



A close-up photograph of several hands of different skin tones gently holding and sifting dark brown soil. Some green grass blades are visible in the soil. The image is partially obscured by a white text box.

# ENVIRONMENTALLY AND SOCIALLY RESPONSIBLE

*Tangible Result Driver – Dave Nichols, Director of Program Delivery*

MoDOT takes great pride in being a good steward of the environment, both in the construction and operation of Missouri's transportation system and in the manner in which its employees complete their daily work. The department strives to protect, conserve, restore and enhance the environment while it plans, designs, builds, maintains and operates a complex transportation infrastructure.

Just as MoDOT is dedicated to environmental responsibility, we are also dedicated to employing a workforce and providing opportunities to contractors and vendors that reflect the customers, communities and cultures we serve. We value diversity and inclusiveness because we believe in the power of our differences.

### Percent of projects completed without environmental violation-10a

**Result Driver:** Dave Nichols, Director of Program Delivery

**Measurement Driver:** Kathy Harvey, State Design Engineer

#### Purpose of the Measure:

This measure tracks environmental violations. MoDOT projects must comply with several environmental laws and regulations. To be in compliance, MoDOT makes commitments throughout the project development process that must be carried forward during construction and maintenance. In addition, the various permits obtained for projects also contain specific requirements for compliance. MoDOT must also comply with the environmental laws and regulations as it conducts its daily work in all areas of the organization.

If a violation is noted, it can result in either a Letter of Warning (LOW) or a Notice of Violation (NOV) to MoDOT. Letters of Warning can also be received as simply that, a warning to MoDOT of a special circumstance to be aware of, or for a situation that needs to be monitored so that a violation does not occur. For that reason, LOWs never will be eliminated but should be kept to a minimum. However, it is unacceptable to the department to have a NOV.

#### Measurement and Data Collection:

Both LOWs and NOVs are written correspondence to MoDOT or MoDOT's contractors from regulatory agencies, which are tracked in a MoDOT database by location or project number, as appropriate. Where tracked by project, the project with violations received may span several years. The first chart is based on a calendar year of construction projects reported to be completed during that year and the number of violations received on those projects over the life of the project. The second chart is a report by calendar year of the LOWs and NOVs received by the department for any activity and the data is updated quarterly.

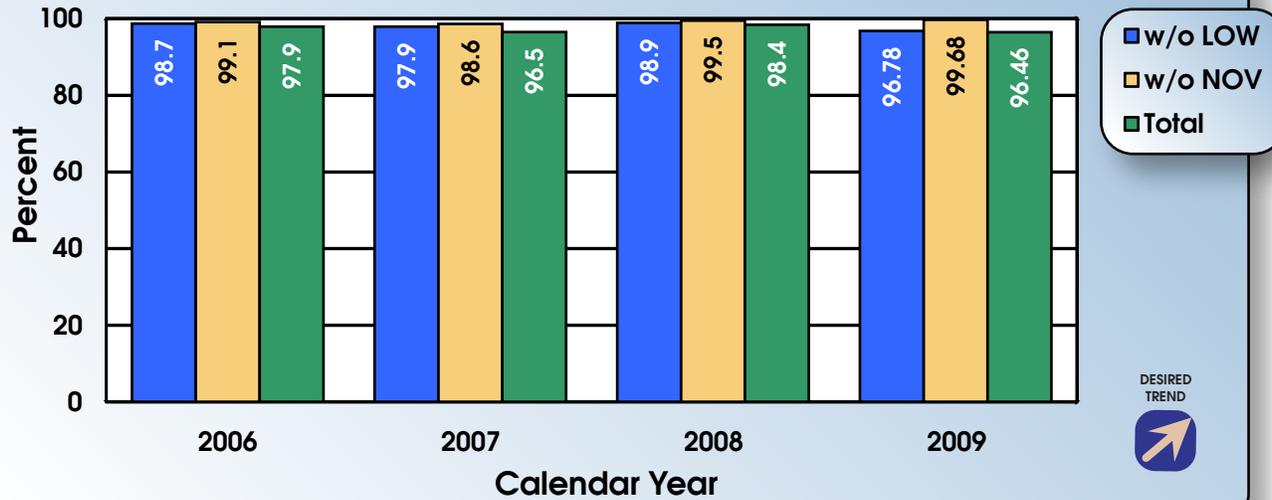
#### Improvement Status:

The percentage of projects completed without environmental violation shows a relatively level trend line for the past five years. For 2009, 96.5 percent of projects were completed without any environmental violations. There was a decrease in NOVs in 2009 compared to 2008, but an increase in LOWs. MoDOT has received one NOV and five LOWs in the first two quarters of 2010.

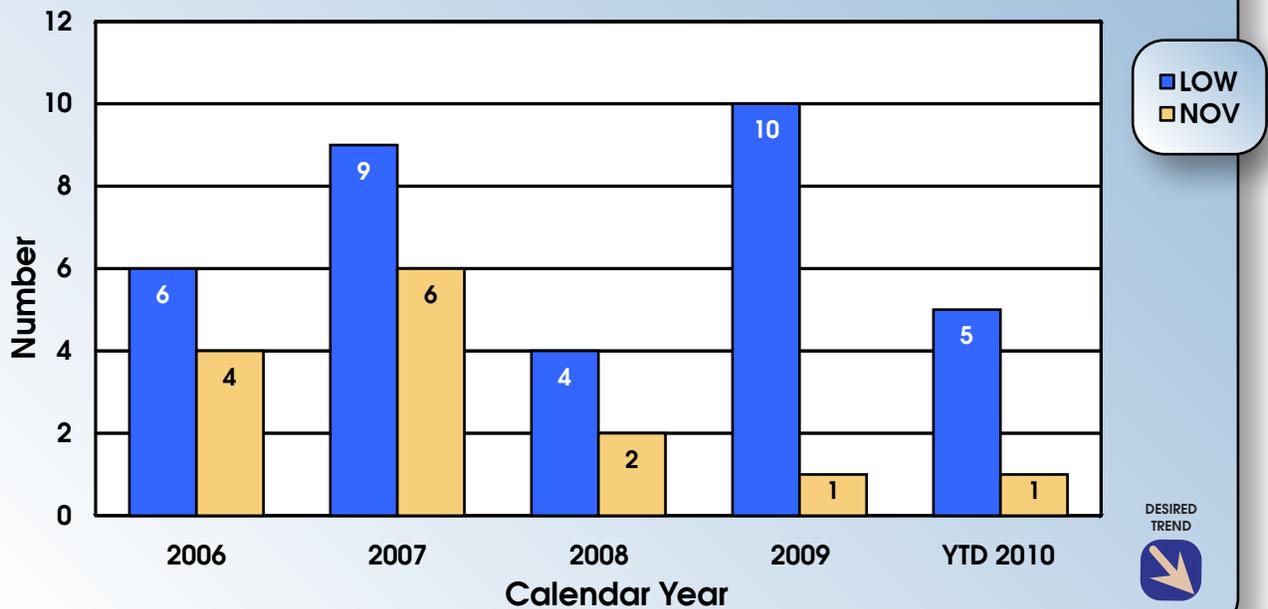
- First Quarter 2010 – MoDOT received two LOWs. One was for exceeding effluent limitations at a welcome center and the other was for an unsatisfactory underground storage tank inspection.
- Second Quarter 2010 – MoDOT received one NOV and three LOWs. The NOV was for failure to submit a demolition notification prior to the demolition of a bridge over I-55. One LOW was for a preliminary finding related to possible erosion control violations along Route 54. Two LOWs were for effluent limitations at a welcome center. MoDNR has modified MoDOT's welcome center operating permit for a three-year period where no LOWs or NOVs will be issued to allow us to make operational changes and perfect plant performance.



### Percent of Projects Completed without Environmental Violation



### Number of LOWs & NOVs



Note: There is no benchmark data presented with this measure. MoDOT has a zero-tolerance policy toward NOVs, but recognizes LOWs will never be eliminated due to their nature. Therefore, regardless of what other states are doing, MoDOT's desired results are zero NOVs, because NOVs are usually violations of law and state statute.

## Tons of carbon emissions from drivers on Missouri roads-10b

**Results Driver:** Dave Nichols, Director of Program Delivery

**Measurement Driver:** Kathy Harvey, State Design Engineer

### Purpose of the Measure:

This measure tracks the total tons of carbon emissions resulting from fuel used while driving in Missouri, the total gallons of fuel purchased in the state and the vehicle miles traveled by various categories of vehicles on the entire Missouri system including state, county and local roadways.

various vehicles. Prior to 2008 there was a process that adjusted the statewide VMT based on an average growth factor. To split the VMT into categories, known percentages of vehicle types using only the state highway system were applied to the VMT for the entire statewide roadway system.

### Measurement and Data Collection:

Information is prepared from fuel tax information provided by the Missouri Department of Revenue and converted by the Missouri Department of Transportation to tons of carbon emissions and vehicle miles traveled. Tons of carbon emissions are calculated with the following formulas:

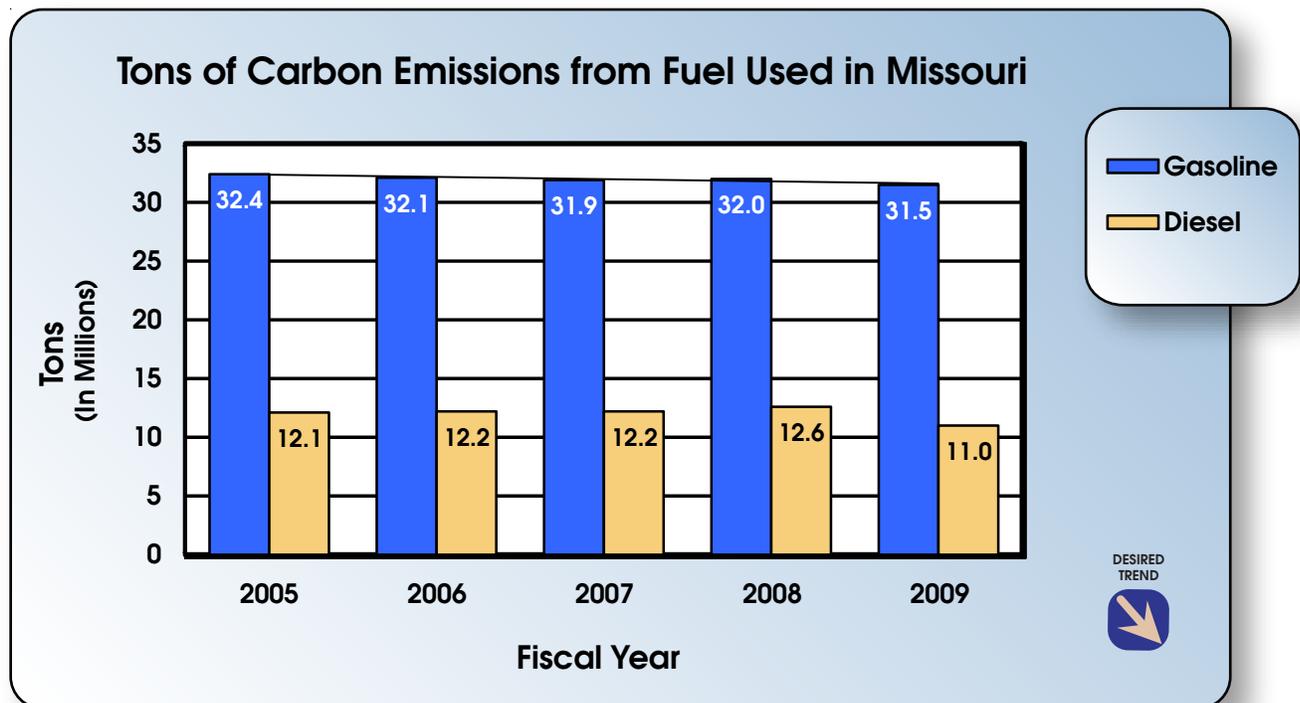
Gasoline: number of gallons consumed x 19.42 (to get to pounds of CO<sub>2</sub>) x 1.057 (remaining emissions factor) / 2000 (to convert to tons).

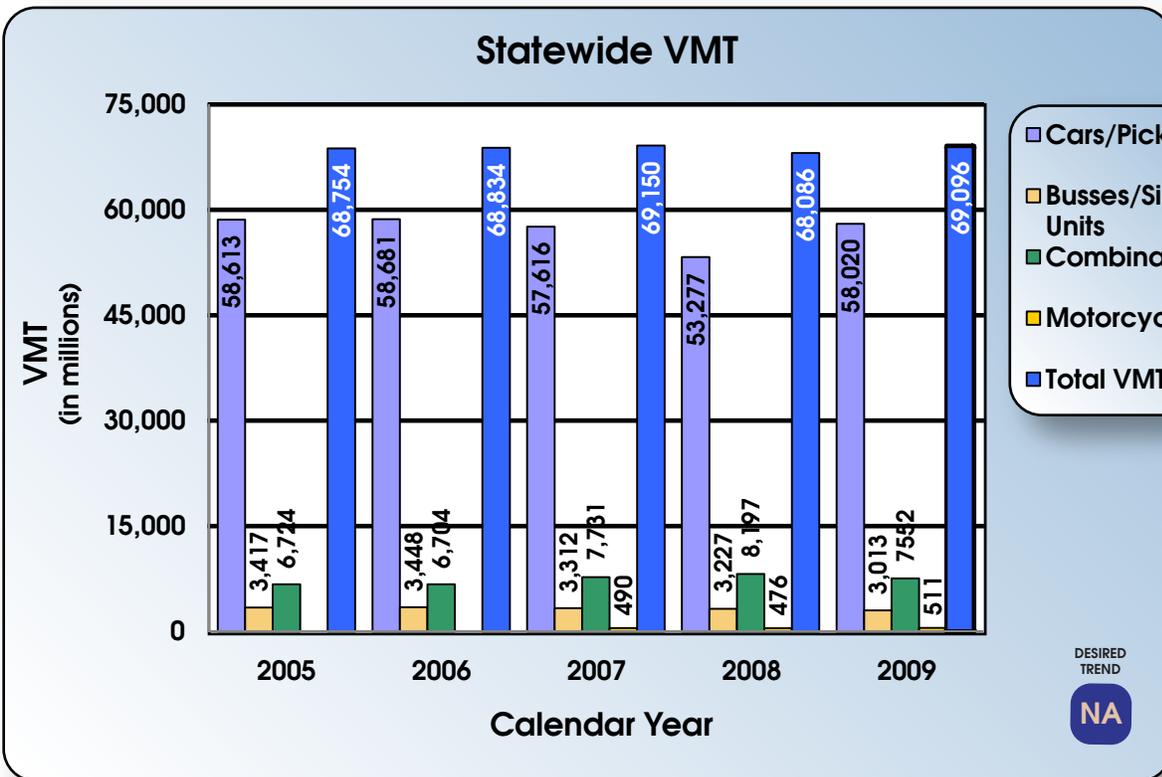
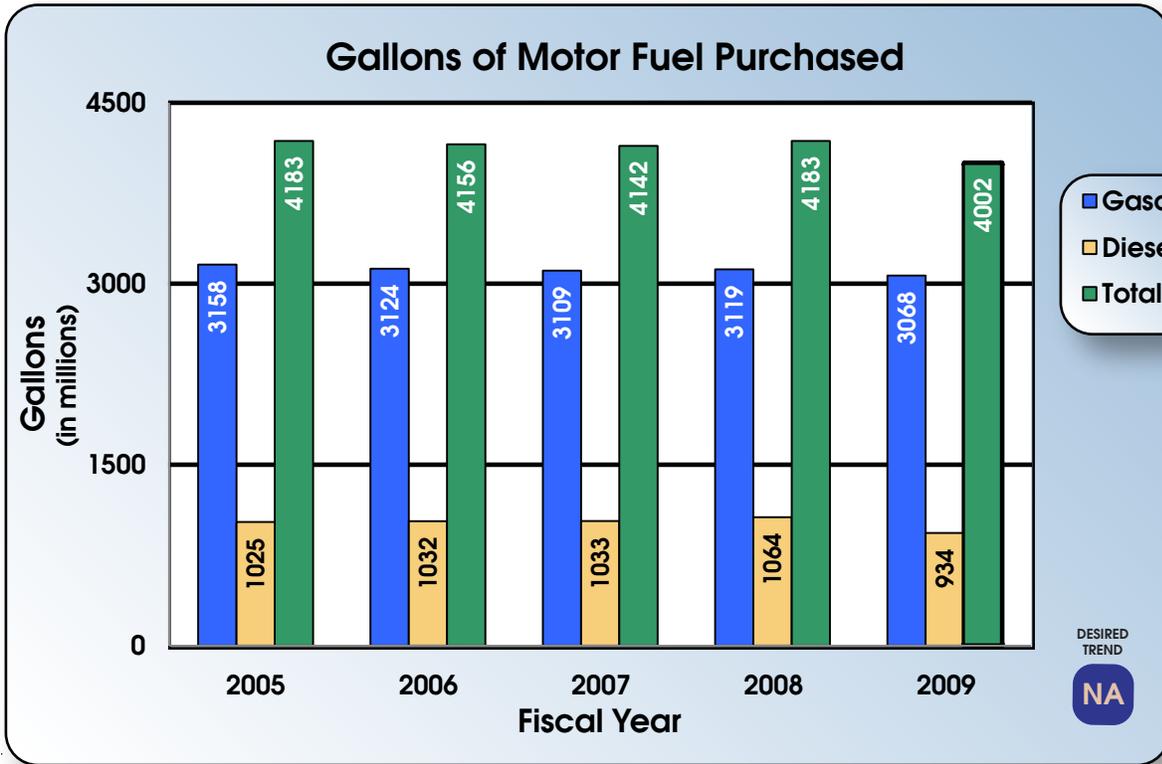
Diesel: number of gallons consumed x 22.38 (to get to pounds of CO<sub>2</sub>) x 1.057 (remaining emissions factor) / 2000 (to convert to tons).

Starting in 2008, total VMT is estimated from the fuel sales using published average mileage for

### Improvement Status:

Overall, there has been a downward trend between 2005 and 2009 in tons of carbon emissions and gallons of fuel purchased. Statewide VMT in 2009 is up slightly from 2005 levels. The decrease in emissions and fuel purchased is likely due to improved fuel efficiency of the vehicles since VMT has remained relatively level for five years. This information is being used to develop a Missouri baseline for the data.





## Metric tons of CO<sup>2</sup> generated from MoDOT activities – 10c

**Result Driver:** Dave Nichols, Director of Program Delivery

**Measurement Driver:** Dave Ahlvers, State Construction and Materials Engineer

### Purpose of the Measure:

This measure tracks MoDOT’s effort to reduce its CO<sup>2</sup> emissions through the use of environmentally responsible practices.

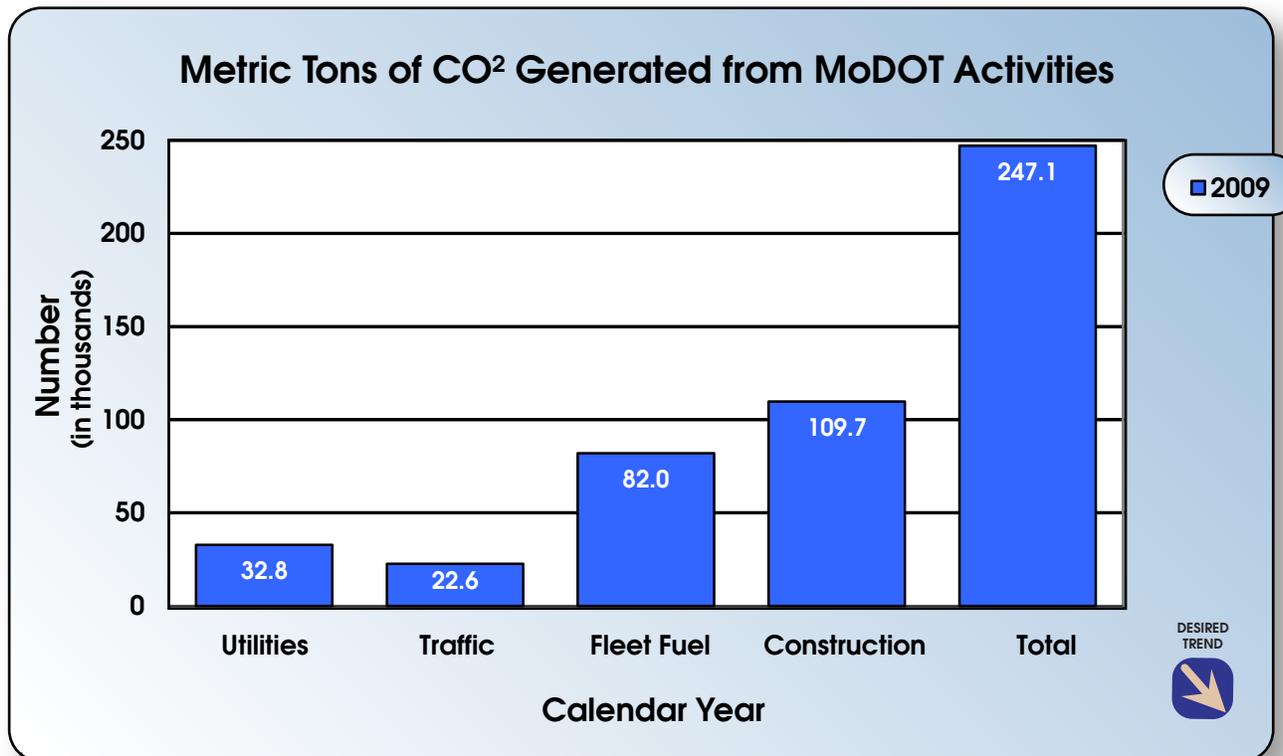
### Measurement and Data Collection:

The number of metric tons of CO<sup>2</sup> emissions produced through MoDOT activities will be calculated and reported on an annual basis. The amount of fuel and power consumed through utilities and traffic, fleet and construction are converted into metric tons of CO<sup>2</sup>. The annual total will be reported in each April edition.

### Improvement Status:

In 2009 MoDOT emitted 247,100 tons of CO<sup>2</sup>. The 2009 values will be used as a baseline for measuring future performance.

The strategies currently in place to reduce emissions in utilities and traffic include the use of LED bulbs for traffic signals and highway lighting, solar panels for flashers, more efficient bulbs, insulation, window replacement and occupancy sensors for maintenance and office facilities. Strategies in place for reducing emissions in fleet and fuel include idle reduction, reduced mowing and use of more efficient equipment. The construction operation is utilizing idling technologies and engines which reduce emissions. Warm mix and the increased use of recycled material reduce fuel consumption in the asphalt industry. Recycling of concrete pavement results in less hauling and quarry operations. Several MoDOT contracts contain green credits which incentivize the use of environmentally friendly practices.



## Number of tons of recycled material-10d

**Result Driver:** Dave Nichols, Director of Program Delivery

**Measurement Driver:** Dave Ahlvers, State Construction and Materials Engineer

### Purpose of the Measure:

This measure tracks MoDOT's efforts to be environmentally conscious through the use of recycled/waste material.

### Measurement and Data Collection:

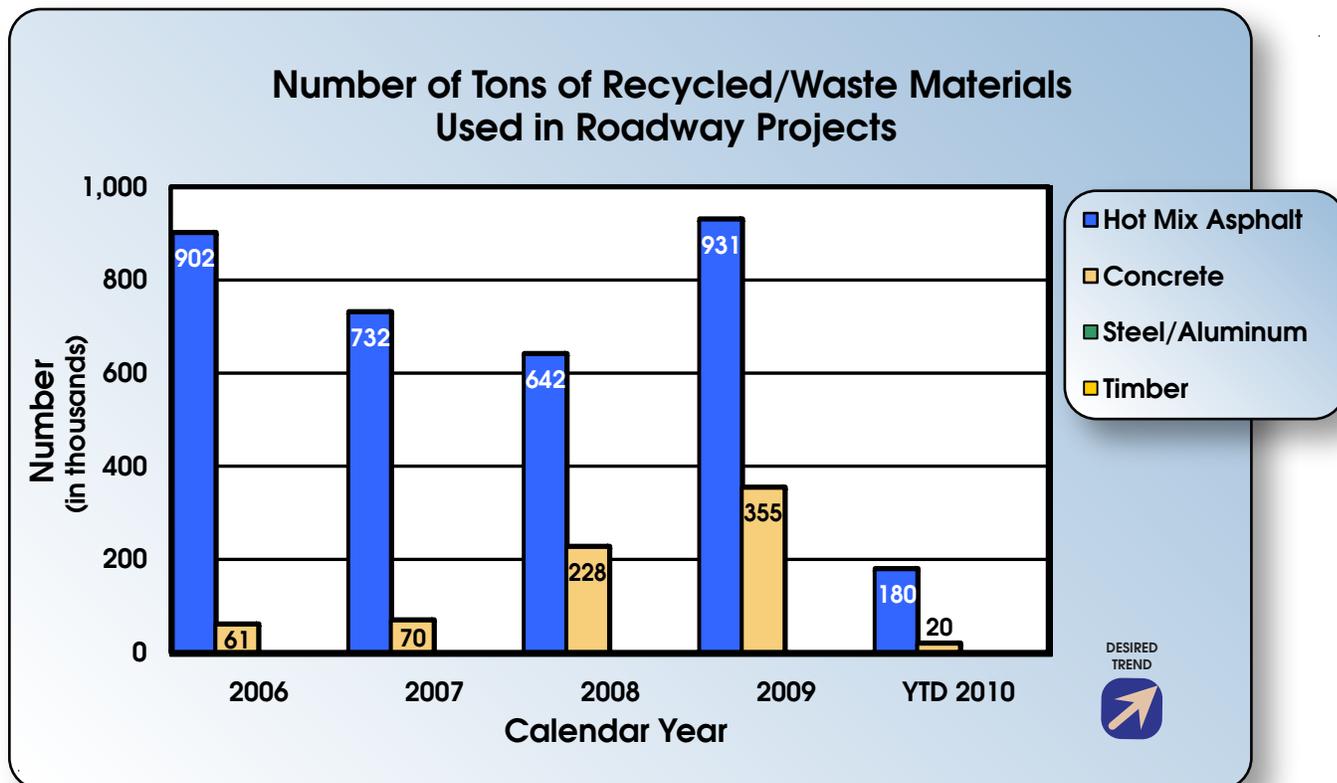
The number of tons of recycled/waste material used in construction projects is measured through MoDOT's construction management database, which tracks material incorporated into projects. Data is collected on an annual basis due to the seasonal nature of the construction. The annual total is finalized in each April edition.

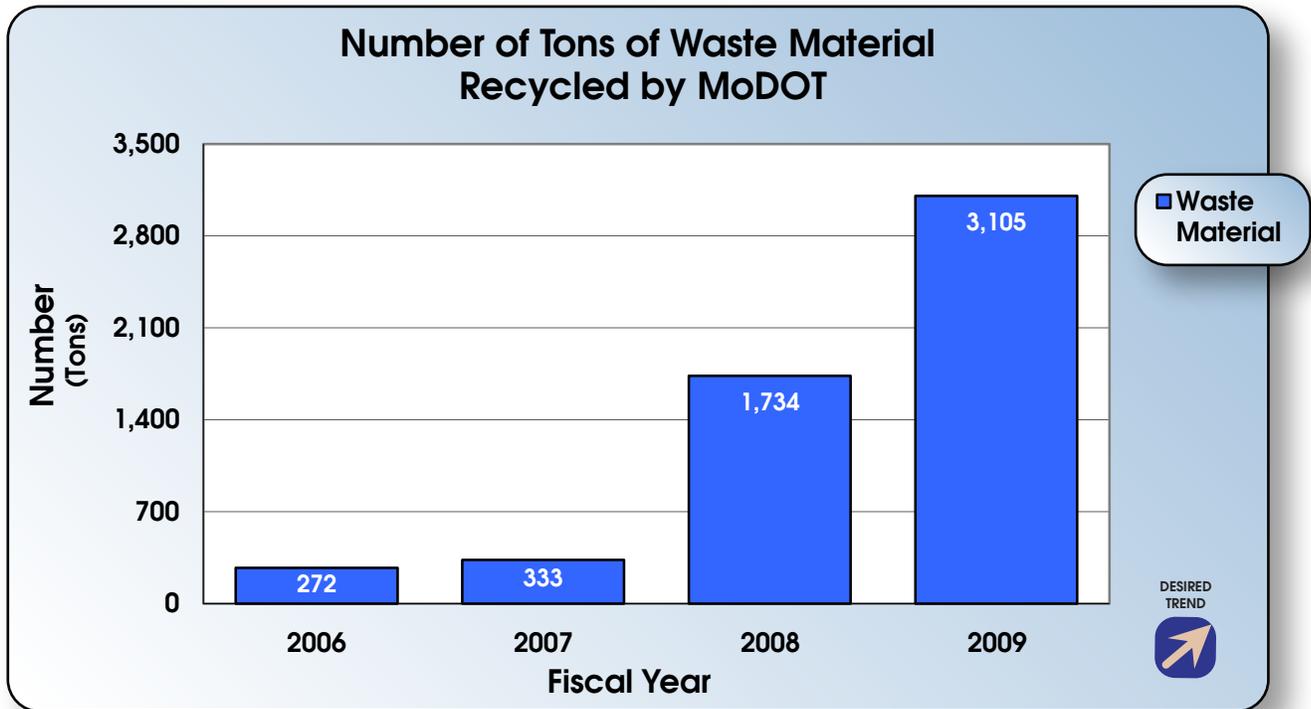
The number of tons of waste material recycled by MoDOT is captured from the annual Missouri State Recycling Program report and from the Maintenance Division.

### Improvement Status:

MoDOT surpassed the 1 million ton milestone on construction projects for the first time in 2009. The contractors' aggressiveness in using higher quantities of recycled materials, especially those replacing asphalt or cement, indicates that these materials are not only environmentally friendly but add a competitive bidding edge to the projects. MoDOT is tracking steel/aluminum and timber to be reported for 2010.

In calendar year 2009 MoDOT recycled 3,105 tons of waste material. The total includes office waste such as paper, cardboard, aluminum, tiles and electronics. Industrial waste makes up the majority of tonnage with items such as tires, metal and vehicle fluids. MoDOT has shown a steady increase since reporting began in 2006.





## Being Green at MoDOT

### Roofs to Roads

MoDOT is among the first state agencies in the nation to recycle shingles to resurface or rebuild highways.



Shingles are ground up and processed

## Environmental improvement plan on maintenance facilities-10e

**Results Driver:** Dave Nichols, Director of Program Delivery

**Measurement Driver:** Kirk Juranas, District Engineer, District 8

**Purpose of the Measure:**

This measure tracks MoDOT’s efforts toward environmental improvement in the operations of its maintenance facilities across Missouri. The improvement plan will be completed by the end of fiscal year 2012.

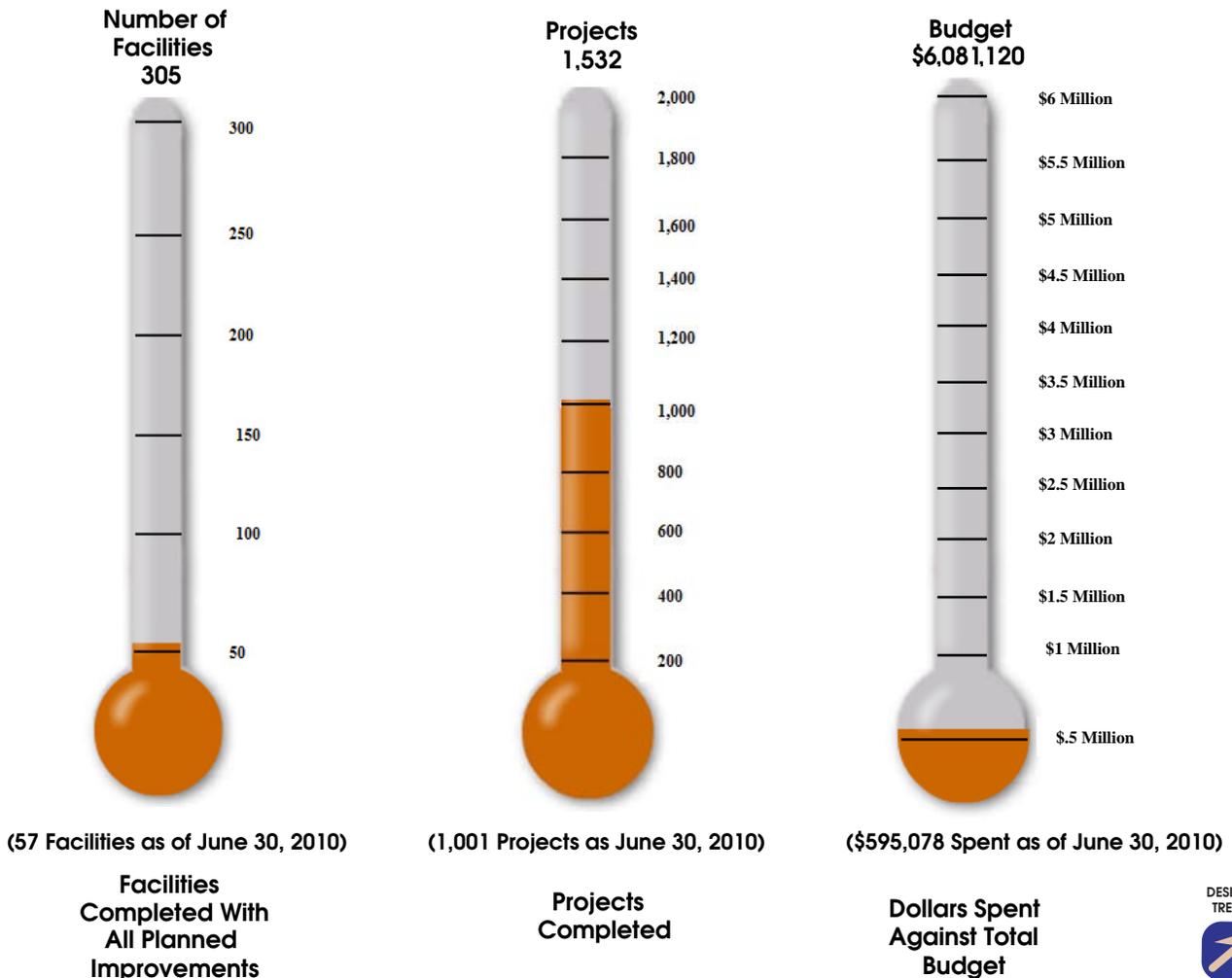
This is an annual measure with a quarterly supplement.

**Improvement Status:**

At the beginning of fiscal year 2010, MoDOT’s Environmental Steering Committee directed MoDOT facilities to demonstrate environmentally and socially responsible operations. Following that meeting, a three-year plan was developed to monitor installation of fence, containment for liquids, storm water and wash water. Improvements such as updated spill protection plans for each facility having petroleum products of 55 gallons or more have been put in place.

**Measurement and Data Collection:**

The data is developed from the number of facilities that meet requirements for security, have spill prevention measures in place and properly dispose of waste. Also reflected are the number of maintenance facilities that have completed their environmental improvement plans, budget and projects completed.



### Number of gallons of fuel consumed-10f

**Result Driver:** Dave Nichols, Director of Program Delivery

**Measurement Driver:** Jeannie Wilson, Central Office General Services Manager

#### **Purpose of the Measure:**

This measure tracks the use of fuel and fuel efficiency within MoDOT. It shows MoDOT's contribution toward environmental responsibility and conservation of resources. The first chart shows the total number of gallons of fuel consumed. Miles per gallon data is shown for the five vehicle classes that accumulate the majority of miles driven. The five classes are separated into light duty and heavy duty equipment. The second chart indicates the average miles per gallon for cars and pickups. The third chart below indicates the average miles per gallon for light duty trucks, heavy trucks and extra heavy duty trucks.

#### **Measurement and Data Collection:**

This measure is intended to focus on the total fuel consumed and how wise choices can impact fuel economy. Fuel data is collected based on the number of gallons of fuel consumed by unit recorded in the statewide financial system. Mileage data is gathered through the Fleet Management System.

This measure is reported one quarter in arrears. This allows more time for employees to enter the usage on their equipment. The usage data, along with fuel information, is used to calculate the miles per gallon (MPG) of the five main classes of equipment.

#### **Improvement Status:**

In comparing the third quarter of fiscal year 2010 to the third quarter of fiscal year 2009, the total fuel consumed increased by 713,000 gallons (11.5 percent). The total miles/hours recorded increased by 4.1 million miles/hours (9.1 percent).

In reviewing the data by fuel type, diesel and biodiesel combined increased approximately 600,000 gallons (13.4 percent), unleaded gasoline increased

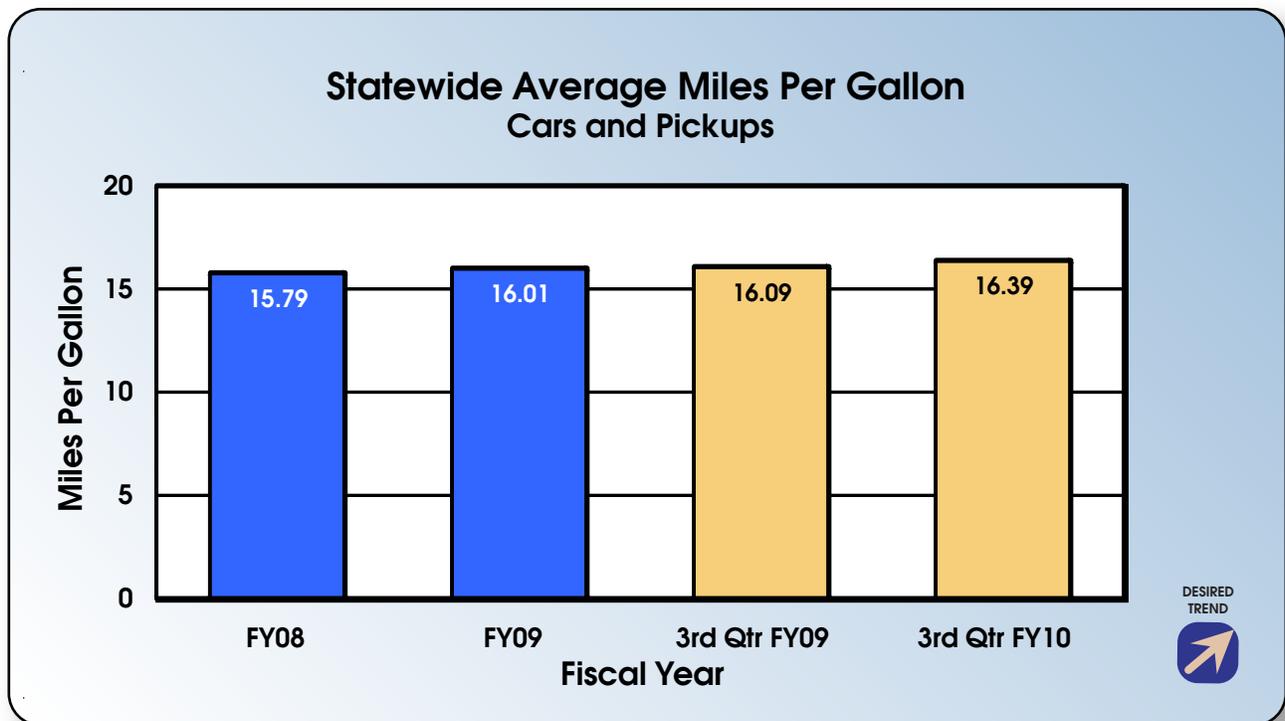
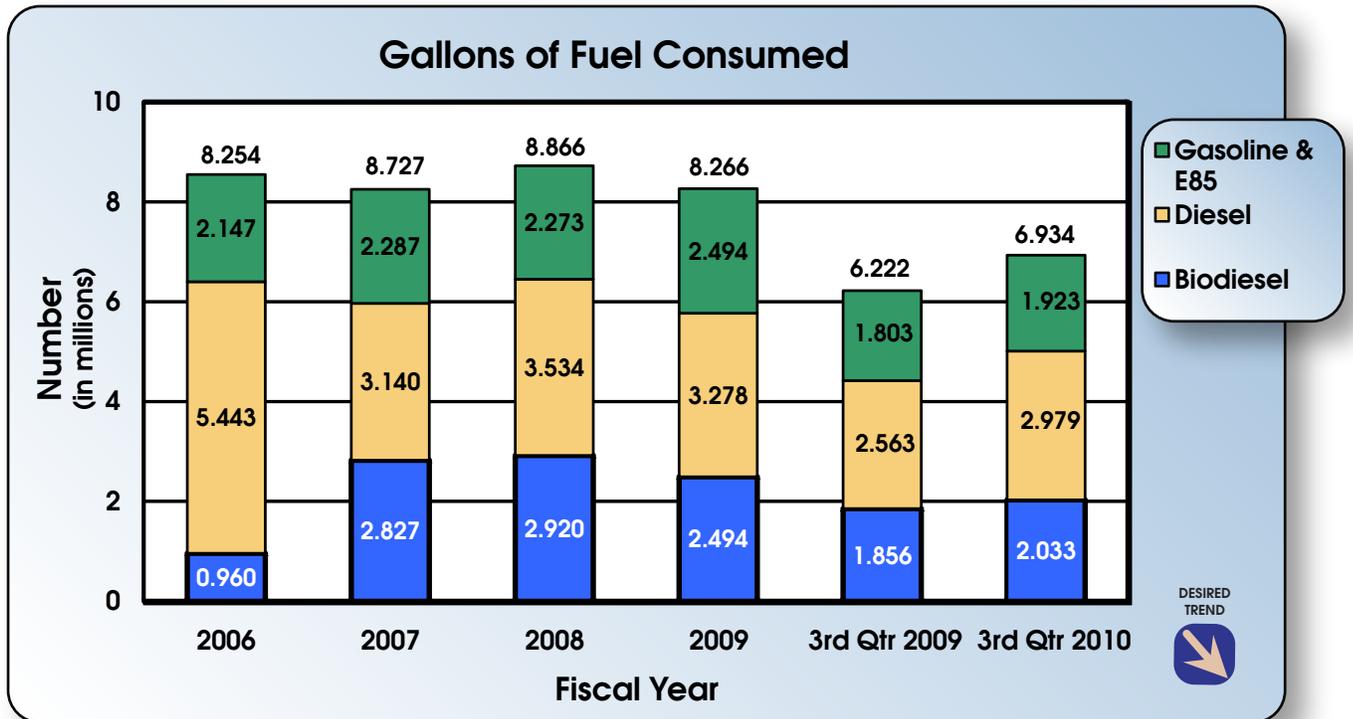
by 148,000 gallons (8.6 percent), and E85 decreased by 28,000 gallons (32.9 percent).

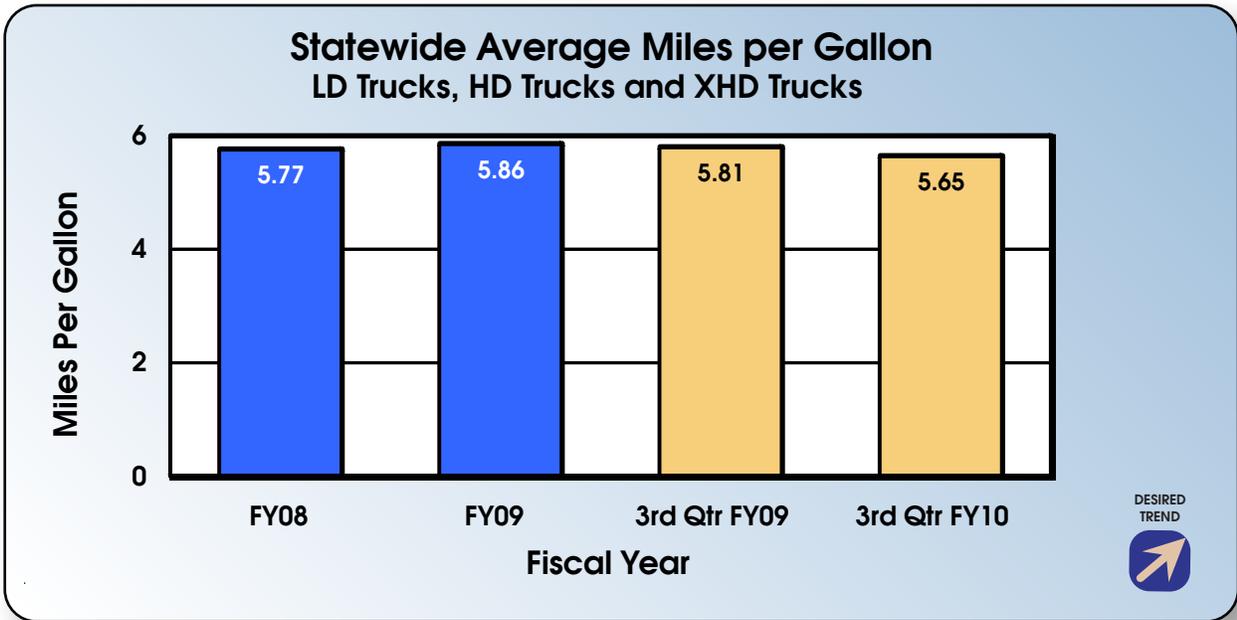
The increased use of diesel/biodiesel fuel can be attributed to two major reasons. The first is the extreme weather this past winter. There were approximately 2.7 million additional miles/hours recorded for snow and ice removal in fiscal year 2010 compared to fiscal year 2009. There was also an increased focus on minor roads. Asphalt repair, patching roads and chip sealing combined for an increase of approximately 1.3 million additional miles/hours recorded.

The increased use of unleaded gasoline corresponds to a busy construction season. There was an increase of 500,000 miles/hours recorded for construction and construction related activities.

There was an increase of 1.9 percent in miles per gallon for cars and pickups. This demonstrates an increased focus on planning work and travel to better utilize resources.

The miles per gallon for light duty, heavy duty and extra heavy duty trucks decreased by 2.7 percent. The winter weather greatly impacted the average miles per gallon for these vehicles due to the additional weight of hauling salt and the reduced speeds necessary to push the heavy snow that was experienced. The dump truck fleet drove an additional 2.9 million miles and consumed an additional 580,000 gallons of fuel.





## Cost and usage of utilities for facilities-10g

**Result Driver:** Dave Nichols, Director of Program Delivery

**Measurement Driver:** Doug Record, General Services Manager

**Purpose of the Measure:**

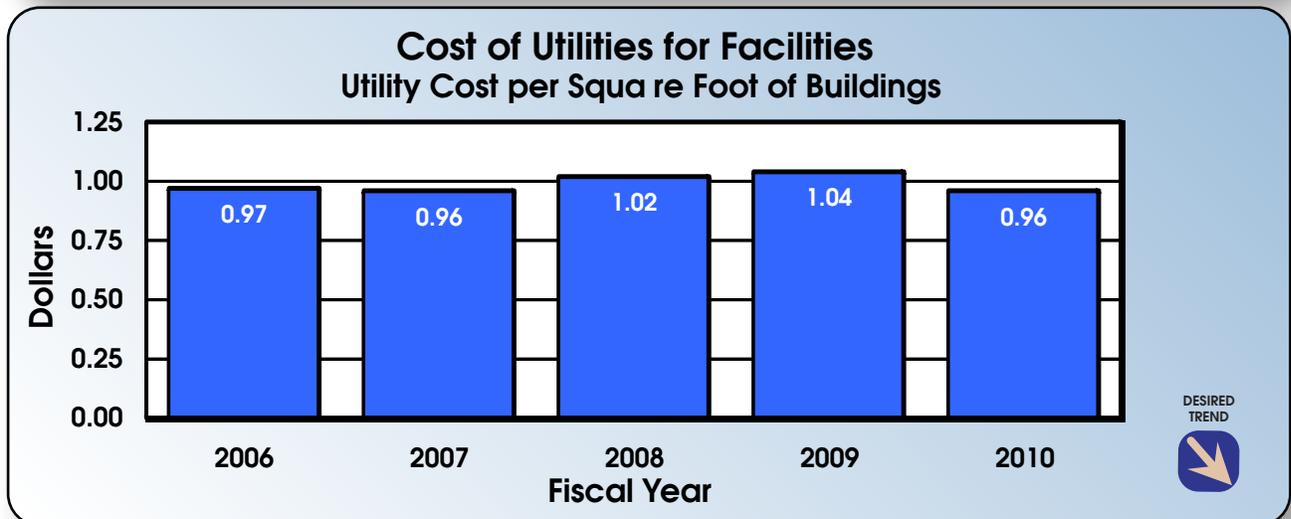
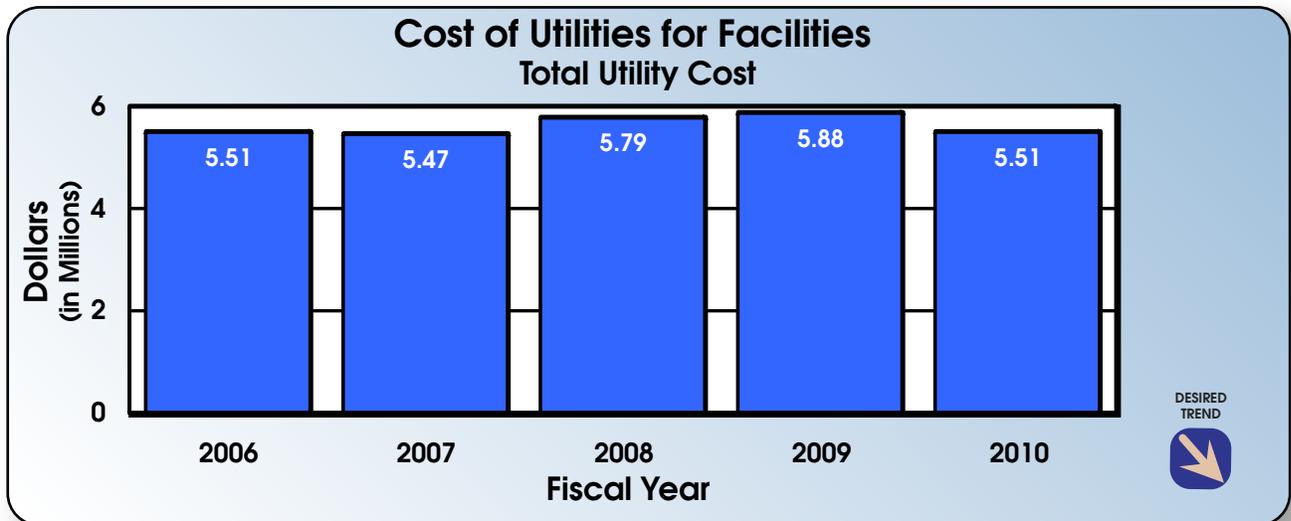
This measure tracks the cost and usage of utilities for department facilities, excluding roadways. It attempts to capture the impact of energy efficient improvements in buildings and operations.

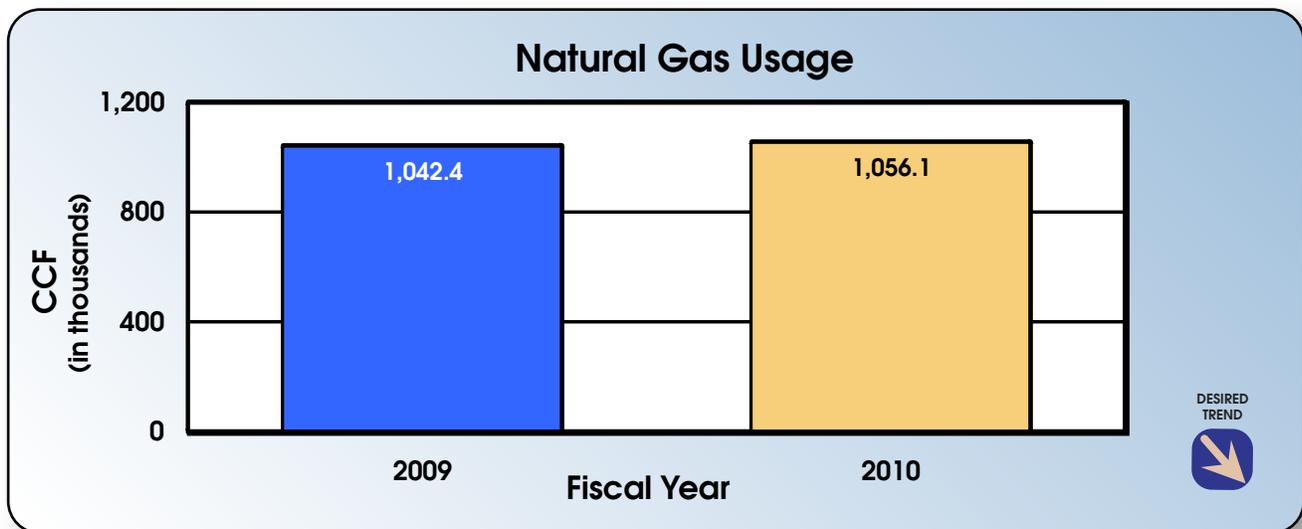
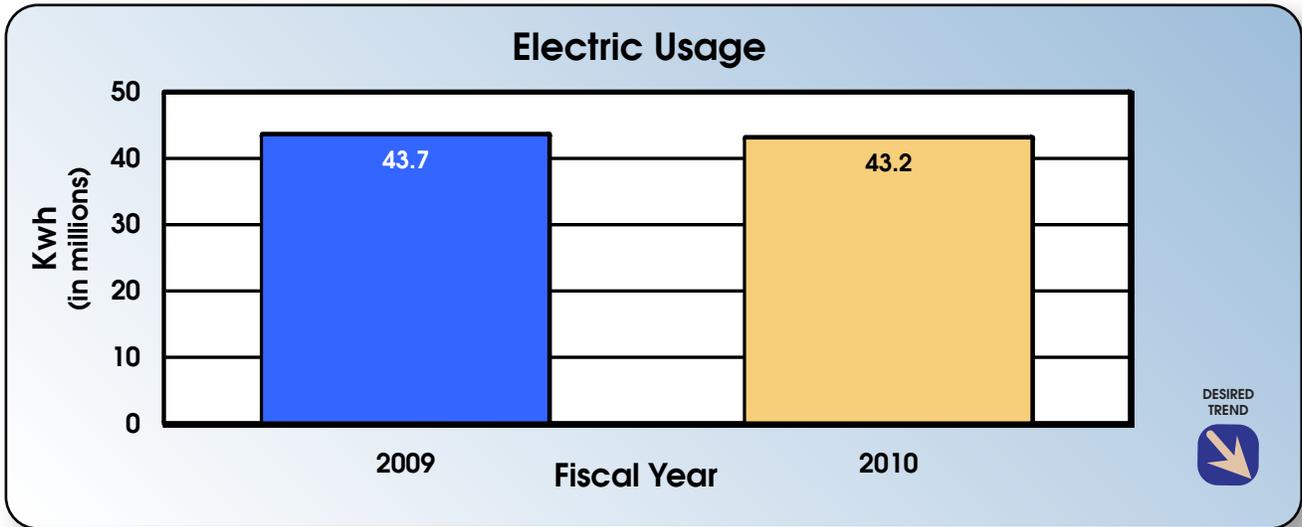
**Measurement and Data Collection:**

The data is collected based on utility expenditures and usage recorded in the statewide financial accounting system. The following utilities are included in the analysis: electricity (excluding roadways, lighting and signals), steam, water, sewer, natural gas, propane, fuel oil, other fuel and utilities. This is a quarterly measure with the per square foot chart being updated annually.

**Improvement Status:**

The total cost reported for utilities for fiscal year 2010 is \$5,508,413, a decrease of 6.3 percent over fiscal year 2009. The majority of the cost reduction is related to propane which decreased dramatically. The cost per square foot chart graph shows a decrease of 8 percent. The usage graphs show a 1 percent decrease in electric and a 1.3 percent increase in natural gas. We continue to improve the accuracy and timeliness of inputting usage information and have, where possible, corrected historical errors.





## Customer satisfaction with non-motorized facilities- 10h

**Result Driver:** David Nichols, Director of Program Delivery

**Measurement Driver:** Melissa Anderson, Non-motorized Transportation Engineer

### **Purpose of the Measure:**

This measure tracks customer satisfaction with transportation facilities for biking and walking, such as sidewalks, traffic signals and crosswalks, bike lanes and bikeable shoulders. It is MoDOT's desire to provide accessible and connected networks that allow customers to have options for meeting their transportation, recreation and active living needs.

### **Measurement and Data Collection:**

Data is collected in the annual customer survey titled the "Report Card from Missourians." Customers are asked if they have biked or walked for transportation in the past week. If the answer is yes they are asked additional questions about their experience.

### **Improvement Status:**

MoDOT has made a commitment to make progress in upgrading pedestrian facilities to meet the Americans with Disabilities Act access requirements. In addition, bicycle and pedestrian needs are to be considered on all projects and included where it is the right thing to do. As MoDOT makes system improvements in accessibility and network connectivity satisfaction levels are expected to increase.



## ADA transition plan progress-10i

**Result Driver:** David Nichols, Director of Program Delivery

**Measurement Driver:** Melissa Anderson, Non-motorized Transportation Engineer

### Purpose of the Measure:

This measure tracks MoDOT's progress on making right of way facilities, such as sidewalks and traffic signals, and building facilities, such as parking lots and restrooms, accessible to users of all ages and abilities by removing barriers. Completion of the needed improvements will bring the department into compliance with the Americans with Disabilities Act.

### Measurement and Data Collection:

The graphs show the cost to upgrade MoDOT right of way and facilities statewide. Costs shown are in 2008 dollars and are based on construction estimates and the inventory developed in 2008. The costs are used as a measuring tool only. As improvements are made and the inventory is updated, the cost of completed projects increases. The number of projects completed each year is shown in parentheses. Upgrades are made based on actual field conditions and not restricted to the 2008 inventory or costs. This is an annual measure, but will be updated quarterly.

### Improvement Status:

MoDOT's Transition Plan Update will be published in 2010. The needs were identified in 2008 and the department has been working to upgrade pedestrian facilities on projects since the development of the inventory. The American Recovery and Reinvestment Act (ARRA) provided approximately \$9 million dollars for accessibility projects and the opportunity to improve pedestrian travel is being considered in all current projects. The department has been responsive to public requests and has been proactive in many areas to make simple, low-cost improvements when opportunities arise.



## Percent of minorities and females employed-10j

**Result Driver:** Dave Nichols, Director of Program Delivery

**Measurement Driver:** Rudolph Nickens, Director of Equal Opportunity and Diversity

### **Purpose of the Measure:**

This quarterly measure tracks minority and female employment in MoDOT's workforce and compares it with availability data from the Missouri 2000 Census report. Efficient use of people resources provides opportunities for the department to leverage transportation resources with available human capital. By placing the right people in the right place, the department can better serve its customers and help fulfill its responsibilities to taxpayers.

### **Measurement and Data Collection:**

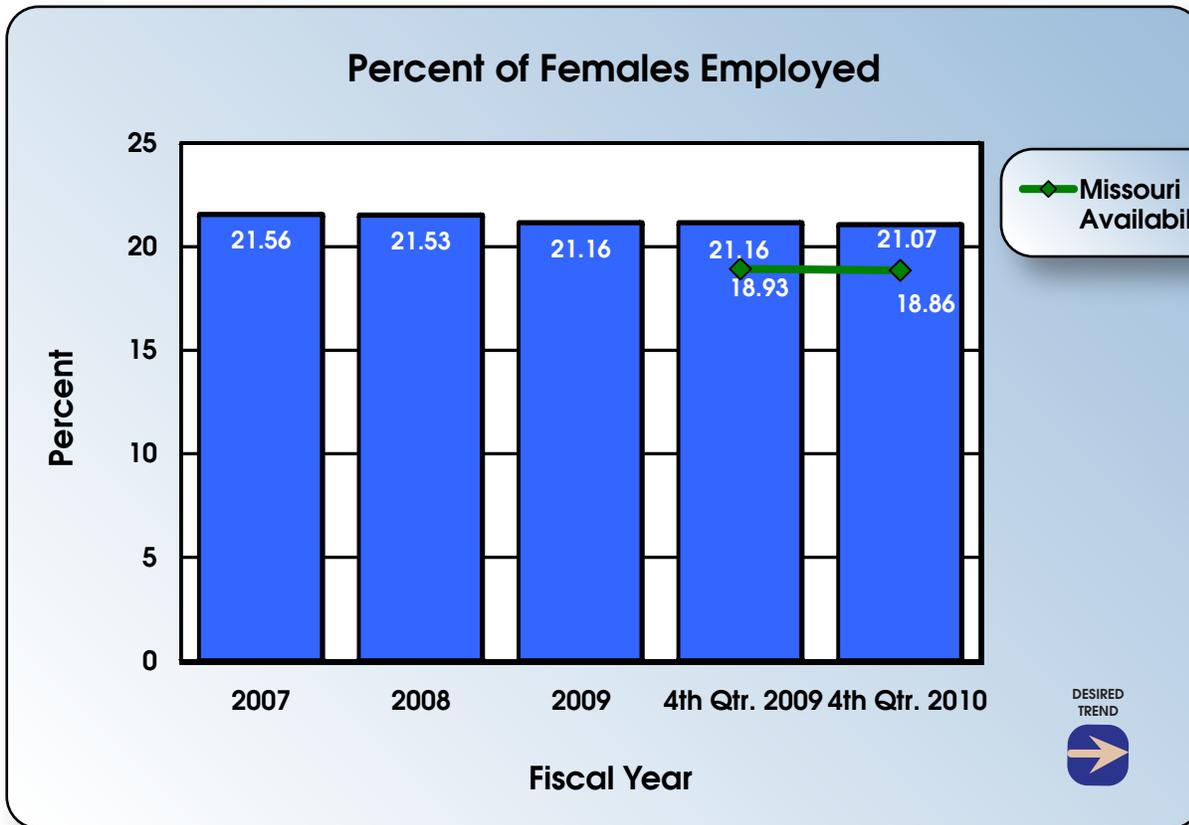
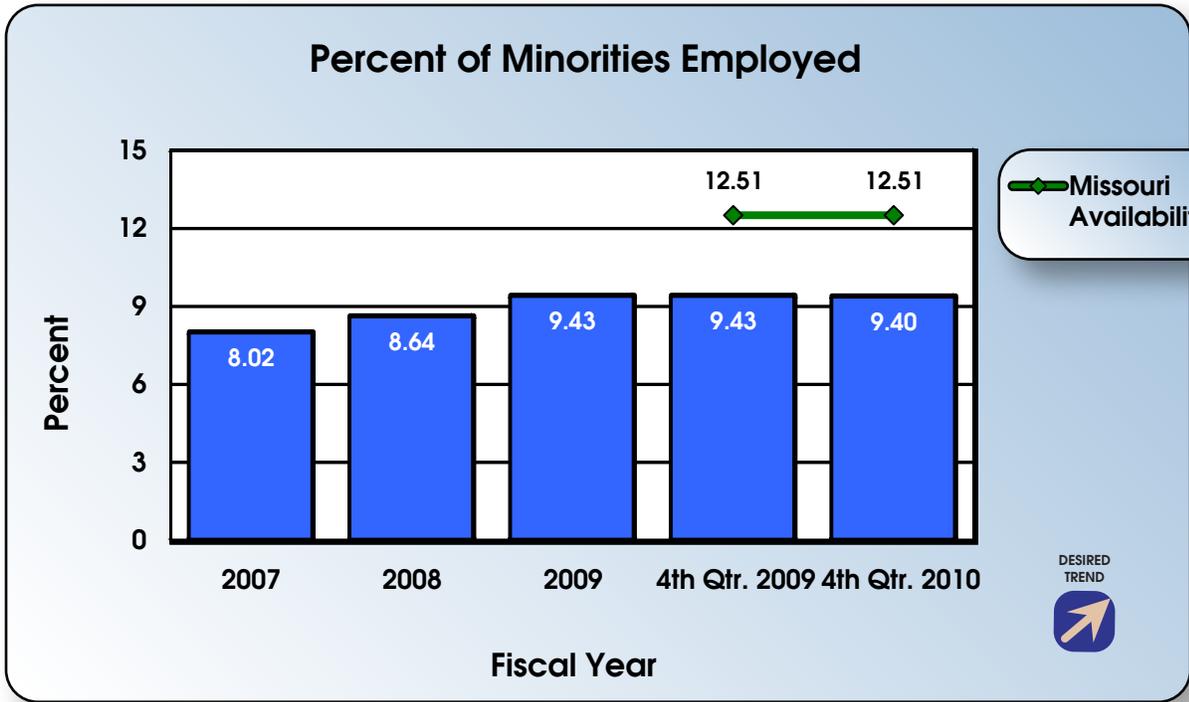
MoDOT's Affirmative Action software database and Missouri 2000 Census Report are used to collect data. Private sector, departments of transportation, Missouri state agencies, and Missouri 2000 Census Data were researched to determine a benchmark for this measurement. Due to the significant variations for some of these entities (such as pay incentives, number of employees, geographic locations), it was determined Missouri 2000 Census Data, based on

jobs used by the department, would be the benchmark for this measurement.

### **Improvement Status:**

The total number of minority employees decreased by .95 percent (606 to 577) from the fourth quarter FY 2009 to fourth quarter FY 2010. Overall, minority employment decreased from 9.43 percent to 9.40 percent during the above mentioned period. Both the total number (1,359 to 1,294) and percent (21.16 to 21.07) of female employees decreased. During this quarter the department continued working with community partners to advertise positions and recruitment efforts. Different districts have been proactive in training college students on interview techniques and resume writing in order to better prepare them for applying for positions with MoDOT.





## Separation rates for minorities and females-10k

**Result Driver:** Dave Nichols, Director of Program Delivery

**Measurement Driver:** Rudolph Nickens, Director of Equal Opportunity and Diversity

**Purpose of the Measure:**

The purpose of this measure is to track female and minority separation rates compared to the overall MoDOT separation rate.

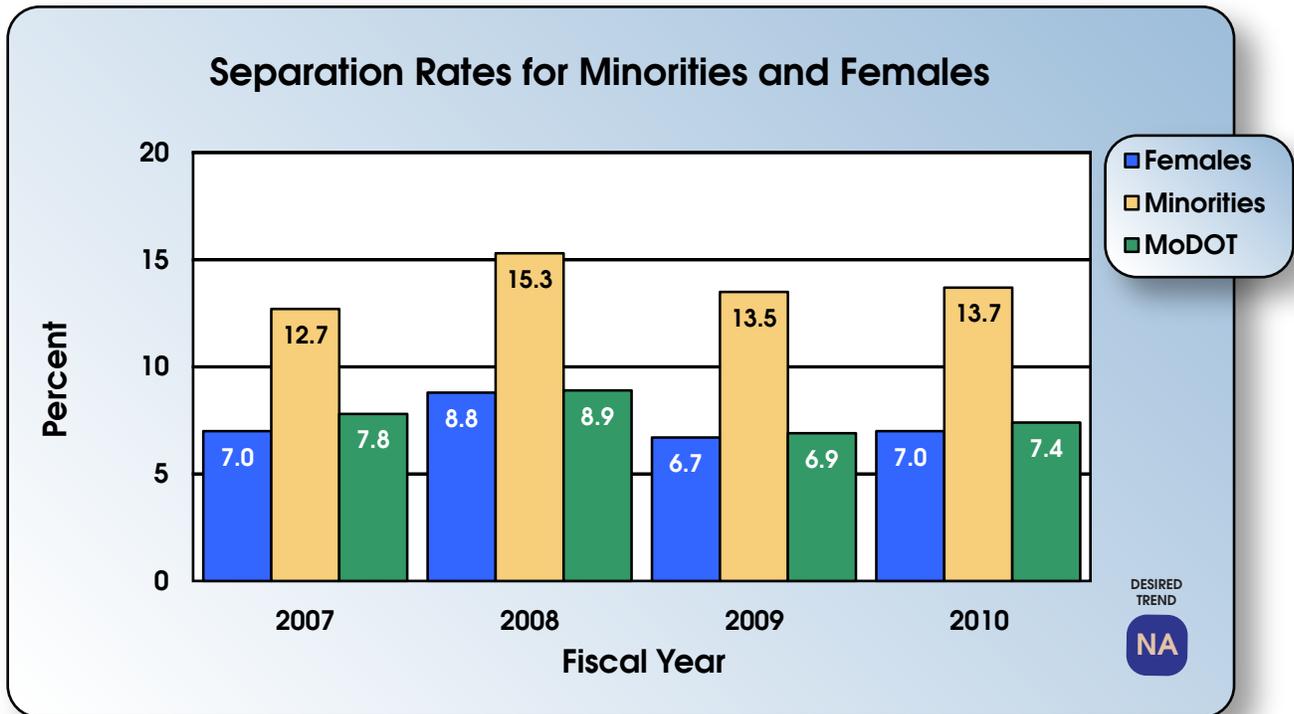
**Measurement and Data Collection:**

Data is collected quarterly through SAM II Advantage HR, ReportNet and Peopleclick AAPlanner reports. These separations include both voluntary and involuntary separations from the department.

**Improvement Status:** The overall number of separations for MoDOT in FY 2010 increased by 2.5 percent (442 to 453) compared to FY 2009. Of this number, female separations stayed neutral (91 to 91). While the female separation stayed neutral, it still

increased by 0.3 percent due to an increase in female employment, and minority separations increased by 3.7 percent (82 to 79). As a result of these measures, the MoDOT separation rate increased by 0.5 percent, and the minority separation rate increased by 0.2 percent.

To improve work relationships, district human resources worked with partners in their communities to increase awareness and inform them of job opportunities. Our partners include, A Call to Oneness, Guadeloupe Center, Housing Authority of Kansas City, American Indian Counsel, Veteran's Administration, Full Employment Council, Don Bosco Center, Missouri Career Center, and Job Corp.



## Promotion rates for minorities and females-10I

**Result Driver:** Dave Nichols, Director of Program Delivery

**Measurement Driver:** Rudolph Nickens, Director of Equal Opportunity and Diversity

### Purpose of the Measure:

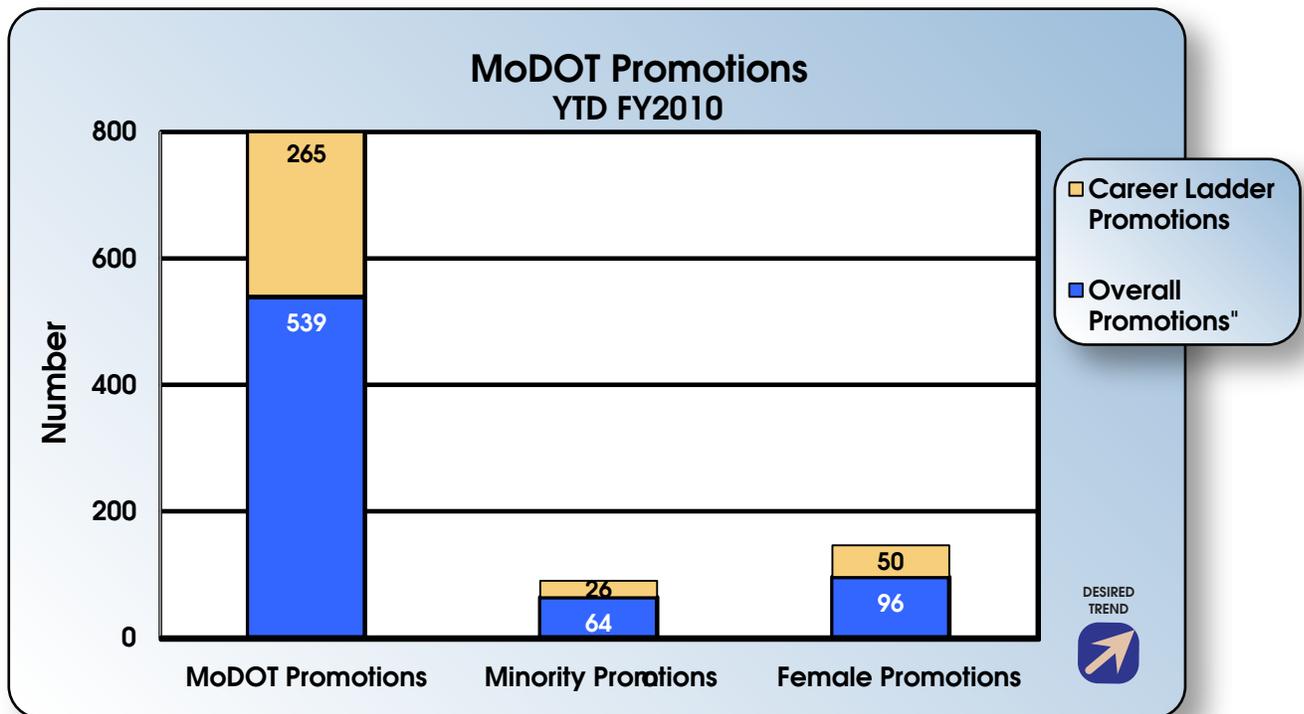
This is a quarterly measure that tracks promotions throughout MoDOT's workforce. It then separates the tracked promotions by job groups and also minorities and females. Efficient use of people resources provides opportunities for the department to leverage transportation resources with available human capital. Just as recruitment and retention are important measures of workforce diversity, promotion is a good indicator of progress towards a diverse workforce at all levels in the department. By placing the right people in the right place, the department can better serve its customers and help fulfill its responsibilities to taxpayers.

### Measurement and Data Collection:

Data is collected quarterly through SAM II Advantage HR, ReportNet reports. These Promotions include all promotions throughout job groups from the department.

### Improvement Status:

This is a new measure. Year to date there have been 539 promotions within MoDOT. As a result of these measures, Females promotions number 96 (17.8%) and minority promotions number 64 (11.8%) White male promotions number 379 (70.3%).



## Trainees active, enrolled and graduated in the OJT program-10m

**Results Driver:** Dave Nichols, Director of Program Delivery

**Measurement Driver:** Lester Woods, Jr., External Civil Rights Director

### Purpose of the Measure:

MoDOT administers an on-the-job training program according to FHWA requirements. The intent of the training program is to train minorities, females and disadvantaged persons on highway projects. Contractors submit potential trainees to MoDOT for approval to work on projects that have assigned trainee goals. Based on this information and criteria, trainees are approved or denied to work on the project. FHWA requires MoDOT to submit an annual report outlining the number of new trainees enrolled, number of trainees who graduated from the program and the number of trainees active in the program.

### Measurement and Data Collection:

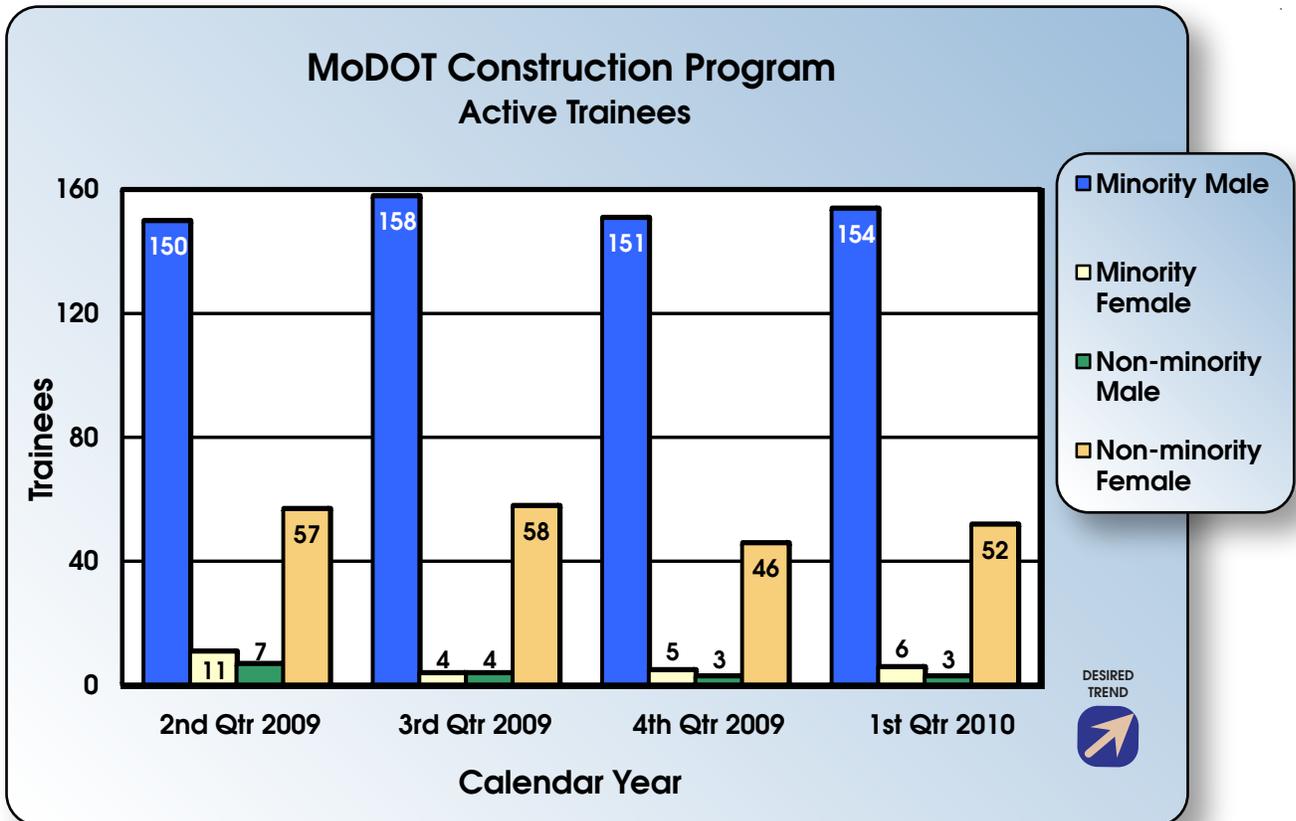
Trainees are tracked to ensure contractors are utilizing minorities, females and disadvantaged

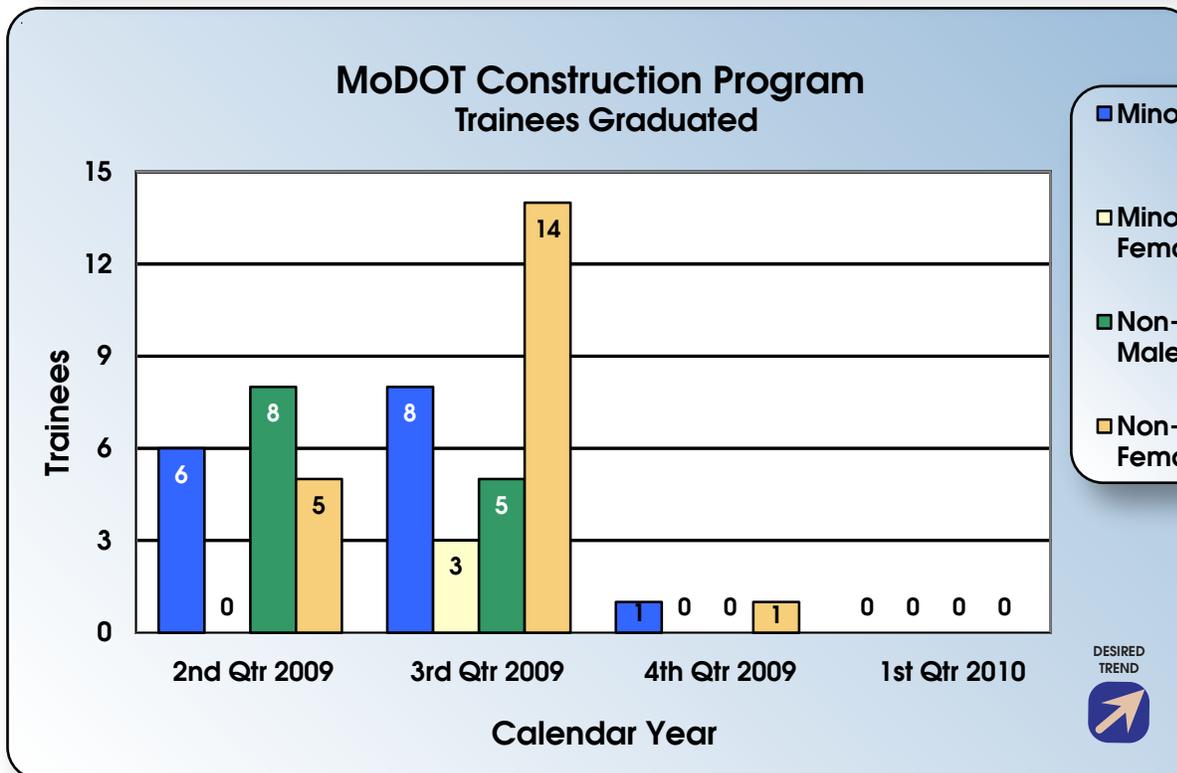
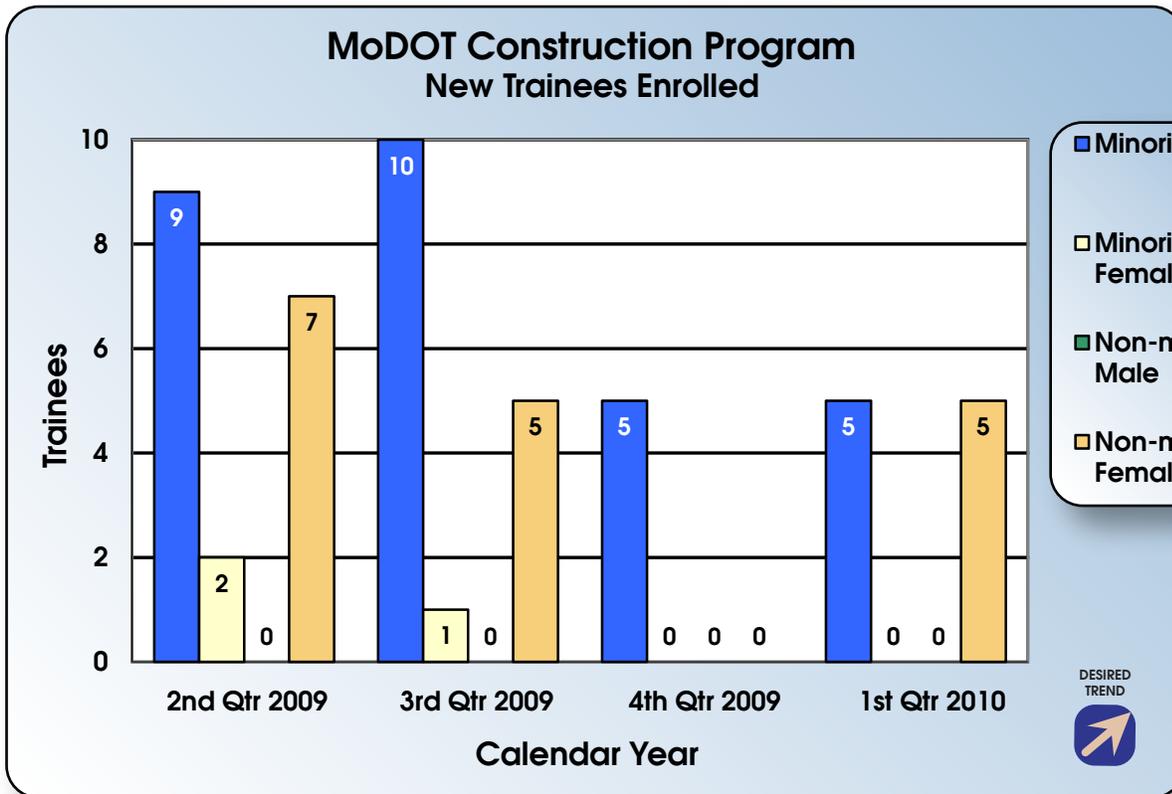
individuals on projects where goals are assigned. The data is reported annually to FHWA to demonstrate MoDOT's achievement in ensuring minorities, females and disadvantaged persons are being utilized and trained on projects.

### Improvement Status:

This quarter's data is for the period of January-March 2010.

Ten additional trainees became active on MoDOT projects during the reporting quarter: three were minority males, one minority female and seven non-minority females. Ten new trainees enrolled in the program. No trainees graduated during the reporting quarter.





## Percent of DBE participation-10n

**Results Driver:** Dave Nichols, Director of Program Delivery

**Measurement Driver:** Lester Woods, Jr., External Civil Rights Director

### Purpose of the Measure:

Data is collected for each project identifying the prime contractor, contract amount, the established DBE goal and the DBEs and the dollar amount identified to participate on the project. This data is reported semi-annually to FHWA to demonstrate our achievement in obtaining the overall DBE goal.

### Measurement and Data Collection:

The semi-annual reports are due to FHWA June 1 and December 1 of each year. Please note all information for this measure is not readily available at the end of each reporting quarter, therefore, the data reported will not always include the current reporting period.

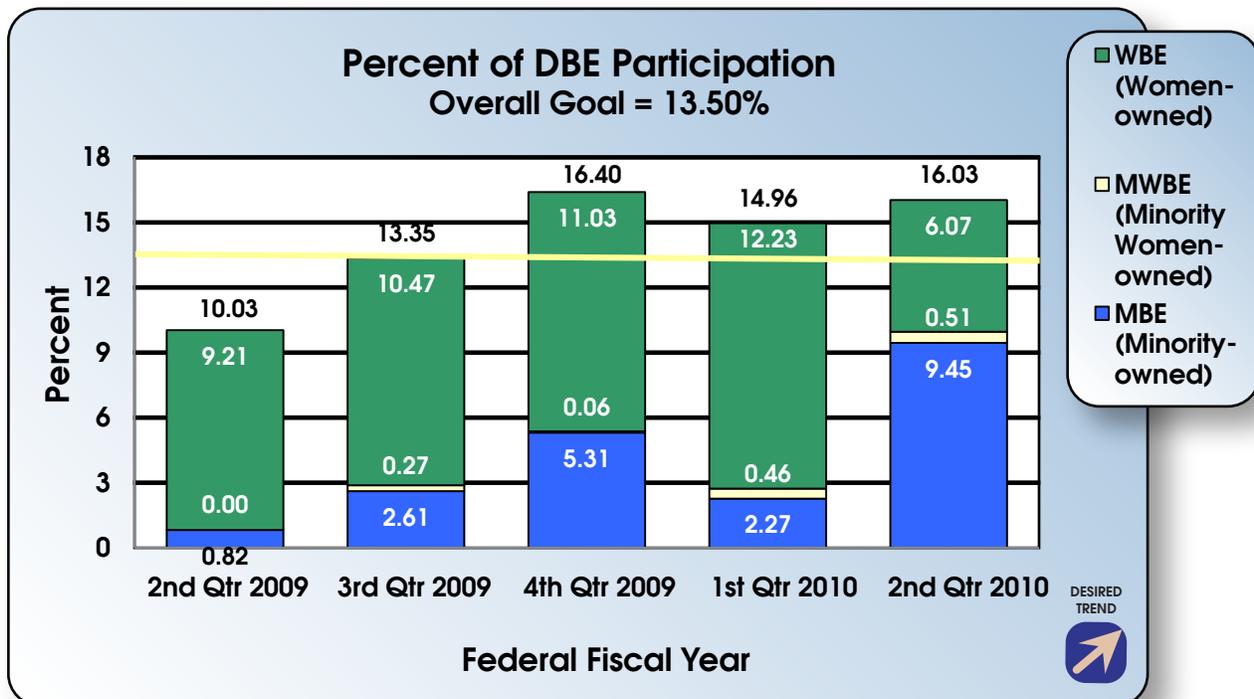
DBE project goals are determined by subcontract opportunity, project location and available DBE firms that can perform the scope of work. The DBE

participation is tracked for each project identifying the prime contractor, contract amount, the established goal and how the prime contractor has fulfilled the goal.

### Improvement Status:

This quarter's data is for the intended DBE participation for projects awarded during the period of January 2010 – March 31, 2010.

The total DBE participation for the current quarter increased 1.07 percent from the previous quarter. DBE firms that are minority-owned increased 7.18 percent and women-owned firms decreased 6.16 percent. The participation for this quarter includes the Mississippi River Bridge main span DBE participation.



### Number of non-construction solicitations sent to minority/women/disadvantaged business enterprises and number of contracts awarded-10o

**Result Driver:** Dave Nichols, Director of Program Delivery

**Measurement Driver:** Rebecca Jackson, Central Office General Services Manager

#### **Purpose of the Measure:**

This measure tracks the number of non-construction solicitations sent and contracts awarded to Minority/Women/Disadvantaged Business Enterprises (M/W/DBE). It shows MoDOT's contribution toward social responsibility. The first chart shows the number of solicitations sent to M/W/DBEs. The second chart indicates the M/W/DBE availability and the number of contracts awarded to M/W/DBEs.

#### **Measurement and Data Collection:**

This measure is intended to focus on providing a fair and open procurement process that includes a diverse vendor community. The data for the non-construction solicitations sent to M/W/DBE is collected by using the information entered into the Procurement Database by the buyer of record. The availability line represents the number of solicitations that had at least one M/W/DBE vendor submit a bid.

#### **Improvement Status:**

The number of solicitations sent to M/W/DBE vendors for FY2010 increased by 474 over FY2009. The variation between FY2009 and FY2010 is directly related to M/W/DBE availability for specific commodity and service bidding opportunities, i.e.,

first aid supplies, promotional items, trash bags, janitorial services, safety vests and various clothing items during FY2010. In FY2010, the number of contracts awarded to M/W/DBE vendors decreased by one from FY2009. The vendor availability decreased by 23 for the same reporting period due to the low number of M/W/DBE vendors (8 percent) that responded to the 2,159 solicitations that were sent. The total dollar value of contracts awarded to M/W/DBE vendors increased from .009 percent in 2009 to .005 percent in 2010. These low-dollar value percentages are directly attributed to the purchase of a high volume of commodities and services where there is no M/W/DBE representation, i.e., sodium chloride, aggregate, fuel management system and plant mix oil materials.

In an effort to provide education and improve M/W/DBE participation, Central Office Procurement participated in a MoDOT-sponsored DBE workshop in Springfield, the Claire McCaskill "Doing Business with the Government" seminar in Lee's Summit, the Ike Skelton Procurement Conference in Sedalia and the Minority Business Opportunity Fair and Associated General Contractors Business Expo, both held in Columbia.



