
Environmentally 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.



Environmentally Responsible

Percent of projects completed without environmental violation

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.

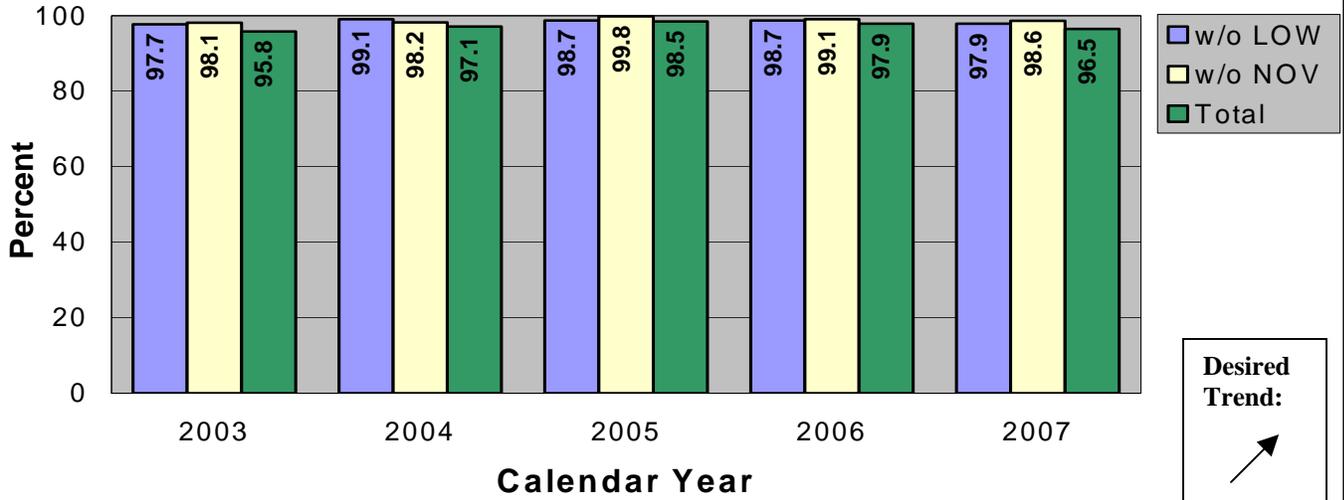
Improvement Status:

The percentage of projects completed without environmental violation shows a relatively level trend line for the past five years. However, the number of NOVs and LOWs for 2007 exceeded by a third the total for 2006 – six NOVs and nine LOWs. For the first three quarters, 2008 shows a huge improvement, one NOV and 4 LOWs.

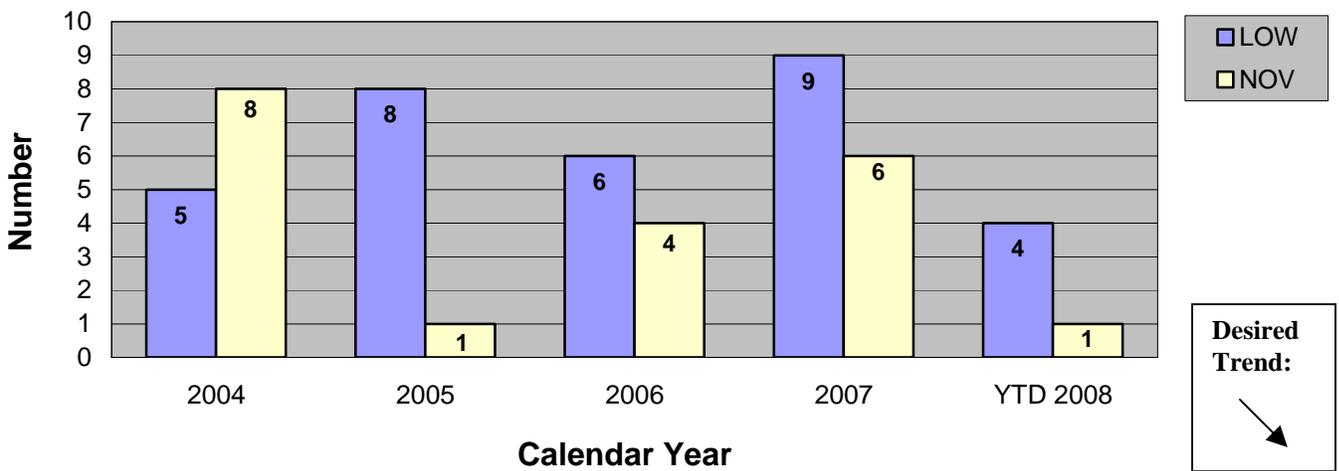
- First quarter 2008 – MoDOT received one NOV for failure to notify the Department of Natural Resources 10 days prior to demolition at three locations.
- Second quarter 2008 – MoDOT received two LOWs. One was for failure to submit a discharge monitoring report for a rest area, while the other was for storm water runoff deficiencies at a maintenance facility.
- Third quarter 2008 – MoDOT received two LOWs, both for inspection deficiencies noted at a rest area.

MoDOT also works with cities, counties and other entities through our administration of various programs. In July the City of Branson received one NOV at the Branson West Airport. MoDOT provided assistance to the city to resolve the issues.

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, MoDOTs desired results are zero NOVs, because NOVs are usually violations of law and state statute.

Environmentally Responsible

Number of projects MoDOT protects sensitive species or restores habitat

Result Driver: Dave Nichols, Director of Program Delivery

Measurement Driver: Gayle Unruh, Environmental & Historic Preservation Manager

Purpose of the Measure:

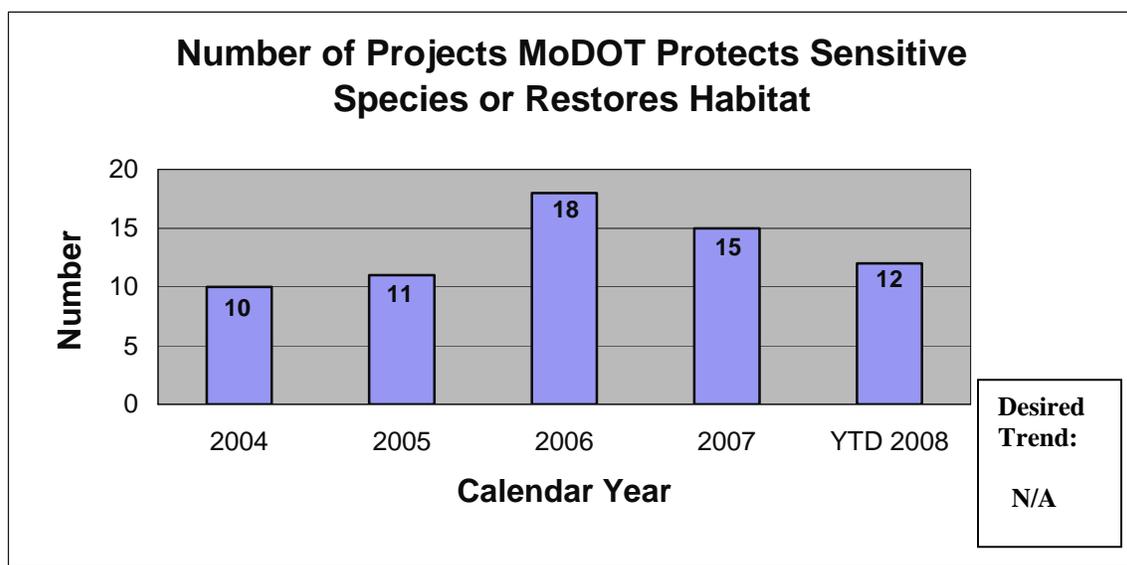
Missouri is home to many rare species of plants and animals, some of which are on the federal endangered species list. The Endangered Species Act of 1973 prohibits harm or harassment of these species. Avoiding or minimizing harm to these species and protecting or restoring their habitat is a fundamental obligation of this organization. Avoidance and/or protection are the first goals of MoDOT's efforts, but under 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.

Improvement Status:

MoDOT has protected sensitive species or restored their habitat on twelve projects in this calendar year. These species and habitats include the Indiana bat (five projects), gray bats (one project), Niangua Darter (one project), Pallid Sturgeon (three projects), Ozark cavefish (three projects) and a mussel bed for an emergency slide repair project on the Meramec River. The U.S. Fish and Wildlife Service and Missouri Department Conservation worked with MoDOT to help expedite the slide repair by conducting same-day consultation. MoDOT committed to do follow-up research on the effects of the repair to the beds containing protected species of mussels, which are located immediately downstream of the slide.



Environmentally Responsible

Ratio of acres of wetlands created compared to the number of acres of wetlands impacted

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.

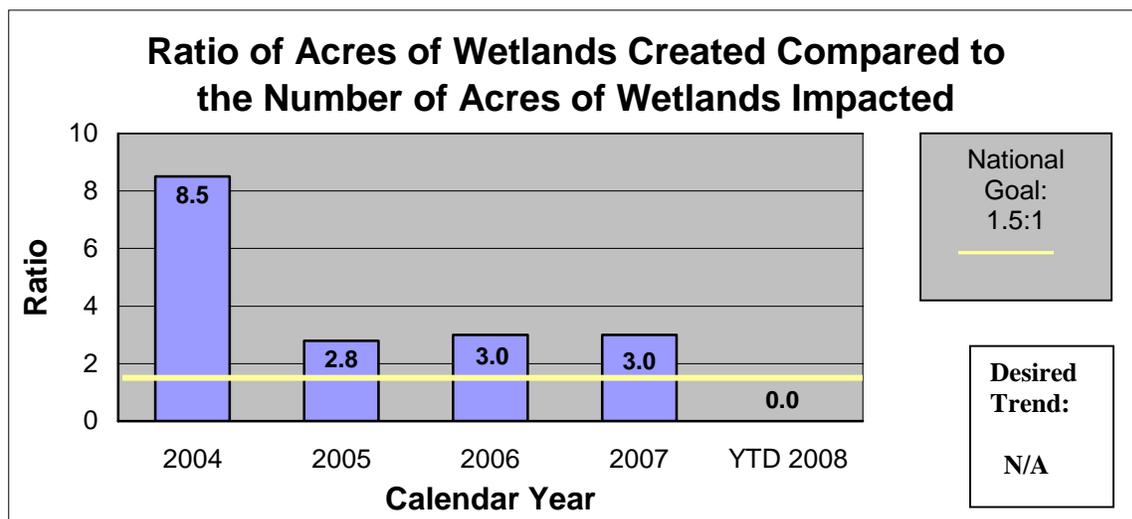
Measurement and Data Collection:

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 lost beneficial functions 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 has not had any wetland mitigation impacts in 2008. MoDOT's Blue Springs Wetland Mitigation Bank for the Kansas City area is in construction and expected to be finished by mid-November. With construction of this bank, MoDOT will have three wetland mitigation banks, one each in the Kansas City, Central, and Southeast Districts.



Environmentally Responsible

Percent of Missouri's clean air days

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.

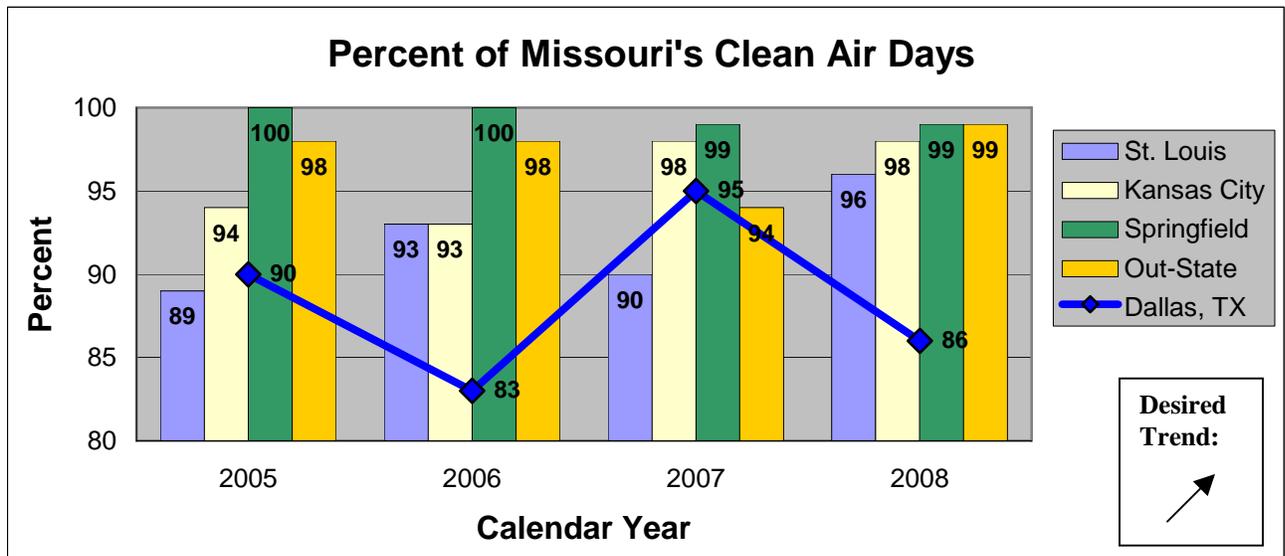
Measurement and Data Collection:

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 2008, a cooler summer contributed to cleaner air than previous years. A new, stricter standard has been established to better meet long-term air quality improvement goals. 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.

MoDOT partnered with the Missouri Department of Natural Resources and was awarded more than \$700,000 from EPA through a Diesel Emissions Reduction Act grant. The grant activities are focused on retrofitting MoDOT vehicles with new diesel emission reduction technologies and increasing fuel efficiency.



Environmentally Responsible

Number of gallons of fuel consumed

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 within MoDOT. It shows MoDOT's contribution toward environmental responsibility and conservation of resources.

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.

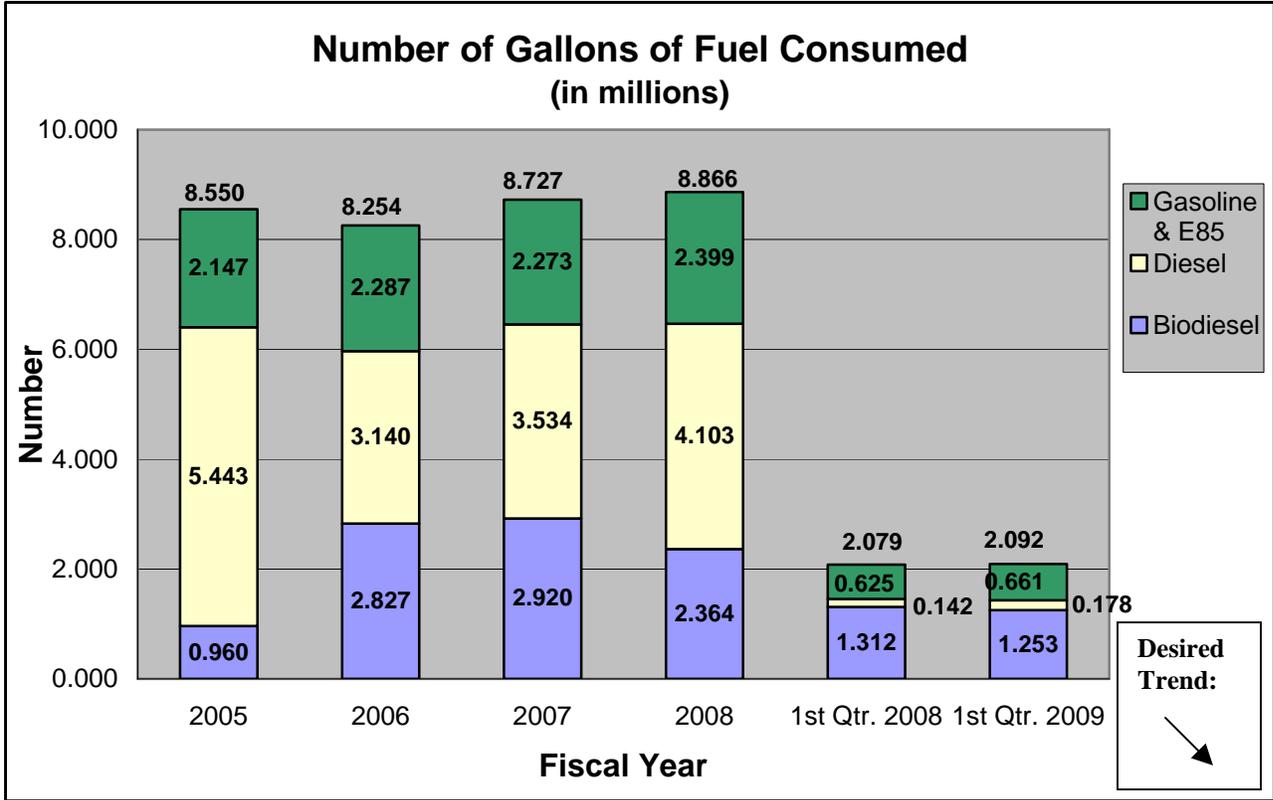
MoDOT must meet the following state guidelines: 70 percent of the light duty vehicles ($\leq 8,500$ GVW) purchased must be alternative fuel capable; 30 percent of the fuel that our light duty alternative fuel fleet uses must be alternative fuel; 75 percent of all diesel fuel burned (off road and on road) must be a minimum of B20 blend (20 percent biodiesel and 80 percent diesel) or higher. MoDOT exceeds the guideline for purchasing alternative fuel capable equipment. Through the first quarter of 2009, 87.6 percent of the diesel fuel used was biodiesel (B20 blend).

Improvement Status:

The fuel consumed through the first quarter of fiscal year 2009 increased by approximately 13,000 gallons or 0.6 percent compared to the amount of fuel consumed through the first quarter of 2008.

The amount of unleaded gasoline used through the first quarter of 2009 increased approximately 36,000 gallons or 6 percent compared to the amount of fuel consumed through first quarter of 2008. The amount of diesel fuel used decreased by 23,000 gallons or 1.6 percent. E85 fuel essentially remained the same.

Resources are available to support fuel conservation efforts. A "Stretch Your Power" link has been added to the MoDOT Web site. This site provides energy-saving tips and links to the energy Tracker measures. It also offers a blog where employees can share fuel conservation ideas or review the latest list of commuters wishing to carpool.



Environmentally Responsible

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

Result Driver: Dave Nichols, Director of Program Delivery

Measurement Driver: Bob Reeder, Historic Preservation Coordinator

Purpose of the Measure:

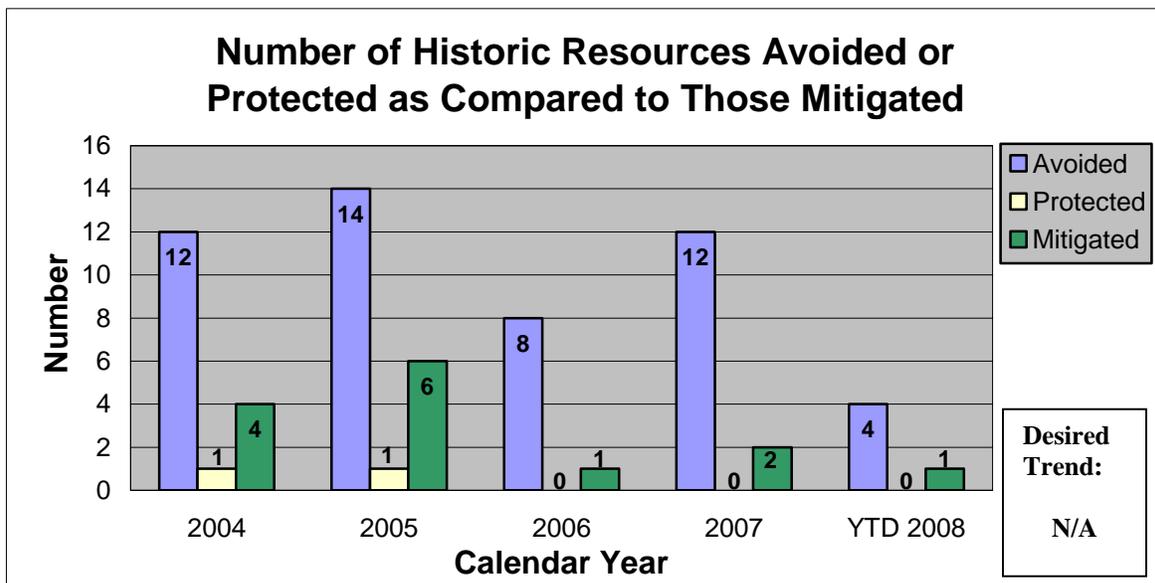
Federal historic preservation laws relating to federally funded projects, gaining public and agency support for particular projects, and general environmental stewardship require MoDOT to avoid, minimize or mitigate project impacts to historic buildings and bridges whenever feasible. Compiling information 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.

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 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.

Improvement Status:

MoDOT avoided impacts to all but one historic resource during the first three quarters of 2008. The significant historic resource that could not be avoided was Sedalia’s Wheel Inn Drive-In restaurant. Impacts to this property from improvements to the intersection of Routes 50 and 63 were mitigated through the preparation of detailed photographic and historical documentation. While there is no desired trend to this measure, the overall effectiveness of MoDOT’s historic preservation efforts is reflected by all of MoDOT’s activities during the first three quarters of 2008 resulting in the required mitigation of project impacts to only one historic resource.



Environmentally Responsible

Number of tons of recycled/waste materials used in construction projects

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 for 2007 is finalized in each April edition.

Improvement Status:

Reclaimed concrete from the New I-64 project accounts for over 85 percent of the concrete recycled so far in 2008. This primarily replaced rock fill and aggregate base that would have been hauled to the project. Although the amount of concrete placed this year is down from the previous year, the amount of ground granulated blast furnace slag (GGBFS) as a cementitious material has increased for the fourth consecutive year due to specification changes allowing a wider range of use.

There have been 31,000 tons of cold in-place recycling (CIR) and 92,000 tons of hot in-place recycling (HIR) performed on hot mix asphalt (HMA) pavements, accounting for one-third of the reclaimed asphalt pavement to date.

Missouri hosted a showcase for the use of reclaimed asphalt shingles on September 23 in Joplin. While the focus audience was other state departments of transportation, the 140 participants also included recyclers and contractors from California to New York including eight participants from Canada.

