11. ITS PROGRAM MANAGEMENT

11.1 Introduction

ITS program management represents the administrative functions associated with the planning, design, deployment, operations, and maintenance of ITS. ITS program management services are provided on three levels: Policy, Program Planning, and Deployment. Each of the three levels is critical to providing successful ITS solutions. Program management can be provided entirely by the public sector, entirely by the private sector, or through a combination of the public and private sectors.

To be successful, the program manager needs to play a key role in all aspects: planning, design, deployment, operations and maintenance. They should also participate in key strategic decisions made by top management at IDOT and have the authority required to carry out their goals. Barriers to success can arise when a program manager has been given responsibility, but not the authority needed to be successful. This often relates to how a budget is established and allocated, limitations placed on staff oversight and responsibility, and not being involved when key decisions are made that affect their ability to perform the work.

11.2 ITS Program Management Services in Illinois

Historically, some IDOT ITS program management functions resided in the ITS Program Office within the Office of Planning & Programming. IDOT has recently created an ITS Oversight Committee and there has been some shifting of responsibilities. In addition, many transportation agencies and stakeholders throughout Illinois and in the Gary-Chicago-Milwaukee (GCM) ITS Priority Corridor are involved in providing ITS program management services.

As discussed in the Statewide Concept of Operations document, IDOT oversees or is directly involved in providing these services for most of the ITS projects in Illinois, with the support and involvement of numerous partner agencies throughout the state. For some ITS projects, particularly those focused on transit in northeastern Illinois and some that are local deployments, IDOT's participation is in a support role.

IDOT should ensure that ITS program management is woven into the fabric of its entire project development process, not just part of a planning and programming unit. The Department also should institutionalize the role of ITS in operations and maintenance, beyond that of filling potholes and plowing snow, and provide the necessary long-term resources. IDOT also should be very proactive in working as a partner with the metropolitan planning organizations (MPO) throughout the state to address regional, as well as statewide, ITS needs in the development of the Statewide TIP.

States that are recognized as national leaders in ITS have fully integrated ITS into their program development process and provide sufficient funds for operations and maintenance. They also have established a structure whereby ITS is always considered as an option in the development of solutions, given that ITS often has an impressive benefit-to-cost ratio.

The following subsections describe the service levels that a program manager needs to provide, with the tasks involved in each level described in greater detail.

11.2.1 POLICY LEVEL

Before ITS projects can be developed and deployed, there must be a suitable political and fiscal environment in place in support of ITS. Such an environment is created at the policy level and the program manager should be involved. The following services are included:

- Public Relations/Legislative Issues – before ITS solutions can be applied, lawmakers and the traveling public must understand the benefits and costs of ITS and support the funding of ITS projects.
- Funding Coordination – ITS funding, whether federal, state, or a combination of the two, needs to be identified (see Section 10) and directed towards ITS initiatives.
- Budgeting – identified ITS funding should be applied effectively towards ITS research, planning, deployment, operations, and maintenance.

11.2.2 PROGRAM PLANNING LEVEL

Once ITS funding has been made available, the ITS program manager must oversee its application towards meeting identified ITS needs. The following services comprise the program planning level and represent the primary tasks of the statewide ITS program:

- ITS Architecture Application & Maintenance – having overseen development of the Illinois Statewide ITS Architecture, the ITS program will now oversee its application and will be responsible for ongoing maintenance of the architecture to ensure that it remains current.
- Planning Coordination – considering its important role in the identification of ITS project funding, the statewide ITS program is uniquely suited to provide coordination of ITS projects on a statewide and regional level.
- Performance Measures Definition – for each ITS project defined, and the ITS program in general, quantitative performance measures should be identified for future evaluation purposes.
- ITS Standards Identification – as ITS standards evolve both nationally and statewide, the ITS program should monitor their progress and provide guidance in their application on statewide and regional ITS projects.
- Research & Development – Illinois has been a pioneer in the application of ITS, and a strong research and development program will allow the state to continue to discover or adapt new ITS applications for the benefit of motorists in Illinois.

11.2.3 DEPLOYMENT LEVEL

Once ITS projects have been defined and funded, the ITS program manager provides assistance to ITS project managers during deployment and beyond through the following services:

- Technical Support to Regions/Local Governments – the statewide ITS program should serve as a technical resource to IDOT districts/regions and local governments during deployment.
- Procurement/Resource Sharing – as the focal point for ITS in Illinois, the ITS program should assist transportation stakeholders in coordinating the sharing of ITS resources between different agencies.
- Accounting/Funds Tracking – during project implementation, ITS funds should be monitored to ensure that they are being applied properly.
- Operations and Maintenance Support – the operation and maintenance of ITS components (both at the statewide and regional level) requires ongoing guidance and training to achieve ITS goals.
- Performance Measures Tracking – by applying the ITS performance measures defined during project scoping, the ITS program should monitor the results of the project to record the benefits provided by ITS.
- ITS Standards Application – the ITS program can play a role in the testing and verification of ITS standards applied during project deployment.
- Technology Enhancements – the statewide ITS program should seek ways to continually improve the capabilities of ITS in Illinois by supporting the implementation of recommendations developed through research and development.
- Configuration Management – as a technology-based field, ITS is constantly changing, which will require ongoing evaluation and revision of operational procedures.

11.3 Public Sector versus Private Sector Program Management

There are pros and cons of outsourcing ITS program management functions. In outsourcing, IDOT could benefit in several areas. First, the non-traditional (at least with respect to many state DOTs) ITS needs related to staffing and technical skills can usually be better met by the private sector. This includes greater flexibility in setting hours of operations and an industry competitive salary structure for the specialized skill sets required. Another benefit can be with the procurement and upgrading of hardware and software, which have a much shorter life-cycle than items typically procured or constructed by state DOTs. The private sector normally has a faster procurement process and less "red tape."

The potential risks that IDOT would assume generally relate to a situation of non-performance by the private entity. There is a potential for delays in providing timely traveler information should there be unsatisfactory performance. Should there need to be a change in the private operator due to non-performance, it is possible that there could be an interruption in service, for which the Department would be held accountable.

11.4 Representative ITS Program Management Examples

The following subsections provide representative examples of successful ITS programs in other states, and highlight effective program management techniques that potentially could be used in Illinois.

FLORIDA

The ITS program in Florida is known as SunGuide[SM]. SunGuide's mission is "to provide a safe transportation system that ensures the mobility of people and goods, enhances economic prosperity, and preserves the quality of our environment and communities."[1] The program is divided into three areas:

- ITS Management/Deployments – oversees the design, procurement, and deployment of ITS projects including 511 Traveler Information, updates/maintains the ITS Strategic Plan, develops ITS standards, and provides technical assistance to Florida DOT districts
- Telecommunications Program Management – guides deployment of backbone communications infrastructure for ITS use and manages the Statewide ITS Wide Area Network (WAN) to support ITS deployments
- ITS Architecture and Integration – updates and maintains the Statewide ITS Architecture

Each of these areas combine to provide guidance in ITS planning, deployments, operations, and maintenance in key travel corridors across the state.

MISSOURI

The Missouri DOT's (MoDOT) ITS program is focused on providing traveler information to the public. Through its Gateway Guide system in St. Louis, the Kansas City Scout program, and the Ozarks Traffic Information System in Springfield, MoDOT collects and disseminates a wealth of traffic data, including travel times, incident information, and CCTV camera images to help drivers plan their routes.

To oversee these programs, MoDOT has created various committees comprised of transportation officials, both at the statewide and local levels. The Management and Operations Control Board (MOCB) consists of senior personnel and is responsible for providing overall direction for ITS in Missouri. The Management and Operations Statewide Team (MOST) is made up of regional traffic management center managers and addresses technical issues. In addition, MoDOT has developed Corridor Teams to leverage ITS solutions for specific transportation corridors that experience high congestion or are undergoing construction.

VIRGINIA

In Virginia, the Virginia DOT's (VDOT) ITS program is known as Smart Travel. "Smart Travel is designed to improve the safety and efficiency of the transportation system in Virginia."[2] The Smart Travel program represents the sum total of ITS deployed throughout the state, including three Smart Travel Centers in Richmond, Hampton Roads, and Northern Virginia. Coordination of statewide components of the Smart Travel program occurs at the Central Office ITS Division. These include guidance for the development of district ITS plans, 511 Traveler Information, and communications infrastructure deployment.

An ITS Coordinating Committee (ITSCC) provides strategic guidance to VDOT's statewide ITS program. This committee consists of District ITS Program Managers, the Assistant Director of

[1] http://www.dot.state.fl.us/TrafficOperations//ITS/ITS.htm
[2] VDOT Smart Travel Strategic Plan, 2001

ITS Programs, and representatives from the Information Technology, Maintenance, Planning, and Traffic Engineering Divisions.[3] Together, these representatives assess ITS priorities and determine a course for deploying ITS solutions across the state.

11.5 Recommended IDOT ITS Program Management Structure

A number of transportation agencies and organizations, both within and outside of IDOT, have a stake in ITS. Many of them have been actively involved in the development of this Statewide ITS Strategic Plan. Some of these groups are focused on specific ITS applications, such as transit or commercial vehicle operations, while some groups concentrate their efforts on specific geographic locations, such as corridor action teams and metropolitan planning organizations.

To coordinate the efforts of these groups, this section defines a recommended program management structure for ITS at IDOT. This structure involves ITS groups at the statewide, regional, and local level that work together to identify transportation issues and develop appropriate ITS solutions.

11.5.1 ITS Oversight Committee

IDOT's ITS program should be under the guidance of a statewide ITS Oversight Committee comprised of IDOT staff. This committee would be responsible for determining the overall direction of ITS in Illinois under the overall policy-level direction of the Secretary of Transportation. This statewide committee should consist of senior-level IDOT personnel representing the following offices or bureaus:

- Bureau of Information Processing
- Bureau of Operations
- Bureau of Safety Engineering
- Division of Traffic Safety
- Office of External Affairs
- Office of Planning & Programming
- Office of the Secretary of Transportation

11.5.2 ITS Program Manager

The ITS Program Manager would report to the ITS Oversight Committee and be responsible for directing and overseeing ITS planning, design, deployment and operations for IDOT. These ITS program management functions can be provided by either the public or private sector in their entirety, or through a combination of public and private sectors activities. Different states have taken different approaches, and IDOT is currently in the process of evaluating the possibility of soliciting proposals from the private sector for ITS program management. The structure is independent of whether the program manager is from the public sector or private sector.

[3] VDOT Smart Travel Strategic Plan, 2001

Directly accountable to the ITS Program Manager would be three groups or teams: ITS Planning & Programming; ITS Operations; and CVISN. Each of the three groups could have one or more subgroups to carry out specific responsibilities.

11.5.3 ITS PLANNING & PROGRAMMING TEAM

The ITS Planning & Programming Team would consist of representatives from the IDOT Central Office as well as from regions across the state. Given their role in the administration of federal funds, it could help with coordination if IDOT elects to include representation from one or more Metropolitan Planning Organizations, at a minimum one or more IDOT MPO liaison(s). This team should consist of the following central office and regional/district-level personnel:

- Office of Planning & Programming
- ITS Program Office
- District Programming Engineers
- District Bureau of Local Roads representatives
- Metropolitan Planning Organization liaisons

11.5.4 ITS OPERATIONS TEAM

The ITS Operations Team would consist of regional representatives from across the state. This team would be responsible for developing technical recommendations for review by the ITS Oversight Committee for statewide, regional, and local ITS initiatives. The Operations Team is also intended to serve as a forum for ITS projects managers across the state to discuss their ITS deployments, share 'lessons learned,' and coordinate inter-jurisdictional projects – with an operations focus. This team should consist of the following central office and regional/district-level personnel:

- Bureau of Information Processing
- Bureau of Operations
- ITS Coordinators in Districts 1-9
- CVISN Team representative
- ITS Program Office (Office of Planning and Programming)
- Metropolitan Planning Organization representatives

11.5.5 ISTIN USERS GROUP

The Illinois Statewide Transportation Information Network (ISTIN) will provide transportation data to traffic managers and operators across the state. To ensure successful deployment and operation of the network, the ISTIN Users Group should be formed to address a number of ongoing tasks (an asterisk denotes an ITS project defined in Section 7):

- Development of Configuration Management (CM) Guidelines* and CM Training*
- Development of Statewide Data Standards* and Statewide Information Systems Training*
- IDOT Central Office* and Inter-regional ITS Asset Control*
- ComCenter/TMC Functionality Transfer*

- ISTIN Expansion to new districts, partner agencies, and adjacent states
- ISTIN system upgrades

The ISTIN Users Group would provide recommendations to the ITS Operations Group for improvements related to the ISTIN. At least one member of the ISTIN Users Group should serve as a representative on the ITS Operations Group.

11.5.6 REGIONAL ITS COMMITTEES

Acknowledging that a significant portion of ITS in Illinois is developed and deployed at the regional and local levels, this Statewide ITS Strategic Plan has included a needs assessment and preliminary ITS solutions recommendations for regional ITS deployments. Regional ITS Committees should be formed to pursue and support these ITS deployments. These committees would be responsible for the following tasks:

- Identification and prioritization of regional ITS needs and corresponding ITS solutions (see Sections 3 and 6 of this Statewide ITS Strategic Plan for a starting point)
- Definition of regional ITS projects
- Coordination with metropolitan planning organizations to mainstream ITS into the regional planning process (MPO and IDOT)
- Maintenance of regional ITS architectures
- Organization and support of regional operations committees, as necessary, such as traffic incident management (TIM) work groups and corridor action teams

These regional ITS committees may be led by members of the ITS Operations Group, encouraging the dialogue on ITS from the local level to the statewide level.

11.5.7 CORRIDOR ACTION TEAMS

Corridor Action Teams have been used with much success in northeastern Illinois. They are collaborative efforts between stakeholders in the three Gary-Chicago-Milwaukee (GCM) ITS Priority Corridor states to address the impacts on travelers of construction near borders. The goal of the teams is to promote a high level of interagency cooperation during extensive construction. The teams work to coordinate ITS resources and agency operations to reduce congestion and provide better information to travelers as they pass between jurisdictions.

There are currently two Corridor Action Teams in the GCM Corridor, both involving Illinois agencies. One focuses on construction-related issues near the Illinois/Indiana border and includes IDOT, ISTHA, the City of Chicago, and the Chicago Skyway as well as the Indiana DOT. The other team focuses on construction near the Wisconsin/Illinois Border and includes IDOT, ISTHA, and the Lake County Division of Transportation along with the Wisconsin DOT.

Given their success, the use of corridor action teams should be considered for other critical transportation corridors in Illinois in the future.

11.5.8 CVISN TEAM (ELECTRONIC ONE-STOP SHOP STEERING COMMITTEE)

The CVISN Team would consist of the EOSS Steering Committee, which oversees the development of the Illinois State CVISN Program. It establishes the overall direction of the CVISN program and sets the program's priorities. It also ensures that projects implemented by the team are compatible with the program's overall goals and objectives.

The main areas of focus for the committee are overall program management, system architecture, and project funding. This committee consists of representatives from the Illinois Commerce Commission, IDOT, the Department of Revenue, Secretary of State, the Illinois Treasurer's Office, the Illinois State Police, and the motor carrier industry. Project teams are responsible for the implementation of projects that the steering committee prioritizes for implementation.

11.6 Other Organizations

IDOT could benefit by tapping the expertise and perspective of outside organizations, including those of which IDOT and/or its staff are members. These could include colleges/universities, professional societies, and any other organizations with a focus on ITS.

The University of Illinois at Urbana-Champaign (UIUC) has performed regional and statewide ITS assessments in the past and is a valuable resource for ITS initiatives. UIUC has recently created the Illinois Center for Transportation, which has identified ITS research as one of its missions.

ITS Midwest is the regional chapter of ITS America, a national organization of public and private sector organizations that promotes the use of intelligent transportation systems to improve the safety, security, and efficiency of the transportation system. Covering the states of Illinois and Indiana, ITS Midwest can help transportation agencies across the state at the policy level to promote ITS in the public and with elected officials. These outreach activities could be done through media events, training sessions, publications and public presentations on the benefits of ITS from a local, regional and national perspective.