



# FAST PROJECTS THAT ARE OF GREAT VALUE

*Tangible Result Driver – Dave Nichols, Chief Engineer*

MoDOT customers expect that transportation projects be completed quickly and provide major improvements for travelers. MoDOT will honor project commitments because it believes in integrity.



### Percent of programmed project cost as compared to final project cost-9a

**Result Driver:** Dave Nichols, Chief Engineer

**Measurement Driver:** Renate Wilkinson, Planning and Programming Engineer

#### Purpose of the Measure:

This measure determines how close MoDOT's total project completion costs are to the programmed costs. The programmed cost is considered the project budget.

#### Measurement and Data Collection:

MoDOT determines the completed project costs and compares them to the programmed costs. The completed project costs are reported during the fiscal year in which the project is completed. This measure is updated each quarter.

Project costs include design, right of way purchases, utilities, construction, inspection and other miscellaneous costs. The programmed cost is based on the amount included in the most recently approved Statewide Transportation Improvement Program. Completed costs include actual expenditures. The costs do not include those that might result from any legal claims, which are rare occurrences, regarding the projects after they are completed. Positive numbers indicate the final (completed) cost was higher than the programmed cost.

Each winter, this data is provided to the Missouri Legislature through the Report to the Joint Committee on Transportation Oversight.

#### Improvement Status:

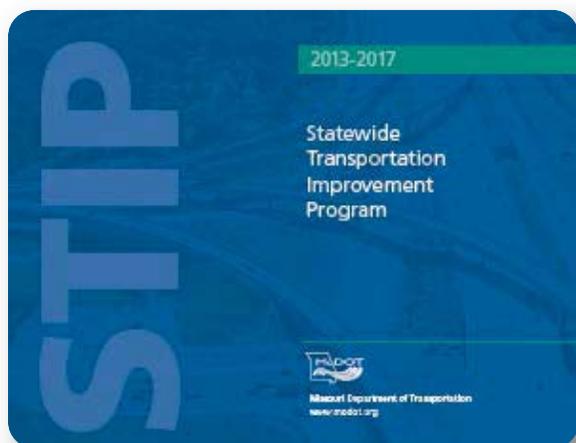
As of December 31, 2012, a total of 219 projects were completed at a cost of \$260 million. This represents a deviation of -14 percent or \$42 million less than the programmed cost of \$302 million. Of the 219 projects completed, 72 percent were completed within or below budget. In comparison, 71 percent of projects were completed within or below budget as of December 31, 2011.

For fiscal year 2012, the final value is 392 projects completed at a cost of \$981 million. This represents a deviation of -10.3 percent or \$113 million less than the estimated cost of \$1.094 billion.

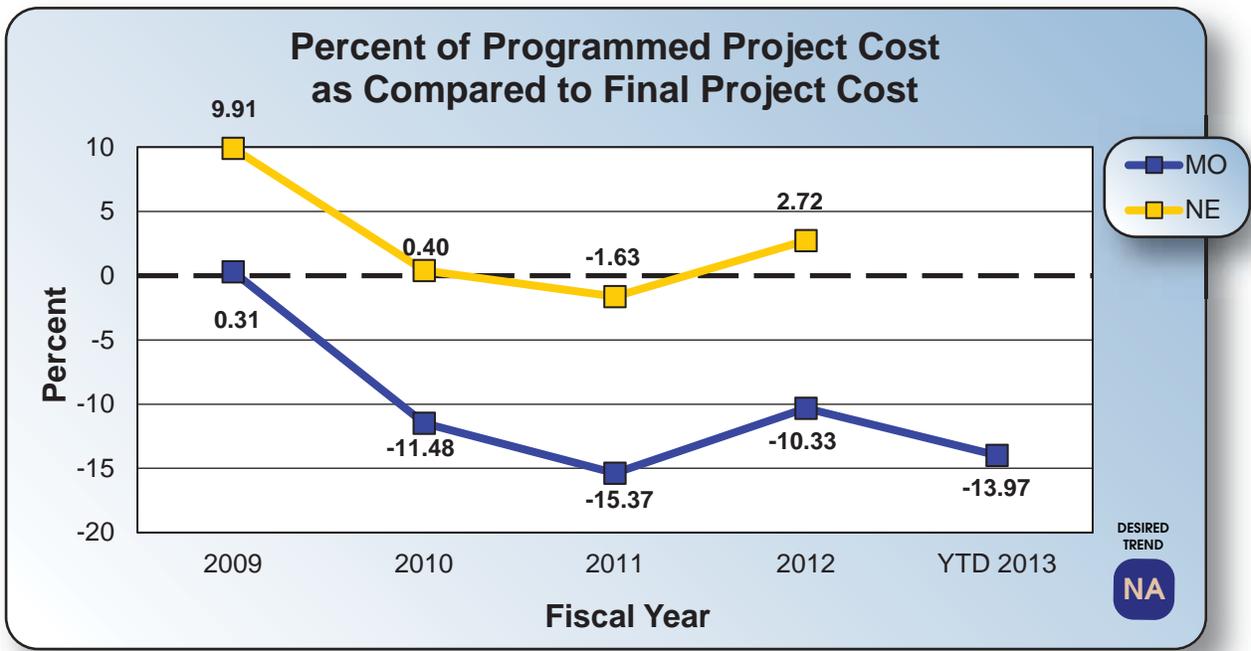
District construction budgets are adjusted based on variation from programmed costs. The ideal status varies, depending upon the year the project is programmed. Projects prior to FY 2011 have a desired trend of 0 percent. That desired trend does not apply to projects programmed in FY 2011 and beyond, 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.

While a number of states track construction costs, few provide data for total project costs. Fewer still compare programmed total project costs to final total project cost. The following graph shows how MoDOT performance compares with neighboring Nebraska. Since 2009, both states were within 10 to 14 percent of each other. Data for Nebraska is updated annually.

With static transportation funding and increasing costs, MoDOT's focus on accurate program cost estimates becomes increasingly more important.



# FAST PROJECTS THAT ARE OF GREAT VALUE



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.

## Percent of projects completed on time-9b

**Results Driver:** Dave Nichols, Chief Engineer

**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. Adjustments to the completion date are made when additional work is required or for unusual weather occurrences. This measure indicates MoDOT's ability to complete projects by the agreed upon date.

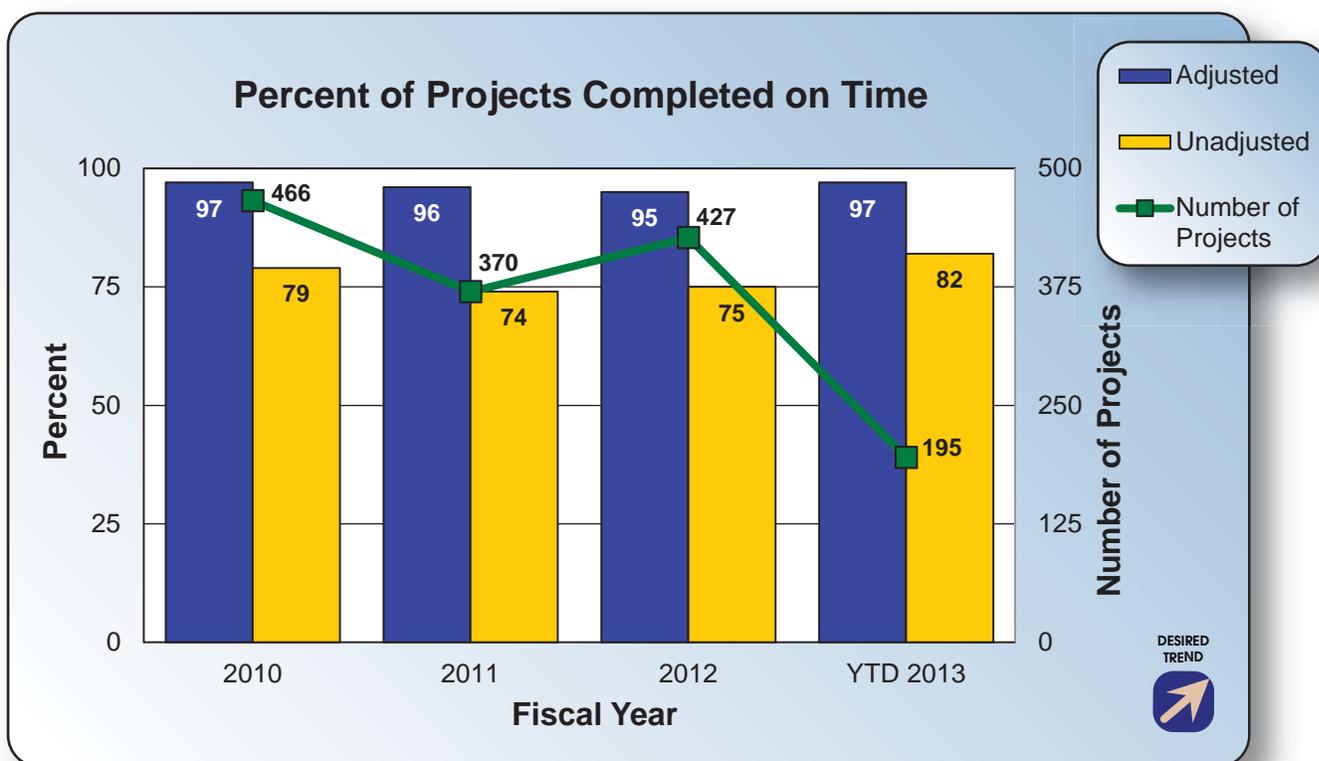
### Measurement and Data Collection:

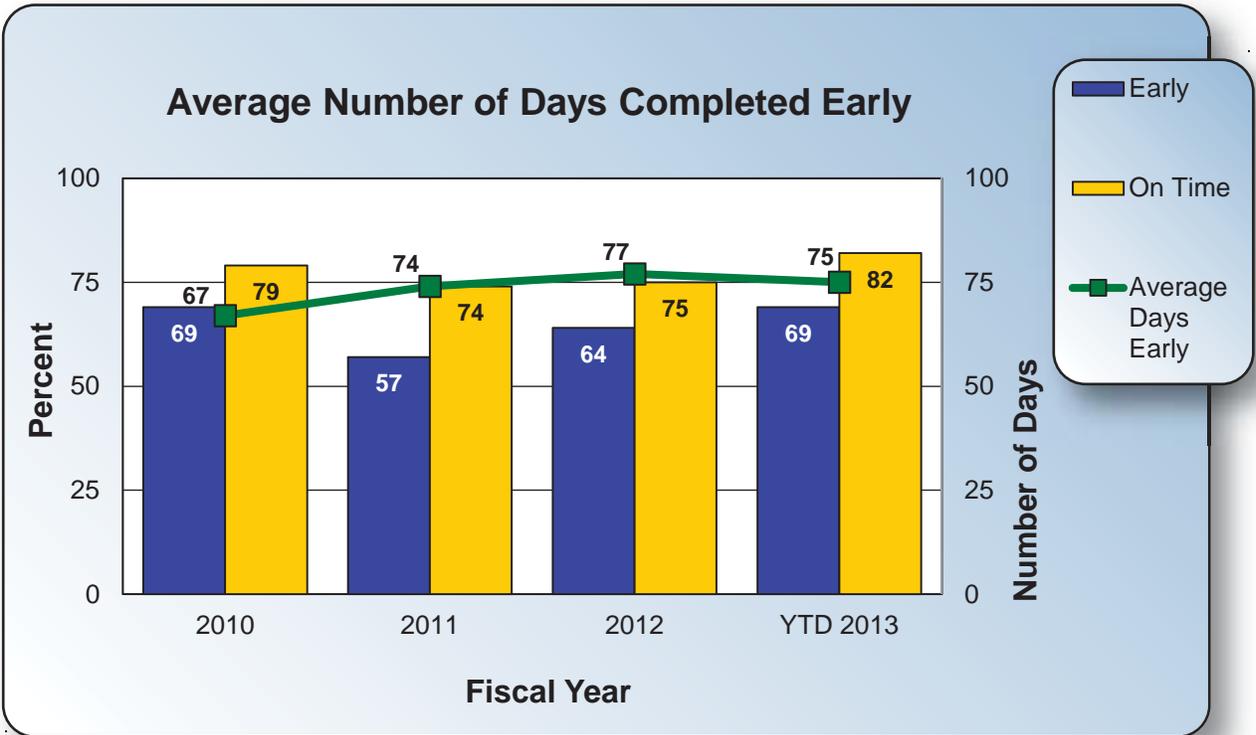
The project manager establishes project completion dates for each project which are documented in MoDOT's SiteManager and STIP databases, and become part of the Plans, Specifications & Estimates submittal. The actual completion date is documented by the resident engineer and placed in MoDOT's project management system. This is a quarterly measure.

### Improvement Status:

The results show that 97 percent of projects in the first two quarters of fiscal year 2013 were completed on time. MoDOT has focused on reducing the number of days available for construction in order to reduce congestion and inconvenience to the traveling public, while stressing the importance of completing projects on time. To achieve timely completion of improvement projects, an emphasis has been placed on reviewing construction schedules and assessing liquidated damages.

The second chart shows the average number of days projects were completed before their original completion date. The data indicates that 69 percent of the projects completed this period were completed an average of 75 days early. The more projects completed early allows the customers to use the road, bridge and safety improvements faster.





## Percent of change for finalized contracts-9c

**Results Driver:** Dave Nichols, Chief Engineer

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

### 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.

### Measurement and Data Collection:

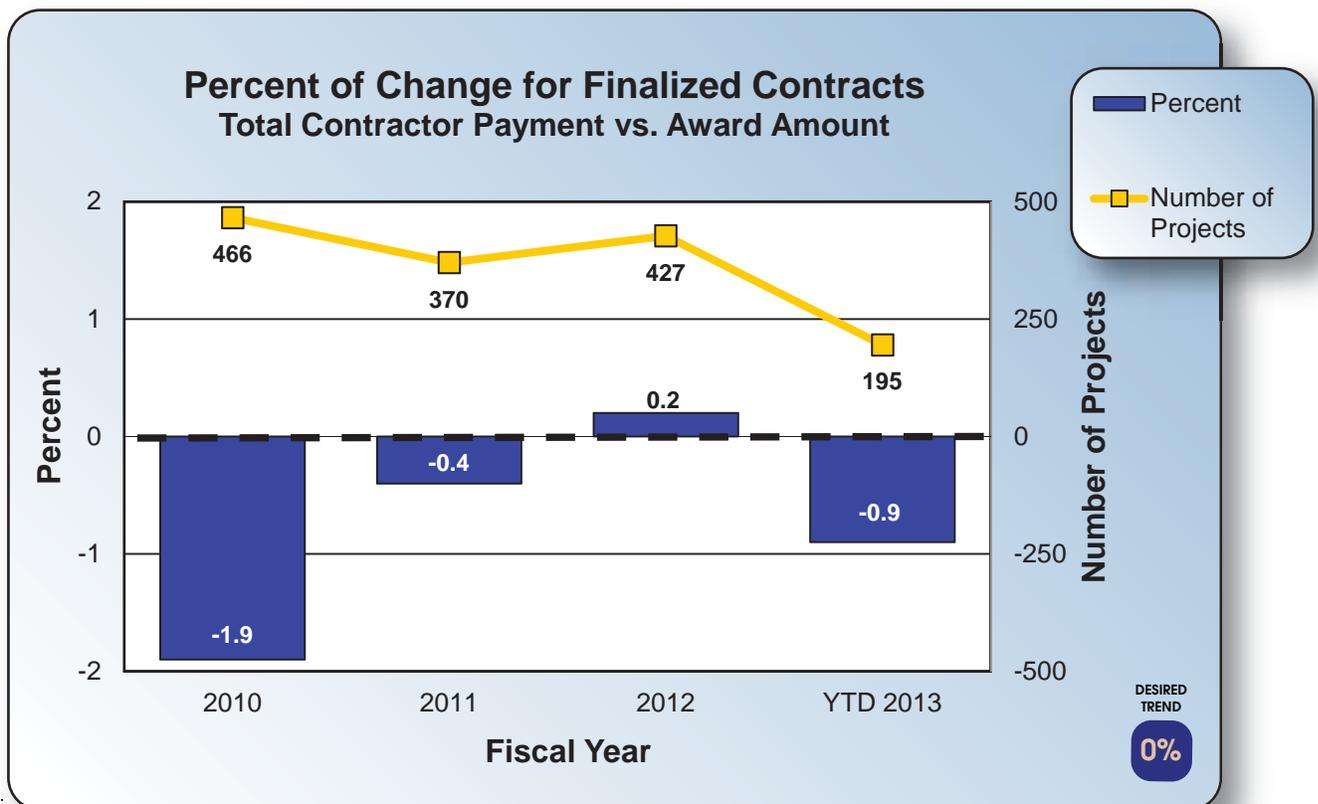
Contractor payments are generated through MoDOT's SiteManager database and processed in the financial management system for payment. Change orders document the underrun/overrun of the original contract cost. This is a quarterly measure.

### Improvement Status:

MoDOT's performance of -0.9 percent in the first two quarters of FY 2013 was below the target of two

percent. This shows that 195 projects worth \$212 million were completed \$1,836,000 below the award amount. The overall improvement is a result of a strong emphasis placed on constructing projects within budget and the use of practical design and value engineering. By limiting overruns on contracts, MoDOT can deliver more projects, leading to an overall improvement of the entire highway system.

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



**Average number of days from sponsor project selection to project award-9d** New!

**Result Driver:** Dave Nichols, Chief Engineer

**Measurement Driver:** Kenny Voss, Local Program Administrator

**Purpose of the Measure:**

This measure monitors how quickly projects go from the programmed commitment to award of a construction project.

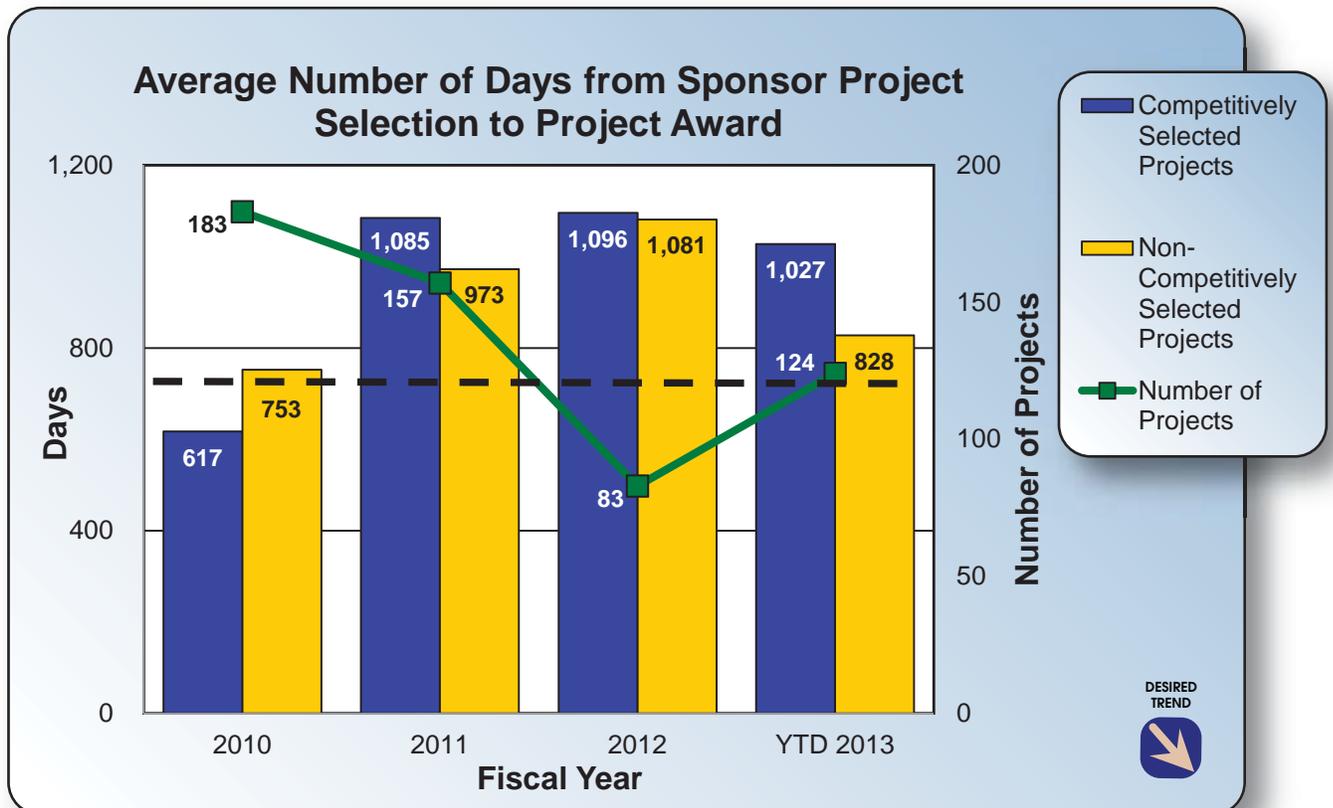
**Measurement and Data Collection:**

MoDOT compares how long it takes from when the project is selected to when the project is awarded for construction. Competitively selected projects (BRM, SRTS, TE, STP Large Urban, CMAQ) are applied for by the LPA to a selection committee for review and approval. Non-competitively selected projects (BRO, STP Small Urban) are selected by the sponsor who directly receives the funds. Projects are tracked based on the fiscal year in which the project is awarded. The goal for this measure is to award projects within two years (750 days) of the programmed commitment, represented by the dashed line in the graph below. Results for the current year are updated twice a year in January and July.

**Improvement Status:**

From 2012 to 2013, the average number of days decreased. The results show the desired trend and demonstrate progress toward the goal of delivering projects to construction within two years of the program date. The results also show an increase in the number of awarded projects.

MoDOT staff has focused on delivering inactive projects faster, resulting in the award of some projects with older program dates. This is a necessary step to reduce the inventory of older projects that have not been awarded. The 2011 and 2012 data reflects projects that were delayed due to the increased focus on ARRA projects in 2009 and 2010.



## LPA construction estimate amount vs. final construction award amount-9e New!

**Results Driver:** Dave Nichols, Chief Engineer

**Measurement Driver:** Kenny Voss, Local Program Administrator

### Purpose of the Measure:

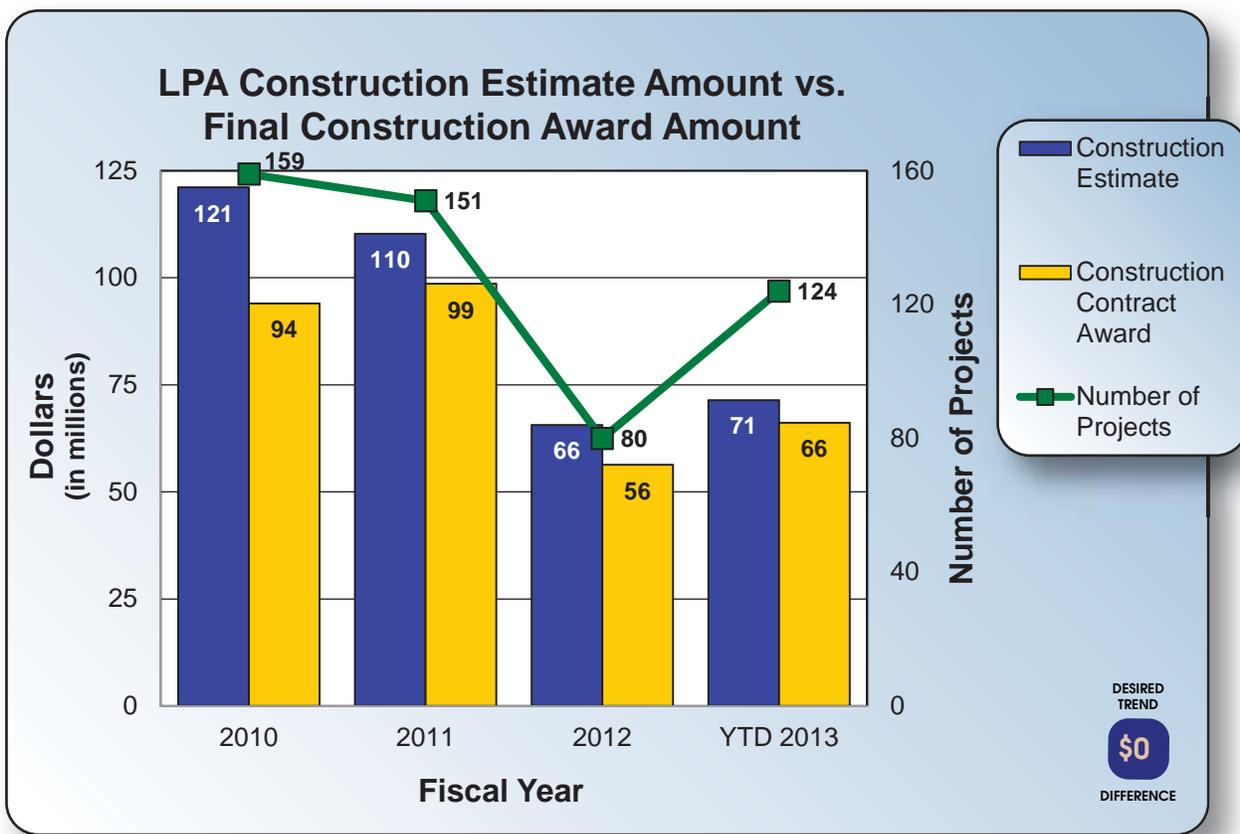
This measure tracks the construction award amount against the final construction estimate. The amounts are for construction costs only and do not include right-of-way, utilities or design.

### Measurement and Data Collection:

The graph illustrates a comparison of the total dollar value of all projects awarded with the total final estimated construction dollars per fiscal year. The final construction estimate is the engineer's estimate that is submitted with the construction obligation request. This measure shows how accurate the local sponsors are able to estimate the cost of construction. Results for the current year are updated twice a year in January and July.

### Improvement Status:

MoDOT desires all projects be completed within the obligated construction amount, thereby allowing the greatest number of projects to be built with the funding available. The results indicate a gradual improvement in final construction estimates from 2010 to 2013, which reflects an adjustment to market conditions on local project bids. Improved estimates allow local sponsors to maximize their construction funding with the use of add alternate bidding and other innovative bidding techniques. The data also shows an increase in the number of projects and total contract awards for this period which results in more transportation improvements for customers.



## Percent of LPA projects completed on time-9f

**Results Driver:** Dave Nichols, Chief Engineer

**Measurement Driver:** Kenny Voss, Local Program Administrator

### Purpose of the Measure:

This measure tracks the percentage of projects completed by the commitment date established in the contract. The data includes adjustments to the completion date that are made when additional work is required or for unusual weather occurrences. It indicates the local sponsor's ability to complete projects by the agreed upon date.

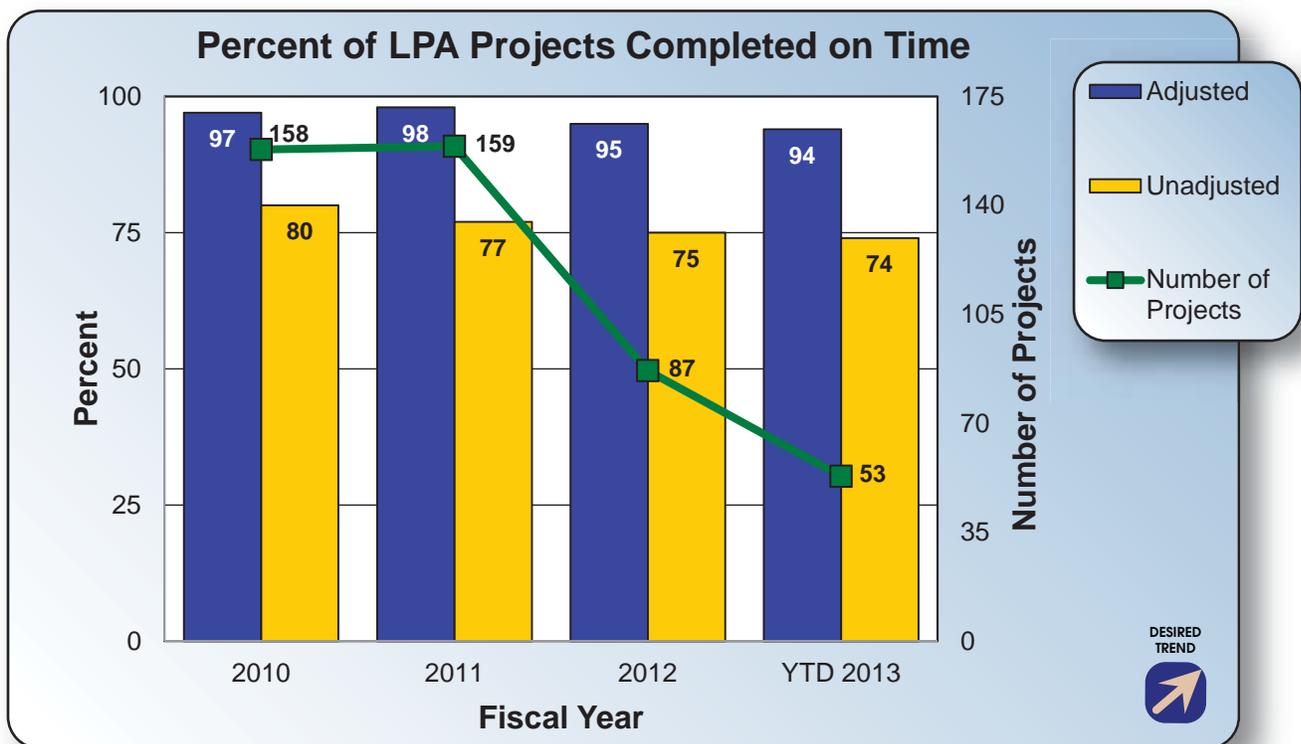
### Measurement and Data Collection:

The local sponsor establishes a project completion date or contract days for each project. They are documented in each project's contract and in the LPA Statewide Management System (SMS). The actual and/or adjusted completion date or contract days are documented by the project sponsor and placed in the LPA SMS. Projects are tracked based on the reporting period in which they are completed. Results for the current year are updated twice a year in January and July.

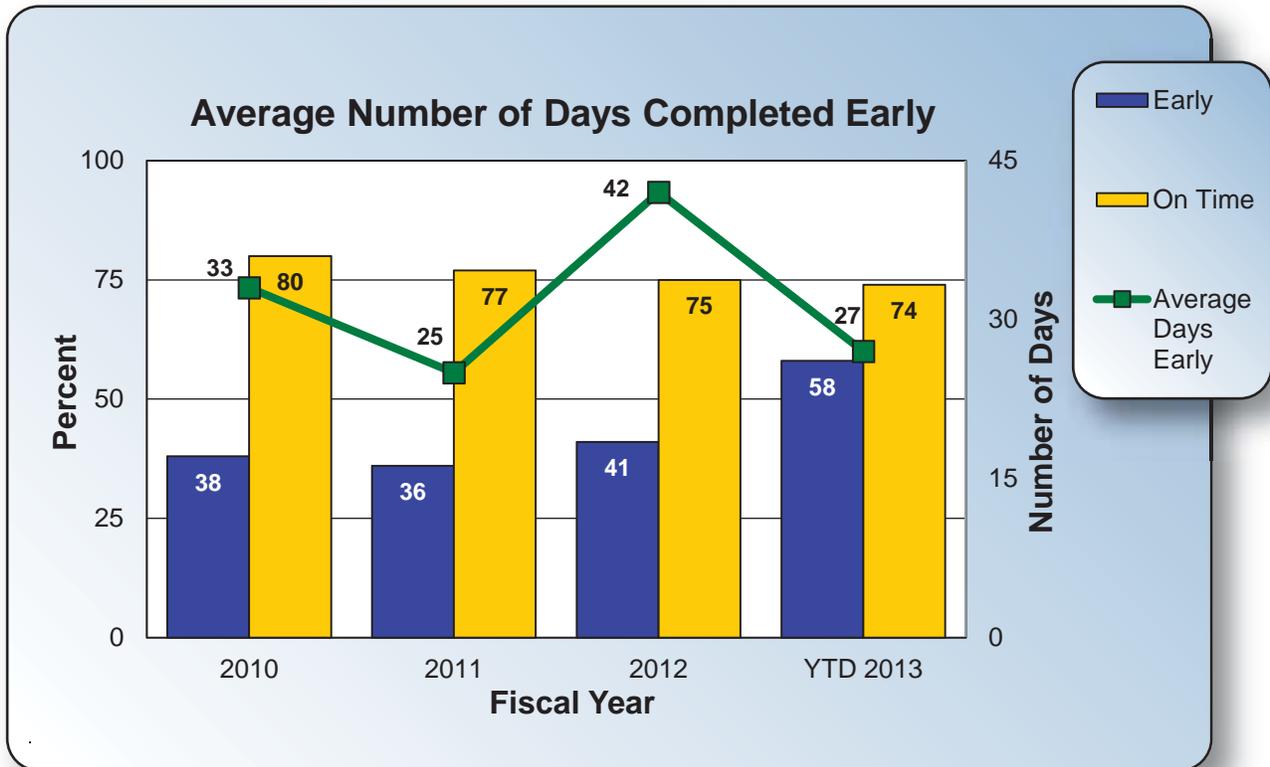
### Improvement Status:

The results show 94 percent of the projects completed in 2013 were within the original contract completion period. MoDOT has focused on reducing the number of days available for construction in order to reduce congestion and inconvenience to the traveling public, while stressing the importance of completing projects on time. To achieve timely completion of improvement projects, an emphasis has been placed on reviewing construction schedules and assessing liquidated damages. MoDOT staff completes regular visits to LPA projects to ensure timely construction completion and enforcement of liquidated damages.

The second chart shows the average number of days projects were completed before their original completion date or contract days. The data indicates that 58 percent of the projects completed this period were completed an average of 27 days early. Early completion allows customers to use the road, bridge or safety improvements faster.



# FAST PROJECTS THAT ARE OF GREAT VALUE



## Percent of change for LPA finalized contracts-9g

**Results Driver:** Dave Nichols, Chief Engineer

**Measurement Driver:** Kenny Voss, Local Program Administrator

### Purpose of the Measure:

The 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.

### Measurement and Data Collection:

Change orders document the underrun/overrun of the original contract. The percent of contract change includes federal- and local-funded change orders. Projects are tracked based on the fiscal year in which they are completed. Results for the current year are updated twice a year in January and July.

### Improvement Status:

The results from 2010 to 2013 show a positive trend towards the target of two percent. The overall improvement is the result of a strong emphasis on review and approval of change orders to ensure they are necessary and cost effective. The improvement also demonstrates the increased use of value engineering on LPA construction projects. By limiting overruns on contracts and incorporating industry innovation, LPAs can deliver more projects leading to an overall improvement of the entire highway system.

