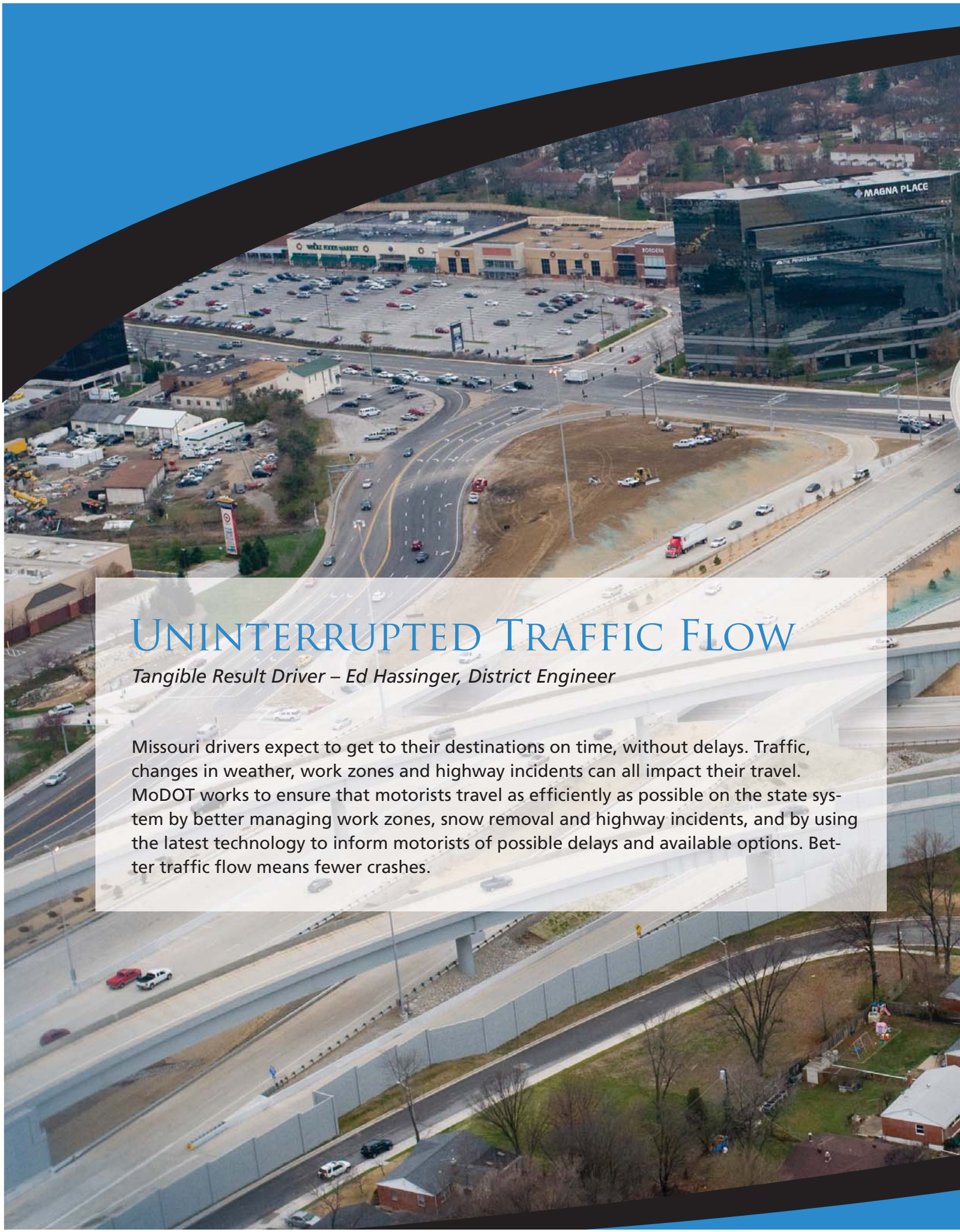


Uninterrupted Traffic Flow

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:

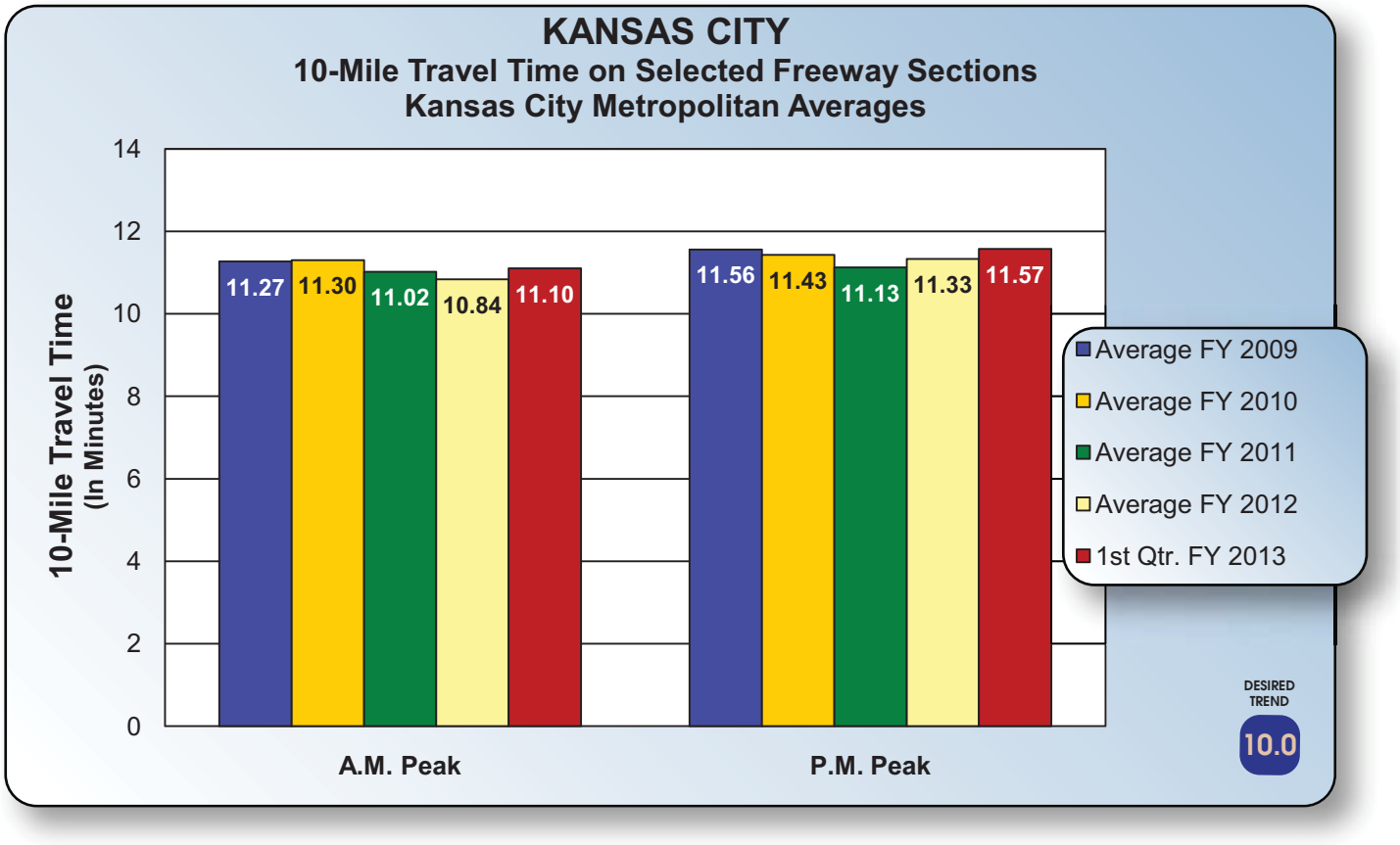
In Kansas City, the average morning peak 10-mile travel time for first quarter FY 2013 was 11.10 minutes, down from 11.14 minutes last quarter. This represents an increase from first quarter FY 2012 (10.56 minutes). The average evening peak 10-mile travel time for first quarter FY 2013 was 11.57 minutes, the same as last quarter. Like the morning peak, the evening peak 10-mile travel time for this quarter was higher than first quarter FY 2012 (10.94 minutes).

Mobility for this quarter remained consistent with the previous quarter. Traffic continued to be impacted by construction along I-70 EB between I-435 and I-470. However, construction was completed in September and mobility in the area is expected to improve accordingly. Other areas of congestion are consistent with results from previous quarters.

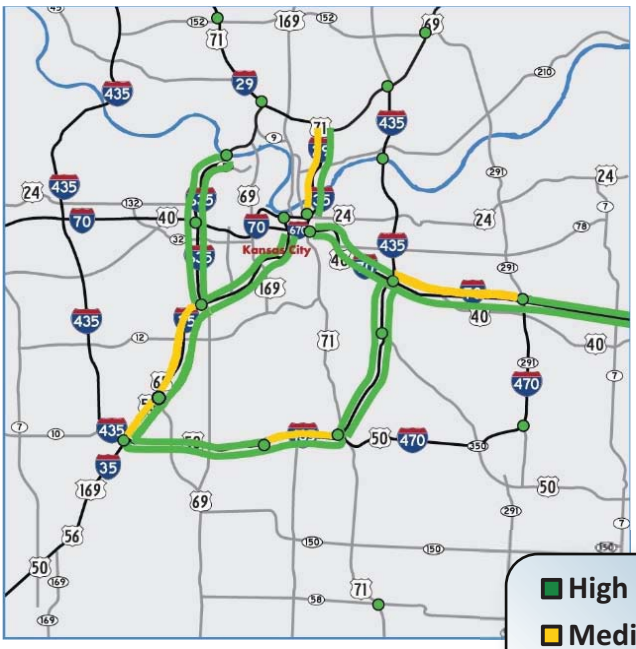
St. Louis metropolitan region:

In St. Louis, the average morning peak 10-mile travel time for first quarter FY 2013 was 10.91 minutes, down from 11.18 minutes last quarter. This was a slight increase from first quarter FY 2012 (10.89 minutes). The average evening peak 10-mile travel time for first quarter FY 2013 was 11.40 minutes, down from 11.61 minutes last quarter. When compared to first quarter FY 2012, the evening peak travel time for this quarter was up from 11.33 minutes.

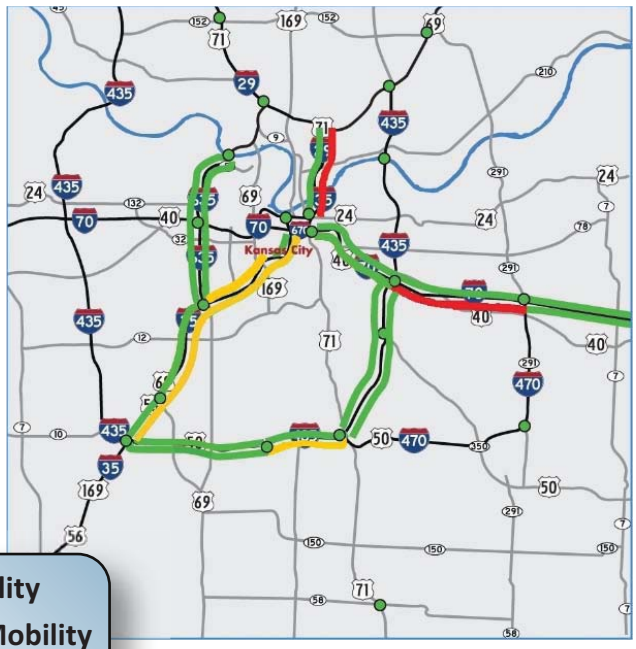
Mobility showed notable improvement during the evening peak along I-70 and in the downtown vicinity when compared to last quarter. Construction continues along I-270 between Manchester and I-44 to add a through lane in each direction. The northbound lane is expected to be completed this year followed by the southbound lane in 2013. Other active work zones impacting mobility include I-44 east of MO 109 and I-64 near the state line. The St. Louis monthly mobility reports can be found at http://www.gatewayguide.com/scorecard.html.



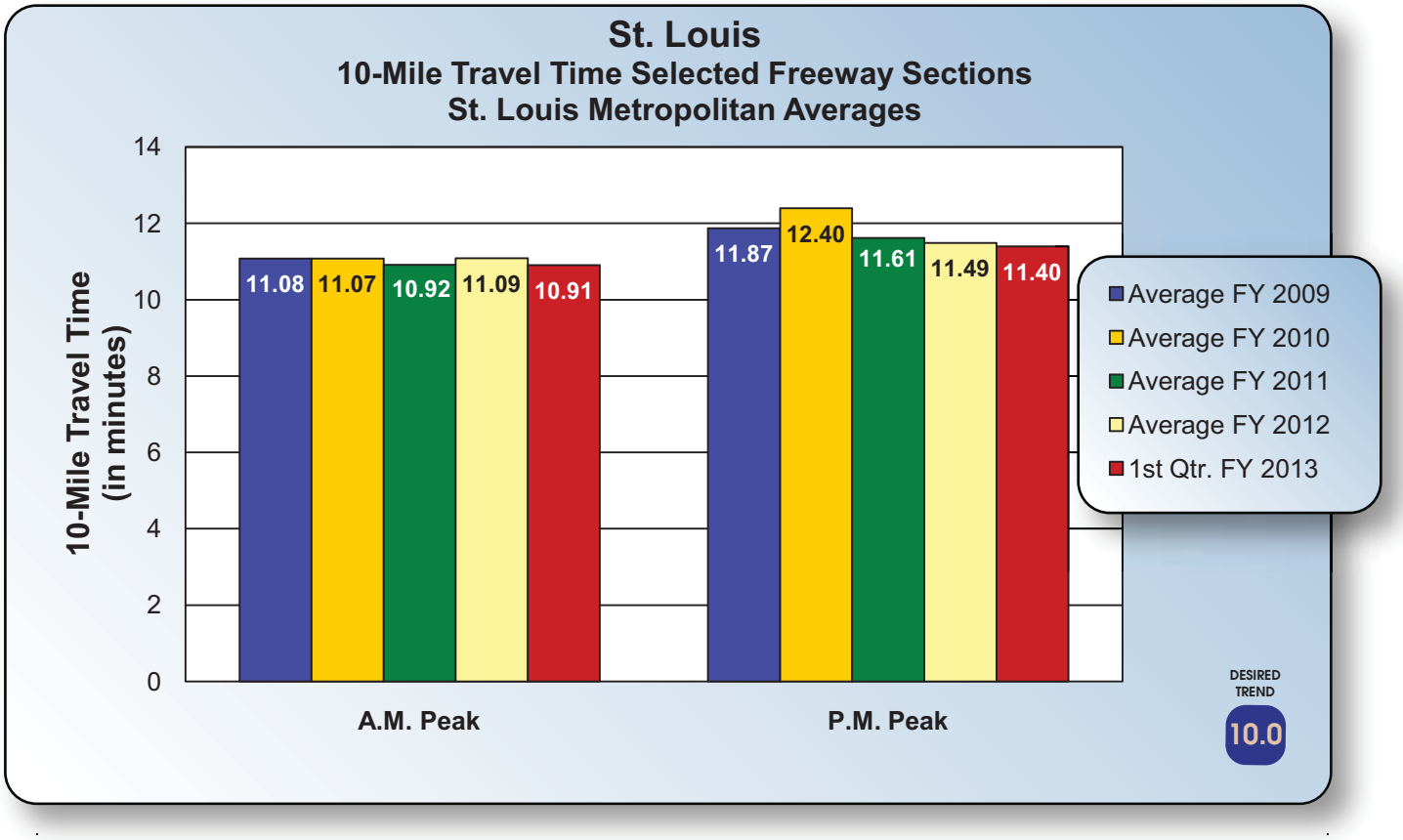
A.M. Peak – Regional Mobility



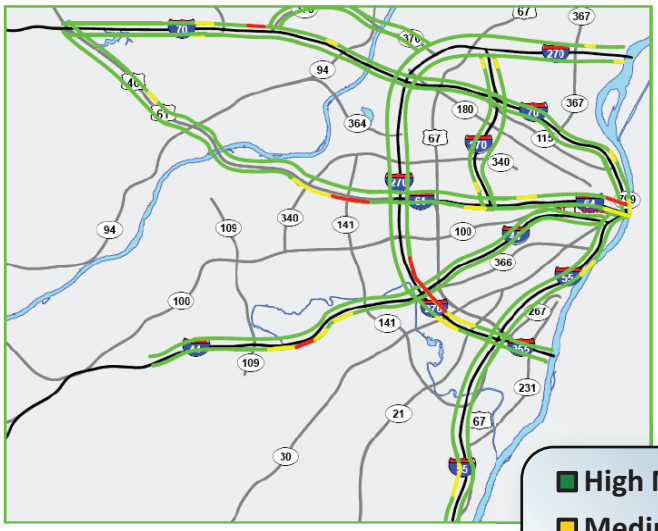
P.M. Peak – Regional Mobility



High Mobility
Medium Mobility
Low 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:

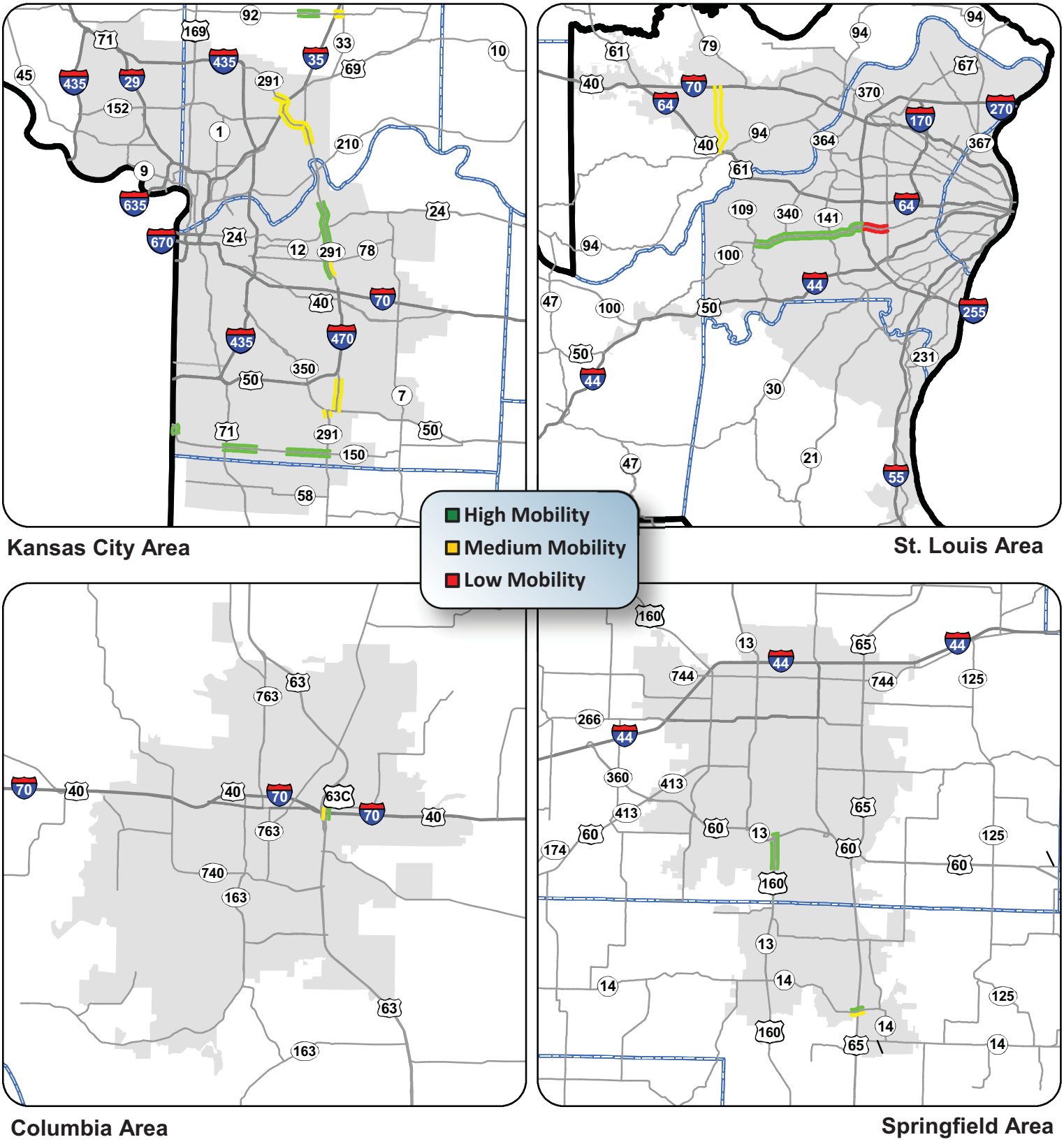
For the routes selected this quarter in the morning peak, 56 percent were high, 39 percent were medium and 6 percent were low mobility. During the evening peak, 38 percent were high, 55 percent were medium and 7 percent were low mobility.

Compared to FY 2012 average, a.m. and p.m. peak high mobility increased 14 and 15 percent respectively. Low mobility for a.m. and p.m. peaks decreased one percent.

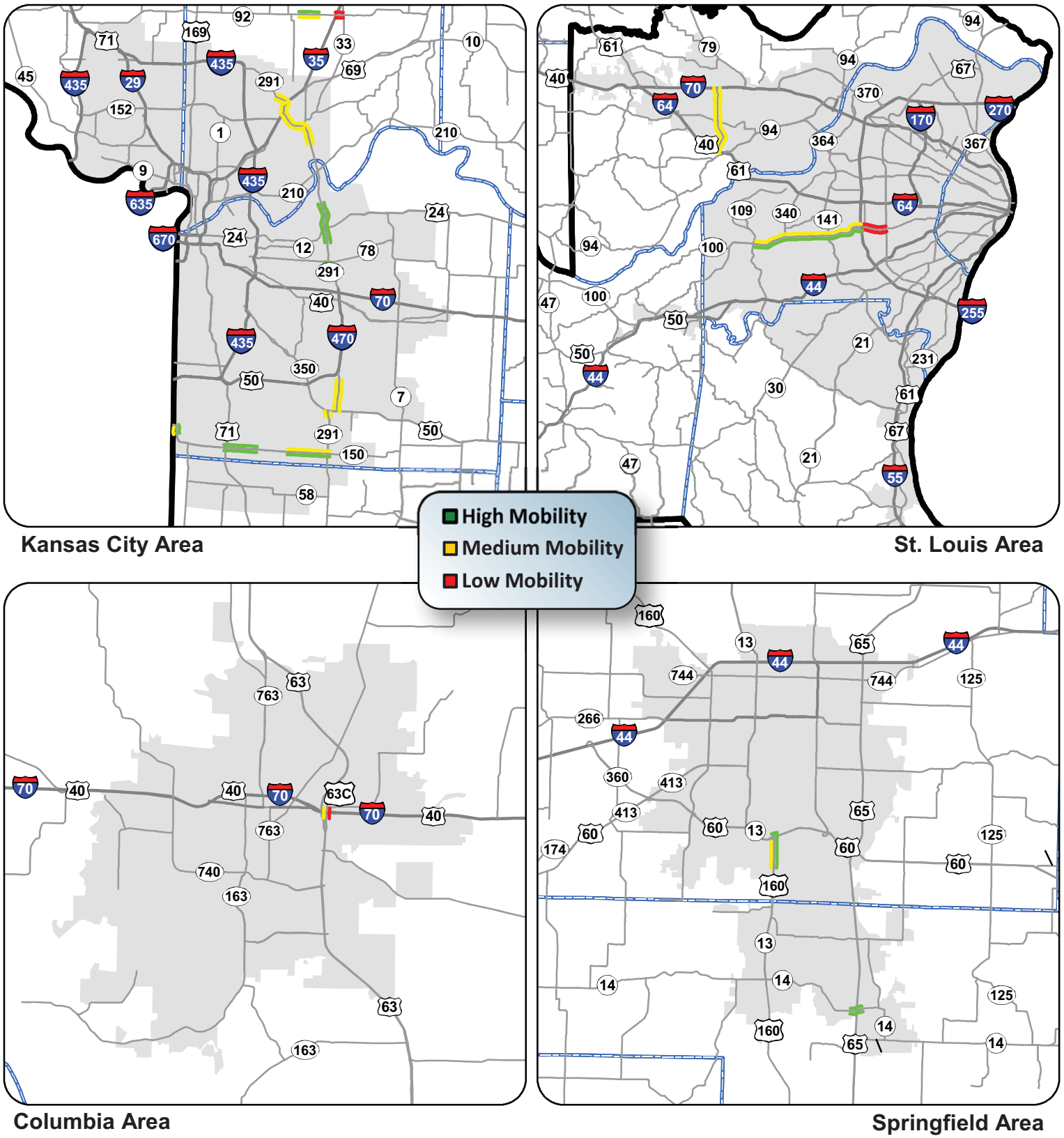
Arterials experiencing low mobility were:

- US 24 - US 63 to East Outer Road 63, Eastbound, p.m. peak, Northeast District
- Business 63 - Route EE to Coates St., Northbound, a.m. and p.m. peak, Northeast District
- MO 291 - US 71 to Royal St., Northbound and Southbound, a.m. and p.m. peak, Kansas City District
- MO 92 - MO 33 to I-35, Eastbound and Westbound, p.m. peak, Kansas City District
- US 63 Connector - Conley Road to Route PP, Northbound p.m. peak, Central District
- MO 100 - I-270 to US 67, Eastbound and Westbound, a.m. and p.m. peak, St. Louis District
- Business 60 - Valley Plaza Dr. to Maud St., Eastbound and Westbound, a.m. and p.m. peak, Southeast District

A.M. Mobility


High Mobility
Medium Mobility
Low Mobility
Kansas City Area
St. Louis Area
Columbia Area
Springfield Area

P.M. Mobility


High Mobility
Medium Mobility
Low Mobility
Kansas City Area
St. 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

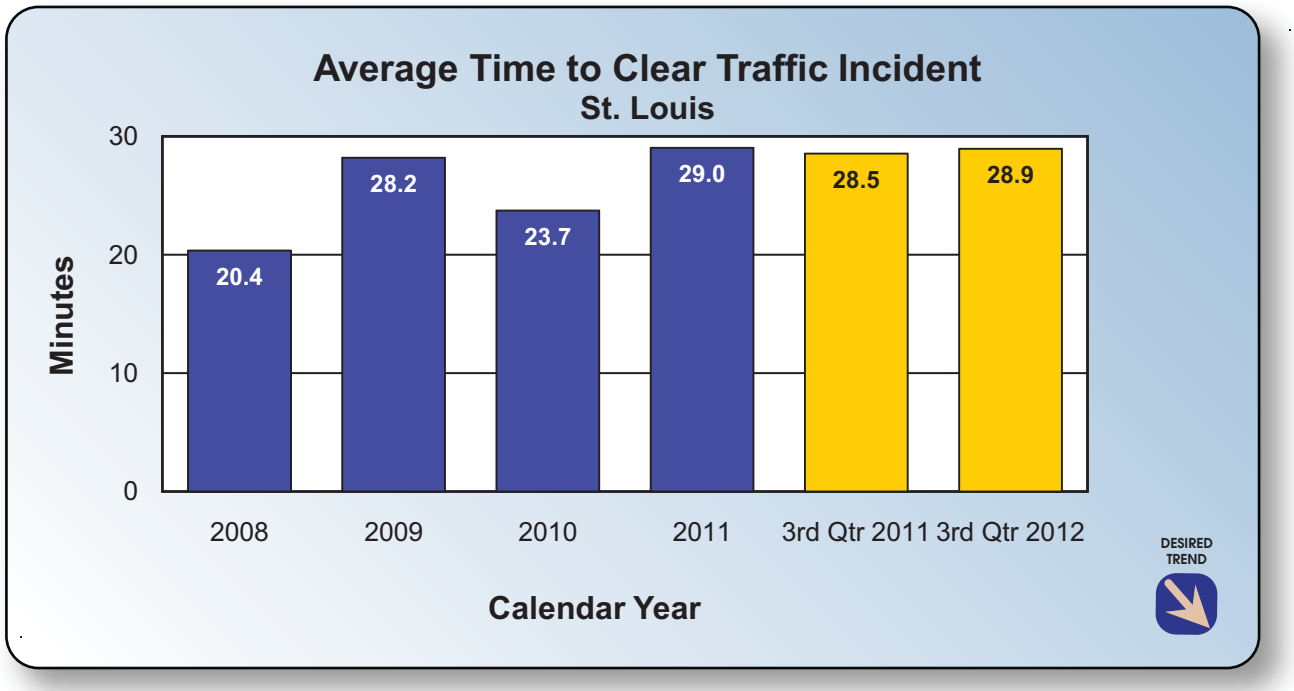
Purpose of the Measure:
This measure is used to determine the trends in incident clearance on the state highway system. A traffic incident is an unplanned event that creates a temporary reduction in the number of vehicles that can travel on the road. The sooner an incident is removed, the sooner the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

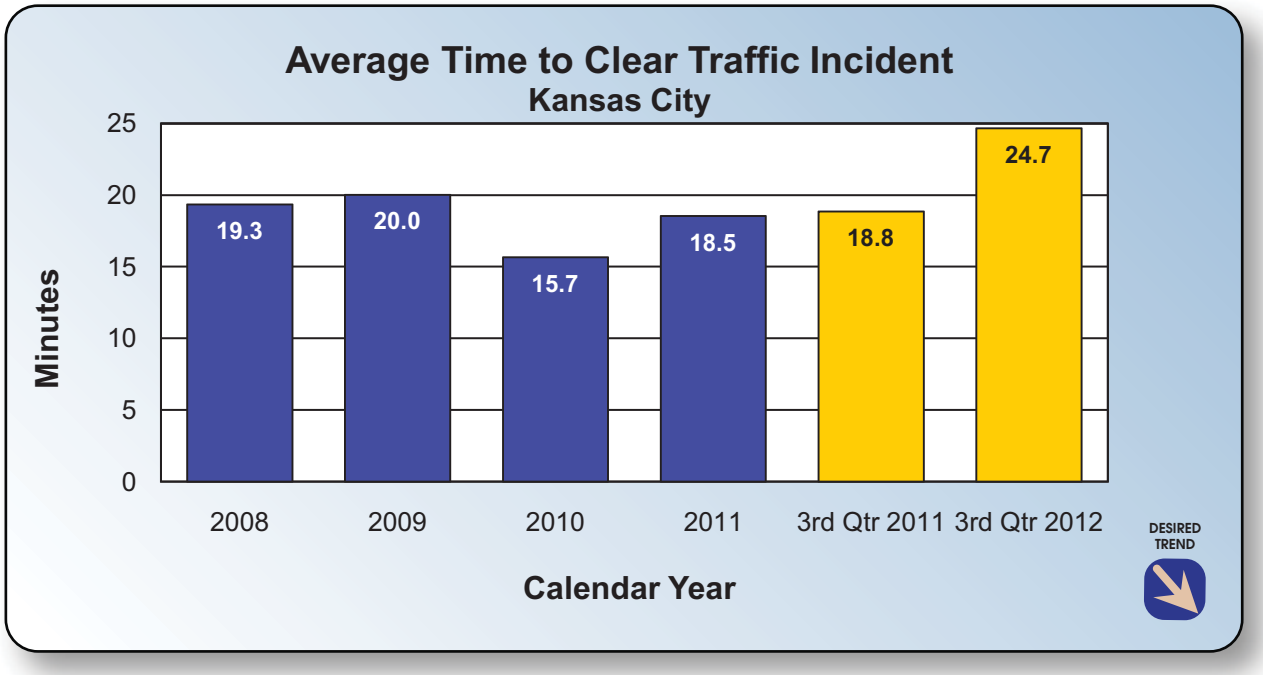
Measurement and Data Collection:
Advanced Transportation Management Systems are used by the Kansas City and St. Louis traffic management centers to record incident start time and the time when all lanes are declared cleared. In March 2012, St. Louis began to use the same ATMS software program as Kansas 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 477, 470 and 489 incidents, respectively, for the months of July, August, and September 2012. The average time to clear traffic accidents increased 1 percent compared to the third quarter of 2011.

Kansas City collected data on 819, 693 and 583 incidents, respectively, for the months of July, August, and September 2012. In Kansas City, The average time to clear traffic accidents increased by 30 percent from the third quarter of 2011. There was an average of 44 major incidents each month of this quarter. The average duration for these major incidents exceeded 300 minutes.




Average Time to Clear Traffic Incident
Kansas City
Minutes
25
20
15
10
5
0
19.3
20.0
15.7
18.5
18.8
24.7
2008
2009
2010
2011
3rd Qtr 2011
3rd Qtr 2012
Calendar Year
DESIRED TREND


MOTORIST ASSIST

Traffic impact closures on major interstate routes-1d

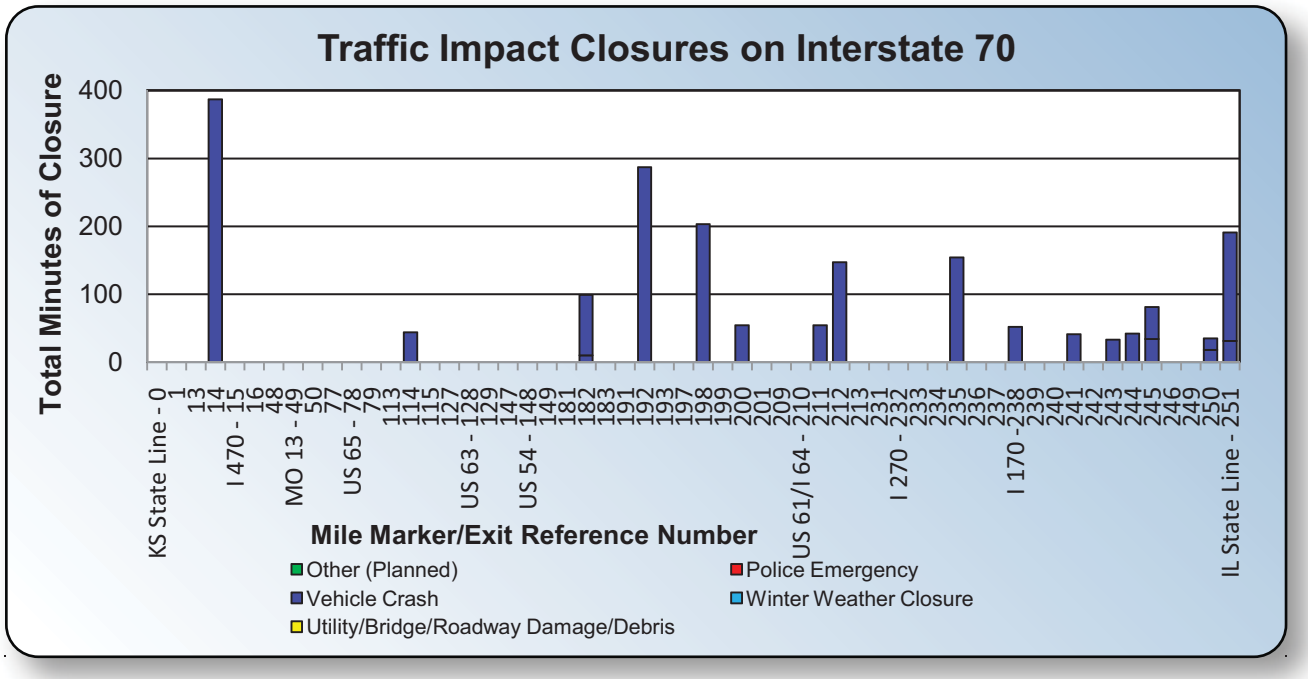
Result Driver: Ed Hassinger, District Engineer
Measurement Driver: Rick Bennett, Traffic Liaison Engineer

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 of the closures on I-70 during the third quarter of calendar year 2012 were vehicle crashes.

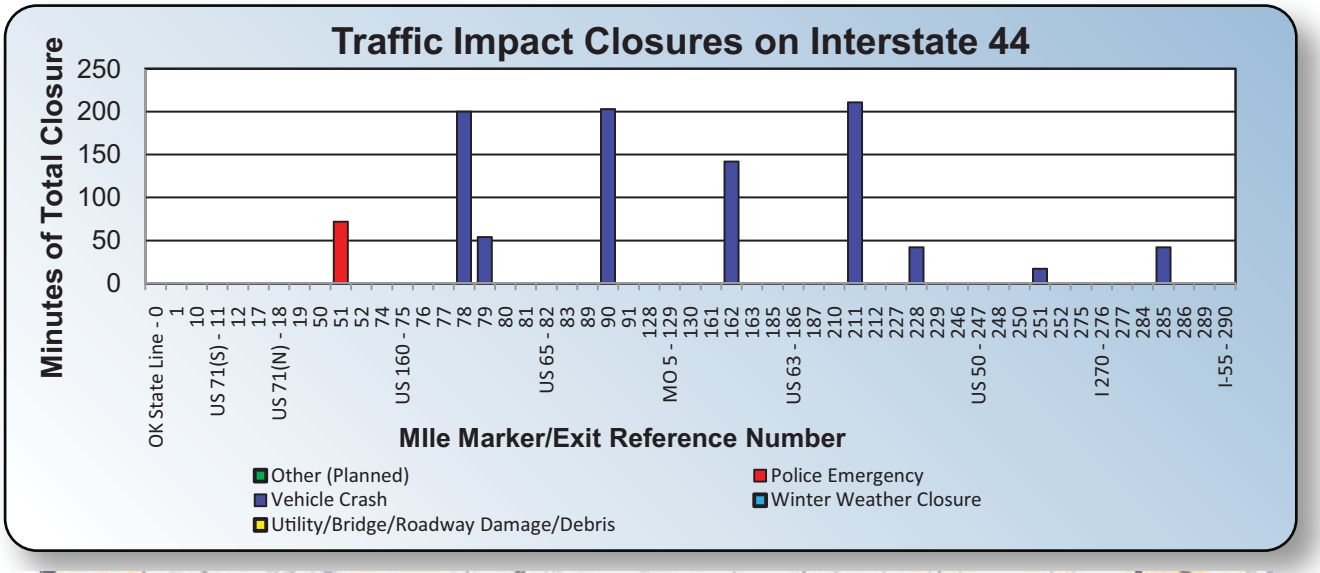
On I-44 the all but one of the traffic impact closures were vehicle crashes.

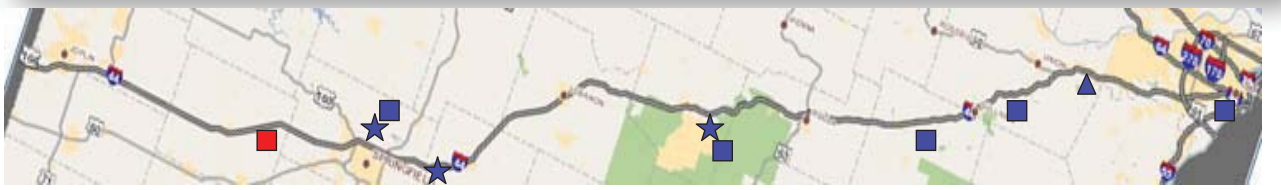


Other (Planned) ● Police Emergency ● Vehicle Crash ● Winter Weather Closure ● Utility/Bridge/ Roadway Damage/Debris

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

SYMBOL	COUNTY	DIR	MILE MARKER	START DATE	TYPE	DURATION (H:MM)
★	JACKSON	E	14.47	21-Sep-12	VEHICLE CRASH	6:27
■	COOPER	W	114.67	04-Sep-12	VEHICLE CRASH	0:44
■	MONTGOMERY	W	182.63	31-Aug-12	VEHICLE CRASH	1:29
▲	MONTGOMERY	W	182.97	13-Jul-12	VEHICLE CRASH	0:10
★	WARREN	E	192.16	08-Aug-12	VEHICLE CRASH	4:47
★	WARREN	E	198.10	14-Jul-12	VEHICLE CRASH	3:23
■	WARREN	E	200.39	24-Sep-12	VEHICLE CRASH	0:54
■	ST. CHARLES	E	211.86	14-Jul-12	VEHICLE CRASH	0:54
★	ST. CHARLES	W	212.93	10-Aug-12	VEHICLE CRASH	2:27
★	ST. LOUIS	E	235.88	01-Sep-12	VEHICLE CRASH	2:34
■	ST. LOUIS	W	238.93	31-Jul-12	VEHICLE CRASH	0:52
■	ST. LOUIS	E	241.61	25-Aug-12	VEHICLE CRASH	0:42
■	ST. LOUIS CITY	E	243.29	22-Jul-12	VEHICLE CRASH	0:33
■	ST. LOUIS CITY	E	244.05	28-Jul-12	VEHICLE CRASH	0:42
■	ST. LOUIS CITY	W	245.54	02-Sep-12	VEHICLE CRASH	0:47
■	ST. LOUIS CITY	W	245.73	21-Sep-12	VEHICLE CRASH	0:34
▲	ST. LOUIS CITY	E	250.44	29-Jul-12	VEHICLE CRASH	0:17
▲	ST. LOUIS CITY	E	250.65	09-Aug-12	VEHICLE CRASH	0:18
★	ST. LOUIS CITY	E	251.10	09-Jul-12	VEHICLE CRASH	2:40
■	ST. LOUIS CITY	E	251.13	15-Jul-12	VEHICLE CRASH	0:31





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	51.07	01-Jul-12	POLICE EMERGENCY	1:12
★	GREENE	W	78.78	29-Sep-12	VEHICLE CRASH	3:20
■	GREENE	W	79.35	03-Sep-12	VEHICLE CRASH	0:54
★	GREENE	E	90.14	07-Aug-12	VEHICLE CRASH	3:23
★	PULASKI	E	162.32	24-Jul-12	VEHICLE CRASH	2:22
■	PULASKI	E	163.85	05-Jul-12	VEHICLE CRASH	1:26
■	CRAWFORD	E	211.81	08-Jul-12	VEHICLE CRASH	0:36
■	FRANKLIN	E	228.85	01-Aug-12	VEHICLE CRASH	0:42
▲	FRANKLIN	E	252.41	20-Aug-12	VEHICLE CRASH	0:17
■	ST. LOUIS CITY	E	285.56	17-Aug-12	VEHICLE CRASH	0:42

Work zone impacts to traveling public-1e New!

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

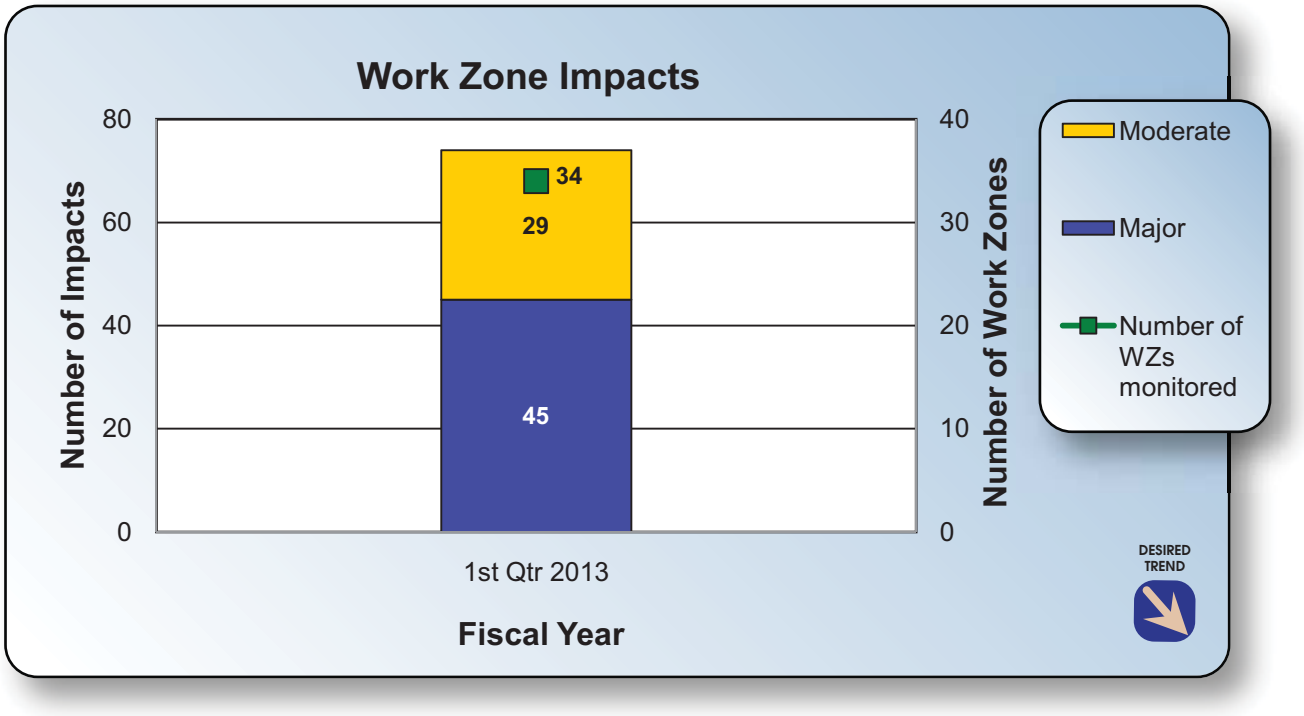
Purpose of the Measure:
Work zones are designed to allow the public the ability to travel safely through the work area with minimal disruption. This measure indicates how well those significant work zones are performing.

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 first quarter fiscal year 2013, 34 work zones were monitored. There were 45 major impacts and 29 minor impacts to motorist. Twenty-one of those major impacts were from the I-270 widening project in the St. Louis District. Those impacts were the result of blasting operations closing the roadway for extended periods of time. The St. Louis District experienced 88 percent of the total impacts and 90 percent of the major impacts.

Work zones experiencing major impacts this quarter were:

- I-270, Widening, St. Louis District
- I-64 Westbound, Double deck work, St. Louis District
- I-44, Antire Road, widening, St. Louis District
- US 136, asphalt overlay, Northwest District
- MO 45, Northwest District
- US 61, Ely Road, signal reconstruction, Northeast 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:

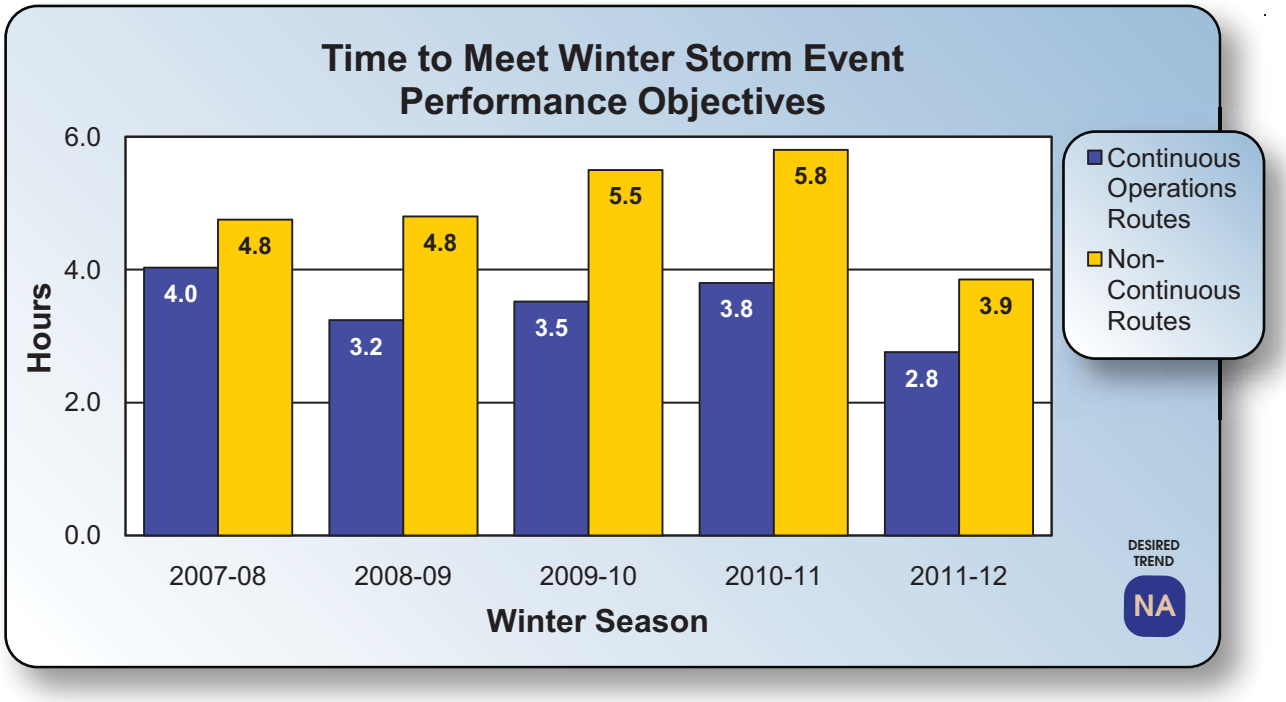
This data is collected in the winter event database. The measure tracks the average time involved in road clearance during winter weather. After each winter event, such as a snow or ice storm, area maintenance personnel submit a report indicating how much time it took to meet the performance objectives 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.

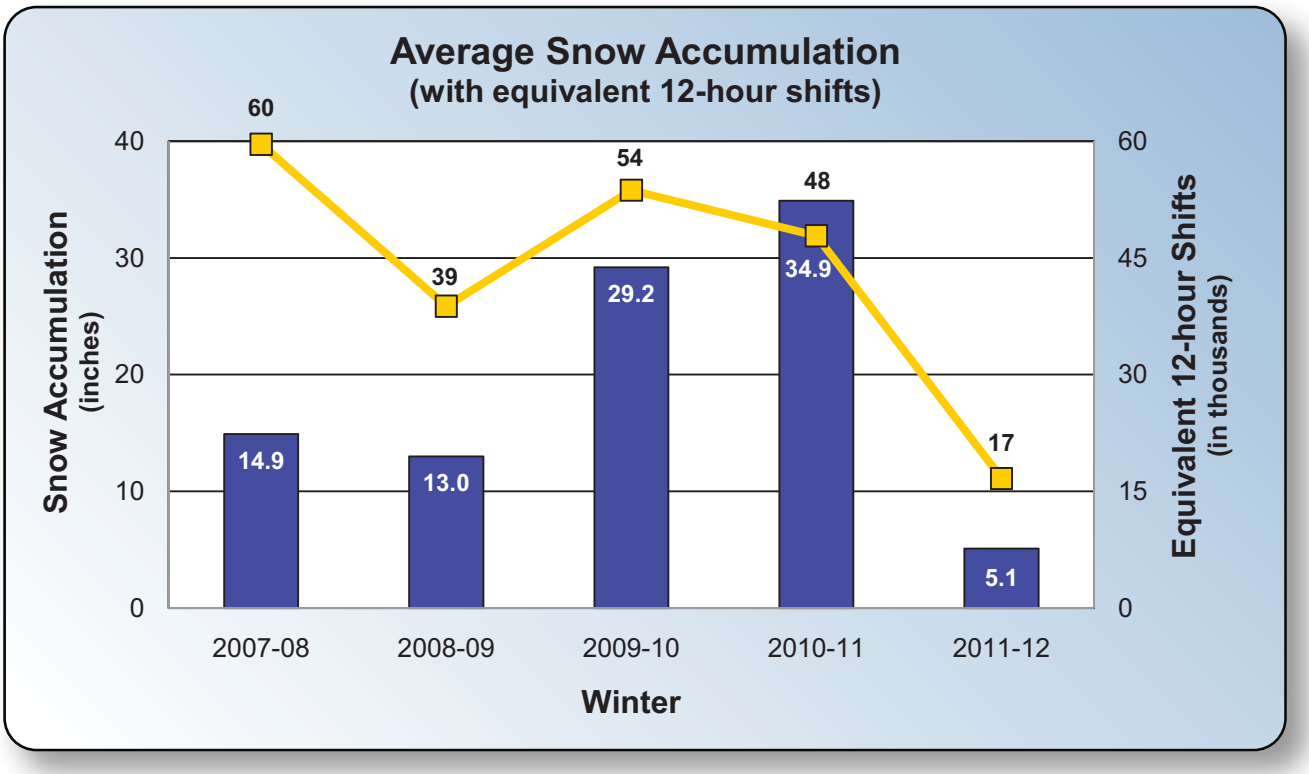
Data collection for this measure runs from November through March of each winter season, and is updated in the January and April Tracker publications. The time in hours is the statewide average for the entire winter season. The average snow accumulation and equivalent twelve-hour shifts help evaluate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

Improvement Status:

The average time to meet the performance objectives for both continuous operations highways and non-continuous operations highways were lower during the 2011-2012 winter season than during previous winters. This winter produced an average of 5.1 inches of snow statewide, requiring about 17,000 12-hour shifts to clear.

The time to meet the performance objectives varied based on the amount of snow received and the duration and intensity of the storm. While several best practices helped improve response time and reduce costs, this year's exceptional performance was driven by an extremely mild winter and cannot be maintained going forward.




Average Snow Accumulation
(with equivalent 12-hour shifts)
Snow Accumulation (inches)
Equivalent 12-hour Shifts (in thousands)
0
10
20
30
40
0
15
30
45
60
14.9
13.0
29.2
34.9
5.1
60
39
54
48
17
2007-08
2008-09
2009-10
2010-11
2011-12
Winter