GIS-T Roundtable Sessions

On Tuesday April 17, GIS-T hosted concurrent roundtable discussions, CAD to GIS Integration and Field Data Collection. The topics were chosen by observing appearances on the 2011 Roll Call of States issues lists. Attendance was high for both sessions with nearly two-hundred (200) participants. The facilitated discussions delved into the difficulties DOT's are having as well as ways to overcome them.

Field Data Collection Summary

This roundtable session, attended by approximately seventy-five (75) persons, was largely an information and experience sharing event. Initially, the intent was this session would be about mobile data collection: using a GPS enabled handheld or tablet device to collect data in the field. What the attendees discovered was mobile data collection is only a subset of field data collection.

Field data collection's purpose is the capture of unknown data and information. For a transportation agency, this means collecting the characteristics of roads, bridges, signs, drainage, rail crossings, intersections, signals, among others. There are a variety of methods to collect data over a dispersed geographic area. However, condition data can only be collected in the field. The methods discussed in this session were:

- GPS
- Handhelds / Tablets
- LiDAR
- Photogrammetry
- Ortho-photography
- Road Logs
- Automated Feature Extraction

Location accuracy and precision needs were not agreed upon by the group. Some thought locations only had to be precise enough to enable in the field discovery. Others thought the highest accuracy possible should be collected, especially in the right-of-way. There were several factors and issues raised that impact accuracy:

- Feature being collected
- How feature will be used
- GPS conditions including CORS and RTK
- Post processing
- Questionable accuracy on Handhelds and Tablets
- Operator Training
- Future map standards
- Higher accuracy makes the data usable by the largest audience

Conspicuous by its absence was mention of the traditional DOT data collection method, the Distance Measuring Instrument (DMI). It is unclear why DMI was overlooked; perhaps, it is taken for granted. Perhaps, the attendees are seeking new and improved collection methods. The on-going discussions about linear referencing indicate there are still issues in the DOT's. DMI collection is part of that discussion.

In conclusion, the attendees did find consensus on the bottom line. Finding the right data collection method is a balance between data, cost, time, and safety. DOT's must assess the value and cost of the data, who is using it and why, against the risks and time to collect it. Ultimately it is a cost issue.