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.

ADVANCE ECONOMIC DEVELOPMENT

Economic return from transportation investment – 7a

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.

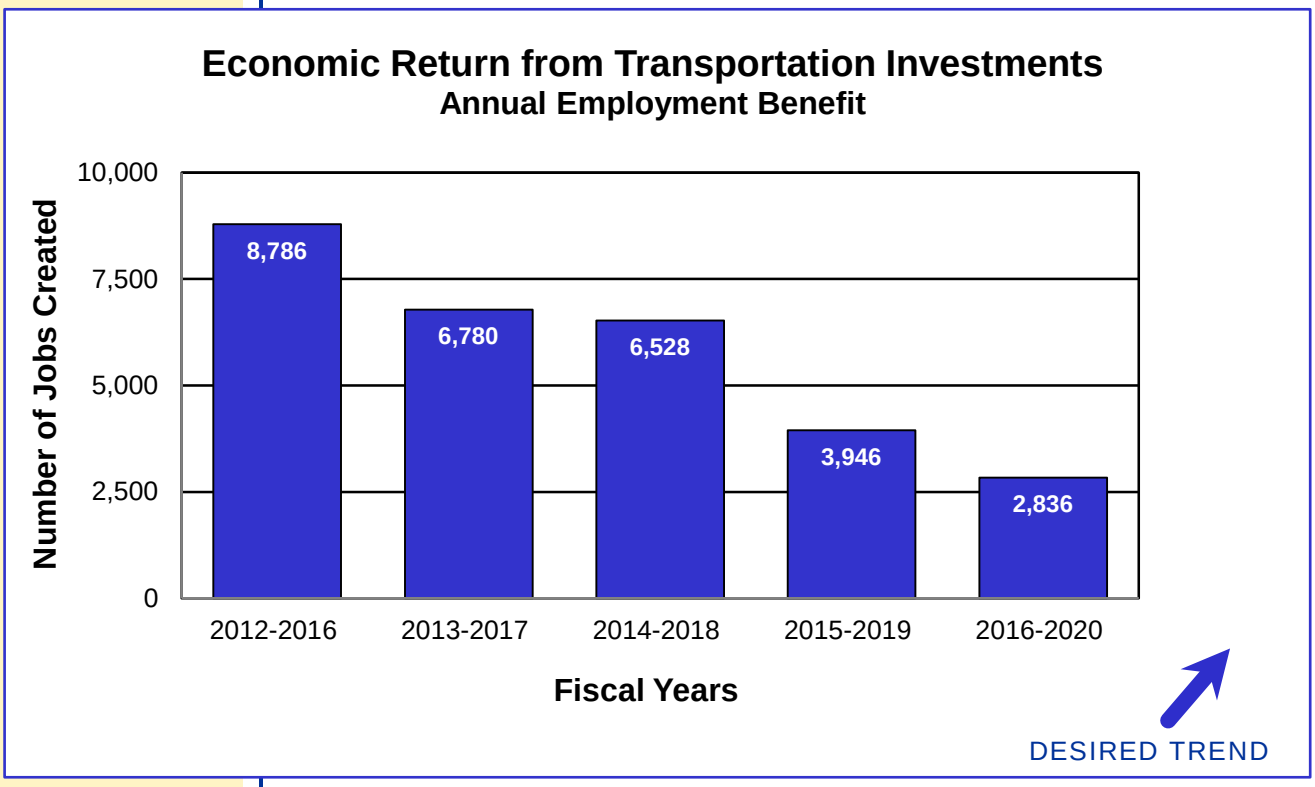
MEASUREMENT AND DATA COLLECTION:
MoDOT works with the Economic Development Research Group to perform economic impact analyses for the state's transportation investments. The analyses are performed using a model called the Transportation Economic Development Impact System. The TREDIS model results demonstrate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

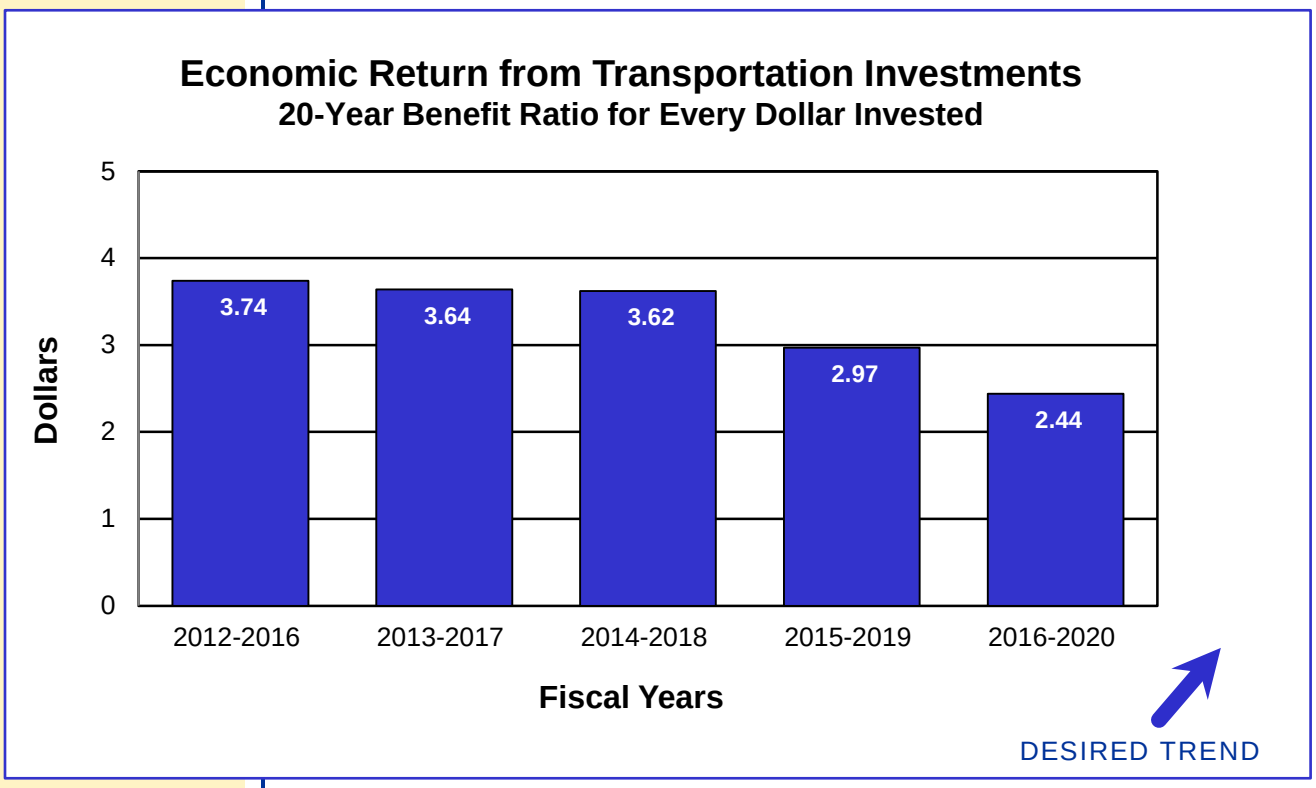
Investment in transportation improvements have long been held as a major economic engine that drives growth in job creation, personal income and new value added to Missouri's economy.

Based on MoDOT's 2016-2020 Statewide Transportation Improvement Program investment of $3 billion, the program is estimated to create 2,836 jobs. Transportation investments are expected to contribute $7.2 billion of economic output during the next 20 years, resulting in a $2.44 return on every $1 invested in transportation.

The economic return decreased compared to the previous analysis because of decreasing construction investments for highway and bridge improvements and updating the transit methodology. 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 (2015-2019), the number of estimated jobs created decreased 28 percent.

ADVANCE ECONOMIC DEVELOPMENT





ADVANCE ECONOMIC DEVELOPMENT

National ranking of transportation infrastructure – 7b

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 leaders and policy experts, 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:

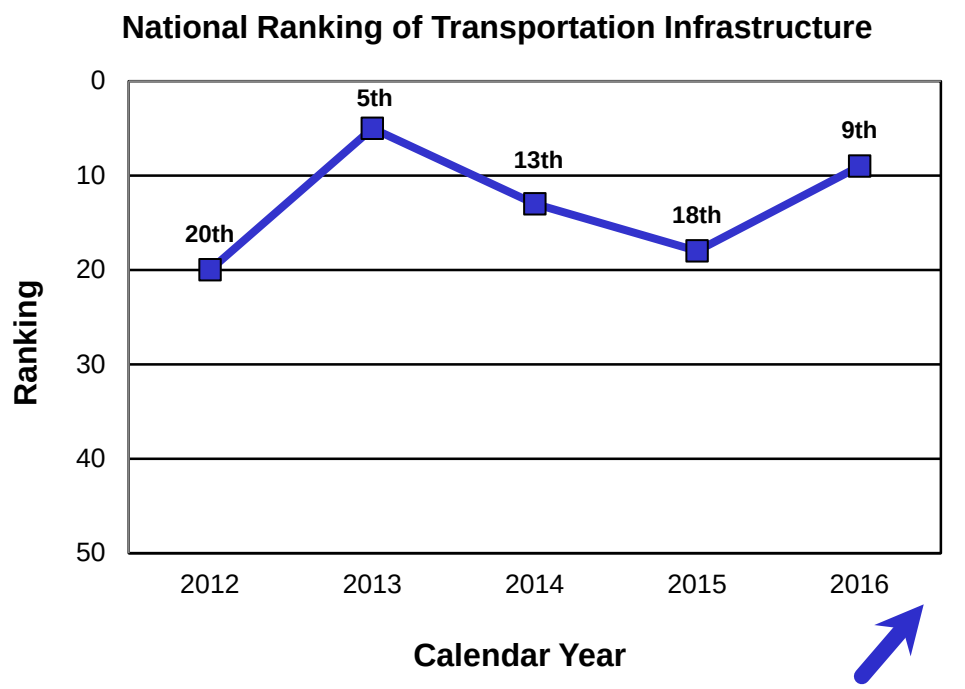
- Value of goods shipped by air, waterways, roads and rail
- Availability of air travel
- Quality of roads and bridges
- Time it takes to commute to work
- Condition of drinking water and wastewater systems (added in 2016).

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.

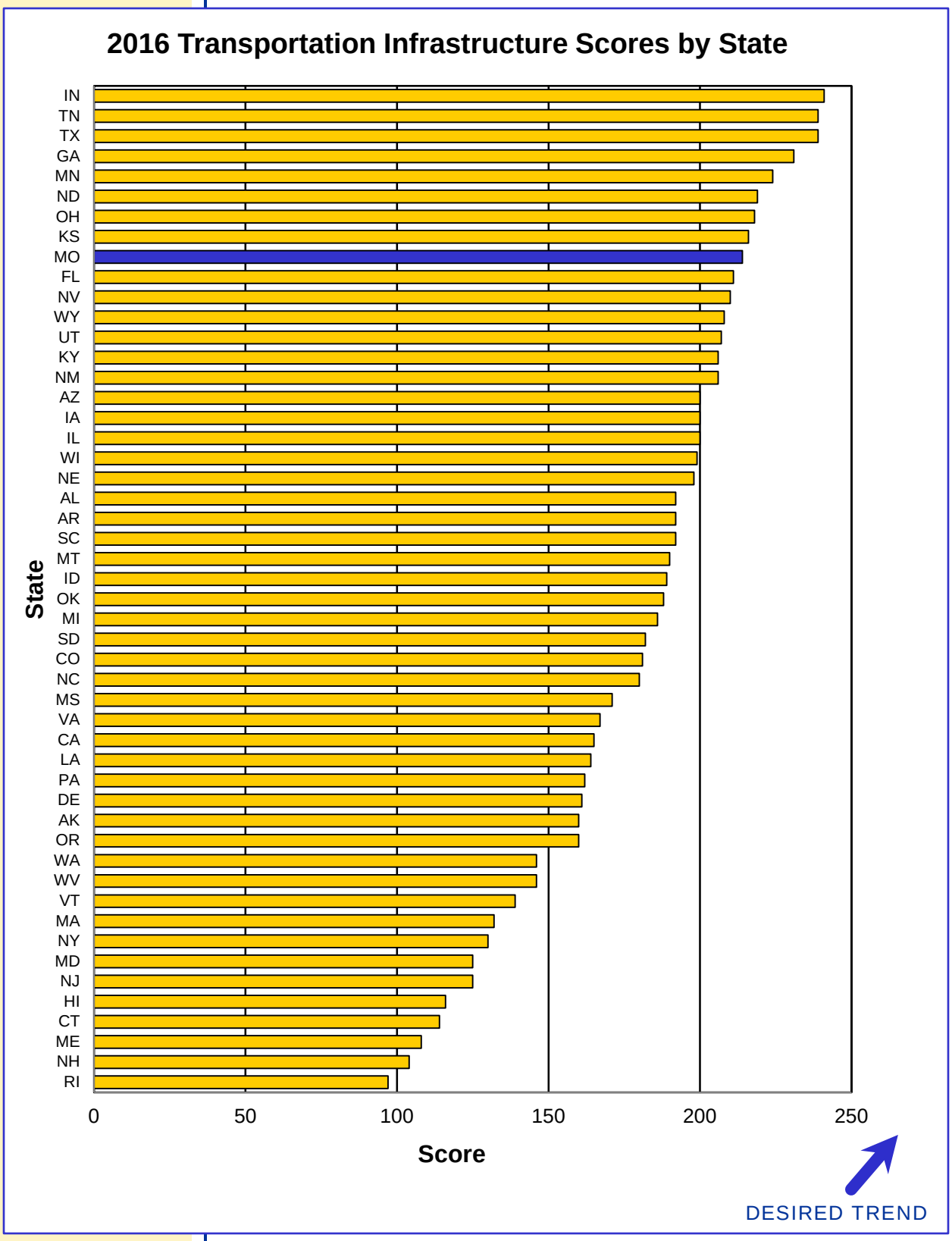
Prior to 2012, Missouri's national rank in transportation infrastructure was in the top nine. In 2012, Missouri decreased to 20th in the national rankings as the measure added time it takes to commute to work. The ranking improved in 2013 as the measure changed to quantity of goods shipped instead of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

Missouri's 2016 ranking for infrastructure is 9th best in the nation. Overall, infrastructure was Missouri's highest rated area for the ten categories in the study, which included workforce, cost of doing business and quality of life. The overall ranking for Missouri is 31st best in the nation.

Missouri's infrastructure ranking will be challenging to maintain without a solution to the state's long-term insufficient transportation funding challenge.



ADVANCE ECONOMIC DEVELOPMENT



ADVANCE ECONOMIC DEVELOPMENT

National ranking in revenue per mile – 7c

RESULT DRIVER:
Machelle Watkins
Transportation Planning Director

MEASUREMENT DRIVER:
Tona Bowen
Financial Services Administrator

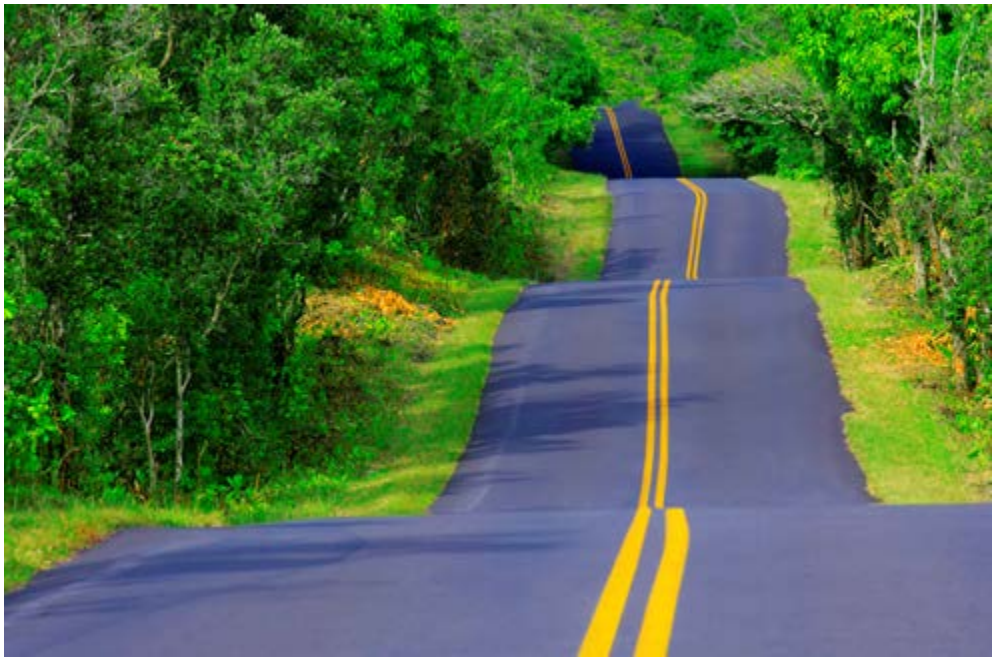
PURPOSE OF THE MEASURE:
This measure reports how Missouri's state highway system funding situation compares to that of other states.

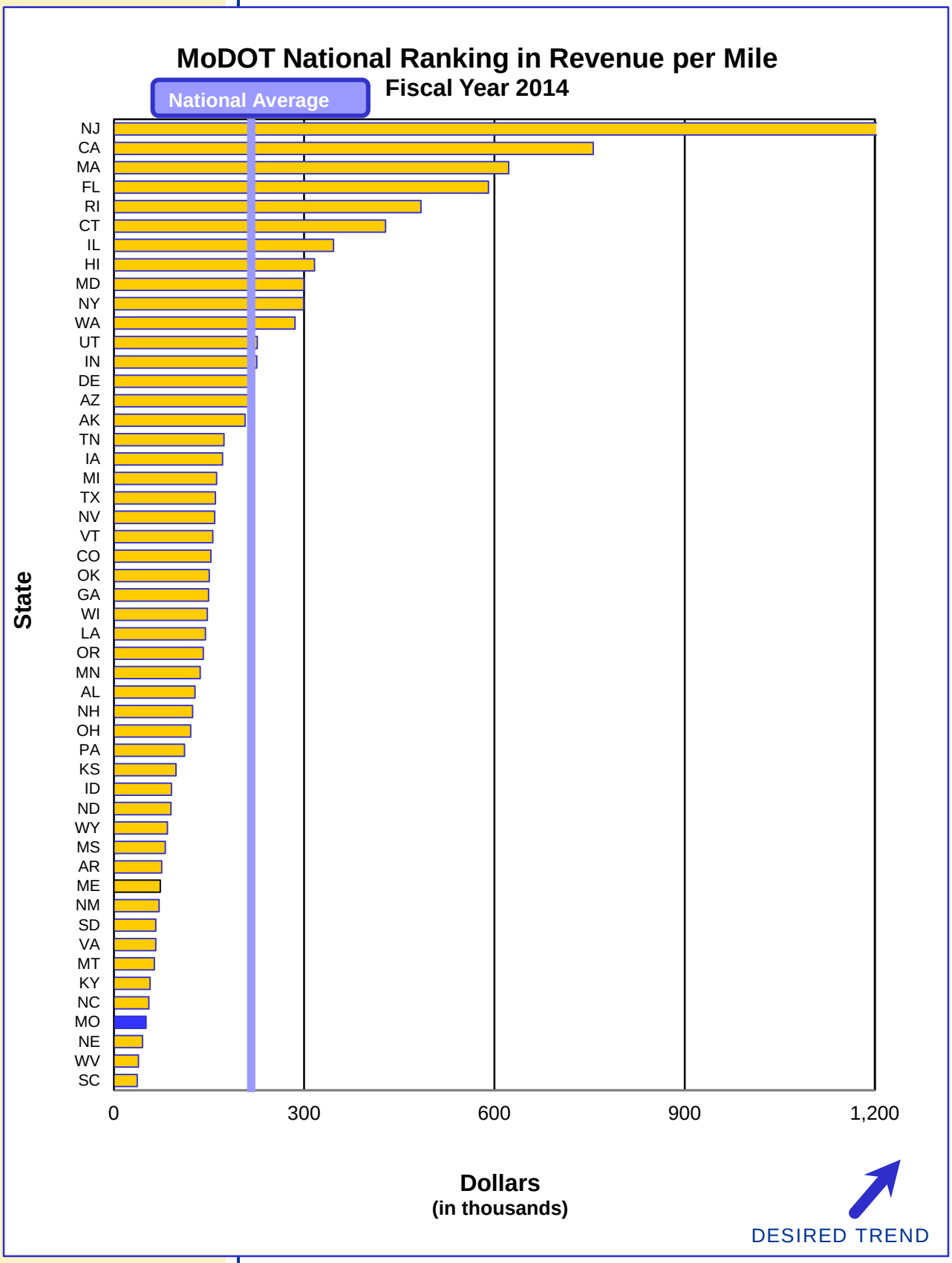
MEASUREMENT AND DATA COLLECTION:
The state revenue, highway mileage counts and bridge data used in this measure are gathered from Federal Highway Administration annual reports. The information is updated as the data becomes available from FHWA.

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 fiscal year 2014, the national average for revenue per mile was $216,533. Missouri's revenue per mile of $50,766 currently ranks 47th in the nation. Missouri's ranking has continually declined since FY 2011 when Missouri was ranked 40th.

Missouri's state highway system, consisting of 33,873 centerline miles in FY 2014, is the seventh largest system in the nation. In addition, Missouri ranks sixth nationally in number of bridges with 10,394 bridges. New Jersey's revenue per mile of $1,677,657 ranks first. However, its state highway system includes only 2,340 miles and 2,423 bridges.




MoDOT National Ranking in Revenue per Mile
Fiscal Year 2014
National Average
State
NJ
CA
MA
FL
RI
CT
IL
HI
MD
NY
WA
UT
IN
DE
AZ
AK
TN
IA
MI
TX
NV
VT
CO
OK
GA
WI
LA
OR
MN
AL
NH
OH
PA
KS
ID
ND
WY
MS
AR
ME
NM
SD
VA
MT
KY
NC
MO
NE
WV
SC
0
300
600
900
1,200
Dollars
(in thousands)
DESIRED TREND

ADVANCE ECONOMIC DEVELOPMENT

Goods movement competitiveness – 7d

RESULT DRIVER:
Machelle Watkins
Transportation Planning Director

MEASUREMENT DRIVER:
Cheryl Ball
Administrator of Freight and Waterways

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.

Product transportation costs vary depending on the efficiency, reliability, safety and modal options in a state's transportation system. Accumulation of the costs to transport in each step in the supply chain starting at product origination, to 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 - 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 $8 billion in revenue annually while employing more than 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.

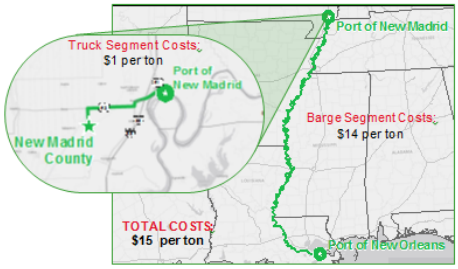
Deterioration of any of the factors influencing transportation cost not only impacts the competitiveness of Missouri products in external markets, it also influences the cost to bring products into Missouri, which controls the prices at local stores.

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 Missouri's transportation funding does not allow the agency's ability to fully respond to those needs.

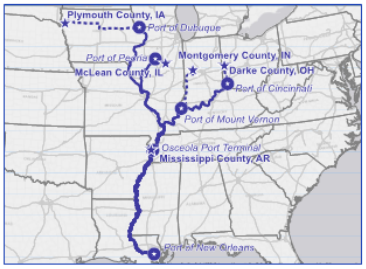
ADVANCE ECONOMIC DEVELOPMENT

SOYBEANS

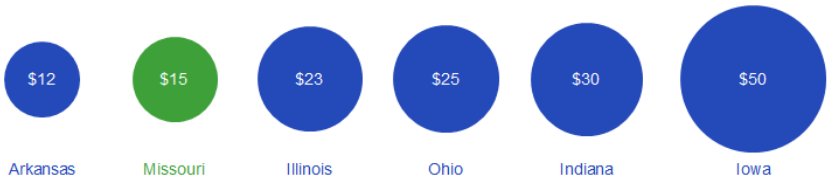
The Route from New Madrid County to New Orleans



The Route from Competitor States to New Orleans

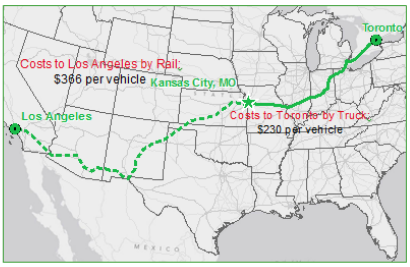


The Cost of Shipping One Ton of Soybeans to New Orleans
(largely by barge)



FINISHED MOTOR VEHICLES

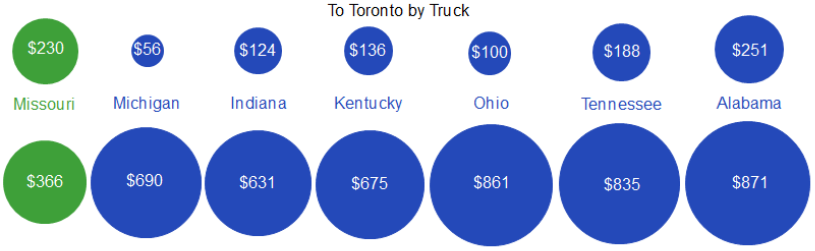
The Route from Kansas City to
Toronto by Truck and Los Angeles by Rail



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



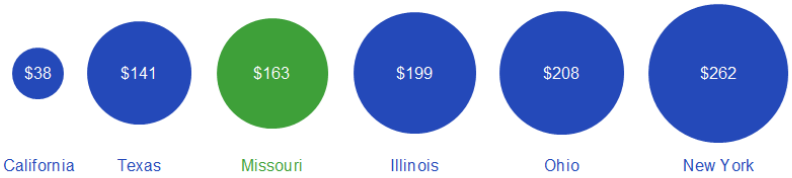
To Los Angeles by Rail

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



ADVANCE ECONOMIC DEVELOPMENT

Freight tonnage by mode – 7e

RESULT DRIVER:
Machelle Watkins
Transportation Planning Director

MEASUREMENT DRIVER:
Bryan Ross
Senior Multimodal Operations Specialist

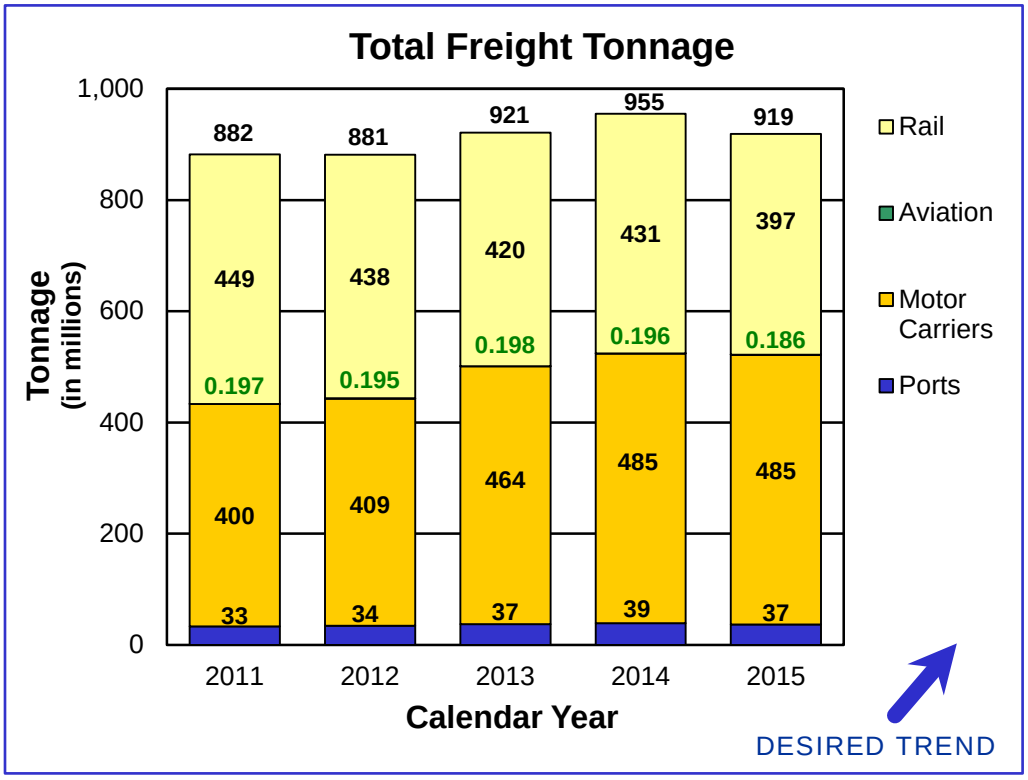
PURPOSE OF THE MEASURE:
This measure tracks the amount of freight moved by Missouri's largest transportation modes.

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.

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.

State funding cannot address transportation needs other than highways and bridges. Moving in excess of 900 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 2015, Missouri experienced an approximate 4 percent decrease in freight movements as compared to the previous year. Railroad tonnage decreased 8 percent due to lower shipments in metals, crude oil and coal shipments. Motor carriers continued to haul the most tonnage, which can be attributed to continued demand for durable goods shipments. Durable goods, such as appliances and furniture, tend to move by truck. Aviation and ports both experienced an approximate 5 percent decrease in tonnage. Missouri's public ports' decreased tonnage is attributed to fewer crude oil shipments.



ADVANCE ECONOMIC DEVELOPMENT

Annual hours of truck delay – 7f

RESULT DRIVER:
Machelle Watkins
Transportation Planning Director

MEASUREMENT DRIVER:
Aaron Hubbard
Motor Carrier Services Project Manager

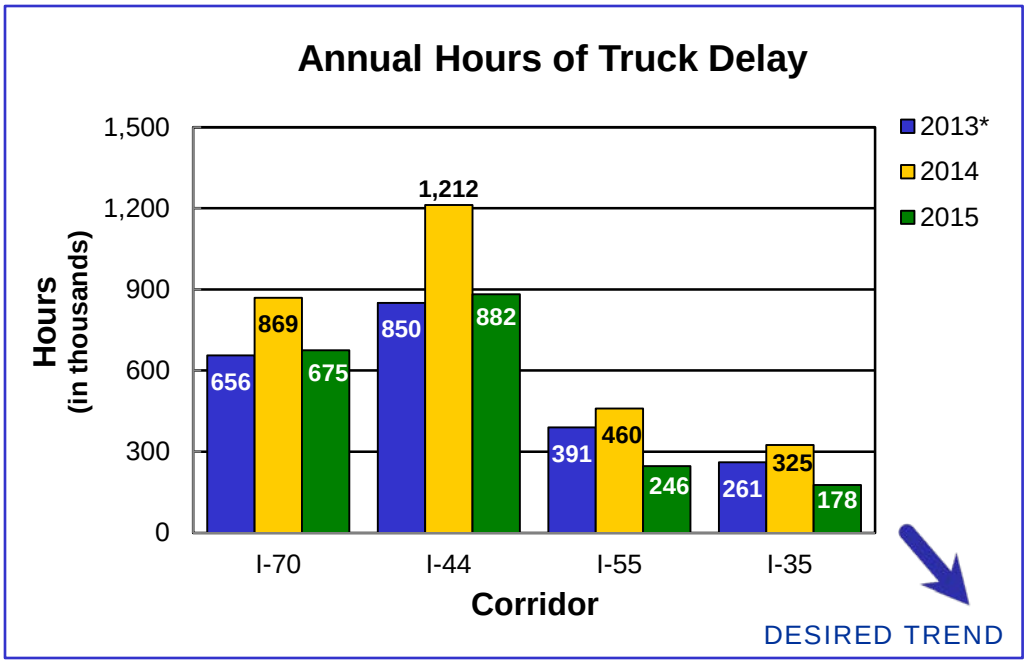
PURPOSE OF THE MEASURE:
This measure is proposed to be used as a Fixing America's Surface Transportation Act national freight performance measure.

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.

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 inventories 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 long-term transportation funding is insufficient to address congestion factors.

On average, those shipping by truck can expect a delay of 13.3 minutes per trip on I-70, 29.2 minutes on I-44, 12.7 minutes on I-55 and 8.6 minutes on I-35. The annual cost of delay for the trucking industry on I-70 is $45.7 million, $58.1 million on I-44, $16.9 million on I-55, and $12.3 million on I-35.



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

ADVANCE ECONOMIC DEVELOPMENT

Truck reliability index – 7g

RESULT DRIVER:
Machelle Watkins
Transportation Planning Director

MEASUREMENT DRIVER:
Aaron Hubbard
Motor Carrier Services Project Manager

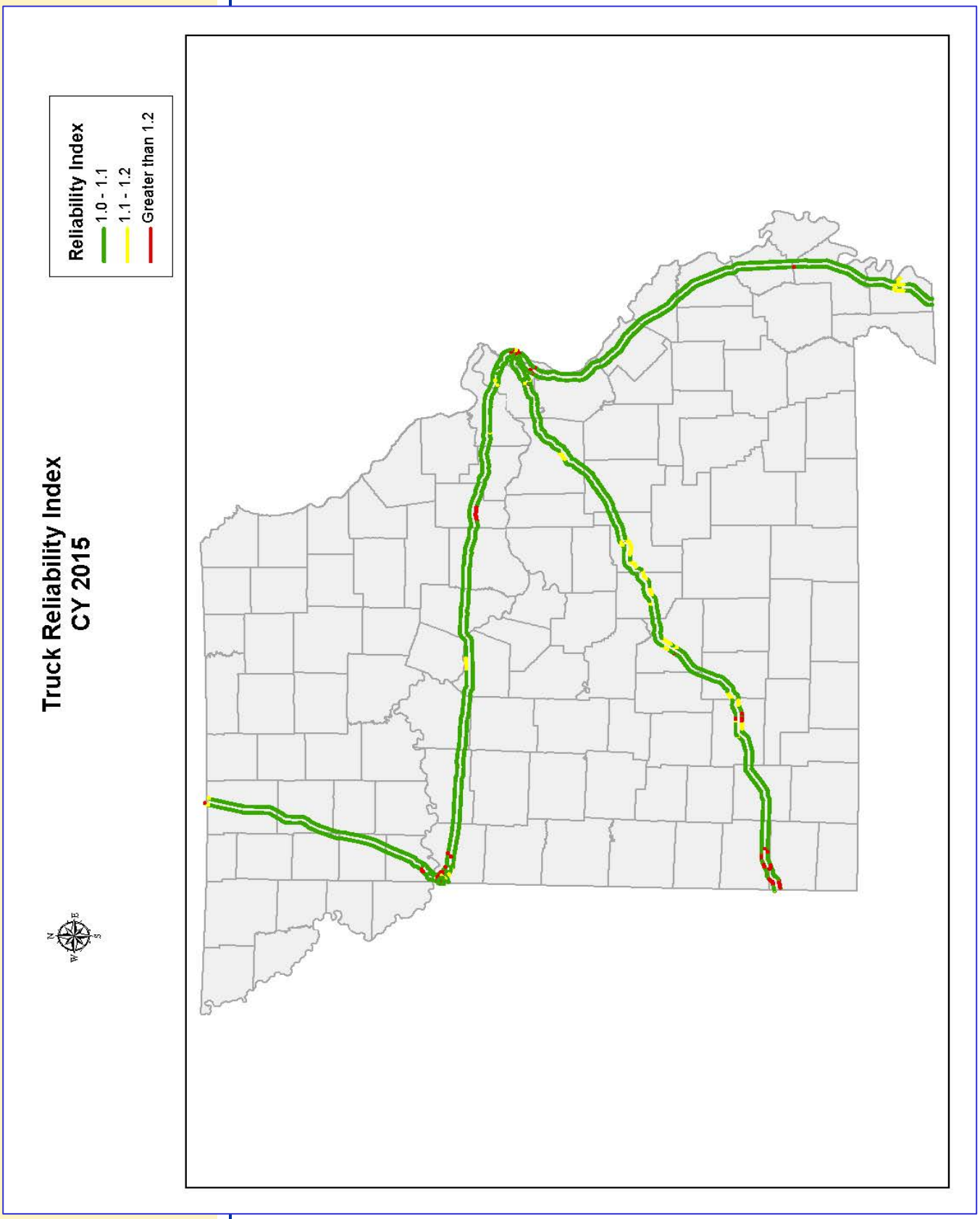
PURPOSE OF THE MEASURE:
This reliability measure is proposed to be used as a Fixing America's Surface Transportation Act national freight performance measure. By annually comparing the reliability index number for each corridor, MoDOT can determine if the corridor has become less or more reliable. A 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.

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.

In calendar year 2015 Kansas City and St. Louis metropolitan areas both improved truck travel time reliability reducing previously identified red areas. Springfield and Joplin were unchanged. I-35 South improved in Clay County near Liberty from yellow to green. I-70 East improved in Lafayette County at both Odessa and Concordia from yellow to green. I-44 East improved in Pulaski County near Waynesville from red to yellow and Franklin County near St. Clair from yellow to green. I-55 South improved in New Madrid County near Marston from yellow to green and Pemiscot County near Caruthersville from red to yellow.

MoDOT continually seeks ways to deliver the infrastructure to support reliable trips for drivers and to help keep costs down and improve travel-time reliability.


Truck Reliability Index
CY 2015
Reliability Index
1.0 - 1.1
1.1 - 1.2
Greater than 1.2

ADVANCE ECONOMIC DEVELOPMENT

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

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.

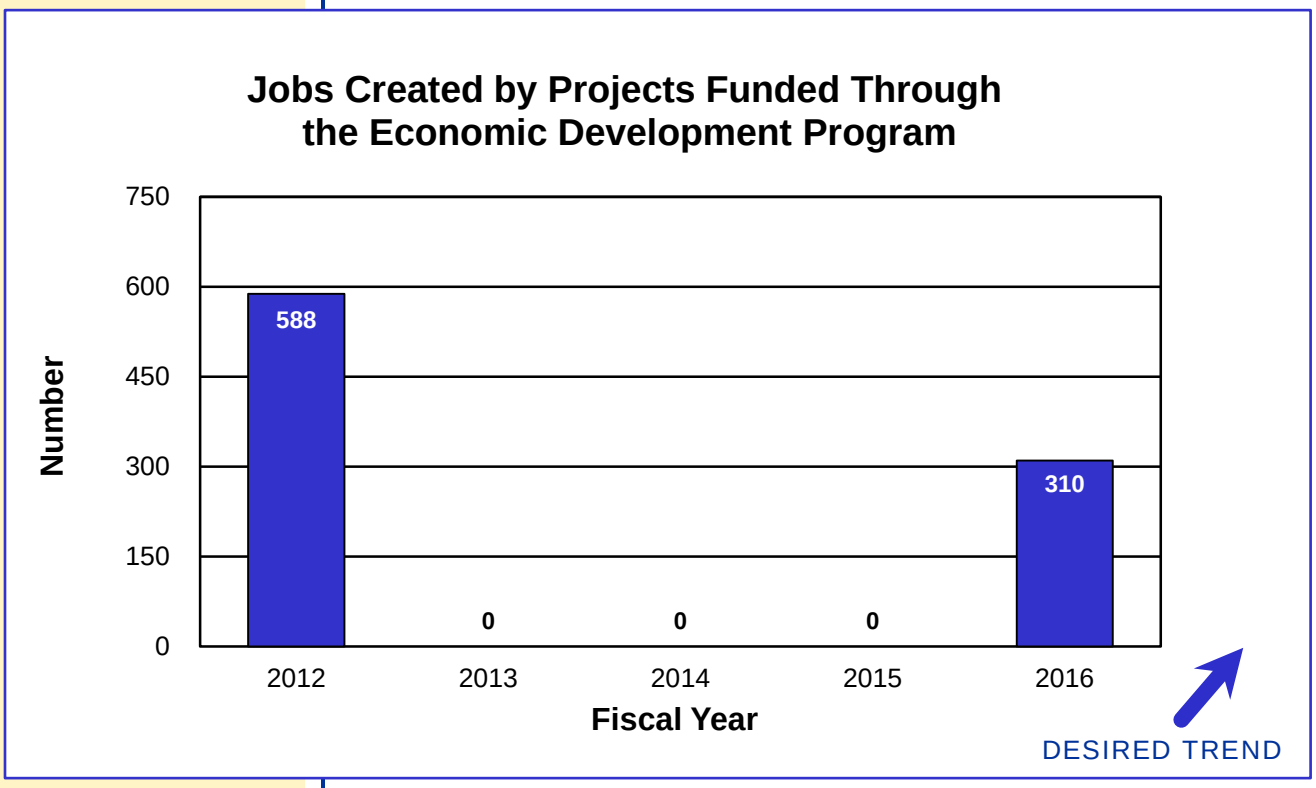
MEASUREMENT AND DATA COLLECTION:
Data for this measure is collected from a partnership development database. This measure is based on the state fiscal year – July 1 to June 30.

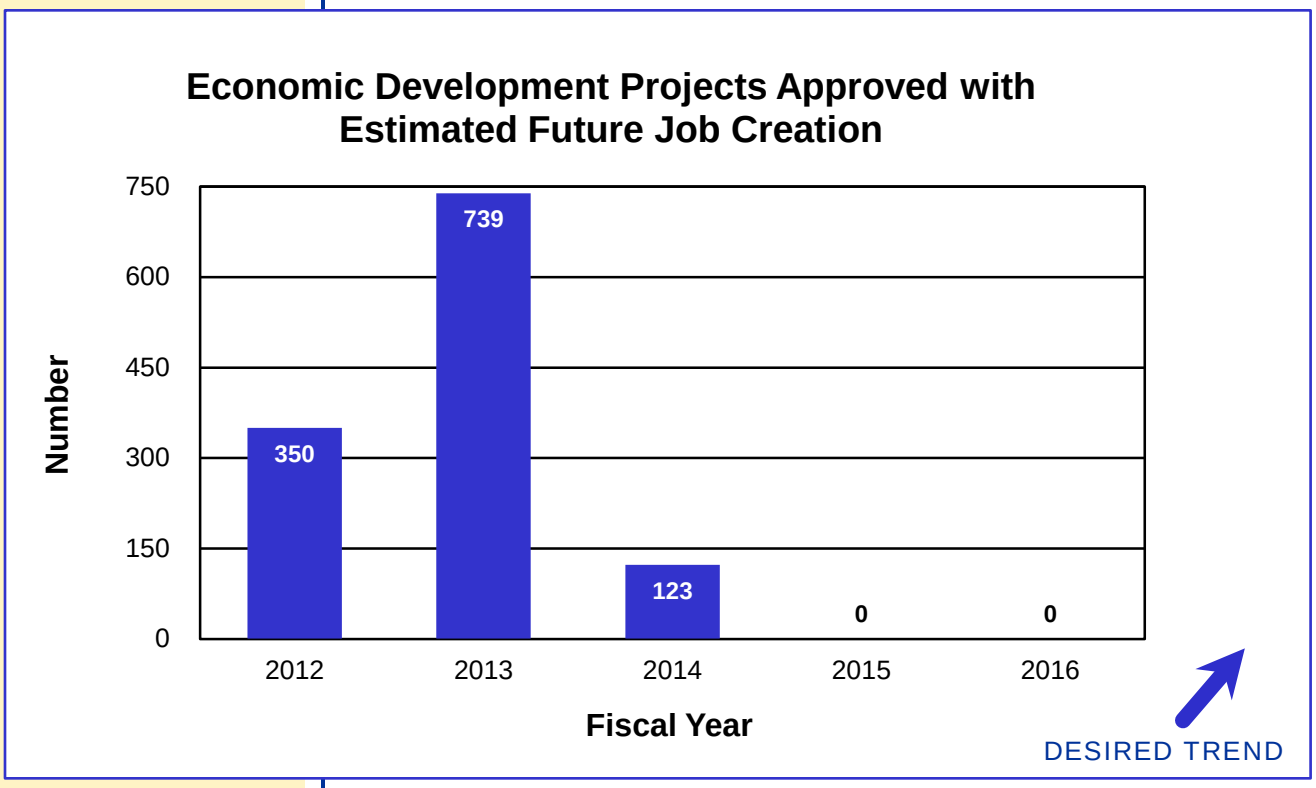
The Cost Share/Economic Development Program builds partnerships with local entities to pool efforts and limited resources in order to deliver state highway and bridge projects. In the past, MoDOT allocated $45 million of Cost Share/Economic Development funds annually based on the funding distribution formula set by the Missouri Highways and Transportation Commission. Each year, a minimum of $5 million was 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 that the project created jobs. Retail development projects were not eligible.

The Missouri Highways and Transportation Commission suspended the Cost Share/Economic Development Program on Jan. 8, 2014. 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 2016, Ford Motor Company created 256 verified new jobs in conjunction with interchange improvements at Interstate 35 and U.S. Route 69 in Clay County. Doyle Enterprises created 54 verified new jobs in conjunction with interchange improvements at U. S. Route 61 and County Road 334.

ADVANCE ECONOMIC DEVELOPMENT





ADVANCE ECONOMIC DEVELOPMENT

Percent of minorities and females employed – 7i

RESULT DRIVER:
Machelle Watkins
Transportation Planning Director

MEASUREMENT DRIVER:
Rebecca Brietzke
Intermediate Diversity and Inclusion 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.

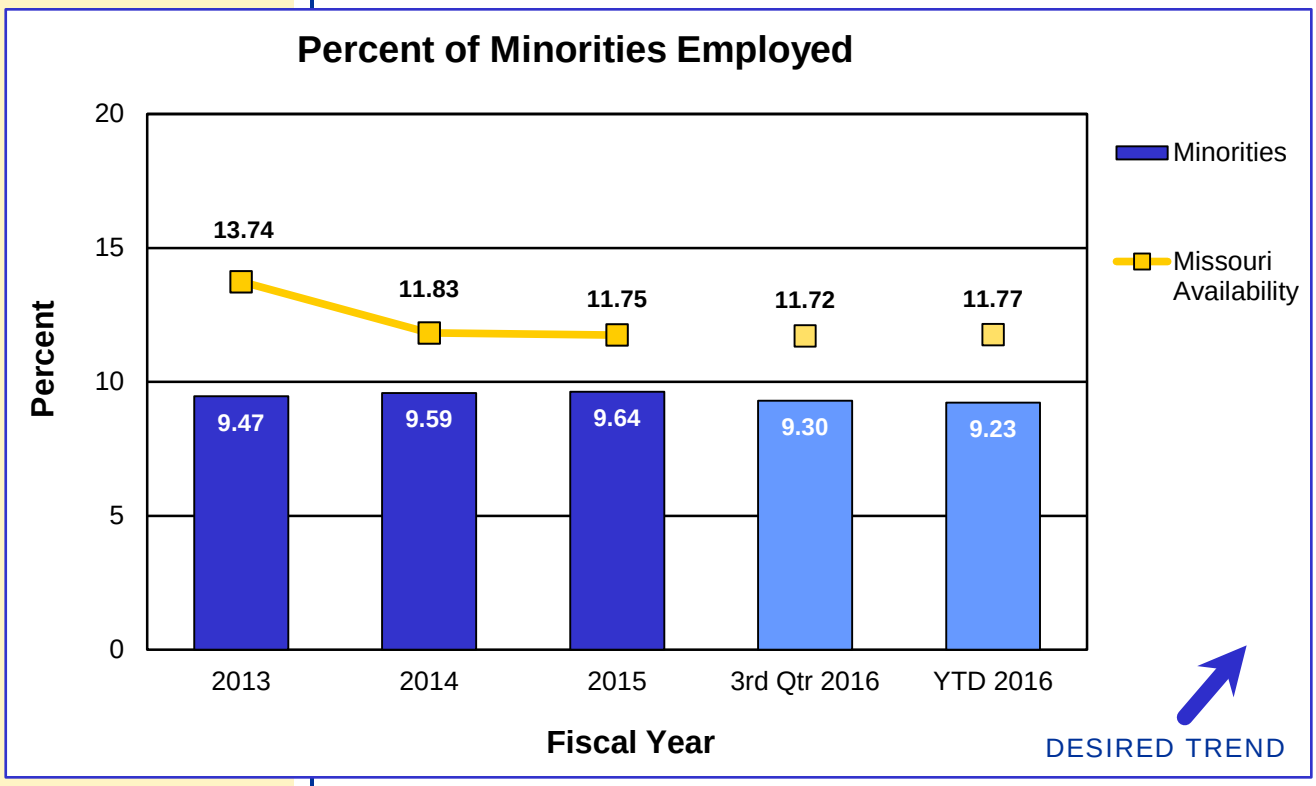
MEASUREMENT AND DATA COLLECTION:
The SAM II database is used to collect data. The Missouri 2010 Census data is used as the benchmark for this measurement. This measure is based on the state fiscal year – July 1 to June 30.

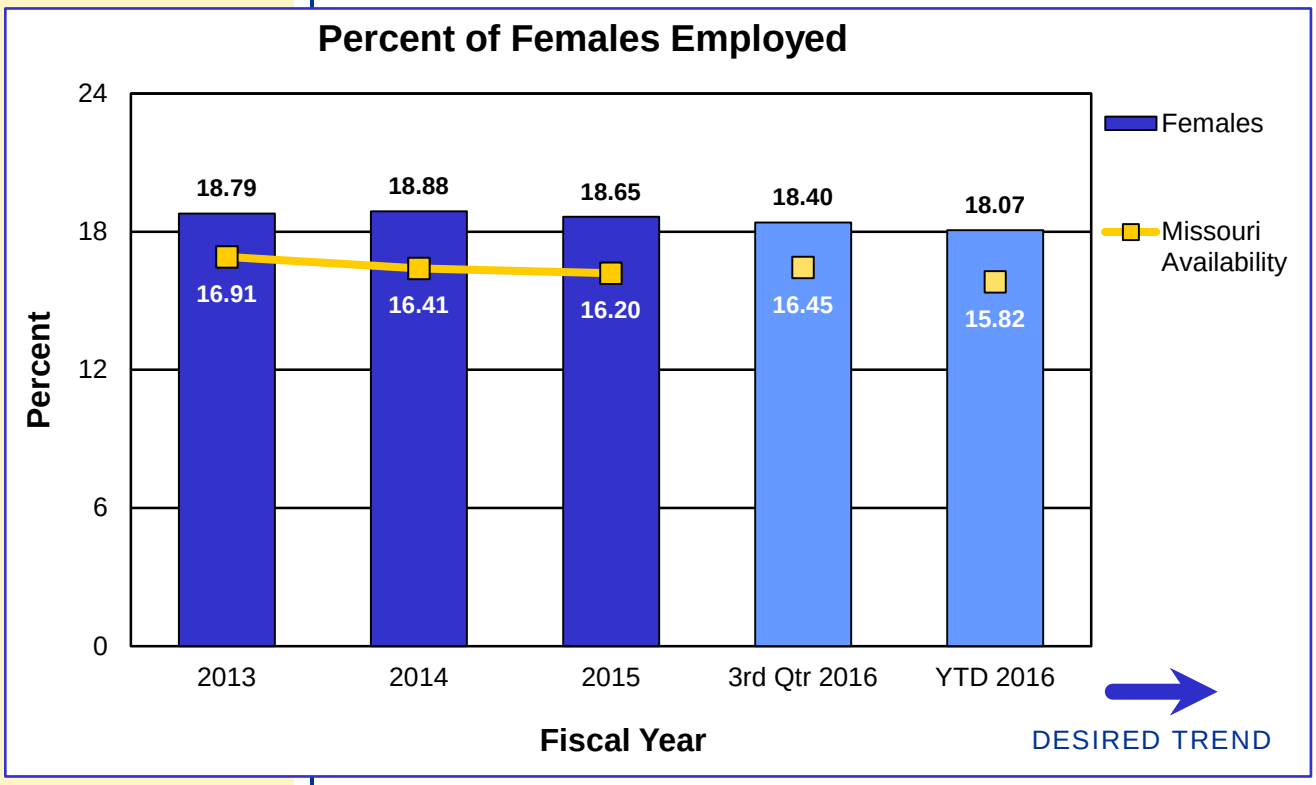
By placing the right people in the right position, MoDOT can better serve its customers and help fulfill its responsibilities to taxpayers.

The number of minority employees increased by 0.2 percent (468 to 469) from the third quarter of fiscal year 2016 to the fourth quarter of FY 2016. The number of female employees decreased by 0.9 percent from third quarter of FY 2016 to fourth quarter of FY 2016 (926 to 918). When compared to overall employment, the percent of females decreased (18.40 to 18.07) but is still above Missouri availability of 15.82 percent. The percent of minorities also decreased (9.30 to 9.23) but is below Missouri availability of 11.77 percent. Total full-time employment during this quarter increased from 5,033 to 5,079.

During the fourth quarter of FY 2016, MoDOT has been developing new relationships with organization and universities that are geared toward minorities and females. MoDOT has been working with Lincoln University to expand the partnership to include employment preparedness training opportunities and increased presence in discipline-specific classrooms. These good-faith efforts will aid in increasing an applicant pool of qualified minorities and females.

ADVANCE ECONOMIC DEVELOPMENT





ADVANCE ECONOMIC DEVELOPMENT

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

RESULT DRIVER:
Machelle Watkins
Transportation Planning Director

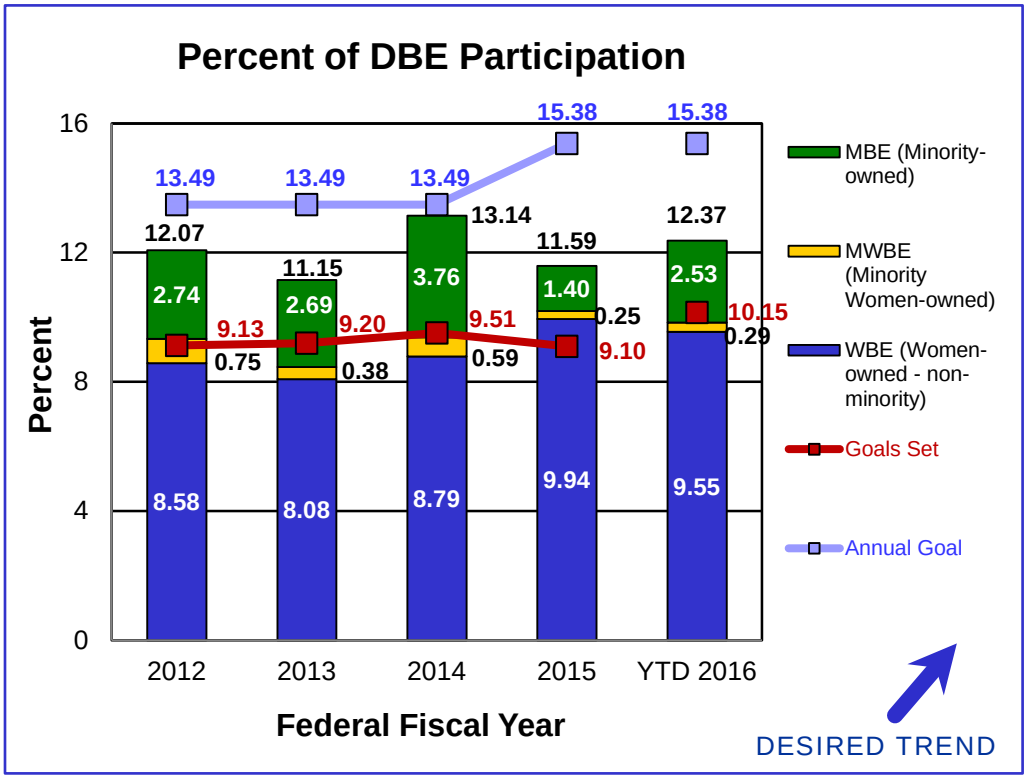
MEASUREMENT DRIVER:
Lester Woods, Jr.
External Civil Rights Director

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.

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 federal fiscal year 2015 is 15.38 percent. The DBE participation for the first two quarters of FFY 2016 is 12.37 percent. This is a 0.78 percent increase from FFY 2015. Of the 12.37 percent utilization, 2.53 percent is participation from minority-owned DBE firms, 0.29 percent is participation from minority women-owned DBE firms and 9.55 percent is participation from women-owned DBE firms. The collective goals set for projects closed during this period amounted to 10.15 percent.



ADVANCE ECONOMIC DEVELOPMENT

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

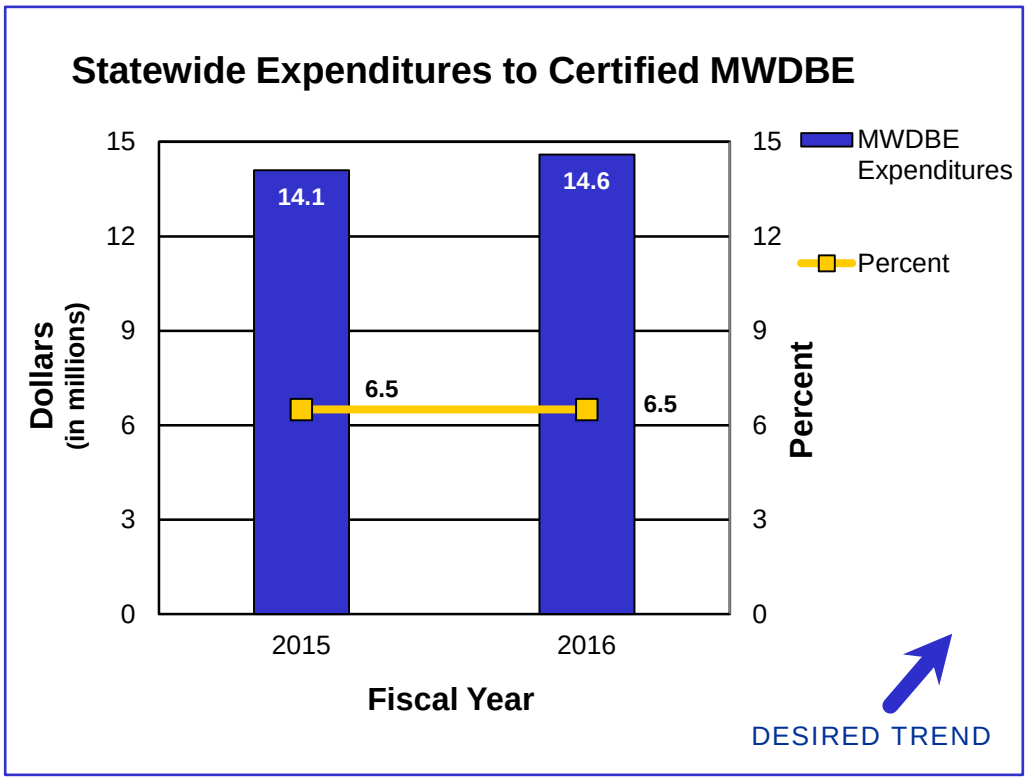
RESULT DRIVER:
Machelle Watkins
Transportation Planning Director

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).

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. 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.

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 2016 results show an increase of $0.5 million in MWDBE disbursements compared to FY 2015. The percentage of MWDBE expenditures spent in FY 2016 was the same as in FY 2015.

During this quarter, MoDOT staff attended the State of Missouri Capital Connection Business Exposition on June 1, 2016 in Columbia. MoDOT staff had the opportunity to meet with approximately 300 vendors, and the purpose was to promote opportunities for minority, women and disadvantaged business enterprises.