GEOSPATIAL DATA COLLABORATION

A Geographic Information System (GIS) is a technology for performing spatial analysis and building maps. These systems tend to closely align with internal Information Technology (IT) systems resulting in barriers for working across organizational boundaries. With the introduction of data sharing using new technologies, organizations can publish GIS data to collaborate on many projects.

As part of its Every Day Counts (EDC) initiative, the Federal Highway Administration (FHWA) is promoting Geospatial Data Collaboration for GIS data sharing. The FHWA is demonstrating technology-enabled business processes that make it easier to work across organizational boundaries. This approach incorporates Software as a Service (SaaS) technology that is cloud-based, meaning the tools, data and maps are accessible over the Web.

Using cloud-based technology facilitates collaboration by allowing GIS data sharing between both internal and external partners. Access to data and maps can be controlled by the data providers. The FHWA will demonstrate cloud-based, SaaS collaboration and mapping technology that improves the quality and speed of project decisions to the States.

The Geospatial Data Collaboration program is closely coordinated with AASHTO's Technology Implementation Group and builds upon existing data enterprise and web-mapping capability work led by states, such as Florida and Utah.

BENEFITS

‣ **Data sharing and consistency.** Delivers a common data view to agencies, process partners and stakeholders. The data warehouse functionality supports cross-referencing data from different sources. This also facilitates shared training and improved communications across organizations leading to improved decision making and scheduling.

‣ **Fosters collaboration.** Shows the value of data sharing to potential partners and helps build collaborative relationships and manage resources. Flexible roles and affiliations allow users to form groups for sharing data and reports and facilitate collaboration both within an agency and with members of other agencies.

‣ **Focuses resources and offers cost savings.** By augmenting existing database and web mapping capabilities with a SaaS approach, agencies can focus internal staff resources on developing content. In addition, potential savings can be gained from spending less on IT staff, governance and infrastructure to deploy external web maps.

‣ **Provides data accessibility.** Using a SaaS approach means that maps, data and tools are accessible over the Web.

CURRENT STATE OF THE PRACTICE

Many State Departments of Transportation (DOTs) recognize the potential of GIS and have the necessary systems and resources in place to take advantage of this approach.

‣ The Utah DOT has developed an interactive mapping planning platform (UPLAN) to help the agency visualize and share data, track assets and strengthen statewide transportation planning with better analysis and collaborative information.

‣ As part of its new Efficient Transportation Decision Making (ETDM) Process, the Florida DOT implemented an Internet-accessible interactive
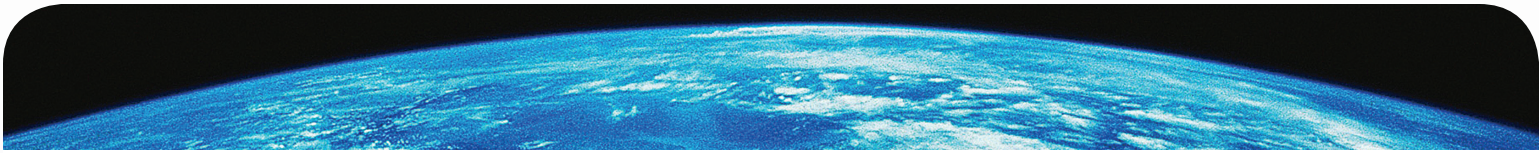
database tool called the Environmental Screening Tool (EST). The EST provides the ability to input and update information about transportation projects, perform standardized analyses, gather and report comments and help synthesize and communicate that information.

SUPPORT AND AVAILABLE TOOLS

There are resources available to Division Offices and State DOTs to assist in evaluating this technology including:

▸ Association of State Highway and Transportation Officials (AASHTO) Technology Implementation Group (TIG),
http://tig.transportation.org/Pages/UPlan.aspx

▸ Florida DOT Environmental Screening Tool,
http://www.dot.state.fl.us/emo/EST-Overview.shtm

▸ Florida DOT Efficient Transportation Decision Making (ETDM) Process,
https://etdmpub.fla-etat.org/est

▸ UTAH DOT Planning Network (UPLAN),
http://uplan.maps.arcgis.com/home

Collaborative GIS Concepts
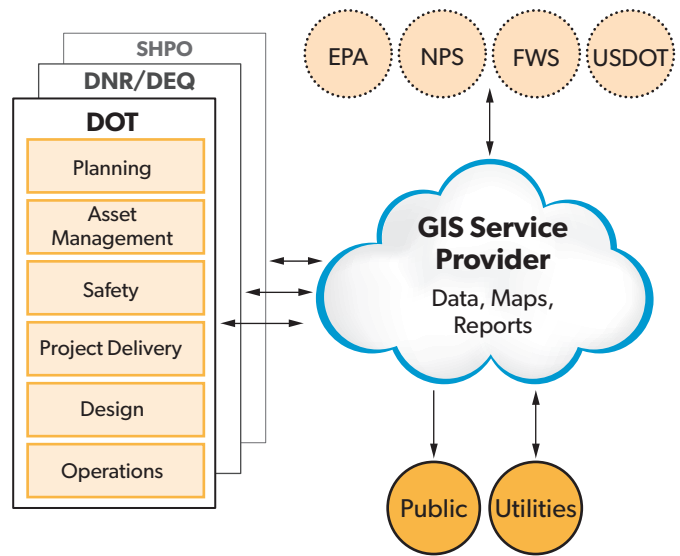
Internal and Cloud Implementations
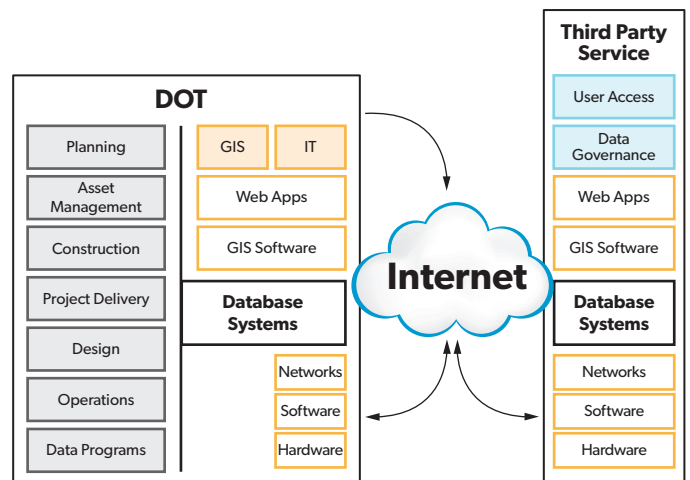
Every Day Counts (EDC), a State-based initiative of FHWA's Center for Accelerating Innovation, works with State, local and private sector partners to encourage the adoption of proven technologies and innovations aimed at shortening and enhancing project delivery

U.S. Department of Transportation
Federal Highway Administration