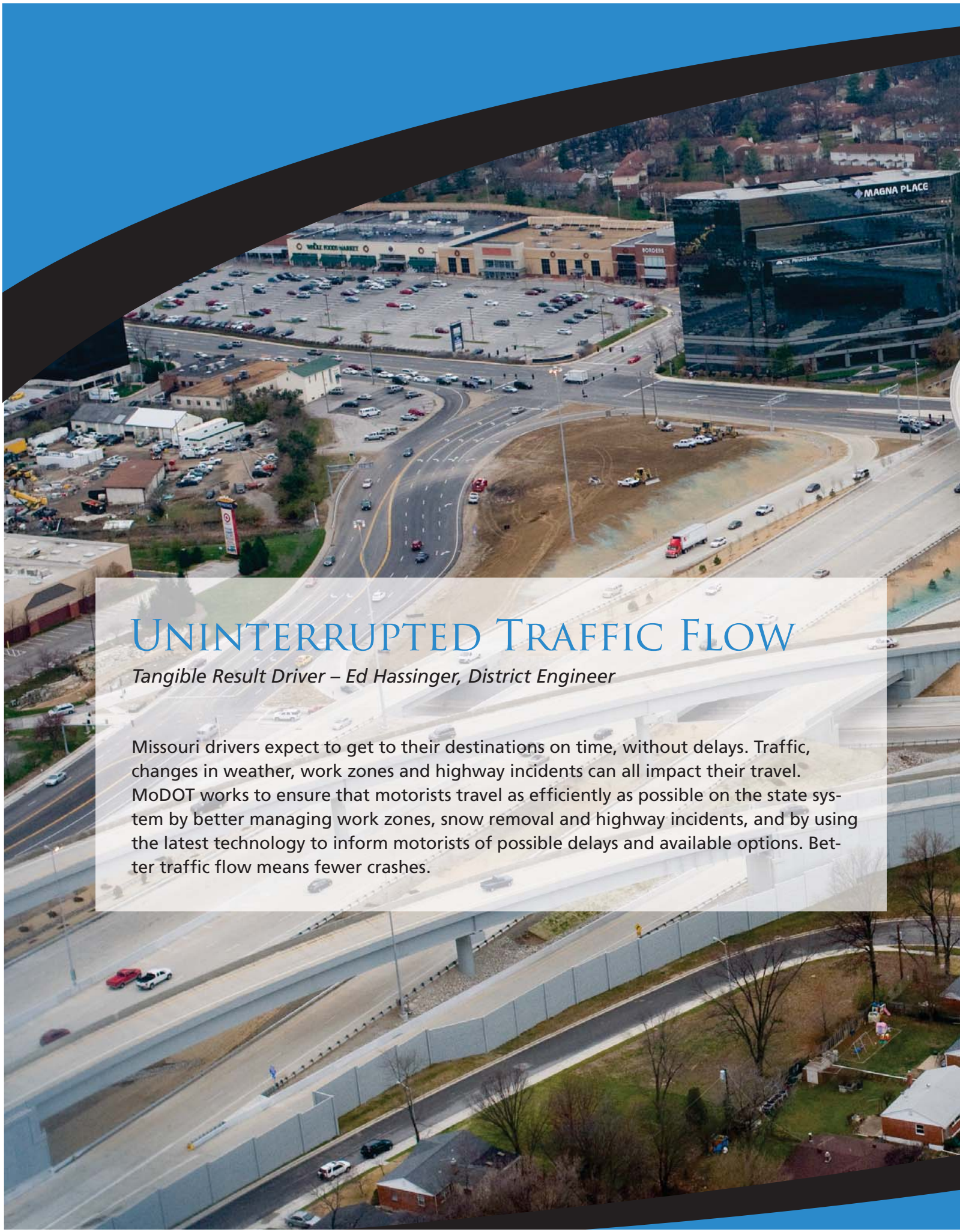


Uninterrupted Traffic Flow

Tangible Result Driver – Ed Hassinger, District Engineer

Missouri drivers expect to get to their destinations on time, without delays. Traffic, changes in weather, work zones and highway incidents can all impact their travel. MoDOT works to ensure that motorists travel as efficiently as possible on the state system by better managing work zones, snow removal and highway incidents, and by using the latest technology to inform motorists of possible delays and available options. Better traffic flow means fewer crashes.

TRACKER

MEASURES OF DEPARTMENTAL PERFORMANCE

Average travel times on selected freeway sections-1a

Result Driver: Ed Hassinger, District Engineer
Measurement Driver: Jon Nelson, Traffic Management and Operations Engineer

Purpose of the Measure:

This measure uses the average travel index values to calculate the ten-mile travel times during the morning and evening peaks on various freeway sections. The peak periods have been identified as the 7 a.m. hour and the 5 p.m. hour respectively based on historical values that suggest these hours to be the peak volume periods. The desired trend is to travel ten miles per ten minutes on a 60 mph freeway. The desired travel index is to remain at or near a value of 1.00. A value of 1.00 is representative of a free-flow condition. The travel index is directly related to the average speed and represents the level of congestion by taking into consideration not only average speed but also the traffic volumes.

The travel index is calculated according to the following equation:

Travel Index = Average speed/Free flow speed

The ten-mile Travel Time is calculated using this equation:

10-Mile Travel Time = 10 miles/Travel Index

Average speeds are taken from sensor data. The free-flow speed is constant and is equal to the highest hourly average speed for any hour in that data set.

Measurement and Data Collection:

Data from the St. Louis and Kansas City regions are provided by MoDOT's traffic management centers. Information about the St. Louis traffic management center, Gateway Guide, can be found at www.gatewayguide.com and information about the traffic management center in Kansas City, KC Scout, can be found at www.kcscout.net/. Data for the St. Louis region is also provided through a partnership with *Traffic.com*. Data for each location is updated quarterly.

Improvement Status:

Kansas City metropolitan region:

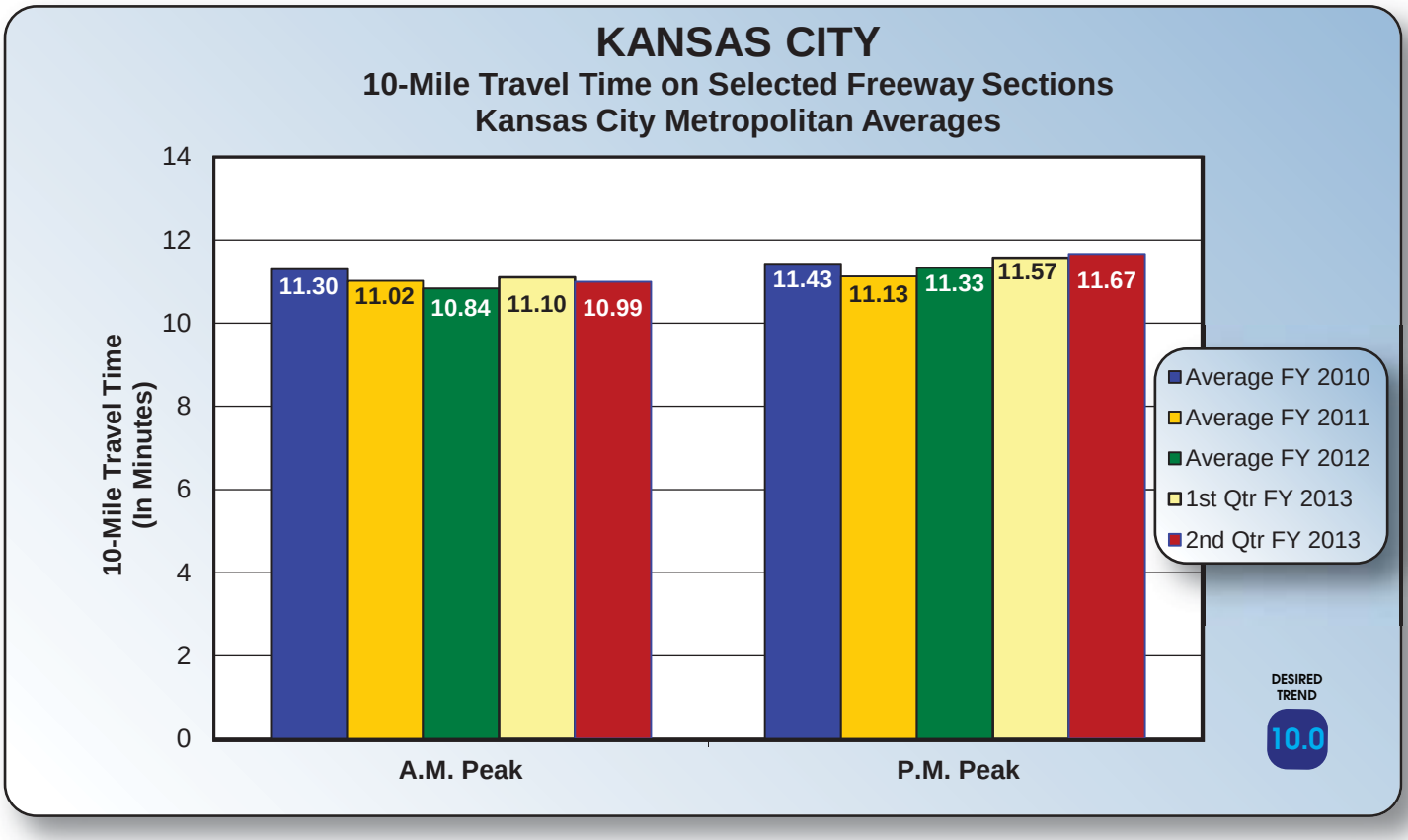
In Kansas City, the average morning peak 10-mile travel time for 2nd quarter FY 2013 was 10.99 minutes, down from 11.10 minutes last quarter. This represents an increase from 2nd quarter FY 2012 (10.88 minutes). The average evening peak 10-mile travel time for 2nd quarter FY 2013 was 11.67 minutes, up from 11.57 minutes last quarter. Like the morning peak, the evening peak ten-mile travel time for this quarter is higher than 2nd quarter FY 2012 (11.40 minutes).

The greatest impact on mobility continues to remain along I-70 between I-435 and I-470. Traffic generally experiences reduced mobility heading westbound in the morning and eastbound in the evening. Reduced mobility was also evident along I-35 northbound during the evening rush. The Broadway Bridge (US 169) remained closed until Nov.1. This closure resulted in more traffic on the Bond Bridge (I-35). Other areas are consistent with results from previous quarters.

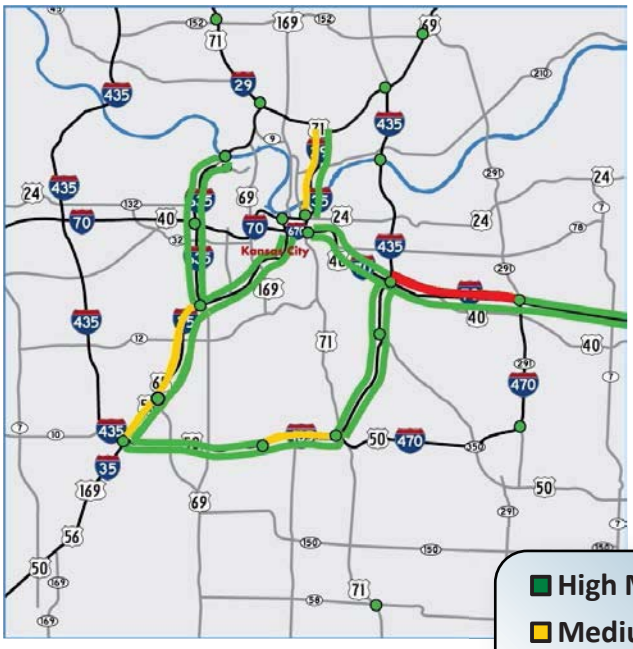
St. Louis metropolitan region:

In St. Louis, the average morning peak ten-mile travel time for 2nd quarter FY 2013 was 10.98 minutes, up slightly from 10.91 minutes last quarter. Compared to 2nd quarter FY 2012, the travel time is down from 11.36 minutes. The average evening peak 10-mile travel time for 2nd quarter FY 2013 was 11.55 minutes, up from 11.40 minutes last quarter. When compared to 2nd quarter FY 2012, the evening peak travel time for this quarter is down from 11.74 minutes.

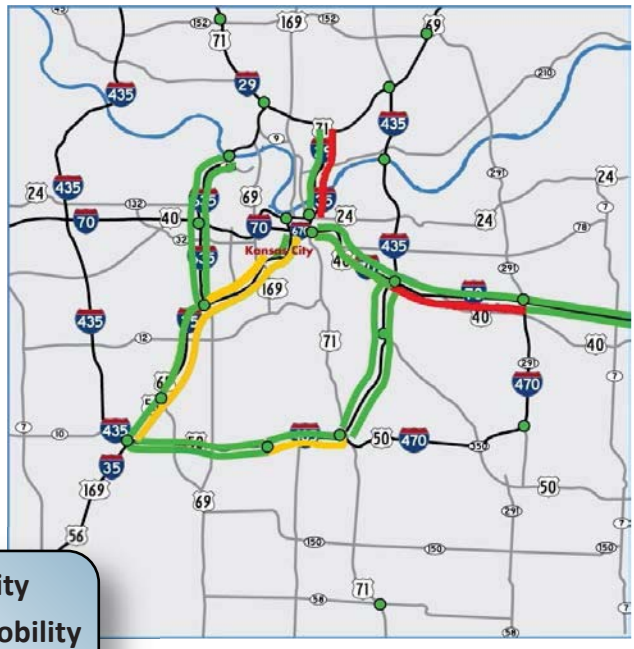
In early November, the westbound Blanchette Bridge along I-70 was closed with lanes shifted to the eastbound bridge. This impact can be seen in the mobility maps below with a moderate impact in the morning rush and a more pronounced, though shorter, effect on westbound traffic in the evening. Additional reduced mobility on I-170 may also be attributed to a shift in traffic patterns as a result of the project. Mobility along I-44 between MO 109 and MO 141 returned to normal levels as construction in the area was mostly completed. The new northbound lane of I-270 between I-44 and MO 100 also opened this quarter providing additional capacity in the area. Consistent with previous quarters, impacts continued to be evident from the double deck rehabilitation project along I-64 in St. Louis City. The St. Louis monthly mobility reports can be found at http://www.gatewayguide.com/scorecard.html.

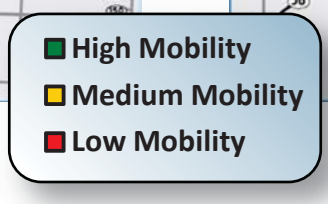


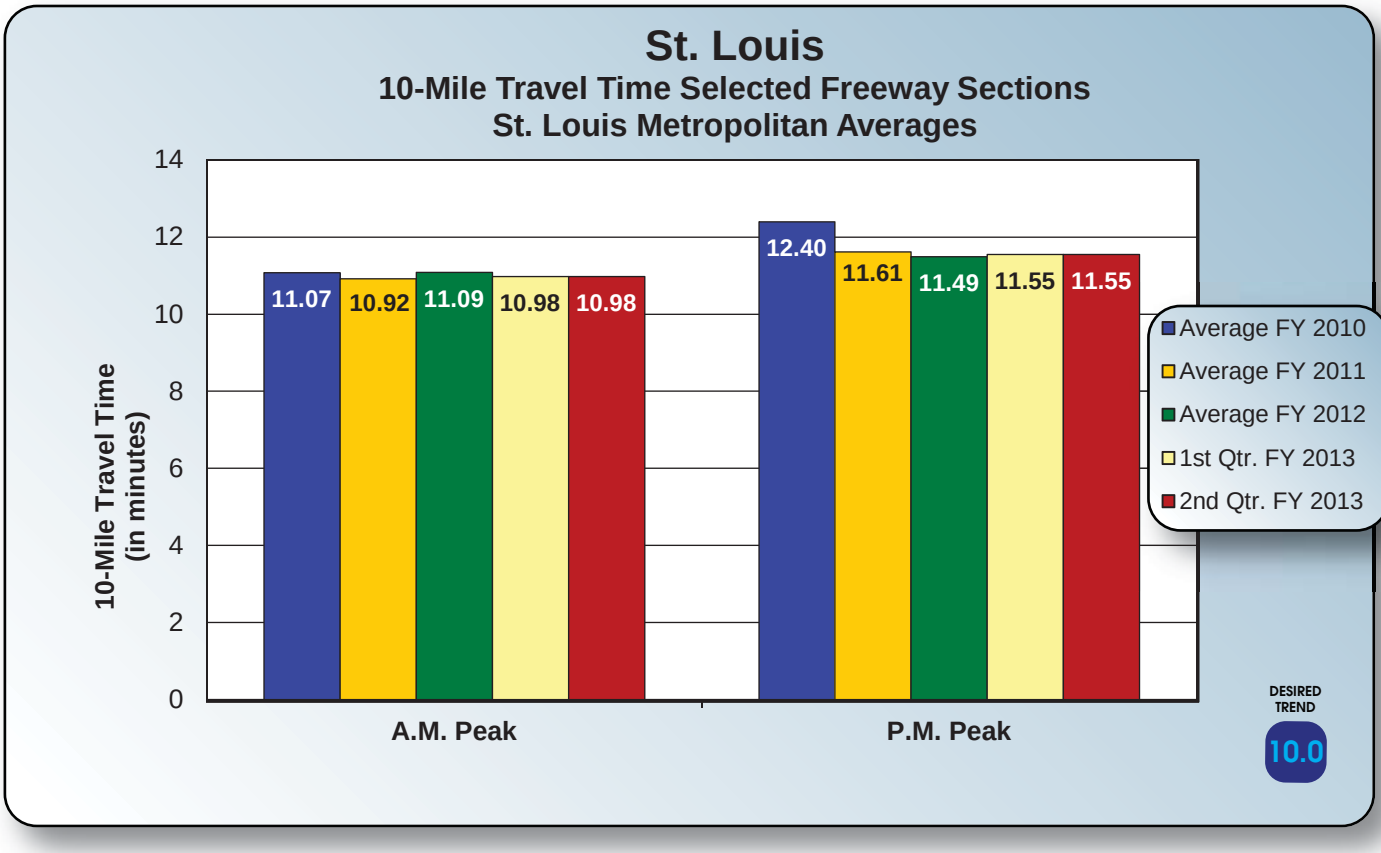
A.M. Peak – Regional Mobility



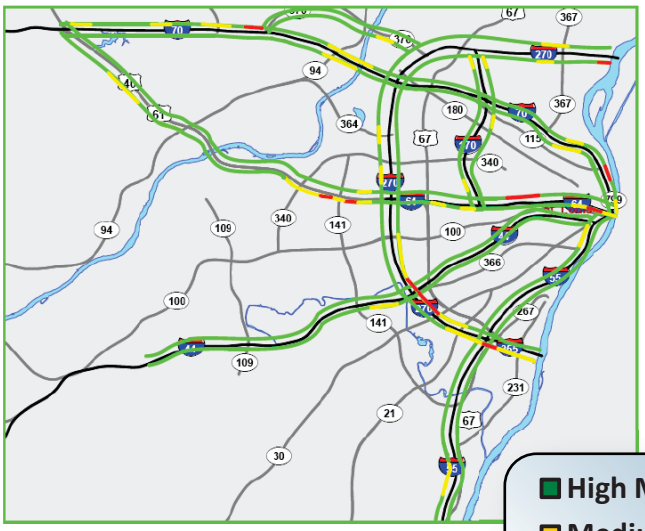
P.M. Peak – Regional Mobility



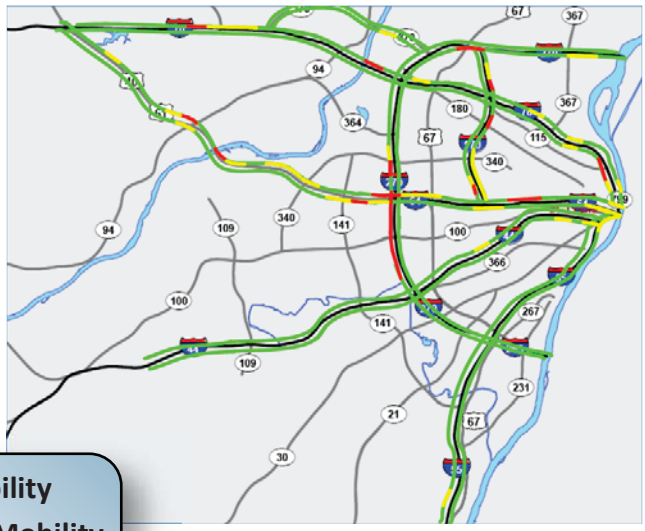




A.M. Peak – Regional Mobility



P.M. Peak – Regional Mobility



High Mobility
Medium Mobility
Low Mobility

Average rate of travel on signalized routes-1b

Result Driver: Ed Hassinger, District Engineer
Measurement Driver: Julie Stotlemeyer, Traffic Liaison Engineer

Purpose of the Measure:

Arterial roadways are an important part of the transportation system that provides regional mobility and access that is vital to the economy and quality of life. This measure indicates how well arterials across the state operate during peak traffic times. Major arterials are monitored and their performance is used to advance management practices and operation strategies that promote safe and efficient use of the arterial system to increase capacity and reduce congestion.

Measurement and Data Collection:

Travel times are measured on major arterials selected by the district. Travel times are collected by driving each route twice or through automated collection of morning and evening peak times in each direction.

Since speed limits vary on signalized routes, the regional maps show mobility for the morning and evening peak times as compared to the posted speed limit. High mobility indicates speeds are at 80 percent of the speed limit for the route, medium mobility is 50 to 79 percent and low mobility is less than 50 percent. This measure is updated quarterly.

Improvement Status:

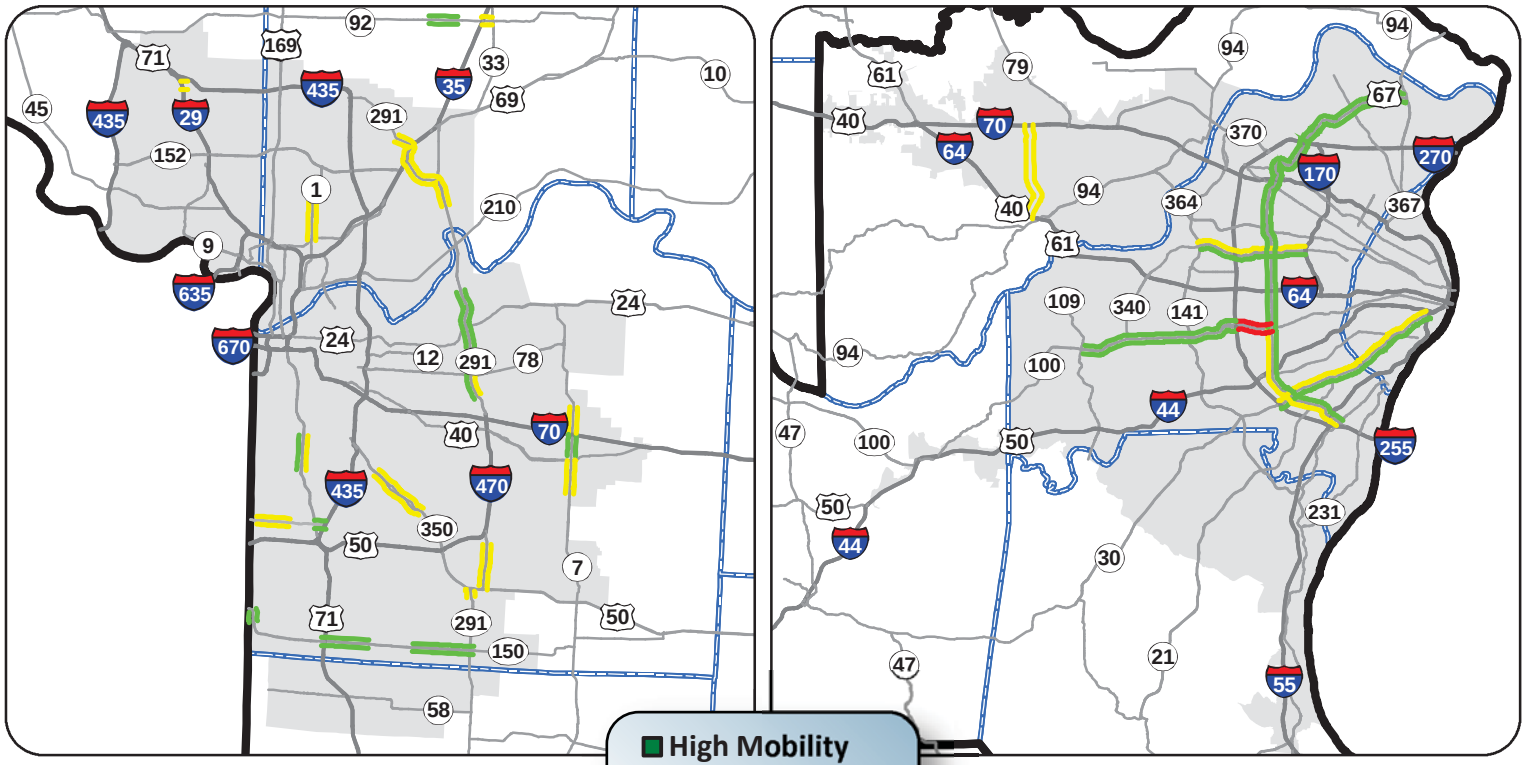
For the routes selected this quarter in the morning peak, 59 percent were high, 40 percent were medium and 1 percent was low mobility. During the evening peak, 33 percent were high, 65 percent were medium and 2 percent were low mobility.

Compared to FY 2012 average, a.m. and p.m. peak high mobility increased 16 and 12 percent while, low mobility for a.m. and p.m. peaks decreased 2 percent and 5 percent respectively.

Arterials experiencing low mobility were:

- Business 63 – Patterson to Illinois St, Southbound, p.m. peak, Northeast District
- MO 6 – Rosewood to MO 6 West., Northbound and Southbound, p.m. peak, Northeast District
- Route E / MO 740 and North Outer Road I-70 to Route TT, Northbound and Southbound, a.m. and p.m. peak, Central District

A.M. Mobility



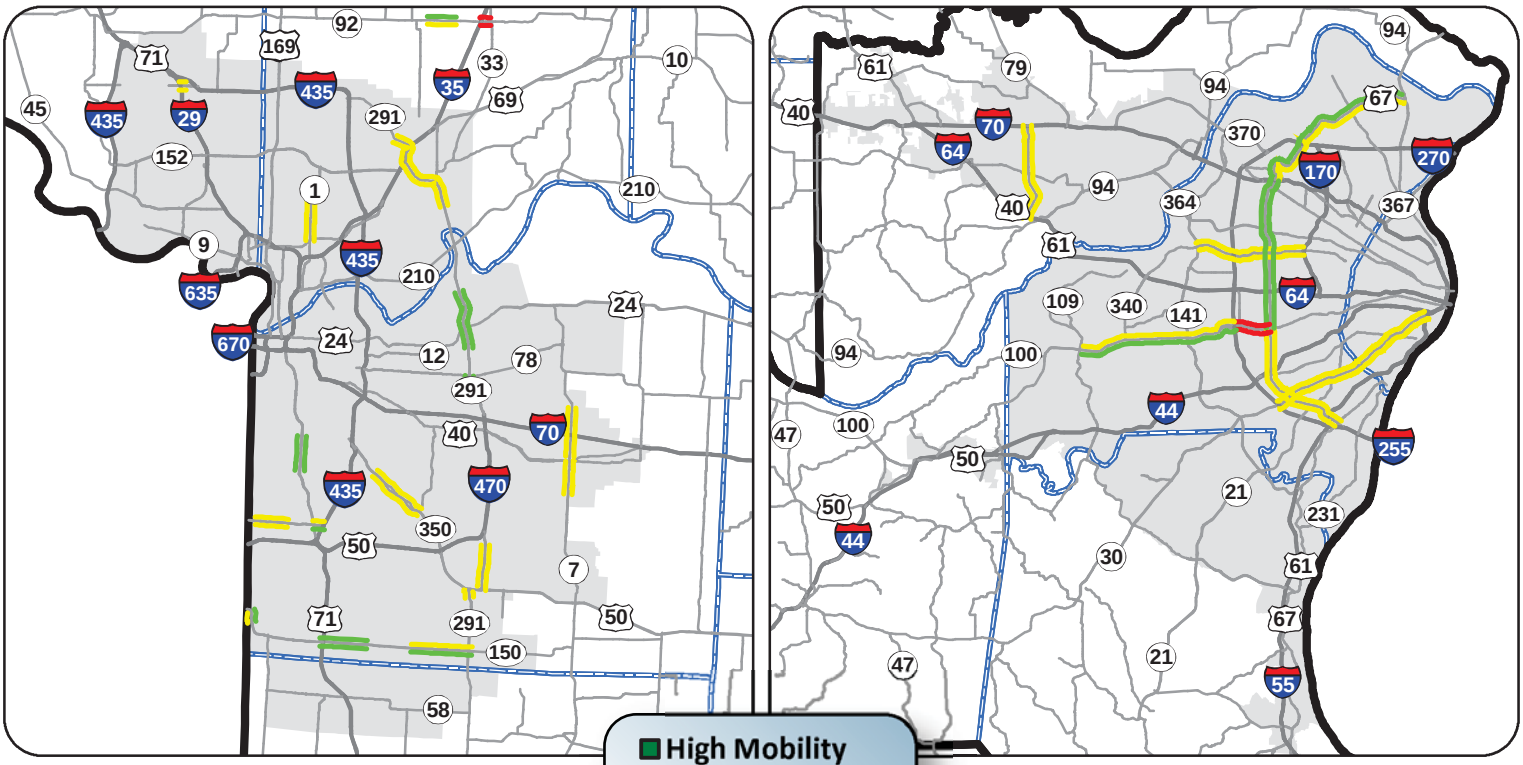
Kansas City Area

Saint Louis Area

Columbia Area

Springfield Area

P.M. Mobility



Kansas City Area

Saint Louis Area

Columbia Area

Springfield Area

Average time to clear traffic incident-1c

Result Driver: Ed Hassinger, District Engineer
Measurement Driver: Rick Bennett, Traffic Liaison Engineer

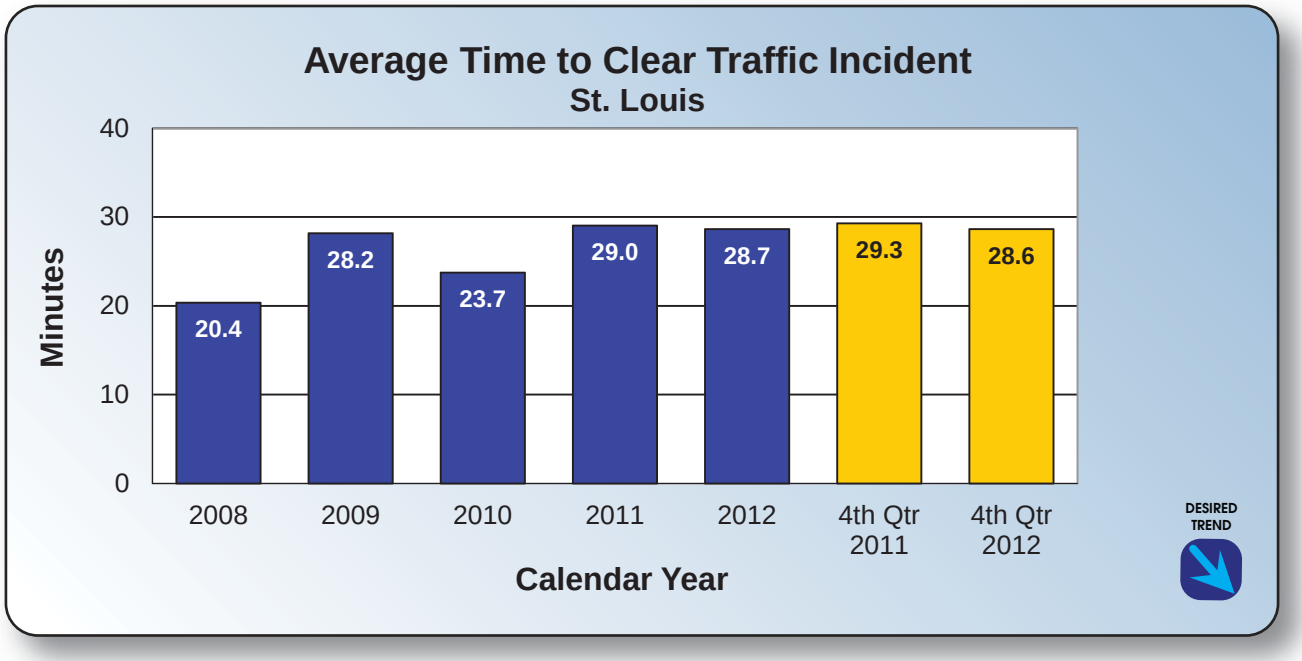
Purpose of the Measure:
This measure is used to determine the trends in incident clearance on the state highway system. A traffic incident is an unplanned event that creates a temporary reduction in the number of vehicles that can travel on the road. The sooner an incident is removed, the sooner the highway system returns to normal capacity. Therefore, responding to and quickly addressing the incident (crashes, flat tires and stalled vehicles) improves system performance.

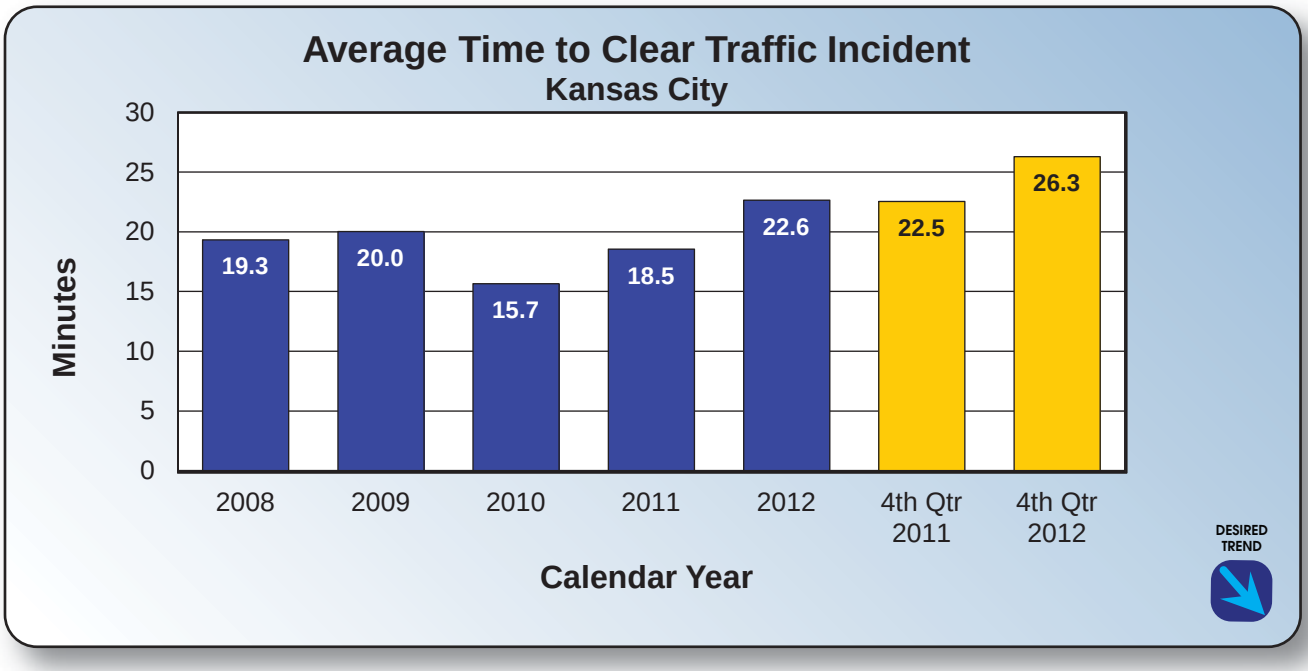
Measurement and Data Collection:
Advanced Transportation Management Systems are used by the Kansas City and St. Louis traffic management centers to record incident start time and the time when all lanes are declared cleared. In March 2012, St. Louis began to use the same ATMS software program as Kansas City.

In July 2010, Kansas City Scout started to retrieve all of its data from the TranSuite SQL databases. This measure is updated quarterly.

Improvement Status:
St. Louis recorded 415, 429 and 447 incidents, respectively, for the months of October, November and December 2012. The average time to clear traffic accidents decreased by 2 percent compared to the fourth quarter of 2011. The average time to clear traffic in 2012 decreased by 1.3 percent compared to 2011.

Kansas City collected data on 600, 719 and 615 incidents, respectively, for the months of October, November and December 2012. In Kansas City, The average time to clear traffic accidents increased by 17 percent from the fourth quarter of 2011. There were 30 long-term incidents in November that had an average duration of 229 minutes each. The average time to clear traffic in 2012 increased by 22.2 percent compared to 2011.




Average Time to Clear Traffic Incident
Kansas City
Minutes
30
25
20
15
10
5
0
19.3
20.0
15.7
18.5
22.6
22.5
26.3
2008
2009
2010
2011
2012
4th Qtr 2011
4th Qtr 2012
Calendar Year
DESIRED TREND


MOTORIST ASSIST
MOTORIST ASSIST

Traffic impact closures on major interstate routes-1d

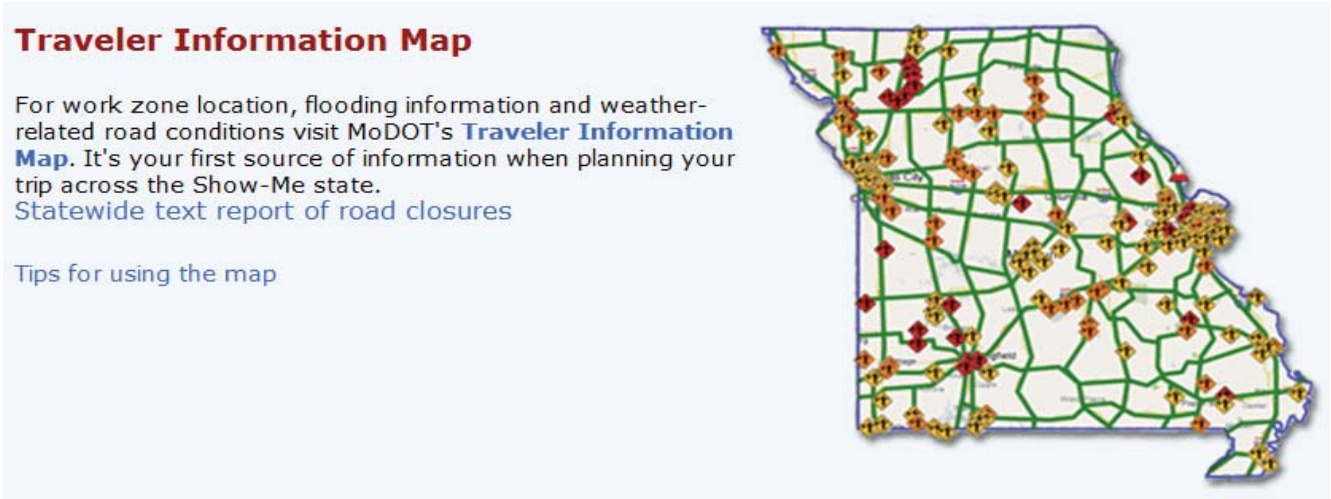
Result Driver: Ed Hassinger, District Engineer
Measurement Driver: Rick Bennett, Traffic Liaison Engineer

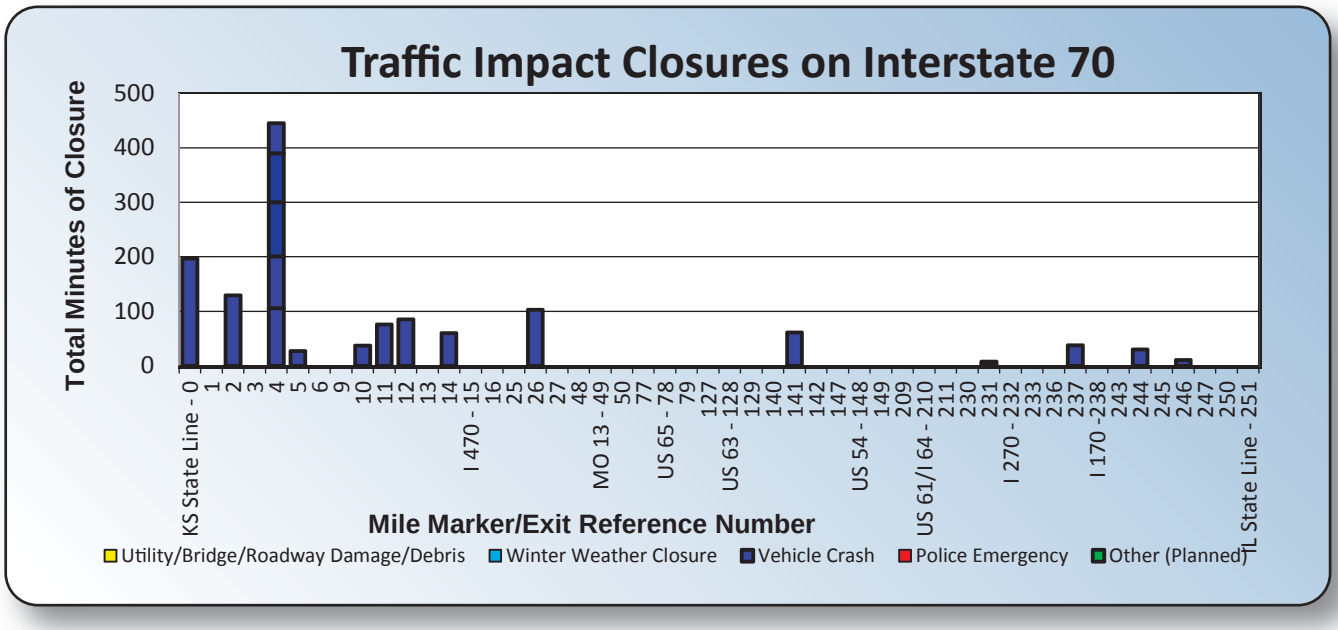
Purpose of the Measure:
This measure tracks the closures on Interstate 70 and Interstate 44 due to traffic impacts. A traffic impact is any unplanned event that creates a temporary reduction in the number of vehicles that can travel on the road and includes traffic incidents such as vehicle crashes, utility damage, bridge and pavement damage, special events and police emergencies.

Measurement and Data Collection:
The interstate route closures that have an actual or expected duration of one hour or more are entered into MoDOT's Transportation Management System for display on the Traveler Information Map on MoDOT's website. These closure events are tracked in the TMS system. This measure is updated quarterly.

Improvement Status:
All closures on I-70 during the fourth quarter of calendar year 2012 were vehicle crashes except for the brief closure for demolition of the Blanchette Bridge over the Missouri River.

All traffic impact closures on I-44 were vehicle crashes.

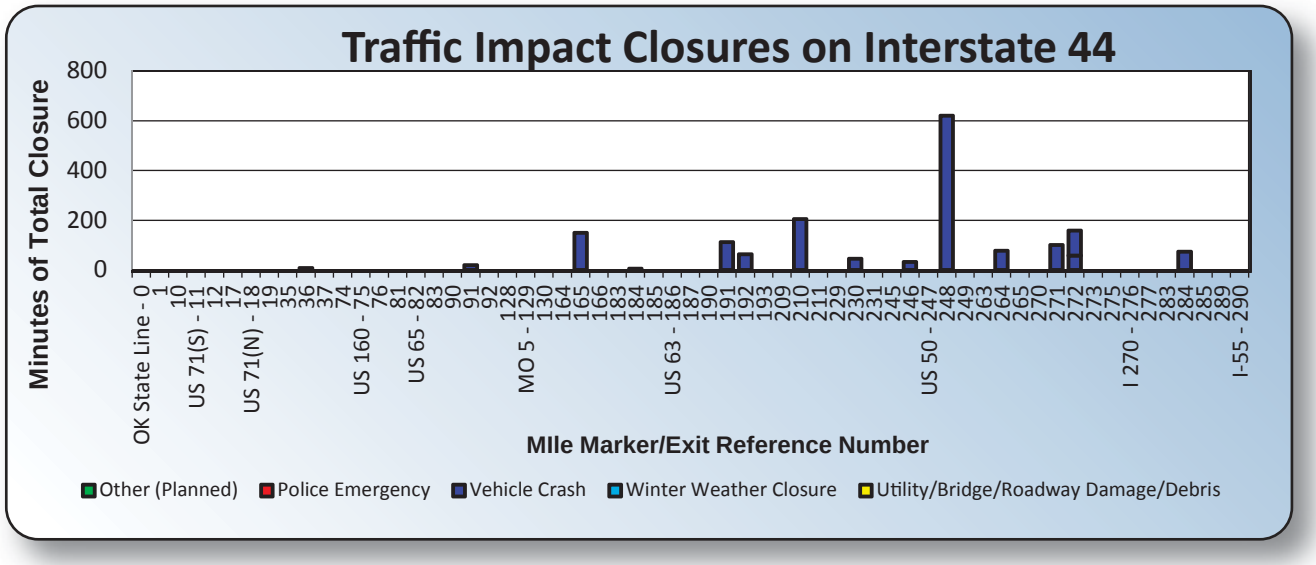




Other (Planned) · Police Emergency · Vehicle Crash · Winter Weather Closure · Utility/Bridge/ Roadway Damage/Debris

△ 0 – 30 Minutes □ 31-90 Minutes ☆ 91+ Minutes

SYMBOL	COUNTY	DIR	MILE MARKER	START DATE	TYPE	DURATION (H:MM)
★	JACKSON	W	0.52	05-Dec-12	VEHICLE CRASH	3:17
★	JACKSON	E	2.54	02-Dec-12	VEHICLE CRASH	2:09
■	JACKSON	W	4.27	31-Dec-12	VEHICLE CRASH	0:55
★	JACKSON	W	4.52	15-Dec-12	VEHICLE CRASH	1:46
★	JACKSON	E	4.85	06-Nov-12	VEHICLE CRASH	1:35
★	JACKSON	E	4.88	16-Nov-12	VEHICLE CRASH	1:30
★	JACKSON	W	4.96	06-Nov-12	VEHICLE CRASH	1:39
▲	JACKSON	E	5.63	22-Dec-12	VEHICLE CRASH	0:27
■	JACKSON	E	10.79	29-Nov-12	VEHICLE CRASH	0:37
■	JACKSON	E	11.65	11-Nov-12	VEHICLE CRASH	1:16
■	JACKSON	E	12.60	02-Dec-12	VEHICLE CRASH	1:25
■	JACKSON	W	14.01	10-Nov-12	VEHICLE CRASH	1:00
★	JACKSON	W	26.39	20-Dec-12	VEHICLE CRASH	1:43
■	CALLAWAY	W	141.73	20-Dec-12	VEHICLE CRASH	1:01
▲	ST. CHARLES	E	231.04	04-Dec-12	PLANNED	0:04
▲	ST. LOUIS	W	231.07	04-Dec-12	PLANNED	0:04
■	ST. LOUIS	W	237.81	07-Oct-12	VEHICLE CRASH	0:38
▲	ST. LOUIS CITY	W	244.46	15-Nov-12	VEHICLE CRASH	0:30
▲	ST. LOUIS CITY	E	246.13	03-Oct-12	VEHICLE CRASH	0:11



Other (Planned) | Police Emergency | Vehicle Crash | Winter Weather Closure | Utility/Bridge/ Roadway Damage/Debris

△ 0 – 30 Minutes □ 31-90 Minutes ☆ 91+ Minutes

SYMBOL	COUNTY	DIR	MILE MARKER	START DATE	TYPE	DURATION (H:MM)
▲	LAWRENCE	E	36.50	22-Nov-12	VEHICLE CRASH	0:08
▲	WEBSTER	W	91.02	02-Nov-12	VEHICLE CRASH	0:20
★	PULASKI	W	165.16	29-Dec-12	VEHICLE CRASH	2:30
▲	PHELPS	W	184.54	25-Oct-12	VEHICLE CRASH	0:06
★	PHELPS	E	191.22	28-Oct-12	VEHICLE CRASH	1:52
■	PHELPS	W	192.42	30-Dec-12	VEHICLE CRASH	1:03
★	CRAWFORD	W	210.59	18-Oct-12	VEHICLE CRASH	3:25
■	FRANKLIN	E	230.49	25-Nov-12	VEHICLE CRASH	0:46
■	FRANKLIN	E	246.72	08-Dec-12	VEHICLE CRASH	0:32
★	FRANKLIN	E	248.28	08-Dec-12	VEHICLE CRASH	10:20
■	ST. LOUIS	E	264.58	03-Oct-12	VEHICLE CRASH	1:18
★	ST. LOUIS	W	271.93	16-Dec-12	VEHICLE CRASH	1:41
★	ST. LOUIS	E	272.14	16-Dec-12	VEHICLE CRASH	1:41
■	ST. LOUIS	E	272.68	16-Dec-12	VEHICLE CRASH	0:58
■	ST. LOUIS CITY	W	284.08	08-Dec-12	VEHICLE CRASH	1:14

Work zone impacts to traveling public-1e

Result Driver: Ed Hassinger, District Engineer
Measurement Driver: Julie Stotlemeyer, Traffic Liaison Engineer

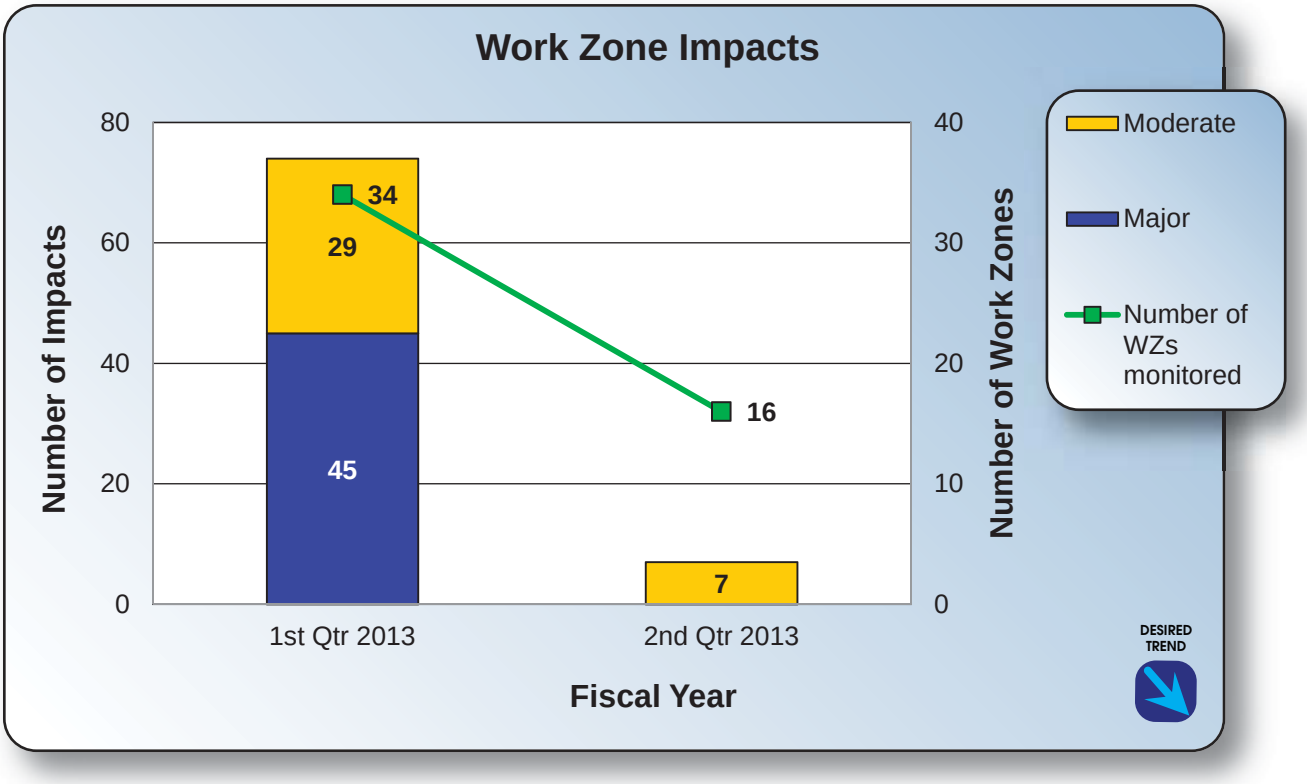
Purpose of the Measure:
Work zones are designed to allow the public the ability to travel safely through the work area with minimal disruption. This measure indicates how well those significant work zones are performing.

Measurement and Data Collection:
Impacts are determined on significant work zones and collected by MoDOT staff either driving through the work zone, visual observations or automated collection. Impacts may occur at any time during the life of the project and multiple times during a day. An impact is defined as the additional time added to your normal travel. The impact is categorized by three levels; minor, less than 10 minutes, moderate, 10 to 14 minutes, and major, fifteen minutes or greater. This measure is updated quarterly.

Improvement Status:
For second quarter fiscal year 2013, 16 work zones were monitored. There were seven moderate impacts to motorist, and all seven moderate impacts were in the St. Louis District. Four of the moderate impacts were from the I-270 widening project.

Work zones experiencing moderate impacts this quarter were:

- I-270, widening, St. Louis District
- I-64 Westbound, double deck work, St. Louis District
- I-70, Blanchette Bridge, St. Louis District



Time to meet winter storm event performance objectives-1f

Result Driver: Ed Hassinger, District Engineer
Measurement Driver: Tim Chojnacki, Maintenance Liaison Engineer

Purpose of the Measure:

This measure tracks the amount of time needed to perform MoDOT's snow and ice removal efforts.

Measurement and Data Collection:

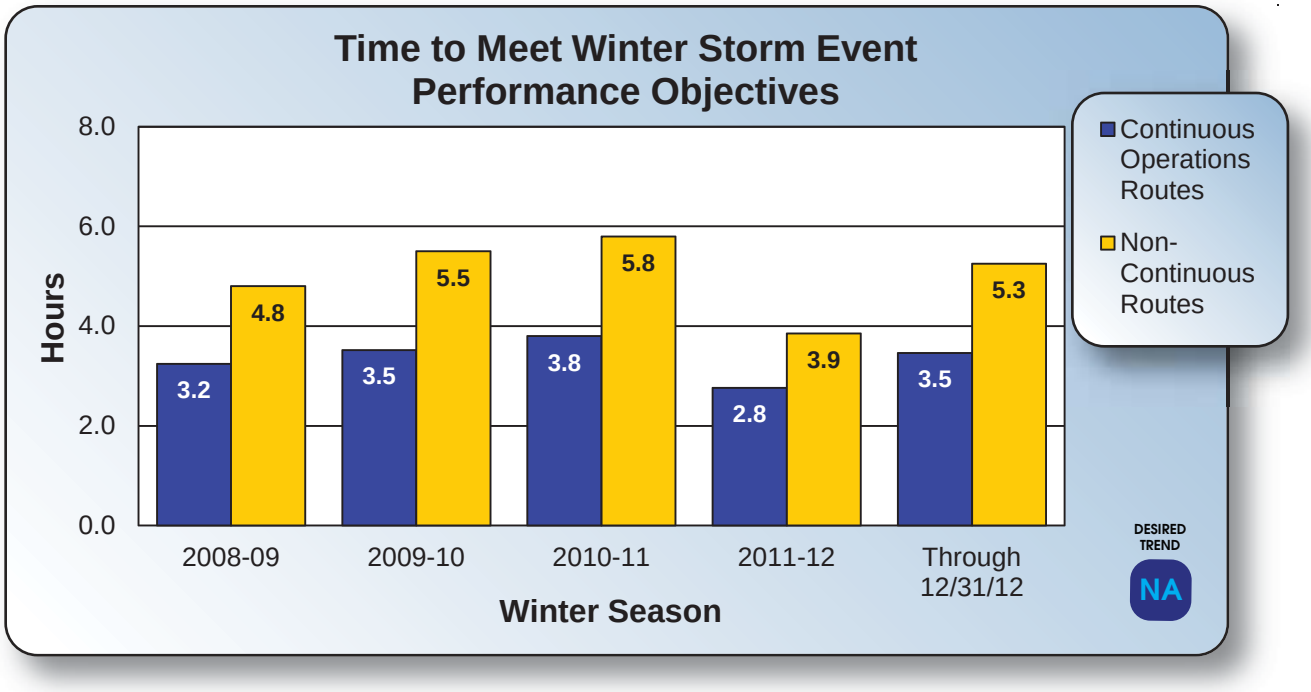
This data is collected in the winter event database. The measure tracks the average time involved in road clearance during winter weather. After each winter event, such as a snow or ice storm, area maintenance personnel submit a report indicating how much time it took to meet the performance objectives for the continuous and non-continuous operations routes. The continuous operations routes consist of all major highways and regionally significant minor highways. The non-continuous operations routes are all remaining lower volume minor highways. After a storm ends, the objectives are to restore the continuous operations routes to a mostly clear condition as soon as possible and have the lower-volume, non-continuous operations routes open to two-way traffic and treated with salt and/or abrasives at critical areas such as intersections, hills and curves as soon as possible. The end of the storm is defined as when freezing precipitation stops accumulating on roadways, either from falling or drifting conditions.

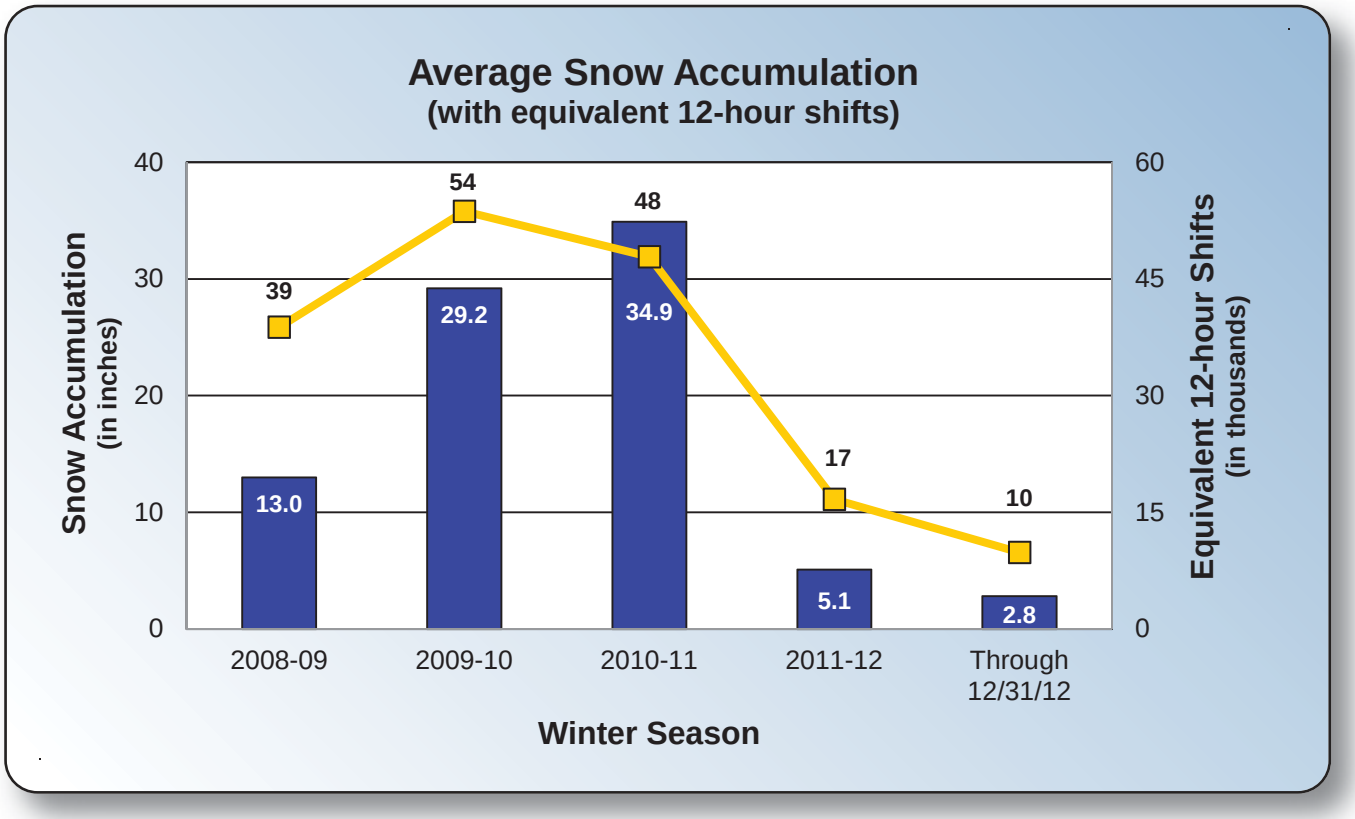
Data collection for this measure runs from November through March of each winter season, and is updated in the January and April Tracker publications. The time in hours is the statewide average for the period. The average snow accumulation and equivalent twelve-hour shifts help evaluate winter performance.

Improvement Status:

The average time to meet the performance objectives for both continuous operations highways and non-continuous operations highways were higher during the start of the winter season than during the previous, exceptionally mild winter. This winter has produced an average of 2.8 inches of snow statewide, requiring about 9,800 12-hour shifts to clear.

The time to meet the performance objectives varies based on the amount of snow received and the duration and intensity of the storms. Crews were shifted between districts on three occasions during December to help meet objectives. Other best practices including, anti-icing, use of RWIS (Road Weather Information System) information and beet juice usage have helped improve operations and reduce costs.




Average Snow Accumulation
(with equivalent 12-hour shifts)
Snow Accumulation
(in inches)
Equivalent 12-hour Shifts
(in thousands)
40
30
20
10
0
60
45
30
15
0
39
54
48
17
10
13.0
29.2
34.9
5.1
2.8
2008-09
2009-10
2010-11
2011-12
Through
12/31/12
Winter Season