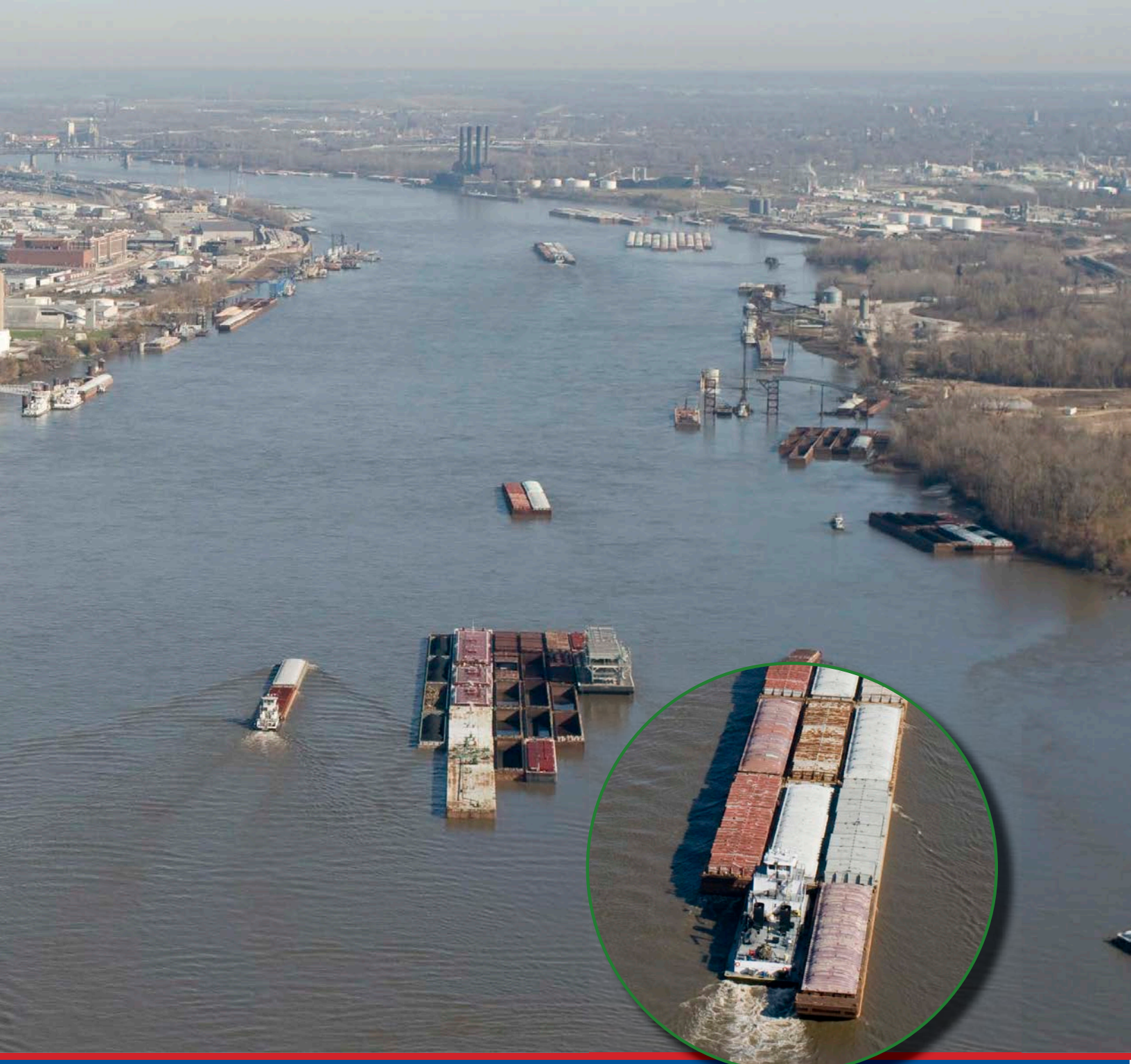
ADVANCE ECONOMIC DEVELOPMENT

Machelle Watkins, Transportation Planning Director

Tracker

MEASURES OF DEPARTMENTAL PERFORMANCE



Missouri's transportation system has a direct impact on the state's economy. Missouri businesses depend on our roadways, rail, waterways and airports to move their products and services both nationally and globally. An efficient, well-connected transportation system helps attract new businesses to our communities and helps existing businesses maintain a competitive edge with easy customer access, minimal shipping costs and strong links to a diverse workforce. We believe investments in transportation should create jobs and provide opportunities for advancement to all Missouri citizens. An investment in transportation should provide a positive economic impact on both the citizens we serve and the communities in which they live.

RESULT DRIVER:
Machelle Watkins, Transportation Planning Director

MEASUREMENT DRIVER:
Eva Voss, Senior Transportation Planner

PURPOSE OF THE MEASURE:
This measure tracks the economic impact resulting from the state's transportation investments.

MEASUREMENT AND DATA COLLECTION:
MoDOT works with the Economic Development Research Group to perform economic impact analyses for the state's transportation investments. The analyses are performed using a model called the Transportation Economic Development Impact System. The TREDIS model results demonstrate a strong link between transportation investment and economic development.

ADVANCE ECONOMIC DEVELOPMENT

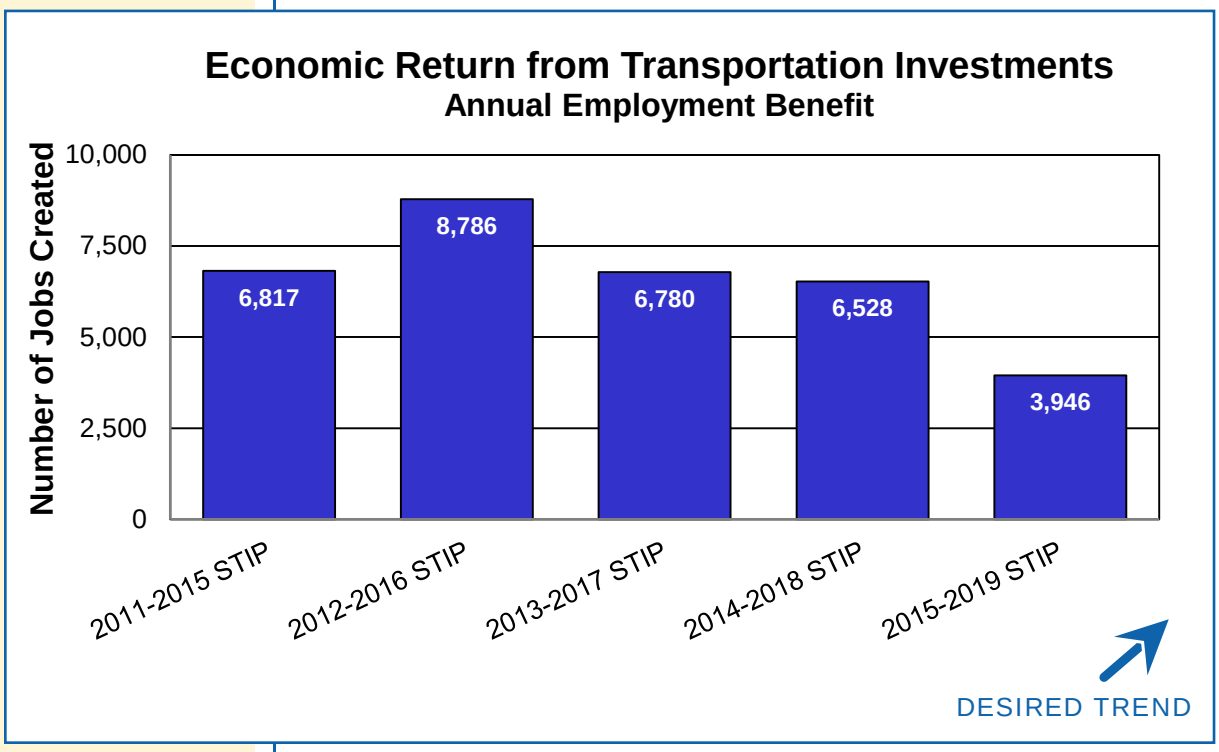
Economic return from transportation investment-7a

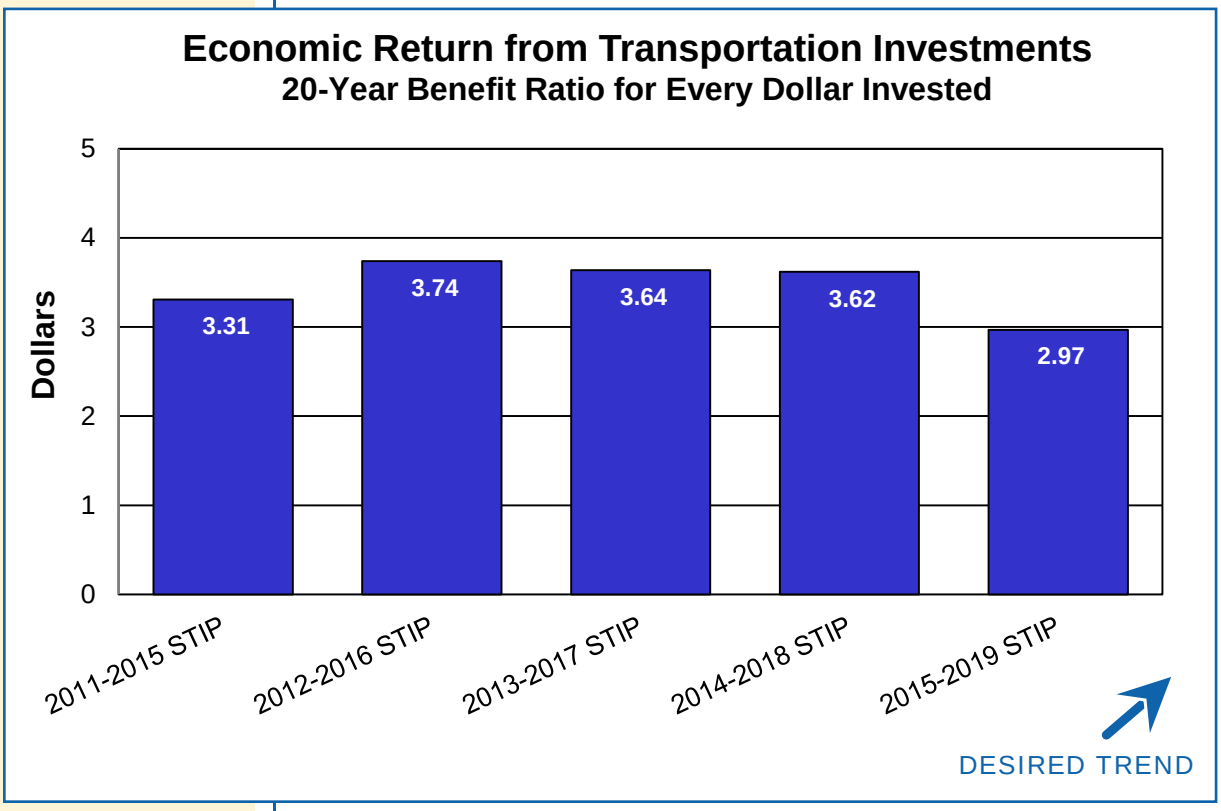
Investment in transportation improvements have long been held as a major economic engine that drives growth in job creation, personal income and new value added to Missouri's economy. However, decreasing transportation funding and increasing costs have decreased at the levels of economic return.

Based on MoDOT's 2015-2019 Statewide Transportation Improvement Program investment of $3.5 billion, the program is estimated to create 3,946 new jobs. Transportation investments are expected to contribute $10.1 billion of economic output during the next 20 years, resulting in a $2.97 return on every $1 invested in transportation.

The most recent economic analysis of the 2015-2019 STIP included an updated methodology, which included higher wage rates, increased labor productivity and fewer large transportation improvement projects. While providing a more accurate estimate of economic return, the overall result is transportation investments support fewer jobs and a smaller return for every dollar invested. The figures tell a powerful story of economic success, but are also a sign of missed opportunity. When compared to the previous year's STIP (2014-2018), the number of jobs created estimate decreased 40 percent. For the first time, this year's results also include multimodal projects.

Decreasing transportation funding and increasing costs will chip away at the levels of economic return.


Economic Return from Transportation Investments
Annual Employment Benefit
Number of Jobs Created
10,000
7,500
5,000
2,500
0
6,817
8,786
6,780
6,528
3,946
2011-2015 STIP
2012-2016 STIP
2013-2017 STIP
2014-2018 STIP
2015-2019 STIP
DESIRED TREND


Economic Return from Transportation Investments
20-Year Benefit Ratio for Every Dollar Invested
Dollars
5
4
3
2
1
0
3.31
3.74
3.64
3.62
2.97
2011-2015 STIP
2012-2016 STIP
2013-2017 STIP
2014-2018 STIP
2015-2019 STIP
DESIRED TREND

RESULT DRIVER:
Machelle Watkins, Transportation Planning Director

MEASUREMENT DRIVER:
Ben Reeser, Long-Range Transportation Planning Coordinator

PURPOSE OF THE MEASURE:
This measure analyzes the strength of Missouri's transportation infrastructure for conducting business.

MEASUREMENT AND DATA COLLECTION:
Data for this measure is obtained from an annual study conducted by the Consumer News and Business Channel. The study scores all 50 states on more than 60 measures of competitiveness developed collaboratively with business groups including the National Association of Manufacturers and the Council on Competitiveness, as well as the states themselves. Metrics are separated into 10 weighted categories, including infrastructure. The infrastructure category receives the second highest weight and measures the following for each state:

- Value of goods shipped by air, waterways, roads and rail (2013 based on quantity of goods shipped, not value)
- Availability of air travel
- Quality of roads and bridges
- Time it takes to commute to work (added in 2012)
- Supply of safe drinking water (added in 2013)

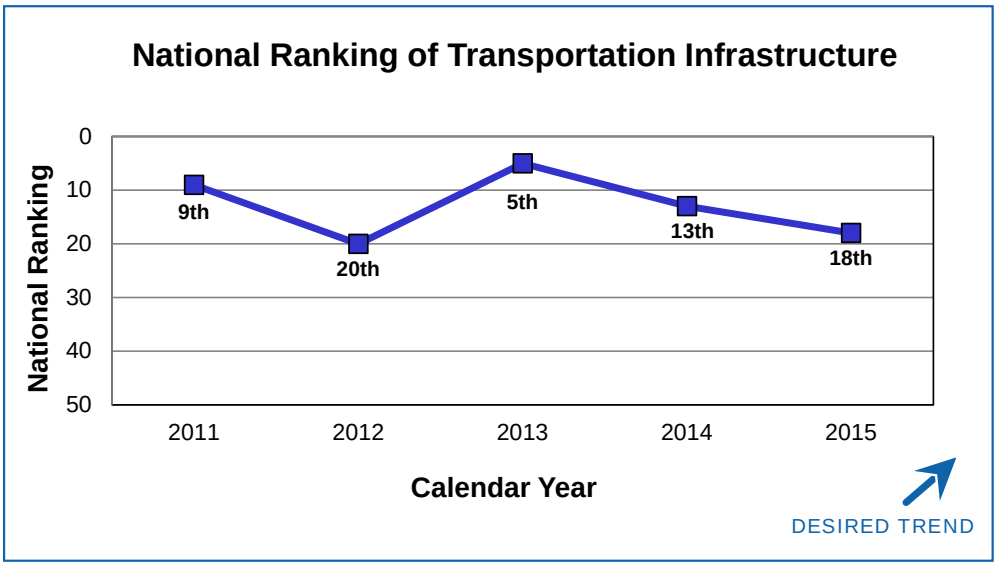
ADVANCE ECONOMIC DEVELOPMENT

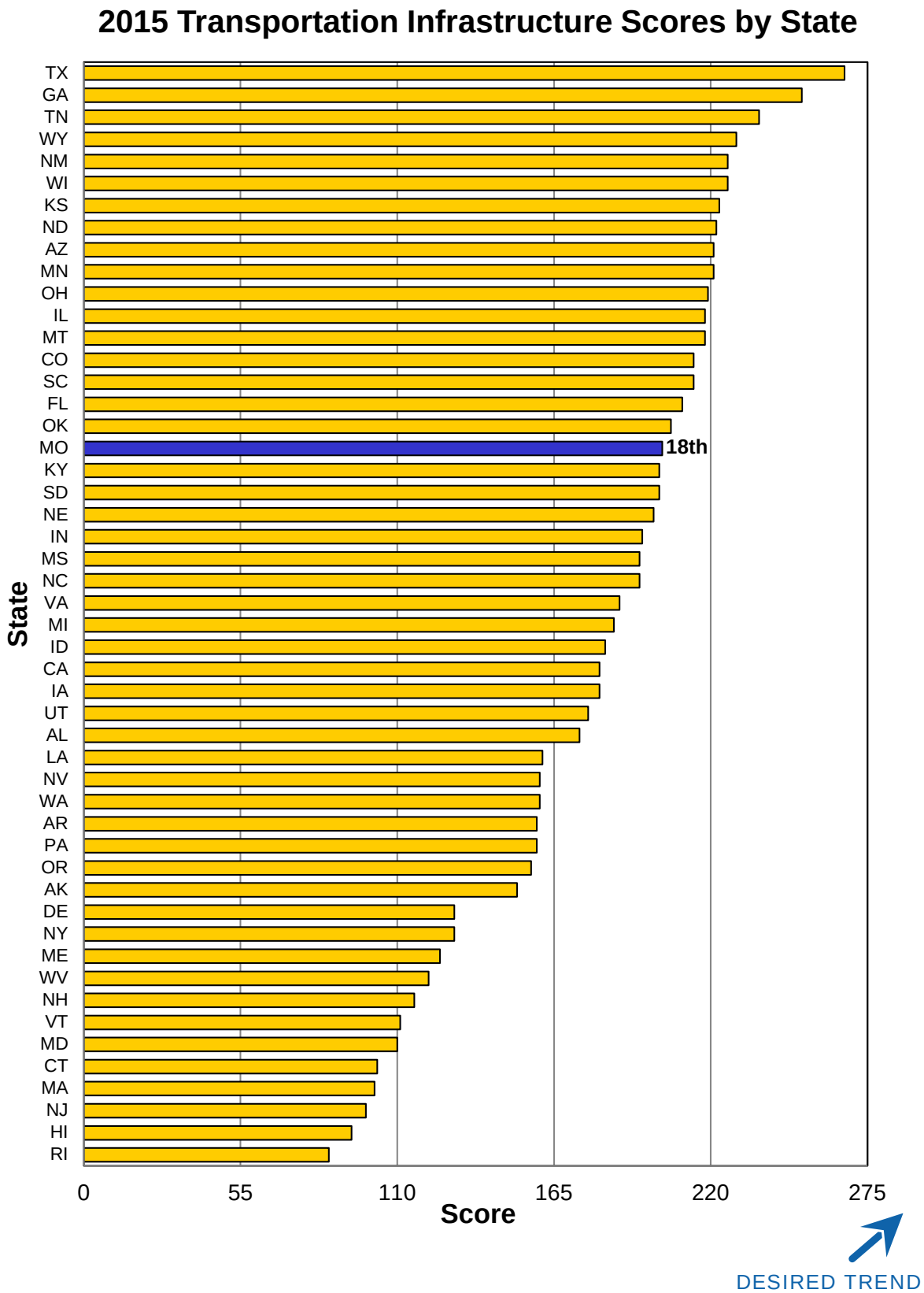
National ranking of transportation infrastructure-7b

Transportation infrastructure leads to the attraction of new businesses and of employers looking to expand. These actions lead to new jobs, new opportunities and new revenue for states. A robust transportation infrastructure allows manufacturers to distribute their products quickly and inexpensively and allows citizens to get to work and to conduct business efficiently.

Prior to 2012, Missouri's national rank in transportation infrastructure was in the top nine. In 2012, Missouri decreased to 20 in the national ranking as the measure added time it takes to commute to work. The ranking improved in 2013 as the measure changed to quantity of goods shipped instead of value. Missouri's ranking declined beginning in 2014 as the measure changed back to value of goods shipped instead of quantity.

Missouri's ranking of 18th best in the nation has been declining and will be challenging to maintain as the state's annual transportation infrastructure funding decreased from $1.2 billion to $700 million beginning in 2011, and is projected to decline to $325 million beginning in fiscal year 2017. At that point, MoDOT will not be able to keep the transportation system in the shape it is in today. Many of the factors used to rank transportation infrastructure are expected to decline.




2015 Transportation Infrastructure Scores by State
State
TX
GA
TN
WY
NM
WI
KS
ND
AZ
MN
OH
IL
MT
CO
SC
FL
OK
MO
18th
KY
SD
NE
IN
MS
NC
VA
MI
ID
CA
IA
UT
AL
LA
NV
WA
AR
PA
OR
AK
DE
NY
ME
WV
NH
VT
MD
CT
MA
NJ
HI
RI
0
55
110
165
220
275
Score
DESIRED TREND

RESULT DRIVER:
Machelle Watkins, Transportation Planning Director

MEASUREMENT DRIVER:
Tona Bowen, Financial Services Administrator

PURPOSE OF THE MEASURE:
This measure reports how Missouri's state highway system funding situation compares to that of other states.

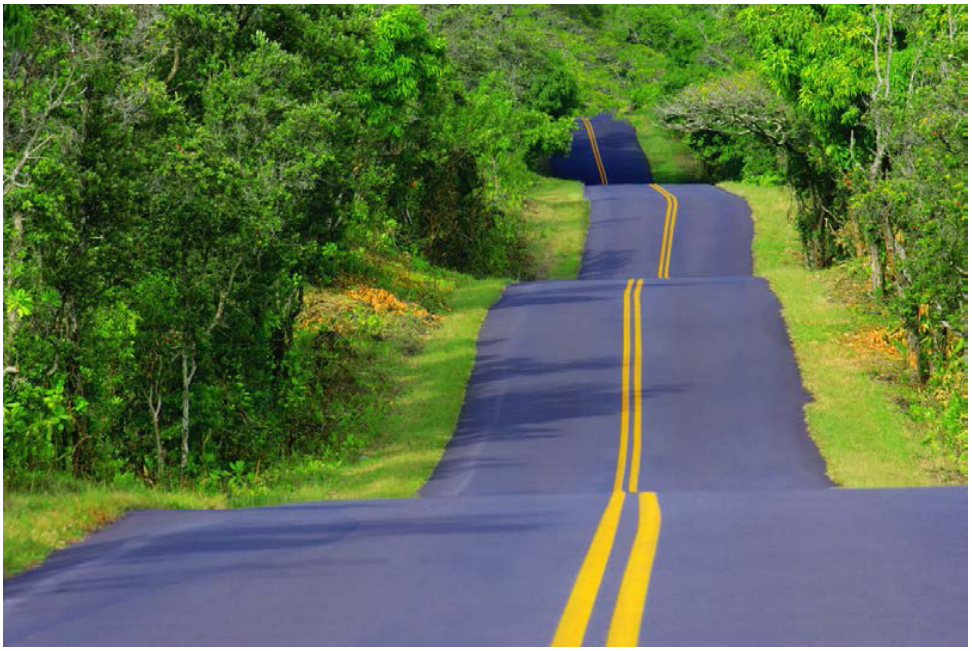
MEASUREMENT AND DATA COLLECTION:
The state revenue and highway mileage counts used in this measure are gathered from Federal Highway Administration annual reports. The information is updated as the data becomes available from FHWA. The bridge count information was received from Better Roads magazine.

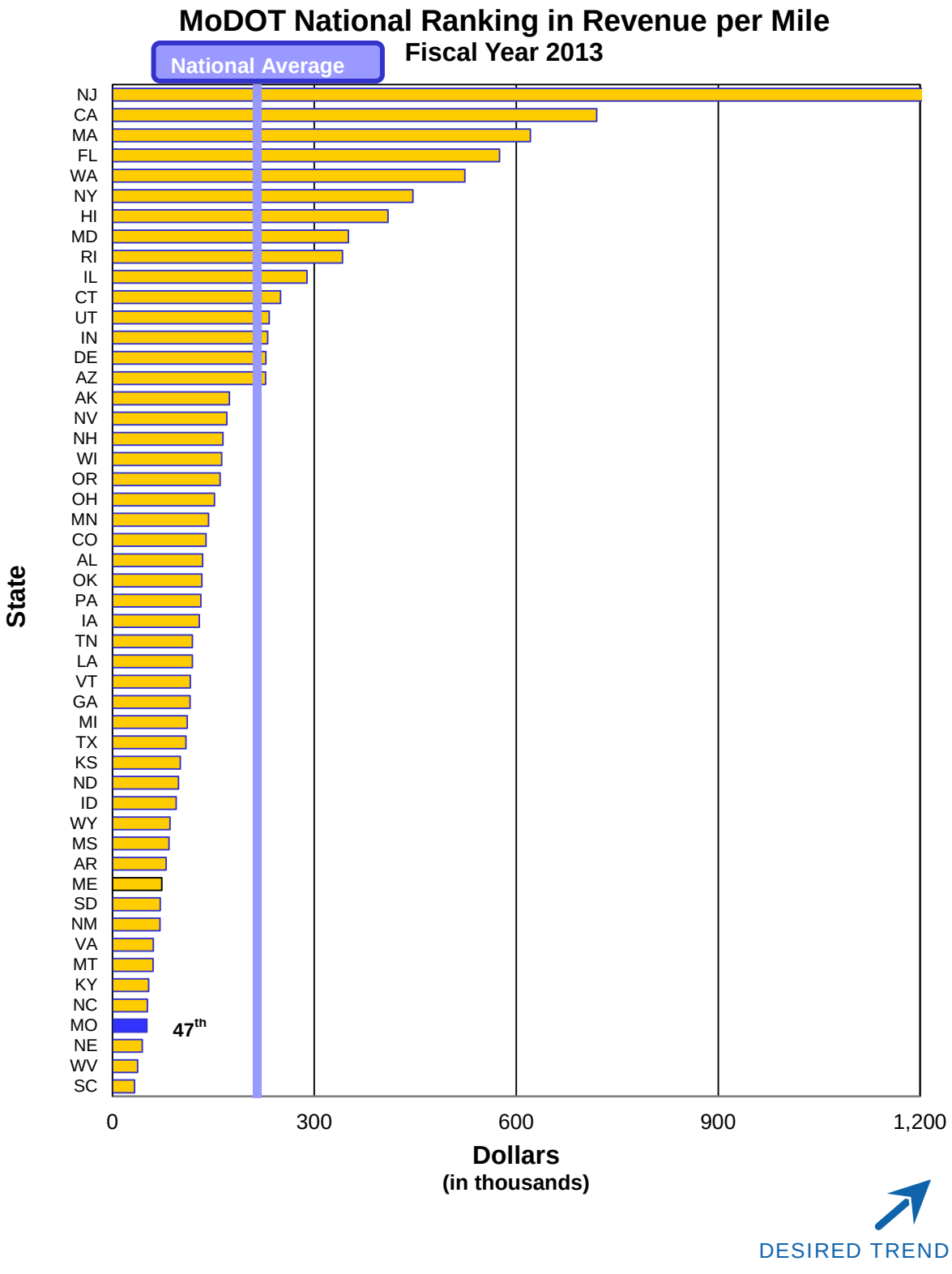
MoDOT national ranking in revenue per mile-7c

MoDOT stretches transportation revenue as far as it can in order to put as much as possible into roads and bridges. The cost to build and maintain roads and bridges increased sharply during the past 10 years due to inflation. In contrast, revenues from fuel taxes decreased as vehicles became more fuel efficient and people drove less.

In fiscal year 2013, the national average for revenue per mile was $215,107. Missouri's revenue per mile of $51,203 currently ranks 47th in the nation. Missouri's ranking has continually declined since fiscal year 2011 when Missouri was ranked 40th.

Missouri's state highway system, consisting of 33,891 miles, is the seventh largest system in the nation. In addition, Missouri ranks sixth nationally in number of bridges with 10,376 bridges. New Jersey's revenue per mile of $1,677,141 ranks first. However, its state highway system includes only 2,341 miles and 2,426 bridges.




MoDOT National Ranking in Revenue per Mile
Fiscal Year 2013
National Average
State
NJ
CA
MA
FL
WA
NY
HI
MD
RI
IL
CT
UT
IN
DE
AZ
AK
NV
NH
WI
OR
OH
MN
CO
AL
OK
PA
IA
TN
LA
VT
GA
MI
TX
KS
ND
ID
WY
MS
AR
ME
SD
NM
VA
MT
KY
NC
MO
NE
WV
SC
47th
0
300
600
900
1,200
Dollars
(in thousands)
DESIRED TREND

RESULT DRIVER:
Machelle Watkins, Transportation Planning Director

MEASUREMENT DRIVER:
Cheryl Ball, Waterways and Freight Administrator

PURPOSE OF THE MEASURE:
This measure tracks the estimated cost of transporting representative Missouri products from key economic industries (chemical manufacturing, transportation equipment and agriculture) to top destinations as compared to shipping the same products from competitor states. The relative costs for these illustrative products serve as a proxy for Missouri's competitiveness on transport costs as a whole.

MEASUREMENT AND DATA COLLECTION:
Transearch 2011 freight data was used to identify products representative of Missouri's economic drivers, as well as the top origins, destinations and modes of transport. Estimates of the transport costs are calculated using different external sources for the modes: (1) The 2014 American Transportation Research Institute report, An Analysis of the Operational Costs of Trucking, (2) AAA's diesel on-highway price data, (3) the Bureau of Labor Statistics wage data, (4) the Surface Transportation Board's Uniform Railroad Costing System, and (5) the USDA's Average Weekly River Barge Rates.

Goods movement competitiveness-7d

Product transportation costs vary depending on the efficiency, reliability, safety and modal options in a state's transportation system. Accumulation of the cost to transport in each step in the supply chain starting at product origination, travel to the production facility, and finally to market directly impacts the final cost and how competitive the product is in the global market. Transportation costs account for 9 percent to 14 percent of a product's market price. Therefore, maintaining low transportation costs is critical to retain and expand current businesses in Missouri and attracting new businesses to create new employment.

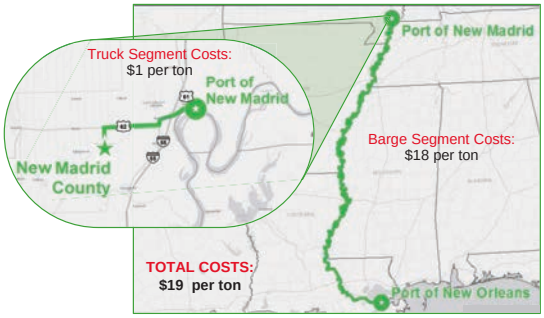
The three key Missouri products (soybeans, finished motor vehicles and chemical manufacturing) analyzed on the accompanying graphs combined account for more than $7 billion in revenue annually while employing over 300,000 Missouri workers. Missouri producers of these products compete with other states and other countries for customers. The graphs compare Missouri transportation costs to those of the closest domestic competitors. At this time, Missouri's transportation cost is among the lowest of these competitors. Maintaining low transportation costs is critical for Missouri's continued success in all markets.

Deterioration of any of the factors influencing transportation cost not only impacts the competitiveness of Missouri products in external markets, it also influences the cost to bring products into Missouri, which controls the prices at local stores.

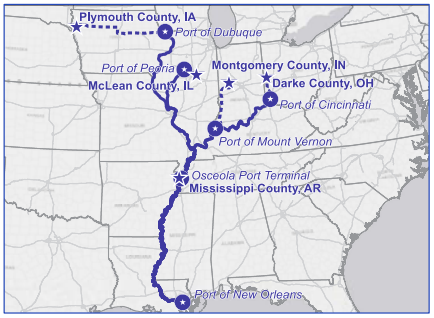
MoDOT plays an active role in keeping costs low by working with existing businesses to identify transportation barriers that reduce their competitiveness regardless of transportation mode. These barriers can include bridges with load postings, closed bridges, rough pavement, at-grade rail crossings, congestion, and inability to access a port or airport. MoDOT continually aims to find solutions for these barriers, but the stark reality of Missouri's transportation funding situation limits the agency's ability to fully respond to those needs.

SOYBEANS

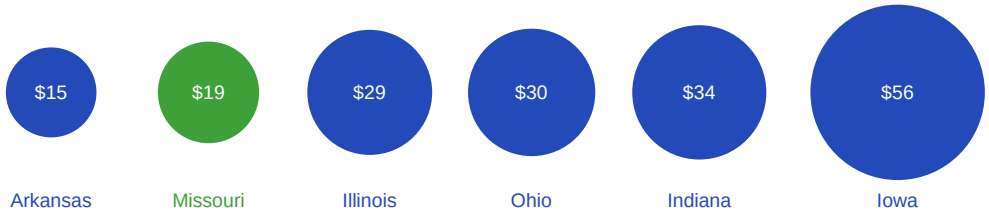
The Route from New Madrid County to New Orleans



The Route from Competitor States to New Orleans

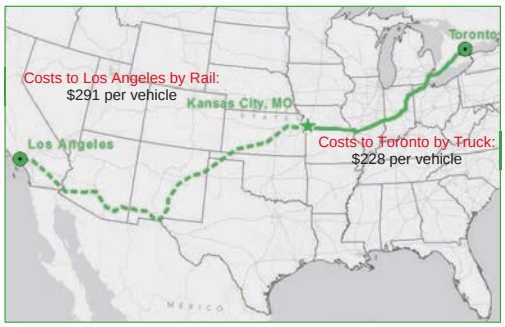


The Cost of Shipping One Ton of Soybeans to New Orleans
(largely by barge)



FINISHED MOTOR VEHICLES

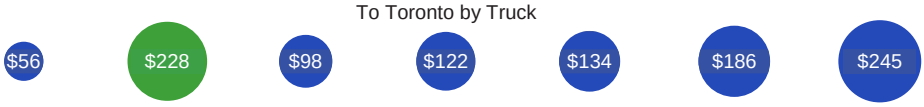
The Route from Kansas City to
Toronto by Truck and Los Angeles by Rail



The Route from Competitor States to
Toronto by Truck and Los Angeles by Rail

The Cost of Shipping One Motor Vehicle

To Toronto by Truck



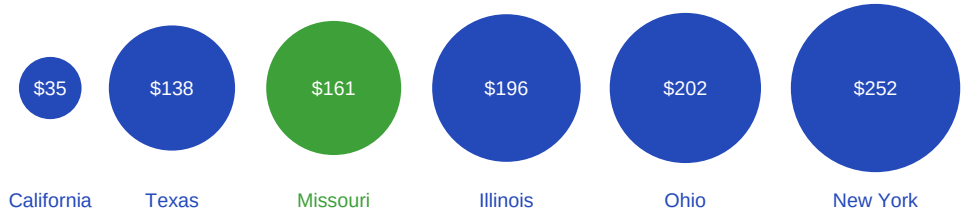
To Los Angeles by Rail

CROP PROTECTION PRODUCTS (CHEMICALS)

The Route from Hannibal to Los Angeles by Truck

The Route from Competitor States to Los Angeles by Truck

The Cost of Shipping One Ton of Crop Protection Products to Los Angeles by Truck



RESULT DRIVER:
Machelle Watkins, Transportation Planning Director

MEASUREMENT DRIVER:
Eric Curtit, Administrator of Railroads

PURPOSE OF THE MEASURE:
This measure tracks the amount of freight moved by Missouri's largest transportation modes.

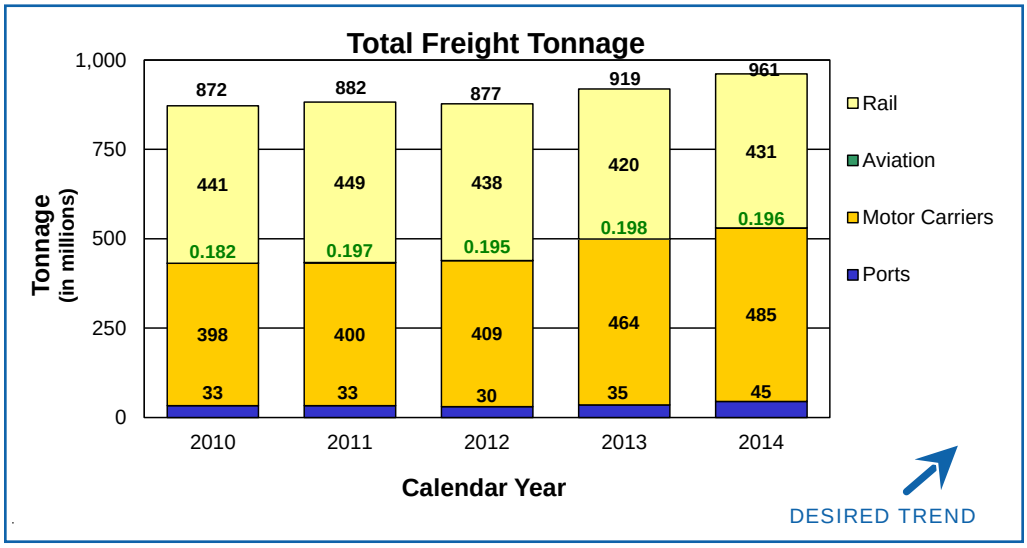
MEASUREMENT AND DATA COLLECTION:
Twice a year, a freight tonnage estimator is used to calculate the amount of freight moved by railroads and highways. The estimator provides timely information for Missouri's primary freight movers. Freight data for aviation and waterways is a combination of direct surveys and trend analysis. This measure's data is estimated yet provides an indication of current trends and movements.

Freight tonnage by mode-7e

Everything comes from somewhere. How it gets from place to place depends on a number of factors. These modes experience volume shifts from year to year, often based on the health of the national economy and shifts in consumer preferences. A key element to a healthy economy is a robust transportation system.

Unfortunately, transportation funding is decreasing, making it difficult to maintain highways and bridges in their current condition. State funding cannot address transportation needs other than highways and bridges. Moving 961 million tons of freight a year requires thoughtful improvements of transportation facilities such as ports, railroads and airports, yet many of these needs remain underfunded.

During 2014, Missouri experienced an increase in movements as compared to the same period last year. Railroad tonnage was up slightly, supported by increases in crude oil and intermodal shipments. Motor carriers hauled the most tonnage, which can be attributed to continuing increases in durable good shipments. Durable goods, such as appliances and furniture, tend to move by truck. Aviation maintained tonnage similar to previous levels. Public ports experienced increased tonnage, which is attributed to crude oil shipments and increased agriculture product shipments.



RESULT DRIVER:
Machelle Watkins, Transportation Planning Director

MEASUREMENT DRIVER:
Aaron Hubbard, Motor Carrier Services Project Manager

PURPOSE OF THE MEASURE:
This measure is proposed to be used as a Moving Ahead for Progress in the 21st Century Act national freight performance measure.

MEASUREMENT AND DATA COLLECTION:
Annual hours of truck delay quantifies the extra time spent by commercial motor vehicles on an interstate corridor based upon a state-determined threshold. Missouri's threshold is set at 55 mph in St. Louis and Kansas City. All other rural areas have a threshold of 65 mph. Speeds below that rate indicate congestion and/or other delay factors for trucks. Missouri chose this threshold because many commercial trucks are governed at 65 mph even though the posted speed limit for most interstate highways is 70 mph. Commercial vehicle delay on the interstate system may be caused by congestion due to factors such as traffic, severe weather, safety inspections or roadway geometrics. AHTD is composed of vehicle miles traveled by trucks, speed of travel and the desired speed of travel.

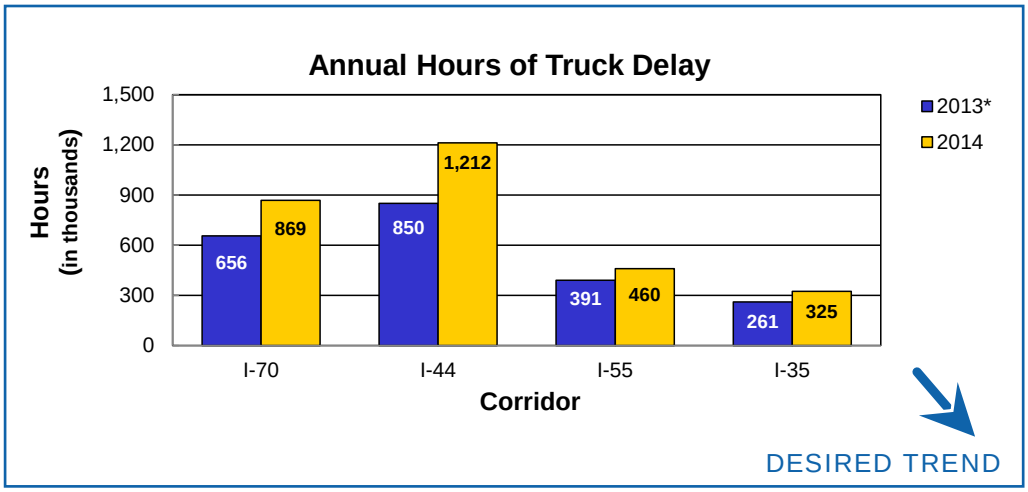
MAP-21

Annual hours of truck delay-7f

Time is money. Delay impacts the cost of goods and reduces an organization's ability to compete on a global basis. American businesses require more operators and equipment to deliver goods when delays lengthen shipping time. Businesses must hold more inventory in more distribution centers to deliver products quickly when lengthier trips are unreliable and slow. Slow traffic also affects the local economy by reducing the number of workers and job sites within easy reach of a location.

Growth in freight volumes is a major contributor to congestion in urban areas and on intercity routes. Long-distance freight movements are often a significant contributor to local congestion, and local congestion typically impedes freight to the detriment of local and distant economic activity. Unfortunately Missouri's construction budget is falling to a point that will make it very difficult for MoDOT to address congestion factors in the future. In fiscal year 2017, the $325 million construction budget will not even cover the costs of keeping today's transportation system in the status quo.

On average, those shipping by truck can expect a delay of 25.7 minutes per trip on I-70, 21.5 minutes on I-44, 11.9 minutes on I-55 and 8.9 minutes on I-35. The annual cost of delay for the trucking industry on I-70 is $56.7 million, $79.1 million on I-44, $30.0 million on I-55, and $21.2 million on I-35. Given MoDOT's financial situation, delays and the cost of delay are expected to grow.



***2013 data only contains July through December**

RESULT DRIVER:
Machelle Watkins, Transportation Planning Director

MEASUREMENT DRIVER:
Chuck Gohring, Motor Carrier Services Assistant Director

PURPOSE OF THE MEASURE:
This reliability measure is proposed to be used as a Moving Ahead for Progress in the 21st Century national freight performance measure. By annually comparing the reliability index number for each corridor, MoDOT can determine if the corridor has become less or more reliable. A lower index for a succeeding year means reliability has improved.

MEASUREMENT AND DATA COLLECTION:
This measure uses the Truck Reliability Index, a ratio of the total truck travel time needed to ensure on-time arrival four out of five times to the agency-determined threshold speed of 55 mph in St. Louis and Kansas City, and 65 mph in all other rural areas. The ratio is used to gauge consistency in truck freight travel times. Further guidance about data requirements and measure methodology will be forthcoming from the Federal Highway Administration.

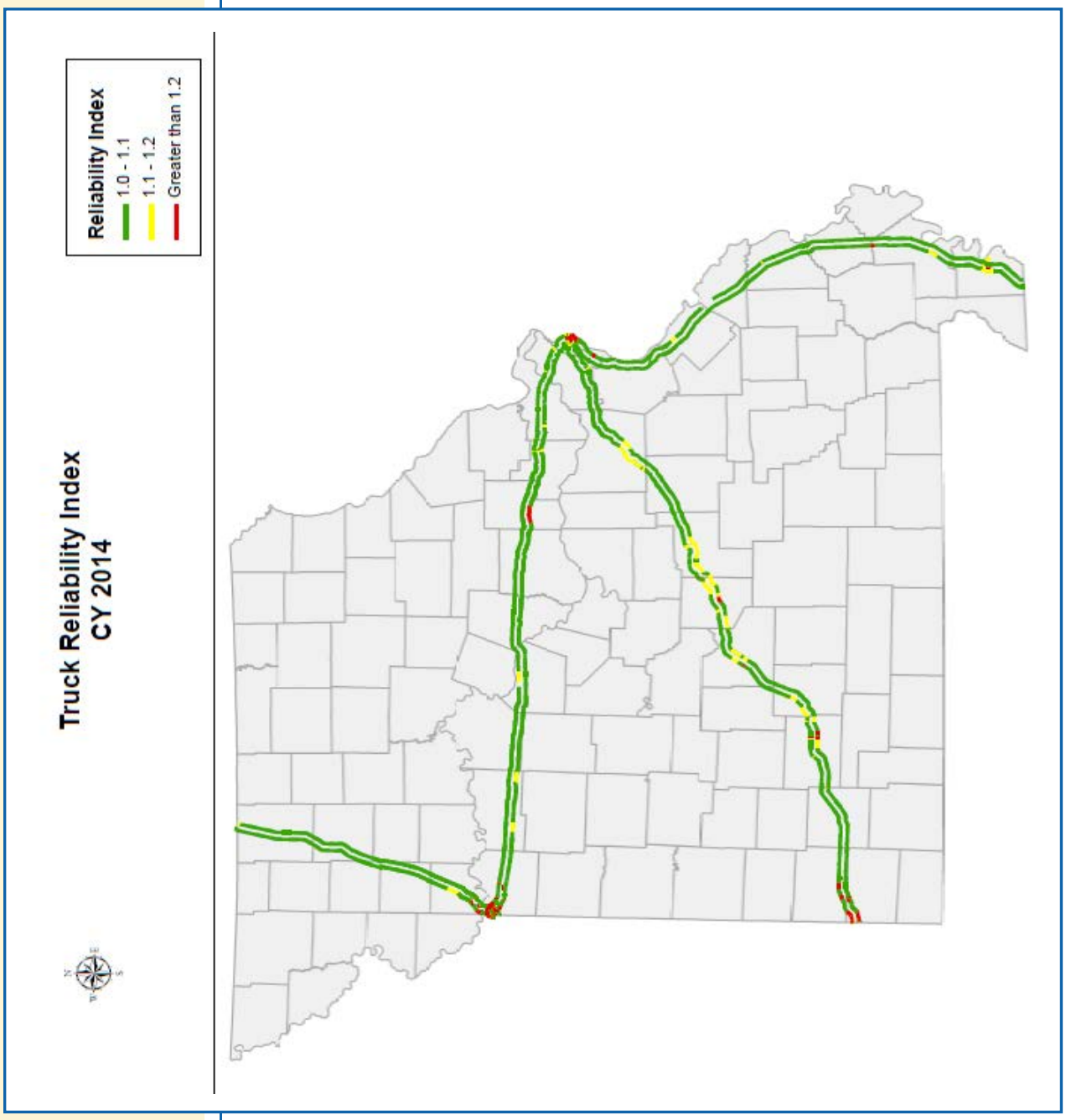
ADVANCE ECONOMIC DEVELOPMENT

MAP-21

Truck reliability index-7g

The reliable movement of goods by truck is critical to Missouri's economy. Travel time reliability is the variation of travel time for the same trip from day to day. When the variability is large, the travel time is unreliable; and, vice versa, when there is little to no variability, the travel time is reliable. Variable or unpredictable travel times make it more difficult for motor carriers and shippers to plan their travel, often forcing them to add extra time to protect themselves against the uncertainty of arrival times. This uncertainty can lead to unproductive travel decisions that waste time and money. The map includes four freight-significant corridors: I-70, I-44, I-55 and I-35. The color green indicates the most reliable travel times; yellow slightly less reliable; and red the least reliable of travel times.

MoDOT continually seeks ways to deliver the infrastructure to support reliable trips for drivers and to help keep costs down. Many new strategies and technologies for operating highway systems are emerging that can help improve travel-time reliability. However with declining state and federal transportation funding and increasing costs to do business, MoDOT is unable to make needed reliability investments.


Truck Reliability Index
CY 2014
Reliability Index
1.0 - 1.1
1.1 - 1.2
Greater than 1.2

RESULT DRIVER:
Machelle Watkins, Transportation Planning Director

MEASUREMENT DRIVER:
Doug Hood, Financial Services Administrator

PURPOSE OF THE MEASURE:
This measure tracks the number of jobs created through MoDOT's economic development program.

MEASUREMENT AND DATA COLLECTION:
Data for this measure is collected from a partnership development database. This measure is based on the state fiscal year – July 1 to June 30.

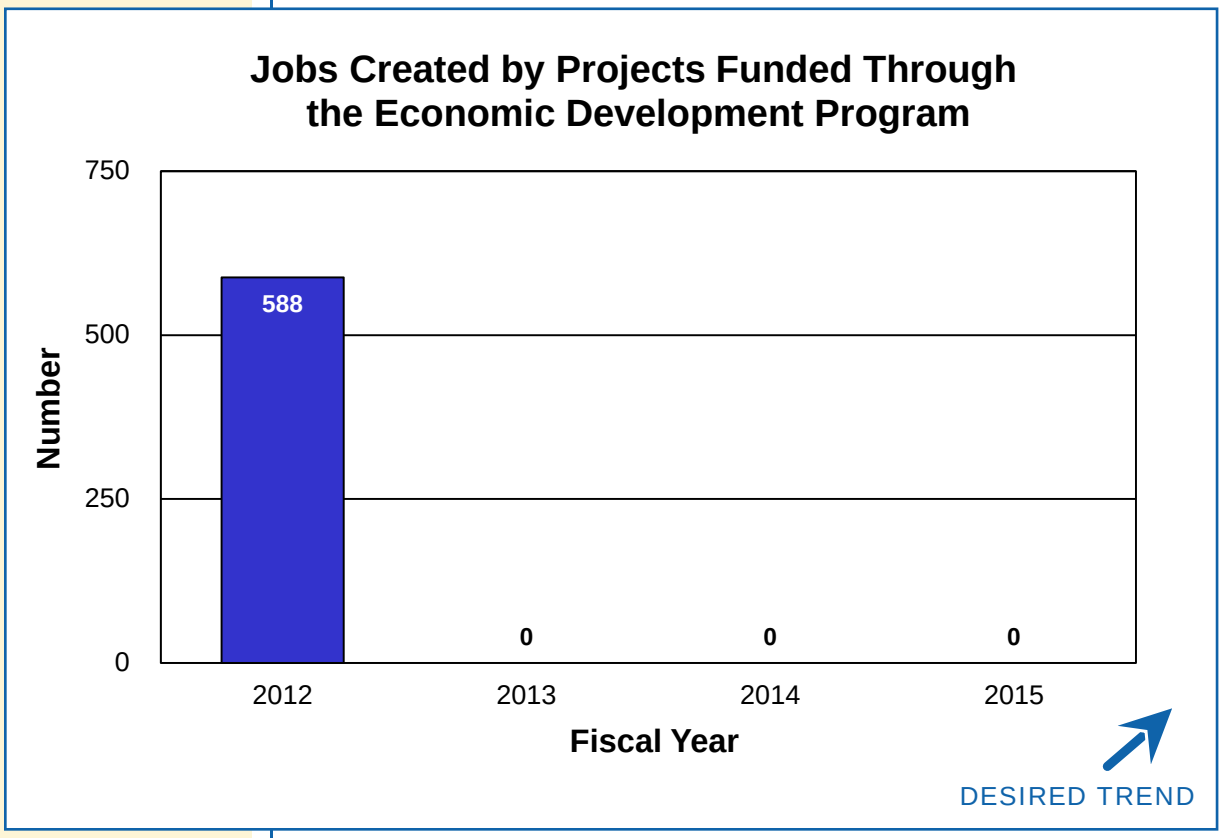
ADVANCE ECONOMIC DEVELOPMENT

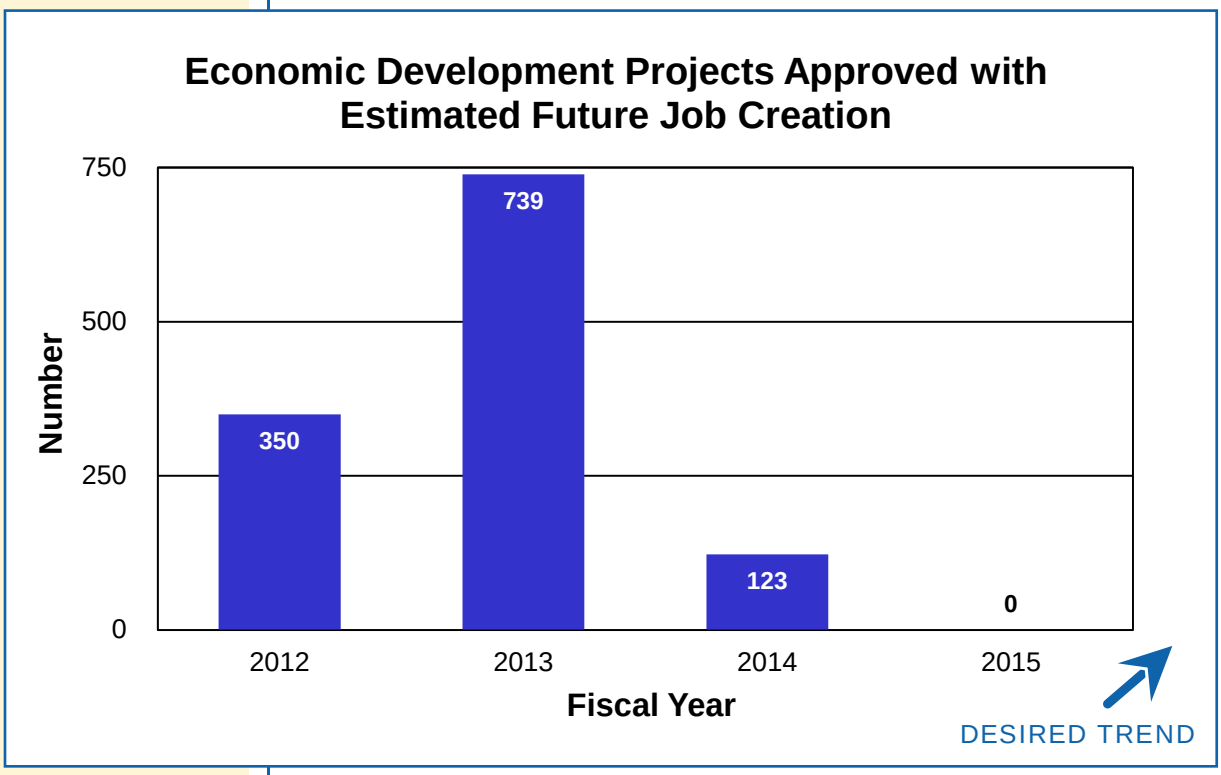
Jobs created by projects funded through the economic development program-7h

The Cost Share/Economic Development Program builds partnerships with local entities to pool efforts and limited resources in order to deliver state highway and bridge projects. In the past, MoDOT allocated $45 million of Cost Share/Economic Development funds annually, based on the funding distribution formula set by the Missouri Highways and Transportation Commission. Each year, a minimum of $5 million were set aside for projects that demonstrated economic development through job creation. MoDOT contributed up to 100 percent of the total cost for projects on the state highway system if the Missouri Department of Economic Development verified the project created jobs. Retail development projects were not eligible.

In light of a plummeting 2016-2020 construction program, the Missouri Highways and Transportation Commission suspended the Cost Share/Economic Development Program on January 8, 2014. With contractor awards dropping from just more than $600 million in 2016 to about $325 million beginning in 2017, MoDOT will be unable to maintain the existing system, much less pursue projects that add to the system. Projects already reviewed and approved by the cost share committee are eligible to move forward. However, no additional projects will be considered for funding.

In fiscal year 2012, Edward Jones created 588 verified new jobs in conjunction with interchange improvements at I-270 and Dorsett Road in St. Louis County.


Jobs Created by Projects Funded Through the Economic Development Program
750
500
250
0
Number
588
0
0
0
2012
2013
2014
2015
Fiscal Year
DESIRED TREND


Economic Development Projects Approved with Estimated Future Job Creation
750
500
250
0
Number
350
739
123
0
2012
2013
2014
2015
Fiscal Year
DESIRED TREND

Percent of minorities and females employed-7i

RESULT DRIVER:
Machelle Watkins, Transportation Planning Director

MEASUREMENT DRIVER:
Ida Mitchell, Senior Human Resources Specialist

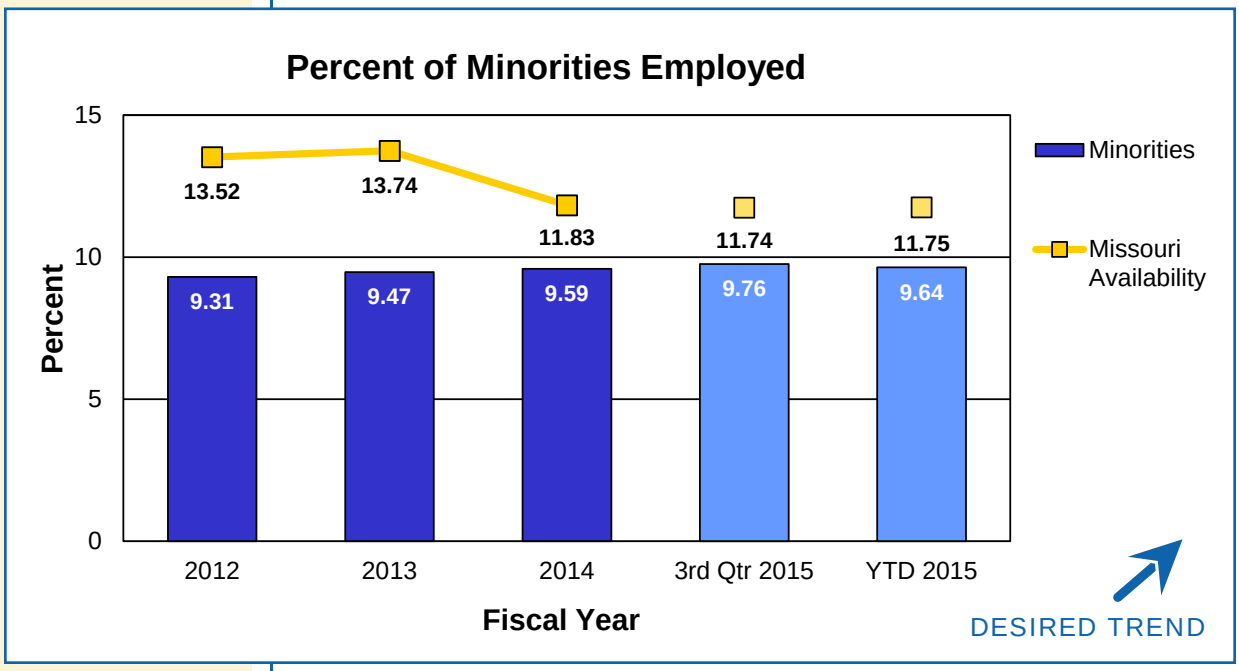
PURPOSE OF THE MEASURE:
This measure tracks minority and female employment in MoDOT's workforce and compares it with availability data from the Missouri 2010 Census report.

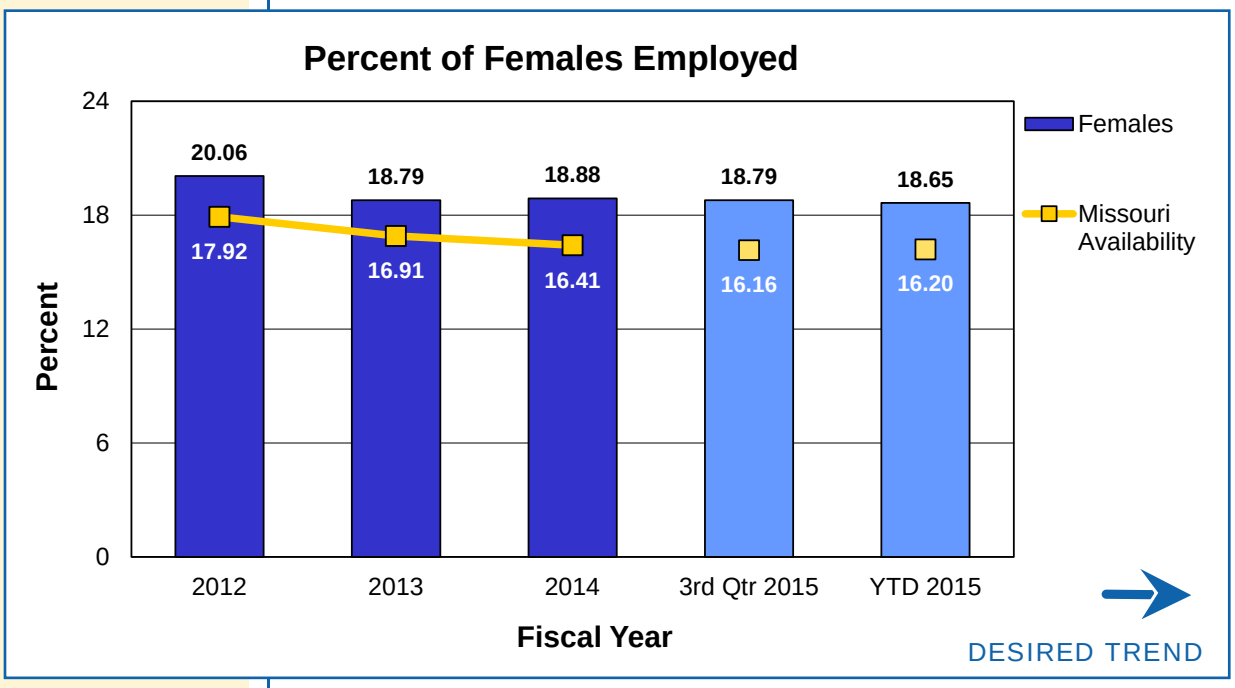
MEASUREMENT AND DATA COLLECTION:
The SAM II database is used to collect data. The Missouri 2010 Census data is used as the benchmark for this measurement.

By placing the right people in the right position, MoDOT can better serve its customers and help fulfill its responsibilities to taxpayers.

The number of minority employees decreased by 1.8 percent (493 to 484) from the third quarter of fiscal year 2015 to the fourth quarter of FY 2015. The number of female employees decreased by 1.3 percent from third quarter of FY 2015 to fourth quarter of FY 2015 (949 to 937). When compared to overall employment, the percent of females decreased (18.79 to 18.65) but is still above Missouri availability of 16.20 percent. The percent of minorities also decreased (9.76 to 9.64), but is below Missouri availability of 11.75 percent. Total full-time employment during this quarter decreased from 5,051 to 5,023.

During the third quarter of FY 2015, department staff partnered with local groups to offer CDL training and attended meetings of organizations geared towards minorities and females to talk to attendees about career opportunities at MoDOT. Supervisors continue to refer minority and female employees to the mentor program and the Accelerated Leadership Development Program. The department continues to focus on increasing MoDOT's applicant pool with qualified minorities and females. All local offices have been very active in their respective communities talking with diverse groups about career opportunities and advertising MoDOT jobs in publications that are highly visible to minorities and females.


Percent of Minorities Employed
15
10
5
0
Percent
13.52
13.74
11.83
11.74
11.75
9.31
9.47
9.59
9.76
9.64
2012
2013
2014
3rd Qtr 2015
YTD 2015
Fiscal Year
Minorities
Missouri Availability
DESIRED TREND


Percent of Females Employed
24
18
12
6
0
Percent
20.06
18.79
18.88
18.79
18.65
17.92
16.91
16.41
16.16
16.20
2012
2013
2014
3rd Qtr 2015
YTD 2015
Fiscal Year
Females
Missouri Availability
DESIRED TREND

RESULT DRIVER:
Machelle Watkins, Transportation Planning Director

MEASUREMENT DRIVER:
Lester Woods, Jr., External Civil Rights Director

PURPOSE OF THE MEASURE:
This measure tracks the percent of Disadvantaged Business Enterprise use on construction and engineering projects.

MEASUREMENT AND DATA COLLECTION:
Data is collected through Site Manager for each construction project. The overall DBE goal is a yearly target established by MoDOT and the Federal Highway Administration regarding the expected total DBE participation on all federally-funded construction projects. Individual DBE project goals are determined by subcontract opportunity, project location and available DBE firms that can perform the scope of work. DBE utilization is tracked for each construction project identifying the prime contractor, contract amount, the established goal and how the prime contractor fulfilled the goal. This measure is based on the federal fiscal year, which is October 1 through September 30. Collection of data of the DBE classifications began in FFY 2012.

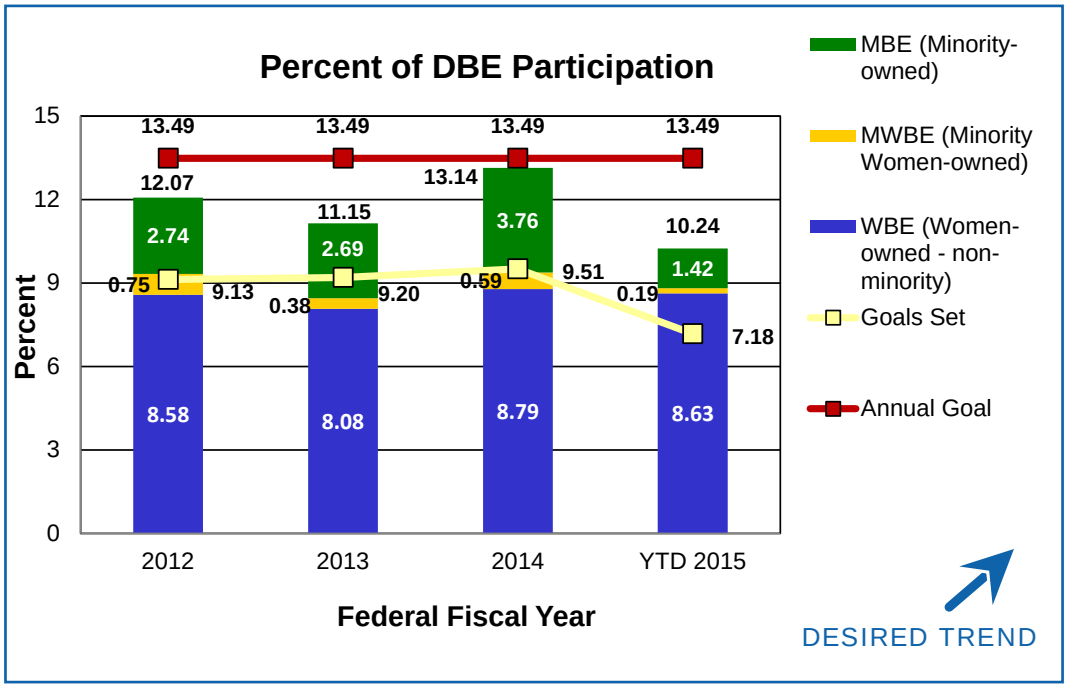
ADVANCE ECONOMIC DEVELOPMENT

Percent of disadvantaged business enterprise participation on construction and engineering projects-7j

MoDOT believes it is good business to support diversity among its contractors, subcontractors and suppliers. Contractors, subcontractors and suppliers working on construction projects that receive federal aid or federal financial participation are required to take reasonable steps to ensure DBEs have an opportunity to compete for and participate in project contracts and subcontracts.

The overall DBE goal for FFY 2015 is 13.49 percent. The DBE participation for the first two quarters of FFY 2015 is 10.24 percent. This is a 2.90 percent decrease from FFY 2014. Of the 10.24 percent utilization, 1.42 percent is participation from minority-owned DBE firms, 0.19 percent is participation from minority women-owned DBE firms and 8.63 percent is participation from women-owned DBE firms. The collective goals set for projects closed during this period amounted to 7.18 percent.

MoDOT continues to support diversity among its contractors, subcontractors and suppliers even as funding available for the construction program declines.



RESULT DRIVER:
Machelle Watkins, Transportation Planning Director

MEASUREMENT DRIVER:
Rebecca Jackson, General Services Manager

PURPOSE OF THE MEASURE:
This measure tracks the department's non-program spending with certified minority, women, and disadvantaged business enterprises (MWDBE). Vendors may be certified through the Office of Administration as well as the Missouri Regional Certification Committee. Included in these expenditures are items such as materials, equipment, tools and supplies. Program spending, including construction, design consultants, local agencies, highway safety and multimodal programs and exempted activities such as utilities, postage, organizational memberships, conferences and travel are excluded from total dollars spent.

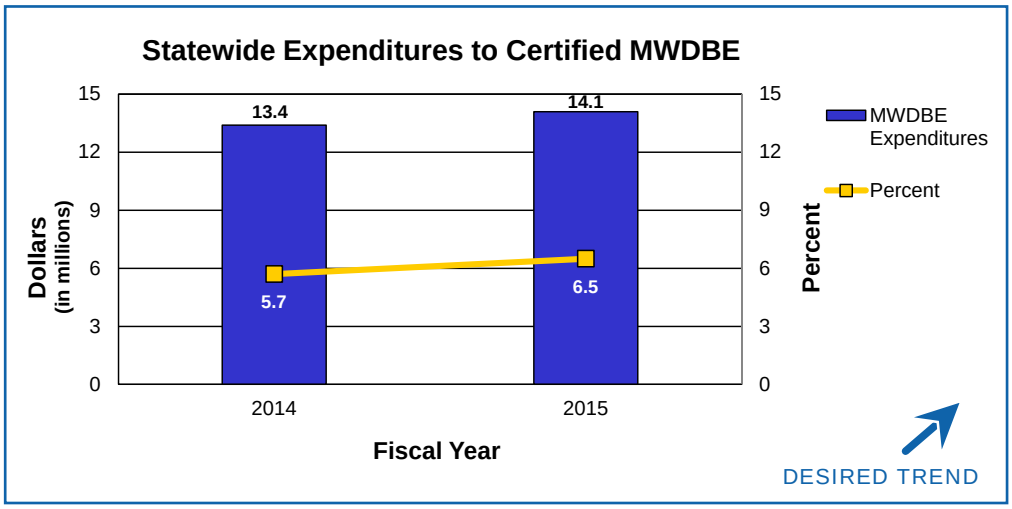
MEASUREMENT AND DATA COLLECTION:
Data is obtained from the statewide financial accounting system expenditure reports and United Missouri Bank purchasing card reports. Certified vendors are maintained in a statewide procurement vendor database.

ADVANCE ECONOMIC DEVELOPMENT

Expenditures made to certified minority, women and disadvantaged business enterprises-7k

Ensuring MoDOT spending is representative of Missouri communities advances economic development for all business enterprises. Historical data helps identify opportunities for improvement. Improvement efforts include training staff who have procurement authority, outreach to MWDBE vendors to encourage them to become certified and focused inclusion efforts.

Fiscal year 2015 results show an increase of $700,000 in MWDBE disbursements compared to FY 2014, which is a 0.8 percent increase.

During this quarter, MoDOT staff attended the following events: Office of Administration Small Business Symposium and Reverse Vendor Fair on May 27, 2015 in St. Louis; OA Small Business Symposium and Reverse Vendor Fair on June 3, 2015 in Kansas City; and the DBE Supportive Services – How to do Business with MoDOT Luncheon on June 23, 2015 in Cape Girardeau.

With declining state and federal transportation funding and the increasing costs to do business, the dollars spent with all vendors, including MWDBE vendors, are expected to fall. This measure will continue to track the department's efforts to ensure the vendor pool is representative of the business community as a whole.