Innovated Approach to ITS Architecture Development

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The Kansas Statewide ITS Architecture was developed to ensure institutional agreement and technical integration for ITS implementation in Kansas. The architecture was developed through a cooperative effort by the transportation, transit, law enforcement, emergency management, commercial vehicle and freight management agencies.

Develop an ITS architecture that is:
- Open, receptive and adaptable
- Conformance with the National ITS Architecture and Standards
- Support and facilitate regionally/statewide integrated transportation systems
- Encourage and support interagency cooperation
- Build upon past ITS efforts
- Coordinate and Integrate with MPO Regional ITS Architectures
- Encourage stakeholder participation and buy-in and establish realistic expectation

Reflect the current state of the ITS elements deployed as well as planned in Kansas
- Facilitate ITS stakeholders coordination throughout the state
- Coordinate data sharing between agencies
- Establish a consistent framework for future ITS investment to facilitate planning and integration in a manner that maximizes resources
- Investigate and identify opportunities to integrate ITS systems at local, regional and statewide levels
- Establish mechanism and procedures for architecture maintenance

A unique process was developed for this project. Prior to broader stakeholder involvement, a straw-man architecture was developed through reviews of previous planning documents and inputs from a small group of individuals who are familiar with the state of ITS planning and deployment in Kansas. The project consultant and this small group of individuals brainstormed the straw-man architecture and identified potential high priority transportation issues and solutions. Stakeholders were brought in to confirm the straw-man architecture and to identify and discuss issues and challenges they were facing. This innovative approach significantly reduced stakeholders’ time commitment, improved communications, allowed stakeholders to devote more energy on sharing their challenges and concerns, and subsequently resulted in greater stakeholder buy-in.

Results and Documentation
- Statewide ITS Architecture Plan
  - Identify and prioritize transportation issues and needs
  - Reflect current and planned ITS elements in Kansas
  - Provide a strategic approach to future ITS investment
- Integration and Implementation Plan
  - Identify opportunities and strategies to integrate ITS systems at local, regional, and statewide levels
  - Provide an approach to mainstreaming ITS into transportation planning, programming/budgeting/capital planning, and project development
- Architecture Maintenance Plan

Methods and Innovation

Project Initiation
- Document Review
- Stakeholder Identification
- Naming Conventions
- Work Plan & Integration Strategy

Brainstorm & Stakeholder Input
- Meet with KDOT Staff/Core Team
- Straw-man Architecture Development
- Gaps and Needs Identification
- Information Gathering and Verification

Architecture Development
- Systems Engineering Analysis
- Architecture Plan & Dataspace
- Integration and Implementation Strategies
- Maintenance Plan

Review, Presentation & Approval
- Architecture Review & Feedback
- Presentation to Management & Core Team
- FHWA/FTA Approval

Study Approach and Process
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Background

Purpose

Key Considerations

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