ITS Architecture Update

Project Review

Eastgate Conference Room

Feburary 10, 2011

Agenda

- Introductions & Overview
- Operational Concept
- Website Overview
- Using the Architecture
- Regional ITS Projects Discussion
- Review & Update Customized Market Packages
- Maintaining the Architecture
- Next Steps

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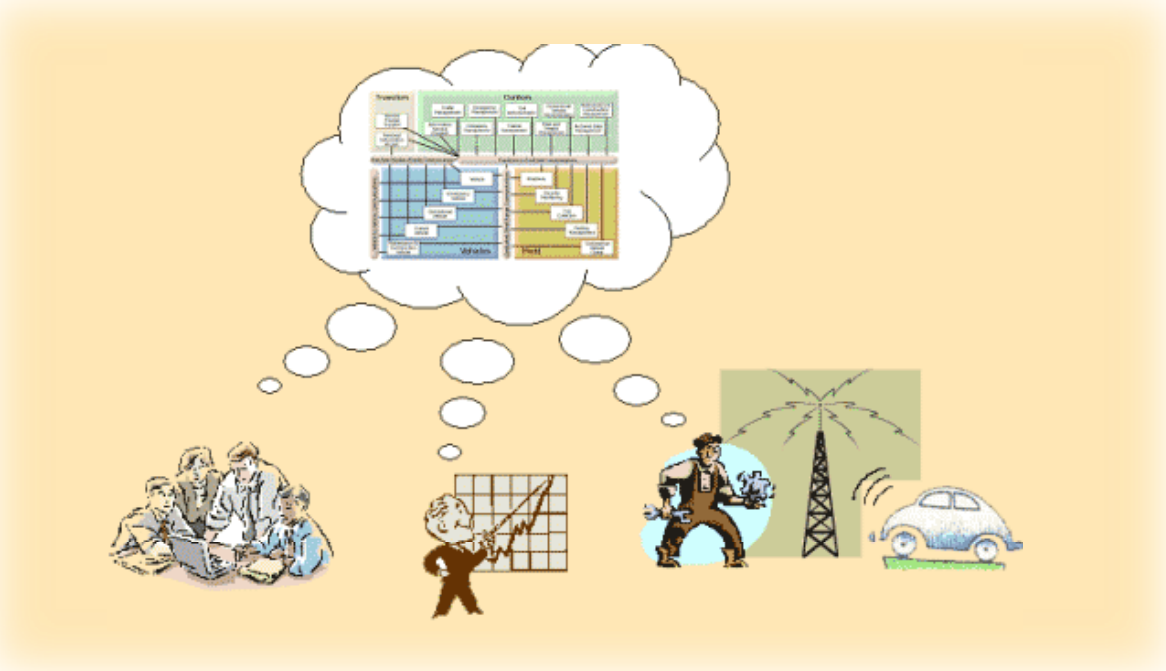
Introductions & Overview



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Draft Architecture - Summary Statistics

- 57 Stakeholders
  - Eastgate, ODOT, WRTA, City of Youngstown, etc.
- 136 Elements
  - WRTA EasyGo Dispatch, Buckeye Traffic, WRTA Smart Card, etc.
- Services (Market Packages)/ Information Flows
  - 44 Market Packages
    - ATMS06: Traffic Information Dissemination
    - APTS04: Transit Fare Collection Management
  - 2061 Information flows connecting the elements to provide the services

Project Overview Timeline

Task	October	November	December	January	February	March
Inventory Meetings						
Initial Architecture Update						
Workshop #1						
Market Packages						
Workshop #2						
Report						
Website						
Turbo						
Present to Eastgate TAC Board						

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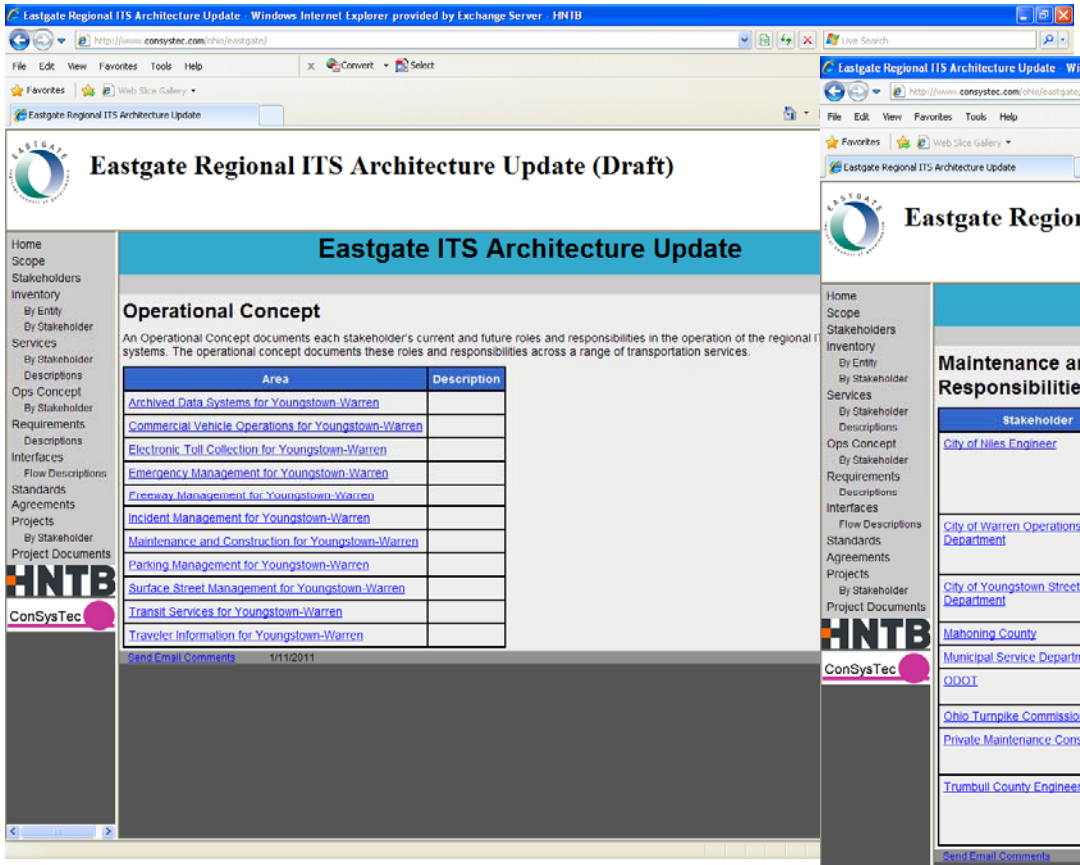
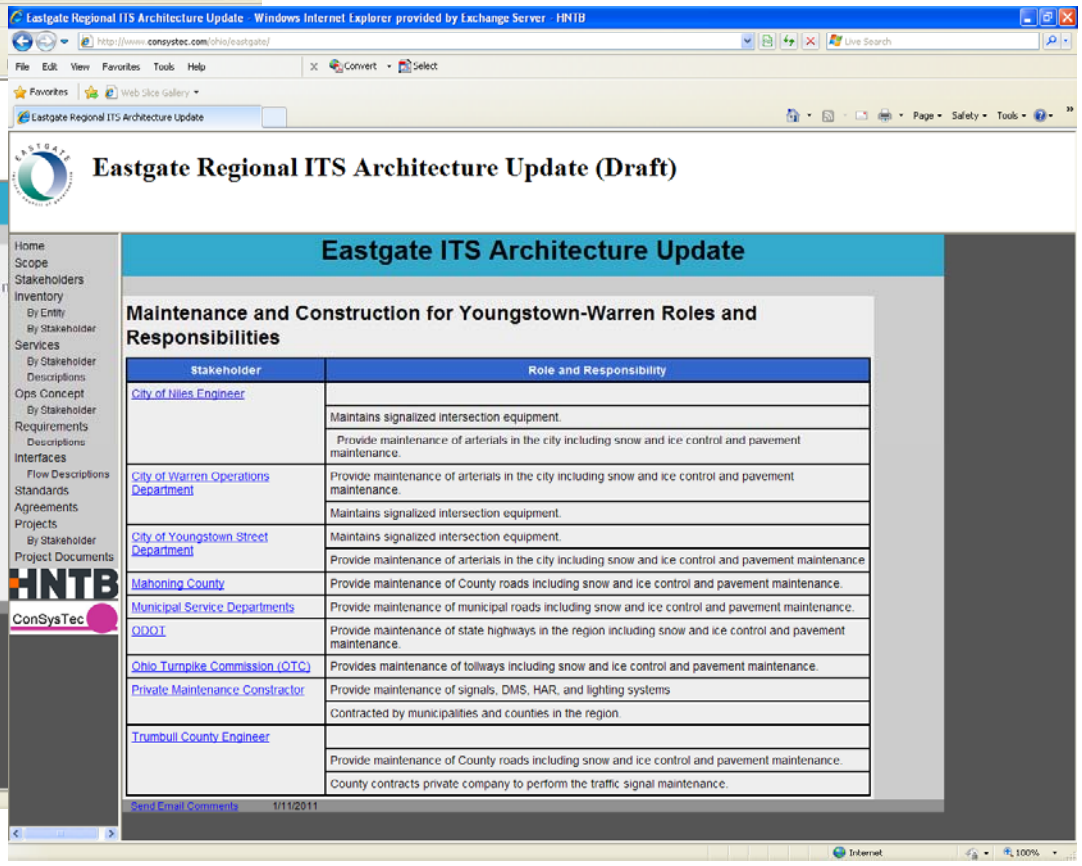
Review of Operational Concepts

Operational Concept

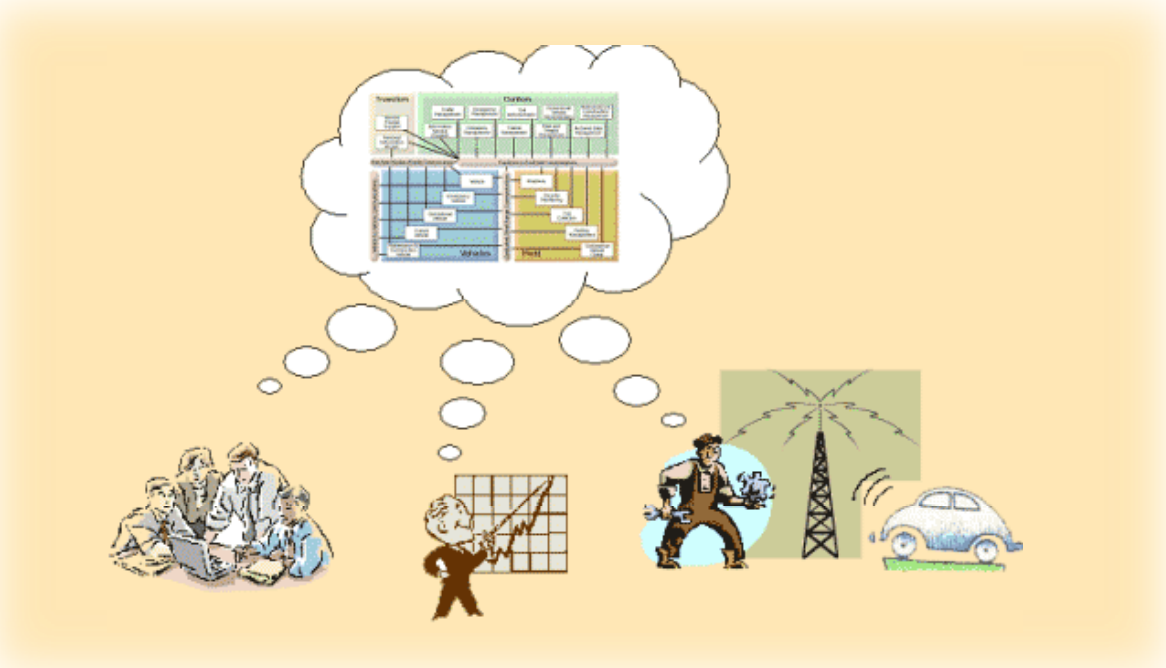
- Defines roles and responsibilities of stakeholders
- Organized by ITS Area
  - Traffic Signal Control
  - Highway Management
  - Incident Management
  - Emergency Management
  - Transit Management
  - Maintenance Management
  - Traveler Information
  - Archived Data

Operational Concept





Website Overview
Review of Draft Architecture



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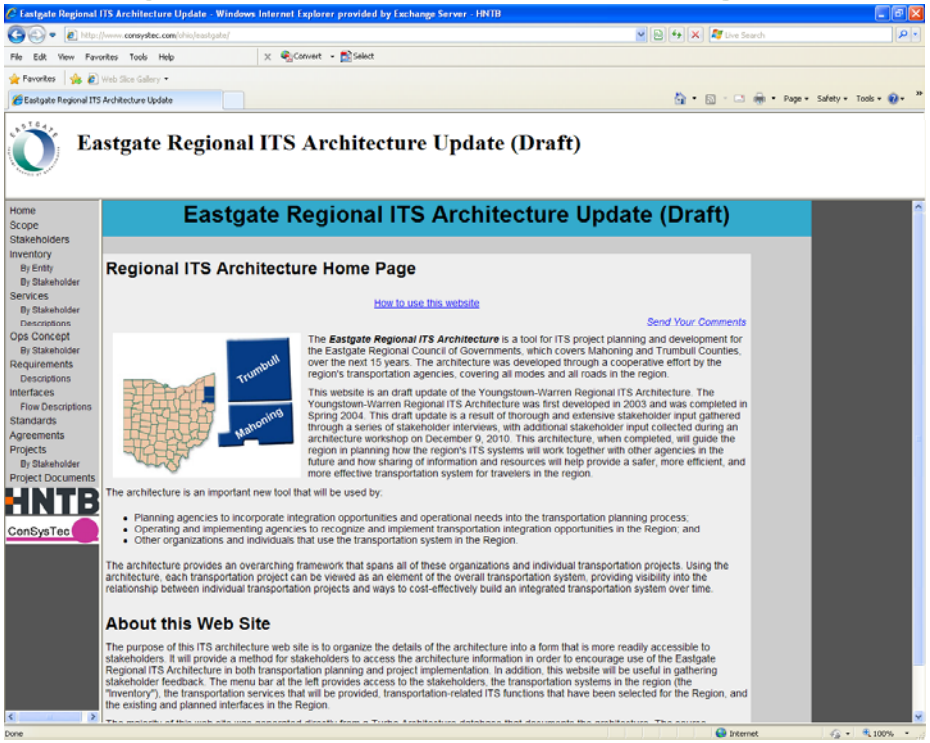
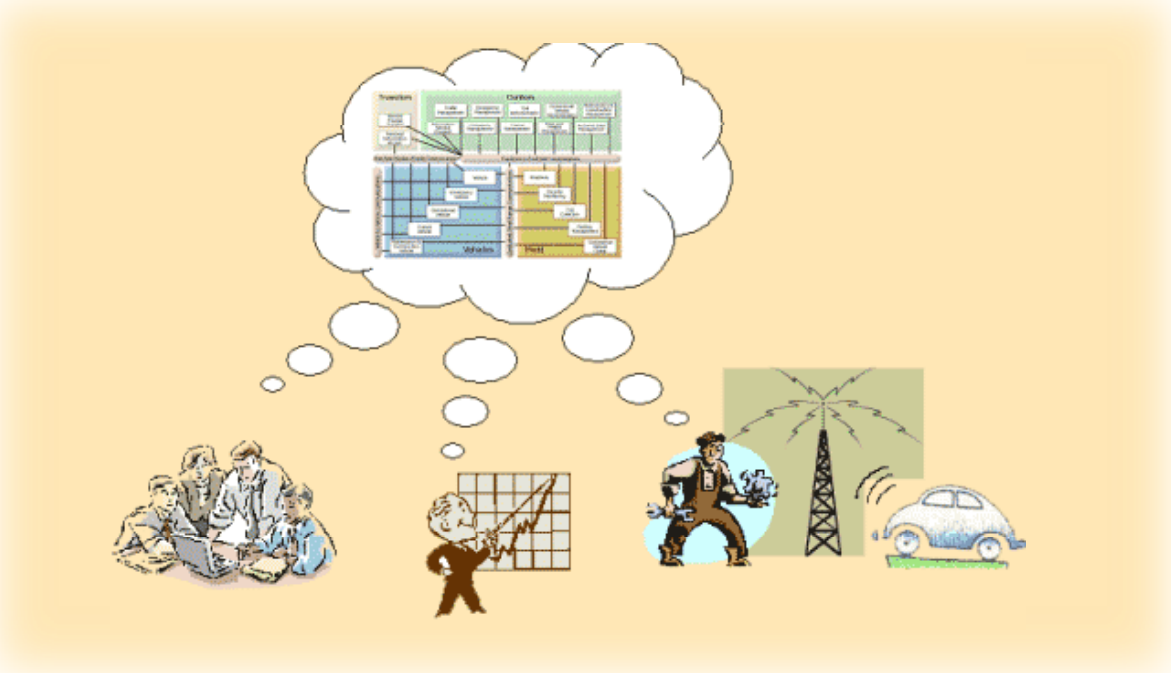
Eastgate Regional ITS Architecture

- Draft architecture details can be viewed at http://www.consystec.com/ohio/eastgate/



Use & Maintenance Summary



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Use the ITS Architecture for:

- Transportation Planning
- Programming/Budgeting
- ITS Project Implementation

Architecture Use in Programming and Project Implementation

Maintaining the Architecture

Architecture Use in Common Programming Process

1- MPO issues Request for Projects

2 - Project Sponsors submit projects

3 - Project are prioritized by the MPO

4 - Projects are voted on/accepted by the MPO governing body.

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Example of Use on Project Submittals

Anchorage Metropolitan Area Transportation Solutions (AMATS) Checklist

Step One: Planning / TIP Development:

Project Agency Sponsors Agree to Comply with Federal ITS Regulations

When a project is nominated or added to the AMATS Transportation Improvement Program (TIP), project agency sponsors will provide answers to the following questions in the Project Information Packet during the project nomination process:

a. Does my project include any ITS elements? *
b. Does my project use funds from the federal highway trust fund (including the mass transit account) now and/or in the future?
   If you are not sure, consult with the AMATS Coordinator.
c. Does the project sponsor agree to comply with the federal ITS requirements?

If the answer is YES to the first two questions, then your project must comply with federal requirements or AMATS could be subject to loss of funding. Project agency sponsors must agree to comply with the federal requirements. The agreement will be documented as specified by AMATS. Proceed to Step Two. If the answer is yes to the first question, but no to the second, project agency sponsors are *encouraged* to use the steps recommended in this Checklist to foster a more efficient system.

*ITS means electronics, communications, or information processing used singly or in combination to improve the efficiency of a surface transportation system.

Example of Use on Project Submittals

Maricopa Association of Governments (MAG)

26-Aug-05

FY 2007 - 2011 TIP - Programming only 2011

MAG ITS Project Data Form

Please enter project data in highlighted cells, save the file with the lead agency name in it --ie. Mesa-ITSProj1.xls, and email the Excel f

The numbers shown in highlighted cells are for illustrative purposes only. Please use one worksheet per project.

Please enter required information in highlighted cells

Lead Agency	
Other Partnering Agencies	
ITS Project Title:	
ITS Market Package:	

A. ITS Strategic Plan (40 Points Max):	ID#	Need Score
First user need that best matches the project	3	68
Second user need that matches the project	9	47
Third user need that matches the project	27	21
Total User Need Score		136

Total Estimated Points for ITS Plan 0.0

Determine whether the proposed ITS project is an arterial project OR an intersection/s project. Enter data under B1 or B2 -- NOT BOTH

B 1. Segment Congestion (30 Points Max):

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Example of Use during Project Prioritization

Rhode Island State Planning Commission

Addition of new criteria

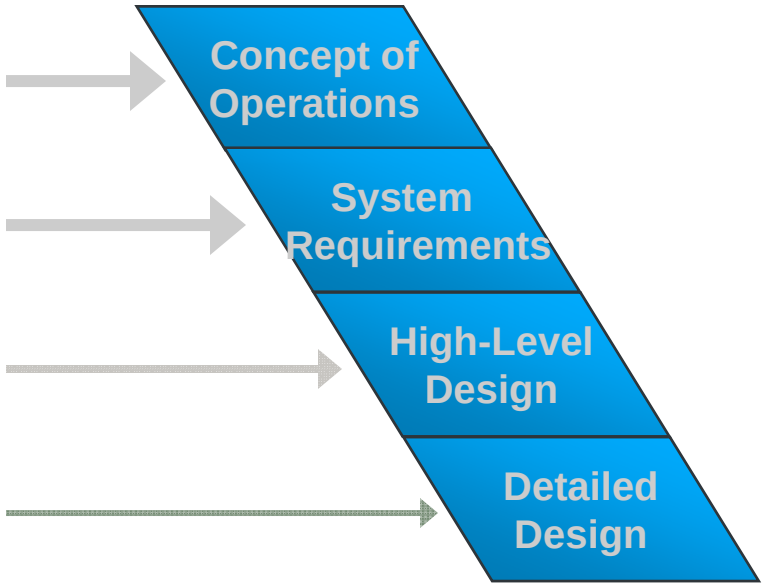
g. Enhances Intelligent Transportation System network

5 points: provides hardware and / or monitoring equipment to implement Rhode WAYS Strategic Deployment Plan or RIPTA ITS Plan (bus fareboxes, vehicle locators, etc.)
1-4 points: installation of fiber-optic cable on off-system highway; enhances dissemination of information; provides for shared use of equipment already in place
0 points: no ITS elements are part of the project
negative points: project is on a RhodeWAYS route that calls for ITS equipment, but equipment not provided

Systems Engineering Analysis Requirements

- Rule/Policy requires all HTF-funded projects to be based on a systems engineering analysis
  - Scale commensurate with project scope
  - Identifies seven requirements “at a minimum”

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**

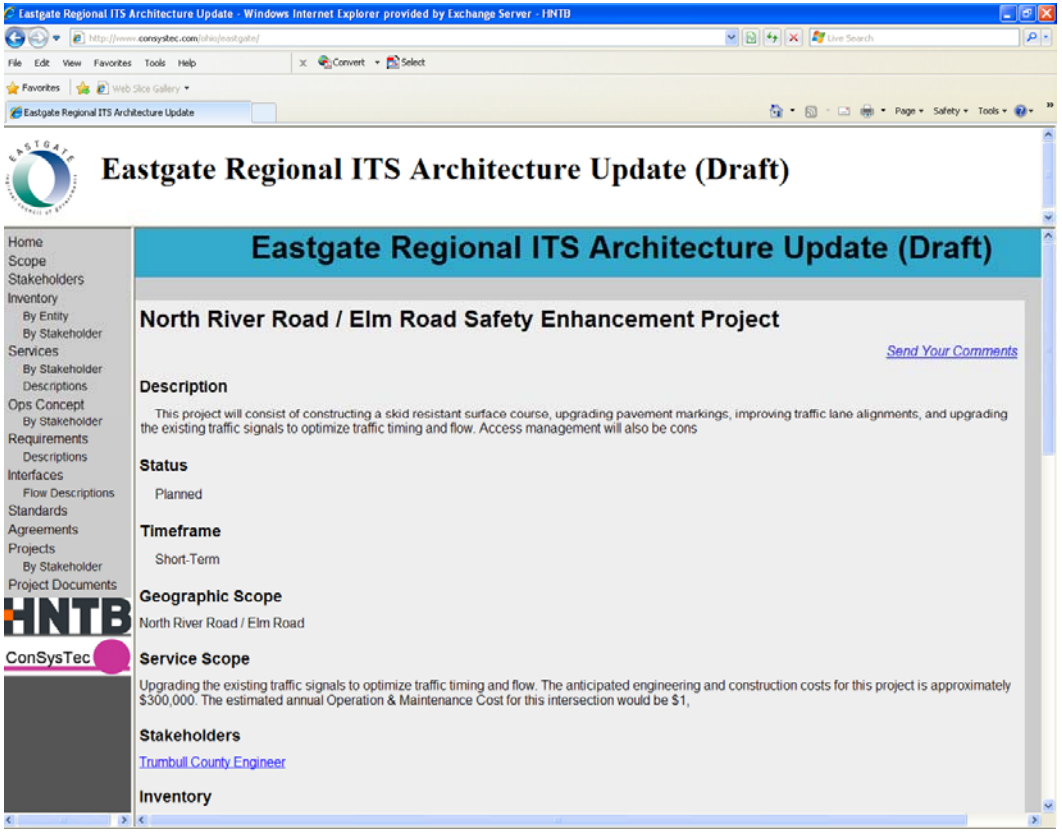


Method

- If a project architecture has been created look at the Projects web page.
- If a project architecture has not been created, look at the regional architecture and find the appropriate web pages.

Portion of the Regional ITS Architecture

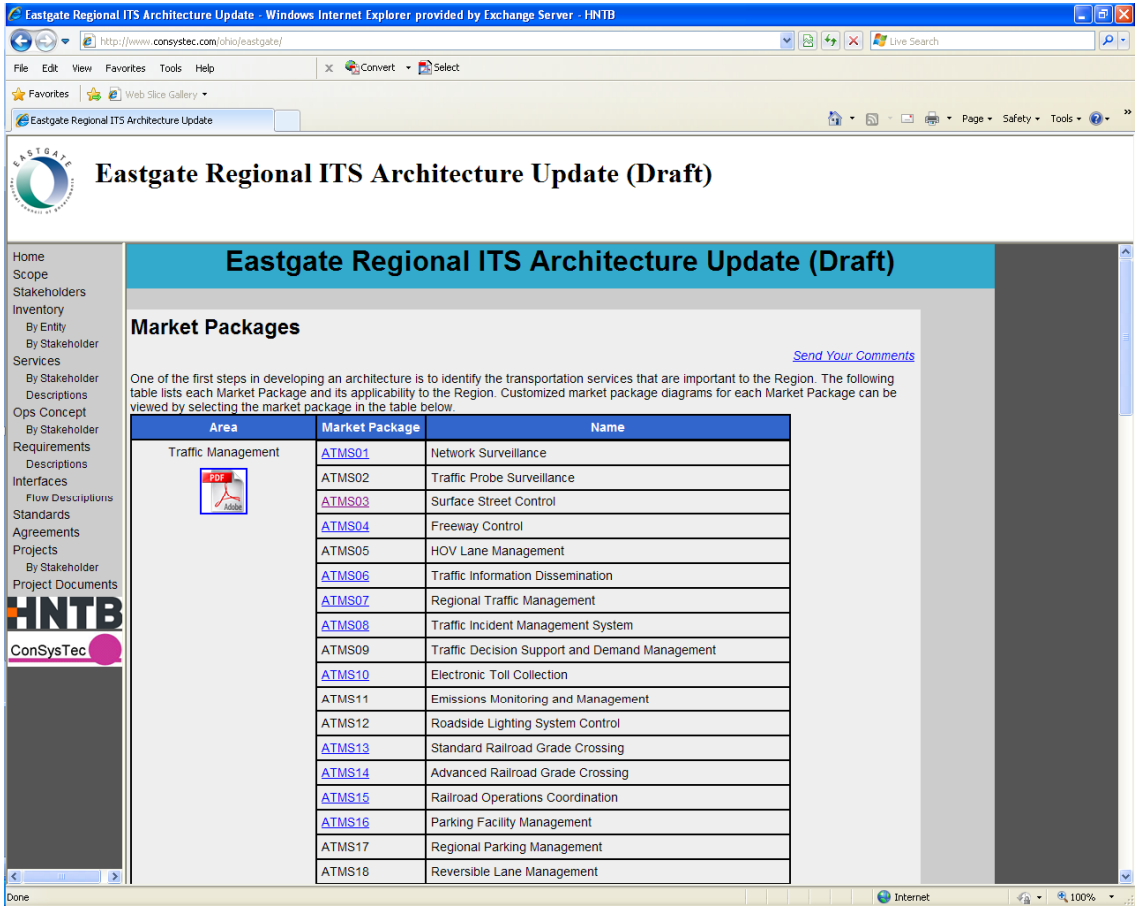
- Go to Projects page, then click on the Project.
- Project Details:
  - Project Description
  - Status
  - Timeframe
  - Scope
  - Stakeholders
  - Inventory
  - Services
  - Functional Areas
  - Interfaces
  - Standards
  - Operational Concepts



Portion of the Regional ITS Architecture

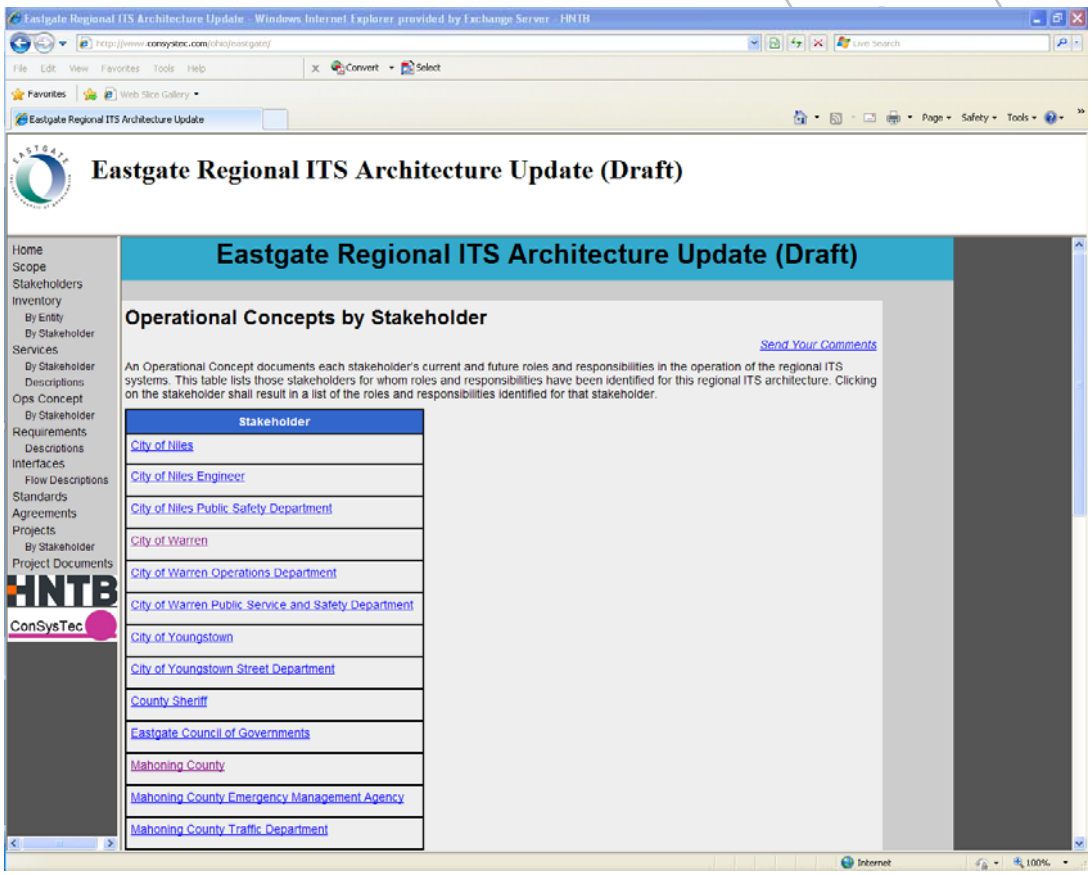
1

- Go to the Services page, and find the customized market package diagram(s) that represents the project.



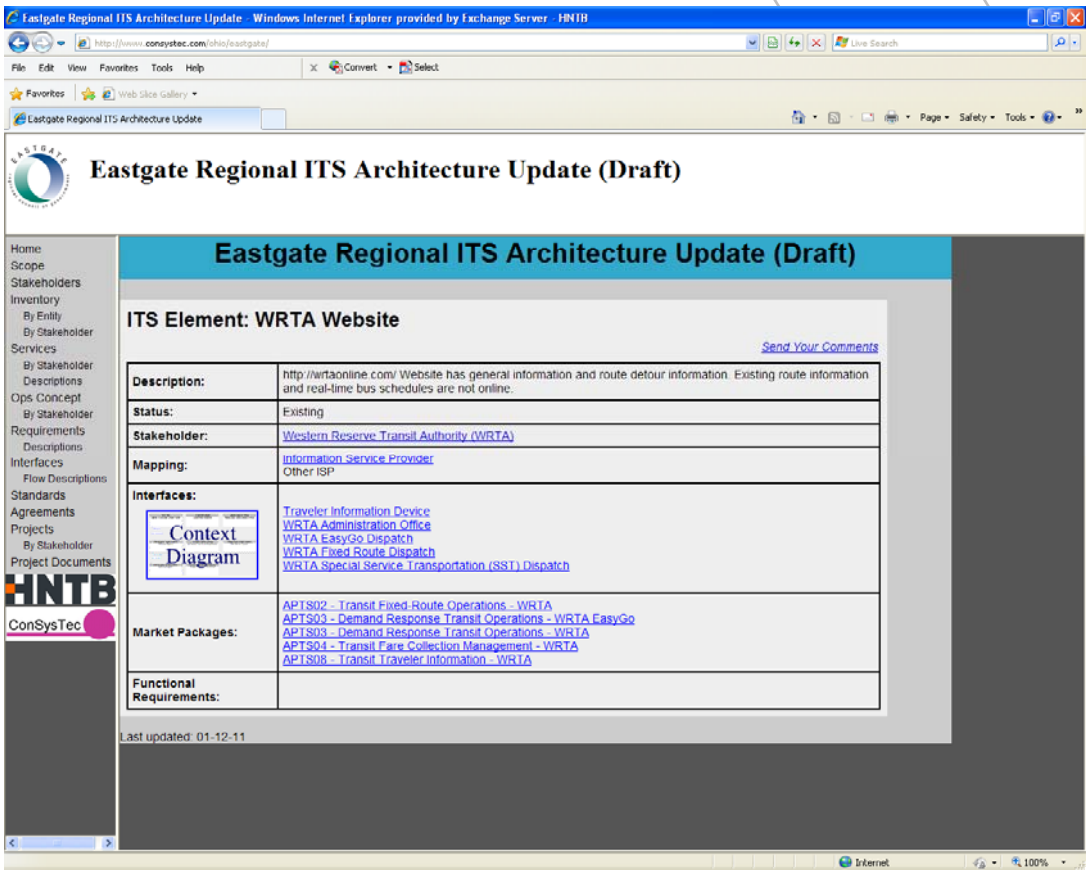
Concept of Operations

- Go to Operational Concepts Page and click on the appropriate Area(s), or
- Go to Operational Concepts by Stakeholder, and select the appropriate stakeholder



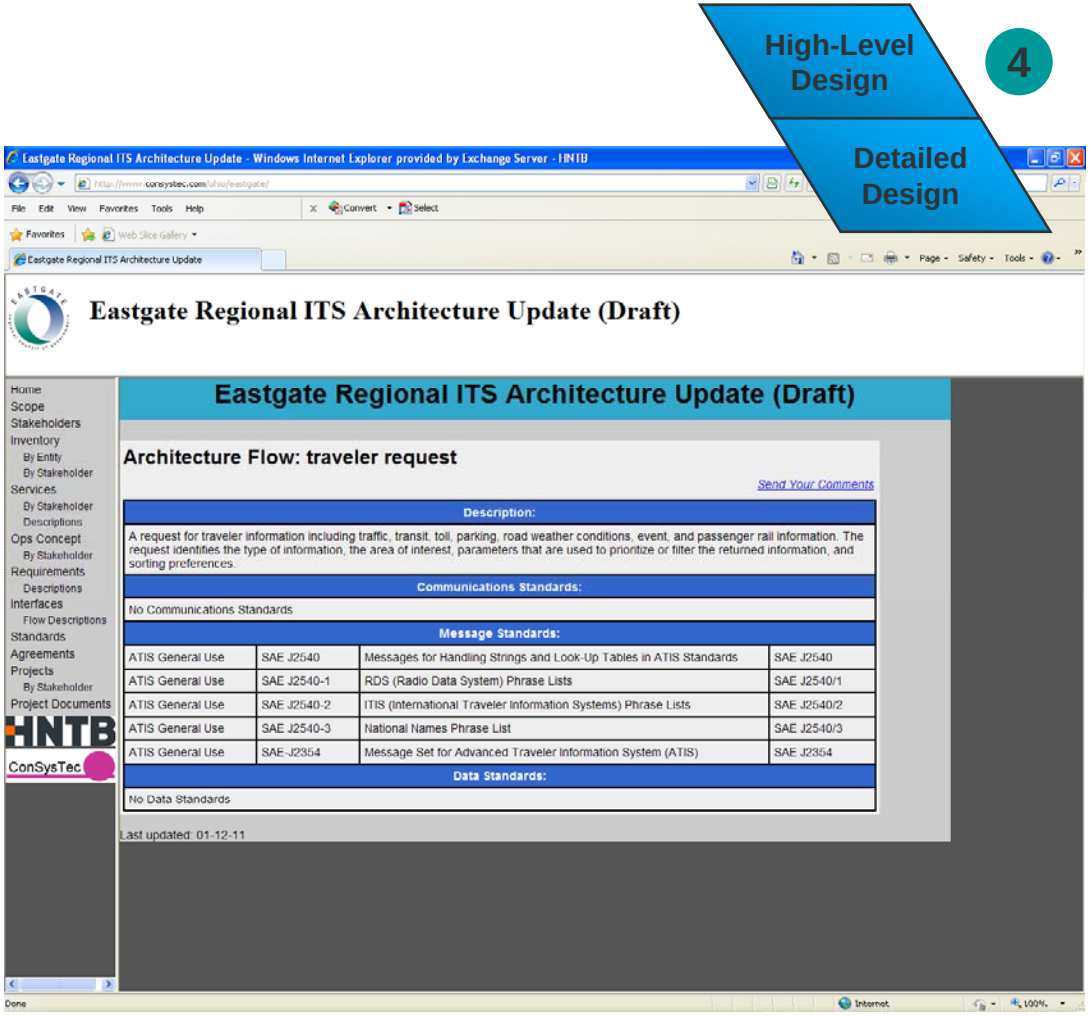
System Requirements

- Go to the Inventory page and click on an element.
- Click on an interface to view the flows.
- Click on an Equipment Package to view requirements.



ITS Standards

- Go to the Inventory page and click on an element.
- Click on an interface to view the flows.
- Click on a flow to view applicable ITS standards.



Regional ITS Projects Discussion

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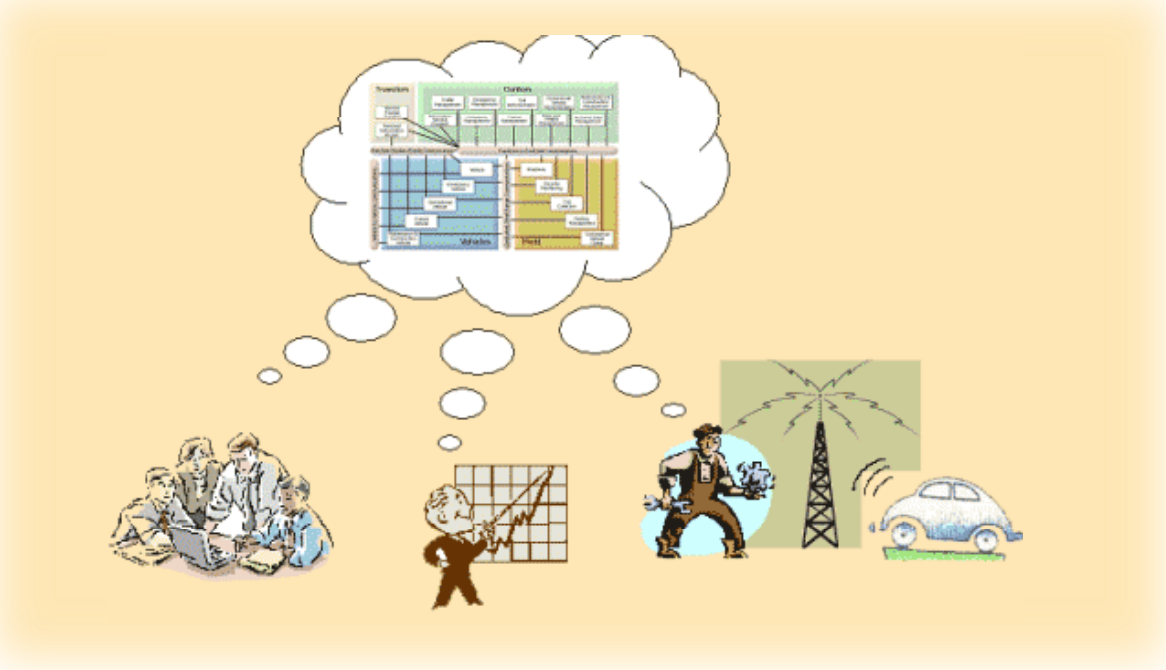
Review and Update Customized Market Packages



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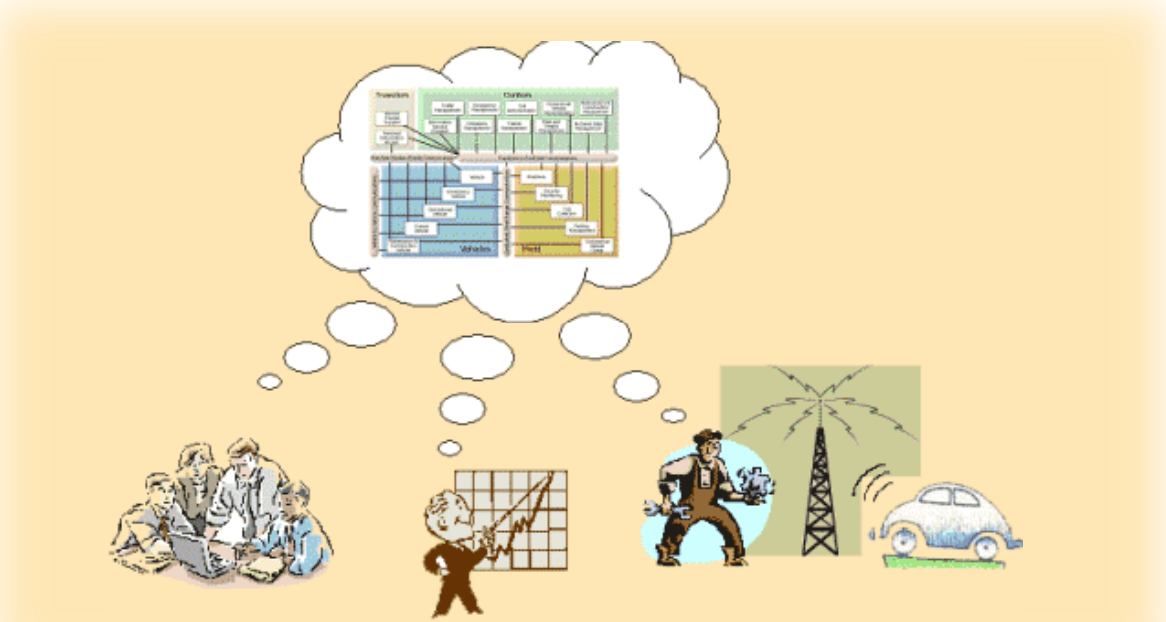
Maintaining the Architecture



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Eastgate Regional ITS Architecture Maintenance

- Why Changes Occur
- Maintenance Models
- Roles and Responsibilities
- Baseline
- Change Management Process

Why Changes Occur

- **Projects**
  - Additions/Deletions – new projects or dropped projects
  - Status – change in status (planned/existing)
  - Definition – change in details, scope, e.g., information flows, standards
  - Priorities – change in goals, budgets
  - Agreements – institutional change

Why Changes Occur

- **Regional**
  - Goals – changes in regional needs
  - Stakeholders – New stakeholders
  - Other architectures – changes to interfaces with adjoining regions
  - National ITS Architecture – changes to the National ITS Architecture

Maintenance Models

- **Two models**
  - Periodic Basis
    - Fixed time periods
  - Event Driven
    - As changes occur

Roles & Responsibilities

- Responsible Agency
- Maintenance Manager
- Stakeholders
- Maintenance Working Group

Baseline

- Architecture document
- Turbo Architecture database
- Architecture web pages
- Change request database

Change Management Process

- Submit a Change Request
- Define the Proposed Change
- Assess the impact
- Approving the Change
- Implementing the Change

Eastgate Regional ITS Architecture

Change Request (CR) Form

To Be Completed By Stakeholder(s) Requesting Change

Originator Name:
Originator Telephone:
Originator Fax:
Date Submitted:
Originator Agency:
Originator E-Mail:
Agency Authorized Signature:
Functional Area:
Description of Proposed Change:
Signature Date:
Rationale for Proposed Change:
Affected Agency:
Authorized Signature:
Signature Date:
Affected Agency:
Authorized Signature:
Signature Date:
List Attachments:
Baseline Documents Affected:
___ Website ___ Turbo Architecture ___ Market Package Diagram
___ Architecture Document ___ Other (describe)

To Be Completed By Maintenance Manager

Change Request Number:
Date CR Received:
Date CR Logged:
Date Initially Discussed:
Disposition:
☐ Accepted ☐ Rejected ☐ More Info
Disposition Comments
Date Discussed:
Disposition:
☐ Accepted ☐ Rejected ☐ More Info
Disposition Comments
Date Discussed:
Disposition:
☐ Accepted ☐ Rejected ☐ More Info
Disposition Comments
Date of Maintenance Working Group Approval (If Applicable):
Baseline Documents Affected/Version Implemented:
☐ Turbo Architecture Date: ___ Version: ___ ☐ Website Date: ___ Version: ___
☐ Market Package Date: ___ Version: ___ ☐ _____ Date: ___ Version: ___
☐ Architecture Doc Date: ___ Version: ___

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Current Maintenance Plan

- Comprehensive update will be made every 3 years several months prior to the formal TIP update
- Interim updates: every 6 months if necessary
- Actively solicit changes annually
- Maintenance Working Group

Implementation

- Make agreed changes to baseline
- Update Change Request Database
- Inform Stakeholders
- Distribute changes
- Update website

Next Steps

- Please provide any additional comments by 2/24
- Your input will be used to create:
  - Update Turbo Database
  - Update Website
  - Distribute Draft Report
  - Receive Comments
  - Draft Final Eastgate Regional ITS Architecture Document
- Formal adoption of the ITS Architecture by the Eastgate TAC Board

Thank you for your input today!

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