

KITS

kansas intelligent transportation systems

Quarterly

Revised Statewide ITS Plan Offers Blueprint for Safer, More Efficient Roads

The Kansas Statewide ITS Plan is a blueprint for deploying Intelligent Transportation System (ITS)

technologies throughout the state of Kansas.

The plan, the product of a 12-month planning study completed in March 2000, reviews existing ITS programs in rural and urban areas of Kansas and uses this foundation to determine future needs, as well as short-term and long-term strategies for addressing those needs. In addition, it defines a future direction for the Kansas Department of Transportation (KDOT), identifies ITS projects, and develops a strategy for integrating and mainstreaming ITS into the KDOT business processes.

The Kansas Statewide ITS Plan is comprised of four parts: 1) A baseline condition report; 2) Analysis of ITS elements; 3) Plan methodology; and 4) Strategic deployment plan.

Baseline conditions were derived from a number of sources, including a review of existing documentation, ITS awareness seminars at the six KDOT district offices and headquarters, interviews and meetings with KDOT personnel, and analysis of existing survey information. This input was used to define goals and a vision for a statewide ITS system.

The vision defines what the statewide ITS system will look like in the future. It states that Kansas ITS will be an open, integrated and cost effective system that ensures safer, more secure and efficient movement of people and goods across Kansas through the use of advanced technologies and management strategies.

Using input from the ITS Steering Committee, KDOT districts and bureaus, more than 50 ITS projects were identified for Kansas. The strategic deployment plan presents both a phasing plan for the various projects and recommends strategies for successful ITS deployment.

Funding, implementation and management strategies have been identified for mainstreaming ITS into the KDOT business process. The most significant change has been to develop a criteria within KDOT that will allow for ITS to be added as projects are developed and will also track the progress of technology projects.

The Kansas Statewide ITS Plan was developed as a living document, and as such, the team responsible for putting together the plan has monitored the study for the past two years and recently completed a three-month

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Spring 2002

A Profile of the ITS Unit and Steering Committee

KDOT has a strong team dedicated to the promotion and mainstreaming of Intelligent Transportation Systems (ITS) throughout Kansas. These include members of the KDOT ITS Unit and the ITS Steering Committee, who continue to perform as “champions” for ITS in the state.

The KDOT ITS Unit oversees the ITS programs within the state and works across all bureaus – including planning, operations, design, construction, engineering, maintenance, research, and others – to coordinate ITS activities. It also fosters strong working relationships with KITS stakeholders, including other KDOT bureaus, district personnel, FHWA, other state agencies, law enforcement, local agencies and ITS counterparts in surrounding states.

The unit is comprised of Matt Volz, State ITS Engineer, Mike Floberg, ITS Engineer, and Karen Gilbertson, Assistant ITS Engineer. Matt, who leads the ITS Unit, has been with KDOT for 11 years and currently is in the Bureau of Transportation Planning, responsible for managing the ITS program across the state. Matt enjoys ITS because, “It’s ground-breaking work that is ever-changing and offers new challenges that require new solutions every day.” He explains that the unit works with neighboring states, regionally, and nationally, to make sure all ITS applications are well integrated. Mike Floberg, ITS Engineer, joined the ITS Unit three years ago and has been with KDOT 14 years. Mike joined the unit because he saw it as the new direction of transportation. “It’s exciting work and I see it as the cutting edge of transportation,” explained Mike, who has worked on the KC Scout program, the original statewide ITS plan, and several set-aside projects in the state. Karen Gilbertson, Assistant ITS Engineer, has been with KDOT and the ITS Unit for 15 months, after working 10 years in the private sector as a consultant on civil design projects. “It’s an exciting time to see state DOTs look at new ways of reducing congestion and improving safety through ITS. The work is ever-changing and it requires us to be versatile and open-minded as we work with people both internally and with cities and counties throughout the state.”

The ITS Unit leads quarterly meetings with the ITS Steering Committee, and is responsible for coordination between bureaus and sharing information on current ITS projects. The committee discusses projects under development or those fully deployed and votes on ITS funding issues. Members also serve as champions for promoting ITS awareness in their areas.

The committee members include:

FHWA: Bruce Baldwin*

University of Kansas: Dr. Eric Meyer*

Road Design: Jim Brewer*, Rex Fleming

Construction and Maintenance: Jaci Vogel*

Coordinating Section: Al Cathcart*

Office of Chief Counsel: Leslie Fowler*

Traffic Engineering: Ken Gudenkauf* (CVO/ITS), Cheryl Hendrixson* (Traffic), Mike Crow

Transportation Planning: Matt Volz*, Mike Floberg*, Jim Tobaben*, Terry Heidner, Jim Van Sickle, Karen Gilbertson, Nancy Mattson

* - Current Voting Member

If no *, then FOTC (Friend of the Committee)

“Our job continues to be a two-pronged communications effort,” Volz said. “To change people’s perception about technology and to educate them on the value of ITS – both within the KDOT organization and out in the larger community of stakeholders and citizens. ITS is just one more tool and one more solution to create a better transportation system that is safer and more efficient and provides better service to the public.”

Local Projects: Joel Breakstone*

Materials and Research: Dick McReynolds*, Stan Young

Computer Services: Kelly Badenoch*

District 1: Mick Halter*, Juanita Lowe

District 3: Jerry Moritz*

District 5: Benny Tarverdi*

District 6: Ron Hall*

Kansas Highway Patrol: Major Mark Goodloe*

Office of Public Information: Barb Blue*, Marty Matthews



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Continued from front page evaluation of the plan. This includes a report that examines areas of the plan that worked well and areas that need improvement. An evaluation of the benefits of ITS, as well as a revised strategic plan, were also written.

The revised strategic plan reviews ITS projects that were developed over the past two years and assesses how the goals of the short-, medium-, and long-term projects were met. Additionally, new strategies to keep the KITS program dynamic and continually moving forward were explored, as were opportunities to incorporate ITS in the rural and urban environment.

Future activities include: 1) Establishing a periodic review process of proposed ITS projects; 2) Updating the statewide ITS architecture and the statewide ITS plan as new projects are identified, funded and deployed; 3) Encouraging coordination of efforts with KDOT and with neighboring states; 4) Identifying and developing design standards and guidelines for agencies and individuals considering ITS deployments in Kansas; and 5) Evaluating staffing needs and training requirements to support ITS deployment and operations.

For additional information regarding the Kansas Statewide ITS Plan, please contact Mike Floberg, ITS Unit, 785-296-5652.

Definition of ITS and ITS Projects

The phrase “**Intelligent Transportation Systems**” (ITS) refers to a broad range of diverse technologies, including information processing, advanced sensor, computer, electronics, and communications technologies, as well as management strategies, that when applied to a surface transportation system will save lives, time, and money and are economically sound and environmentally efficient.

An **ITS project** is defined as any project that funds the acquisition of these technologies or management strategies to provide one or more of the following functions: travel and traffic management, transit management, electronic payment, commercial vehicle operations, emergency management, information management, and maintenance and construction operations.

An ITS project may be exclusively ITS in nature or may contain both ITS elements and traditional (e.g., grading, paving, bridge) elements. An example of a project with both types of elements is a roadway reconstruction project that includes installation of such ITS elements as surveillance or detection hardware, or dynamic message signs.

Kansas ITS Architecture

A necessary component of any advanced transportation system is a “road map” detailing what information is being collected and where information is being sent. This process of developing a road map is called *architecture*.

The ITS Unit is responsible for generating, updating and maintaining the Kansas Statewide ITS Architecture. This architecture serves as an integration tool helping to identify projects that do, and do not, fit with overall ITS strategy in the state and lend guidance to how ITS elements, projects and programs fit within the Kansas Department of Transportation organizational structure and physical infrastructure. KDOT’s ITS Unit works closely with the Federal Highway Administration for guidance on compliance to national requirements associated with developing an architecture.

The ITS architecture provides a common framework for a system that outlines how the individual components — either an element or an agency — communicate together and work with other components of a transportation system. The architecture is a dynamic tool that requires maintenance and periodic revisions. It is also designed to be consistent with architectures developed for other states so a national system of coordination and communication can be achieved.

In addition to the statewide architecture, regional and project-specific architectures have been developed in Kansas. For instance, the KC Scout Freeway Management project has a project-specific architecture, which maps out the communications and standards necessary for a successful project. The Kansas City region and Wichita area have held extensive workshops to develop architectures specific to their areas. A program architecture has been developed for the Commercial Vehicle Information Systems and Networks, a program for using technology to increase safety and efficiency of the commercial vehicle operations in Kansas. The statewide architecture encompasses and links these more regional and project-specific architectures that have been developed and maintained throughout the state.



KITS Report Card Highlights Current Successes and Future Challenges

Since the release of the statewide Kansas Intelligent Transportation Systems (KITS) strategic plan in March 2000, an evaluation team has monitored the Kansas Department of Transportation's success in implementing the plan. The team has also worked to identify additional areas for improvement.

The evaluation was performed as a process engineering study to assess how successful KDOT was in its effort to mainstream ITS and incorporate plan elements into the business practices of KDOT and other stakeholders. The result is an evaluation report, a kind of KITS "report card," that provides an overview assessment of the Statewide ITS Plan, as well as recommendations and strategies for moving forward.

The evaluation assesses the statewide ITS strategic plan and provides a "rating" indicating the success of KITS stakeholders in complying with each strategy detailed in the plan, such as integrating ITS into the design process, ITS awareness and using the ITS architecture.

The KITS program has had a number of achievements over the past years. KDOT scored high marks for several successful and visible ITS improvements – most notably the Kansas Speedway ITS and Commercial Vehicle Information Systems and Networks. It also succeeded at developing a robust set-aside funding program to help promote ITS deployment in the state.

The ITS unit also scored high for fostering strong working relationships with ITS stakeholders, including other KDOT bureaus, district personnel, other state agencies, local agencies and ITS counterparts in surrounding states. The KITS program was also recognized by ITS America at the 2001 annual conference with the "Best of ITS Award," presented for the Statewide ITS Plan.

However, the KITS program has continued to face a number of challenges during this period, including difficulty in fully integrating ITS in the planning and design processes and the deployment of communications infrastructure.

The evaluation report provides additional strategies and recommends plan modifications to assist KDOT. Primary among these strategies is the recommendation that KDOT continue current initiatives, while striving to improve ITS integration with the planning and funding processes, conduct an assessment of the communications infrastructure, and further clarify to stakeholders the expected roles and responsibilities of KDOT and the KITS program.

For additional information regarding the KITS Evaluation, please contact Matt Volz, ITS Unit, KDOT, at 785-296-6356.

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