





INNOVATIVE TRANSPORTATION SOLUTIONS

Tangible Result Driver – Dave Ahlvers, State Construction and Materials Engineer

MoDOT values innovation. The department empowers employees and seeks input from stakeholders to generate innovative ideas. Collaboration with staff, academia and industry makes unique concepts come to life so MoDOT can serve its customers better, faster and at less expense to the taxpayer.

Number of external awards received-8a

Result Driver: Dave Ahlvers, State Construction & Materials Engineer

Measurement Driver: Jim Dickson, Organizational Performance Specialist

Purpose of the Measure:

This measure tracks the number of external awards received by the department. These awards display the department’s dedication and efforts toward efficiency, innovation and quality throughout the organization. This information enables the department to measure progress and encourage further participation in award programs. It also provides opportunities for the department to increase public awareness of department activities.

Measurement and Data Collection:

Each district and division office tracks the awards presented to the department by external organizations. This includes all awards presented to individuals, teams, districts, divisions and MoDOT as a whole. Data for this measure is updated quarterly.

Improvement Status:

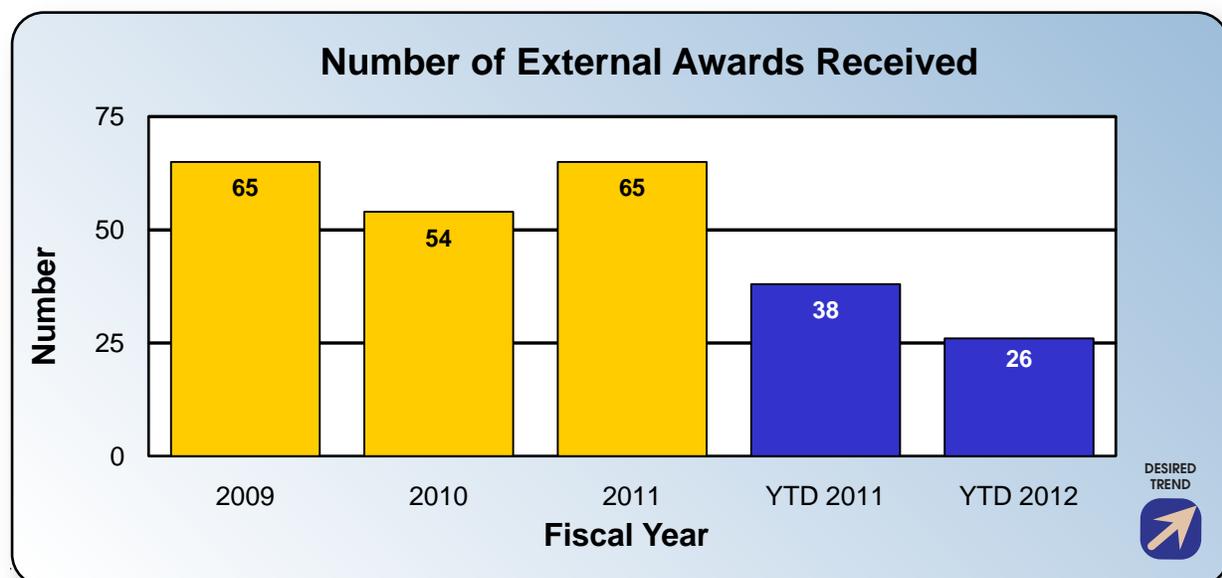
In the second quarter of fiscal year 2012, MoDOT received 14 awards. MoDOT was recognized for excellence primarily in the areas of engineering and paving. The kcICON project was spotlighted as the best transportation project by the *Midwest Engineering News Record*. The project also received

awards from the American Council of Engineering Companies and the American Institute of Architects. *Roads and Bridges Magazine* cited I-270 and Page as a “Top 10 Roadway,” and the New I-64 received a gold award from the National Partnership for Highway Quality.

Two MoDOT leaders were recognized for contributions to transportation engineering. Multimodal Operations Director Michelle Teel received a leadership award from the Mid America Association of Transportation Officials, and Maintenance Director Beth Wright was designated as a distinguished alumnus by the University of Missouri Department of Civil Engineering.

The Northwest District received a unique appreciation award for its recent work on Route 79. Several local artists presented the district with three pieces of original artwork. The artwork is on display in the district office in St. Joseph.

MoDOT continues to enter various competitions to have its work judged against the efforts of other organizations.



Number of innovative reports published-8b

Result Driver: Dave Ahlvers, State Construction & Materials Engineer

Measurement Driver: Bill Stone, Research Administrator

Purpose of the Measure:

The number of reports published is an indication of how well Construction and Materials is completing its research projects, sharing results within the department and making information available for future use. Reports are an important part of the unit's overall effort to implement innovative transportation solutions at MoDOT.

Measurement and Data Collection:

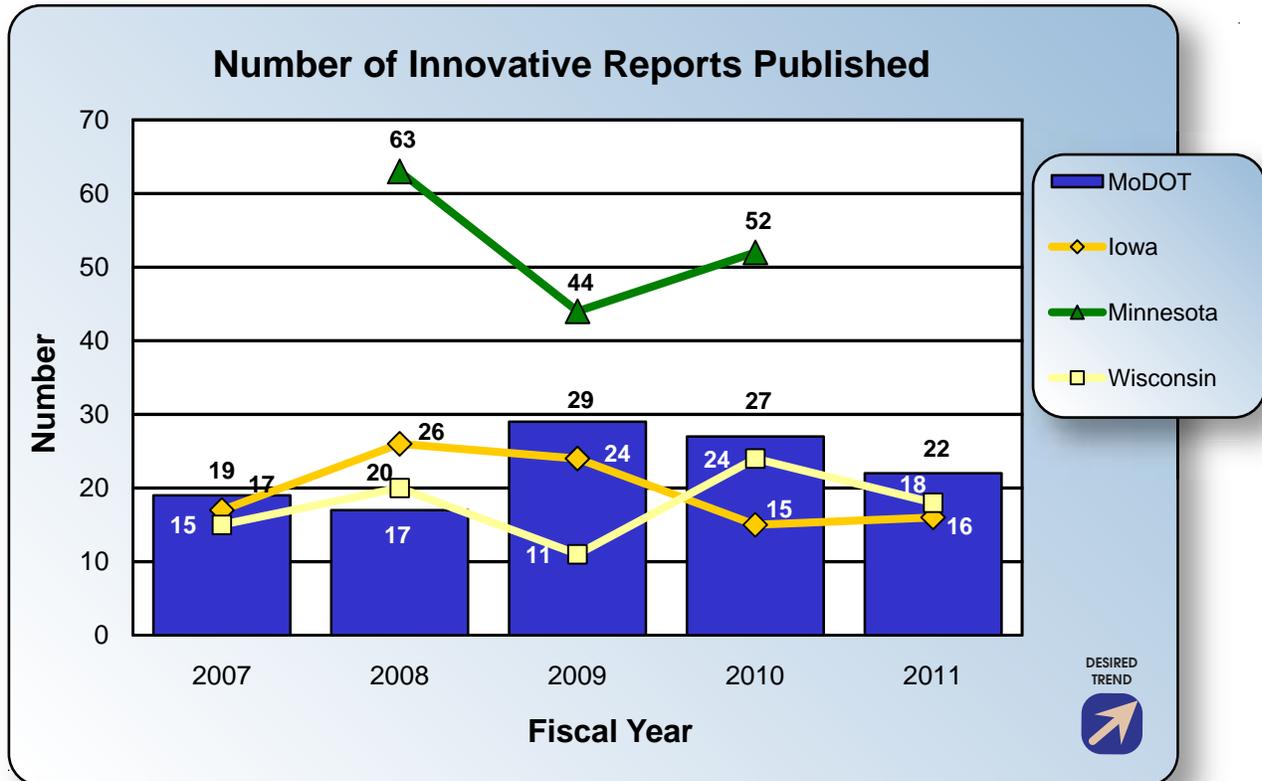
Construction and Materials staff maintains a research publications spreadsheet that is updated to reflect reports published. 'Published' is defined as a research document printed or electronically prepared for distribution. Innovative reports provide solutions and discuss research activities. Innovations include both engineering and non-engineering best practices. Three state benchmarks are provided with the data

obtained from each state's research division's annual report. This is an annual measure updated in July. Minnesota information is not available at this time.

Improvement Status:

During fiscal year 2011, a total of 22 innovative reports were published. This is slightly down from the previous two years. Fiscal year 2011 saw the wrap-up of some larger projects. Thus fewer projects accounted for the numbers being down slightly from the past two years.

Only fiscal year 2010 budget data is available from the benchmark states. These states allocated different amounts to research: Iowa - \$2,211,951; Wisconsin - \$1,942,938. Minnesota was not available. In comparison for fiscal year 2011, Missouri's total was \$4,152,591.



Number of new products evaluated and approved for use-8c

Result Driver: Dave Ahlvers, State Construction & Materials Engineer

Measurement Driver: Jen Harper, Research Engineer

Purpose of the Measure:

This measure tracks the number of new products evaluated and approved for use. This data is used to help determine if MoDOT is continuing to review new and innovative products.

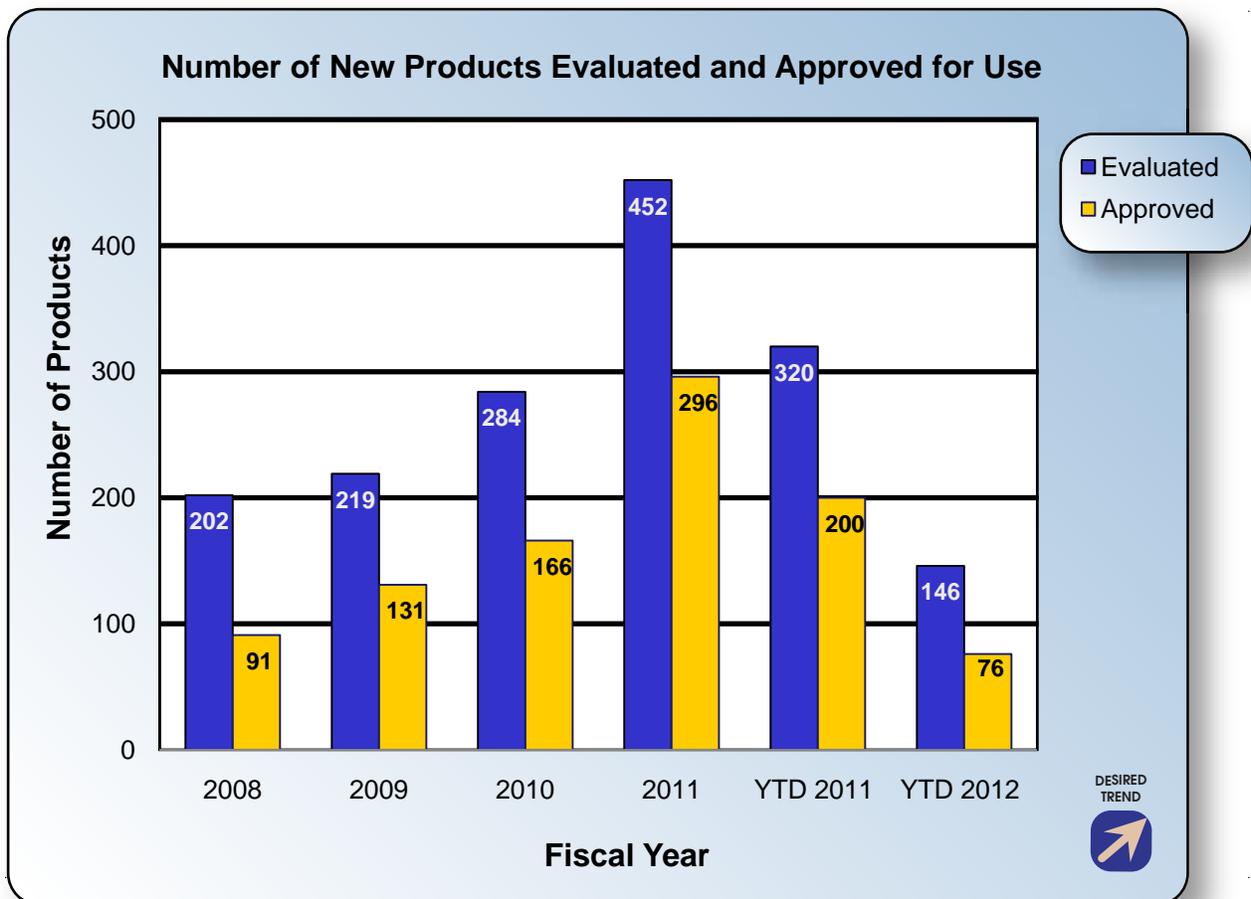
Measurement and Data Collection:

All new products considered for use on MoDOT projects or by MoDOT personnel are submitted for evaluation by the Construction and Materials Division. Each new product received is assigned a number and tracked in a database. The time necessary to process a new product evaluation varies with each product depending upon whether or not testing is required. Data is collected from the new product database to determine the total number of new products submitted for evaluation, the total number of products being evaluated and the total number of new product evaluations completed. New

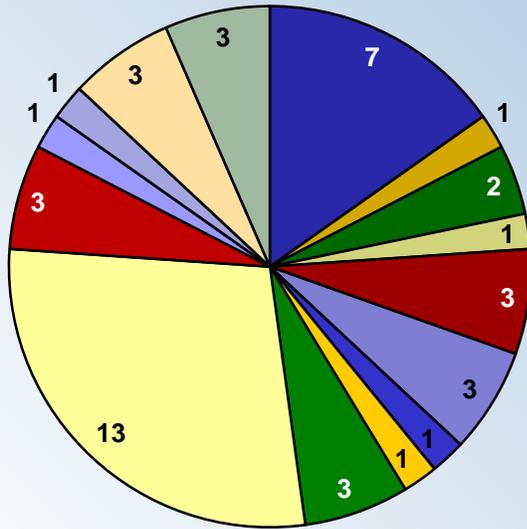
product evaluations completed is a count of the number of product usages approved, not approved or declined to evaluate. This measure is updated quarterly.

Improvement Status:

The upward trend for the number of new products evaluated and approved has not continued into the second quarter of 2012. This reduction is partially due to smaller backlogs of submitted products over the past few years, as well as fewer new products being submitted. However, there was an increase this quarter in the number of environmentally friendly cleaning and bagged asphalt cold patching materials evaluated. Four notable products among those approved for use were ColPatch, Green Patch, Bond-X High Performance and Bond-X High Performance Green patching materials.

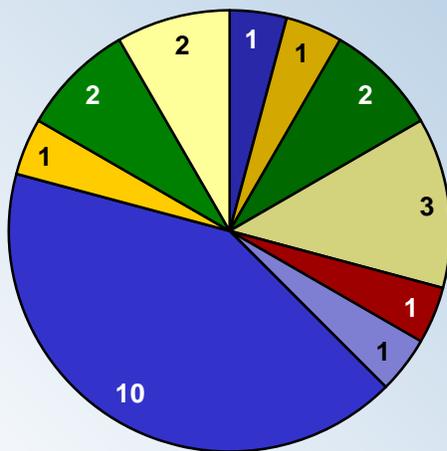


Number of New Product Evaluations Completed 2nd Qtr FY12



- Bridge
- Signing
- Concrete
- Snow & Ice
- Signals
- Lighting
- Roadside Safety
- Concrete Reinforcement
- Asphalt
- Cleaners
- Patching & Repair
- Pavement Marking
- Workzone
- Concrete Additive
- Erosion Control

Number of New Products Approved 2nd Qtr FY12



- Bridge
- Signing
- Signals
- Lighting
- Roadside Safety
- Asphalt
- Cleaners
- Patching & Repair
- Concrete Additives
- Erosion Control

Number of innovative technologies implemented in Program Delivery-8d

Result Driver: Dave Ahlvers, State Construction & Materials Engineer

Measurement Driver: Jay Bestgen, Assistant State Construction and Materials Engineer

Purpose of the Measure:

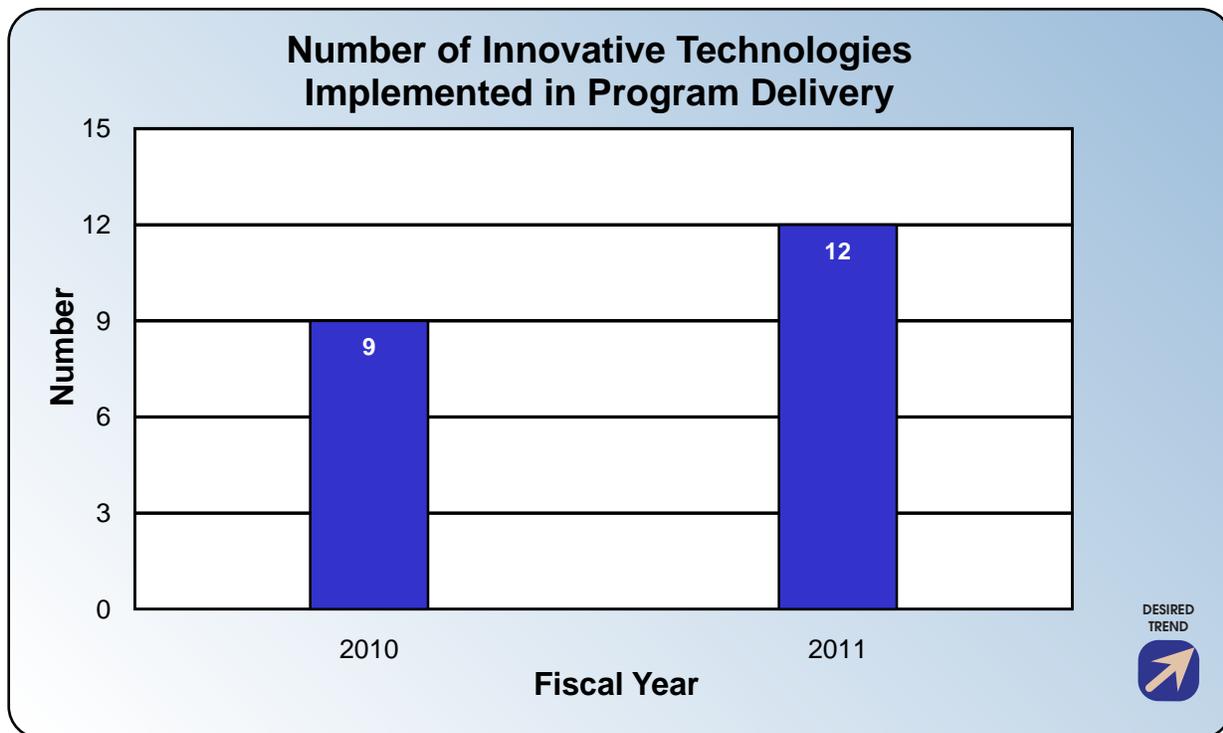
This measure tracks the number of innovative technologies implemented during construction of projects.

Measurement and Data Collection:

An innovative practice is counted once it has been incorporated into a project. The data is collected from submissions from MoDOT Resident Engineer's, and the Construction, Materials, Bridge and Research staff. This is an annual measure reported in July.

Improvement Status:

MoDOT encourages contractors to present innovative techniques that can increase the safety and efficiency of projects and save taxpayers money. For 2011, four innovations related to improving safety in work zones, two addressed improvements in grading operations and three addressed concrete and asphalt paving. Examples include the sliding bridge staging on I-44, intelligent work zone messages to drivers and intelligent compaction.



Number of innovative solutions implemented for maintenance operations-8e

Result Driver: Dave Ahlvers, State Construction & Materials Engineer

Measurement Driver: Mike Shea, Maintenance Liaison Engineer

Purpose of the Measure:

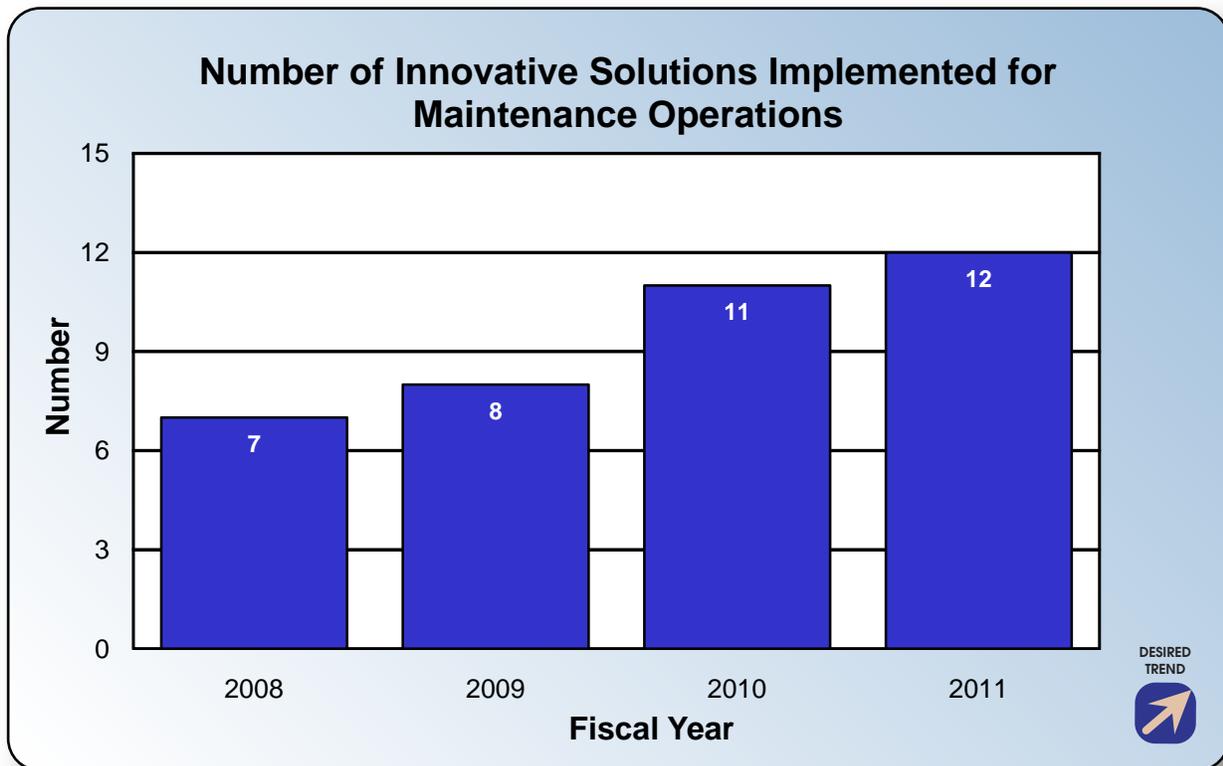
This measure tracks the number of innovative solutions implemented for maintenance operations. Best practices show how MoDOT employees are applying innovation to improve daily operations.

Measurement and Data Collection:

Innovative solutions are identified and shared with district managers through the Solutions at Work program, the Innovation Challenge, research projects and benchmarking with other organizations. Districts track the implementation status of the innovations in their area. This is an annual measure reported in July.

Improvement Status:

During fiscal year 2011 a total of 12 innovative solutions were identified and shared for district maintenance operations. Half of those solutions (six) came from the Innovations Challenge statewide winners. Another three innovations identified were non-winning entries in the challenge. The Innovations Challenge focused on the six emphasis areas for maintenance in MoDOT's Five-Year Direction.



Number of innovative revisions and dollars saved-8f

Result Driver: Dave Ahlvers, State Construction & Materials Engineer

Measurement Driver: Joe Jones, Engineering Policy Administrator

Purpose of the Measure:

This measure tracks the number of innovative engineering policy revisions to MoDOT's *Engineering Policy Guide*, *Missouri Standard Specifications for Highway Construction* and the *Missouri Standard Plans for Highway Construction* and the dollars saved. Policies and standards are a necessary part of highway construction; without them, there would be no way to ensure quality in the product MoDOT delivers to the public. The standards and policies should be practical in nature, that is to say they shouldn't be overly prescriptive and should have a positive fiscal impact (represent money saved). It is important to remember that the philosophy of Practical Design is not limited to the Design Division. Vigilance against inflated standards is an excellent way to help this value take hold throughout the entire department. This measure tracks the number of innovative cost control measures implemented during the design stage of projects.

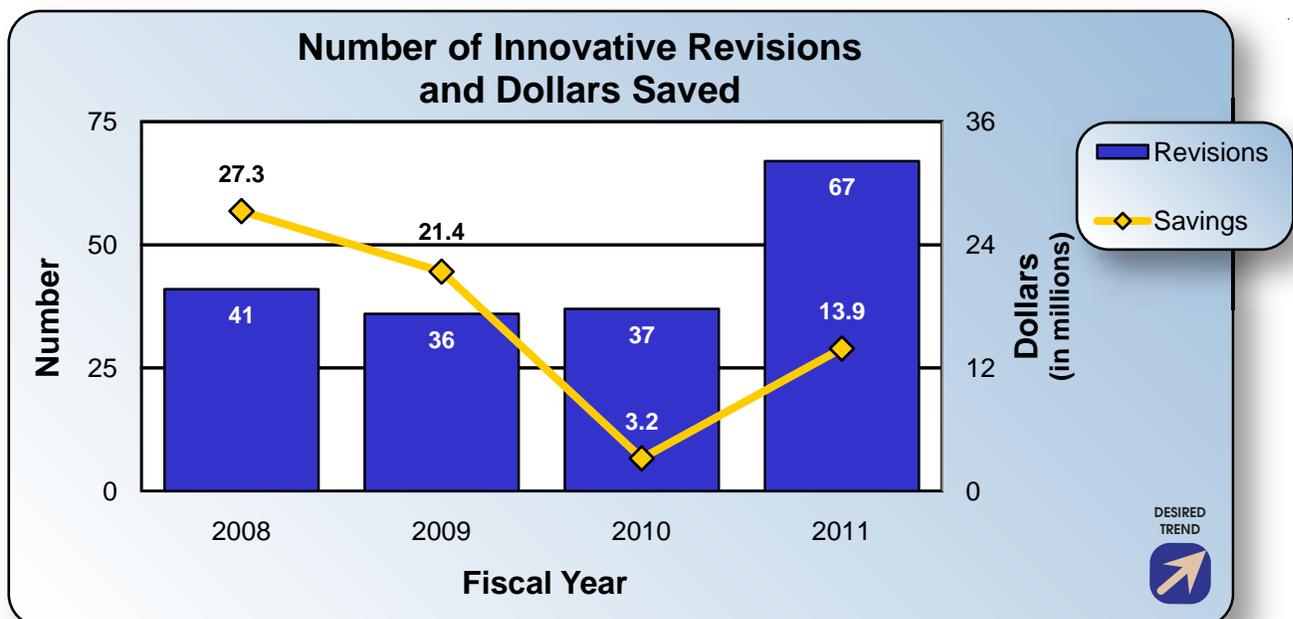
Measurement and Data Collection:

The staff responsible for coordinating the standards revisions collects the data. Measurement is based

upon the fiscal impact reported with each bi-monthly engineering policy ballot. The fiscal impact per unit is multiplied by the total number of units of the particular bid item that were used in the previous year. For example, an anticipated savings for reducing guardrail posts from 9 feet to 7 feet was estimated at \$1.53 per linear foot of guardrail. With 258,102 linear feet of type A guardrail installed the previous year, the estimated savings would be \$394,896. This is an annual measure reported in July.

Improvement Status:

Success in this measure is defined as a positive savings of any amount. Improvement would be a larger savings, but since that is based entirely on the number of revisions being proposed by outside sources, it is beyond the control of the Engineering Policy Group. The fiscal impacts reported for FY11 represent a positive value (savings) of \$13.9 million. Three of MoDOT's five practical operations efforts account for \$9.8 million of the total savings. The remaining \$4.1 million savings clearly demonstrate that standards, in aggregate, are not resulting in higher costs to MoDOT.



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