

SR 167 Corridor Collision Analysis

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Washington State
Department of Transportation

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December 1, 2010

This summary was prepared in response to legislative direction provided in the 2010 supplemental transportation budget. Specifically, ESSB 6381 Section 303 (53) states “ the department shall conduct a collision analysis corridor study on state route number 167 from milepost 0 to milepost 5 and report to the transportation committees of the legislature on the analysis results by December 1, 2010”.

Included with this summary is the collision analysis results, recent improvements made to the corridor for improving safety, and future strategies for addressing the identified safety issues. The analysis was performed using accident data from years 2004 to 2009 and part of 2010.

As a result of the analysis, corridor segments and specific locations were identified as places for additional safety improvement consideration. These locations are discussed in greater detail in the analysis.

The analysis identifies a few strategies for improving safety within the SR 167 corridor. The strategies are based on an incremental approach, as there is not one solution which solves all the safety issues. In addition, the strategies include partnering with the WSP for enforcement and the WTSC for education. With a large number of the accidents in the corridor resulting from impacts with a fixed object or run-off the road, improving the roadside clear zone will become a focus within the mile post limits of the corridor.

Overview

In performing the analysis on the corridor, the accidents were screened in an effort to indentify the contributing causes associated with each accident. Understanding the contributing causes of a crash is a critical component for developing a solution for reducing or eliminating a specific accident type. Figure 1 provides additional detail of all collision locations and summaries of injury type, collision type, and contributing circumstances. Overall corridor statistics for that period of time indicate the following:

- Over 700 collisions resulting in a total of 4 fatal and 28 serious injuries.
- Excess speed and failure to properly grant the right of way to another vehicle are the primary contributing factors to the collisions along the corridor.
- Four locations stand out as specific problem areas (*Identified by red boxes in Figure 1*):
 - 28th Street/Northbound on-ramp at Bay Street – milepost 0.02 (*figure 2*)
 - Business access near the Emerald Queen Casino – milepost 0.35
 - River Road/Pioneer Way – milepost 0.61 (*figure 3*)
 - River Road/66th Avenue East/48th Street East – milepost 3.66 (*figure 4*)
- Intersection, rear-end, and run-off-the-road collisions account for the majority of the accidents.
- Alcohol was a factor in 3 of the 4 accidents.

Problem Locations

The WSDOT, in conjunction with the City of Tacoma and the Puyallup Tribe have been pursuing and implementing incremental improvements on SR 167 in an effort to increase safety and reduce the overall number of accidents experienced on this corridor. The latest improvements include:

- Construction of a new traffic signal located at 28th St./northbound on ramp at Bay St, completed in 2007 (WSDOT and Puyallup Tribe) (*Figure 2*)
- Installation of Photo Enforcement Cameras, December 2009 (City of Tacoma)
- Access control near the Emerald Queen Casino, milepost 0.35 restricted access to right-in/right-out, completed in 2006 (WSDOT and Puyallup Tribe)

With the latest improvements made over the last four years significant reductions in accidents have been reported. Figure 2 illustrates the decrease in accidents following the activation of the traffic signal at 28th St. It is estimated that 100 accidents have been prevented since the completion of the signal. Figure 3 illustrates the reduction in accidents near the Emerald Queen Casino following the implementation of the access control and photo enforcement cameras. The two improvements were not made concurrently as the access control was implemented in 2006 and the photo enforcement was installed in December 2009. It is estimated that with the restricted access and photo enforcement 92 accidents have been prevented.

With the incremental improvements being applied to SR 167 corridor, positive results are occurring. WSDOT plans to continue to move forward implementing improvements which focus on the Target Zero Goal. This will be the case for the other 2 problem locations identified at River Road/Pioneer Way – milepost 0.61 (*figure 3*), and River Road/66th Avenue East/48th Street East – milepost 3.66 (*figure 4*). With the accidents in the corridor identified and continuously being monitored, WSDOT can identify potential solutions for addressing safety issues.

Potential Solutions

As WSDOT continues evaluating and implementing solutions to address the problems identified within the corridor, potential solutions under consideration are as follows.

- **Partner with the Washington State Patrol (WSP) or the Washington Traffic Safety Commission's (WTSC) local Target Zero groups.** The WSP is looking at collision data and enforcement data to target areas where driver behavior is affecting traffic operations or contributing to collisions. If a problem corridor is also identified in WSP data they may be willing to focus enforcement on the behaviors contributing to the collisions in the corridor. The WTSC also has Target Zero implementation groups around the state. These groups are made of diverse local organizations aimed at reducing local fatal and serious collisions.
- **Consult with the Traffic Safety Commission to consider a statewide safety campaign to address motorcycle crashes.** During a recent statewide analysis process it was noted that there is a large number of fatal and serious injury crashes involving motorcycles. For the 3-year time period, January 1, 2007 through December 31, 2009 there were slightly

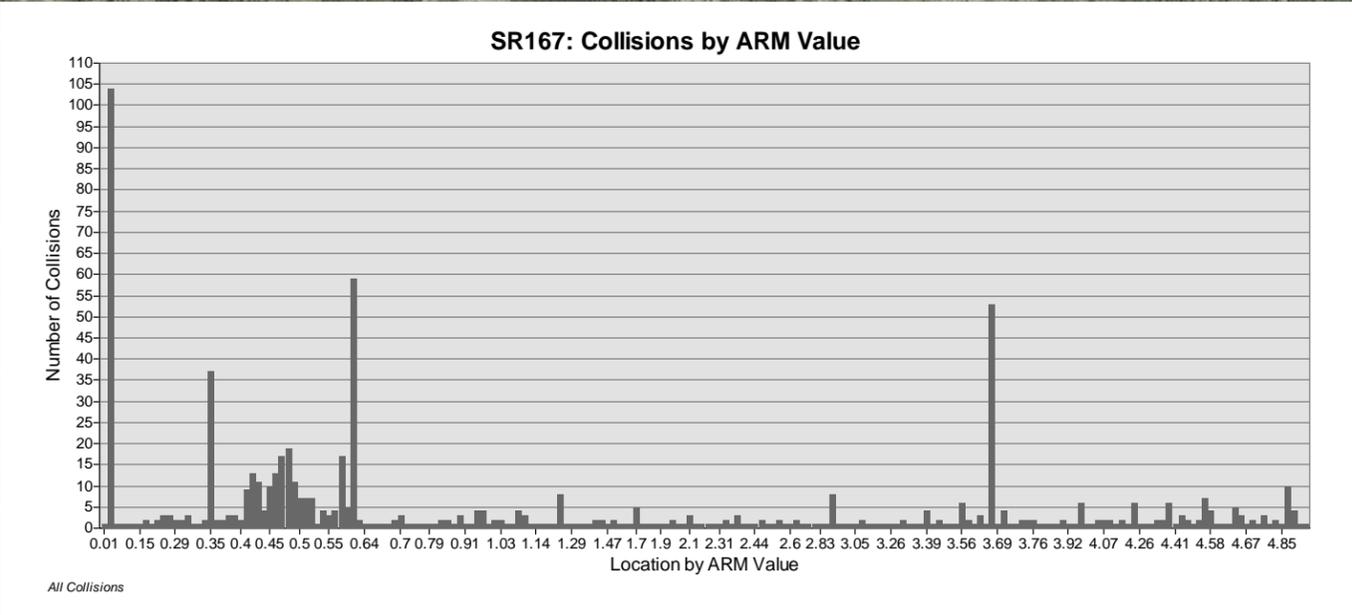
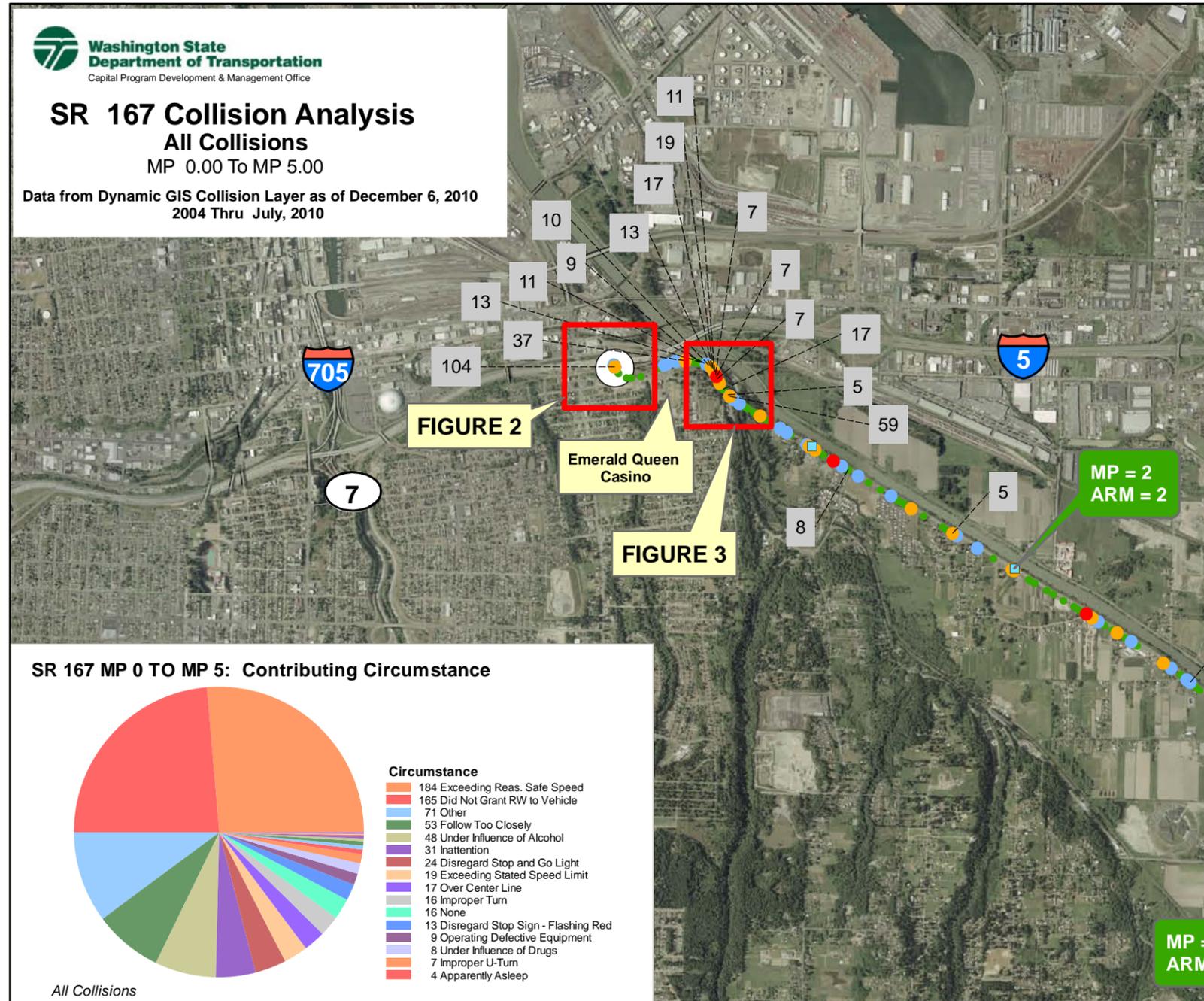
over 3,000 collisions statewide involving motorcycles. In Pierce County there were slightly over 400 collisions resulting in 14 fatal and 60 serious injuries. We plan to suggest that the Traffic Safety Commission implement a statewide, or perhaps “west of the mountains” safety campaign directed at motorcycle riders.

- **Consult with the State Patrol to determine if this is an appropriate area for increasing DUI and speed control enforcement.** The SR 167 analysis identified approximately 53 alcohol related collisions (verified by toxicology test) and three of the accidents were fatal. We will notify the WSP that this is a problem corridor and request that they consider increasing enforcement in this area in order to address the DUI and speed related crashes. *(See figure 5 for alcohol related collisions)*
- **Implement Low-cost Enhancement (LCE) projects.** Another source for addressing collision analysis locations is the Low Cost Enhancement program. Traditional low cost enhancements are projects that cost less than \$50,000 and are used to make near term improvements. In recent years the LCE program has received additional funding to address collision frequency and severity potential by implementing projects costing approximately \$100,000. Typical LCE projects include minor signing and restriping projects; and large cost projects such as; minor construction of turn lanes or other medium scale projects.
- **Evaluate and Implement Safety Improvement Solutions.** The final avenue for addressing safety problems in the corridor is to develop traditional safety program capital improvement solutions. These solutions are normally considered after all other enforcement, education or LCE solutions have been developed. Solutions in this area may include guardrail infill, signing or striping, signal timing and coordination, clear-zone recovery improvements, and/or rumble strips.

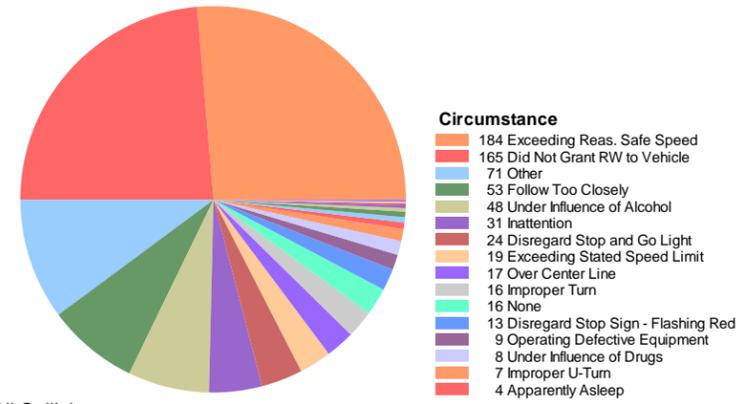
SR 167 Collision Analysis
All Collisions

MP 0.00 To MP 5.00

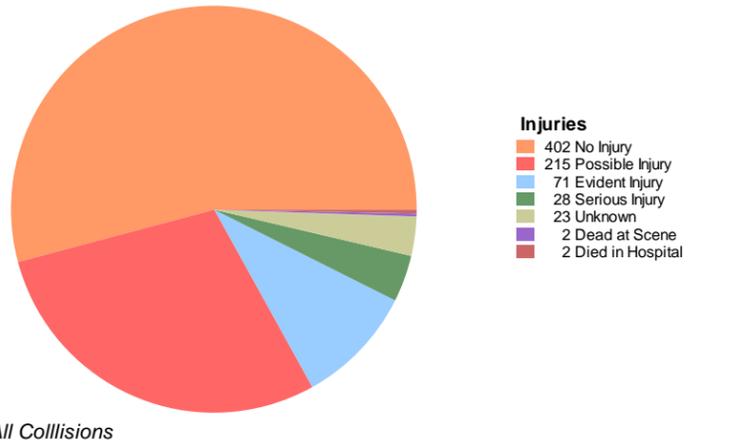
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2004 Thru July, 2010



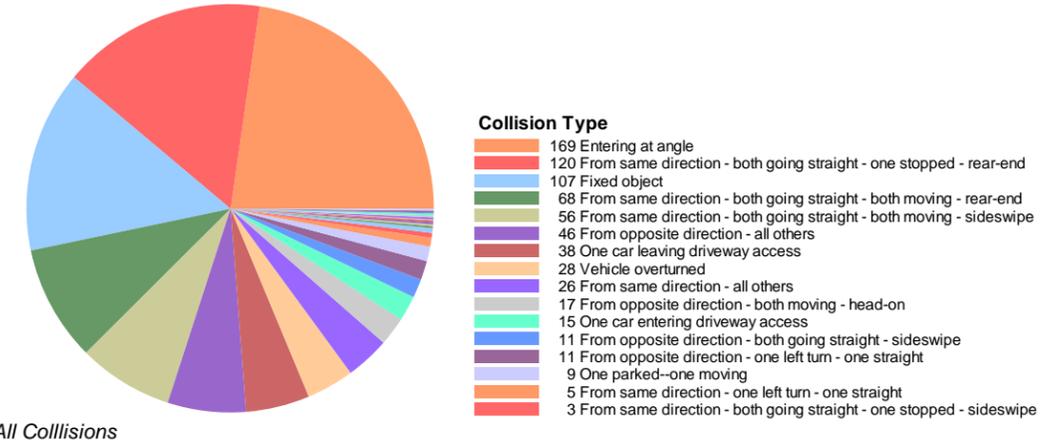
SR 167 MP 0 TO MP 5: Contributing Circumstance



SR 167 MP 0 TO MP 5: Collision Injury Summary



SR 167 MP 0 TO MP 5: Collision Type



Most Severe Injury Type

- Fatality
- Serious Injury
- Evident Injury
- All Other
- CAL/IAL

Other Features

- Mile Post Marker

"Under 23 U.S. Code, Section 409, this data cannot be used in discovery or as evidence at trial in any action for damages against State, Tribal, or Local Government that involves the locations mentioned in this data."

**SR 167 Collision Analysis
MP 0.02- Graphic Analysis**

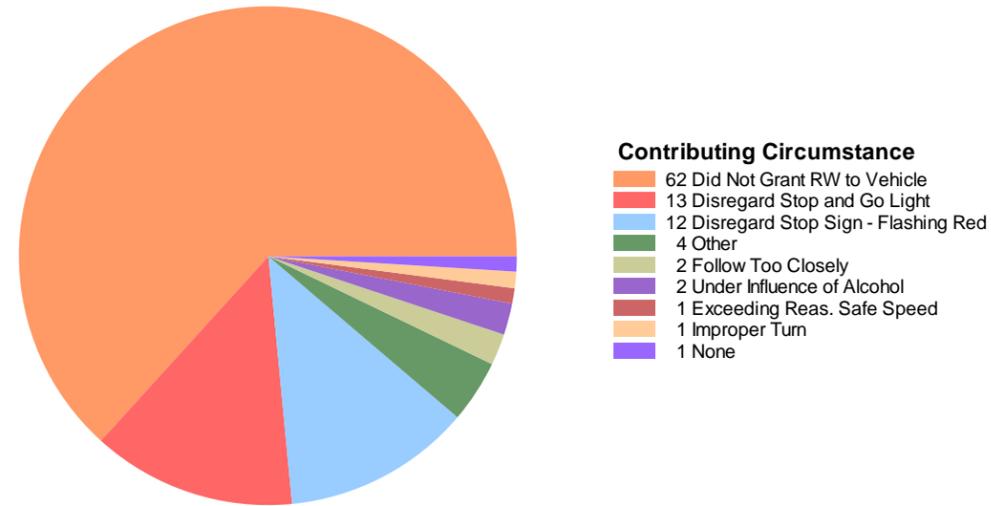
Data from Dynamic GIS Collision Layer as of December 6, 2010
2004 Thru July, 2010

“Under 23 U.S. Code, Section 409, this data cannot be used in discovery or as evidence at trial in any action for damages against State, Tribal, or Local Government that involves the locations mentioned in this data.”

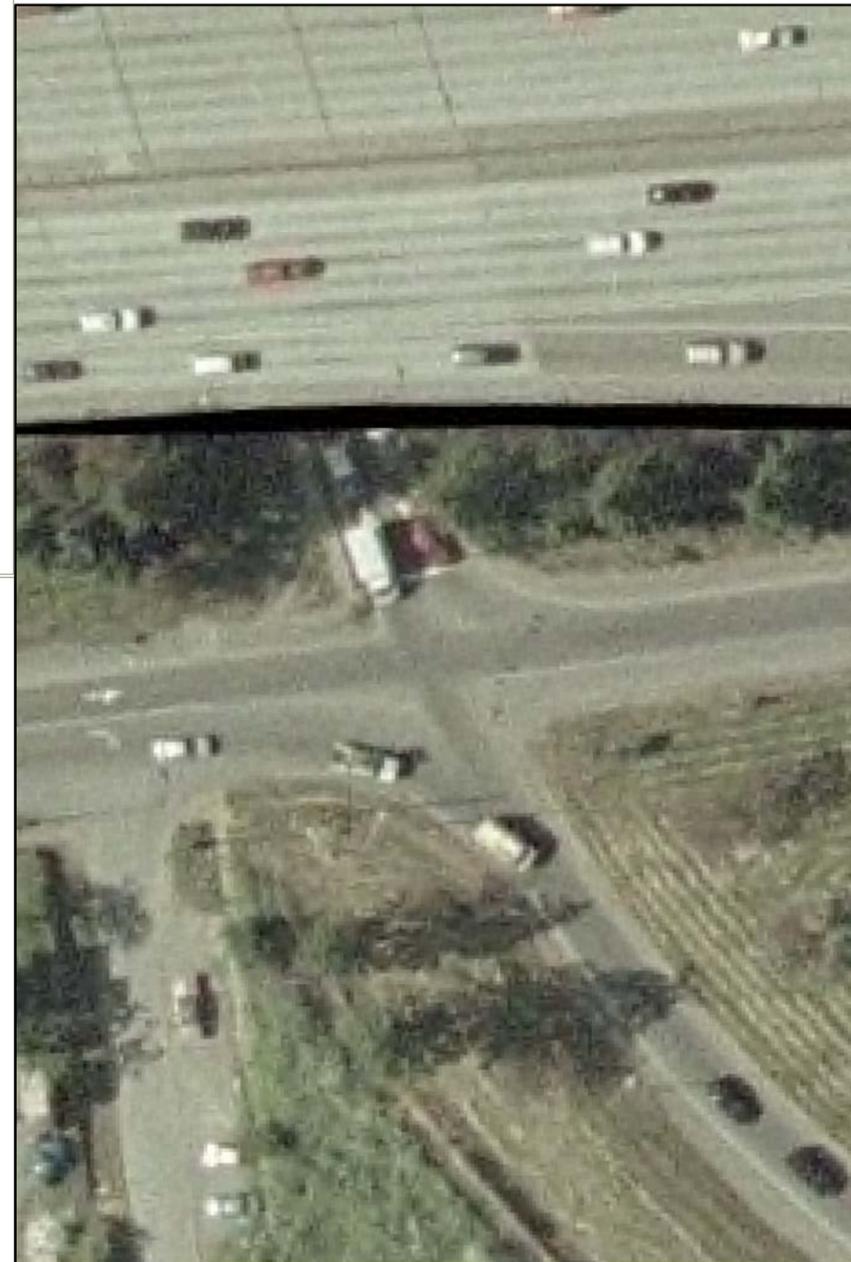


Photo of Intersection @ MP 0.02

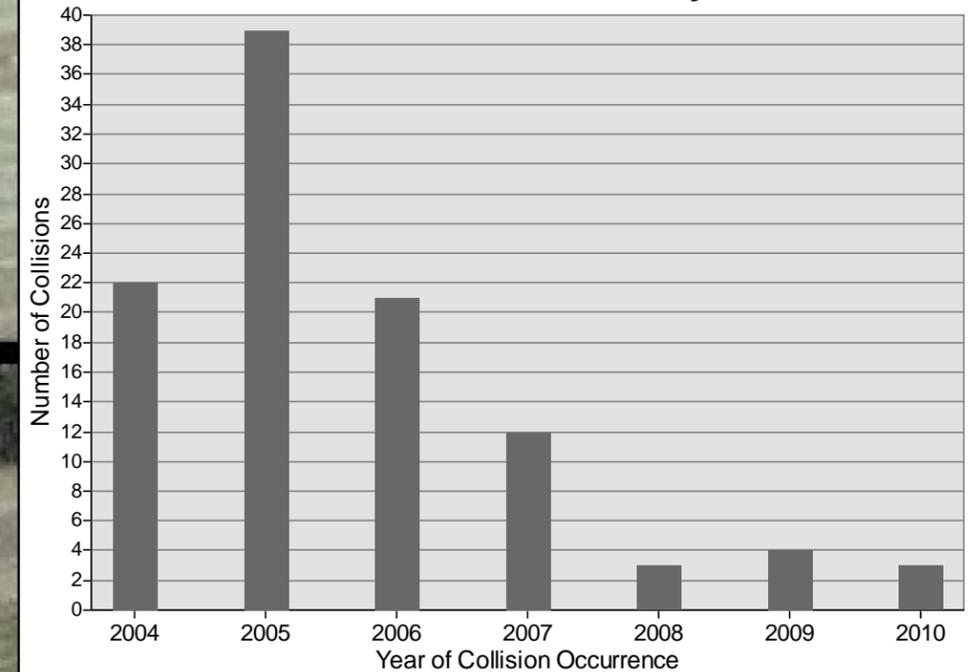
SR 167 MP 0.02: Contributing Circumstance



All Collisions

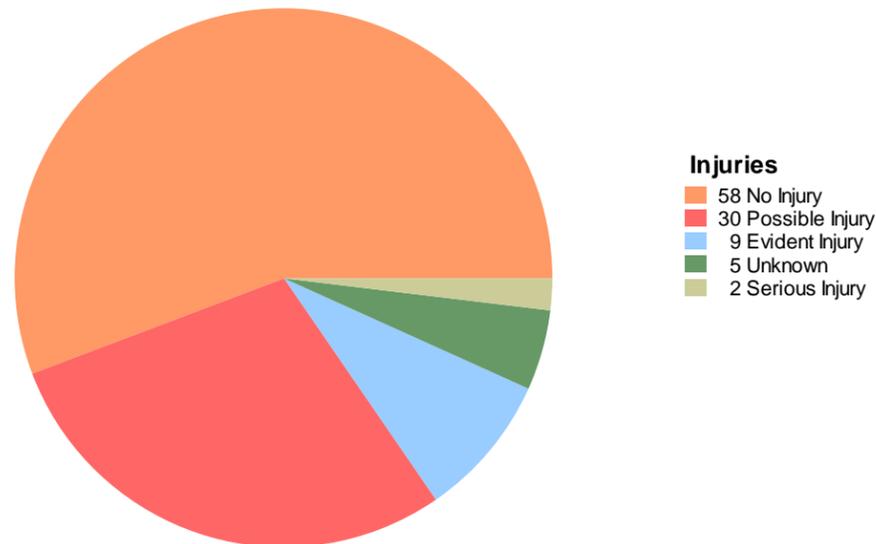


SR167 MP 0.02: Collisions by Year



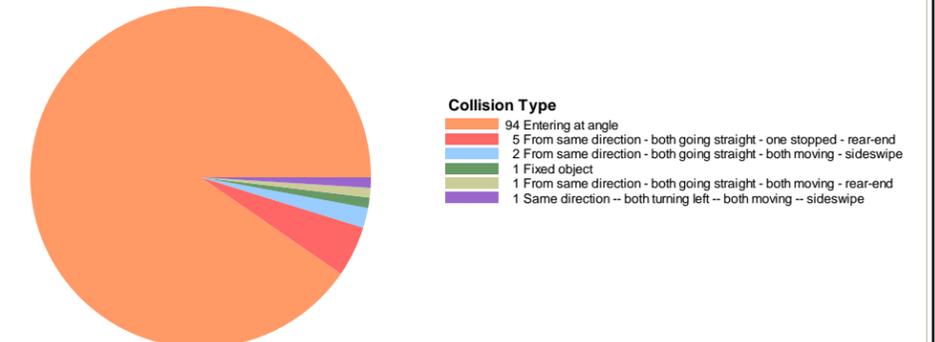
All Collisions

SR 167 MP 0.02: Collision Injury Summary



All Collisions

SR 167 MP 0.02: Collision Type



All Collisions

**SR 167 Collision Analysis
MP 0.61 - Graphic Analysis**

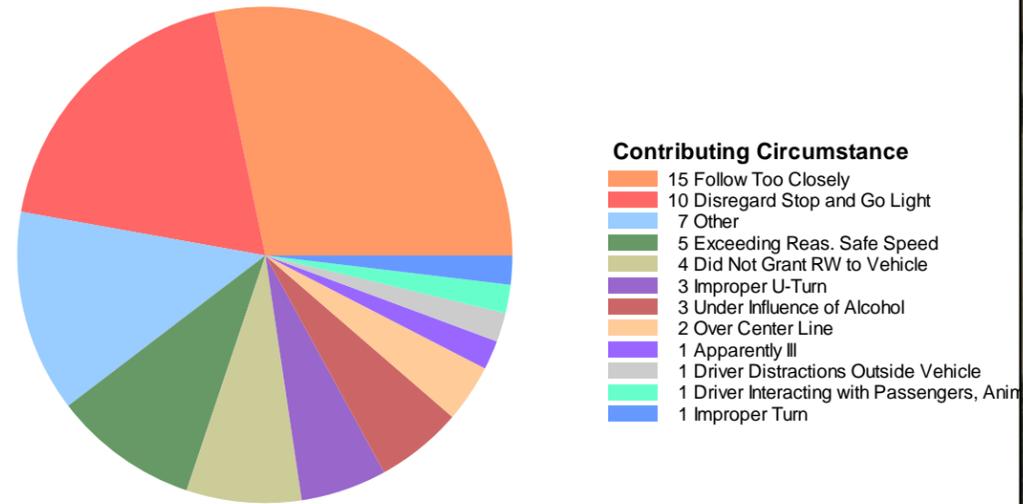
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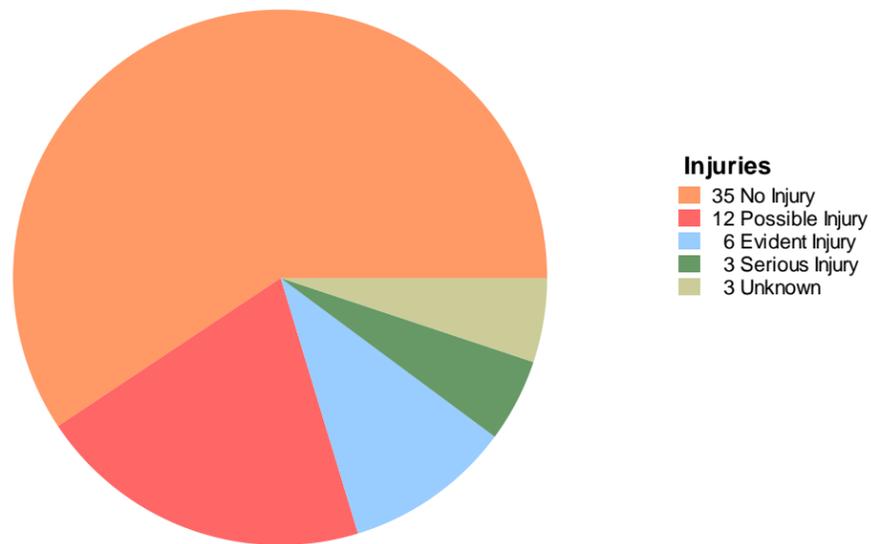
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SR 167 MP 0.61: Contributing Circumstance



All Collisions

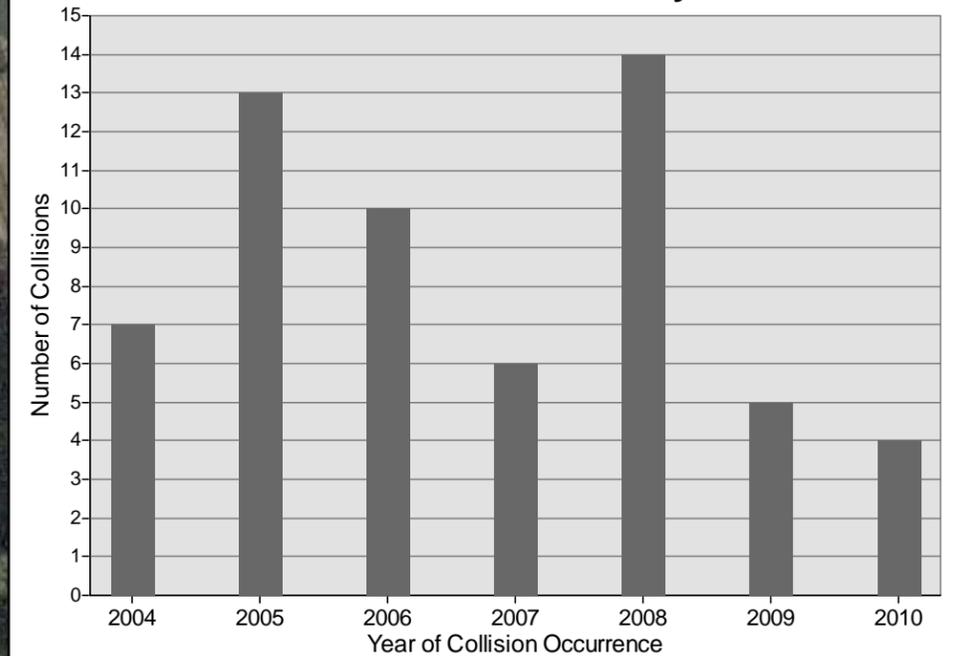
SR 167 MP 0.61: Collision Injury Summary



All Collisions

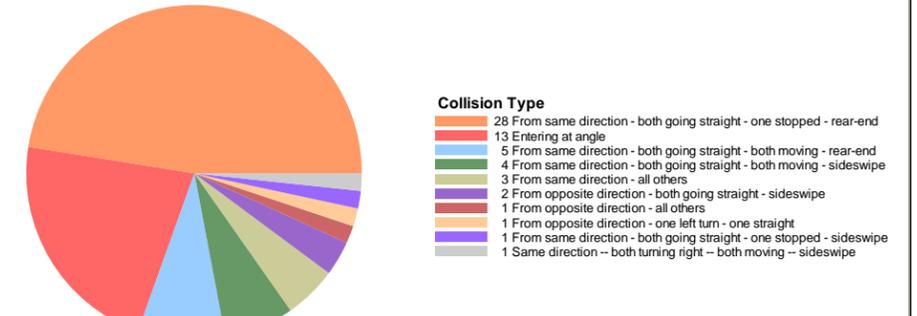


SR167 MP 0.61: Collisions by Year



All Collisions

SR 167 MP 0.61: Collision Type



All Collisions

SR 167 Collision Analysis MP 3.66 - Graphic Analysis

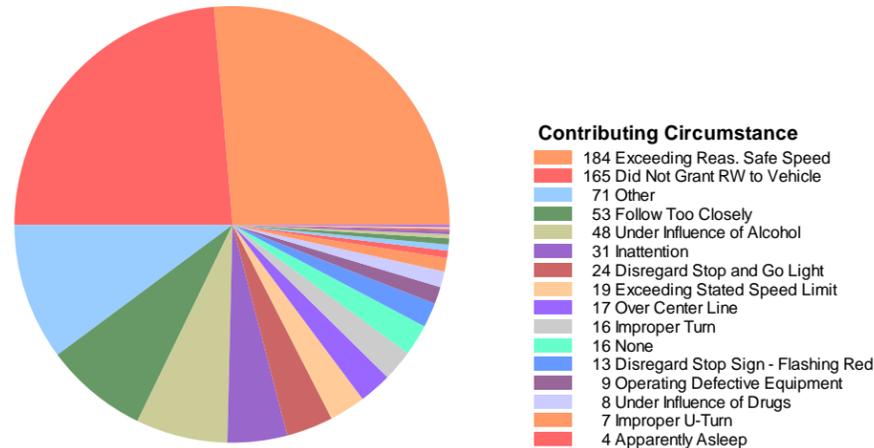
Data from Dynamic GIS Collision Layer as of December 6, 2010
2004 Thru July, 2010

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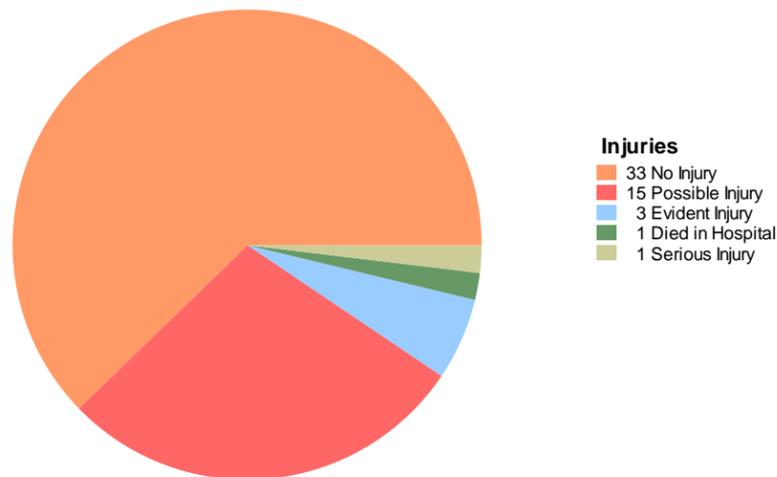
Photo of Intersection @ MP 3.66

SR 167 MP 3.66: Contributing Circumstance



All Collisions

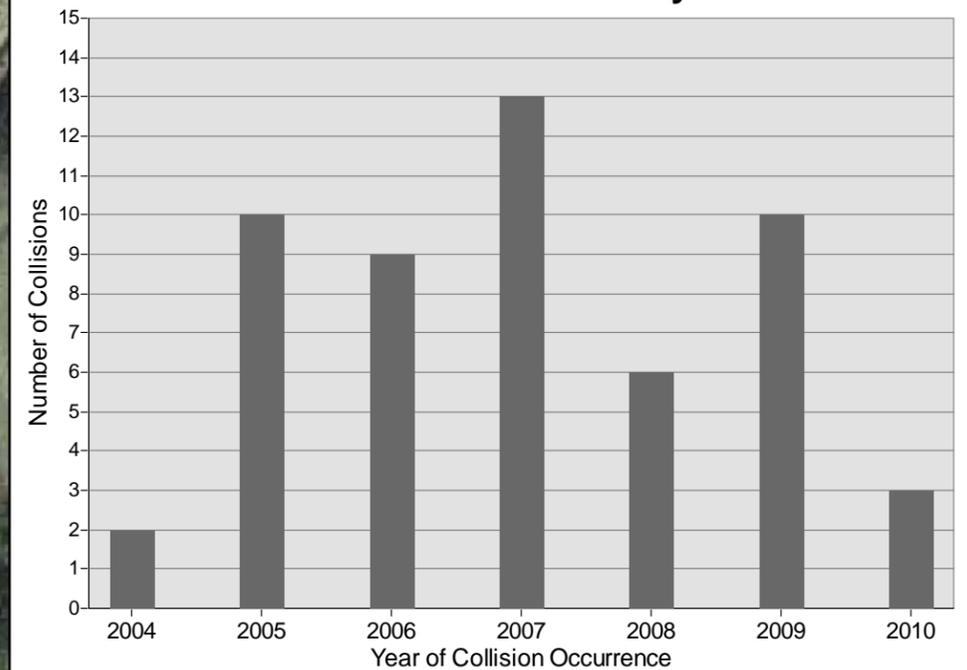
SR 167 MP 3.66: Collision Injury Summary



All Collisions

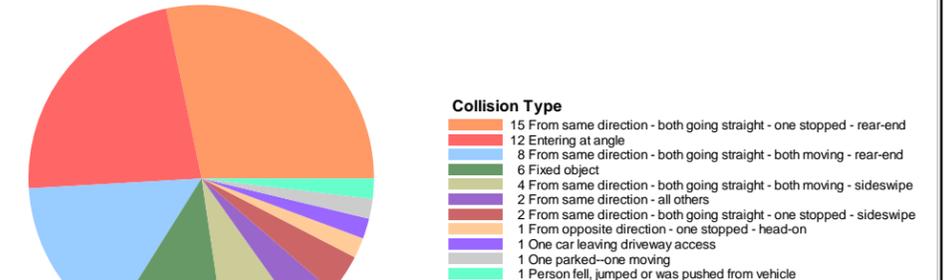


SR16 MP 3.66: Collisions by Year



All Collisions

SR 167 MP 3.66: Collision Type



All Collisions

FIGURE 5

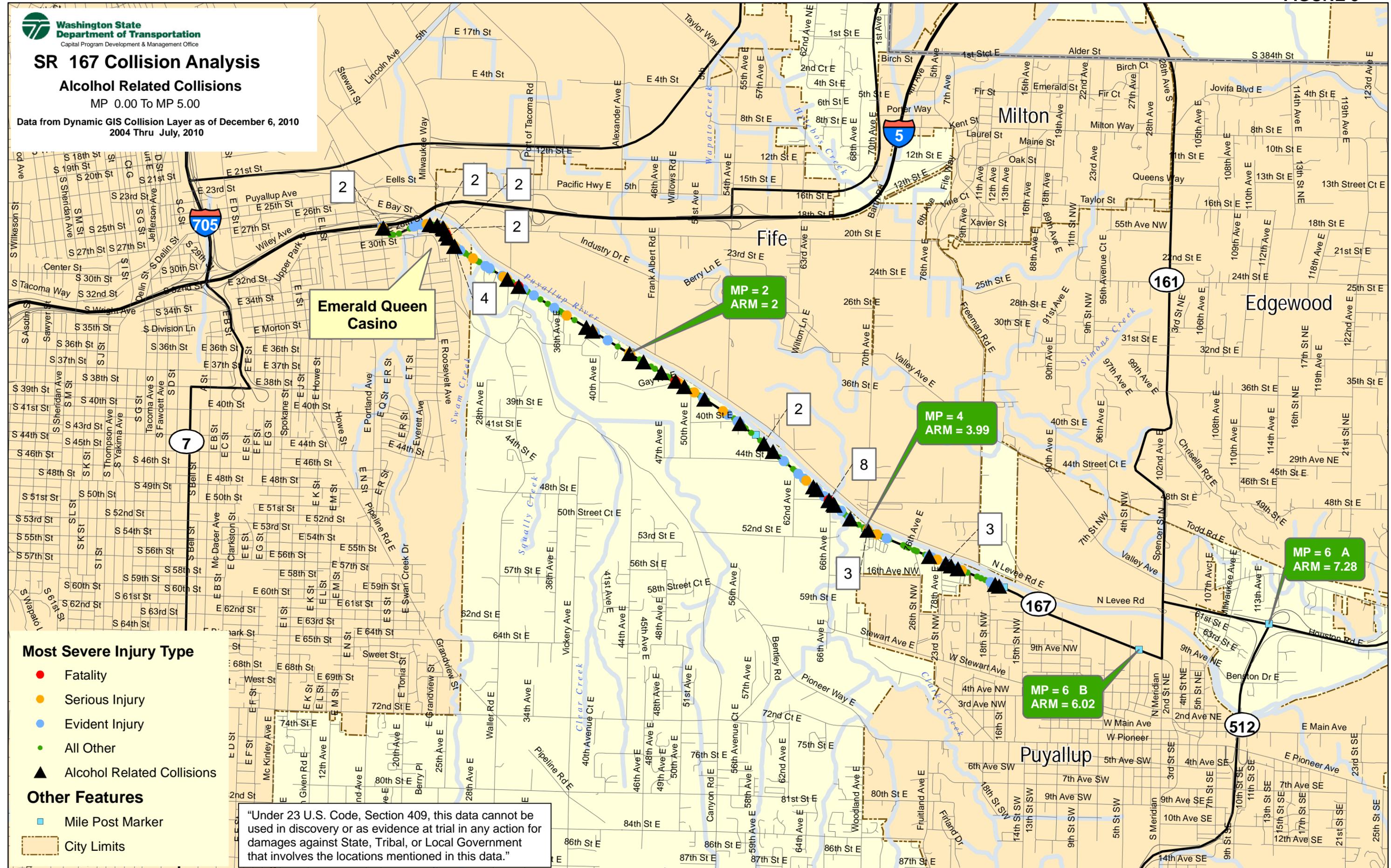


SR 167 Collision Analysis

Alcohol Related Collisions

MP 0.00 To MP 5.00

Data from Dynamic GIS Collision Layer as of December 6, 2010
2004 Thru July, 2010



Most Severe Injury Type

- Fatality
- Serious Injury
- Evident Injury
- All Other
- ▲ Alcohol Related Collisions

Other Features

- Mile Post Marker
- City Limits

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