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Uses of Cloud Technologies for Geospatial Applications

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Public agencies are increasingly turning to cloud technology to help streamline workflows and allow data sharing among a broader audience. In particular, transportation agencies are beginning to use cloud computing to more easily store, manage, manipulate, analyze, and share geospatial data and business information. Cloud technology can replace traditional data-sharing mechanisms such as File Transfer Protocol (FTP) sites by displaying data in an interactive manner. Even modest efforts to use cloud technology have led agencies to ask fundamental questions about how transportation agencies will conduct business in the future.

Great potential exists in using cloud technologies to support GIS applications, but their use is still evolving. To explore this in more depth, the Federal Highway Administration (FHWA) and the U.S. Department of Transportation's Volpe National Transportation Systems Center (Volpe Center) interviewed selected agencies and developed case study reports that document these agencies' GIS and cloud computing initiatives. FHWA also sponsored a peer exchange that convened participating agencies to discuss their experiences in greater detail. The initiatives explored in the case studies include:

- Idaho Transportation Department's IPLAN
- Maryland Department of Transportation's Miss Utility Tracking System (MUTTS), interactive mobile applications, iMap Application templates, and Enterprise GIS system
- Ohio Department of Transportation and Mid-Ohio Regional Planning Commission's Location Based Response System (LBRS) programs
- Utah Department of Transportation's UPlan
- Washtenaw Area Transportation Study's long-range transportation plan deficiency maps and Mi Community Remarks application, and interagency data sharing initiative.

This presentation will discuss how the State and regional transportation agencies highlighted in the case studies are using cloud-based technologies to support their GIS activities, as well as share information on the associated benefits, challenges, and lessons learned that resulted from these experiences. The report containing the case studies and observations from the peer exchange will be published on the FHWA's GIS in Transportation website (fhwa.gis.dot.gov) in December 2013.