



Illinois Statewide Intelligent Transportation System (ITS) Architecture

DRAFT REGIONAL ARCHITECTURE DEVELOPMENT PLAN

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Introduction

The regional ITS architecture is an important tool for use in transportation planning and project implementation. The real success of the regional ITS architecture effort hinges on effective use of the architecture once it is developed. It can identify opportunities for making ITS investments in a more cost-effective fashion. This step is where the benefits are realized. So, it is important to understand just how to go about developing a regional ITS architecture with success in mind.

Purpose

This document has been prepared as an aid to the regional architecture developers and/or “champions” in creating their region’s ITS architecture. As a start, both the National ITS Architecture and the Illinois Statewide ITS Architecture provide insight, context and, most importantly, a starting point so that the regional architecture is not being developed from a “blank slate.”

This Regional Architecture Development Plan is based in large part on the Federal Highway Administration’s guidance document, *Developing, Using, and Maintaining an ITS Architecture for Your Region*. The following diagram, shown at each of the statewide outreach workshops held in each region during May and June of 2004, is from this federal guideline.

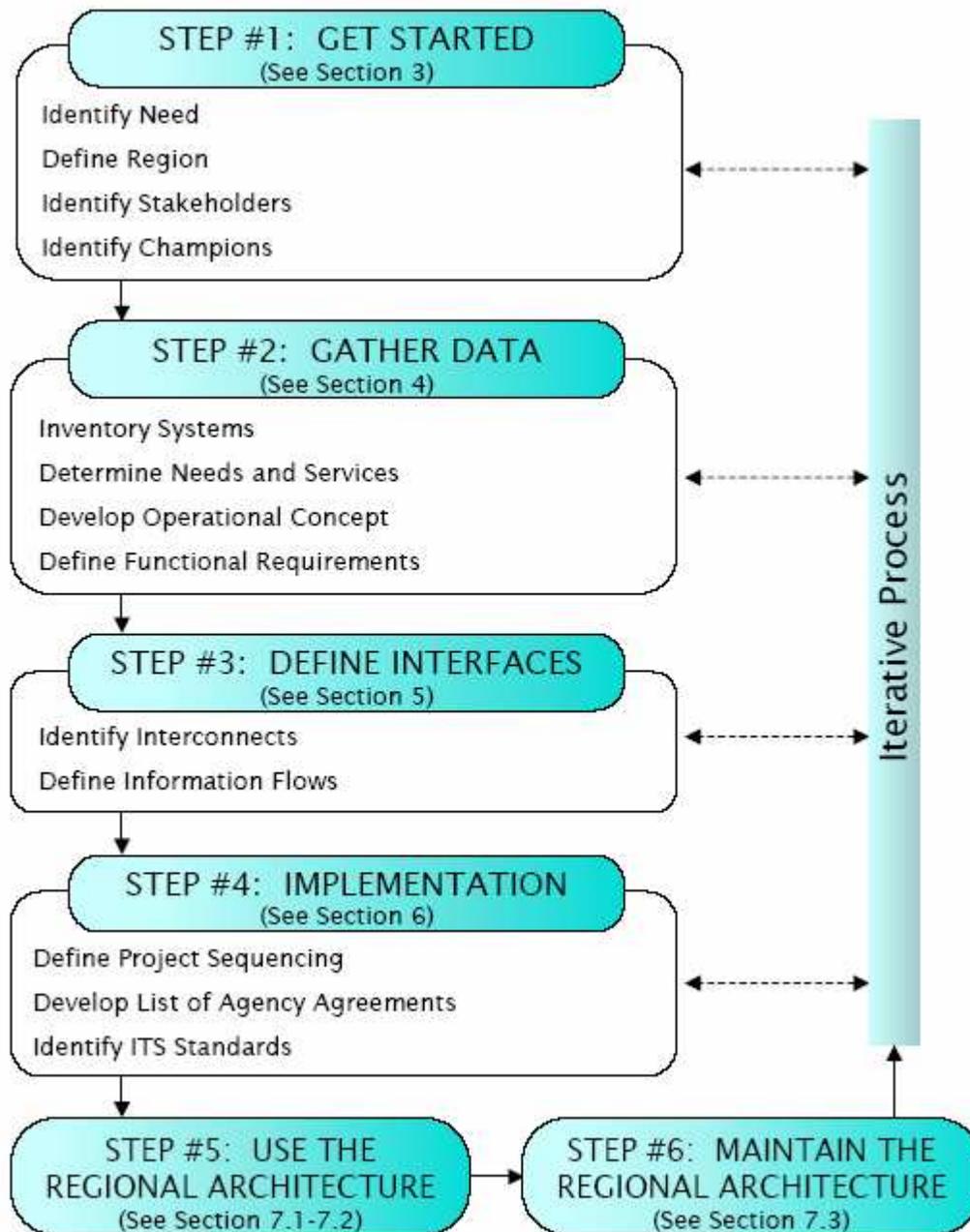


Figure 1 – Regional ITS Architecture Development Process

Scope

The scope of this document focuses upon the first four steps in the architecture development process, as illustrated in the previous figure. These steps are:

- **Step 1 – Get Started:** Any regional ITS architecture must begin with a focus on the institutions and people involved within the region and its borders. As the regions are defined both in time and space and the champion who will oversee the development are designated, the relevant stakeholders can be identified and the overall development effort planned to build a consensus based regional ITS architecture.
- **Step 2 – Gather Data:** At this step, the existing and planned ITS systems in the region are inventoried, the roles and responsibilities of each stakeholder in developing, operating, and maintaining these ITS systems are defined, the ITS services that should be provided in the region are identified, and the contribution (in terms of functionality) that each system will make to provide these ITS services is documented.
- **Step 3 – Define Interfaces:** Once the region’s ITS systems are identified and functionally defined, the existing and planned interfaces between these systems are then defined. The interconnects between systems at the highest level of information exchange are identified. Then, each interconnect is decomposed so that the information to be exchanged is defined.
- **Step 4 – Implementation:** It is only after each system’s interfaces are defined that additional items that are used to guide an actual project’s implementation can flow from the regional ITS architecture. These items include a sequence of projects, a list of needed agency agreements, and a list of standards that should be considered for project implementation.

Steps for Success

In each of the four steps that this document focuses on, there are pitfalls to avoid and tasks to be done even when they appear to be unnecessary. As a truly successful architecture is consensus-driven, it is imperative to the Champions and developers in each region to cast as wide a net as possible in bringing stakeholders to the table.

- **Step 1 – Get Started:** This step defines “who” will be involved with (and served by) the architecture and how the regional ITS architecture development will be structured. Although a regional ITS architecture development effort is much smaller than a major construction project in terms of financial expenditure, an architecture development effort is institutionally complex because it is so inclusive. Architecture development planning, particularly for outreach and consensus building, is an important factor in a successful regional ITS architecture development. Allow sufficient time for this outreach and consensus building when planning the overall effort.
- **Step 2 – Gather Data:** In general, the functional requirements should be easy to write because they should follow directly from the ITS service decisions, operational concept, and interface choices made in other process steps. If many arbitrary decisions are required to complete the functional requirements, there is probably excessive detail in the requirements. To begin to zero in on the right level of detail, think about the motivation

for writing the functional requirements in the first place. You are trying to specify the things that a system must do in order to “hold up its end of the bargain” in the regional ITS architecture. Even if it is high-level, the specification must still be complete. That is, it must list all the things that the system must do. Also, it shouldn’t list anything that the system is not required to do.

- **Step 3 – Define Interfaces:** As a rule of thumb, both a system’s functional requirements and interface definition should be specified at about the same level of detail.
- **Step 4 – Implementation:** As ITS projects are implemented or new ITS standards emerge and are adopted by the State of Illinois, new ITS priorities and strategies will also emerge through the transportation planning process. In the end, the scope of ITS in Illinois will continue to expand and evolve to incorporate new ideas as it has done for the past four decades. As this natural progress occurs, the regional ITS architecture will need to be updated and as such, it is important to keep the regional ITS architecture baseline intact so that it continues to accurately reflect the region’s existing ITS capabilities and future plans.

Building the Regional ITS Architecture

Before starting down the development road, it is important to remember that once the baseline regional ITS architecture has been created, Change Management is critical to the continued usefulness of this architecture. By knowing up front who will be responsible for architecture maintenance, you can identify a key stakeholder(s) needed to be involved from the outset. Note that changes are likely from many sources, and it is indeed very likely change will arise from some sources outside the technical expertise of a single champion.

One very good idea for each region is to have a group of people from different stakeholder areas involved in architecture maintenance, or at least available to answer the questions as they arise. Representatives from traffic, transit, public safety, commercial vehicles, traveler information, and any other key stakeholders from the team that developed the architecture are good candidates for the architecture maintenance team. Ultimate responsibility may reside with one person or organization, but the team of representatives from the different stakeholder groups should assist in the effort.

It is also recommended that the person (or persons) responsible for the architecture maintenance be formally tasked to do so by their agencies. This will increase accountability and provide focus to the effort. To that end, the following set of step-by-step task lists is provided. One note – many of the actual tasks can be done in parallel during a major step. For example, when determining needs and services, one will almost always get an inventory of systems and how these systems work at the same time when talking with stakeholders. These are three of the four subtasks of Step 2, Gather Data.

Step 1	Objective	Key Activities	Inputs	Outputs
Identify Need	<ol style="list-style-type: none"> 1. Assess need for regional ITS architecture 2. Define regional ITS architecture boundaries 	<p><u>Assess Need</u></p> <ol style="list-style-type: none"> 1. Determine ITS technologies being implemented. 2. Determine if ITS projects are planned for the region. 3. Evaluate system integration opportunities in the region 4. Assess in-house skills and determine if additional assistance is required. <p><u>Build Consensus</u></p> <ol style="list-style-type: none"> 1. Build awareness in the region of the benefits through outreach and education and garner support for its development. 2. Build consensus in the region on the decision to develop a regional ITS architecture 3. Emphasize the benefits, rather than the rule/policy requirements 	<ol style="list-style-type: none"> 1. Transportation Improvement Program (TIP) 2. The Long Range Transportation Plan 3. Early Deployment Plans and other ITS Plans 4. Illinois Statewide Outreach Materials 5. Illinois Statewide Architecture 6. ITS Outreach and Educational Resources 	<ol style="list-style-type: none"> 1. Decision to initiate a regional ITS architecture development effort.

Step 1	Objective	Key Activities	Inputs	Outputs
Define Region	Define the general scope of the regional ITS architecture	<p><u>Define Region</u></p> <ol style="list-style-type: none"> 1. Review geographic boundaries of key stakeholders, major ITS projects and special “air quality conformity” issues. 2. Provide boundary information to the stakeholders 3. Define a timeframe (<i>e.g., five, ten, or twenty year planning horizon</i>) for what will be included in the regional ITS architecture. 4. Confirm the basic scope of the services that will be covered. <p><u>Build Consensus</u></p> <ol style="list-style-type: none"> 1. Actively solicit feedback on preliminary regional ITS architecture boundary, timeframe, and service scope decisions. 2. Agree on preliminary scope* in order to begin the process. <p><i>*Note scope can be refined as you proceed.</i></p>	<ol style="list-style-type: none"> 1. Geographic boundaries for key regional transportation projects and/or services that utilize ITS. 2. Stakeholder(s) agency “operational or service area” boundaries. 3. Transportation Improvement Program (TIP) 4. The Long Range Transportation Plan 5. Geographic boundaries of surrounding Regional Architectures. 	A description of the region including geographic boundaries, timeframe, and service scope.

Step 1	Objective	Key Activities	Inputs	Outputs
Identify Stakeholders	<p>1. Identify and engage stakeholders that own or operate ITS systems and other agencies that have an interest in regional transportation issues (<i>e.g., MPOs, etc</i>)</p> <p>2. Build broad-based support for the regional ITS architecture.</p>	<p><u>Outreach to Stakeholders</u></p> <p>1. Gather educational materials of successful ITS projects and benefits of ITS and ITS architecture to demonstrate benefits to stakeholders and gain support for the regional ITS architecture.</p> <p>2. Use ITS working groups already in place to engage potential stakeholders. Facilitate initial meetings among core stakeholders involved in surface transportation and regional planning.</p> <p>3. Look outside immediate peers to identify new stakeholders.</p> <p>4. Identify additional stakeholders from referrals by stakeholders already participating in the process.</p> <p><u>Build Consensus</u></p> <p>1. Schedule ongoing meetings and/or provide a consistent mechanism for communication to/from agencies responsible for the overall transportation program.</p> <p>2. Address issues as they arise by using the consensus building process to make decisions.</p>	<p>1. ITS educational and outreach resources</p> <p>2. Existing working group rosters, various participant lists</p> <p>3. Key stakeholders from local transportation departments (cities, counties, states), public safety agencies, private companies, etc.</p>	<p>Identification of participating agencies and other stakeholders</p>

Potential Stakeholders List

Transportation Agencies	<ul style="list-style-type: none"> • IDOT District Engineer(s) • Department of Transportation – City, County • Department of Public Works – City, County, • Federal Highway Administration (FHWA) • Illinois Commerce Commission • Toll Authorities • Bridge Authorities • Port Authorities an/or US Coast Guard • Airport Authority
Transit Agencies/Other Transit Providers	<ul style="list-style-type: none"> • Local Transit - City/County/Regional • Federal Transit Administration • Paratransit Providers (e.g., Private Providers, Health/Human Services Agencies) • Rail Services (e.g., AMTRAK, PACE, METRA) • Intercity Transportation Services (e.g., Greyhound)
Planning Organizations	<ul style="list-style-type: none"> • Metropolitan Planning Organizations • Regional Planning Commission
Public Safety Agencies	<ul style="list-style-type: none"> • Illinois State Police • County Sheriff Department • City/Local Police Departments • Fire Departments - County/City/Local • Emergency Medical Services • Hazardous Materials (HazMat) Teams • 911 Services • Illinois Emergency Management Agency (IEMA) • ESDA coordinator
Other Agency Departments	<ul style="list-style-type: none"> • Information Technology (IT) • Planning • Telecommunications • Legal/Contracts
Activity Centers	<ul style="list-style-type: none"> • Event Centers (e.g. sports, concerts, festivals, ski resorts, casinos, etc.) • National Park & US Forest Services • Major Employers • Airport Operators
Fleet Operators	<ul style="list-style-type: none"> • Long-Haul Trucking Firms • Local Delivery Services • Courier Fleets (e.g., US Postal Services, Federal Express, UPS, etc.) • Taxi Companies
Travelers	<ul style="list-style-type: none"> • Commuters, residents, bicyclists/pedestrians • Tourists/Visitors • Transit Riders, others

<p>Private Sector</p>	<ul style="list-style-type: none"> • Traffic Reporting Services • Local TV & Radio Stations • Travel Demand Management Industry • Telecommunications Industry • Automotive Industry • Private Towing/Recovery Business • Mining, Timber or Local Industry Interest
<p>Other Agencies</p>	<ul style="list-style-type: none"> • Tourism Boards/Visitors Associations • School Districts • Local Business Leagues/Associations • Local Chambers of Commerce • National Weather Services (NWS) • Air & Water Quality Coalitions • Bureau of Land Management (BLM) • Academia Interests, local Universities • National and Statewide ITS Associations (e.g. ITS America, ITE ITS members, etc.) • Military

Step 1	Objective	Key Activities	Inputs	Outputs
Identify Champion(s)	<p>1. Identify key people to lead the regional ITS architecture development</p> <p>2. Obtain broad-based buy in and support from stakeholders</p>	<p><u>Looking for Champion(s)</u></p> <p>1. Champions for the region are probably already visible because they are proactive in the field of ITS, visionary about the future of ITS, and frequently already manage ITS projects.</p> <p>2. Champion must be a stakeholder, so they have a vested interest in the outcome.</p> <p>3. More than one champion can be identified from different agencies or stakeholder groups</p> <p><u>Champion Skills</u></p> <p>1. Understanding of the subject (regional ITS architecture including familiarity with the National ITS Architecture),</p> <p>2. Knowledge of local ITS systems and projects</p> <p>3. Vision for interconnectivity, partnership, and regional integration,</p> <p>4. Consensus builder (facilitator), and</p> <p>5. Executive level access to resources to gain support for various regional efforts.</p> <p><u>Building Consensus</u></p> <p>1. Initiate a scheduled meeting time and place to work on the Regional Architecture, set agendas for meetings and allow opportunity for each stakeholder to provide input to the process.</p>	N/A	<p>Strong leadership that has broad-based regional stakeholder support and an effective problem resolution mechanism for ITS projects</p>

Step 2	Objective	Key Activities	Inputs	Outputs
Inventory	<p>1. Identify existing and planned ITS systems in the region.</p> <p>2. Build stakeholder awareness of these systems.</p>	<p><u>Prepare</u></p> <p>1. Locate inventory data that may already be documented - Regional ITS Plans (e.g., EDPs), ITS studies, ITS Project documentation, RFPs, etc.</p> <p><u>Define Inventory</u></p> <p>1. Use collected inventory data to enhance the initial inventory in the starter Regional Architecture File provided using Turbo Architecture. Tip: Focus on the “centers” first.</p> <p>2. Review and/or document the associated organization(s), high-level status (e.g., existing or planned), and a brief description for each element in the inventory,</p> <p>4. Review and/or enhance the mapping of each inventory element to the National ITS Architecture subsystems and terminators.</p> <p>5. Use the National ITS Architecture mapping to identify inventory gaps and identify additional inventory items to fill the gaps.</p> <p><u>Build Consensus</u></p> <p>1. Facilitate a broad review and incorporate comments.</p> <p>2. Stakeholders should verify the inventory for their agency is complete and accurate.</p>	<p>1. Initial Turbo Architecture File for Regional Architecture based on Illinois Statewide ITS Architecture</p> <p>2. Stakeholders</p> <p>3. ITS Plans and Studies (Various)</p> <p>4. TIP, STIP, SIP, Transportation Plan, Congestion Management Plan, Commercial Vehicle Safety Plan, etc.</p>	<p>Inventory of existing and planned ITS systems in the region.</p>

Step 2	Objective	Key Activities	Inputs	Outputs
Needs & Services	<p>1. Identify regional needs and determine the ITS services that address those needs.</p> <p>2. Build consensus on regional needs and service priorities.</p>	<p><u>Preparation</u></p> <p>1. Review regional needs and ITS services data that may be documented in Statewide ITS Architecture outreach documentation, ITS Plans (e.g., EDPs), ITS studies, transportation plans, ITS Project documentation, etc.</p> <p>2. Collect needs from key stakeholders including operators, maintainers, and users of the transportation system.</p> <p><u>Document Needs and Services</u></p> <p>1. Document regional needs</p> <p>2. Identify candidate services that will address those needs.</p> <p>3. Schedule and conduct reviews to review the needs and candidate services</p> <p>4. Document the needs and services for the region.</p> <p>5. Associate services with each element in the ITS inventory.</p> <p><u>Building Consensus</u></p> <p>1. Build consensus on needs and services for the region.</p> <p>2. Focus discussions on those services that require group buy-in.</p>	<p>1. Stakeholders</p> <p>2. ITS Plans and Studies (Various)</p> <p>3. TIP, STIP, SIP, Transportation Plan, Congestion Management Plan, Commercial Vehicle Safety Plan, etc.</p> <p>4. Statewide Architecture outreach results</p>	<p>1. Documented regional needs and ITS service priorities</p> <p>2. The association between specific ITS services and supporting systems in the region.</p>

Step 2	Objective	Key Activities	Inputs	Outputs
Concept of Operations	<p>1. Identify current and future stakeholder roles and responsibilities in the implementation and operation of regional systems.</p> <p>2. Achieve buy-in on these roles/responsibilities, laying groundwork for future agency agreements.</p>	<p><u>Prepare</u></p> <p>1. Gather existing documents that identify responsibilities in multi-agency scenarios. For example, Incident Management Plans.</p> <p><u>Develop Operational Concept</u></p> <p>1. Build on the ITS Inventory by identifying the agency, company, or institution that currently implements, operates, and maintains each inventory element that will support inter-agency or public/private interfaces. Augment the stakeholder list where necessary.</p> <p>2. Develop several relevant operational scenarios that require cooperation among a broad array of stakeholders. Major incidents and special events are good scenarios that involve a majority of stakeholders.</p> <p>3. Hold a meeting/workshop where stakeholders can walk through prepared scenarios and identify current roles and opportunities for enhanced cooperation/integration in the future.</p> <p>4. Document each stakeholder's current and future responsibilities in each scenario</p> <p>5. Collect key findings into a high level Operational Concept</p> <p><u>Build Consensus</u></p> <p>1. Issues will surface during operational concept development. Identify and document key issues that can't be resolved.</p>	<p>1. Inventory and Needs and Services from previous task.</p> <p>2. Any documents that identify roles and responsibilities</p>	<p>1. Operational Concept documentation for the region.</p> <p>2. Overview of How ITS services are Provided</p> <p>3. Roles and Responsibilities</p>

Step 2	Objective	Key Activities	Inputs	Outputs
Functional Requirements	Develop a high-level description of the required functionality for each system in the inventory	<ol style="list-style-type: none"> 1. Determine the level of functional requirements specification that is appropriate for the region. 2. Identify the systems that require functional requirements definition. Systems that are on the boundary of ITS (e.g., financial institutions) do not have to be functionally defined since they are not bound by (or even aware of) the regional ITS architecture. 3. Build on the ITS service choices and operational concept to define functional requirements, focusing on those with regional implications. 4. Use the National ITS Architecture (Subsystems, market packages, equipment packages, process specifications) if desired to support the functional requirements development. 5. Using the information gathered in the previous steps, document the functions required to support the services the stakeholders decided to provide for the region. 	<ol style="list-style-type: none"> 1. Inventory, ITS Services, and operational concept identified in previous steps. 2. Information exchanges defined in following steps if more detailed functional requirements are to be defined. <p><i>Note: Stakeholders should participate in the functional requirements development so that the functions are accurately defined and the stakeholders support the requirements that will be levied on their systems.</i></p>	Documented systems functional requirements for each ITS system in the inventory

Step 3	Objective	Key Activities	Inputs	Outputs
Interconnects	<p>1. Identify and document the existing and planned connections between systems in the region.</p> <p>2. Ensure the stakeholders associated with each interface agree with the connections that are identified.</p>	<p><u>Prepare</u></p> <p>1. Review existing connections between ITS Systems</p> <p><u>Identify Connections</u></p> <p>1. Based on the inventory, services, operational concept, and functional requirements, identify inventory elements that will exchange information.</p> <p>2. Consider whether existing person-to-person connections may evolve into automated interfaces between ITS systems.</p> <p>3. Document the high-level status for each connection (existing or planned).</p> <p>4. Use the National ITS Architecture and Illinois Statewide ITS Architecture to identify potential connections; add custom connections as necessary.</p> <p><u>Build Consensus</u></p> <p>1. Review connections and ensure stakeholders agree with the identified interfaces for their ITS systems.</p> <p>2. Change connections and iterate until stakeholders are satisfied with the interconnections.</p>	<p>1. Stakeholders</p> <p>2. Current regional communications or network architecture strategy, ITS Plans and Studies, TIP, STIP, SIP, etc.</p> <p>3. Inventory of existing and planned ITS elements in the region (from <i>Gather Data Step</i>).</p> <p>4. Regional needs and services, operational concept, and functional requirements (from <i>Gather Data Step</i>)</p>	<p>List of existing and planned interconnects in the region</p>

Step 3	Objective	Key Activities	Inputs	Outputs
Information Flows	<p>1. Identify the information to be exchanged between systems.</p> <p>2. Verify the identified information exchanges with the stakeholders</p>	<p><u>Define Information Flows</u></p> <p>1. Based on the interconnect decisions made by the stakeholders and the services, operational concept, and functional requirements created in Step #2, define the actual information content (information flows) exchanged on each interface.</p> <p>2. Document the high-level status for each information flow (existing or planned).</p> <p>3. Use the Illinois Statewide ITS Architecture and National ITS Architecture to identify potential information to be exchanged (termed “architecture flows”).</p> <p>4. Identify auxiliary information flows that are not defined in the National ITS Architecture, but are important to your region.</p> <p><u>Validate Operational Concepts and Functional Requirements</u></p> <p>1. While discussing the actual information to be exchanged, verify that assumptions made during creation of the initial operational concept and functional requirements remain valid.</p>	<p>1. Stakeholders</p> <p>2. Interface Communications Documents (ICD) from all stakeholders’ systems, ITS Plans and Studies, project design documentation, etc.</p> <p>3. Regional services and needs, operational concept, and functional requirements (from <i>Gather Data Step</i>)</p> <p>4. Interconnections (from <i>Define Interfaces Step</i>)</p>	<p>Definition of Information to be exchanged between ITS systems in the region.</p>

Step 4	Objective	Key Activities	Inputs	Outputs
Sequencing	<p>1. Create an efficient sequence of ITS projects based on regional needs and project readiness.</p> <p>2. Build consensus around the defined project sequence</p>	<p><u>Define Project Sequence</u></p> <p>1. Gather initial project sequence information from existing regional planning documents</p> <p>2. Define the ITS projects for the region in terms of the regional ITS architecture prepared in previous steps.</p> <p>3. Evaluate each ITS project, considering: Costs and Benefits; Technical Feasibility; Institutional Issues; Readiness (agreements in place, funding available...)</p> <p>4. Identify the dependencies between ITS projects based on the inventory, functional requirements, and system interfaces. Identify projects that must be implemented before other projects can begin.</p> <p>5. Develop an efficient project sequence that takes the feasibility, benefits, and dependencies of each project into account.</p> <p><u>Build Consensus</u></p> <p>1. Similar to traditional planning, project sequencing is a consensus building process and should not be viewed as a ranking of projects. Stakeholders should begin with existing planning documents and focus on short, medium and long term planning decisions.</p>	<p>1. Regional planning documents: TIP, STIP, SIP, short-range stakeholder agency plans, the regional Long Range Plan, ITS Plans.</p> <p>2. ITS project dependency chart for the region or by agency if available.</p>	<p>A documented sequence of projects</p>

Step 4	Objective	Key Activities	Inputs	Outputs
Agreements	<ol style="list-style-type: none"> 1. Develop a list of required agreements between agencies. 2. Ensure all stakeholders are aware of the required agreements and their status. 	<p><u>Prepare</u></p> <ol style="list-style-type: none"> 1. Research each agency's records to determine if there are agreements in place that can be amended to include specific ITS operations. <p><u>Create List of Agreements</u></p> <ol style="list-style-type: none"> 1. Whenever possible, utilize existing standard agreements for operations, integration, funding, etc. 2. Evaluate what kind of agreement is needed and build consensus with each of the stakeholders involved: Handshake Agreement; Memorandum of Understanding; Interagency Agreements; Intergovernmental Agreements; Operational Agreements; and Funding Agreement with project scope and operations. <p><u>Build Consensus</u></p> <ol style="list-style-type: none"> 1. Agreements take a long time to execute. Build consensus early with simple agreements like MOUs while final agreements are being developed. 	<ol style="list-style-type: none"> 1. Existing operational, intergovernmental, interagency and/or funding agreements between ITS element operating and user stakeholders. 2. Existing process and procedures for executing agreements between agencies. 3. Operational concept, interconnects, and project sequencing outputs from the regional ITS architecture. 	<p>A list of agreements (<i>existing and new</i>) required for operations, including those affecting ITS project interoperability.</p>

Step 4	Objective	Key Activities	Inputs	Outputs
Standards	<ol style="list-style-type: none"> 1. Identify the ITS Standards that support the interfaces identified in the regional ITS architecture. 2. Educate stakeholders on the use of ITS Standards. 	<ol style="list-style-type: none"> 1. Using the Information Flows identified in Step #3, identify the relevant ITS standards for the region 2. Assess ITS standard maturity and establish agreements for use of interim standards where necessary 3. Identify other regional standards that might apply <p><u>Building Consensus</u></p> <ol style="list-style-type: none"> 1. Educate stakeholders on the importance of standards, especially with respect to cost, risk, and interoperability issues both within a region and when connecting to neighboring regions. 2. Build regional commitment to deploy ITS standards-conformant system interfaces. 	<ol style="list-style-type: none"> 1. Regional Information Flows (from <i>Define Interfaces Step</i>) 2. USDOT web site (http://www.its-standards.net/) that provides ITS Standards status, deployment-based outreach information, and lessons learned. 3. Standards Development Organizations (AASHTO, ITE, NEMA, SAE, IEEE, CEA, ANSI), including websites, online technical discussions, and lessons learned 4. Interface Control Documents (ICD) from all stakeholders' systems to identify standards currently in place. 	Report of ITS Standards (or interim standards if needed) selected for each information flow in the regional architecture

Summary

As stated in the beginning of this document, the real success of any regional ITS architecture effort hinges on effective use of the architecture as a path for implementation. The final regional ITS architecture can and should play an important role in the ITS deployment planning process since it provides the framework agencies can use to cooperatively select and prioritize ITS investments both in the near term and over several years. ITS improvements necessarily build upon both technology and relationships. With a consensus-driven regional ITS architecture developed as described in this document, the goal of achieving continual incremental benefits over the long term is considerably improved.