

Introduction

The North/West Passage states continuously identify 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 interest in efforts by State Departments of Transportation (DOTs) to identify, implement, track, and quantify efficiencies within their organizations. The purpose of this peer exchange was to share examples of efficiencies, with associated benefits and cost savings as applicable, from Washington State DOT, Idaho Transportation Department, North Dakota DOT, and Minnesota DOT. This summary highlights key information shared during the webinar conducted on March 30, 2015. Additional information is available on the North/West Passage web site under [Project 9.2: Peer Exchange](#).



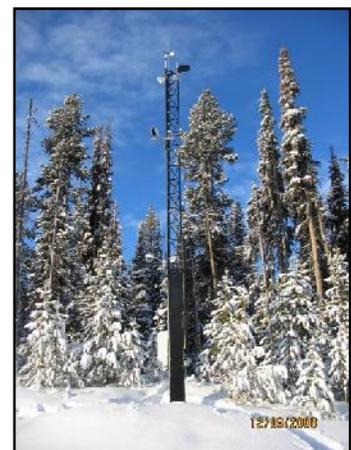
Washington State DOT: Use of LED Adaptive Lighting to Save Energy and Reduce Power Consumption Costs

Washington State Department of Transportation (WSDOT) has undertaken lighting reform by implementing LED adaptive lighting in several areas. The goal of this effort is to develop a risk-based approach to reduce roadway lighting to the fullest extent possible without significant impact to crashes and mobility. To date, WSDOT has deployed more than 1,100 LED lights statewide. In one example shared (US101 and Black Lake Blvd Interchange in Olympia, WA), the transition to LED adaptive lighting was able to meet or exceed existing light levels with a 74% energy reduction. The total utility and preventative maintenance savings over a 15-year life cycle is estimated at \$200k, with the return on investment period projected at 13 years.

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Idaho Transportation Department: Winter Performance Measures and Cost Trends

In 2011, the Idaho Transportation Department (ITD) deployed Winter Performance Measures (WPM) statewide, utilizing RWIS data. The WPM includes two measures: 1) effectiveness of ice/snow floor reduction (WPI); and 2) effectiveness in preventing ice/snow floor (Mobility). WPM is evaluated through a series of 125 RWIS placed in severe climatic locations. RWIS infrastructure was improved from 57 sites in 2011, to a total of 125 sites 2014, at an investment of approximately \$16 million since 2006. As mobility improved, accident rates dropped proportionately. ITD reduced the 3 year average of accidents on adverse conditions by 27% or 342 accidents; the cost per accident was identified at \$72,000, for an estimated savings of \$24,624,000. In addition, operational costs were reduced from \$30.0 million in the 2011/12 winter season to \$21.5 million for the 2013/14 winter season.



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Summary of Peer Exchange on DOT Efficiencies

North Dakota DOT: *Efficient Staffing to Maximize Operations*



North Dakota DOT's Fargo District has implemented efficient staffing approaches and innovative equipment to maximize winter maintenance operations. The Fargo District maintains 1827 lane miles through the efforts of 47 transportation technicians. In winter 2007/2008, the district implemented split shift schedules that resulted in the following benefits: significant improvements in response time to emergencies, improved road

maintenance, availability of trucks from other shifts, and less employee burn-out from working extensive overtime. ND DOT also used Tow Plows with increased wing widths used in gang plowing operations. Because of the increased width coverage, Tow Plows reduce the staffing required to plow multi-lane highway sections.

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Minnesota DOT: *Financial Management Efficiencies*

The Minnesota DOT (MnDOT) has undertaken an effort to demonstrate at least 5% total cost saving efficiencies (5% in comparison with the total State Fiscal Year State Road Construction budget) by October 1, 2015, with a total goal of \$60 million. The agency has drawn a distinction between internal efficiencies and external impacts. Internal efficiencies result from a deliberate decision or improved process that provides cost savings or higher quality outcomes. External impacts are outcomes to the public that improve access, mobility, and safety for all users of the transportation system. Internal efficiencies are separated into three categories: 1) State Road Construction; 2) Maintenance & Operations; and 3) General Operations. Multiple strategies within State Road Construction have resulted in an estimated \$38.2 million toward the overall goal. Strategies include value engineering, alternative technical concepts, design optimization, contract design flexibility, innovative delivery methods, and traffic control plans. Detailed maintenance and operations examples were provided, with the following preliminary estimated lifecycle annualized cost savings:

- Automatic Flagger Assistance Devices: \$13,000 per device
- Maintenance Decision Support System (MDSS): \$3.8 million
- Tow Plows: \$490,000



A project report detailing MnDOT's documented efficiencies will be complete in October 2015.