



# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

*David Silvester, District Engineer*

**Tracker**

MEASURES OF DEPARTMENTAL PERFORMANCE



MoDOT customers expect transportation solutions delivered on time and within budget. We manage our projects to get them completed quickly and at the best possible value. We work with our transportation partners to leverage innovation in improving our products and how we work. We pledge to honor our commitments and deliver the best, most cost-effective solutions.

RESULT DRIVER:  
David Silvester,  
District Engineer

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MEASUREMENT DRIVER:  
Renate Wilkinson,  
Planning and Programming Engineer

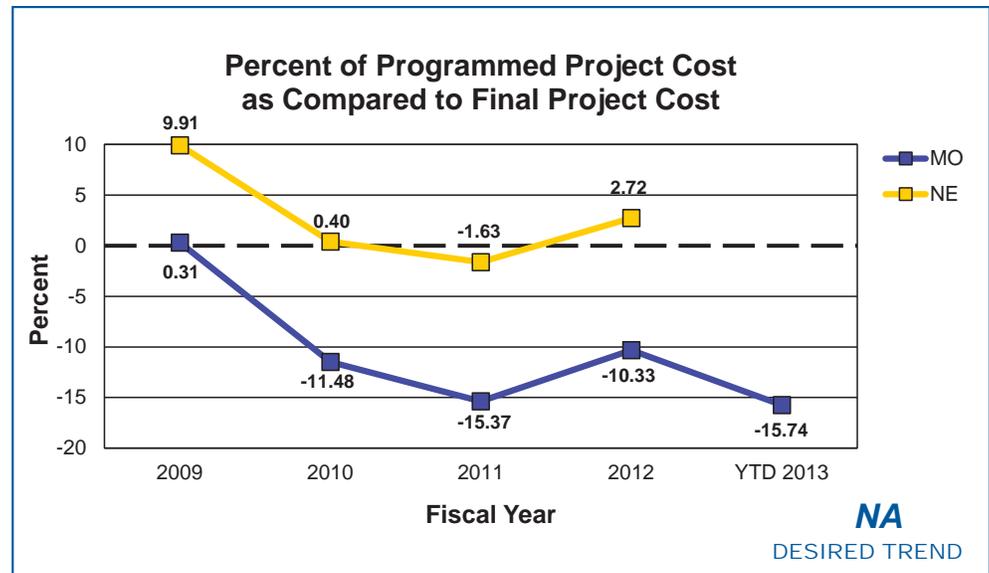
PURPOSE OF THE MEASURE:  
This measure determines how close total project completion costs are to the programmed costs. The programmed cost is considered the project budget.

MEASUREMENT AND DATA COLLECTION:  
The completed project costs are reported during the fiscal year in which the project is completed. Positive numbers indicate the final (completed) cost was higher than the programmed cost. Project costs include design, right of way purchases, utilities, construction, inspection and other miscellaneous costs. For MoDOT projects, the programmed cost is based on the amount included in the most recently approved Statewide Transportation Improvement Program. Completed costs include actual expenditures.

## Percent of programmed project cost as compared to final project cost-4a

With static transportation funding and increasing costs, the focus on accurate program cost estimates becomes increasingly important. The good news is MoDOT is getting great bids on its projects. As of March 31, 2013, a total of 482 projects were completed at a cost of \$835 million – 16 percent or \$156 million less than the programmed cost of \$990 million. Of the projects completed, 72 percent were completed within or below budget.

MoDOT district construction budgets are adjusted based on variation from programmed costs. The ideal status varies, depending upon the year the project is programmed. Projects prior to fiscal year 2011 have a desired trend of 0 percent. That desired trend does not apply to projects programmed in FY 2011 and beyond, as anticipated award savings were incorporated into the programming process to account for the recent competitive bidding environment. For projects completed in the five-year period from 2008 to 2012, final costs of \$6.025 billion were within -7.32 percent of programmed costs, or \$476 million less than the programmed cost of \$6.501 billion.



Positive numbers indicate the final (completed) cost was higher than the programmed cost. Comparative data is from Nebraska Department of Roads, one-year schedule of highway improvement projects.

**RESULT DRIVER:**  
David Silvester,  
District Engineer

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**MEASUREMENT DRIVER:**  
Jay Bestgen, Assistant State Construction and Materials Engineer

**PURPOSE OF THE MEASURE:**  
This measure tracks the percentage of projects completed by the commitment date established in the contract. This measure evaluates MoDOT, local public agency and modal projects-rail, aviation, waterway and transit.

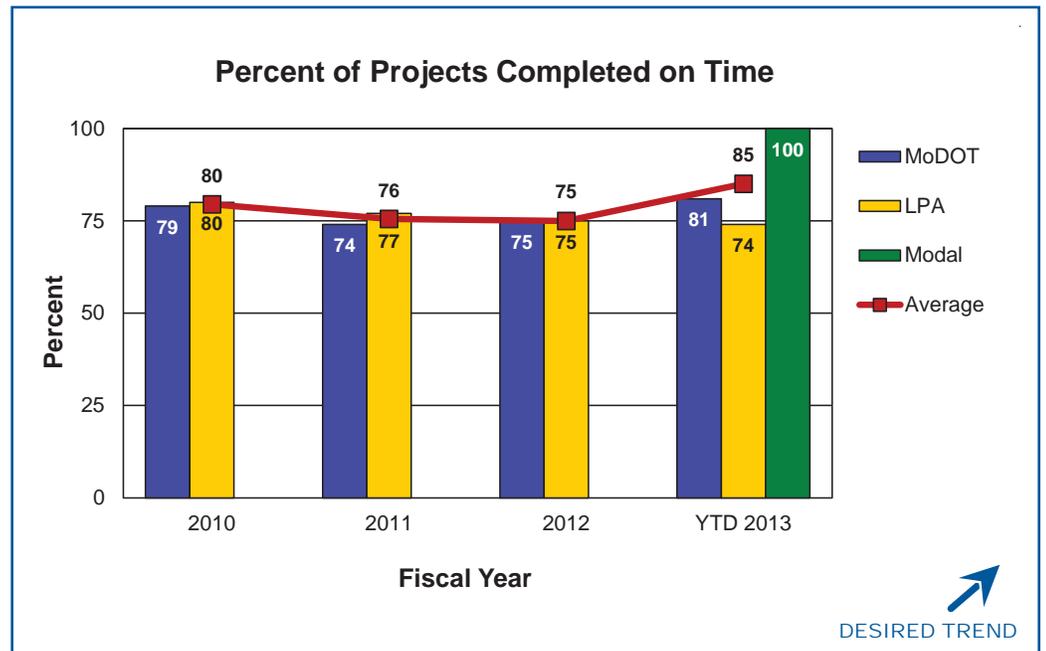
**MEASUREMENT AND DATA COLLECTION:**  
For MoDOT projects, the project manager collaborates with the project team to establish the project completion date and the resident engineers use the SiteManager system to track and document the work. Local public agencies and modal agencies use staff or consultant resources to set contract completion dates and track performance.

## Percent of projects completed on time-4b

Customers expect and deserve to use transportation improvements quickly and it is important to deliver improvements on time. Delivering projects by the contract completion date is the target for all projects. However, sometimes it is necessary to extend the completion date due to increased work or unusual weather. There also are times when a contractor misses the project completion date. So far in fiscal year 2013, 85 percent of the projects have been completed on or ahead of schedule.

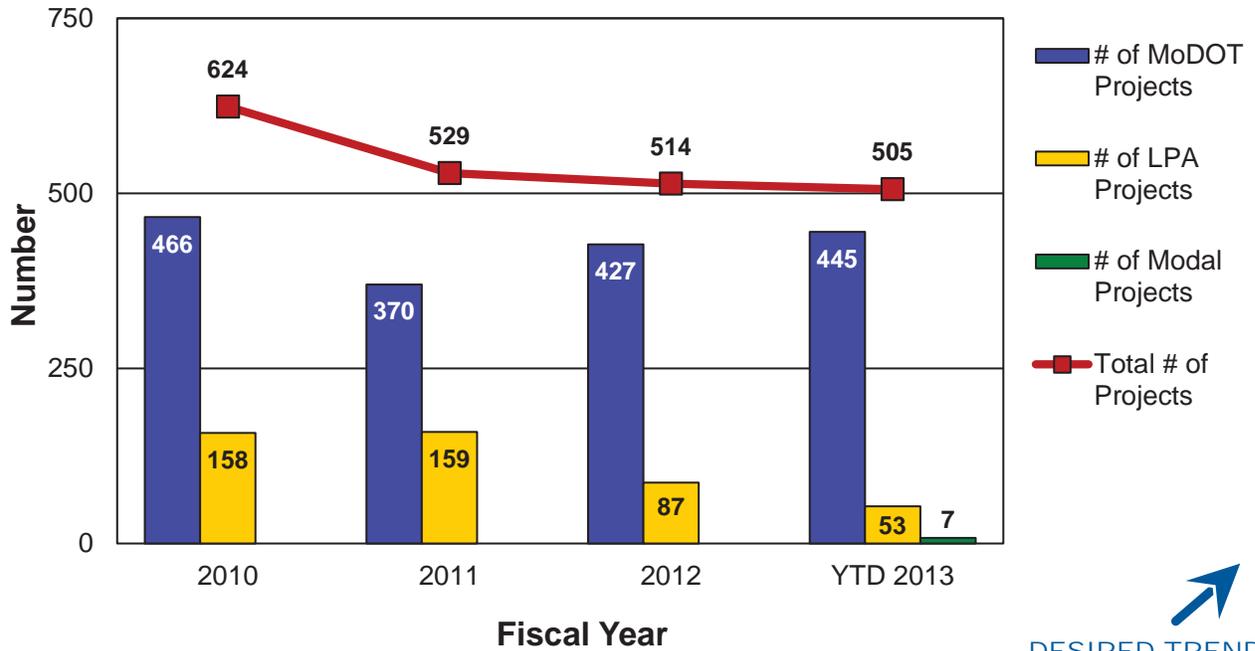
MoDOT works to meet the original completion date by:

- Preparing accurate plans and quantities,
- Setting aggressive, but reasonable completion dates,
- Setting liquidated damages that reinforce completion date without undue bid risks,
- Discussing potential completion times with industry before setting, and
- Negotiating with contractor to maintain schedule.

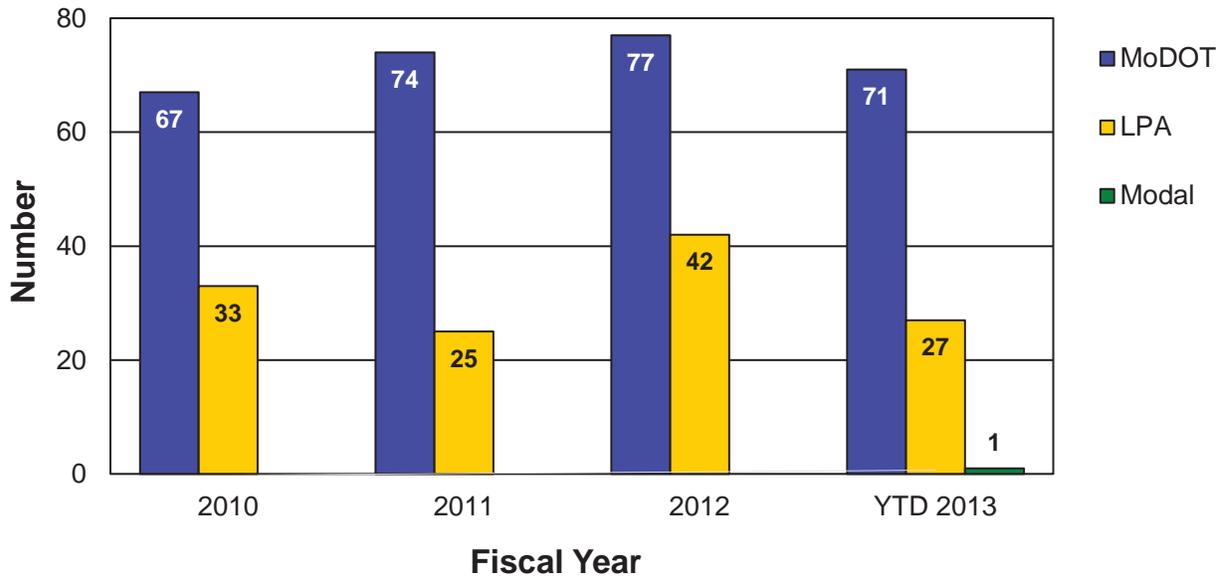


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## Total Number of Projects Completed



## Average Number of Days Completed Before Original Date



**RESULT DRIVER:**  
David Silvester,  
District Engineer

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**MEASUREMENT DRIVER:**  
Jeremy Kampeter,  
Construction Management  
Systems Administrator

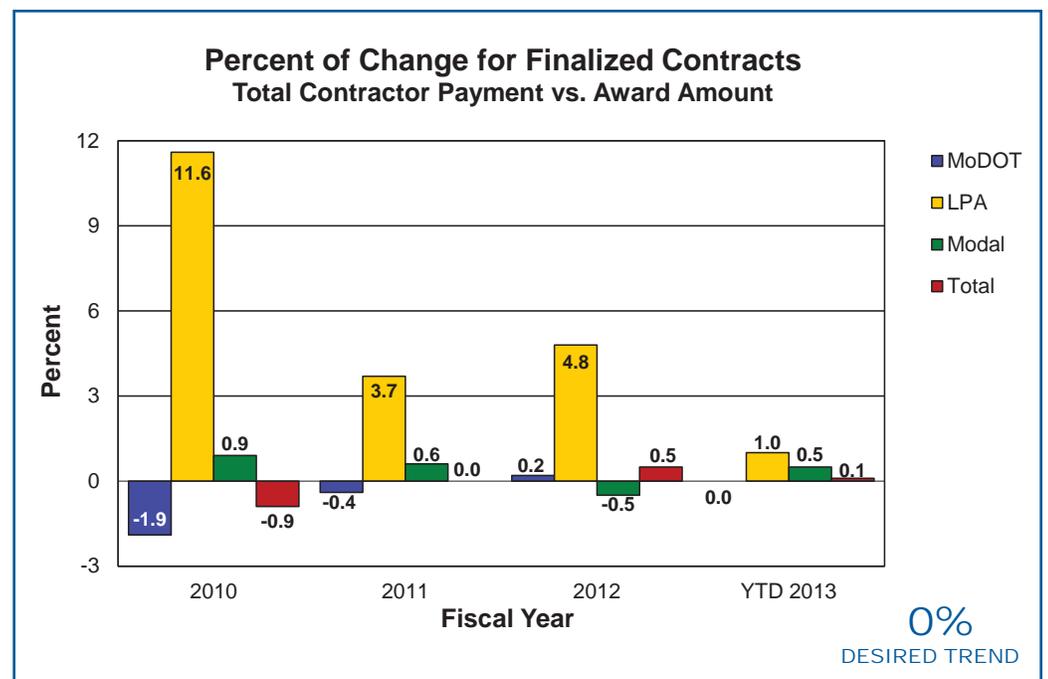
**PURPOSE OF THE MEASURE:**  
This measure tracks the percentage difference of total construction payouts to the original contract award amounts. This indicates how many changes are made on projects after they are awarded to the contractor. This measure evaluates MoDOT, local public agency and modal projects- rail, aviation, waterway and transit.

**MEASUREMENT AND DATA COLLECTION:**  
For MoDOT projects, contractor payments are generated through MoDOT's SiteManager database and processed in the financial management system for payment. Change orders document the under-run/overrun of the original contract cost. Local public agencies and modal agencies use staff or consultant resources to set contract completion dates and track performance.

## Percent of change for finalized contracts-4c

By limiting overruns on contracts, MoDOT can deliver more projects, leading to an overall improvement of the entire highway system. Placing a strong emphasis on constructing projects within budget and the use of practical design and value engineering has contributed to limiting overruns on contracts. MoDOT's performance in the first three quarters of fiscal year 2013 was 0.1 percent. This shows that projects worth a total of \$716 million were completed \$0.4 million above the award amount. Many factors can affect the ability to complete a project within 2 percent of the award amount.

With static transportation funding and increasing costs, MoDOT's focus on keeping final project costs within award amounts is more important than ever.



RESULT DRIVER:  
David Silvester,  
District Engineer

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MEASUREMENT  
DRIVER:  
Angela Fuerst,  
Transportation Project  
Manager

PURPOSE OF  
THE MEASURE:  
This measure tracks the  
use of innovative con-  
tracting methods used on  
MoDOT projects including:

- Incentive/Disincentive  
Contracts,
- A + B Bidding,
- Add Alternate Contracts,
- Alternate Technical  
Concepts, and
- Design-Build

MEASUREMENT  
AND DATA  
COLLECTION:  
The data collection method  
and process for this mea-  
sure is under development.

### *Innovative contracting methods-4d*

Innovative contracting provides the ability to accelerate project delivery, reduce cost, improve quality and reduce impacts to the traveling public.



**RESULT DRIVER:**  
David Silvester,  
District Engineer

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**MEASUREMENT DRIVER:**  
Natalie Roark,  
Bidding and Contract Services Engineer

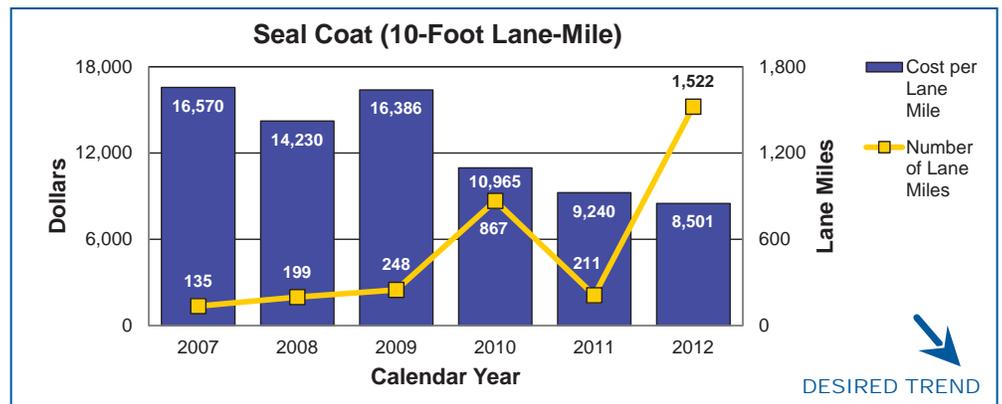
**PURPOSE OF THE MEASURE:**  
The purpose of this measure is to gain an understanding of the costs to construct a variety of common highway and bridge construction projects.

**MEASUREMENT AND DATA COLLECTION:**  
This measure includes the costs for equipment, labor and fringe benefits and materials necessary to construct a project. Data is obtained from the history of prices received from MoDOT bid openings. Costs for seal coat and minor road one-inch asphalt resurfacing include the pavement, traffic control and temporary pavement marking. Costs for major highway and interstate asphalt resurfacing include the pavement, traffic control, permanent pavement marking, rumble strips, pavement repair, guardrail and signing. New two-lane and four-lane construction costs include grading, drainage, pavement, bridge and all incidental costs. The average cost per square-foot of bridge is tabulated and applied to the area of the average bridge on the state system to simplify comparison.

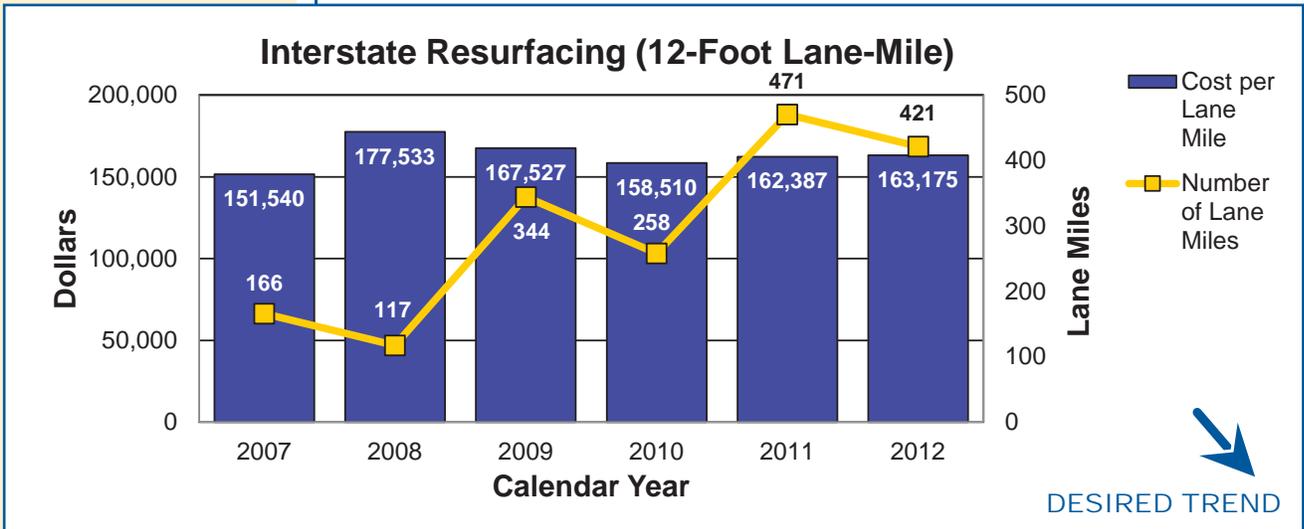
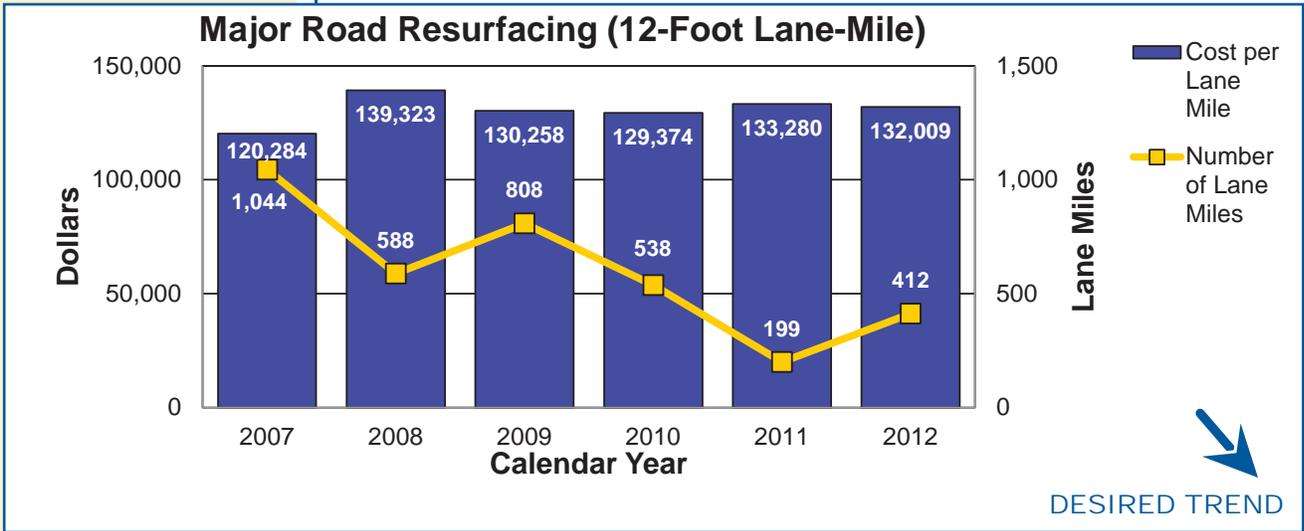
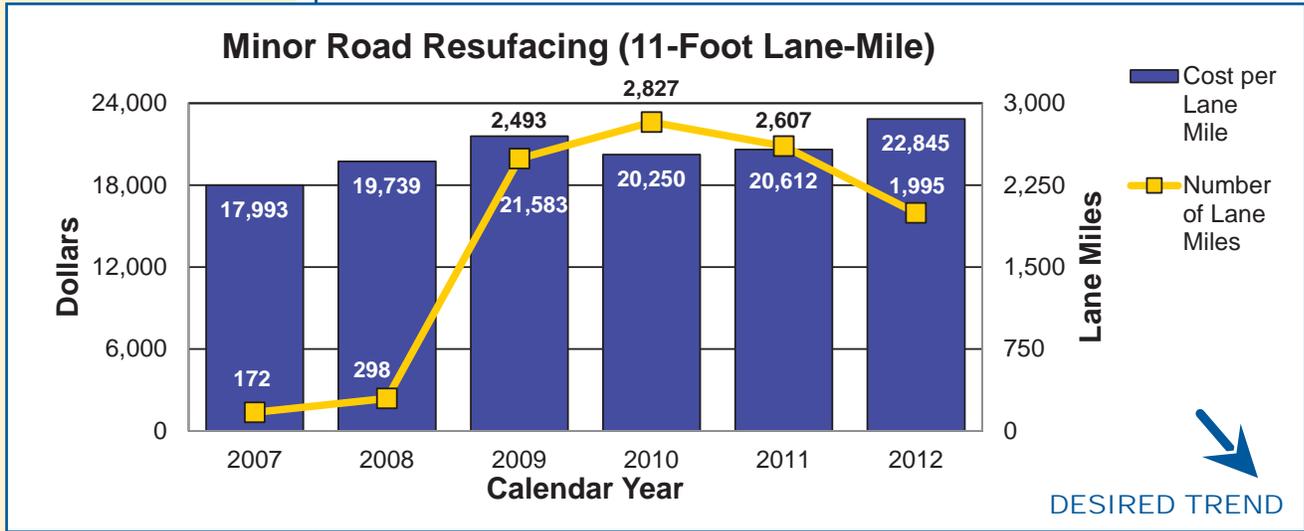
## Average lane-mile and highway and bridge construction costs-4e

A great many factors affect the cost of road and bridge projects, some that can be managed by MoDOT and others that are affected by the economy. For example, minor road asphalt resurfacing costs have increased in recent years due to a combination of increased fuel, oil and material costs. Overall, asphalt resurfacing costs on major highways and interstates have remained relatively stable largely due to increased use of recycled material and increased competition.

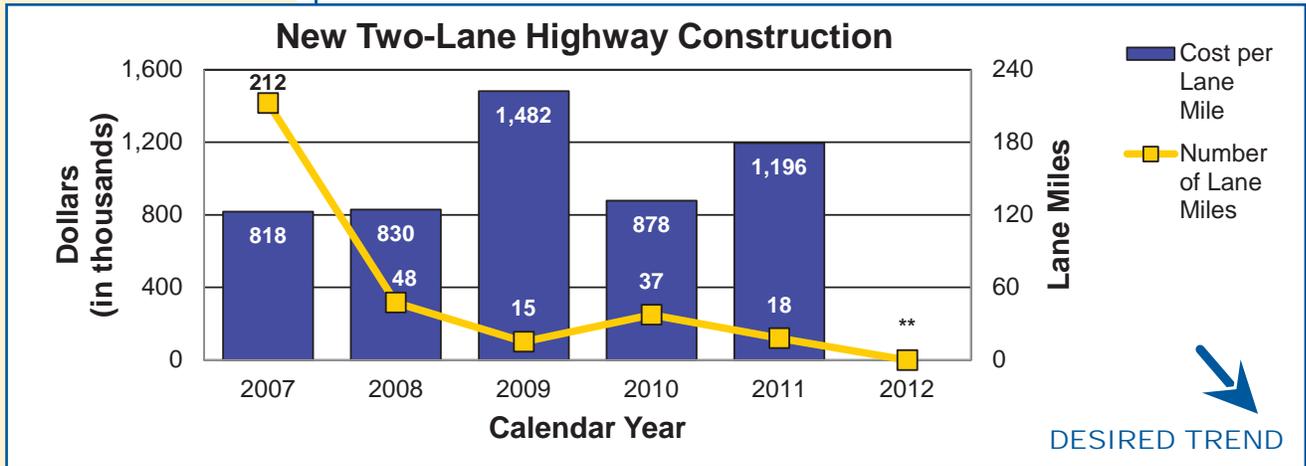
The good news is MoDOT is benefiting from more competition for its contracted projects. Less work in cities, counties and surrounding states and a shift in contractors to highway construction resulted in increased competition. Although equipment, material and labor costs increased due to the economic downturn, MoDOT experienced only a slight increase in overall construction costs. With MoDOT's construction program having dropped by about half, contractors are aggressively bidding on all types of projects with even more competition being seen on the limited number of complex two- and four-lane projects. MoDOT also allows flexibility and encourages innovation for the contractor and strategically schedules its bid openings to spread out the amount of work and financial obligation for the bidders.



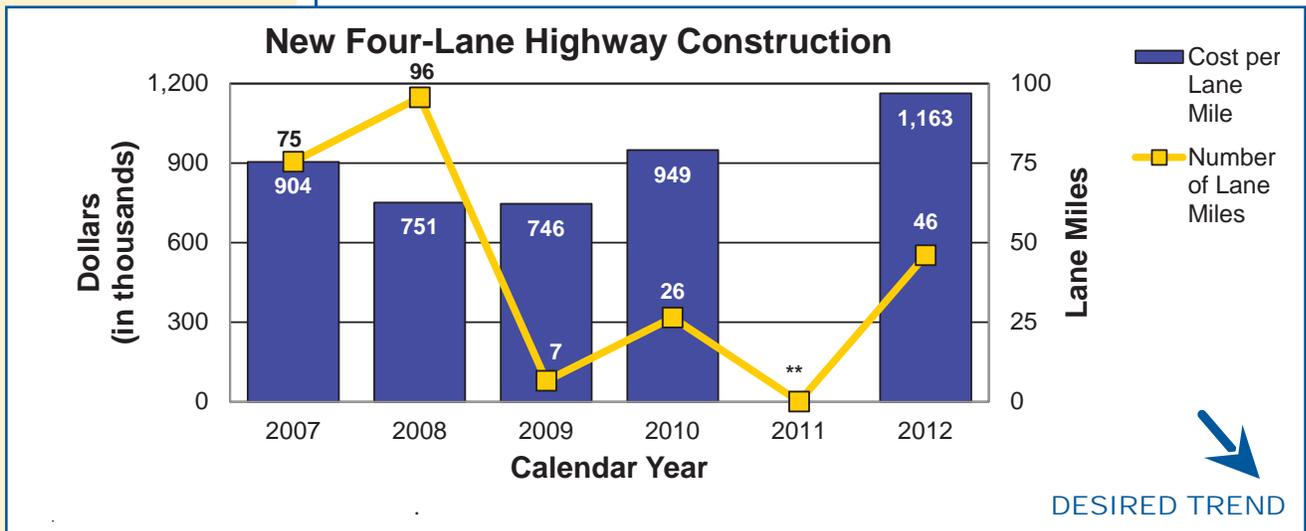
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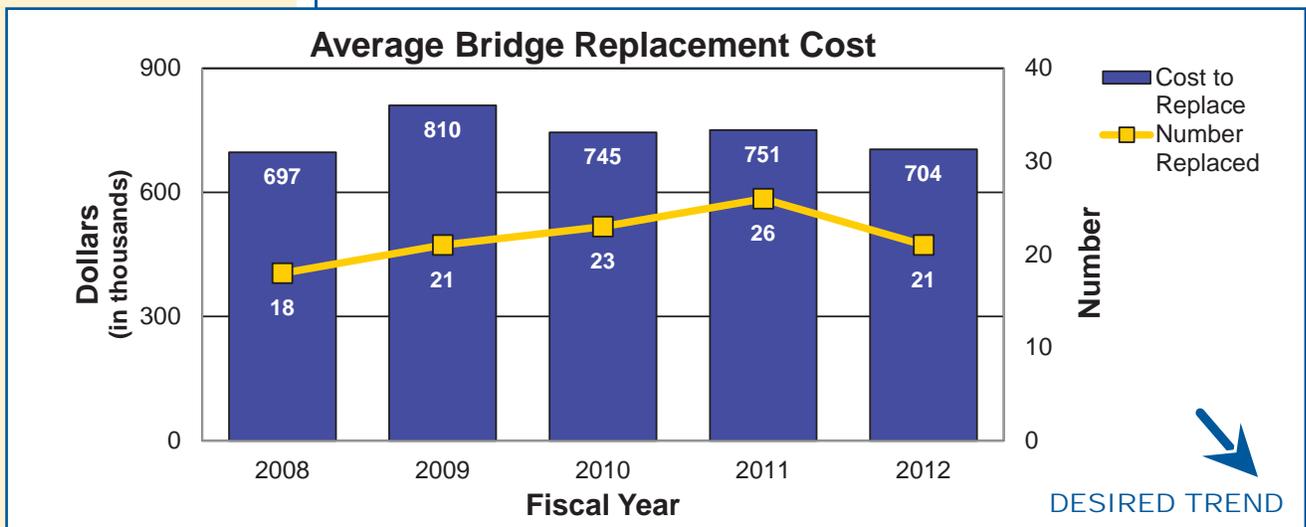
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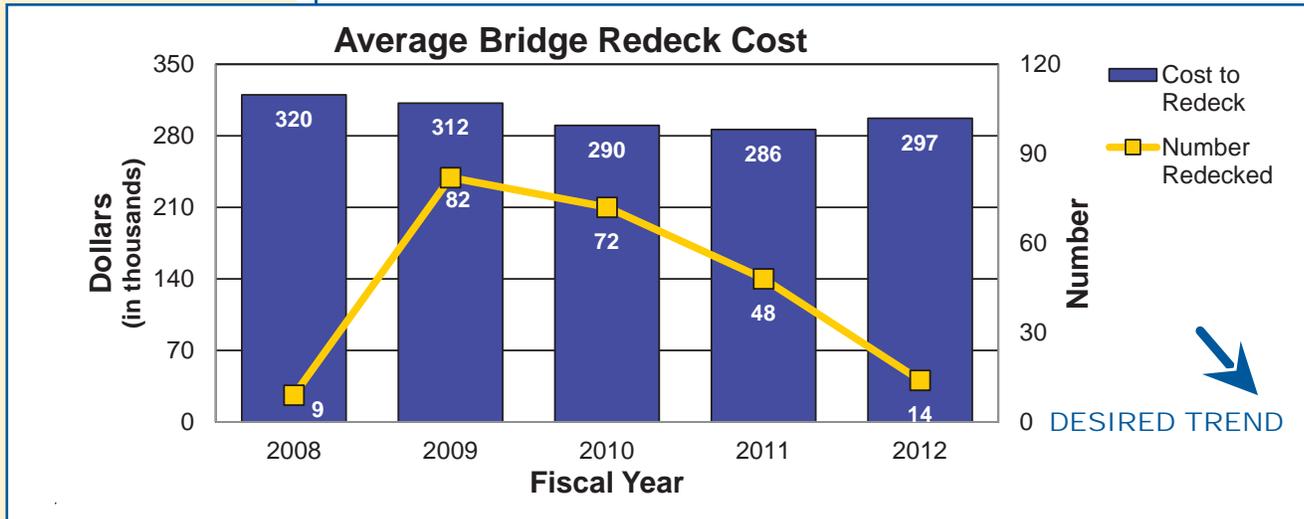
\*\* No two-lane projects bid in 2012.



\*\* No four-lane projects bid in 2011.



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