



Chattanooga Regional ITS Architecture Update Project Overview

January 7, 2014



Project Overview

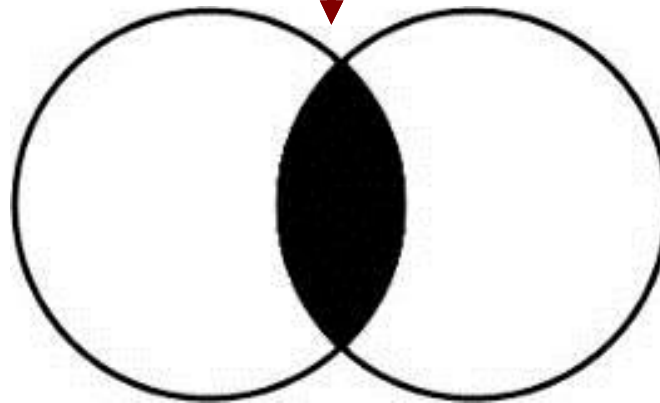
- Update of the 2010 Chattanooga Regional ITS Architecture and Deployment Plan
- Provides a long range plan for the deployment and integration of ITS
- Key Components
 - Stakeholder Workshops and Interviews
 - Regional ITS Architecture and Deployment Plan
 - Turbo Architecture Database
 - Project Website



Project Overview

Regional ITS Architecture and Deployment Plan

Transportation
Issues



ITS
Solutions



Project Benefits

- Provides vision for ITS deployment in the Region
- Supports the deployment of an integrated and interoperable system in the Region
- Encourages use of standards and shared resources to maximize return on investments
- Assists agencies in seeking federal funding on projects
- Meets USDOT requirement that ITS projects funded with federal transportation funding conform to their Regional ITS Architecture and appropriate standards



Stakeholder Involvement

2 Stakeholder workshops conducted at the Resource Center

9 Stakeholder interviews conducted with key stakeholders in the Region

41 Participants

- Federal, state, regional, county, and municipal agencies
- Traffic, transit, public safety, emergency management, and private sector industry



Key Steps

Step
One

Identify ITS Inventory and Needs

Step
Two

Develop ITS Service Packages

Step
Three

**Identify Projects for Deployment in
the Region**



Regional ITS Architecture

- Identified and defined 42 ITS service packages (based on 97 in National ITS Architecture)
- Focus of ITS service packages included:
 - Traffic and Incident Management
 - Traveler Information
 - Emergency Management
 - Transit Management
 - Archived Data



ITS Service Package Prioritization



High Priority ITS Service Packages		Medium Priority ITS Service Packages		Low Priority ITS Service Packages	
Traffic Management					
ATMS01	Network Surveillance	ATMS04	Freeway Control	ATMS10	Electronic Toll Collection
ATMS03	Surface Street Control	ATMS13	Standard Railroad Grade Crossing	ATMS11	Emissions Monitoring and Management
ATMS06	Traffic Information Dissemination	ATMS19	Speed Monitoring	ATMS21	Roadway Closure Management
ATMS07	Regional Traffic Management	ATMS24	Dynamic Roadway Warning		
ATMS08	Traffic Incident Management System				
ATMS22	Variable Speed Limits				
Emergency Management					
EM01	Emergency Call-Taking and Dispatch	EM06	Wide-Area Alert		
EM02	Emergency Routing	EM08	Disaster Response and Recovery		
EM04	Roadway Service Patrols	EM09	Evacuation and Reentry Management		
		EM10	Disaster Traveler Information		
Maintenance and Construction Management					
MC08	Work Zone Management	MC01	Maintenance and Construction Vehicle and Equipment Tracking	MC12	Infrastructure Monitoring
MC10	Maintenance and Construction Activity Coordination	MC03	Road Weather Data Collection		
		MC04	Weather Information Processing and Distribution		

ITS Service Package Prioritization



High Priority ITS Service Packages		Medium Priority ITS Service Packages		Low Priority ITS Service Packages	
Public Transportation Management					
APTS01	Transit Vehicle Tracking	APTS06	Transit Fleet Management		
APTS02	Transit Fixed-Route Operations	APTS07	Multi-Modal Coordination		
APTS03	Demand Response Transit Operations	APTS09	Transit Signal Priority		
APTS04	Transit Fare Collection Management	APTS11	Multimodal Connection Protection		
APTS05	Transit Security				
APTS08	Transit Traveler Information				
APTS10	Transit Passenger Counting				
Traveler Information					
ATIS01	Broadcast Traveler Information				
ATIS02	Interactive Traveler Information				
Commercial Vehicle Operations					
		CVO06	Weigh-in-Motion		
Archived Data Management					
AD1	ITS Data Mart	AD3	ITS Virtual Data Warehouse		

ITS Deployment Plan

- Identifies projects for deployment in the Region
- Developed to support the Regional ITS Architecture
- Projects identified for short-term (0-5 years), mid-term (5-10 years), and long-term (beyond 10 years)
- Responsible agency, opinion of probable cost, and funding status also included



ITS Deployment Plan



Stakeholder	Example Projects
TDOT	<ul style="list-style-type: none"> SmartWay deployments at targeted locations Variable speed limits Improved coordination with Georgia
GDOT	<ul style="list-style-type: none"> CCTV cameras and detection at all interchanges Dynamic message signs on I-24 and I-59
Municipal	<ul style="list-style-type: none"> Traffic signal system upgrades CCTV camera and dynamic message signs for incident management Flood detection and warning system Railroad grade crossing advance notification systems Fire Department traffic signal preemption
Transit	<ul style="list-style-type: none"> Smart Card implementation Next-Bus arrival sign expansion Trip planner Transit traffic signal priority
TPO	<ul style="list-style-type: none"> Transportation data warehouse



Use and Maintenance

Use of the Regional ITS Architecture

Project Manager Evaluates Conformance to Regional ITS Architecture



Project Manager Completes ITS Architecture Maintenance Form and Submits to TPO



TPO Reviews and Files Form for Use During Next Update

Maintenance of the Regional ITS Architecture

Update every four years in coordination with the LRTP update

Chattanooga-Hamilton County
RPA Regional Planning Agency
Chattanooga Regional ITS Architecture Maintenance Form

Please complete the following form to document changes to the 2014 Chattanooga Regional ITS Architecture. Forms should be submitted to the Chattanooga-Hamilton County/North Georgia Transportation Planning Organization (CHNGA-TPO) for review and acceptance. All accepted changes will be kept on file by the CHNGA-TPO and shared with the TDOT Long Range Planning Division. Changes will be incorporated into the 2014 Chattanooga 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 service 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 service packages that impact only one agency in the Regional ITS Architecture.
Examples include: Addition of a new ITS service package or changes to data flow connections of an existing ITS service package. The addition or changes would only impact a single agency.
- Functional Change - Multiple Agencies: Structural changes to the ITS service packages that have the potential to impact multiple agencies in the Regional ITS Architecture.
Examples include: Addition of a new ITS service package or changes to data flow connections of an existing ITS service 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:
 Chattanooga-Hamilton County/North Georgia Transportation Planning Organization
 1250 Market Street
 Suite 2000, Development Resource Center
 Chattanooga, Tennessee 37402
 Phone: 423-757-5216
 Fax: 423-757-5532

Form Submittal Date: _____

Regional ITS Architecture Maintenance Form
 Version 2.0 - January 2014

to deploy CCTV cameras for network
 In the Regional ITS Architecture, the City A TOC is shown as the only center controlling the TOC is now planning to provide images and to the City A Police Department for use during

Sections 2A and 2B
 Section 3
 State with the Chattanooga RPA to determine the Regional ITS Architecture
 Incident Management System
 Network Surveillance

IMS08 - Traffic Incident Management System
 City A is attached. Changes have been the new data connections that will be A TOC to send traffic images to the City A Police Department to control the Incident of the CCTV cameras will also result in IMS01 - Network Surveillance being changed these have also been marked on the service ITS service package diagrams can be found in ITS Architecture.)

Sections 3A and 3B
 State with the Chattanooga RPA to determine agencies in the Regional ITS Architecture
 and City A Police Department are the two (Note: Assuming the City A TOC this form, the contact person from the City A on this project should be listed.)

and City A Police Department have had several discuss the operations of the arterial CCTV agreement for the joint operations of the CCTV developed.

Project Website

The screenshot shows a web browser displaying the project website. The browser's address bar shows the URL: <http://www.kimley-horn.com/Projects/TennesseeITSArchitecture>. The website header includes the Kimley-Horn and Associates, Inc. logo and the title "TENNESSEE REGIONAL ITS ARCHITECTURES AND DEPLOYMENT PLANS". A navigation menu on the left lists various regions: OVERVIEW, STATEWIDE, BRISTOL, CHATTANOOGA, CLEVELAND, JACKSON, JOHNSON CITY, KINGSPOBT, KNOXVILLE, LAKEWAY, MEMPHIS, and NASHVILLE. The main content area is titled "Chattanooga Regional ITS Architecture and Deployment Plan" and provides a detailed overview of the plan, including its purpose and the stakeholders involved. It also lists project documents for both the 2014 and 2010 versions, such as the Executive Summary, Regional ITS Architecture and Deployment Plan, and Workshop Minutes. The right sidebar features the Chattanooga-Hamilton County RPA logo and project contact information for the Chattanooga TPO, TDOT Long Range Planning, and Kimley-Horn and Associates, Inc.

www.kimley-horn.com/projects/tennesseelTSarchitecture



Next Steps

- Draft Regional ITS Architecture has been updated
- Revised Draft Regional ITS Architecture being reviewed
- FHWA and TDOT to provide “Ready for Use” letter
- Documents to be finalized upon TPO approval





Thank You!

Yuen Lee, AICP
Chattanooga-Hamilton County Regional Planning Agency

Thomas Fowler, P.E., PTOE
Kimley-Horn and Associates, Inc.