

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 an 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.

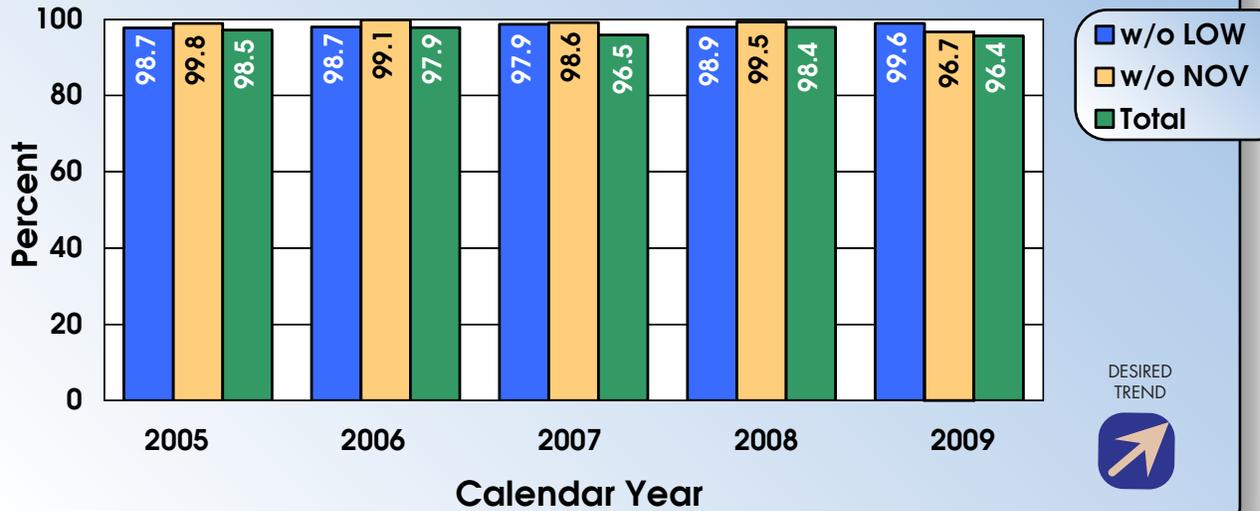
Improvement Status:

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 compiled without any environmental violations. For the year, MoDOT received only one NOV and 10 LOWs.

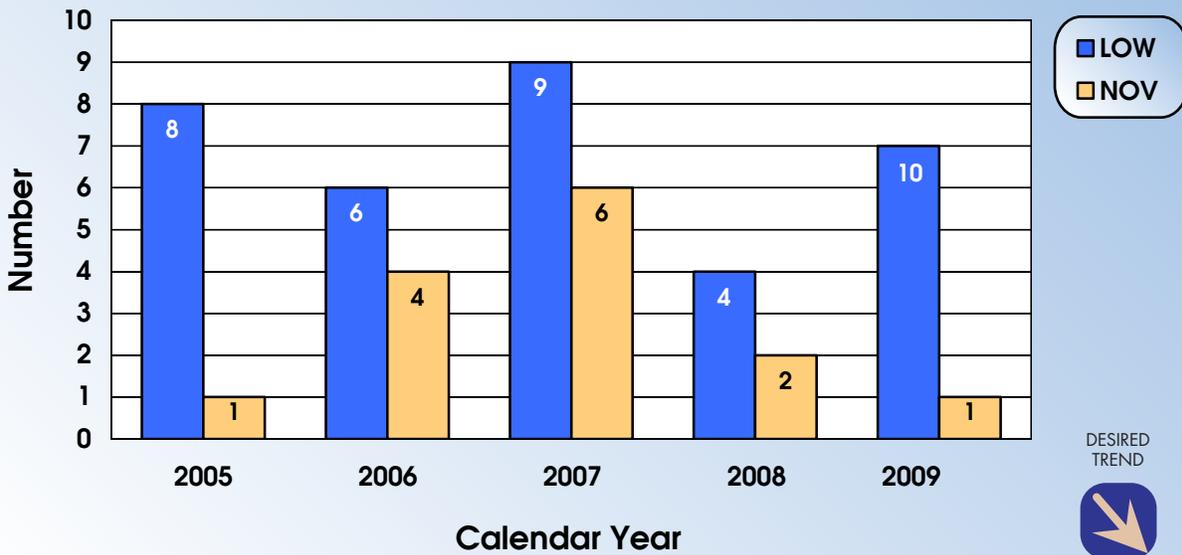
- First quarter 2009 – MoDOT received one LOW and no NOVs. The LOW was for discharge concerns at a MoDOT salt storage facility.
- Second quarter 2009 – MoDOT received two LOWs and one NOV. The NOV was for hazardous waste issues at a maintenance facility. One LOW was for failure to submit a discharge monitoring report and the other was related to best management practices for erosion and sediment control on a construction project.
- Third quarter 2009 – MoDOT received four LOWs and no NOVs. Two construction projects had a LOW, one for land disturbance activities, and the other for violation of MoDOT's Storm Water Pollution Prevention Plan. A third LOW was received by Central Office for inadequate aisle space in the materials lab and the fourth was received for a Welcome Center wastewater plant.
- Fourth quarter 2009 – MoDOT received three LOWs and no NOVs. Two of the LOWs were for effluent limitations at the Conway Welcome Center and the third was for erosion control best management practices on a construction project.



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.

Number of projects MoDOT protects sensitive species or restores habitat-10b

Result Driver: Dave Nichols, Director of Program Delivery

Measurement Driver: Gayle Unruh, Environmental & Historic Preservation Manager

Purpose of the Measure:

Missouri is home to many rare species of plants and animals, some of which are on the federal endangered species list. The Endangered Species Act of 1973 prohibits harm or harassment of these species.

Avoiding or minimizing harm to these species and protecting or restoring their habitat is a fundamental obligation of this organization. Avoidance and/or protection are the first goals of MoDOT's efforts, but in circumstances where avoidance cannot be achieved, restoration of habitat is a minimum acceptable result.

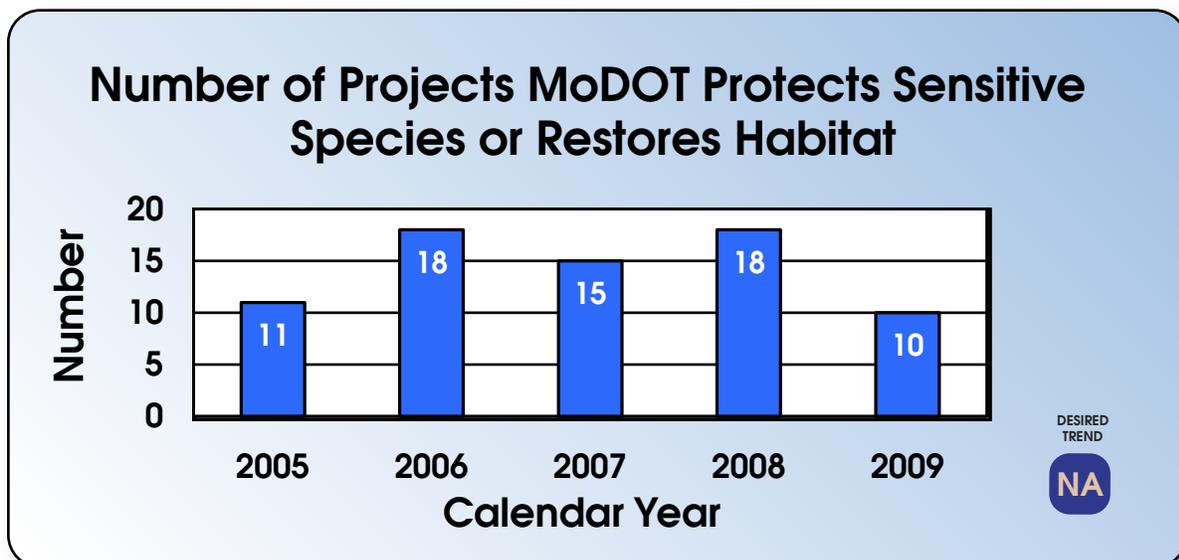
Measurement and Data Collection:

On all MoDOT projects, the department investigates and informs the U.S. Fish and Wildlife Service (USFWS) of any activity in the vicinity of a known threatened or endangered species or critical habitat. Through consultation with USFWS, MoDOT has the data to report on this measure. Because this measure focuses on projects that protect or restore sensitive habitats that could not initially be avoided, most MoDOT projects are not included in this data. This measure is tracked by calendar year with quarterly updates. Annual data are finalized and shown in the January Tracker. There is no desired trend with this

measure. The number reported will fluctuate depending on the size of MoDOT's construction program each year, type of projects being constructed, location and the ability to make adjustments to avoid impacts on sensitive species or their habitat. There are occasionally more than one species on a project.

Improvement Status:

MoDOT protected sensitive species or restored their habitat on 10 projects in calendar year 2009. These species and habitats include the eastern hellbender (one project), Niangua darter (one project), bird nests on bridges (five projects), Meade's milkweed (one project), Indiana bat (two projects) and pallid sturgeon (one project). During 2009 a bald eagle's nest was taken down after the nesting season ended to protect the pair from nesting in an area where roadway construction and other development was about to begin. The nest is displayed at Mingo National Wildlife Refuge in southeast Missouri as an educational tool.



Ratio of acres of wetlands created compared to the number of acres of wetlands impacted-10c

Result Driver: Dave Nichols, Director of Program Delivery

Measurement Driver: Gayle Unruh, Environmental & Historic Preservation Manager

Purpose of the Measure:

Wetlands are a valuable resource in Missouri, having beneficial functions such as wildlife habitat, flood storage and water quality improvement. In addition to these benefits, it is required in the Clean Water Act that impacts to wetlands are avoided, minimized or that wetlands are recreated when a wetland is destroyed during a transportation project.

Measurement and Data Collection:

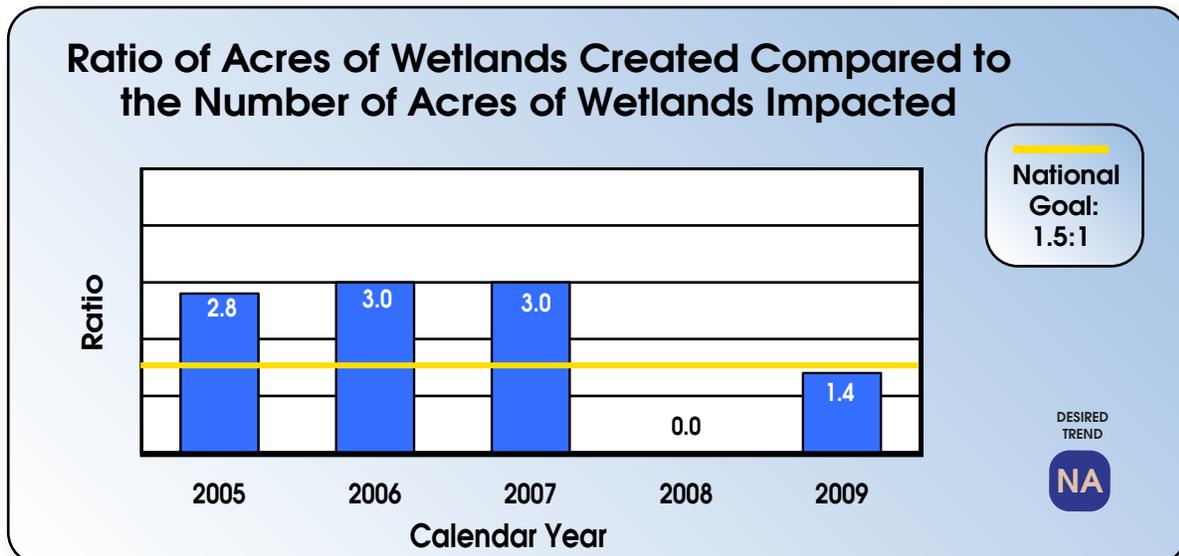
Data for this measure is calculated by comparing acres of project impacts taken from Clean Water Act permits to acres of wetland constructed, as shown in roadway design plans or by calculating the actual wetland areas recreated by MoDOT, or wetland mitigation purchased from a commercial wetland bank. Impacts may occur in a different year from the mitigation; so for the purposes of this measure, the timeframe for the reporting is when the mitigation construction is complete based on a calendar year. The national goal set by the FHWA for recreating wetland is to construct 1.5 acres of wetland for every 1.0 acre of wetland impacted. Recreating wetlands at this ratio helps to offset the beneficial functions lost during the time it takes for a wetland to develop. This

measure helps ensure that MoDOT is doing its part to maintain wetlands in Missouri.

Since this measure is also tracked by FHWA for the nation, MoDOT contacted state DOTs that are successful at meeting the 1.5-to-1 ratio. Most of the states queried said that the biggest factor in meeting the ratio is in the use of wetland mitigation banks. They had greater control over achieving their target ratios and more ecologically successful wetland mitigation. MoDOT has a statewide umbrella wetland mitigation banking agreement. This measure is tracked by calendar year with quarterly updates.

Improvement Status:

MoDOT had nine projects with wetland impacts and mitigation in calendar year 2009. Impacts to 3.95 acres of wetland resulted in 5.53 acres of mitigation, which is a ratio of 1.4 to 1. This ratio is only slightly below the national goal of 1.5 to 1. MoDOT recently made application to the Corps of Engineers to build its fourth bank, the North Fork Spring River Mitigation Bank, in Barton County. MoDOT has operating wetland mitigation banks in the Kansas City, Central and Southeast Districts.



Percent of Missouri's clean air days -10d

Result Driver: Dave Nichols, Director of Program Delivery

Measurement Driver: Eric Curtit, Long Range Transportation Planning Coordinator

Purpose of the Measure:

Vehicle emissions are a significant contributor to poor air quality. MoDOT makes every effort to build and operate roads in ways that improve air quality.

Measurement and Data Collection:

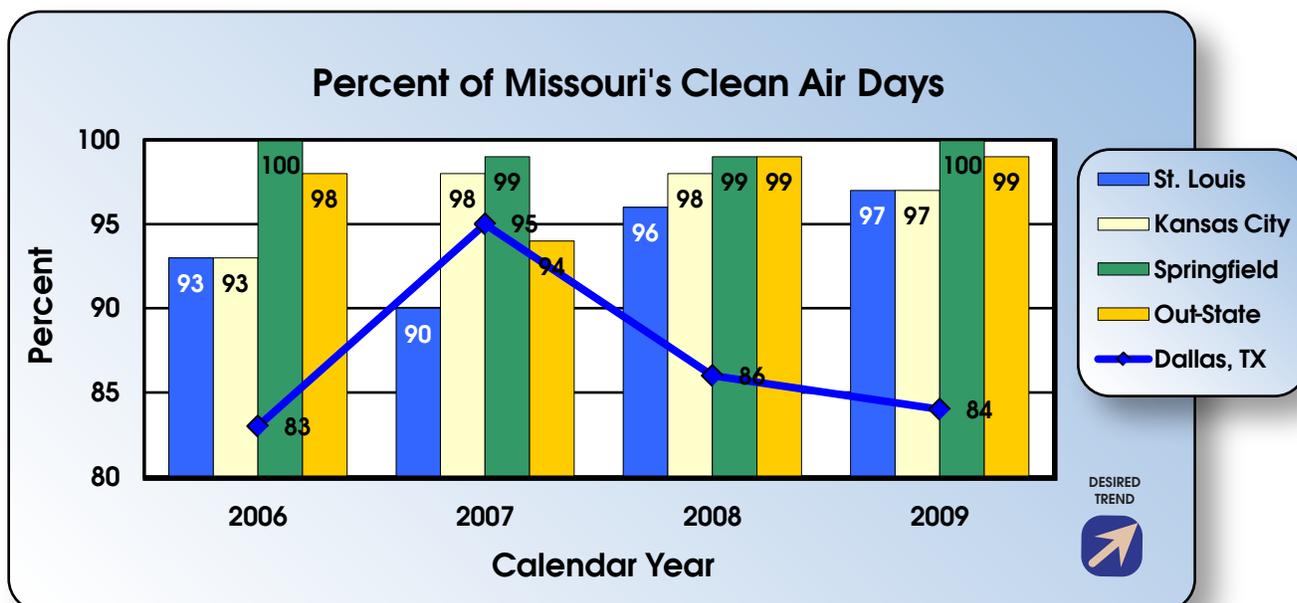
The U.S. Environmental Protection Agency (EPA) establishes air quality standards for the United States. The ground level ozone standard is used in this measure as a threshold for determining if areas of the state have clean air. EPA collects ozone readings in Kansas City, St. Louis, Springfield and the out-state areas during the annual monitoring period – April through October.

The data contained in the table below reflects the available percentage of days, by area, that Missourians experienced clean air. MoDOT compares Missouri's ozone readings to Dallas, Texas, because of its similar pollutants and distance from other areas that affect its air quality.

Improvement Status:

In 2009, as in 2008, a cooler summer contributed to cleaner air than previous years. A new, stricter standard was established in 2008 to better meet long-term air quality improvement goals. New monitors were placed in several out state areas for the 2009 ozone season.

MoDOT is committed to improving the regions' air quality by managing congestion to reduce emissions, modifying daily operations, modifying employee action, providing information to the public, being a leader in air quality improvement, providing alternative choices for commuters and promoting the use of environmentally friendly fuels and vehicles. MoDOT continues to serve on the air quality committees in Kansas City, St. Louis and Springfield.



Number of gallons of fuel consumed-10e

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. The second chart indicates the average miles per gallon for the five vehicle classes that accumulate the majority of miles driven.

Measurement and Data Collection:

This measure is intended to focus on the total fuel consumed and how wise choices can impact fuel economy. Data is collected based on the number of gallons of fuel consumed by unit recorded in the statewide financial system.

MoDOT must meet the following state guidelines: 70 percent of the light duty vehicles ($\leq 8,500$ GVW) purchased must be alternative fuel capable; 30 percent of the fuel that our light duty alternative fuel fleet uses must be alternative fuel; 75 percent of all diesel fuel burned (off road and on road) must be a minimum of B20 blend (20 percent biodiesel and 80 percent diesel) or higher.

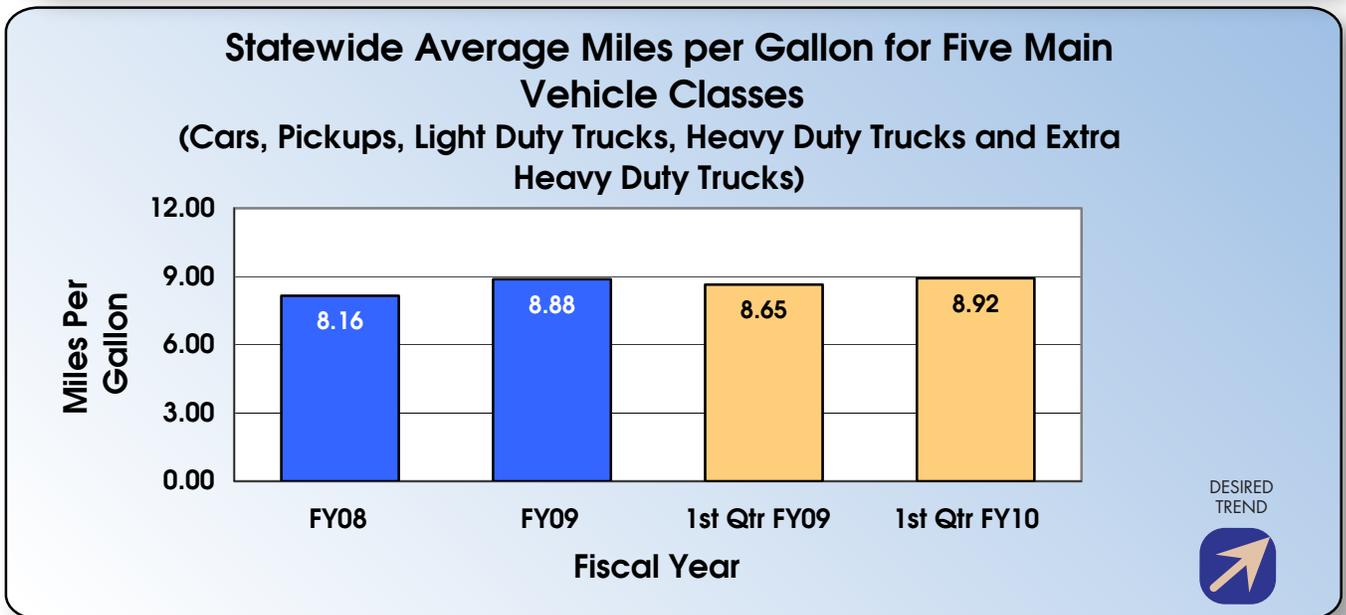
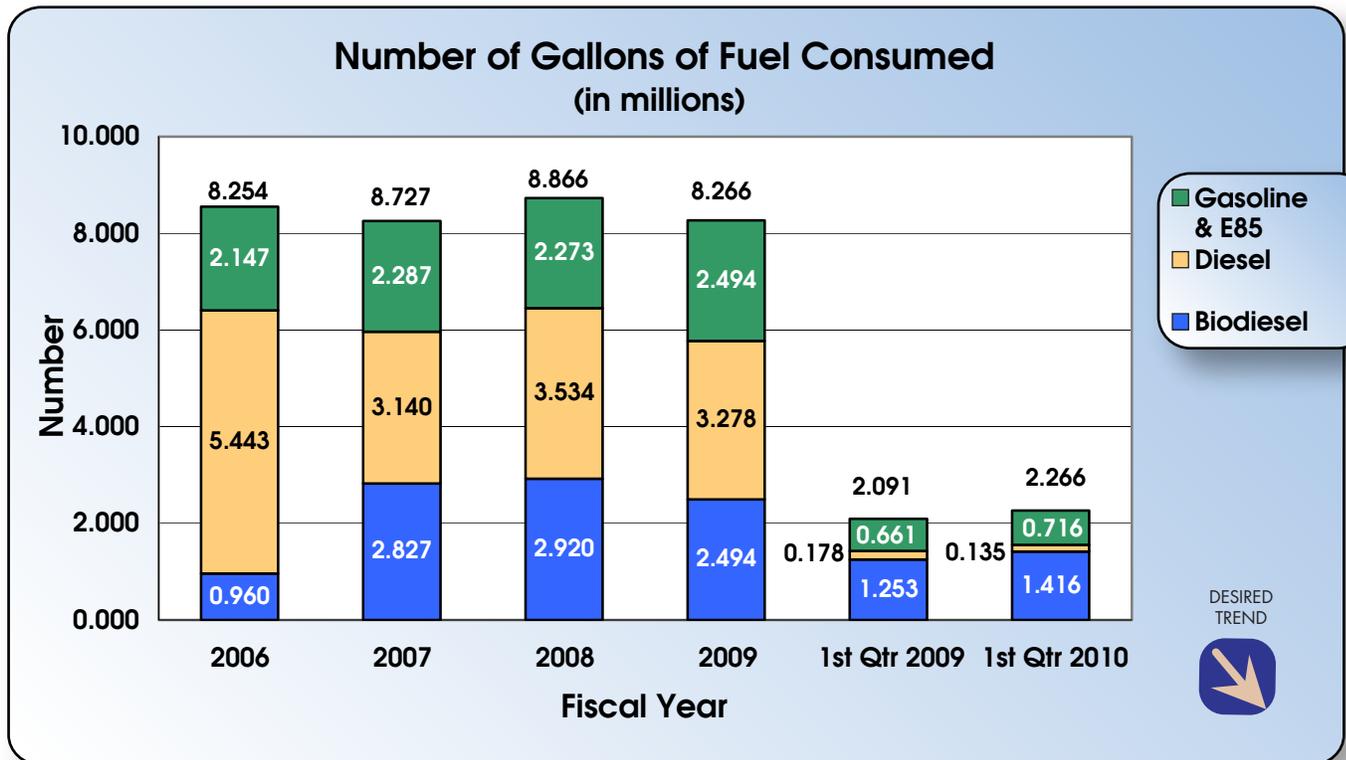
Improvement Status:

In comparing the first quarter of fiscal year 2010 to the first quarter of fiscal year 2009, the total fuel consumed increased by 8.4 percent and the miles driven increased by 1.6 percent. This equates to approximately 175,000 gallons of additional fuel consumed.

In reviewing the data by fuel type, diesel and biodiesel increased approximately 120,000 gallons (8.4 percent), unleaded gasoline increased by 66,000 gallons (10.6 percent), and E85 decreased by 11,000 gallons (30.2 percent).

The increase is due to an increased focus on minor roads which included work that required use of heavier equipment. There were approximately 247,000 more miles/hours recorded for first quarter fiscal year 2010 compared to the first quarter of fiscal year 2009. This increase includes approximately 600,000 more miles/hours recorded to asphalt repair and is partially offset by decreases in areas such as flood response. We continue to make improvements to the mile per gallon measure as we strive to improve the accuracy and timeliness of entering usage.





Number of historic resources avoided or protected as compared to those mitigated -10f

Result Driver: Dave Nichols, Director of Program Delivery
Measurement Driver: Bob Reeder, Historic Preservation Manager

Purpose of the Measure:

Federal historic preservation laws relating to federally funded projects, gaining public and agency support for particular projects, and general environmental stewardship require MoDOT to avoid, minimize or mitigate project impacts to historic buildings, bridges and marked cemeteries whenever feasible. Historic properties typically are more than 50 years in age and must retain most or all of their original features, be a good example of a rare or significant style or type, or be associated with a historically important person or event. Compiling information about project impacts to important cultural resources provides a measure of MoDOT’s success at avoiding, protecting or mitigating project impacts to important cultural resources.

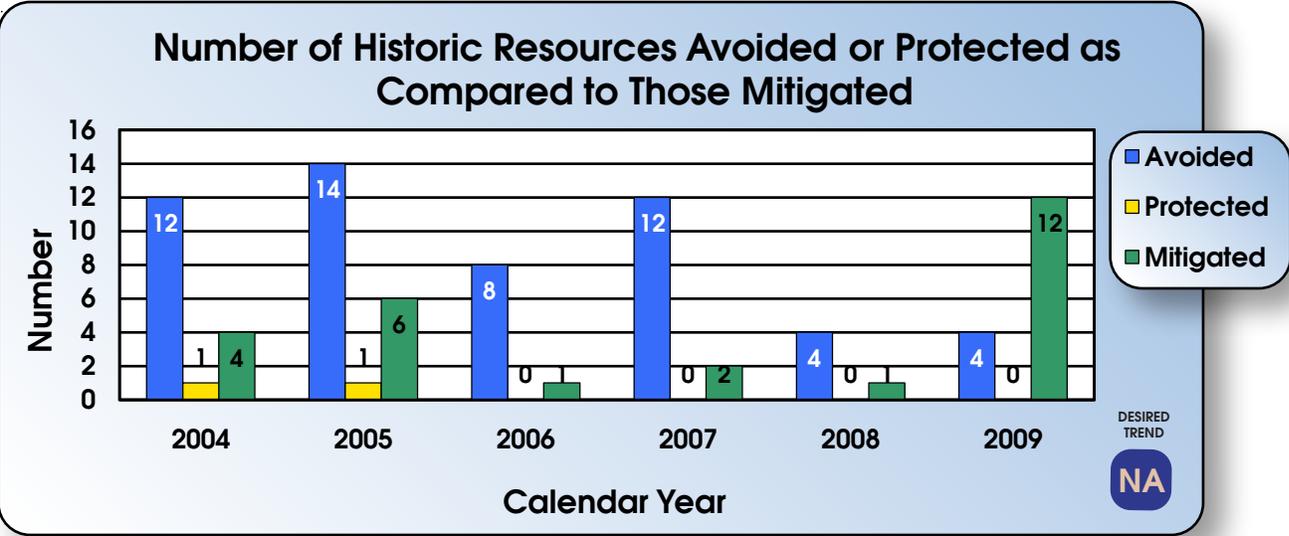
those avoided during consideration of different alignments during National Environmental Policy Act studies. This measure has no overall desired trend. For any year, data for the measure will vary due to the number of projects in the MoDOT program and the specific nature of those projects. This measure is tracked by calendar year with quarterly updates.

Measurement and Data Collection:

Data collection begins at the approved conceptual plans stage for projects. As project design plans and right of way plans are prepared by the district, department staff track the number of historic resources in project footprints and the number of resources that can be avoided or protected by revising the design of a project versus the number of resources MoDOT can not avoid and must be mitigated. The data includes only historic resources identified as potentially affected by projects after the conceptual plan stage. The data does not include historic resources avoided during early project planning or

Improvement Status:

MoDOT avoided project impacts to all but 12 historic resources during 2009. All 12 were bridges, including two on Route 17 (one in Miller County and one in Pulaski County), the Missouri River Bridge at Miami, the Missouri River Bridge at Brownsville, the Route 5 New Franklin viaduct, the Route 76 Branson bridge, a Route 45 bridge in Platte County, and five smaller bridges to be replaced by the Safe & Sound Bridge Improvement Program. Adverse impacts from the demolition of these bridges were mitigated through the preparation of detailed photographic and historical documentation of each bridge. While there is no desired trend to this measure, the goal of MoDOT’s historic preservation efforts is to minimize adverse project impacts to historic properties whenever it is feasible and prudent.



Number of tons of recycled/waste materials used in construction projects-10g

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 when applicable.

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.

Improvement Status:

Contractors continue to look at reclaimed asphalt pavement and shingles (RAP and RAS) to reduce hot mix asphalt costs. In 2009, 75 percent of the mixtures issued contained either RAP or RAS, or both. The average virgin asphalt content of bituminous pavement mixtures has dropped from 5.3 percent to 4.2 percent since 2005. This represents a 20 percent decrease in the new liquid asphalt.

