

Introduction

The North/West Passage states have continuously identified peer exchange opportunities as a benefit to the corridor program. Learning from others and not duplicating efforts is an important focus for the states. This peer exchange was prompted by further interest in Variable Speed Limits (VSL). The purpose of this peer exchange was to review the approaches to and experiences with VSL in Washington, Wyoming and Kansas. This summary highlights key information that was exchanged during the webinar conducted on January 28, 2015. Additional information is available in the presentations, webinar recording and other information posted to the North/West Passage web site under [Project 9.2: Peer Exchange](#).

Washington: Organized Chain-Up and VSL



Washington State Department of Transportation (WSDOT) is responsible for managing I-90 through the Snoqualmie Pass in the Cascade Range. Transportation through the pass can be challenging due to heavy snowfalls – sometimes as much as 24” in a 24-hour period. During heavy snow conditions, WSDOT often requires vehicles to chain-up. A high volume of commercial vehicles traveling through the pass creates significant traffic problems when chain-up requirements are activated and this led to the department’s implementation of Organized Chain-Up (OCU). OCU

organizes the chaining vehicles by forming lane assignments, communicating where space for chaining is available, and implementing VSL based on chain requirements and road conditions. Several lessons learned were noted, including the importance of strong public outreach, clear parameters and operator training for selecting speed limits, and advanced dynamic message signs to allow adequate driver notification.

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Wyoming: WYDOT’s I-80 VSL Project

I-80 is a major east-west commerce route through Wyoming. The corridor is prone to severe winter weather conditions and high winds as it traverses the base of the Rocky Mountains. These conditions cause frequent closures lasting 48-72 hours and higher than average crash rates in some areas. VSL was implemented at points along the corridor after a series of high profile fatal crashes in 2006 and 2007. The system is used to adjust speeds for all vehicles, particularly commercial vehicles, according to roadway conditions. The variable speeds are regulatory and



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aggressively enforced by the Wyoming Highway Patrol year round to establish respect for the posted speeds. Research using statistical models shows that VSL-reduced speed postings lowered the average speeds by 5-7.5 MPH for every 10MPH in posted speed reduction – in addition to reductions that could be accounted for by weather conditions. Furthermore, VSL reduced crashes and road closures, and has received an overwhelmingly positive response from the public.

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Kansas: VSL as a Component of the I-35 and Homestead Interchange Construction Project



Kansas Department of Transportation implemented VSL along I-35 during construction at the Homestead Interchange as a [Highways for Life](#) demonstration project. Four portable VSL trailers were used in the work zone on each side of the freeway and static signs were placed in advance of the work zone alerting drivers of the variable speeds ahead. Each VSL sign was associated with 2-3 upstream traffic sensors. Speeds were calculated based on the 85th percentile speed for each minute of data from each traffic sensor. As a demonstration project, travelers were

surveyed about their work zone experience and 92% responded as having observed VSL 71% rated the system as Very Useful or Useful.

Contact: Kristi Ericksen, Kansas DOT, kristie@ksdot.org, 785-296-0355

Summary of VSL Features by State

Washington	Wyoming	Kansas
<ul style="list-style-type: none"> Implemented on I-90 for chain-up requirements in Snoqualmie Pass 	<ul style="list-style-type: none"> Implemented along I-80 for weather conditions and commercial vehicle traffic 	<ul style="list-style-type: none"> Implemented on I-35 for construction work zone management
<ul style="list-style-type: none"> Permanent installation 	<ul style="list-style-type: none"> Permanent installation 	<ul style="list-style-type: none"> Temporary installation
<ul style="list-style-type: none"> Not routinely enforced 	<ul style="list-style-type: none"> Aggressively enforced 	<ul style="list-style-type: none"> Not enforced
<ul style="list-style-type: none"> Challenges with setting parameters for selecting speeds and enforcement 	<ul style="list-style-type: none"> Challenges with initial “seasonal speed limit” 	<ul style="list-style-type: none"> Challenges with selecting speeds and frequency of changing speeds
<ul style="list-style-type: none"> Clearer instruction for and advance notification of chain-up requirements 	<ul style="list-style-type: none"> Fewer crashes and road closures 	<ul style="list-style-type: none"> Positive public feedback
<ul style="list-style-type: none"> Legislative reference: http://apps.leg.wa.gov/rcw/default.aspx?cite=46.61.405 	<ul style="list-style-type: none"> Legislative reference: http://legisweb.state.wy.us/statutes/statutes.aspx?file=titles/Title31/T31CH5AR3.htm 	<ul style="list-style-type: none"> Legislative reference: http://kansasstatutes.lesterama.org/Chapter_8/Article_15/8-1559.html