ASSOCIATION OF METROPOLITAN PLANNING ORGANIZATIONS

METROPOLITAN TRANSPORTATION MANAGEMENT & OPERATIONS: ITS

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Newsletter for MPOs

MID-OHIO MPO ITS EFFORTS FOCUS ON AGENCIES AND END USERS

In the last two years, ITS planning at the Mid-Ohio Regional Planning Commission in Columbus has turned a corner and evolved from typical, MPO planning studies into system deployment and integration. Several ITS projects are underway with the goal of creating an integrated ITS system in which each implementing agency strives to understand how their components interact with regional partners while providing technology-based services to those who use the system.

This kind of thinking has evolved into the MORPC-championed Central Ohio Regional Transportation and Emergency Management Center (CORTRAN). The concept of CORTRAN is built on the foundation that central Ohio has one transportation system

Rendering of MORPC's CORTRAN facility

TRANSPORTATION IN METROPOLITAN LAS VEGAS: HOW FAR WE'VE COME

The Civis Vehicle that will be used to operate RTC's MAX System

Southern Nevada has grown quickly from a small town to a big city with multi-faceted issues. With a population base that has more than doubled almost every decade since 1950, managing existing transportation systems and building adequate infrastructure to accommodate this growth is becoming more challenging—and more critical—every day.

The Regional Transportation Commission of Southern Nevada (RTC) is key in this effort. In addition to its role as the MPO for the growing metropolitan area, the RTC is unique in that it is also the public transit

and all jurisdictions are partners in that system. Each entity, be it city, county or state, should cooperate and understand how individual components interact with others.

The collaborative CORTRAN effort involves many Columbus area stakeholders, including DOT, transit, city, and county staff. The "CORTRAN Feasibility and Cost Analysis Study", completed in January 2001, developed a blueprint for the facility that will 1) get the most out of regional resources, 2) coordinate metropolitan-wide incident management, 3) address the issue of redundant emergency, signal and snowplow operations, 4) provide Traveler information for the region, 5) minimize mixed messages to the media while providing one consistent and credible voice to the public, and 6) establish a transportation and safety research/information clearinghouse.

Transportation and Resource Locator

MORPC is also using ITS to provide a hands-on tool to area citizens and public-service agencies that serve them. This tool is called the Transportation and Resource Locator, and was an outcome of a MORPC initiative to bring together public and private stakeholders and address complex transportation problems in central Ohio. The objective of this program was to identify strategies to provide transportation to populations traditionally under-served by the existing transportation system.

The effort resulted in a detailed implementation plan for cooperative activities among regional transportation providers, including the development of a centralized transportation

brokerage. Recognizing that the formal brokerage will take several years to organize, the need for a more immediate resource was identified. The idea was to develop a tool that could facilitate the identification of available transportation options in conjunction with community services.

The Transportation & Resource Locator is a direct response to satisfy this need. Delivered via the Internet, this Geographic Information System (GIS) identifies location information, such as addresses and bus routes, on a map and allows for analysis of travel options. For example, with a simple query, the Locator can identify daycare centers within a specified distance of a certain location or bus route, eliminating the need to manually find this information. Employer sites, grocery stores, training centers, and many other services are also easily identified, thereby establishing better access to needed services.

The result is a map-based resource that allows a user to point-and-click to obtain transportation- and service-related information for themselves or clients. Information is presented graphically on a map as well as in detailed tables that include addresses and phone numbers.
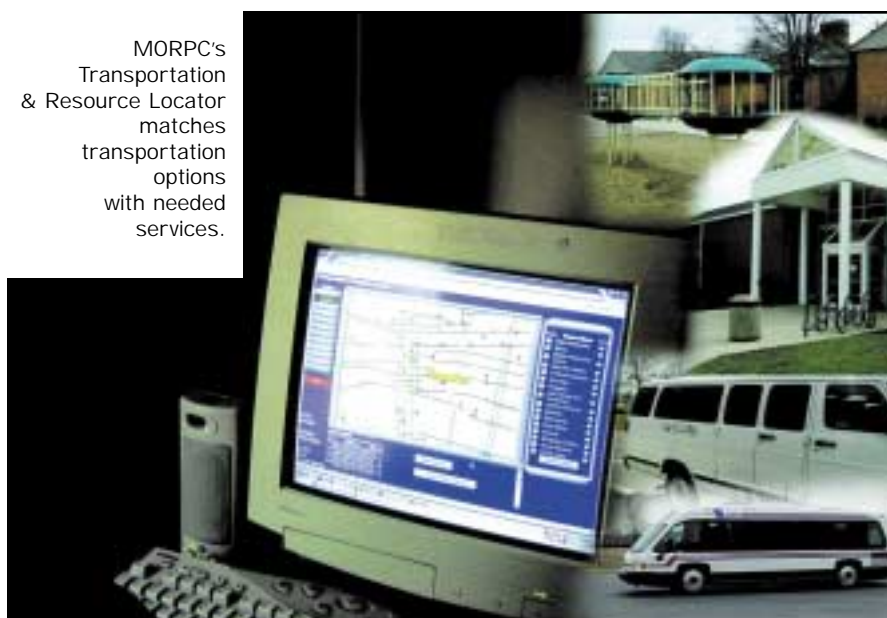
The Locator's users include employment agencies and employers, human service organizations, faith-based organizations, government institutions, transportation providers, and any of the various agencies or individuals that need to identify transportation options relative to other community resources. The Locator is assisting personnel at various central Ohio community agencies to make appropriate transportation decisions for clients with diverse needs.

This effort has resulted in a dynamic resource that aggregates a large volume of data in a user-friendly format. This resource is bridging the gap by helping central Ohio better identify transportation options in context with valuable community resources while service coordination is being developed.

Development of this resource required identification and collection of extensive data resources. Data acquisition

MORPC's Transportation & Resource Locator matches transportation options with needed services.

agency. While it is certainly a lot to take head-on, especially in a community growing by 1,000 new people and 750 new cars each week, managing both these vital community-service roles under one roof makes the implementation of Intelligent Transportation Systems and SMART vehicle technologies even more effective.

The RTC is dedicated to improving mobility and air quality with effective transportation solutions. One of the RTC's primary goals is to be effective as stated in the agency's vision statement: "Provide for a Safe,

Rendering of MAX Bus Rapid Transit vehicle interfacing with monorail system

Convenient and Effective Regional Transportation System that Enhances Mobility and Air Quality for Citizens and Visitors."

CATCOM Communication System

The RTC has been working to implement the CATCOM communication system in its transit fleet of more than 300 fixed route buses and 140 paratransit vehicles. The system uses canned messages, computer-aided dispatch, Global Positioning Satellite (GPS)-based Automatic Vehicle Location (AVL) functions, and electronic manifests to improve transit operations and service to customers. The system also includes automatic passenger counters that provide up-to-date information on specific routes, thereby reducing the effort required to collect data, allowing RTC transit staff to spend more time planning and developing new services for the community.

In addition to improving the efficiency of communications between drivers, dispatch and management, CATCOM also contributes to the safety of the transit system through the use of an

emergency alarm function on each vehicle. This system provides real-time vehicle location information and utilizes hidden microphones to transmit and record activity on each coach.

MAX Bus Rapid Transit

The RTC is advancing public transit in the valley with the Metropolitan Area Express, or MAX, system. MAX is a Bus Rapid Transit service that combines a number of advanced technological features including the use of an optical guidance system that utilizes automatic guidance functions to execute precise docking maneuvers at passenger stations and follow a trajectory of pavement markings along a route. The MAX system is also able to reduce travel times and improve convenience by using infrared emitters to engage a low priority pre-emption system in the traffic signal controllers that will provide green-signal extensions.

MAX will also provide customers with automatic "next stop" announcements throughout its route based on the AVL function of the CATCOM system. While MAX routes will interface with CAT bus routes seamlessly, MAX stations will feature additional amenities, such as LED displays to provide customers real-time bus arrival information. Additionally, the MAX vehicle provides flexibility that rail cannot, allowing route revisions if needed to better serve the community without the expensive infrastructure changes.

Traveler Information

The RTC and State of Nevada Department of Transportation (NDOT) have also begun the planning and development of an Advanced Traveler Information System (ATIS). The interactive system will provide the public with an accurate, user-friendly, real-time information system to assist travelers with schedule, route, and mode choices for their mobility needs. Currently, the RTC and NDOT are developing an ATIS

Business Plan, providing a roadmap for deployment, integration, management, and operations of the regional ATIS. This Plan will address future expansion of the system, and potential roles for the private sector in Las Vegas' ATIS. The plan will also detail communication requirements and specifications between the ATIS, the Freeway and Arterial System of Transportation (FAST) and Transit Management Systems.

The FAST system is a multi-modal, multi-jurisdictional integrated traffic management system that will institutionally, functionally and operationally streamline the metropolitan area traffic operations efficiencies. As one of the Las Vegas area partners, the RTC has been working with the FAST team in identifying the need for a combined freeway and arterial management system.

The initial FAST functions include pre-trip, en-route traveler information, incident management, ATIS and an archived data user system (ADUS). Implementation of FAST will improve coordination and management of traffic during fluctuating periods of vehicle demand, provide enhanced incident response capabilities, real-time traffic information to motorists throughout the region and provide a historical source of traffic data for traffic operations decision support, planning and research.

The initial FAST project will be a full ITS deployed 22-km Pilot Corridor that includes closed-circuit television cameras, dynamic message signs, non-intrusive video image detection, ramp meters, a Highway Advisory Radio system, and a recently upgraded distributed traffic signal system. In addition, NDOT and FAST operate a Freeway Service Patrol to detect and verify incidents and assist motorists.

A Managed System

These activities will each improve the transportation system and mobility individually, but combined will significantly improve the RTC's and its partners' abilities to manage the transportation system. For instance, the GPS capabilities of the CATCOM system will allow the travel speeds of all buses to be computed, providing another valuable source of real-time arterial traffic information for the FAST system.

The community understands the value of these technologies, too. In fact, a citizen coalition met over a 14-month period to understand the complex issues affecting Southern Nevada's congestion, mobility and air quality. Called the Regional Transportation Commission Community Coalition, or RTC3, this group of over 40

individuals represented diverse stakeholders including seniors, transit riders, developers, environmentalists, disabled Americans, public safety and education to name only a handful. Collectively, this group identified $2.7 billion worth of currently unfunded needs, including 70 miles of ITS projects to be deployed on both the freeway and arterial roadway systems. The RTC3 recommended a funding plan to pay for these improvements, which will be on the November 2002 ballot.

Cutting edge transit options, multi-faceted ITS programs and the understanding and support from the driving and riding public. All this from a community that just ten short years ago didn't even have a public transit system. How far we've come.

For more information, contact Ingrid Reisman, RTC Communications Manager, at (702) 676-1730 or yocumi@ccgwgate.co.clark.nv.us

Travel Forecasting Subcommittee Meeting Status

AMPO has formed a Travel Modeling Subcommittee that meets periodically to discuss how to best develop, modify and use travel modeling tools to answer the questions MPOs are being asked today. The mission is to promote understanding between technical staff regarding travel forecasting methods presently being implemented at MPOs, to develop guidelines for defining acceptable standards and practice, and to identify high priority research and development needs.

The Subcommittee last met in July in Chicago at the office of CATS, the Chicago area MPO. Among the issues discussed were those relating to the ability of modeling tools to account for ITS and M&O projects. The sense of the group was that the models used in most metropolitan areas are not sensitive enough to the kinds of changes initiatives such as ITS and M&O projects bring about. For example, signal coordination projects must often be analyzed using offline techniques.

Models currently under development are expected to have more ability to perform microsimulation, and therefore would be better able to capture the effects of these types of projects. In the meantime, the Travel Demand Subcommittee will continue to meet and report findings and share practices among the MPO community.

511 Status:

511 – the National Travel Information number – is being implemented in more and more places across the country. 511 was created to provide one easy-to-remember telephone number for travelers, regardless of the traveler's location. 511 gives choices - choice of time, choice of mode of transportation, choice of route – thereby saving lives, time and money. FHWA recently presented an overview of deployment status in the U.S. Several metropolitan areas have deployed 511: Cincinnati/Northern Kentucky, Nebraska, Utah, I-81 Corridor in Virginia, Arizona, Orlando, Minnesota, and Southeast Florida.

The first deployment was in Cincinnati and Northern Kentucky in June 2001. Since then, that service has received almost one million calls. The other locations have deployed 511 since that time and are receiving up to hundreds of thousands of calls each. Information available from these areas includes traffic conditions, construction schedules and effects, transit information, weather-related conditions, incident information, and special events details.

As of July 16, 2002, 511 deployments are serving areas that are home to 23.3 million people. Upcoming deployment areas are Washington State, San Francisco, Maine, New Hampshire, Vermont, Iowa, New Mexico, Montana, Kentucky, Alaska, and Las Vegas. These deployments will serve an additional 26.5 million people.

Parties involved in deployment include state DOTs, US DOT, MPOs, transit agencies, local transportation departments, and several private sector participants. The 511 Deployment Coalition has created several work groups to assist with and speed deployment. By 2005, most metropolitan areas will have 511 service.

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included the collection of transit route system alignments and bus stops, timetables, a comprehensive database of alternative transportation providers, and listings of essential human service destinations, such as job training centers, daycare services, libraries, post offices, banks, schools, and more. MORPC customized the interface in-house utilizing ESRI ArcIMS, a web-based map viewing software. Development of the Locator was funded with federal and local matching funds.

The final product is available on the Internet to the public, free of charge. MORPC staff has arranged instructional materials and product demonstrations to market the product and enhance its use.

CORTRAN and the Transportation and Resource Locator are just two examples of MORPC initiatives geared toward the improvement and accessibility of transportation throughout central Ohio. "ITS in combination with GIS provides endless opportunities as a state of the art tool to operate traffic efficiently while promoting environmental justice" says Mohamed Ismail, MORPC's Director of Transportation.

To access the locator, visit *www.thelocator.org*. For more information about the Transportation and Resource Locator contact Tony Hull at *ahull@MORPC.org* or call at (614) 233-4112. For information about CORTRAN contact Erika Witzke at *ewitzke@MORPC.org* or (614) 233-4149.

OF Note

Late-Breaking ITS News – To find out some of the latest ITS information, visit the website of the ITS Cooperative Deployment Network. www.nawgits.com/icdn.

511 Implementation Guidelines – Version 1.1 of "Implementation Guidelines for Launching 511 Services" has been released to assist implementers with establishment of effective travel info systems. See www.itsa.org

511 and Homeland Security – This white paper is now available to discuss the challenges and opportunities for 511 systems, arising from the September 11, 2001 terrorist attacks on the World Trade Center and the Pentagon. See www.itsa.org

Road Weather Management – FHWA is providing copies of the Best Practices for Road Weather Management CD. See www.nawgits.com/fhwa/rw_mgt_cd_req.html

ITS Standards Training – The Institute of Transportation Engineers released a training schedule for ITS Standards. Free training will be conducted in five states from August to November. See www.ntcip.org/new/ITS_Standards_Training_Course_Aug_Nov_2002.doc

ITS Planning Case Study – FHWA released "Incorporating ITS Into Planning Analysis," a case study of a quantitative tool to project costs and benefits of ITS projects from Seattle. See www.itsdocs.fhwa.dot.gov//JPODOCS/REPTS_TE//13605.html ◆