Maintenance Plan

Thurston Regional Intelligent Transportation System Architecture

Thurston Regional Planning Council

Personal
Information
Access

Transit
Management

Traffic
Management

Fixed Point-to-Fixed Point Communica

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TRAVEL
INFO
CALL 511

Vehicle

Roadway

September 2018

Acknowledgements

Architecture Maintenance Plan

1. Purpose

The Thurston Regional Intelligent Transportation System (ITS) Architecture developed for the Thurston County region by the Thurston Regional Planning Council (TRPC) addresses the vision for ITS implementation at the time the plan was developed. With the growth of the region, needs will change and as technology progresses new ITS opportunities will arise. For example, at the time this architecture was developed, the region did not operate any toll roads. As the system expands, in the future this region may determine a need for tolls in specific locations.

Shifts in regional needs and focus, as well as changes in the required guidance ARC-IT (Architecture Reference for Cooperative and Intelligent Transportation), will necessitate that the Thurston Regional ITS Architecture be updated to remain a useful resource for this region.

The following section outlines how the region's transportation professionals can work with the Thurston Regional Planning Council (TRPC) to ensure projects are in conformity and provide updates as ITS evolves in the region.

2. Background

FHWA Rule 940 and an equivalent FTA policy specifies the requirements for regional ITS architecture development, use, and maintenance. Section 940.5 of the rule defines the underlying policy for architecture use, specifying that all ITS projects must adhere to the regional ITS architecture. It also specifies that the architecture should be developed consistent with the transportation planning process.

Section 940.9 defines the requirements for the content of the regional ITS architecture. It positions the architecture as a bridge between planning and project development, stating:

> *A regional ITS architecture shall be developed to guide the development of ITS projects and programs and be consistent with ITS strategies and projects contained in applicable transportation plans.*

Section 940.11 also specifies the requirements for project implementation including the requirement to identify the portion of the regional ITS architecture associated with each ITS project. The final design of all ITS projects is required to accommodate the interface requirements and information exchanges as specified in the regional ITS architecture.

The intent of this requirement is to promote the following:

- Use of the architectures
- Maintenance of stakeholder dialogue and understanding
- Support for seeking funding
- Support for project implementation
- Progression of regional integration
- Support for updates to the documentation

3. Goals and Objectives

Stepping back from the regulatory requirements, the purpose of developing, using, and maintaining a regional ITS architecture is to illustrate and document regional integration of ITS projects so that planning and deployment can progress in an organized and coordinated fashion. The regional transportation system is itself composed of many different systems that are planned, implemented, and operated by multiple jurisdictions and agencies. Each of these agencies must be able to effectively use the regional ITS architecture for optimal benefits. To achieve the anticipated benefits, the following objectives must be met:

- The architecture is easy to understand and easy to navigate
- The architecture content is accurate and current
- The architecture supports development of the Regional Transportation Plan (RTP) and programming documents
- The architecture includes enough detail to support project scoping and implementation
- Clear guidance is available to support each prospective user
- Users find it easy to document and report needed architecture changes

4. Architecture Update and Maintenance Overview

TRPC will be responsible for leading the maintenance of the Thurston Regional ITS Architecture. Maintenance includes modifications to the plan as well as complete updates. Table 1 summarizes the maintenance process agreed upon by stakeholders in the Region.

Table 1: Architecture Maintenance Summary

	Modifications	Complete Updates
Time Frame for update	As needed	Every 4 years - between updates of the Regional Transportation Plan
Lead Agency	TRPC	TRPC
Participants	Stakeholders impacted by the modification	Entire Stakeholders Group
Scope of Update	Sections of the Architecture needing update	Entire Architecture
Process	TRPC staff will modify the architecture, as appropriate, at the request of any stakeholder	TRPC staff will coordinate the ITS Architecture update

Modifications: Modifications to the Thurston Regional ITS Architecture will often be necessitated by ITS projects that are receiving Federal funding but do not conform to the Regional ITS Architecture. TRPC will take the lead in working with agencies that receive Federal funding for ITS projects and will keep a record of any changes that are needed to the Regional ITS Architecture.

Updates: Complete updates to the Regional ITS Architecture will occur approximately every four years and will be led by TRPC with support from the Washington Department of Transportation

(WSDOT) and other key stakeholders. The entire stakeholder group (see Table 2) that was engaged to develop this update to the Regional ITS Architecture will be reconvened for the complete updates, as appropriate.

Table 2: ITS Architecture Stakeholders

Thurston County, Washington Regional ITS Architecture Update Stakeholders
Thurston Regional Planning Council
Intercity Transit
Rural Transit
Washington State DOT (WSDOT)
Washington State DES (Department of Enterprise Systems)
North Thurston Public Schools
Olympia School District
Tumwater School District
Thurston County Public Works
Thurston County Sheriff's Office
Thurston County Medic One
Town of Bucoda
City of Lacey
City of Olympia
City of Rainier
City of Tenino
City of Tumwater
City of Yelm
Nisqually Tribe
Confederated Tribes of the Chehalis Reservation
Squaxin Island Tribe
TCOMM 911
Port of Olympia
Washington State Patrol (WSP)
Federal Highway Administration (FHWA)
Thurston County Emergency Management

5. Architecture Update and Maintenance Procedures

Updates

The RTP is updated every four years. The ITS Architecture will be updated two years after each update of the Regional Transportation Plan to maintain the architecture as a useful planning tool.

Goals and objectives that are developed for the RTP that are related to operations will also be included in the architecture and the relevant objectives will be mapped to service packages. The complete list of ITS service packages will be reviewed by agency planners as operational strategies are identified and prioritized. The prioritized strategies that are included in the RTP will be mapped to the architecture.

There are several factors or events that influence the need and decision to update an ITS architecture, and as part of the Regional ITS Architecture Maintenance Plan, these should be considered:

- Changes in statewide ITS priorities or objectives:
- Changes in Federal or State Policy or Legislation
- Coordination with a Statewide ITS Architecture for Washington State
- Updates to ARC-IT
- New Stakeholders
- ITS Deployment and Integration

When a complete update is performed by TRPC, all the documented changes will be incorporated into the regional ITS architecture. The most significant portions of the architecture will be maintained through updates in the electronic database using the RAD-IT software tool. The following documents should also be updated at regular intervals on an as-needed basis:

- Project Sequencing
- Operational Concept
- Functional Requirements
- List of Agency Agreements

Modifications

Between complete architecture updates, smaller modifications will likely be required to accommodate ITS projects in the region. For situations where a change is required, stakeholders are encouraged to contact TRPC staff directly to discuss the necessary changes to the regional ITS architecture. There are three categories of potential modifications. They include:

Category 1	Basic changes that do not affect the structure of the architecture. Examples include: Changes to stakeholder or element name, element status, or data flow status.
Category 2	Structural changes that impact only one agency. Examples include: Addition of a new service package or modifications to an existing service package that affects only one agency.
Category 3	Structural changes that have the potential to impact multiple agencies. Examples include: Addition of a new service package or modifications to an existing service package that involves multiple agencies or incorporation of a new stakeholder into the architecture, or the modification or addition of a project to the Deployment Plan.

TRPC will review the requested changes with stakeholder staff and make changes to the Architecture as appropriate. While reviewing the proposed change, they will coordinate with any of the other agencies that may be impacted by the modification.

To request modification to the ITS Architecture, please contact Scott Carte directly at 360-741-2535 or at cartes@trpc.org.