

LINKING ITS PROJECTS TO REGIONAL ITS ARCHITECTURES

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Presentation Outline

- **Background**
- **Market Package Based Representation**
- **Mapping Projects to the Regional ITS Architecture**
- **Benefits of Approach**

Background - What Is an ITS Architecture?

- Is:
 - Identifies the ITS *stakeholders* in a region and their ITS systems
 - Identifies the information or control to be exchanged between stakeholder elements to implement services
 - Making policy decisions by including or not including specific information flows between stakeholder elements
- Isn't:
 - Doesn't select specific technologies or design
 - How projects are selected or funded

Background - Rule 940.09 Architecture and Standards

- Requires Regional ITS Architectures consistent with U.S. National ITS Architecture
 - All regions using Federal funds for ITS projects
 - Functional representation of ITS in region on a long-term time horizon
 - Used as input to ITS Planning in the transportation planning process
 - Used as input to ITS project development

- Over 300 Regional ITS Architectures created



Background - Rule 940.11 requires “Systems Engineering Analysis”- defined as



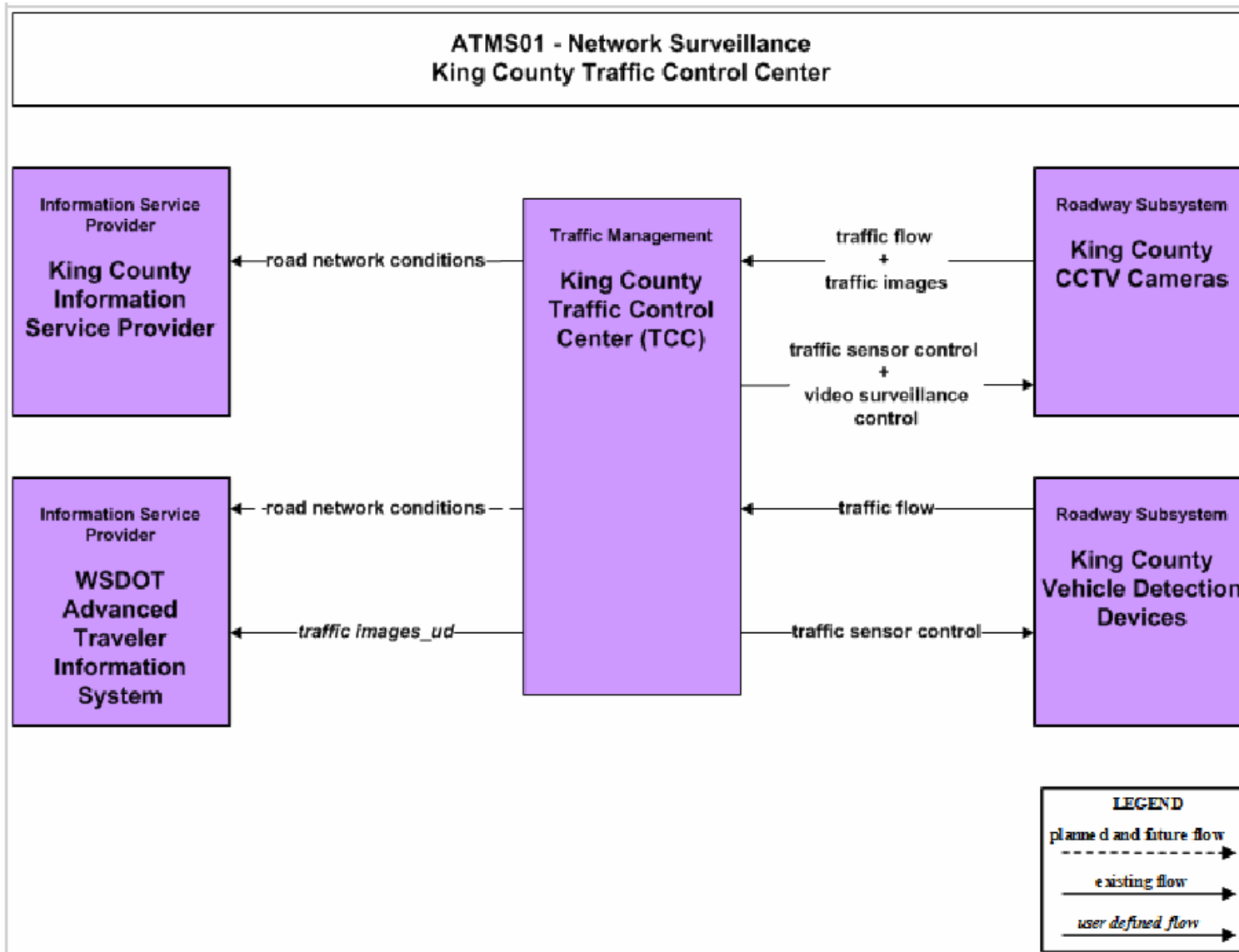
1. **Identification of portions of the regional ITS architecture being implemented**
 2. Identification of participating agencies roles and responsibilities
 3. Requirements definitions
 4.
- ***But how do you identify portions of the regional ITS architecture being implemented?***

Background - Architecture Representation

- Regional ITS Architectures are described by
 - Documents
 - Turbo Architecture Files
 - *Hyperlinked Web Sites*
 - *Provides easy access to stakeholder based information*

- *ConSysTec Approach*
 - *Architecture details described by a series of customized Market Package (ITS Services) diagrams*
 - *Easily related to ITS projects*
 - *Hyperlinked Web description*

Customized Market Package Example




Hyperlinked Website Example



King County ITS Project Architecture

Menu
Project Homepage
Stakeholders
Inventory
Inventory By Stakeholder
Inventory By Entity
Market Packages by Stakeholder
Market Packages by Functional Area
Projects
Projects By Stakeholder
Send Your Comments



Home Page

[How to use this web site.](#)


The **King County ITS Project Architecture Web Site** is a roadmap for transportation systems integration in the Puget Sound region, specifically in unincorporated areas of King County and along the five Rapid Ride Corridors. This web site uses the [Puget Sound \(PSRC\) Regional ITS Architecture](#) (developed by Puget Sound Regional Council in 2006) as the foundation for linking together projects from King County Metro, King County Road Services, key regional WSDOT ITS projects, as well as proposed projects from the 2007-2010 Regional Transportation Improvement Program adjacent to the five Rapid Ride Corridors.

The architecture provides an overarching framework that includes all organizations and selected transportation projects that impact King County Metro Rapid Ride deployment. Using the architecture, each transportation project can be viewed as an element of the overall transportation system, providing visibility into the relationship between individual transportation projects and ways to cost-effectively build and stage an integrated transportation system over time.

About this Web Site

The purpose of the King County ITS Project Architecture website is to coordinate with appropriate jurisdictions and agencies by providing access to information on project elements, schedules and key information associated with the development of the Rapid Ride system.

Accessing Project Information (1)



King County
Always at your service

King County ITS Project Architecture

Projects List

Select

Project ID	Project Name	Project Description	Stakeholder	Market Package Diagrams
1	100th Avenue NE ITS	Proposed Improvements: This project would include the following ITS components: <ul style="list-style-type: none"> • Install fiber optic cable along the corridor. • Upgrade, interconnect and synchronize signals. • Equip signals for transit signal priority. • Control signals through cen 	City of Bothell	ATMS01-9 ATMS03-9
			City of Kirkland	APTS09-4 ATMS01-6 ATMS03-6
			King County Metro Transit	APTS09-1 APTS09-4
			King County Road Services	APTS09-1 ATMS01-1 ATMS03-1
2	Juanita-Woodinville / NE 160th Street ITS	This project would include the following ITS components: <ul style="list-style-type: none"> • Install fiber optic cable along the corridor. • Upgrade, interconnect and synchronize signals. • Equip signals for transit signal priority. • Control signals through centralized signal control 	City of Kirkland	APTS09-4 ATMS01-6 ATMS03-6
			City of Woodinville	APTS09-5 ATMS01-9 ATMS03-9
			King County Metro Transit	APTS09-1 APTS09-2 APTS09-4
			King County Road Services	APTS09-1 ATMS01-1 ATMS03-1
			WSDOT	APTS09-2 ATMS01-2 ATMS03-2

Menu

[Project Homepage](#)

[Stakeholders](#)

[Inventory](#)

[Inventory By Stakeholder](#)

[Inventory By Entity](#)


[Market Packages by Stakeholder](#)

[Market Packages by Functional Area](#)

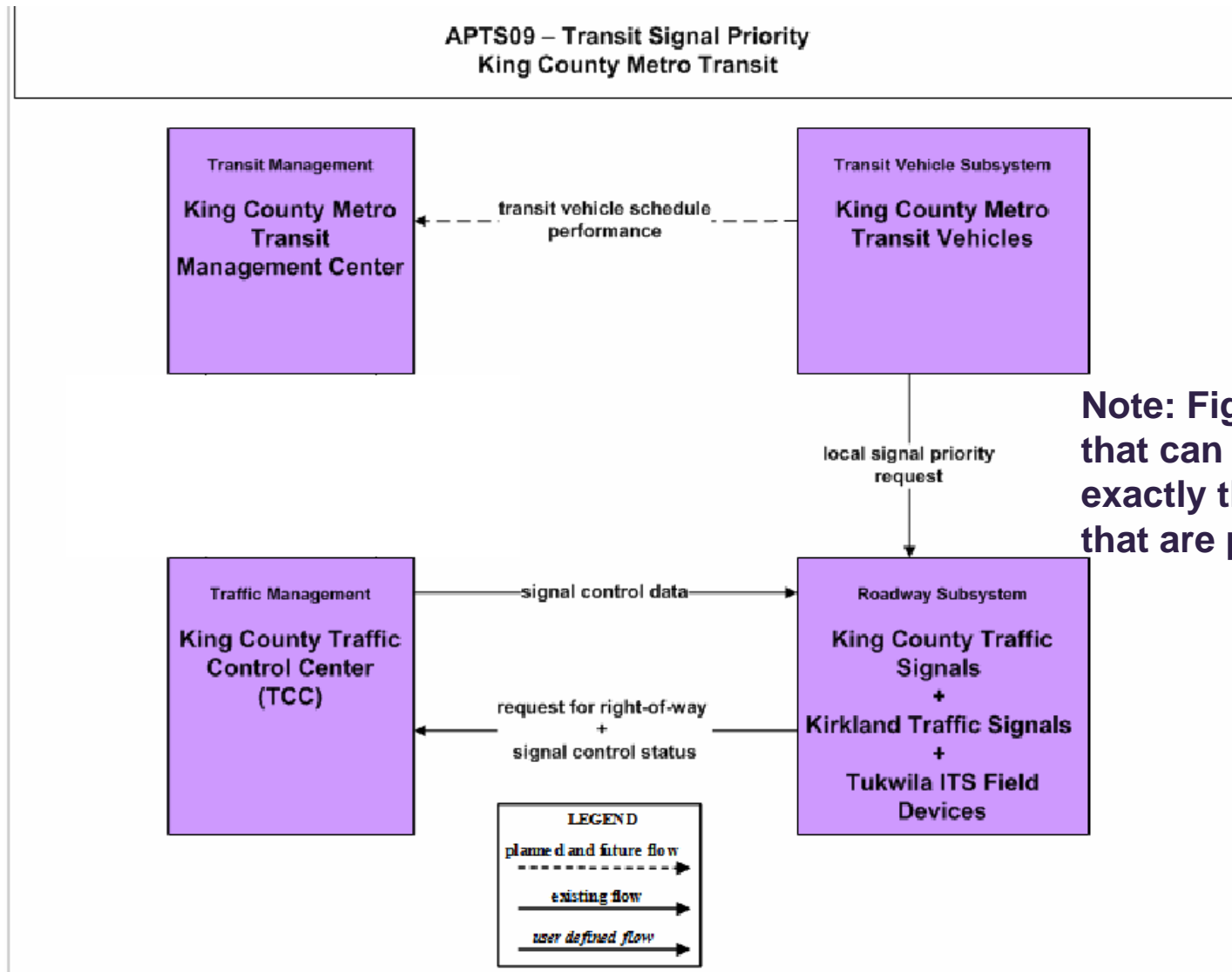
[Projects](#)

[Projects By Stakeholder](#)

[Send Your Comments](#)



100 Ave NE St Project- TSP Portion of Project- King County Metro/ King County Road Services



Note: Figure is GIF file that can be edited for exactly those interfaces that are part of project


Accessing Project Info (2)- Sort by Stakeholder

Projects (By Stakeholder)

Select 

Stakeholder	Project Name	Project Description	Market Package Diagram
City of Auburn	S 272nd Street / S 277th Street ITS	<ul style="list-style-type: none"> • Upgrade signal equipment • Interconnect signals with fiber optic cable • Synchronize signals • Install CCTV video cameras and data stations along 272nd / 277th Street between 55th Avenue South and SR 99. • Install vehicle detection • Equip signals for Transit Signal Priority This project has already received funding and is slated to begin construction in late 2005.	APTS09-3 ATMS01-3 ATMS03-3
	Peasley Canyon Road ITS	This project would upgrade corridor signal equipment and coordinate signal timing with the City of Auburn. CCTV cameras and vehicle detection may also be considered if conditions warrant. Peasley Canyon Road was previously identified by King County as a medium-priority Phase 1 Regional Signal Package Corridor.	ATMS01-3 ATMS03-3
	Lea Hill Road / SE 132th Street ITS	This project would install pavement conditions sensors to provide real-time monitoring of road conditions. Traffic cameras and signal integration via fiber optic cable would also be included.	ATMS07-1

Accessing Additional Project Information (1)




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King County ITS Project Architecture

Projects List


Select

Project ID	Project Name	Project Description	Stakeholder	Market Package Diagrams
1	100th Avenue NE ITS	Proposed Improvements: This project would include the following ITS components: • Install fiber optic cable along the corridor. • Upgrade, interconnect and synchronize signals. • Equip signals for transit signal priority. • Control signals through cen	City of Bothell City of Kirkland King County Metro Transit King County Road Services	ATMS01-9 ATMS03-9 APTS09-4 ATMS01-6 ATMS03-6 APTS09-1 APTS09-4 APTS09-1 ATMS01-1 ATMS03-1
2	Juanita-Woodinville / NE 160th Street ITS	This project would include the following ITS components: • Install fiber optic cable along the corridor. • Upgrade, interconnect and synchronize signals. • Equip signals for transit signal priority. • Control signals through centralized signal control	City of Kirkland City of Woodinville King County Metro Transit King County Road Services WSDOT	APTS09-4 ATMS01-6 ATMS03-6 APTS09-5 ATMS01-9 ATMS03-9 APTS09-1 APTS09-2 APTS09-4 APTS09-1 ATMS01-1 ATMS03-1 APTS09-2 ATMS01-2 ATMS03-2



Additional Project Information

Project ID: 1 Project Title: 100th Avenue NE ITS	
Project Location (From): Project Location (To):	NE 132nd Street NE 145th Street
Project Description:	Proposed Improvements: This project would include the following ITS components: • Install fiber optic cable along the corridor. • Upgrade, interconnect and synchronize signals. • Equip signals for transit signal priority. • Control signals through centralized signal control. • Install cameras at major intersections, at high accident locations, and at intersections with other proposed ITS corridors. • Install vehicle detection at key signalized intersections.
Responsible Agency:	King County Road Services
Other Stakeholders:	City of Bothell City of Kirkland King County Metro Transit King County Road Services
Issues:	• Mitigation of congestion through real-time monitoring and management • Improves access to communications infrastructure • Increases real-time monitoring of county roads • Increases the speed and effectiveness of incident detection and response • Improves coordination with other agencies • Improves transit service reliability
Integration Requirements:	
Communications Requirements:	The 100th Avenue NE corridor intersects with other potential ITS corridors. Communication linkages would be needed between these intersecting corridors.
Cost:	Capital Cost: \$700,000 Total Project Cost: \$1,085,000 (includes 30% of capital for Engineering, 15% of capital for Construction Administration, and 10% of capital for Contingency)
Source TIP ID:	TTP
Schedules:	

 **Could add additional links to Schedules, etc.**

Benefits of Described Project Linkage

- Stakeholder can easily find key project information as well as mapping to Regional ITS Architecture
 - Can quickly create customized project map to Regional ITS Architecture, using nothing more than presentation tool (e.g. Powerpoint)
 - Satisfy Rule/Policy requirement for project mapping
 - Additional project info hyperlinked to project listing
- Does not require
 - Hunting through large document appendices
 - Access to or knowledge of underlying Turbo Architecture Database
- Ease of access is first step to actually using the Regional ITS Architecture

Benefits of Described Project Linkage

- Website – Contains other information required
 - Roles and responsibilities
 - High-level Functional Requirements

Conclusion

THANK YOU

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