

7.2.2

Employing GIS-Based Mobile and Cloud-Based Technologies to Support Asset Management

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With advancements in hardware and software technologies, transportation agencies have an increasing number of tools that can support more effective asset management, capital planning, and project execution. Key among these tools are GIS-based mobile, web, and cloud solutions that allow agencies to more effectively develop accurate asset inventories, assess condition of assets, and provide key data to staff in any location, at any time, using any device. Through the implementation of these tools, agencies gain the benefit of maximizing their investment in technology by providing critical information to staff using hardware tools (iPhones, iPads, Android, etc.) that fit their specific needs and work environment. During this presentation, case studies detailing the use of GIS-based web, mobile, and cloud computing environments will be presented. Specifically, tools that support GIS-based mobile data collection, data collaboration, asset management, and visualization of real-time system conditions on devices such as the iPad, iPhone, Panasonic Toughbook Tablet, and Android tablet will be demonstrated. Software environments, such as Esri's ArcGIS Server, ArcGIS Online, and iPad-based mapping and data collection applications will also be discussed along with strategies for ensuring data security and integrating GIS-based web and mobile solutions with key agency systems, such as asset management.