Appendix F – Nomenclature Guide

Introduction

In any architecture development effort, the success of an ITS architecture depends on participation by a diverse set of stakeholders in the regional surface transportation system Typically, an ITS architecture – whether it be a high level statewide architecture, an integrated regional architecture, or the details of a specific project's architecture - contains multiple transportation agencies and jurisdictions. To maximize the effectiveness of any architecture developed, the stakeholders must be able to easily and consistently identify themselves within it along with the various ITS systems they own or interface with. Of note is the fundamental difference that occurs at the different levels of attention or focus within an architecture being developed and how that specific architecture relates to higher or lower level architectures.

Purpose

This nomenclature guideline is for use in developing and maintaining ITS architectures, both at the statewide and the regional levels, within in the state of Illinois. By building upon previous ITS architecture work previously done in Illinois, this naming methodology will help provide consistency across and among the various architectures within the state. The document's purpose is to also provide insight to the Champions and Developers of regional ITS architectures as to what is being used in the Statewide ITS architecture development.

Scope

The scope of the guidelines for this document is to address the issues surrounding nomenclature of stakeholders and inventory elements. Both heuristic, or "rules of thumb," and specific examples are provided. The primary emphasis of the work contained in these guidelines is upon naming conventions and how it changes or stays the same depending on the type of architecture it is being relate to.

In terms of architectural elements, these guidelines will address Stakeholder naming conventions, Subsystems vs. Terminators, and guidelines for when to use general names as opposed to specific names.

Nomenclature Guidelines

Typically, a region contains multiple transportation agencies and jurisdictions. These may have both adjoining and overlapping geographies, but the common thread for all of the agencies is the need to provide ITS solutions to a wide array of transportation problems, ranging from traffic congestion and safety hazards to public transit and special event management to disaster recovery and emergency operations to inter- and intrastate commercial vehicle operations. In order for the integration opportunities to be evident to stakeholders across the area in the resultant architecture, it is important for names to be concise and spelled out as much as possible for both Stakeholders and the functionality relating to their ITS Systems.

The following represents a methodology that meets the desired needs of consistency with clarity specific to Stakeholders and System Inventory items.

1. Always use the most commonly used names as given by the Stakeholders themselves. Acronyms should be used as long as they are unique and are the commonly referenced name within the region. The easier a stakeholder can see themselves in the actual architectural drawing and reports, the better the chances for integration beginning at the earliest steps of the planning process. In the description is where the full name should be spelled out along with any pertinent information if necessary.

2. The use of abbreviations is a good idea as this keeps the reports and diagrams used to describe the resultant ITS architecture and output from the Turbo Architecture tool easier to read by all interested parties.

3. A common rule of thumb is the have no more than 100 entities as part of your turbo architecture file. This includes both the stakeholders and the system inventory.

4. At the statewide ITS Architecture level, an preliminary list of stakeholders input into the Turbo architecture tool for the statewide level includes is shown in Table 1. However, for the regions, it is suggested that the generic terms such as "County", Municipal", and "MPO/RPC" be replaced or augmented with the actual names of the county, city or organization involved.

5. Similarly, where there is a state border within the regional ITS architecture, the "Other State DOT" stakeholder can either be left as is, or explicitly called out using a two-letter abbreviation for the state in front of "DOT". An example would be INDOT for Indiana DOT.

6. A new feature of Turbo Architecture 3.0 is the ability to do groupings. Instead of in the past coming up with different unique stakeholder "names" to reflect each and every unique set of stakeholders involved in joint operations/maintenance/implementations which artificially created many more stakeholders than needed, use a project name or commonly held name for an association of agencies/stakeholders. This will decrease the number of stakeholders in the end increase the speed at which the tool operates.

Table 1. Stakeholder List from Statewide ITS Architecture

Stakeholder	Generic	Group	Specific	Agency Name or Description
AMTRAK			x	Nationwide passenger rail organization with regional hub in downtown Chicago.
APCO			x	Illinois Chapter of the Association of Public Safety Communications Officials
BNPTS			x	Bloomington-Normal Public Transit System
BSRPC			x	Bi-State Regional Planning Commission
CATS			x	Chicago Area Transportation Study
CIPT			x	Central Illinois Public Transit (Tuscola)
City Transit Agencies	x	x		City transit agencies are transit operators in medium size cities (roughly 50,000 – 150,000 population) that connect through District hubs to share information beyond their local spheres of influence. Includes the transit agencies CityLink, CUMTD, MCT, PMB, RICMMTD, RMTD, and SMTD that are included by name in their respective areas' regional architectures, as well as other transit agencies that are addressed solely in the Statewide Architecture such as BNPTS and DPTS.
CityLink			x	Greater Peoria Mass Transit District
Colleges & Universities			x	Colleges and universities typically host a variety of special events. Some Colleges and Universities operate transit systems and have a police staff and/or dispatch center on campus.
Community Transit Agencies	x			Community transit agencies operate at the municipal or township area in Illinois. They may be found in large and medium size cities. They are typically demand responsive services. Some community transit is operated by larger agencies; others are operated by the township or municipalities themselves.
Convention and Tourism Bureau	x			An organization that maintains up-to-date information on events, attractions, and venues in their coverage area.
County Dept of GIS	x			County departments of geographic information services (GIS)
County Dept of Public Works	x			County departments of public works are those agencies and other non-municipal entities that are primarily responsible for maintenance of the surface transportation network outside the municipal borders. The following counties are specifically addressed in a regional ITS architecture: McHenry, Lake, Cook, Kane, DuPage, Will, Boone, Ogle, De Kalb, Winnebago, Henry, Mercer, Muscatine, Rock Island, Scott, Peoria,

Stakeholder	Generic	Group	Specific	Agency Name or Description
				Woodford, Tazewell, Sangamon, Madison, Monroe, St. Clair, Vermillion, Champaign. All remaining counties in the state are addressed in a generic format in the Statewide Architecture.
County Emergency Dispatch	x			County emergency management dispatch agencies include fire and ambulance dispatch and all other first responders who respond to incidents along the surface transportation network.
County ESDA			x	Illinois county Emergency Services & Disaster Agency (ESDA) coordinators that provide support at the regional or county level.
County Highway Dept	x			County highway departments are those agencies responsible for operation of the surface transportation network and roadside equipment outside the municipal borders.
County Human Services	x			County human services are those agencies responsible for emergency government operations and the emergency alert system. County human services coordinate closely with IEMA.
CUMTD			x	Champaign-Urbana Mass Transit District
CUUATS			x	Champaign Urbana Urbanized Area Transportation Study
CVISN/EOSS Stakeholders		x	x	This stakeholder group includes the ICC, Secretary of State, Departments of Revenue and Transportation and the State Police who are tasked with leading the Illinois CVISN Phase One implementation. Includes the ICC, IDOT Division of Highways, IDOT Division of Traffic Safety, IL Dept of Revenue, IL Secretary of State Motor Vehicle Administration, and ISP Commercial Vehicle Enforcement.
DATS			x	Danville Area Transportation Study
DMT			x	Danville Mass Transit
DPTS			x	Decatur Public Transit System
East-West Gateway Council of Governments			x	St. Louis Metropolitan Planning Organization
Emergency Responders	x			Local responders such as fire and ambulance are represented by this stakeholder.
Enforcement Agencies	x	x		Enforcement agencies represent the various agencies who are responsible for enforcing traffic codes along the surface transportation network.
EPA			x	US and Illinois Environmental Protection Agency (EPA) provides hazardous waste transporter permits to carriers as well as is involved with emergency and disaster

Stakeholder	Generic	Group	Specific	Agency Name or Description
				response situations as necessary. The EPA also monitors air quality levels and determines Ozone Action days.
ESDA		x	x	Emergency Services & Disaster Agency (ESDA), including both County and Municipal ESDA.
ETSB	x			A board appointed by the corporate authorities of any county or municipality that provides for the management and operation of a 9-1-1 system within the scope of such duties and powers as are prescribed by the Emergency Telephone System Act (ETSA).
FHWA			x	Federal Highway Administration
FMCSA			x	Federal Motor Carrier Safety Administration
FTA			x	Federal Transit Administration
Gateway Guide Regional Partners		x	x	Group that administers the Gateway Guide Website, including IDOT District 8, MoDOT District 6, East-West Gateway Council of Governments, and the METRO/Bi-State Development Agency (St. Louis area transit agency)
GT			x	Galesburg Transit (and Galesburg Handivan)
Health Care Providers	x			This is a pseudo-stakeholder group that represents generically the health care providers who either influence the transportation network or are active participants in emergency/incident response teams.
HELP, Inc.	x			Heavy Vehicle Electronic License Plate, Incorporated is the stakeholder that owns and oversees the IRP program in the United States.
ICC			x	Illinois Commerce Commission
ICJIA			x	Illinois Criminal Justice Information Authority
IDOT		x	x	Illinois Department of Transportation (IDOT) departments.
IDOT Central Bureau of Information Processing (BIP)			x	Illinois Department of Transportation, Central Bureau of Information Processing (BIP) is responsible for information technology (IT) applications throughout IDOT, including hardware and software procurement and integration.
IDOT Central Bureau of Operations			x	Illinois Department of Transportation, Central Bureau of Operations provides the statewide IDOT road conditions website and phone line to the public, oversees the Oversize - Overweight (OSOW) permitting process, and provides staffing for Station One, among its other responsibilities.
IDOT District Bureau of Construction			x	Illinois Department of Transportation, District Bureau of Construction. Project Implementation responsible for the construction and maintenance of the state

Stakeholder	Generic	Group	Specific	Agency Name or Description
				highway system and the state's local roads and streets.
IDOT District Bureau of Design			x	Illinois Department of Transportation, District Bureau of Design. Responsible for the design of the state highway system and the state's local roads and streets.
IDOT District Bureau of Electricity			x	Illinois Department of Transportation, District Bureau of Electricity. Responsible for the operations of electrical equipment along the state highway system and the state's local roads and streets.
IDOT District Bureau of Local Roads			x	Illinois Department of Transportation, District Bureau of Local Roads receives communication from villages, townships, cities and counties regarding construction information and project status information for coordination purposes.
IDOT District Bureau of Operations			x	Illinois Department of Transportation, District Bureau of Operations. Responsible for the design of traffic control equipment and operations along the state highway system and the state's local roads and streets.
IDOT Division of Traffic Safety			x	Illinois Department of Transportation, Division of Traffic Safety performs audit inspections and collects cash data that is provided to SAFETYNET and the Federal Motor Carrier Safety Administration (FMCSA).
IDOT ITS Program Office			x	Illinois Dept of Transportation ITS Program Office is a part of the IDOT Office of Programming and Planning. It houses the Gateway Traveler Information System.
IEMA		x	x	Illinois Emergency Management Agency at both the regional and Statewide office levels.
IFTA, Inc.	x			International Fuel Tax Association (IFTA), Incorporated is the stakeholder that oversees and administers the fuel tax program in the United States.
IL CMS			x	Illinois Department of Central Management Services
IL Dept of Driver Services			x	Illinois Department of Driver Services (commonly known as the Department of Motor Vehicles)
IL Dept of Revenue			x	Illinois Department of Revenue
IL Secretary of State Motor Vehicle Administration			x	Illinois Secretary of State Motor Vehicle Administration
IRP, Inc.	x			International Registration Plan, Incorporated, a partially-owned subsidiary of the American Association of Motor Vehicle Administrators, serves as the repository of the International Registration Plan.
ISP		x	x	Illinois State Police

Stakeholder	Generic	Group	Specific	Agency Name or Description
ISP Central Operations			x	Illinois State Police Central Operations holds the data archives and collects information from around the state from each ISP district and provides statewide information to the various federal agencies that require it. In large scale emergency management operations, ISP Central Operations plays a coordinator role between the local ISP districts affected and other agencies.
ISP - Commercial Vehicle Enforcement			x	Portion of the Illinois State Police that performs the roadside driver/sensor communication screening, roadside operations in general operations and physical inspections regarding commercial vehicles.
ISP District Operations	x			Illinois State Police District Operations have jurisdiction over the state roads. In the more rural areas of Illinois, the role of first responder is likely to be the ISP.
ISTHA			x	Illinois State Toll Highway Authority
ITTF				The Illinois Terrorism Task Force is responsible for developing and helping to implement the state's terrorism preparedness strategy as an advisory body to the Governor as established by Executive Order 2003-17. ITTF goals are two-fold. One goal is strengthening the Illinois infrastructure to respond to acts of terrorism. The second goal of the ITTF is implementing prevention activities that foster improved communication of intelligence information both horizontally and vertically throughout the state.
IWIN Stakeholders		x	x	This is a stakeholder group that represents all the various law enforcement and other related organizations involved with the Illinois Wireless Information Network communication system. These agencies include ICJIA, IL CMS, and ISP.
JCMTD			x	Jackson County Mass Transit District (Carbondale)
JDCT			x	Jo Daviess County Transit (Galena)
Local Law Enforcement	x			This pseudo-grouping represents all city and county (i.e., non-state police) law enforcement agencies that focus on maintaining a safe and secure surface transportation network in the state of Illinois.
MCT			x	Madison County Transit (Granite City)
Media Outlets	x			Newspapers, television stations, radio stations and Internet sites that provide transportation information to the public.
METRO			x	Transit agency for the St. Louis Metro Area (formerly Bi-State Development Agency)

Stakeholder	Generic	Group	Specific	Agency Name or Description
Motorola			x	Motorola built, owns and operates STARCOM21 - a 700/800 MHz, trunked, digital, voice public safety network.
MPO/RPC	x	x		Metropolitan Planning Organizations and/or Regional Planning Commissions who are most often the champion and developers of a region's ITS architecture. This is a stakeholder group that represents all the specific planning organizations, including BSRPC, CATS, CUUATS, DATS, the East-West Gateway Council of Governments, TCRPC, and RATS.
Municipal Dept of Transportation	x			These are the municipal agencies responsible for operation of the municipality's surface transportation network and roadside equipment.
Municipal Emergency Dispatch	x			These are the municipal public safety answering points (PSAPs) responsible for receiving and coordinating information in response to emergency incidents.
Municipal ESDA			x	Illinois county Emergency Services & Disaster Agency coordinators that provide support within a municipality sphere of influence.
Municipal Public Works	x			Municipal departments of public works are those agencies and other municipal entities that are primarily responsible for maintenance of the surface transportation network within the municipal borders.
National/State Park and Recreation Areas			x	Park and recreation areas function as regional/special event generators and provide travel information to park users.
National Weather Service			x	National Weather Service functions as a weather information service provider and generates severe weather alerts.
Other State DOTs	x			Other state DOT's include Indiana, Iowa, Kentucky, Missouri, and Wisconsin that border Illinois.
Other State Motor Carrier Services Agencies	x			This stakeholder group includes the surrounding states who participate (now or in the future) in Illinois' current CVISN expansion program. Currently Indiana and Wisconsin are actively involved with Illinois. Iowa and Missouri may become more involved in the future as funding and consensus is reached.
PMB			x	Pekin Municipal Bus
Private CVO Inspection Services	x			Private operators certified for emissions testing and/or safety checks.
Private HAZMAT Agencies	x			Regional specialized teams for hazardous materials incident response.
Private Information Service Providers	x			Private information service providers include private entities that provide traveler

Stakeholder	Generic	Group	Specific	Agency Name or Description
				information for a fee.
Private Medical Carriers	x			These are firms that provide non-emergency medical transportation services, usually under sponsorship of public agencies or for private nursing homes. They may be in some cases available for use in regional paratransit coordination.
Private Tow and Recovery Operators	x			Private tow and recovery operators work with emergency responders to clear incidents from freeways and arterial streets.
Private Trucking Companies	x			Private trucking companies deliver goods and interact with law enforcement, multi-modal, and CVISN functions.
Private Weather Information Providers	x			Companies from private industry that augment and/or provide weather information and products to the government sector and other private sector information service providers.
Rail Freight Operators	x			Rail freight operators oversee freight train operations and coordinate with surface transportation entities.
Rail Transit Operators	x	x		These are agencies that operate urban heavy or light rail transit systems in large metropolitan areas. For both Chicago and St. Louis metropolitan regions, this is actually an operating unit within a single organization (RTA or METRO).
RATS			x	Rockford Area Transportation Study
Regional / Special Event Organizations	x	x		Organizations that oversee major special events and tourist centers, including colleges and universities, convention and tourism bureaus, and national/state park and recreation areas.
Regional Airport Authority	x			Regional airport authorities manage regional airport operations including transportation, security, and travel information.
Regional IEMA Coordinators			x	Illinois Emergency Management Agency Coordinators at a regional level.
Regional Transit Providers	x	x		These are multimodal transit agencies in the largest metropolitan areas of Illinois (Chicago and IL suburbs of St. Louis).
RICMMTD			x	Rock Island County Metropolitan Mass Transit District (MetroLINK)
Rides MTD			x	Rides Mass Transit District (Harrisburg)
RMTD			x	Rockford Mass Transit District
RTA			x	Regional Transportation Authority (Chicago Area)
Rural Transportation Agencies	x	x		These are transit agencies serving smaller communities, often across regions of the state. These operations typically use smaller vehicles and operate a largely demand responsive service. Agencies in this group

Stakeholder	Generic	Group	Specific	Agency Name or Description
				include CIPT, DMT, GT, JCMTD, JDCT, Rides MTD, RVMMTD, SCT, SMART, and WCMTD.
RVMMTD			x	River Valley Metro Mass Transit District (Kankakee)
SCT			x	South Central Transit (Centralia)
SMART			x	Shawnee Mass Transit District (Far Southern Illinois)
SMTD			x	Springfield Mass Transit District
Statewide Emergency Management Incident Command	x	x		This group includes County Dept of Public Works, County Emergency Dispatch, IEPA, ESDA, IEMA, IDOT Central Office, IDOT Central Bureau of Operations, IDOT District Operations, ISP Central Operations, Municipal Dept of Transportation, and Municipal Emergency Dispatch
Statewide IEMA Operations			x	Illinois Emergency Management Agency Coordination at an inter-regional / statewide level.
Taxi Operators	x			These are taxi operators under contract to a transit agency of any size who provide service on demand. Specifically, this applies to taxicabs that accept trips from paratransit dispatch and are required to report back trip completion and any exceptions in a timely fashion. It does not include taxi companies involved in simple voucher based service if the transit operator is not taking the call from the traveler.
TCRPC			x	Tri-County Regional Planning Commission (Peoria, Tazewell, Woodford Counties)
Telecommunication Providers	x			Telecommunications providers are those public and private entities that provide infrastructure to support 511 and other traveler information services.
Traffic Operations Stakeholders	x	x		This grouping reflects those agencies that have or are likely to install, operate, and maintain field elements or systems to control the flow of traffic or report on the state of traffic flow at that location. These agencies include Municipal Departments of Transportation, County Highway Departments, and IDOT District Operations at a minimum.
Travelers	x			Generic term that covers the traveling public in and through the state of Illinois
USCG			x	US Coast Guard
WCMTD			x	West Central Mass Transit District (Jacksonville)

Similarly, an initial list of Systems and their descriptions is found in Table 2 for the Statewide ITS Architecture. Further additions/ corrections will be made as the various sub architectural element files are integrated to make the overall Statewide ITS Architecture file.

Table 2. Statewide ITS Inventory

Inventory	Description
511 System	The comprehensive 511 traveler information system being implemented in state of Illinois.
ASPEN	ASPEN is a laptop-based system used by the Federal Motor Carrier Safety Administration (FMCSA) that allows safety inspectors to enter inspection reports at the roadside and forwards them to CVIEW. It allows them to retrieve inspection reports, carrier profiles, and snapshots to help in selecting vehicles for inspection.
Automatic Anti-Icing System	Several anti-icing systems have been deployed in the state of Illinois. These systems detect pavement temperatures and distribute an anti-icing agent when necessary.
CAPRI	Carrier Automated Performance Review Information (CAPRI) is used by the Federal Motor Carrier Safety Administration (FMCSA) to perform compliance reviews of commercial vehicles.
CCTV Camera System (City of Chicago)	Closed circuit television (CCTV) cameras are currently located in various locations in the Chicago Metro area. In the future, additional CCTV for both traffic management and security/safety monitoring are envisioned to be added to the network. Currently these are not shared systems.
CCTV Camera System (IDOT)	IDOT District 1 operates numerous pan-tilt-zoom (PTZ) surveillance cameras throughout the district's freeway system. IDOT District 4 operates 15 PTZ surveillance cameras along the I-74 corridor in downtown Peoria and East Peoria for traffic surveillance. IDOT District 8 operates 24 PTZ surveillance cameras in the East St. Louis Area for traffic surveillance. IDOT District 6 plans to install a limited number of PTZ cameras in the near future.
CCTV Camera System (ISTHA)	Closed circuit television (CCTV) cameras are located throughout the Tollway system.
CCTV Camera System (Municipal)	Pan-tilt-zoom (PTZ) and fixed video cameras are used by various municipalities in Illinois.
CCTV Camera Systems (Rest Areas)	Closed circuit television (CCTV) security cameras are placed currently in rest areas along I-27, I-39, I-80, I-90, I-55, I-57, I-74, I-72, I-70, I-64, and I-24 that are operated by the ISP districts.
CDL Registration Database	CDL Registration Database is maintained by the IL Secretary of State's Office and supplies CDL data to the Federal Motor Carrier Safety Administration (FMCSA) CDLIS.
CDLIS	Commercial Driver's License Information System (CDLIS) exchanges CDL data (e.g., CMV drivers, traffic convictions, and disqualifications) with the IL Secretary of State's Office.
City Centric District Hub	This template hub has varied data sources and destinations and is meant for those larger metropolitan areas found in Districts 1 and 8 (Chicago and East St. Louis respectively).
City Transit Agency Dispatch	Medium size city transit management agencies that connect through the district hubs to share information beyond their local sphere of influence.
City Transit Agency Vehicles	Vehicles operated by medium sized city transit agencies.
Commercial	This is the all-purpose system in the architecture representing all commercial

Inventory	Description
Vehicles	vehicles. This system is different from Vehicles in that it has the added characteristics such as fleet dispatching, onboard diagnostics and maintenance, and automatic vehicle locationing.
Community Centric District Hub	This template hub has varied data sources and destinations that pertain to medium sized cities and communities found in Districts 2,3,4,5, and 6.
Community Transit Agency Dispatch	These are community based transit systems that may use vans or small buses to provide demand responsive service within a town or township. These are differentiated from rural transit agencies in that these are in communities that are part of metropolitan areas.
Community Transit Vehicles	Vehicles used by community transit operations.
Commuter Rail Operations	Currently the only ones of these operating in Illinois are Metra and South Shore (Metra subsidized in IL). In the future, however, there may be others.
Contract Taxi Operators	These are taxi operators under contract to a transit agency of any size who provide service on demand. Specifically, this applies to taxicabs that accept trips from paratransit dispatch and are required to report back trip completion and any exceptions in a timely fashion. It does not include taxi companies involved in simple voucher based service if the transit operator is not taking the call from the traveler.
County Emergency Dispatch - PSAP	Outside metropolitan and large urban areas, the Public Safety Answering Point or PSAP is likely to be operated by the County as part of their Emergency Management function. In many of the communities in Illinois, the PSAP dispatches both fire and police when incidents occur along the surface transportation network.
County Maintenance and Construction Dispatch	These systems include mobile data terminals (MDTs), computer-aided dispatch (CAD) systems and radio dispatch communications systems to allow County Highway Departments and other analogous agencies to dispatch and track their fleets for construction and maintenance activities.
County Maintenance and Construction Vehicles	Vehicles equipped for snow removal and to maintain roads outside municipal boundaries; no plans for AVL in 10 year horizon but maintenance scheduling software in place.
County Maintenance & Construction Website	As an aid to travelers, websites detailing maintenance and construction within a region are available in some portions of Illinois.
Dept of Driver Services	The Illinois Department of Driver Services (commonly known as the Department of Motor Vehicles) is a terminator in this architecture.
CVIEW	CVIEW is a system that ties multiple legacy systems in Illinois into a single accessible entry point. CVIEW will be responsible for receiving data from State commercial vehicle systems, building/creating snapshots; exchanging data with SAFER, PrePass and other third-party systems (IRP & IFTA Clearinghouses), and making CVIEW data available to authorized Illinois personnel.
Detectorization	This is the all-purpose system in the architecture representing network surveillance systems such as loop detectors, radar, acoustic, machine vision, and any other technology that provides data about the flow of travel along the surface transportation network. Such areas such as District 1 have a large inventory of such devices already in place where as other areas of the state such as District 7 or 9 have little to no detectorization.
DMS (IDOT)	Dynamic Message Signs (DMS) are operated by IDOT in their various districts (22 in District 1, 9 in District 2, 5 in District 3, 2 in District 4, and 3 in District 8). DMS are also planned for District 6. In the future, more signage may be added.

Inventory	Description
DMS (ISTHA)	Illinois State Toll Highway Authority (ISTHA) operates 8 Dynamic Message Signs (DMS) at various points along I-90, I-88, I-94/294.
DMS (Municipal)	Dynamic message signs are currently planned by the City of Chicago are considered future elements for various other municipalities in Illinois.
Driver	The driver represents the human behind the wheel and is a terminator in this architecture.
Dynamic Warning Systems	Dynamic warning systems monitor vehicle speeds and provide warning to drivers and/or vehicles that are traveling at unsafe speeds. These systems should be deployed at locations where excessive speed is a problem such as in advance of curves and downgrades or where white-out conditions are possible during winter weather. These systems have a variety of levels of technical sophistication as well as level of autonomous operation.
Emergency Call Boxes	A series of highway call boxes to aid travelers in IDOT District 8 in East St. Louis and at rest stops located throughout the state in each IDOT district (along I-24, I-39, I-55, I-57, I-64, I-70, I-72, I-74, I-80, and I-90).
Emergency Vehicle Preemption System	These systems provide emergency vehicles with priority along their approach to an intersection.
Emergency Vehicles	Emergency vehicles for local fire/police/emergency responders whether they be city or county are covered by this element.
EOSS/CI System	Illinois Electronic One-Stop Shop / Credentialing Interface (EOSS/CI) supports all on-line credentialing operations which automates the application, processing and issuance of motor carrier operating credentials and permits.
Emergency Patrol Vehicles	IDOT's Emergency Patrol Vehicle (EPV) System provides motorist assistance through the East St. Louis area and is particularly effective in providing incident information/confirmation to IDOT District 8 traffic management system operations.
ETS/911 System	IDOT's Emergency Patrol Vehicles (EPV) provide motorist assistance throughout the Chicagoland and East St. Louis areas and are particularly effective in providing incident information/confirmation to IDOT district traffic management system operations.
Gateway Guide Website	The Gateway Guide serves the metropolitan St. Louis area, including East St. Louis, with traveler information.
Gateway Travel Information Website	The Gary-Chicago-Milwaukee Gateway Traveler Information website serves the Chicagoland region with traveler information.
HAR	Highway Advisory Radio (HAR) is a means of getting up to date information to travelers on road conditions.
Hazardous Waste Transporter Permit System	Carriers must apply to the Illinois EPA for permits to carry hazardous waste along the surface transportation network in Illinois.
HAZMAT Management and Cleanup	Private agencies that specialize in hazardous materials incident cleanup.
HAZMAT Response Vehicle	Specialized emergency response vehicles for hazardous materials incident response and cleanup.
HELP Vehicles	ISTHA's Highway Emergency Lane Patrol (HELP) vehicles provide motorist assistance on the Illinois Tollway and are particularly effective in providing incident information/confirmation to the TIMS.
Highway Rail Information Systems	Advanced highway rail information system for highway rail crossing blockages in East Peoria at IL-116.

Inventory	Description
Hospitals/Medical Centers	Regional care facilities.
HRI Quad/Dual Gate System	Highway Rail Intersection systems include Quad Gate Systems in Districts 3 & 6 and Dual Gate Systems in District 3. Systems with HRI functionality are of particular interest in those areas with large numbers of rail/highway crossings and also in rural areas.
IDOT Bureau of Local Roads Construction Coordination System	Villages, townships, cities, and counties all coordinate the local construction and maintenance with IDOT who then puts the agencies in contact with the appropriate IDOT department (construction, design, Central Office, etc.).
IDOT District Communication Center	Each IDOT District has a central operations center for communicating with the region's various ITS elements. These are located in District 1 (Communication Center at IDOT in Schaumburg and the Traffic Systems Center (TSC) in Oak Park), Communication Center at IDOT in Dixon for District 2, Communication Center at IDOT in Ottawa for District 3, Communication Center at IDOT in Peoria for District 4, Communication Center at IDOT in Paris for District 5, Communication Center in Springfield for District 6, Communication Center at IDOT in Effingham for District 7, Communication Center at IDOT in East St. Louis for District 8, and Communication Center at IDOT in Carbondale for District 9.
IDOT District Construction Website	As an aid to travelers, websites detailing maintenance and construction activities within a district are available in some portions of Illinois such as District 4 with the I-74 reconstruction project and other ongoing transportation efforts.
IDOT CVO Inspection Facility	Commercial vehicle inspection facilities are located along major commercial vehicle corridors throughout the state of Illinois operated by IDOT Division of Traffic Safety.
IDOT CVO Permitting - Oversize/ Overweight	The Oversize/Overweight (OSO) permitting system is used to provide permits electronically to carriers via the Electronic One-Stop Shop (EOSS) website within the state of Illinois. This information is provided to ISP as needed.
IDOT District Kiosks	Kiosks are public informational displays supporting various levels of interaction and information access.
IDOT District Maintenance Dispatch	These systems include mobile data terminals (MDTs), computer-aided dispatch (CAD) systems and radio dispatch communications systems to allow IDOT districts that perform maintenance activities to dispatch and track their vehicles. Most districts have GIS systems and scheduling software for routine and corrective maintenance and are capable of distributing information to other agencies at some level (fax. phone, email, on-line, etc.).
IDOT District Maintenance Field Equipment	Illinois Department of Transportation (IDOT) maintenance systems include work zone dynamic message signs (DMS), queue detection and warning systems, and speed warning systems (SWS) to aid IDOT workers in the field by providing information to travelers of upcoming and on-going activities.
IDOT District Maintenance Vehicles	Vehicles equipped for snow removal and to maintain roads; no plans for AVL in 10 year horizon but maintenance scheduling software in-place.
IDOT Geographic Information Services (GIS)	The Illinois Department of Transportation (IDOT) Geographic Information Services (GIS) acts as the map update provider for all IDOT agencies and is a terminator in this architecture.
IDOT Road Condition Telephone Line	Statewide Winter Road Condition/Construction Telephone Line operated by IDOT as part of the environmental warning system. Provides pre-recorded information at 1-800-452-IDOT (4368).

Inventory	Description
IDOT RWIS System Display	IDOT provides, on the IDOT website statewide, a display of the RWIS System data for the public. In the future, this data will be made available to more travelers through rest stop kiosks.
IDOT Statewide Transportation Websites	Road construction, winter road condition and road closure information can be accessed at a number of IDOT websites, including www.gis.dot.il.gov, www.dot.state.il.us/tpublic.html, www.ilinoisroads.info, and www.gettingaroundillinois.com. In the future the information that drives this site would be available in an intra-agency manner via the district hubs in the district communication centers as well.
IDOT Traffic Systems Center (TSC)	The Traffic Systems Center is operated by IDOT in Oak Park and provides the surface transportation network flow information in District 1.
IDOT Weigh Stations	IDOT owns and operates 35 fixed site weigh scales. PrePass Systems are being installed at most weigh stations.
IEPA	The mission of the Illinois Environmental Protection Agency (IEPA) is to safeguard environmental quality, consistent with the social and economic needs of the state, so as to protect health, welfare, property and the quality of life.
IFTA Clearinghouse	International Fuel Tax Agreement (IFTA) Clearinghouse is a core federal system under CVISN.
Illinois Electronic Permitting System (IFTA)	International Fuel Tax Agreement (IFTA) is the system that electronically provides motor fuel tax and licensing. This information is provided to the Illinois State Police (ISP) as needed.
Illinois Electronic Permitting System (IRP)	International Registration Plan (IRP) system is used by 48 states, Canada and Mexico for plating and registration of commercial vehicles. This system provides one-stop shopping for license fees with the funds collected distributed to the states on a pro-rated share.
Illinois Electronic Permitting System (SSRS)	This information from the Single State Registration System (SSRS) is provided to the Illinois State Police as needed via phone.
Indiana Motor Carrier Services Electronic Permits	Neighboring state system(s) that issues credentials and collects fees and taxes (IRP, IFTA, overheight/overweight permits) and exchanges data with Illinois services via CVIEW.
Iowa Motor Carrier Services	Neighboring state system(s) that issues credentials and collects fees and taxes (IRP, IFTA, overheight/overweight permits) and exchanges data with Illinois services via CVIEW.
IPASS	Automatic vehicle identification/electronic toll collection (AVI/ETC) system operated by the Illinois State Toll Highway Authority (ISTHA).
IREACH	The Illinois Radio Emergency Assistance Channel (155.055 MHz) was designed to serve as a means of interjurisdictional communications between public safety answering points (PSAP) during emergencies. While some PSAPs do use IREACH, the system been used primarily for mobile-to-mobile communications between emergency responders.
IRP Clearinghouse	International Registration Plan (IRP) Clearinghouse is a core federal systems under CVISN.
ISP Dispatch	Illinois State Police (ISP) dispatching systems that interface within ISP districts (which are different than IDOT districts and regions) as well as to ISP Central Operations for use in wide area alerts and large scale disaster efforts. These systems can include computer-aided dispatch (CAD) to interface with the mobile data terminals (MDT) found in the ISP vehicles. These systems also provide a means of communication to local law enforcement and first responders.
ISP Vehicles	Illinois State Police (ISP) vehicles are equipped with computer aided dispatch (CAD) interfaces to their mobile data terminals (MDTs).

Inventory	Description
ISP Winter Road Condition Telephone Line	Illinois State Police operates a Winter Road Condition telephone line in each Illinois State Police (ISP) District. This information is also included in the statewide recorded message system for winter road condition and construction information.
ISPERN	The Illinois State Police also have their own statewide communications channel, ISPERN (Illinois State Police Emergency Radio Network). As a means of secondary coordination, law enforcement officials around the state monitor the ISPERN frequency (155.475 MHz) to stay informed of ISP activities.
ISTHA TMC (TIMS)	Traffic and Incident Management System is operated by Illinois State Toll Highway Authority (ISTHA) and shares information and selected control functionality with IDOT District 1 Communication Center.
IWIN	Illinois Wireless Information Network (IWIN) has developed into the primary means of communication between different law enforcement agencies. IWIN is a statewide communications system (CDPD through Verizon Wireless set up by the Illinois State Police, Central Management Services (CMS), and the Illinois Criminal Justice Information Authority (ICJIA). It is linked to statewide/national databases like Law Enforcement Agency Data Service (LEADS), National Crime Information Center (NCIC), National Law Enforcement Telecommunications System (NLETS) and the Illinois Secretary of State databases. It can also be linked to an agency's CAD system or record management system.
Kentucky Motor Carrier Services	Neighboring state system(s) that issues credentials and collects fees and taxes (IRP, IFTA, overheight/overweight permits) and exchanges data with Illinois services via CVIEW.
Large Bus Transit Agency Dispatch	This is a large bus transit system in a metropolitan area with population over 1 million. It is characterized by the greatest extent of interagency coordination and extensive use of ITS services. This agency operates both fixed route and paratransit operations.
Large Bus Transit Agency Vehicles	Vehicles operated by large urban bus transit agencies, including both their paratransit operations and fixed route operations.
Licensing and Titling System	Illinois state system for issuing licenses and titles for commercial vehicle operations. In the future, this system will be available through CVIEW and the EOSS/CI.
Local Media	Media who interact with transportation agencies to get information on current delays, as well as planned or emergency reroutes or service interruptions such as radio, television and cable networks.
MABAS	Mutual Aid Box Alarm System (MABAS) allows hundreds of fire and emergency services personnel to coordinate their response to incidents. Recently adopted for fire and EMS Mutual Aid across Illinois, MABAS includes over 25,000 firefighters and emergency response units, including more than 750 fire stations and 600 ambulances. Using a common radio frequency, Interagency Fire Emergency Radio Network (IFERN), MABAS agencies are activated for response through pre designed "run" cards that each participating agency designs and tailors to meet their local risk need. Fire departments, particularly those in the northern part of the state, also utilize these dedicated communication channels to coordinate their operations.
MCMIS	Motor Carrier Management Information System (MCMIS) calculates a carrier's safety and fitness records.
MCR System	Mobile Capture & Reporting (MCR) System provides crash data from law enforcement agencies via the Illinois Wireless Network (IWIN) to an MCR crash database overseen by IDOT Division of Traffic Safety.
Medical Carriers	Medical carriers handle non-emergency medical transportation throughout the state. Often they do this under contract to local government units or to state or

Inventory	Description
	federal government human services programs
MMIS	Maintenance Management Information System (MMIS) is housed in Springfield and keeps track of all IDOT maintenance activities throughout the state. This information is used as a maintenance inventory and to feed the display on the various websites with regards to road construction.
Missouri Motor Carrier Services	Neighboring state system(s) that issues credentials and collects fees and taxes (IRP, IFTA, overheight/overweight permits) and exchanges data with Illinois services via CVIEW.
Municipal Emergency Dispatch - PSAP	Within municipal boundaries, a municipal 911 Center may exist as the Public Safety Answering Point or PSAP is likely to be operated by the City as part of their Emergency Management function. In many of the communities in Illinois, the PSAP dispatches both fire and police when incidents occur along the surface transportation network as well as has connections to the Sub-Regional TMC in that City.
Municipal EMC	Emergency Management Centers operated by municipalities that serve as command centers for large-scale emergencies.
Municipal Maintenance and Construction Dispatch	These systems include mobile data terminals (MDTs), computer-aided dispatch (CAD) systems, and radio dispatch communications systems to allow city department of public works and other analogous agencies to dispatch and track their fleets for construction and maintenance activities.
Municipal Maintenance Field Equipment	This includes roadside portable message signs and other work zone equipment.
Municipal Maintenance Vehicles	Vehicles equipped for snow removal and to maintain streets; no plans for AVL in 10 year horizon but maintenance scheduling software in-place.
Municipal TMCs	Higher functioning transportation management facilities run by municipalities. Represents a level of TMC below the Sub-Regional TMC (e.g., Peoria, Rockford). May include multi-jurisdictional signal coordination within subareas or corridors that may or may not be contiguous.
Other Rural Transit Agencies	Other rural transit agencies with which Rural Transit Agencies coordinate. This element is a terminator in this architecture.
Other Urban Transit Agencies	Other large or medium size agencies with which City Transit Agencies coordinate. This element is a terminator in this architecture.
Parking Management Systems	Systems like the RTA/Metra Parking Management Guidance System (PMGS) and rest area commercial vehicle signs that maintain an inventory of open parking spaces and make that available to DMS designed to inform motorists.
Potential Obstacles	Potential Obstacles is a terminator in this architecture and could be anything from debris on the highway to a vehicle in the roadway to animals crossing the highway in rural areas.
PrePass	PrePass is a motor carrier enrolled system to provide updated carrier and vehicle information to improve a roadside facility's decision on selection of vehicles for enforcement activity.
PrePass WIM Stations	PrePass Weigh-in-Motion (WIM) stations are located along major commercial vehicle corridors throughout the state of Illinois (12 in District 1, 4 in District 2, 2 in District 3, 1 in District 5, 3 in District 6, 2 in District 7, 2 in District 8, 3 in District 9).
Private Carrier Operations	Private Carrier Operations is a generic term for all commercial vehicle operators operating in and through the state of Illinois and the ITS systems they use to operate their fleets.
Private CVO Inspection Facilities	Commercial vehicle inspection facilities are located along major commercial vehicle corridors throughout the state of Illinois operated by private CVO

Inventory	Description
	inspection services.
Private ISPs	Private sector information service providers (ISPs), such as Shadow Traffic, Metro Networks, Traffic.com, etc. that disseminate general and customized transportation information to the traveling public, including commercial vehicles.
Rail Freight Operations	Rail operations centers for private rail firms operating in Illinois.
Rail Passenger Operations	AMTRAK intercity passenger rail operations.
Rail Transit Operations	Rail transit centers that operate urban heavy or light rail transit systems in large metropolitan areas. For both Chicago and St Louis, this is actually an operating unit within a single organization (CTA or METRO).
Ramp Merge Warning System	Ramp merge warning systems increase safety on highways by alerting drivers of merging traffic. One existing example of such a system in installed at the Belmont entrance ramp in on North Lake Shore Drive in Chicago.
Ramp Meter System	Traffic control systems deployed on entrance ramps to limited access roadways to meter the levels of traffic entering the highway. Ramp metering is currently in use in the Chicago area.
Regional Airports	Regional airports that coordinate multi-modal passenger movement with transit agencies.
Roadside Equipment for In-Vehicle Signing	Roadside systems that communicate directly with vehicles to alert motorists of location-specific travel advisories, including crash warning systems.
Rural Centric District Hub	This template hub has a focused set of data sources and destinations and applies to predominately rural transportation needs. This hub is appropriate for Districts 5, 7, and 9.
Rural Transit Agency Dispatch	Rural Transit Agencies service the majority of the state of Illinois geographically. These agencies commonly maintain ties to the nearest medium-sized transit agency(s) for coordination on specific routes through a variety of systems and communications technologies
Rural Transit Agency Vehicles	Rural transit agency vehicles. These may range from sedans to SUVs to vans to small buses.
RWIS	There are a total of 57 roadway weather information system (RWIS) stations deployed in all nine IDOT districts (ten in District 1, eight in District 2, five in District 3, eight in District 4, five in District 5, eleven in District 6, three in District 7, five in District 8, and two in District 9). These systems feed their data in to the IDOT District Communications center currently and in the future, to their district's hub. This information is made available on the IDOT website.
SAFER	The Federal Motor Carrier Safety Administration (FMCSA) provides the SAFER web access tool at www.safersys.org which hold safety ratings/data by carrier. Inputs from the MCMIS are used to drive this system.
SAFETYNET	Data management system for driver/vehicle inspections, commercial vehicle crashes, compliance reviews, assignments, complaints, enforcement cases, etc. It supports links to SAFER, MCMIS, and CAPRI.
Security Monitoring Equipment	Sensors that monitor critical infrastructure such as river bridges, tunnels, and interchanges. These systems can include motion sensors, radiological sensors, and object detection.
Statewide Emergency Operations Center	Statewide Emergency Operations Center (SEOC) located in Springfield. The SEOC houses numerous statewide emergency management agencies, and serves as the disaster command center for the state of Illinois.
Statewide Incident Management System	This system ties all Illinois State Police and Emergency Management agencies electronically to respond and manage incidents and emergencies. This set of systems and application software being implemented throughout the state of

Inventory	Description
	Illinois provides a single common set of incident management systems to all incident and emergency services stakeholders.
Station One	Station One was established by IDOT to serve as a universal communications network between all nine IDOT districts. Station One is based at the IDOT Central Office in Springfield, and is operated 24/7. Station One serves two primary purposes: emergency dispatch when the local district office is closed, and maintenance of traveler information, specifically road conditions, across the state. As such, it also acts as a central repository for such information, as collected by IDOT personnel and equipment across the state.
Sub-Regional TMC	This template transportation management center represents those set of systems providing traffic management functionality along with incident management capabilities that exist in a region. These will primarily be found in the larger cities and communities (e.g., Chicago, Collinsville, Peoria, Rockford, etc.) that have a larger number of travelers in their region as compared to the more rural areas of Illinois.
Toll Tag Reader	Transponder reader equipment on or along the roadside for reading toll tag information. Currently used by ISTHA on its toll roads and the Chicago Skyway. Compatible with the IPASS and EZPASS systems.
Traffic Signal Systems	Traffic signal systems owned, operated, and maintained by traffic operations stakeholders, including IDOT, county highway departments, and municipal departments of transportation.
Transit Hub	Transit hub for a large urban area such as Chicago or St. Louis. The hub supports interagency coordination, data fusion, and supply of transit data to multimodal traveler information applications. A transit hub structure is not envisioned elsewhere in the state because the integration needs among transit agencies and between transit agencies and other agencies are more straightforward. City Transit Agencies (e.g., Moline) may have kiosks, transit information signs and the like, but that they will be driven not by a regional transit hub, but rather by the agency's systems.
Transit Information Signs	Transit Information Signs are displays at transportation centers, stations, and stops that show when the next vehicle is coming, by route and direction. These may be found in large urban systems as well as small-medium sized transit agencies.
Transit Kiosks	These kiosks may provide basic transit information, and/or access to a trip planner, and/or access to event and attraction information. In the future, all the necessary information will be resident on the transit hub.
Transit Signal Priority System	These systems provide transit vehicles with preferential treatment along their approach to an intersection.
Transit Trip Planning Mobile Device Support	These systems support providing personalized transit trip planning information to the traveler.
Traveler	Any individual who uses transportation services. The interfaces to the traveler provide general pre-trip and en-route information supporting trip planning, personal guidance, and requests for assistance in an emergency that are relevant to all transportation system users.
Universal Fare Card	A fare card that can be used at minimum on all transit agencies in a region seamlessly. May also be available for other transportation or non-transportation uses.
User Personal Computing Devices	User Personal Computing Devices refers to equipment an individual owns and can personalize with their choices for information about transportation networks. An Internet-connected PC is an example.
Vehicle	This subsystem provides the sensory, processing, storage, and communications

Inventory	Description
	functions necessary to support efficient, safe, and convenient travel. These functions reside in general vehicles including personal automobiles, commercial vehicles, emergency vehicles, transit vehicles, or other vehicle types.
Violation Enforcement Systems	Violation enforcement systems are used by enforcement agencies to receive violations information for issuing driver fines.
Weather Service Feed	This terminator provides weather, hydrologic, and climate information and warnings of hazardous weather including thunderstorms, flooding, hurricanes, tornadoes, winter weather, tsunamis, and climate events.
WisDOT Motor Carrier Services	Neighboring state system(s) that issues credentials and collects fees and taxes (IRP, IFTA, overheight/overweight permits) and exchanges data with Illinois services via CVIEW.
Work Zone Photo Enforcement System	These systems include portable traffic control and enforcement equipment that are dynamically positioned in work zones and other locations where excessive speed is an issue. These systems monitor the roadway environment, photograph vehicles when speed conditions for that location are exceeded, and provide this information for speed enforcement.
Yellow Pages Service Provider	This terminator represents the individual organizations that provide any service oriented towards the Traveler. Example services that could be included are gas, food, lodging, vehicle repair, points of interest, and recreation areas.

Subsystems vs. Terminators

The subsystems and terminators defined in an ITS architecture provide a good categorization of the various functions necessary to implement any ITS solution. **Subsystems** are individual pieces of the overall Intelligent Transportation *System* that perform particular functions such as managing traffic, providing traveler information, or responding to emergencies. Subsystems can be associated with particular organizations such as departments of transportation, information service providers, or public safety agencies.

Terminators on the other hand define the boundary of an architecture and as such, no functionality is required to be describe in the architecture. They are simply interfaces to other systems outside the scope of an architecture as it is defined.

At the Statewide level, key terminators in the "Other System" category (i.e., Other Archives , Other Emergency Management, Other Information Service Providers, Other Maintenance and Construction Management, Other Traffic Management. and Other Transit Management terminators) are used as they are primarily Center to Center communication paths and not the vehicle related "Other" terminators. Similarly, the "System" related terminators (Alerting and Advisory Systems, Archived Data User Systems ,Care Facility, CVO Information Requestor, DMV, Emergency Telecommunications System, Enforcement Agency, Event Promoters , Financial Institution Government Reporting Systems, Intermodal Freight Depot, Maintenance and Construction Administrative Systems, Media, Multimodal Transportation Service Provider, Rail Operations, Shelter Providers, Surface Transportation Weather Service, Telecommunications System for Traveler Information, Traveler Card, Wayside Equipment,

Weather Service, Yellow Pages Service Providers) are used in a generic fashion at the statewide level to indicate key interfaces that have multi-region impacts or have potential for statewide standardization. The "Human" and "Environment" categories of Terminators have been specifically left out at the statewide with the exception of the Traveler. When developing a regional architecture, the scope may need to include more of the Terminators in the "Human" category and less of the "System" category as befits the details of the specific region.