SEMCOG REGION USE AND MAINTENANCE PLAN

Use and maintenance of the Regional ITS Architecture and ITS Deployment Plan will be important to ensure that the plan remains a useful resource for the SEMCOG Region. As the region grows, needs will change, and, as technology progresses, new ITS opportunities will arise. Shifts in regional needs and focus as well as changes in the National ITS Architecture will necessitate that the SEMCOG Regional ITS Architecture and ITS Deployment Plan be updated.

ITS Architecture Use

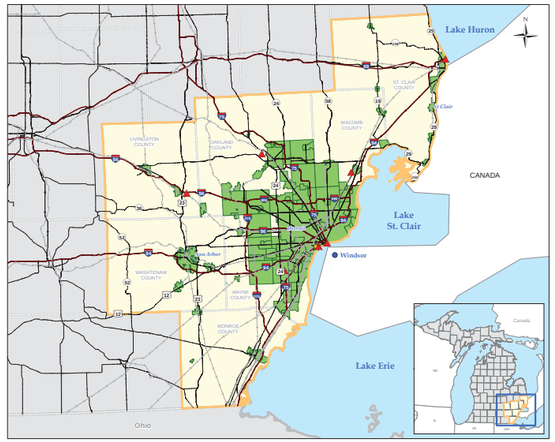
To satisfy federal requirements and remain eligibility to use federal funds, a project must be accurately documented. To document the conformity of an ITS project with the regional architecture, MDOT's ITS Program Office and SEMCOG will oversee the development of a regional architecture conformance form to guide project managers through the process. The project managers will be able to coordinate with the MDOT ITS Program Office, the MDOT Metro or University regional contact, and SEMCOG for additional assistance and guidance.

ITS Architecture Maintenance

MDOT's ITS Program Office will coordinate with SEMCOG for the maintenance of the SEMCOG Regional ITS Architecture and Deploymnet Plan. Maintenance includes modifications to the plan as well as complete updates. Approximately every five to seven years, a complete update will occur to the Regional ITS Architecture and Deployment Plan. MDOT's ITS Program Office, SEMCOG members, and other key stakeholders will be reconvened for complete updates.

SEMCOG GEOGRAPHIC BOUNDARIES

The SEMCOG Region is defined by the boundaries of Ohio to the south, Lake Erie and Lake Huron to the east, and the MDOT Bay Region to the north. The SEMCOG Region as defined for the Regional ITS Architecture and Deployment Plan corresponds to the metropolitan planning area covered by SEMCOG which encompasses the MDOT Metro Region and a portion of the University Region. It is bounded to the west by the remainder of the University Region and the Southwest Region. The Region encompasses seven counties and the largest cities within the SEMCOG Region are Detroit, Warren, Sterling Heights, and Ann Arbor.



SEMCOG Regional Boundaries

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MDOT SEMCOG REGION ITS Architecture & Deployment Plan

SEMCOG MDOT Metro Region and Portions of University

Inside:

ITS Regional Architecture and Deployment Plan

Executive Summary

November 2008

INTRODUCTION

Development of a regional intelligent transportation system (ITS) architecture is an important step in the planning and implementation of ITS in a region. An ITS architecture is a high level plan that identifies the need for the various services that ITS can provide and documents how ITS systems and components can be integrated together. ITS architectures provide a framework for implementing ITS projects, encourage interoperability and resource sharing among agencies, identify applicable standards to apply to projects, and allow for cohesive long-range planning among regional stakeholders.

ITS is the application of electronic technologies and communications to increase the safety and efficiency of the transportation system. The ITS architecture allows stakeholders to plan for what they want their system to look like in the long-term and then break the system into smaller pieces that can be implemented in the short-term.

In addition to the planning benefits of developing a regional ITS architecture, project conformance to the regional ITS architecture also is a requirement for any agency in the region to be eligible for federal funding of an ITS project. This requirement became effective in April 2005 and continues to be enforced by the US Department of Transportation.

SEMCOG STAKEHOLDERS

The update of the Southeast Michigan Council of Governments (SEMCOG) Regional ITS Architecture and development of the Deployment Plan was led by SEMCOG, the MDOT University, and the MDOT METRO Region with assistance and input provided by a number of stakeholders from other agencies in the SEMCOG Region. The success of the plan is due in large part to the collaboration and continuous participation of the stakeholders representing the communities of the SEMCOG Region. These stakeholders participated in numerous workshops conducted in late 2007 and 2008 to develop the Regional ITS Architecture. Stakeholders included:

- Ann Arbor Transportation Authority
- Blue Water Area Transit
- Centra Ambassador Bridge Corporation
- City of Ann Arbor
- City of Detroit
- City of Port Huron
- Department of Homeland Security
- Detroit and Canada Tunnel Corporation
- Detroit Department of Transportation (DDOT)
- DNR
- Flint-Mass Transportation Authority
- MDOT
- Ministry of Transportation Ontario (MTO)
- Monroe County Road Commission
- MSP
- NOAA
- Nokia
- Ohio Department of Transportation (ODOT)
- RCMC
- RCOC
- SEMCOG
- St. Clair County Road Commission
- Suburban Mobility Authority for Regional Transportation (SMART)
- US Customs and Border Protection
- Washtenaw County Road Commission
- Wayne County Airport Authority
- Wayne County Department of Public Services

SEMCOG REGION PROJECT APPROACH

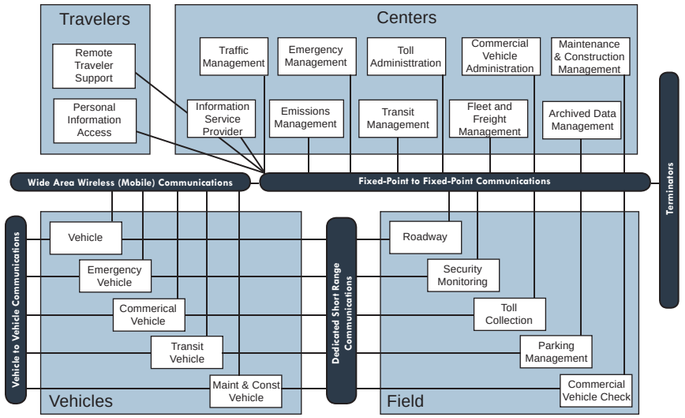
The SEMCOG Regional ITS Architecture was updated using a consensus approach with input from stake-holder agencies throughout the region. Three key steps were used to develop the plan.

1 Identify Needs and ITS Inventory

Stakeholder needs as well as existing and planned ITS elements were identified. Elements were categorized as centers, vehicles, travelers, or field devices as shown in the diagram below.

2 Develop ITS Market Packages (Services)

ITS market packages represent the services that ITS can provide to address one or more needs in the Region. In the SEMCOG Region a total of 51 market packages were identified and prioritized as high, medium, or low. Market packages not only identify a service, but also show how that service will be operated and the data flows that will occur between agencies.



3 Identify Sequence of ITS Projects to Deploy in the Region

The ITS Deployment Plan identifies the projects that stakeholders recommended for deployment in order to implement the ITS services identified in the market packages.

SEMCOG REGION ITS MARKET PACKAGES

ITS market packages outline the functions that stakeholders envision ITS to perform in coming years. Market packages are groups of ITS services that address one or more needs for a region. Stakeholders selected and prioritized market packages into high, medium, and low priorities based on regional needs, feasibility, likelihood of deployment, and overall contribution of the market package in meeting the goals and vision for ITS functionality in the Region. The high priority ITS market packages identified by stakeholders in the Grand Region are listed below.

Traffic Management
- Network Surveillance
- Surface Street Control
- Traffic Information Dissemination
- Regional Traffic Control
- Traffic Incident Management System
- Electronic Toll Collection

Emergency Management
- Emergency Call-Taking and Dispatch
- Emergency Routing
- Wide-Area Alert

Maintenance and Construction
- Maintenance and Construction Vehicle and Equipment Tracking
- Winter Maintenance
- Work Zone Management

Public Transportation Management
- Transit Vehicle Tracking
- Transit Fixed Route Operations
- Demand Response Transit Operations
- Transit Security

Traveler Information
- Broadcast Traveler Information

Commercial Vehicle Operations
- International Border Electronic Clearance
- Weigh-in-Motion

SEMCOG REGION ITS PROJECTS

A list of recommended ITS projects for the SEMCOG Region was developed through input from stakeholders during the architecture process. Stakeholders grouped projects into timeframes for deployment based on priority, dependence on other projects, technology, and feasibility. Below is a summary of some of the key projects recommended for deployment in the SEMCOG region. A complete listing of all the projects identified is found in the ITS Deployment Plan.

Freeway Management Systems Projects
- I-75 expansion in Oakland, Wayne, and Monroe County
- I-275 expansion in Wayne and Monroe County
- I-94 expansion in Wayne, Macomb, Washtenaw, and St. Clair County
- MITSC facility integration with RCOC TOC, RCMC TOC, BWB TOC, and other County TOCs
- M14 expansion in Wayne and Washtenaw County
- US23 expansion in Washtenaw and Livingston County

Freeway Service Patrols Projects
- I-75 in Monroe County from I-275 to State Line
- I-96 in Livingston County to west of M59
- I-94 in Washtenaw County from Wayne County Line to west of M14
- US23 in Washtenaw County from I-94 to I-96
- M14 in Washtenaw County from Wayne County Line to I-94

Arterial Management System
- US24 in Wayne and Oakland County from US 12 to 8 Mile Road and from 8 Mile Road to I-75
- Extending system on M59 in Oakland County to M 1
- Implementation on M3 in Wayne County from I-94 to I-375
- Implementation on US12 in Wayne and Washtenaw County from US24 to Ann Arbor
- US24 in Wayne and Monroe County
- M153 in Wayne and Washtenaw County from M14 to M39
- RCMC County traffic signal software and hardware upgrade and arterial DMS installations
- RCMC County renovation and expansion of TOC
- West Grand River Ave installation in Livingston County
- RCOC upgrade of SCATS communication to wireless technology

Maintenance and Construction Management System
- RCOC expansion of SEMSIM
- Implementation of AVL for winter maintenance in St. Clair, Livingston, Washtenaw, and Monroe County

Emergency Management
- RCMC countywide emergency traffic signal pre-emption

Advanced Public Transportation Systems Projects
- SMART implementation of automatic passenger counters and fare cards
- SMART installation of CCTV cameras on vehicles for security
- SMART traveler information web site and kiosk
- AATA installation of AVL equipment for demand responsive vehicles
- AATA installation of automatic passenger counters and fare cards
- AATA facility integration with local public safety dispatch and with UofM
- AATA Bus Priority with traffic signals
- SMART facility integration with other transit dispatch facilities
- Livingston Essential Transportation Service local vehicle tracking system