

Alaska IWAYS ITS Architecture



Fact Sheet #2

An Overview for Project Development and Design

What is ITS Architecture?

ITS stands for Intelligent Transportation Systems and refers to advanced technologies built within the transportation infrastructure to improve operations and safety. An **ITS architecture** identifies systems, equipment, people, and data flows that, together, produce an ITS-related transportation service. The State of Alaska's ITS Architecture is called the **Alaska Iways Architecture (AKIA)**. It documents the existing and future connections among technological systems and elements statewide.

AKIA Update—Ready for Use

The Department of Transportation and Public Facilities (DOT&PF) has completed (February 2017) an update to the AKIA per Federal Highway Administration (FHWA) requirements (National ITS Conformity Rule, 23 CFR Part 940). The AKIA database and documents are ready for use. This **Fact Sheet #2** provides an overview for using AKIA in project development (page 1) and design (page 2). See **Fact Sheet #1** for using AKIA during planning and programming.

Access the online "AKIA Update":
<http://www.dot.state.ak.us/iways/architecture.shtml>

Using AKIA in Project Development

During project development, the ITS architecture can be used to:

- Identify proposed projects and/or project elements in the region; AKIA documents contain information that can jump start the project development process.
 - If your project's ITS elements or activities are not listed, please contact the DOT&PF ITS Coordinator (lisa.idell-sassi@alaska.gov) for inclusion in a future AKIA update.
- Aid in the completion of the Systems Engineering Checklist, which is required for ITS projects that use federal funds. See the "At a Glance" table below for details on how AKIA can be used for 4 out of 7 requirements.

At a Glance: Using AKIA to Complete the Systems Engineering Checklist

Systems Engineering Component	Does AKIA Provide? Where?
➤ Portions of the Regional ITS or Statewide Iways Architecture being implemented.	✓ Yes; See the online "AKIA Update" report: Service Areas, Chapter 4, and Appendix C.
➤ Participating agencies roles and responsibilities.	✓ Yes; See the online "AKIA Update" report: Service Areas, Chapter 4, and Appendix C.
➤ Requirements definitions.	✓ Yes (if no Concept of Operations or requirements document exists); See the online "AKIA Update" report: Service Area requirements and Appendix C.
➤ Applicable ITS standards being implemented and testing procedures will be used upon project implementation.	✓ Yes; See the online "AKIA Update" report: Appendix E.
➤ Analysis of alternative system configurations and technology options to meet requirements.	<input type="checkbox"/> No
➤ Procurement option(s).	<input type="checkbox"/> No
➤ Procedures and resources necessary for operations and management of the system.	<input type="checkbox"/> No



Alaska IWAYS ITS Architecture (AKIA)

Fact Sheet #2 Continued

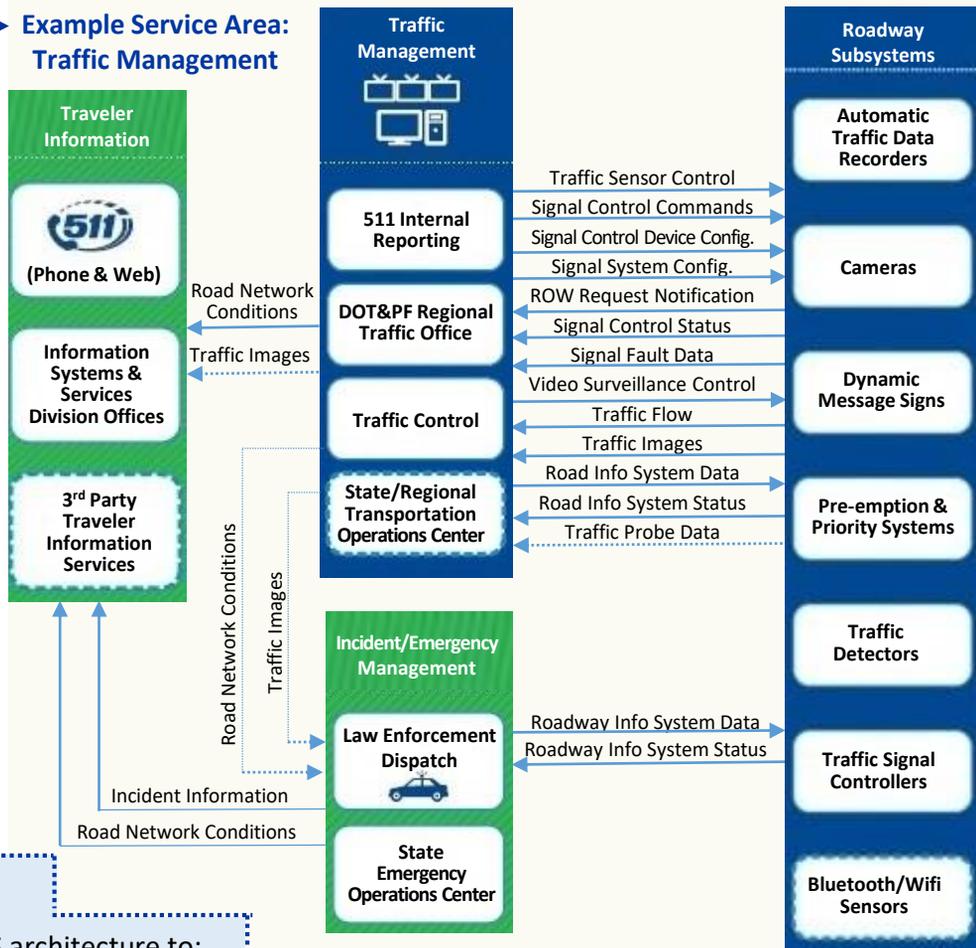


AKIA Service Areas ▶▶▶▶ Example Service Area: Traffic Management

The AKIA database and accompanying documents are organized around these seven "Service Areas":

1. Traffic Management
2. Winter Maintenance
3. Commercial Vehicle Operations (CVO) and Freight
4. Public Transportation
5. Incident & Emergency Management
6. Traveler Information
7. Data Archive

AKIA diagrams, like the example to the right, show the interconnections and flows among ITS systems, equipment, stakeholders, and data. See below for how this information is useful during design.



Using AKIA in Design

During design, you can use the ITS architecture to:

- **Identify a project’s functional requirements.** Functional requirements are high-level descriptions of an ITS element’s role in context with a particular ITS service area, as well as to other service areas.
 - Access the online “AKIA Update” report via <http://www.dot.state.ak.us/iways/architecture.shtml>. Use the document “Find Word” feature to search for your project’s ITS element in “Appendix B: Functional Requirements.” This appendix provides information including functional requirements and status (existing or planned).
- **Identify project standards.** Standards are technical specifications that provide rules, guidelines, or characteristics for data interfaces.
 - Access the online “AKIA Update” report (see address above). Use the document “Find Word” feature to search for your project’s ITS element in “Appendix E: Standards.” This appendix provides information related to language, data elements, structures, and protocols.
- **Identify project stakeholders.** Potential stakeholders include public agencies, private organizations, or the traveling public with a vested interest in transportation elements.
 - Access the online “AKIA Update” report (see address above). Use the document’s “Find Word” feature to search for your project’s ITS element in Chapter 4: Operational Concept. This section outlines stakeholder roles and responsibilities for each service area.

