

Monitor Aggressively, Manage Proactively

GuidePost

- Signal timing adjustments were made on Dunn Road and New Halls Ferry Road (pictured at right) to mitigate delays in travel on the outer road following a I-270 AM rush hour crash.
- Mitigation plan for “Black Friday” eased congestion and facilitated a heavy but steady flow of holiday shoppers in and out of area stores.
- Holiday signal plans through New Year’s weekend are outlined in this report
- Signal optimization timing plans were developed along Route AC - New Halls Ferry. These signals previously ran free.
- A new ACTRA signal group was created for the MO 30 Interchange. The group will be used for future events that close I-270 NB
- Freeway mobility increased in both the AM and PM.



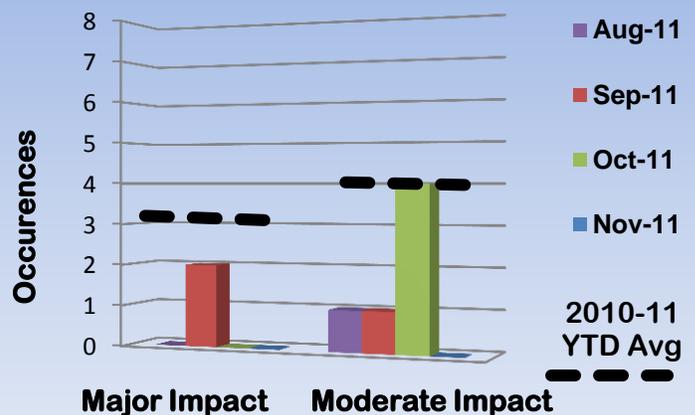
Dunn Road @ New Halls Ferry Road was the location of a recent signal timing effort for a rush hour crash on I-270.

Stats to Watch

Major Traffic Impact Incident Summary



Workzone Summary



ZONING IN

- 🚧 Observed work zones breakdown:
 - 🚧 Major Impact Delays: 0 – 0%
 - 🚧 Moderate Impact Delays: 0 – 0%
 - 🚧 Minor Impact Delays: 269 – 100%
- 🚧 Project with most delays: None
- 🚧 2010 vs. 2011 Work Zone Comparison: Nov 2010: 385 Nov 2011: 269
- 🚧 Work zone crashes in November: 2
- 🚧 In November, 37% of work zones were inspected which is an 8% increase from October
- 🚧 The District Mobility and Visibility acceptance levels increased 10% to 97% from October
- 🚧 The District performed well above the 91% Visibility and Mobility goal

*Impact Levels described in Data Key

TMC Observed Work Zones November 2011	
Impact	Number of Delays
Major Impact	0
Moderate Impact	0
Minor Impact	269
Total	269

Major Impact (15 Minutes Or Above Additional Delay)

***** No Major Impact Work Zones Delays*****

Moderate Impact (10-14 Minutes Additional Delay)

***** No Moderate Impact Work Zones Delays*****

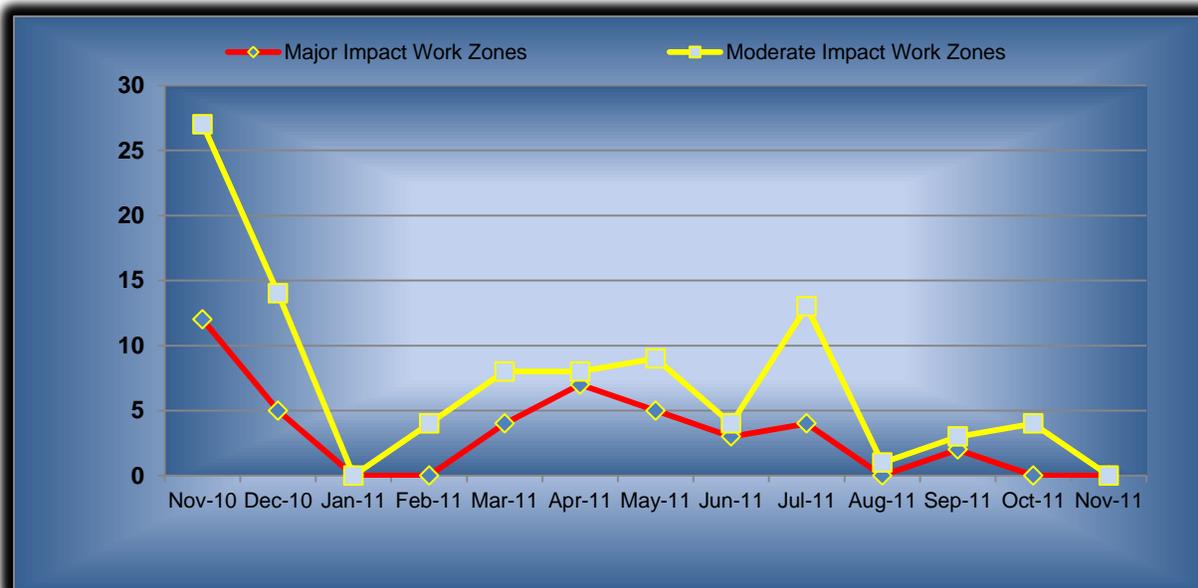
Minor Impact - 2 Work Zone Related Crashes

11/10 (Thursday) 1:42 AM @ Rte. 30 and Weber

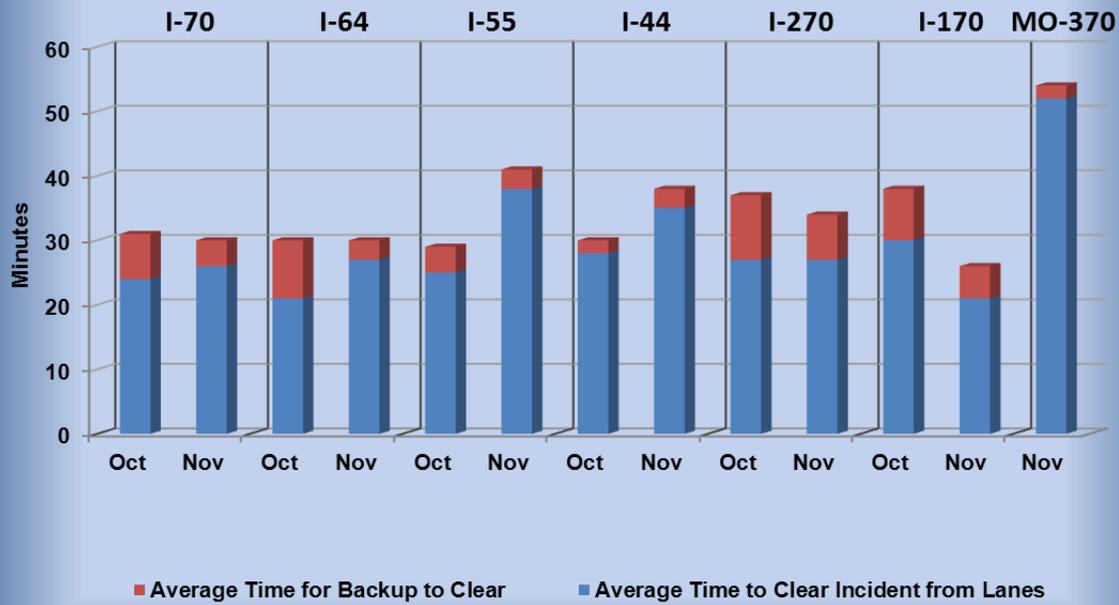
- A crash involving two vehicles within the work zone with minor injuries to vehicle occupants
- No MoDOT personnel were reported injured
- No measurable additional delays observed
- Incident cleared at 02:11 AM

11/20 (Sunday) 10:12 AM WB I-70 past I-170 Moving Operation

- Vehicle struck a TMA at the start of a moving operation
- No advanced messaging existed as TMC was notified of work zone start and TMA hit simultaneously
- No MoDOT personnel were reported injured
- Driver of the passenger vehicle involved was transported
- No measurable backup or queue existed
- Incident cleared at 11:02 AM

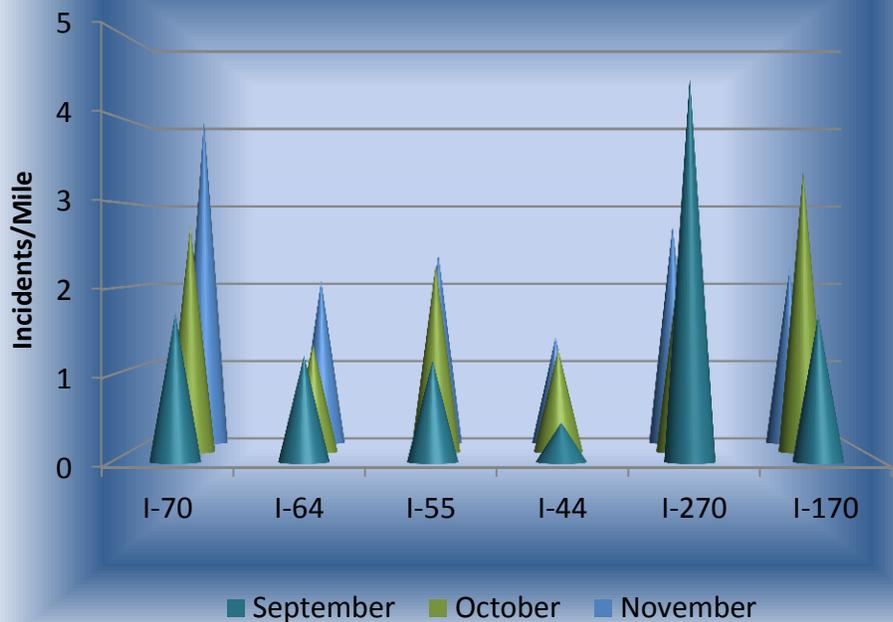


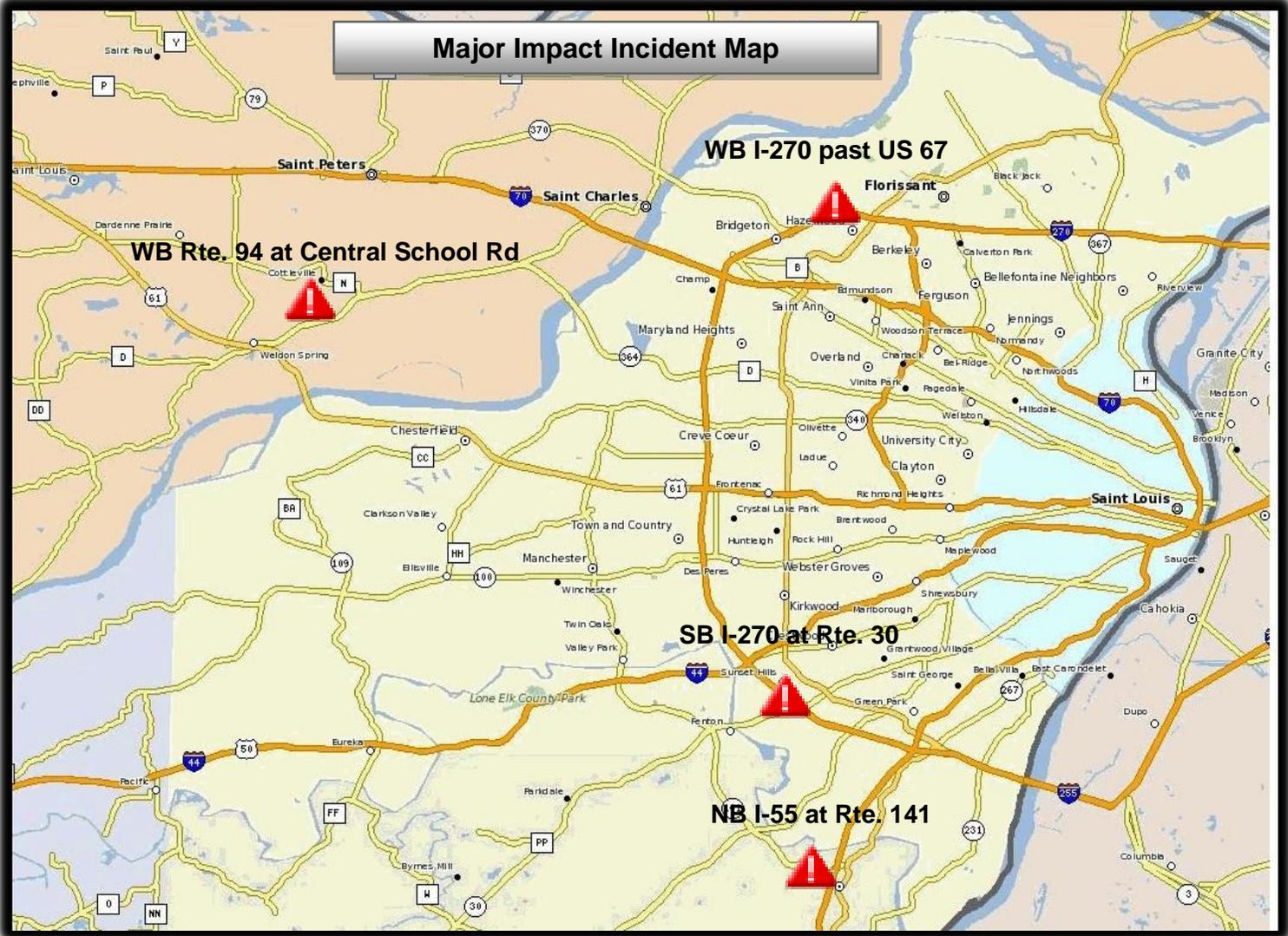
November 2011 vs. October 2011 Incidents Summary



Interstate	Number of Incidents		
	September	October	November
I-70	65	104	155
I-64	49	52	82
I-55	27	52	55
I-44	15	41	44
I-270	160	87	99
I-170	17	34	22
Total	333	370	457

ATMS Recorded Incidents per Mile





- ▲** Denotes Location of Major Impact Traffic Incidents
- The incident details and mitigation actions along with the results are outlined on pages 5&6.
 - Please note that traffic engineering assumptions were made when describing the approximate number of vehicles and people impacted.
 - These estimates provide a simple method to describe the impact on the motoring public.

Major Impact Traffic Incidents and Mitigation

11/04/11 (Friday)

- **Location:** WB I-270 past US 67
- **Event:** Fatal crash closed all lanes.
- **Time:** 8:38 pm – 11:56 pm **Total Time:** 2 hours 18 minutes
- **Action:** Three DMS activated and a 511 Floodgate was sent by the TMC. IDOT notified to activate DMS. MoDOT's Incident Management Coordinator was dispatched to the scene. MoDOT EOC and Motor Carriers were notified. Traffic was detoured onto US 67.
- **Result:** Traffic was backed up to I-170 with a 12-minute additional delay.
- **Estimated Initial Impact:** Approximately 790 vehicles with an estimated 950 motorists experienced additional delay in the initial queue, with 24 vehicles per minute adding to the queue or taking an alternate route. The detour and time of night led to lower volumes into the queue with little to no delay by the time the event cleared.

11/10/11 (Thursday)

- **Location:** NB I-55 at Rte. 141
- **Event:** Crash involving an overturned concrete truck closed the three left lanes.
- **Time:** 10:54 am – 1:56 pm **Total Time:** 3 hours 2 minutes
- **Action:** Two DMS were activated by the TMC. MoDOT's Incident Management Coordinator was notified and maintenance was dispatched to the scene.
- **Result:** Traffic was backed up north of Richardson Rd. with a 6 minute additional delay.
- **Estimated Initial Impact:** Approximately 790 vehicles with an estimated 950 motorists experienced additional delay in the initial queue with 68 cars a minute adding to the queue or taking an alternate route. The queue took approximately 3 minutes to clear once all lanes were reopened.

11/22/11 (Tuesday)

- **Location:** WB Rte. 94 at Central School Rd.
- **Event:** Fatal crash closed all lanes.
- **Time:** 9:54 pm – 4:36 am **Total Time:** 6 hours 42 minutes
- **Action:** Five DMS were activated / 511 Floodgate was sent by the TMC. MoDOT's Incident Management Coordinator was notified and communicated with ER. MoDOT EOC and Motor Carriers were notified. Traffic was diverted at Harvester Rd. onto South Outer 94.
- **Result:** Traffic initially backed up near Jungs Station Rd. with a 10 minute delay
- **Estimated Initial Impact:** Approximately 2110 vehicle, with 2530 motorists, experienced an additional delay in the initial queue, with 16 vehicles per minute adding to the queue or forced to divert.

Major Impact Traffic Incidents and Mitigation

11/17/11 (Thursday)

- **Location:** NB I-270 at Rte. 30, St. Louis County
- **Event:** I-270 NB was completely closed under the MO 30 overpass and traffic was diverted to MO 30
- **Time:** 1:22 pm – 4:11 pm **Total Time:** 2 hours 49 minutes
- **Action:** Four DMS were activated and a 511 Floodgate was sent by the TMC. MoDOT's Acting Incident Management Coordinator (Larry Doelling) was dispatched to the scene. MoDOT EOC and Motor Carriers were notified. Traffic was detoured onto Rte. 21.
- Southwest Area Traffic Team (SWAT) implemented signal timing changes at the MO 30 and Tesson Ferry Road - MO 21 interchanges for I-270. At MO 21, a signal plan was created to balance between additional demands on the I-270 NB off-ramp with existing traffic on Route 21. This plan was 130 seconds with 55 seconds of that cycle programmed for the I-270 NB off-ramp.
 - At 2:15 pm, the inside two lanes were observed to have opened. Meanwhile, the US 61/67 (Lindbergh) system from Mueller to I-255 was put into its "WB" diversion mode. Both I-255 WB traffic and SB I-55 traffic were exiting to Lindbergh instead of using NB I-270.
 - At 2:30 pm, it was observed I-270 NB was completely closed again, but instead of being closed at Rt. 30, I-270 was closed at MO 21. MO 30 was returned back to normal, and MO 21 was further adjusted. At MO 21, the NB left to the closed NB I-270 section was closed and the signal plan was adjusted to account for the on-ramp closure. Efforts also began to spread the diversion plan to the north towards Baptist Church, with the additional 30 seconds going to mainline Route 21 except at Baptist Church where the time went to NB left and NB through.
 - At 2:45 pm, it was observed the inside two lanes were reopened on I-270. Increased congestion on Lindbergh between MO 30 and MO 21 was observed so those signals were changed to free with increased time to the mainline phases. MO 21 was returned to normal programming at this time.
 - At 3:00 pm, it was observed the off-ramps at MO 21 were backing up and 10 seconds was swapped from mainline to the off-ramps. The SB off-ramp quickly cleared and was returned to normal timing.
 - At 3:15 pm, observations showed the MO 30 interchange backing up again so the "I-270 NB Closed" signal timing plan was reinstated.
 - At 4:00 pm, three lanes were opened along NB I-270. Lindbergh appeared to be back to normal so those signals were returned to their normal signal plans. The Route 21 interchange was again returned to normal programming.
 - At 4:15 pm, all lanes on NB I-270 were re-opened, and the MO 30 interchange signal timing was returned to normal
- **Results:** Traffic backed up at I-55 with an eleven-minute additional delay. The queue cleared in 10 minutes. Signal timing adjustments allowed for an efficient flow of traffic on the diversion route and successful adjustments to changes in traffic flow throughout the event. A new ACTRA group was created for the MO 30 interchange intended for incidents that have I-270 NB closed and will be used for future events. TMC staff discovered that the signal timing plan needs to be implemented to the south of I-270 for future events.
- **Estimated Initial Impact:** Approximately 2110 vehicle, with 2530 motorists, experienced an additional delay in the initial queue on the Interstate, with 16 vehicles per minute adding to the queue or forced to divert.

Minor to Moderate Impact Traffic Incidents and Mitigation

11/14/11 (Monday)

- **Location:** NB I-270 @ I-44, St. Louis County
- **Event:** 2 crashes resulted in traffic backing up to I-55 on I-270 and then on NB 61/67 at Eddie and Park
- **Time:** 7:00 AM – 8:30 AM **Total Time:** 1 hour 30 minutes
- **Action:** The signal on NB 61/67 was set to free operation and max recall with a green time of 90 seconds. The max time was increased to 120 seconds after 15 minutes. Traffic backed up near Geyer Road with adjusted timings in place. Crashes were cleared at 7:45 am and the signal was set to normal operation at 8:30 am.
- **Result:** Initial adjustments were unsuccessful in reducing congestion on NB 61/67. Increased timing efforts spared additional delays NB and prevented traffic from backing up beyond Eddie and Park. Further southbound adjustments could not be made because of congestion at Eddie and Park.

11/17/11 (Thursday)

- **Location:** EB I-270 at Rt. AC (New Halls Ferry Road), St. Louis County
- **Event:** Crash resulted in heavy traffic on EB Dunn Road at New Halls Ferry Road as vehicles were traveling on Dunn Road and re-entering I-270 past the crash scene.
- **Time:** 8:00 AM – 9:00 AM **Total Time:** 1 hour
- **Action:** The signal timing at Dunn Rd. and Rt.AC was placed on "Free". Time for the WB through movement was greatly increased. Reductions to other movements were made. At approximately 9:00 AM, the signal was returned to normal operation.
- **Results:** These adjustments slightly reduced the backup on the North Outer Road because every vehicle has a "stop" for the EB exiting traffic. The EB off-ramp (slip ramp) for Rte. AC delayed vehicles from getting through the signal at Rt. AC. The stop condition greatly reduced the opportunity to divert traffic effectively. With the increased time, it was observed more vehicles made it through the signal than without the change, but it was impossible to completely mitigate the North Outer Road EB backup. It should be noted that this scenario is present along most of EB I-270 between I-170 and Lilac Rd. and restricts most signal mitigation efforts for other incidents in this corridor.

Minor to Moderate Impact Traffic Incidents and Mitigation

11/22/11 (Tuesday)

- **Location:** NB I-55 at U.S. 61/67, St. Louis County
- **Event:** An incident on NB I-270 caused significant queuing from NB I-55 to WB 61/67 (Lindbergh Blvd.).
- **Time:** 8:00 am **Total Time:** 30 minutes
- **Action:** The signal was adjusted to free operation and given additional time for the off-ramp movement for a few cycles. The signal was returned to coordination when no additional traffic was observed to be exiting.
- **Result:** Efforts allowed the queue to clear preventing additional delays.

11/23/11 (Wednesday)

- **Location:** SB I-55 at Bayless Rd., St. Louis County
- **Event:** An incident closed the 3 left lanes (1 lane open)
- **Time:** 3:40 PM **Total Time:** 1 hour 5 minutes
- **Action:** Interchange for off-ramp to Loughborough was adjusted to free signal operation. At 4:20 pm, I-55 was opened up to 2 SB lanes. At 4:25 pm, I-55 was completely reopened and at 4:45 pm Loughborough was returned to coordination.
- **Result:** The off-ramp immediately cleared out, relieving traffic onto I-55 as far north as Bates.

11/25/11 (Black Friday)

- **Location:** West County Center (West 100 Manchester Rd Mall Group) including I-270, Mall Entrance, and Rt. JJ (Ballas Rd.); Manchester Highlands (100 @ Highlands); I-64 at Boone's Crossing; and MO 141 at Gravois Bluffs and Old Gravois, St. Louis County
- **Event:** Black Friday Shopping Mitigation Efforts
- **Time:** 7:00 pm Thursday November 24th until 5:00 am Monday November 28th
7:00 am Friday until 5:00 am Monday all weekends until the first of the year except Christmas weekend, Dec 23th - 27th.
- **Action:** Signals set to run free at all locations except Manchester Highlands where the timing adjustments made for the last holiday season (Thanksgiving thru New Year's) are still in place.
- **Result:** No significant problems reported. Traffic appeared to be heavy but with a steady flow.

Holiday Mitigation Plans

11/25/11- 1/2/11 (Holiday Signal and Timing Adjustment Plans)

Time: 7:00 am Friday until 5:00 am Monday all weekends until the first of the year except for Christmas weekend Dec 23rd-27th.

Location: West County Center (West Rte.100 Manchester Rd Mall Group) including I-270, Mall Entrance, and Rt. JJ (Ballas Rd.)St. Louis County

- **Event:** Black Friday Shopping Mitigation Efforts
- **Action:** Signals set to run free. It is preferred that the pre-emption system at Ballas Rd. not be used by police to clear NB Ballas traffic.
- **Result:** Actual results TBD

Location: I-64 at Boone's Crossing

- **Action:** Runs free overnight. In the past, normal day timing plans have worked.
- **Result:** Actual results TBD

Location: MO 141 at Gravois Bluffs and Old Gravois

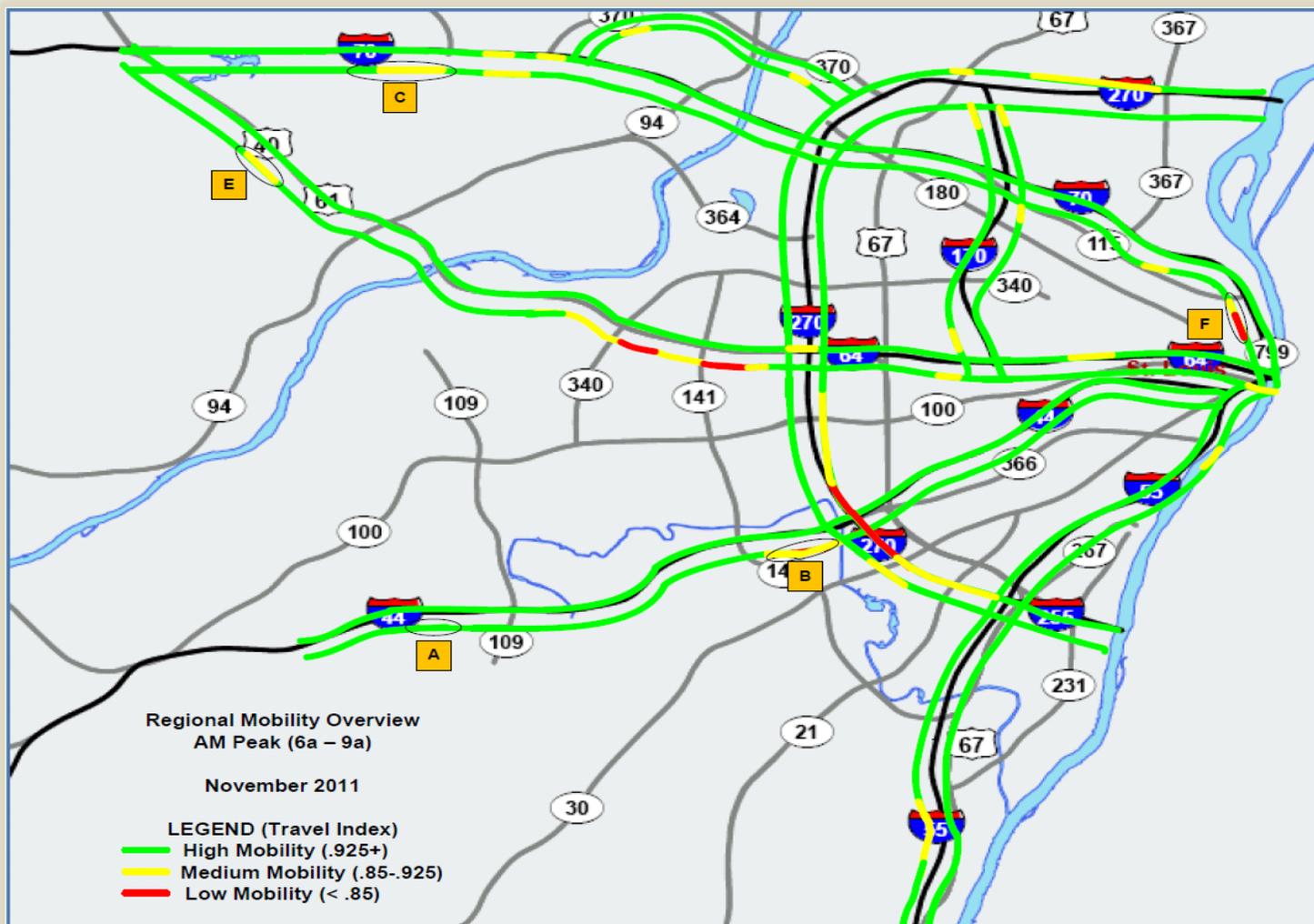
- **Action:** Set to run free as in years past and it appears to help quite a bit. Gravois Bluffs experiences heavy traffic congestion. The Fenton signal just west of the MoDOT signal on Gravois Bluffs Blvd is spaced too close. There is a new right-in/right-out to MO 141 on the Target side, which should help alleviate congestion. In the past, the MO 30/Gravois Bluffs CFI intersection wasn't utilized to its capacity. Old Gravois has significant traffic coming in and out of the Best Buy and Barnes & Noble that is on the west side. The MO 30 interchange has performed well without additional intervention.
- **Results:** Actual results TBD

Location: US 61/67 (Lindbergh Blvd.) at I-55 (Includes St. Johns/Rusty, Union, and Cordes)

- **Action:** All signals are set to free. The St. Johns/Rusty signal has a very heavy NB left and the queues leaving Target/Costco can get very big. Police officers in the past have flagged the signal. If the officers are flagging, signal timing adjustments are not useful. Union and Cordes are heavily used because of the South County Mall. The I-55 interchange is heavily congested because of the shopping opportunities on either side of the interchange.
- **Results:** Actual results TBD

Location: Manchester Highlands (Rte. 100 @ Highlands)

- **Action:** The timing adjustments made for last holiday season (Thanksgiving thru Christmas and into the New Year) are still in place and will be used on the same schedule as above. The camera at Rte. 100 and MO 141 can see the eastbound left turns at Highlands and most of the shopping center exit. The MO 141 Highlands entrance has not had many problems in the past.



AM Peak changes in November 2011

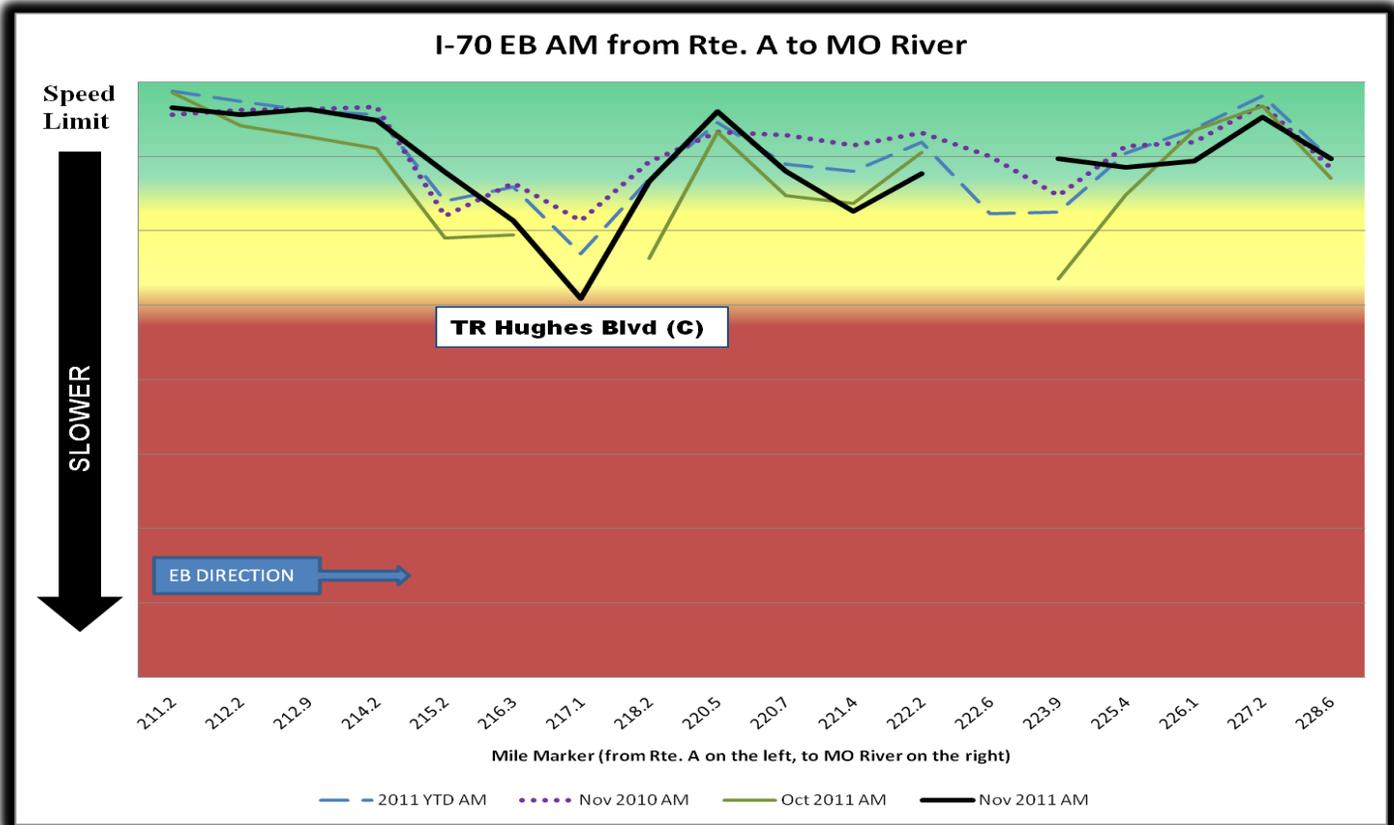
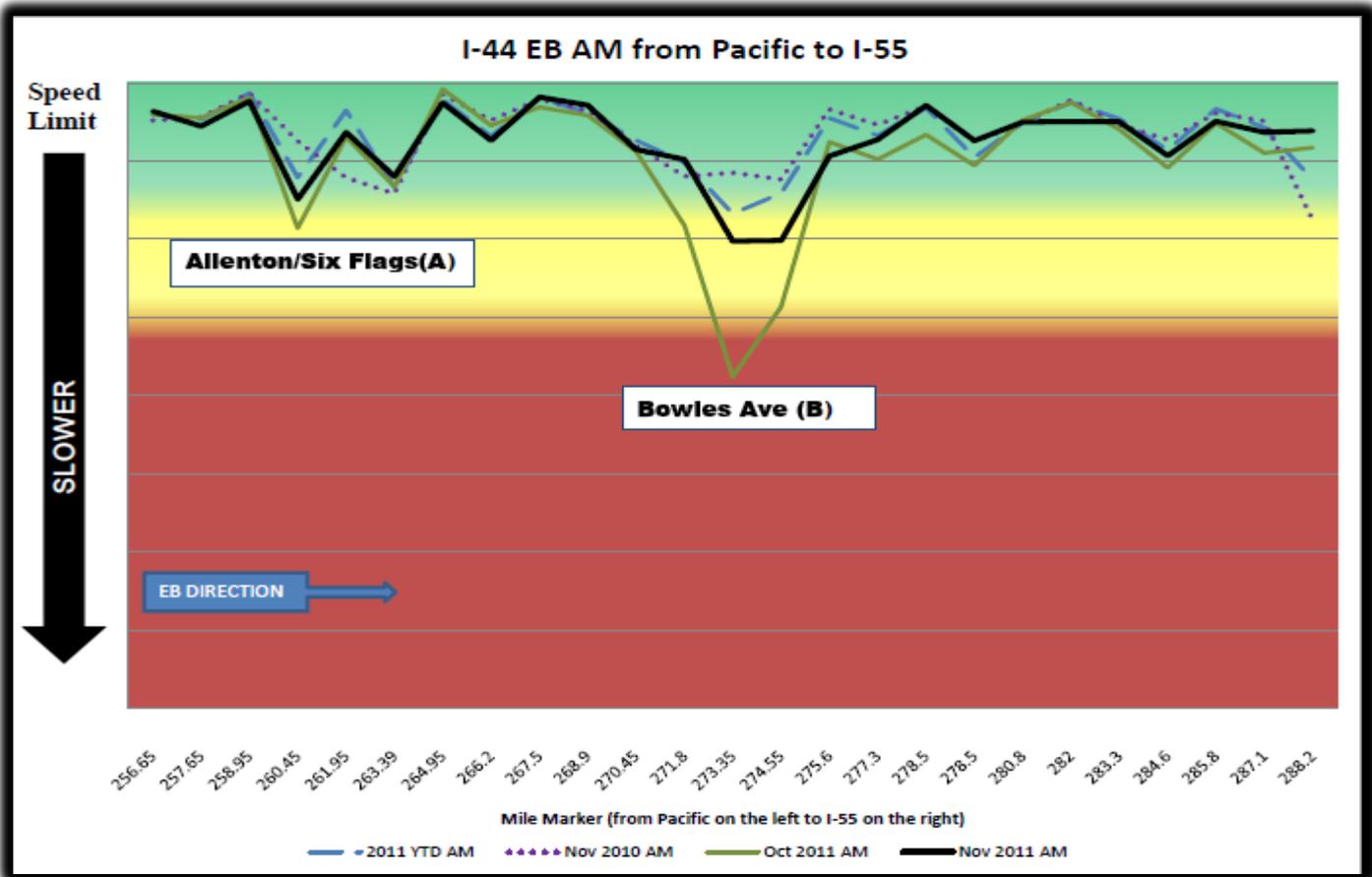
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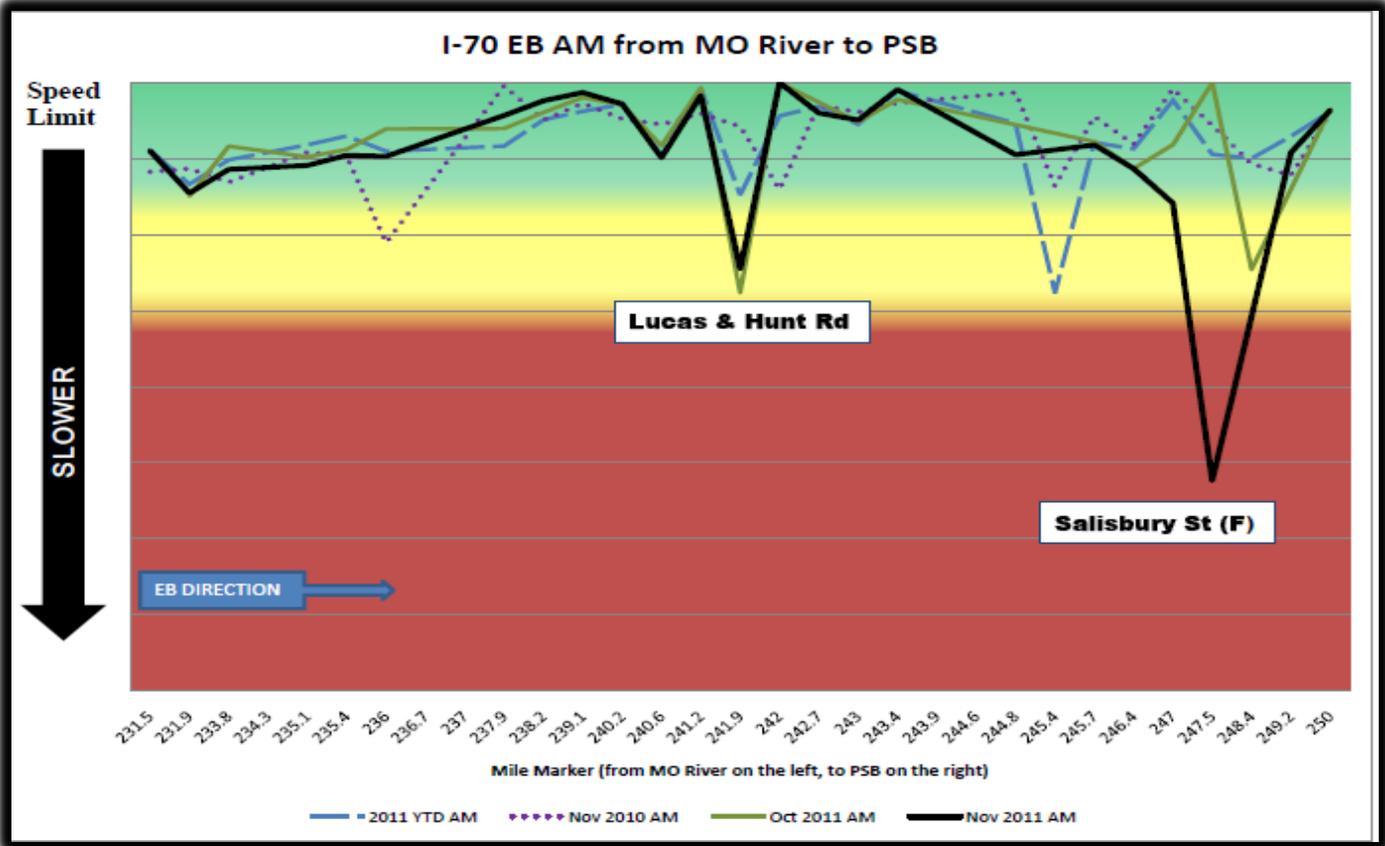
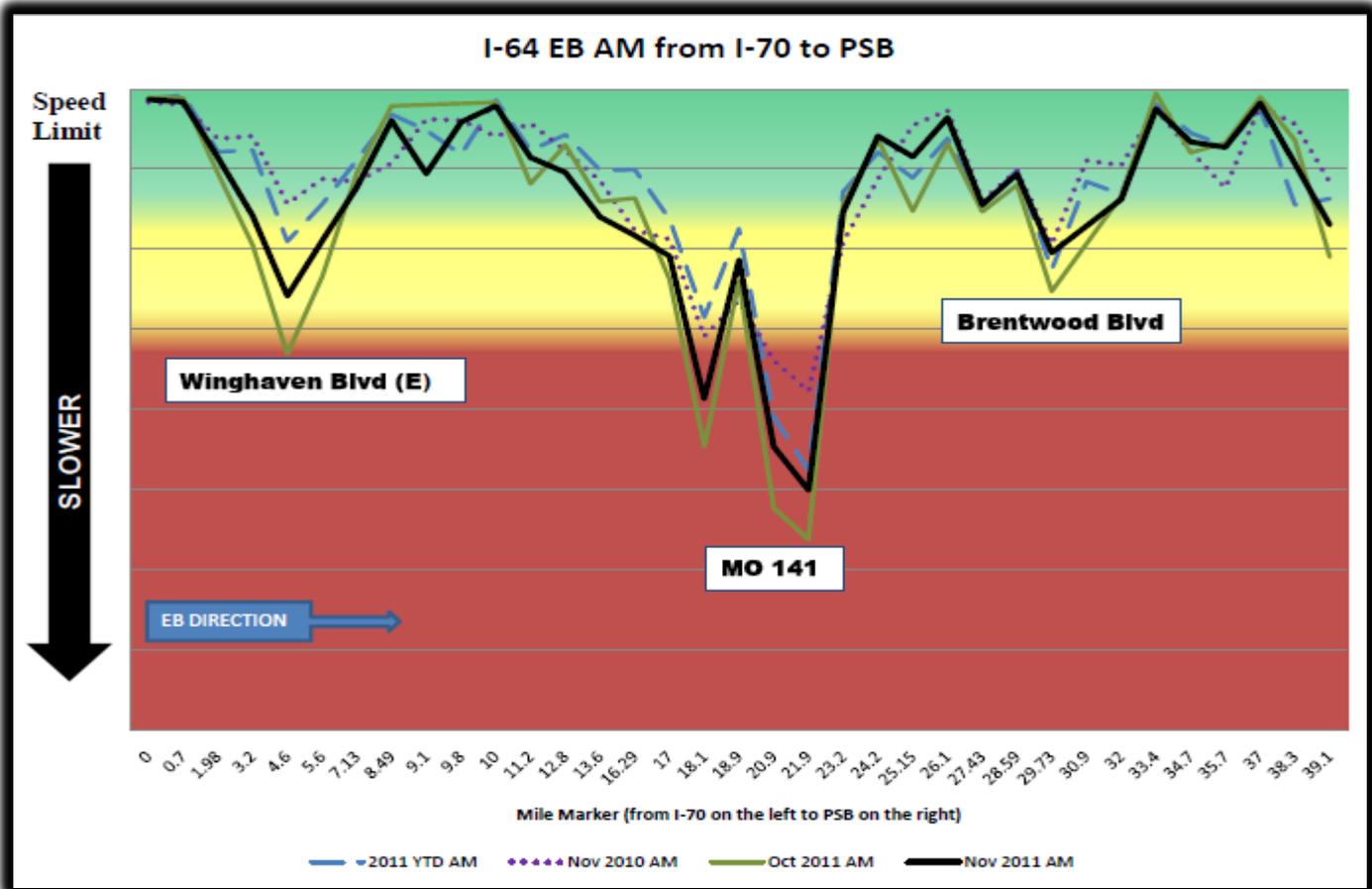
Mobility slightly increased

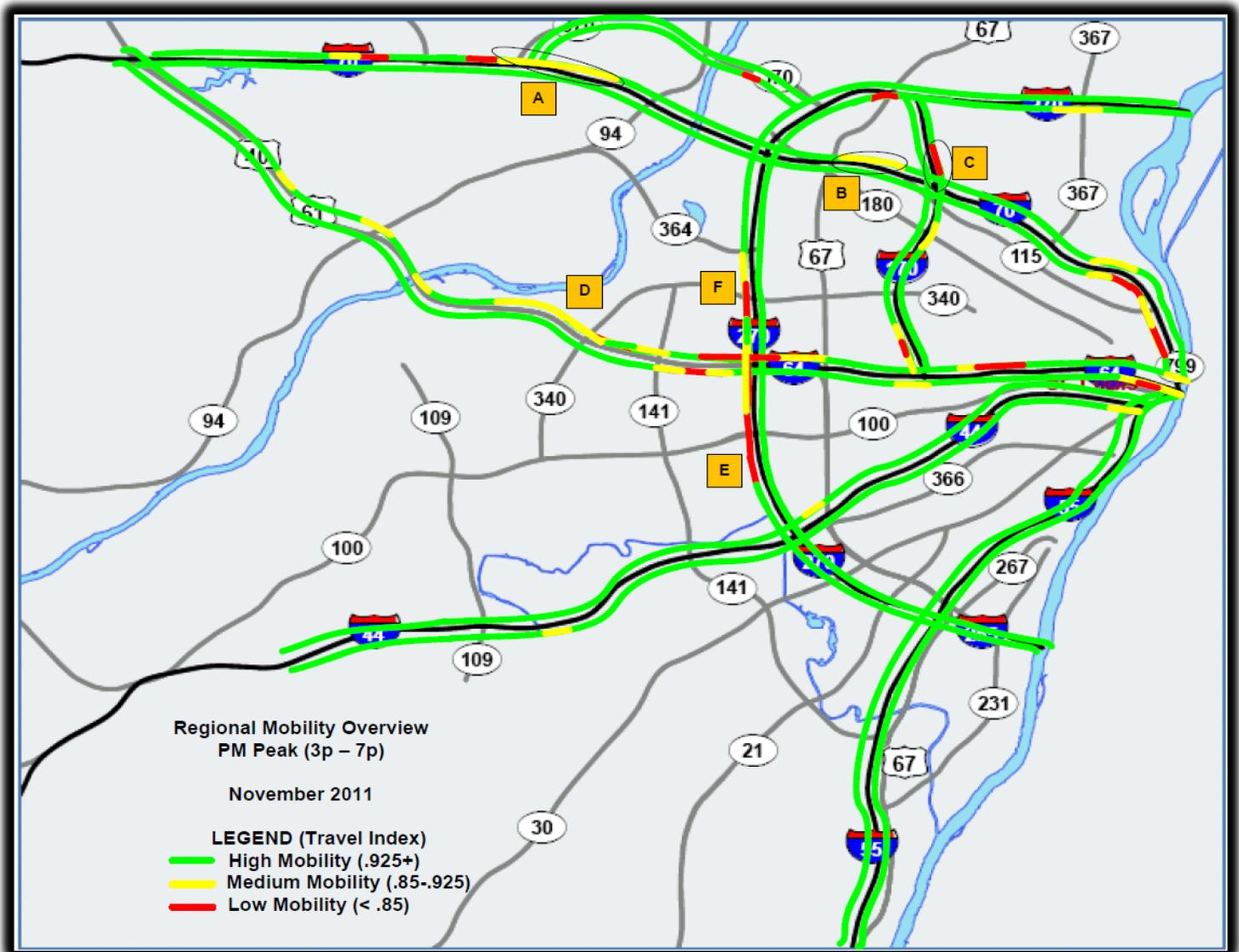
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Mobility slightly decreased

* All weekdays are included in speed index calculation







PM Peak changes in November 2011

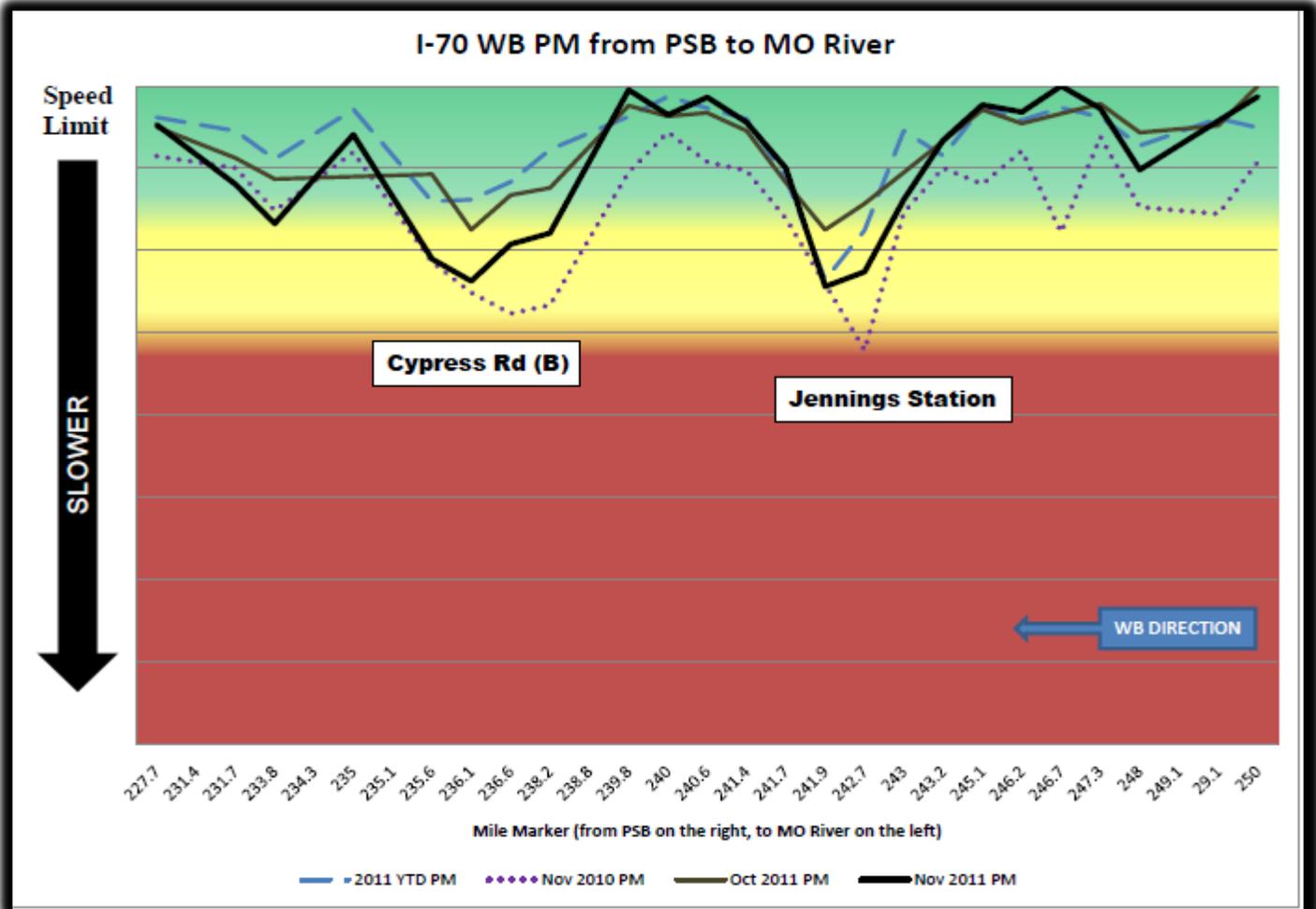
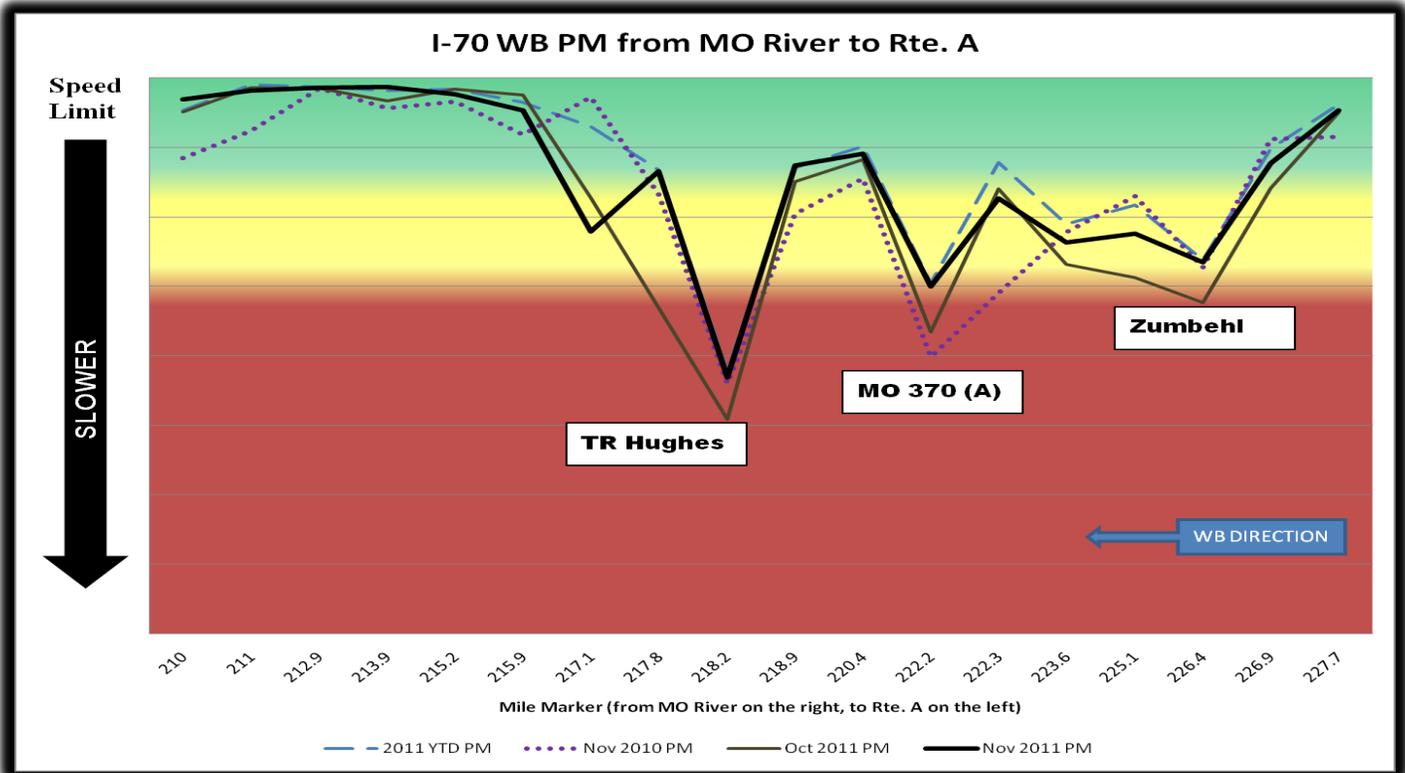
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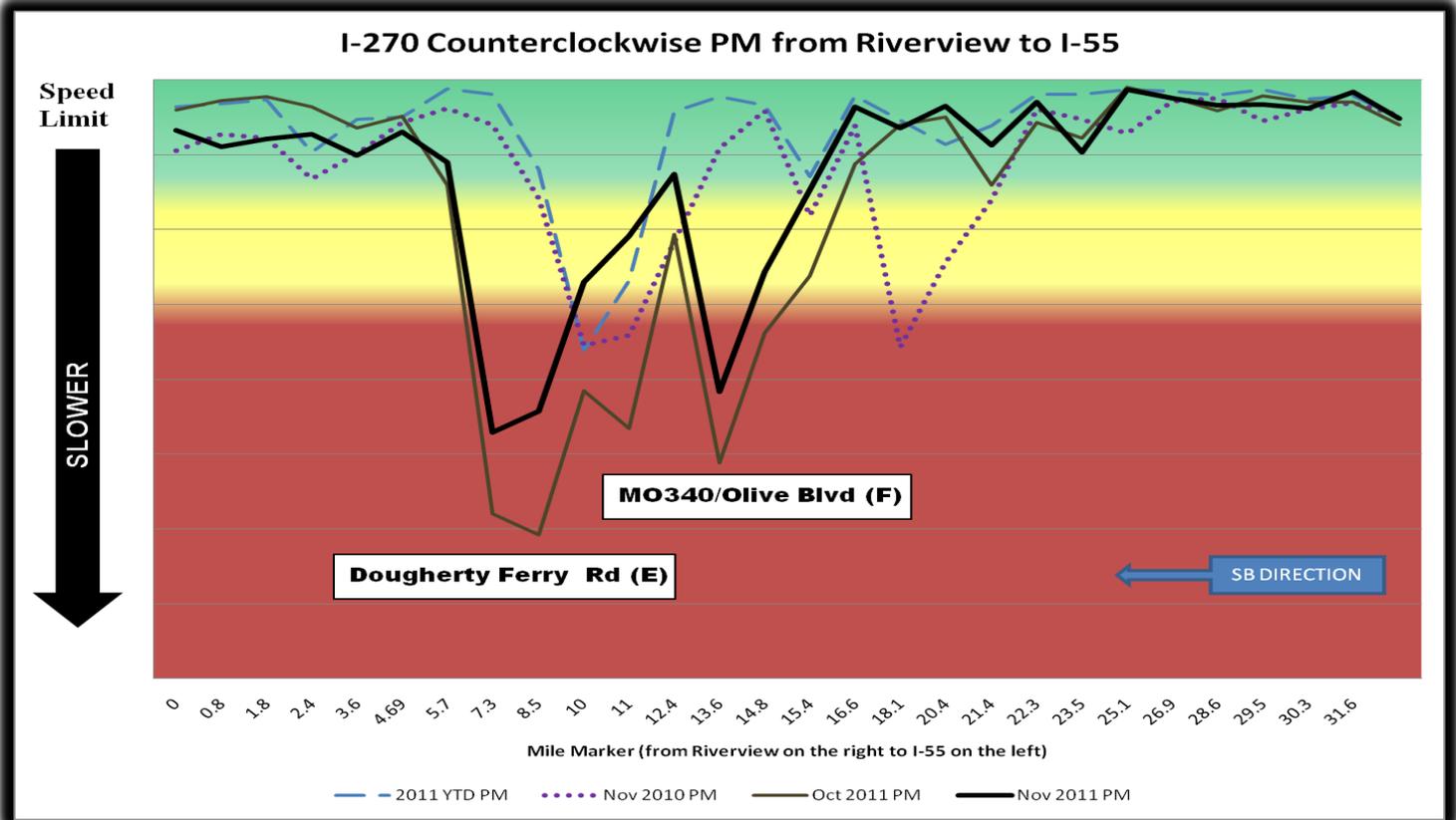
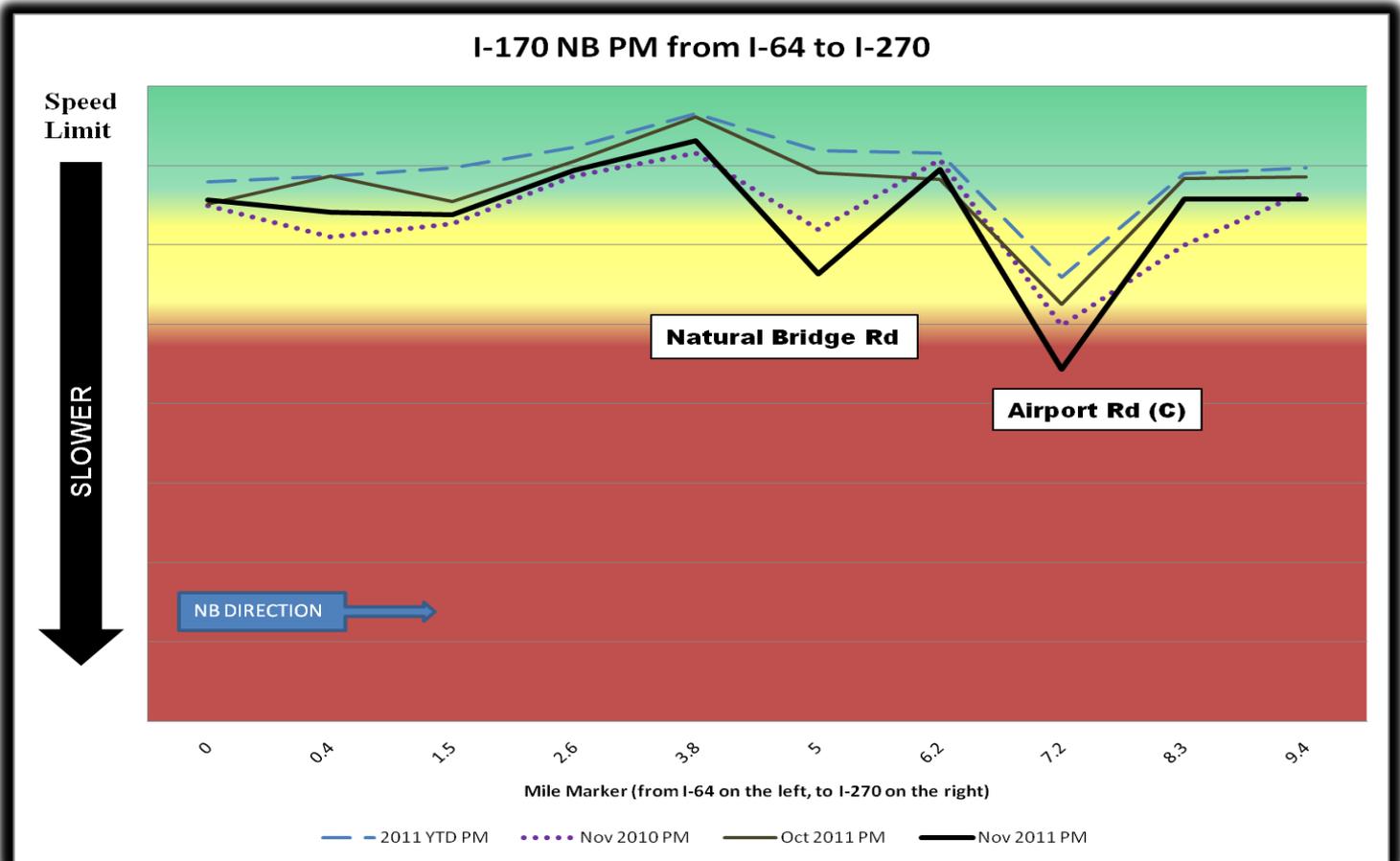
Mobility slightly increased

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Mobility slightly decreased

* All weekdays are included in speed index calculations





Average Rate of Travel on Selected Signalized Routes by Calendar Year Average Travel Time per Mile Arterial Management

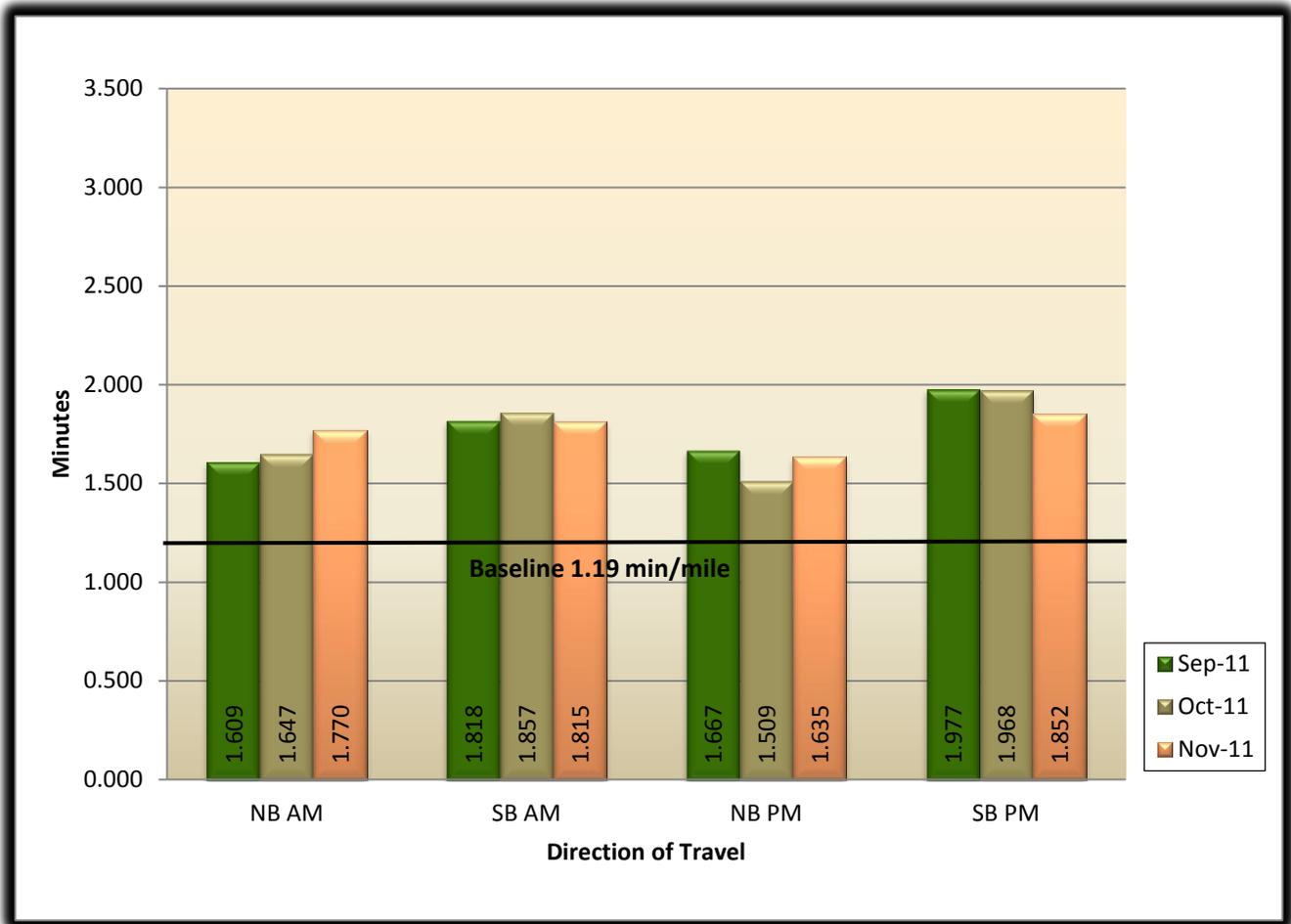
The purpose of the measure is to determine how well selected arterials across the region are operating during the peak traffic times. As improvements are made, such as signal timing, equipment upgrades, or access management improvements, this measure will show the effects of those efforts and decisions on the arterial system.

Travel times are measured on various arterial routes. Data is collected from driving each route multiple times during the A.M. and P.M. peak periods and timing how long it takes to traverse the route. The travel time is compared to the speed limit and the average minutes per mile are calculated. An average minutes per mile based on a perfect run through the corridor is calculated and used as the baseline for comparison. If the actual average minutes per mile are at the baseline, traffic is moving at the speed limits without any stops.

The routes where data was collected include the following:

- Route 141 from I-55 to I-64
- MO 30, from RT PP to Weber Hill Road
- Route 100, from Route 340 to Route 141
- US 50, from Union West City Limit to Denmark
- US 67 from Route 367 to I-270

South and West County, MO 141, from I-55 to I-64



The travel times for NB MO 141 in the morning are up. Although previous monthly reporting does not reflect this, it is thought to be caused by school districts in the area changing their schedule.

Number of Signals - 41

Length of system - 18.6 miles

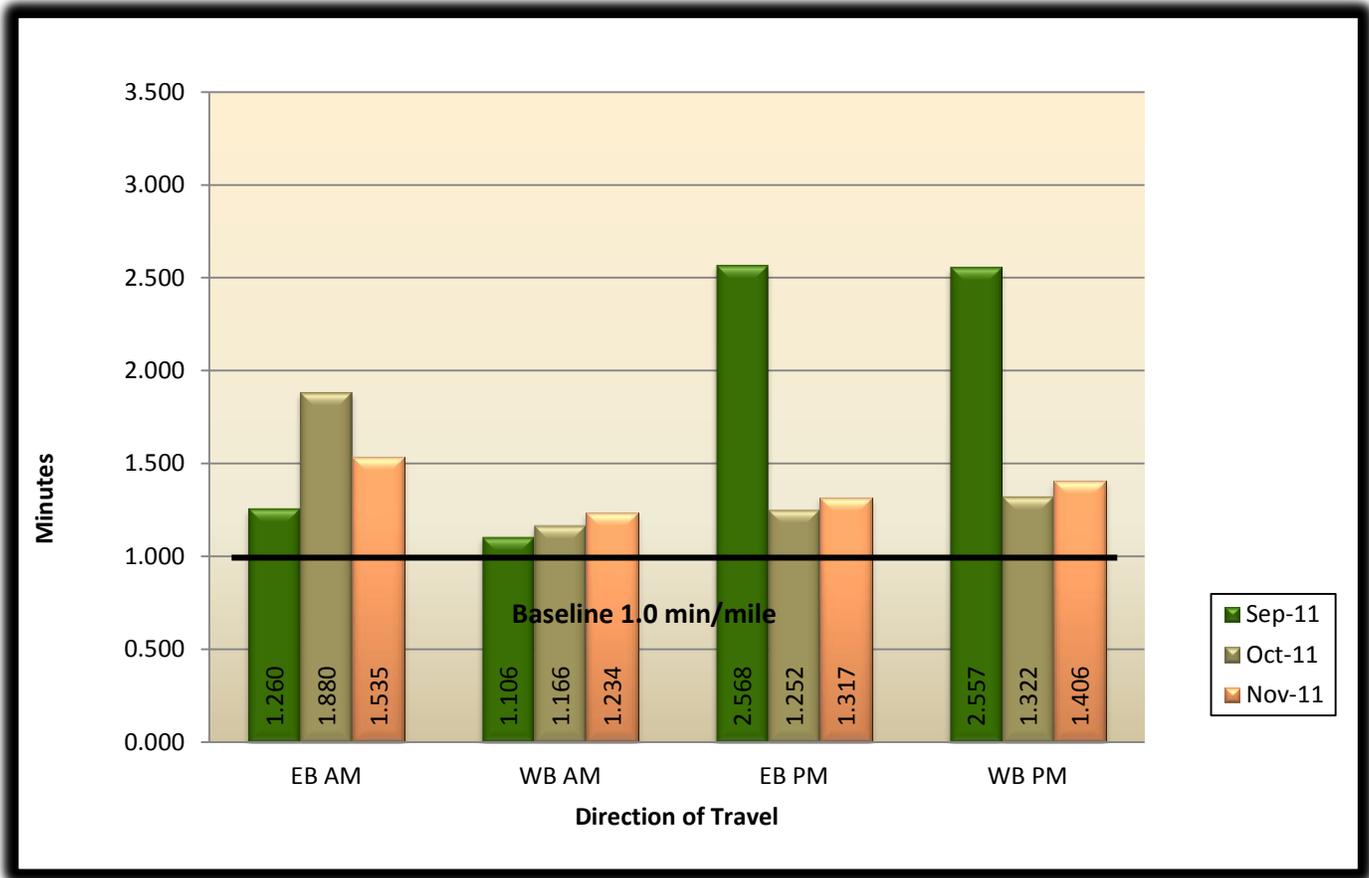
Speed Limit on this corridor ranges from 45 to 55 mph

Number of Lanes - This is an urban/rural 4-6 lane expressway with signalized crossovers and several grade separated interchanges.

Weighted AADT for length of segment - 35930

This corridor encompasses many systems. The segment from Route 21 to Helfrich is scheduled in 2011, and the segment from Arnold Church Road to US 61-67 was completed in 2010.

South County, MO 30, from RT PP to Weber Hill Road



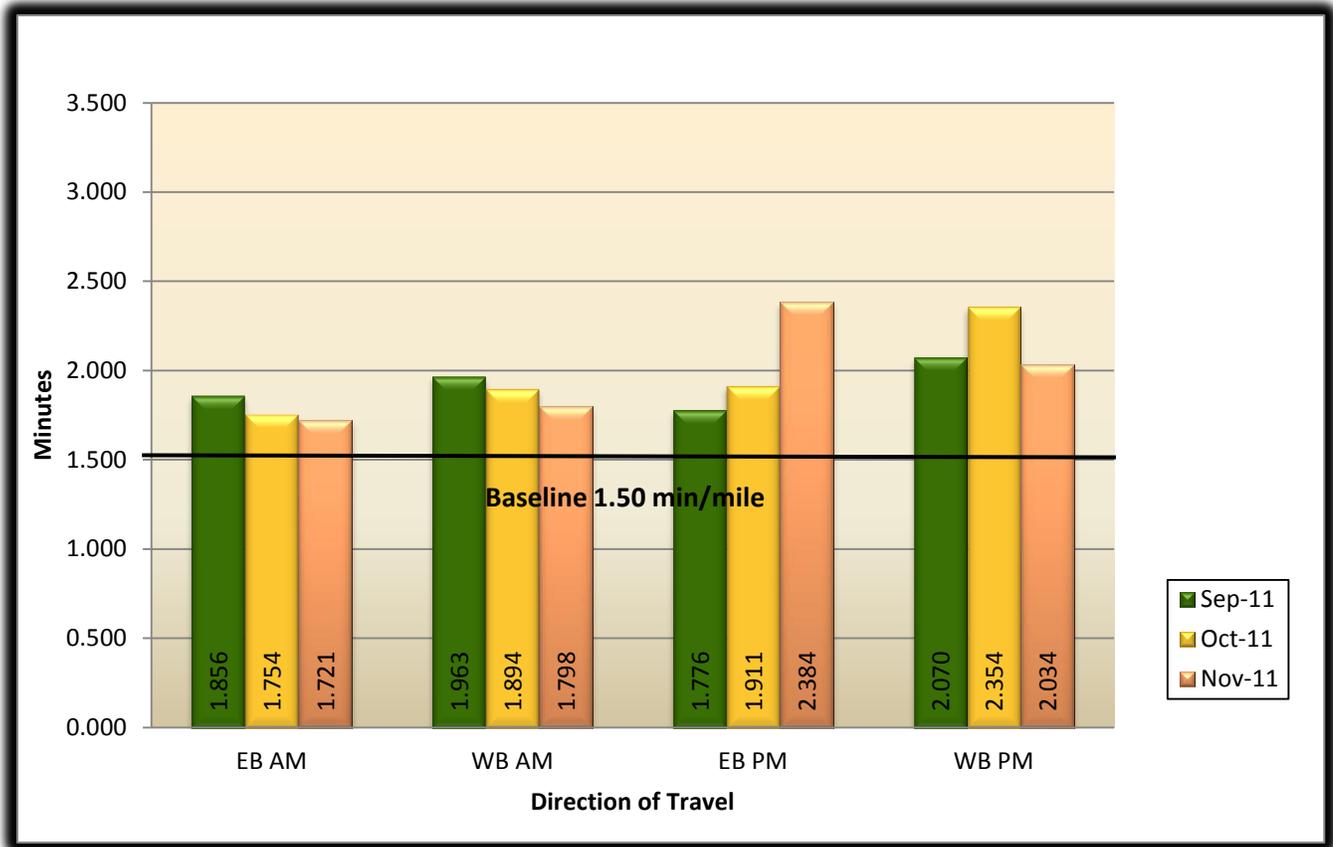
The travel times are slightly higher this month for all directions AM and PM, except EB in the AM. There is no identifiable cause for this, could possibly be due to the upcoming holidays in the PM Peak. Also, this route is being run by a different person this month and there could be a difference in driving habits.

Number of Signals - 11
 Length of system - 9.2 miles
 Speed Limit is 60 mph

Number of Lanes - This is a rural four lane expressway with signalized crossovers
 Weighted AADT for length of segment - 38150

This system was optimized in 2009 and is scheduled again in 2013.

West County, Route 100, from Route 340 to Route 141



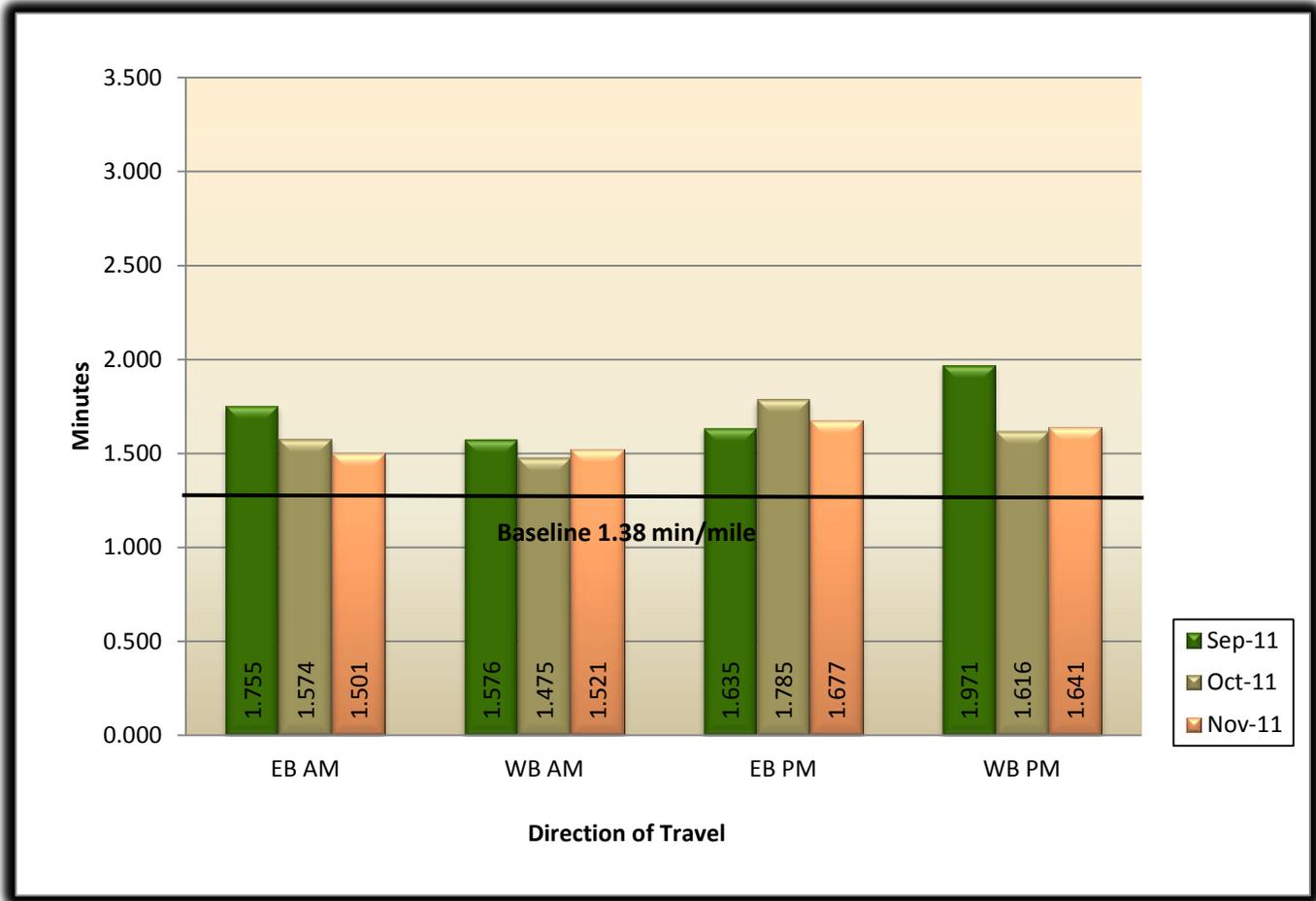
The AM travel times slightly improved from October, both directions. The PM WB travel time improved from October, but is more consistent with average. The PM EB travel time was significantly lower. Reason unknown.

Number of Signals - 8
 Length of system - 4.2 miles
 Speed Limit is 40 mph

Number of Lanes - This is a five lane section with a two way left turn lane.
 Weighted AADT for length of segment - 39500

This system hasn't been optimized for a number of years. It is under contract for optimization in the current fiscal year.

Franklin County, US 50, from Union West City Limit to Denmark



Travel times are fairly consistent with previous months.

Number of Signals - 6

Length of system - 6.3 miles

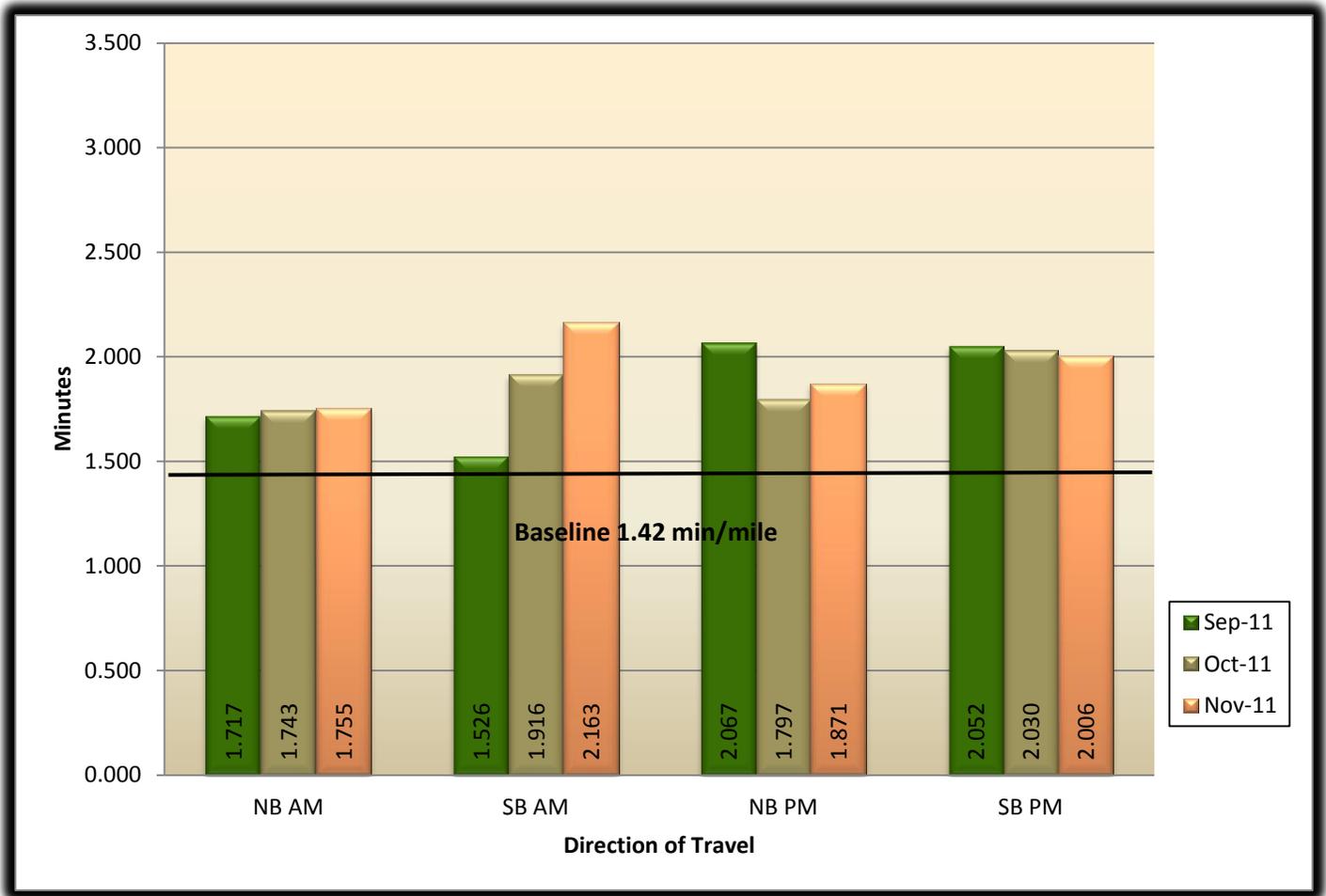
Speed Limit varies between 40 and 50 mph.

Number of Lanes - This highway was just recently upgraded to a five lane section.

Weighted AADT for length of segment - 16850

This system had signal optimization timings implemented in early July.

North County, US 67, from Route 367 to I-270



Travel times haven't changed much with the exception of the SB direction in the AM. There is no known cause for the change.

Number of Signals - 19
 Length of system - 8.3 miles
 Speed Limit varies between 40 mph and 45 mph

Number of Lanes - This is a five lane section with a two way left turn lane.
 Weighted AADT for length of segment - 25450

Most of this system received an optimization in 2005 and 2006, and is under contract for optimization during the current fiscal year.

“Worst” Time to Travel Pilot Project November 2011

Since early Spring of 2011, MoDOT’s Gateway Guide Team has piloted a project on the I-64 corridor between MO 94 and Spoele. The purpose of this project has been to relieve the recurring congestion by educating motorists on the “Worst Time to Travel” by displaying our newest creative message plan via MoDOT DMS and CMS boards, and persuading drivers to adjust their travel patterns via a targeted public outreach campaign.

This project has focused on the eastbound direction from 6 am to 9 am and westbound from 3 pm to 7 pm.

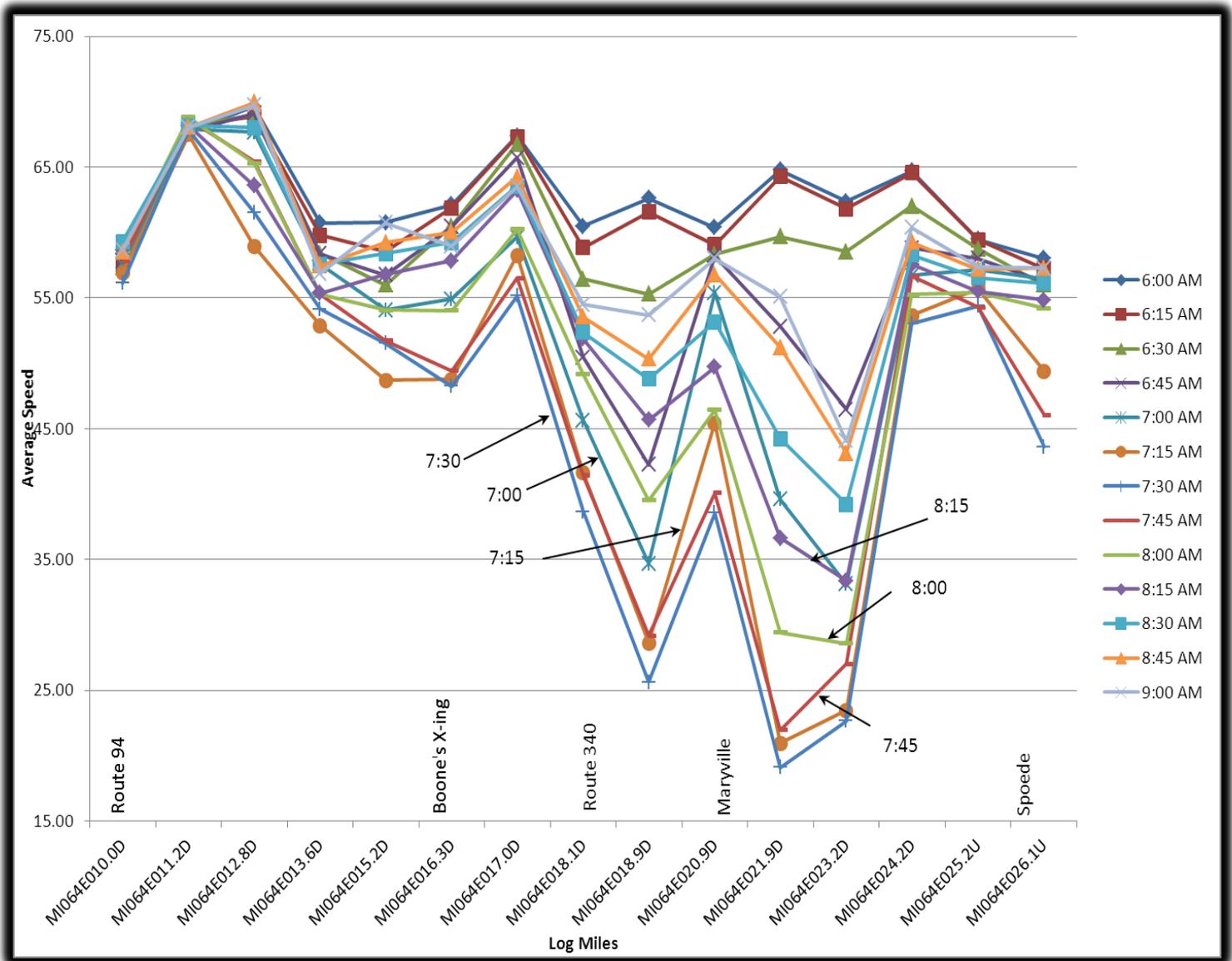
The data from November 2011 shows that the worst times to travel are:

I-64 Eastbound	7:00 am to 8:15 am
I-64 Westbound	4:30 pm to 5:45 pm

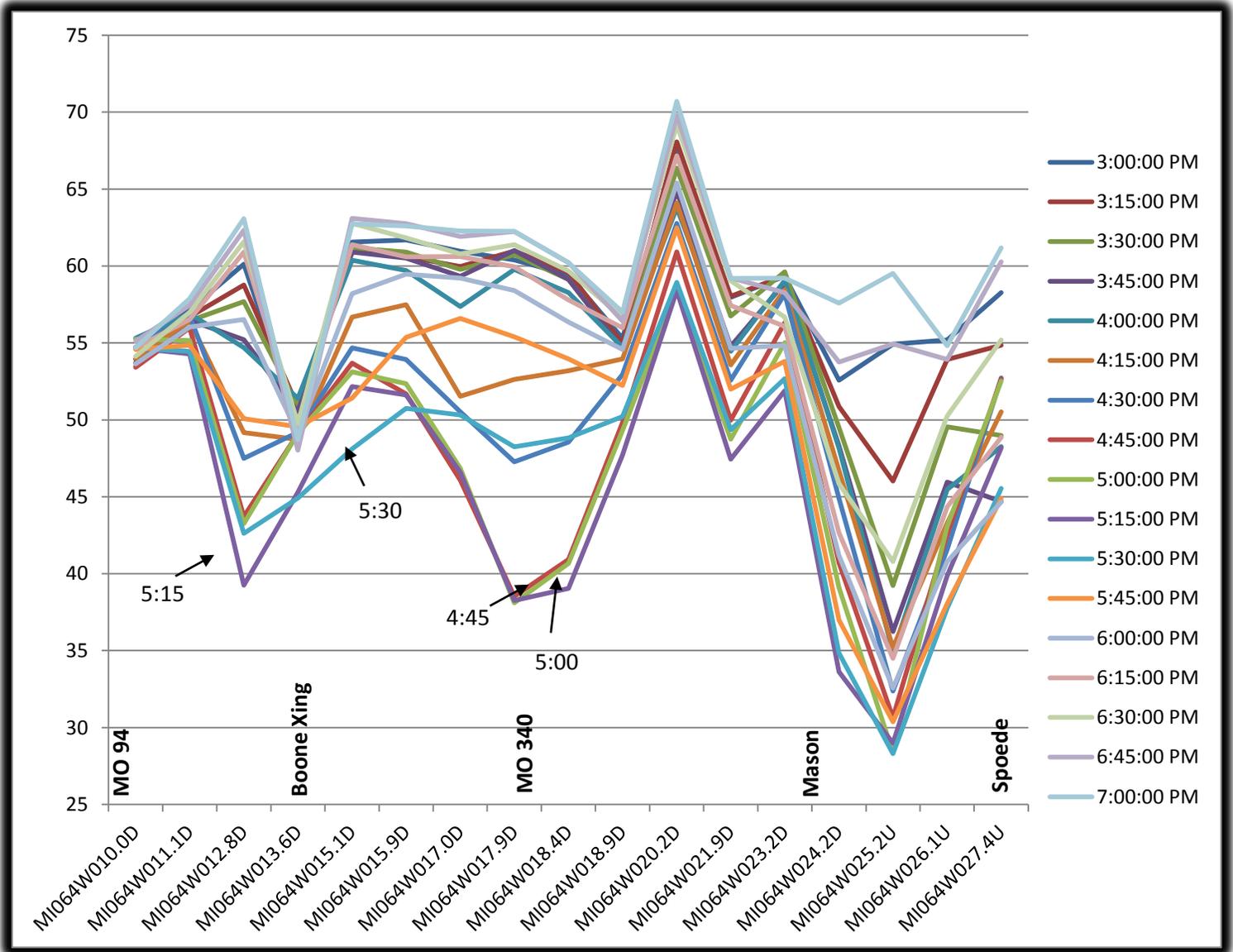
These time frames have stayed consistent with previous months in which school has been in session.

Besides public outreach, MoDOT is pursuing engineering options. Currently there is a traffic study underway for I-64 between MO 340 and I-270. This study’s initial conclusions show adding a lane for EB and WB I-64 from I-270 to Route 141 and ramp switching near Mason. The study is also considering lengthening acceleration ramps at Route 340. Results of this study may be implemented as early as Fiscal Year 2014. Gateway Guide will be implementing a speed wave algorithm within our Advanced Transportation Management System. This new technology will warn motorists of specific slow lanes ahead via messages on the appropriate DMS’s.

I-64 Worst Time to Travel Pilot Project AM Peak Period



I-64 Worst Time to Travel Pilot Project PM Peak Period



Optimization Results for MO 367, St. Louis County

Timing plans were put in place for MO 367 in June of 2011. All of these signals previously ran free. The signals included in this system are:

- Comet Drive
- Berwyn/Northumberland Drive
- St. Cyr Road
- Jennings Station Road

Route Name	Route 367 (Lewis and Clark Boulevard)		
Location (City, County)	St. Louis County, Missouri		
Project Limits	Missouri Veterans Home to Jennings Station Road		
Field Study Results by Peak Hour	AM PEAK	MID-DAY	PM PEAK
Travel Time Reduced by (sec):			
NB	28.3	17.7	74.3
SB	63.8	34.7	47.7
Daily Vehicle-Hours of Travel Reduced by:	16.7%		
Daily Fuel Consumption Reduced by:	5.6%		
Daily Pollutant Emissions Reduced by:	9.9%(CO), 19.9% (HC), 27.1% (NO _x)		
Daily Time and Fuel Savings:	126 gal/day, \$478		
Annual Fuel Savings:	31,558 gal, \$119,603		
Annual Time Savings:	58,115 vehicle-hours		
Annual Benefit/Cost Ratio	6.5		

SUMMARY OF PROJECT IMPROVEMENTS ROUTE 367 (LEWIS & CLARK BOULEVARD)									
PEAK HOUR SUMMARY STATISTICS									
	Average Travel Time (sec)	Average Stopped Time (sec)	Average Travel Speed (mph)	Fuel Consumption (gal)	CO (lbs)	Pollutant Emissions		Total Travel Time (veh*hrs)	
						HC (lbs)	NOx (lbs)		
7:15 AM - 8:15 AM									
NB	Before	257.0	23.0	34.4	50.1	149.2	13.1	7.9	38.88
	After	228.7	18.7	39.3	65.3	146.1	11.6	6.7	35.01
	Change	-28.3	-4.3	4.9	15.2	-3.1	-1.5	-1.2	-3.86
SB	Before	259.4	18.4	33.9	136.3	248.1	22.4	11.5	83.39
	After	195.6	0.0	44.8	121.8	214.5	16.3	7.1	63.97
	Change	-63.8	-18.4	11.0	-14.5	-33.6	-6.1	-4.5	-19.43
12:00 PM - 1:00 PM									
NB	Before	231.7	8.3	38.0	61.1	136.0	11.3	6.6	34.32
	After	214.0	0.7	40.4	59.8	128.6	10.4	6.0	31.70
	Change	-17.7	-7.6	2.5	-1.4	-7.4	-0.9	-0.6	-2.62
SB	Before	255.3	9.0	34.1	58.1	111.2	10.3	5.8	35.32
	After	220.6	14.7	40.3	54.8	101.5	8.3	4.0	30.73
	Change	-34.7	5.7	6.3	-3.3	-9.6	-2.0	-1.8	-4.60
5:00 PM - 6:00 PM									
NB	Before	283.3	24.3	31.3	157.1	359.1	33.0	20.9	95.44
	After	209.0	0.0	41.9	132.9	291.3	22.5	12.4	71.06
	Change	-74.3	-24.3	10.5	-24.2	-67.8	-10.5	-8.6	-24.38
SB	Before	282.7	104.7	32.2	90.5	165.3	15.3	7.6	58.81
	After	235.0	21.0	38.5	87.4	163.0	13.6	6.8	49.94
	Change	-47.7	-83.7	6.3	-3.1	-2.3	-1.7	-0.9	-8.87
DAILY SUMMARY STATISTICS									
	Fuel Consumption (gal/day)	CO (lbs/day)	HC (lbs/day)	NOx (lbs/day)	Total Travel Time (veh*hrs)				
Before	2254.1	4755.8	426.3	246.1	1388.73				
After	2127.8	4285.7	341.6	179.3	1156.27				
Change	-126.2	-470.1	-84.6	-66.8	-232.5				
% Change	-5.6%	-9.9%	-19.9%	-27.1%	-16.7%				

PEAK PERIOD SUMMARY STATISTICS						
		Fuel Consumption (gal)	Pollutant Emissions CO (lbs)	HC (lbs)	NOx (lbs)	Total Travel Time (veh*hrs)
AM Peak Period (8:00 AM - 9:00 AM)						
NB	Before	141.0	419.7	36.7	22.3	109.33
	After	183.8	410.9	32.6	18.8	98.47
	Change	42.8	-8.8	-4.1	-3.5	-10.86
SB	Before	315.0	573.3	51.8	26.7	192.71
	After	281.5	495.6	37.7	16.4	147.82
	Change	-33.5	-77.7	-14.1	-10.3	-44.89
Off-Peak Periods (9:00 AM - 3:00 PM; 7:00 PM - 10:00 PM)						
NB	Before	440.6	980.8	81.4	47.9	247.44
	After	430.8	927.4	74.9	43.2	228.54
	Change	-9.8	-53.4	-6.5	-4.7	-18.90
SB	Before	436.0	834.0	77.0	43.3	265.01
	After	411.1	761.6	61.9	29.8	230.52
	Change	-24.9	-72.3	-15.0	-13.5	-34.49
PM Peak Period (3:00 PM - 7:00 PM)						
NB	Before	577.6	1320.3	121.4	77.0	350.88
	After	488.7	1071.0	82.7	45.5	261.23
	Change	-88.9	-249.2	-38.7	-31.5	-89.64
SB	Before	343.9	627.8	58.0	29.0	223.36
	After	332.0	619.2	51.7	25.7	189.68
	Change	-11.9	-8.6	-6.3	-3.3	-33.67

BENEFIT/COST EVALUATION				
	Fuel Savings		Travel Time Savings	
	(gal/day)	\$	veh*hrs	Person - \$
Daily Savings	126.2	\$478	232.46	\$3,516
Yearly Savings	31558	\$119,603	58115	\$878,990
[1-Year B/C Analysis]	Total Yearly Savings:		\$898,593	
	Total Project Cost:		\$154,277	
	Benefit/Cost:		6.47	
[3-Year B/C Analysis]	Total Savings:		2995777.64	
	Benefit/Cost:		19.42	
Assumptions				
Avg. Cost of Fuel (\$/gal)	\$3.79			
Avg. # of Workdays/Year	250			
Avg. Vehicle Occupancy	1.1			
Avg. Value of Time/Individual (\$/hr)	\$13.75			

Route AC (New Halls Ferry Rd.), St. Louis County

Timing plans were put in place for Route AC in June of 2011. These signals previously ran free. Signals included are:

(north to south)

- | | |
|----------------------------------|---------------------------------------|
| 1. Hazelwood Central High School | 9. Netherton Drive |
| 2. New Castle Drive | 10. Dunn Road |
| 3. Lindbergh Boulevard | 11. I-270 Eastbound On Ramp |
| 4. Leisurewood Court | 12. Pershall Road/Home Depot Entrance |
| 5. Hambletonian Drive | 13. Old Halls Ferry Road |
| 6. Parker Road | 14. Hudson Road |
| 7. Pohlman Road | 15. Chambers Road |
| 8. West Florissant Avenue | 16. Lucas & Hunt Road |

Route Name	Route AC (Halls Ferry Road)		
Location (City, County)	St. Louis County, Missouri		
Project Limits	Hazelwood Central High School to Lucas & Hunt Road		
Field Study Results by Peak Hour	AM PEAK	MID-DAY	PM PEAK
Travel Time Reduced by (sec): NB	24.0	12.0	78.0
SB	67.7	90.7	90.3
Daily Vehicle-Hours of Travel Reduced by:	6.8%		
Daily Fuel Consumption Reduced by:	5.4%		
Daily Pollutant Emissions Reduced by:	7.3%(CO), 9.9% (HC), 13.5% (NO _x)		
Daily Time and Fuel Savings:	385 gal/day, \$1,458		
Annual Fuel Savings:	96,174 gal, \$364,500		
Annual Time Savings:	85,930 vehicle-hours		
Annual Benefit/Cost Ratio	10.8		

SUMMARY OF PROJECT IMPROVEMENTS ROUTE 367 (LEWIS & CLARK BOULEVARD)									
PEAK HOUR SUMMARY STATISTICS									
	Average Travel Time (sec)	Average Stopped Time (sec)	Average Travel Speed (mph)	Fuel Consumption (gal)	CO (lbs)	Pollutant Emissions			Total Travel Time (veh*hrs)
						HC (lbs)	NOx (lbs)		
7:15 AM - 8:15 AM									
NB	Before	257.0	23.0	34.4	50.1	149.2	13.1	7.9	38.88
	After	228.7	18.7	39.3	65.3	146.1	11.6	6.7	35.01
	Change	-28.3	-4.3	4.9	15.2	-3.1	-1.5	-1.2	-3.86
SB	Before	259.4	18.4	33.9	136.3	248.1	22.4	11.5	83.39
	After	195.6	0.0	44.8	121.8	214.5	16.3	7.1	63.97
	Change	-63.8	-18.4	11.0	-14.5	-33.6	-6.1	-4.5	-19.43
12:00 PM - 1:00 PM									
NB	Before	231.7	8.3	38.0	61.1	136.0	11.3	6.6	34.32
	After	214.0	0.7	40.4	59.8	128.6	10.4	6.0	31.70
	Change	-17.7	-7.6	2.5	-1.4	-7.4	-0.9	-0.6	-2.62
SB	Before	255.3	9.0	34.1	58.1	111.2	10.3	5.8	35.32
	After	220.6	14.7	40.3	54.8	101.5	8.3	4.0	30.73
	Change	-34.7	5.7	6.3	-3.3	-9.6	-2.0	-1.8	-4.60
5:00 PM - 6:00 PM									
NB	Before	283.3	24.3	31.3	157.1	359.1	33.0	20.9	95.44
	After	209.0	0.0	41.9	132.9	291.3	22.5	12.4	71.06
	Change	-74.3	-24.3	10.5	-24.2	-67.8	-10.5	-8.6	-24.38
SB	Before	282.7	104.7	32.2	90.5	165.3	15.3	7.6	58.81
	After	235.0	21.0	38.5	87.4	163.0	13.6	6.8	49.94
	Change	-47.7	-83.7	6.3	-3.1	-2.3	-1.7	-0.9	-8.87
DAILY SUMMARY STATISTICS									
	Fuel Consumption (gal/day)	CO (lbs/day)	HC (lbs/day)	NOx (lbs/day)	Pollutant Emissions			Total Travel Time (veh*hrs)	
Before	2254.1	4755.8	426.3	246.1				1388.73	
After	2127.8	4285.7	341.6	179.3				1156.27	
Change	-126.2	-470.1	-84.6	-66.8				-232.5	
% Change	-5.6%	-9.9%	-19.9%	-27.1%				-16.7%	

PEAK PERIOD SUMMARY STATISTICS

		Fuel Consumption (gal)	CO (lbs)	Pollutant Emissions (lbs)		Total Travel Time (veh*hrs)
AM Peak Period (8:00 AM - 9:00 AM)						
NB	Before	393.3	719.8	68.2	37.0	244.01
	After	343.8	649.2	59.9	28.9	236.27
	Change	-49.5	-70.6	-8.3	-8.1	-7.75
SB	Before	621.0	1227.4	115.5	63.0	408.33
	After	540.7	989.6	89.8	44.0	347.49
	Change	-80.3	-257.8	-25.7	-18.9	-60.85
Off-Peak Periods (9:00 AM - 3:00 PM; 7:00 PM - 10:00 PM)						
NB	Before	1681.2	3222.5	313.8	163.9	1181.23
	After	1659.6	3205.5	304.8	151.2	1183.68
	Change	-1.6	-17.0	-9.0	-12.8	2.44
SB	Before	1959.0	3874.2	387.8	212.8	1352.69
	After	1835.6	3515.2	348.4	186.9	1275.93
	Change	-123.4	-358.9	-39.4	-25.9	-76.76
PM Peak Period (3:00 PM - 7:00 PM)						
NB	Before	1347.3	2728.4	272.9	152.4	973.36
	After	1246.0	2402.0	230.5	119.3	866.81
	Change	-101.3	-326.4	-42.3	-33.0	-106.55
SB	Before	1191.9	2315.5	239.5	125.3	904.33
	After	1163.4	2312.4	225.3	122.4	810.07
	Change	-28.6	-3.1	-14.2	-2.8	-94.26

BENEFIT/COST EVALUATION

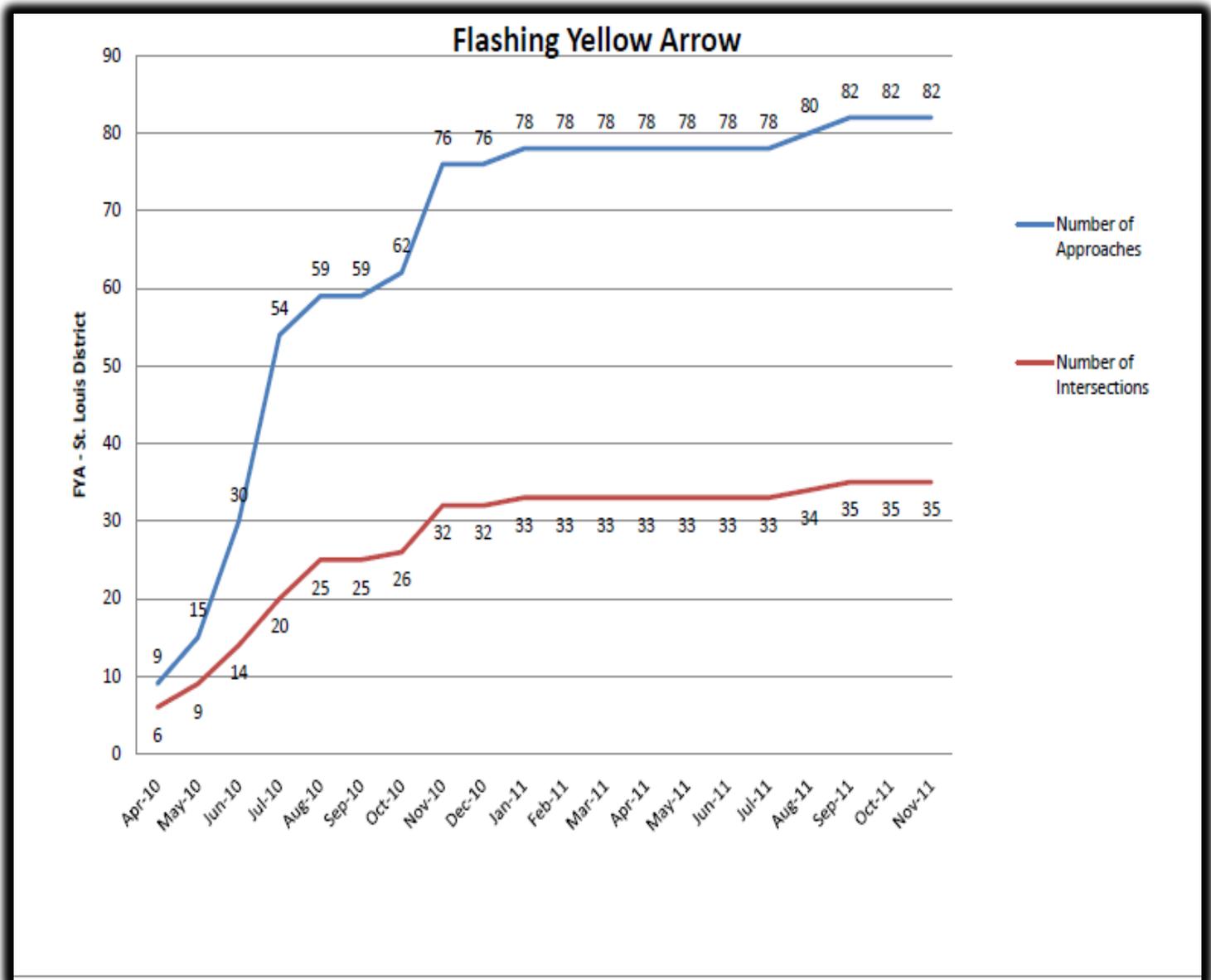
	Fuel Savings		Travel Time Savings	
	(gal/day)	\$	veh*hrs	Person - \$
Daily Savings	384.7	\$1,458	343.72	\$5,199
Yearly Savings	96174	\$364,500	85930	\$1,299,697

[1-Year B/C Analysis]	Total Yearly Savings:	\$1,684,197
	Total Project Cost:	\$154,277
	Benefit/Cost:	10.79

[3-Year B/C Analysis]	Total Savings:	4992592.32
	Benefit/Cost:	32.36

Assumptions

Avg. Cost of Fuel (\$/gal)	\$3.79
Avg. # of Workdays/Year	250
Avg. Vehicle Occupancy	1.1
Avg. Value of Time/Individual (\$/hr)	\$13.75



Work Zones

Whenever traffic delay is reported, delay shall be evaluated using this chart and adequate mitigation measures should begin within the parameters of this chart. TMC and field personnel are partners in the mitigation of traffic and notification of delay should trigger the appropriate response from both parties.

Chart is designed to be a traffic delay reference to establish parameters for gauging work zone delay and to provide guidance for taking mitigation actions. Delay can be reported via Blue Toad technology, field personnel, call reports, ITS, TMC cameras, etc.

Major and Moderate delays trigger an IAR (Immediate Action Required) event. IAR means work zone user and TMC partner together to take immediate actions to reduce or eliminate distress. During an IAR event mitigation procedures can range from increased driver notification up to and including removal of work zone. Additional mitigation procedures may require involvement of administration through use of the work zone resolution ladder.

IAR event can be upgraded or downgraded as conditions change.

Level of Impact	Expected Delay	Mitigation Actions
<p>Major (Red) <u>IAR Event</u></p> <p>SEVERE DISTRESS PRESENT</p> <p>Return of roadway to free flow traffic is Priority #1</p>	<p>15 minutes or above</p> <p>TMC and field personnel take all steps possible up to and including removal of lane closure to achieve free flow threshold</p>	<p>Immediate Action Required</p> <p>Supervisory mitigation assistance is required using the St. Louis District Work Zone Resolution Ladder as a tool to restore free flow traffic threshold</p>
<p>Moderate (Yellow) <u>IAR Event</u></p> <p>CAUTIONARY STAGE:</p> <p>Action required by Field/ TMC to prevent escalation to a major event</p>	<p>10 – 14 minutes</p> <p>TMC increases driver messaging. Field begins efforts to restore free flow traffic</p>	<p>TMC and field shall reach a consensus on mitigation success within 15 minutes or less.</p> <p>If a consensus cannot be reached, mitigation should be scaled upwards in accordance with the St.Louis District Work Zone Resolution Ladder</p>

Incident Levels

Major Impact Traffic Incident – Road closure > 2 hours

Major traffic incidents are typically traffic incidents involving hazardous materials, fatal traffic crashes involving numerous vehicles, and other natural or man-made disasters. These traffic incidents typically involve closing all or part of a roadway facility for a period exceeding 2 hours.

Moderate Traffic Incident – Blocked travel lanes/closure 30 min – 2 hours

Moderate traffic impact incidents typically affect travel lanes for a time period of 30 minutes to 2 hours, and usually require traffic control on the scene to divert road users past the blockage. Full roadway closures might be needed for short periods during traffic incident clearance to allow traffic incident responders to accomplish their tasks.

Minor Traffic Incident – Lane closures < 30 minutes

Minor traffic incidents are typically disabled vehicles and minor crashes that result in lane closures of less than 30 minutes. On-scene responders are typically law enforcement and towing companies, and occasionally highway agency service patrol vehicles.

Definitions

511 – Gateway Guide’s phone line for automated call-in travel information in the St. Louis Metro Area

511 Floodgate Message – Road closure message sent from the TMC that is read at the beginning of a 511 call and posted to the banner on the website

ACTRA – Traffic signal management software program.

Alert – Email message sent regarding an incident or event on the roadway

Arterial – Missouri State Highway Numbered Routes, not fully access controlled

Arterial Device – ITS equipment located along MoDOT arterials

Average Minutes per Mile – Number of minutes for a vehicle to travel one mile of roadway averaged over a section of roadway

CFI – Continuous Flow Intersection, at grade intersection configured to move turning vehicles conflicting with through movements out of the main intersection.

DMS - Dynamic Message Signs

Defined Sensor – A single sensor with an individual ID focused on a particular roadway; multiple defined sensors may be located at one physical sensor location

Driver messaging – Messages placed on DMS boards to alert drivers of incidents ahead of their direction of travel

EOC – Emergency Operations Center operated by MoDOT at the central office in Jefferson City

ER – MoDOT’s Emergency Response units that provide emergency assistance during nights and weekends typically not covered by Motorist Assist units

Freeway Device – ITS device located along a MoDOT freeway, such as interstates and other fully access controlled highways

Gatewayguide.com – Gateway Guide’s website for local St. Louis area traffic information

GuidePost – Area of report highlighting important mobility topics for the month

IDOT - Illinois Department of Transportation

KCScout – Gateway Guide’s counterpart for the greater Kansas City Metropolitan area, a collaboration involving both MoDOT and the Kansas DOT

MMU – Conflict monitor hardware installed at a signal system

MRB – Mississippi River Bridge under construction north of downtown St. Louis

Peak Average – Daily speed sensor readings over an entire weekday rush commute period averaged for an entire month

PSB - Poplar Street Bridge

Regional Mobility Overview – Map depicting congestion areas based on speed index ratings derived from speed sensor readings

Speed Index – a ratio of the speed at which vehicles travel during a period to the speed at free-flow conditions

Stats to Watch – Area of report highlighting interesting trends for the report month, or data to be closely followed

STLtraffic – Email group consisting of Gateway Guide personnel and Gateway Guide’s media partners, messages sent to the group are also posted on Twitter

TMC – Traffic Management Center (also referred to as Gateway Guide)

TMC Alert – Email alert sent to an internal group of Gateway Guide personnel

VDS – Video Detection System, signal equipment used to detect vehicles at an intersection

Zoning In – section of report highlighting important construction topics for the report month

I-70 Mile Markers

ST. CHARLES COUNTY		ST. CHARLES COUNTY	
5TH ST SOUTH (ST. CHARLES)	229A	229A	5TH ST SOUTH (ST. CHARLES)
5TH ST NORTH (ST. CHARLES)	229B	229B	5TH ST NORTH (ST. CHARLES)
ST. LOUIS COUNTY		ST. LOUIS COUNTY	
BLANCHETTE BRIDGE	230	230	BLANCHETTE BRIDGE
EARTH CITY EXPRESSWAY SOUTH	231A	231A	EARTH CITY EXPRESSWAY SOUTH
EARTH CITY EXPRESSWAY NORTH	231B	231B	EARTH CITY EXPRESSWAY NORTH
I-270	232	232	I-270
MCKELVEY RD OVERPASS (BRIDGETON)	233	233	MCKELVEY RD OVERPASS (BRIDGETON)
RTE 180/ST. CHARLES ROCK RD (BRIDGETON)	234	234	RTE 180/ST. CHARLES ROCK RD (BRIDGETON)
US 67 SOUTH (BRIDGETON)	235A	235A	US 67 SOUTH (BRIDGETON)
US 67 NORTH (BRIDGETON)	235B	235B	US 67 NORTH (BRIDGETON)
CYPRESS RD (BRIDGETON)	235C	235C	CYPRESS RD (BRIDGETON)
AIRFLIGHT (ST. ANN)	236	236	AIRFLIGHT (ST. ANN)
MCDONNELL OVERPASS (BERKELEY)	237	237	MCDONNELL OVERPASS (BERKELEY)
LAMBERT AIRPORT (BERKELEY)	238A	238A	LAMBERT AIRPORT (BERKELEY)
I-170 NORTH (BERKELEY)	238B	238B	I-170 NORTH (BERKELEY)
I-170 SOUTH (BERKELEY)	238C	238C	I-170 SOUTH (BERKELEY)
NORTH HANLEY (BERKELEY)	239	239	NORTH HANLEY (BERKELEY)
RTE N/FLOISSANT RD (COOL VALLEY)	240A	240A	RTE N/FLOISSANT RD (COOL VALLEY)
BERMUDA DR (NORMANDY)	240B	240B	BERMUDA DR (NORMANDY)
RTE U/LUCAS AND HUNT RD	241B	241B	RTE U/LUCAS AND HUNT RD
JENNINGS STATION RD (PINE LAWN)	242C	242C	JENNINGS STATION RD (PINE LAWN)
ST. LOUIS CITY		ST. LOUIS CITY	
GOODFELLOW (ST. LOUIS)	243A	243A	GOODFELLOW (ST. LOUIS)
RIVERVIEW/BIRCHER (ST. LOUIS)	243B	243B	RIVERVIEW/BIRCHER (ST. LOUIS)
UNION (ST. LOUIS)	244A	244A	UNION (ST. LOUIS)
KINGSHIGHWAY (ST. LOUIS)	244B	244B	KINGSHIGHWAY (ST. LOUIS)
SHREVE (ST. LOUIS)	245A	245A	SHREVE (ST. LOUIS)
WEST FLOISSANT AVE (ST LOUIS)	245B	245B	WEST FLOISSANT AVE (ST LOUIS)
NORTH BROADWAY (ST. LOUIS)	246A	246A	NORTH BROADWAY (ST. LOUIS)
ADELAIDE (ST LOUIS)	246B	246B	ADELAIDE (ST LOUIS)
GRAND (ST. LOUIS)	247	247	GRAND (ST. LOUIS)
SALISBURY (ST LOUIS)	248A	248A	SALISBURY (ST LOUIS)
BRANCH (ST LOUIS)	248B	248B	BRANCH (ST LOUIS)
MADISON (ST LOUIS)	249A	249A	MADISON (ST LOUIS)
PINE ST OVERPASS (ST LOUIS)	250	250	PINE ST OVERPASS (ST LOUIS)
CHESTNUT ST OVERPASS (ST LOUIS)	250	250	CHESTNUT ST OVERPASS (ST LOUIS)
MARKET ST OVERPASS (ST. LOUIS)	250	250	MARKET ST OVERPASS (ST. LOUIS)
WALNUT ST OVERPASS (ST LOUIS)	250	250	WALNUT ST OVERPASS (ST LOUIS)

I-70 DISTRICT 6 WESTBOUND
I-70 DISTRICT 6 EASTBOUND

I-70 St. Charles County Mile Markers

RTE A (WENTZVILLE)	212	I-70 DISTRICT 6 EASTBOUND I-70 DISTRICT 6 WESTBOUND	212	RTE A (WENTZVILLE)
LAKE ST. LOUIS BLVD (LAKE ST. LOUIS)	214		214	LAKE ST. LOUIS BLVD (LAKE ST. LOUIS)
BRYAN RD (O'FALLON)	216		216	BRYAN RD (O'FALLON)
RTE K/RTE M (O'FALLON)	217		217	RTE K/RTE M (O'FALLON)
T.R. HUGHES BLVD (O'FALLON)	218		218	T.R. HUGHES BLVD (O'FALLON)
RTE 79 (ST. PETERS/O'FALLON)	220		220	RTE 79 (ST. PETERS/O'FALLON)
RTE C/MID RIVERS MALL DR (ST. PETERS)	222		222	RTE C/MID RIVERS MALL DR (ST. PETERS)
SPENCER RD OVERPASS (ST. PETERS)	223		223	SPENCER RD OVERPASS (ST. PETERS)
RTE 370 (ST. PETERS)	224		224	RTE 370 (ST. PETERS)
CAVE SPRINGS (ST. CHARLES)	225		225	CAVE SPRINGS (ST. CHARLES)
ZUMBEHL RD (ST. CHARLES)	227		227	ZUMBEHL RD (ST. CHARLES)
HAWK'S NEST OVERPASS (ST. CHARLES)	227		227	HAWK'S NEST OVERPASS (ST. CHARLES)
RTE 94 (ST. CHARLES)	228		228	RTE 94 (ST. CHARLES)
5TH ST SOUTH (ST. CHARLES)	229A		229A	5TH ST SOUTH (ST. CHARLES)
5TH ST NORTH (ST. CHARLES)	229B		229B	5TH ST NORTH (ST. CHARLES)

I-270 Mile Markers

3	KOCH RD	I-255 WESTBOUND	I-255 EASTBOUND	KOCH RD	3
2	SR 231 (TELEGRAPH RD)		I-255 EASTBOUND	SR 231 (TELEGRAPH RD)	2
1C	US61-67		I-255 EASTBOUND	US61-67	1B
1B	I-55 NORTH		I-255 EASTBOUND	I-55 NORTH	1B
1	I-55 SOUTH		I-255 EASTBOUND	I-55 SOUTH	1A
2	SR 21 (TESSON FERRY RD.)		I-255 EASTBOUND	SR 21 (TESSON FERRY RD.)	2
3	SR 30 (GRAVOIS RD.)		I-255 EASTBOUND	SR 30 (GRAVOIS RD.)	3
5	I-44 EAST/SR 366 (WATSON RD.)		I-255 EASTBOUND	I-44 EAST	5
5	I-44 WEST		I-255 EASTBOUND	I-44 WEST	5
			I-255 EASTBOUND	BIG BEND RD.	7
8	DOUGHERTY FERRY RD.	I-270 DISTRICT 6 COUNTER CLOCKWISE FROM RIVERVIEW DR. TO I-55	I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	DOUGHERTY FERRY RD.	8
10	SR 100 (MANCHESTER RD.)		I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	SR 100 (MANCHESTER RD.)	10
12	I-64 EAST/WEST/US 40-61 NORTH/SOUTH		I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	I-64 EAST/WEST/US 40-61 NORTH/SOUTH	12 A/B
13	SR AB (LADUE RD)		I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	SR AB (LADUE RD)	13
14	SR 340 (OLIVE BLVD)		I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	SR 340 (OLIVE BLVD)	14
16	SR D (PAGE AVE.) EAST		I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	SR D (PAGE AVE.) EAST	16A
16	SR 364 WEST		I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	SR 364 WEST	16B
17	DORSETT RD		I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	DORSETT RD	17
20	I-70 WEST/EAST		I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	I-70 WEST	20B
			I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	I-70 EAST	20A
20C	SR 180 (ST. CHARLES ROCK RD)	I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	SR 180 (ST. CHARLES ROCK RD)	20C	
22	MISSOURI BOTTOM RD/370 WEST	I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	SR 370 WEST	22D	
23	MCDONNELL BLVD	I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	MCDONNELL BLVD	23	
25A	US 67 SOUTH	I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	US 67 NORTH	25A	
25B	US 67 NORTH	I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	US 67 SOUTH	25B	
26	HANLEY/GRAHAM RD.	I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	I-170 SOUTH (EXIT LEFT)	26A	
26	I-170 SOUTH	I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	HANLEY/GRAHAM	26B	
27	NEW FLORISSANT RD	I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	NEW FLORISSANT RD	27	
28	WASHINGTON/ELIZABETH RD.	I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	ELIZABETH/WASHINGTON	28	
29	WEST FLORISSANT RD	I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	WEST FLORISSANT RD	29	
30	SR AC HALLS FERRY RD	I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	SR AC NEW HALLS FERRY RD	30	
		I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	NEW HALLS FERRY RD.	30A	
31A	SR 367 SOUTH	I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	SR 367 SOUTH	31A	
31B	SR 367 NORTH	I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	SR 367 NORTH	31B	
32	BELLEFONTAINE RD	I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	BELLEFONTAINE RD	32	
33	LILAC AVE.	I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	LILAC AVE.	33	
34	RIVERVIEW DR.	I-270 DISTRICT 6 CLOCKWISE FROM I-55 TO RIVERVIEW DR.	RIVERVIEW DR.	34	

I-64 Mile Markers

I-70 WEST EXIT RIGHT/EAST EXIT LEFT	1	I-64 DISTRICT 6 WESTBOUND I-64 DISTRICT 6 EASTBOUND	1A	I-70 WEST
			1B	I-70 EAST
PROSPECT RD	1C		1C	PROSPECT RD
LAKE ST. LOUIS BLVD	2		2	LAKE ST. LOUIS BLVD
SR N	4		4	MO N
SR DD/WINGHAVEN	6		6	MO DD/Winghaven
SR K/SR 94	9		9	MO K
			10	MO 94
MISSOURI RESEARCH PARK/TECHNOLOGY DR	12		11	RESEARCH PARK CRL
DANIEL BOONE BRIDGE	13		13	DANIEL BOONE BRIDGE
CHESTERFIELD AIRPORT RD	14		14	SPIRIT OF ST LOUIS BLVD
			16	LONG RD
BOONE'S CROSSING	17		17	BOONE'S CROSSING
CHESTERFIELD PKWY	19A		19A	CHESTERFIELD PKWY
SR 340 (OLIVE/CLARKSON)	19B		19B	MO 340 (OLIVE/CLARKSON)
			20	CHESTERFIELD PKWY
TIMBERLAKE MANOR PKWY	21		21	TIMBERLAKE MANOR PKWY
SR 141	22		22	MO 141 (WOODS MILL RD)
MASON RD	23		23	MARYVILLE CENTRE DR
			24	MASON RD
I-270 SOUTH	25A		25A	I-270 SOUTH
I-270 NORTH	25B		25B	I-270 NORTH
SR JJ (BALLAS RD)	26		26	MO JJ (BALLAS RD)
SPOEDE RD	27		27	SPOEDE RD
US 61-67	28A		28A	US 61-67
			28B	CLAYTON RD
MCKNIGHT RD	30		30	MCKNIGHT RD
BRENTWOOD/HANLEY RD	31B		31A	I-170 NORTH
I-170 NORTH	31A		31B	HANLEY RD/BRENTWOOD BLVD
BELLEVUE AVE	33B			
BIG BEND	33A		33A	BIG BEND BLVD
MCCAUSLAND	33C			ST. LOUIS CITY
ST. LOUIS CITY			33C	MCCAUSLAND AVE
HAMPTON AVE/OAKLAND AVE	34B		34A	CLAYTON RD/SKINKER BLVD
			34B	HAMPTON AVE
KINGSHIGHWAY	36A		36A	KINGSHIGHWAY
VANDEVENTER AVE	36C		36B	BOYLE
MARKET ST/BERNARD ST	37A			
GRAND AVE	37B			
JEFFERSON AVE	38A		38A	FOREST PARK AVE/GRAND BLVD
CHESTNUT AT 20TH ST	38B	38B	MARKET ST AT 3000 WEST	
14TH ST	39B	39A	MARKET ST AT 21ST	
11TH ST EXIT LEFT	39C	40A	STADIUM/9TH ST/ TUCKER BLVD	
BROADWAY/7TH ST (LAST MISSOURI EXIT)	40B	40C	I-44 WB/I-55 SB/ I-70 WB	

I-55 Mile Markers

JEFFERSON COUNTY		I-55 DISTRICT 6 NORTHBOUND I-55 DISTRICT 6 SOUTHBOUND	JEFFERSON COUNTY	
RTE M	185		185	RTE M
MAIN ST(IMPERIAL)	186		186	MAIN ST(IMPERIAL)
RICHARDSON RD (ARNOLD)	190		190	RICHARDSON RD (ARNOLD)
RTE 141 (ARNOLD)	191		191	RTE 141 (ARNOLD)
ST. LOUIS COUNTY			ST. LOUIS COUNTY	
MERAMEC BOTTOM RD	193		193	MERAMEC BOTTOM RD
BUTLER HILL RD	195		195	BUTLER HILL RD
I-255 EAST	196A		196A	I-255 EAST
I-270 NORTH	196B		196B	I-270 NORTH
US67/LINDBERGH	197		197	US67/LINDBERGH
REAVIS BARRACKS RD	199		199	REAVIS BARRACKS RD
UNION RD	200		200	UNION RD
BAYLESS	201A		201A	BAYLESS
WEBER RD	201B		201B	WEBER RD
ST. LOUIS CITY			ST. LOUIS CITY	
GERMANIA (ST. LOUIS)	202B		202B	GERMANIA (ST. LOUIS)
LOUGHBOROUGH AVE (ST. LOUIS)	202C		202C	LOUGHBOROUGH AVE (ST. LOUIS)
BATES (ST. LOUIS)	203		203	BATES (ST. LOUIS)
BROADWAY (ST. LOUIS)	204		204	BROADWAY (ST. LOUIS)
GASCONADE (ST. LOUIS)	205	205	GASCONADE (ST. LOUIS)	
ARSENAL (ST. LOUIS)	206C	206C	ARSENAL (ST. LOUIS)	
SIDNEY OVERPASS	206	206	SIDNEY OVERPASS	
GRAVOIS AVE OVERPASS	207	207	GRAVOIS AVE OVERPASS	
I-44 WEST (ST. LOUIS)	207	207	I-44 WEST (ST. LOUIS)	
7TH ST/PARK AVE (ST. LOUIS)	208	208	7TH ST/PARK AVE (ST. LOUIS)	

I-44 Mile Markers

FRANKLIN COUNTY		I-44 DISTRICT 6 WESTBOUND I-44 DISTRICT 6 EASTBOUND	FRANKLIN COUNTY	
PACIFIC	257		257	PACIFIC
ST. LOUIS COUNTY			261	ALLENTON/SIX FLAGS
ALLENTON/SIX FLAGS	261		ST. LOUIS COUNTY	
RTE 109/RTE W	264		264	RTE 109/RTE W
WILLIAMS RD	265			
LEWIS RD	266		266	LEWIS RD
			269	ANTIRE
RTE 141	272		272	RTE 141
BOWLES	274		274	BOWLES
MRAZ	274			
			275	SOCCER PARK
I-270 NORTH	276B		276B	I-270 NORTH
I-270 SOUTH	276A		276A	I-270 SOUTH
RTE 366/WATSON	277A			
US 67/LINDBERGH	277B		277B	US 67/LINDBERGH
BIG BEND	278		278	BIG BEND
			279	BERRY
ELM	280		280	ELM
LACLEDE STATION	282			
ST. LOUIS CITY			283	SHREWSBURY
JAMIESON	284A		ST. LOUIS CITY	
			284B	ARSENAL
			285	SOUTHWEST
HAMPTON	286			
KINGSHIGHWAY	287		287	KINGSHIGHWAY
GRAND AVE	288		288	GRAND AVE
JEFFERSON AVE	289		289	JEFFERSON AVE
I-55 SOUTH	290A			
18TH ST	290B			
		290C	12TH ST./GRAVOIS	

I-170 Mile Markers

I-64 WEST/US 40-61	1A	I-170 DISTRICT 6 SOUTHBOUND I-170 DISTRICT 6 NORTHBOUND		
I-64 EAST/US 40-61	1B			
				1C GALLERIA PARKWAY
BRENTWOOD BLVD	1D			
FOREST PARK PARKWAY	1E			1E FOREST PARK PARKWAY
LADUE RD	1F			1F LADUE RD
DELMAR	2			2 DELMAR
EAST/3B WEST SR 340 (OLIVE BLVD)	3A			3 SR 340 (OLIVE BLVD)
SRD/SR 364 (PAGE AVE)	4			4 SR D/SR 364 (PAGE AVE)
SR 180 (ST. CHARLES ROCK RD)	5			5 SR 180 (ST. CHARLES ROCK RD)
SR 115 (NATURAL BRIDGE RD)	6			6 SR 115 (NATURAL BRIDGE RD)
I-70 EAST (EXIT LEFT)	7A			7A I-70 EAST (EXIT RIGHT)
I-70 WEST (EXIT RIGHT)	7B			7B I-70 WEST (EXIT LEFT)
				7C LAMBERT ST. LOUIS AIRPORT
SCUDDER	8			8 SCUDDEN/N. HANLEY RD
AIRPORT RD	9A			9A AIRPORT
				9B BOEING (EXIT LEFT)
				9C N. HANLEY RD
				10A I-270 WEST (EXIT RIGHT)
			10B I-270 EAST (EXIT LEFT)	

SR 364 Mile Markers

		SR 364 WESTBOUND SR 364 EASTBOUND	11B HARVESTER RD
			12 HERITAGE CROSSING/JUNGS STATION RD
SR94 EAST/ST. CHARLES	13		13 SR 94 EAST/MUEGGE RD
ARENA PKWY/UPPER BOTTOM RD	14		14 UPPER BOTTOM/ARENA
MARYLAND HEIGHTS EXPRESSWAY	17		17 MARYLAND HEIGHTS EXPRESSWAY
BENNINGTON PL	19		
			21 BENNINGTON PL
I-270 SOUTH	22A		
I-270 NORTH	22B		

SR 370 Mile Markers

		SR 370 WESTBOUND SR 370 EASTBOUND	1A	I-70 WESTBOUND
			1B	I-70 EASTBOUND
			1C	SPENCER RD
TRUMAN/CAVE SPRINGS RD	2		2	TRUMAN/CAVE SPRINGS RD
ELM/NEW TOWN BLVD	5		5	ELM/NEW TOWN BLVD
N 3RD ST/SR 94	7		7	N 3RD ST/SR 94
DISCOVERY BRIDGE ST. CHAS CO/ ST. LOUIS CO	8		8	DISCOVERY BRIDGE ST. LOUIS CO/ ST. CHAS CO
EARTH CITY EXPRESSWAY	9		9	EARTH CITY EXPRESSWAY
ST. LOUIS MILLS BLVD	11		11	ST. LOUIS MILLS BLVD
MISSOURI BOTTOM RD	12			
I-270 WEST BOUND	12			
I-270 EAST BOUND	12			

SR 21 Mile Markers

RT B	164.8	SR 21 NORTHBOUND SR 21 SOUTHBOUND	164.8	RT B
RT BB	165.4		165.4	RT BB
STADIUM DR UNDERPASS	166.4		166.4	STADIUM DR UNDERPASS
RTE A	167.8		167.8	RTE A
SAND CREEK	169		169	SAND CREEK
HAYDEN RD	169.2		169.2	HAYDEN RD
GLADE CHAPEL RD OVERPASS	171.4		171.4	GLADE CHAPEL RD OVERPASS
OLD HWY 21 (GOLDMAN)	172.6		172.6	OLD HWY 21 (GOLDMAN)
KLABLE RD OVERPASS	174.2		174.2	KLABLE RD OVERPASS
SCHENK RD OVERPASS	175.2		175.2	SCHENK RD OVERPASS
HEADS CREEK	176.4		176.4	HEADS CREEK
RT MM	177.7		177.7	RT MM
W. FOUR RIDGE RD OVERPASS	179		179	W. FOUR RIDGE RD OVERPASS
OLD HWY 21 (SHADY VALLEY)	180.4		180.4	OLD HWY 21 (SHADY VALLEY)
OLD HWY 21 UNDERPASS	182		182	OLD HWY 21 UNDERPASS
WEST ROCK CREEK RD OVERPASS	182.8		182.8	WEST ROCK CREEK RD OVERPASS
OLD HWY 21 OVERPASS	183.2		183.2	OLD HWY 21 OVERPASS
LONDELL RD	184.2		184.2	LONDELL RD
OLD HWY 21	184.5		184.5	OLD HWY 21
SR 141	185.6		185.6	SR 141