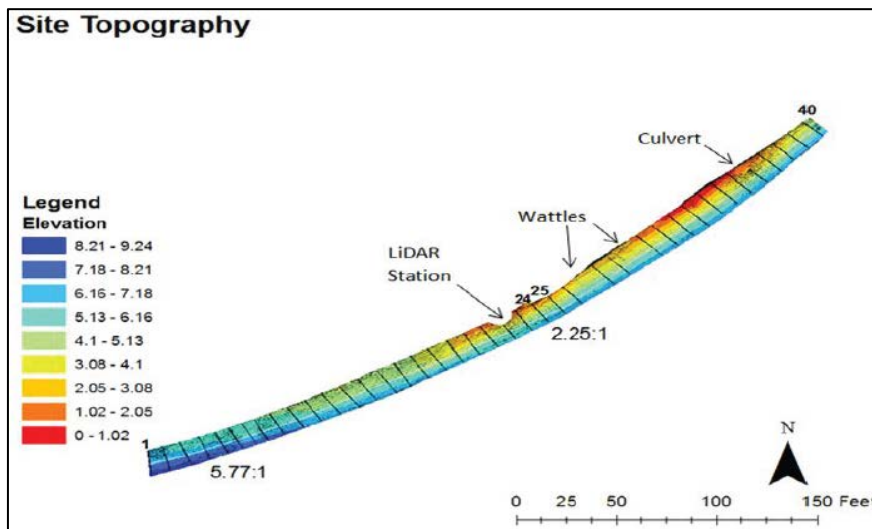


**Projects First-Round Winner**  
Innovations Challenge

**April 2016**  
Prepared by Transportation Planning  
Missouri Department of Transportation

## LiDAR Sediment Tracking



### Description

A LiDAR unit is used to accurately track the amount of sediment coming from department projects. While construction staff does all it can to control sediment coming from a department project, adjacent landowners may perceive the runoff is more significant than it is. For high profile locations MoDOT is able to perform bathymetry to establish sediment levels for the entire lakes or body of water. These costly measures are not without their limitation. Additionally for some of the jobs with larger project limits it is not practical to have this performed on multiple lakes (both larger grading projects and longer shoulder projects). Working closely with St. Louis University a mobile LiDAR device was used to measure the amount of sediment loss after a rain event. These devices are becoming more cost effective and this will allow project offices to specifically analyze projects for specific rain events. Little training is required to use these devices and this will greatly help produce detailed documentation. This documentation can provide critical support for possible litigation claims, inspections from EPA and DNR, as well as assist with any future Consent Decrees. Lastly having this information can quickly show the Contractor and inspectors the quantity of sediment removal to be paid for. Traditionally this pay item has been difficult to compute and little documentation is obtained. Having this will improve the current process.

### Benefit

A true savings cost estimate cannot be provided as the time and effort MoDOT staff spends having to deal with the public and regulators has never been captured. Five projects this past year dealt with sediment issues and once the construction program returns to doing larger projects again this number is expected to increase accordingly.

### Materials and Labor

Materials: none  
Labor: 2 hours

### For More Information Contact:

Eric Kopinski at: [eric.kopinski@modot.mo.gov](mailto:eric.kopinski@modot.mo.gov) or (573) 751-2790.

Additional photos can be seen by accessing the Innovations Challenge SharePoint page at: <http://sharepoint/systemdelivery/TP/Documents/InnovationsChallenge.aspx>.