



Introduction

BIFA Overview

Using BIFA

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Using BIFA

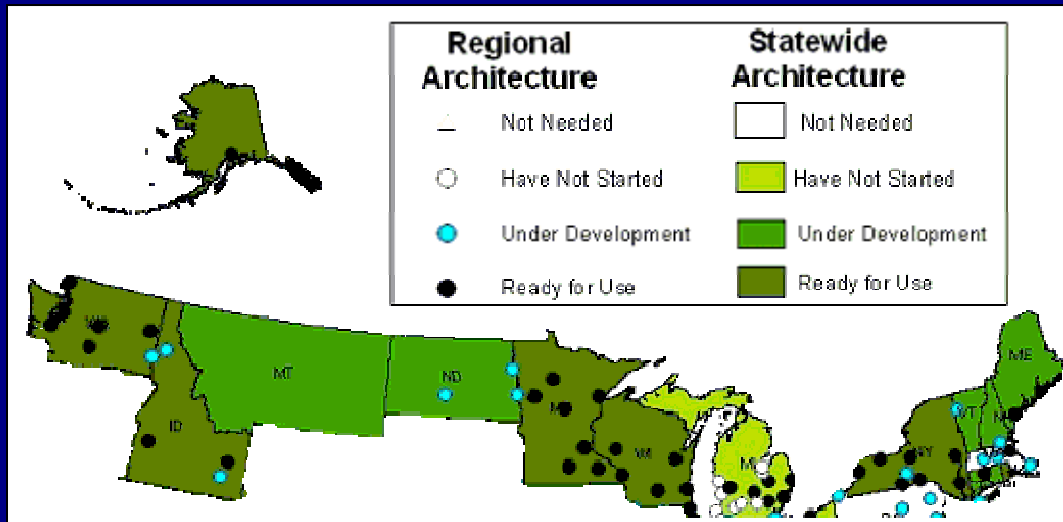
BIFA Workshop #2

BIFA can be used to support:

- **Regional ITS Architecture Update**
- **Transportation Planning**
- **ITS Project Implementation**

Regional ITS Architecture Updates

- Many Regional/Statewide/Provincial Architectures exist or are under development
- Most (probably all) don't consider border interfaces in any detail



St/Pr	Regional Architecture
AK	Statewide
BC	Provincial
ID	Statewide
	Northern
ME	Statewide
	TRIO
MI	Statewide
	SE Michigan
MN	Statewide
MT	Statewide
ND	Statewide
NH	Statewide (TRIO)
NY	Statewide
	Buffalo-Niagara Falls
VT	Statewide
WA	Statewide
	North Central Region
	Northwest Region

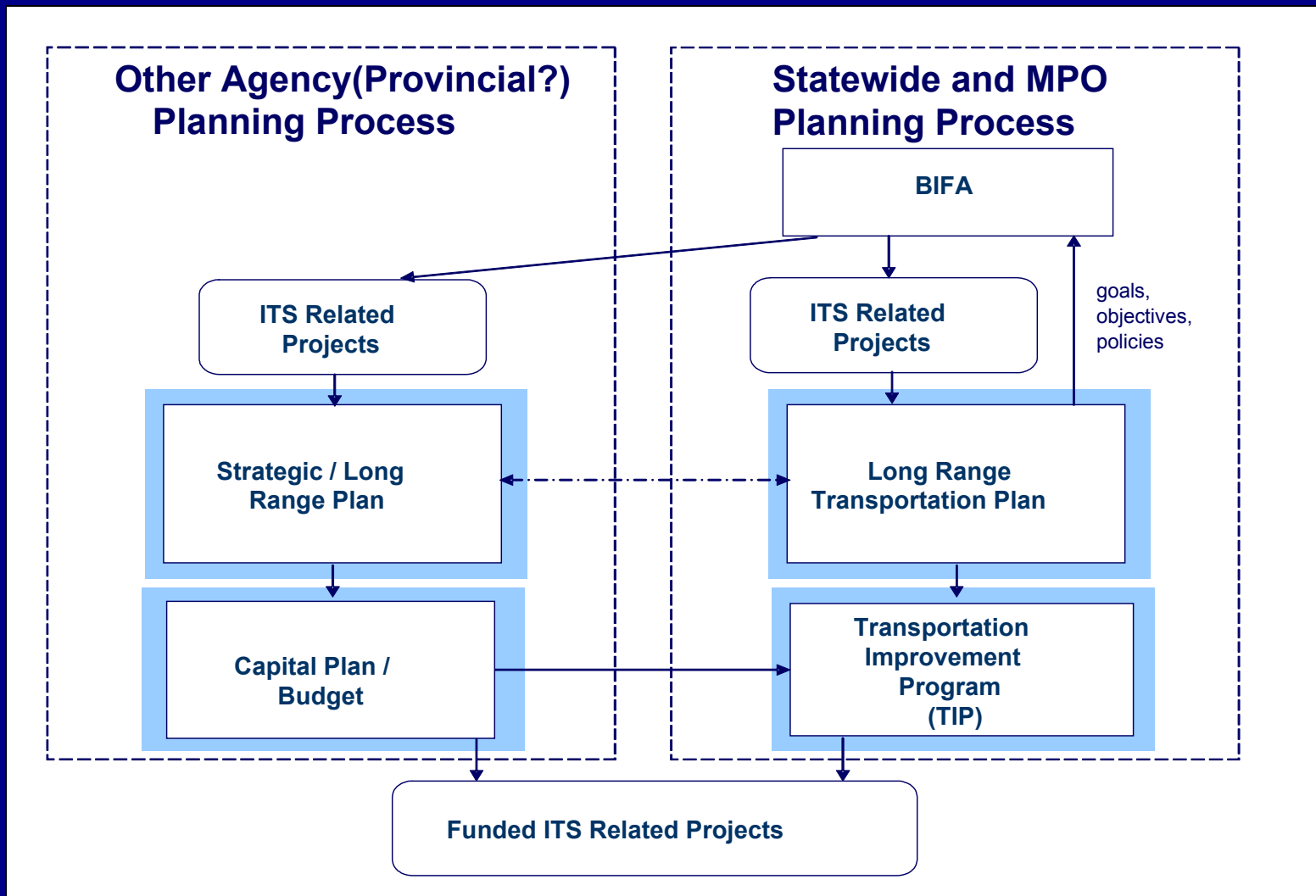
Regional ITS Arch Updates

- **Each US Architecture will be updated**
 - **Based on defined Maintenance Plans**
 - **Typically every 3-5 years**
- **BIFA provides a consistent definition of border interfaces that can be incorporated for each of these updates**
 - **BIFA draft has been used as part of recent Buffalo-Niagara Architecture update**

Regional ITS Arch Updates

- **BIFA outputs most useful**
 - **Stakeholders**
 - **Elements**
 - **Services (particularly the unique ones)**
 - **Interconnects**
 - **Requirements**

Using BIFA to support Planning



Using BIFA to support Planning

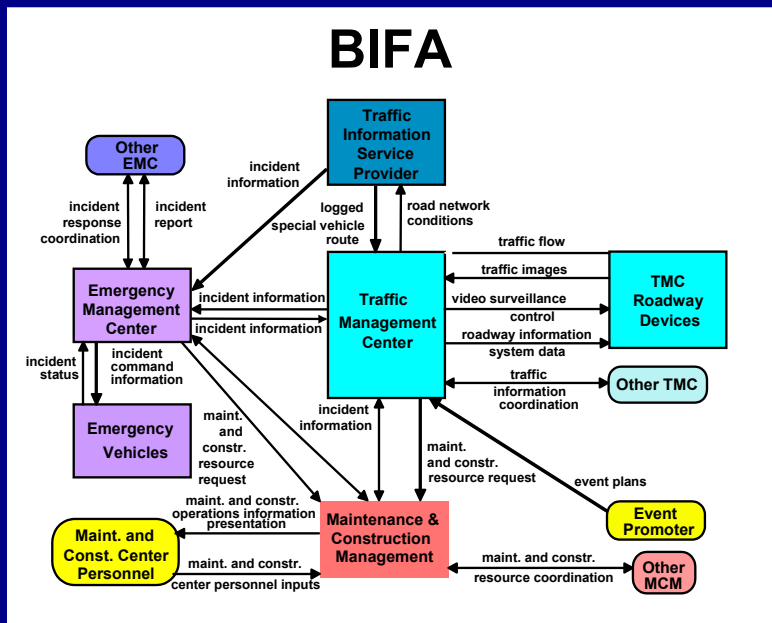
- **When might BIFA be applicable?**
 - **Regional (or statewide/ provincial) ITS Arch has not completed development**
 - **BIFA contains aspects of arch not yet added to Regional/ Statewide/ Provincial Arch.**

Using the Architecture to support planning

- **Support to update of Long Range Plans**
 - **Consider transportation services described by architecture**
 - **Consider integration opportunities described by architecture**
 - **Provide improved definition of projects**

Project Implementation Using an Architecture

- Use the BIFA to
 - Define project scope
 - Support System Engineering Analysis



FHWA Rule 940/FTA Policy

Project Systems Engineering Analysis (PSEA)

- 1. Portions of the Regional ITS Architecture Being Implemented**
- 2. Participating Agencies Roles and Responsibilities**
- 3. System Functional Requirements**
- 4. Analysis of Alternative System Configuration and Technology Options**
- 5. Procurement Options**
- 6. Applicable ITS Standards and Testing Procedures**
- 7. Procedures and Resources Necessary for Operations and Management of the System**

Arch Support to System Engineering Analysis

- **Map project to Regional ITS Architecture**
 - **Select portions of BIFA that correspond to project**
- **Identify agency roles and responsibilities**
 - **Operational Concept provides starting point**
- **Define requirements**
 - **Functional requirements provide starting point**
- **Identify applicable ITS standards**
 - **Standards identification provides starting point**

Example of use for Project Implementation

- **Project: Cascade Border ATIS Data Management System**
- **This project is an integrated approach to deploy an Advanced Traveller Information System (ATIS) Data Management System to archive and disseminate traffic-flow information and data to agencies from both Canada and United States.**

Project Scope

- **Project Scope is similar to portions of BIFA implemented by project.**
- **BIFA can help with:**
 - **Stakeholders**
 - **Elements**
 - **Services**
 - **Interconnects**

Scope: Project Stakeholders

- Identify stakeholders and map to BIFA stakeholders

<i>Project Stakeholders</i>	<i>BIFA</i>
British Columbia MOT	Provincial Ministry of Transportation
Washington DOT	State DOT
Whatcom Council of Governments (WCOG)	US Regional Transportation Planning Organization
Canadian Border Services Agency	Canadian Border Services Agency
	US Customs and Border Protection
	+??

Scope: Project Elements

- Map Project Elements to BIFA elements

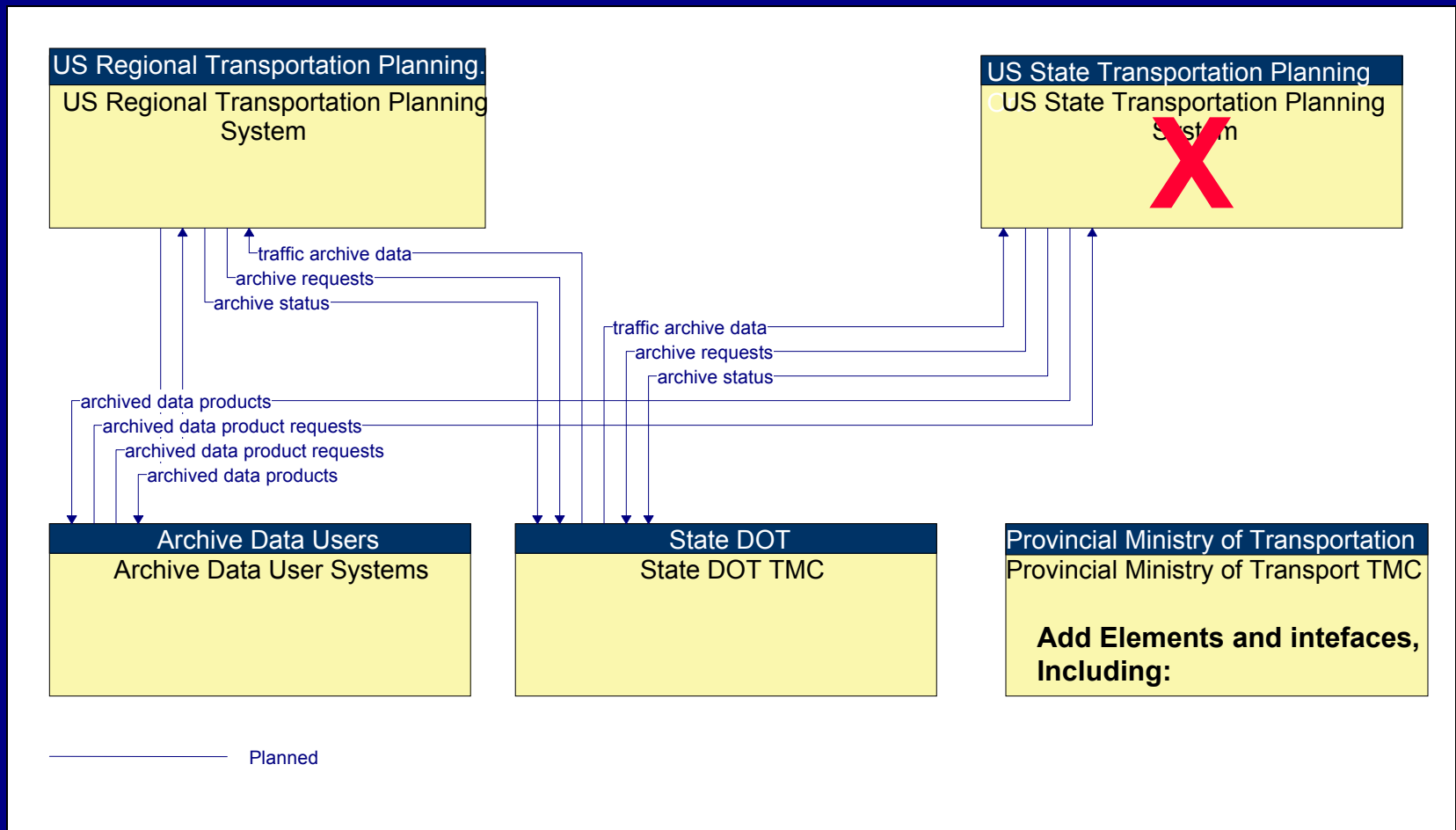
<u>Project Element</u>	<u>BIFA Element</u>
WCOG ATIS Data Management System	US Regional Transportation Planning System
WashDOT TMC	State DOT TMC
BC MoT TMC	Provincial Ministry of Transport TMC
+	

Scope: Project Services

- **AD1-Data Mart (or AD2- Data Warehouse)**
- **ATMS6- Traffic Information Dissemination**
- **+ ??**

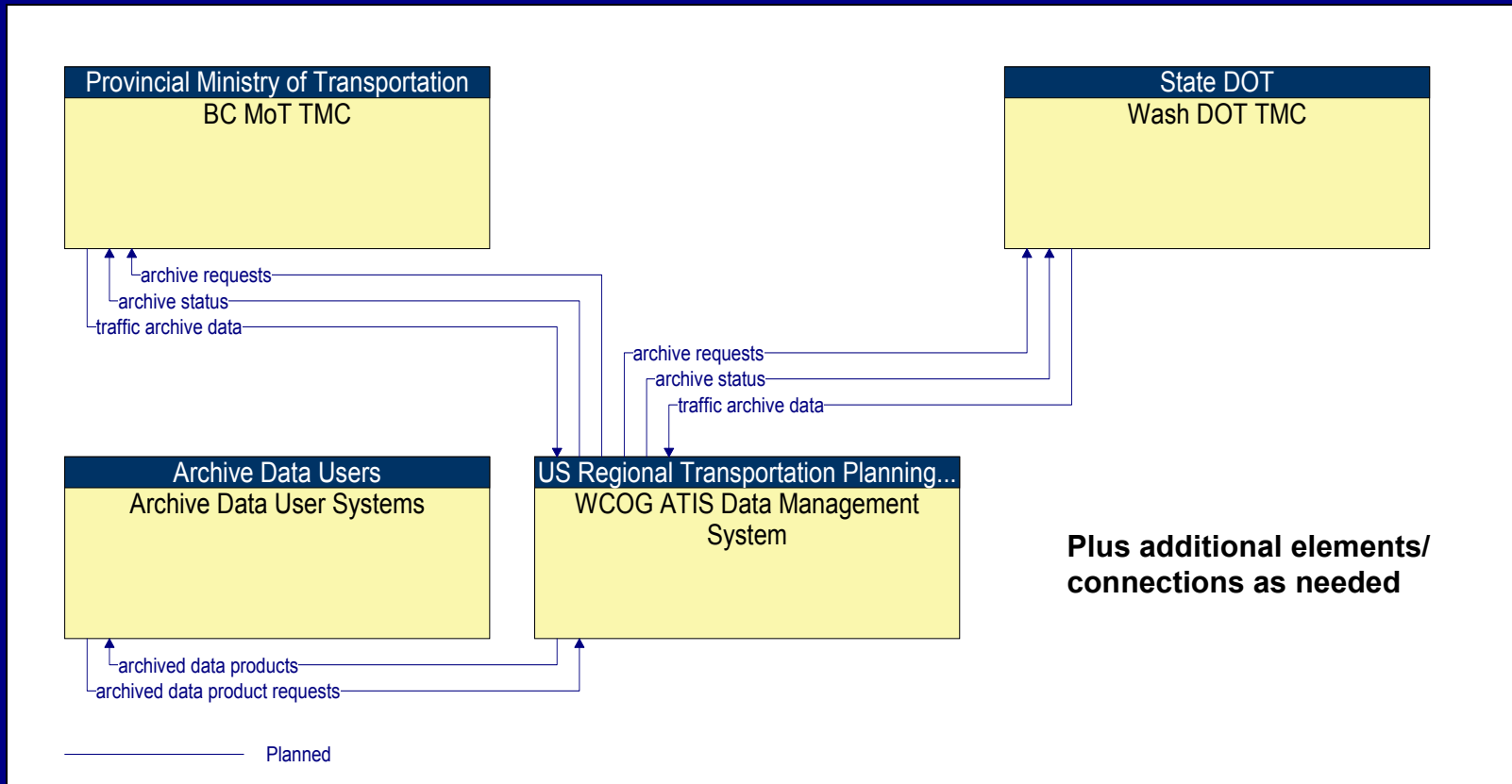
Scope: Define Project Interconnections

- Start with BIFA- delete/ add as needed



Scope: Define Project Interconnections

- Use Map of elements
- Customize connections for project



PSEA- Stakeholder R&R

- **Start with BIFA Operational Concept and select/modify appropriate entries -e.g. Regional US Regional Transportation Planning Organization**
- ***Roles and Responsibilities***
 - **Collect transportation related data (traffic counts, accident history, etc.) (modify as appropriate)**
 - **Provide basic data quality, data privacy, and metadata management.**
 - **Establish and maintain a system for authenticating archived data users.**
 - **Provide data to authenticated users upon request.**
 - **Sharing data with other archived data systems in US and along the border - either transferring the data or providing catalogs of the data housed in each archive to create a virtual data warehouse (will this be part of project??)**
 -

PSEA- Define Reqmts

- **Project functional requirements can use BIFA functions/ func requirements as starting point:**
- **E.g. WCOG ATIS Data Mgmt Sys**
 - **Function: ITS Repository Function**
 - **Requirements:**
 - **The center shall collect data to be archived from one or more data sources.**
 - **The center shall collect data catalogs from one or more data sources. A catalog describes the data contained in the collection of archived data and may include descriptions of the schema or structure of the data, a description of the contents of the data; e.g., time range of entries, number of entries; or a sample of the data (e. g. a thumbnail).**
 - **The center shall store the archived data in a focused repository that is suited to a particular set of ITS data users.**
 - **.....**

PSEA: Standards

- BIFA interfaces have standards associated with them.
- Starting point for Project standards identification
- Example from web site (info in Database as well)

Standards Support For traffic archive data

Type	SDO	Title	Document ID
Other	ASTM	Standard Specification for Metadata to Support Archived Data Management Systems	ASTM E2259-xx
Message/Data	ASTM	Standard Specification for Archiving ITS Generated Travel Monitoring Data	ASTM E2259-yy
	ITE	Message Sets for External TMC Communication (MS/ETMCC)	ITE TM 2.01
	ITE	Standard for Functional Level Traffic Management Data Dictionary (TMDD)	ITE TM 1.03
Communications Protocol	AASHTO/ITE/NEMA	NTCIP Center-to-Center Standards Group	NTCIP C2C

BIFA support to Project Implementation

- Supports General System Engineering Process

