

KNOXVILLE REGIONAL ITS ARCHITECTURE UPDATE WORKSHOP MINUTES

MEETING DATE: April 18, 2012
MEETING TIME: 8:30 PM – 10:30 PM
MEETING LOCATION: TDOT Region 1 Auditorium
SUBJECT: Knoxville Regional ITS Architecture Update – Final ITS Architecture Workshop

ATTENDEES:

Nathan Benditz, Knoxville Regional TPO	Chris McLain, Rural Metro
Brian Boone, City of Maryville	Andrew Padgett, TDOT Region 1
Doug Burton, Knoxville Regional TPO	Bobby Palmer, Knoxville FD
Roger Byrd, City of Knoxville FD	John Reed, TDOT Multimodal Transportation
Steve Byrd, City of Oak Ridge	Melissa Roberson, KAT
Arun Chatterjee, Univ. of Tennessee	John Sexton, Knox County
Mike Conger, Knoxville Regional TPO	Kevin Stoltenberg, City of Maryville
Diane Davidson, Oak Ridge Natl. Laboratory	Jon Van Eek, City of Oak Ridge
Corbin Davis, FHWA	Nathan Vatter, TDOT Region 1
Karen Estes, Knoxville-Knox County	John Benditz, Kimley-Horn and Associates
Brent Gagley, ETHRA	Tom Fowler, Kimley-Horn and Associates
Christy Haynes, TDOT Region 1	Amy Lewis, Kimley-Horn and Associates
Susan Johnson, TDOT Region 1	

Introductions and Project Status Update

Tom Fowler from Kimley-Horn welcomed everyone and thanked them for their continued participation in the update of the Knoxville Regional Intelligent Transportation System (ITS) Architecture. Tom noted that this will be the last stakeholder workshop conducted for the update. Everyone in attendance introduced themselves and identified the agency or organization they were representing.

Tom provided a brief overview of the Regional ITS Architecture Update project and discussed the project status and work accomplished to date. A draft of the ITS Deployment Plan will be prepared in early May and sent to stakeholders for review. A revised draft of both the ITS Architecture and ITS Deployment Plan will be prepared in June, and the final documents will be ready by the end of June.

Discussion of New ITS Market Packages for Consideration in the Region

Tom noted that the National ITS Architecture has been updated since the workshop that was conducted on November 30, 2011 and December 1, 2011 with stakeholders to identify ITS market packages for the Knoxville Region. The National ITS Architecture has added several new market packages which might be applicable for the Knoxville Region. The three market packages identified by Kimley-Horn for stakeholder consideration were:

ATMS22 – Variable Speed Limits
ATMS23 – Dynamic Lane Management and Shoulder Use
ATMS24 – Dynamic Roadway Warning

Stakeholders agreed that the Regional ITS Architecture should include Dynamic Roadway Warning for TDOT, and that Dynamic Lane Management and Shoulder Use would not be included in the Regional ITS Architecture. TDOT indicated they might be interested in the Variable Speed Limit market package, but wanted to have further discussions.

Tom also noted that the ITS market packages have been renamed in the new version of the National ITS Architecture to 'service packages.' To be consistent with the Regional ITS Architecture, Kimley-Horn will use the term 'service packages' from now on to refer to what were formerly called market packages.

Review of ITS Deployment Plan Projects

Tom reviewed the existing projects that have been identified for the ITS Deployment Plan report. These projects were identified based on discussions at the last Regional ITS Architecture workshop, which was held on February 7, 2012.

Kimley-Horn had developed a list of all potential projects based on agencies and included the proposed timeframe for deployment. It is not necessary to have a project in the ITS Deployment Plan in order to receive federal funding, you only have to show how a projects fits within the Regional ITS Architecture. However, by identifying potential projects while the Regional ITS Architecture is in draft format the consultant team can update the Regional ITS Architecture to ensure the projects conform to the Regional ITS Architecture. In general, the projects identify areas of greatest need for agencies, versus the Regional ITS Architecture which tends to be all encompassing of all of the types of integration and ITS projects that might occur.

A revised list of projects, based on the stakeholder input at the workshop, has been included at the end of these minutes. Additional projects may be added based on individual stakeholder follow-up.

Discussion on Systems Engineering Analysis and ITS Architecture Project Conformity

Tom provided an overview of the systems engineering process and discussed how the Regional ITS Architecture can be used to assist with the systems engineering process. A systems engineering approach is required for ITS projects when federal funds are being used, unless a project is categorically excluded. Reasons a project may be categorically excluded include:

- Project does not use any federal funding
- Project does not use any centralized control or share data with any other agencies
- Project is an expansion or enhancement to existing systems that do not add any new functionality

Tom identified several areas of a systems engineering analysis where the Regional ITS Architecture can be useful. These areas of the system engineering analysis include the concept of operations, systems requirements, and high level design.

Tom also discussed the process used to show how ITS projects conform to the Regional ITS Architecture. In cases where a project is not in conformance, Tom showed how the Regional ITS Architecture can be modified and the process that is recommended for documenting that modification. A copy of the form that should be used for documenting future changes to the Regional ITS Architecture has been included at the end of these minutes.

Discussion on Developing an Ongoing Planning for Operations Group (Knoxville TPO)

Mike Conger from the Knoxville Regional TPO provided a presentation on the development of an ongoing planning for operations group in Knoxville. Planning for operations will be a joint effort between planners and operators to improve regional transportation system performance. A greater focus will be placed on integrating management and operation strategies in the transportation planning process, with one of the goals being to place operations investments on par with major infrastructure projects.

Mike proposed development of an ongoing "Regional Operations Task Force (ROTF). The ROTF could consist of two separate sub-task forces: Incident/Emergency Management and Traffic/Transit Management. The ROTF would be charged with several responsibilities, including development of a Management and Operations Section of the next TPO Long Range Transportation Plan (due June 2013) and development of performance measures for the Region.

Next Steps

The following steps were identified for the completion of the project:

May

- Draft Regional ITS Deployment Plan will be sent to stakeholders for review
- Based on stakeholder comments, a Revised Draft Regional ITS Architecture and Revised Draft Regional ITS Deployment Plan will be sent to stakeholders

June

- Final documents will be sent to stakeholders, including Executive Summary, Regional ITS Architecture, Regional ITS Deployment Plan, and a Turbo Architecture database

Tom noted that following the workshop, Kimley-Horn was going to provide training on use of the National ITS Architecture Turbo Architecture software. The training was primarily aimed at stakeholders that would maintain the Turbo Architecture software, such as the Knoxville Regional TPO, however all of the stakeholders were invited to attend.

There are no additional workshops planned for the project. Mike Conger and Tom Fowler expressed their appreciation to all of the stakeholders for their continued participation.

KNOXVILLE ITS DEPLOYMENT PLAN PROJECT DEPLOYMENT TIMEFRAMES

Projects	Project Deployment Timeframe		
	Short-Term (0-5 Years)	Mid-Term (5-10 Years)	Long-Term (10+ Years)
Tennessee Department of Transportation			
TDOT Region 1 SmartWay Geographic Expansion: I-40 and I-75 West of Knoxville	✓		
TDOT Region 1 SmartWay Communications System Upgrade	✓		
TDOT Region 1 SmartWay Geographic Expansion: I-75 North of Knoxville		✓	
TDOT Region 1 SmartWay Geographic Expansion: I-140 South of Knoxville		✓	
TDOT Region 1 SmartWay Geographic Expansion: US 129/ SR 115		✓	
TDOT HELP Service Patrol Expansion <i>(Note: HELP expansion will be done in coordination with SmartWay geographic expansion projects)</i>	✓	✓	
TDOT Ramp Metering			✓
TDOT Region 1 SmartWay TMC Coordination with County EMAs and 911 Dispatch	✓	✓	✓
Municipal/County Projects			
City of Knoxville			
Traffic Signal System Upgrade <i>(Note: Project will start in the short-term but not expected to be completed until mid-term)</i>	✓		
Traffic Operations Center	✓		
CCTV Camera Deployment		✓	
Dynamic Message Sign (DMS) Deployment			✓
Railroad Grade Crossing Advance Notification System			✓
Emergency Vehicle AVL and MDTs	✓		
Emergency Vehicle Traffic Signal Preemption	✓		
City of Maryville-Alcoa			
Traffic Signal System Upgrade <i>(Note: Upgrades only needed in outlying areas)</i>		✓	
Traffic Operations Center	✓		
CCTV Camera Deployment		✓	
Coordination with TDOT for Corridor Operations		✓	
Emergency Vehicle Traffic Signal Preemption		✓	
City of Oak Ridge			
Traffic Signal System Upgrade	✓		
Traffic Operations Center	✓		
CCTV Camera Deployment		✓	
DMS Deployment		✓	
Emergency Vehicle Traffic Signal Preemption	✓		

Projects	Project Deployment Timeframe		
	Short-Term (0-5 Years)	Mid-Term (5-10 Years)	Long-Term (10+ Years)
City of Pigeon Forge			
Traffic Signal System Upgrade	✓		
Traffic Operations Center	✓		
CCTV Camera Deployment		✓	
DMS Deployment		✓	
City of Sevierville			
Traffic Signal System Upgrade	✓		
Traffic Operations Center	✓		
CCTV Camera Deployment	✓		
DMS Deployment		✓	
Town of Farragut			
Emergency Vehicle Traffic Signal Preemption	✓		
Knox County			
Traffic Signal System Upgrade	✓		
Traffic Operations Center	✓		
CCTV Camera Deployment			✓
Speed Monitoring System			✓
Transit Projects			
Knoxville Area Transit			
Transit Vehicle On-Board Security Cameras (Paratransit)	✓		
Transit Vehicle Passenger Counters (Fixed Route)	✓		
Real-Time Bus Arrival Kiosks (Fixed Route)	✓		
Real-Time Transit Information for Mobile Devices (Fixed Route)	✓		
Traffic Signal Priority System (Fixed Route and Paratransit)	✓		
Transit Automated Dispatch Coordination with Municipal TOC	✓		
East Tennessee Human Resource Agency			
Transit Vehicle On-Board Security Camera Expansion	✓		
Direct Link to SmartWay Traveler Information System Calls	✓		
Coordination with KAT		✓	
Knoxville-Knox County Community Action Committee			
Transit Vehicle On-Board Security Cameras	✓		
Transit Vehicle Alarm Systems	✓		
Transit Link to 511 Traveler Information Phone Number	✓		
Coordination with KAT		✓	
Gatlinburg Trolley			
Traveler Information Deployment	✓		
Pigeon Forge Fun Time Trolley			
Traveler Information Deployment	✓		
TPO Projects			
Knoxville TPO Archive Data Warehouse	✓		
Knoxville Ridesharing	✓		

Knoxville Regional ITS Architecture ITS Architecture Maintenance Documentation Form



Please complete the following form to document changes to the 2012 Knoxville Regional ITS Architecture. Forms should be submitted to the Knoxville Regional Transportation Planning Organization (TPO) for review and acceptance. All accepted changes will be kept on file by the TPO and will be incorporated into the Knoxville Regional ITS Architecture during the next scheduled update.

Contact Information

Agency	
Agency Contact Person	
Street Address	
City	
State, Zip Code	
Telephone	
Fax	
E-Mail	

Change Information

Please indicate the type of change to the Regional ITS Architecture or Deployment Plan:

- Administrative Change: Basic changes that do not affect the structure of the ITS market packages in the Regional ITS Architecture.
Examples include: Changes to stakeholder or element name, element status, or data flow status.
- Functional Change – Single Agency: Structural changes to the ITS market packages that impact only one agency in the Regional ITS Architecture.
Examples include: Addition of a new ITS market package or changes to data flow connections of an existing ITS market package. The addition or changes would only impact a single agency.
- Functional Change – Multiple Agencies: Structural changes to the ITS market packages that have the potential to impact multiple agencies in the Regional ITS Architecture.
Examples include: Addition of a new ITS market package or changes to data flow connections of an existing ITS market package. The addition or changes would impact multiple agencies and require coordination between the agencies.
- Project Change: Addition, modification, or removal of a project in the Regional ITS Deployment Plan.
- Other: _____

Submittal

Please submit ITS Architecture Maintenance Documentation form to:

Knoxville Regional Transportation Planning Organization
400 Main Street, Suite 403
Knoxville, TN 37902
Phone: 865-215-2500

Form Submittal Date: _____

Knoxville

Regional ITS Architecture

ITS Architecture Maintenance Documentation Form



<p>Question 1</p> <p>Describe the requested change to the Regional ITS Architecture or Deployment Plan.</p>	<p><i>Example: City A is planning to deploy CCTV cameras for network surveillance on arterial streets. In the Regional ITS Architecture, the City A Traffic Operations Center (TOC) is shown as the only center controlling the CCTV cameras. The City A TOC is now planning to provide images and control of the CCTV cameras to the City A Police Department for use during incidents.</i></p>
<p>Question 2</p> <p>Are any of the Regional ITS Architecture market packages impacted by the proposed change?</p>	<p><input type="checkbox"/> Yes: Please complete Questions 2A and 2B</p> <p><input type="checkbox"/> No: Please proceed to Question 3</p> <p><input type="checkbox"/> Unknown: Please coordinate with the Knoxville TPO to determine impacts of the change to the Regional ITS Architecture</p>
<p>Question 2A</p> <p>List all of the ITS market packages impacted by the proposed change.</p>	<p><i>Example: ATMS08 – Traffic Incident Management System</i> <i>ATMS01 – Network Surveillance</i></p>
<p>Question 2B</p> <p>Include a copy of the ITS market packages impacted by the proposed change and mark any proposed modifications to the ITS market packages. Add any additional notes on proposed changes in this section.</p>	<p><i>Example: A sketch of the ATMS08 – Traffic Incident Management System market package diagram for City A is attached. Changes have been marked by hand to indicate the new data connections that will be established to allow the City A TOC to send traffic images to the City A Police Department and for the City A Police Department to control the CCTV cameras. The deployment of the CCTV cameras will also result in several of the data flows in ATMS01 – Network Surveillance being changed from planned to existing. These have also been marked on the market package diagram. (Note: The ITS market package diagrams can be found in Appendix B of the Regional ITS Architecture.)</i></p>
<p>Question 3</p> <p>Does the proposed change impact any stakeholder agencies other than the agency completing this form?</p>	<p><input type="checkbox"/> Yes: Please complete Questions 3A and 3B</p> <p><input type="checkbox"/> No: Form is complete</p> <p><input type="checkbox"/> Unknown: Please coordinate with the Knoxville TPO to determine impacts of change to other agencies in the Regional ITS Architecture</p>
<p>Question 3A</p> <p>Identify the stakeholder agencies impacted by the change and a contact person for each agency.</p>	<p><i>Example: The City A TOC and City A Police Department are the two agencies impacted by this change. (Note: Assuming the City A TOC representative is completing this form, the contact person from the City A Police Department working on this project should be listed.)</i></p>
<p>Question 3B</p> <p>Describe the coordination that has occurred with the stakeholder agencies and the results of the coordination?</p>	<p><i>Example: The City A TOC and City A Police Department have had several meetings in the last year to discuss the operations of the arterial CCTV cameras. An operational agreement for the joint operations of the CCTV cameras is currently being developed.</i></p>