

UDOT Publishes Department-Wide GIS Strategic Plan

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The Utah Department of Transportation (UDOT) has released its department-wide GIS strategic plan. This plan was put together by an internal steering committee after an extensive collection of information from interviews and a visioning workshop with over 60 people present.

Highlights from UDOT's 2008 GIS Strategic Plan document:

UDOT's LRS and GIS:

UDOT's Location Reference Standard (LRS) defines locations along the State road network based on mileage and reference posts. While the LRS is intuitive and structured, it can't capture all geographic information relevant to UDOT, such as features not located on or related to the road network itself (rail roads, floodplains, municipality boundaries, etc.). Additionally, the LRS does not provide the user with an interface on which to visually review UDOT business data related to Department assets. This is where GIS information, referenced using geographic coordinates (such as latitude/longitude, northing/easting, etc.) and accessible using a map-based interface, provides complementary functionality to traditional LRS definitions. Locations along the road network captured in the LRS can be converted to geographic (GIS) coordinates and vice versa. Both systems are fully compatible and leveraging the power of both types of referencing methods will provide the biggest benefit to the Department.

Challenges:

While the LRS has been adopted as a standard for UDOT in managing and referencing the State road network, there is currently no clearly defined direction for dealing with GIS information at the Department. UDOT's ETS section includes GIS staff that provide Department-wide GIS support. In addition, several other groups, divisions, and regions have staff proficient in and assigned to GIS data management. However, GIS data are residing throughout the Department, located on both network servers and individual work stations. These data are currently not tracked systematically and are only minimally standardized, making it near impossible to ensure that the correct data is being used for the right purpose. Other (related) issues that were identified regarding currently used GIS data include inconsistencies in geographic coverage, resolution, and reference systems and inadequate documentation (metadata) describing each dataset's source, accuracy, and intended use. In addition many of the application development efforts that involve GIS are not (or inadequately) coordinated, likely resulting in duplicate data management related efforts and inefficient use of available time and staff.

Goals:

- Establish an accurate set of basic spatial (GIS) information (a "master" dataset), consisting of accurate and standardized geographic definitions of UDOT's key assets such as the road network layout, bridge locations, etc.
- Establish appropriate data security; QC/QA; and documentation protocol.
- Optimize the integration of existing UDOT business data systems (such as ePM, OMS, PDBS, Pontis, etc.) with GIS tools.
- Optimize the use of existing business GIS applications and datasets.
- Optimize field data collection methods.
- Optimize UDOT's relationship with the AGRC.
- Establish a staffing strategy.
- Develop an online portal providing UDOT staff access to business data through GIS.
- Establish an outreach strategy.