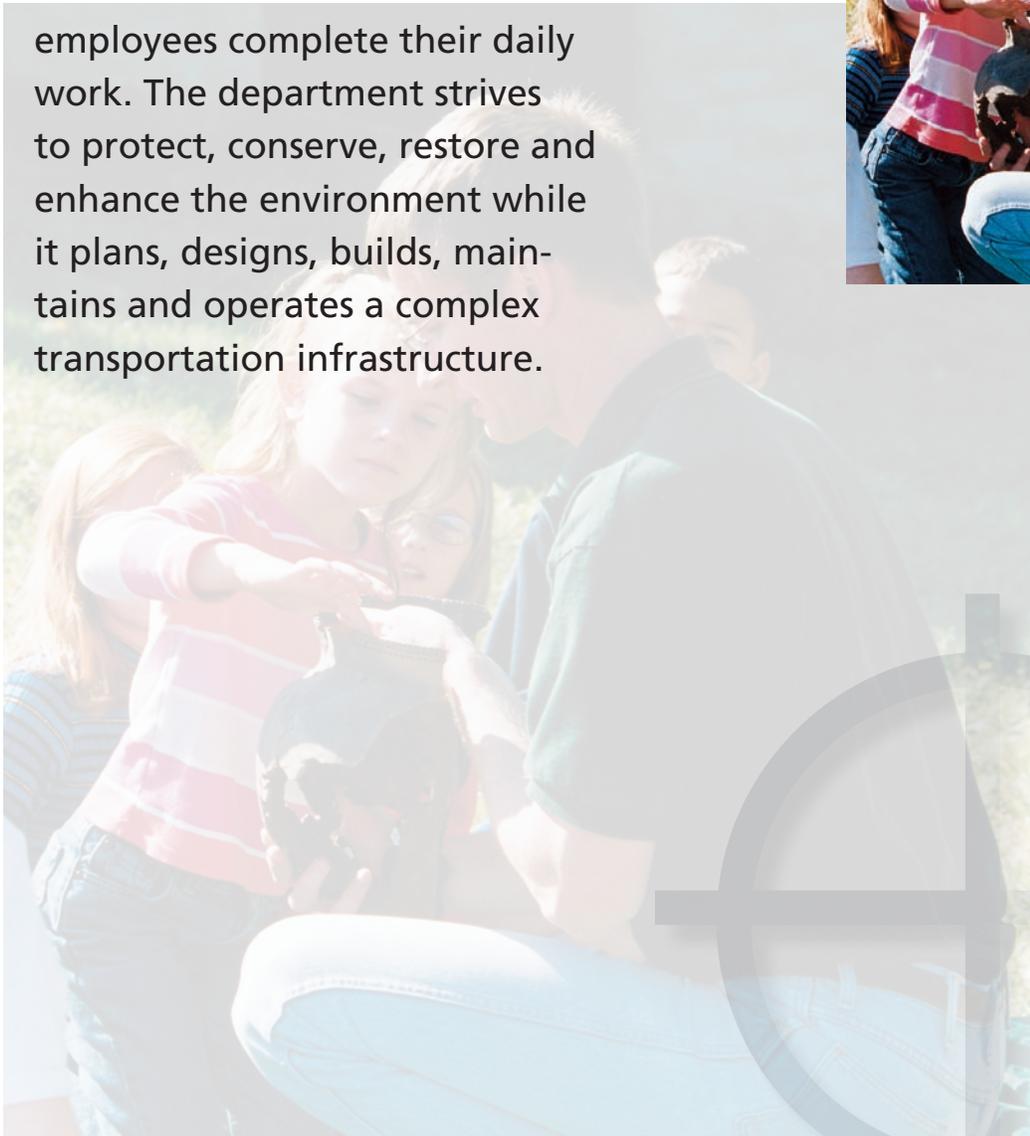


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# Environmentally Responsible

*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 will never 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 from regulatory agencies, which are tracked in a MoDOT database by location or project number, as appropriate. Where tracked by project, the 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 first graph shows a relatively level trend line for the past five years, while the second graph shows an increase in the total number of NOVs received and a decrease in the total number of LOWs received in calendar year 2006.

In the first quarter of 2007, MoDOT received one NOV. The NOV was for failure to submit a manifest summary report in a timely manner.

In the first quarter of 2007, MoDOT received two LOWs. One LOW was for erosion control measures on a construction job, the other LOW was for a potential illicit discharge into a ditch.

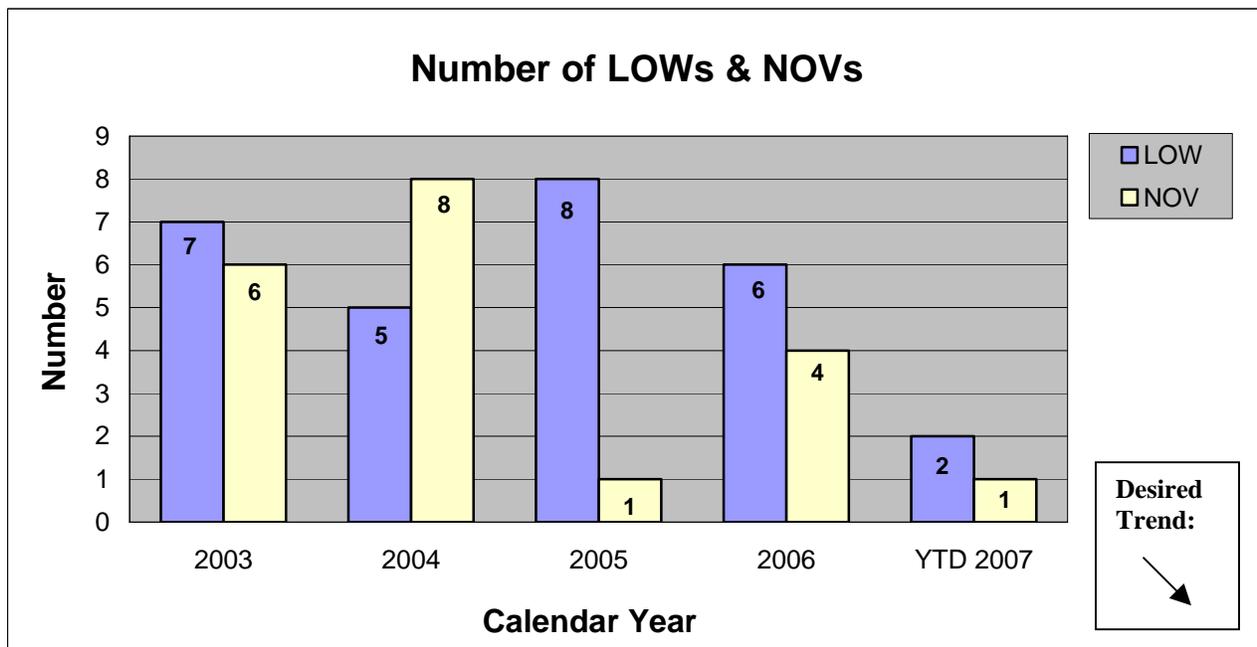
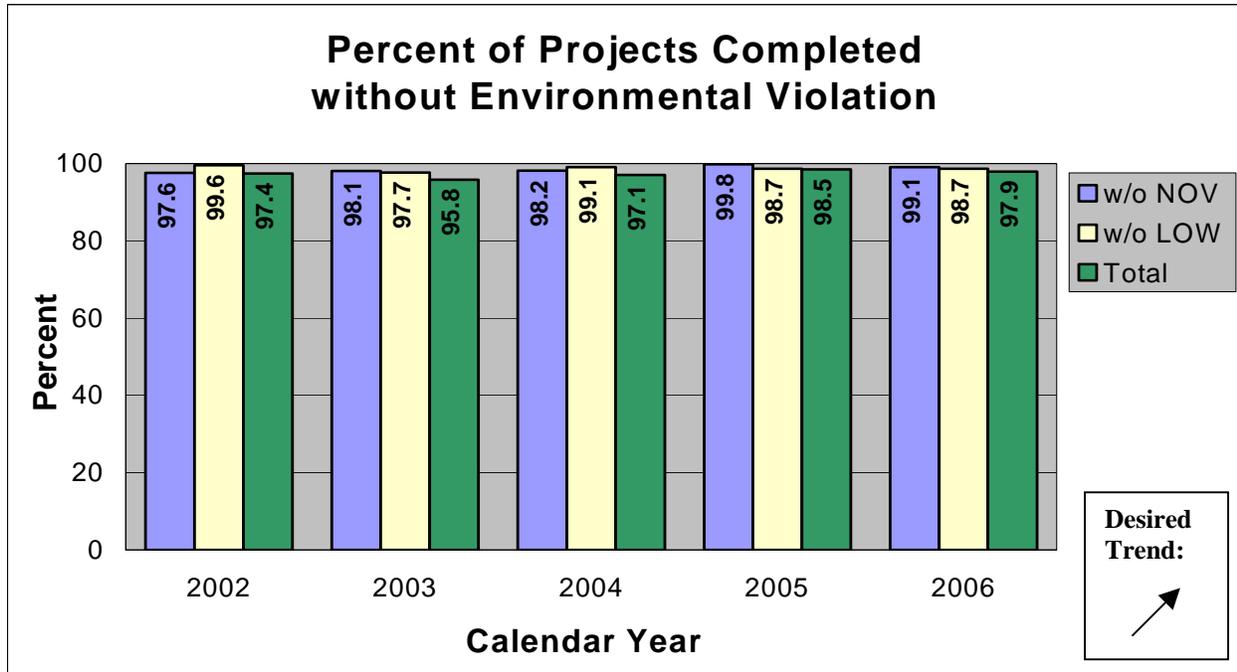
In order to reduce the number of warnings and violations associated with maintenance lots, the department conducted an inspection of each maintenance lot in the spring of 2006. The results of these inspections were summarized in a report presented to leadership of the various impacted divisions and districts. Each district is reviewing the information and if appropriate, developing action plans to address any concerns that were noted.

In the fall of 2006, the environmental and historic preservation staff held training sessions at all ten districts. They trained over 900 employees from construction, design, maintenance and planning.

In November, MoDOT received a letter of commendation from the Solid Waste Management Program at DNR for the recycling efforts of the Dove Maintenance Shed in the Springfield Area District.

Following receipt of the second NOV on the same project, both due to the actions of one contractor, MoDOT terminated that contract.

In 2007, MoDOT will conduct detailed inspections of all rest areas, similar to the maintenance lots, and prepare detailed reports for each site with recommendations to address any concerns that are noted, if any.



Note: There is no benchmark data presented with this measure. MoDOT has a zero-tolerance policy towards 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.

## 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:**

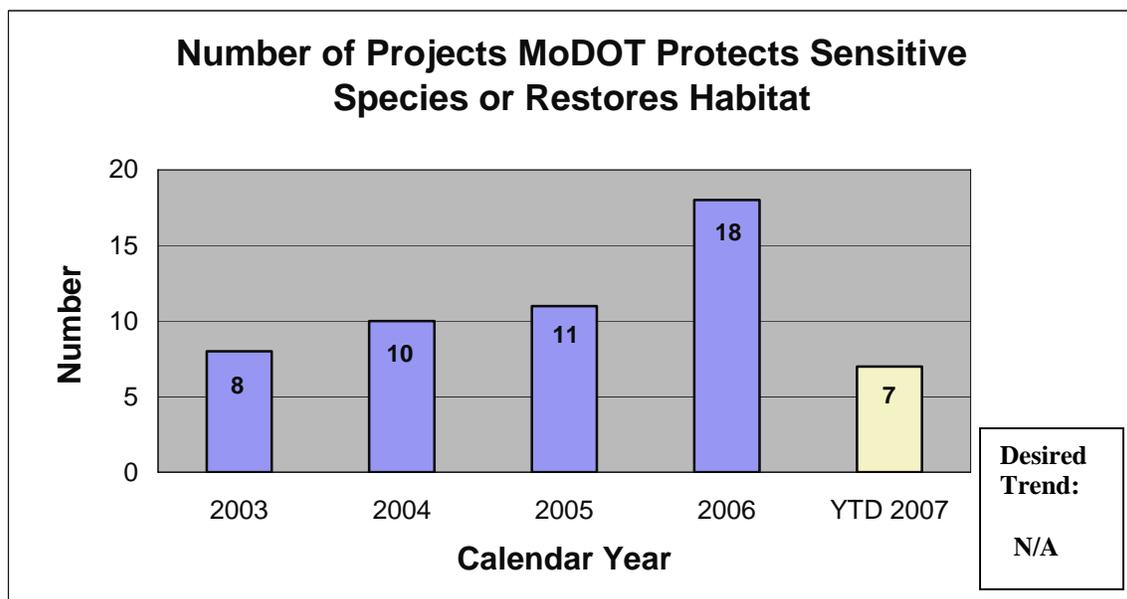
Missouri is home to many rare species of plants and animals, some of which are on the federal endangered species list. The Endangered Species Act of 1973 prohibits harm or harassment of these species. Avoiding or minimizing harm to these species and protecting or restoring their habitat is a fundamental 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 (FWS) of any activity in the vicinity of a known threatened or endangered species or critical habitat. Through consultation with FWS 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:**

During the first quarter of 2007, MoDOT protected sensitive species or restored their habitat on six construction projects and one emergency winter storm clean up project. These species included the Indiana bat (seven projects), Niangua darter (one project), Virginia sneezeweed (one project). New discoveries of Indiana bats increase the number of projects for which MoDOT does consultation with the FWS and habitat protection. The environmental section continues educating the districts concerning fieldwork and the lifecycles of species that could affect project timing.



## 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.

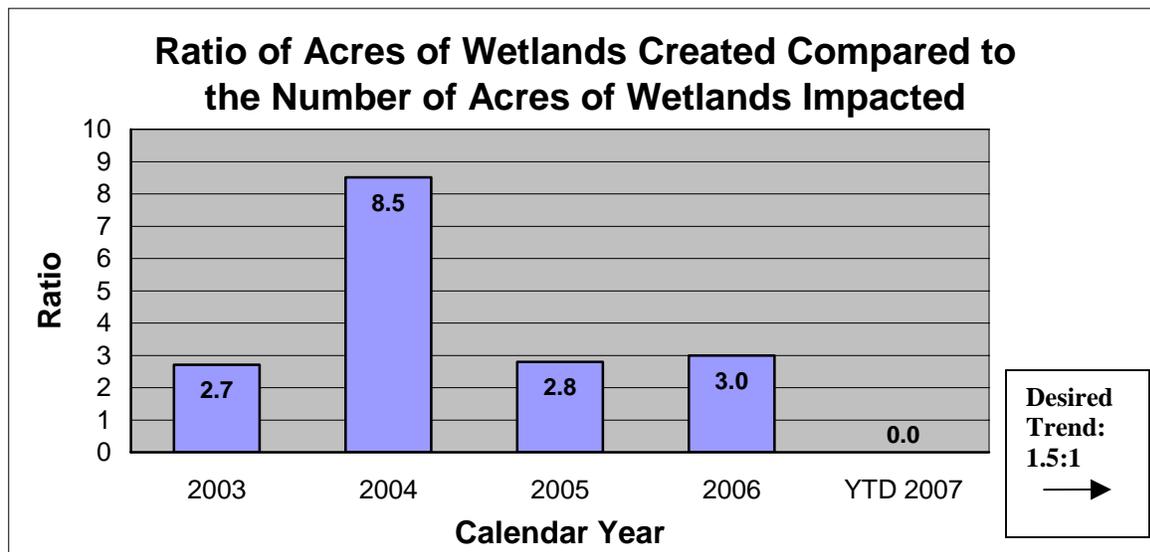
**Measurement and Data Collection:**

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 is an annual measure and the data is updated quarterly.

**Improvement Status:**

MoDOT did not build or use any wetland mitigation in the first quarter of 2007. The wetland staff is in the final negotiation stages of a wetland/stream mitigation bank agreement at Blue Springs. MoDOT is also negotiating with the Corps of Engineers to put one person in place at the Corps office to manage and process Section 404 permits statewide. The expected benefits for MoDOT include more consistent and timely permits and mitigation requirements.



## Environmentally Responsible

### *Percent of air quality days that meet Environmental Protection Agency standards by metropolitan area*

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

**Measurement Driver:** Eric Curtit, Long-Range Transportation Planning Coordinator

**Purpose of the Measure:**

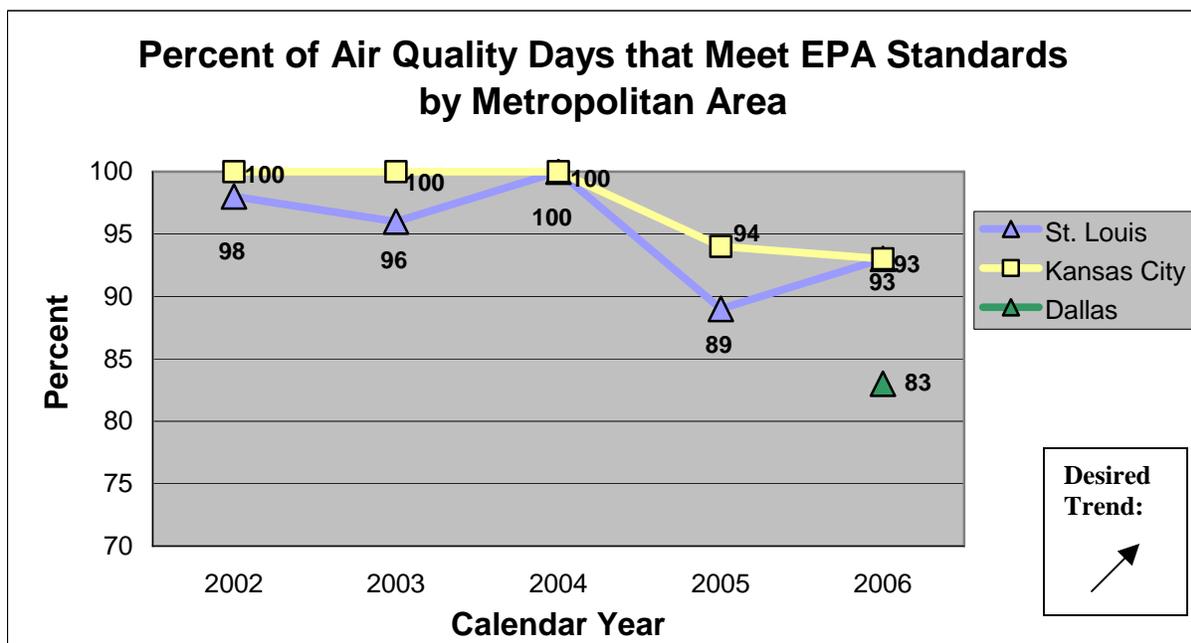
This measure tracks MoDOT’s role in improving the air quality of Missouri’s metro areas. The Environmental Protection Agency approves state plans to improve air quality. MoDOT makes every effort to design and build roads that improve air quality in affected areas.

**Measurement and Data Collection:**

EPA establishes air quality standards including ozone for the United States. The ground-level ozone standard affects Missouri. Ozone readings are collected in Kansas City and St. Louis during the ozone season – April through October – and then reported annually with updates presented in January. The data contained in the table below reflects the available percentage of days, by metro area, that met the EPA’s ground-level ozone standard. The data for Missouri’s 2006 ozone season is now included. Beginning in 2006, MoDOT began comparing ozone exceedances to the Dallas, Texas, metropolitan area. Dallas is being compared to Missouri cities because of its similar distance to other cities that affect its air quality. Dallas also has similar pollutants.

**Improvement Status:**

MoDOT’s efforts, coupled with milder than normal weather in 2004, contributed to 100 percent positive air quality days as measured by EPA standards. Changes to more strict EPA standards and warmer than normal weather during the 2006 ozone season contributed to a reduction in the percentage of positive air quality days. MoDOT continues to serve on the Air Quality Forum Committee in Kansas City and the Air Quality Advisory Committee in St. Louis. MoDOT staff attends monthly meetings to review these committees’ programs and ensure that both regions continually work to improve the air quality for Missouri citizens. MoDOT is committed to improving the region's air quality through modifying daily work-related operations, modifying employees’ actions, education, providing information to the public, being a leader in air quality improvements, managing congestion to reduce emissions, providing alternative choices for commuters, and promoting the use of environmentally friendly fuels and vehicles.



## Environmentally Responsible

### *Percent of alternative fuel consumed*

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

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

**Purpose of the Measure:**

This measure tracks the use of alternative fuels. It shows MoDOT's contribution toward environmental responsibility and conservation of resources.

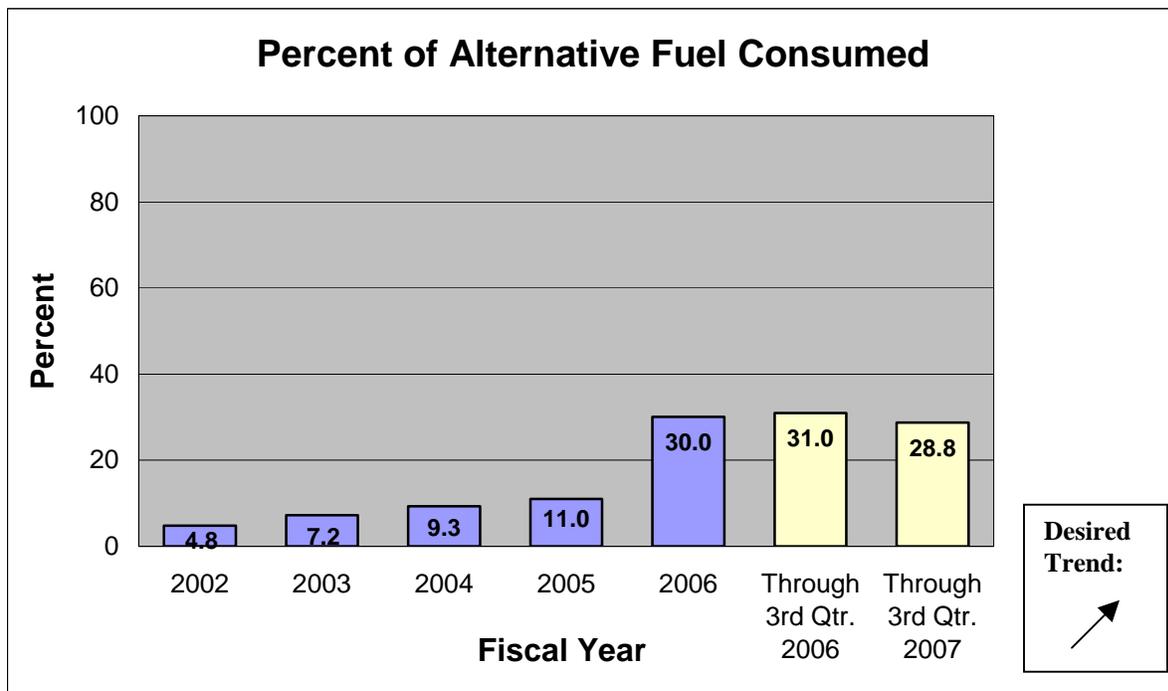
**Measurement and Data Collection:**

Alternative fuel is E-85 and biodiesel. When a user pumps fuel into a MoDOT vehicle or piece of equipment, that usage by gallon and by fuel type is captured in the statewide financial accounting system. Reports are generated to extract the number of gallons used from that system.

**Improvement Status:**

The use of alternative fuel consumed is slightly behind the same period last year. The percent of alternative fuel consumed was 28.8 percent through the third quarter of fiscal year 2007 compared to 31.0 percent through the third quarter of fiscal year 2006. Through the third quarter the usage of biodiesel and E-85 increased compared to the same period last year; however, the increase in the alternative fuel used was not enough to overcome the large increase in winter blend diesel fuel purchased in the third quarter of 2007. MoDOT purchased 600,000 gallons more diesel than in the same time period of fiscal year 2006. The use of biodiesel is seasonal and resumed in April 2007.

The department currently operates an E-85 bulk fuel station in each of the following areas: Central Office, Northwest District, Kansas City Area, St. Louis Area, and Southwest District.



## 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:**

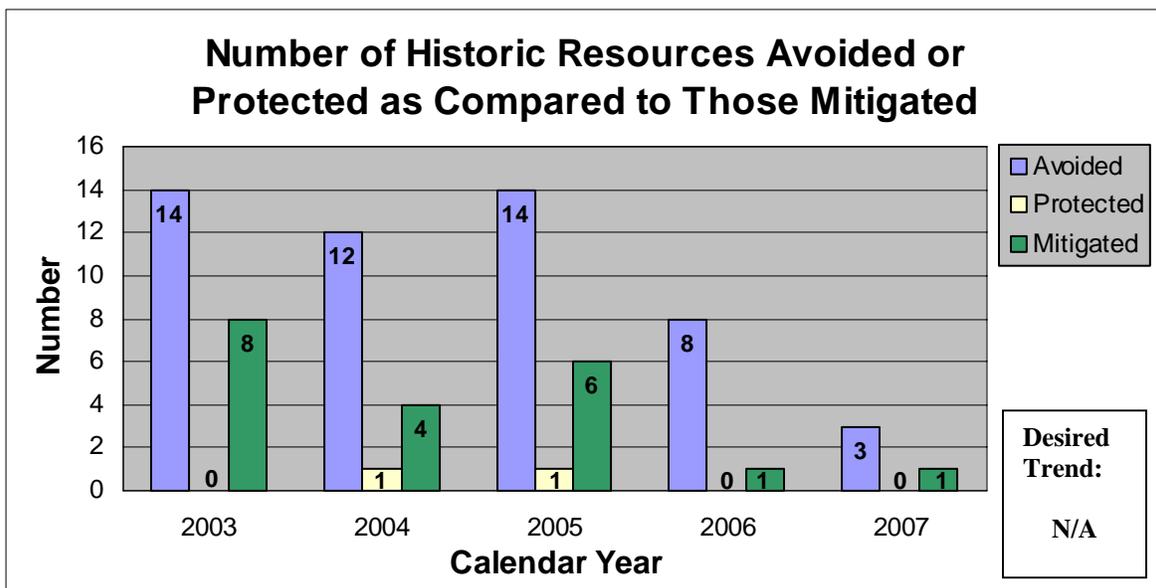
Federal historic preservation laws relating to federally funded projects, gaining public and agency support for particular projects, and general environmental stewardship require MoDOT to avoid, minimize or mitigate project impacts to historic buildings and bridges whenever feasible. Compiling information 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 (NEPA) 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 is an annual measure with quarterly updates.

**Improvement Status:**

Through early project design, MoDOT was able to avoid impacts to all but four historic resources in the first quarter 2007. Of the four historic properties identified at the conceptual plan stage as being impacted by projects, MoDOT was able to modify the project in the final stages of design to avoid impacts to three historic architectural resources. The only significant historic resource that could not be avoided was a historic bridge that had project impacts mitigated through the preparation of detailed photographic and historical documentation. While there is no desired trend, the overall effectiveness of MoDOT’s historic preservation efforts is reflected by all of MoDOT’s activities during the first quarter of 2007 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:** Joe Schroer, Field Materials Engineer

**Purpose of the Measure:**

This measure tracks MoDOT's efforts to be environmentally conscious while being fiscally responsible through the use of recycled/waste material when applicable.

**Measurement and Data Collection:**

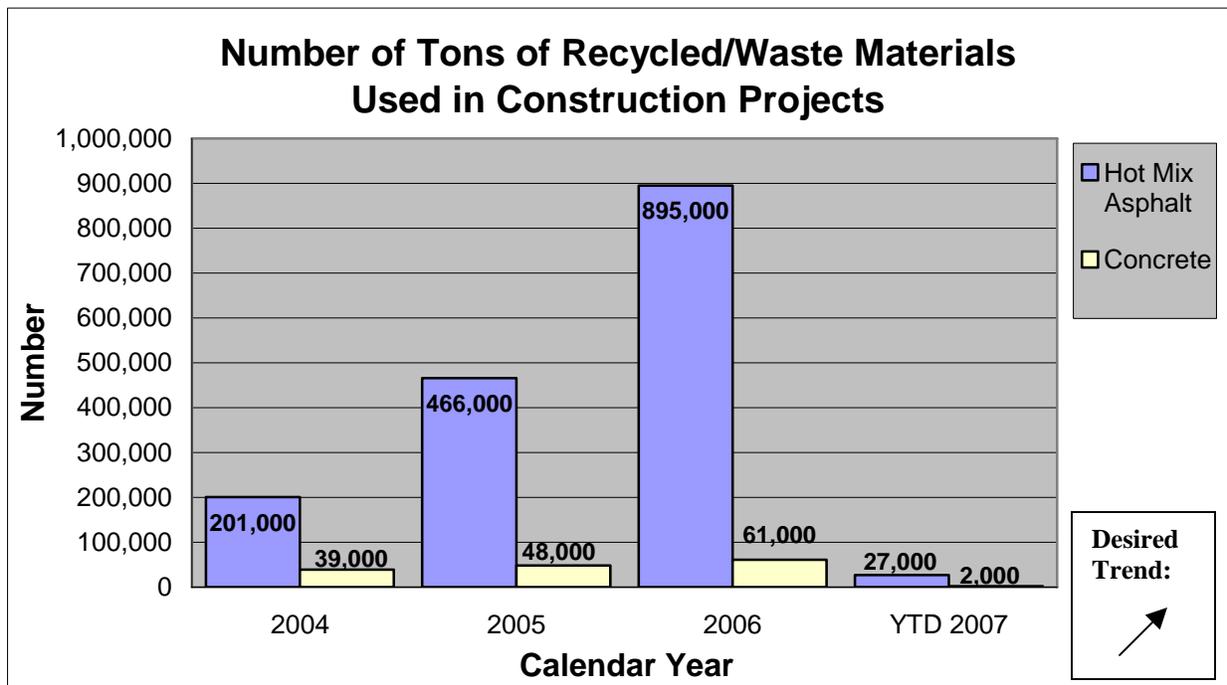
The number of tons of recycled/waste material used in construction projects is measured through MoDOT's construction management database, which tracks material incorporated into projects. Data is collected on an annual basis due to the seasonal nature of the construction.

**Improvement Status:**

Due to cooler and wetter weather conditions during the first quarter of 2007, fewer tons of recycled materials were used than in the same period of 2006. Although MoDOT will perform less concrete and asphalt paving this year, indicators are that the percentage of recycled materials used will increase – keeping the total tonnage of these materials near last year's total.

Higher availability and a change in philosophy have enhanced MoDOT's use of recycled/waste materials. For example, four contractors are currently using mix designs with asphalt shingles, some of which were damaged by excessive heat while stored in a roofing supply warehouse last summer that rendered them unusable for their intended purpose.

In the past, MoDOT used recycled/waste materials in its construction projects after being approached by suppliers/contractors. Starting in 2007, MoDOT has changed its philosophy and is now seeking out waste or recyclable materials that can be incorporated into construction projects. As a result, several potential new recycled/waste materials have been identified such as bottom ash from coal-fired power plants.



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