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A GIS Data Repository Model for Enterprise GIS in Transportation

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A GIS data repository stores GIS data originally from a variety of sources and manages the data in multiple formats. This presentation will describe a GIS data repository built by the Geospatial Transportation Information (GTI) Section at the West Virginia Department of Transportation Division of Highways (WVDOH). The repository relies on ESRI ArcGIS and Microsoft SQL Server technology. Basically transportation GIS data such as routes and assets are managed in an editing geodatabase; GIS data from third parties are imported on a regular basis and saved in shapefiles. These two kinds of data are replicated in secondary geodatabases for publication purposes. Derived products, including layers, map templates, and map services, are then created for various project needs such as map generation and web mapping application development. Part of the workflow is automated using ArcPy. Therefore, with the two data sources: editing geodatabase and shapefiles under full management, the GIS data repository ensures high data accuracy and currency and reduces data redundancy, inconsistency, and errors, resulting in improved business productivity and efficiency. Lessons learned from setting and maintaining the repository will be shared.