The New I-64 Economic and Regional Mobility Study

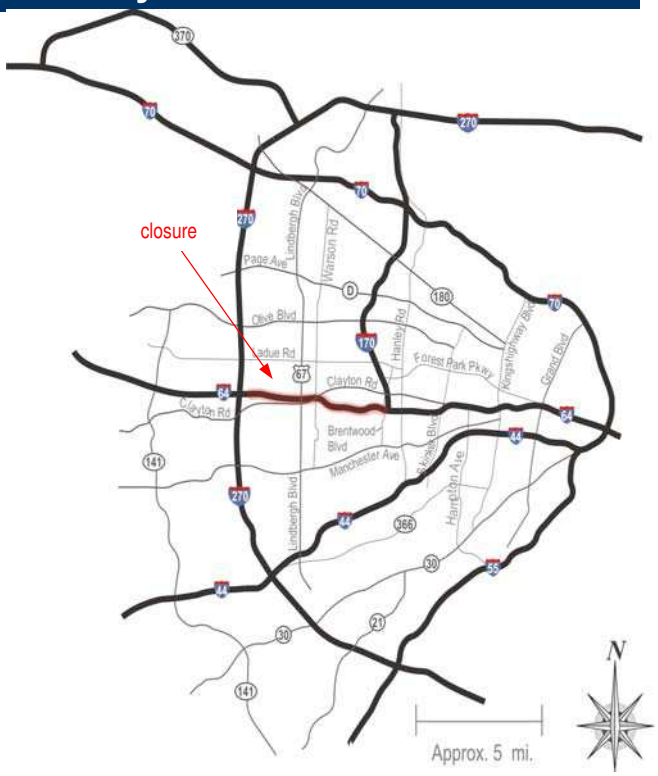
Quarterly Report # 3

June – August 2008

HDR

1. Executive Summary

On January 2, 2008, the section of I-64 from Ballas Road to I-170 (see map) was completely closed for construction. The closure is planned to last through the end of 2008, at which time a section to the east will be closed for construction for the bulk of 2009. Construction is proceeding well in the west closure section.



This quarterly report assesses the period June through August 2008 that includes the 6th, 7th and 8th months of the western closure, evaluating the three key areas of **Project Communications** (MoDOT's provision of information to the public, and the public's response to the project), **Mobility** (the effects of the closure on travel behavior, choices, and traffic flow), and **Economics** (the effects of the closure on businesses within the corridor as well as the economic health of the region). With the western closure now eight months old, findings are beginning to emerge that will be of interest to MoDOT, the St. Louis region and the general public. To date, the research team has found:

Communications (pp. 2-7)	Mobility (pp. 8-20)	Economics (pp. 21-24)
Almost 5,000 participants have given feedback through web surveys, mail surveys, personal interviews, and surveys administered by Motorist Assist and I-64 Traffic Response crews. The public is fairly **satisfied** with the closure, how information has been communicated, and how they are managing to move around the region. The closure has had varying effects on the public's travel habits, with nearly 3/4 indicating their **travel frequency has changed** for certain trips and **earlier morning commute times**. The public reported they are leaving 10 minutes plus earlier (26%) on their commute to work or home, although many trip times are relatively unchanged.	The closure has **re-routed approximately 140,000 to 150,000 vehicles per day**; travelers have taken alternative routes, altered their travel schedules, and considered alternate modes. Freeway travel times are **similar to the previous year** and there is a noticeable **peak spread** and **increased traffic volumes** on some freeways. The RideFinders rideshare program experienced over a **40 percent jump** in comparison to the last year and during the month of July, **9,408 participated in the program.** Gas prices have probably contributed to the demand for these services. Users at regional park-and-ride lots have an increased almost **600 vehicles** between February 2008 and August 2008.	For both corridor and non-corridor, the taxable sales have declined from the first and second quarters of 2008 when compared to the first and second quarter of 2007. However, the change in taxable sales is not consistent for both regions as the corridor region slightly improves from **-6.6% to -4.4%,** while the non-corridor sees a further decline in sales for the second quarter of 2008. The taxable sales for wholesale trade are showing positive growth compared to previous years, despite the **total taxable sales for the county declining**. This could be explained by a shift in consumer spending away from general merchandise stores towards wholesale. The **second business survey** is currently being drafted and will be sent to the business community working group for comments. The anticipated release of the second online business survey will be in the month of October.

2. Communications

Communications Highlights

The citizens of the St. Louis region are providing input to this research through online surveys, mailed surveys, handouts by Motorist Assist operators, and personal interviews. Highlights gleaned from these various surveys include:

- **Awareness.** From the responses to date, it appears that MoDOT effectively communicated the upcoming closure to the affected population in 2007; pre-closure awareness was reported as very high.
- **Satisfaction.** Respondents are largely satisfied with their ability to travel around the region and with the level of information that has been communicated by MoDOT and others regarding the closure.
- **Information Sources.** TV News appears to be the best way to reach the majority of the respondents, with radio news, newspapers, and road signs also being effective methods. For those who use the internet, online information sources are almost as effective as TV news. However, a portion of the general population does not obtain their information via the internet and other methods should continue to be used to reach them.
- **Traffic Congestion Migration Strategies.** These strategies effectiveness level ranges from 45% to 63% with the ineffective level ranging from 7% to 17%. The lane widening strategy received the highest level of effectiveness while also receiving the highest level ineffectiveness. The other noticeable fact was that 22% reported "No Idea" that the Motorist Assist and I-64 Traffic Response programs were used.
- **Commuter's Time of Travel.** The shift to earlier commute times is 39% and a shift to later commute times is 13%. No change of time was 30% with 18% reporting not applicable. Almost 50% are not leaving earlier or staying later.
- **Travel Mode.** Initial responses on how the closure has changed people's mode of travel are somewhat inconclusive. It is clear that the dominant mode of travel by the respondents has been, and continues to be, the automobile.
- **Personal Impact.** The closure is affecting people's trip choices. Survey respondents are indicating changes in basic trip destinations such as shopping, eating out and attending recreational activities. Overall, almost three quarters of respondents are indicating that their frequency of travel to certain areas has been affected by the closure. Some residents have shifted their work hours, especially the respondents to the Web survey, who indicated a shift to earlier morning commutes. However, the web survey received a heavy early response when impact uncertainty to the closure was high. This issue will be explored in more detail as progress is made on the I-64 study.

To date, the responses have been fairly consistent over the various survey methods. This general agreement across surveys is important because it appears to demonstrate that one can generalize from the surveys to the general population (other than issues related to online access, which is by definition skewed in the Web survey responses).

Communication Assessment Objectives and Methods

Major Goals – Communication Assessment

Develop and implement survey instruments

Determine effectiveness of pre-closure notification

Measure participant satisfaction for key issues

Estimate changes in behavior

Hear everyone's voice
(obtain generalized sample)

Total Collected Surveys by Method

Web	1135
Mail	700
In-person	100
Motorist Assist	
MoDOT	2312
I-64 Traffic Response	596
TOTAL	**4843**

Four classes of survey instruments were developed to assess the communication aspects of this project:

- A detailed online survey was developed; participants had the option to complete a brief, medium, or detailed survey in the first five months. Surprisingly, 61 percent of the respondents were interested enough in sharing their opinion that they elected to complete the detailed survey. Links to the survey were placed on both MoDOT's main website and the New I-64 Project site. MoDOT, through its project public outreach efforts, continues to encourage and promote public input via this survey method. Beginning in the 3rd quarter (June 1, 2008), enhancements were made to the online survey instrument to gain additional information and insight on the I-64 project.
- To help obtain a representative sample, a physical survey was developed and mailed to 10,000 respondents in twenty-eight zip codes near the I-64 project. This work was completed during the first quarter and summarized in the 1st quarterly report. This mailed survey was successful in helping achieve a better cross-sectional representation of the region's population. No additional surveys were received during this quarter, so information gained will be reported further in the future annual report. This survey will be administered again early in 2009 and after the I-64 project is completed.
- In-person surveys were utilized to assess public opinions at two major shopping locations in the immediate area of the closure (the St. Louis Galleria near I-64/I-170, and Schnuck's grocery store at Lindbergh Boulevard and Clayton Road). Public Official survey is ongoing with both one-on-one interviews and future contacts through email survey questions. We have conducted interviews at the Zoo on September 20, 2008. Detailed information will be provided in the next quarterly report.
- Project satisfaction measures were also added to the Motorist Assist and I-64 Traffic Response service surveys that are distributed to people serviced by Motorist Assist and I-64 Traffic Response operators. During the third quarter period, 967 - Motorist Assist and 234 - I-64 Traffic Response were received. This source continues to provide a good flow of information.

In order to facilitate comparisons of changes across survey types and from time to time, the statistics used in the project assessment usually do not include the "not sure" or "no opinion" percentages. This eliminates a major source of random variability and allows a more accurate observation of change over time. In addition, this methodology is consistent with how MoDOT calculates similar Tracker measures.

Communications Results

Use of I-64, Knowledge of the Closure

The survey results indicate that the public was very aware of the closure well before it occurred. 98.4 percent of the online respondents were aware of the upcoming closure in 2007, and since 97.2 percent of the online respondents traveled on the affected section of I-64 at least once per week before the closure, it appears that the target population received the needed advance information. The changes between the first quarter and second quarter report measurements were generally less than 1 percent. This information was reported in the second quarter. On June 1, 2008, the web survey was enhanced to gain additional information about the I-64 project. These enhancements were made to further explore potential impacts from the roadway closure.

Satisfaction

The chart at the right summarizes survey respondents' opinions in the area of satisfaction in the 3rd quarter and compares them to the first 2 quarters. As the chart indicates, the satisfaction level is down from the first two quarters based on information from the web survey. However, the information received from Motorist Assist and I-64 Traffic Response surveys is fairly consistent. This could be explained based on the sample sizes (95 compared to 1436) of the two survey instruments. Work zone traffic flow might be a concern since it has fallen below 50%. The other areas still range in the area 60 to 70%. The research team will continue to monitor these public opinions to see if a trend is forming or if the small sample size has impacted the outcome.

Satisfaction Level (Web Survey n=95)	Percent	1st & 2nd
Public informed	73	91
Timely information	73	89
2 years vs. 6 to 8 years	71	76
Communication of alternatives	58	83
Overall satisfaction	69	78
Managing to move around area	60	72
Work zone traffic flow	46	69
Accurate/understandable signs	65	76
Satisfaction Level (MA Survey n=1436)		
2 years vs. 6 to 8 years	93	89
Managing to move around area	88	89

The in-person interviews, conducted late in the first quarter at two major shopping locations near the closed section of I-64, showed general agreement with other survey results. Conducting surveys at shopping locations provides a potential correlation link with the economic component of this study. Consistency in data across all survey efforts helps validate that true public opinion is being gained. This information will be compared with the future in-person interviews at the zoo to assess the consistency across different survey instruments.

Personal Impact of the Closure

The table below shows the 3rd quarter responses regarding the closure impact on travel. The travel destination of "attending recreational activities" was added when the web survey was enhanced at the beginning of this quarter. This activity will be monitored as the I-64 project prepares for the East closure, since a number of regional recreational facilities are located along I-64 near this closure. This "attending recreational activities", "where I eat" and "where I shop" are somewhat split in their opinions of impacts to them. The research team will continue to monitor the survey responses on these travel destinations.

Survey Question – "The closure has changed ……"

Travel destinations	Strongly Agree	Agree	Disagree	Strongly Disagree
Travel to certain areas	41%	34%	14%	11%
Where I shop	23%	28%	29%	20%
Where I eat out	19%	24%	30%	27%
Where I buy gas	13%	12%	33%	42%
Where I work	6%	6%	30%	58%
Where I live	7%	6%	28%	59%
Attending recreational activities (i.e. games, parks, etc.)	24%	10%	34%	32%

"When do you routinely commute in St. Louis" 3rd Quarter compared to 1st and 2nd Quarters Responses

Time of Day	3rd Quarter	1st and 2nd Quarters
Before 7 am	23 (12%)	277 (22%)
7 to 9 am	53 (27%)	334 (27%)
9 am to Noon*	16 (8%)	103 (8%)
Noon to 3 pm	18 (9%)	
3 pm to 6 pm	63 (32%)	376 ((31%)
After 6 pm	23 (12%)	145 (12%)

***First two quarters asked 9 am to 3 pm**

Information Sources and Communication Methods

TV News still continues to be best method of distributing information with Radio News, Internet and road signs running a close second. TV News and Internet are more pre-trip information sources while Radio news and road signs are more en-route information sources. It is noticeable that MoDOT's three web sites are listed as 1st, 2nd, and 6th as sources of information.

Best Way to Distribute Information

Source	Responses
TV News	72
Radio News	60
Internet	58
Road Signs	54
Newspaper	42
Email from I-64/MoDOT	21
Radio Talk	20
Mail from I-64/MoDOT	18
Project Display Boards	16
Others	3

Internet Sources

Source	Responses
New I-64 Web Site	48
MoDOT's Web Site	42
Post-Dispatch (STLToday.com)	28
TV 5 (KSDK.com)	25
TV 4 (KMOV.com)	20
Gateway Guide	19
TV 2 (MyFOXSTL.com)	17
Metro (MetroStLouis.org)	14
Post 4 Traffic Online	11
Radio 1120 AM	8
GetAroundSTL.com	5
Other	4
Radio 550 AM	3
DontGetStuck.org	3
MidMetro4.com	3

Traffic Congestion Strategies

Various traffic congestion strategies were implemented to reduce regional traffic congestion potentially caused by the displacement of 140,000 to 170,000 vehicles per day during the roadway closure. Public information is being sought on four of these strategies to evaluate to their impact in reducing the traffic congestion. The enhancement made at the beginning of this quarter to the web survey will assist in this evaluation. The effectiveness level ranges from 45% to 63% with the ineffective level ranging from 7% to 17%. The lane widening strategy received the highest level of effectiveness while also receiving the highest level ineffectiveness. The other noticeable fact was that 22% reported "No Idea" that the Motorist Assist and I-64 Traffic Response programs were used.

Effectiveness/Strategies	Lane widening along I-44, I-70 and I-270	Improve Signal Timing and Interconnection	Traveler Information on DMS and 511	Motorist Assist and I-64 Traffic Response Programs
Very Effective	30%	37%	28%	29%
Slightly effective	33%	20%	32%	16%
No difference	12%	9%	22%	15%
Slightly ineffective	7%	11%	3%	4%
Very ineffective	10%	5%	4%	3%
Have not noticed	2%	10%	3%	11%
No idea	6%	8%	8%	22%

Commuters' Time of Travel

As indicated in this report, the 3rd Quarter web survey was revised on June 1, 2008 that presented different questions to gain additional in-sight and understanding of the public's opinion on the I-64 project. A time shift in beginning their commute to work or home does shift demand placed on the transportation network during peak period of travel. The following was a new question presented to the web survey participants to help evaluate commuter time of travel:

Shift in Commute Time	Percentage
Little earlier < 10 minutes	13
Earlier > 10 minutes	26
Little Later < 10 minutes	2
Later > 10 minutes	11
No Change Time	30
Not applicable	18

The shift to earlier commute times is 39% and a shift to later commute times is 13%. No change of time was 30% with 18% reporting not applicable. Almost 50% are not be leaving earlier or staying later.

Travel Modes

While the 3rd quarter web surveys are a small sample, it does indicate some mode shifts towards carpooling, walking, biking, telecommuting and transit. Also, the increased carpooling shown in the figures below appears to correlate to the increasing matches reported by RideFinders.

Travel Mode (1st and 2nd Quarters* vs. 3rd Quarter Web Respondents Only)**

Mode / Frequency	Never*	Never**	Few times a week*	Few times a week**	Almost Every Day*	Almost Every Day**
Riding the Bus	94%	89%	4%	10%	2%	1%
Biking	94%	87%	5%	12%	0%	1%
Riding MetroLink	82%	78%	15%	19%	3%	3%
Telecommuting	80%	75%	17%	20%	3%	5%
Walking	88%	77%	10%	20%	2%	3%
Driving with Others	51%	27%	35%	50%	14%	23%
Driving Alone	6%	5%	9%	19%	85%	76%

Demographics

The table below summarizes the responses to demographic questions from the web site only for the 3rd quarter. Previous quarterly reports showed the mail-out survey and the 1st interview data. The entire information will be included in the 1st Annual report. The purposes of supplementing the Web survey with a mail survey was to reach populations without internet access, in order to ensure the research considered the input of as many groups as possible – a representative sample. By targeting these other methods of surveys, the research team continues to ensure a research objective of reaching a more diverse population, especially in reaching more minorities and more females. The next mail survey will be in the first quarter of 2009 and the 4th quarter will have detail information on the scheduled Zoo interviews.

The maps on the following page illustrate the zip codes of survey respondents within Missouri (a small portion of the responses – around 2 percent – were from outside the state). These results are preliminary; future reports will likely aggregate zip codes into larger geographic units with more statistical robustness.

Demographics of Survey Respondents

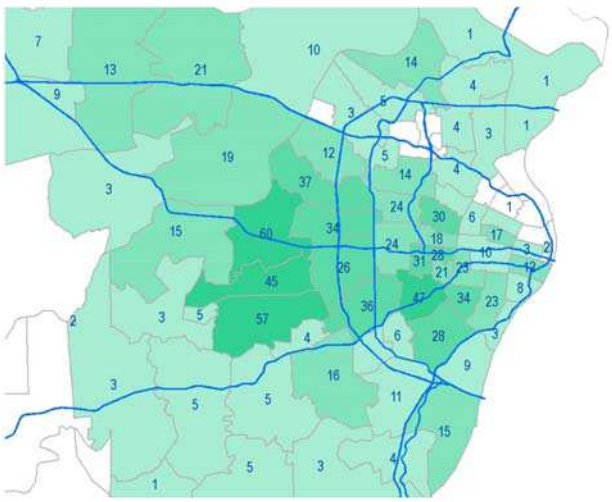
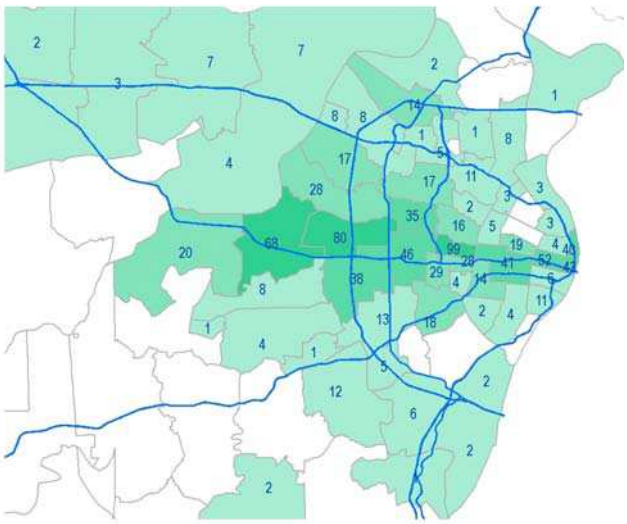
Age	Web
under 25	17 %
26 to 40	38 %
41 to 65	42 %
Over 65	3 %

Race	Web
American Indian	2 %
Asian	3 %
Black/African-American	5 %
Hispanic/Latino	1 %
White/Caucasian	85 %
Other	4 %

Gender	Web
Male	61 %
Female	39 %

Income	Web
Less than $20,000	2 %
$20,000 to $40,000	15 %
$40,001 to $60,000	15 %
$60,001 to $90,000	25 %
$90,001 to $120,000	19 %
$120,001 to $150,000	9 %
$150,001 to $200,000	10 %
More than $200,000	5 %

Survey Respondents' Residence, Commute Destination (by zip code)

	Residence Location	Commute Destination
Web Only		

3. Mobility

Mobility Highlights

The study team continued the development of a series of systems to automate the collection, processing, and display of the enormous stream of available data. Key findings to date are listed below:

- Approximately 140,000 to 150,000 daily vehicles used the segment of I-64 between Ballas Road and I-170 before its closure. The assessment of where those vehicles have gone is still underway; based on the data in this report, the only large traffic increase seen with available data is on I-44. Volume data is still being evaluated for I-70, I-270, and the many parallel facilities that have been impacted by the closure. More data will be available next quarter, when year-old archive data from some of these facilities first comes on-line.
- Initial analysis of Traffic.com travel-time data has not indicated a significant variation in peak-hour travel times on key freeways in the region; however, additional study is needed before any conclusions can be reached.
- The RideFinders Rideshare program continued to experience increasing growth rates, with a 41+ percent jump in monthly rides in the year between August 2007 and August 2008. I-64 closure is a partial reason for this increase; however, the significant gas price increase has also contributed to people choosing to carpool or vanpool.

Mobility Assessment Objectives and Methods

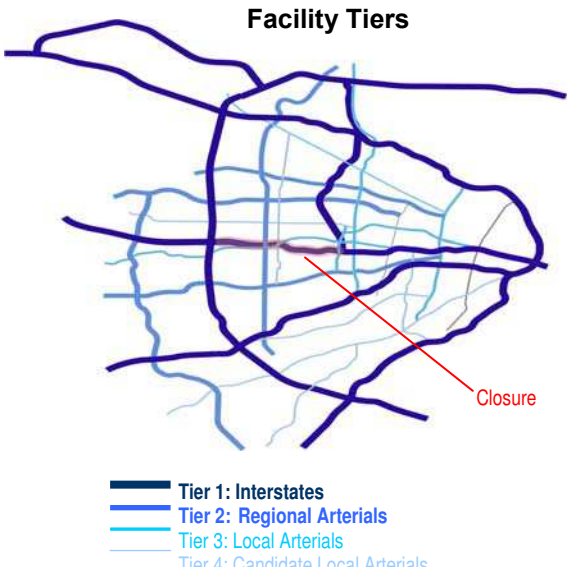
This assessment uses a variety of tools to measure the region's mobility before, during, and after the closure period. The assessment examines traveler shifts and their effects, using a multitude of data sources of varying resolution. The complexity and sheer size of the data set requires examinations at several levels, and future reports will continue to hone and refine the assessment.

Major Goals – Mobility Assessment

Assess the shifts (temporal, spatial, and modal) in travel demand throughout the region

Assess congestion effects of the closure

Assess closure effects on transit, ride-sharing, and park-and-ride demand.



The initial analysis of the region's roadways and highways is focused on facilities in four Tiers, as illustrated at right. Tier 4 facilities are being assessed to see whether they should be included in the Tier 3 grouping, or excluded from further analysis. For each of these facilities, relevant mobility data (traffic volumes, travel times, incidents) are being gathered throughout the duration of the closure to measure its regional impacts.

Mobility data is being obtained through numerous sources:

- MoDOT is providing historical traffic counts through its count program, as well as archived traffic data from the Gateway Guide system. In addition, MoDOT forces have conducted travel-time runs on key segments of Tier 2/3/4 facilities multiple times since the I-64 closure. MoDOT also maintains statistics for its park-and-ride facilities across the state, and is providing monthly count data for its facilities in the region.
- Traffic.com is a commercial Web site that provides, for highways in metropolitan areas across the U.S., real-time traffic congestion, travel-time, and incident data. These data are based primarily on sensors placed throughout the area. Traffic.com archives traffic volume, travel speed, and incident data – in 1-minute intervals – and has an agreement to share this information with MoDOT. The research team developed customized software routines to download, organize, prune, and analyze this data. They also provide travel times on limited arterials in the study's impacted area that are being collected.
- St. Louis County has conducted traffic counts and travel-time studies on regional arterials periodically since the closure.
- Metro collects ridership information on MetroLink, MetroBus, Call-A-Ride, and special services, and is providing statistics aggregated on a monthly basis. In addition, Metro collects parking data at its stations with park-and-ride facilities. The research team continues to work with them on gaining access to this information.
- RideFinders, sponsored by Madison County Transit, is the St. Louis regional rideshare program. Rideshare data is provided on a monthly basis.
- The research team is supplementing data collection where necessary, including travel-time runs, traffic counts, and field observations.

Mobility Results

Pre-closure Capacity Improvements

It is important to note that regional mobility began to be affected by The New I-64 project even before the closure. Perhaps most notably, several highway/roadway capacity improvements were implemented by MoDOT and St. Louis County on parallel and complementary facilities, as listed at right. As the list indicates, one change has been reversed after monitoring field traffic flow operations.

In addition, Metro improved its transit system capacity in anticipation of the closure by increasing service frequency and adding new routes. The research team has recently received a complete list of these improvements, and they will be incorporated into the future annual reports.

Key Improvements to Regional Highways/Roadways

I-70 Re-stripe from I-170 to I-270 (add lane in each direction)

I-44 Re-stripe from I-270 to I-55/I-70 (add lane in each direction)

I-270/I-64 Re-stripe I-270 North of I-64 to Route 340 (add lane in each direction) and re-stripe I-64 Eastbound ramp to I-270 Northbound

I-270/I-44 Re-stripe interchange's ramps to improve traffic flow

Clayton Road Re-stripe from Mason Road to Lindbergh Blvd; upgrade various traffic signals; new traffic signals at Topping Road and Bopp Road

Ladue Road Upgrade various traffic signals; various new left/right-turn lanes; new traffic signals at Graeser Road/Warson Road

Improved Signal Timing along Page Avenue, Olive Boulevard, Manchester Road, Lindbergh Boulevard, Clayton Road, Brentwood Boulevard, Hanley Road, Big Bend Boulevard, Kingshighway Boulevard, Grand Boulevard, and Forest Park

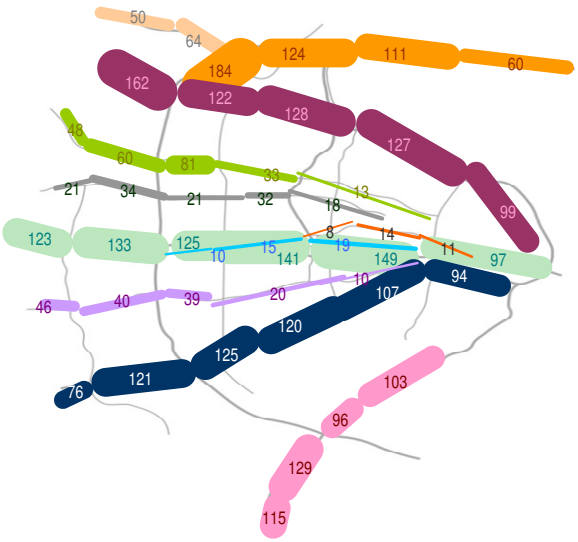
Traffic Volumes

Freeways

Prior to the closure, in baseline 2006, I-64 carried approximately 170,000 vehicles per day (vpd) on a typical weekday – this is Annual Average Daily Traffic, or AADT (excluding "outlier" days). 100 percent of this traffic was necessarily displaced (temporally and/or spatially) as a result of the closure.

Several sources are being used to evaluate the closure's effects on traffic volumes - including before/after volumes (from MoDOT, Traffic.com, and St. Louis County), responses to the various public surveys developed, and selected aggregated data reported by MoDOT in its frequent e-mail briefings. The map at right, extracted from Traffic.com and MoDOT data, shows east-west daily traffic volumes for many of the key study facilities for the baseline year of 2006. Similar data has been extracted for the key north-south facilities (I-270, I-170, Lindbergh Boulevard, etc.) It is important to note that this information averages every non-holiday, non-"outlier" weekday from 2006, and therefore is not a good base against which to compare the effects of the closure for smaller periods (such as the current quarter under evaluation). However, it is useful for illustrating order-of-magnitude baseline conditions.

Baseline Daily Weekday Traffic (000's)
East-West Corridors (2006, full year)

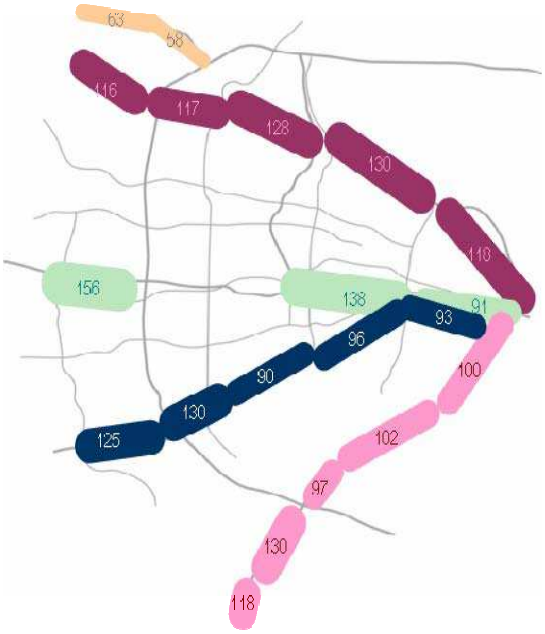
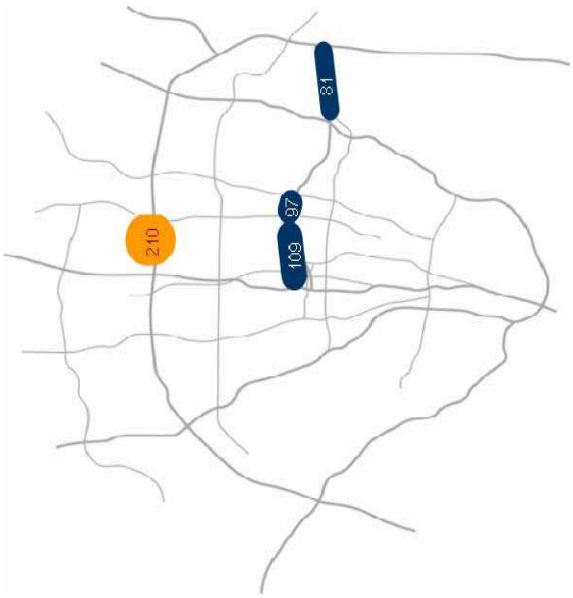
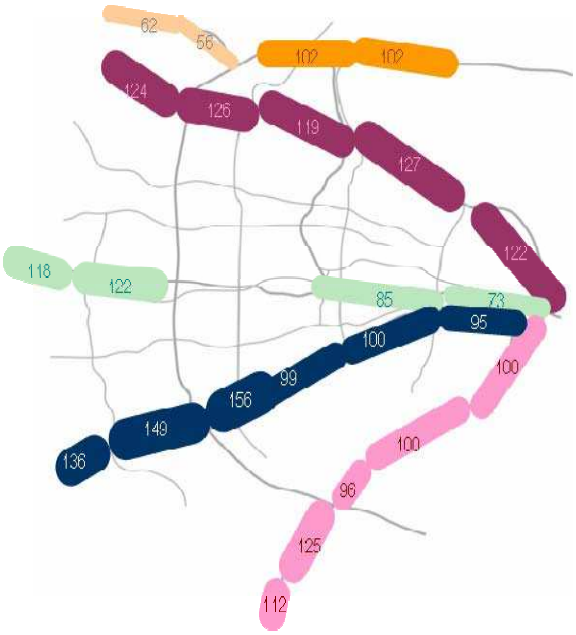
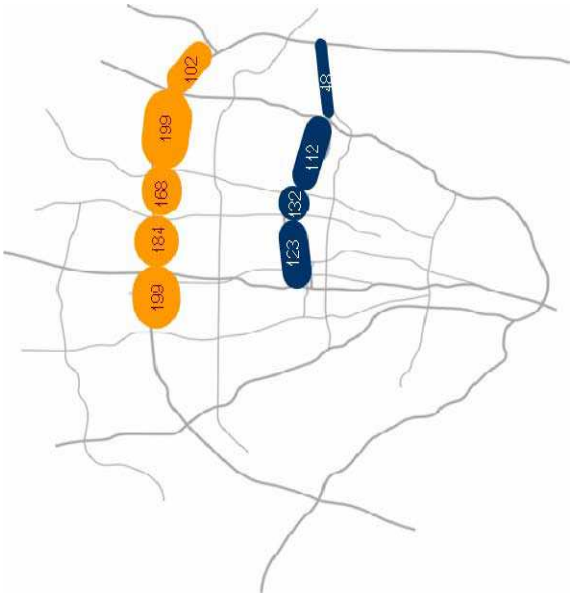


The maps on the next page show a more fair initial comparison for selected segments. They compare weekday June-August 2008 volumes with the June-August 2007 volumes. (Weekend volumes are also being assessed.)

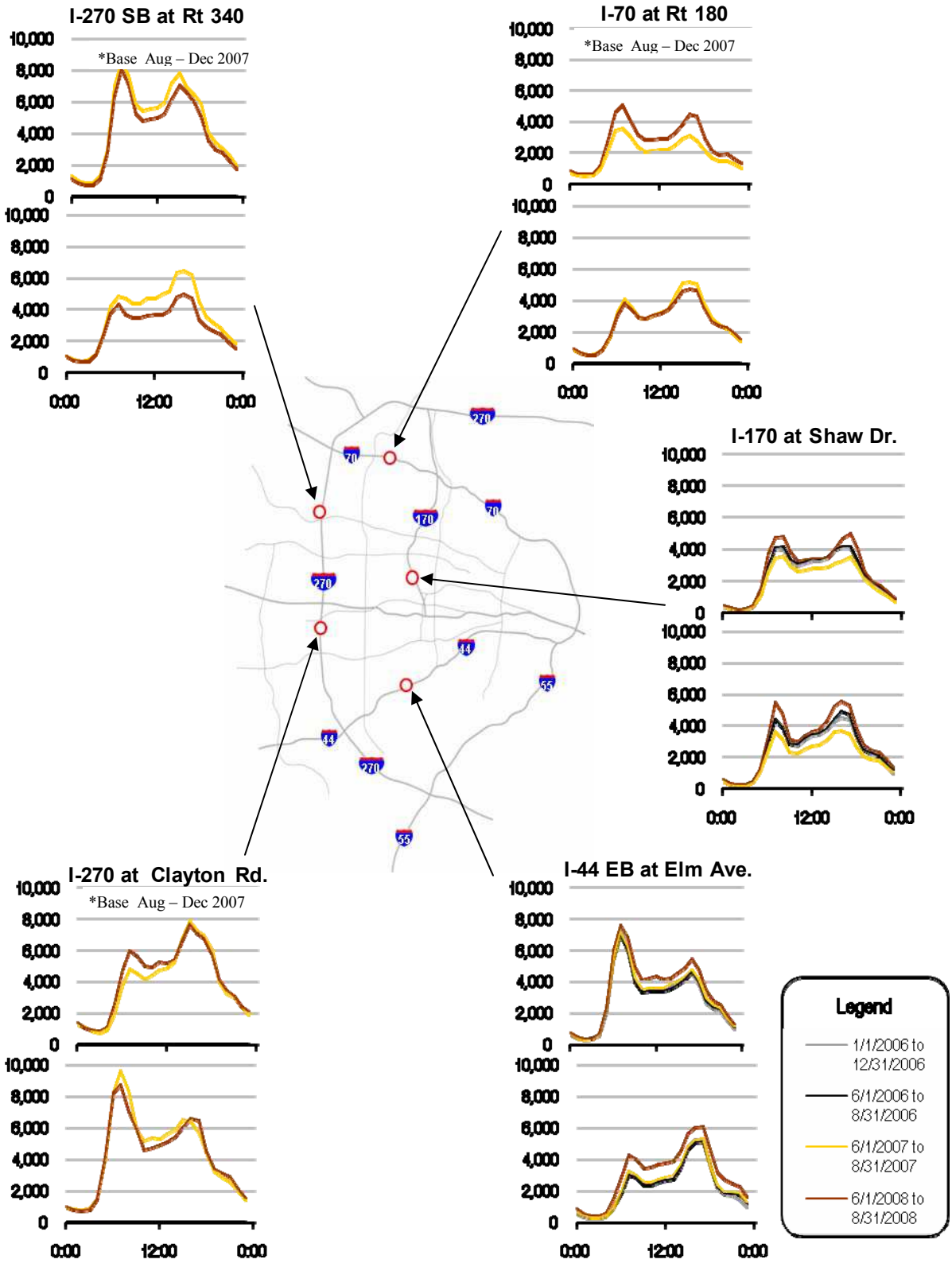
Based on these maps, the following preliminary conclusions can be gleaned:

- Daily traffic volumes on I-64 immediately east of the closure have decreased significantly since 2007 by 53,000 vpd.
- Daily volumes on I-55 appear to be roughly equivalent to those before the closure.
- Daily Volumes for I-44 just east increased by 26,000 vpd just east of I-270.
- Volumes on I-170 between I-64 and I-270 have increased by approximately 14,000 – 35,000 vpd compared to the previous year.

Daily Traffic Volume Comparison (000's) on Selected Segments, 2008 vs. 2007 (PRELIMINARY)

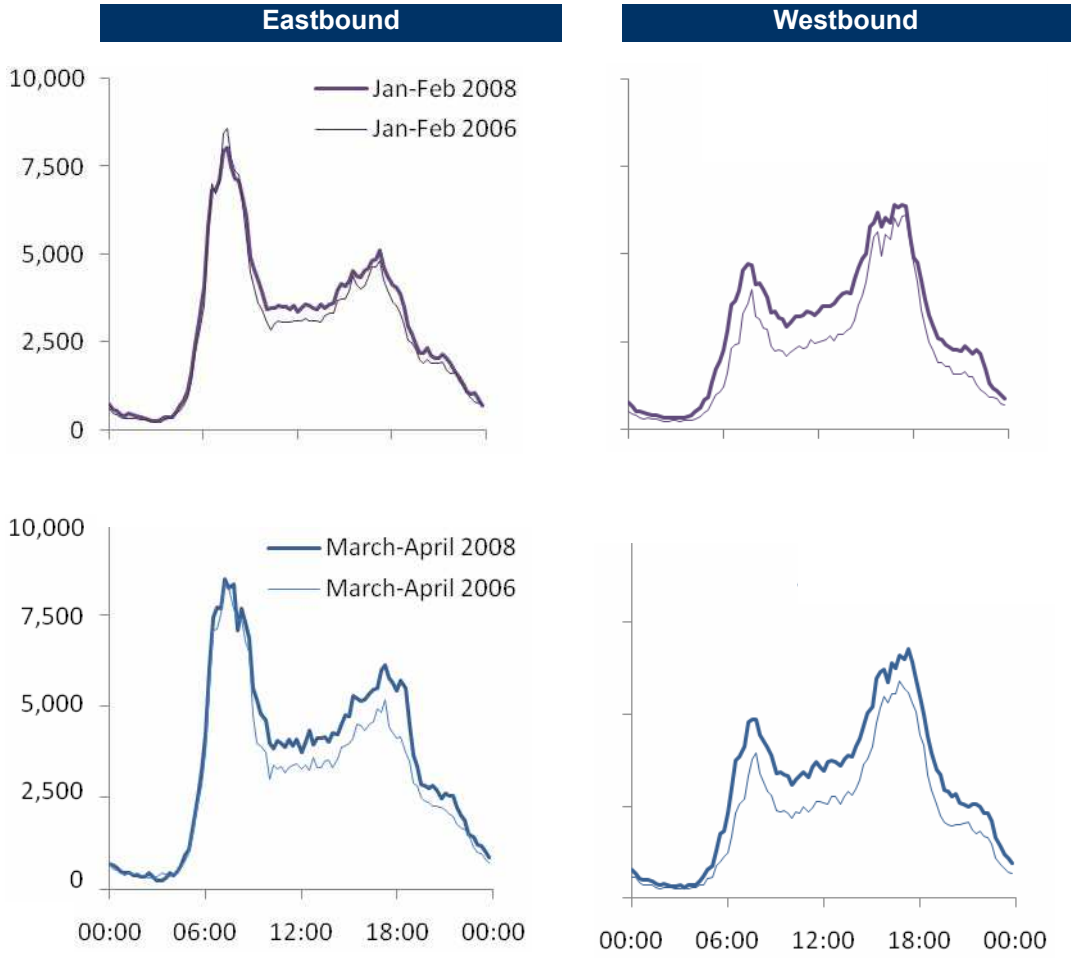
	East-West Routes	North-South Routes
June-Aug 2007		
June-Aug 2008		

Below is the volume profile from select locations around the city. For reference, AM peak is top graph and PM peak is lower graph.



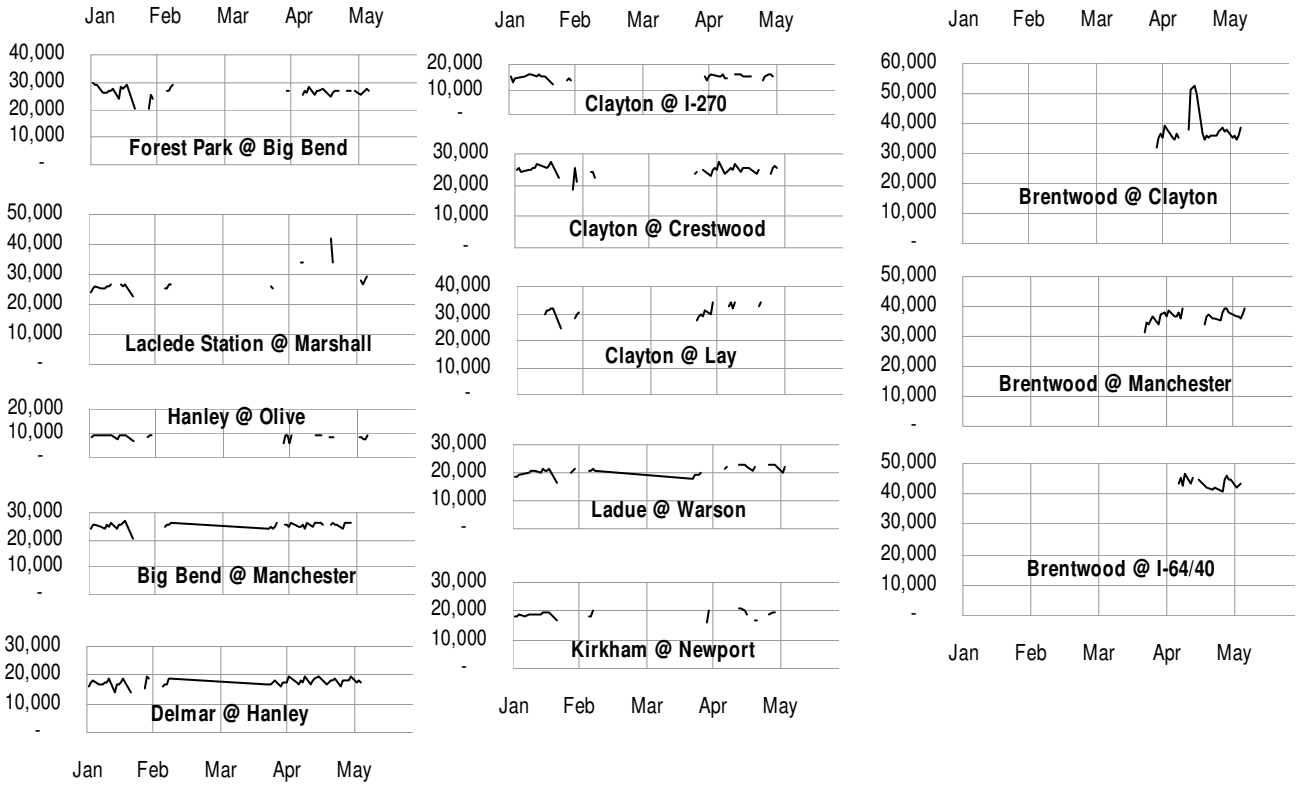
The Traffic.com data is also being examined at more refined resolutions, from hourly totals all the way down to five-minute volumes. The graphs below illustrate how the effect of the closure on the **duration of the peak period** is being examined. As the graphs indicate, overall volumes on this segment have generally increased, but the peak periods have spread as well. Data from this detection site was impacted during this quarterly reporting period, so we are just using previous information to show what data is available. Further analysis of this spread will be undertaken in the annual reports at various sites.

Example 15-Minute Traffic Volume Profiles
I-44 at Elm Avenue



St. Louis County has been tracking arterial volumes since the I-64 closure. The graphs below illustrate ADT data available from the County and are under study to extract trend information. For many days on which data are not plotted, volumes are only available for one direction. No significant conclusions can yet be drawn from these data, but they will continue to be a resource as the study progresses. This information was presented in the 2nd Quarterly report and will be updated as additional information received.

Average Daily Traffic Volumes Recorded by St. Louis County, 2008



MoDOT also collects volume data from many of the arterials in the region using its ACTRA system tied into signalized intersections. The graphs on the following pages examine volume trends on many of the key arterials during both peak hours on a monthly basis since the closure, including a comparison to a pre-closure baseline. The table and graph below presents a sample summary of data collected in the 2nd Quarter. **We continue to capture this information and will present it in more detail in the annual report with study conclusion**. Several limitations of the data should be noted:

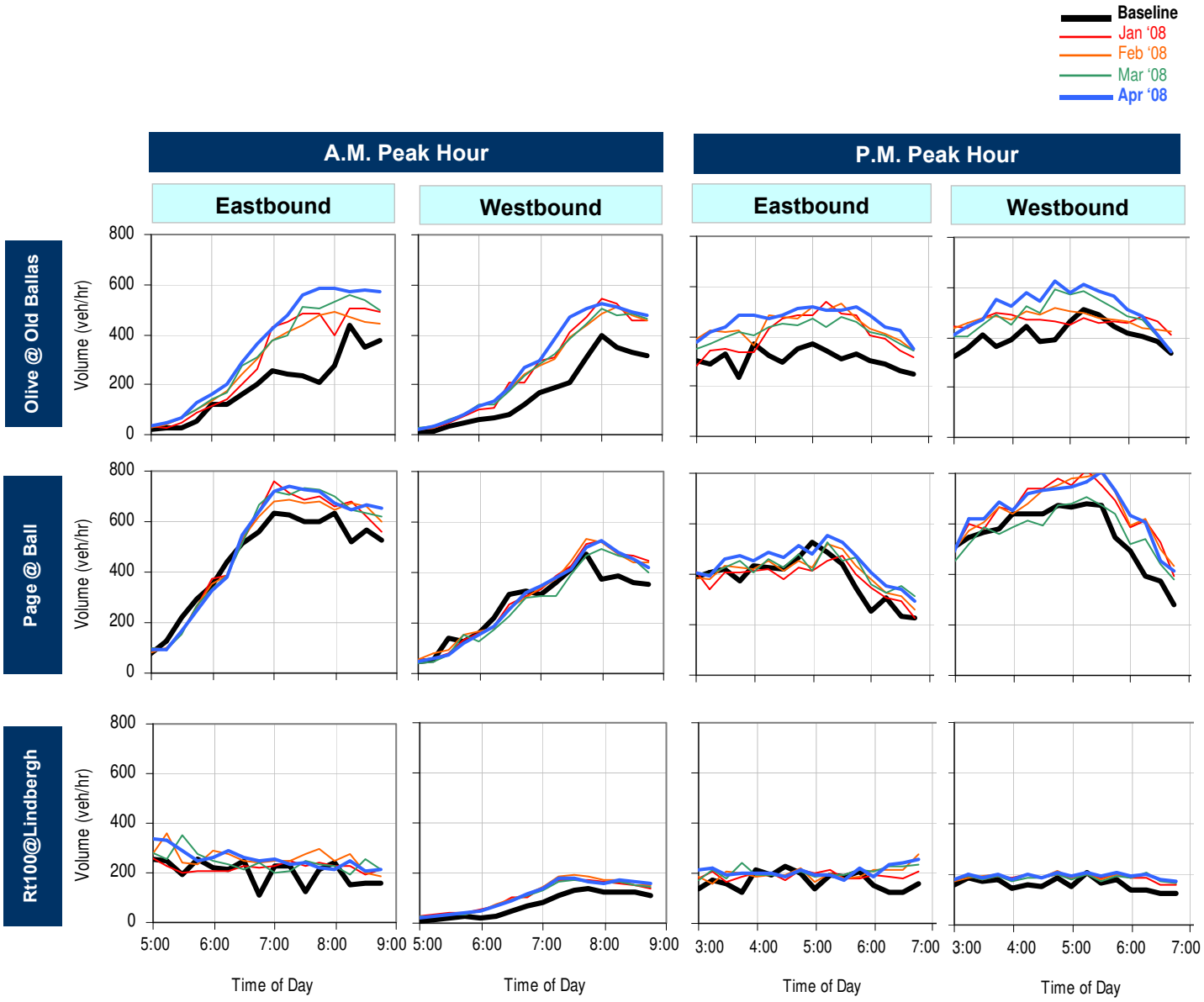
- The pre-closure data is from a single day, in most cases collected in November or December 2007.
- During the closure, not all days had available or usable data.
- This data reflects only through volumes approaching intersections; hence, right- and left-turning traffic is not included.

In spite of these limitations, the data reveals some anticipated patterns, such as volume increases on Page and Olive, which run parallel to the closure. Archiving and studying these data beyond the closure will help in understanding the closure's effects.

Summary of ACTRA Volume Reporting Since Closure, Key Arterials

	A.M. Peak Period	P.M. Peak Period
Olive	**Eastbound** and **Westbound**: 50% to 80% increase at Old Ballas	**Eastbound**: 30% to 50% increase **Westbound**: 14% to 27% increase. (p.m. volumes higher than a.m.)
Page	**Eastbound**: 7% to 11% increase. **Westbound**: up to 10%. increase (a.m. volumes higher than p.m.)	**Eastbound**: 15% increase (after initial slight dip of -0.6%) **Westbound**: 3% to 17% increase
Manchester at Braeshire	**Eastbound** and **Westbound**: 4% to 17% increase	**Eastbound**: 6% reduction (after initial January dip of 20%) **Westbound**: 9% increase (after initial dip of 7%)
Manchester at Lindbergh	**Eastbound**: 10 to 27% increase **Westbound**: 44% to 53% increase	**Eastbound** and **Westbound**: 12% to 22% increase
Rte. 141 at Howard George	**Southbound**: 4% to 20% increase **Northbound**: dip below pre-closure (after January increase)	**Southbound**: 5 to 10% decrease **Northbound**: 4 to 7% increase (except February dip of 7%)
Lindbergh at Conway	**Northbound** and **Southbound**: 20% to 40 % decrease	**Northbound** and **Southbound**: 20% to 40 % decrease
Lindbergh at Manchester	**Southbound**: 200% average increase **Northbound**: 40 to 65% reduction	**Northbound** and **Southbound**: 40 to 65% reduction

East – West Routes



Travel Times

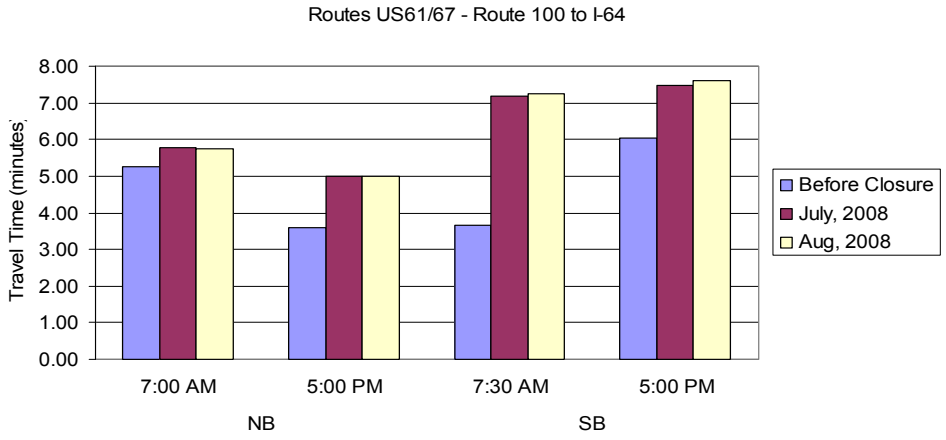
The research team is using Traffic.com's archived speed data to calculate travel times on freeway segments throughout the region. The table at right contains some of the data extracted. P.M. peak-period data are averaged over the current quarter, and compared with the last five months of 2007. The travel times in general do not show major variations from the pre-closure data, and also generally indicated faster travel times. The causes of these results will continue to be investigated, and could be attributable to a combination of peak-spreading, re-routing due to the closure, increased fuel costs, and other factors.

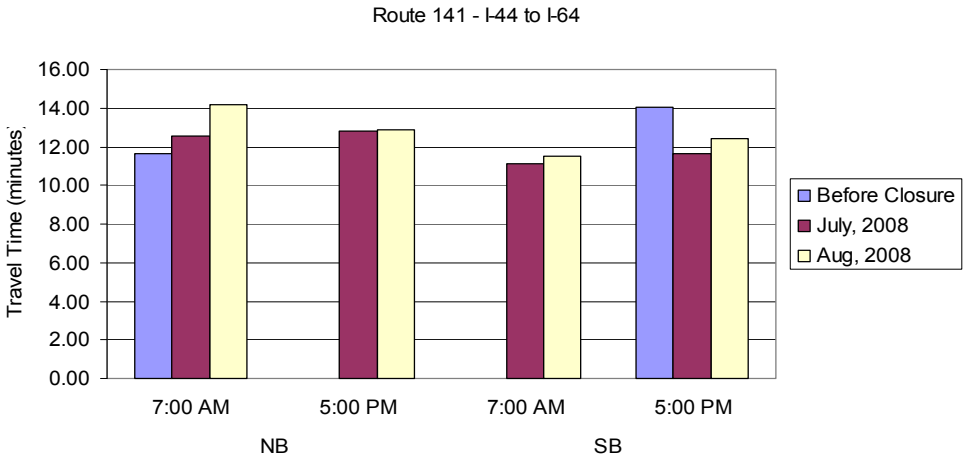
Travel Times (min), Selected Freeway Segments
(Preliminary)

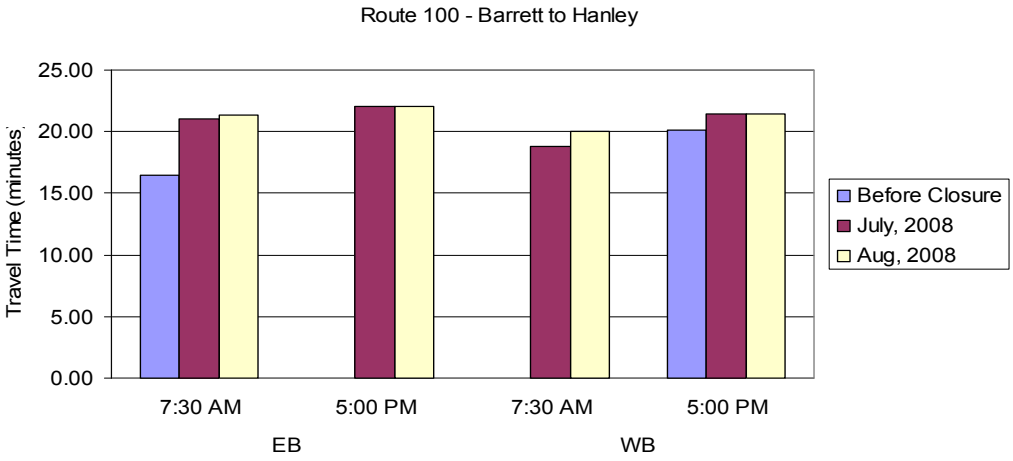
	Miles	Travel Time (min), P.M. Peak Hour	
		Aug–Dec '07	Jun-Aug '08
I-70 from I-270 to I-170			
EB	3.7	5.6	5.8
WB	3.6	6.3	5.7
I-170 from I-270 to I-64/US 40			
NB	3.7	7.9	7.1
SB	3.8	7.9	7.3
I-270 from I-70 to I-64			
NB	3.5	9.2	8.0
SB	3.5	9.8	7.8
I-270 from I-64 to I-44			
NB	6.5	7.3	6.6
SB	6.6	12.7	9.6
I-44 from Rte 141to Kingshighway			
EB	3.0	13.6	12.7
WB	3.0	12.0	11.6
I-64 from Rte 141 to I-270			
EB	3.3	3.5	3.5
WB	3.3	2.9	3.0

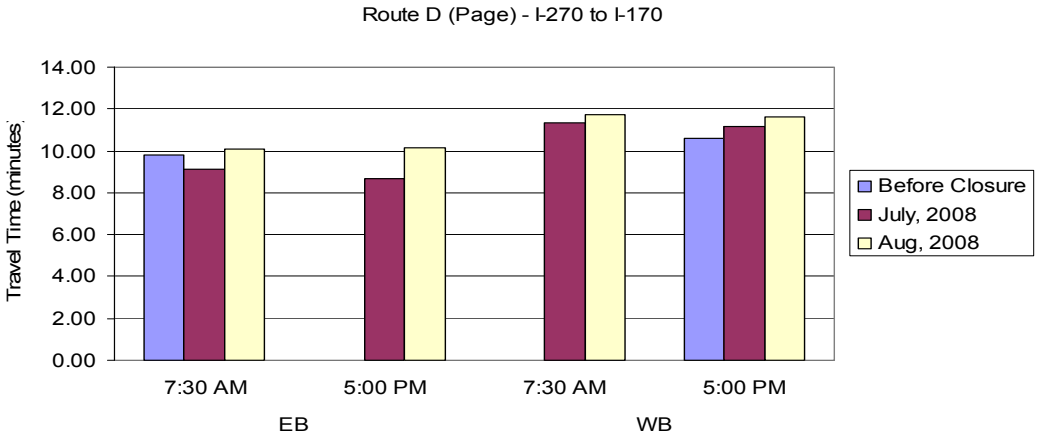
Arterials

As stated above, MoDOT has produced a series of e-mail updates that provides key traffic information to drivers for use in planning their commuting trips. The information for four of the major arterial routes (available since July '08) is being supplied to MoDOT via Traffic.com and has been monitored by the research team as general indicators for arterial traffic flow near the closure area. For purposes of this quarterly report, a time period for each arterial was selected as the peak hour for comparison purposes. These charts below include the times selected for comparing the before and after closure travel times. The research team will be verifying these travel times in the field during the fourth quarter of 2008. Once more data has been collected; a more robust analysis will be completed.




Route 141 - I-44 to I-64
Travel Time (minutes)
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
7:00 AM
5:00 PM
7:00 AM
5:00 PM
NB
SB
Before Closure
July, 2008
Aug, 2008


Route 100 - Barrett to Hanley
Travel Time (minutes)
25.00
20.00
15.00
10.00
5.00
0.00
7:30 AM
5:00 PM
7:30 AM
5:00 PM
EB
WB
Before Closure
July, 2008
Aug, 2008


Route D (Page) - I-270 to I-170
Travel Time (minutes)
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
7:30 AM
5:00 PM
7:30 AM
5:00 PM
EB
WB
Before Closure
July, 2008
Aug, 2008

Park-and-Ride

The table below summarizes one year's worth of quarterly parking counts at MoDOT's Park-and-Ride lots in St. Louis County and neighboring counties. Updates to this table will be made as information becomes available. May's data was not available, but is being supplied and the quarterly report will be amended. Users at regional park-and-ride lots have an increased almost 600 vehicles between February 2008 and August 2008.

MoDOT Park-and-Ride Volumes

			Vehicles Parked in Lot							
County	Lots	Total spaces	Feb07	May07	Aug07	Nov07	Feb08	May08	Aug08	
Franklin	6	413	295	205	189	175	168	167	202	
Jefferson	11	962	321	337	379	386	367	430	448	
St. Charles	12	1110	427	403	283	315	301	415	566	
St. Louis	6	792	519	540	582	451	493	579	697	
Total	**35**	**3277**	**1562**	**1485**	**1433**	**1327**	**1329**	**1591**	**1913**	

Transit

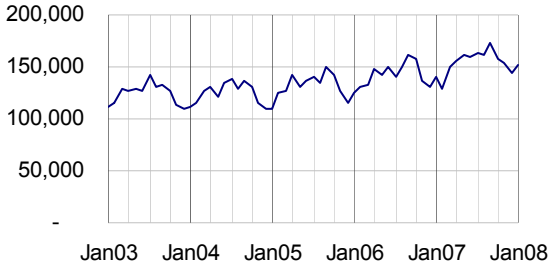
At the time of this report, Metro statistics are only available through January 2008. The table and graphs at right summarize some key statistics regarding Metro usage. Ridership on the total Metro system in January 2008 (the first month of the I-64 closure) was over 9 percent higher than ridership in January 2007. However, as the graphs indicate, Metro ridership has been steadily increasing since at least mid-2005, and the increase seen in comparing January 2008/2007 data does not appear to substantially deviate from this trend.

Anticipated statistics from Metro will shed additional light on any closure-related transit trends. Information from Metro has not flow as desired based on the required time by Metro staff to put the information together. The research team understands the demands of Metro staff time and will make a concerted effort to gain detailed information for inclusion into the annual report. The annual report will be where most study conclusions will be made.

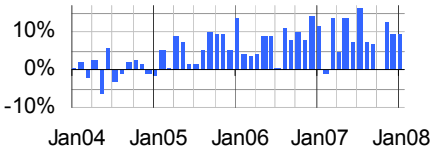
Key Transit Statistics

	Jan '08 ridership	Increase over Jan '07
MetroBus (fixed route)	2,723,970	9.1%
MetroLink (passenger rail)	1,944,205	9.4%
Call-a-Ride (paratransit)	60,167	8.4%
Total Metro system (includes services not listed)	4,733,423	9.3%

Total Metro system – equivalent daily riders per month



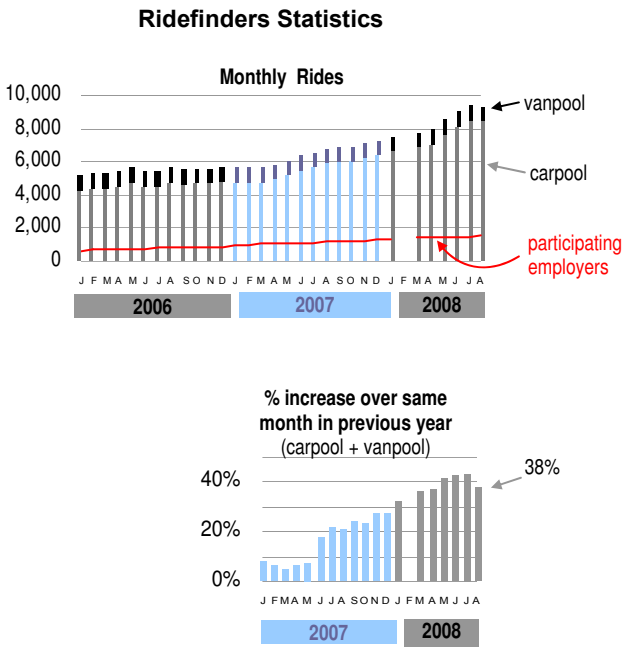
Month's increase over previous year



Rideshare

RideFinders, sponsored by Madison County Transit, is the St. Louis regional rideshare program. The graph at right shows historical ridership for RideFinders, and indicates a general upward trend since the second half of 2007. The lower portion of the figure further illustrates this jump in ridership by indicating, for each month, the percentage increase over the previous year. As the graph indicates, one-year increases in 2008 have been over 40 percent, much higher than in 2007. Obviously, some portion of these increases can be attributed to rising fuel costs, but the I-64 closure also has been a likely contributor.

The research team is working with RideFinders to obtain more details to help correlate rideshare activities with I-64 closure statistics.



4. Economics

Economics Highlights

Major Components of Economic Analysis

Analysis of pre-closure and current conditions

Determine the effectiveness of the reconstruction and traffic management strategies on the local economy

Identify the strategies that are the most appropriate for near-term and long-term economic vitality based on special data tabulations, survey results, and individual

The primary highlight for this quarter is collection and analysis of the special data tabulations from Missouri Economic Research and Information Center (MERIC) and other published data to quantify the economic conditions before and following the Western closure of I-64. To date, MERIC has provided HDR with economic data for first quarter 2006 and all four quarters of 2007. Given the time lag in available economic data indicators, this quarterly report will only focus on the currently available and collected data for the first two quarters of 2008.

Economic Analysis Progress

Current activities to date include:

- Collection of the identified published economic, demographic, and fiscal data.
- Received from MERIC special ZIP-code-level data for the first quarter of 2006 and all four quarters of 2007. The economic data included: industry employment, wage, and establishment data tabulations.
- Analysis of Second Quarter 2008 Taxable Sales Data from Missouri Department of Revenue (DOR)
- Completion of the first business survey and interviews
- The final results of the survey were presented on July 17, 2008. The results were discussed with MoDOT and the attending local and regional economic development/business organizations.

Economic and Fiscal Data Analysis

The preliminary analysis of the first custom economic dataset from MERIC has been completed. Once more recent quarterly data is available from MERIC, and other published sources, our analysis will extend the precondition analysis forward through the second quarter of 2008. The preconditions analysis is complete and has established a baseline for conditions before construction. Table 1 below shows the total employment, establishments, wages, and taxable sale by region. Between the third and forth quarter of 2007 there was positive growth in employment, wages, and subsequently sales for both the corridor and non-corridor regions of St. Louis City and St. Louis County, while there was a small decline in the number of establishments.

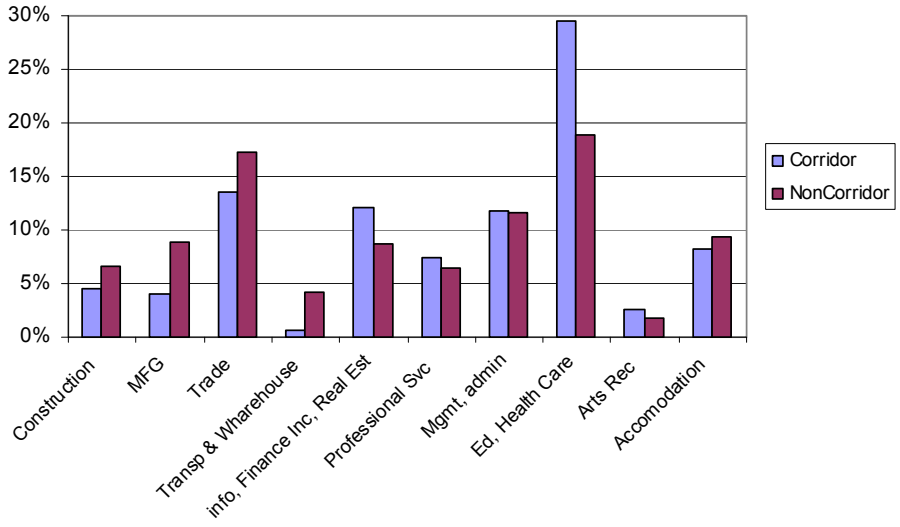
Table 1 **St. Louis I-64 Corridor and Non-Corridor Economic Profile**

	3rd Quarter 2007		4th Quarter 2007	
	Corridor	Non-Corridor	Corridor	Non Corridor
Jobs	201,200	628,100	205,271	632,136
Number of Establishments	9,405	31,445	9,333	31,318
Wages ($ Millions)	$ 2,471	$ 6,753	2,785	7,541
Total Taxable Sales ($ Millions)	$ 927	$ 4,167	1,016	4,420

Source: MERIC and Missouri Department of Revenue

Figure 1 shows the employment by industry share for each region. In terms of employment, the corridor region has a heavy concentration in finance and real estate, which will be tracked considering national trends in banking, finance, and real estate. In addition the high percentage of health care within the corridor is unique as its services are not like other commodities, and will be followed closely in the following quarters.

Figure 1Employment by Industry Share: Corridor and Non-corridor Regions for 4th Quarter 2007



The quarterly released ZIP code level data from Missouri DOR for Taxable Sales has been processed up to the second quarter of 2008 showing the local consumer sales trends and impacts (as seen in the figures below). For both regions, the taxable sales have declined from the first and second quarters of 2008 when compared to the first and second quarter of 2007, as seen in Table 2. However, the change in taxable sales is not consistent for both regions as the corridor region slightly improves from -6.6% to -4.4%, while the non-corridor sees a further decline in sales for the second quarter of 2008. The significant changes between the first and second quarters of 2007 and 2008 suggest that the national economic slowdown is likely influencing the region. Further analysis will focus on the national economic conditions and the magnitude of its influence on the region. Figures 3 and 4 show the total taxable sales by quarter for each region, which consistently demonstrates that the second and fourth quarters of each year are the strongest.

Table 2 Taxable Sales Growth by region and Quarter

	1st Quarter		2nd Quarter	
	2006 to 2007	2007 to 2008	2006 to 2007	2007 to 2008
Corridor	2.8%	-6.6%	-0.6%	-4.4%
Non-Corridor	1.8%	-1.3%	1.3%	-2.9%

Figure 2 Quarterly Taxable Sales for Corridor Region 2004 to 2008

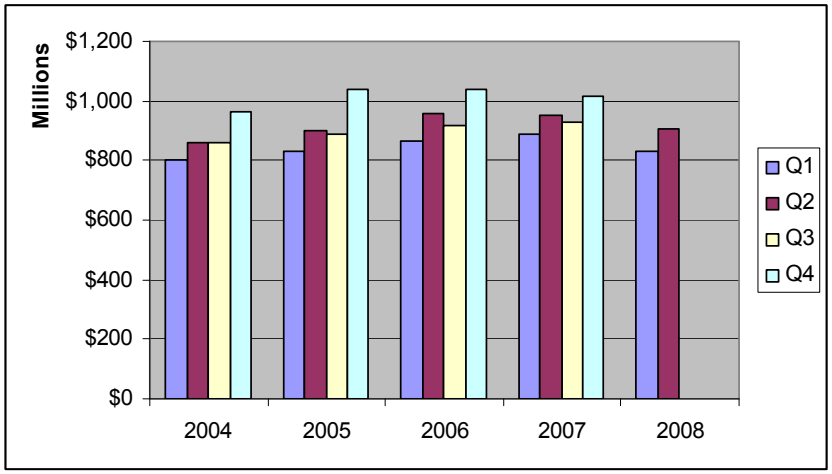


Figure 3 Quarterly Taxable Sales for Non-Corridor Region 2004 to 2008

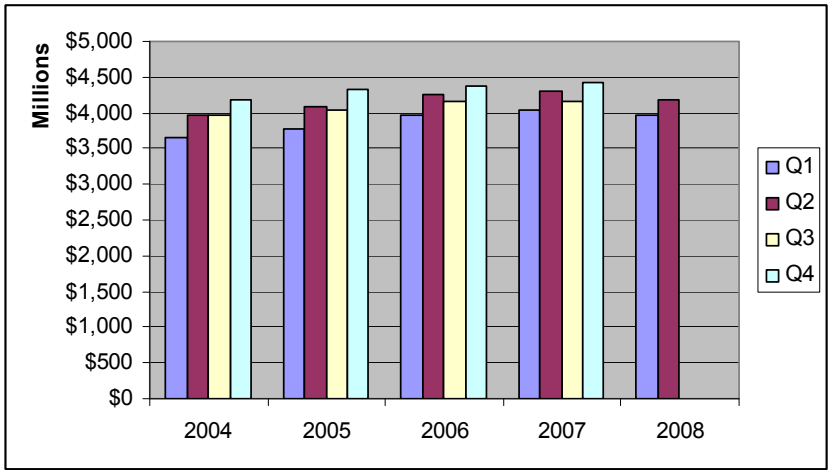


Table 3 shows the analysis of the taxable sales by major commodity group for the first quarters of 2006 through 2008. The taxable sales for wholesale trade are showing positive growth compared to previous years, despite the total taxable sales for the county declining. This could be explained by a shift in consumer spending away from general merchandise stores towards wholesale.

Table 3 Taxable Sales by Major Commodity for St. Louis County: First Quarter; In Dollars

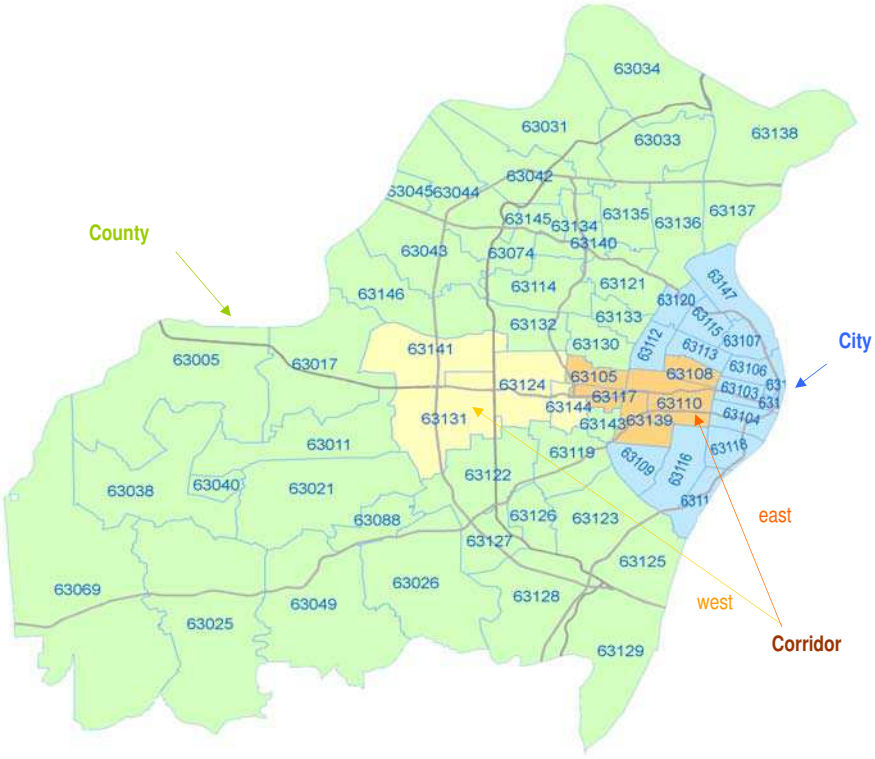
St. Louis County	2006 (1st Q)	2007 (1st Q)	2008 (1st Q)
Wholesale trade – nondurable goods	115.05	119.52	128.47
General merchandizing stores	511.10	537.61	477.74
Food stores	407.08	412.96	426.21
Eating and drinking places	407.59	421.91	425.01
Personal services	24.53	23.98	24.13

Conclusions and Future Steps

It is anticipated that the first quarter of 2008 data from MERIC will be available before the end of September 2008, and will provide more information on the initial economic impacts from I-64's January

2008 closure. This published data is at the ZIP code level for both St. Louis County and St. Louis City. The data has been sorted by geography (corridor or non-corridor) to be consistent with the geographic units used in the Business Survey analysis. In addition, quarterly ZIP code level data from Missouri Department of Revenue for Taxable Sales is being processed to gauge local consumer sales trends and impacts. The data by ZIP code includes industry detail at the two-digit NAICS level for the number of establishments, total wages, and the number of jobs. The map below demonstrates the 9 ZIP code areas impacted by I-64 closures (corridor) and the ZIP codes that make up the remainder of St. Louis City and St. Louis County (non-corridor).

Zip Code Definitions for Study Regions



Moving forward, the second businesses survey is currently being drafted and will be sent to the business community working group for comments. The anticipated release of the second online business survey will be in the month of October.

5. I-64 Traffic Response

I-64 Traffic Response Highlights

Major Goals – I-64 Traffic Response Assessment

Assess benefit/cost of the current I-64 Traffic Response deployment (arterials)

Assess value of continuing future arterial highway service patrol efforts

Develop white paper that provides a sustainable approach to consideration of future arterial

The main highlight for this quarter was the collection of the I-64 Traffic Response surveys. These surveys are provided during each assist performed. This survey is providing information from motorists receiving these services, including information on location, response/wait time, services provided, the professionalism with which services were provided, and the user opinion on the value of the services. Additional questions on the I-64 project were also included to help gauge users' opinions on the I-64 project and to connect these services with the I-64 project. The survey form identifies the sponsors, and provides information on the regional traveler information systems (511 and Gateway Guide). 596 surveys have been completed and received during the first five months for the I-64 Traffic Response with 2312 from Motorist Assist. This source of survey input represents 60% of total information received on the I-64 study. In the next quarter, the study team plans to conduct interviews with staff involved with this operation and start the evaluation of responses made by the I-64 Traffic Response team.

I-64 Traffic Response Objectives and Methods

This assessment will utilize information collected from transportation users, I-64 Traffic Response staff, previous research/study efforts, and the mobility assessment component to establish the benefit/cost of the program. This information will then be used to forecast the future value of continuing regional arterial highway service patrol efforts. The assessment will explore the following potential expanded arterial highway service patrol alternatives:

- Expanded services only during major or roadway closure construction activities
- Continuous services along major regional arterial corridors
- Limited-response services along major arterial corridors by expanding the region's Motorist Assist Program and the utilization of the region's integrated management and operation system

A draft white paper will be delivered by January 2, 2009 with the final white paper delivered by February 1, 2009 that will outline a sustainable approach regarding when regional arterial highway patrol services should be considered. This deliverable will provide the region the time necessary to evaluate, determine potential funding sources and implement desired recommendations.

I-64 Traffic Response Results

MoDOT performs service patrol activities where operators travel busy highways and provide assistance at incident sites for stranded motorists and crashes. By quickly helping to resolve problems, this program increases the safety and mobility of all motorists in the area. MoDOT 's Motorist Assist program concentrates on the interstates, and I-64 Traffic Response sponsored by St. Louis County covers major arterial roads such as Manchester Road and Olive Boulevard. Starting on January 2, 2008 – the day of the closure – these programs' operators began distributing surveys to those they assisted to obtain feedback about operator performance, and as another method to learn how the closure is impacting motorists.

Responses indicate that motorists are very satisfied with operator performance, and their closure responses were similar to those obtained in the web and mail studies. The table below summarizes some of these satisfaction measures. While limited two questions, they reflect important questions on the I-64 closure on the project delivery method and regional mobility impacts. The distribution and receipt of surveys will continue throughout the study period, with quarterly updates being made.

Percent Respondents Expressing Satisfied or Very Satisfied
Motorist Assist and I-64 Traffic Response Surveys

	Decision to close for 2 years vs. 6-8			Ability to move around the St. Louis area		
	1st Quarter	2nd Quarter	3rd Quarter	1st Quarter	2nd Quarter	3rd Quarter
Motorist Assist survey respondents	89 %	94 %	93%	89 %	91%	88 %
I-64 Traffic Response survey respondents	89 %	95 %	93%	90 %	93%	93 %

Appendix A: Communications Data
- **Enhanced Web Survey**
- **Open-end Question Comments from Web Survey**
- **Public Official Interviews**

Appendix B: Mobility Data

Appendix C: Economic Data

Appendix D: Traffic Response Data