

<b>UTC Project Information</b>	
Project Title	MPC-540 – Updating and Implementing the Grade Severity Rating System (GSRS) for Wyoming Mountain Passes
University	University of Wyoming
Principal Investigator	Khaled Ksaibati Dick T. Apronti
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Funding Source(s) and Amounts Provided (by each agency or organization)	<p>USDOT, Research and Innovative Technology Administration \$95,162</p> <p>Wyoming Department of Transportation \$98,990</p>
Total Project Cost	\$194,152
Agency ID or Contract Number	69A3551747108
Start and End Dates	November 2, 2017 to July 31, 2022
Brief Description of Research Project	<p>The proposed study is aimed at achieving two main goals. First, the FHWA’s GSRS model will be updated to reflect the current truck population characteristics. This will be achieved by carrying out field tests with an instrumented vehicle to update parameters in the model that reflect current truck characteristics and braking systems. The second objective of the study is to evaluate Wyoming mountain passes and their warning systems with regard to truck downgrade crashes. By doing this, the best means of communicating with truck drivers to reduce the probability of runaway truck incidences can be recommended.</p> <p>By achieving the two goals, the study will present recommendations that will counter the occurrence and severity of downgrade truck crashes on Wyoming mountain passes. A new software will be developed for estimating maximum safe speeds for truck weight categories using the new parameters. The estimates from the new software will be more consistent with current truck characteristics and</p>

	<p>a combination of these estimates with an effective warning system will encourage compliance by truck drivers.</p> <p>Research Objectives:</p> <ol style="list-style-type: none"> <li>1. Update the FHWA's GSRS model to reflect the current population characteristics.</li> <li>2. Evaluate Wyoming mountain passes and their warning systems with regard to truck downgrade crashes.</li> </ol> <p>The proposed study is aimed at achieving two main goals. First, the FHWA's GSRS model will be updated to reflect the current truck population characteristics. This will be achieved by carrying out field tests with an instrumented vehicle to update parameters in the model that reflect current truck characteristics and braking systems. The second objective of the study is to evaluate Wyoming mountain passes and their warning systems with regard to truck downgrade crashes. By doing this, the best means of communicating with truck drivers to reduce the probability of runaway truck incidences can be recommended.</p> <p>By achieving the two goals, the study will present recommendations that will counter the occurrence and severity of downgrade truck crashes on Wyoming mountain passes. A new software will be developed for estimating maximum safe speeds for truck weight categories using the new parameters. The estimates from the new software will be more consistent with current truck characteristics and a combination of these estimates with an effective warning system will encourage compliance by truck drivers.</p>
<p>Describe Implementation of Research Outcomes (or why not implemented)</p> <p>Place Any Photos Here</p>	
<p>Impacts/Benefits of Implementation (actual, not anticipated)</p>	
<p>Web Links</p> <ul style="list-style-type: none"> <li>• Reports</li> <li>• Project Website</li> </ul>	