPTER 13: MAJOR TRANSPORTATION ACCIDENT

2022 PLAN UPDATE

Chapter 13: visual and thematic updates were included throughout the chapter, including updates to fonts, colors, and the addition of a cover page.

Page 13-1: Section 13.2 History, Table 13-1 and 13-2 have been updated with recent airplane and highway-rail incidents/events occurring within the last five years.

Page 13-2: Section 13.2 History, Table 13-3 and 13-4 have been updated with the most recent data from the Maryland Highway Safety Office, occurring from 2016 to 2020.

Page 13-3: Section 13.2 History, Table 13-5 and 13-6 have been updated with the most recent data from the Maryland Highway Safety Office, occurring from 2016 to 2020.

Page 13-4: Section 13.3 County Perspective has been updated with the "transportation accident "rankings from the 2021 State Hazard Mitigation Plan. Note: this hazard is included as a sub-set of the "Human Caused Hazards and Threats" category. The State ranks this hazard as "Medium-Low" risk for Somerset County. Somerset County stakeholders rank major transportation accident as "Medium" risk.

Page 13-4: Figure 13-1 Annual Average Days with Heavy Fog has been updated to reflect more current data from NOAA/NCEI.

Page 13-5: Included a link within Section 13.5 Mitigation Strategies to the "Traffic Incidents and Events" resource provided by the Maryland Department of Transportation Coordinated Highways Action Response Team.

Page 13-5: Added Section 13.6 Future Conditions. This section considers trends in highway related traffic incidents over the last thirty years, particularly fatalities occurring per 100,000 vehicle miles traveled, and asserts that for planning purposes there is no reason to believe that the average number of incidents occurring per year will drastically increase and will likely stay fairly consistent with 2020 and 2010 rates.

Chapter 13: Major Transportation Accident

13.1 Hazard Profile

In the context of this document, transportation refers to modes of mass transportation including airplanes, railways, and roadways. Major causes of airline incidents are pilot error, mechanical failure, and weather. Derailment is by far the leading cause of rail accidents followed by rail-highway crossing incidents.

13.2 History

13.2.1 Airplane

Airplane accidents in Somerset County are reported by the National Transportation Safety Board (NTSB). Table 13-1 details the relevant historical data that applies to airplane accidents in the County.

Table 13-1: Airplane Accidents in Somerset County, 1965-2021

Date	Location	Make / Model	Event Severity
July 26, 1965	Princess Anne	Cessna 172	Non-fatal
August 15, 1966	Princess Anne	Cessna 140	Non-fatal
August 23, 1988	Princess Anne	Piper PA25-235	Non-fatal
July 4, 1994	Princess Anne	Cessna 172N	Non-fatal
February 6, 1995	Fairmont	Grumman G-164	Non-fatal
June 12, 2003	Crisfield	Cessna 210L	Non-fatal
July 17, 2010	Crisfield	Cessna 182	Non-fatal
October 2, 2011	Ewell	TEMCO GC-1B	Fatal (1)
October 21, 2019	Crisfield	Piper/PA28R	Non-fatal

Source: National Transportation Safety Board & FAA Aviation Safety Information Analysis and Sharing.

In terms of number of occurrences, the National Transportation Safety Board listed a total of nine (9) airplane accidents affecting Somerset County from 1965-2021. Therefore, Somerset County experiences approximately 0.16 airplane accidents per year. Only one (1) fatal accident has been reported in Ewell, Maryland.

13.2.2 Railway

Railway accidents that occur in the County are reported by the Federal Railroad Administration Office Safety Analysis. Table 13-2 details the relevant historical data that applies to highway-rail crossing accidents in the County.

Table 13-2: Highway-Rail Crossing Accidents in Somerset County, 1975-2021

Year(s)	Highway-Rail Incidents
1975-1979	2
1980-1984	1
1985-1989	0

Table 13-2: Highway-Rail Crossing Accidents in Somerset County, 1975-2021	
Year(s)	**Highway-Rail Incidents**
1990-1994	0
1995-1999	0
2000-2004	0
2005-2010	1
2011-2016	1
2017-2022*	0
Total	**5**
Source: Federal Railroad Administration Office Safety Analysis. *Thru April 30, 2022.	

In terms of number of occurrences, the Federal Railroad Administration Office Safety Analysis listed a total of five (5) highway-rail crossing accidents (i.e., incidents occurring at railroad crossings) affecting Somerset County from 1975-2021. Therefore, Somerset County experiences approximately 0.11 highway-rail crossing accidents per year. Two injuries were reported.

13.2.3 Highway

Traffic accidents that occurred throughout the County are reported by the Maryland Highway Safety Office. The tables below detail the traffic accidents in Somerset County by several different categories.

Table 13-3: Total Traffic Accidents in Somerset County, 2016-2020							
Type of Accident	**2016**	**2017**	**2018**	**2019**	**2020**	**5-year Average**	**%**
Fatal Crashes	1	5	7	3	4	4	1.2
Injury Crashes	111	115	99	113	87	105	31.7
Property Damage Crashes	250	238	220	214	189	222	67.1
Total Crashes	**362**	**358**	**326**	**330**	**280**	**331**	**100.0**
Total of All Fatalities	**1**	**5**	**7**	**3**	**4**	**4**	
Total Number Injured	**173**	**163**	**149**	**173**	**125**	**157**	
Source: Maryland Highway Safety Office, Statewide Crash Summary, April 2022.							

In terms of number of occurrences, the Maryland Highway Safety Office listed a total of 1,657 traffic accidents affecting Somerset County from 2016-2020. Therefore, Somerset County experiences an average of approximately 331 traffic incidents per year. In addition, a total of 20 fatalities and 525 injuries were also reported during 2016-2020.

Table 13-4: Traffic Accidents by Month in Somerset County, 2016-2020							
Month	**2016**	**2017**	**2018**	**2019**	**2020**	**5-year Average**	**%**
January	33	33	36	27	26	31	9.4
February	25	28	24	21	17	23	6.9
March	34	21	22	27	24	26	7.7
April	32	31	18	27	19	25	7.7
May	27	35	23	27	21	27	8.0
June	33	25	19	26	28	26	7.9
July	18	29	29	27	13	23	7.0

Table 13-4: Traffic Accidents by Month in Somerset County, 2016-2020							
Month	**2016**	**2017**	**2018**	**2019**	**2020**	**5-year Average**	**%**
August	33	22	21	28	20	25	7.5
September	34	28	24	27	18	26	7.9
October	34	38	39	34	24	34	10.2
November	37	38	44	32	45	39	11.8
December	22	30	27	27	25	26	7.9
Total	**362**	**358**	**326**	**330**	**280**	**331**	**100.0**
Source: Maryland Highway Safety Office, September 28, 2021.							

Table 13-5: Traffic Accidents by Day of the Week in Somerset County, 2016-2020							
Day	**2016**	**2017**	**2018**	**2019**	**2020**	**5-year Average**	**%**
Monday	57	50	43	50	39	48	14.4
Tuesday	53	57	55	45	38	50	15.0
Wednesday	49	38	39	38	34	40	12.0
Thursday	51	50	43	46	42	46	14.0
Friday	62	71	45	53	42	55	16.5
Saturday	44	57	46	52	46	49	14.8
Sunday	46	35	55	46	39	44	13.3
Total	**362**	**358**	**326**	**330**	**280**	**331**	**100.0**
Source: Maryland Highway Safety Office, September 28, 2021.							

Table 13-6: Traffic Accidents by Time of Day in Somerset County, 2016-2020							
Time of Day	**2016**	**2017**	**2018**	**2019**	**2020**	**5-year Average**	**%**
12:00 Midnight	11	10	12	9	7	10	3.0
1:00	7	8	6	9	6	7	2.2
2:00	14	11	10	8	4	9	2.8
3:00	5	8	5	5	6	6	1.8
4:00	1	10	1	6	6	5	1.4
5:00	10	8	5	6	7	7	2.2
6:00	10	10	8	2	11	8	2.5
7:00	16	16	15	20	8	15	4.5
8:00	18	17	7	16	6	13	3.9
9:00	11	10	19	17	10	13	4.0
10:00	15	17	18	17	18	17	5.1
11:00	18	17	12	21	6	15	4.5
12:00 Noon	15	15	21	22	19	18	5.6
1:00	18	15	22	18	13	17	5.2
2:00	30	25	23	19	20	23	7.1
3:00	35	29	23	24	19	26	7.9
4:00	19	21	19	16	30	21	6.3
5:00	21	20	21	24	23	22	6.6
6:00	14	18	21	11	19	17	5.0
7:00	20	16	17	15	13	16	4.9
8:00	11	14	14	14	8	12	3.7
9:00	12	12	12	11	7	11	3.3
10:00	19	19	7	10	8	13	3.8
11:00	12	12	8	10	6	10	2.9
Unknown	0	0	0	0	0	0	0.0
Total	**362**	**358**	**326**	**330**	**280**	**331**	**100.0**

Table 13-6: Traffic Accidents by Time of Day in Somerset County, 2016-2020							
Time of Day	2016	2017	2018	2019	2020	5-year Average	%
Source: Maryland Highway Safety Office, September 28, 2021.							

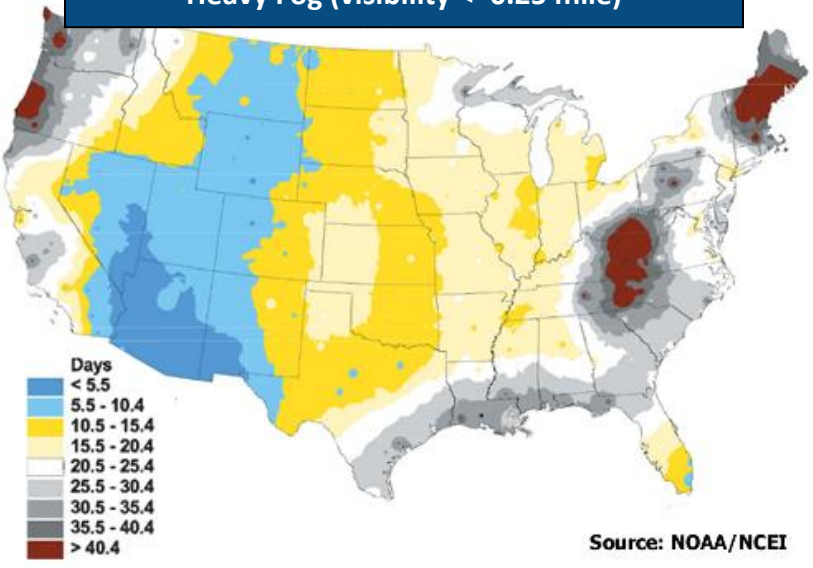
As shown on Tables 13-4 through 13-6, more traffic accidents occurred in Somerset County during the fall/winter months, on the weekends, and in the afternoon. This is most likely due to higher traffic levels occurring during these times and days with less than favorable road conditions occurring during the winter months. Based on 5-year averages, traffic accidents in Somerset County are most prevalent on Friday afternoons in November.

13.3 County Perspective

The "transportation accident" hazard is included within the *2021 State Hazard Mitigation Plan*, but it is not ranked separately. Instead, the hazard is included as a subset of the "Human-Caused Hazards and Threats" category. This category includes: terrorism, active shooter, nuclear incidents, civil unrest, cyber-attack, and transportation accident. The transportation accident sub-hazard includes passenger vehicle, air, rail, and vessel accidents. The State Plan ranks "Human Caused Hazards and Threats" as "Medium-Low" for Somerset County.

The 2022 Hazard Mitigation Planning Committee ranked a major transportation accident as a "Medium" risk. Major transportation accidents include airplane, train, and car/truck traffic. In terms of airplane accidents, this level of risk is low due primarily to the limited number of flights into and out of the Crisfield-Somerset County Airport, and railway accidents are limited to the amount of traffic on the Delmarva Central railway line. Fog can also be a problem for motorists in the County. Map 13-1 was produced using data from climate maps available from NOAA and shows the annual average days of heavy fog across the United States with a focus on Somerset County. Somerset County typically experiences approximately 25.5 to 30.4 average annual days of heavy fog conditions.

Figure 13-1: Annual Mean Number of Days with Heavy Fog (visibility <=0.25 mile)



13.4 Municipal Perspective

The Town of Princess Anne, as well as the UMES campus, are at risk for a major transportation rail accident due to their proximity to the Delmarva Central rail line. Crisfield is near the site of the Crisfield Municipal Airport.

13.5 Mitigation Efforts

Both the Crisfield-Somerset Airport and the Delmarva Central rail line meet current safety standards set respectively by the FAA and the Railroad Safety Board. According to the Maryland Department of Transportation State Highway Administration, the Office of Traffic and Safety (OOTS) plays a major role in assuring that State highways operate safely and efficiently and provides a wide range of traffic engineering, traffic operations, and traffic safety support to MDOT's Districts and other units that enable them to carry out their highway responsibilities.

Near real-time traffic information (updated every 90 seconds) including traffic incidents, weather road closures, active construction and maintenance closures is provided for each County by the Maryland Department of Transportation Coordinated Highways Action Response Team. This information is available at: https://chart.maryland.gov/incidents/index.php.

13.6 Future Conditions

Of the transportation related incidents included within this chapter, the daily-occurring traffic-related incidents are most likely to impact the average Somerset County resident at any given time. The average person is more likely to be involved in a vehicular incident than a rail or air incident due to the fact that vehicular transportation occurs more frequently than other modes of transportation. For comparative purposes, consider the annual frequency of incidents for each mode of transportation (based upon historical occurrences included within Section 13.2): air incidents occur 0.16 times per year, rail-highway incidents occur 0.11 times per year, and highway incidents occur 331 times per year.

While the average person is most likely to be impacted by a highway-related accident in their daily lives than any other form of transportation, the overall risk for transportation accidents is becoming less dangerous. The rate of transportation related fatalities in 2010 was just one-third of that in 1975 (1.11 versus 3.35 fatalities per 100 million vehicles miles). The 1980's and early 1990's are the time periods with the greatest rates of improvement.

As of 2020, the U.S. rate of fatalities per one million vehicle miles traveled slightly increased to 1.34 compared to 1.11 in 2010. In 2020, the State of Maryland matched the 2010 U.S. rate of fatalities per 100 million vehicle miles traveled – 1.11. The slight increase from 2010 to 2020 still represents an overall downward trend and for planning purposes it can be reasonably assumed that over the coming decade this rate will remain similar, barring any major changes in laws or regulations.