

National ITS Architecture

**Symposium on Weather
Information for Surface
Transportation**

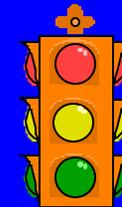
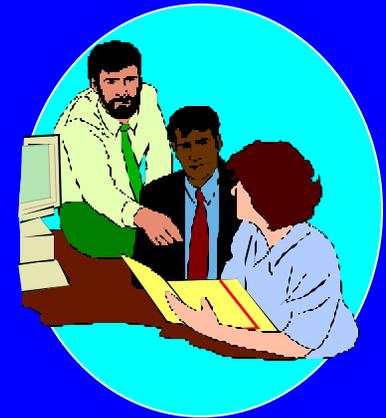
November 30, 1999

**Bruce Eisenhart
Lockheed Martin**



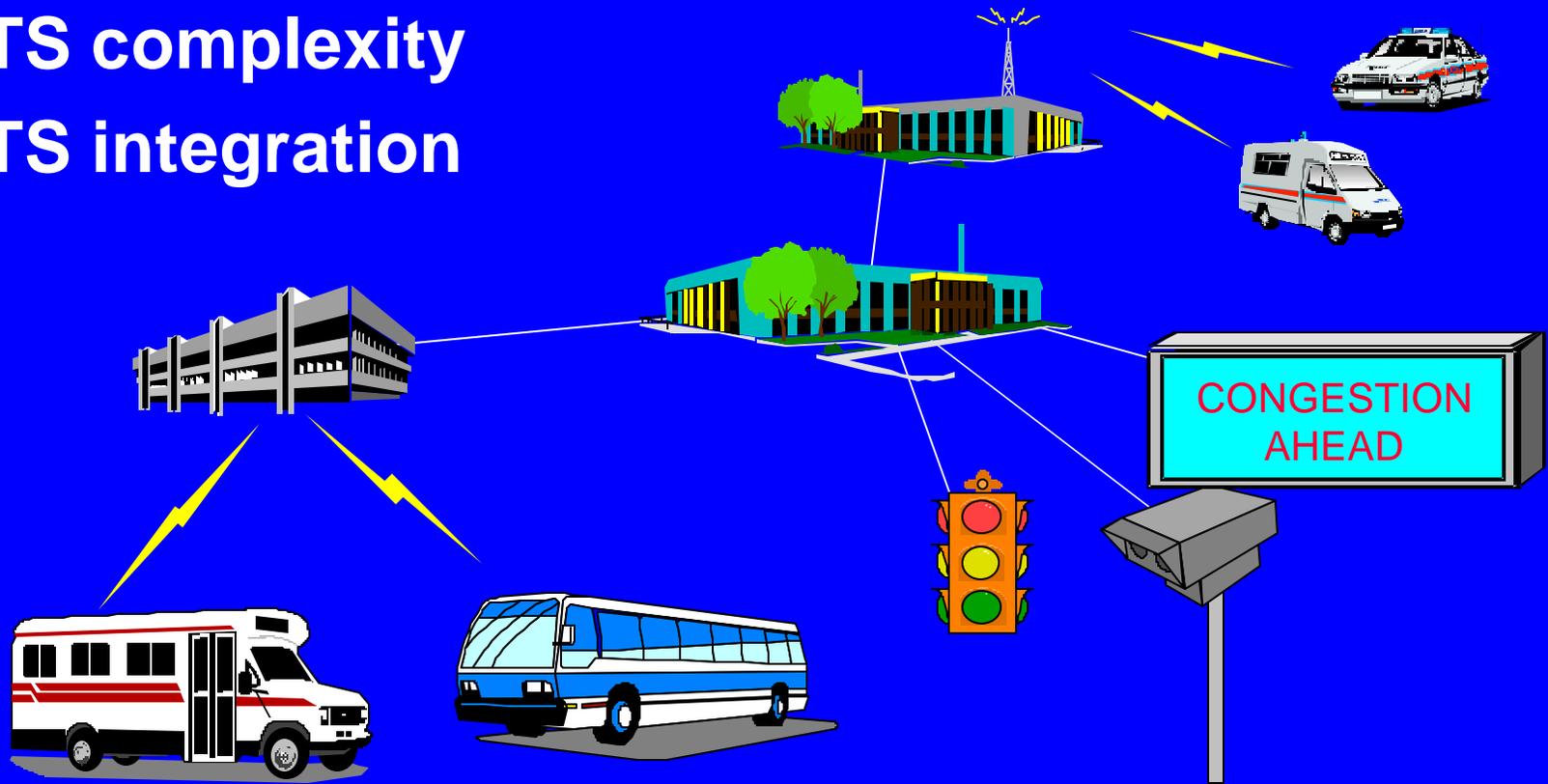
What is an architecture?

- Identifies participants
- Defines boundaries
- Describes activities or functions
- Helps develop blueprint for effective cooperation



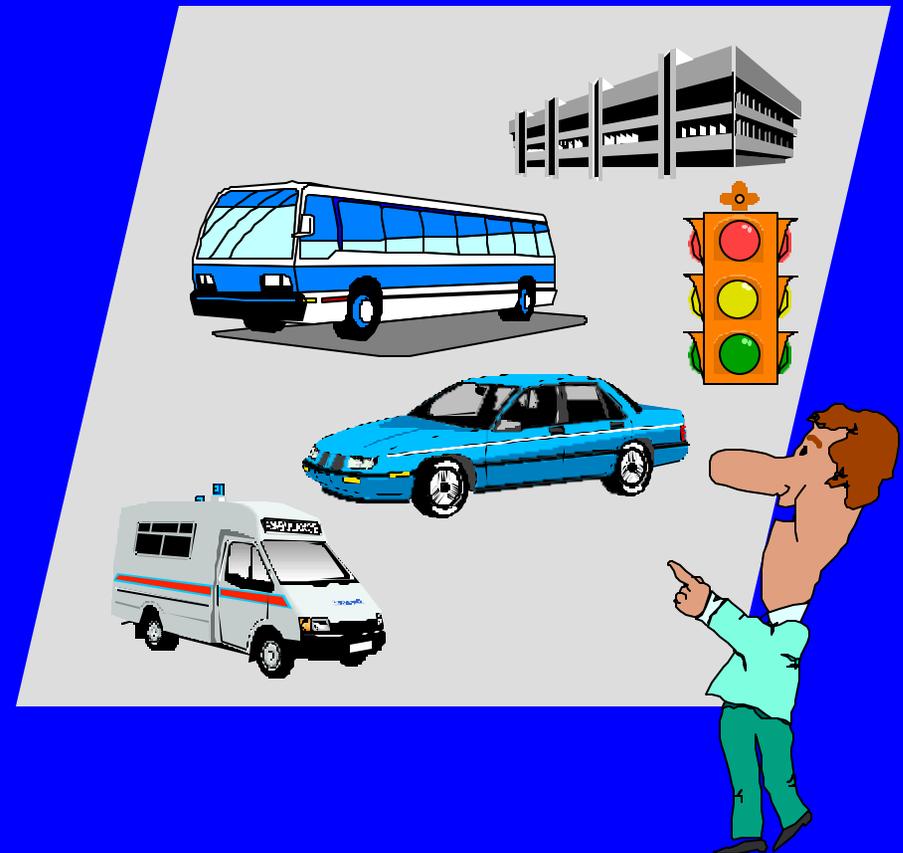
Why was the National ITS Architecture Developed?

- Interface standards identification/coordination
- ITS complexity
- ITS integration



National ITS Architecture Provides a Framework to Help ...

- Identify key stakeholders and interrelationships
- Describe required activities or functions
- Define interconnections and interdependencies between functions
- Develop a blueprint for integration of systems



What does the National ITS Architecture Consist of?

User Services

Requirements
e.g. Incident
Management

National ITS Architecture

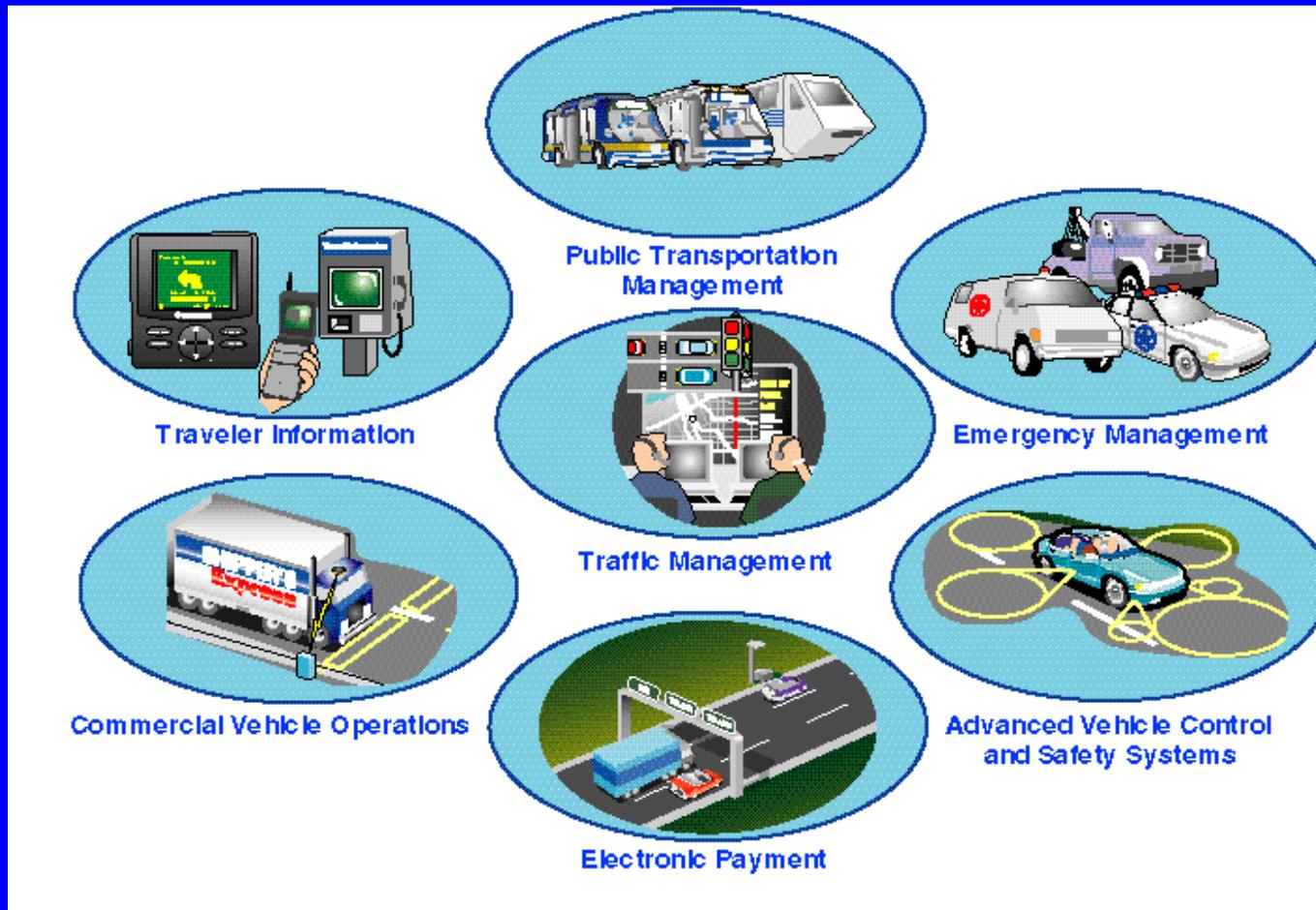
**Logical
Architecture**

What functions?
e.g. Detect Incident
Verify Incident

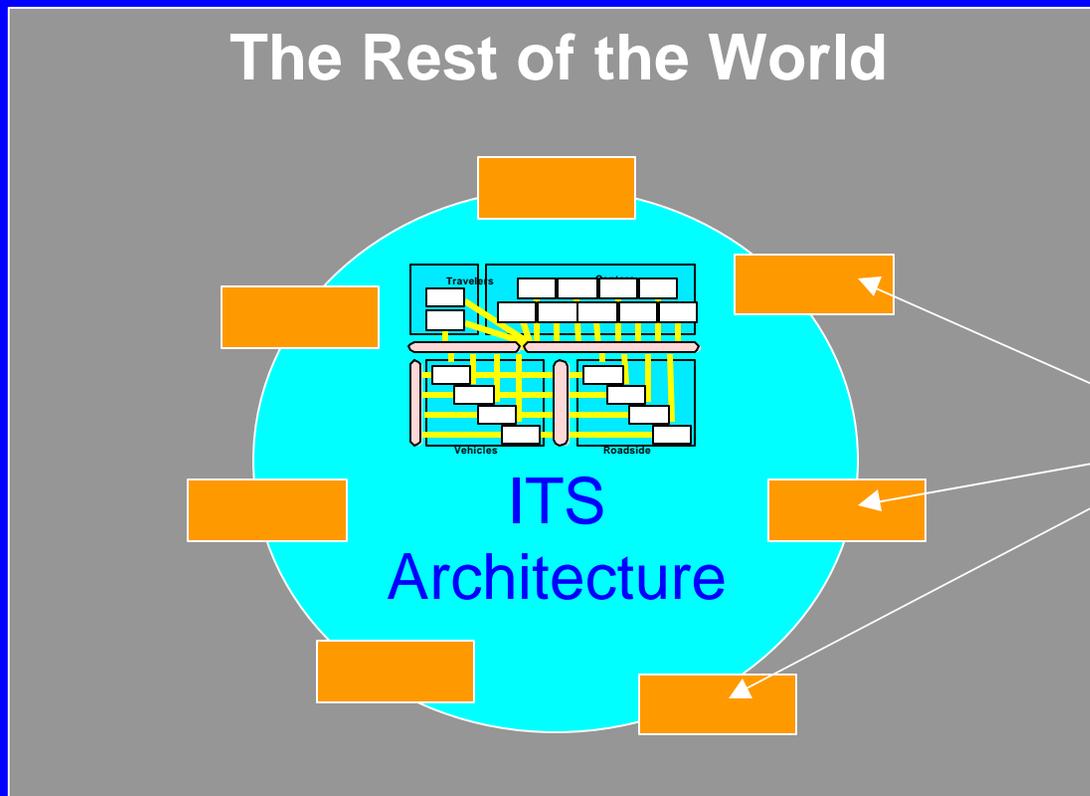
*Where are the
functions?*
E.g. Traffic
Management
Center

**Physical
Architecture**

ITS User Services are the basis for National ITS Architecture



Architecture has a Boundary



Terminators

Example Terminators

Users

- Driver
- Traffic Operations Personnel
- Emergency System Operator

Other Systems:

- Weather Service
- Financial Institution

Architecture Subsystems



Travelers

Remote
Traveler
Support

Personal
Information
Access

Centers



Traffic
Management

Emergency
Management

Toll
Administration

Commercial
Vehicle
Administration

Information
Service
Provider

Emissions
Management

Transit
Management

Fleet and
Freight
Management

Planning

Vehicle

Transit
Vehicle

Commercial
Vehicle

Emergency
Vehicle

Vehicles



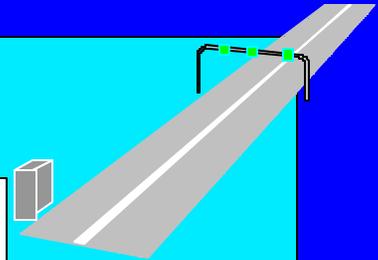
Roadway

Toll Collection

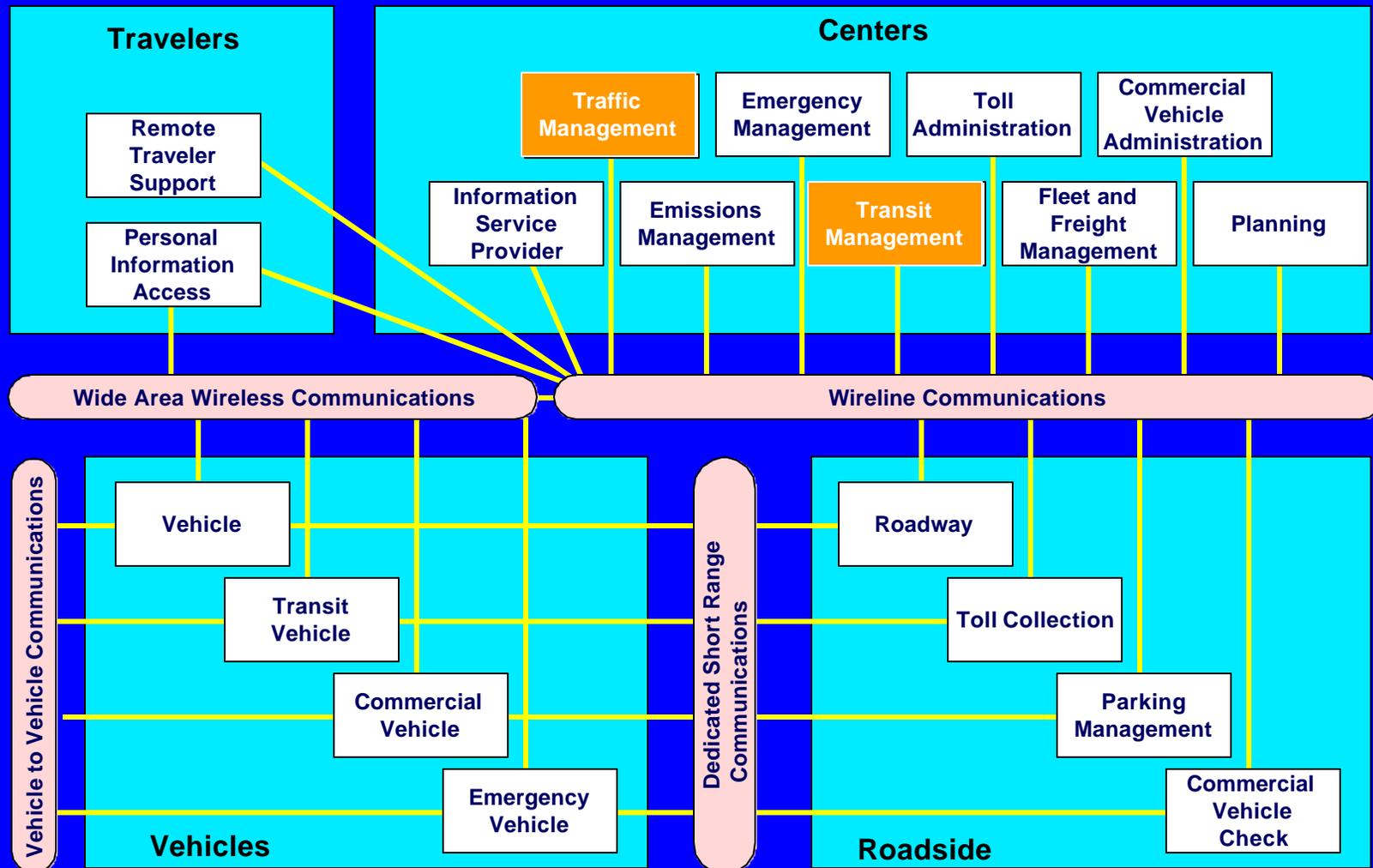
Parking
Management

Commercial
Vehicle
Check

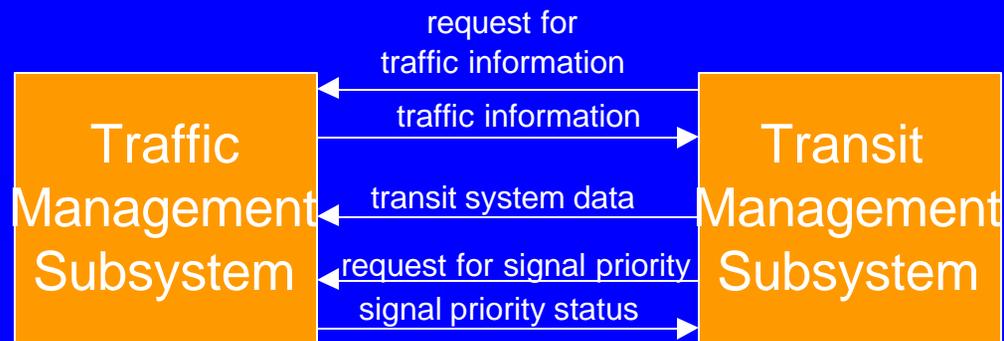
Roadside



Architecture Subsystems and Interconnects



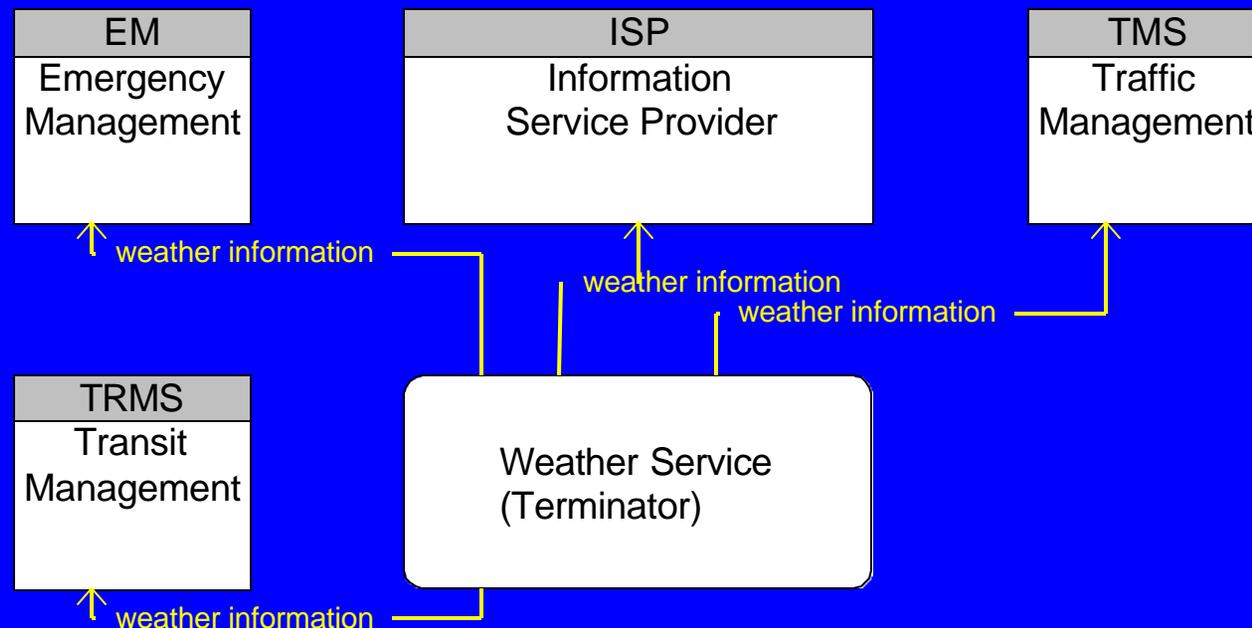
Next Level of Detail



- High-level subsystem information exchange
- Considerations for integration

Weather Information in National ITS Architecture

- Based upon limited requirements, very simple model of weather information dissemination

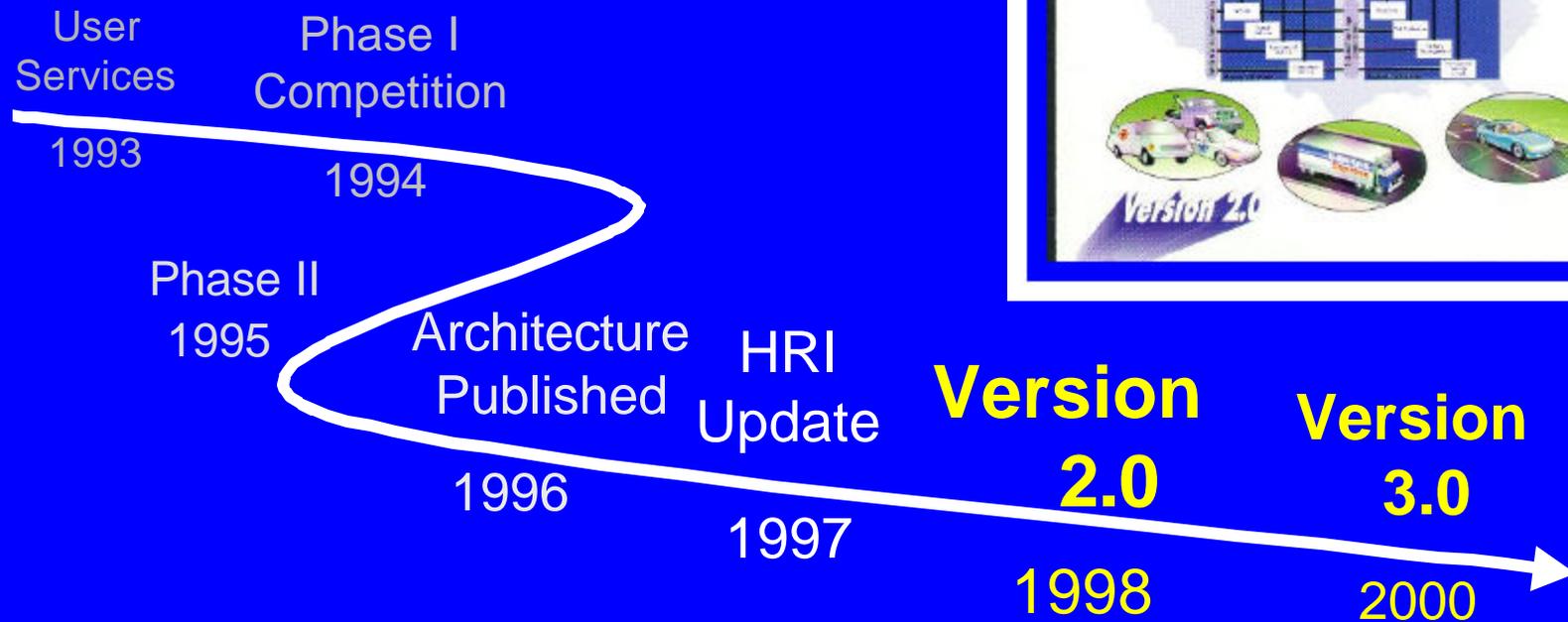
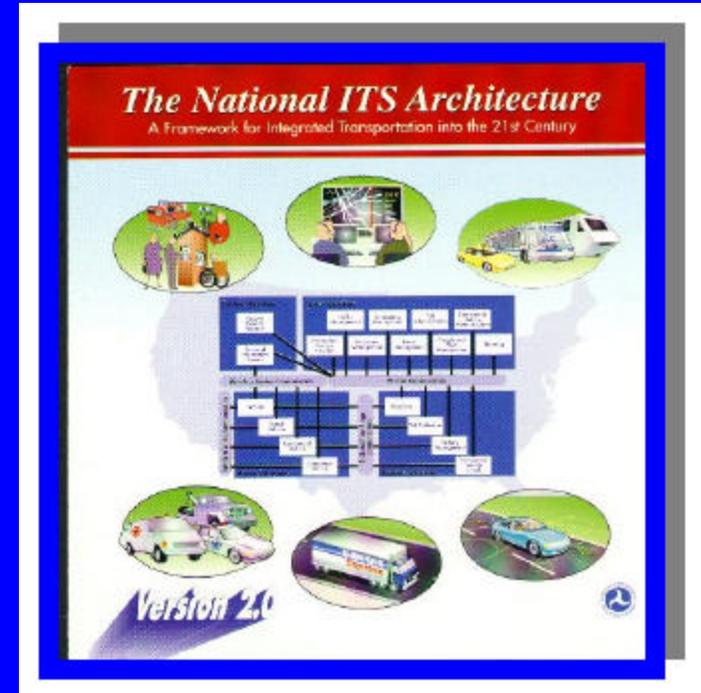


How is the Architecture Used?

- **As a Tool to Develop**
 - **Regional Architectures**
 - Regional framework for ITS Integration
 - Helps you evaluate and understand options
 - **Project Architectures**
 - To identify and evaluate integration options when defining new ITS projects or expanding on current capabilities

ITS Architecture: How to Access

- CD-ROM
- Web site
<http://www.odetics.com/itsarch>



National ITS Architecture: Future Emphases

- Deployment Support
- Training
- Enhancement of the Architecture
 - Rural ITS Services focus
 - Other new User Services
- Support Standards and Testing Efforts
- Reflect US DOT and Stakeholder Activities back into the Architecture