

Module 1: Crash Prevention

Lesson 4: Traffic Congestion

Crash Case Study: Nitro – St. Albans Bridge Multi Vehicle Accident

Summary of Crash Event

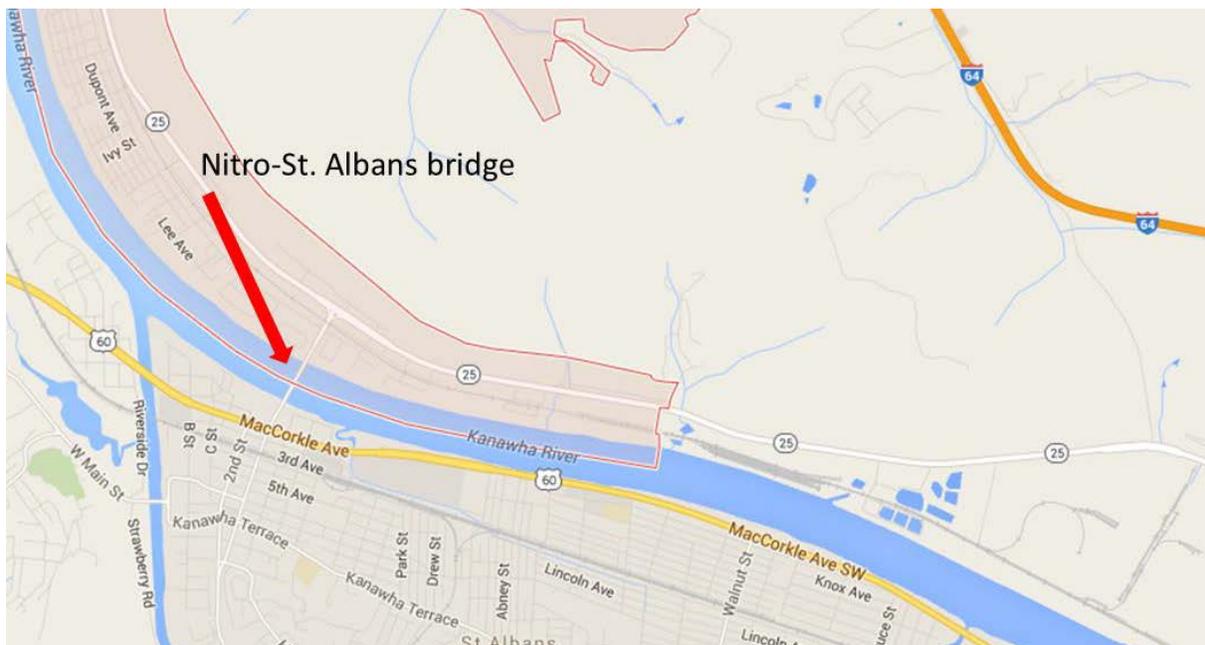
The West Virginia Turnpike is an 88 mile, four-lane toll highway between Princeton and Charleston, West Virginia. The Turnpike carries Interstate 77 for its entirety and Interstate 64 from Charleston to Beckley. The Turnpike has 116 bridges and traverses very mountainous terrain. This case study occurred on Thursday, June 6, 2013 on the Nitro-St. Albans bridge of Interstate 64 on the West Virginia Turnpike. During the afternoon, a heavy rain moved through the area leaving roads very wet. During the 5:00 rush hour, a car and tractor-trailer wrecked causing a 38 car pileup on the bridge. The accident shut down traffic on I-64 eastbound near the bridge for more than four hours. The damage spanned both the width and length of the bridge, extending at least 250 feet past the eastern end of the structure. People became trapped in their vehicles for several hours with some needing to be cut out of their vehicles. There were no fatalities in this accident but nine people were transported to the hospital with injuries and twenty three were transported away from the scene by bus. Police reported that this was one of the largest crashes in West Virginia's history.

Links to News Story

- <http://www.wsaz.com/home/headlines/Accident-Involving-Dozens-of-Vehicles-Closes-I-64-210478181.html>
- <http://www.wvgazette.com/News/201306060131>

Map of the Surrounding Area

The accident occurred on the Nitro-St. Albans bridge, renamed the Dick Henderson Memorial Bridge. The coordinates are 38.392275, -81.831622.



Analysis questions

1. Did this crash cause congestion?
2. Use Google Maps to determine the closest emergency response unit. Estimate how long it would have taken for EMS to arrive. How does this affect congestion and injury outcome? Are there alternative routes that the EMS could take to improve travel time if the roads are congested?
3. Did the transportation authority use any special traffic management strategies or technologies to help manage traffic during this incident?
4. What changes would you make in order to reduce the amount of congestion during this incident? Be specific. What strategies and technologies would you use?
 - a. How would you alert drivers of the growing congestion?
 - b. What technologies could you use to warn or divert traffic?
 - c. If re-routing traffic, how could traffic be re-routed in order to reduce the congestion caused by the crash? And what implications would this have on the surrounding roads? Can these roads handle the volume of traffic that you have diverted? Will there be additional delays caused by re-routing? Will this new method provide a shorter travel time compared to simply staying on the main road?

Task

Prepare a PowerPoint presentation to explain your findings and solution to the class. Be sure to include a quick explanation of the crash scenario, the strategies that were employed on the scene, and the strategies that you would recommend implementing to reduce congestion and improve traffic flow.