

**GIS APPLICATIONS AT FLORIDA TRANSIT AGENCIES:
SCOPE, TRENDS, AND ISSUES
(A Report on the FDOT Statewide GIS Transit
Technical Assistance Program)**

PROBLEM STATEMENT

Geographic Information Systems (GIS) integrate data and spatial information to allow for advanced analysis as well as database maintenance. GIS information is stored in layers of information that identify trends and patterns not recognizable from tabular data. By adding a geo-spatial element to data, users are able to recognize patterns in the data, such as proximity and clustering and adjacency of data units. More advanced uses of the geo-spatial data would include calculating proportional area values, such as the service area of a route. By capturing the most fundamental parts of a transit system in a GIS, such as the routes and stops, an agency can establish the foundation for a robust GIS. This foundation allows the transit agency to automate many of its reporting requirements. Some examples include the route directional miles, one-quarter mile and three-quarter mile service area calculations, ridership by stop and route, bus stop amenities, the level of Title VI and ADA compliance.

OBJECTIVE

The purpose of this study was to assess the scope, issues, and trends in GIS application by Florida transit systems. Specific objectives included the following:

- update a 1995 report prepared by the Center for Urban Transportation Research for the Florida Department of Transportation regarding the use of GIS application by Florida transit systems
- collect information from transit agencies on the status of their bus stop/station inventories for the purpose of updating the Florida Transit Information System (FTIS)
- provide short-term technical support to the transit agencies
- establish a Transit GIS listserv for the dissemination and sharing of transit GIS information

FINDINGS AND CONCLUSIONS

Florida's transit agencies have improved the utilization of GIS across the board. The technological advances in GIS are continuing at a rapid pace and by embracing the technology today, Florida's transit agencies will be able to increase its usage and improve the way it makes decisions about planning and operations. FDOT should provide technical expertise in the area of GIS for the agencies. Training, white papers, and research on best practices would be of great benefit to Florida's transit systems. These lessons learned and best practices would significantly impact smaller agencies, which do not have the resources to implement and utilize GIS within their

agencies. The lessons and techniques of larger agencies can benefit the smaller and medium sized agencies. A cooperative effort on the part of FDOT and Florida's transit agencies would create an environment in which GIS is able to flourish and ultimately to improve the manner in which and the extent to which transit is delivered to Florida's residents.

BENEFITS

GIS provides transit agencies, small and large, with an opportunity to automate the collection and analysis of performance data. The technology provides a foundation for the agency to perform many daily activities as well as to meet and to automate many state and federal reporting requirements. This study provides the level of GIS usage and identifies opportunities where GIS resources can be utilized.

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