Transportation GIS Framework Layer (OR-Trans)
Status Report

INTRODUCTION

Over the past several years, the OR-Trans initiative, through the Transportation Framework Implementation Team (T-FIT), has worked to develop a standard for transportation Framework data. This standard, along with member needs, guided the content of the database that was subsequently developed to house transportation road data. Data was acquired from local agency road authorities through partnership agreements that acknowledged the benefit of a single, integrated repository for road (Framework) data. Where GIS data for road networks was not available, OR-Trans developed data using various funding sources and in coordination with Oregon Emergency Management data development projects to fill in the "holes." This data, along with the local road authority data, is now being integrated in the All Roads database.

Work must continue to integrate and verify each set of data. It is also critical to the success of the OR-Trans effort to find permanent custodial stewards for the data that was developed. It is the OR-Trans goal to turn over any data developed through this project to local road authorities for continued, permanent maintenance of the data. It is also an OR-Trans goal to develop and foster an environment for mutual sharing of this data through the All Roads database to any data user.

WHERE WE ARE

ODOT (as the horizontal data steward) and the T-FIT group have identified several data components that will make the OR-Trans effort successful. The first component is identifying all of the potential Road Authorities (RA) that exist in Oregon. These RAs are agencies and businesses that either own or maintain road networks for public or private needs. That includes identifying all city, county, state agency, federal agency, tribal and private RAs. Over 330 RA contacts are actively maintained in a database developed for the OR-Trans initiative. This enables ODOT to effectively communicate with at least one representative from each RA and to provide reporting and gather feedback for the effort.

Another component is to identify which RAs have a dataset of their road system and the content of that dataset in terms of comprehensiveness. Once that information was established, the OR-Trans effort acquired grant monies to help develop data that met a minimum standard for RAs that either had no GIS data for their road network or had a very minimal dataset or a commercial dataset. After this data was developed and it was loaded into the statewide database, OR-Trans had a very preliminary version of the statewide road network.

Since that time, the GIS datasets that were developed have been used to develop more comprehensive datasets that include additional attributes like address ranges, ownership, mile points and the like. In many cases, these initial datasets evolved in to better datasets and are now maintained at the county level.

The third component is to reduce the redundancy of similar datasets. Efforts were made to identify the data custodians that stored GIS data and then determine the content of their data. Did one dataset include a representation of the same road network another dataset included? How were duplications of road networks handled internal to agencies (i.e. County road department and county planning)? Could there be coordination? These questions and more determined what efforts were needed to establish "common ground" for a single GIS road dataset. In many cases, state agencies that traditionally had

their own versions of a GIS road dataset now work closely with other agencies to form symbiotic relationships that reduce redundant datasets. ODOT partnered with Oregon Emergency Management (OEM) to coordinate efforts between traditional ODOT datasets and OEM 911 datasets.

All of these efforts have moved OR-Trans forward to a much more complete dataset with less redundancy throughout the state. As this effort moves forward, exponential benefits will be realized.

WHERE WE ARE GOING

The OR-Trans effort is on track to have a statewide GIS road dataset over the next year or so. This dataset will be comprised of local datasets and will be updated from these local datasets on a semi-annual basis. We have some significant hurdles during this final phase of the effort. These include:

- Identify overshoots between datasets
- Identify undershoots between datasets
- Identify missing road segments
- Identify missing or erroneous attribute data
- Identify overlapping road segments
- Resolve ownership issues
- Establish agreement points at jurisdictional boundaries
- Coordinate the resolution of these issues with RAs
- Continue to reduce duplicate efforts
- Create “hooks” in the data to attach value added attributes
- Create a web portal that allows designated users to upload and download data

BENEFITS

Besides creating a statewide GIS road network the OR-Trans effort will also provide a base for countless road network-related data themes. Many of these themes are already being maintained or developed today and with a common statewide dataset available, data from one collection effort can be specifically related to the same road segments from a different data collection effort. This will combine efforts and create efficiencies at all levels of government. Some of these efforts include:

- Statewide crash location data from ODOT
- Statewide certified mileage reporting from the counties
- Enhanced emergency response for the 911 call centers
- Enhanced emergency response for OEM
- Statewide federal function class identification of roads
- Disaster and incident response
- Statewide integration with other GIS themes
- Improved facility management of IRIS roads
- Statewide traffic count locations from various agencies
- Reduced effort expended on duplicate efforts
- Improved planning efforts at all levels

For continued success of the OR-Trans effort and all of the peripheral benefits that the statewide road dataset supports, it is necessary to continue to foster and improve data-sharing efforts throughout the T-FIT community. Data sharing must be of primary importance in order to facilitate all of the benefits that can be derived from OR-Trans through coordinated data creation, collection and storage.