INTRODUCTION

In order to maximize the utilization and effectiveness of the Illinois Statewide ITS Architecture update, participating stakeholders must be able to identify themselves along with the various ITS systems they own and operate and also the existing and available interfaces. This nomenclature guidance is based on the established naming convention for use in developing and maintaining ITS architectures, both at the Statewide and the regional levels. This naming convention will continue to ensure consistency with the regional architectures across the state. The purpose of this guidance is to identify terminology used in the Statewide ITS Architecture update for reference by Statewide and regional stakeholders. The guidelines are provided to address the nomenclature for stakeholders and inventory elements using 'Stakeholders' and 'Groups' and 'Subsystems vs. Terminators'.

NOMENCLATURE GUIDELINES

A region contains multiple transportation agencies and jurisdictions which may have adjoining and overlapping geographies. These agencies share the need to use advance transportation systems in the most efficient manner, to solve a range of evolving mobility issues ranging from traffic congestion, incident management, transit accessibility and availability of real time data, to disaster recovery, emergency operations, construction safety and commercial vehicle operations. Implementation of multimodal efforts involving Integrated Corridor Management and Smart City and Connected and Autonomous Vehicle applications rely on enabling technologies identified in the regional architectures.

In order for integration opportunities to be evident to stakeholders, it is important for naming conventions to be concise for ease in identification of stakeholders and the systems functionality. Based on USDOT guidance, just because a region (city, county, etc.) is located within a State, that doesn't mean the regional ITS architecture (RITSA) requirements for that region are automatically met within the Statewide ITS Architecture. If the stakeholders within a region participated in the development of the Statewide ITS architecture, and their specific systems and related interfaces in the region are part of it, then the Final Rule requirements for that region have been met. These stakeholders must also be part of the Statewide ITS Architecture maintenance process to ensure accurate reflection of their regional systems.

If RITSAs are developed, the elements can be "pulled out" of the Statewide ITS Architecture and represented in the regional database and documentation, maintaining consistency between the Statewide and RITSAs. Since RITSAs have been developed for Illinois MPO regions deploying ITS, the regional stakeholders are included in 'Groups' instead of duplicating the RITSAs.

The following guidelines represent the methodology adopted by the IDOT ITS Program Office (ITSPO) to maintain consistency and clarity for Stakeholders and System Inventory elements.

- Whenever possible, apply the most commonly used Stakeholders names. Acronyms should be used as long as they are unique and represent the commonly known name within the region. The

easier a stakeholder can identify themselves in the architecture documents, the better the chances to realize opportunities for integration and shared resources. In cases where the stakeholder name is not commonly referenced, the full agency name should be spelled out along with any pertinent identifying information. Examples include Champaign Urban Mass Transit District (CUMTD) and Pace Suburban Bus (Pace).

- The use of commonly recognized abbreviations is recommended to allow the ITS architecture outputs to be easier to interpret by all interested parties. Quad Cities MetroLINK, also known as Rock Island County Metropolitan Mass Transit District is an example.

- For the Statewide ITS Architecture, the updated list of stakeholders and stakeholder groups is shown in Table E-3. The RAD-IT ITS Architecture software supports the use of Stakeholder Groups. This functionality allows the user to place multiple stakeholders into a single group, and give this group a single definition and description. This allows interfaces to the stakeholder group, rather than replicating the same interface across all of the stakeholders in that group.

  For example, the stakeholder group 'Regional Transit Providers' consists of these five individual stakeholders: Metra, RTA, CTA, Pace and Metro Transit (St. Louis). Each of these five individual stakeholders can still be referenced in the architecture as needed, but this group can also be referenced together.

  Column 1 of Table E-3 lists the Stakeholder Name, with all of the individual stakeholder and stakeholder groups listed. Column 2 indicates if a specific row pertains to a stakeholder group, marked with an 'x'. For rows that do pertain to a stakeholder group, the individual stakeholder members are listed in Column 3. Note that each of those listed in this column still has its own row as an individual stakeholder. Column 4 contains the Stakeholder Description for both the individual stakeholders and the stakeholder groups.

- For the Regional ITS Architectures, groups such as "County", Municipal", and "MPO/RPC" are representative of the actual department, city agency, or organization from a given region.

- Similarly, where there is a state border within the RITSA, the "Other State DOT" stakeholder can either be included in a group, or called out specifically using a recognizable two or three letter abbreviation for the state in front of "DOT". Examples include INDOT for Indiana DOT and WisDOT for Wisconsin DOT.

- The various Regional ITS Architecture files that are maintained throughout the state will all continue to contain much more data than the Statewide ITS Architecture file, and this more detailed data will also be modeled at a higher level of granularity. Additionally, regions across the state vary significantly in terms of ITS networks, population density and typical use cases.

  To accommodate these two factors, the Statewide ITS Architecture nomenclature makes use of general terms to describe types of stakeholders when practical. This allows the file to act as a template for everyone in the state in some contexts, rather than focusing more on urbanized uses or rural uses.

  For example, the stakeholder group 'Regional Transit Providers' was mentioned above. There are many other transit agencies throughout the state, most of which function quite differently than the larger, regional providers. The table below outlines the three stakeholder groups that are setup as a template for use in statewide regional transit operations. Users are encouraged to make use of the group that best applies to their needs and applications:

Table E-1: Stakeholder Groups for Transit Operations

Stakeholder Group Name	Stakeholders	Notes
City Transit Providers	CityLink, Connect Transit, CUMTD, DPTS, MCD, MetroLink (Quad Cities), RMTD, SMTD	• Transit service in urban areas • MSA[1] • Population > 200k
Regional Transit Providers	CTA, RTA, Metra, Pace, Metro Transit (St. Louis)	• Can offer rail service • Service extends beyond metropolitan border
Rural Transportation Agencies	CIPT, DMT,GT, JCMTD, JDCT, Rides MTD, RVMMT, SCT, SMART, WCMTD	• Transit service in rural areas • Not MSA, or MSA population <100k

Note that, while these three transit groups are intended for mutually exclusive use, there are other relevant stakeholder groups in the Statewide Architecture that can be used in conjunction with one of these tabulated transit stakeholder groups. For example, the stakeholder Rail Transit Operators is not specific to certain population sizes, but rather the infrastructure and travel mode.

Another example of general terms being used to create Stakeholder Groups that act as a template for various users pertains to the Departments of Transportation. The table below outlines the various DOTs found in the Statewide ITS Architecture, and how they differentiate from each other:

Table E-2: Stakeholder Groups for Departments of Transportation

Stakeholder Group Name	Stakeholders	Notes
IDOT	Approx. 10 individual stakeholders	• Relevant IDOT district, regional, or division entities are included.
County DOT or HWD	Cook County HWD DuPage County HWD Will County HWD	• These counties are included as individual stakeholders in the Statewide Architecture
Municipal DOT or HWD	No individual stakeholders included in architecture	• At the Statewide level, municipal DOTs are represented generally through a single stakeholder. This is used to account for entities that do not belong to an MPO, such as Galesburg.

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[1] MSA: Metropolitan Statistical Area. Defined by the U.S. Office of Management and Budget (OMB) and used by the Census Bureau and other federal government agencies for statistical purposes. See https://www.census.gov/programs-surveys/metro-micro.html for detailed MSA information.

While the stakeholders in the table are distinct from each other in some contexts, they are also used together to complete many projects. The architecture takes this into account by including the stakeholders group 'Traffic Operations Stakeholders.' This group consists of the three stakeholders found in the table.

The support of Stakeholder Groups in the software enables scalability for the Statewide ITS Architecture file going forward.   Individual stakeholders can be added to a Stakeholder Group without having to adjust the interfaces for that group at all.   Table E-3 below displays the updated list of stakeholder groups included in the Statewide ITS Architecture.

Similarly, a generic stakeholder can be created and used to represent a Stakeholder Group that is not yet populated with any individual stakeholders. To do this, an individual stakeholder is created with a generic name. Since it is an individual, and not a Stakeholder Group in the software, it has no capacity for group members.

An existing example of this is 'Private Hazmat Agencies.' This is a generic, template stakeholder for any private handling of hazmat. If for some reason, there was a need to add 2 specific private firms to the architecture, the user could convert this Individual Stakeholder to a Stakeholder Group with a single click. Then, the user would insert the specific Private Hazmat Agencies into the Stakeholder Group. The interface and functionality set for the original, individual stakeholder will remain for the new Stakeholder Group.

Using this methodology, the user can model Stakeholder 'Groups' into the Statewide Architecture without any specific Group Members.

Table E-3: Statewide ITS Architecture Stakeholder Groups List

Stakeholder Name	Group Members	Stakeholder Description
City Transit Agencies	CityLink, Connect Transit, CUMTD, DPTS, MCT, MetroLINK (Quad Cities), RMTD, RVMMTD, SMTD	City transit agencies are transit operators in medium size cities (MSAs[2] with population over 100,000) that connect through district hubs to share information beyond their local spheres of influence. Includes the transit agencies CityLink, CUMTD, MCT, MetroLINK (Quad Cities), RMTD, RVMMTD 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 Connect Transit and DPTS.
Enforcement Agencies	ISP Commercial Vehicle Enforcement, ISP District Operations, Local Law Enforcement Agencies	Enforcement agencies represent the various agencies that are responsible for enforcing traffic codes along the surface transportation network.
ESDA	County ESDA, Municipal ESDA	Emergency Services & Disaster Agency (ESDA), including both County and Municipal ESDA.
IDOT	IDOT Central Bureau of Information Processing (BIP), IDOT Central Bureau of Operations, IDOT District Bureaus of Construction, IDOT District Bureaus of Design, IDOT Bureaus of Electrical Operations, IDOT District Bureau Illinois Department of Innovation and Technology (DoIT), IDOT District Bureaus of Local Roads, IDOT District Bureaus of Traffic Operations, IDOT Division of Traffic Safety, IDOT ITS Program Office	Illinois Department of Transportation (IDOT) Bureaus and District Offices
IEMA	Regional IEMA Coordinators, Statewide IEMA Operations	Illinois Emergency Management Agency at both the regional and Statewide office levels.
ISP	ISP Central Operations, ISP Commercial Vehicle	Illinois State Police

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[2] MSA: See page E-3 for MSA definitions.

Stakeholder Name	Group Members	Stakeholder Description
	Enforcement, ISP District Operations	
ITD Stakeholders	ICC, IDOT Central Bureau of Operations, IDOT Division of Traffic Safety, IL Dept. of Revenue, IL Secretary of State Motor Vehicle Administration, ISP Commercial Vehicle Enforcement	Now referred to as ITD program, Innovation Technology Deployment. Formerly known as CVISN/EOSS Stakeholders. 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, and IDOT Division of Traffic Safety, IL Dept. of Revenue, IL Secretary of State Motor Vehicle Administration, and ISP Commercial Vehicle Enforcement.
IWIN Stakeholders	ICJIA, IL CMS, ISP Central Operations, ISP Commercial Vehicle Enforcement, ISP District Operations	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.
LMIGA Corridor (Lake Michigan Interstate Gateway Alliance)	WisDOT, INDOT, IDOT, MDOT, ISTHA, Indiana Toll Road, Chicago Skyway	Transportation department in Wisconsin, Indiana, Illinois and Michigan (WisDOT, INDOT, IDOT, MDOT), Tollway Authorities (ISTHA, Indiana Toll Road, Chicago Skyway).
MPO/RPC	BSRPC, CMAP, CUUATS, DATS, East-West Gateway Council of Governments, RMAP (Rockford), TCRPC	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.
Rail Transit Operators	CTA, Metro Transit	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 (CTA or Metro Transit).
Regional / Special Event Organizations	Colleges and Universities, Convention and Tourism Bureau, National/State Park and Recreation Areas	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 Transit Providers	CTA, Metra,	These are multimodal transit agencies in the largest metropolitan areas of Illinois, all offering

Stakeholder Name	Group Members	Stakeholder Description
	Pace, RTA, Metro Transit	both bus and rail services (Chicago and IL suburbs of St. Louis).
Rural Transportation Agencies	CIPT, DMT, GT, JCMTD, JDCT, Rides MTD, SCT, SMART, WCMTD	These are transit agencies serving smaller communities than city transportation agencies, often across regions of the state. These operations typically use smaller vehicles and operate a largely demand responsive service. Agencies in this group include CIPT, DMT, GT, JCMTD, JDCT, Rides MTD, SCT, SMART, and WCMTD.
Statewide Emergency Management Incident Command	County Dept. of Public Works, County Emergency Dispatch, EPA, IDOT Central Bureau of Information Processing (BIP), IDOT Central Bureau of Operations, ISP Central Operations, Municipal Dept. of Transportation, Municipal Emergency Dispatch, Statewide IEMA Operations	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.
Traffic Operations Stakeholders	County Highway Dept., IDOT District Bureau of Operations, Municipal Dept. of Transportation	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.

Each of the above stakeholder group contains at least two stakeholders. These groupings facilitate the avoidance of redundant communication mappings within the architecture.

The updated list of all stakeholders – including both those that belong to the stakeholder groups above and those that do not – is listed in Table E-4 below.

Table E-4: Statewide ITS Architecture Stakeholder List

Stakeholder Name	Stakeholder Description
AMTRAK	Nationwide passenger rail organization with regional hub in downtown Chicago.
APCO	Illinois Chapter of the Association of Public Safety Communications Officials
BSRPC	Bi-State Regional Planning Commission (BSRPC)
CIPT	Central Illinois Public Transit (Tuscola)
CityLink	Greater Peoria Mass Transit District, which now includes Pekin Municipal Bus (PMB was formerly its own stakeholder).
CMAP	Chicago Metropolitan Agency for Planning. Formerly known as Chicago Area Transportation Study.
Colleges and Universities	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. For example: UIC, UIUC, Northwestern, NIU, Illinois State, etc.
Connect Transit	Formerly known as Bloomington-Normal Public Transit System
Convention and Tourism Bureau	An organization that maintains up-to-date information on events, attractions and venues in their coverage area.
County Dept. of GIS	County departments of geographic information services (GIS)
County Dept. of Public Works	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, 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	County emergency dispatch agencies include fire and ambulance dispatch and all other first responders who respond to incidents along the surface transportation network.
County ESDA	Illinois County Emergency Services & Disaster Agency (ESDA) coordinators that provide support at the regional or county level.
County Highway Dept.	County highway departments are those agencies responsible for operation of the surface transportation network and roadside equipment outside the municipal borders.
County Human Services	County human services are those agencies responsible for emergency government operations and the emergency alert system. County human services coordinate closely with IEMA.

Stakeholder Name	Stakeholder Description
CTA	Transit provider in the city of Chicago and beyond to rest of the region, offering both rail and bus services.
CUMTD	Champaign-Urbana Mass Transit District
CUUATS	Champaign Urbana Urbanized Area Transportation Study
DATS	Danville Area Transportation Study
DMT	Danville Mass Transit
DPTS	Decatur Public Transit System
East-West Gateway Council of Governments	St. Louis Metropolitan Planning Organization
Emergency Responders	Local responders such as fire and ambulance are represented by this stakeholder.
EPA	US and Illinois Environmental Protection Agency (EPA) provides hazardous waste transporter permits to carriers as well as is involved with emergency and disaster response situations as necessary. The EPA also monitors air quality levels and determines Ozone Action days.
ETSB	Emergency Telephone System Board. 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	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FTA	Federal Transit Administration
GT	Galesburg Transit (and Galesburg Handivan)
Health Care Providers	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.
ICC	Illinois Commerce Commission
ICJIA	Illinois Criminal Justice Information Authority
IDOT Central Bureau of Information Processing (BIP)	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	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.

Stakeholder Name	Stakeholder Description
IDOT District Bureau of Construction	Illinois Department of Transportation, District Bureau of Construction. Project Implementation responsible for the construction and maintenance of the state highway system and the state's local roads and streets.
IDOT District Bureau of Design	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 Electrical Operations	Illinois Department of Transportation, District Bureau of Electrical Operations. Responsible for the operations of electrical equipment along the state highway system and the state's local roads and streets.
IDOT District Bureau of Innovation and Technology (DoIT)	IDOT District bureau of DoIT
IDOT District Bureau of Local Roads	Illinois Department of Transportation (IDOT), 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	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	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	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.
IL CMS	Illinois Department of Central Management Services
IL Dept. of Driver Services	Illinois Department of Driver Services (commonly known as the Department of Motor Vehicles)
IL Dept. of Revenue	Illinois Department of Revenue
IL Secretary of State Motor Vehicle Administration	Illinois Secretary of State Motor Vehicle Administration
ISP Central Operations	Illinois State Police (ISP) 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.

Stakeholder Name	Stakeholder Description
ISP Commercial Vehicle Enforcement	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	Illinois State Police (ISP) 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	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.
JCMTD	Jackson County Mass Transit District (Carbondale)
JDCT	Jo Daviess County Transit (Galena)
Local Law Enforcement Agencies	This pseudo-grouping represents all city and county (i.e., non-state police) law enforcement agencies that focus on maintain a safe and secure surface transportation network in the state of Illinois.
MCT	Madison County Transit (Granite City)
Media Outlets	Newspapers, television stations, radio stations and Internet sites that provide transportation information to the public.
Metra	Major commuter rail service provider of Chicago metropolitan area. Also shared tracks with South Shore Line (NICTD) in Metra Electric District.
Metro Transit	Transit agency for the St. Louis Metro Area (formerly Bi-State Development Agency)
MetroLINK (Quad Cities)	Formerly referred to as Rock Island County Metropolitan Mass Transit District (MetroLINK).
Municipal Dept. of Transportation	These are the municipal agencies responsible for operation of the municipality's surface transportation network and roadside equipment. For example, the Chicago Department of Transportation (CDOT), or Springfield Transportation Department.
Municipal Emergency Dispatch	These are the municipal public safety answering points (PSAPs) responsible for receiving and coordinating information in response to emergency incidents.
Municipal ESDA	Illinois county Emergency Services & Disaster Agency coordinators that provide support within a municipality sphere of influence.

Stakeholder Name	Stakeholder Description
Municipal Public Works	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 Weather Service	National Weather Service functions as a weather information service provider and generates severe weather alerts.
National/State Park and Recreation Areas	Park and recreation areas function as regional/special event generators and provide travel information to park users.
Other State DOTs	Other State DOT's include Indiana, Iowa, Kentucky, Missouri, and Wisconsin that border Illinois.
Pace	Pace Suburban Bus. Regional transit agency that supplies Bus service in Chicago Metropolitan Area.
Private HAZMAT Agencies	Regional specialized teams for hazardous materials incident response.
Private Information Service Providers	Private information service providers include private entities that provide traveler information for a fee (E.g., Google, Waze, HERE, Inrix).
Private Medical Carriers	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	Private tow and recovery operators work with emergency responders to clear incidents from freeways and arterial streets.
Private Transportation Service Providers	Private companies that offer transportation services in the state. Examples include Uber, Lyft, Via.
Private Trucking Companies	Private trucking companies deliver goods and interact with law enforcement, multi-modal, etc.
Private Weather Information Providers	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	Rail freight operators oversee freight train operations and coordinate with surface transportation entities.
Regional Airport Authority	Regional airport authorities manage regional airport operations including transportation, security, and travel information.
Regional IEMA Coordinators	Illinois Emergency Management Agency Coordinators at a regional level.
Rides MTD	Rides Mass Transit District (Harrisburg)
RMAP (Rockford)	Rockford-area MPO is now known as Rockford Metropolitan Area for Planning. Formerly known as RATS (Rockford Area Transportation Study)
RMTD	Rockford Mass Transit District
RTA	Regional Transportation Authority (Chicago Area)
RVMMTD	River Valley Metro Mass Transit District (Kankakee)

Stakeholder Name	Stakeholder Description
SCT	South Central Transit (Centralia)
SMART	Now known as Southern Most Area Rural Transit. Formerly known as Shawnee Mass Transit District (Far Southern Illinois).
SMTD	Now known as Sangamon Mass Transit District. Formerly known as Springfield Mass Transit District. Acronym remains the same.
Statewide IEMA Operations	Illinois Emergency Management Agency Coordination at an inter-regional / statewide level.
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.
TCRPC	Tri-County Regional Planning Commission (Peoria, Tazewell, Woodford Counties)
Telecommunication Providers	Telecommunications providers are those public and private entities that provide infrastructure to support traveler information services. Examples include Motorola and AT&T.
Traveler	Generic term that covers the traveling public in and through the state of Illinois.
USCG	US Coast Guard
WCMTD	West Central Mass Transit District (Jacksonville)

Generally, each ITS element throughout the state is owned and/or interacted with by one of the stakeholders listed above.

The updated list of Inventory Elements from the Statewide ITS Architecture is provided below in Table E-5. Ongoing architecture maintenance is required to capture updates and modifications as the various sub architectural elements are implemented and integrated.

Table E-5: Statewide ITS Architecture Inventory List

Inventory Element Name	Element Description
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.
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/County)	Pan-tilt-zoom and fixed video cameras are used by various municipalities in Illinois.
CCTV Camera System (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.
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 E. 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.
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.

Inventory Element Name	Element Description
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. Currently, no plans for AVL in the 10 year horizon but maintenance scheduling software in place.
County Maintenance and Construction Website	As an aid to travelers, websites detailing maintenance and construction activities 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.
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.
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/County)	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.

Inventory Element Name	Element Description
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 Patrol Vehicles	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.
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.
ETS/911 System	The Emergency Telephone or 911 System that routes emergency calls to emergency dispatch centers. Owned, administered, and maintained by the Emergency Telephone Safety Board (ETSB).
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.
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.
Hospitals/ Medical Centers	Regional care facilities.
HRI Quad/Dual Gate Systems	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

Inventory Element Name	Element Description
	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 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 Element Name	Element 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 the IDOT websites. https://www.gettingaroundillinois.com/; http://www.idot.illinois.gov/travel-information/roadway-information/Road-Closures/index; https://www.travelmidwest.com/lmiga/home.jsp; https://apps.dot.illinois.gov/stl-traffic/; Tollway information is also available at https://www.illinoistollway.com/projects.
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.
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.
Illinois Statewide Hub	Statewide collection point for transportation data across the state. The hub supports interagency coordination, data fusion, and supply of transportation data to multimodal traveler information applications.
I-PASS	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.
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).
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.

Inventory Element Name	Element Description
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 (TIMS) 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.
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.
Local Media	Media who interact with transportation and transit 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.
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.

Inventory Element Name	Element Description
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 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.
Municipal EMCs	Emergency Management Centers operated by municipalities that serve as command centers for large-scale emergencies.
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 Maintenance and Construction Dispatch	These systems include mobile data terminals (MDTs), computer-aided dispatch (CAD) systems, and radio dispatch communications systems to allow city departments 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 System	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.
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.

Inventory Element Name	Element Description
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 Chicago, CTA operates rail transit; St. Louis Metro Transit operates MetroLink light rail in IL suburbs.
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 Systems	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.
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.

Inventory Element Name	Element Description
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 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 I-PASS and E-ZPASS 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 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 Systems	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.

Inventory Element Name	Element Description
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 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.
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

Physical Objects are the principal structural element of the physical view of ARC-IT, grouped into five classes: Center, Field, Vehicle, Support, and Traveler. There are two types of Physical Objects defined by ARC-IT: Subsystems and Terminators. See Figure E-1 for typical relationships between classes and subsystems within each class.

Subsystems are physical objects that contain functional objects. These are the physical objects that provide the functionality needed to satisfy ARC-IT service package requirements. Example subsystems are the Traffic Management Center, Vehicle Onboard Equipment, and ITS Roadway Equipment. These correspond to the physical world respectively: traffic operations centers, automobiles, and roadside signal controllers. Due to this close correspondence between the physical world and the subsystems, the subsystem interfaces represent the prime candidates for standardization. ARC-IT provides diagrams that depict all subsystem physical objects and the basic communications between these subsystems. Variations of the subsystem diagram are sometimes used to depict RITSAs or customized project ITS architectures at a high level.

Terminators define the boundary of an ITS architecture. ARC-IT terminators represent the people, systems, and general environment that interface to ITS. The interfaces between terminators and the subsystems and processes within ARC-IT are defined, but no functional requirements are allocated to terminators. The functional and physical views of ARC-IT both contain the same set of terminators.

At the Statewide level, terminators in the "Other System" category are primarily Center to Center communication paths, not the vehicle related "Other System" terminators. Similarly, the "System" terminators are used in a generic fashion to indicate interfaces that have multi-region impacts or have potential for statewide standardization. The "Human" category of Terminators is not included in the Statewide ITS Architecture, with the exception of the Traveler.
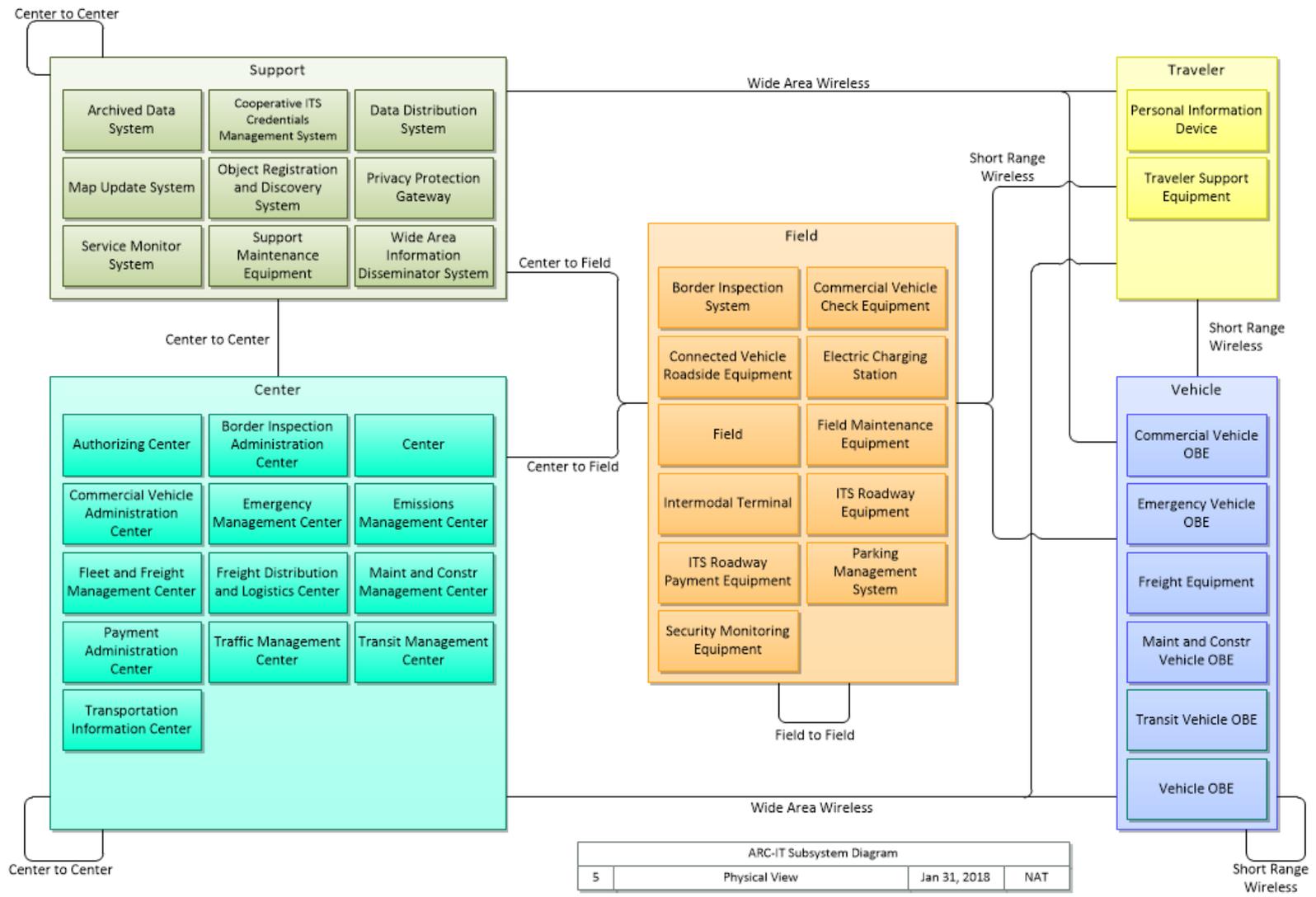
Figure E-1: Diagram of ARC-IT Subsystems and Main Interconnections