

KNOXVILLE REGIONAL ITS ARCHITECTURE UPDATE WORKSHOP MINUTES

MEETING DATE: October 6, 2011

MEETING TIME: 1:00 PM – 4:00 AM

MEETING LOCATION: TDOT Region 1 Auditorium

ATTENDEES:

Kwabena Aboagye, TDOT Multimodal Transportation
Kathryn Baldwin, City of Oak Ridge
Nathan Benditz, Knoxville Regional TPO
Mark Best, TDOT Region 1
Brian Boone, City of Maryville
Doug Burton, Knoxville Regional TPO
Roger Byrd, City of Knoxville FD
Steve Byrd, City of Oak Ridge
Arun Chatterjee, Univ. of Tennessee
Mike Conger, Knoxville Regional TPO
Victor Dang, FHWA
Diane Davidson, Oak Ridge Natl. Laboratory
Corbin Davis, FHWA
Rich DesGroseilliers, Lakeway Area MTPO
Mark Dykes, TDOT
Karen Estes, Knoxville-Knox County
Bryon Fortner, City of Sevierville
David Frazier, City of Knoxville FD
Brent Gagley, ETHRA
Don Gedge, FHWA

John Gould, Wilbur Smith Associates
Ronald Green, City of Knoxville PD
Steve Hendrix, City of Sevierville
Chris Jenkins, Town of Farragut
Brent Johnson, City of Knoxville
Alan Lawson, Knoxville-Knox County
Stephen Millsaps, City of Knoxville
Mike Presley, TDOT Long Range Planning
Michael Ragsdale, Univ. of Tennessee
John Reed, TDOT Multimodal Transportation
Melissa Roberson, Knoxville Area Transit
John Sexton, Knox County
Andrew Sonner, City of Alcoa
Kevin Stoltenberg, City of Maryville
Jon Vaneek, City of Oak Ridge
Jeff Welch, Knoxville Regional TPO
John Benditz, Kimley-Horn and Associates
Tom Fowler, Kimley-Horn and Associates
Amy Lewis, Kimley-Horn and Associates

SUBJECT: Knoxville Regional ITS Architecture Update – Project Kick-Off Workshop

Introductions

Jeff Welch of the Knoxville Regional Transportation Planning Organization (TPO) welcomed everyone and thanked the stakeholders for their participation in the update of the Knoxville Regional Intelligent Transportation System (ITS) Architecture. All of the stakeholders introduced themselves. Jeff then introduced Tom Fowler from Kimley-Horn. Kimley-Horn is the consultant that will be assisting with the update of the Knoxville Regional ITS Architecture.

Project Overview Presentation

Tom Fowler presented an overview of the Knoxville Regional ITS Architecture Update project. The presentation included an overview of ITS, explanation of an ITS Architecture, and a description of the steps that will be used to update Regional ITS Architecture. Tom noted that in addition to the Kick-off Workshop there will be two other workshops held over the few months, each with a different purpose, to gather stakeholder input to update the Knoxville Regional ITS Architecture. In addition, there is going to be a separate effort looking at how ITS can be used to improve traveler information in the Sevier County tourist corridor.

Once it is updated the Knoxville Regional ITS Architecture should provide a vision and framework for the implementation and operation of ITS in the region over the next 20 years. The Regional ITS Architecture is also necessary in order show how the plan conforms with the National ITS Architecture and satisfies

Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) requirements. This update will incorporate several new stakeholders, document additional existing and planned ITS deployments, and reflect changes and additions to the National ITS Architecture. Updating the plan does not guarantee any funding for the Region, but does allow the Region to be eligible for future federal funding of ITS projects. The geographic boundaries of the architecture were defined as the boundaries of the Knoxville Regional TPO including all of Anderson, Blount, Knox, Loudon, and Sevier Counties. Connections that need to occur with other agencies outside of the geographic boundaries will be shown where appropriate and the Knoxville Regional ITS Architecture will be closely coordinated with the Great Smokey Mountains ITS Architecture which was completed in December 2007.

ITS Inventory

John Benditz and Amy Lewis led a discussion on the ITS inventory for the Knoxville Region. Stakeholders were asked to identify existing and planned ITS inventory elements. A summary of all ITS inventory items and agency specific needs identified is included in the series of tables that follow. The inventory will assist the project team in preparing a rough draft of the Regional ITS Architecture for the next workshop.

Projects were categorized as Existing or Planned. Existing projects included those currently deployed or projects that are funded and are expected to be fully deployed within the first next year. Planned projects include any projects that are planned and have some type of funding identified.

Traffic Management and Traveler Information Services

Agency	Transportation Management Center (TMC) or Traffic Operations Center (TOC)	Coordinated/ Closed Loop Signal System	Video Detection (VIVDS, Loops, etc.)	CCTV Cameras	Dynamic Message Signs (DMS)	Highway Advisory Radio (HAR)	Railroad Preemption	Data Sharing with Media	Real Time Traffic Conditions Website	Telephone Traveler Information (Ex. 511)	Third Party Traveler Information Systems	Data Archiving
TDOT	E		E	E	E	E		E	E	E	E	E
City of Alcoa		E	E									
City of Knoxville	E	E	E									
City of Maryville		E	E									
City of Oak Ridge		E										
City of Sevierville		E	E									
Town of Farragut		E										
Blount County		E ¹										
Knox County		E					E					

E = Existing, P=Planned

¹Isolated signal only

Emergency Management Services

Agency	Emergency Vehicle Signal Preemption	Centralized Dispatch	Automated Vehicle Location (AVL)	Mobile Data Terminals (MDTs)	Data Sharing between Emergency Mgmt and Traffic Mgmt (Ex. CCTV camera images or incident info.)	Data Sharing between EOC and Traffic Mgmt. (Ex. CCTV camera images or incident info.)
TDOT		E	E		E	E
City of Alcoa						
City of Knoxville	E					
City of Maryville						
City of Oak Ridge			E Oak Ridge PD	E Oak Ridge PD		
City of Sevierville	E					
Town of Farragut	E					
Blount County E911		E				
Knox County Public Works	E					
Knox County E911		E	E Rural Metro Ambulance + Knoxville PD		E	
Knox County EOC						E
Sevier County E911		E	E City of Sevierville PD + FD			
THP		E	E	E		E

E = Existing, P=Planned/Funded, N=Future Need

Maintenance and Construction Management Services

Agency	Portable DMS	Portable CCTV	Road Weather Information Systems (RWIS)	AVL
TDOT	E	E	E	
City of Alcoa				
City of Knoxville				
City of Maryville				
City of Oak Ridge				
City of Pigeon Forge	E			
City of Sevierville	E			E
Town of Farragut				
Blount County				
Knox County				
THP				
McGhee Tyson Airport			E	

E = Existing, P=Planned

Public Transportation Services

Agency	Centralized Dispatch	AVL	MDTs	Passenger Counters	Electronic Fare Collection	Transit Signal Priority	Real-time Information	On-Board Video Surveillance	On-Board Alarm Systems	Transit Facility Surveillance	Data Archiving
Knoxville Area Transit	E	P	P		E		E (Kiosks with AVL in Feb.)	E	E	E (Public Bldg. Authority)	E
Knoxville-Knox County Community Action Committee	E	E	E								E
ETHRA	E	E	E								E
Sevier County	E	E	E								

E = Existing, P=Planned

Commercial Vehicle Operations

Agency	Weigh-in-Motion	Electronic Credentialing
TDOT	E	E

E = Existing, P=Planned

ITS Needs

John Benditz led a discussion on the Region’s ITS needs. The following regional needs were identified:

City of Knoxville

- Need expanded TOC with centralized signal control.
- Need coordinated signal system, improvements to closed loop system, and to consider adaptive signal systems.
- Need to look at congestion mitigation opportunities.
- Need integration with TDOT.

City of Maryville/Alcoa

- TDOT rural ITS deployments are bringing CCTV cameras to the Maryville/Alcoa area. Need to coordinate to share information with Maryville/Alcoa.
- Expand existing fiber optic communication network supporting implementation of a consolidated traffic operations center.
- Share information with emergency management.
- Add CCTV cameras or detection to the SR115/Alcoa Highway corridor.

City of Oak Ridge

- Need to upgrade signal system including coordination and interconnect.
- Need emergency vehicle interconnect.
- Need to address the peaks in traffic created by the Department of Energy facilities.

City of Sevierville – Need ability to extract data from video systems at intersections.

ETHRA – Need to implement a route planning system that included information sharing with traffic management agencies.

Knox County EMA

- Need to share information between centers.
- Need real-time weather information .

Knox County Fire Department

- Need MDTs and AVL on vehicles.
- Need to upgrade CAD system.

Knox County Public Works

- Need to upgrade signal system including VIVDS/CCTV cameras, communication upgrades, adaptive control, detection, and closed loop data back to TOC.
- Need CCTV cameras.
- Need coordination with the City of Knoxville and the Town of Farragut.
- Need speed monitoring.

Knoxville Area Transit

- Need to expand AVL to provide real-time information on PDA, web, etc.
- Need to add passenger counters.
- Need fleet management system to provide vehicle information to the maintenance shop.
- Need to add transit priority on certain corridors.

Knoxville-Knox County Community Action Committee - Need coordination between demand responsive systems in the region.

Knoxville Regional TPO

- Need access to TDOT archive data on traffic volumes, speeds, etc.
- Currently in the process of working with Cambridge Systematics on a performance measure case study under the SHRP2 program.

Oak Ridge National Laboratories – Would like to see plan consider coordination of interstate and arterial operations and look for opportunities to include bicycles and pedestrians.

Sevier County

- Need regional traffic management and inter agency coordination.
- Need to capitalize on existing information dissemination methods (e.g. Twitter).
- Noted that need to consider fine line between providing travel times and potential negative impacts on the tourism industry.

TDOT (Region 1)

- Need to expand the geographic coverage of SmartWay and HELP.
- Need traffic flow data from rural areas of the Region.
- Need to improve data reliability and timeliness of TSIS.
- Need improved coordination between TDOT SmartWay and emergency management agencies.

TDOT (Incident Management)

- Need connections between the SmartWay TOC and computer aided dispatch systems in the region for emergency response.
- Need more data collection and archiving for performance measures.

TDOT (Multimodal) – Need to include transit route match on 511.

Town of Farragut - Need to add VIVDS.

Concluding Comments and Next Steps

Tom thanked everyone for their participation. He encouraged the ITS stakeholders to contact any of the project team members if they had any questions or if they would like to add additional items to the ITS inventory or needs. He also asked the stakeholders to contact any of the project team members if they

would like for the project team to extend an invitation to participate to any other agencies or individuals not currently included in the list of stakeholders.

Kimley-Horn has a website with information from each of the Regional ITS Architectures they have developed in Tennessee. Information from the Knoxville Regional ITS Architecture Update will be included on the site and all meeting minutes, draft and final documents, and contact information will be included. The existing Regional ITS Architecture documents from 2001 for Knoxville Regional ITS Architecture will also be placed on the project website. The website address is:

www.kimley-horn.com/Projects/TennesseeITSArchitecture

The next workshop will be held in November or early December and the focus will be to work with stakeholders to select the desired ITS services for the Knoxville Region and identify what types of information need to be exchanged between agencies. The workshop will be broken out into three smaller workshops over a two day period with one focused on traffic and travel management, one on incident management, and one on transit. An invitation will be sent to all stakeholders and everyone is encouraged to attend as many of the workshops as possible.