
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.

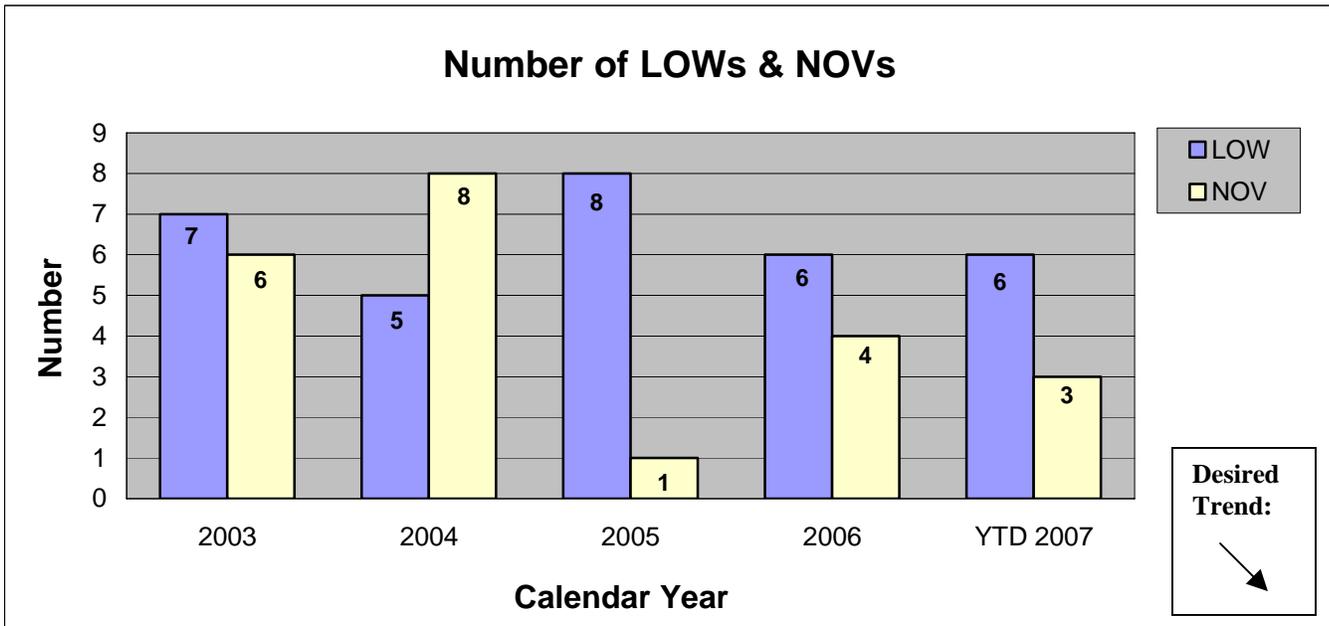
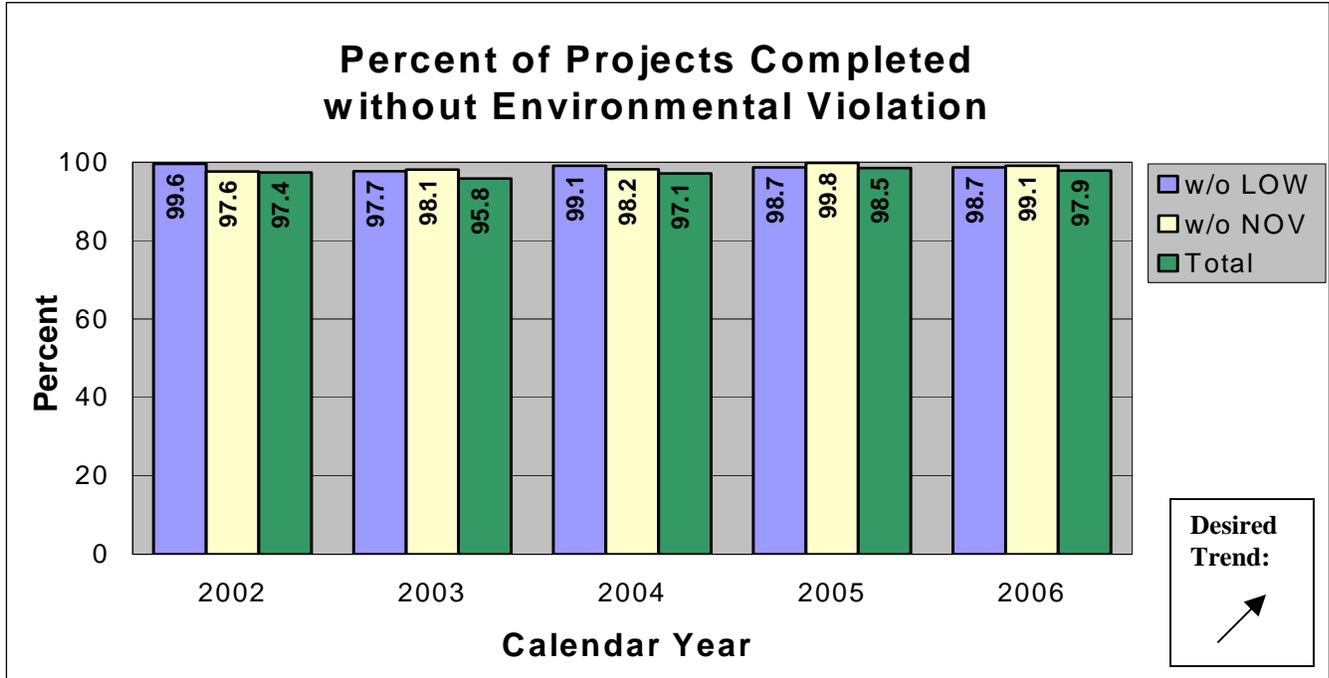
Measurement and Data Collection:

Both LOWs and NOVs are written correspondence to MoDOT 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 LOWs for the first nine months of 2007 is equal to the total for 2006, while the NOVs are trending similar to 2006.

In the third quarter of 2007, a MoDOT contractor received a NOV for failure to abate asbestos prior to demolition, while MoDOT received one LOW and a MoDOT contractor received one LOW. MoDOT's LOW was for a violation of the U.S. Corps of Engineers permit related to rock in the Missouri River at the Christopher S. Bond Bridge near Hermann. The MoDOT-contractor LOW was for improper disposal of construction and demolition waste.



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:

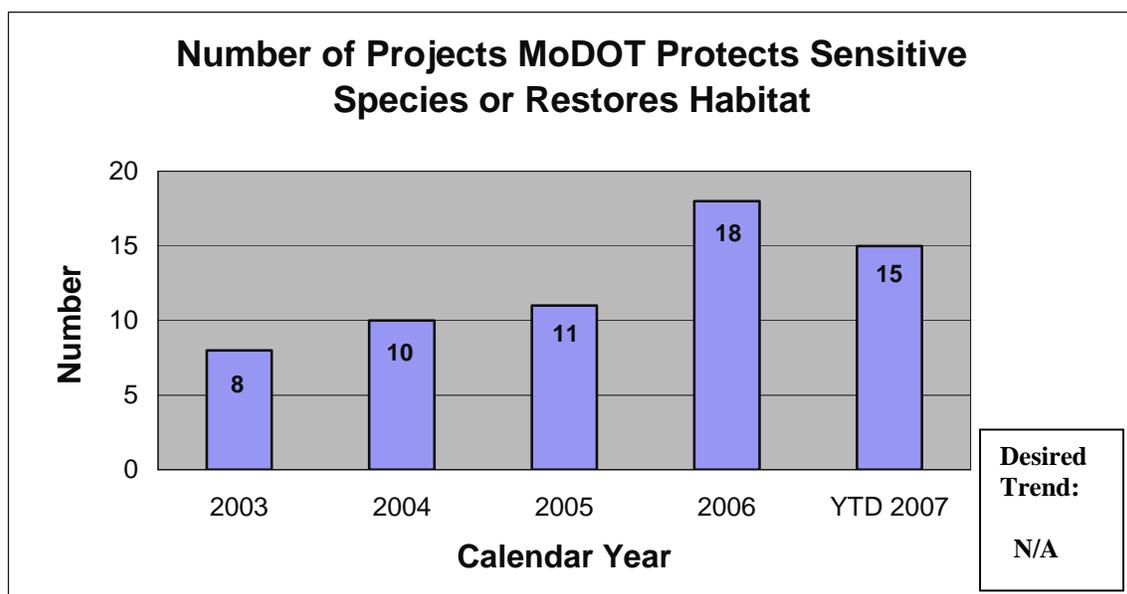
Missouri is home to many rare species of plants and animals, some of which are on the federal endangered species list. The Endangered Species Act of 1973 prohibits harm or harassment of these species. Avoiding or minimizing harm to these species and protecting or restoring their habitat is a fundamental 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:

MoDOT has protected sensitive species or restored their habitat on 14 construction projects and one emergency winter storm clean-up project through the first three quarters of 2007. These species and topics included the Indiana bat (nine projects), Niangua darter (one project), Ozark cavefish (three projects), Virginia sneezeweed (one project), pallid sturgeon (two projects), gray bat (one project), Hine's emerald dragonfly (one project) and migratory birds. MoDOT participated in the Endangered Species Act (ESA) administrative solutions workshop sponsored by AASTHO this last quarter. The group formulated a set of solutions to remedy ESA administrative bottlenecks to project completion. The environmental section continues educating the southern tier of districts concerning maintenance practices and their effect on ground water in areas of caves and karst topography.



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.

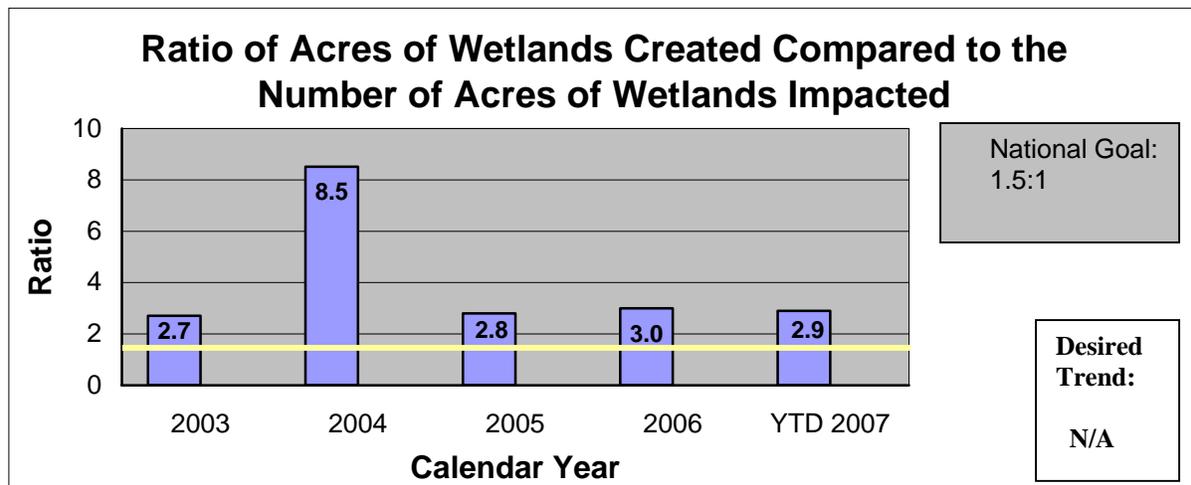
Measurement and Data Collection:

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 secured 50.38 acres of mitigation for impacts to 17.35 acres of wetland, a ratio or 2.9:1, for YTD 2007. MoDOT mitigated in the traditional style of constructing replacement wetlands for all but one project where MoDOT had the unique opportunity to purchase a fen wetland. In this case, 21 acres of fen will be protected for the 2.69 acres of wetland impact. Although this makes the ratio go over the 1.5:1 benchmark, having mitigated in this style not only protects a habitat uncommon in Missouri from future impacts but also streamlines the process for MoDOT. Negotiations with the Missouri Department of Conservation are underway to deed the fen to them for permanent protection.



Environmentally Responsible

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

Result Driver: Dave Nichols, Director of Program Delivery

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

Purpose of the Measure:

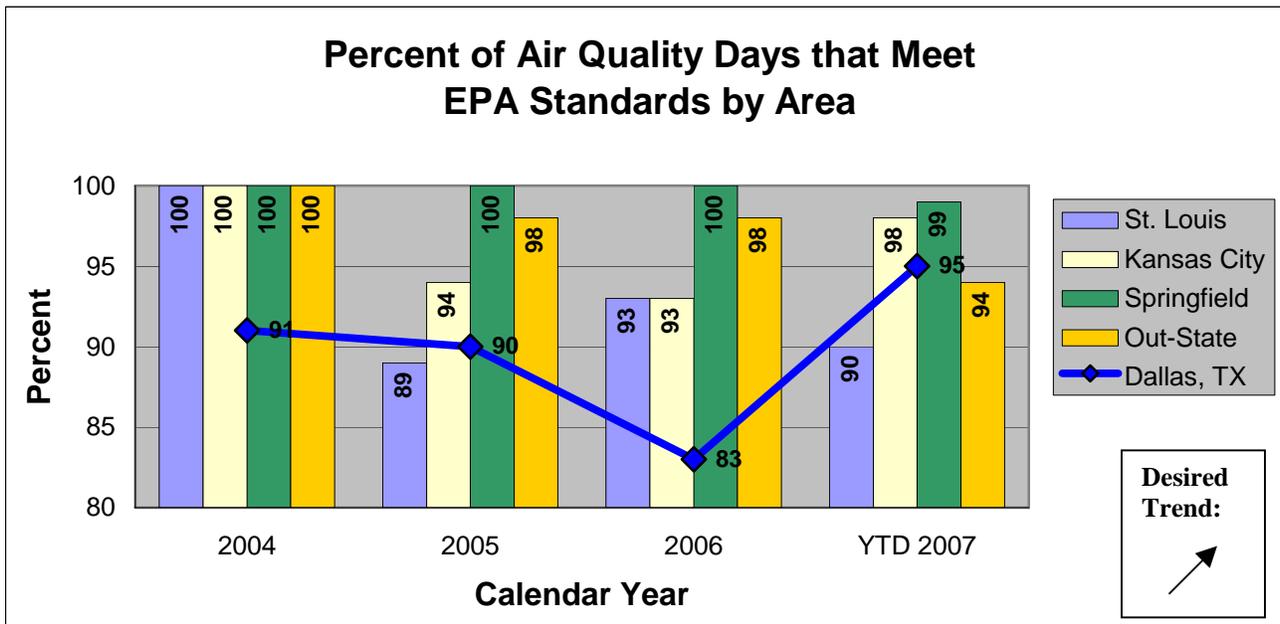
This measure tracks MoDOT’s role in improving air quality in Missouri. The Environmental Protection Agency approves state plans to improve air quality. MoDOT makes every effort to design and build roads that improve air quality in affected areas.

Measurement and Data Collection:

The EPA establishes air quality standards for the United States. The ground level ozone standard affects Missouri and is measured with the last three years of data. Ozone readings are collected in Kansas City, St. Louis, Springfield and the out-state areas during the ozone season – April through October. The data contained in the table below reflects the available percentage of days, by area, that met the EPA’s ground-level ozone standard. The data for the 2007 ozone season year-to-date is included. MoDOT compares ozone exceedances to Dallas, Texas, because of its similar pollutants and distance from other cities that affect its air quality.

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 and 2007 ozone seasons 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 these organizations continually work to improve the air quality for Missouri citizens. MoDOT is committed to improving the regions’ air quality by modifying daily operations, modifying employee action and education, providing information to the public, being a leader in air quality improvement, 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: Jeannie Wilson, Central Office General Services Manager

Purpose of the Measure:

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

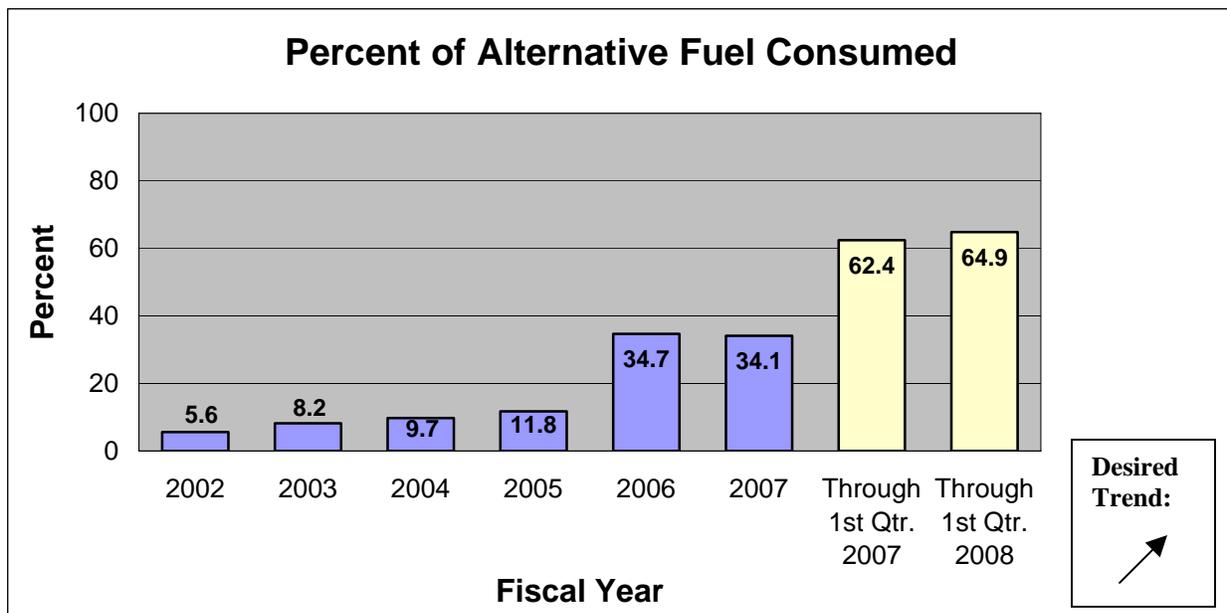
Measurement and Data Collection:

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 all alternative fuel consumed in the first quarter of fiscal year 2008 (64.9 percent) was slightly more than in the first quarter of FY 2007 (62.4 percent). Through the first quarter, the use of biodiesel and E-85 increased 3.83 percent and 164 percent compared to FY 2007.

Though not displayed in the chart, the overall use of all fuel decreased by 3.92 percent in the first quarter of fiscal year 2008 compared to first quarter 2007. These results could be early indications of the statewide initiative to reduce fuel consumption by 2 percent without reducing level of service.



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:

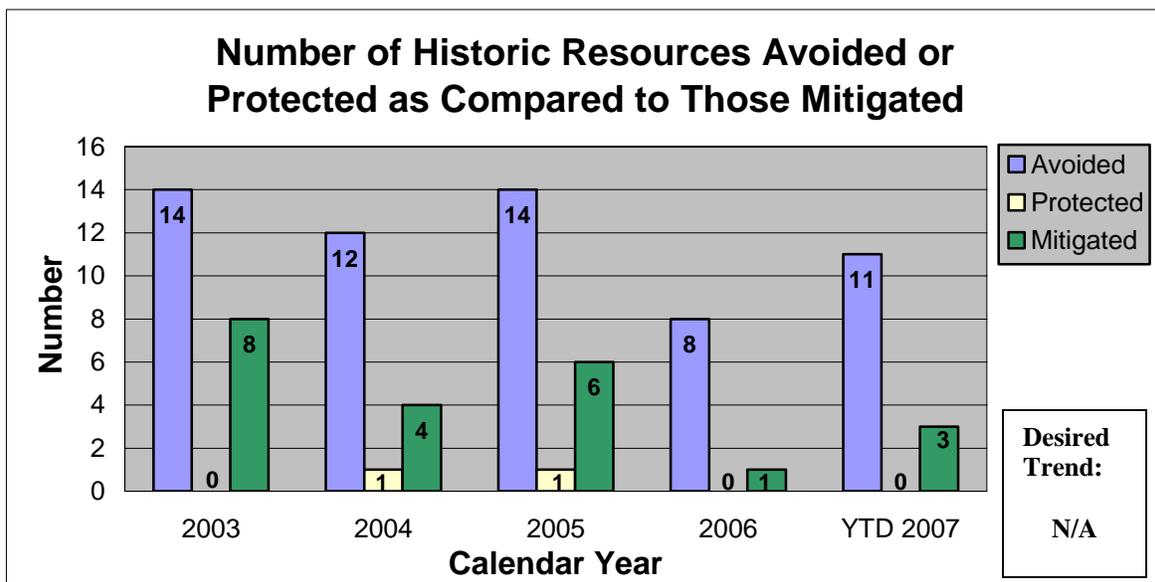
Federal historic preservation laws relating to federally funded projects, gaining public and agency support for particular projects, and general environmental stewardship require MoDOT to avoid, minimize or mitigate project impacts to historic buildings and bridges whenever feasible. Compiling information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

Improvement Status:

Through early project design, MoDOT avoided impacts to all but three historic resources during the first three quarters of 2007. Of the 11 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 all but three of the historic resources. The only significant historic resources that could not be avoided were three historic bridges 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 three quarters of 2007 resulting in the required mitigation of project impacts to only three historic resources.



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 through the use of recycled/waste material when applicable.

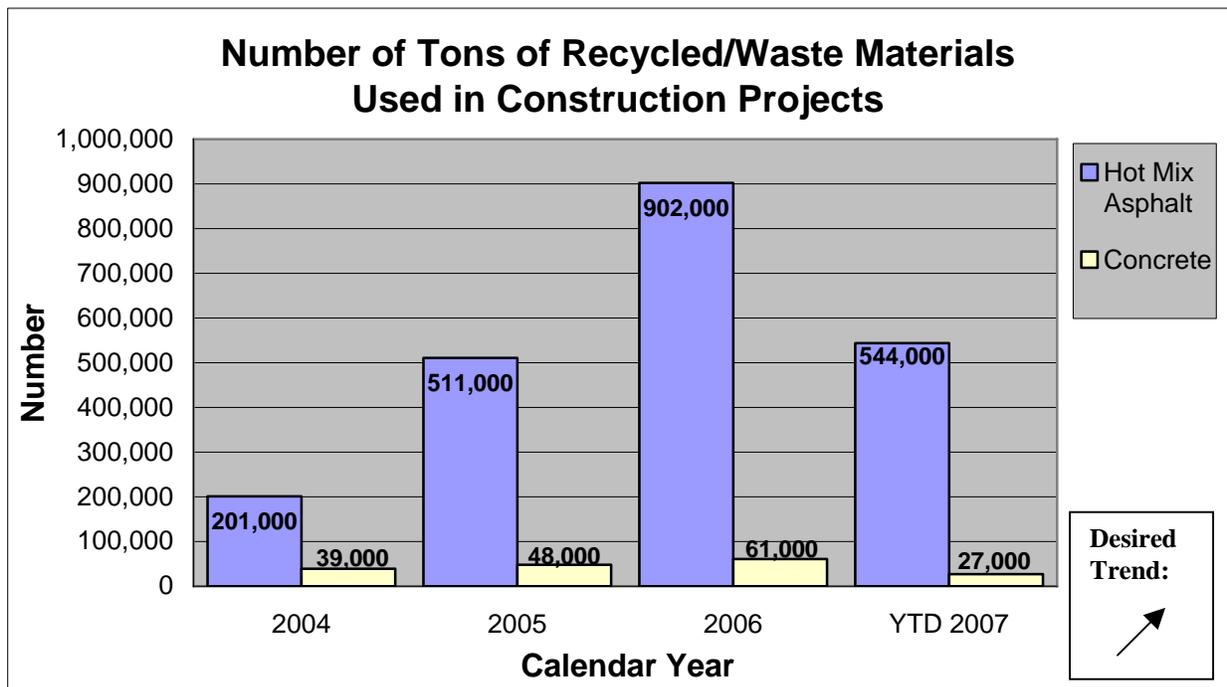
Measurement and Data Collection:

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:

Recycled materials comprise 17 percent of all hot mix asphalt (HMA) used to date in 2007. Specification changes that will allow unlimited use of recycled asphalt pavement (RAP) in HMA are under review. Contractor use of higher RAP amounts is primarily limited by additional testing required to ensure the mixture will meet performance specifications for the asphalt liquid.

It has been found that more widespread use of recycled materials would occur if not for a lack of knowledge by those producing materials capable of being used in construction applications and by those designing construction projects. As a result, training has begun for transportation project managers on methods of recycling asphalt pavements. The Central Laboratory has worked with several private companies to test and approve material for construction applications. Another hindrance to use of recycled materials is the abundance of quarries in Missouri. Generally, it is less expensive to use virgin materials close to the project rather than haul recycled material to the project.



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