



# Chattanooga Regional ITS Architecture and Deployment Plan Update

Executive Board Presentation

Kimley»Horn

June 28, 2017

# What is ITS?

## *ITS*

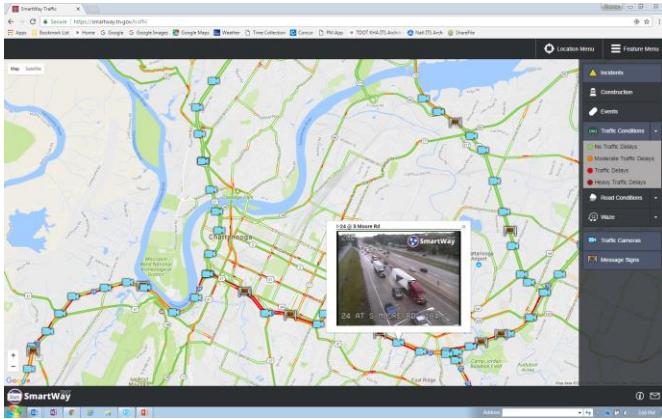
An acronym that stands for  
**Intelligent Transportation Systems**

## *One definition of ITS*

The application of data processing and data communications to the surface transportation system to increase safety, efficiency, and reliability.



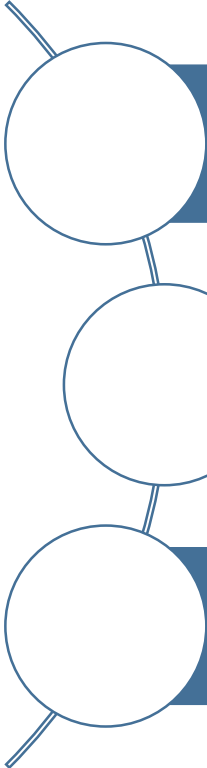
# What is ITS?



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# Why Deploy ITS?



Congestion caused urban Americans in 2015 to travel **6.9 billion hours** longer and use an extra **3.1 billion gallons** of fuel for an estimated congestion cost of **\$160 billion**

Annual delay for the average traveler in 2015 was **42 hours**, wasting **19 gallons** of fuel at a value of about **\$960** per traveler

Over 40,000 people died on U.S. roads in 2016, a 6% increase from 2015 and 14% rise since 2014.



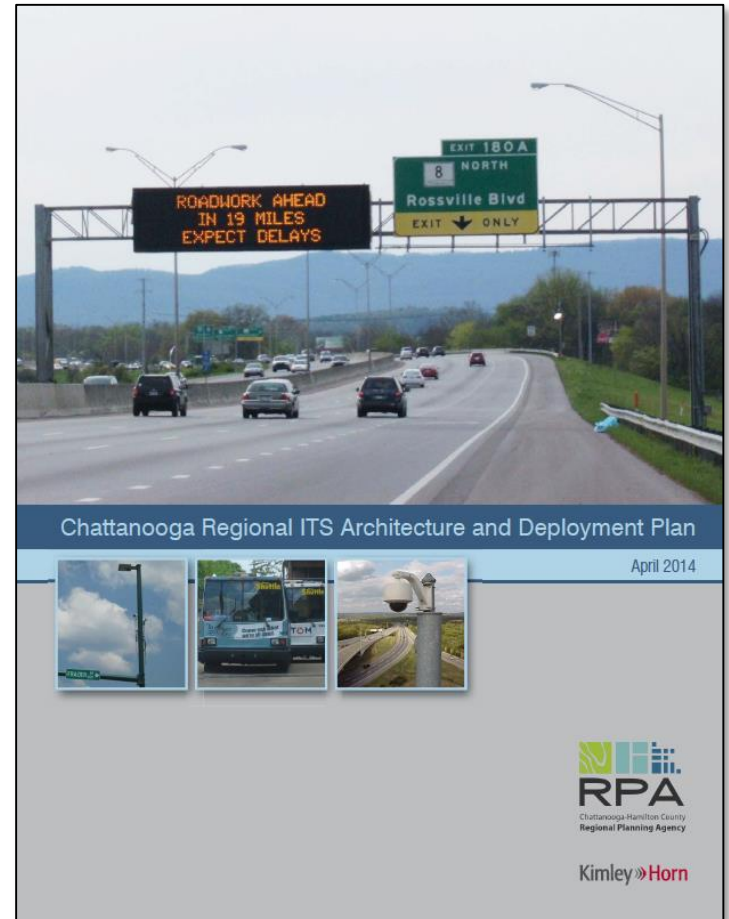
# Why Deploy ITS?



# Chattanooga Regional ITS Architecture

The Regional ITS Architecture provides a long-range plan for the **deployment, integration,** and **operation** of ITS in a Region.

Development and conformance of the plan is **required** in order for ITS project to receive **federal transportation funds**.



# ITS Applications

Traffic Management

Traveler Information

Emergency Management

Public Transportation

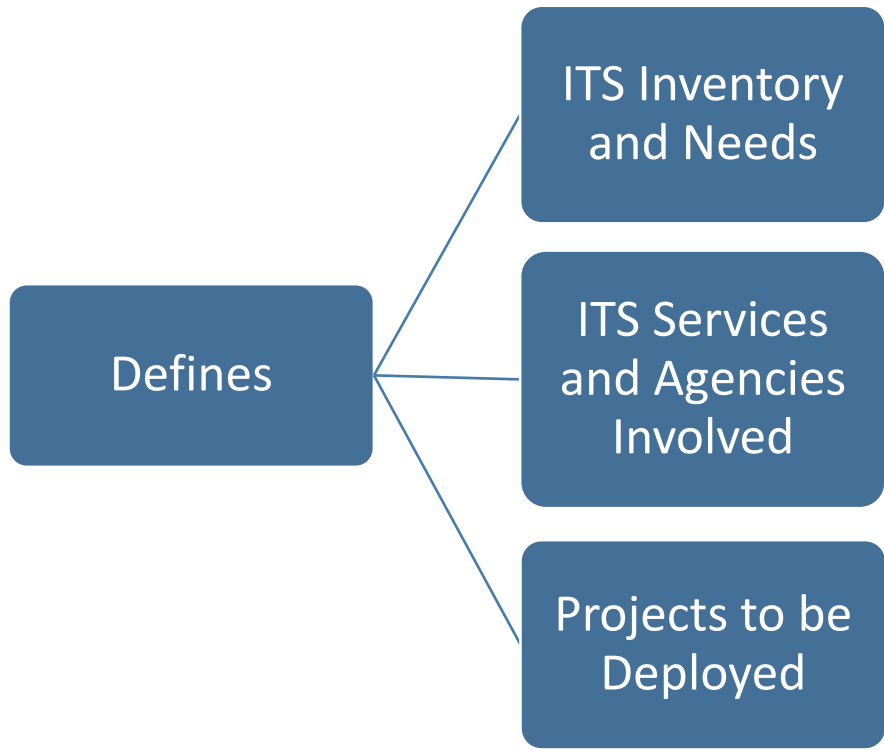
Maintenance & Construction Management

Archived Data Management

Commercial Vehicle Operations

Vehicle Safety (Connected & Autonomous Vehicles)

# Chattanooga Regional ITS Architecture



- 2003** Development of the first Chattanooga Regional ITS Architecture
- 2010** Update of the Regional ITS Architecture
- 2014** Update of the Regional ITS Architecture
- 2017** Development of current Regional ITS Architecture



# Participating Stakeholder Agencies

## *State and Federal Agencies*

- Federal Highway Administration
- Georgia DOT
- Tennessee DOT
- Tennessee Department of Emergency Management

## *Regional Agencies*

- Chattanooga-Hamilton County/North Georgia Transportation Planning Organization
- Northwest Georgia Regional Commission
- Southeast Tennessee Development District

## *Municipalities/Counties*

- City of Chattanooga
- City of East Ridge
- Hamilton County

## *Transit Agencies*

- Chattanooga Area Regional Transportation Authority
- Southeast Tennessee Human Resource Agency
- Catoosa Trans-Aid
- Dade County Transit
- Walker County Transit

# Results of Regional ITS Architecture Update

# Regional ITS Service Packages

## Service Package

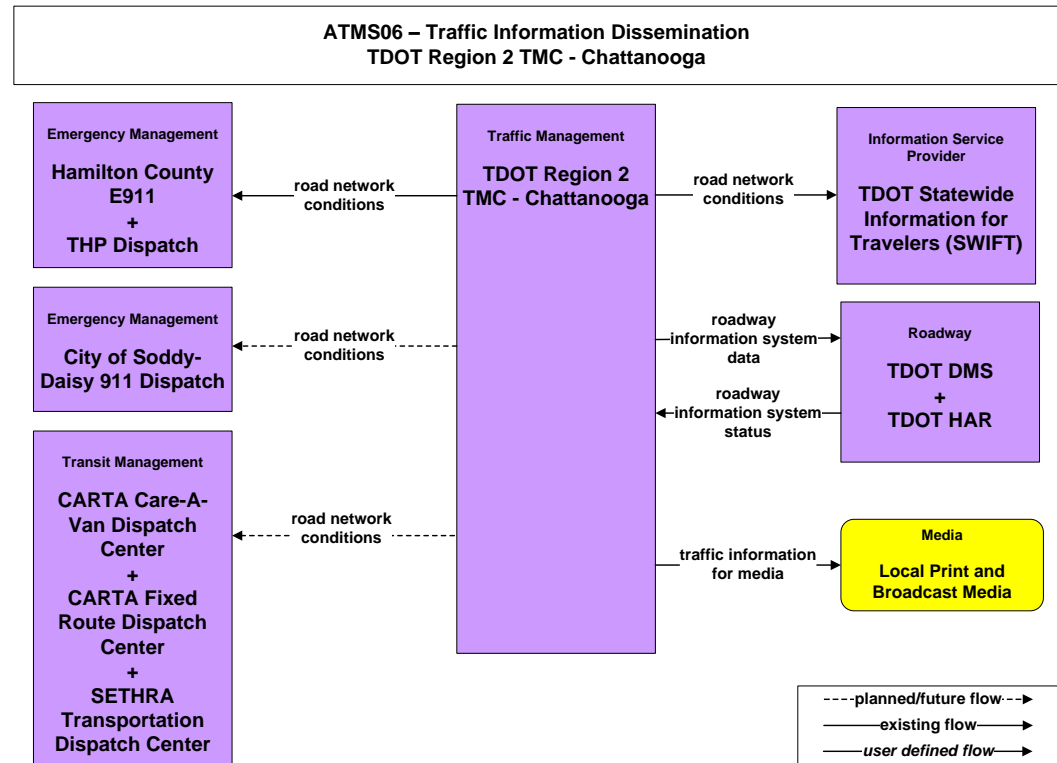
Pieces of the regional ITS architecture that address a specific transportation service

## Selected ITS Service Packages

Stakeholders selected **47** of the **97** ITS service packages identified in the National ITS Architecture

## High Priority ITS Service Packages

- Network Surveillance
- Traffic Signal Control
- Traffic Information Dissemination
- Regional Traffic Management
- Traffic Incident Management
- Roadway Service Patrols
- Transit Fixed-Route Operations
- Transit Demand Response Operations

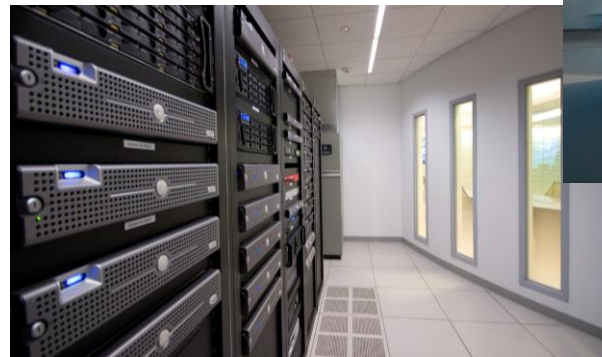




# Regional ITS Service Packages

## *Emerging and Future ITS Service Packages*

- Variable Speed Limits
- Traffic Metering (Ramp Metering)
- Transit Signal Priority
- Autonomous Route Guidance
- In-Vehicle Signing
- ITS Data Warehouse



# Regional ITS Deployment Plan

## *Regional ITS Deployment Plan*

- State, regional, and local projects identified
- Projects identified for short-term (less than 4 years), mid-term (4-10 years), and long-term (beyond 10 years)
- All projects tied to regional ITS architecture
- No fiscal constraints on the plan



## *Example Projects*

- TDOT Region 2 SmartWay 24-Hour Operation
- TDOT Region 2 SmartWay Infrastructure Expansion
- City of Chattanooga Advanced Traffic Management Signal System Software (ATMS) Deployment
- City of Chattanooga Arterial CCTV Camera and Dynamic Message Sign Deployment
- CARTA Transit Signal Priority Deployment
- CARTA Smart Card Implementation
- CHCNGA TPO Transportation Data Warehouse

# Other Results

Identification of National Standards to Use for Deployments

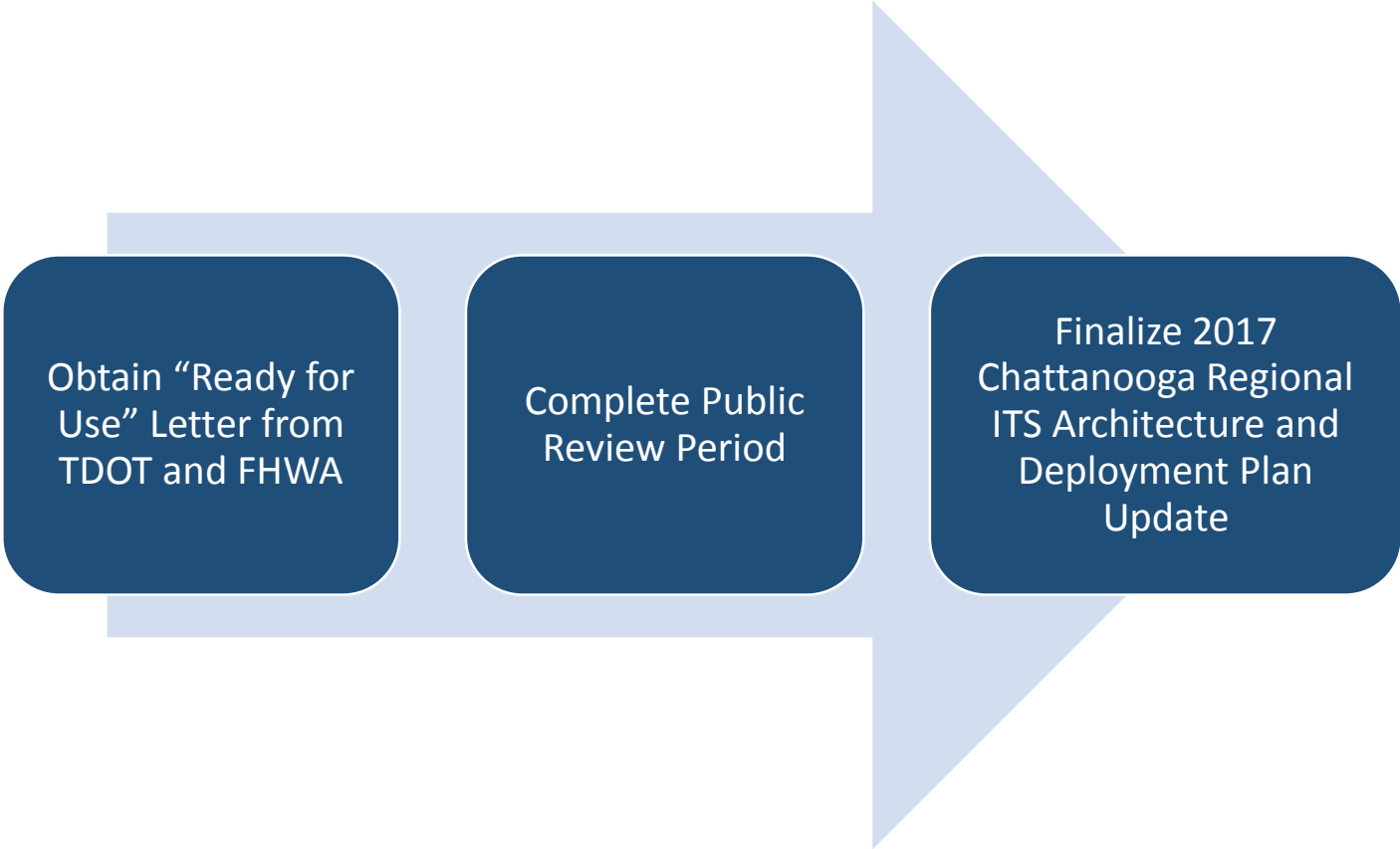
Plan for the Use, Maintenance, and Update of the Regional ITS Architecture  
(Updated on a 5-Year Cycle in Coordination with RTP)

Process to Document Changes to the Regional ITS Architecture  
(Submitting Agencies Responsible for Showing Project Conformance)

Review and Final “Ready for Use” Letter by TDOT and FHWA



# Next Steps



Obtain “Ready for Use” Letter from TDOT and FHWA

Complete Public Review Period

Finalize 2017 Chattanooga Regional ITS Architecture and Deployment Plan Update



# Chattanooga Regional ITS Architecture and Deployment Plan Update

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