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GIS In Transit Conference Attracts National Audience

Over 140 transportation professionals from around the U.S. attended "GIS in Transit: Using Geographic Information Systems to Enhance Transit Planning, Marketing, and Operations," the first national conference on the application of geographic information systems (GIS) to the transit industry. The conference was presented under the auspices of the National Urban Transit Institute headquartered at CUTR and funded by the Research and Special Programs Administration of the U.S. Department of Transportation. Other sponsors included the American Public Transit Association (APTA), the Association of American Geographers, Community Transportation Association of America, the Federal Transit Administration (FTA), the Women's Transportation Seminar, and World Computer Graphics Foundation.

Hosted by CUTR August 13-15 in Tampa, the conference provided an opportunity for transit operators, planners, academic researchers, consultants, and vendors to share experiences and applications; exchange ideas, information and perspectives; and discuss the benefits of this rapidly-evolving technology. CUTR faculty members Ron Sheck, Bill Ball, and Fredalyn Frasier planned and hosted the conference, and attendees represented 29 transit agencies, 6 state DOTs, 9 MPOs and 10 universities. Exhibitors at the conference included FTA, Caliper Corporation, ESRI, Intergraph Corporation, and International Computer Works. Throughout the two days of the conference, current GIS applications to enhance transit planning, marketing and operations were examined in presentations by 53 transit and technology professionals. A prominent theme was the importance of GIS as a management tool and using GIS to improve customer service. Session topics included applications, implementation, technology, and future trends, and several case studies from around the country of GIS as it is currently being used in transit were presented.

Current Applications

For example, Albuquerque is integrating GIS with AVL (automated vehicle location) technology to monitor paratransit trips. The AVL system tracks vehicle location and monitors various engine and system performance characteristics. Linda Dowling, manager of information and security systems at Albuquerque's Transit and Parking Department, cited anticipated benefits including increased safety, efficiency, public information, cost savings, compliance with the Americans with Disabilities Act, and automated federal reporting.

Jack Reilly of the Capital District Transportation Authority (CDTA) in Albany (NY) described how his medium-sized transit agency uses GIS. CDTA has geocoded the 4,000 bus stops on its 50-route system. (CUTR has recently completed a similar effort for Pinellas Suncoast Transit Authority in St. Petersburg.) Reilly noted that service standards are of particular concern to his agency. He proposed questions that GIS can help answer, including the proportion of households that can access a shopping center and the percentage of transit-accessible jobs in the region. GIS also has helped provide market analysis including showing the transit market share to downtown from all neighborhoods in Albany and determining if CDTA is providing the appropriate service.

Linda Culp and Julie Jamarta of the San Diego Association of Governments
(SANDAG), the metropolitan planning agency that coordinates efforts with local transit operators in greater San Diego, shared their experiences from a regional project with transit operators. SANDAG has developed the Assistance to Transit Operators (ATO) program, which provides planning and marketing technical assistance in the region, including data collection and management, survey research, geographic analysis, and transportation modeling. With the transit ridership forecasting model, future year ridership figures are estimated for corridor improvement projects. In addition to ridership forecasts, GIS is especially valuable in answering other planning questions posed by transit operators. For example, transit route alignment and headway changes occur several times a year in the region, and GIS is used to manage and update the current network.

Presentations on other projects using GIS included Minnesota's Guidestar project and MARTA's (Atlanta) transportation planning for the 1996 Summer Olympic Games. Information on the results from the National Transit GIS Survey was also presented.

FTA Special Sessions

Representatives from the Federal Transit Administration (FTA) conducted a number of special sessions on the second day of the conference. Walt Kulyk and William Wiggins presented information on the National Transit GIS, a database that will include all fixed-route transit services in the U.S. To date, over 400 urban areas have been entered into this GIS database, which identifies routes by mode, rail stations, intermodal facilities, and other key system attributes. A standardized format makes comparisons between systems easier, and the information is available to would-be users from the Bureau of Transportation Statistics (BTS) in a CD-ROM format. Sessions designed specifically for discussion of GIS applications in large, medium, small, and rural transit systems also were presented by representatives from Seattle Metro, Dallas Area Rapid Transit, Bloomington (IN) Public Transportation Corporation, and ARC Transit in Palatka (FL), among others. In the concluding session of the conference, three transit system executives--Richard Simonetta, general manager of the Metropolitan Atlanta Rapid Transit Authority (MARTA); Michael Townes, executive director of the Peninsula Transportation District Commission, Hampton/Newport News, VA; and Paul Skoutelas, executive director of LYNX, Orlando--considered the role of GIS in transit.

Simonetta placed GIS within the setting of a transit systems decisionmaking needs. He described ways in which GIS can help the general manager set the organizations direction, ensure the staff understands the organizations goals, and provide support including financial resources to achieve the goals. He presented the role of GIS in MARTA's strategic plan as an example, with each strategic initiative followed by ways to incorporate GIS/Intelligent Transportation Systems. Townes noted that, if GIS is to be a useful management tool, it must help transit systems meet customer needs, assist in advocating transit, and provide for continuous quality improvement in light of recent budget cuts.

Skoutelas explained how GIS has been included in LYNX's vision of the future to ensure that the transit agency is seen as a true community asset. He described how GIS fits into LYNX's three strategies: to target and develop market niches, to be nontraditional, and to change how others perceive the organization. Skoutelas said he plans to use GIS as LYNX expands to include additional services such as
ridesharing, vanpools, and paratransit. As an example, he noted that LYNX's current Intelligent Transportation System (ITS) effort will incorporate an AVL system providing real-time customer information. Conference participants received two CUTR publications, a GIS in Transit bibliography and a copy of the report "The Use of GIS in Public Transportation," which includes a survey of Florida transit agencies. Overall response to the conference was excellent, and a follow-up conference is being considered for 1997. Later this fall, conference attendees will receive a publication of the proceedings that will include case studies of GIS applications in large, medium, and small transit systems.

The conference was successful in introducing GIS to many in the industry as well as in providing a forum to exchange information on the many uses of GIS in public transportation. As noted by Simonetta, "We must recognize that GIS is here to stay. The question is not whether, but how, GIS can serve the transit industry."

For further information on the conference or on CUTR's GIS activities, contact Dr. Ron Sheck.

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