7. PRIORITY STRATEGIES AND PROJECT PROPOSAL EVALUATION

7.1 Classification Criteria

After generating a list of potential ITS solutions for Illinois in the Alternatives Analysis (Section 6), these solutions were examined to determine whether they were statewide or regional in scope and effect. For the purposes of this Strategic Plan, 'statewide' ITS solutions are those ITS initiatives that are applied throughout the state, or between at least two regions, to provide statewide ITS functions. These statewide ITS solutions involve projects that support the exchange of transportation information between different regional nodes, as well as to a centralized statewide hub. In addition, ITS initiatives deployed on Interstate Highways are considered 'statewide' in that they would generally be applied across the state to provide interstate ITS functions. Statewide ITS solutions, as identified in the Alternatives Analysis, are listed below.

Statewide ITS Solutions

- Automated Commercial Vehicle Inspection
- Commercial Vehicle Information Exchange
- Crash Investigation Systems*
- Enabling Backbone Communications Infrastructure
- High Volume Rest Area Parking Management
- Illinois State Traveler Information Network (ISTIN)*
- In-vehicle CVO Information
- In-vehicle Traffic Probes*
- Interagency Operations Library
- ITS Design Guidelines
- ITS Infrastructure Deployment*
- ITS Outreach
- Mobile Network Access*
- Security Surveillance*
- Standardization of ITS Transit Initiatives*
- Statewide Advanced Traveler Information Systems
- Statewide Communications Center/ Station One Upgrade
- Traffic Data Archive*
- TMC Interoperability
- Training*
- Virtual Weigh Stations
- Work Zone Enhancements*

It is important to note that some ITS solutions could be applied at both the statewide and regional level (those identified by a * above and below), addressing identified needs and providing benefits at both levels. ITS projects like work zone enhancements, ITS infrastructure, and

security surveillance can be applied on Interstate Highways as well as arterial routes. Later in this section, when individual ITS projects are identified, distinctions between statewide and regional ITS applications will be further defined.

'Regional' ITS solutions are those that are applied at the local or regional level to address a local or regional need(s). While a given regional project may be applied in multiple regions in a similar fashion, its application would be focused on providing benefit at that local level. Regional ITS solutions will focus on the surface transportation system in each region, apart from the Interstate Highway system. While a given ITS solution may address statewide goals or initiatives, they are considered regional if:

- The lead agencies for deployment and operations are local stakeholders,
- Any data from the solutions is not used on a statewide level, or
- The statewide use of a local project's data is accomplished through another statewide solution or project.

The listing of regional ITS solutions, as identified in the Alternatives Analysis, are listed below.

Regional ITS Solutions

- Active Transit Station Signs
- Advanced Railroad Highway Interface Technologies
- Automated Vehicle Location (AVL)
- Computer Aided Dispatch (CAD)
- Corridor Action Teams
- Crash Investigation Systems*
- Curve Warning Systems
- Dynamic Speed Warning Signs
- Emergency Vehicle Rail Crossing Safety Systems
- Emergency Vehicle Traffic Signal Preemption
- Enhanced Communication Links to Field Devices
- Illinois Statewide Transportation Information Network (ISTIN)*
- In-vehicle Traffic Information Probes*
- Integrated Transportation Corridors
- Integration of Communications Channels
- ITS Infrastructure Deployment*
- Mobile Network Access*
- Overheight Detection Systems
- Portable Dynamic Message Signs (DMS)
- Portable Speed Detectors
- Red Light Running Monitoring
- Regional Communications Centers
- Regional Traffic Signal Coordination
- Regional Paratransit Coordination

- Security Surveillance*
- Standardization of ITS Transit Initiatives*
- Traffic Data Archive*
- Traffic Signal System Upgrades
- Training*
- Transit Signal Priority
- Transit Transfer Connection Protection
- Work Zone Enhancements*

Projects that serve multiple jurisdictions have a better chance of being affordable, have historically been more likely to receive grant funding and lessen the risk for any one agency, and are often better received by the public. As such, this Illinois Statewide ITS Strategic Plan focuses on recommended projects that would be deployed on a statewide level or would provide statewide benefits. In subsequent sections of this Strategic Plan, *statewide* solutions will be examined in greater depth, and individual projects will be identified for *statewide* deployment. From a regional standpoint, this Strategic Plan will highlight potential solutions for use by individual regions as a guide to help determine what ITS projects should be deployed in their jurisdiction.

7.2 Solution Prioritization Criteria

After solutions were selected, they were prioritized to determine which ones had the most impact on the highest priority needs. Prioritization allows agencies to identify and implement those ITS solutions which can bring about the greatest benefit(s) with the limited resources that transportation agencies have available.

The following list of questions was used for ITS solution prioritization:

What is the priority of the need(s) addressed? Solutions that address a number of higher priority needs should rank higher than ones that address identified low priority needs. Using the results from Section 6, the rank of the identified needs (1-15) that each solution primarily addressed was added together to determine the priority of the combined needs addressed.

Does the project provide a significant increase in safety, reduction in congestion, and/or other benefits? In addition to the priority of the need, the level of impact on a need or initiative was examined. Some solutions, while useful, have less of an impact than others. Those with a greater impact were favored.

Does the solution provide benefit at both the statewide and regional level? Statewide projects also need to provide benefits to local or regional stakeholders. Given that most projects have some local implementation and labor associated with them, there must be some return at that level.

Does the solution leverage existing systems? There have already been substantial ITS investments in Illinois. Potential ITS solutions were examined to see it they would take advantage of these existing operating systems and enhance their utility.

7.3 Recommended ITS Solutions

By applying the prioritization criteria described above to all the ITS solutions listed in Section 6, a prioritized list of potential solutions was developed. The solutions were given scores ranging from 0 (least favorable) to 5 (most favorable) for each of the four prioritization criteria. These rankings were totaled, and the ITS solutions were arranged in descending order of total points as shown in Table 7-1:

Table 7-1 – ITS Solution Prioritization

Potential Solutions	Priority of Need*	Significant Benefit	Benefit both State and Regional	Leverages Existing Projects	Total Points
Illinois State Traveler Information Network (ISTIN)	5	5	5	5	20
Enabling Backbone Communications Infrastructure	5	5	5	4	19
Regional Communications Centers	5	4	5	4	18
Statewide Communications Center/ Station One Upgrade	5	4	4	5	18
Advanced Traveler Information Systems	3	4	5	5	17
ITS Infrastructure Deployment	4	4	5	3	16
Integration of Communications Channels	3	5	5	3	16
Corridor Action Teams	4	3	4	5	16
Integrated Transportation Corridors	3	4	5	4	16
Training	3	4	5	4	16
Emergency Vehicle Rail Crossing	3	4	4	4	15
Regional Traffic Signal Coordination	2	4	4	5	15
Work Zone Enhancements	3	4	5	3	15
Enhanced Communications Links	3	3	5	4	15
Interagency Operations Library	3	4	4	4	15
Automated Vehicle Location	3	4	3	4	14
Commercial Vehicle Information Exchange	2	4	4	4	14
Portable CMS	2	4	5	3	14
Security Surveillance	2	4	5	3	14
Mobile Network Access	3	3	4	4	14
Dynamic Speed Warning Signs	3	5	4	1	13
Computer Aided Dispatch	2	3	4	4	13

Potential Solutions	Priority of Need*	Significant Benefit	Benefit both State and Regional	Leverages Existing Projects	Total Points
Virtual Weigh Stations	1	4	4	4	13
Portable Speed Detectors	4	4	4	1	13
Regional Paratransit Coordination	2	3	4	4	13
Traffic Data Archive	3	3	4	3	13
In-vehicle Traffic Information Probes	3	4	4	2	13
Emergency Vehicle Traffic Signal Preemption	2	5	3	2	12
In-vehicle CVO Info	3	2	4	3	12
Traffic Signal System Upgrades	3	4	2	3	12
Red Light Running Monitoring	1	5	5	1	12
Transit Signal Priority	1	3	4	4	12
TMC Interoperability	2	3	3	4	12
High Volume Rest Area Parking Management	3	2	4	2	11
Active Transit Station Signs	3	3	1	4	11
Automated Commercial Vehicle Inspection	1	4	4	2	11
Advanced RR Highway Interface	1	3	5	2	11
Standardization of ITS Transit Initiatives	2	3	4	2	11
ITS Outreach/ Public Education	1	2	4	3	10
ITS Design Guidelines/ Quantity Purchase Agreements	1	2	4	3	10
Curve Warning Systems	1	3	3	2	9
Transit Transfer Connection Protection	1	3	2	3	9
Crash Investigation Systems	2	2	1	1	6
Overheight Detection Systems	1	1	2	1	5

Table 7-2 and Table 7-3 are the final prioritized solutions lists, broken out into statewide and regional solutions. As discussed above, the statewide ITS solutions will be expanded further to identity statewide ITS projects. The regional ITS solutions are provided for the individual regions to develop further into regional ITS projects.

Table 7-2 – Prioritized Statewide ITS Solutions

Statewide ITS Solutions	Priority Points
Illinois State Traveler Information Network (ISTIN)	20
Enabling Backbone Communications Infrastructure	19
Statewide Communications Center/Station One Upgrade	18
Traveler Information	17
Freeway ITS Infrastructure Deployment	16
Training	16
Work Zone Enhancements	15
Interagency Operations Library	15
Commercial Vehicle Information Exchange	14
Security Surveillance	14
Mobile Network Access	14
Virtual Weigh Stations	13
Traffic Data Archive	13
In-vehicle Traffic Information Probes	13
In-vehicle CVO Info	12
TMC Interoperability	12
Automated Commercial Vehicle Inspection	11
Standardization of ITS Transit Initiatives	11
ITS Outreach/Public Education	10
ITS Design Guidelines	10

Table 7-3 – Prioritized Regional ITS Solutions

Regional ITS Solutions	Priority Points
Illinois State Traveler Information Network (ISTIN)	20
Regional Communications Centers	18
ITS Infrastructure Deployment	16
Integration of Communications Channels	16
Corridor Action Teams	16
Integrated Transportation Corridors	16
Training	16
Emergency Vehicle Rail Crossing Safety Systems	15
Regional Traffic Signal Coordination	15
Work Zone Enhancements	15
Enhanced Communications Links	15
Automated Vehicle Location (AVL)	14
Portable DMS	14
Security Surveillance	14
Mobile Network Access	14
Dynamic Speed Warning Signs	13
Computer Aided Dispatching	13
Portable Speed Detectors	13
Regional Paratransit Coordination	13
Traffic Data Archive	13
In-vehicle Traffic Information Probes	13
Emergency Vehicle Traffic Signal Preemption	12
Traffic Signal System Upgrade	12
Red Light Running Monitoring	12
Transit Signal Priority	12
High Volume Rest Area Parking Management	11
Active Transit Station Signs	11
Advanced Rail Road Highway Interface	11
Curve Warning Systems	9
Transit Transfer Connection Protection	9
Crash Investigation Systems	6
Overheight Detection Systems	5

7.4 Project Analysis

7.4.1 Project Identification

Within the statewide ITS solution categories specified, nearly one hundred project ideas were developed. Some solutions contained a single project, other solutions involved several potential ITS projects. Projects were only developed for solutions that were determined to have a statewide or interregional scope. While some projects are dependant on others and serve more of a supportive role than providing an end result, each project has a defined output that would accomplish or help accomplish the solution strategy.

The list of projects are grouped by solution category below in Table 7-4. In addition, Appendix E contains detailed project descriptions for each ITS project. These descriptions include a summary of the program areas addressed by each project, ITS market packages applied by each project, primary stakeholders, dependent projects/related efforts, a detailed work description and timeframe, and a conceptual cost estimate.

In addition to the listed projects, as ITS technologies are improved and combined with other emerging technological advances, additional project concepts will be developed and pursued. These include a number of in-vehicle applications that are currently being tested by auto manufacturers, hardware/software vendors, academia, and other organizations focused on technology advances. Many of these systems are part of the USDOT's "Major Initiatives" for the future of ITS.

While not considered for application in the horizon of this study, the following future ITS projects may address the identified needs contained in Section 3:

- **Cooperative Intersection Collision Avoidance Systems (CICAS)** – CICAS is intended to alert motorists about impending dangerous conditions as they approach intersections. In-vehicle and roadside ITS elements will work in concert to detect potential driver conflicts, and inform drivers of the situation using instrumentation within the vehicle. These systems may be expanded to also warn pedestrians and cyclists of unsafe intersection conditions.
- **Integrated Vehicle-Based Safety Systems (IVBSS)** – This initiative is related to the CICAS program, but IVBSS focuses on the safe movement of vehicles within the flow of traffic. Safety systems in this program include warnings for rear-end crashes, road departure, and lane change crashes.
- **Vehicle Infrastructure Integration (VII)** – VII involves the use of vehicle-to-vehicle and vehicle-to-roadside communications to collect and disseminate traveler information and to improve driver safety. Dedicated short-range communications (DSRC) are critical to the ultimate deployment of VII. At present, DSRC options are being considered and tested so that a prototype DSRC solution can be applied to wider VII application.

This Statewide ITS Strategic Plan is considered a "living document" and should be continually updated as these emerging ITS technologies work their way into the mainstream. This effort will keep the State of Illinois well-poised to leverage these technologies to improve the safety and mobility of travelers.

Table 7-4 – Identified Statewide ITS Projects

Solution Category	Project Title	Project Description
Automated CV Inspection	PrePass Data Sharing	Project to make Illinois credential information available through PrePass to support enrollment decisions and to improve real-time screening decisions.
	Non-Invasive Commercial Vehicle Safety Inspection	Technology that can detect defective braking systems, emissions detectors that can identify dangerous chemicals, and low-level radiation screening can be used to detect contraband. Expansion of pilot project at rest areas.
	HAZMAT Sensors	Detection and identification of commercial vehicles carrying security sensitive hazardous materials based on remote sensed data as well as other physical information acquired about the commercial vehicle,
	Overheight Detection and Warning Systems	Systems that apply vehicle height detectors and electronic advance warning signs and/or in-vehicle devices that warn drivers of overheight vehicles that they are approaching a potential collision.
Commercial Vehicle Information Exchange	Implement Commercial Vehicle Information Exchange Window (CVIEW)	Implement Commercial Vehicle Information Exchange Window (CVIEW)
	Electronic One-Stop Shopping (EOSS) for Commercial Vehicle Interstate Credentials	Automation of the application, processing, and issuance of motor carrier operating credentials and permits
	Single State Registration System (SSRS) Credentialing Automation	Automation of Single State Registration System (SSRS) renewals within the EOSS Credentialing Interface
	Automated Oversize/Overweight (OS/OW) Permitting	Automation of OS/OW single, round-trip, and quarterly/annual permits
	Automated International Fuel Tax Agreement (IFTA) Credentialing and Tax Procurement	Automation of quarterly IFTA tax filings, supplemental filings, and the issuance of decals within the EOSS Credentialing Interface
	International Registration Plan (IRP) Clearinghouse Participation	The EOSS will gather and transmit electronic IRP data to CVIEW
	International Registration Plan (IRP) Credentialing Automation	Automation of International Registration Plan (IRP) renewals within the EOSS Credentialing Interface
Crash Investigation Systems	Crash Reconstruction Tools	Procurement of portable crash recording and reconstruction tools, such as digital photogrammetry equipment, to speed incident clearance time and improve incident responder safety. Would include training on use of equipment and associated software.
Enabling Backbone Communications Infrastructure	IDOT Central Office - Chicago Fiber Link	Fiber optic link from the IDOT District 1 Division of Highways in Schaumburg to the IDOT Central Office in Springfield. Could initially be a leased telephone connection.

Solution Category	Project Title	Project Description
Enabling Backbone Communications Infrastructure	Rockford Fiber Link	Fiber optic link from the Rockford TMC to the ITS fiber optic backbone via Tollway Fiber.
	Peoria Fiber Link	Fiber optic link from the District 4 ComCenter in Peoria to the ITS fiber optic backbone. Could initially be a leased telephone connection.
	Quad Cities Link	Fiber optic link from the Quad Cities TMC to the ITS fiber optic backbone via wireless infrastructure and/or Tollway Fiber.
	Bloomington/Champaign Link	Fiber optic link from the Bloomington TMC and/or Champaign TMC to the ITS fiber optic backbone via the Illinois Century Network (ICN).
	Dixon Fiber Link	Fiber optic link from the District 2 ComCenter in Dixon to the ITS fiber optic backbone via Tollway Fiber.
	Ottawa Link	Fiber optic link from the District 3 ComCenter in Ottawa to the ITS fiber optic backbone via the Illinois Century Network (ICN).
	Carbondale Link	Provide a link from the District 9 ComCenter to the ITS fiber optic backbone via the Illinois Century Network (ICN)
	Effingham Link	Provide a link from the District 7 ComCenter to the ITS fiber optic backbone via the Illinois Century Network (ICN)
	Paris Link	Fiber optic link from the District 5 ComCenter in Paris to the ITS fiber optic backbone via the Illinois Century Network (ICN).
High Volume Rest Area Parking Management	Rest Area Truck Parking Signs	Expansion of pilot project along Interstate 80 to better match truck drivers with available parking at rest stops. Signs would be placed in advance of rest stops on major trucking routes (I-80, I-70, I-55) to provide real-time parking information to truckers.
Illinois Statewide Transportation Information Network (ISTIN)	Illinois Statewide Information Hub	Collection point for statewide transportation information (outside of Northeastern Illinois). Would include the installation of IDOT Gateway hardware/software at the IDOT Central Office in Springfield. Would serve as a backup to the Chicago Information Hub, and vice versa.
Illinois Statewide Transportation Information Network (ISTIN)	Chicago Information Hub	Collection point for Northeastern Illinois transportation data. Would include the installation of IDOT Gateway hardware/software at the IDOT District 1 Division of Highways in Schaumburg. Would serve as a backup to the Illinois Statewide Information Hub, and vice versa.
	Configuration Management Guidelines	Development of technical configuration management processes and conventions for using and maintaining ITS equipment. Would be led by an ISTIN Users Group consisting of technical ITS staff across the state.
	Develop Statewide Data Exchange Standards	Data exchange standards to be coordinated with, and build on, GCM standards and national ITS standards.
	Collinsville Information Node	Collection point for St. Louis East Metro region transportation data. Would include the installation of IDOT Gateway hardware/software at the IDOT District 8 ComCenter in Collinsville.

Solution Category	Project Title	Project Description
Illinois Statewide Transportation Information Network (ISTIN)	Peoria Information Node	Collection point for Peoria region transportation data. Would include the installation of IDOT Gateway hardware/software at the IDOT District 4 ComCenter in Peoria.
	Springfield Information Node	Collection point for Springfield region transportation data. Would include the installation of IDOT Gateway hardware/software at the IDOT District 6 ComCenter in Springfield.
	Bloomington/Champaign/Paris Information Node	Collection point for Bloomington/Champaign/Paris region transportation data. Would include the installation of IDOT Gateway hardware/software at a Bloomington Traffic Management Center, a Champaign TMC, and/or the IDOT District 5 ComCenter in Paris.
	Dixon Information Node	Collection point for Dixon region transportation data. Would include the installation of IDOT Gateway hardware/software at the IDOT District 2 ComCenter in Dixon.
	Quad Cities Information Node	Collection point for Quad Cities region transportation data. Would include the installation of IDOT Gateway hardware/software at a Quad Cities Traffic Management Center (TMC).
	Rockford Information Node	Collection point for Rockford region transportation data. Would include the installation of IDOT Gateway hardware/software at a Rockford Traffic Management Center (TMC).
	Ottawa Information Node	Collection point for Ottawa region transportation data. Would include the installation of IDOT Gateway hardware/software at the IDOT District 3 ComCenter in Ottawa.
	Carbondale Information Node	Collection point for Carbondale region transportation data. Would include the installation of IDOT Gateway hardware/software at the IDOT District 9 ComCenter in Carbondale.
	Effingham Information Node	Collection point for Effingham region transportation data. Would include the installation of IDOT Gateway hardware/software at the IDOT District 7 ComCenter in Effingham.
Interagency Operations Library	Statewide Alternate Route Plan	Development of Interstate Highway alternate route plans for use across the state for use by commercial vehicle operators and other motorists. Includes the creation of a Geographic information systems (GIS) database for statewide (and regional, as applicable) alternate route plans.
	Construction Planning & Scheduling Tool	Interagency construction scheduling system. Could build upon systems currently in use.
	ITS Infrastructure Database	GIS-based database of ITS assets across the state.
In-vehicle CVO Information	Real-Time Commercial Vehicle Information	Transmission of formatted transportation data to commercial vehicle dispatchers.
In-vehicle Traffic Information Probes	Traffic Monitoring Using Cell Phones as Probes (Statewide)	Expansion of pilot project in Northeastern Illinois. Would be deployed along key corridors across the state.
	Traffic Monitoring Using Toll Tags as Probes (Statewide)	'Expansion of pilot project in Northeastern Illinois. Would be deployed along key corridors across the state.
ITS Design Guidelines	Quantity Purchase Program	Development of agreed unit prices (AUP) for ITS equipment that can be used by transportation agencies across Illinois to accelerate ITS procurement.
	ITS Procurement Procedures	Process for identifying legislative initiatives to facilitate a more rapid deployment of ITS projects.

Solution Category	Project Title	Project Description
ITS Design Guidelines	ITS Design Manual	Comprehensive ITS design document for use in deploying ITS infrastructure throughout Illinois. Could be created from existing IDOT standards. The ITS Design Manual could be a separate document with a chapter for each ITS subsystem, or an additional section in the IDOT Bureau of Design and Environment (BDE) Manual. The text would describe planning for ITS, design guidelines, and operational requirements.
ITS Infrastructure Deployment	Statewide Dynamic Message Signs (DMS) Deployment	DMS deployment at interstate system interchanges and other key statewide decision points
	Statewide CCTV Camera Deployment	Closed Circuit Television (CCTV) camera deployment along key Interstate corridors.
	Interstate System Detection	Freeway traffic detection coverage at interstate system interchanges, elsewhere based on ADT and high crash rate.
	Road-Weather Information Station (RWIS) System Expansion	Expansion of existing IDOT RWIS sensor network to augment weather data currently collected and shared by IDOT other state agencies.
ITS Infrastructure Deployment	Highway Advisory Radio (HAR)	Expansion of existing system to include HAR deployment at interstate system interchanges and other key statewide decision points.
ITS Outreach	ITS Marketing Campaign	Program to increase awareness and inform the traveling public about ITS applications and benefits. Could consist of pamphlets at rest areas, road signs, and/or television, radio, and print advertisements, to increase motorist awareness of ITS.
	Transit Marketing Campaign	Pamphlets and road signs at transit stops/transfer centers to increase transit rider awareness of ITS applications. Could build on existing initiatives in Northeastern Illinois.
	ITS Midwest Outreach Initiatives	Various outreach activities for elected officials and the traveling public conducted by ITS Midwest members.
	ITS Website	Development of a dedicated Illinois ITS website to increase traveler awareness of ITS applications, including benefits. Could build upon existing www.iliits.org website.
Mobile Network Access	Mobile Link to Statewide Road Condition Reporting System	Automated system using cell phones or radios from Illinois State Police vehicles to report incidents. Could be based on other systems, such as the Mobile Data Acquisition Reporting System (MDARS).
	IDOT "Smart" Vehicles	Equipping of IDOT maintenance vehicles with automatic vehicle locationing (AVL) and mobile data terminals (MDT) for real-time reporting of incidents to the local district comcenter and ISTIN.
	Commercial Vehicle Alternate Route Plan	Alternate route plan information in GIS or PDF format (possibly web-based) for use by commercial vehicle operators during an incident.
	Interactive Alternate Route Plan	Alternate route plan information in GIS or PDF format (possibly web-based) for use in incident management vehicles (expansion of WisDOT/IDOT/ISTHA project in Winnebago County).
	Remote ISTIN Work Stations	Secure, web-based access to the ISTIN from remote locations.

Solution Category	Project Title	Project Description
Security Surveillance	River Bridge Surveillance Pilot	Critical infrastructure surveillance systems that include cameras, lighting, fencing, and/or motion detectors. These systems will require adequate monitoring staff to be effective. Would build upon current efforts by the Illinois Terrorism Task force (ITTF) and the Critical Infrastructure Monitoring Business Plan.
	Automated Security Surveillance Alarm Software	Enhancement of existing critical infrastructure security surveillance systems through the use of automated alarms.
Standardization of ITS Transit Initiatives	Transit Integration Standards	Develop and implement transit IDL and/or XML data protocol standards to support integration of transit data into ISTIN.
	Transit On-board Security Specifications	Development of product specifications that could be applied by several transit agencies to implement on-board security systems. Could build on initiatives underway in NE IL
	Transit Automated Vehicle Locationing (AVL) Specifications	Development of product specifications that could be applied by several transit agencies for the implementation AVL systems. Would build on initiatives underway between MetroLINK in the Quad Cities and CUMTD in Champaign
Standardization of ITS Transit Initiatives	Transit Scheduling/Dispatching Software Specifications	Development of product specifications that could be applied by several transit agencies to implement transit scheduling/dispatching software systems.
	Transit Signal Priority (TSP) Specifications	Development of product specifications that could be applied by several transit agencies to implement TSP. Could build on initiatives underway in NE IL
	Transit Rider Smart Cards Specifications	Development of product specifications that could be applied by several transit agencies to implement smart card systems. Could build on initiatives underway in NE IL
	Transit Web Page Templates	Development of a base website template for transit agencies across the state to use to display traveler information. Could include different modules depending on the transit agency.
Statewide Communications Center/ Station One Upgrade	IDOT Station One Upgrade	Upgrade the existing IDOT Station One Communications Center to support statewide ITS functions. Transfer Station One to the IDOT Division of Highways.
TMC Interoperability	IDOT Central Office ITS Asset Control	Systems to support IDOT Central Office control of ITS assets around the state. This system would be enacted for after hours operation or for statewide Amber Alert DMS messages. Will require interagency agreements, software compatibility, and coordination.
	Inter-Regional ITS Asset Control	System to allow one regional ComCenter/TMC to control ITS assets in another region for processes like regional border incident information. Such as system will require interagency agreements, software compatibility, and coordination.
	ComCenter/TMC Functionality Transfer	Allow ComCenters/TMCs to backup each other. Would require interagency agreements, software compatibility, coordination, and use of state and national ITS standards.
Traffic Data Archive	Crash Database Integration	Integration of crash databases and crash data sharing between state, county, and local agencies.
	Travel Time Prediction	Pilot project to use archived info and simulation to predict near-term performance.

Solution Category	Project Title	Project Description
Traffic Data Archive	Statewide Traveler Information Archive	Electronic archiving of traffic data and traveler information collected and produced by the ISTIN.
Training	Work Zone Training*	Would build on existing training programs, such as those administered by the USDOT Work Zone Mobility and Safety Program
	Special Event Training	Would build on existing training programs, such as NHI Course 133099 and the Pooled Fund TMC Study, but would focus on Illinois special events
	ITS Planning Integration Training	Mainstreaming ITS into the traditional transportation planning and design process consistent with the Systems Engineering Process.
	Configuration Management (CM) Training	CM for planning, deployment, and operations of ITS systems
	Statewide Information Systems Training	"Hands on" training to operate Statewide Information Systems.
Traveler Information	Satellite Radio Traffic Information Service	Distribution of traffic data (e.g., travel times, construction data) to commercial vehicle operators and other motorists over satellite radio. Could include dedicated channel for commercial vehicle operators.
Virtual Weigh Stations	High-Volume Commercial Vehicle Route Virtual Weigh Stations (VWS) Pilot	Initial pilot project in Chicago suburbs to be developed in coordination with the Indiana Department of Transportation (INDOT). Based on project success, additional VWS could be deployed elsewhere across the state.
Work Zone Enhancements*	Work Zone Best Practices Study and Pilot	Study and two pilot projects to provide guidance for work zone training.
	Queue Detection and Warning Systems	Traffic sensors and dynamic message signs to alert motorists of work zone queues
	Portable Traffic Management Systems	Combination DMS, CCTV, radar detector systems to collect and distribute work zone information.
	Work Zone Dynamic Merging Systems	Traffic sensors and dynamic message signs to improve the throughput of work zones and reduce work zone queues.
	Work Zone Travel Times	Traffic sensors and dynamic message signs to inform motorists of work zone travel times.
	Work Zone Commercial Vehicle Applications	Work zone strategies with consideration for commercial vehicle operators. Could include tactics like diverting traffic around a workzone but allowing commercial vehicles to drive through.

* Work zone enhancement projects to be addressed by the Bureau of Safety Engineering

7.4.2 Project Prioritization

In order to determine which specific projects should be deployed first, a prioritization ranking was performed. The projects were analyzed by the following criteria to determine their priority:

Integration Opportunity

Where did the solution category for this project rank? The previously developed solution scores (Section 7.3) show how well the general solutions address high priority needs in Illinois. Projects that are part of the ITS solutions that have significant impact on the highest priority needs should be given preference over those strategies with lower priority or a less significant impact.

Does the project serve to support other projects? Some projects form the necessary foundation for other projects to be successful. For example, while there might not be an obvious consumable product from a communication link, the link is necessary to be able to share information between two locations.

Can elements of the project be "mainstreamed" by being incorporated in near-term construction plans? Combining equipment deployment with construction is more cost efficient because work is already being done at the location. To realize these cost savings, deployment should be coordinated with upcoming construction projects in an area where ITS projects would be deployed.

Financial Integrity

Are resources readily available to implement? Having funds designated for project deployment in this area is an essential step. Areas with available funding can be deployed faster than projects in areas that have to wait for funding. Often this funding is identified in the applicable regional transportation improvement plan. Projects that are included in agencies' programs or budgets are more likely to be deployed sooner than projects that are not programmed.

Have resources been arranged for operations & maintenance? Ongoing operations of deployed equipment is essential to a project's success. If there is not adequate funding to operate and maintain equipment or not enough staff to adequately operate it, the full benefits from a project will not be realized.

Does the project provide an acceptable return on investment? With limits on available resources, transportation agencies need to make sure they are using them wisely. Preference should be given to areas whose technology or policies can realize significant impact for the amount of funding spent.

Are there upcoming deadlines for compliance or obligating funding? Some sources of funding have stipulations with deadlines for their use and some initiatives have to be met for other funding sources to be available. An example would be requirements for defining data exchange formats for real-time traveler information. These deadlines must be factored into scheduling of projects.

Perception & Public Awareness

Can the project be deployed in the near term to realize benefits sooner rather than later? Projects that require long lead times for coordination or hardware/

software development and procurement will inhibit the ability for transportation agencies to provide services in the near term. The identification of "early winners" may promote the benefits of ITS projects, leading to positive public perception and additional funding.

Has the project been identified through other studies as a key initiative? A number of parallel studies have been conducted to identify key transportation initiatives in the near future. These studies include the 2005 Illinois State Transportation Plan, the Illinois Comprehensive Highway Safety Plan (CHSP), and the CVISN Program Plan. These studies have focused on a number of critical transportation issues, including congestion mitigation, traveler safety, and freight movement. By applying the results of these studies, the project ranking in this document will be more balanced with the overall needs of the state.

Operational Efficiencies

Does the project use proven technology or a tested application of technology? This issue is a question of risk management. Proven technologies with widespread application are much easier to get funded, are more likely to be received well by the end users, and can be deployed more quickly, making a successful outcome more likely. This is not to say that cutting-edge, high-risk projects should not be considered, however. Projects using unproven applications can be included if they offer potential for dramatic improvements in service, lower costs, or provide other significant benefits. These are often deployed as pilot project to verify that the technology delivers the intended benefits before being expanded to larger geographic area.

Does the project promote interoperability between both legacy and proposed systems? To enhance the application of ITS components across the state, ITS projects should deploy equipment that can be operated at the local and statewide level, both within single agencies (IDOT Central Office and District Offices) and between different agencies (traffic, emergency, transit, etc.).

Are performance measures available? Once a project is deployed, it should be monitored to make sure it is effective and delivering expected results. Ideally, performance measures would be defined for each project to make sure it is effective. Easy, ready-to-measure criteria are preferable.

Using the above criteria, each project was given scores ranging from 0 (least favorable) to 5 (most favorable) for each of the twelve project prioritization criteria. Acknowledging that some of the listed criteria are more critical than others, each of the above listed criteria was also weighted to emphasize high-priority issues. The scores for each project were tabulated, and the resulting rankings were then normalized by dividing the cumulative point score by the number of criteria used to rank the project (since some criteria did not apply to certain projects). This process created an overall score range from 2.65 to 13.25, with higher scores indicating a higher priority.

The prioritized listing of statewide ITS projects can be found in Appendix I. Three tiers of projects are defined in the table: high priority, medium priority, and low priority. The high priority projects are those that provide the highest benefit to travelers, are the foundation for

subsequent ITS projects (medium and low priority), and best coincide with the current direction of ITS in Illinois.

To complement the listing of proposed ITS projects, Appendix J identifies ITS projects that are already 'underway.' A project is considered to be underway if:

- The project is being implemented as of the date of this document;
- The project is being designed as of the date of this document; or
- Funding has been identified for the project.

These underway projects have been included in this ITS Strategic Plan because they relate directly to projects proposed in the plan, and help to underscore the ongoing nature of ITS planning and implementation. However, because the proposed projects are being prioritized to help identify the direction for ITS funding, the proposed projects are not ranked against these 'underway' ITS projects that have already secured funding.