# Innovative Transportation Solutions

*Tangible Result Driver – Mara Campbell, Organizational Results Director*

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:** Mara Campbell, Organizational Results Director
**Measurement Driver:** Rebecca Geyer, 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 towards 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.

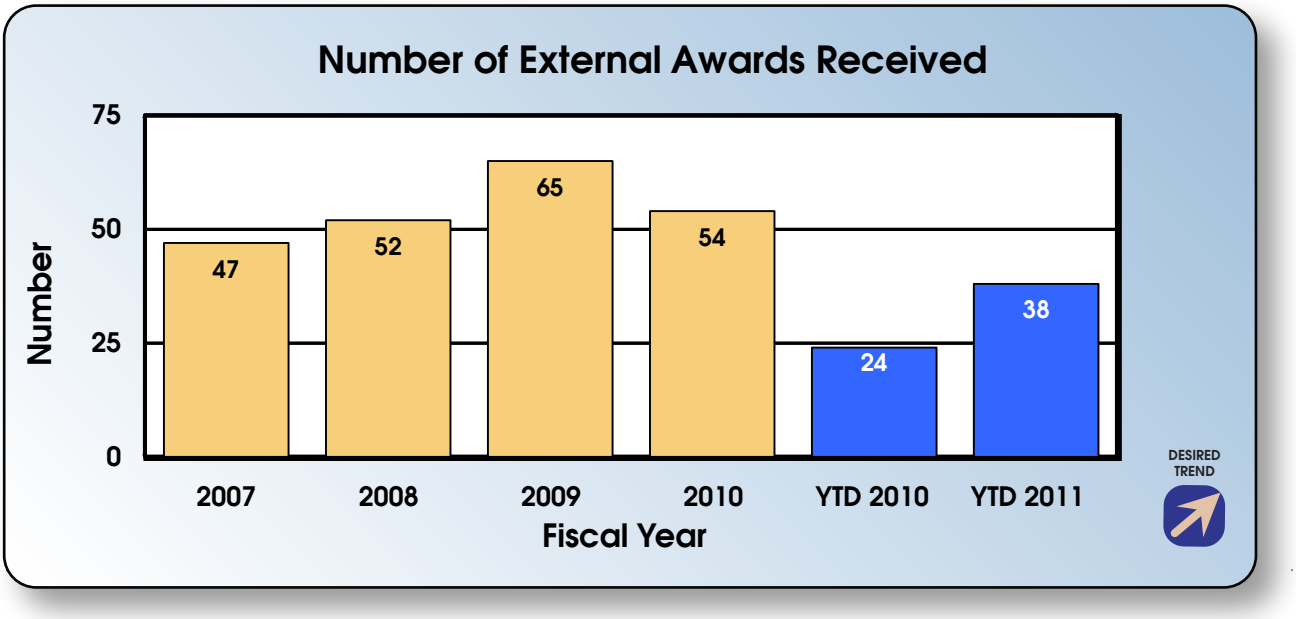
## Improvement Status:

In the second quarter of fiscal year 2011, MoDOT received 19 awards. This brings the total awards received this fiscal year to 38.

This quarter, MoDOT was recognized for excellence in a wide variety of areas including: operations, administration and communication. Most notably, the New I-64 was recognized as the 2010 America's Transportation Award Grand Prize Winner as well as the 2010 Best Project by the Design-Build Institute of America – Mid-America Region. Additionally, the Diverging Diamond Interchange in District 8 has been awarded the AASHTO 2010 Francis B. Francois Award for innovation.

MoDOT is also honored to have two teams selected as 2010 Governor's Award for Quality and Productivity winners. The MoDOT Commercial Motor Vehicle Customer Service team was recognized as winners of the Customer Service category. The Diverging Diamond Interchange team was identified as the winners of the Pinnacle Award, which is given to the overall winner.

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:** Mara Campbell, Organizational Results Director
**Measurement Driver:** Bill Stone, Organizational Performance Administrator

## Purpose of the Measure:

The number of reports published is an indication of how well Organizational Results 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.

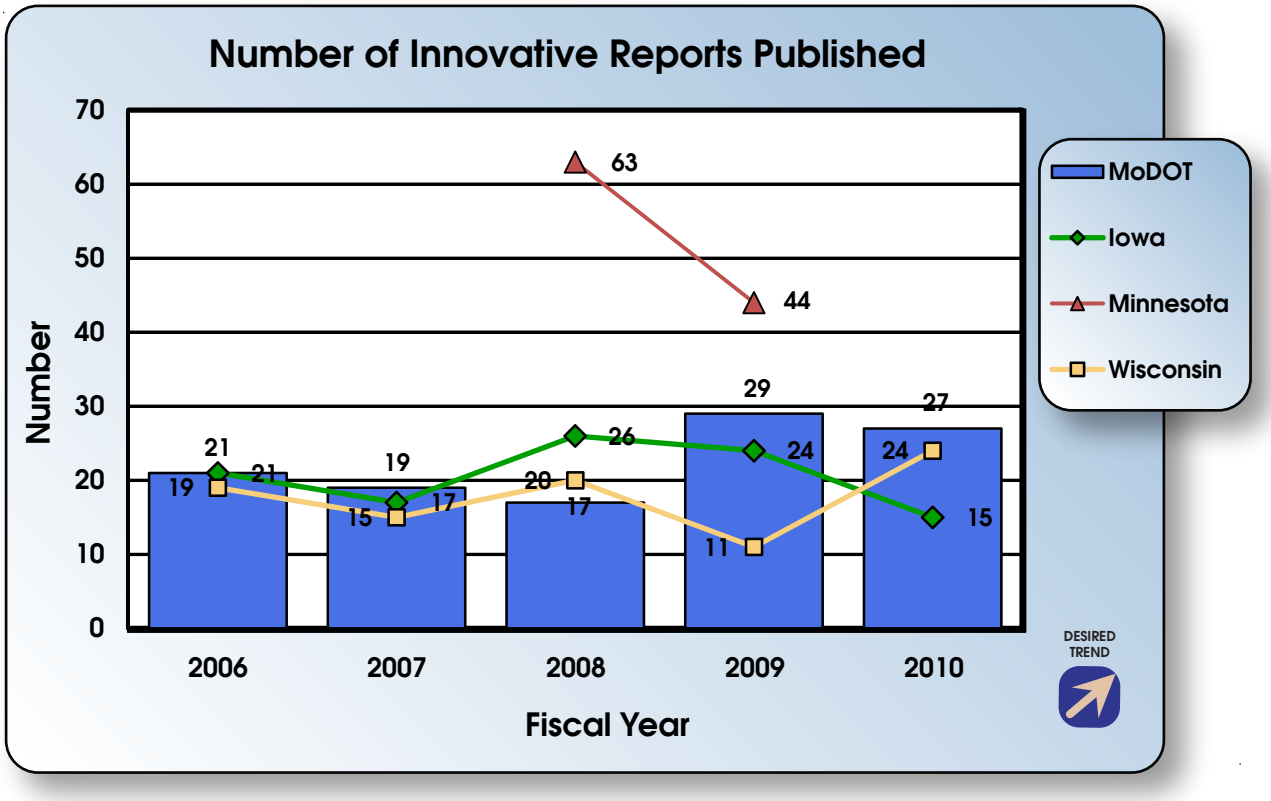
## Measurement and Data Collection:

Organizational Results staff maintains a research publications spreadsheet that is updated as research is published. 'Published' is defined as a research document printed or electronically prepared for distribution. Staff summaries, bulletins, and research updates are not included in this count. 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.

## Improvement Status:

During fiscal year 2010, a total of 27 innovative reports were published. This is only two less than the all-time high of 29 in 2009. The higher totals for the past two years are the result of increased communication efforts for innovative solutions.

For fiscal year 2009, the benchmark states allocated different amounts to research: Minnesota - $6,227,990; Iowa - $2,959,388; Wisconsin - $1,606,918; in comparison to Missouri's $3,319,747.



# Number of new product evaluations completed and approved for use-8c

**Result Driver:** Mara Campbell, Organizational Results Director
**Measurement Driver:** Jen Harper, Organizational Performance Engineer

## Purpose of the Measure:

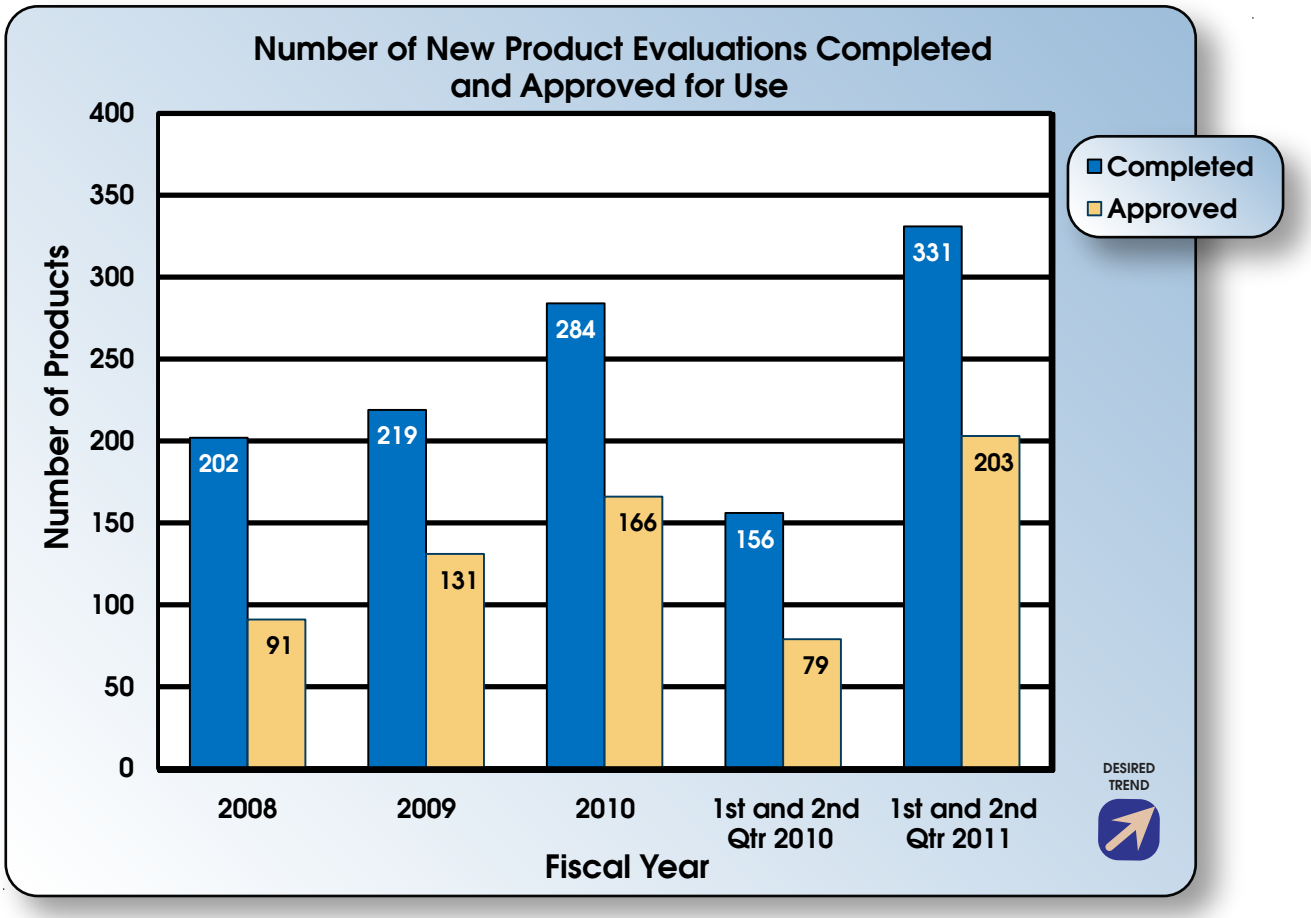
This measure tracks the number of new products evaluated and approved for use. This data is used to help determine if MoDOT is continuing to review new and innovative products.

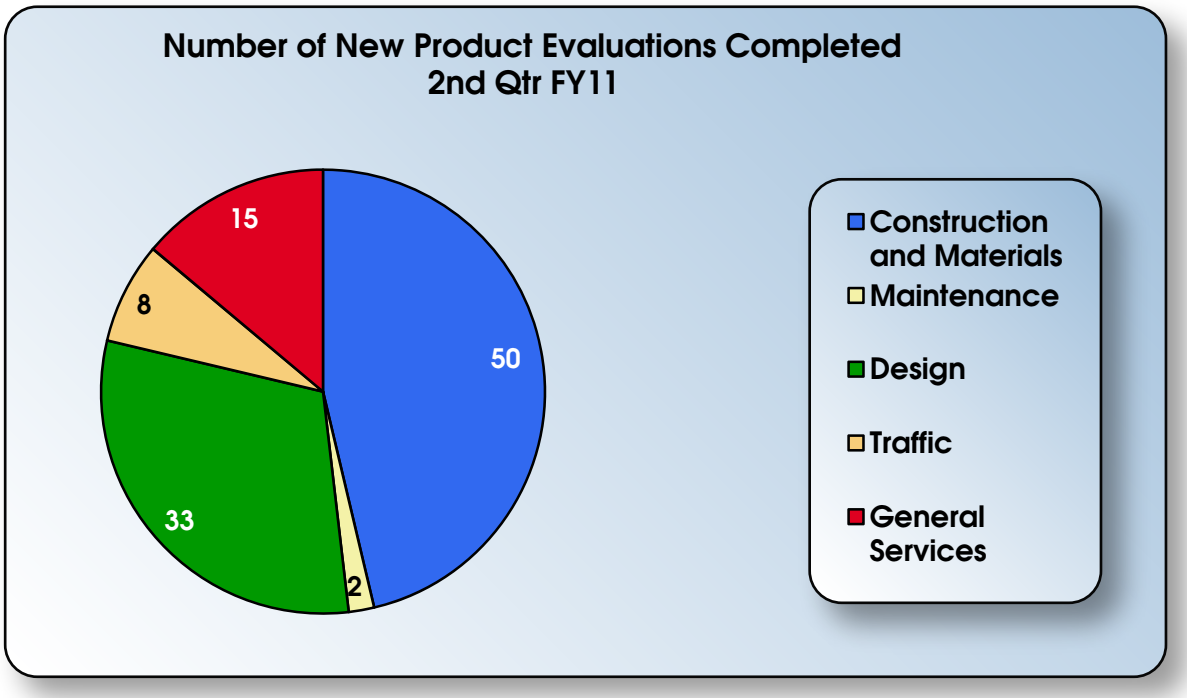
## Measurement and Data Collection:

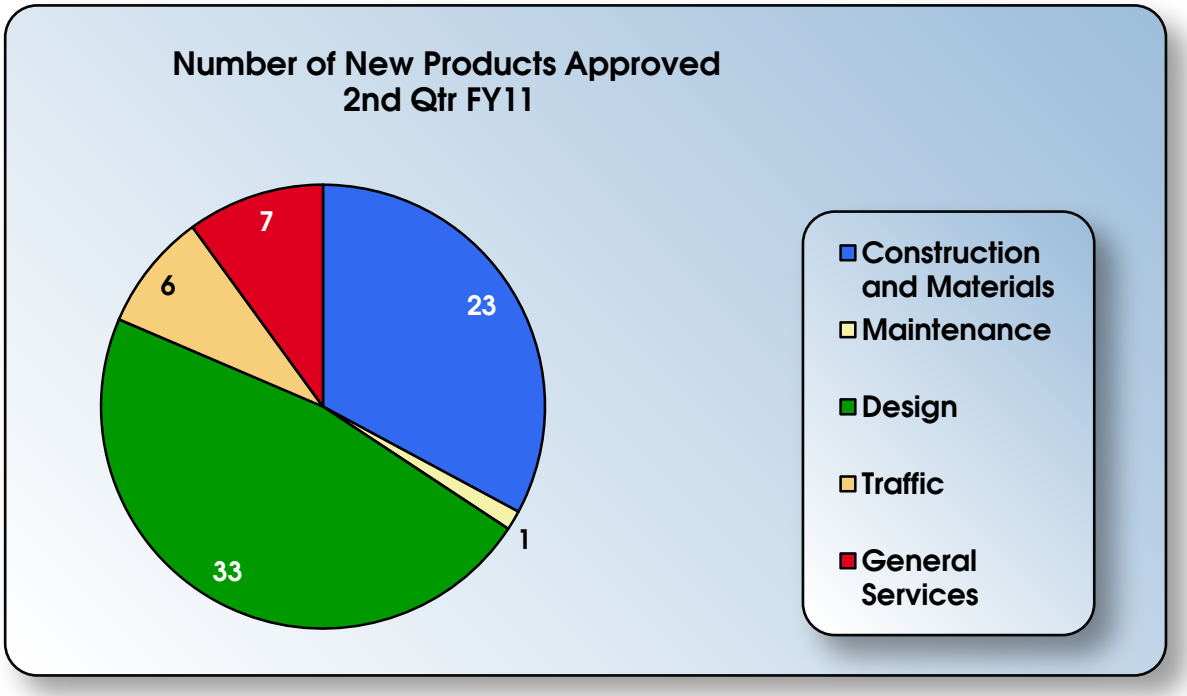
All new products considered for use on MoDOT projects or by MoDOT personnel are submitted for evaluation by the Organizational Results Unit. Each new product received is assigned a number and tracked in a database. The time necessary to process a new product evaluation varies with each product depending 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 trend for the increasing number of new products has continued into the second quarter of fiscal year 2011. The increase is attributed to both continuous improvements to the new products process as well as working with more divisions. There was a large increase this quarter in the number of environmentally friendly cleaning and erosion control products evaluated through the new product process. One notable product approved this quarter is the Dent Breakaway bolts for sign posts. The base price is considerably cheaper, approximately one-third the cost, and they are also significantly easier and cheaper to fix when they have been damaged.




Number of New Product Evaluations Completed
2nd Qtr FY11
15
8
50
33
2
Construction and Materials
Maintenance
Design
Traffic
General Services


Number of New Products Approved
2nd Qtr FY11
7
6
23
1
33
Construction and Materials
Maintenance
Design
Traffic
General Services

# Number of innovative technologies implemented in Program Delivery-8d

**Result Driver:** Mara Campbell, Organizational Results Director
**Measurement Driver:** Travis Koestner, Assistant State Construction and Materials Engineer

## Purpose of the Measure:

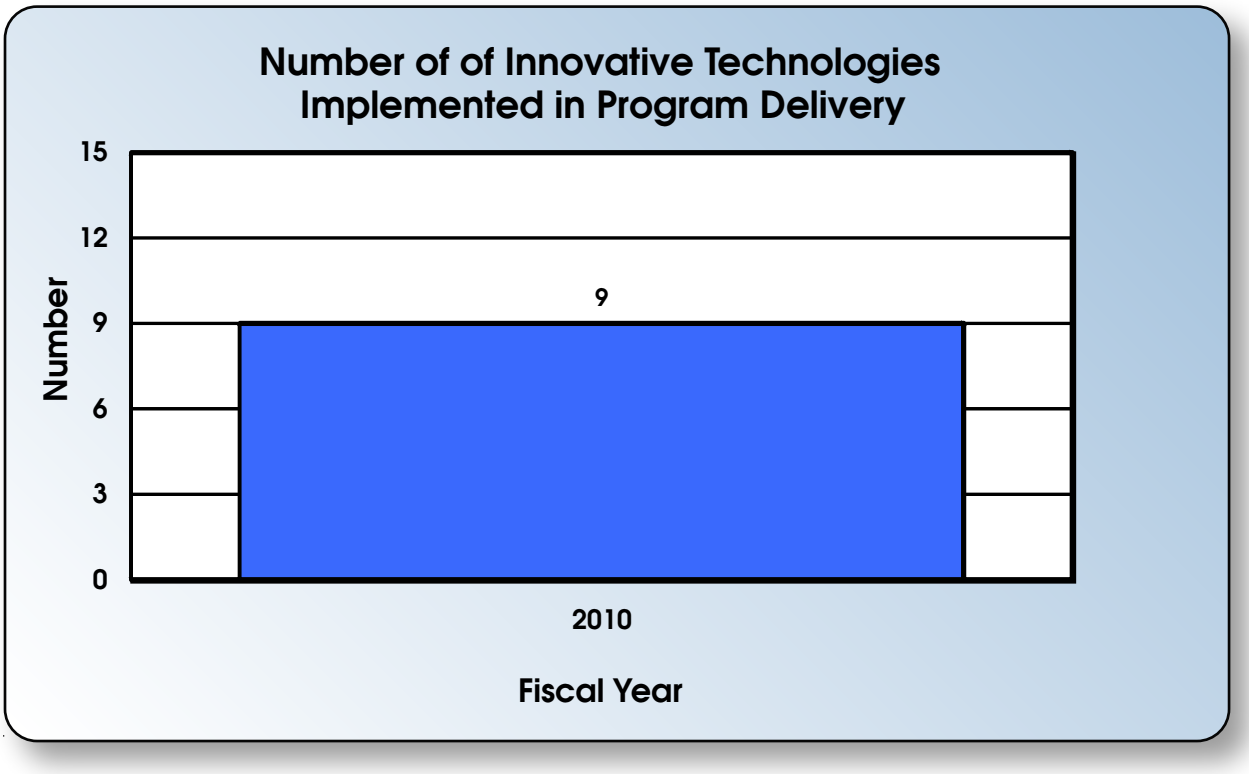
This measure tracks the number of innovative technologies implemented during construction of projects.

## 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 Offices, Organizational Results projects and Construction and Materials Division. This is an annual measure reported in July.

## Improvement Status:

MoDOT encourages contractors to present innovative techniques that can increase the efficiency of projects and save taxpayers money. Several of the innovative practices such as project wide quality control/quality assurance and bobsled techniques for concrete joints were initiated by MoDOT and presented to the industry for use on projects. Contractor initiated items include Tire Rubber Surface Sealer using recycled tires and a unique interchange configuration for a value engineering concept on the I-270/Dorsett Interchange. There are several techniques in the planning stages at this time that will be counted once the construction actually takes place. Examples include self-cleaning concrete, dynamic compaction and various pavement treatment combinations.



# Number of innovative solutions implemented for maintenance operations-8e

**Result Driver:** Mara Campbell, Organizational Results Director
**Measurement Driver:** Tim Chojnacki, Maintenance Liaison Engineer

## Purpose of the Measure:

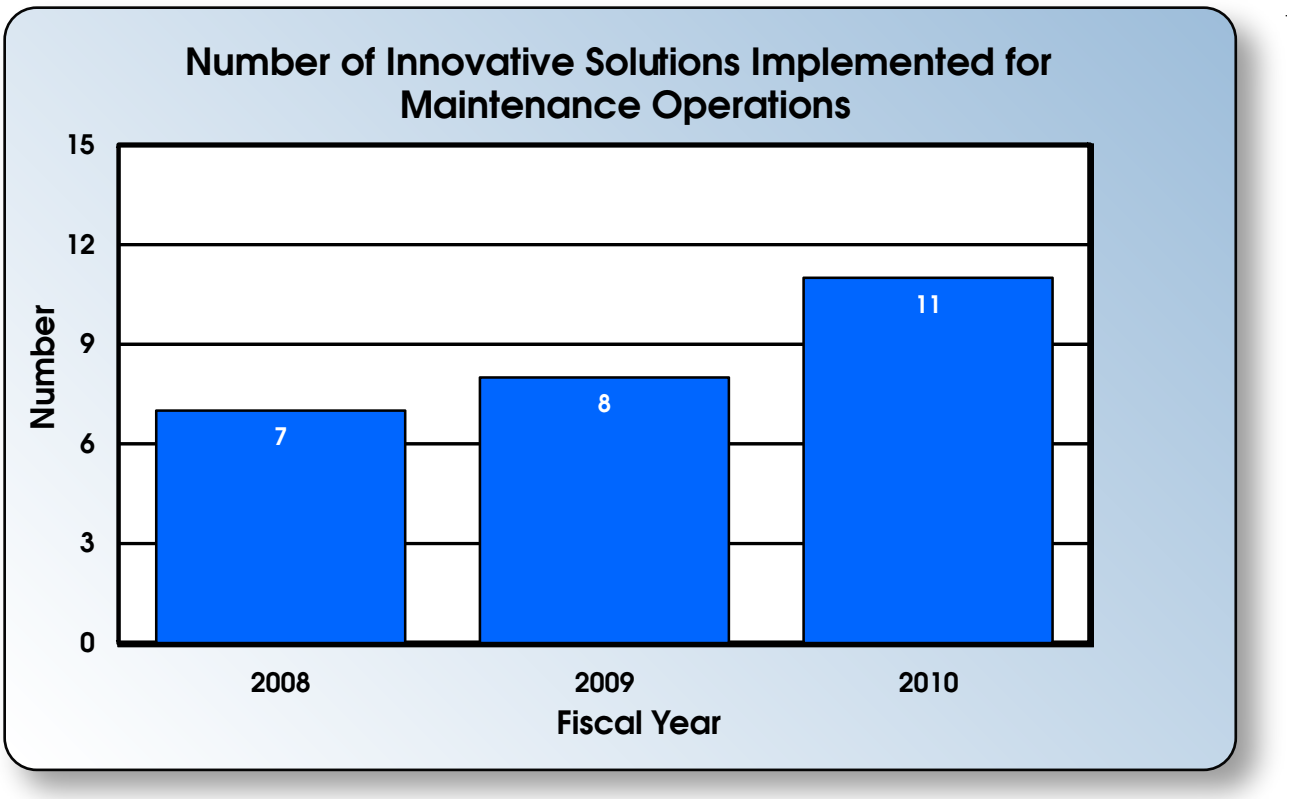
This measure tracks the number of innovative solutions implemented for maintenance operations. Best practices show how MoDOT employees are applying innovation to improve daily operations.

## 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. The Maintenance Division conducts an annual survey to assess the number of innovative solutions implemented in district operations. This is an annual measure reported in July.

## Improvement Status:

During fiscal year 2010 a total of 11 innovative solutions were identified and shared for district maintenance operations. The majority of those solutions (six) came from the Tool and Equipment Challenge statewide winners. Another two innovations identified were non-winning entries in the challenge. The former Tool and Equipment Challenge, now the Innovations Challenge has been expanded to focus on the six emphasis areas for maintenance in MoDOT's five-year direction.



# Number of innovative revisions and dollars saved-8f

**Result Driver:** Mara Campbell, Organizational Results Director
**Measurement Driver:** Joe Jones, Engineering Policy Administrator

## Purpose of the Measure:

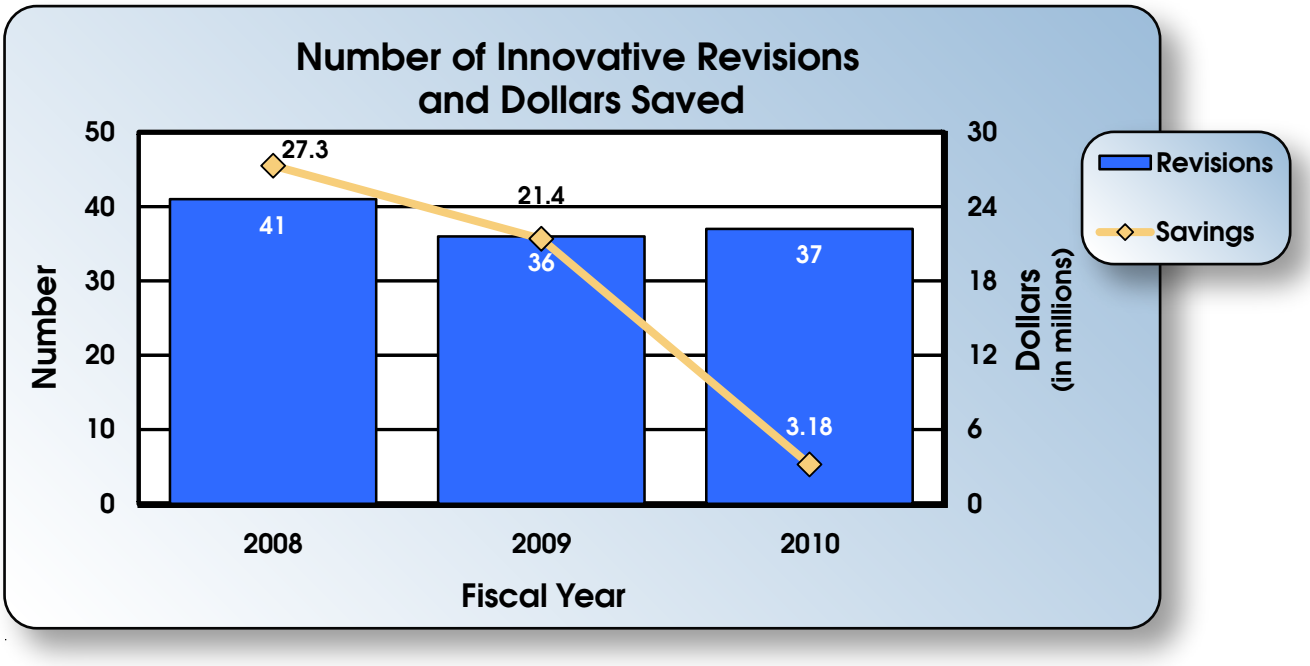
This measure tracks the number of innovative engineering policy revisions to MoDOT's *Engineering Policy Guide*, *Missouri Standard Specifications for Highway Construction* and the *Missouri Standard Plans for Highway Construction* and the dollars saved. Policies and standards are a necessary part of 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 FY10 represent a positive fiscal impact (savings) of $3.18 million. While this savings is substantially lower than those reported in years closer to the inception of practical design, a $3.18 million dollar savings clearly shows that standards, in aggregate, are not resulting in higher costs to MoDOT.



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