CHAPTER 12: HAZMAT

2022 PLAN UPDATE

Chapter 12: visual and thematic updates were included throughout the chapter, including updates to fonts, colors, and the addition of a cover page.

Page 12-1: Section 12.2 History, Table 12-1 has been updated with recent hazmat transportation incidents occurring within the last five years.

Page 12-2: Section 12.3 County Perspective, updated this section to include the 2021 State Hazard Mitigation Plan ranking for this hazard (this hazard is not ranked in the plan) as well as the County's 2022 ranking.

Page 12-2: Section 12.3 County Perspective, Table 12-2 has been updated to reflect any changes to Somerset County's Hazardous Materials Sites in the last five years.

Page 12-4: Figure 12-1 2020 Traffic Volume Map for Somerset County has been updated with the most recent Traffic Volume Map for Somerset County by the Maryland DOT.

Page 12-5: Section 12.4 Municipal Perspective, Figure 12-2 2020 Traffic Volume Map for Princess Anne and Figure 12-3 2020 Traffic Volume Map for Crisfield have been updated with the most recent Traffic Volume Map for Somerset County by the Maryland DOT.

Page 12-5: Added Section 12.6 Future Conditions. The current rate of hazmat incidents in Somerset County is 0.10 incidents annually. This rate will likely continue into the future barring any major changes to transportation infrastructure or fixed site storage in the County. Hazmat incidents will continue to occur most frequently via highway truck transportation, specifically during unloading periods (via U.S. DOT Pipeline and Hazardous Materials Safety Administration).

Chapter 12: HazMat

12.1 Hazard Profile

Millions of tons of hazardous materials (HazMats) are transported throughout the United States every single day. In fact, the U.S. Department of Transportation (DOT) Pipeline and Hazardous Materials Safety Administration estimates that there are more than one (1) million hazmat shipments every day, and more than 3.1 billion tons are transported per year.

A hazardous material may be defined as a substance or material, which, due to its chemical, physical or biological nature, poses a threat to life, health, or property if released from a confined setting. A release may occur by spilling, leaking, emitting toxic vapors, or any other process that enables the material to escape its container, enter the environment, and create a potential hazard. Several common HazMats include materials that are explosive, flammable or combustible, poisonous, or radioactive. Related combustible HazMats include oxidizers and reactive materials, while toxins produced by etiological (biological) agents are types of poison that can cause disease.

The release of HazMats while in transit is of great concern to the U.S. Department of Transportation. While most hazardous materials are stored and used at fixed sites, these materials are usually produced elsewhere and shipped to the fixed facility by rail car, truck, or onboard ships or barges. While these vehicles are identified by placards denoting the hazard, the possibility of release is present at any time. Hazardous materials are constantly being transported in Maryland on interstate highways and the rail system.

12.2 History

As part of the plan update process, information was obtained from the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration's, Office of Hazardous Materials Safety. According to the information obtained, there were three (3) HazMat Transportation Incidents affecting Somerset County from September 1993 to July 18, 2022. Utilizing this dataset, based upon the reported data, an average of 0.10 incidents occurs in Somerset County per year.

Table 12-1: Transportation HazMat Incidents

Date	Location	Mode of Transportation	Carrier	Total Damages ($)	Commodity	Quantity Released
9/9/1993	Princess Anne	Highway	Robinson Chemical Co. Inc.	$60	Hypochlorite solutions with 16 percent or more available chlorine	7 Liquid-Gallon
2/23/1994	Westover	Highway	Delmarva Oil Inc.	$18,174	Kerosene	300 Liquid-Gallon
1/10/2012	Princess Anne	Highway	DM&O Corp.	$182,100	Kerosene	700 Liquid-Gallon

Source: U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration's, Office of Hazardous Materials Safety, 2022.

As listed in Table 12-1, the most recent major HazMat Transportation incident happened on January 10, 2012. Hazardous materials transported by the DM & O CORP were dispersed causing $182,100 in damage.

12.3 County Perspective

HazMats transported through Somerset County predominately travel along U.S. Route 13 and the Delmarva Central rail line. Due to the potential impact from a HazMat incident, the 2022 HMPC has ranked this hazard as a "'Medium" risk. The "hazmat" hazard is not included within the *2021 State Hazard Mitigation Plan*.

Regarding hazardous materials fixed site facilities, Somerset County Emergency Services maintains records for each site and the materials stored. These sites include several industrial and commercial establishments in Princess Anne and Crisfield within the County and adjacent jurisdictions, as appropriate, and several sites in the eastern part of the County. Table 12-2 lists these hazardous materials fixed sites, as per the *Somerset County Hazardous Materials Plan* (updated January 2022).

Table 12-2: Somerset County Hazardous Materials Sites

Facility	Street Address	Material(s)	Fire District
Calpine Mid-Atlantic, LLC aka Crisfield Energy	4079 Crisfield Highway Crisfield, MD 21817	Diesel Fuel, Ethylene Glycol, Lead Acid Batteries Shell Caprinus Lube Oil	Crisfield
CATO, Inc. aka Eden Quick Stop	31680 Eden Allen Road Eden, MD 21822	Gasoline, Diesel Fuel, Kerosene	Princess Anne
CATO, Inc. aka Goose Creek	9010 Ocean Highway Westover, MD 21871	Gasoline	Princess Anne
CATO, Inc. aka Goose Creek	30293 Mt. Vernon Road Princess Anne, MD 21853	Gasoline, Diesel Fuel, Kerosene	Princess Anne
Chesapeake Utilities Corp aka Sharp Energy	U.S. 13 and Linden Ave Princess Anne, MD 21853	Propane	Princess Anne
Chesapeake Utilities Corp. aka Sharp Energy	30353 Linden Ave Princess Anne, MD 21853	Methane, Propane	Princess Anne
Chesapeake Utilities Corp. aka Sharp Energy	10480 Somerset Avenue Princess Anne, MD 21853	Propane	Princess Anne
Chesapeake Utilities Corp. aka Sharp Energy	33239 Costen Road Pocomoke City, MD 21851	Propane	Pocomoke City
City of Crisfield	104 7th Street Crisfield, MD 21817	Chlorine, sulfur	Crisfield
Cobb-Vatress Inc. Research Farm 15	11587 Pine Pole Road Princess Anne, MD 21853	Propane	Princess Anne
Cobb-Vatress Inc. Research Farm 17	11587 & 11742 Pine Pole Rd Princess Anne, MD 21853	Propane	Princess Anne
Crop Production Services, Inc.	7311 Ocean Highway Pocomoke MD 21851	Various Chemicals	Pocomoke City
Eastern Shore Forest Products	33677 Peach Orchard Rd Pocomoke City, MD 21851	Gasoline, Oil, Kerosene	Pocomoke City
Goose Creek Marina	25763 Rumbley Road Westover, MD 21871	Gasoline, Diesel Fuel, Propane	Fairmount
Tidal Health McCready	201 Hall Highway Crisfield, MD 21817	Diesel Fuel, Propane	Crisfield

Table 12-2: Somerset County Hazardous Materials Sites			
Facility	**Street Address**	**Material(s)**	**Fire District**
MD-DNR Somers Cove Marina	715 Broadway Crisfield, MD 21817	Diesel Fuel, Gasoline	Crisfield
MES ECI Power Plant	30420 Revells Neck Road Westover MD 21871	Diesel Fuel, Nitrogen Cryogenic Liquid	Princess Anne
MES ECI WWTP	30209 Perry Road Westover, MD 21871	Chlorine, sulfuric acid	Princess Anne
Maryland Fire and Rescue Institute aka MFRI	12148 John Wilson Lane Princess Anne, MD 21853	Propane	Princess Anne
Mountaire Farms Princess Anne Hatchery	30700 King Miller Road Princess Anne, MD 21853	Propane, Formaldehyde, Diesel Fuel	Princess Anne
Mrohs Gas, Inc.	4471 Crisfield Highway Crisfield, MD 21817	Propane	Crisfield
Mrohs Gas, Inc.	31706 Windswept Drive Eden, MD 21822	Propane	Princess Anne
Mrohs Gas, Inc. Somerset Grain	11560 Progress Lane Princess Anne, MD 21853	Propane	Princess Anne
Perdue Farms Inc. Westover Hatchery Farm 10	9891 Old Princess Anne Rd Westover, MD 21871	Propane	Princess Anne
Eastern Shore Natural Gas Substation	Corner of Eden Allen Road and Ocean Highway South	Natural Gas	Princess Anne
Perdue Farms Inc. Westover Breeder Farm 8	9917 Old Princess Anne Rd Westover, MD 21871	Propane	Princess Anne
Sherwin Williams Company aka Rubberset	26466 Silver Lane Crisfield, MD 21817	Diesel, Epoxy Resin-Psbset Lead Acid Batteries-Sulfuric Acid	Crisfield
Somerset County Sanitary District, Inc.	30353 Linden Avenue Princess Anne, MD 21853	Chlorine, Sulfuric Acid	Princess Anne
Southern Maryland Oil/DBA the Wills Group Inc. aka The Dash In	8910 Crisfield Highway Westover, MD 21871	Gasoline, Kerosene, Diesel Fuel, Propane	Princess Anne
Sysco	33239 Costen Road Pocomoke City, MD 21851	Ammonia, Sulfuric Acid, Diesel fuel, Lead Acid Batteries	Pocomoke City
Tawes Brothers Oil Company, Inc.	102 North Tenth Street Crisfield, MD 21817	Kerosene, Gasoline, Diesel Fuel	Crisfield
Mountaire Farms of Delmarva	30607 Revells Neck Road Princess Anne, MD 21853	Propane, Diesel, Chemicals	Princess Anne
USCG Station Crisfield	810 Norris Harbor Drive Crisfield, MD 21817	Gasoline, Diesel Fuel, Propane, Oil waste tank	Crisfield
Verizon	61 Richardson Avenue Crisfield, MD 21817	Lead Acid Batteries	Crisfield
Verizon	5722 Tulls Corner Road Marion, MD 21838	Lead Acid Batteries	Marion
Verizon	11732 Church Street Princess Anne, MD 21853	Lead Acid Batteries	Princess Anne
Source: Somerset County Department of Emergency Services Hazardous Materials Plan (Updated January 2022).			

Twenty-one (21) of the thirty-six (36) hazardous material facilities listed in Table 12-2 are located within the Town of Princess Anne's Fire District. Hazardous materials transported to these locations utilize U.S. Route 13 or the Delmarva Central rail line. According to Figure 12-1 on the following page, an annual average of 24,385 vehicles travels U.S. Route 13 daily. Considering the amount of traffic traveling on U. S. Route 13 and the location of fixed site

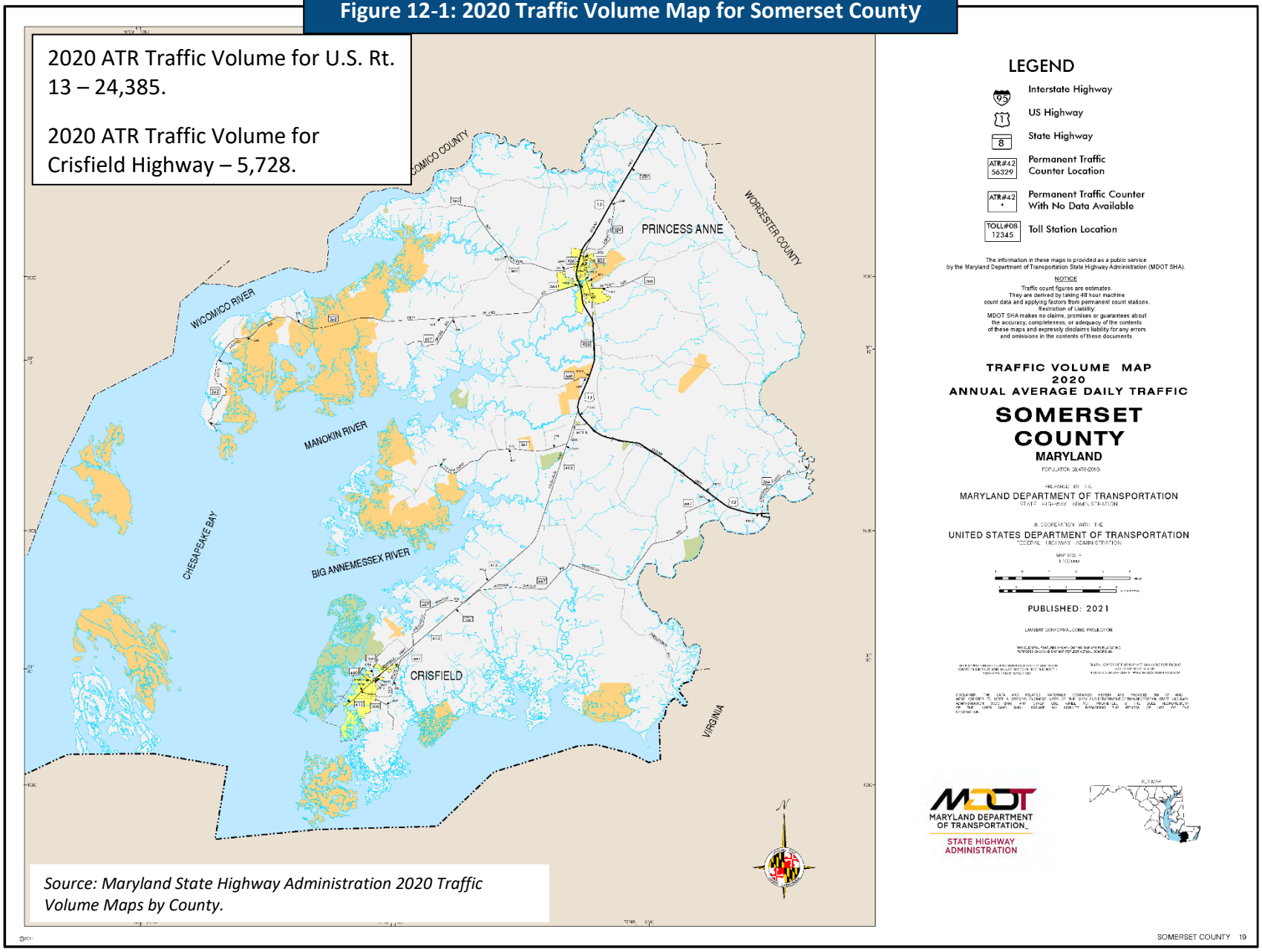
facilities within the Princess Anne Fire District, this area is potentially at a greater risk for a HazMat incident.

The Eastern Shore Pipeline project also runs alongside U.S. Route 13. This pipeline serves to extend natural gas service via pipeline from Salisbury (Wicomico County) terminating at the University of Maryland Eastern Shore (UMES) and Eastern Correctional Facility (ECI) in Westover, Somerset County.

Figure 12-1: 2020 Traffic Volume Map for Somerset County

2020 ATR Traffic Volume for U.S. Rt. 13 – 24,385.

2020 ATR Traffic Volume for Crisfield Highway – 5,728.



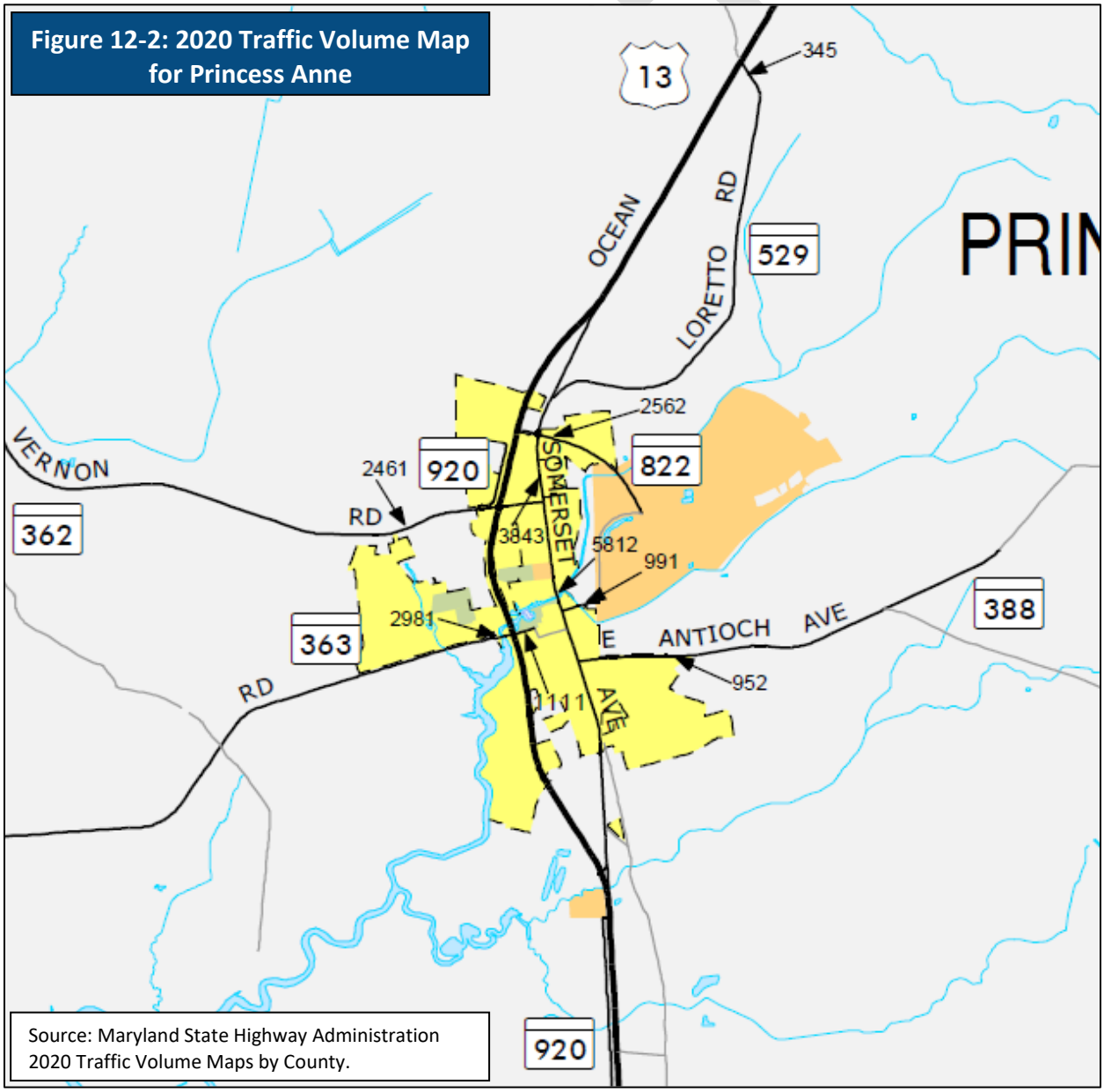
Source: Maryland State Highway Administration 2020 Traffic Volume Maps by County.

12.4 Municipal Perspective

The Town of Princess Anne is vulnerable to both transportation related and fixed site HazMat incidents. U.S. Route 13, which is a major connecting highway between the northeast U.S. and the Tidewater area in Virginia, travels through the Town. Figure 12-2 shows 2020 Traffic Volume for major roadways in Princess Anne. The 2020 Average Annual Daily Traffic (AADT) for U.S. Route 13 just north of Princess Anne was 24,385. Delmarva Central rail line, which runs parallel to U.S. Route 13, also travels through the Town of Princess Anne, increasing the vulnerability.

Considering both highway and rail transportation are utilized for delivering materials to the twenty-one (21) fixed HazMat sites within Princess Anne's Fire District, residents and businesses located along these routes are highly susceptible if a HazMat incident were to occur.

Figure 12-2: 2020 Traffic Volume Map for Princess Anne

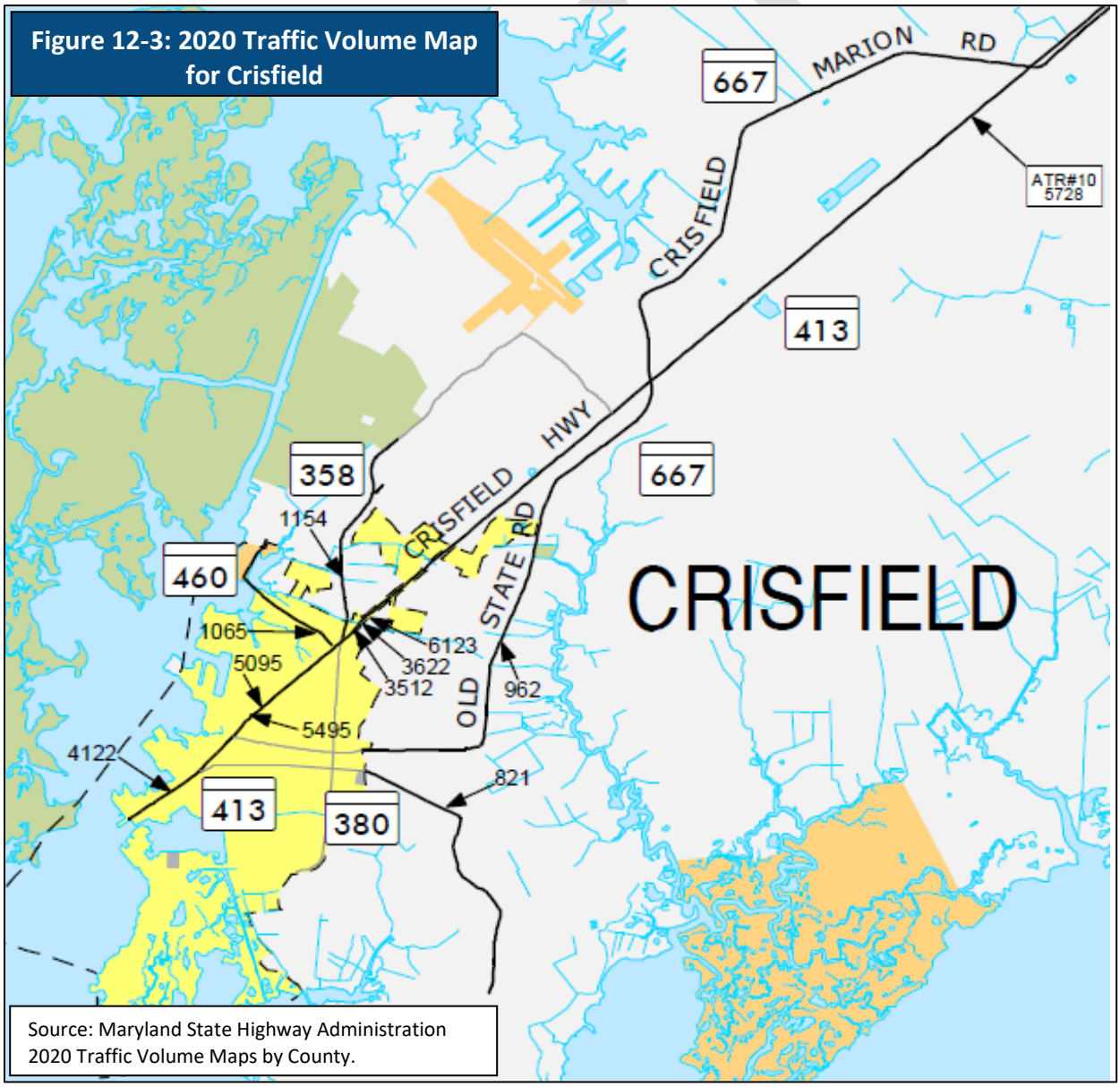


Source: Maryland State Highway Administration 2020 Traffic Volume Maps by County.

Additionally, the UMES campus, ECI, and Washington High School are vulnerable due to their location adjacent to the Delmarva Central rail line and U.S. Route 13. The Eastern Shore Pipeline project also runs alongside U.S. Route 13 and terminates in Westover. This natural gas pipeline could be expanded to other parts of the area in the future.

The City of Crisfield does not have the high volume of traffic that Princess Anne experiences, Figure 12-3 shows the 2020 AADT for Crisfield Highway is 5,728. Nine (9) fixed HazMat sites are located within the City's Fire District. For example, one hazardous material facility is located on 7th Street, which is only accessible by utilizing Crisfield Highway. Therefore, hazardous materials transported to this facility are traveling through the center of Crisfield, and while this is not the only fixed site facility that utilizes Crisfield Highway, it highlights the regular transportation of hazardous materials through the Crisfield's core, which may increase the risk of a HazMat incident in this location.

Figure 12-3: 2020 Traffic Volume Map for Crisfield



Source: Maryland State Highway Administration 2020 Traffic Volume Maps by County.

12.5 Mitigation Efforts

The County has mutual aid agreements with both Wicomico and Worcester Counties. In the event of a HazMat incident occurring in the northern portion of the County, Wicomico County's HazMat Technicians would respond. However, if the event occurs in the southern portion, Worcester County's HazMat Technicians would respond. In addition, the Crisfield Coast Guard Station, which has a mass casualty trailer, will respond to an incident if needed. Somerset County Emergency Services' mass casualty trailer would respond countywide to any HazMat incident involving six or more injuries.

Furthermore, the State of Maryland has HazMat capabilities through the Department of the Environment (MDE), the Department of Transportation (DOT) and the Maryland Department of Health (MDH). These agencies are all on-call through the Maryland Department of Emergency Management (MDEM). In almost all cases, the MDE handles the County's hazardous materials incidents.

All County Fire and EMS personnel are required to have HazMat awareness training. Training for all new recruits is conducted at the Maryland Fire and Rescue Institute (MFRI). The Maryland Fire and Rescue Institute is located in Princess Anne which serves a critical need in HazMat training for local first responders. Recently, first responders from Princess Anne and surrounding fire/HazMat response agencies underwent training at the Princess Anne Volunteer Fire Department by the Eastern Shore Natural Gas Company. The training, in response to the new Eastern Shore Pipeline extension, focused on gas line emergencies, shut off procedures, and other considerations.

Somerset County has recently updated its Hazardous Materials Plan (January 2022). The plan is intended to provide direction on Somerset County's response to hazardous materials spills and incidents. All responses will be coordinated with life, property, and the environment as the primary concern. The County's Hazardous Materials Response Plan is maintained annually with input and approval from the Local Emergency Planning Committee (LEPC).

12.6 Future Conditions

The U.S. Census Bureau estimates that hazardous materials make up approximately eleven (11) percent of the freight transported by trucks in the U.S., and the U.S. DOT estimates that hazardous materials are carried in about seven (7%) percent of all trucks. While hazmat transportation makes up a significant portion of the type of material being transported on U.S. roadways, crashes and accidents involving hazardous materials are under-represented in overall accident statistics.

In 2021, the U.S. DOT Pipeline and Hazardous Materials Safety Administration reported a total of 6,270 highway hazmat incidents occurring during transit. These incidents resulted in one (1) hospitalization, one (1) fatality, and $24,487,310 in damages. Incidents are much more likely during unloading, but they are less damaging in terms of total dollars; during the unloading

phase of transportation, 11,084 incidents occurred in 2021 which resulted in $3,261,678 of damage.

Spills are much less common when hazardous materials are shipped by railway. In the same year, there were only 362 incidents that occurred while hazardous materials were in transit by train. These incidents resulted in one (1) hospitalization, zero (0) fatalities, and $22,718,133 in damages. Hazmat spills when materials are transported by train occur most commonly during transit with only two (2) incidents occurring during unloading.

On average, 0.10 hazmat incidents occur within Somerset County annually (see Section 12.2). This rate appears constant over the years, and only a major change to the County's transportation system or hazardous materials storage sites would change this annual rate. Considering the statistics provided above, hazmat incidents will likely continue most frequently during the unloading phase of highway transportation.