

The Connector



March 2015

In Memory of Trooper Trevor Casper

At the Wisconsin Department of Transportation we are grieving the loss of Trooper Trevor Casper. Trooper Casper was a member of the 60th Recruit Class which graduated in December 2014. He was among the group of brave men and women in the Division of State Patrol who put themselves in dangerous situations each day as they work to keep the people of Wisconsin safe. He will be greatly missed by all who worked with him, as well as WisDOT staff throughout Wisconsin. Thanks to all of our transportation stakeholders and partners for the outpouring of sympathy that has been sent to the department and the members of the State Patrol. We appreciate your thoughts and support during this difficult time.



Message from WisDOT Secretary Mark Gottlieb

At the Department of Transportation we're continually looking for ways to complete work faster and at a lower cost, while maximizing the use of federal funding. A key focus is to achieve savings in the delivery of the State Highway Program with an emphasis on preservation. Over 85 percent of state construction costs are for preservation-related improvements; less than 15 percent of construction costs are to expand capacity when needed to improve safety and mobility. We have a comprehensive performance improvement program focused on five core goal areas of mobility, accountability, preservation, safety and service (MAPSS). While not an exhaustive list, the items below illustrate an estimated \$157 million in annual, ongoing savings and over \$1 billion in one-time savings.

Implemented Program/Project Savings

Title	Estimated Cost Savings	Description
Accelerated Bridge Construction (ABC)	Ongoing: \$5 million annually when fully integrated	ABC includes the use of pre-fabricated bridge elements, GRS-IBS abutments and self-propelled modular-transporter to deliver more cost-effective bridge projects that also include safety improvements and provide time savings that provide less impact on the traveling public and freight commerce. These technologies also promote a wider field of competition in the contracting industry.
Adaptive Signal Systems	One-time: \$1.35 million in delay and fuel savings* *Savings will continue to accumulate after construction as the system remains in place	An adaptive signal system allows traffic signals to continuously monitor demand and traffic flow and adjust the timing to maximize vehicle movement. Drivers enjoy savings in fuel consumption and reduced delay as they navigate the entire corridor without needing to stop. WisDOT first installed adaptive signals on WIS 100 in Milwaukee County to provide a detour route for the Zoo Interchange. Future adaptive signal projects are planned.
Cost Reduction Incentives (CRI)	Ongoing: \$3.4 million average annually from 2011-2014	CRIs are used to partner with the design and construction industries to implement new ideas. Cost savings are shared between the state and the contractor. Over 24 cost reduction incentives were awarded in FY14 for a savings of \$4.7 million.
Design Standards	Ongoing: \$5-15 million annually	A systematic review of opportunities to evaluate and modify project designs and exception criteria is underway. These changes are still being formulated and will likely start implementation during FY2016-2017.
J-Turns	Ongoing: \$9 million average for a J-turn vs. a full highway interchange*	New designs like J-turns reduce congestion and crashes and save the cost of full interchange construction. WisDOT built the first J-turn in 2011 to address multiple crashes on Highway 53 in Douglas County. There were eight injury crashes at the intersection in the five-year period prior to construction and zero

	*An intersection costs \$8-15 million while a J-turn costs about \$1 million	now been constructed and 12 are being planned.
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Implemented Program/Project Savings

Title	Estimated Cost Savings	Description
Performance-based Maintenance (PbM)	<p>Ongoing: Long-term benefits of increased service life of pavements and bridge decks.*</p> <p>*With only one year of data available, it is too soon to estimate cost savings.</p>	<p>WisDOT is working with county highway departments to pilot PbM in order to extend the life of pavements and bridge decks by standardizing best practices that hold down costs and reduce traffic impacts. For example, some counties are sealing bridge decks with low-cost spray equipment. In 2014, 100 PbM bridge maintenance, shoulder repair and crack sealing projects were done</p>
Recycled Materials	<p>Ongoing: \$14 million average annually*</p> <p>*Some variation for types of projects constructed in a given season</p>	<p>The department's goal is to incorporate two million tons of recycled materials into projects and to continually strive to improve by increasing the tonnage and finding new materials to recycle. Materials include fly ash, slag, shingles, pavement materials, foundry sand, etc.</p>
Increased Engineering Capacity	<p>Ongoing: \$4.5 million annually when fully implemented*</p> <p>*\$1 million achieved already in 2014 during partial implementation</p>	<p>WisDOT received 180 new FTE engineering-related positions in the 2013-15 budget to maintain core competencies to deliver the State Highway Program. Based on current rates, we are on track to achieve cost savings of \$4.5 million per year once fully implemented due to average lower per-hour costs for in-house engineering compared to outsourced engineering.</p>
Surplus Land Sales	<p>Ongoing: \$11 million over the last three state fiscal years</p>	<p>WisDOT will exceed its targets for the sale of surplus land for the fourth consecutive year. In state fiscal year 2013 and 2014, we sold and placed back on local tax rolls over \$8 million of surplus property and we expect to sell over \$9 million in state fiscal year 2015.</p>
Value Engineering (VE)	<p>Ongoing: \$53 million 2011-13; \$36.5 million in 2014*</p>	<p>VE focuses on holding down the costs of large projects.</p>

	*Dependent on projects under development	WisDOT completed 19 VE studies. A VE study in 2013 evaluated the second phase of the US 18 Verona Road project in Madison. As a result, the project timeline was shortened and costs were reduced by over \$2 million.
3D Software Design	Ongoing: 20-30 percent on earthwork/paving costs; 7-9 percent on paving-only projects after fully implemented.	In July 2014, WisDOT started requiring all new projects with earthwork to include 3D models. These models will start to be delivered for 2017 construction. Contractors use the models in bid preparation, planning and construction.
Lean Government Initiatives	Ongoing: \$1.5 million	Lean Six Sigma is a tool used to improve existing processes. WisDOT has completed over 30 Lean projects with projected savings of \$1.5 million and 30,000 hours of staff time redirected to other priorities. One Lean project found highway signs could be shipped directly from the state sign shop to counties who install them for a savings of \$360,000 annually. Another project reviewed getting projects closed-out quickly. The number of projects closed within six months of completion is expected to rise from 25 percent to more than 50 percent and save nearly \$70,000.
Division of Motor Vehicles (DMV)	Ongoing: Time savings for customers	In 2014, DMV customers averaged less than 17 minutes in a DMV office, from walking in the door to walking out with a product. Phone customers waited only 96 seconds on average to speak with a representative. Road tests are available with 94 percent of customers able to schedule a test four weeks

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Proposed Program/Project Savings

Title	Estimated Cost Savings	Description
Bike and Pedestrian Facilities	Ongoing: \$1.2 million annually	Governor's 2015-17 budget repeals the requirement to provide bike/pedestrian facilities on all new state-funded projects. The department may still provide these facilities at some locations using federal funds.
Changes to Trans 400	Ongoing: time and lower delivery costs once implemented	Trans 400 establishes environmental documentation procedures for state or state/local funded projects. Currently, Trans 400 does not contain new streamlining and process reduction opportunities that exist in federal regulations. For some project types, that means Trans 400 is more restrictive. WisDOT is updating Trans 400 to incorporate the streamlining opportunities to provide time savings and lower delivery costs on projects.
Community Sensitive Solutions (CSS)	Ongoing: \$3.5 million annually	Governor's 2015-17 budget eliminates state funding for CSS which has been used to provide aesthetic and community elements in projects. Local governments may still choose to fund CSS elements.
Construction Manager/General Contractor (CMGC)	One-time: Three pilot projects with potential cost savings	Governor's 2015-17 budget authorizes three pilot projects to utilize CMGC for project delivery/construction. Future project savings are projected via shortened timelines, innovative processes and reduced risk.

Project-Specific Savings

Title	Estimated Cost Savings	Description
Zoo Interchange Milwaukee County	One-time: \$37 million	Various costs savings including use of 3D design, 3 phase power, elimination of pedestrian bridge, storm sewer route revisions, fixed message signs, larger contracts, LED lights, long-term closures, traffic staging and efforts to avoid utilities.
Zoo Interchange Milwaukee County	One-time: \$580 million	Savings achieved by implementing a reduced impacts alternative that included only partial access at Bluemound Road Interchange and a smaller footprint.
I-43 North-South Milwaukee and Ozaukee Counties	One-time: \$3 million	Construction of diverging diamond interchange is proposed at Brown Deer Road to maintain the existing bridge width and use of beam guard in the median rather than concrete barrier wall.
I-94 East/West Milwaukee County	One-time: \$270 million	Savings achieved by designing the project with reduced impacts and the incorporation of exceptions to standards.
WIS 38 Milwaukee and Racine Counties	One-time: \$124 million	The Transportation Projects Commission has recommended the cancellation of this project, which will free up funding for higher priority needs.
WIS 81/WIS 213 Beloit Bypass Rock County	One-time: \$9.3 million	The Transportation Projects Commission has recommended the cancellation of this project, which will free up funding for higher priority needs.
US 53 La Crosse County	One-time: \$100 million	This major project was enumerated in 1997. WisDOT is currently evaluating the use of innovative, state-of-the-art traffic operation tools to improve traffic flow. The study will be completed within a year and may result in an alternative that saves over \$100 million.
US 53 La Crosse County	One-time: \$42.4 million	

Work Zone Awareness Week in Wisconsin

To help prevent traffic crashes in road construction and maintenance work zones that injure and kill motorists and workers, Governor Scott Walker proclaimed March 23 to 27 as Work Zone Awareness Week in Wisconsin.

Last year in Wisconsin, there were 2,264 work zone crashes that killed 12 people and injured 832, according to statistics from the Wisconsin Department of Transportation (WisDOT).



To help make work zones safer, WisDOT will periodically display messages on its electronic signs on highways and will use its social media channels to remind drivers to slow down and pay attention. In addition, officers from the Wisconsin State Patrol and other law enforcement agencies will be deployed in work zones to enforce speed limits and other traffic laws. Pilots from the State Patrol Air Support Unit will also fly aerial enforcement missions over and around work zones.

In addition to work zone safety initiatives, WisDOT will continue its efforts to increase compliance with the state's Move Over Law to help protect workers on the sides of roads. The Move Over Law requires drivers to shift lanes if possible or slow down in order to provide a safety zone for law enforcement vehicles, ambulances, fire trucks, tow trucks, highway maintenance and utility vehicles that are stopped on the side of a road with their warning lights flashing.



The Wisconsin Department of Transportation's MAPSS Performance Improvement Program reviews performance measures for five key goal areas that guide us in achieving our mission - mobility, accountability, preservation, safety and service. To check out the latest online reports, simply click on the MAPSS logo.

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