The seven Florida Department of Transportation (FDOT) districts are multicounty districts that each interact with a number of county and municipal agencies, including local transit agencies. FDOT District 7 includes the Tampa-St. Petersburg-Clearwater areas, which are among the most populous and complex in the state. District 7 employees regularly need information from the many entities that may interact with transportation planning, design, construction and maintenance. Accessing this information usually involves multiple manual steps to locate, acquire, and convert data. To facilitate their work, District 7 has initiated an effort to create an electronic means for intraregional data sharing.

In this project, University of South Florida researchers developed a prototype software system that automatically retrieves datasets from local transit agency Web sites and stores them in the District 7 database. These datasets describe transit stops, routes, and schedules in the standard General Transit Feed Specification (GTFS) format. Additionally, they developed a Web application that allows users to visualize and query transit data alongside District 7 data. The visualization application is capable of showing multimodal data for the regional transportation systems that is always based on the most recent data available from the transit agency.

The researchers met with district stakeholders that would have an interest in a centralized regional database to define specific goals and data to be shared. Additional meetings were held throughout the project. A particular challenge for the researchers was that the regional transit agencies were in various stages of collecting and maintaining their bus stop inventory data.

The researchers developed a data architecture, including data definitions and a protocol for data transfer. They based this protocol on the GTFS; extensive adoption of GTFS by transit agencies has made it the de facto standard for exchanging
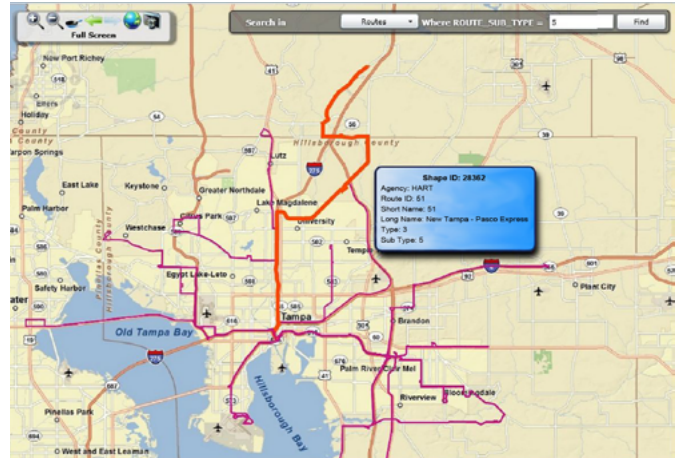
This snapshot from the visualization/query software shows the results of a search for express transit routes in Hillsborough County. The blue popup shows details of a selected route.

transit route and schedule data. Two of the three regional transit agencies participating in the project were already using GTFS.

Among other data and software requirements, a central programming challenge of the project was to create software that would work within existing frameworks. The Silverlight platform was already the basis of the statewide GIS system which FDOT was deploying to the districts. This platform must be served by a mapping service, in this case, one from ESRI, Inc. A variety of licensing issues were overcome to complete the project.

The retrieval software and the visualization/query software created in this project provide ease of access and the accuracy of the most current data. In the first case, countless employee hours will be saved, streamlining projects and improving timeliness. In the second, FDOT district projects will be based on the most recent data, leading to fewer "re-dos". The existence of these new tools and regional cooperation will speed efforts to collect and standardize transit data.

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For more information, visit http://www.dot.state.fl.us/research-center