
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 2006, MoDOT received three NOVs and a contractor received one, for a total of four NOVs. One of the NOVs was for a contaminant discharge at a maintenance facility. Two NOVs were issued on the same project for failure to report to DNR prior to demolition. The fourth NOV was for exceeding effluent limitations at the wastewater lagoon at a MoDOT rest area.

In 2006, MoDOT received six LOWs. Two of the LOWs were for failing to submit manifest summary reports in a timely manner; one was for a maintenance lot issue; one was for discharging contaminants from a construction project, one was for issues associated with hazardous waste labeling and storage and the final one was for erosion control on a project.

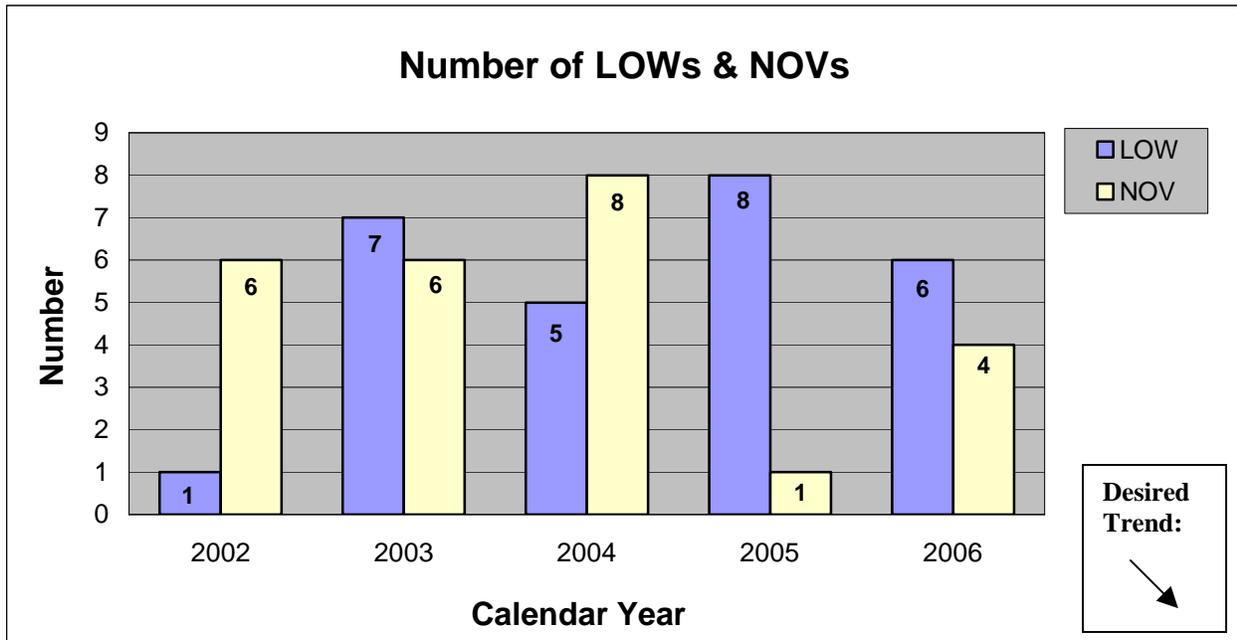
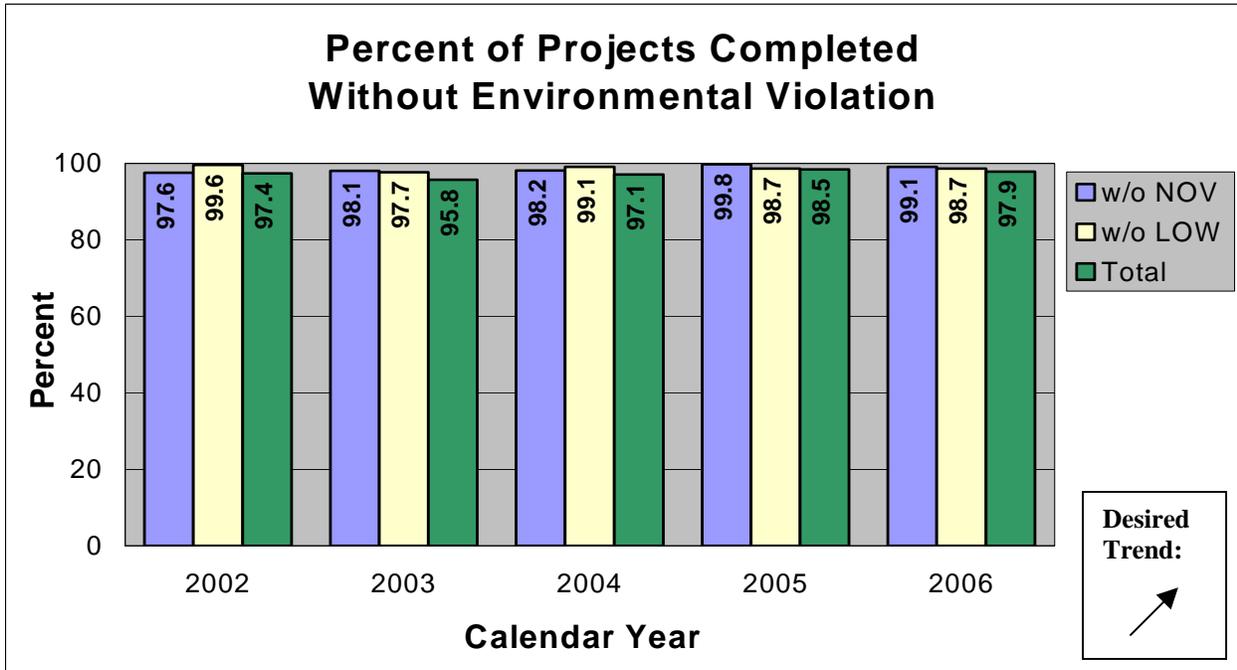
In order to reduce the number of warnings and violations associated with maintenance lots, the department conducted an inspection of each maintenance lot in the spring of 2006. The results of these inspections were summarized in a report presented to leadership of the various impacted divisions and districts. 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 District 8.

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:

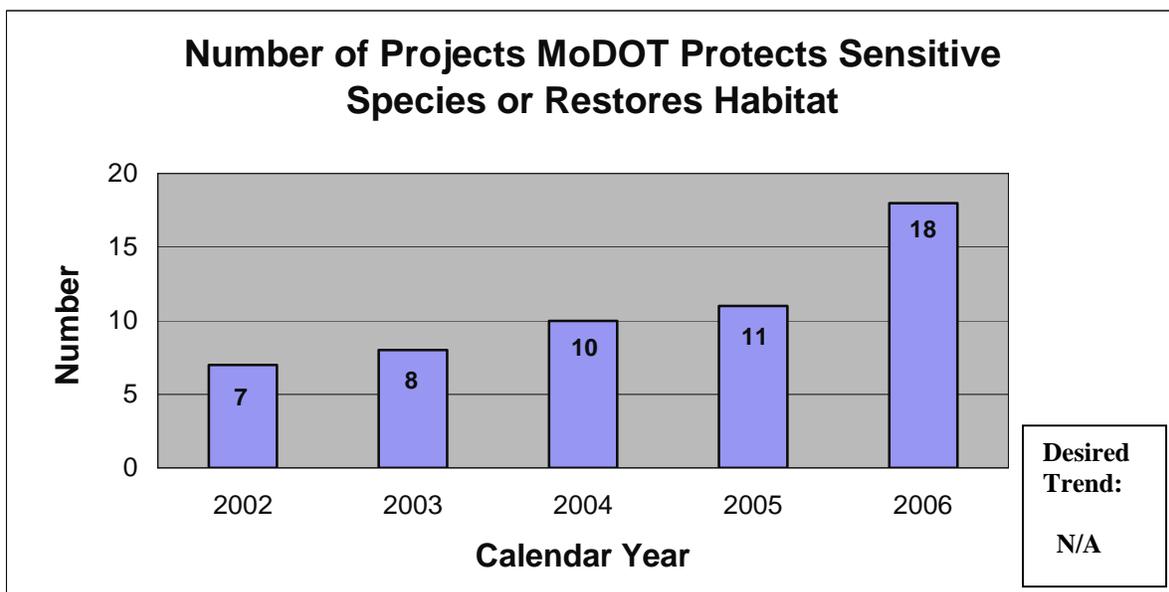
Missouri is home to many rare species of plants and animals, some of which are on the federal endangered species list. The Endangered Species Act of 1973 prohibits harm or harassment of these species. Avoiding or minimizing harm to these species and protecting or restoring their habitat is a fundamental obligation of this organization. Avoidance and/or protection are the first goals of our 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, many 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 2006, MoDOT protected sensitive species or restored their habitat on 18 projects. These species included the gray bat (three projects), Tumbling Creek cave snail, Indiana bat (six projects), pallid sturgeon, peregrine falcon, Niangua darter (three projects), Hine's emerald dragonfly, Virginia sneezeweed and protected mussels. New discoveries of Indiana bats increase the number of projects on 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.

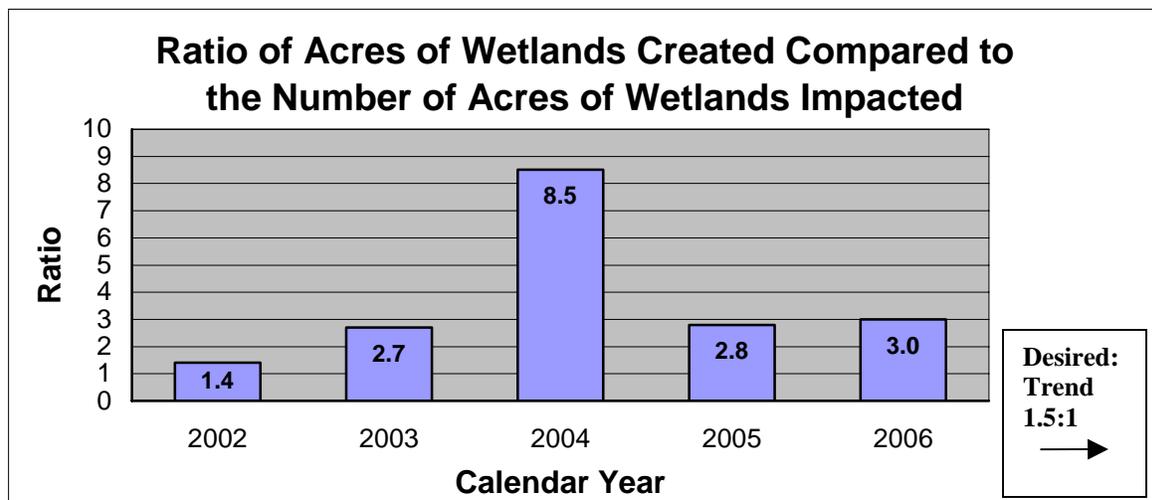
Measurement and Data Collection:

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 finished 2006 with a ratio of replacing wetlands at a rate of 3.0 to 1, on six mitigation projects built last year. Although this ratio is higher than the previous year, using the MariOsa Wetland Mitigation Bank for the Route 50 project accounts for a portion of this ratio. Route 50 is not in the banking service area for the MariOsa bank, so MoDOT was assessed a larger ratio of mitigation at 5:1 for that project. However, MoDOT saved the time and expense of building another wetland mitigation site by using the bank at a higher ratio. For the other projects with wetland impacts, MoDOT mitigated at a 2.4 to 1 ratio. Statewide training in wetlands was conducted in October for designers, construction and maintenance staff. One proposed wetland bank has been accepted by the regulating agencies and another is in the review stage.



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:

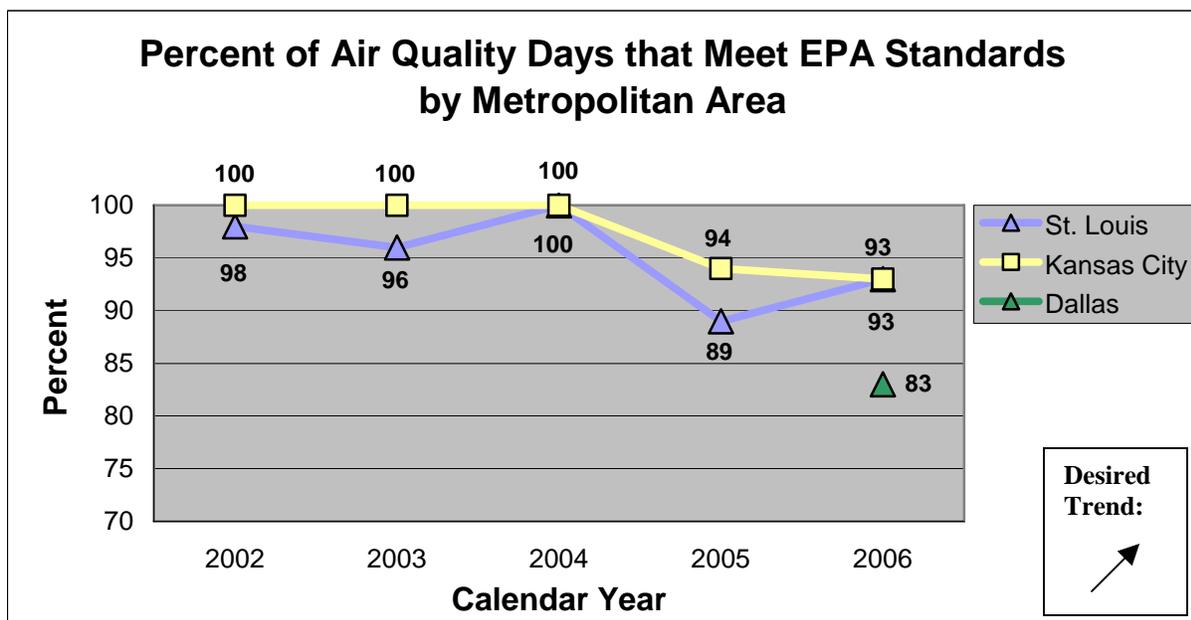
This measure tracks MoDOT’s role in improving the air quality of Missouri’s metro areas. The Environmental Protection Agency approves state plans to improve air quality. MoDOT makes every effort to design and build roads that improve air quality in affected areas.

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 will compare 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.

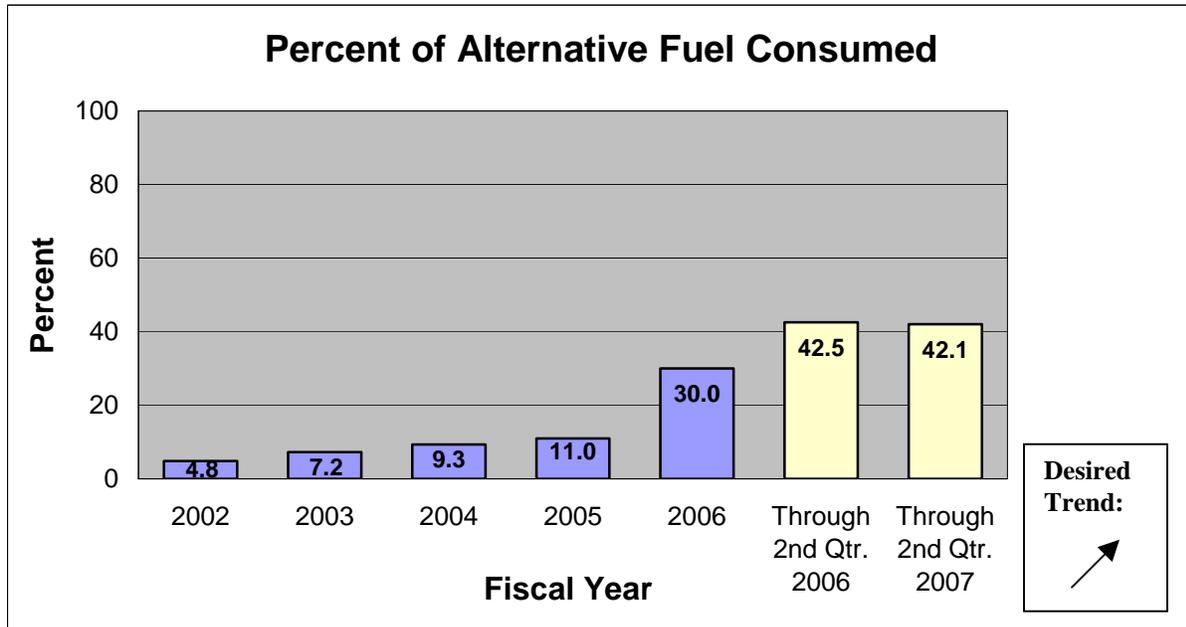
Measurement and Data Collection:

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 compared to the same period last year. The percent of alternative fuel consumed was 42.1 percent through the second quarter of fiscal year 2007 compared to 42.5 percent through the second quarter of fiscal year 2006. Through the second quarter the usage of biodiesel decreased; however, the decrease was offset by an increase in E-85. The use of biodiesel is seasonal and was discontinued beginning November 1 and will not resume until April 1.

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.

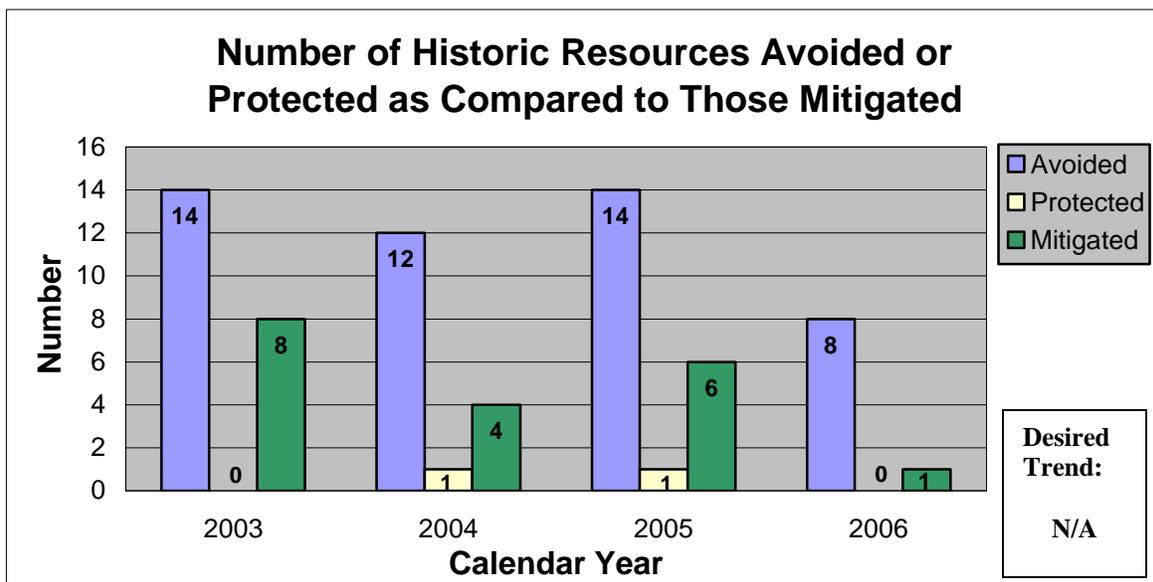
Measurement and Data Collection:

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 is an annual measure with quarterly updates.

Improvement Status:

Through early project design, MoDOT was able to avoid impacts to all but one historic property in 2006. Of the nine historic properties identified at the conceptual plan stage as being impacted by projects, MoDOT was able to redesign the project in the final stages to avoid impacts to eight of the resources. The only significant historic resource that could not be avoided was a historic house that had project impacts mitigated through the preparation of detailed photographic and historical documentation.

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. However, the overall effectiveness of MoDOT’s historic preservation efforts is reflected by all of MoDOT’s activities during 2006 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:

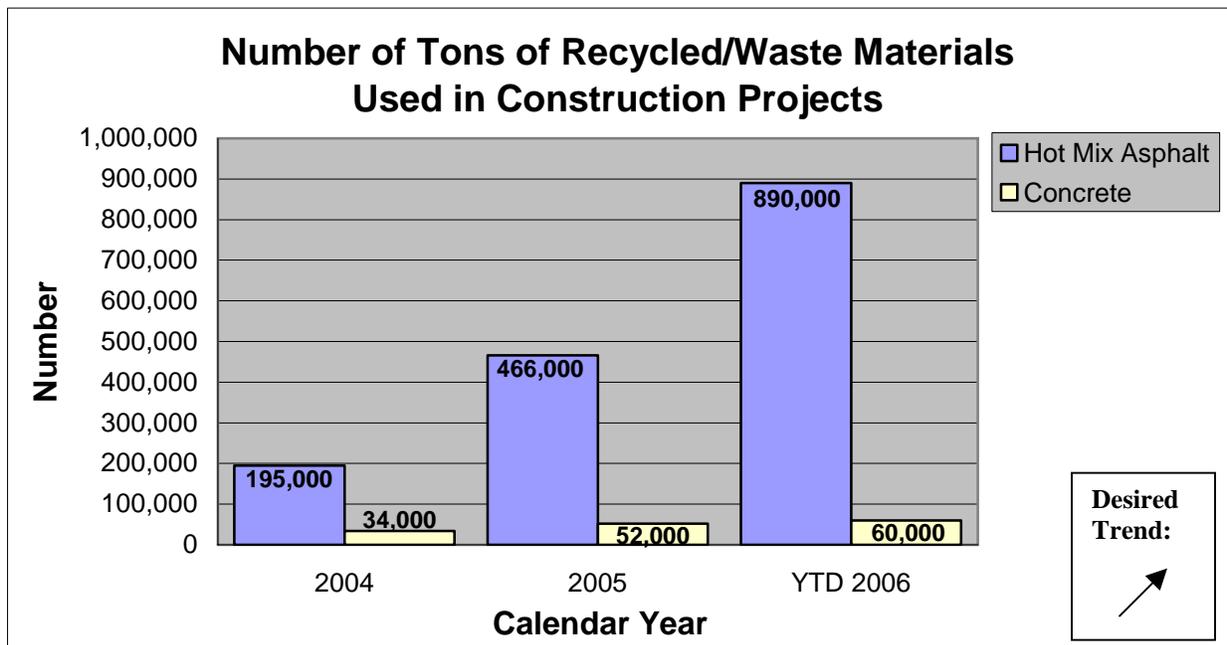
The number of tons of recycled/waste material used in construction projects is measured through MoDOT's construction management database which tracks material incorporated into projects. Data is collected on an annual basis due to the seasonal nature of the construction. The annual total will be finalized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

Improvement Status:

The quantity of recycled/waste materials used in hot mix asphalt (HMA) for 2006 was nearly twice as much as 2005 even though the total quantities of HMA used by MoDOT remained about the same. The Smooth Roads Initiative completed over the last two construction seasons, higher liquid asphalt prices and material shortages combined to give contractors more incentive to look at recycled/waste materials as a way of cutting costs and meeting project demands. Recycled asphalt pavement (RAP) and flint chat (waste from the lead/zinc mines in northeast Oklahoma) accounted for 85 percent of the waste materials.

Three trial projects using ground tire rubber (GTR) consumed 660 tons of GTR; the equivalent of a little under 83,000 passenger car tires. The GTR used is from the reduction of used tires. MoDOT is examining the performance of these mixtures and the best way to incorporate GTR into the specifications.

Specification changes allowing greater amounts of ground granulated blast furnace slag and fly ash as substitutes for Portland cement are responsible for the increased quantities in concrete mixtures. This measure should increase at a higher rate as several recycled aggregates are being evaluated.



Note: Final numbers for 2006 will be available in April 2007.

(This page is intentionally left blank for duplexing purposes)