ITS SERVICE PLANS FOR MICHIGAN

(Fiscal Year 2000)

Developed By
FHWA - Michigan Division
in consultation with
FTA - Chicago Region Office

December, 1999
(S-39059)

Introduction

This FY2000 ITS Service Plan was developed by the Federal Highway Administration's (FHWA) Michigan Division Office, including our Office of Motor Carriers, in cooperation with and input from FHWA's Midwest Resource Center and the Federal Transit Administration's (FTA) Chicago Region Office. We have attempted to develop our Service Plan in the format provided in the October 1, 1999 "Service Plan Guidance for FY2000" developed by the Washington Office of Travel Management. The activities in this Service Plan are meant to address the ITS needs in Michigan. These needs have been identified during listening sessions with the ITS Program Managers at several of our partnering transportation agencies, including state, local and transit, as well as needs identified independently by FHWA and FTA ITS Program Managers.

As with last year's Service Plan, Michigan's ITS Service Plan for FY2000 is really three plans in one. Separate components address the separate and specific needs of our two largest metropolitan areas, Detroit and Grand Rapids, while a third component addresses the state-wide ITS transportation needs in Michigan. The intent of this ITS Service Plan is to support efforts which will advance the state-of-the-practice in ITS by promoting the further deployment and integration of ITS in each of these "regions". To accomplish this, each component addresses the three major "Elements of ITS Service Plans" as suggested in the guidelines developed by HOTM;

Assessment Discussion - a summary of the state of transportation with an emphasis on ITS institutional and technical issues within the metropolitan and/or statewide area

Service Plan Goals - FHWA/FTA goals which support and enhance the further deployment and/or integration of regional goals for ITS technologies and practices

Service Plan Actions - a set of activities which collectively support the achievement of the Service Plan Goals

The ultimate goals of ITS for the Michigan Division Office are to reduce delays on our state's roadways through the improved operations and management of the transportation system, and to mainstream ITS into the Federal-aid Program. This ITS Service Plan directly supports FHWA's 1998 National Strategic Plan. Specifically, it contributes to the Strategic Objective of the Mobility Goal to "improve the operation of the highway systems . . .". This ITS Service Plan will help the Michigan Division Office determine what actions and/or resources are required to bring about a better general understanding of the benefits of ITS technologies and products throughout our state, and specifically to further the successful development, deployment and integration of ITS activities in Detroit and Grand Rapids and throughout Michigan.

FY2000 SERVICE PLAN FOR:

DETROIT METROPOLITAN AREA

Executive Summary

Service Plan Goal	Ranking	Requested FY2000 Funding
Regional Architecture	1	$23,000
Business and/or Operations Plan for Efficient Operations of TMC/TOCs	2	$8,000
Best Practices for Managing and Operating TMC/TOCs		$3,000
Regional Communication Backbone for Detroit Metropolitan Area	3	$4,500
Total FY2000 Targeted Funds Request		$38,500

Date: December, 1999

Developed By:

Morrie Hoevel
FHWA

Doug Gerleman
FTA

Assessment Discussion - Detroit

Significant ITS infrastructure deployment has occurred in the three counties (Macomb, Oakland and Wayne) that are considered the core of the Detroit metropolitan area. See the deployment tracking chart that follows this assessment discussion. However, those systems are generally not being managed and operated as efficiently as they could be. The classification of infrastructure deployment in this core area would be classified as high. The operations classification would be considered low. For this reason, Service Plan bundles which address operational improvements for the area's traffic management centers (both freeway and arterial) have been identified as the number two priority for the Detroit Service Plan.

The Michigan Department of Transportation (MDOT) recently completed a major expansion of their **freeway management system**. MDOT's Detroit area Transportation Management Center (TMC), known as the Michigan Intelligent Transportation Systems Center (MITS-C), now has surveillance coverage on 180 miles, or approximately 75%, of the area's freeway system. However, the MITS-C Operation's Manager is new to his position and has not established an operating vision, business plan or goals for that facility.

In the northern Detroit suburbs, the Road Commission for Oakland County (RCOC) operates an adaptive **traffic signal control system** from their Traffic Operations Center (TOC), from where they have the capability to manage over 350 signalized intersections (35% of total). As with MDOT, the operations of that facility is not considered to be efficient or pro-active. Neighboring Macomb County will soon be deploying a similar system that will integrate with RCOC's. MDOT is also deploying adaptive control signaling (as documented in an August, 1999 Division Office Report) on their Detroit area roadways as they upgrade their signals. The city of Detroit is also considering improvements to their signal systems, and have programmed funds to be available over the next several years to address this concern.

There is an active **Incident Management Program** in metropolitan Detroit, highlighted by a public/private funded freeway courtesy patrol and enhanced by the co-location of the Michigan State Police within MITS-C. This also enhances the **emergency management services** in the area. MDOT has recently taken over ownership of the freeway courtesy patrol is now dispatching the vehicle fleet out of the MITS-C.

The Suburban Mobility Authority for Regional Transportation (SMART) and the Ann Arbor Transportation Authority (AATA) are implementing **transit management systems**. The transit scheduling and dispatch system being implemented by SMART is generally described by FTA as best practice. The Detroit Department of Transportation (DDOT) is also planning a system that will integrate with SMART's. The systems at each property include Automated Vehicle Location (AVL) capabilities on their fleets and computer-aided dispatching. With these capabilities available, one of our future efforts for modal coordination is expected to a test of a signal priority system for buses along one of the

major corridors leading from the suburbs to the inner city.

AATA's transit management system includes **electronic fare payment systems** (SmartCard technology) which will eventually interface with other fee collecting systems in the Ann Arbor area. SMART's currently has interface ties with both MITS-C and TOC, and efforts are underway to integrate the SMART and DDOT systems. An **electronic toll collection system** is in operation at the Ambassador Bridge International Border Crossing.

The physical integration that is occurring between the MITS-C, TOC and the transit management centers has created the basis for a **regional multi-modal traveler information center**. The MITS-C information distribution capabilities include changeable message signs, highway advisory radios, and a cellular call server, in addition to an Internet web page. MDOT has contracted with SmartRoutes® as their exclusive traffic information provider. The RCOC also has an Internet web page, and is in the process of contracting with an Independent Service Provider (ISP) to distribute their arterial traffic information. Finally, it is state policy that all signalized intersections within 200 feet of signalized **railroad grade crossing** be interconnected to the crossing signals. About half of the locations in the Detroit area are also equipped with "pre-signals" to provide additional protection.

A new effort, known as Southeast Michigan Snow and Ice Management (SEMSIM) will provide AVL and dynamic routing capabilities for the winter maintenance fleets of city of Detroit, the RCOC and the Road Commission of Macomb County and the Wayne County Department of Public Services. This effort will improve the efficiency of winter road maintenance in the Detroit metropolitan area through unprecedented cross-jurisdictional cooperation and the introduction of state-of-the-art technologies. Under the FY2000 ITS Deployment Program, Wayne County will also be starting an ITS Project to demonstrate the application of GIS capabilities to the transportation industry.

While the potential for Integration in the Detroit area is high, the current level that exists among these extensive ITS deployments would have to be classified as medium. For this reason, a Service Plan bundle which addresses development and documentation of a Regional Architecture for the Detroit metropolitan area has been identified as the number one priority for the Detroit Service Plan. While a direct link has been established between the MDOT MITS-C and the RCOC TOC, little data is being exchanged at this time. The improvements to the SMART and DDOT transit systems are being developed to enable integration, but has not progressed far enough yet to realize benefits. The pride of the current integration efforts is probably the new SEMSIM Project which is expected to start operations during the winter of 1999-2000. Snowplow vehicle locations and roadway weather information are just two informational items that will be shared between all four agencies. SMART is also a partner in this effort, as they are providing the communications backbone, and will be a recipient of roadway information (e.g., how recently plowed).

The outlook for further ITS deployment and integration is bright. There are many local champions for the deployment and integration of ITS in the Detroit area. This is the reason

the potential for integration can be classified as high, because the institutional arrangements and partnerships have been in place for some time and are strong. At the head of the list of Partnerships is the very active ITS Michigan, our state chapter of ITS America. Most of the members of the Board of Directors represent agencies and companies in the Detroit area. These are the individuals that came together to prepare the non-selected Michigan proposals for USDOT's Model Deployment Program and FY2000 Integration Program. The SEMSIM Project and the Greater Detroit Incident Management Coordinating Committee are two other significant partnerships.

At the core of the Integration effort, however, is likely to be the Southeast Michigan Council of Governments (SEMCOG), the Metropolitan Planning Organization (MPO) for the region. The have recently taken an active interest in developing a Regional Architecture, and have laid out a plan to accomplish this during FY2000. A Workshop "ITS Solutions for Local Government Problems", which focused on integration and Architecture was conducted last month in conjunction with their annual General Assembly Meeting. The next steps have been mapped out which will include the formation of an ITS Subcommittee and bringing both Tier 1 and Tier 2 ITS Architecture Workshops to the Detroit area in calendar year 2000. The result of this effort is fully expected to be a Regional Architecture for the Detroit metropolitan area, hopefully by the end of calendar year 2000.

Another movement that clearly demonstrates that bright future that the interest in ITS in the Detroit metropolitan area has recently begun to expand outside the three county core area. An RFP for an ITS Pre-Deployment Study for the expansion of ITS to the next "band" of counties is currently in process. Two of the primary tasks in this effort will be to study communication alternatives and to support the development of an ITS Regional Architecture for the area that supports integration with the existing and planned deployments in the core counties. For this reason, a Service Plan bundle that addresses a common communication backbone for the Detroit metropolitan area has been included as our third Service Plan priority.

On the fringes of the Detroit metropolitan area, Flint and Lansing are starting to show interest in ITS. The MPO in Flint has formed an ITS Subcommittee, hosted an ITS training course, and are making plans to "get out" to see the ITS deployments in Southeast Michigan. In Lansing, primarily through efforts by the city of Lansing to advance a TEA-21 High Priority Project (Applying ITS Technologies to Traffic Control) have completed a Strategic Plan for Traffic Management in the Lansing metropolitan area, and have engaged the transportation stakeholders, the first step in developing their Regional Architecture.

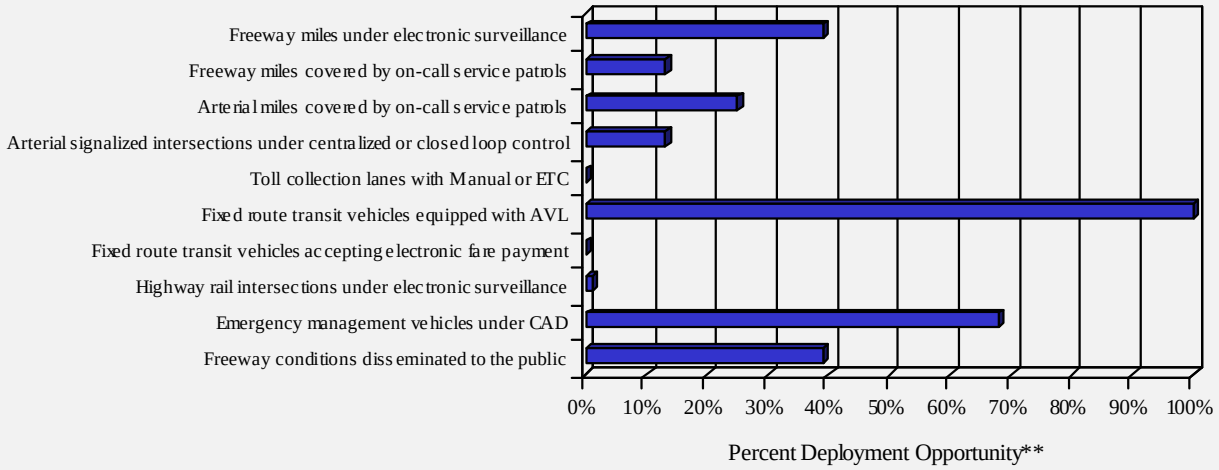
In summary, there are many positives aspects in the Regional ITS Assessment for the Detroit metropolitan area. There has been considerable ITS deployment. There is a solid base of local champions with many existing and effective institutional arrangements. There are new projects in the early stages of development and implementation. These projects are involving new partners and they are exploring new opportunities for integration as they move forward with this concept of ITS Regional Architecture in mind.

WE ALSO HAVE SPECIFIC NEEDS, however. First, we need to document the Regional Architecture for Detroit/Southeast Michigan. We actually began that process early in FY2000, but need to keep that momentum going. Our Service Plan outlines a series of steps to facilitate the completion of that effort. Second, we need to manage and operate our Transportation Management Centers (MITS-C and TOC) more efficiently. To accomplish this, we have established goals of more efficient TMC/TOC operations, and completion of business plans for our centers. Activities included in the Service Plan will help our TMC/TOC managers and operators establish the networks that they need to gain from the experience of those who are leaders in this field. And third we need to create more opportunities for integration in the region. We believe that one way to accomplish that is through establishing a communications backbone for the region. This begins with training as to what options are available and what benefits can be realized through sharing of common communications among agencies.

The needs identified above are the underlying principles which have guided the development of this ITS Service Plan for Detroit.

Detroit, Ann Arbor
Summary Indicators*

Data as of December 2, 1999



* Indicators are single surrogates that do not necessarily reflect the full breath of ITS deployment activity
** Deployment opportunity reflects potential totals that do not necessarily reflect actual need

SERVICE PLAN GOALS - Detroit

	High-Priority Regional Goals	**FHWA/FTA Service Plan Goals** *(Opportunities to Enhance or Assist In Achieving the Regional Goals)*	**Ranking of Service Plan Goals** *(1 - High)*
Infrastructure Deployment	Develop Business/ Operations Plan for Efficient TMC & TOC Operations with Performance Measures	Increase awareness of TMC/TOC Business and/or Operation Plans of similar systems elsewhere	2
		Increase knowledge of Performance Measures for Benchmarking TMC/TOC Operations	
	Establish Regional Communications Backbone (institutional also)	Increase knowledge of communication options that will enable information sharing among agencies	3
Integration	Develop ITS Regional Architecture	Increase awareness of steps and activities involved in developing/documenting a Regional Architecture	1
Institutional Arrangements	(See infrastructure)		
Others			

SERVICE PLAN ACTIONS - Detroit

Service Plan Goal: Detroit Priority #1 - *Increase awareness of steps and activities involved in developing/documenting a Regional Architecture*

Set of Service Plan Actions (Bundles)	Service Plan Funds	Partner Funds/ Resources	Time Frame for Implementation
FY 1999 and Prior Activities:			
Conducted NHI Course 13613 (Using ITS Architecture for Deployment)	$0	$2,000 (room)	FY 1998 - Q4
Presentations to stakeholder groups (ITS-Michigan and SEMCOG)	No Cost	No Cost	FY 1999 - Q3
FY 2000 Activities:			
Support initial organizational efforts for RA (October, 1999)	$0	$2,000 (room, MPO staff, ITS Mi. presenters, videos)	Q1
Conduct Tier 1 Workshop (scheduled for January 19, 2000)	$0 (Architecture team)	$1,000 (room, + Subcommittee time)	Q2
Send Mi ITS representatives to 5206(e) briefing meeting	$1,000	$0	Q2
Inventory existing ITS elements in Southeast Michigan	$0	$0 (local staffs/time)	Q3
Conduct Tier 2 Workshop (includes purchase of Turbo Architecture)	$20,000 (Architecture team)	$1,000 (room, + MPO & subcommittee time)	Q4
Advanced Architecture CD Training for “Regional Champion(s)”	$2,000	$0	Q4
Beyond FY 2000 Activities:			
Peer-to-Peer support to facilitate meetings with select groups to flesh out certain pieces of the rest of the Regional Architecture	$0	Peer-to-Peer Program	FY2001-Q1
Review of Regional Architecture document	$0 (JPO Staff)	$1,000 (MPO publish document)	FY 2001 - Q3
FY 2000 TOTALS	$23,000	$4,000	
BEYOND FY 2000 TOTALS	$0	$1,000	

SERVICE PLAN ACTIONS - Detroit

Service Plan Goal: Detroit Co-Priority #2 - *Increase awareness of TMC/TOC Business and/or Operation Plans of similar systems elsewhere*

Set of Service Plan Actions (Bundles)	Service Plan Funds	Partner Funds/ Resources	Time Frame for Implementation
FY 1999 and Prior Activities:			
Detroit Incident Management "Blueprint for Action" (contained rec's on operations)	$0	$10,000	FY1993
Sent MDOT ITS Program Manager to TRB Freeway Operations Committee mtg.	$1,350	$0	FY1999 funds
Contacts/networking list of well established TMC managers	$0	$0	FY1999 funds
FY 2000 Activities:			
Arrange and conduct ITS Scanning Tour for MDOT Freeway Operations Manager to visit sites where business models have been established for TMC operations, and that have contracts/partnerships with Information Service Providers	$7,000	$0	Q3
Arrange Peer-to-Peer visit(s) of Operation Managers from areas that have sample operational models or business plans to facilitate one-on-one discussions	$0	Peer-to-Peer Program	
**Support MDOT Freeway Ops. Manager's participation in mid-year TRB Freeway Operations Subcommittee meeting to facilitate development of peer group networks	$1,000	$0	Q4
Beyond FY 2000 Activities:			
Convene Regional Workshop of TMC/TOC Operations/Business Managers, including ITS stakeholders from Detroit area (FY 2001 or 2002) to increase awareness of needs and opportunities that can be addressed by TMC/TOC operations	$5,000	$15,000 (site, staff, details) + Peer-to-Peer	Q2
**Participate in TRB Freeway Operations Committee FY2001 mid-year meeting	$1,000		Q4
**Participate in TRB Freeway Operations Committee FY2002 mid-year meeting		$1,000	Q4
**Participate in TRB Freeway Operations Committee FY2003 mid-year meeting	$1,000		Q4
FY 2000 TOTALS	$8,000	$0	
BEYOND FY 2000 TOTALS	$7,000	$16,000	

**Alternative to TRB meeting may be AASHTO Advanced Transportation Subcommittee

SERVICE PLAN ACTIONS - Detroit

Service Plan Goal: Detroit Co-Priority #2 - *Increase knowledge of Performance Measures for Benchmarking TMC/TOC Operations*

Set of Service Plan Actions (Bundles)	Service Plan Funds	Partner Funds/ Resources	Time Frame for Implementation
FY 1999 and Prior Activities:			
FY 2000 Activities:			
ITS Scanning Tour for Operations Manager(s) to Montgomery Co., Maryland TOC	$2,000	$2,000	Q3
TOC Operations Manager participate in mid-year TRB Signal Systems Subcommittee meeting (or AASHTO equivalent) to facilitate development of peer group networks	$1,000	$0	Q4
Beyond FY 2000 Activities:			
Participate in Regional Workshop of TMC/TOC Operations/Business Managers (see Detroit other Co-Priority 2 - FY 2001 or 2002)	$0	$0	Q2
TOC Ops Manager participate in mid-year TRB** Signal Systems Subcommittee mtg	$1,000	$0	Q4
TOC Ops Manager participate in mid-year TRB** Signal Systems Subcommittee mtg	$0	$1,000	Q4
TOC Ops Manager participate in mid-year TRB** Signal Systems Subcommittee mtg	$1,000	$0	Q4
FY 2000 TOTALS	$3,000	$2,000	
BEYOND FY 2000 TOTALS	$2,000	$1,000	

**(or AASHTO equivalent)

SERVICE PLAN ACTIONS - Detroit

Service Plan Goal: Detroit Priority #3 - *Increase knowledge of communication options that will enable information sharing among agencies*

Set of Service Plan Actions (Bundles)	Service Plan Funds	Partner Funds/ Resources	Time Frame for Implementation
FY 1999 and Prior Activities:			
Early Deployment Planning Study	$0	$400,000	FY1994
Send Michigan ITS personnel to "audit" NHI #13619 - ITS Software Acquisition	$660	$0	FY1999 funds
FY 2000 Activities:			
Sponsor NHI Course #13618 - ITS Communications Analysis (supports the exchange of data between ITS deployments)	$4,500	$3,000 (room, staff time)	Q3
Sponsor NHI Course #13619 - ITS Software Acquisition (supports the exchange of data between ITS deployments)	$0	$2,000 (room, staff time)	Q4
Beyond FY 2000 Activities:			
Sponsor NHI Course #13617 - ITS Telecommunications - Shared Resources	$2,500	$2,500 (room, staff time)	FY2001 - Q3
FY 2000 TOTALS	$4,500	$5,000	
BEYOND FY 2000 TOTALS	$2,500	$2,500	

FY2000 SERVICE PLAN FOR:

GRAND RAPIDS METROPOLITAN AREA

Executive Summary

Service Plan Goal	Ranking	Requested FY2000 Funding
Incident Management	1	$3,500
Executive and Management Level Support for ITS	2	$2,500
ITS Regional Architecture	3	$500
Total FY2000 Targeted Funds Request		$6,500

Date: December, 1999

Developed By:

Morrie Hoevel
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Doug Gerleman
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Assessment Discussion - Grand Rapids

The classification of infrastructure deployment in the Grand Rapids metropolitan Area would have to be classified as medium. See the deployment tracking chart at the end of this discussion. MDOT has a project under development to moderately expand their very minimal **freeway management system**, which currently is limited to a few changeable message signs (CMS). The project will add additional CMSs, and deploy closed circuit television (CCTV) cameras and highway advisory radio (HAR). The Grand Rapids City Police has operated the existing CMSs since their installation, but MDOT is considering moving those operations to the Detroit Michigan Intelligent Transportation Systems Center (MITS-C). This limited infrastructure provides the basis for an **incident management program** which has not seen much success to date. Only a few alternate routes have been identified for one section of downtown freeway. For this reason, a Service Plan bundle which address Incident Management initiatives has been identified as the number one priority for the Grand Rapids Service Plan. The city of Grand Rapids currently operates a computerized **traffic signal control system** covering most of the urban area. It consists of approximately 450 intersections. The original system of 200 signals has been upgraded over the past several years, and now most of the system is state-of-the-art. The city is also adding detection technology to many of their intersections, which is laying the groundwork for migration to adaptive control.

There is relatively no ITS technology deployed for **transit management** in the Grand Rapids area. Per state policy, all 17 signalized intersections within 200 feet of a signalized **railroad grade crossing** are interconnected to the crossing signal, and all but one of these locations are also equipped with “pre-signals” for additional protection.

The current level of integration among the ITS infrastructure is low. As the result of the closing of a section of downtown freeway for reconstruction, the MDOT and city of Grand Rapids are investigating was of providing some initial efforts at integration between freeway management and arterial traffic control.

With the relatively low state of existing ITS deployment and integration of elements, the opportunity for future ITS expansion and integration in the Grand Rapids area should be high. This current state also presents a perfect opportunity to develop a Regional Architecture from the ground floor. To address this opportunity, a Service Plan bundle which address the development of an Regional ITS Architecture for Grand Rapids is included as our number three priority for the Grand Rapids Service Plan. One impediment, however, may be lack of a local champion for ITS. For this reason, a Service Plan bundle aimed at building support for ITS from executives and managers of transportation agencies in the area has been identified as the number two priority for the Grand Rapids Service Plan.

Because of the low level of deployment, many opportunities exist. One important factor

that should contribute to expanded deployment and integration will be the ITS Early Deployment Planning (EDP) Study for Grand Rapids That effort was completed in late 1996, about the time that the National Architecture effort was being wrapped up. The Study Report contains recommendations relative to phased deployment and integration. Thus the timing is ripe for activities that will tout the benefits of ITS to local decisionmakers and transportation managers. Some of this has begun, and is apparently being successful. For example, the FY2000-2002 Transportation Improvement Plan for the Grand Rapids Area Transportation Study contains several ITS projects that would be considered to be of regional significance. Of note are Automated Vehicle Location (AVL) equipment for the Grand Rapids Area Transit Authority bus fleet, an ITS Implementation Study for the area, the continuation and expansion of ITS on the area freeways, and continued efforts to upgrade and interconnect signal systems. Another opportunity, also addressed in the EDP, is that there will be several projects being built on new location over the next several years that will present opportunities to incorporate ITS elements with initial construction.

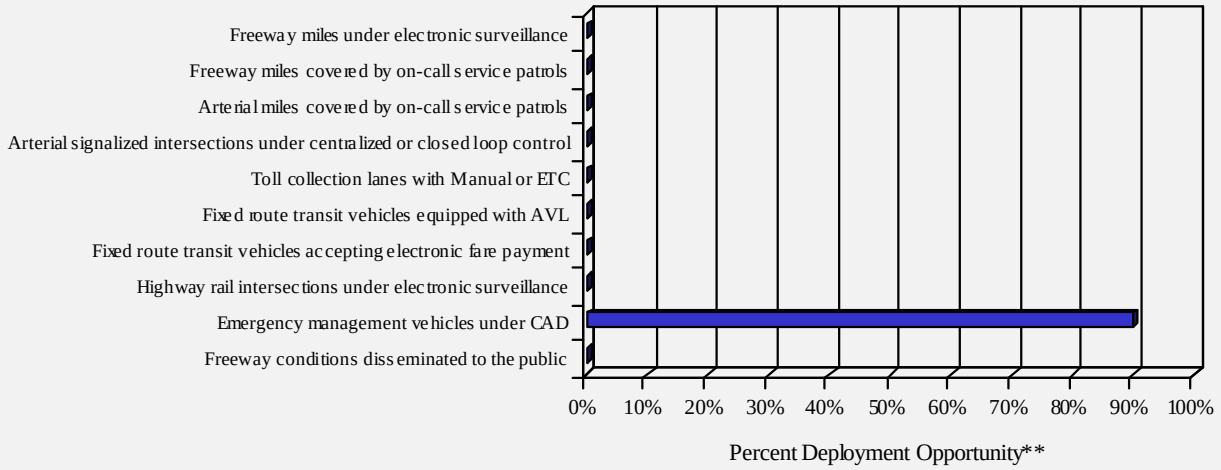
In summary, there are both positive and negative aspects in the Regional ITS Assessment for the Grand Rapids metropolitan area. Infrastructure deployment is considered medium and the current level of integration is low. There are no existing institutional arrangements, nor is there a local ITS champion at the present time. However, a valid EDP still exists, and new initiatives are showing up in the Grand Rapids Transportation Improvement Plan from several agencies: freeway, arterial and transit projects.

Therefore, ***OUR NEEDS ARE BASIC***. First, an Incident Management Program needs to be established in the area. Our Service Plan notes several activities that MDOT is doing in the area. We need to take advantage of this opportunity to bring in the Incident Management NHI Training Course to sustain this momentum. Second, we need to convince local transportation managers and decisionmakers of the benefits that ITS can provide, and encourage them to form partnerships and cooperation among transportation agencies that will result in the development, deployment and integration of ITS can emerge. Again, we have taken the first steps with a General Awareness Training Course, which has sparked some interest and led to a decision to establish an ITS staffperson at the MPO. To continue our effort, we have identified some training courses that we believe would be beneficial for the area and would help sustain the effort. And third, we need to take advantage of the opportunity to develop a Regional Architecture, nearly from scratch. Our Service Plan activities are geared for FY2001 and beyond, but we need to start planting the seed for that effort this year.

These needs are the underlying principles which have guided the development of this ITS Service Plan for Grand Rapids.

Grand Rapids
Summary Indicators*

Data as of December 2, 1999



* Indicators are single surrogates that do not necessarily reflect the full breath of ITS deployment activity
** Deployment opportunity reflects potential totals that do not necessarily reflect actual need

SERVICE PLAN GOALS - Grand Rapids

	High-Priority Regional Goals	**FHWA/FTA Service Plan Goals** *(Opportunities to Enhance or Assist In Achieving the Regional Goals)*	**Ranking of Service Plan Goals** *(1 - High)*
Infrastructure Deployment	Improve Incident Management Capabilities	Increase knowledge and use of Incident Management techniques	1
Integration	Develop an ITS Regional Architecture	Increase awareness of steps and activities involved in developing/documenting a Regional Architecture	3
Institutional Arrangements	Improve Institutional Arrangements for ITS	Increase Executive/Managerial Awareness of Benefits to be Gained from ITS through Deployment and from Cooperation and Partnerships	2
Others			

SERVICE PLAN ACTIONS - Grand Rapids

Service Plan Goal: Grand Rapids Priority #1 - *Increase Knowledge and Use of Incident Management Techniques*

Set of Service Plan Actions (Bundles)	Service Plan Funds	Partner Funds/ Resources	Time Frame for Implementation
FY 1999 and Prior Activities:			
Incident Management Plan for US-131 Freeway	$0	$100,000 (EDP)	FY 1996 - Q4
Incident Management Scan Tour to Gary and Chicago	$800	$800	FY1998 funds
FY 2000 Activities:			
Courtesy Patrol/Towing for "S Curve" Reconstruction Project	$0	$250,000 (CMAQ)	Q2
Begin Feasibility Study for MDOT/MSP Co-location	$0	$500,000 (CMAQ)	Q3
Sponsor NHI Course #13348, Incident Management (supports initial efforts to garner the support that can begin to build an Incident Management Program in area)	$3,500	$2,500 (room, MPO staff time)	Q4
Beyond FY 2000 Activities:			
Co-locate MDOT & MSP for Incident Management Operations	$0	$???	FY 2001 - Q4
Freeway Courtesy Patrol	$0	$100,000 (CMAQ)	FY 2002 - Q3
FY 2000 TOTALS	$3,500	$752,500	
BEYOND FY 2000 TOTALS	$0	$100,000+	

SERVICE PLAN ACTIONS - Grand Rapids

Service Plan Goal: Grand Rapids Priority #2 - *Increase Executive/Managerial Awareness of Benefits to be Gained from ITS through Deployment and from Cooperation and Partnerships*

Set of Service Plan Actions (Bundles)	Service Plan Funds	Partner Funds/ Resources	Time Frame for Implementation
FY 1999 and Prior Activities:			
NHI Course #13601 - ITS General Awareness Seminar	$5,700	$500 (room)	FY1999 funds
FY 2000 Activities:			
MPO to hire ITS Staff person	$0	$50,000 (local)	Q2
Sponsor NHI Course #13603, Public/Private Partnerships (supports establishment of institutional arrangements and emergence of local ITS champion, to create environment for ITS to emerge)	$2,500	$2,500 (room, MPO staff time)	Q3
Beyond FY 2000 Activities:			

FY 2000 TOTALS	$2,500	$52,500
BEYOND FY 2000 TOTALS	$0	$0

SERVICE PLAN ACTIONS - Grand Rapids

Service Plan Goal: Grand Rapids Priority #3 - *Increase awareness of steps and activities involved in developing/documenting a Regional Architecture*

Set of Service Plan Actions (Bundles)	Service Plan Funds	Partner Funds/ Resources	Time Frame for Implementation
FY 1999 and Prior Activities:			
Architecture Presentation to MPO Certification Group	$0	$0	FY 1999 - Q3
FY 2000 Activities:			
Send Mi ITS representatives to 5206(e) briefing meeting	$500	$0	Q2
Architecture Presentation to MPO Policy and Technical Committees	$0	$0	Q3
Formation of ITS Subcommittee at MPO	$0	$0	Q4
Beyond FY 2000 Activities:			
Conduct Tier 1 ITS Architecture Workshop, Inventory existing systems, conduct Tier 2 ITS Architecture Workshop, Peer-to-Peer support, Turbo Architecture	$20,000 (Architecture team)	$2,000	FY 2001 - Q2
Advanced Architecture CD Training for “Regional Champion”	$2,000	$0	FY 2001 - Q3
Review of Regional Architecture document	$0 (JPO staff)	$1,000 (MPO)	
FY 2000 TOTALS	$500	$0	
BEYOND FY 2000 TOTALS	$22,000	$3,000	

FY2000 SERVICE PLAN FOR:

MICHIGAN (State-wide area)

Executive Summary

Service Plan Goal	Ranking	Requested FY2000 Funding
ITS Strategic Plan for Michigan	1	$0
ITS Technologies Incorporated into Construction and Maintenance Workzones	2	$5,000
Statewide ITS Architecture	3	$500
ITS Benefits Michigan Tourism	4	$0
Total FY2000 Targeted Funds Request		$5,500

Date: November, 1999

Developed By:

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Assessment Discussion - Statewide/Rural Michigan

Michigan has a history of commitment to transportation innovations, which continued during the ISTEA era through their active, statewide involvement in the newly created Intelligent Transportation Systems (ITS) Program. Michigan conducted several ITS Operational Field Tests. Michigan was one of the first states to form a state chapter of ITS America. They also developed a (now outdated) statewide ITS Strategic Plan. Michigan is actively involved in the ITS Program at the national level. Detroit was host for the 1998 ITS America Annual Meeting. The University of Michigan was one of the original three USDOT ITS Research Centers of Excellence. Michigan developed a proposal to participate in USDOT's Model Deployment Program, as well as one in response to the solicitation for the FY2000 ITS Integration Program. Although neither was selected, many aspects of those deployment plans are still valid, and are being pursued.

Not withstanding this interest and involvement, Michigan's ITS deployments have primarily been focused in the major metropolitan areas of Detroit and Grand Rapids. As a result, the statewide and rural deployment of ITS infrastructure components would be classified as low. Each of the MDOT Regions have completed **incident management projects**, which typically identify alternate routes for the major freeways in their region. MDOT also has the statewide policy that any **railroad grade crossing** signal within 200 feet of a signalized intersection be interconnected. About 120 of these locations exist throughout the state, and about 2/3 of these use "pre-signals" for additional protection. There classification for integration is also low to none statewide.

This is not to say that there is no interest in deployment and integration in the rural areas, statewide, or in metropolitan areas other than Detroit and Grand Rapids. In fact, there has been interest in several areas:

> Statewide Strategic Planning (see Service Plan bundle for priority #1) - This was one of the goals of the FY1999 ITS Service Plan. Our activities in this area have convinced MDOT of the need to create an overall direction for the ITS Program that is consistent in approach (a Vision) and in synch with the National ITS Architecture. MDOT has Programmed $200,000 of FY2000 SPR funds to develop a Statewide ITS Strategic Plan for Michigan.
>
> Use of ITS Technologies in Construction Zones (see Service Plan bundle for priority #2) - This was also one of the goals of the FY1999 ITS Service Plan. Last years activities have kindled a sincere interest within the ITS and Construction Divisions at MDOT in finding ways to apply ITS technologies to this area. Presentations were made on two systems during CY1999, Doctor Pant's Travel Time Prediction System (TIPS) and ASTI's Computerized Highway Information Processing System

(CHIPS). We believe a decision has been made to try a hybrid combination of these two systems during CY2000.

Rural Traveler Information Systems (see Service Plan bundle for priority #4) to promote tourism and freight transportation - Presentations have been made to the Michigan Economic Group, and a state funded demonstration project was conducted during the summer of 1999 on I-75 north of Flint. This initiative supports the ITS in Construction Zone priority, and has resulted in desire to host a Regional Rural ITS Workshop in FY2001. We can help to set the groundwork for that activity through supporting MDOT efforts.

Statewide ITS Architecture (see Service Plan bundle for priority #3). This activity will be supported by the effort to develop a Statewide Strategic Plan, but it will also benefit from efforts to develop and document the Regional Architecture for the Detroit metropolitan area.

There are several other initiatives and activities that will help to support the expansion of ITS within the state. On the fringes of the Detroit metropolitan area, for instance, the smaller urban areas, Flint and Lansing in particular, are starting to show interest in ITS. The MPO in Flint has formed an ITS Subcommittee, hosted an ITS training course, and are making plans to "get out" to see the ITS deployments in nearby Southeast Michigan. In Lansing, primarily through efforts by the city of Lansing to advance their TEA-21 High Priority Project (Applying ITS Technologies to Traffic Control), they have recently completed a Strategic Plan for Traffic Management in the Lansing metropolitan area, and have engaged the transportation stakeholders, the first step in developing their Regional Architecture.

The ***NEEDS of the STATEWIDE ITS PROGRAM*** are clear. First, Michigan needs a Vision for where ITS is going in the state. We have convince MDOT of this need and they have taken the incentive to provide the funding for that effort that will kick off early in CY2000. FHWA provided technical review assistance for the RFP and will continue to be involved in that effort. Second, we would like to see ITS applications find their way into the construction work zones, with spinoff benefits to the state tourism industry. We brought two ITS in Work Zone presentations to Michigan during CY1999. Interest is taking hold. This summer an MDOT-funded demonstration project on I-75 from Flint to Grayling was the first step. Inclusion of patrols and towing capabilities for Incident Management during the S-Curve reconstruction project in Grand Rapids (see that Service Plan) is a good follow-up. The hope is that the next step will be providing traffic conditions and travel time information. Another interest that has been identified if the development of an ITS in Construction Zones Training Course, using an SPR Pooled Fund Project approach. Third, we need to establish a Statewide Architecture for ITS. The Statewide Strategic Plan and the Metropolitan Detroit "Outer Regions" Study should support this effort, and the experience gained by MDOT in the Detroit Regional Architecture effort will also benefit this need. And fourth, we need to find ways to provide traveler information to our traveling

public, especially in rural area. Again, this summer's I-75 Tourist Information Demonstration was a start. We need to build on that effort by outreach efforts to the various parts of the state, and by putting the MDOT Program Manager in touch with those who have successfully deployed tourism information initiatives. If that momentum can be sustained, MDOT has expressed an interest in hosting a Regional Rural ITS Workshop in FY2001.

SERVICE PLAN GOALS - Statewide/Rural

	High-Priority Regional Goals	**FHWA/FTA Service Plan Goals** *(Opportunities to Enhance or Assist In Achieving the Regional Goals)*	**Ranking of Service Plan Goals** *(1 - High)*
Infrastructure Deployment	Statewide Strategic Plan	Establish Vision for the deployment of ITS statewide through development of Statewide Strategic Plan	1
	ITS Deployment in Construction Zones	Increase knowledge of benefits that can be achieved from ITS deployments in construction zones	2
	Rural Traveler Information System	Increase knowledge of customer needs for traveler information, especially in rural areas	4
Integration	Statewide ITS Architecture	Improve awareness of the steps and activities to develop a Statewide ITS Architecture	3
Institutional Arrangements			
Others			

SERVICE PLAN ACTIONS - Statewide/Rural

Service Plan Goal: Statewide/Rural Priority #1 - *Establish Vision for the Deployment of ITS Statewide, through development of Statewide Strategic Plan*

Set of Service Plan Actions (Bundles)	Service Plan Funds	Partner Funds/ Resources	Time Frame for Implementation
FY 1999 and Prior Activities:			
Developed original ITS Strategic Plan	$0	$50,000	FY 1996 - Q2
Workshop to review original ITS Strategic Plan	$0	$0	FY 1996 - Q4
FY 2000 Activities:			
ITS Pre-deployment Study for Outer Bands of Metro Detroit	$0	$1,600,000 (SPR)	Q1
Technical Review of RFP for Statewide Strategic Plan	$0	$0	Q1
Contract to develop Statewide Strategic Plan	$0	$200,000 (SPR)	Q3
Beyond FY 2000 Activities:			
FY 2000 TOTALS	$0	$1,800,000	
BEYOND FY 2000 TOTALS			

SERVICE PLAN ACTIONS - Statewide/Rural

Service Plan Goal: Statewide/Rural Priority #2 - *Increase Knowledge of Benefits that can be Achieved from Deployments of ITS in Construction Zones*

Set of Service Plan Actions (Bundles)	Service Plan Funds	Partner Funds/ Resources	Time Frame for Implementation
FY 1999 and Prior Activities:			
Dr. Pant's (Travel Time Prediction System presentation) to Michigan	$0	$500 ($T^2$ funds)	FY 1999 - Q2
I-75 Tourist Information Demonstration Project (see also priority #4)	$0	$50,000 (State $$)	
FY 2000 Activities:			
ASTI's (Traffic Control Incident Management System) presentation to Michigan	$0	$1,000 (State funds)	Q1
MDOT participation in Midwest States Work Zone Conference	$0	$2,000 (non target $$)	Q2
MDOT Scanning Trip to ITS in Construction Zone project(s)	$5,000	$0	Q4
Beyond FY 2000 Activities:			
Develop ITS in Construction Zone Training Course	$0	$100,000 (SPR, pooled fund study)	FY2001
FY 2000 TOTALS	$5,000	$3,000	
BEYOND FY 2000 TOTALS	$0	$100,000	

SERVICE PLAN ACTIONS - Statewide/Rural

Service Plan Goal: Statewide/Rural Priority #3 - *Improve Awareness of the Steps and Activities to Develop a Statewide ITS Architecture*

Set of Service Plan Actions (Bundles)	Service Plan Funds	Partner Funds/ Resources	Time Frame for Implementation
FY 1999 and Prior Activities:			
ITS Architecture Conformance presentations to MPO groups	$0	$0	FY1999
FY 2000 Activities:			
Send Mi ITS representatives to 5206(e) briefing meeting	$500	$0	Q2
Beyond FY 2000 Activities:			
FY 2000 TOTALS	$500	$0	
BEYOND FY 2000 TOTALS	$0	$0	

SERVICE PLAN ACTIONS - Statewide/Rural

Service Plan Goal: Statewide/Rural Priority #4 - *Increase Knowledge of Customer Needs for Traveler Information, Especially in Rural Areas*

Set of Service Plan Actions (Bundles)	Service Plan Funds	Partner Funds/ Resources	Time Frame for Implementation
FY 1999 and Prior Activities:			
I-75 Tourist Information Demonstration Project (see also #2)	$0	$50,000 (state $$)	FY 1999 - Q3
FY 2000 Activities:			
MDOT participation in National Rural ITS Conference	$0	$1,000 (non-target $$)	Q4
ITS Rural Outreach efforts to MDOT Regions	$0	$1,000	Q2
IS THERE AN NHI COURSE ON RURAL ITS DEPLOYMENT?			
Beyond FY 2000 Activities:			
Host Regional Rural ITS Workshop	$5,000	$3,000	FY2001 - Q1
FY 2000 TOTALS	$0	$2,000	
BEYOND FY 2000 TOTALS	$5,000	$3,000	

Summary of Michigan's anticipated Non-targeted Service Plan fund expenditures for FY2000

Committed

$2,000 - MDOT participation in Midwest Smart Work Zone Conference - Q2
$1,000 - MDOT participation in National Rural ITS Conference - Q4

Anticipated

$3,000 - To cover administrative details associated with sponsoring one or two of the NHI courses requested for targeted funding; or

To fund one or more of the activities not selected by the panel for targeted funding.