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# Efficient Movement of Goods

*Tangible Result Driver – Dave DeWitt,  
Deputy Administrative Officer*

Missouri's location in the nation's center makes it a major cross-roads in the movement of goods. Transportation infrastructure must be up to the task so that as the flow of freight becomes more efficient, businesses and communities share the economic benefits.



## Efficient Movement of Goods

### *Freight tonnage by mode*

**Result Driver:** Dave DeWitt, Deputy Administrative Officer

**Measurement Driver:** Brian Weiler, Multimodal Operations Director

**Purpose of the Measure:**

This measure tracks trends and indicates diversification of freight movement on Missouri's transportation system.

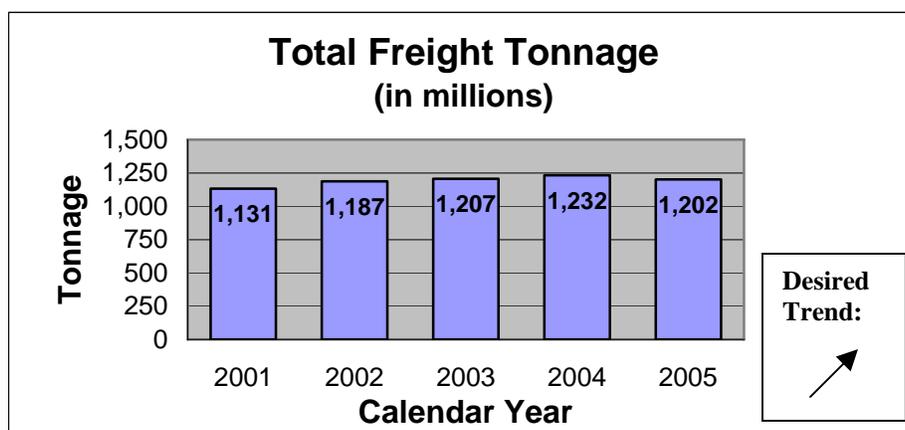
**Measurement and Data Collection:**

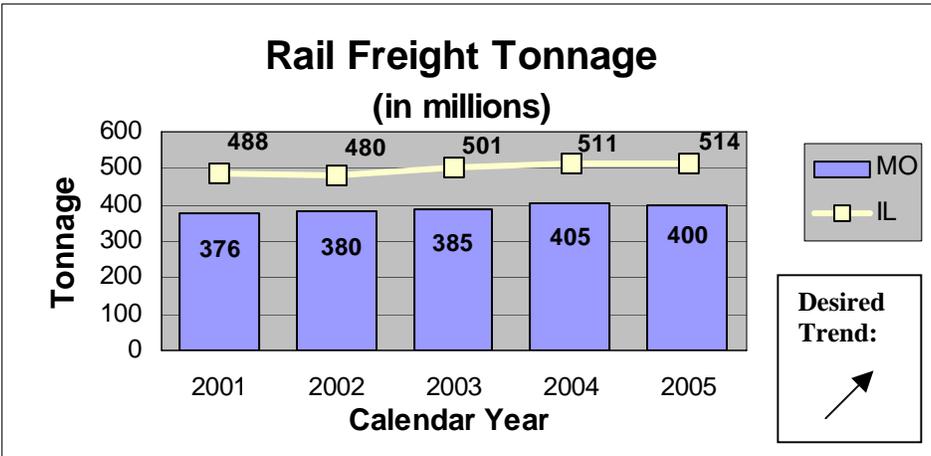
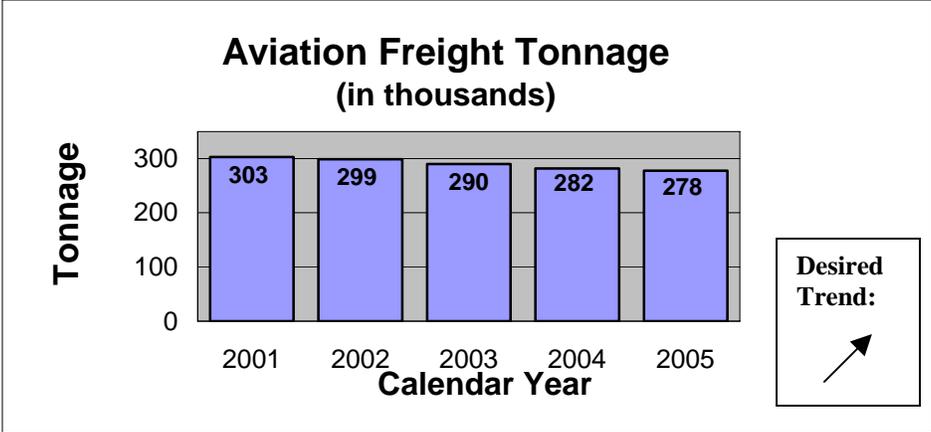
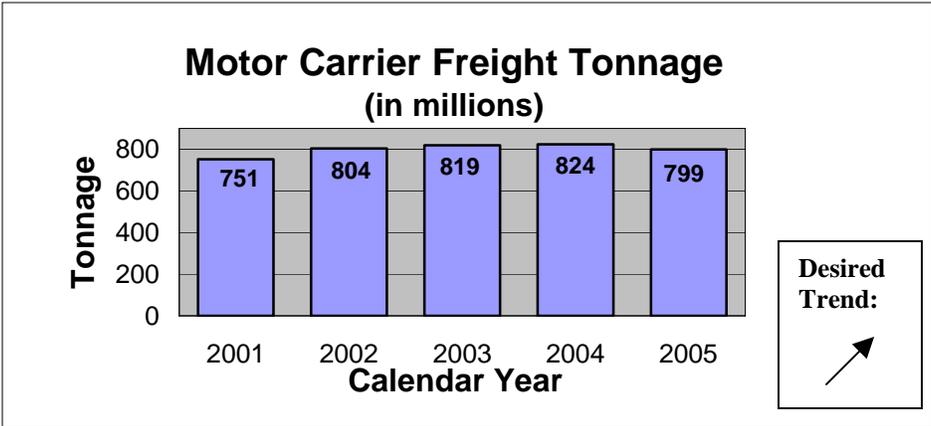
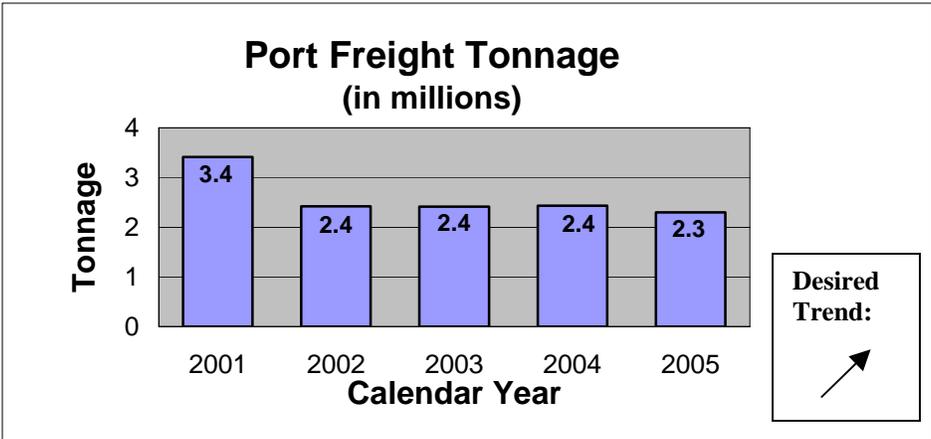
Port tonnage is reported to MoDOT from public ports. Air cargo data is collected via mail survey to commercial airports with known cargo activity. Rail tonnage is obtained from the Association of American Railroads. MoDOT calculates motor carrier freight movement using commercial vehicle miles traveled, trip length per shipment and average truck cargo weight.

**Improvement Status:**

Total freight tonnage for all modes exceeds 1.2 billion tons. Port tonnage has remained relatively steady since 2001 despite low flows on the Missouri River. The 2005 amounts show a slight decrease due primarily to navigation impacts from Hurricane Katrina on the Mississippi River and a shortened navigation season on the Missouri River (see measure 12e). Long-term growth of river transportation is hampered by an inadequate lock and dam system on the Upper-Mississippi River above St. Louis. MoDOT supports a federal proposal to update and expand this system. Motor carrier freight tonnage had experienced steady growth since 2001, but it declined by 3 percent in 2005 mainly due to impacts from higher diesel fuel costs. MoDOT has implemented several process improvements and outreach efforts to streamline motor carrier registration and inspection services.

Aviation tonnage continues to be impacted by a downturn in the aviation industry from 9-11 and the resulting financial impacts to airlines, which carry a significant portion of air cargo. Commercial airports are under the jurisdiction of the Federal Aviation Administration. However, MoDOT's Aviation Advisory Committee helps identify ways to better support the commercial aviation industry. The recently opened new W1W runway at Lambert St. Louis adds significant system capacity, but it is too early to tell if this will increase aviation tonnage. Rail freight tonnage declined 1 percent in 2005 despite strong demand. Railroads continue to struggle with system capacity and labor shortage issues. MoDOT is funding a capacity analysis through the University of Missouri to identify specific rail infrastructure projects that will improve both freight flow and passenger rail reliability on Union Pacific's mainline between St. Louis and Kansas City.





## Efficient Movement of Goods

### *Average travel speeds for trucks on selected roadway sections*

**Result Driver:** Dave DeWitt, Deputy Administrative Officer

**Measurement Driver:** Michelle Teel, Assistant Motor Carrier Services Director

**Purpose of the Measure:**

This measure tracks average truck travel speeds on selected roadway sections. MoDOT recognizes the efficient movement of trucks is critical to the economy. Timely, reliable goods movement allows businesses to reduce manufacturing and inventory costs and improve responsiveness to rapidly changing markets. The desired trend is for the average truck speeds to approach the posted speed limit (the average speed limit on I-70 in Missouri is 67 mph).

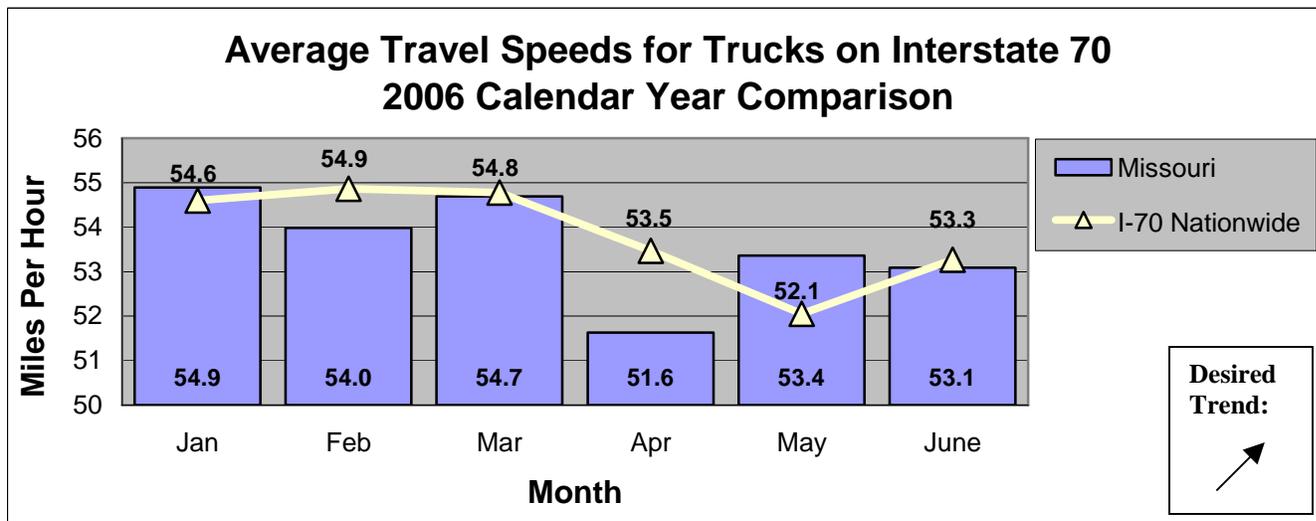
**Measurement and Data Collection:**

The Federal Highway Administration launched the Freight Performance Measure initiative to monitor truck travel speeds in freight-significant corridors, including Interstate 70. In 2002, the FHWA established a partnership with the American Transportation Research Institute to determine whether and how information from communication technologies used by the freight industry could provide data to support freight performance measures. ATRI worked with technology vendors and commercial carriers to demonstrate that after removing all information except time and location data, communication technologies can be used to derive travel speeds measures. Preliminary research data, including truck travel speeds on I-70 nationwide, is available from FHWA. This data allows MoDOT to measure Missouri's truck performance on I-70 compared to I-70 nationwide. Additional Missouri routes may be added in the future, including Interstates 55, 57, and 35. MoDOT was recently selected as a case study state to further improve and enhance the FHWA Freight Performance Measurement initiative. This measure is updated each month that new data is available from FHWA.

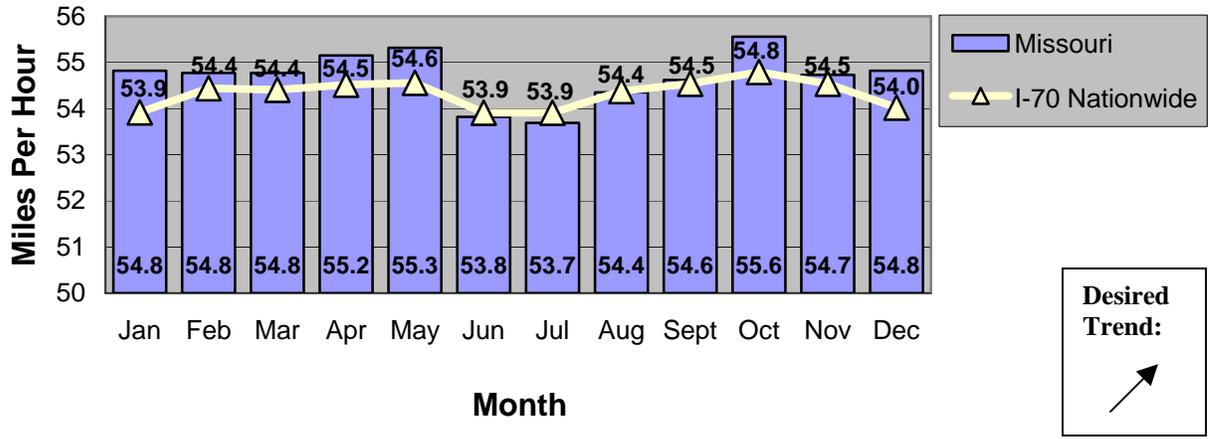
**Improvement Status:**

Live traffic data for three Missouri metro areas is available on MoDOT's Web site. Motorists use Kansas City Scout, St. Louis' Gateway Guide and Springfield's Ozarks Traffic Web pages to check conditions on their planned and alternate routes. Motorists also base decisions on information found on work zone and road condition maps found on MoDOT's Web site. Dynamic message signs are used to relay information to those already on the road.

MoDOT's increased emphasis on work zone and incident management and the efforts of the I-70 and I-44 corridor teams resulted in many traffic flow improvements. Nevertheless, data indicates that average travel speed on I-70 decreased in April and May. This could be due to increased work zone activity on I-70. However, because Missouri's average travel speed and that for I-70 nationwide decreased the same month ATRI implemented a new data processing system, it may be necessary to adjust these results once final ATRI system assessments are complete.



## Average Travel Speeds for Trucks on Interstate 70 2005 Calendar Year Comparison



# Efficient Movement of Goods

## *Percent of trucks using advanced technology at Missouri weigh stations*

**Result Driver:** Dave DeWitt, Deputy Administrative Officer

**Measurement Driver:** Barbara Hague, Special Projects Coordinator

**Purpose of the Measure:**

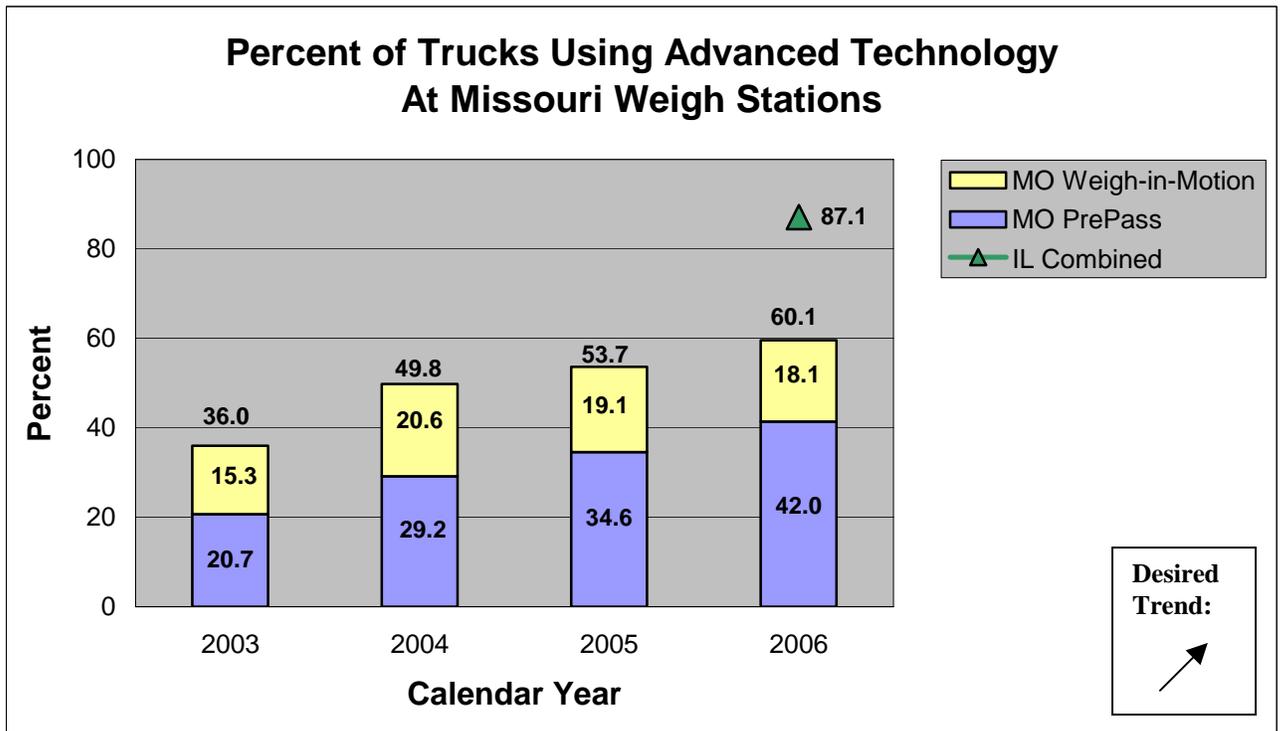
This measure indicates motor carriers' acceptance of tools designed to improve the flow of freight traffic on Missouri highways.

**Measurement and Data Collection:**

For this quarterly measure, data is collected by HELP, Inc.'s PrePass system computers which scan transponder-equipped vehicles as they approach 19 Missouri weigh stations. Pavement sensors check the vehicle's weight while computers review MoDOT's records to determine the carrier's compliance with safety, insurance and other state and federal regulations. Drivers are notified to stop or are allowed to continue without delay. Carriers that comply with state and federal regulations save time and money. The Missouri State Highway Patrol provides a quarterly measure of the number of trucks that use Missouri's weigh-in-motion scales located at Mayview and Foristell. These scales measure weight as trucks pass over them at 40 mph. Using ramp scales rather than verifying weight on fixed scales that require a full stop saves both time and money.

**Improvement Status:**

Year-end totals show a 6.4% increase in the use of PrePass and weigh-in-motion scales compared to last year. Key benchmark data for the full year is not available from the State of Illinois. A new benchmark is being sought for this measure.



## Efficient Movement of Goods

### *Interstate motor carrier mileage*

**Result Driver:** Dave DeWitt, Deputy Administrative Officer

**Measurement Driver:** Joy Prenger, Accounting Services Supervisor

**Purpose of the Measure:**

This measure reports the fluctuations of motor carrier freight movement in Missouri. MoDOT uses the information to help facilitate freight movement and to monitor quarterly fuel tax rate(s) and carriers' voluntary compliance with fuel tax requirements.

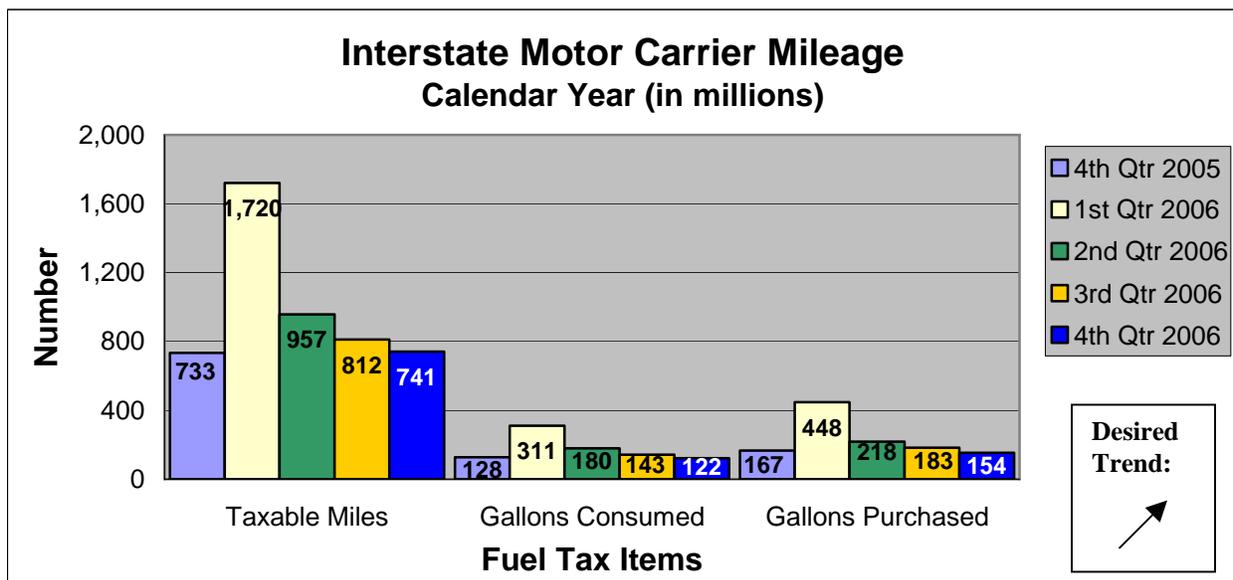
**Measurement and Data Collection:**

Data is collected quarterly. The number of taxable miles traveled in Missouri by Missouri-based carriers and carriers based in International Fuel Tax Agreement member states and provinces are tracked using IFTA tax returns and member state and provinces' monthly transmittals. This information is used to trace freight movement, support revenues and to track usage from the motor fuel tax refund appropriation.

**Improvement Status:**

During the fourth quarter of 2006, the reported diesel fuel price average for the Midwest region was \$2.555 per gallon. The national price average was \$2.606. Trucking industry news reports project increasing fuel prices in 2007 as ultra low sulfur diesel fuel is introduced. This formula costs more to refine and distribute. It also is likely to reduce motor carriers' average mile per gallon rate.

Fourth quarter 2006 data indicate that the number of miles traveled by Missouri-based carriers decreased by less than one-half of 1 percent. Miles traveled by carriers who use Missouri highways but are licensed in other states or Canada increased by 14 percent in late 2006.



## Efficient Movement of Goods

### *Percent of satisfied motor carriers*

**Results Driver:** Dave DeWitt, Deputy Administrative Officer

**Measurement Driver:** Mary Jo Pointer, Motor Carrier Manager

**Purpose of the Measure:**

This measure tracks MoDOT's progress toward the goal of expeditiously meeting the needs of the motor carrier industry and facilitating freight movement. MoDOT's Motor Carrier Services team uses the data to identify opportunities to improve customer satisfaction.

**Measurement and Data Collection:**

MCS personnel, working with the Missouri Transportation Institute, developed a survey to collect customer satisfaction data. A single survey addressed all four MCS program divisions, International Registration Plan/International Fuel Tax Agreement, Over-dimension/Overweight Permitting, Safety and Compliance and Operating Authority. Survey respondents identified the service(s) they use when doing business with MCS, then indicated their level of satisfaction with 12 customer service factors such as "timely response", "friendly", "respectful", and "outcome". They also gave an "overall satisfaction" score. Customers used a four-point scale: 4 = Very Satisfied, 3 = Satisfied, 2 = Dissatisfied and 1 = Very Dissatisfied.

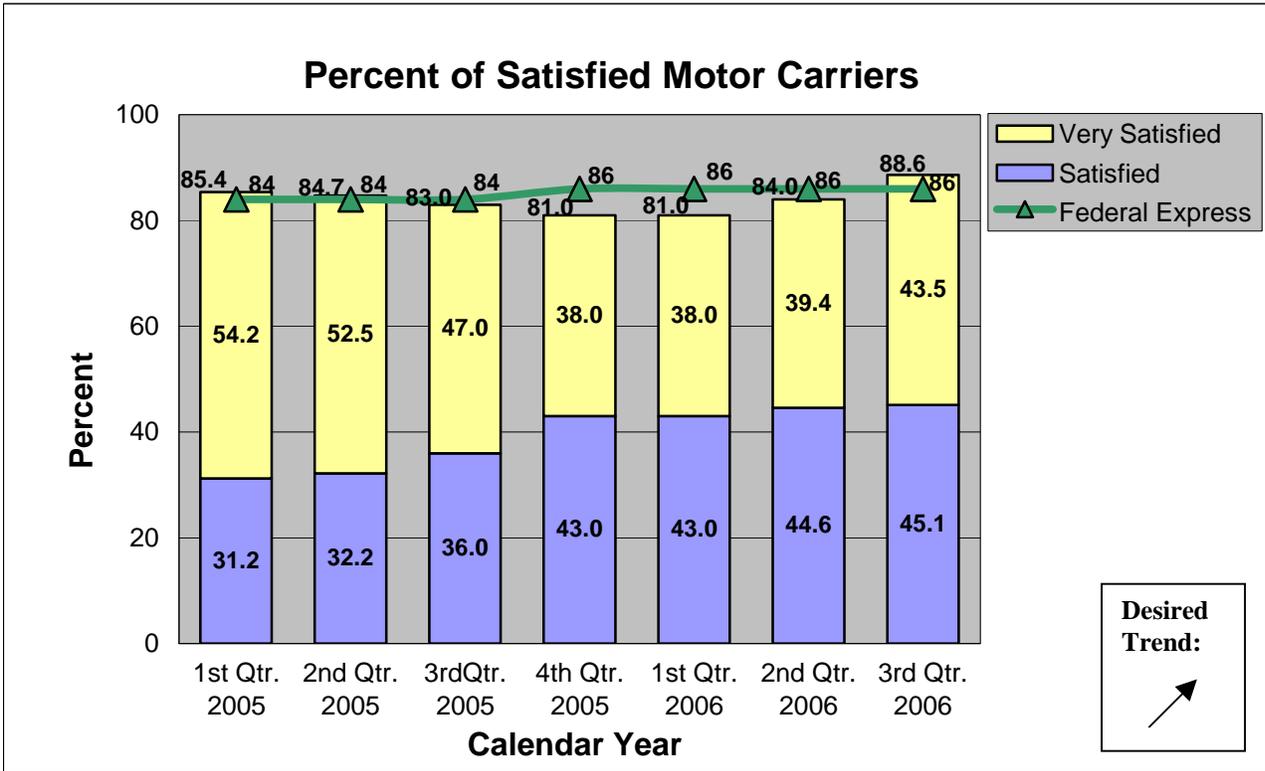
Federal Express is the benchmark for this measure that also mirrors measure 5a, Percent of Overall Customer Satisfaction. The American Customer Satisfaction Index reports that Federal Express has the highest customer satisfaction rate – 86 percent – out of 200 companies and government agencies it scores.

**Improvement Status:**

Overall MCS customer satisfaction levels increased by 2.6 points to 88.6 percent in the fourth quarter of 2006, bypassing the benchmark. Almost 44 percent of customers indicated they are "very satisfied." Three of the four MCS programs earned higher satisfaction rates in the fourth quarter. Satisfaction with Safety and Compliance was down five hundredths of a percent.

To improve its service, MCS:

- Continued to provide customers hands-on training for all online programs,
- Provided customers with up-to-date information by Web site and mail,
- Continued assigning agents to cross-program teams, reducing the number of people a customer must contact to complete their transactions,
- Used customer satisfaction survey results to identify opportunities to improve performance.



## Efficient Movement of Goods

### *Customer satisfaction with timeliness of Motor Carrier Services response*

**Result Driver:** Dave DeWitt, Deputy Administrative Officer

**Measurement Driver:** Mary Jo Pointer, Motor Carrier Manager

**Purpose of the Measure:**

This measure tracks motor carriers' satisfaction with MoDOT Motor Carrier Services' speed of response.

**Measurement and Data Collection:**

Each quarter, the Missouri Transportation Institute surveys a pool of motor carriers who contacted MCS in the previous three months. These customers are asked to evaluate their satisfaction with 12 customer service factors across the four MCS program divisions, International Registration Plan/International Fuel Tax Agreement, Safety and Compliance, Over-dimension/Overweight Permitting and Operating Authority. "Timely Response" is one factor carriers evaluate with a four-point scale: 4 = Very Satisfied, 3 = Satisfied, 2 = Dissatisfied and 1 = Very Dissatisfied.

**Improvement Status:**

Customers' satisfaction with MCS' timely response is at its highest rate ever. Opinion rose steadily during 2006 as MCS resolved process issues and implemented the MoDOT Carrier Express online system.

To improve response time, MCS:

- Cross-trained employees in the MCS Compliance Communication Center so agents can assist other functional groups during peak periods,
- Delivered large carriers' renewal documents on updatable, searchable compact discs, reducing customer processing time,
- Deliver registration credentials electronically,
- Continued to provide training on the MoDOT Carrier Express system at customers' request, and
- Delivered MCS-specific E-Update messages to customers.

