

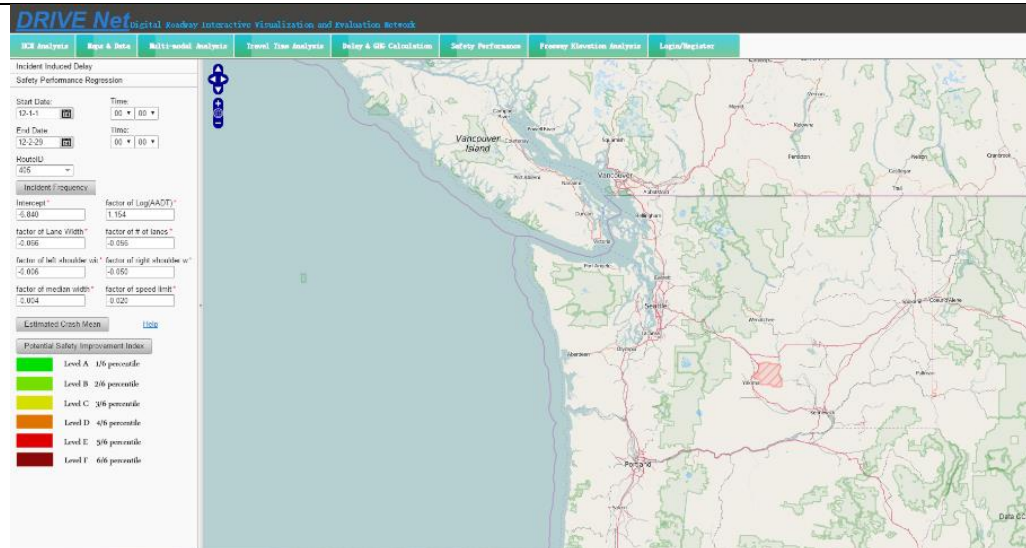
<b>UTC Project Information</b>	
Project Title	Regional Map Based Analytical Platform for State-Wide Highway Safety Performance Assessment
University	Washington State University
Principal Investigator	Ali Hajbabaie
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Funding Source(s) and Amounts Provided (by each agency or organization)	University of Washington PacTrans \$180,000 Washington State Department of Transportation \$ 80,000 Washington State University \$100,000
Total Project Cost	\$360,000
Agency ID or Contract Number	DTRT13-G-UTC40
Start and End Dates	January 15, 2015– September 16, 2016
Brief Description of Research Project	<p>Most traffic crash modeling and safety performance analysis cannot capture impacts of dynamic factors that are often critical for understanding the occurrence mechanism of crashes and are very labor intensive.</p> <p>To address these deficiencies, this proposed research takes advantage of the ongoing DRIVE Net research at the University of Washington to build large-scale safety analysis functions on the datarich eScience transportation platform.</p> <p>The proposed research has the following objectives: Improve current crash modeling methods; Develop a Safety Performance Index (SPI); Monitor the safety performance of the state highway network on regional map using SPI; Develop a Potential Safety Improvement Index (PSII); Develop safety improvement analysis methods for accident hotspots based on the overlapped SPI and PSII.</p>

Describe Implementation of Research Outcomes (or why not implemented)

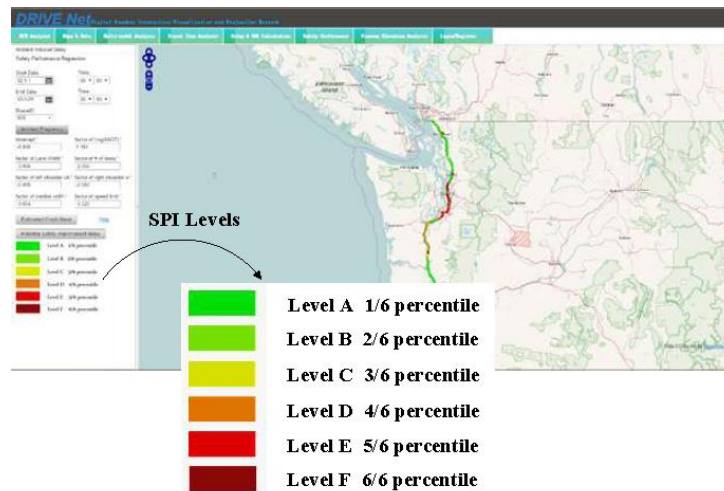
Place Any Photos Here

The research has developed a Regional Map Based Analytical Platform that is implemented in the DRIVE Net system and maintained in the University of Washington.

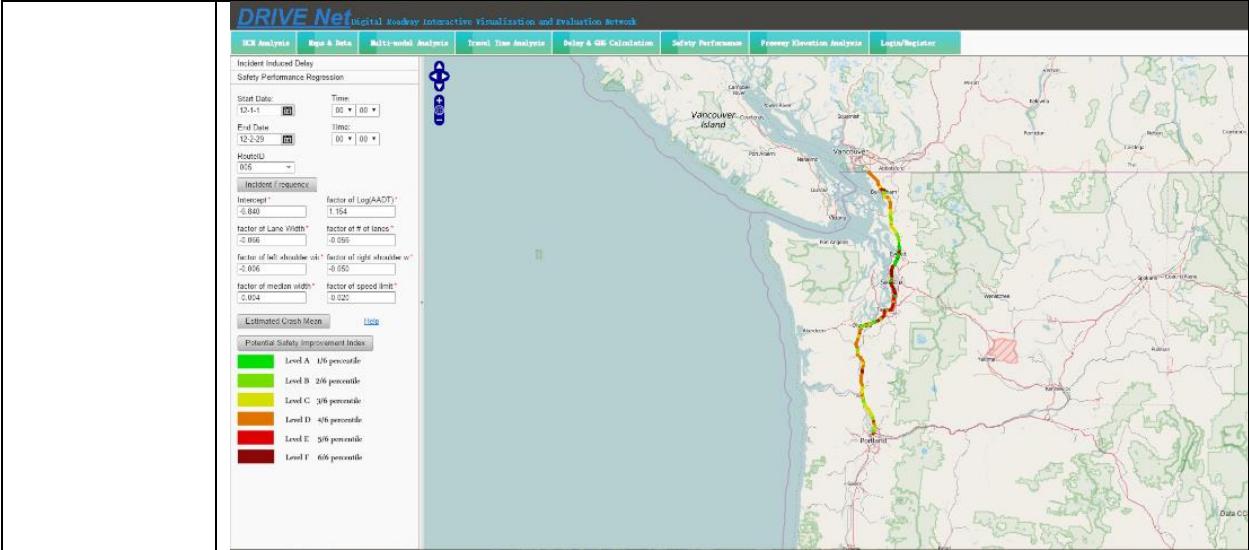
The proposed research expanded the exiting "Safety Performance" feature of the DRIVE Net system that allows color coding different highway links based on Safety



Interface of the safety performance module in the regional map based analytical platform



SPI level ranges from Level A to Level F in the safety performance module.



**An example of the PSII function.**

Impacts/Benefits of Implementation (actual, or anticipated)

The proposed research provided an online platform for cost-effective safety analysis and decision making. Expected benefits also include:

- Improved analytical method for highway safety,
- Computational methods for SPI and PSII using the eScience transportation platform at the STAR Lab,
- Regional map based analytical platform for state-wide highway safety performance assessment,
- List of underperformed segments and suggested improvement solutions;

Web Links

- Reports
- Project Website

<https://rosap.ntl.bts.gov/view/dot/36277>  
<https://digital.lib.washington.edu/researchworks/handle/1773/43496>  
<http://depts.washington.edu/pactrans/research/projects/regional-map-based-analytical-platform-for-state-wide-highway-safety-performance-assessment-year-3-2015-16/>