



Florida Department of Transportation Research Environmental Digital Data Repositories Project BD545-63

Florida's Strategic Intermodal System (SIS) comprises the state's largest and most critical transportation facilities, including major airports, space centers, ports, railways and highways. SIS facilities are the primary means for moving people and freight between Florida's diverse regions, and between Florida and other states and nations.

FDOT has developed the SIS Environmental Screening Tool (SIS EST) to use when evaluating proposed changes to SIS facilities. SIS EST helps planners assess impacts to community livability, land use, air quality, natural resources, cultural and historic sites, and agriculture. SIS EST is a web-based GIS application that provides access to several hundred databases that contain maps, reports, analytic tools, and methods to capture agency comments and evaluate recommendations. It provides a set of tools to input and update information about transportation projects, perform standardized analyses, gather and report comments about potential project effects, and provide information to the public.

Proposals to change SIS facilities often require staff to evaluate several alternatives against various features in the standard enterprise SIS (ESIS) database. FDOT recently contracted the University of Florida (UF) to study methods to link the SIS EST and the ESIS databases. The result is BRIDGE, an application designed to enhance the ESIS database, analyze the facilities contained within it, and provide recommended actions back to ESIS to aid FDOT decision-making. BRIDGE also links to another GIS application, the Efficient Transportation Decision Making (ETDM)/Environmental Screening Tool (EST), which is used by review agencies and the public to provide comments to FDOT regarding potential impacts of proposed major transportation improvement projects.



BRIDGE contains the bare bones database infrastructure necessary to perform GIS analysis and provides for specific SIS EST needs. BRIDGE has the ability to integrate and combine disparate geographic features (e.g., bridges, roads, ports) into a collection of related features and then analyze them as a single entity. BRIDGE also allows users to evaluate individual components of a project, rather than being constrained to evaluating the project as a whole. Users can immediately pinpoint and remedy problem areas by identifying alternative routes and facilities. Users also can customize BRIDGE to define analysis parameters, criteria, input data, and buffer distance, which expedites project application development and provides flexibility. Users can customize analyses simply by changing values on a form, which updates the database tables to reflect varying buffer distances, or selecting alternatively desired spatial layers needed for analysis.

By enabling ESIS, SIS EST, and ETDM/EST to communicate electronically, BRIDGE has significantly increased process efficiencies. Reviews of proposed changes to SIS facilities that previously took planners a week to complete can now be completed in a day.

FDOT Contact: Peter McGilvray, FDOT Environmental Management Office
Principal Investigator: Alexis Thomas, University of Florida
For more information, visit <http://www.dot.state.fl.us/research-center>