

1.1.3 Managing TxDOT Highway Improvement Projects in a Web-based GIS Environment

Presenter

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Streamlining project delivery is a goal identified by the Texas Transportation Commission. Ready access to data is a key requirement to streamline project delivery during the project development process. TxDOT has a wealth of digital project development data in various department systems. Examples include aerial photography and topographic information, design schematics at various levels of development, surveying data, right of way and utility maps, and traffic counts. Although personnel have this data at their disposal, lack of data integrity, accessibility, quality control, or plain awareness makes it difficult to put the data to good use. Additionally, as the reliance on project development technologies increases (e.g., digital terrain modeling for automatic grade control systems), the amount of data TxDOT produces and receives will grow steadily, making it increasingly difficult to manage the data effectively. The Texas Transportation Institute is working with TxDOT to develop a data framework to manage engineering data effectively and provide ready access to data. This presentation summarizes the development of a prototype web-based GIS interface, consistent with TxDOT's GIS Architecture and Infrastructure Project (GAIP) that accesses relational, legacy, and spatial project development databases containing data in a variety of formats. The presentation discusses database development and population, document storage and georeferencing, GIS interface design, and GIS and CAD integration. The discussion includes benefits, recommendations, and implementation guidelines