

Transportation Accidents

General Information

Transportation systems available in the Puget Sound region include air, rail, water and road. All of these systems and supporting transportation resources provide services on a national, regional and local basis. A major accident is possible in any of these modes of transportation.

Highways

Privately owned vehicles and local bus services provide the primary means of transportation for individuals in the Puget Sound region. Freeways, highways and roads serve the area. The Puget Sound region is vulnerable to all types of transportation emergencies. Growth in this region will continue to increase the risk of transportation accidents. In 1995, the United States experienced 44,347 transportation related deaths, 90% of which were highway related fatalities. Rain and fog are common, especially during the winter months. Heavy traffic and high speeds are common throughout the year.

1996 included two highway accidents that were severe enough to be considered major emergencies. These accidents involved multiple car pileups which closed Interstate 5 for hours, detoured traffic clogged other roadways and stretched the emergency response capabilities of the local area.

Airways

The largest airport in the Puget Sound region, for both passenger and cargo traffic, is the Seattle-Tacoma International airport. Domestic and international service is provided by several major airlines. Municipal, private and emergency airfields located throughout the region are accessible to single and twin-engine aircraft. Air harbors provide service for sea craft at Kenmore, Lake Union, and Renton. Growth in this state will cause problems for the current air transportation infrastructure. Extensive plans have been prepared by the Port of Seattle to manage the problem at Seattle-Tacoma International Airport. Implementation of these plans, including a third runway, is politically difficult.

The Puget Sound region is vulnerable to two types of major air transportation accidents. One is a crash involving a large passenger aircraft. The other is an airplane crash causing casualties on the ground. Despite the large number of planes flying over heavily populated areas, the number of crashes killing or injuring non-passengers is quite small. In general, crashes are most likely to occur within five miles of an airport, typically along flight paths. The area within a five mile radius of airports in the Puget Sound region are heavily populated and therefore could result in a mass casualty event if a plane crashed in these areas, even if the plane itself was not a passenger aircraft. Weather is a significant factor in air transportation accidents. Down bursts, thunderstorms and ice are the primary weather related events that increase risk.

There has not been a major air accident in the Puget Sound region in recent history. However, accidents in other parts of the country allow us to examine the potential vulnerabilities we face in this area. In 1995 there were 175 deaths associated with large scheduled airline traffic and 732 deaths associated with general aviation flights. The Puget Sound experiences extensive air traffic of both these types. SeaTac airport handles most of the scheduled airline traffic while King County International Airport/Boeing Field handles most of the general aviation traffic.

Railways

Rail carriers in this area include Burlington Northern and the Union Pacific for freight, and

Amtrak for passenger travel. North-South railways travel along the coastline through much of the region. East-West rail traffic primarily uses Steven's Pass, a 7 mile tunnel going through the Cascade mountains. Rail companies are planning to open Stampede Pass, east of Auburn. This pass, which allows transport across the Cascades to Cle Elum, has not been widely used since 1983. Auburn expects 22 trains per day on the tracks within the next few years.

An accident involving an Amtrak train traveling through Washington State could result in a mass casualty incident. The greatest risk associated with freight trains is a spill of hazardous materials. However, with the planned development of the Regional Transit Authority, King County's railway vulnerability will increase. New hazards will be faced with the advent of this light rail service. Planning for these hazards should be concurrent with construction of the RTA.

The Puget Sound region has not experienced a major rail accident in recent history. Other areas of Washington state have experienced problems in recent years, however.

Waterways

As with the other modes of transportation, there are both passengers and cargo transported on the water. The Washington State Ferry is the primary means of marine passenger transport. During 1995, 22 ferries made 71,435 round trips in state waters. The Port of Seattle and numerous private marine facilities located on Puget Sound, Lake Union and Lake Washington provide services and docking facilities for marine cargo and tanker traffic. In 1995, 1256 different ships made 3,619 calls to Puget Sound ports either through the Straits of Juan de Fuca or the Straits of Georgia.

In addition to the Puget Sound itself, the region contains many smaller bodies of water. Therefore this area is vulnerable to shipping and boating accidents as well as ferry accidents. Ferry accidents could result in a mass casualty incident that would be difficult to address. The United States Coast Guard has the primary responsibility for safety and rescue on the open waterways. Major emergencies associated with freight vessels are more likely to result from spills or collisions with passenger vessels.

It is also fortunate that the Puget Sound region has not experienced a major incident involving a Washington State Ferry. But an examination of the history of near misses, one can see that the potential for an accident does exist.

A Canadian Study examined past collisions, accidents and groundings in the Straits of Juan de Fuca and found that 56% involved bulk carriers, 12% involved container vessels, 12% involved passenger vessels and 18% involved tankers. Despite these proportions, tankers are currently the most heavily regulated. Washington state's strict regulations on tanker vessels were passed after the Exxon Valdez oil spill in Alaska. The United States Coast Guard recorded 31 marine cargo deaths and 37 commercial fishing deaths in 1995.

Effects

The two major effects of transportation accidents are human injury and death and hazardous materials releases. Mass casualty incidents can be difficult because of location. Remote locations can have limited resources, can make response time slow, and can delay treatment of the injured. Heavily populated locations can have crowd control problems and slow response time due to congestion. The worst type of accident would involve mass casualties and a hazardous material release. The presence of hazardous materials would slow any response to the injured for fear of exposing emergency personnel. Mass casualty events can quickly overwhelm local emergency personnel, local hospitals, and local blood banks. Areas typically plan for these

events with mutual aid agreements.

Conclusion

The source and location of transportation accidents can vary widely but the response is typically the same. Response is focused on determining the presence or absence of hazardous materials and then assisting the injured. Local emergency managers should work with transportation planners to mitigate current risks associated with major transportation corridors. Additionally these agencies should work together when planning new infrastructure such as the Regional Transit Authority or a third runway at SeaTac Airport to minimize associated risks.