the ISSUE

Challenging roadway characteristics and high truck percentages create operational and safety concerns on I-80 in WY. High crash frequencies and delays are observed every year. WYDOT is looking for potential mitigation strategies to alleviate those problems.

the RESEARCH

Researchers performed operational and safety analyses along I-80, with a focus on high truck percentages and climbing lanes as the most promising countermeasures for steep vertical grades. The operational analysis was performed through microsimulation and a creation of shock-wave based models, while the safety analysis included descriptive statistics, and cross-sectional and propensity-scores models to estimate the safety effectiveness of climbing lanes.
the **FINDINGS**

Climbing lanes have a potential to improve traffic conditions for passenger cars by reducing delays and increasing speeds. Less platooning is observed, as well as larger headways between vehicles. Climbing lanes can also reduce the total and truck-related crashes between 6%–34% and 1%–16% respectively.

the **IMPACT**

Findings from this study are expected to help transportation managers and policy makers decide on management strategies for highway facilities carrying a large percentage of trucks. The benefits for WYDOT, as well as other agencies that face similar problems on their freeway network, are in the detailed assessment of traffic conditions along the corridor, as well as the timeline of improvements that would create the most benefits as the traffic increases in the future years.

For more information on this project, download the entire report at [http://www.ugpti.org/resources/reports/details.php?id=961](http://www.ugpti.org/resources/reports/details.php?id=961)