

### 1.3.1

#### Geotechnical GIS Website

##### Presenter

Pallavi Bhandari  
Computer Analyst III  
Louisiana Transportation Research Center  
[pallavi@lsu.edu](mailto:pallavi@lsu.edu)

##### Co-Presenter

The project originated from the Geotechnical Design Section at LADOTD and their need to review geotechnical data prior to new design decisions. This project, conducted by the Louisiana Transportation Research Center (LTRC) for the Louisiana Department of Transportation (LADOTD), created a Geotechnical Information Database for existing and future geotechnical records and data, which benefits LADOTD by reducing or eliminating the need, and time, necessary to conduct new soil borings and test their samples. The database serves as a valuable reference resource to the design sections at headquarters, but also LTRC and other district offices.

Rather than developing a unique and dedicated computer server, review of existing LADOTD databases and storage capabilities revealed only an interface was necessary. Researchers created a Global Information System (GIS) with a user friendly interface and additional links to existing databases within (and outside) the Department to speed access times, compared to hardcopy searches, consolidating vast amounts of information into one online resource. This application is developed using Microsoft Visual Studio 2008 and ArcGIS Server 9.3.1 and operates in a Microsoft Web environment. This application is developed using Microsoft Visual Studio 2008 and ArcGIS Server 9.3.1 and operates in a Microsoft Web environment. Content Manager, an Enterprise Document (Object) Management System, already used within the Department was key to the capture, storage, retrieval, and printing of online documents within the Department.

This GIS website application has been implemented and benefits LADOTD design sections. Specifically it has/will ...enhance the Geotechnical Design Section's ability to select proper boring depths. Additionally, the information attached to the database such as load test data, pile driving logs, and other activity logs will greatly improve the pile resistance prediction. The better pile length prediction may ultimately reduce the cost of foundation construction. (Ching Tsai, LADOTD Geotechnical Design Section).