Alaska IWAYS ITS Architecture (AKIA)

Fact Sheet #1

An Overview for Transportation Planning and Programming

What is ITS?

ITS is an acronym for Intelligent Transportation Systems, and it refers to advanced sensor, computer, electronic, and communication technologies built within the transportation infrastructure to improve operations and safety. Examples of ITS at work in Alaska include:

- Public information websites, such as the Alaska Department of Transportation and Public Facilities (DOT&PF) 511 website.
- Weather and pavement detectors that provide information for winter maintenance operations.
- Computerized traffic detectors.
- Marine vessel tracking and dispatch systems.

These ITS technologies are in place today and new technologies are planned for the future.

What is ITS Architecture?

An **ITS architecture** identifies systems, equipment, people, and data flows that, together, produce an ITS-related transportation service. The ITS architecture documents the existing and potential connections among technological systems and elements statewide. Having an accurate ITS "map" enhances transportation operations in terms of efficiency and safety. By identifying connections today, compatibility concerns tomorrow can be limited. The State of Alaska's ITS Architecture is called the **Alaska Iways Architecture (AKIA).** The "I" in "Iways" stands for Intelligence, Integration, and Internet, and the "ways" refers to Alaska's modes of transportation: air, sea, and road. The AKIA is now up to date (February 2017) and ready for use. This ***Fact Sheet #1*** provides an overview for using AKIA as a tool during transportation planning and programming. See ***Fact Sheet #2*** for information on using AKIA during project development and design.

How Do I Use AKIA?

Transportation planners and programmers can use AKIA documents and the database to:

- Identify existing or potential ITS activities, elements, and projects that may relate to their projects.
- Identify stakeholders, including ITS owners and operators.
- Provide feedback to the architecture if a proposed ITS element or activity is not represented.
- Better understand scope and budgetary considerations for ITS project elements.
- Fill out the Systems Engineering Checklist (see Fact Sheet #2 for more information on this).

➢ **Step 1: Open an online AKIA document using this link: http://www.dot.state.ak.us/iways/architecture.shtml**

- Architecture Update (pdf document)
- Use and Maintenance Guide (pdf document)

➢ **Step 2: Use the document's "Find Word" feature**

- To search for your project's technology or "service area."

Flip the page for more on projects and service areas.

➢ **Step 3: Review the document**

- To identify existing or proposed ITS activities, elements, or projects that may relate to your project, or for stakeholders who may need to be involved.
  - 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 an AKIA update.

Keep Alaska Moving through service and infrastructure

Alaska IWAYS ITS Architecture (AKIA) Fact Sheet #1 Continued

Core AKIA "Service Areas"

The AKIA database and accompanying documents are based on National ITS Architecture guidance, but they are also tailored to Alaska. Based on stakeholder input, the AKIA is organized around **Seven Service Areas** (see the list to the right). For each Service Area, the AKIA identifies important ITS Systems, Equipment, People, and Data Flows.

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**

Mapping Your Project

Transportation planners and programmers can use the table below (and in AKIA documents) to map the connections between their ITS or operational projects and the ITS architecture. It is a great starting point for integrating the architecture with planning and programming processes.

Project Category	Potential Projects	Service Area*
Traveler Information Systems	Detector systems/ Probe data systems/ Dynamic message sign/ Highway advisory radio/ 511, website mobile services	Traffic Management/Traveler Information/ Public Transportation/ Data Archive
Signal Improvements	Intersection upgrades/ Corridor upgrades/ Retiming/ Central control/ Transit signal priority/ Emergency preemption	Traffic Management / Incident & Emergency Management/ Traveler Information /Data Archive
Transit ITS Operations	Automated vehicle location (AVL) deployment/ Automated passenger count system/ Fare collection upgrade/ Bus safety and collision avoidance systems	Public Transportation/ Traveler Information
Carpooling and Vanpooling Systems	Dynamic ride matching	Traffic Management / Traveler Information/ Data Archive
Non Motorized ITS and Operations	Safety warning systems	Traffic Management/ Traveler Information/ Data Archive
Freeway Management	Detection and Surveillance System/ Traffic Management Center/ Ramp Metering/ Active Traffic Management	Traffic Management/ Traveler Information/ Data Archive
Emergency Management, Incident Management	Service patrol/ Emergency signal preemption / Emergency center: transportation center links	Traffic Management / Public Transportation/ Incident & Emergency Management/ Data Archive
Road Weather Management	Road weather information systems/ Mobile sensors/ Winter maintenance decision support	Winter Maintenance /CVO & Freight/ Incident & Emergency Management/ Traveler Information/ Data Archive
Construction and Work zones	Work zone monitoring systems/ Active traffic management (variable speed limits or advisories)	Traffic Management/ Winter Maintenance/Traveler Information Data Archive

*** See the AKIA documents for more on the integration of project categories and service areas with the Anchorage Regional ITS Architecture (ARIA).**

For more information, visit http://www.dot.state.ak.us/iways/architecture.shtml