# Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>10:00 AM</td>
<td>Welcome, Introductions &amp; Project Overview</td>
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<tr>
<td>10:15 AM</td>
<td>ITS Architecture Overview</td>
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<tr>
<td></td>
<td>» National ITS Architecture Terms and Concepts</td>
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<td>» Regional ITS Architecture Overview</td>
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<td>» Website Overview</td>
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<td>10:45 AM</td>
<td>Review and Update Regional ITS Stakeholder and ITS</td>
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<td>Elements</td>
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<td>11:15 AM</td>
<td>Discussion of Regional ITS Projects</td>
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<tr>
<td>12:15</td>
<td>Lunch</td>
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<tr>
<td>1:15 AM</td>
<td>Service Package Overview</td>
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<tr>
<td>1:30 PM</td>
<td>Review and Update Service Package Diagrams</td>
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<tr>
<td>2:45 PM</td>
<td>Interagency Agreements/Operational Concepts</td>
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<tr>
<td>3:00 PM</td>
<td>Use of Regional ITS Architecture</td>
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<tr>
<td>3:15 PM</td>
<td>Next Steps</td>
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<td>3:30 PM</td>
<td>Adjourn</td>
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Project Overview

- Complete update of the existing Florida ITS Architecture
- Includes
  - Florida Statewide Services
  - Florida District 1
  - Florida District 2
  - Florida District 3
  - Florida District 4 & 6
  - Florida District 5
  - Florida District 7
  - Turnpike Enterprise
- Also includes Update of Architecture Documentation
  - 23 CFR Part 940 Compliance Documentation
  - SITSA QA/QC Documentation
District 7 ITS Architecture

- District 1 ITS Architecture Kickoff
- Stakeholder Interviews
- Development of Draft ITS Architecture
- Stakeholder Workshop
- Complete Draft ITS Architecture
- Finalize ITS Architecture

Project Schedule

- Stakeholder Interviews: September 18 – October 2
- Development of Draft Update: September 30–October 7
- **Stakeholder Workshop: October 8**
- Complete Draft ITS Architecture: October 23
- Stakeholder Comment Period: October 23– November 5
- Final ITS Architecture: November 19
ITS Architecture Overview

Intelligent Transportation Systems

- Definition
  - "The Application of data processing and data communications to surface transportation, to increase safety and efficiency."

- Includes Systems within
  - Traffic Management
  - Transit Management
  - Emergency Management
  - Traveler Information
  - Maintenance Management
What is an ITS Architecture?

- Does Provide:
  - A blueprint on how ITS systems will work together to satisfy surface transportation needs.
  - Identifies the ITS stakeholders in a region and their elements
  - Identifies the information to be exchanged between stakeholder elements
  - Selects standards for information exchange

- Doesn’t Define:
  - Select specific technologies or design
  - Determine how projects are selected or funded
What is a Regional ITS Architecture?

- A regional framework for ensuring institutional agreement and technical integration for the implementation of ITS projects in a particular region

How National ITS Architecture relates to Regional ITS Architecture

- National ITS Architecture (the cookie cutter)
  - a Framework or Template
  - a menu of possibilities
- Regional ITS Architecture (the cookies)
  - Specific instances, associated with local stakeholders and projects
  - Current inventory + future projects
  - Only the pieces you need
  - Put together based on local needs
  - Extensions, where necessary
Look Beyond Current Set of Projects

- How will your systems evolve?
  - What new or enhanced services will you provide?
  - What systems will you connect to and what information will you share?
  - What agreements need to be in place to make it happen?

- The Tampa Regional ITS Architecture will provide the framework and plan for the evolution of your systems over the next 10 to 20 years.

Benefits of a Regional ITS Architecture

- Transportation planning tool
  - Get a handle on where we are going with our Intelligent Transportation System

- Regional information sharing opportunities
  - The problem: patchwork deployments that make sharing information difficult
  - Regional ITS Architecture: Get early insight into what ITS information others have that can help you do your job better (or you can provide to others)
Benefits of a Regional ITS Architecture (Cont.)

- AND -- Addresses FHWA Rule/FTA Policy on ITS Architecture and Standards
  - Requires Development of a Regional ITS Architecture if using Highway Trust Fund money to fund deployment of projects containing ITS elements.
  - Intended to foster integration of ITS Systems
  - Defines requirements for ITS projects

What is in a Regional ITS Architecture?
FHWA Rule/FTA Policy Require:
1. Description of the region (Scope)
2. Identification of participating agencies and their systems (Inventory)
3. Operational concept
4. Agreements required for implementation
5. System functional requirements
6. Interface requirements
7. Identification of ITS standards
8. Sequence of projects required for implementation
9. Process for maintaining your ITS Architecture
What does the Rule/Policy Require for ITS Projects?

- Systems Engineering Analysis
- Regional ITS Architecture partially satisfies the systems engineering requirements for FHWA Rule/FTA Policy
- Part 940.11 Requirements:
  - Portion of the regional ITS architecture
  - Roles and responsibilities
  - High-level requirements
  - Alternative communications infrastructure
  - Applicable ITS Standards
  - Procurement options
  - Operations and Maintenance

Website Overview
Discussion of Regional Stakeholders

Who is a Stakeholder?

- Technical Definition:
  - Someone that sends or receives transportation information to/from other stakeholders either directly or with their systems.

- Institutional Definition:
  - Someone who builds, operates or maintains ITS equipment.
Who is a Stakeholder?

– Let’s go to the stakeholder list….

Discussion of Regional ITS Architecture Elements
ITS Inventory

- A list of ITS elements and the elements that interface with them
- And an ITS element is:
  - “The name used by stakeholders to describe high level parts of an ITS system.”
- Types of Elements:
  - Centers – Traffic, Emergency, Transit
  - Field Devices – Traffic, Maintenance
  - Traveler Interfaces – Web sites
  - Data Systems – Planning, Archives
  - Vehicles – Transit, Emergency, Maintenance

Regional ITS Inventory

- Review current and planned elements
  - Owner
  - Status
  - Definition
  - Entity Type
Regional ITS Inventory

– Types of Subsystems

Regional ITS Inventory

– Let’s go to the inventory....
Regional ITS Projects

Review ITS Projects

- ITS Projects Identified from
  - Interviews with key stakeholders
  - Current TIP

- For each project consider
  - Name, Description
  - Key Stakeholders
  - Timeframe (short, medium, or long-term)
  - Mapping to Architecture
ITS Projects

– Will input ITS projects into the Turbo Architecture database.

– Ability to generate outputs to create a systems engineering analysis and functional requirements for each project.

– Let’s go to Project List……
ITS Services Cover

- Traffic Management
- Traveler Information
- Transit Management
- Emergency Management
- Commercial Vehicle Operations
- Maintenance and Construction
- Archived Data Management
- Advanced Vehicle Safety

Traffic Information Dissemination

TMC

Dynamic Message Signs

Television Station

Web Site

Motorist
Automated Transit Fare Payment

Enforcement → Transit Management Center → Point of Sale / Kiosk → Transit Vehicle → Financial Institution

Service Packages = ITS Services

Architecture
Framework spanning all of ITS

Service Packages
Pieces of the architecture that provide a particular transportation service.
Customized Service Package Diagrams

- Customize to reflect regional operational concepts

- Add/Delete:
  - Subsystems, Terminators and Architecture Flows

- Moderator/Analysts assist by:
  - Asking questions
  - Capturing results

Customized Service Package Diagrams

- Review selected service package diagrams based on:
  - Questions we have
  - Regional projects or initiatives
  - Stakeholders present

- Let’s go to the Service Package Diagrams…
Interagency Agreements/Operational Concepts

- Agreements needed for
  - Data Sharing, System Maintenance, +?
- Many types of agreements possible
  - Handshake
  - Memorandum of Understanding (MOU)
  - Interagency/ Intergovernmental
  - Operational
  - Funding
  - Master Agreements

- What are some of your current Interagency agreements?
Planned Agreements
– Are there any agreements planned in the region that haven’t been implemented yet?

Operational Concepts
– Defines Roles and Responsibilities of stakeholders in providing the ITS services (Example)

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>RR Area Name</th>
<th>RR Description</th>
<th>Status</th>
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<tbody>
<tr>
<td>FDOT District 7</td>
<td>Highway Management</td>
<td>Provide incident information to travelers using traffic information devices on freeways, such as dynamic message sign (DMS) devices and highway advisory radio (HAR) broadcasts, and through local information service providers (ISPs) and Web sites.</td>
<td>Existing</td>
</tr>
<tr>
<td>FDOT District 7</td>
<td>Highway Management</td>
<td>Provide traffic information reports to other agencies, including other FDOT District transportation management centers (TMCs).</td>
<td>Existing</td>
</tr>
<tr>
<td>FDOT District 7</td>
<td>Highway Management</td>
<td>Coordinate threat information, such as surveillance or sensor data, with local traffic and emergency management agencies.</td>
<td>Existing</td>
</tr>
<tr>
<td>FDOT District 7</td>
<td>Highway Management</td>
<td>Receive incident information, incident response status, and resource requests from the county EOC/warning points and from the FDOT District 7 EOC.</td>
<td>Existing</td>
</tr>
<tr>
<td>FDOT District 7</td>
<td>Highway Management</td>
<td>Dispatch FDOT Road Ranger vehicles to incidents in the region.</td>
<td>Existing</td>
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Use of Regional ITS Architecture

ITS Projects

Regional ITS Architecture partially satisfies the systems engineering requirements for FHWA Rule/FTA Policy on ITS Architectures and Standards

Part II Requirements:
- Portion of the regional ITS architecture
- Roles and responsibilities
- High-level requirements
- Alternative communications infrastructure
- Applicable ITS Standards
- Procurement options
- Operations and Maintenance
Why Use the Systems Engineering Process?

- Reduce Risk
  - Control costs and schedule
  - Satisfy users’ needs
- Fulfill the requirements of the Federal Rule
**Systems Engineering Analysis Requirements**

- Rule/Policy requires all HTF-funded projects be based on a systems engineering analysis
  - Scale commensurate with project scope

**23 CFR 940.11**

1. Portion of Regional ITS Architecture
2. Participating agencies roles and responsibilities
3. Requirements definitions
4. Alternatives analysis
5. Procurement options
6. ITS standards and testing procedures
7. Operations and management procedures and resources

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**Systems Engineering Analysis**

- If a project architecture has been created, look at the Projects web page.
- If a project architecture has not be created, look at the regional ITS architecture and find the appropriate web pages based on ITS services in the project.
Next Steps

– Complete Draft Regional ITS Architecture will be available on the project website approximately Oct 23:
– Email to all stakeholders and attendees
– Comments solicited by November 5
– Final ITS Architecture created by November 19

– Thank you for attending the workshop today!!