

Organizational Results Research Report

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# Assessing MoDOT's Efforts to Provide the Right Transportation Solution

Prepared by Heartland  
Market Research LLC and  
Missouri Department of  
Transportation

**FINAL REPORT**  
**RI07-030**

# **Assessing MoDOT's Efforts to Provide the Right Transportation Solution**

**TRACKER Measure 9j**  
**For Fiscal Year 2008**

Prepared for the  
Missouri Department of Transportation  
Organizational Results

by

Lance Gentry  
Heartland Market Research LLC

**February 2008**

The opinions, findings, and conclusions documented in this report are those of the principal investigator. They are not necessarily those of the Missouri Department of Transportation, the United States Department of Transportation, nor the Federal Highway Administration. This publication does not constitute a standard or regulation.

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## Executive Summary

The Missouri Department of Transportation (MoDOT) has developed the Tracker system to assess performance with tangible results to help MoDOT “provide a world-class transportation system that delights our customers.” The Tracker system includes the concept of “Fast projects that are of great value,” and an important aspect of this measure is whether Missourians view MoDOT projects as the right transportation solution. To assess customer satisfaction with MoDOT projects, a mail survey was conducted in fall 2007 by Heartland Market Research LLC. 2,361 Missourians returned a valid survey questionnaire so the margin of error for the analysis is approximately plus or minus 2.06 percent.

The basic research design for the project was to sample opinions on a variety of projects spread across the state as was done in the previous fiscal year. When available, a small, medium, and large project from each of the ten MoDOT districts was selected by a regional manager for the project for a total of 29 projects. Then Heartland drew a sample of residents from one or more ZIP code areas as appropriate for each project which was reviewed by the appropriate MoDOT district. The sample included 400 addresses per project area for a total of 11,600 Missouri addresses being mailed a copy of the survey. Despite this effort to keep the number of addresses even across the districts and projects, the response rate varied considerably by project area.

Each survey was focused on one of 29 individual projects, which was briefly described on the survey, and the majority of survey questions related to the recently completed project, such as determining if the completion of the project increased safety, convenience, and made it easier to drive. In addition, a question was asked about the overall value of the particular project, an overall assessment of MoDOT performance and the greatest transportation problem facing Missouri. Other basic factors, such as project size and miles driven per year were evaluated to check for potential differences in attitudes across Missourians.

The results show that most Missourians are very satisfied with both the local project and with MoDOT’s overall efforts. Based upon their responses, we know that these opinions are mostly based upon exposure to the local projects. 93.8% of the respondents were either “very” or “fairly” familiar with the project roadway. 73.2% of the respondents were regular users of the affected roadway (defined as using it at least once per week). The majority of respondents thought that the project made the roadway safer (94.6%), more convenient (90.8%), less congested (81.1%), easier to drive (92.9%), better marked (89.9%), and was the right transportation solution (93.9%). On a more general measure, 84.0% of the respondents stated that they were satisfied with MoDOT’s efforts to provide a quality transportation system in Missouri.

## Background

*MoDOT's mission is to "provide a world-class transportation system that delights our customers." The public's perception of MoDOT's performance is crucial to the long-term success of the agency, and an important aspect of the Tracker measure is whether Missouri citizens view MoDOT projects as the right transportation solution. The Tracker system assesses tangible results related to MoDOT's mission, and one of the tangible results is the concept of "Fast projects that are of great value." An element of this measure is an assessment of customer satisfaction with these projects.*

In the fall of 2006, MoDOT commissioned the Institute of Public Policy at the University of Missouri Columbia to design and implement a new survey to measure and capture this measure. This was done and a report was provided to MoDOT in January 2007. The introduction to this section is from that report. In the fall of 2007, MoDOT commissioned Heartland Market Research LLC to implement the same survey with a new set of projects. The intention was to model this year's survey and methodology on the previous experience, and also make incremental improvements where feasible.

Following last year's approach, 29 different projects, ranging from small to large projects and spread across the ten MoDOT districts in the state, were chosen, and questionnaires were mailed to 11,600 citizens living near those projects. In addition, the survey examined attitudes on safety, congestion, and ease of use for a particular project in this list of 29 projects (see Project Descriptions and Locations and Appendix C. Survey Instrument).

## Project Descriptions and Locations

The descriptions listed below were printed on the appropriate surveys for each project. These descriptions were initially provided by MoDOT, sometimes adjusted by the PI if it was thought that the respondents might have questions, and then the descriptions were reviewed, and sometimes adjusted, by the appropriate district contact. The surveys were sent to one or more zip codes as was thought appropriate for each project. Appendix B. Surveyed Zip Codes has a “pushpin” map of these locations.

| <b>District</b> | <b>Project</b> | <b>Description</b>   | <b>Zip Codes</b>  |
|-----------------|----------------|--|---|
| Northwest       | L1             | Route I-35 in Daviess County: This project rehabilitated 9.5 miles of poor pavement, between Route C and Route DD, by placing an 8" concrete surface on the roadway. Additional work included the rehabilitation of 4 bridges.   | Pattonburg (64670)  |
| Northwest       | M1             | Route 136 in Harrison County. This project reconstructed 0.7 miles of Route 136 in Bethany, between I-35 and Route 69, and improved the existing two-lane facility to a three-lane facility with the center lane served as a two-way, left-turn lane.  | Bethany (64424)   |
| Northwest       | S1             | Route H in Buchanan County: This project resurfaced and added three feet of base widening between Route A and Route 371. The road runs in front of one of the Buchanan County Schools (Mid-Buchanan). The school requested the roadway widening and shoulder improvements to improve the safety of school busses and students who drive to school. | Faucett (64448) and Agency (64401)  |
| North Central   | L2             | Route 63 expansion project in Randolph County: This project added 10 miles of new lanes to create a four-lane highway from Moberly to Jacksonville.  | Jacksonville (65260), Cairo (65239), and Moberly (65270)                    |
| North Central   | M2             | Route 6 in Grundy County: This project resurfaced 10 miles from the Daviess County line to east of the Rt. 65 intersection in Trenton; including bridge rehabilitations, new shoulders and guardrail.  | Maysville (64469), Altamont (64620), Jamesport (64648), and Trenton (64683) |
| North Central   | S2             | Business Route 65 (Odell Street) in Saline County: This resurfacing project in Marshall included aligning the intersection, providing curb, gutters and storm sewers.  | Marshall (65340)  |

| <b>District</b>  | <b>Project</b> | <b>Description</b>  | <b>Zip Codes</b>  |
|------------------|----------------|---|---|
| Northeast        | L3             | Route 61 in Lewis County: This project will expand the highway to four lanes, and will be completed in June 2008.   | Canton (63435) and La Grange (63448)  |
| Northeast        | M3             | Route 19 & I-70 outer road in Montgomery County: This project added signals and turn lanes to the intersection in New Florence.   | New Florence (63363)  |
| Northeast        | S3             | Route 15 in Audrain County: Bridge replacement project just north of Mexico. The project was accelerated by one year through community collaboration that supported closure of the road to expedite construction. | Mexico (65265)  |
| Kansas City Area | L4             | Route I-435 in Jackson County: This project rehabilitated the bridge over the Missouri River. It was completed in November 2006.  | Independence (64052), Liberty (64068), Kansas City (Claycomo: 64119, 64120),          |
| Kansas City Area | M4             | Route I-470 in Jackson County: This project resurfaced the route from west of Raytown Road to north of Bolin Road. It was completed in August 2006.   | Kansas City (64134, 64138) and Lee's Summit (64081)                                   |
| Kansas City Area | S4             | Route I-70 S. Outer Road in Lafayette County: This project replaced the bridge over Horseshoe Creek, just east of the Jackson County line. It was completed in October 2006.                                      | Odessa (64076), Oak Grove (64075), and Bates City (64011)                             |
| Central          | M5             | Route 54 in Cole County: This project resurfaced the eastbound lanes and added turn lanes from Route E to east of the Moreau River.   | Eugene (65032), Jefferson City (65109), and Eldon (65026)                             |
| Central          | S5             | Route 65 in Benton County: This safety project improved the alignment by correcting a curve north of Warsaw.  | Warsaw (65335)  |
| St. Louis Area   | L6             | Route I-44 in Franklin County.  | Sullivan (63080), St. Clair (63077), and Pacific (63069)                              |
| St. Louis Area   | M6             | Route 367, phase 1, in St. Louis County.  | St. Louis (Jennings area: 63136, Bellefontaine area: 63137, Spanish Lake area: 63138) |



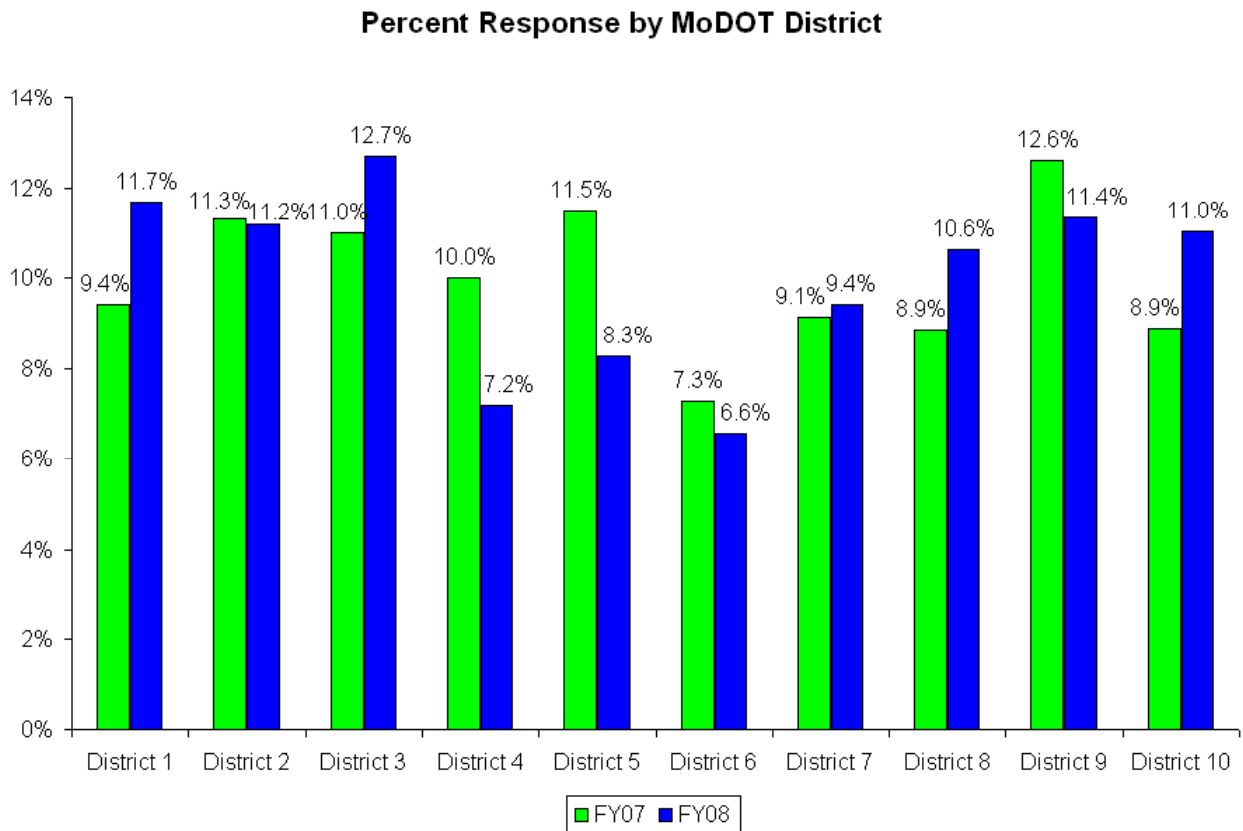
| <b>District</b>  | <b>Project</b> | <b>Description</b>  | <b>Zip Codes</b>   |
|------------------|----------------|---|--|
| St. Louis Area   | S6             | Route DD in St. Charles County: Bridge replacement.   | Weldon Springs (63304), New Melle (63365), and Dardenne Prairie (63368)      |
| Southwest        | L7             | Route I-44 in Newton, Jasper, Lawrence and Greene Counties: This project enhanced safety by installing median guard cable from the Oklahoma state line to Route 360 (James River Freeway).  | Joplin (64801), Sarcoxie (64862), Mount Vernon (65712), and Republic (65738) |
| Southwest        | M7             | Route 249 in Jasper County: This project added lanes to create a dual divided freeway from Route 66 (7th Street) to 20th Street in Joplin.  | Duenweg (64841) and Joplin (64801, 64804)                                    |
| Southwest        | S7             | Route 54 in Vernon County: This project involved resurfacing, diamond grinding and shoulder widening from the Kansas state line to Route 71.  | Deerfield (64841) and Nevada (64772)   |
| Springfield Area | L8             | Route 65 in Taney County: This project constructed a new single-point urban interchange at Hollister and upgraded Route 65 to a four-lane freeway through the city limits of Hollister from north of Business Route 65 to south of Route 165. The project was completed in November 2006. | Hollister (65672)  |
| Springfield Area | M8             | Route I-44 in Laclede County. This project included coldmilling, asphalt overlay, bridge rehabilitation over the Gasconade River and an unbonded concrete overlay of the eastbound lanes of I-44 between Lebanon and Hazelgreen. The project was completed in November 2006.              | Stoutland (65536) and Lebanon (65567)  |
| Springfield Area | S8             | Route 160 in Greene County. This project replaced a bridge over the Sac River near Ash Grove. The project was completed in September 2006.  | Ash Grove (65604)  |
| South Central    | L9             | Route 60 in Carter County: Four-lane construction from 3.1 miles east of Route J to 1.0 mile west of Route M.   | Freemont (63941) and Van Buren (63965)                                       |

| <b>District</b> | <b>Project</b> | <b>Description</b>   | <b>Zip Codes</b>                                  |
|-----------------|----------------|--|---|
| South Central   | M9             | Route 63 in Howell County: Grading, drainage, box culvert, paving and signals to upgrade to 4 lanes from 0.4 mile north of Rte. CC to 0.2 mile south of Rte. K in West Plains.   | Pomona (65789) and West Plains (65775)            |
| South Central   | S9             | Route E in Phelps County: Enhancements and roadway widening from I-44 to Rte. 63.  | Rolla (65401)                                     |
| Southeast       | L10            | Route 412 in Dunklin County: This project was the last phase of an overall upgrade from two to four lanes. This project was for paving the westernmost five miles. The corridor improvements started back in 2001. The overall length of the corridor improvement was approximately 20 miles with this paving job covering the western quarter. This job was completed in June of 2007.  | Kennett (63857) and Senath (63876)                |
| Southeast       | M10            | Route 61 in Cape Girardeau County: This work was part of the smooth roads initiative and included resurfacing of the road from Jackson to Cape Girardeau. The work was completed around October of 2006.   | Jackson (63755) and Cape Girardeau (63701, 63703) |
| Southeast       | S10            | Route 72 in Bollinger County: This project improved Route 72 at its intersection with Route 51 in Patton. There were sight distance problems with the intersection as it was originally built and this job sought to cure these problems. Route 72 was lowered just west of 51 and cut some earth away from hills south of the intersection. This allowed for much better sight lines. The project improved about a quarter mile of Route 72. The work was completed around October of 2006. | Patton (63662)                                    |

# Respondents

After accounting for the letters that could not be delivered for various reasons (including residents having moved, died, and/or refused delivery), the sample pool was 10,826 from which 2,361 Missourians responded. The net response rate for this survey was 21.8% percent (gross response rate of 20.4%). In Fiscal Year 2007, with 30 projects, a perfectly even response rate would have resulted in 10% of the responses coming from each district before accounting for undeliverables. The actual distribution was close to this with a low of 7.3% from District 6 and a high of 12.6% from District 9. In Fiscal Year 2008, there were 29 projects (District 5 did not have a large project this year). Thus, a perfectly even response rate would have resulted in 10.3% of the responses coming from each of the nine districts with three projects and 6.9% of the responses coming from District 5. The actual distribution approximated this with the lowest contribution (6.6%) again coming from District 6 and the highest contribution coming from District 3 (12.7%).

**Figure 1**

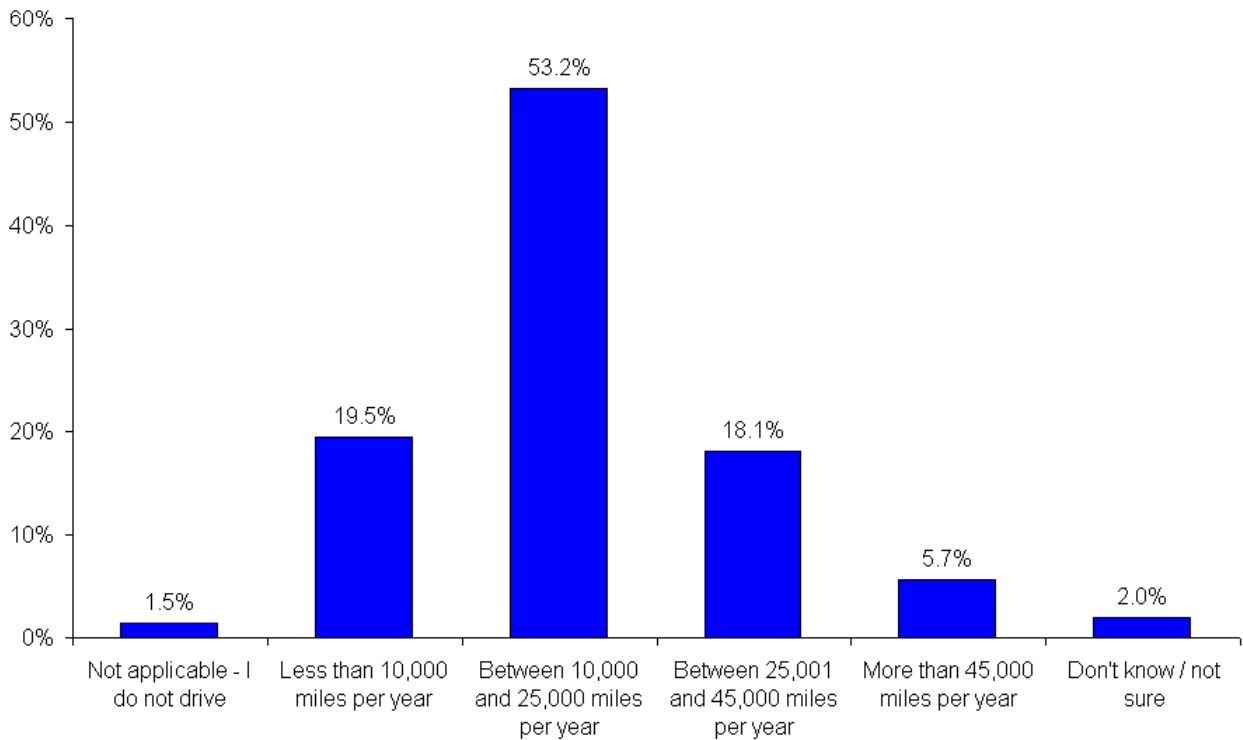


Background information on the respondents and several behavioral questions were asked to allow comparisons across groups, such as by miles driven per year, how familiar the respondent is with the roadway, and how often the respondent used the affected section of roadway in the last month.

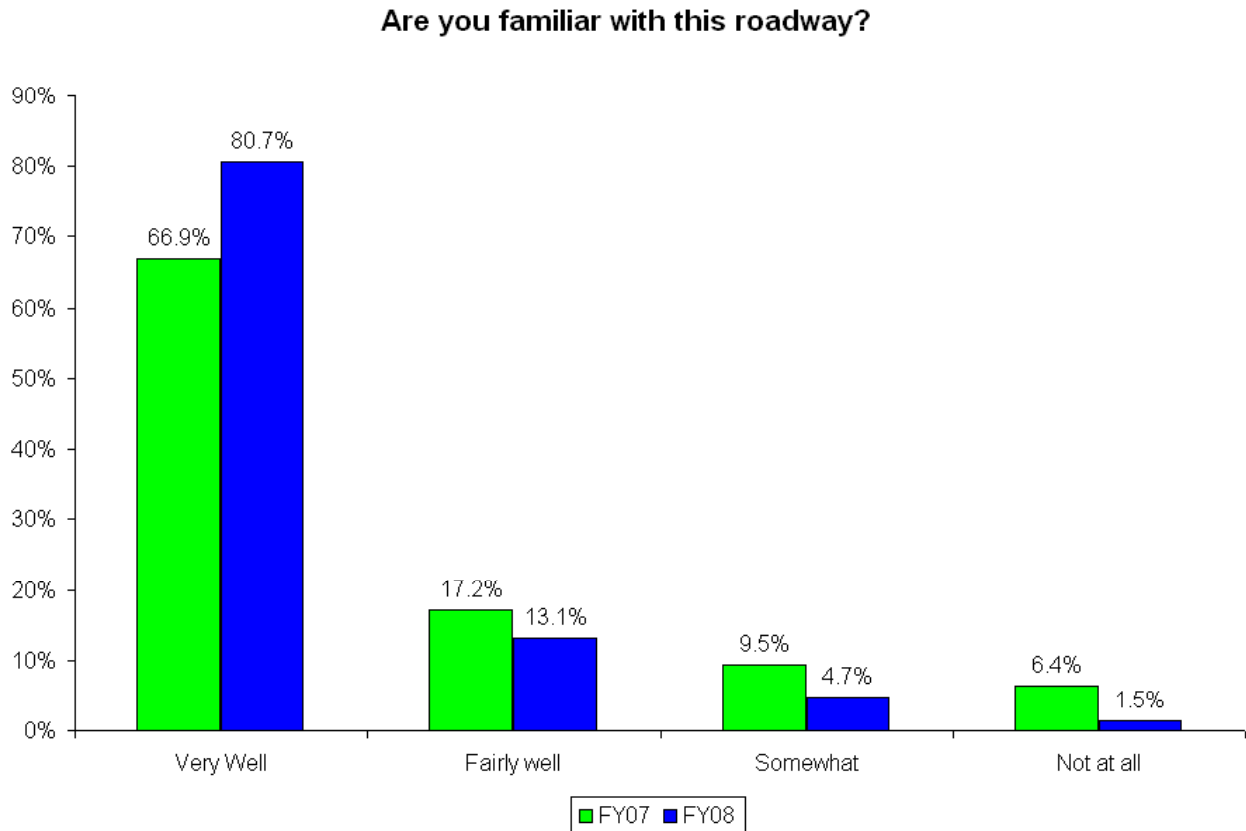
The mean respondent age was 57 years old (56 years old in FY06) with a median of 58. This year the range was from 18 to 99 years of age. 52.5% of the respondents were female, compared to 43.7% in the previous study. Residents may also be classified by project size. 39.5% (31.4% in FY07) reported on small projects, 30.3% (33.9% in FY07) reported on medium projects, and 30.2% (34.7% in FY07) reported on large projects. Based on both last year's survey and other experience, the mileage question was asked in more respondent-friendly format (i.e., the respondents were asked to select from a range of options instead of estimating a specific number).

**Figure 2**

**Approximately how many miles do you drive per year?**



**Figure 3**

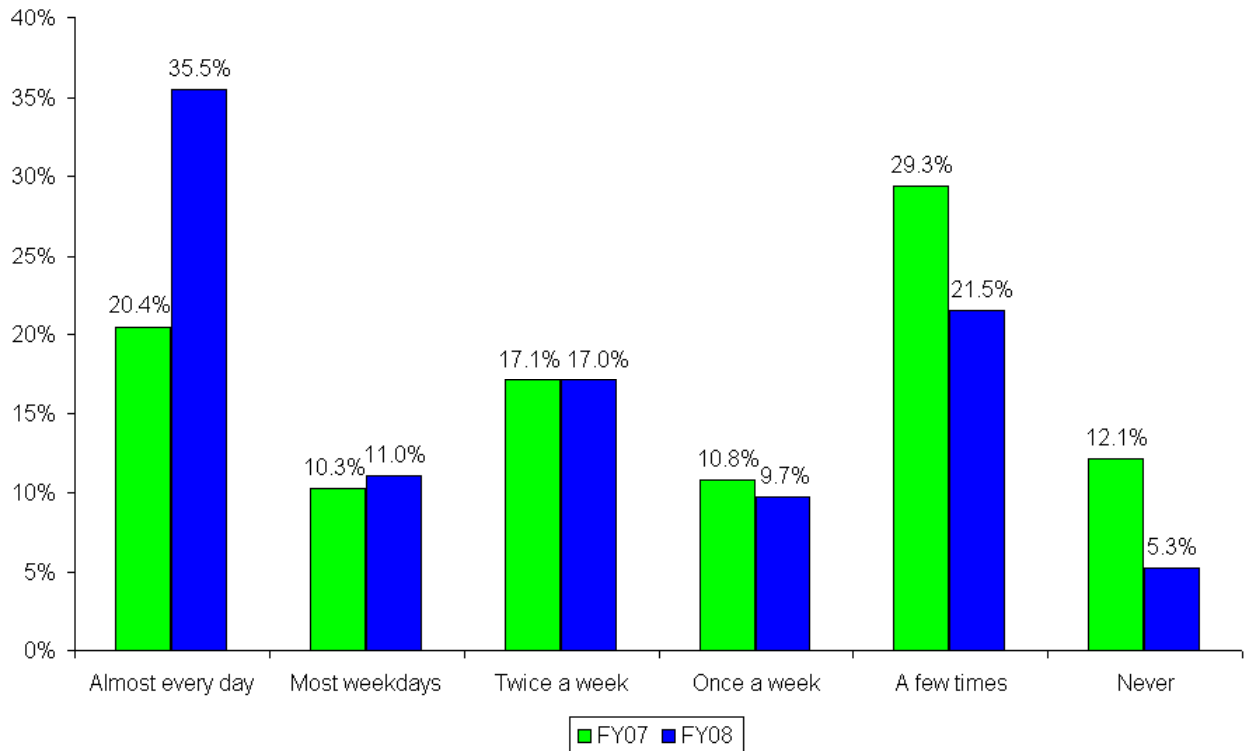


The vast majority of the respondents were familiar with the local project used in the study (see Figure 3). Over eighty percent said they were very familiar with the affected roadway while most of the others said they were somewhat or fairly familiar with the roadway. Only 1.5% stated that they were not familiar with the affected roadway.

Respondents were also asked to indicate how often they had used the specified section of the road in the past month (see Figure 4). Almost half of the respondents were very frequent users of the affected road (defined as those who used the affected section of the road almost every day or most weekdays) compared to 30.7% in FY 2006. 73.2% of the respondents were regular users of the affected roadway (defined as using the roadway at least once a week), compared to 58.6% of the responses in FY 2006. Only 5.5% of the respondents indicated that they had not used the affected section of the roadway in the last month.

**Figure 4**

**How often have you used this section of road in the past month?**



The respondents from this year’s study are both more familiar with the roadway and heavier users of the affected section of the roadway than those from the previous year. This improvement is attributed to the difference in methodology used for creating the mailing list (see Appendix A. Methods and Technical Documentation for details).

## Project Assessment

The survey was designed to obtain detailed information about various aspects of a project so that MoDOT could evaluate whether or not Missourians were pleased with all aspects of a project such as safety, convenience, congestion reduction, drivability, and markings. Obviously MoDOT desires to score highly on all of these aspects, but variance among these dimensions can provide constructive input on areas of potential improvement. In addition, one question is asked to measure Missourians' assessment of the overall appropriateness of the local project.

Providing the concrete example of a particular project for citizen assessment offers a number of benefits. First, we know which project the citizen is considering as they make an assessment. If a particular project was not named, different citizens could be considering different local projects. Second, the specific example makes it less likely that a single frustration in the distant past with another project will influence the citizen's assessment of current performance. Third, it makes it less likely that the survey respondent will confuse a MoDOT project with a city or county project in the area.

One of the most important factors, if not the single most important factor, in making the survey meaningful, is in ensuring that the respondents may provide knowledgeable input. Since most Missourians are likely to be familiar with only a small portion of the roads maintained by MoDOT, it is vital to ask respondents about a local project that is probably familiar to the respondent. As discussed in the previous section, the vast majority of the respondents were both familiar with the roadway and regular users of the affected roadway. Using a specific project example provides additional research benefits. We know which project was being evaluated by each respondent, thus MoDOT can better understand and apply the feedback obtained by the survey. In addition, the use of a specific project both reduces the chance of the respondents confusing MoDOT's efforts with that of a city or county project while also differentiating the respondents' general attitude toward MoDOT from their evaluation of a particular project. In other words, based upon the survey design and the respondents' familiarity and frequency of use of the affected roadways, we can have confidence in the information provided in this research by the citizens of Missouri.

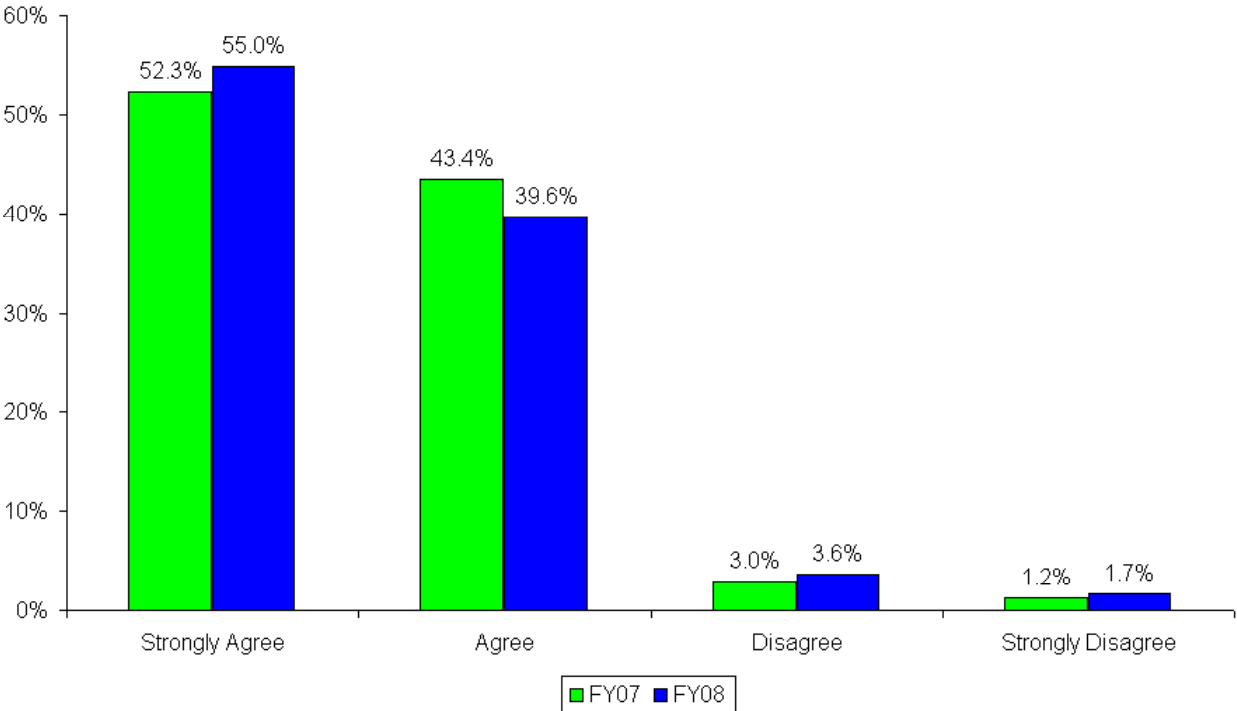
In order to facilitate better comparisons of changes from year to year, the statistics used in the project assessment usually do not include the "not sure" percentages. This eliminates a major source of random variability and allows a more accurate observation of change over time. In addition, this methodology is consistent with how MoDOT calculates similar Tracker measures. The Fiscal Year 2007 data discussed in this report has been recalculated with this methodology to enable readers to see changes from year to another.

**Safer**

One of MoDOT’s primary goals is to make Missouri’s roads safer. The overwhelming majority of Missourians agree that the local project achieved this goal. Results were similar to the previous year with approximately 95% of respondents agreeing that the project made the road safer. Results were also fairly consistent by various aspects, although those not familiar with the affected roadway (see Figure 7) were much less positive than the other respondents.

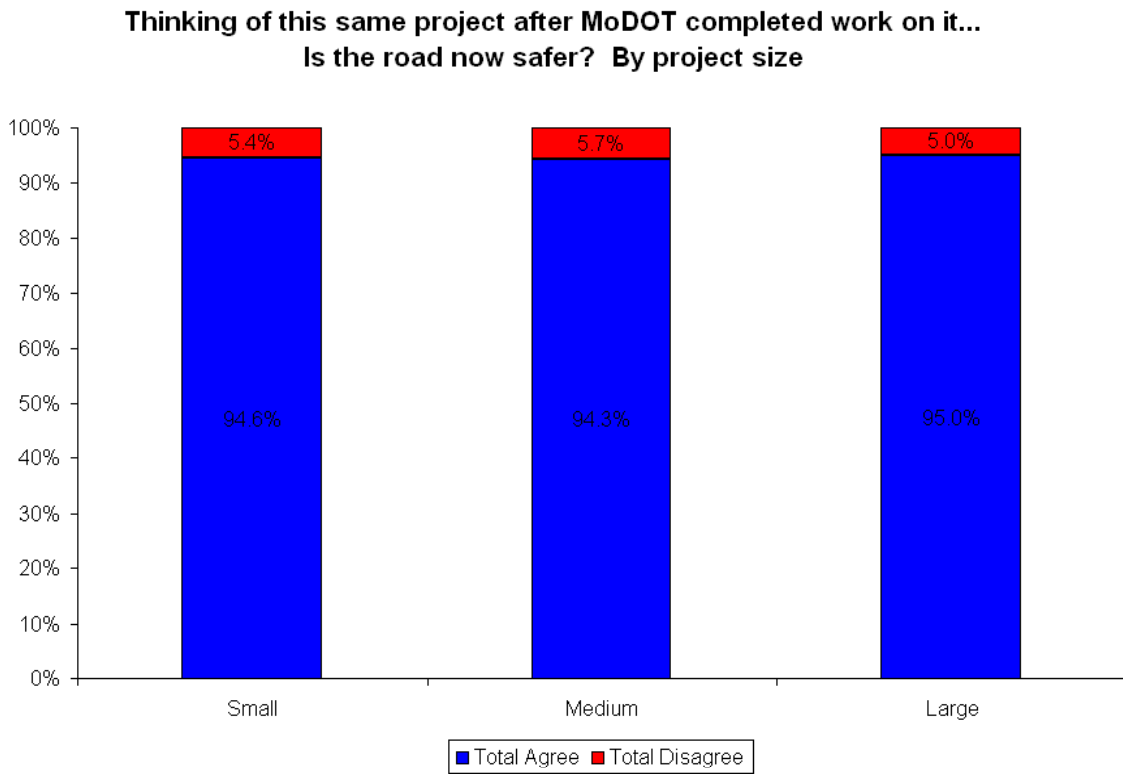
**Figure 5**

**Thinking of this same project after MoDOT completed work on it...  
Is the road now safer?**

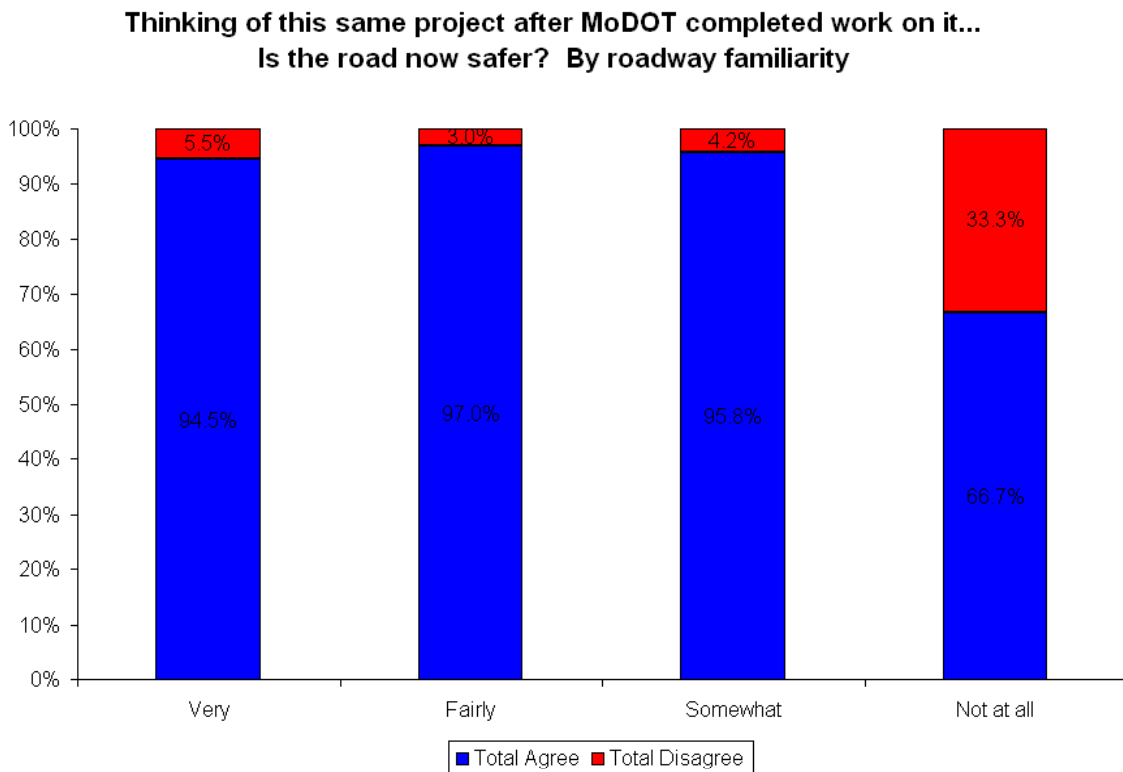




**Figure 6**

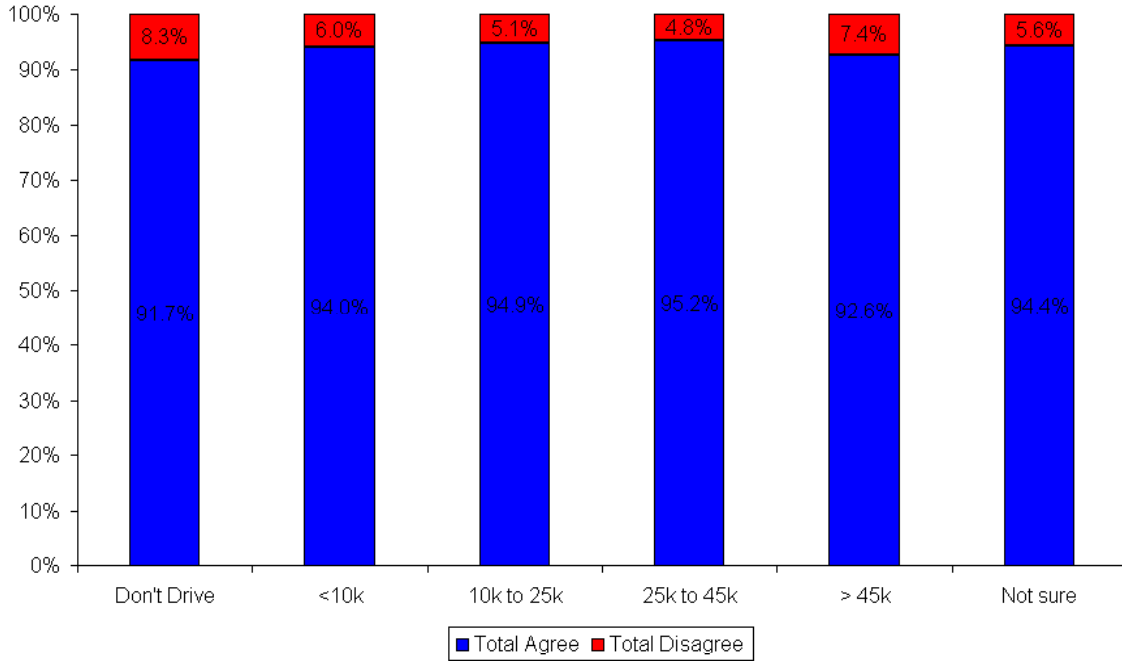


**Figure 7**



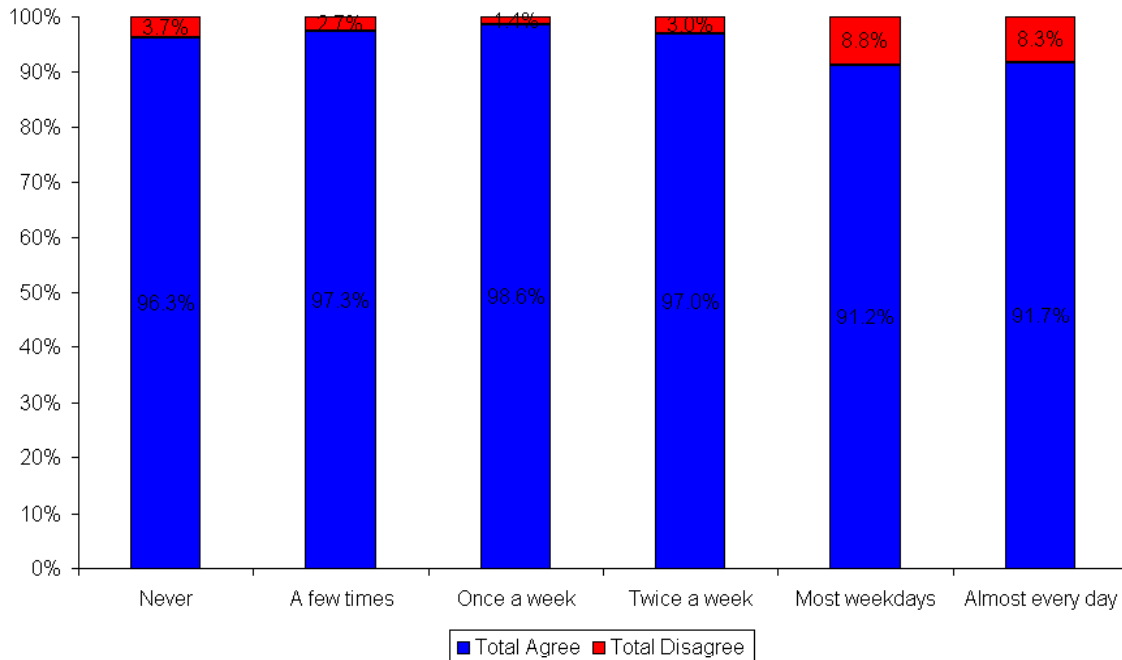
**Figure 8**

**Thinking of this same project after MoDOT completed work on it...  
Is the road now safer? By miles driven per year**



**Figure 9**

**Thinking of this same project after MoDOT completed work on it...  
Is the road now safer? By usage of affected section**



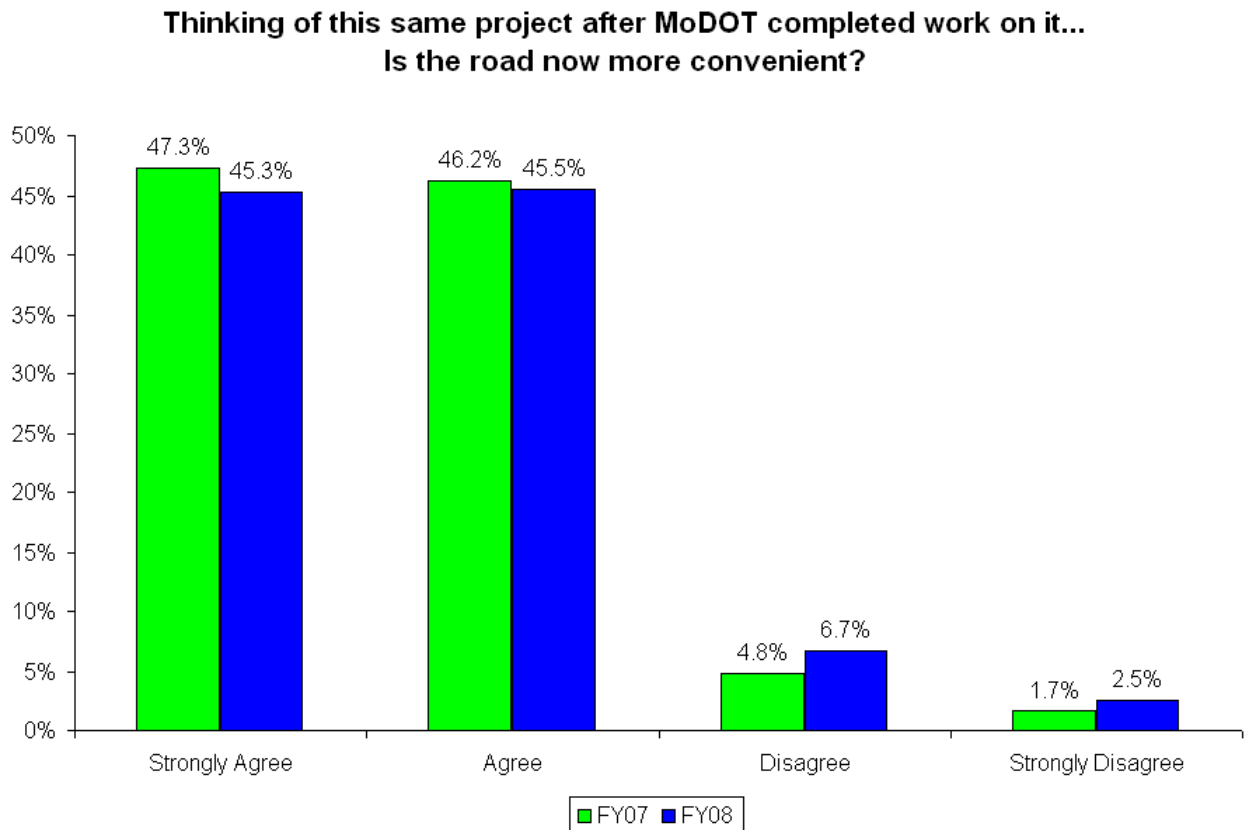
## Improving Traffic Flow in the Area

Another goal of MoDOT is to improve traffic flow. Two questions were asked to help capture this information. Respondents were asked if the project resulted in the road being “more convenient” and “less congested”.

### More Convenient

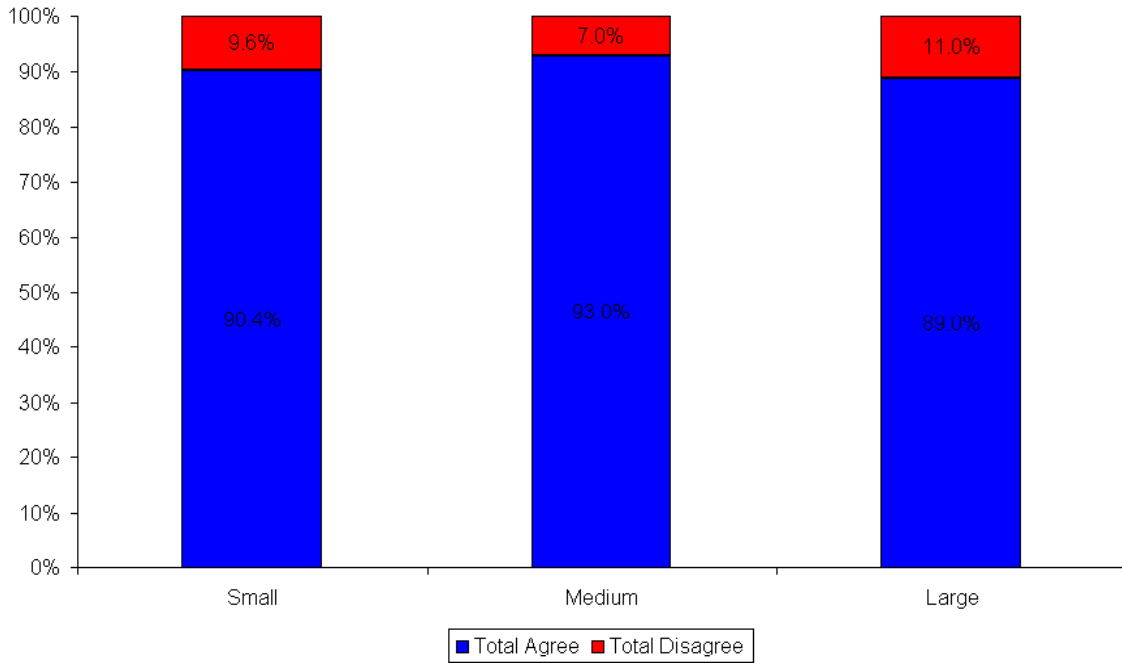
90.8% of Missourians agreed that the project resulted in a more convenient roadway. This is comparable to the 93.5% in FY07. As with the previous set of comparisons, although those not familiar with the affected roadway (see Figure 12) were less positive than the other respondents.

**Figure 10**



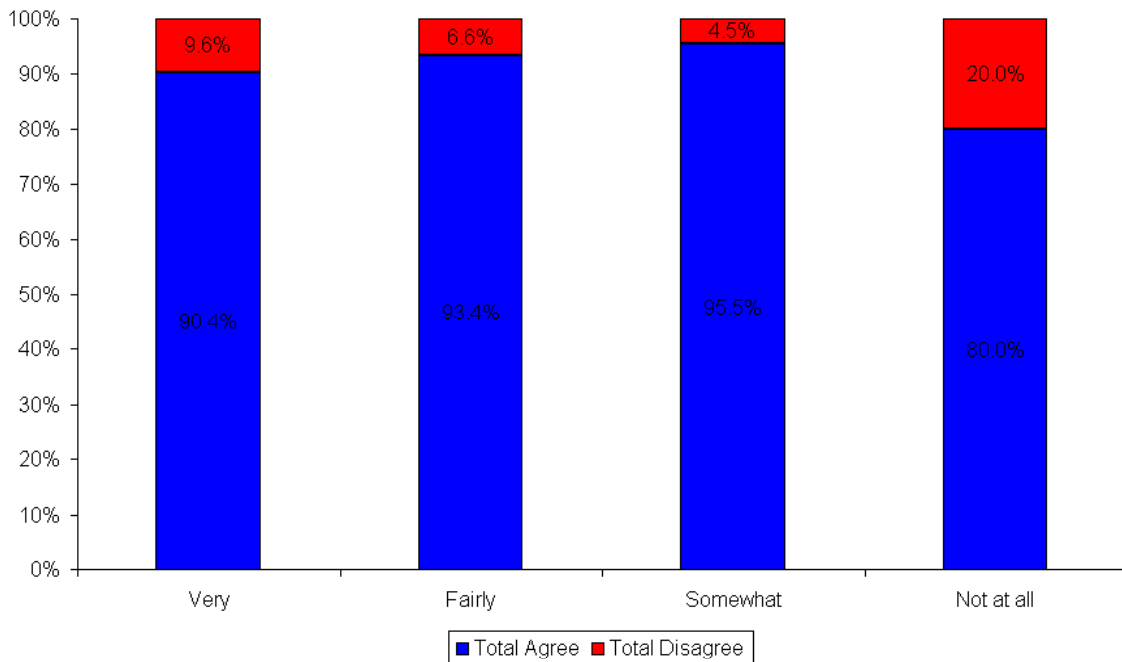
**Figure 11**

**Thinking of this same project after MoDOT completed work on it...  
Is the road now more convenient? By project size**



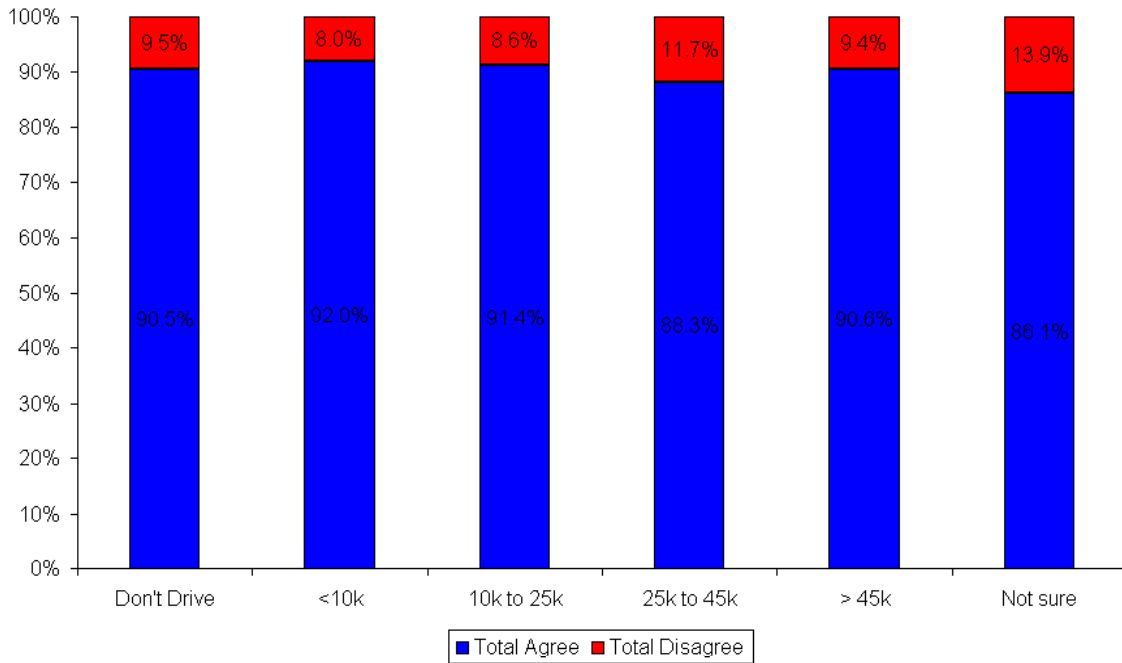
**Figure 12**

**Thinking of this same project after MoDOT completed work on it...  
Is the road now more convenient? By roadway familiarity**



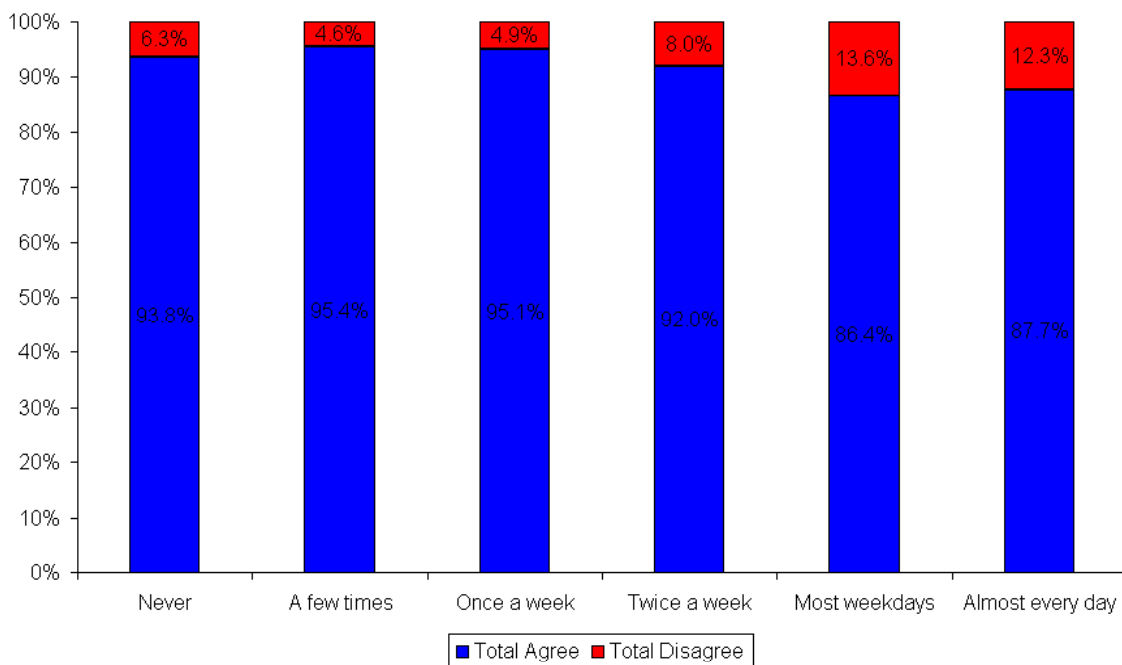
**Figure 13**

**Thinking of this same project after MoDOT completed work on it...  
Is the road now more convenient? By miles driven per year**



**Figure 14**

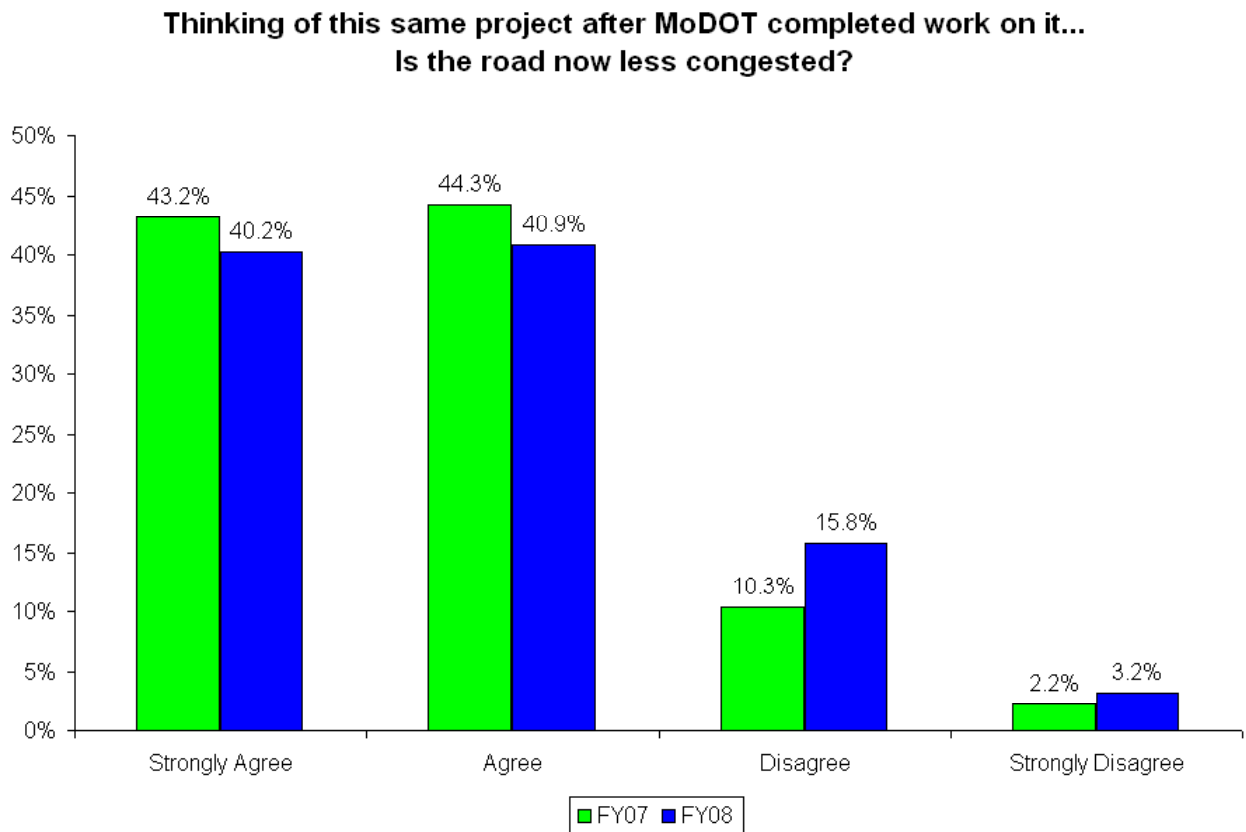
**Thinking of this same project after MoDOT completed work on it...  
Is the road now more convenient? By usage of affected section**



## Less Congested

Congestion is one aspect where MoDOT has much less control over the end result compared with other aspects such as safety. In many cases projects are undertaken in areas experience population growth – with populations that continue to grow while the project is under construction, so congestion may not be perceived to be improved even if the roadway is now handling more traffic than it did previously. In addition, many of the projects focused on safety improvements, such as correcting a curve, that may not affect congestion. Nevertheless, 81.1% of Missourians agreed that the project resulted in a less congested roadway (87.5% in FY07).

**Figure 15**

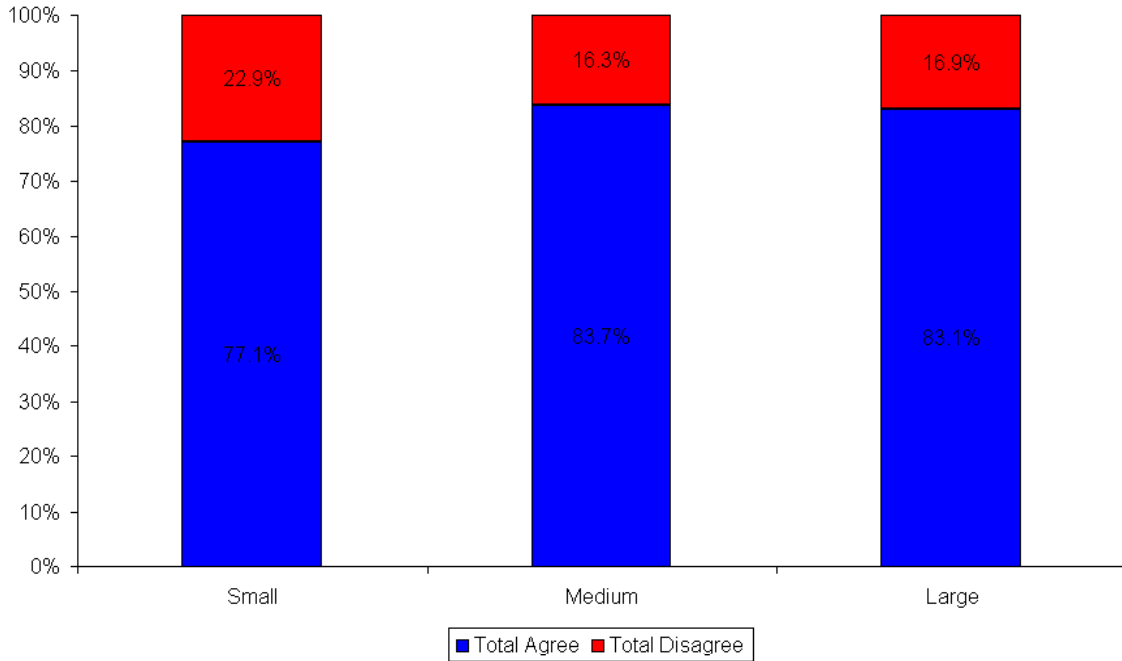


Interestingly enough, respondents who did not drive were the least likely to agree that the project had resulted in less congestion (see

Figure 18).

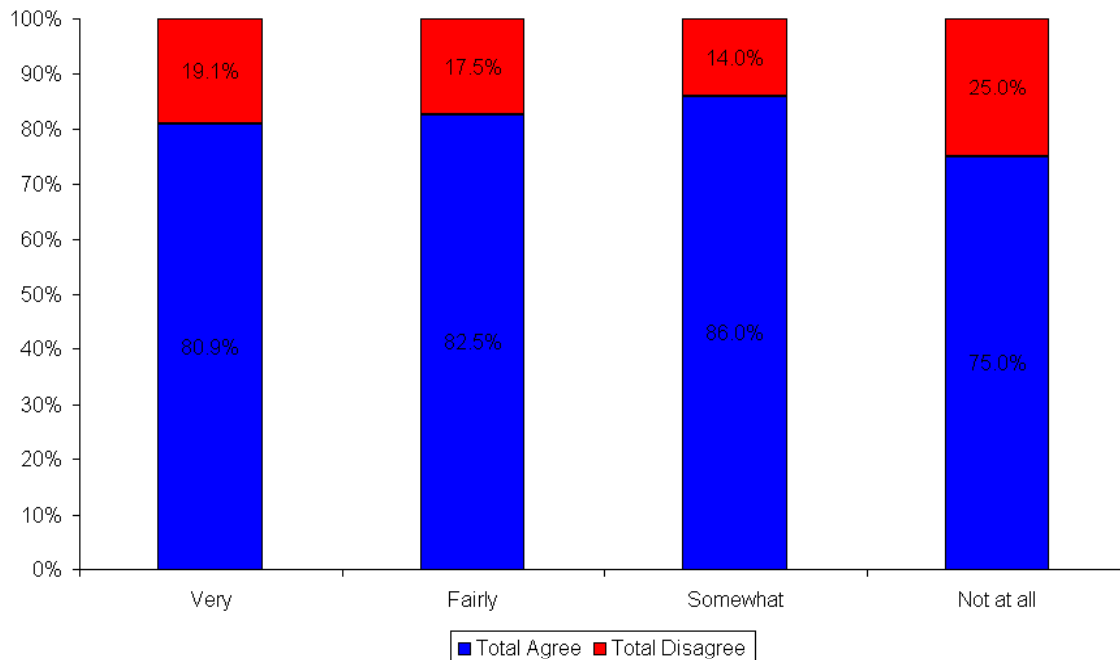
**Figure 16**

**Thinking of this same project after MoDOT completed work on it...  
Is the road now less congested? By project size**



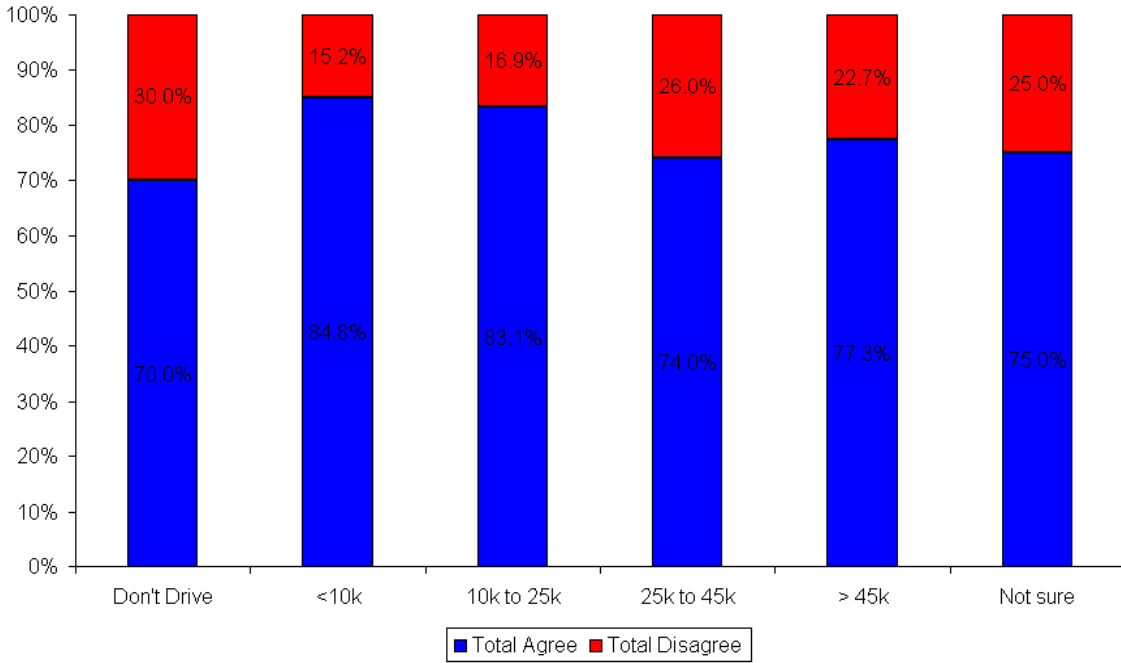
**Figure 17**

**Thinking of this same project after MoDOT completed work on it...  
Is the road now less congested? By roadway familiarity**



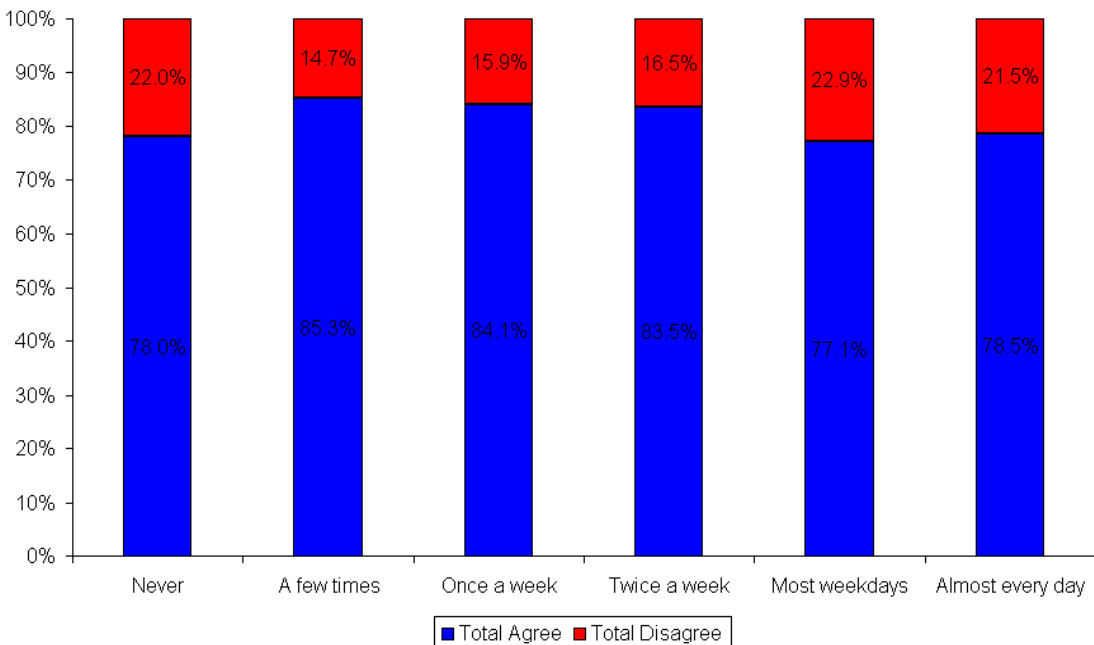
**Figure 18**

**Thinking of this same project after MoDOT completed work on it...  
Is the road now less congested? By miles driven per year**



**Figure 19**

**Thinking of this same project after MoDOT completed work on it...  
Is the road now less congested? By miles driven per year**



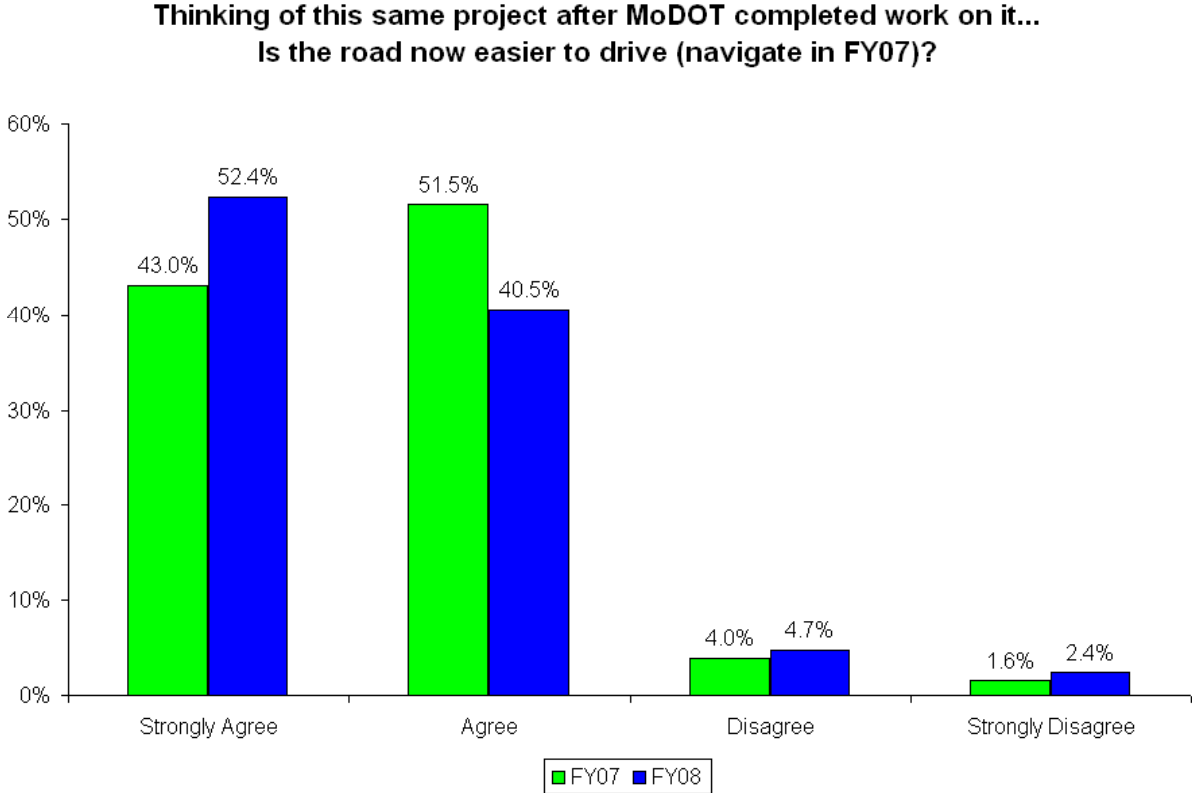


# Driving Environment

Another goal of the MoDOT improvement projects was to improve the driving environment of the roadways by making them easier to navigate and easier to understand. Two questions were asked to help capture this information. Respondents were asked if the project resulted in the road being “easier to drive” and “better marked”. At the request of MoDOT, the phrasing of these questions was slightly adjusted from the previous year to help respondents better understand the survey. While this had the potential for making it more difficult to make comparisons from last year to this year, fine-tuning the Tracker measure was given a higher priority to ensure that this and future surveys capture the most accurate information possible. In practice, even with the improved wording, the results were quite comparable to that of fiscal year 2007.

## Easier to Drive

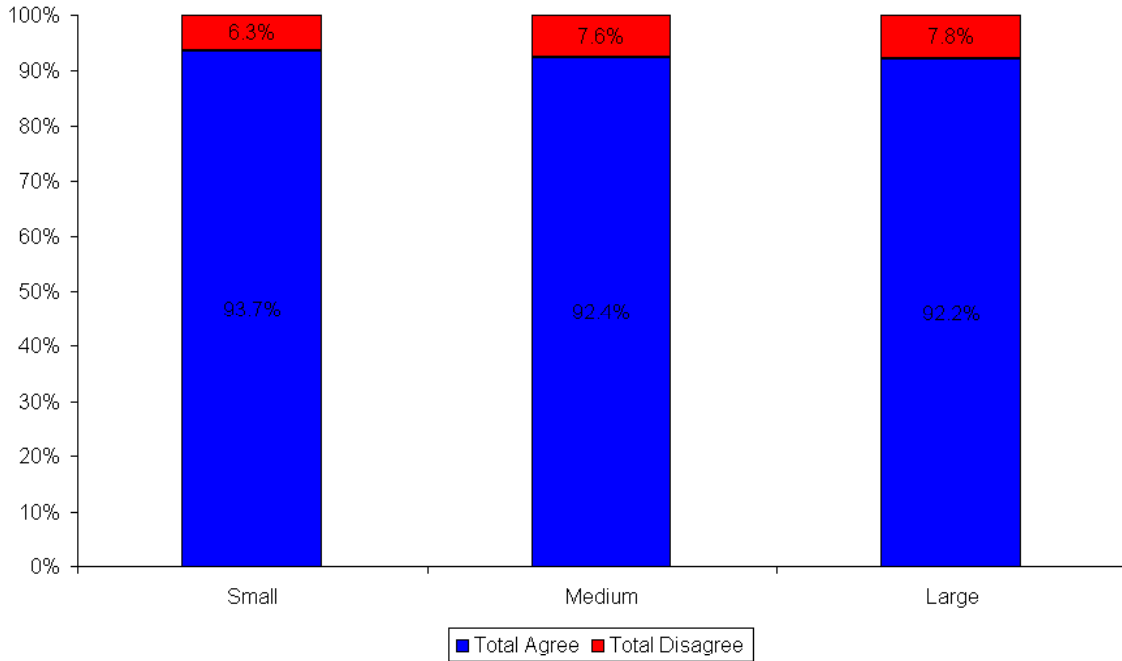
Figure 20



92.9% of Missourians agreed that the project resulted in a roadway that was easier to drive. This is comparable to the 94.5% in FY07 who stated that their local project resulted in a roadway that was easier to navigate. Results were also fairly consistent by various aspects, although those not familiar with the affected roadway (see Figure 22) and those who do not drive (see Figure 23) were much less positive than the other respondents.

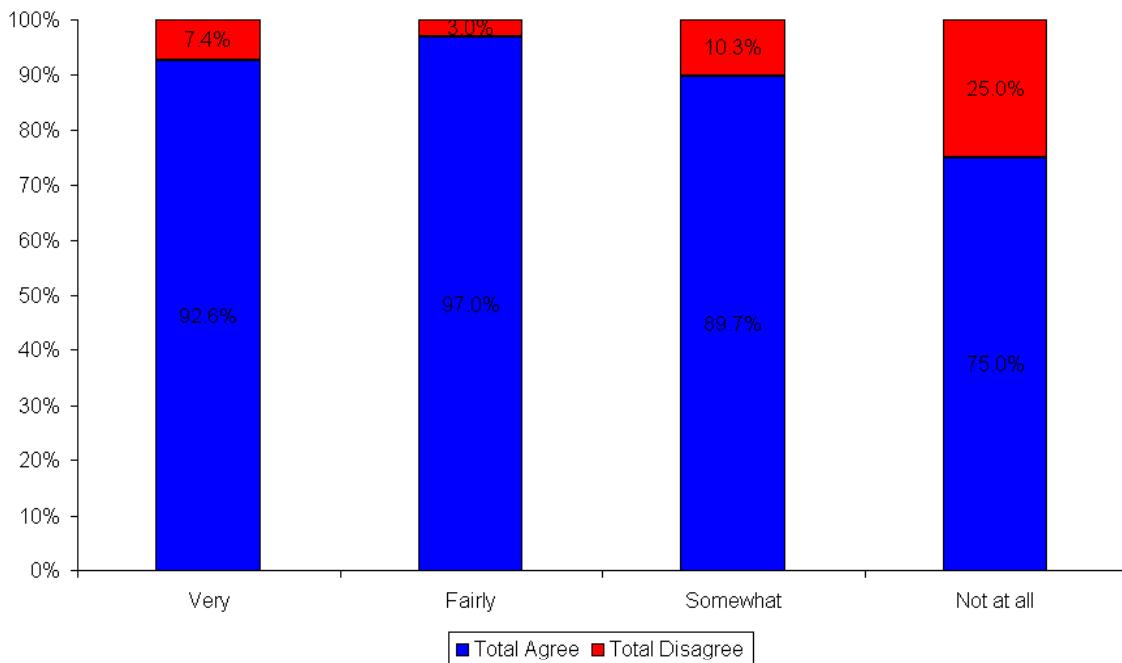
**Figure 21**

Thinking of this same project after MoDOT completed work on it...  
Is the road now easier to drive? By project size



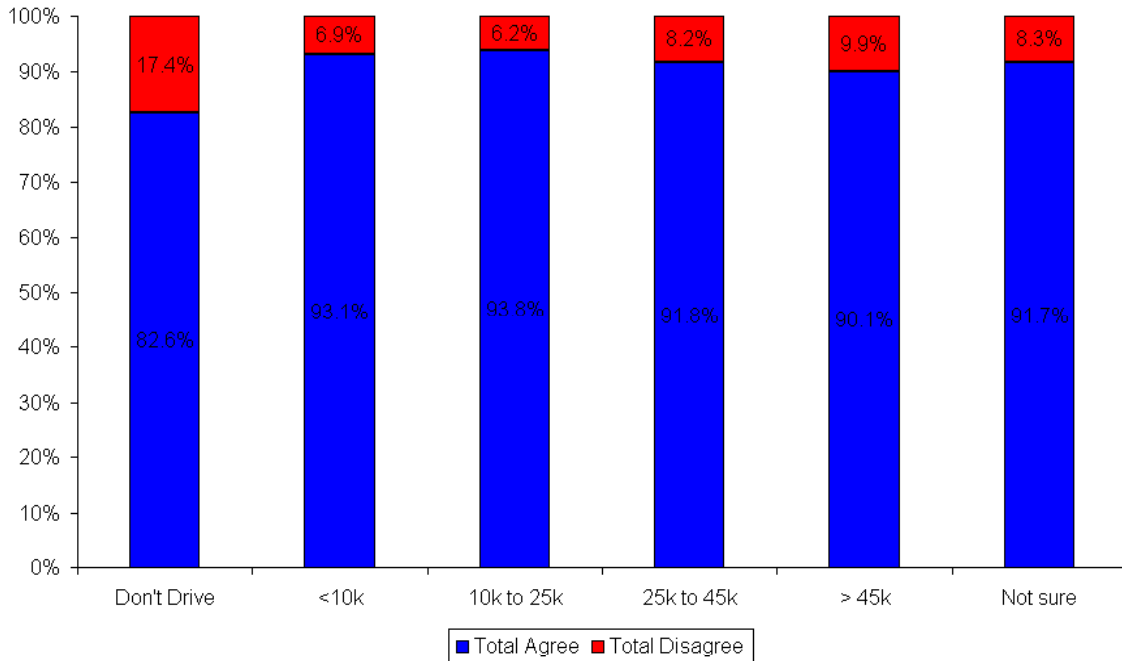
**Figure 22**

Thinking of this same project after MoDOT completed work on it...  
Is the road now easier to drive? By roadway familiarity



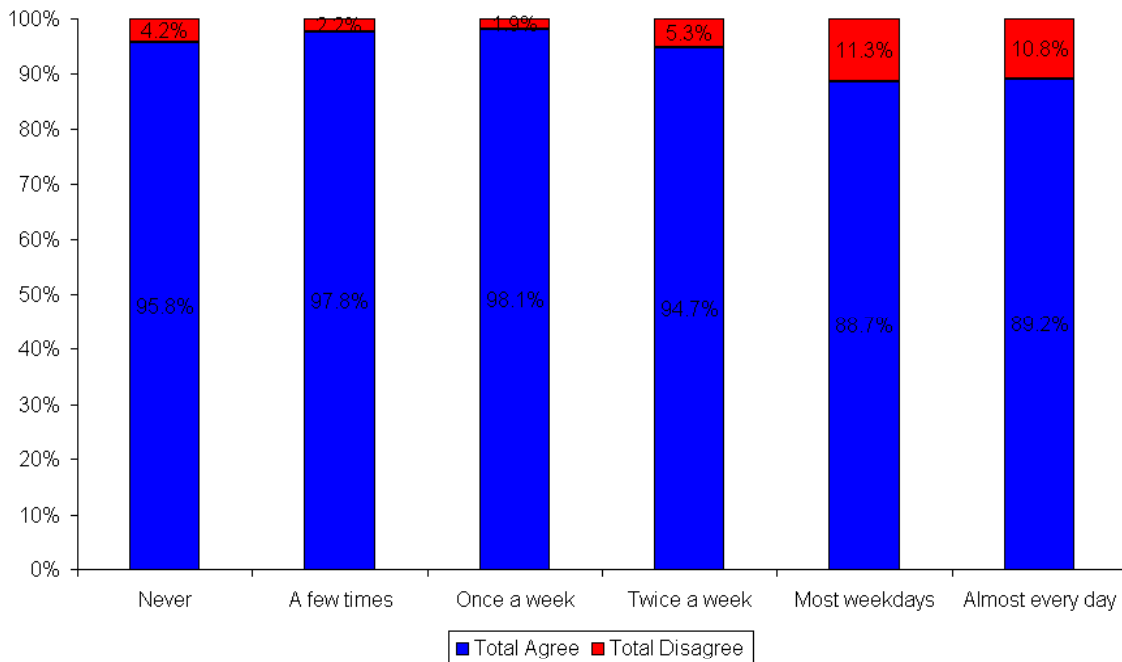
**Figure 23**

Thinking of this same project after MoDOT completed work on it...  
Is the road now easier to drive? By miles driven per year



**Figure 24**

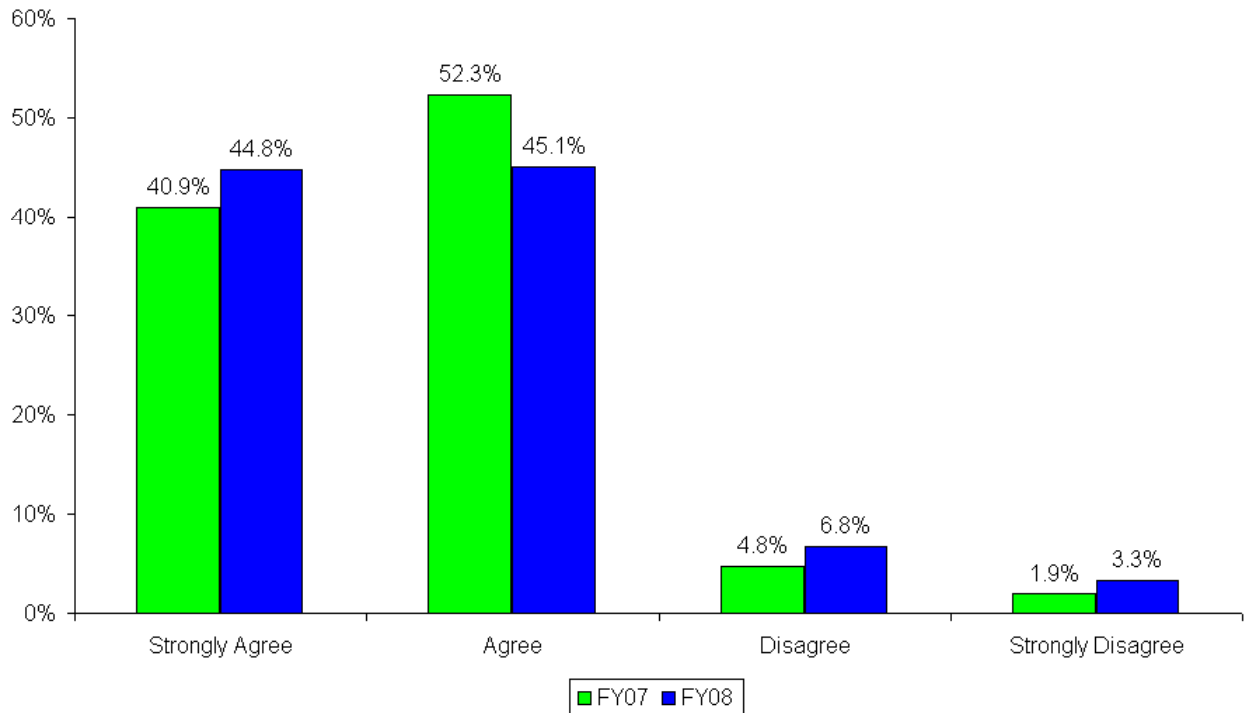
Thinking of this same project after MoDOT completed work on it...  
Is the road now easier to drive? By usage of affected section



## Better Marked

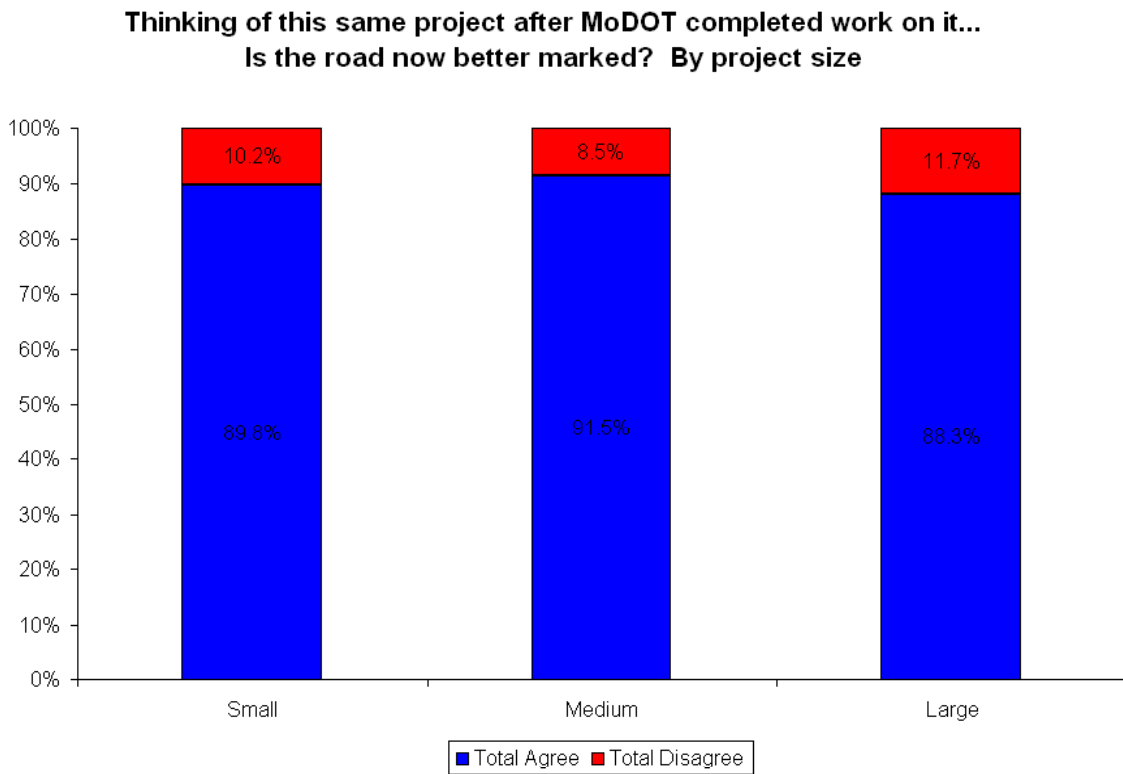
Figure 25

Thinking of this same project after MoDOT completed work on it...  
Is the road now better marked (well marked in FY07)?

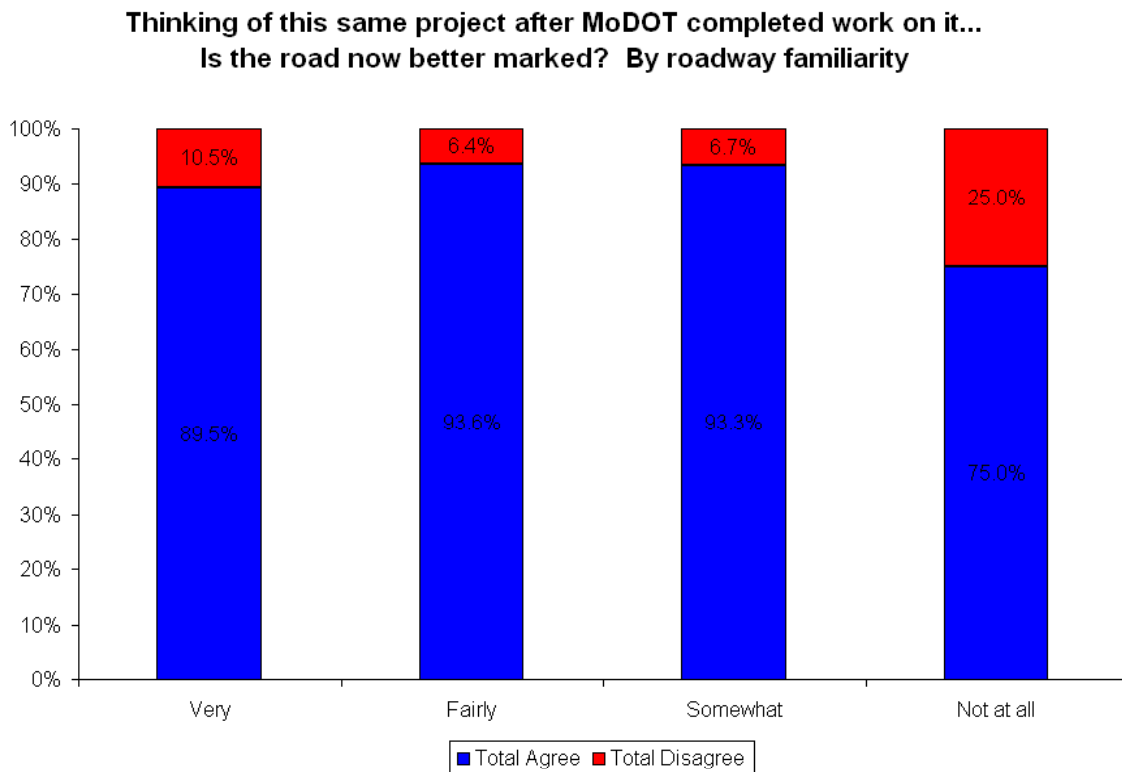


89.9% of Missourians agreed that the project resulted in a roadway that was better marked. This is similar to the 93.2% in FY07 who stated that their local roadway was well marked. Results were also fairly consistent by various aspects, although those not familiar with the affected roadway (see Figure 27) were again less positive than the other respondents.

**Figure 26**

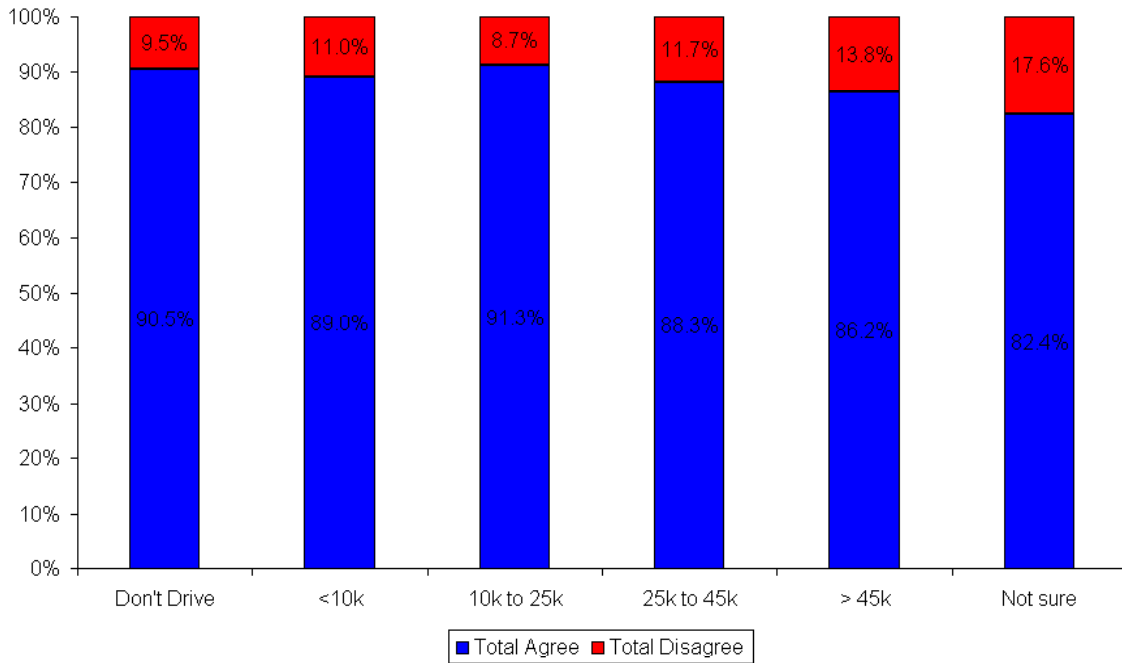


**Figure 27**



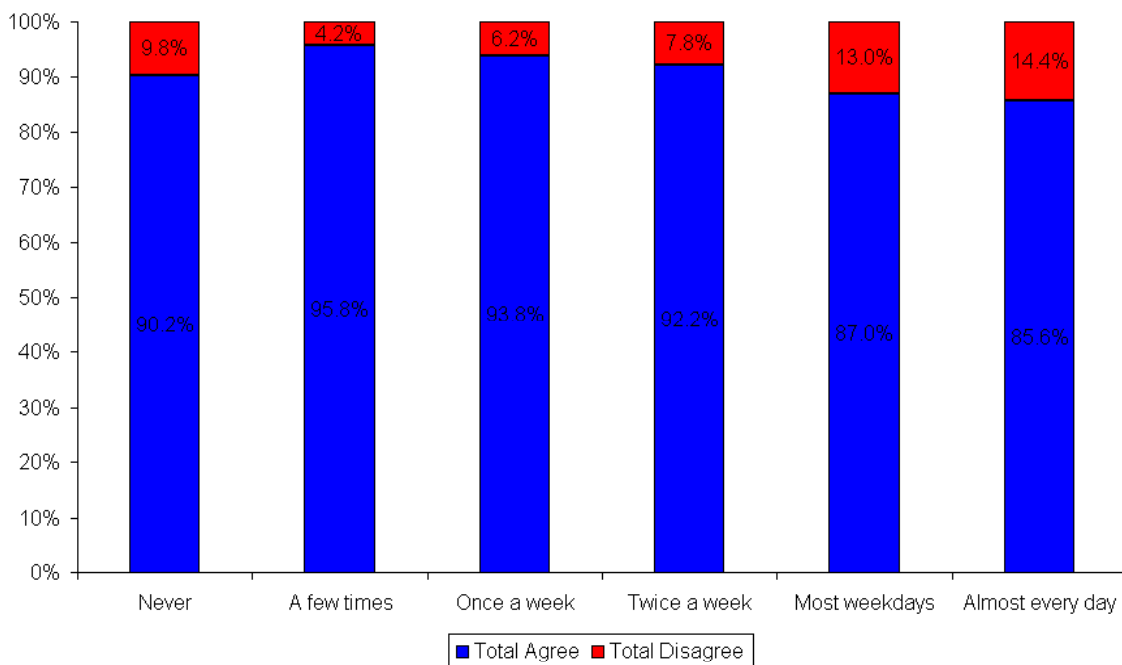
**Figure 28**

Thinking of this same project after MoDOT completed work on it...  
Is the road now better marked? By miles driven per year



**Figure 29**

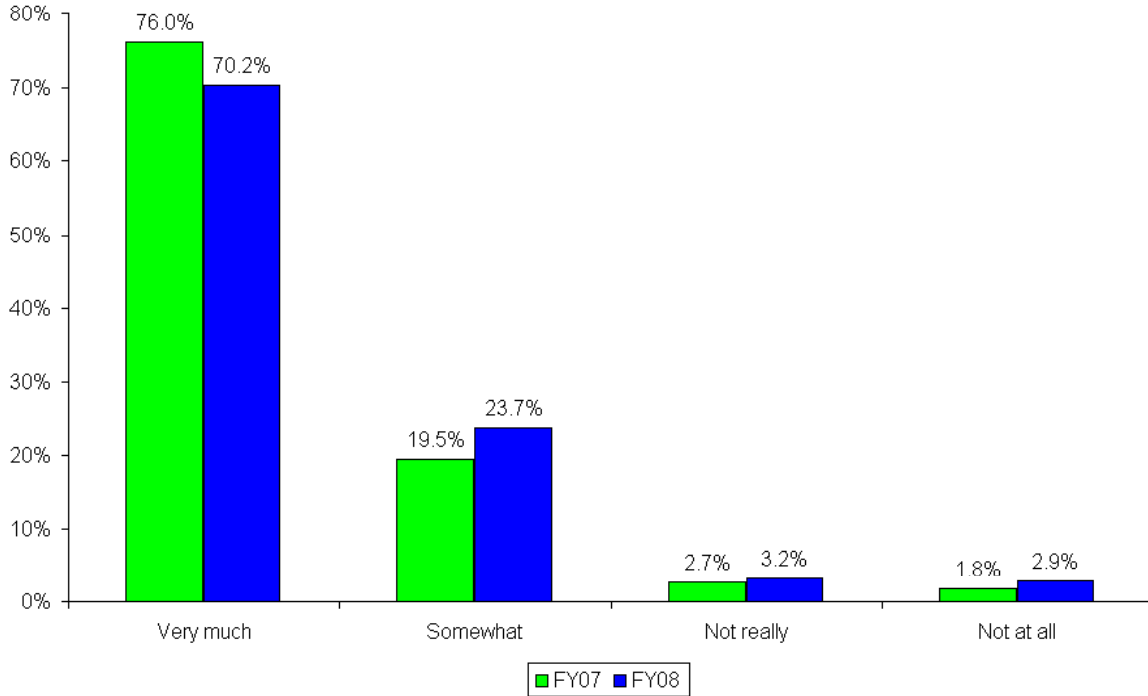
Thinking of this same project after MoDOT completed work on it...  
Is the road now better marked? By usage of affected section



## The Right Transportation Solution

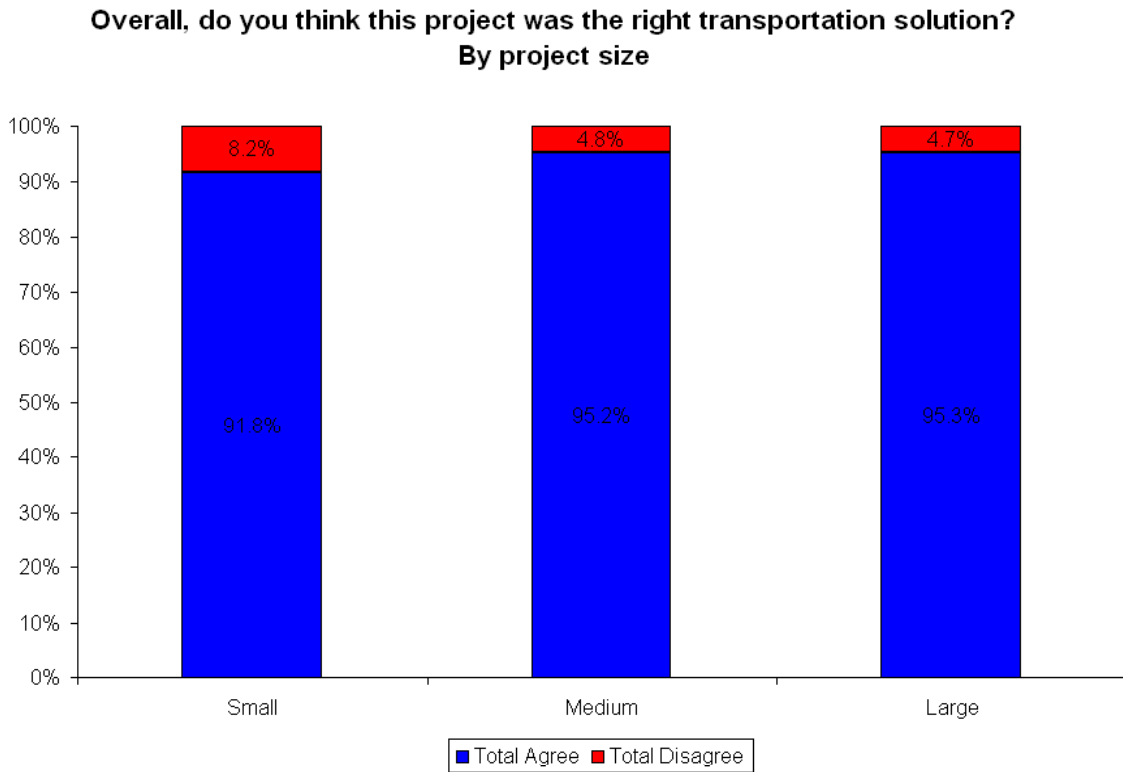
Figure 30

Overall, do you think this project was the right transportation solution?

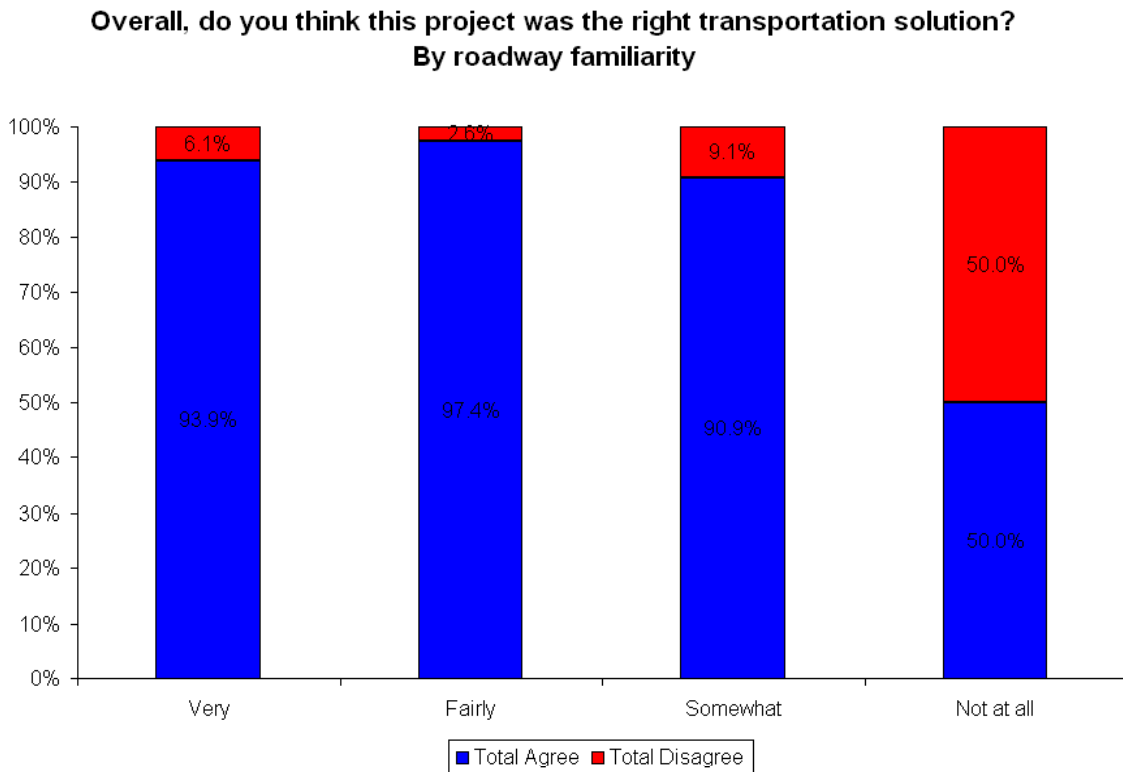


Overall, Missourians had a very positive perception of the projects in this survey with 93.9% of the respondents stating that their local project was the right transportation solution, similar to the 95.5% captured in FY07. Figure 32 is a bit misleading in that it may give the impression that most of the disagreement comes from those who were not familiar with the affected roadway. However, there were only four (4) respondents who were not familiar with the roadway that answered this question (two strongly agreed and two strongly disagreed). Thus while this figure may be useful for initiating discussion on whether or not MoDOT should include responses from those unfamiliar with the affected roadway in future studies, the low number of responses in this category eliminated any significant impact on this year's measure.

**Figure 31**



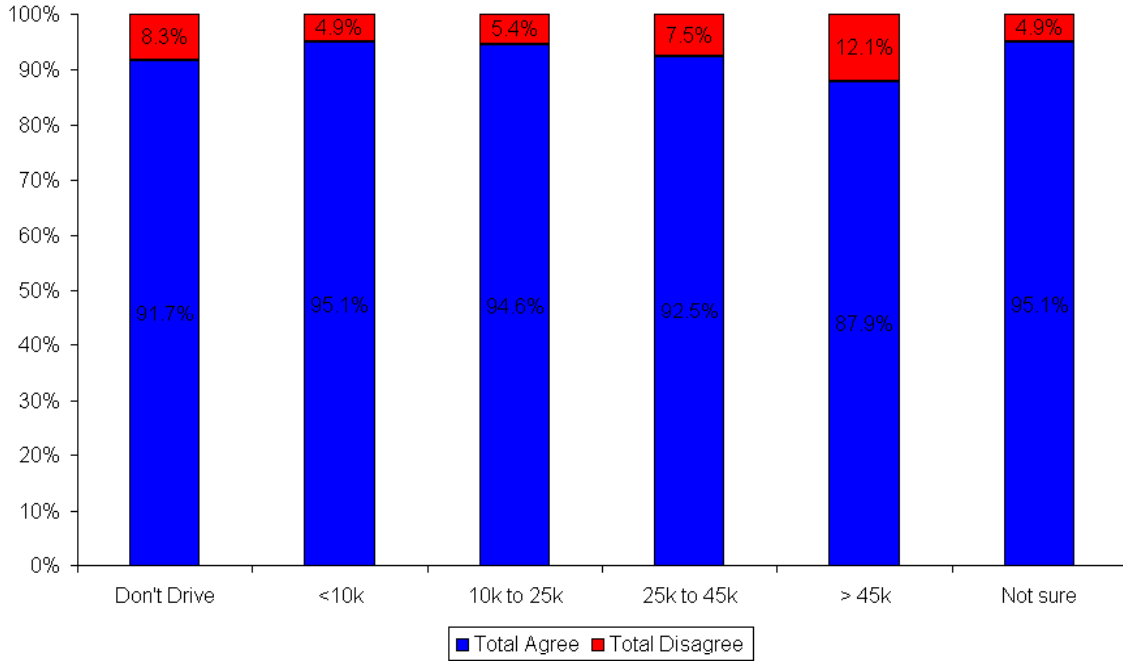
**Figure 32**





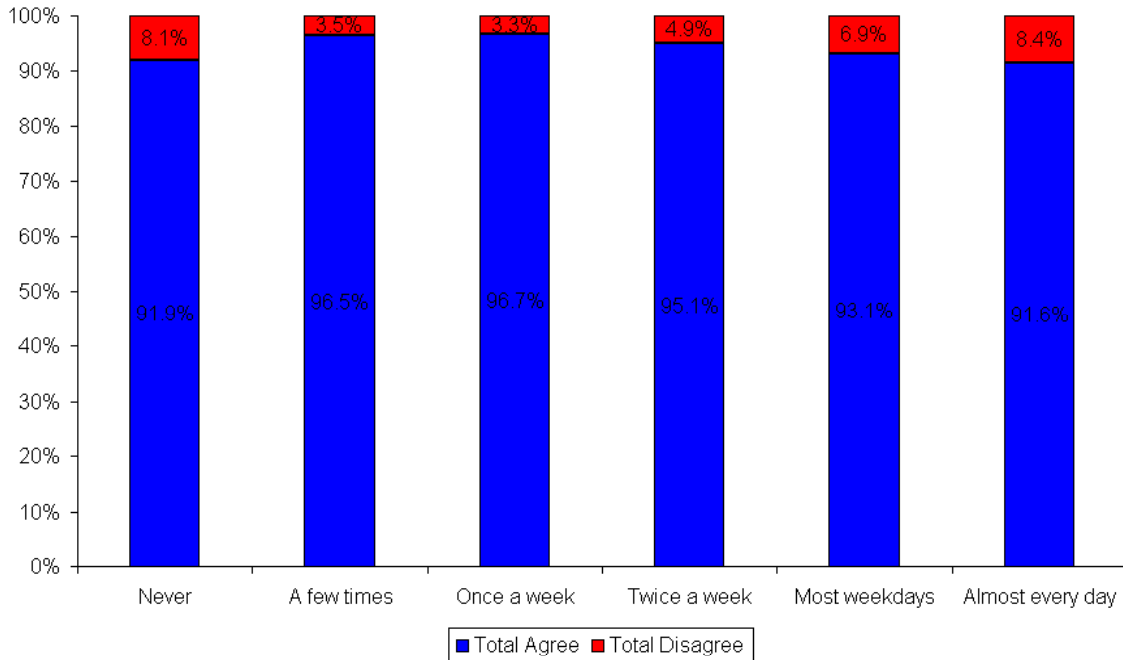
**Figure 33**

**Overall, do you think this project was the right transportation solution?  
By miles driven per year**



**Figure 34**

**Overall, do you think this project was the right transportation solution?  
By usage of affected section**

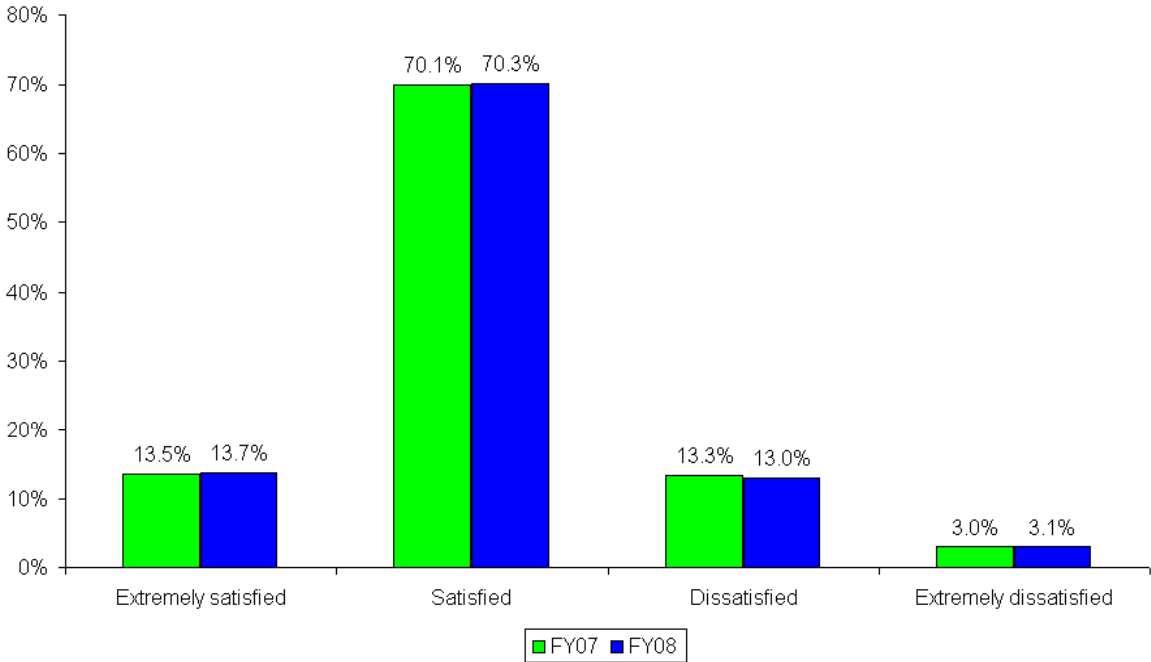


# Overall MoDOT Efforts to Provide Quality Transportation System

While the other assessment questions capture how respondents feel about a particular project, this question measures the respondents' overall satisfaction with MoDOT's general efforts to provide a quality transportation system. 84.0% of the respondents stated they were satisfied with MoDOT's efforts, virtually identical to FY07 (83.6%).

Figure 35

How satisfied are you with MoDOT's efforts to provide a quality transportation system in Missouri? Overall, are you...



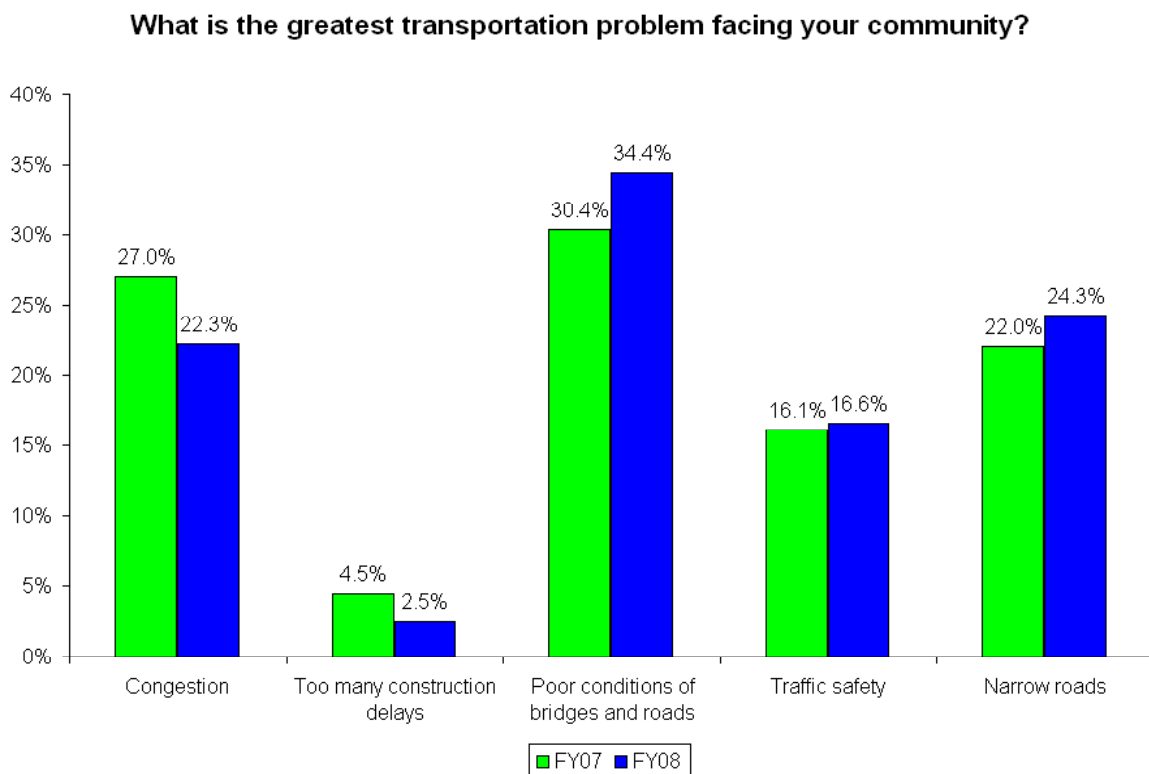
## Greatest Transportation Problem

To help MoDOT continue to understand the priorities of its citizens, last year's question about the greatest transportation problem was repeated. This feedback provides MoDOT with both information on the what is most important to its constituents, but also the ability to track changes in citizen priorities over time.

Given this year's collapse of the Interstate 35 bridge in Minneapolis, it should be expected that the option referencing bridges received a greater number of responses than it did in the previous fiscal year. Given that the graphic images of the bridge collapse pervaded the public airways for quite some time, it is only surprising that this option did not increase by a much larger amount.

While the "greatest" problem has fluctuated a bit from last year to this year, the top three priorities have been remarkable consistent. 81.0% of this year's respondents listed the poor conditions of bridges and roads, narrow roads, or congestion as the greatest transportation problem facing their community compared to 79.4% in FY07.

**Figure 36**



## Conclusion

Overall, the results show that most Missourians are very satisfied with both the local project and with MoDOT's overall efforts. Based upon their responses, we know that these opinions are mostly based upon exposure to the local projects. 93.8% of the respondents were either "very" or "fairly" familiar with the project roadway. 73.2% of the respondents were regular users of the affected roadway (defined as using it at least once per week). The majority of respondents thought that the project made the roadway safer (94.6%), more convenient (90.8%), less congested (81.1%), easier to drive (92.9%), better marked (89.9%), and was the right transportation solution (93.9%). On a more general measure, 84.0% of the respondents stated that they were satisfied with MoDOT's efforts to provide a quality transportation system in Missouri. As was found last year, the item least under MoDOT's control, congestion, had the greatest room for improvement and even here over 80% of the respondents thought the project reduced congestion.

Over the last two years, Missourians have been very consistent about their top three transportation priorities. In both years, approximately 80% of respondents listed the poor conditions of bridges and roads, narrow roads, or congestion as the greatest transportation problem facing their community.

# Appendices

- A. Methods and Technical Documentation ..... 34
- B. Surveyed Zip Codes ..... 35
- C. Survey Instrument ..... 36
- D. Response Rates by District and Project ..... 39
- E. Right Transportation Solution by District and Project ..... 40

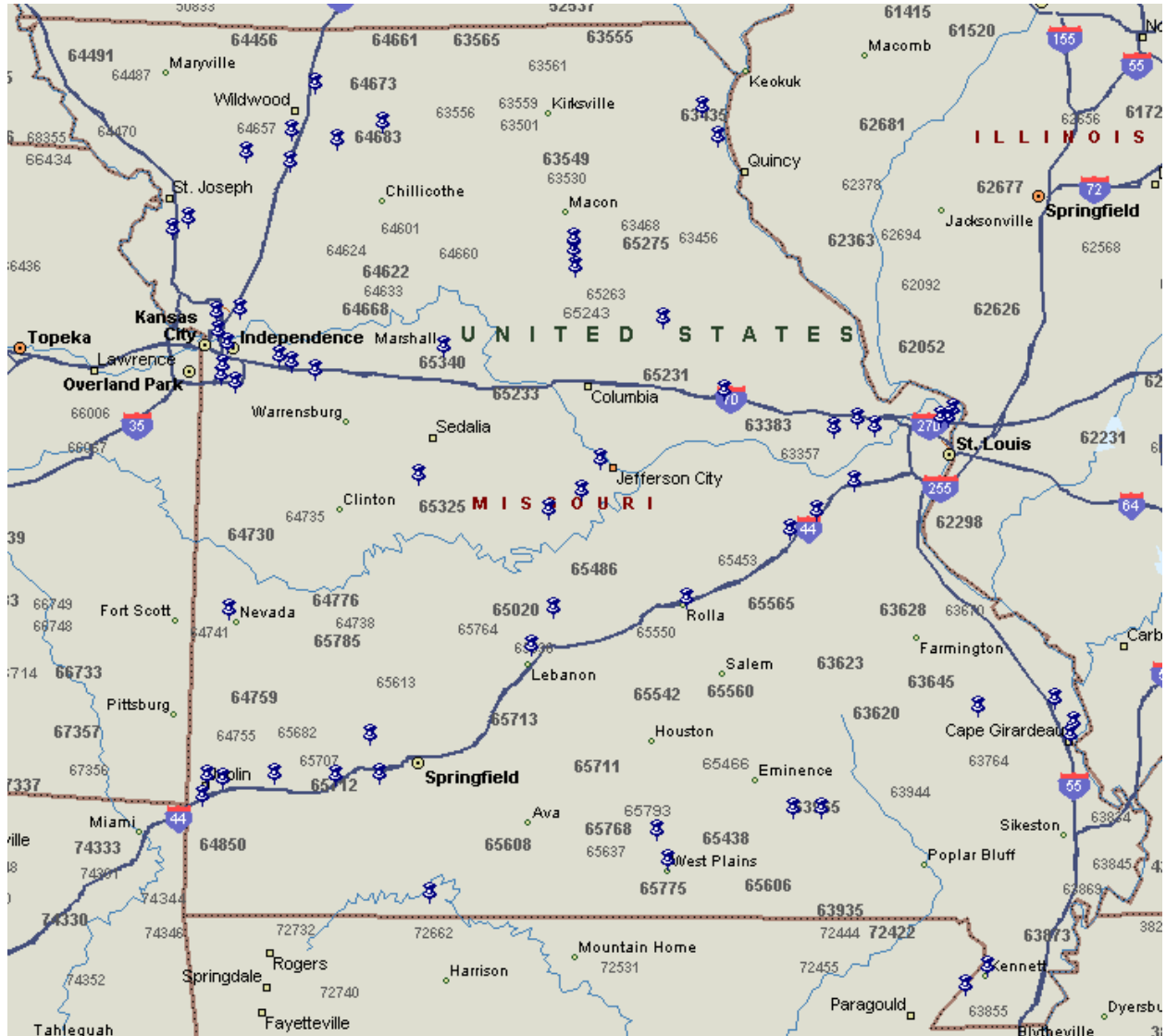
## ***A. Methods and Technical Documentation***

Following the methodology used in the previous year, it was determined to mail 400 surveys for each of the 29 projects for a total of 11,600 surveys. The sample of 400 people per project was initially selected by Heartland Market Research based upon geographical assumptions about which people would be likely to be most familiar with the project. The zip code recommendations were then reviewed by each of the ten MoDOT districts for input. In several cases the zip code selections were then revised based upon input from the districts.

Discussions with list broker services were held, but no broker was found that could obtain all of addresses we needed for some of the rural zip codes. Therefore, Heartland met with the State of Missouri's election office and discussed the project with one of their agents. While the State of Missouri has strict laws protecting the privacy of voters, there are times when these lists may be purchased and utilized for research purposes. After meeting with one of their agents, it was determined that this type of research meet the spirit and letter of the law and the list was purchased. According to the US Census, there are approximately 4.45 million adults in Missouri. Amazingly, slightly over 88% of these adults were available on the State of Missouri list. This makes the list of available names used in this project, by far, the most representative list of names possible to obtain. The tradeoff of using this list is that the number of invalid addresses would be higher than the number of addresses on a list obtained by a broker. In other words, this approach was expected to result in a more representative sample that would be more familiar with the projects (in the rural districts where enough addresses could not otherwise be obtained), yet have a greater number of invalid addresses. The results supported these expectations. We had a much greater number of invalid addresses (774 vs 17), but 93.8% of the respondents were either "very" (80.7%) or "fairly" (13.1%) familiar with the affected roadway compared to 84.1% of the respondents who were familiar with the affected roadway in last year's survey (66.9% "very" and 17.2% "fairly"). The net response rate for this year's study was 21.8% compared to last year's net rate of 18.7% (wave 1).

## B. Surveyed Zip Codes

The following “push pin” map is based on the specific project zip code and description information available in the main report.



### ***C. Survey Instrument***

The next two pages show the front and backside of the survey instrument. On the front page, the respondents' name and address were printed on the survey itself and this was visible through the mailing envelopes' windows. In the red rectangle, a unique project description was printed for each of the twenty-nine projects. The actual descriptions are listed in the previous appendix.





**After reading the project description on the other side, please complete and return this survey.**

### MARKING INSTRUCTIONS

- Use pencil or a pen with blue or black ink.
- Do not use pens with ink that soaks through the paper.
- Make solid marks that fill the response completely.
- Make no stray marks on this form.

CORRECT: ●      INCORRECT: ✓ ✗ ◐ ◑

1. Are you familiar with this roadway?
- Not at all
  - Somewhat
  - Fairly well
  - Very well
2. How often have you used this section of the road in the past month?
- Never
  - A few times
  - Once a week
  - Twice a week
  - Most weekdays
  - Almost every day

3. Thinking of this same project after MoDOT completed work on it, how would you rate each of the following?

| The road is now... | Strongly agree        | Agree                 | Disagree              | Strongly disagree     | not sure              |
|--------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| ...safer           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...more convenient | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...less congested  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...easier to drive | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ...better marked   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

4. Overall, do you think this project was the right transportation solution?
- Not at all
  - Not really
  - Somewhat
  - Very much
  - Don't know / not sure
5. How satisfied are you with MoDOT's efforts to provide a quality transportation system in Missouri? Overall, are you...
- Extremely satisfied
  - Satisfied
  - Dissatisfied
  - Extremely dissatisfied
  - Don't know / not sure

6. What is the greatest transportation problem facing your community?
- Congestion
  - Too many construction delays
  - Poor conditions of bridges and roads
  - Traffic safety
  - Narrow roads
  - Don't know / not sure
7. What is your gender?
- Male
  - Female

8. Approximately how many miles do you drive per year?
- Not applicable - I do not drive
  - Less than 10,000 miles per year
  - Between 10,000 and 25,000 miles per year
  - Between 25,001 and 45,000 miles per year
  - More than 45,000 miles per year
  - Don't know / not sure



### D. Response Rates by District and Project

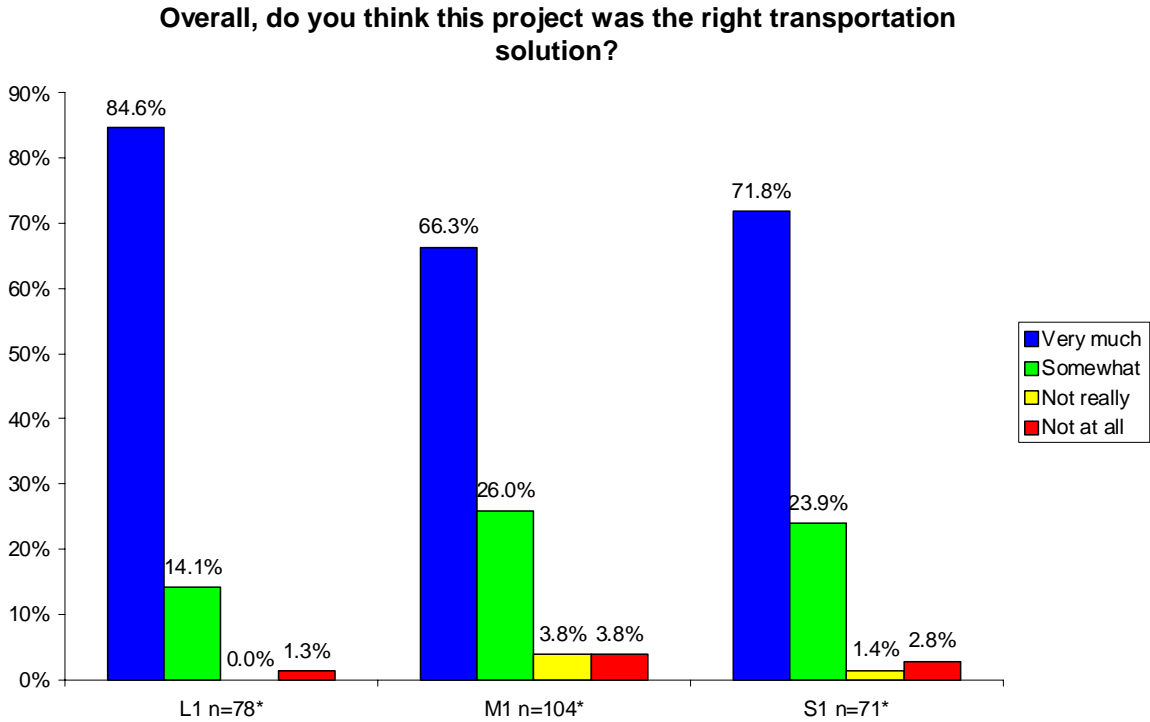
| District     |                          | Large        | Medium       | Small        | Total        |
|--------------|--------------------------|--------------|--------------|--------------|--------------|
| 1            | Mailed                   | 400          | 400          | 400          | 1200         |
|              | Not Delivered            | 5            | 11           | 0            | 16           |
|              | Responses                | 88           | 107          | 81           | 276          |
|              | Gross Response Rate      | 22.0%        | 26.8%        | 20.3%        | 23.0%        |
|              | <b>Net Response Rate</b> | <b>22.3%</b> | <b>27.5%</b> | <b>20.3%</b> | <b>23.3%</b> |
| 2            | Mailed                   | 400          | 400          | 400          | 1200         |
|              | Not Delivered            | 37           | 33           | 50           | 120          |
|              | Responses                | 96           | 86           | 82           | 264          |
|              | Gross Response Rate      | 24.0%        | 21.5%        | 20.5%        | 22.0%        |
|              | <b>Net Response Rate</b> | <b>26.4%</b> | <b>23.4%</b> | <b>23.4%</b> | <b>24.4%</b> |
| 3            | Mailed                   | 400          | 400          | 400          | 1200         |
|              | Not Delivered            | 27           | 27           | 45           | 99           |
|              | Responses                | 118          | 122          | 60           | 300          |
|              | Gross Response Rate      | 29.5%        | 30.5%        | 15.0%        | 25.0%        |
|              | <b>Net Response Rate</b> | <b>31.6%</b> | <b>32.7%</b> | <b>16.9%</b> | <b>27.2%</b> |
| 4            | Mailed                   | 400          | 400          | 400          | 1200         |
|              | Not Delivered            | 17           | 14           | 2            | 33           |
|              | Responses                | 45           | 24           | 101          | 170          |
|              | Gross Response Rate      | 11.3%        | 6.0%         | 25.3%        | 14.2%        |
|              | <b>Net Response Rate</b> | <b>11.7%</b> | <b>6.2%</b>  | <b>25.4%</b> | <b>14.6%</b> |
| 5            | Mailed                   | n/a          | 400          | 400          | 800          |
|              | Not Delivered            |              | 20           | 6            | 26           |
|              | Responses                |              | 62           | 133          | 195          |
|              | Gross Response Rate      |              | 15.5%        | 33.3%        | 24.4%        |
|              | <b>Net Response Rate</b> |              | <b>16.3%</b> | <b>33.8%</b> | <b>25.2%</b> |
| 6            | Mailed                   | 400          | 400          | 400          | 1200         |
|              | Not Delivered            | 7            | 46           | 7            | 60           |
|              | Responses                | 68           | 32           | 55           | 155          |
|              | Gross Response Rate      | 17.0%        | 8.0%         | 13.8%        | 12.9%        |
|              | <b>Net Response Rate</b> | <b>17.3%</b> | <b>9.0%</b>  | <b>14.0%</b> | <b>13.6%</b> |
| 7            | Mailed                   | 400          | 400          | 400          | 1200         |
|              | Not Delivered            | 11           | 64           | 26           | 101          |
|              | Responses                | 75           | 65           | 82           | 222          |
|              | Gross Response Rate      | 18.8%        | 16.3%        | 20.5%        | 18.5%        |
|              | <b>Net Response Rate</b> | <b>19.3%</b> | <b>19.3%</b> | <b>21.9%</b> | <b>20.2%</b> |
| 8            | Mailed                   | 400          | 400          | 400          | 1200         |
|              | Not Delivered            | 23           | 7            | 9            | 39           |
|              | Responses                | 91           | 59           | 101          | 251          |
|              | Gross Response Rate      | 22.8%        | 14.8%        | 25.3%        | 20.9%        |
|              | <b>Net Response Rate</b> | <b>24.1%</b> | <b>15.0%</b> | <b>25.8%</b> | <b>21.6%</b> |
| 9            | Mailed                   | 400          | 400          | 400          | 1200         |
|              | Not Delivered            | 202          | 8            | 17           | 227          |
|              | Responses                | 64           | 88           | 116          | 268          |
|              | Gross Response Rate      | 16.0%        | 22.0%        | 29.0%        | 22.3%        |
|              | <b>Net Response Rate</b> | <b>32.3%</b> | <b>22.4%</b> | <b>30.3%</b> | <b>27.5%</b> |
| 10           | Mailed                   | 400          | 400          | 400          | 1200         |
|              | Not Delivered            | 24           | 17           | 12           | 53           |
|              | Responses                | 69           | 70           | 121          | 260          |
|              | Gross Response Rate      | 17.3%        | 17.5%        | 30.3%        | 21.7%        |
|              | <b>Net Response Rate</b> | <b>18.4%</b> | <b>18.3%</b> | <b>31.2%</b> | <b>22.7%</b> |
| <b>Total</b> | Mailed                   | 3,600        | 4,000        | 4,000        | 11,600       |
|              | Not Delivered            | 353          | 247          | 174          | 774          |
|              | Responses                | 714          | 715          | 932          | 2,361        |
|              | Gross Response Rate      | 19.8%        | 17.9%        | 23.3%        | 20.4%        |
|              | <b>Net Response Rate</b> | <b>22.0%</b> | <b>19.1%</b> | <b>24.4%</b> | <b>21.8%</b> |

### E. Right Transportation Solution by District and Project

The results from the right transportation solution question have been provided for each project. Readers should use caution when using the information provided to compare projects. Statistically, it is very safe to compare overall results from fiscal year 2007 to fiscal year 2008 as was done in the main document. The margin of error for both FY07 and FY08 was approximately 2%. Since the margin of error can go either way (e.g., low in one year and high in another), the margins of error are cumulative. Therefore, we can be 95% confident that differences between years are truly real changes if the overall difference is at least 4%.

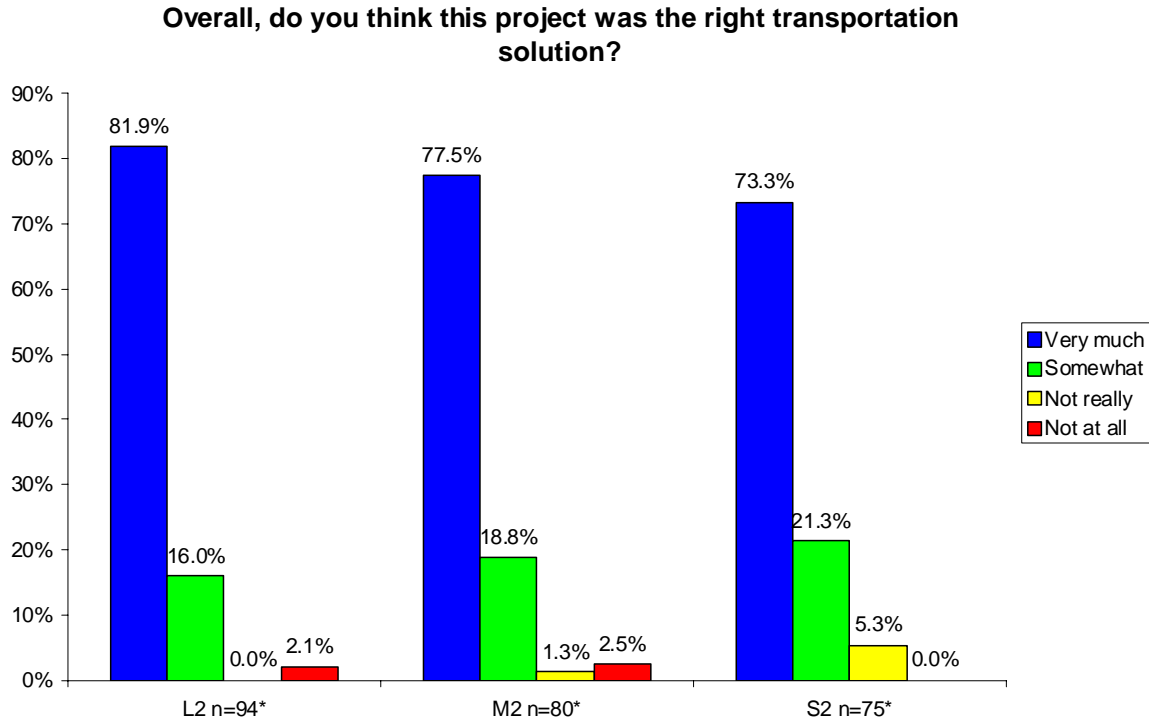
However, the margin of error increases as the sample size decreases. The margin of error for the results presented in this appendix range from a low of 8.98% for Project S5 (n=124) to a high of 22.36% for Project M4 (n=20). However, despite these statistical concerns, these graphs do provide some useful information. For example, many projects were overwhelmingly the right transportation solution in the eyes of the respondents. The question that can be raised by these graphs is why do a few projects have much lower levels of support than other projects?

**Figure 37: District 1**



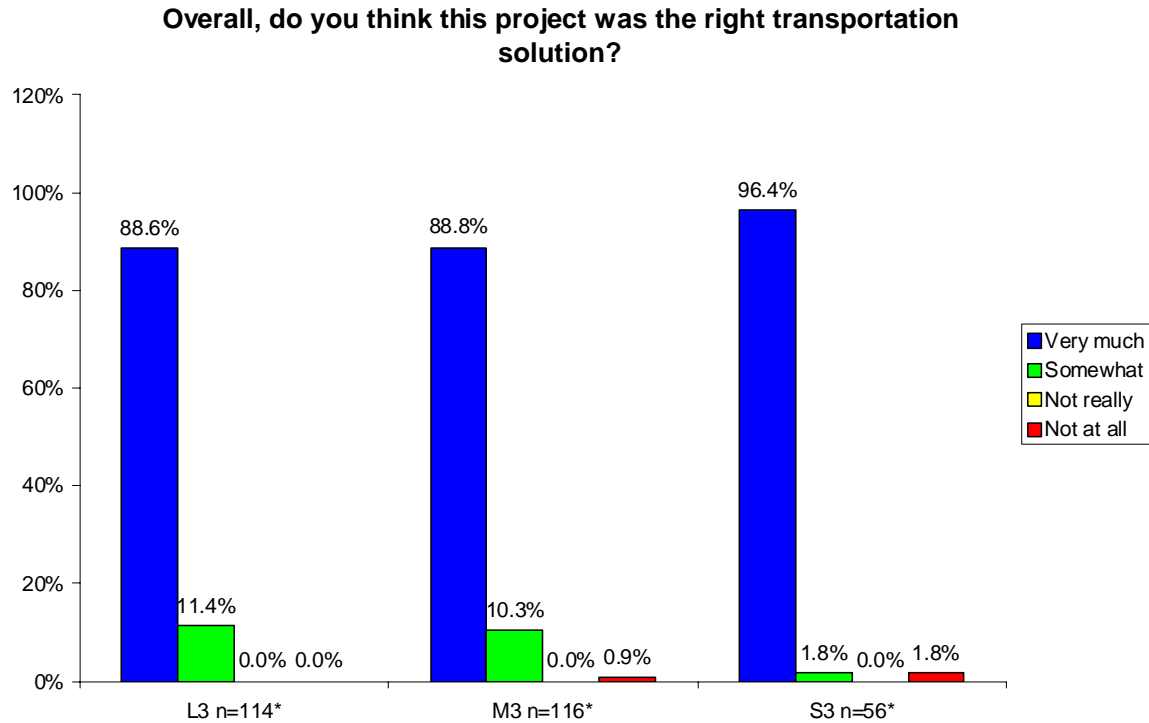
\*total n excludes respondents answering "Don't know / not sure" to this question

**Figure 38: District 2**



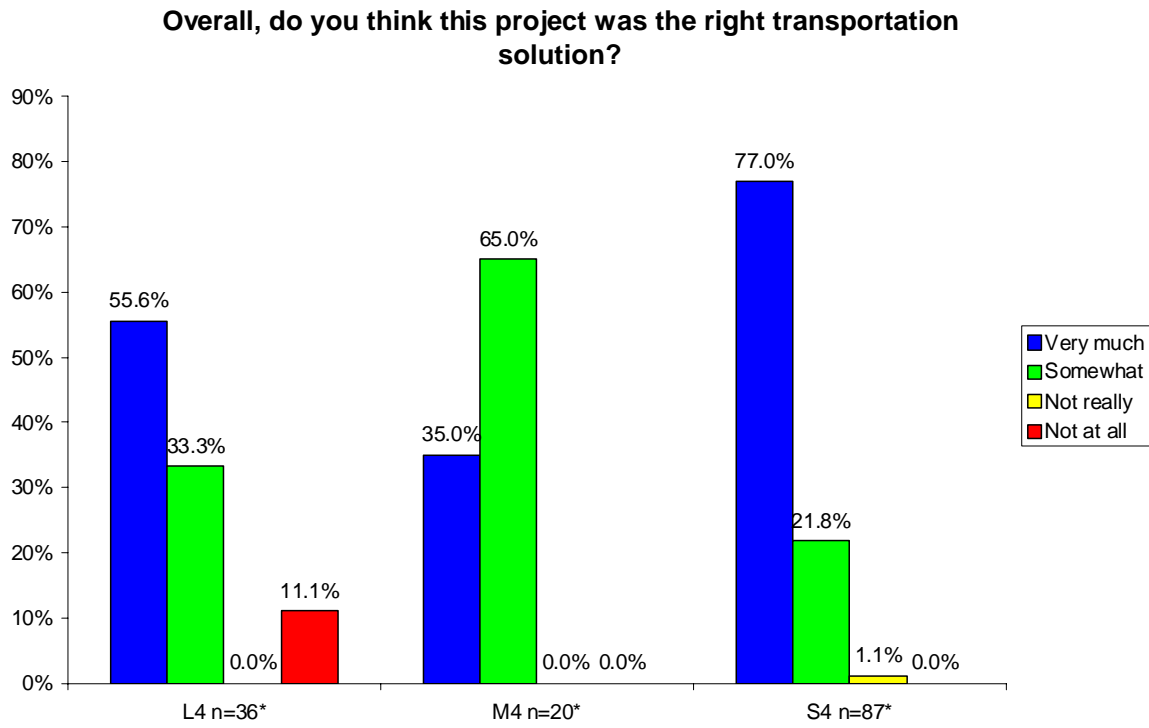
\*total n excludes respondents answering "Don't know / not sure" to this question

**Figure 39: District 3**



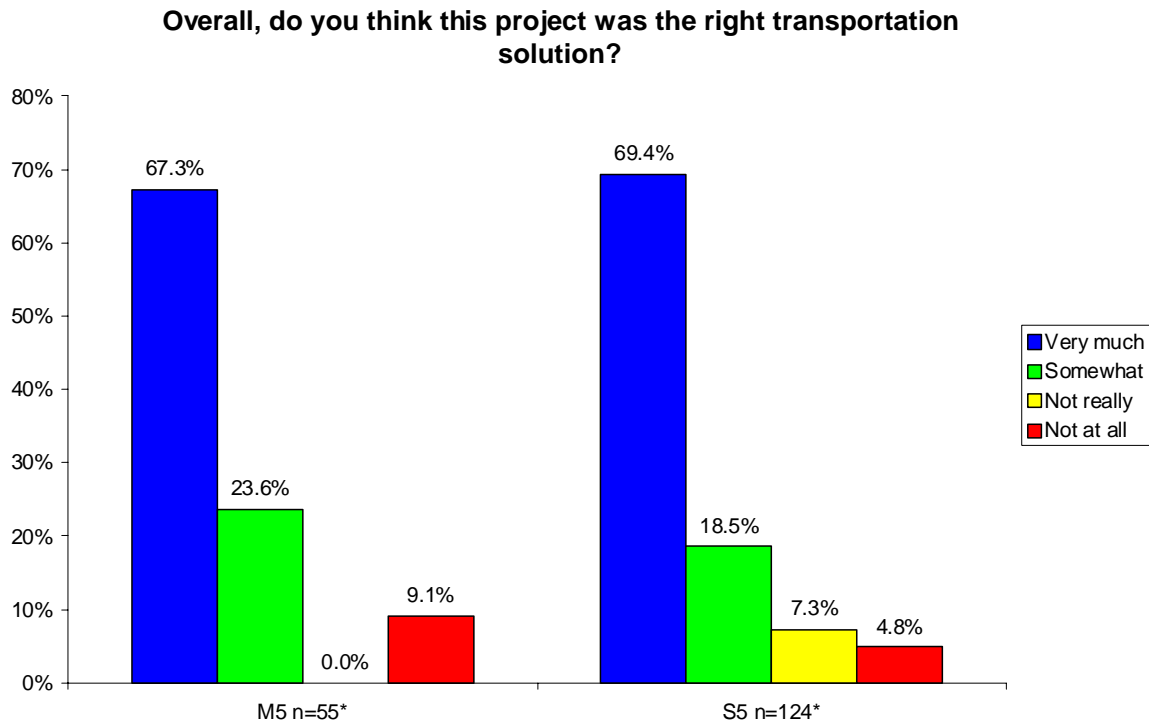
\*total n excludes respondents answering "Don't know / not sure" to this question

**Figure 40: District 4**



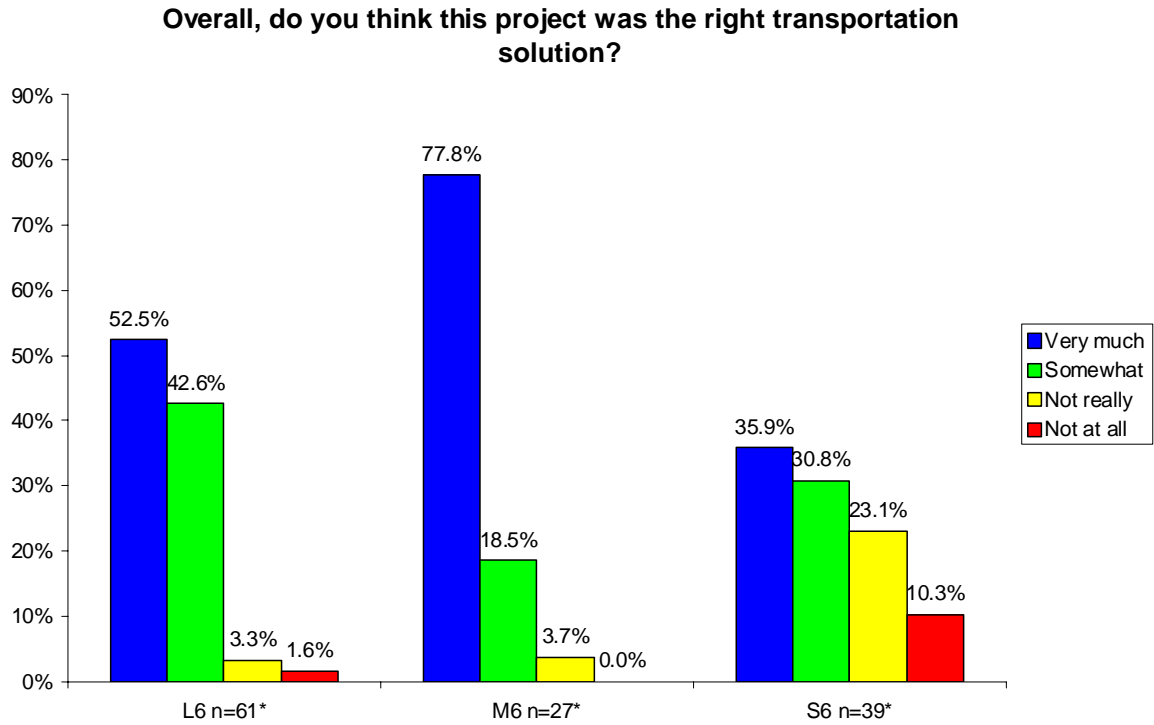
\*total n excludes respondents answering "Don't know / not sure" to this question

**Figure 41: District 5**



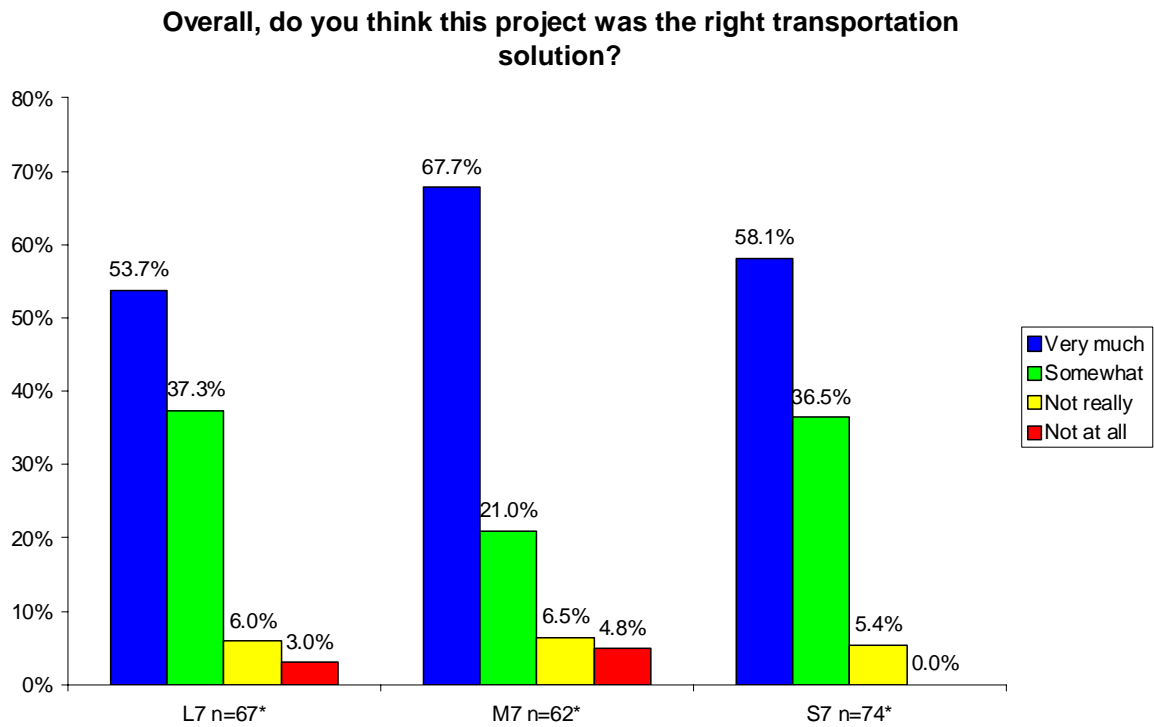
\*total n excludes respondents answering "Don't know / not sure" to this question

**Figure 42: District 6**



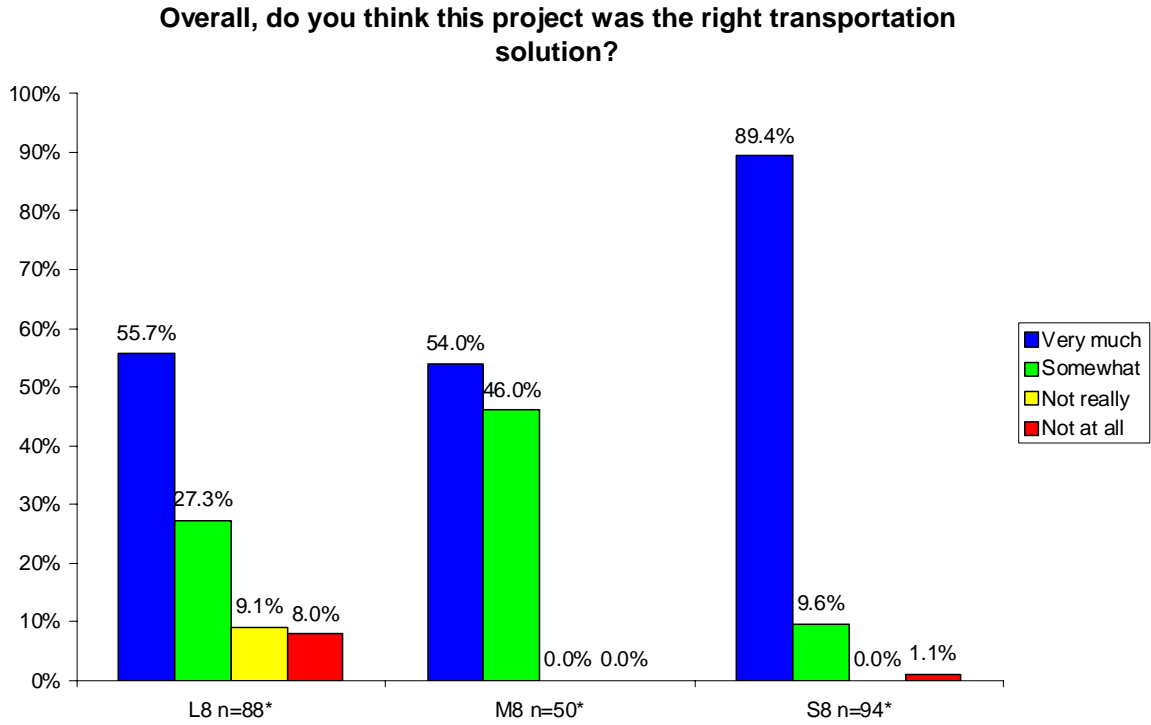
\*total n excludes respondents answering "Don't know / not sure" to this question

**Figure 43: District 7**



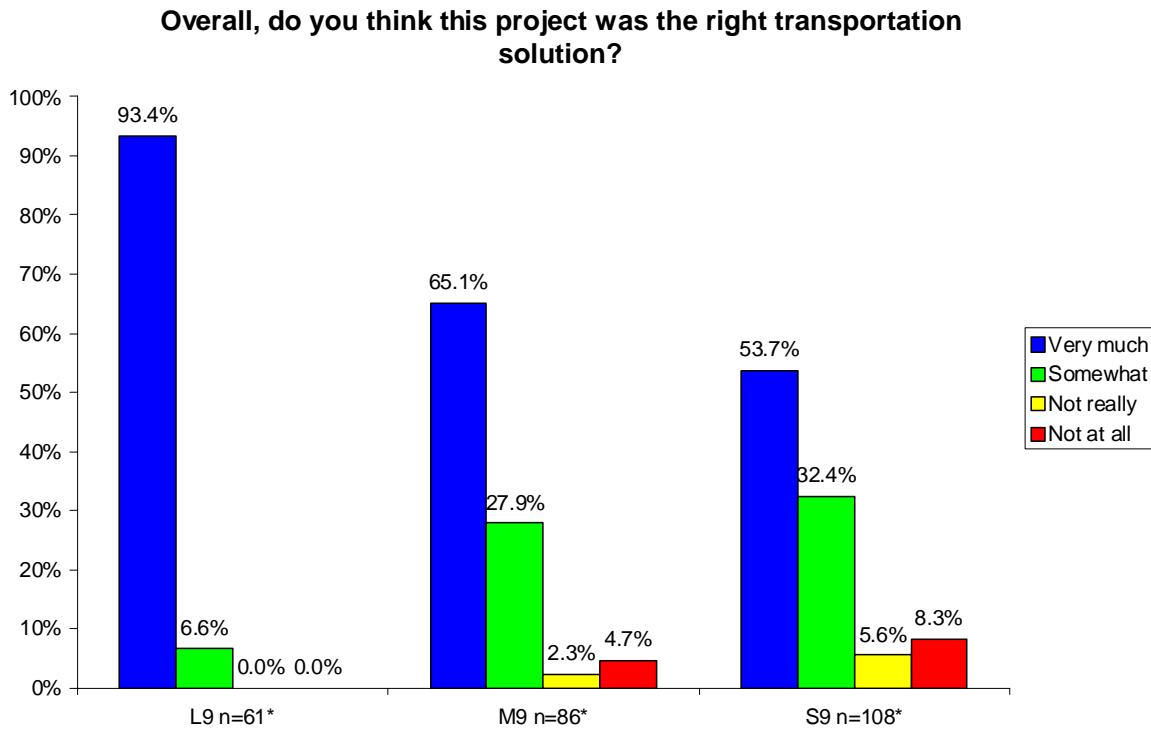
\*total n excludes respondents answering "Don't know / not sure" to this question

**Figure 44: District 8**



\*total n excludes respondents answering "Don't know / not sure" to this question

**Figure 45: District 9**

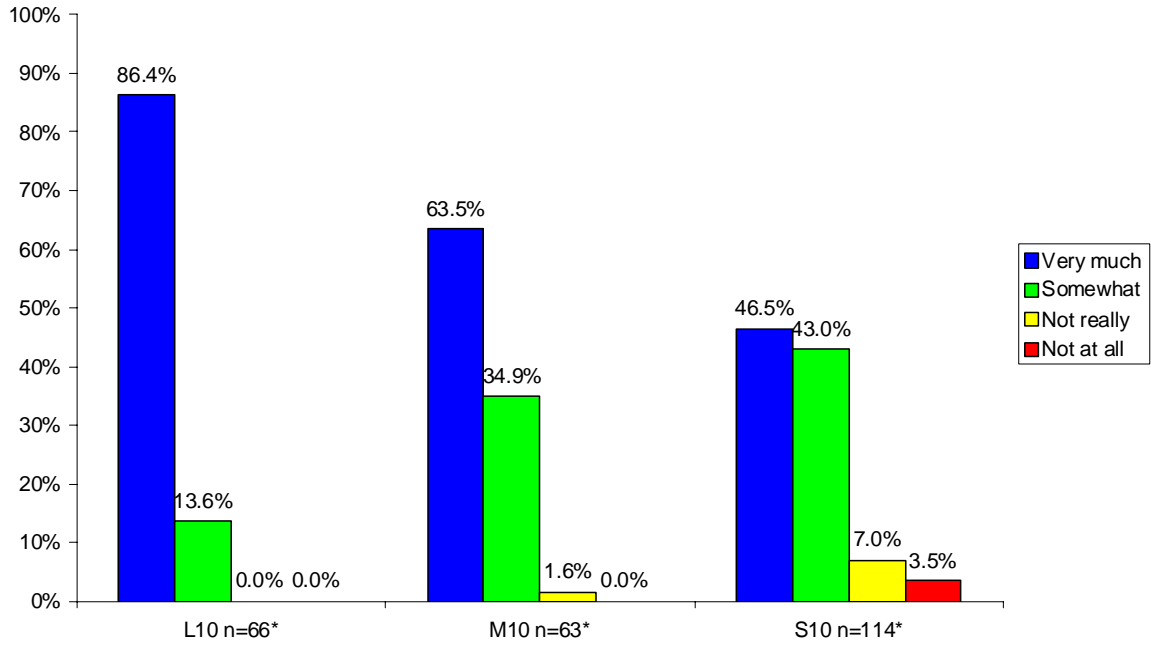


\*total n excludes respondents answering "Don't know / not sure" to this question



**Figure 46: District 10**

**Overall, do you think this project was the right transportation solution?**



\*total n excludes respondents answering "Don't know / not sure" to this question



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