

DRAFT

**Dubuque Metropolitan Area Transportation Study
and
Regional Planning Affiliation 8
Regional ITS Architecture Report**

Prepared by



March 2005

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1. INTRODUCTION

A regional Intelligent Transportation Systems (ITS) architecture describes the “big picture” for regional ITS deployment in terms of individual components (i.e. subsystems) that will perform the functions necessary to deliver the desired needs. It describes what is to be deployed but not how those systems are to be deployed. An ITS architecture will define the components and subsystems that must interface with each other, the functions to be performed by those subsystems and the data flows among these subsystems.

The Dubuque Metropolitan Area Transportation Study (DMATS)/Regional Planning Affiliation (RPA) 8 Regional ITS Architecture is a roadmap for transportation systems deployment and integration in Dubuque metropolitan area and the adjacent six counties (Clinton, Delaware, Dubuque, Jackson, Jo Daviess, and Grant). The architecture has been developed through a cooperative effort by the region’s transportation and emergency management agencies, covering all modes and all roads in the region. The architecture represents a shared vision of how each agency’s systems will work together in the future, sharing information and resources to provide a safer, more efficient, and more effective transportation system for travelers in the region.

The process for developing the DMATS/RPA 8 Regional ITS Architecture is based on the National ITS Architecture developed by the United States Department of Transportation (USDOT). Compliance with the National Architecture is mandatory, as part of the Final Rule published by the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) on January 8, 2001 for receiving Federal funds for ITS projects. By taking advantage of the USDOT’s National ITS Architecture and developing a regional ITS architecture that is consistent with the National ITS Architecture, the DMATS/RPA region will be able to take advantage of the growing supplier/vendor market for ITS products and services. As the standards are implemented across the nation, economies of scale will be realized in the purchase and development of ITS related products and services.

1.1 Vision, Mission, and Objectives

Vision

Stakeholders in the region have recognized the need for vision and strategic planning with respect to ITS technology. The vision for the DMATS/RPA 8 Regional ITS Architecture is one of enhanced transportation productivity, mobility, safety efficiency and security through the use of integrated, cost-effective ITS technologies and systems and strong operational relationships.

Mission

The mission for the DMATS/RPA 8 Regional ITS Architecture is to develop an open and integrated ITS architecture that is compliant with the FHWA Final Rule and FTA Policy on ITS Architecture and Standards to support existing and future ITS projects and enhance compatibility of existing architectures within the region and emerging national ITS architecture

Objectives

Eight objectives were established as a means towards realization of the mission statement above. They are:

- Establish an ITS architecture that: is open, receptive and adaptable; is consistent with developing national standards; provides opportunities for private/public partnerships; and encourages and supports interagency cooperation;
- Develop and integrate traveler information, traffic management, public transportation management, maintenance and construction management, and emergency management systems throughout the region as appropriate.
- Define how information is collected, processed, distributed and disseminated.
- Define interfaces and information flow among/between subsystems, agencies, and users.
- Support transportation planning process and provide key input to the Long Range Transportation Plan and the Transportation Improvement Plan;
- Support development of strategies and actions in planning process that lead to an integrated, efficient intermodal transportation system;
- Support development of ITS projects;
- Assist in developing, prioritizing, and addressing consistency of proposed transportation investment;

1.2 Description of the Region

The Dubuque Metropolitan Area Transportation Study (DMATS) has been the Metropolitan Planning Organization (MPO) for the tri-state Dubuque region since 1965. The Dubuque Urbanized Area has been established by the U.S. Department of Commerce, Bureau of Census, to have a population in excess of 50,000, and the East Central Intergovernmental Association (ECIA) has been officially designated as the MPO for the Dubuque area.

Regional Planning Affiliation (RPA) 8 is a membership supported organization comprised of local governmental bodies in the four counties: Clinton, Delaware, Dubuque and Jackson. RPA 8 is one of the 18 Regional Planning Affiliations in the State of Iowa that was formed as part of the Iowa Department of Transportation's implementation of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), particularly in regard to meeting the statewide planning and programming aspects of the legislation. The DMATS/RPA 8 Region encompasses six counties in the three states:

- Iowa: *Clinton, Delaware, Dubuque and Jackson*
- Illinois: *Jo Daviess*
- Wisconsin: *Grant*



Figure 1-1. DMATS/RPA 8 Regional ITS Architecture Area

As per 2003 Census Bureau estimate the population of Clinton County is approximately 50,000; Delaware County is approximately 18,100; Dubuque County is approximately 90,000; Jackson County is approximately 20,200; Grant County is approximately 49,400 and Jo Daviess County is approximately 22,500. Cities with population of more than 5,000 include: City of Dubuque (Dubuque County), City of Clinton and City of DeWitt (County of Clinton), City of Manchester (Delaware County), and City of Maquoketa (Jackson County). The region is served by a number of major state and U.S. highways. This includes U.S. Highways 20, 30, 52, 61, and 151. The region is served by a number of transit service providers, including Keyline Transit, Regional Transit Authority, River Bend Transit, Clinton Municipal Transit, and Jo Daviess County Transit.

1.3 Organization of the Report

This report is organized based on the general process for the development of DMATS/RPA 8 Regional ITS Architecture. The major sections of the report are summarized as the following:

- **Section 1 - Introduction:** This section identifies the vision, mission, and objectives of the DMATS/RPA 8 Regional ITS Architecture. It also provides a general description of the area covered in the regional ITS architecture.
- **Section 2 - Regional ITS Architecture Development Process:** This section describes process for developing the DMATS/RPA 8 Regional ITS Architecture and summarizes the requirements of the FHWA Final Rule and FTA Policy on ITS Architecture and Standards.
- **Section 3 – Stakeholders and Operational Concept:** This section identifies and describes participating agencies and stakeholders and their roles and responsibilities in the operation and implementation of the ITS systems and/or components within the region.
- **Section 4 – Inventory:** This section identifies the existing and planned ITS elements within the region.
- **Section 5 – Market Packages:** This section identifies a list of market packages that are applicable to the region. The market packages provide a collection of service-oriented technology bundles that can be incorporated in the development of the regional ITS architecture.
- **Section 6 – Subsystems and Functional Requirements:** The customized list of market packages developed in Section 5 was used to define the subsystems, equipment packages, and functional requirements that are necessary for the implementation of the customized market packages.
- **Section 7 – Interface Requirements:** This section describes the physical architecture by defining interfaces between equipment and systems that may be deployed by different organizational or operating agencies throughout the region.
- **Section 8 – ITS Standards:** This section describes a list of key standards that support the implementation of the regional ITS architecture.
- **Section 9 – Project Sequencing:** This section provides an implementation strategy as well as the sequencing of ITS project required for implementation in the next 10 years.
- **Section 10 – Agreements:** This section identifies and summarizes a list of agreements between agencies that are required for operations.

- **Section 11 – Using the Regional ITS Architecture:** This section describes the relationship between a regional ITS architecture and transportation planning process. It summarizes how a regional ITS architecture is used to assist in transportation planning and project implementation.
- **Section 12 – Architecture Maintenance Plan:** This section describes a process for controlled updates to the regional ITS architecture baseline so that the architecture continues to accurately reflect the region’s existing ITS capabilities and future plans.
- **Section 13 – Glossary and Definition:** This section defines ITS related terms used throughout this report.

2. REGIONAL ITS ARCHITECTURE DEVELOPMENT PROCESS

2.1 Architecture Development Process

The process used to develop the DMATS/RPA 8 Regional ITS Architecture is illustrated in Figure 2-1. Figure 2-1 shows six general steps in the “lifecycle” of a regional ITS architecture. In the first four steps, the regional ITS architecture products are developed and then these products are used and maintained in steps 5 and 6. The development process begins with basic scope definition and team building and moves through increasingly detailed steps, culminating in specific products that will guide the “implementation” of the regional ITS architecture.

Development of the DMATS/RPA 8 Regional ITS Architecture begins with the identification of stakeholders and their needs. The success of a regional ITS architecture depends on participation by a diverse set of stakeholders. The objective of identifying stakeholders is to identify and engage stakeholders that own or operate ITS systems and other agencies that have an interest in regional transportation issues.

Information on existing and planned ITS projects within the region was collected through a comprehensive stakeholder survey. The survey results were then compiled and used as an “entrance” into the National ITS Architecture and mapped against the Market Packages defined in the National ITS Architecture. A market package is a “bundle” of technology services that is often purchased together as a group to provide the functions necessary to deploy the services. The selection of market packages allows for the identification of equipment packages and subsystems – a collection of building blocks for the development of an ITS architecture.

An ITS architecture coordinates overall system operation by defining interfaces between equipment and systems (interconnect and architecture flows). These interfaces describe the functions of the systems by showing the information that flows between various systems and subsystems.

Upon identification of the system interfaces, additional products were defined to guide the implementation of planned ITS projects. These products include a sequence of projects, list of agency agreements required for operations, and a list of ITS standards that shall be considered for project implementation.

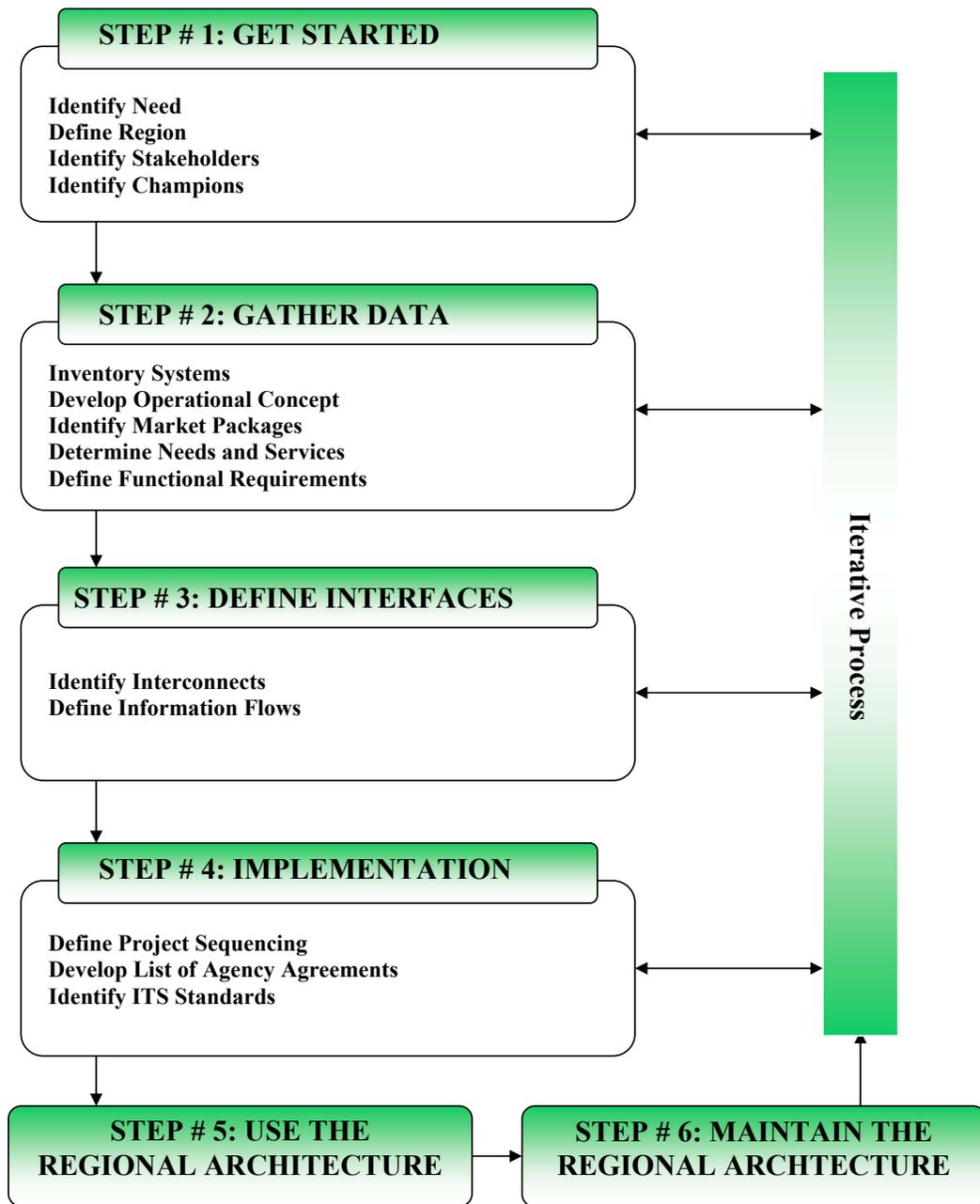


Figure 2-1. Architecture Development Process

2.2 Requirements of the Final FHWA Rule and FTA Policy on Architecture

The FHWA Final Rule (23CFR 940) and FTA Policy on ITS Architecture and Standards, which took effect on April 8, 2001, defines a set of requirements that regional ITS architectures should meet. The FHWA Final Rule and FTA Final Policy state that – “ITS projects shall conform to the National ITS Architecture and Standards in accordance with the requirements. Conformance with the National ITS Architecture is interpreted to mean the use of the National ITS Architecture to develop a regional ITS architecture, and the subsequent adherence of all ITS projects to that regional ITS architecture. Development of the regional ITS architecture should be consistent with the transportation planning process for Statewide and Metropolitan Transportation Planning.” Table 1 shows how the requirements of the rule are met by the outputs developed for the DMATS/RPA 8 Regional ITS Architecture.

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Table 2-1. Mapping of Requirements to Architecture Outputs

Regional ITS Architecture Requirements	Where Requirements documented
Description of region	Geographic definition, as well as timeframe and scope of services are given in Section 1 of this document.
Identification of participating agencies and other stakeholders	Listing of stakeholders and their definitions is given in Section 3.1 of this document. An inventory of the elements operated by the stakeholders is contained in Section 4 of this document.
An operational concept that identifies the roles and responsibilities of participating agencies and stakeholders	The operational concept is defined in Section 3.2 of this document.
A list of any agreements (existing or new) required for operations	A discussion of existing and needed new agreements is given in Section 10 of this document.
System functional requirements	The functional requirements of the ITS systems are described in an overview in Sections 5 and 6 of this document, and are provided in detail in the Turbo Architecture database.
Interface requirements and information exchanges with planned and existing systems and subsystems	The Interfaces and information flows are described in an overview in Section 7 of the document, and are described in detail in the Turbo Architecture database.
Identification of ITS standards supporting regional and national interoperability	An overview of the ITS standards is given in Section 8 of the document. The detailed listing of ITS standards applicable to each interface in the architecture is described in the Turbo Architecture database.
The sequence of projects required for implementation	Projects and their sequencing are covered in Section 9 of this document.

3. STAKEHOLDERS AND OPERATIONAL CONCEPT

3.1 Stakeholders

Stakeholders are commonly considered to be those who own or operate ITS systems in the region and those who have an interest in regional transportation issues. As stakeholders provide crucial input regarding the region's transportation investment and ITS deployments, stakeholder participation and coordination is critical to the success of the regional ITS architecture development. Through an extensive outreach process, including stakeholder meetings and stakeholder surveys, participating agencies and stakeholders for the DMATS/RPA 8 Regional ITS Architecture were identified as the following.

State/Region Level

- Illinois Department of Transportation (Central Office and District 2)
- Illinois State Police (District 16)
- Iowa Department of Transportation (Central Office and District 6)
- Iowa State Patrol (Districts 10 and 12)
- Wisconsin Department of Transportation (District 1)
- Wisconsin State Patrol (District 1)
- ECIA
- Regional Transit Authority
- River Bend Transit

County/City Level

- Clinton County, including:
 - City of Andover
 - City of Calamus
 - City of Camanche
 - City of Charlotte
 - City of Clinton
 - City of Delmar
 - City of Dewitt
 - City of Goose Lake
 - City of Grand Mound
 - City of Lost Nation
 - City of Low Moor
 - City of Tornoto
 - City of Welton
 - City of Wheatland
- Delaware County, including:
 - City of Cloesburg
 - City of Delaware
 - City of Delhi
 - City of Dundee
 - City of Earlville
 - City of Edgewood
 - City of Greeley
 - City of Hopkinton
 - City of Manchester
 - City of Masonville
 - City of Ryan
- Dubuque County, including:
 - City of Asbury
 - City of Balltown
 - City of Bankston
 - City of Bernard
 - City of Cascade
 - City of Centralia
 - City of Dubuque
 - City of Durango
 - City of Dyersville
 - City of Epworth
 - City of Farley
 - City of Graf
 - City of Holy Cross
 - City of Luxemburg
 - City of New Vienna
 - City of Peosta
 - City of Rickardsville
 - City of Sageville
 - City of Sherrill
 - City of Worthington
 - City of Zwingle

- Jackson County, including:
 - City of Andrew
 - City of Baldwin
 - City of Bellevue
 - City of LaMotte
 - City of Maquoketa
 - City of Miles
 - City of Monmouth
 - City of Preston
 - City of St. Donatus
 - City of Sabula
 - City of Spragueville
 - City of Spiringbrook

- Jo Daviess County, including:
 - City of East Dubuque

- Grant County, including:
 - City of Kieler
 - SW Portion of the City of Jamestown

Others

- Private Commercial Vehicle Companies
- Media

3.2 Operational Concept

The participating agencies and potential stakeholders identified above are current operating or plan to deploy ITS components in the DMATS/RPA 8 region. An operational concept defines each stakeholder’s current and future roles and responsibilities in the implementation and operation of the regional ITS systems. Table 3-1 summarizes the general roles and responsibilities of each stakeholder in ITS applications. As illustrated in Table 3-1, the roles and responsibilities of the agencies are categorized in nine transportation service areas. The service areas provide general classifications of what functions the participating agencies are providing or will provide. The major functions covered by each service area are described in the following.

Commercial Vehicle Operations – Commercial vehicle operations represents the administrative functions that support commercial vehicle credentials, tax, and safety regulations.

Electronic Payment – Electronic payment represents the functions that support electronic payment of transportation services, including transit, parking and tolls.

Emergency Management – Emergency management represents the functions that provide emergency call taking, public safety dispatch, disaster response and evacuation, securing monitoring and other security and public safety-oriented services.

Incident Management – Incident management represents the functions that manage both unexpected incidents and planned events so that the impact to the transportation network and traveler safety is minimized. It includes incident detection and verification, appropriate incident response, and regional coordination between traffic management agencies, maintenance and construction management agencies, emergency management agencies and others.

Maintenance and Operation Management – Maintenance and operation management represents the functions that provide construction management and maintenance of roadways, including snow and ice removal.

Public Transportation – Public transportation represents the functions that plan, manage, operate and maintain transit services.

Traffic Management – Traffic management represents the functions that manage a broad range of transportation facilities including freeway systems, rural and suburban highway systems, and urban and suburban traffic control systems. In the context of this project, it primarily includes network surveillance, traffic signal control, traffic information dissemination, highway-rail intersection management, and speed monitoring.

Traveler Information – Traveler information represents the functions that collect, process, store, and disseminate static and real time transportation information to the traveling public. It also includes the function that provides transit traveler information.

Transportation Planning and Regional ITS Architecture Management – Transportation planning and regional ITS architecture management represents the functions that provide transportation planning services. It also includes the development and maintenance of this regional ITS architecture.

Table 3-1. Stakeholder Roles and Responsibilities

Transportation Service	Stakeholder	Roles/Responsibilities	Status
Commercial Vehicle Operations	City of Clinton Police Department	Performs electronic credential administration services for commercial vehicles.	Existing
		Plans to perform HAZMAT detection and mitigation.	Planned
		Plans to provide CVO safety monitoring and inspection.	Planned
Electronic Payment	City of Clinton Municipal Transit Administration	Plans to manage passenger loading and fare payments using electronic means.	Planned
	City of Dubuque Keyline Transit	Plans to manage passenger loading and fare payments using electronic means.	Planned
	Jo Daviess County Transit Department	Plans to manage passenger loading and fare payments using electronic means.	Planned
	Regional Transit Authority	Plans to manage passenger loading and fare payments using electronic means.	Planned
Emergency Management	City of Asbury Public Works Department	Supports disaster response and recovery.	Existing
	City of Camanche Fire Department	Responds to 911 emergency dispatch.	Existing
	City of Camanche Police Department	Responds to 911 emergency dispatch.	Existing
		Supports disaster response and recovery, and disaster evacuation.	Existing
		Provides disaster-related information to the public.	Existing
	City of Camanche Public Works Department	Supports disaster response and recovery, and disaster evacuation.	Existing
	City of Charlotte Fire Department	Responds to 911 emergency dispatch.	Existing
		Supports disaster response and recovery, and disaster evacuation.	Existing
		Provides disaster-related information to the public.	Existing
	City of Clinton Fire Department	Responds to 911 emergency dispatch.	Existing
		Monitors and detects potential disasters.	Existing
		Supports disaster response and recovery, and disaster evacuation.	Existing
Provides disaster-related traveler information to the public.		Existing	
Plans to provide functionality needed to implement emergency vehicle signal preemption.		Planned	

Transportation Service	Stakeholder	Roles/Responsibilities	Status
	City of Clinton Municipal Transit Administration	Supports disaster response and recovery, and disaster evacuation.	Existing
	City of Clinton Police Department	Responds to 911 emergency dispatch.	Existing
		Monitors and detects potential disasters.	Existing
		Supports disaster response and recovery, and disaster evacuation.	Existing
		Provides disaster-related information to the public.	Existing
		Plans to provide functionality needed to implement transportation infrastructure monitoring for potential threats.	Planned
	City of Dewitt Police Department	Responds to 911 emergency dispatch.	Existing
		Supports disaster evacuation.	Existing
		Provides disaster-related traveler information to the public.	Existing
		Plans to provide functionality needed to implement emergency vehicle wireless data communication.	Planned
	City of Dubuque Engineering Department	Provides traffic signal preemption for emergency vehicles.	Existing
		Monitors and detects potential disasters.	Existing
		Supports disaster response and recovery, and disaster evacuation.	Existing
	City of Dubuque Fire Department	Responds to 911 emergency dispatch.	Existing
		Monitors and detects potential disasters.	Existing
		Supports disaster response and recovery, and disaster evacuation.	Existing
		Provides emergency information to the public.	Existing
		Plans to provide functionality needed to implement emergency vehicle signal preemption.	Planned
		Plans to improve emergency communication.	Planned
	City of Dubuque Keyline Transit	Supports disaster response and recovery, and disaster evacuation.	Existing
City of Dubuque Operation and Maintenance Department	Supports disaster response and recovery.	Existing	
City of Dubuque Police Department	Responds to 911 emergency dispatch.	Existing	
	Support disaster response and recovery, and disaster evacuation.	Planned	
	Provides emergency information to the public.	Existing	

Transportation Service	Stakeholder	Roles/Responsibilities	Status
	City of East Dubuque Police Department	Responds to 911 emergency dispatch.	Existing
		Supports disaster response and recovery.	Existing
		Provides disaster-related information to the public.	Existing
	City of Farley Fire Department	Responds to 911 emergency dispatch.	Existing
		Supports disaster response and recovery, and disaster evacuation.	Existing
		Provides disaster-related information to the public.	Existing
	City of Farley Public Works Department	Supports disaster response and recovery, and disaster evacuation.	Existing
	City of Grand Mound Public Works Department	Supports disaster response and recovery, and disaster evacuation.	Existing
	City of Manchester Police Department	Provides emergency call taking (9-1-1) and dispatches Police, Fire and EMS services for the city and county jurisdiction.	Existing
		Supports disaster response and recovery, and disaster evacuation.	Existing
		Provides disaster-related information to the public.	Existing
		Plans to improve emergency communication.	Planned
	City of Manchester Public Works Department	Supports disaster response and recovery.	Existing
	City of Maquoketa Fire Department	Responds to 911 emergency dispatch.	Existing
	City of Maquoketa Police Department	Provides emergency call taking (9-1-1) and dispatches Police, Fire and EMS services for the city and county jurisdiction.	Existing
		Monitors and detects potential disasters.	Existing
		Supports disaster response and recovery, and disaster evacuation.	Existing
	City of Maquoketa Public Works Department	Operates security surveillance cameras on trails	Existing
City of Preston Community Ambulance Service	Responds to EMS services dispatches.	Existing	
City of Spirngbrook Fire and EMS Department	Responds to 911 emergency dispatch.	Existing	
	Supports disaster response and recovery, and disaster evacuation.	Existing	
	Provides disaster-related information to the public.	Existing	

Transportation Service	Stakeholder	Roles/Responsibilities	Status
	Clinton County 911 Center	Provides emergency call taking (9-1-1) and dispatches Police, Fire and EMS services for the county jurisdiction area.	Existing
	Clinton County Emergency Management Agency	Provides emergency management center for countywide emergency operations and homeland security practices during major emergencies and disasters.	Existing
		Develops countywide emergency management plan addressing preparation, response, recovery and mitigation actions for all potential risks to the public.	Existing
	Clinton County Engineer	Supports disaster response and recovery, and disaster evacuation.	Existing
	Clinton County Sheriff	Responds to 911 emergency dispatch.	Existing
		Monitors and detects potential disasters.	Existing
		Supports disaster response and recovery.	Existing
	Delaware County Emergency Management	Provides emergency management center for countywide emergency operations and homeland security practices during major emergencies and disasters.	Existing
		Develops county wide emergency preparedness plan.	Existing
	Delaware County Engineer	Supports disaster response and recovery, and disaster evacuation.	Existing
	Delaware County Sheriff	Responds to 911 emergency dispatch.	Existing
		Monitors and detects potential disasters.	Existing
		Supports disaster response and recovery, and disaster evacuation.	Existing
		Plans to provide functionality needed to implement emergency vehicle tracking.	Planned
	Dubuque 911 Center	Provides emergency call taking (9-1-1).	Existing
		Dispatches Police, Fire and EMS services for the city and county jurisdiction.	Existing
		Monitors and detects potential disasters.	Existing
		Supports disaster response and recovery, and disaster evacuation.	Existing
		Provides emergency information to the public.	Existing
		Plans to improve emergency communication.	Planned
Plans to provide functionality needed to implement emergency vehicle tracking.		Planned	
Plans to provide functionality needed to implement emergency vehicle signal preemption.	Planned		
Dubuque County Emergency Management Agency	Provides emergency management center for countywide emergency operations and homeland security practices during major emergencies and disasters.	Existing	

Transportation Service	Stakeholder	Roles/Responsibilities	Status
		Develops countywide emergency management plan addressing preparation, response, recovery and mitigation actions for all potential risks to the public.	Existing
		Plans to use ITS driver and traveler information systems alert the public in emergency situations.	Planned
	Dubuque County Sheriff	Responds to 911 emergency dispatch.	Existing
		Monitors and detects potential disasters.	Existing
		Provides mutual aid to City of East Dubuque (IL) and JoDaviess County (WI) under the established agreements.	Existing
		Supports disaster response and recovery, and disaster evacuation.	Existing
		Plans to provide functionality needed to implement emergency vehicle tracking.	Planned
	Grant County Emergency Management Agency	Develops county wide emergency preparedness plan.	Existing
		Provides emergency management center for countywide emergency operations and homeland security practices during major emergencies and disasters.	Existing
	Grant County Sheriff	Provides emergency call taking (9-1-1) and dispatches Police, Fire and EMS services for the county jurisdiction area.	Existing
		Monitors and detects potential disasters.	Existing
		Supports disaster response and recovery, and disaster evacuation.	Existing
		Provides disaster-related information to the public.	Existing
		Plans to provide the functionality needed to implement emergency vehicle tracking.	Planned
		Plans to improve emergency response coordination with other emergency management agencies during disaster response and evacuation.	Planned
	Iowa Department of Transportation District 6	Supports disaster response and recovery, and disaster evacuation.	Existing
		Provides disaster-related information to the public.	Existing
		Plans to monitor and detect potential disasters.	Planned
	Jackson County Emergency Management Agency	Develops county wide emergency preparedness plan.	Existing
		Provides emergency management center for countywide emergency operations and homeland security practices during major emergencies and disasters.	Existing
Jackson County Engineers	Supports disaster response and recovery.	Existing	

Transportation Service	Stakeholder	Roles/Responsibilities	Status
	Jo Daviess County Sheriff	Provides emergency call taking (9-1-1) and dispatches Police, Fire and EMS services throughout the county.	Existing
		Supports disaster response and recovery, and disaster evacuation.	Existing
		Provides mutual aid to adjoining law enforcement agencies under the established agreements, including Illinois Law Enforcement Alarm System, Mutual Aid Box Alarm System, Dubuque County (IA), Grant County (WI) and Lafayette County (WI).	Existing
		Monitors and detects potential disasters.	Existing
		Provides disaster-related information to the public.	Existing
		Plans to improve the capabilities of emergency call taking, emergency dispatch, emergency communication and emergency routing.	Planned
		Plans to provide functionality needed to implement emergency vehicle tracking.	Planned
	Jo Daviess County Transit Department	Plans to support disaster response and recovery, and disaster evacuation.	Planned
	State Patrol Districts ⁽¹⁾	Dispatches state police vehicles on the state roads within the region.	Existing
Incident Management	City Fire Departments ⁽²⁾	Responds to incident dispatch.	Existing
		Coordinates incident response with other emergency management agencies and/or law enforcement agencies.	Existing
	City of Camanche Police Department	Responds to incident dispatch.	Existing
		Exchanges incident information with other emergency management agencies and law enforcement agencies.	Existing
	City of Clinton Police Department	Responds to incident dispatch.	Existing
		Coordinates incident response with other law enforcement agencies and transportation agencies.	Existing
	City of Dewitt Police Department	Responds to incident dispatch.	Existing
		Exchanges incident information with other emergency management agencies and law enforcement agencies.	Existing
	City of Dubuque Engineering Department	Performs traffic incident detection and verification.	Existing
		Exchanges incident information with city police department, fire department and mobile data terminals.	Existing
		Provides traffic signal preemption for emergency vehicles.	Existing

Transportation Service	Stakeholder	Roles/Responsibilities	Status
	City of Dubuque Operation and Maintenance Department	Coordinates incident response with local law enforcement agencies and transportation agencies, including road closure.	Existing
	City of Dubuque Police Department	Responds to incident dispatch.	Existing
		Coordinates incident response with other emergency management agencies, law enforcement agencies and Iowa DOT.	Existing
	City of East Dubuque Police Department	Responds to incident dispatch.	Existing
		Coordinates incident response with other law enforcement agencies and Illinois DOT.	Existing
	City of Manchester Police Department	Receives emergency calls for incidents within the city and county jurisdiction.	Existing
		Dispatches Police, Fire and EMS to incidents within the city and county jurisdiction.	Existing
		Exchanges incident information with other law enforcement agencies, emergency management agencies and fire departments.	Existing
	City of Maquoketa Police Department	Receives emergency calls for incidents within the city and county jurisdiction.	Existing
		Dispatches Police, Fire and EMS to incidents within the city and county jurisdiction.	Existing
		Exchanges incident information with other law enforcement agencies, fire departments and ambulance services.	Existing
	City of Preston Community Ambulance Service	Responds to incident dispatch.	Existing
	City Public Works Departments ⁽³⁾	Coordinates incident response with local law enforcement agencies, including road closure.	Existing
	Clinton County 911 Center	Receives emergency calls for incidents within the county jurisdiction area.	Existing
		Dispatches Police, Fire and EMS services to incidents within the jurisdiction area.	Existing
	Clinton County Sheriff	Responds to incident dispatch.	Existing
Exchanges incident information with 28 fire departments and ambulance agencies, and 8 law enforcement agencies.		Existing	
County Engineer/Engineers/Highway ⁽⁴⁾	Coordinates incident response with local law enforcement agencies, including road closure.	Existing	
Delaware County Emergency Management	Coordinates incident response with emergency management agencies and transportation agencies.	Existing	
Delaware County Sheriff	Responds to incident dispatch.	Existing	
	Exchanges incident information with local law enforcement agencies.	Existing	

Transportation Service	Stakeholder	Roles/Responsibilities	Status
	Dubuque 911 Center	Receives emergency calls for incidents within the jurisdiction area.	Existing
		Dispatches Police, Fire and EMS services to incidents within the jurisdiction area of Dubuque county and city.	Existing
		Exchanges incident information with local, county and state law enforcement agencies and school bus systems.	Existing
	Dubuque County Emergency Management Agency	Coordinates incident response with emergency management agencies and transportation agencies.	Existing
	Dubuque County Sheriff	Responds to incident dispatch.	Existing
		Exchanges incident information with other law enforcement agencies and emergency management organizations.	Existing
	Grant County Emergency Management Agency	Coordinates incident response with emergency management agencies and transportation agencies.	Existing
	Grant County Sheriff	Receives emergency calls for incidents within the county jurisdiction.	Existing
		Dispatches Police, Fire and EMS services to incidents within the county jurisdiction.	Existing
	Illinois Department of Transportation District 2	Coordinates incident response with other emergency management agencies and transportation agencies.	Existing
	Iowa Department of Transportation District 6	Coordinates incident response with other emergency management agencies and transportation agencies.	Planned
	Jackson County Emergency Management Agency	Coordinates incident response with emergency management agencies and transportation agencies.	Existing
	Jo Daviess County Sheriff	Receives emergency calls for incidents within the county jurisdiction.	Planned
		Dispatches Police, Fire and EMS services to incidents within the county jurisdiction.	Existing
		Exchanges incident information with local fire and emergency management services.	Existing
	State Patrol Districts ⁽¹⁾	Dispatches state police vehicles for incidents on the state roads within the region.	Existing
		Coordinates incident response with other emergency management agencies and transportation agencies.	Existing
Transit Agencies ⁽⁵⁾	Reports incident information to law enforcement agencies and/or emergency management agencies.	Existing	
Wisconsin Department of Transportation District 1	Plans to perform incident detection and verification through video surveillance.	Planned	
	Plans to coordinate incident response with emergency management and maintenance agencies.	Planned	

Transportation Service	Stakeholder	Roles/Responsibilities	Status
Maintenance and Construction Management	City of Asbury Public Works Department	Provides maintenance of city roads, including snow and ice removal.	Existing
		Provides maintenance on agency vehicle fleet.	Existing
	City of Camanche Public Works Department	Provides construction management of city roads.	Existing
		Provides maintenance of city roads, including snow and ice removal.	Existing
		Provides maintenance on agency vehicle fleet.	Existing
	City of Dewitt Public Works Department	Provides construction management of city roads.	Existing
		Provides maintenance of city roads, including snow and ice removal.	Existing
		Provides maintenance on agency vehicle fleet.	Existing
	City of Dubuque Engineering Department	Provides construction management of county roads.	Existing
		Provides maintenance of county roads, including snow removal.	Existing
		Maintains traffic signals and street lighting for Iowa DOT along US20/US52/IA32/US151/US63.	Existing
		Maintains City of Dubuque signalized intersection equipment.	Existing
		Provides maintenance on agency vehicle fleet.	Existing
	City of Dubuque Operation and Maintenance Department	Provides maintenance of city roads, including snow and ice removal and street lighting.	Existing
		Provides maintenance on agency vehicle fleet.	Existing
	City of Farley Public Works Department	Provides construction management of city roads.	Existing
		Provides maintenance of city roads.	Existing
	City of Grand Mound Public Works Department	Provides maintenance of city roads, including snow and ice removal.	Existing
		Provides construction management of city roads.	Existing
		Provides maintenance on agency vehicle fleet.	Existing
City of Manchester Public Works Department	Provides construction management of city roads.	Existing	
	Provides maintenance of city roads, including snow and ice removal.	Existing	
	Dispatches and maintains agency vehicle fleet.	Existing	
City of Maquoketa Public Works Department	Provides maintenance of city roads, including snow and ice removal.	Existing	
Clinton County Engineer	Provides construction management of county roads.	Existing	
	Provides maintenance of county roads, including snow removal.	Existing	

Transportation Service	Stakeholder	Roles/Responsibilities	Status
		Provides maintenance and snow removal services to the towns under the established agreements.	Existing
		Provides maintenance on agency vehicle fleet.	Existing
		Plans to provide functionality needed to implement MCO vehicle tracking.	Planned
		Plans to support automatic vehicle maintenance scheduling.	Planned
	Delaware County Engineer	Provides construction management of county roads.	Existing
		Provides maintenance of county roads, including snow removal and ditch cleaning.	Existing
		Provides maintenance to the farm-to-market extension roads with the cities under the established agreements.	Existing
		Provides maintenance on agency vehicle fleet.	Existing
		Plans to provide functionality needed to implement MCO vehicle tracking.	Planned
	Dubuque County Engineer	Provides construction management of county roads.	Existing
		Provides maintenance of county roads, including snow removal.	Existing
		Provides maintenance on agency vehicle fleet.	Existing
	Grant County Highway Department	Provides construction management of county roads.	Existing
		Provides maintenance of county roads, including snow removal.	Existing
		Provides maintenance on agency vehicle fleet.	Existing
		Plans to use ITS technologies on county road maintenance including snow and ice removal. The ITS technologies may include maintenance dispatch system and AVL system.	Planned
	Illinois Department of Transportation District 2	Provides construction and maintenance services to the state roads within the region, including snow removal.	Existing
	Iowa Department of Transportation District 6	Collect road weather information via environmental sensors, and distribute them to other agencies.	Existing
		Provides construction and maintenance services to the state roads within the region, including snow removal.	Existing
	Jackson County Engineers	Provides construction management of county roads.	Existing
		Provides maintenance on agency vehicle fleet.	Existing
Provides maintenance of county roads, including snow removal and ditch cleaning.		Existing	

Transportation Service	Stakeholder	Roles/Responsibilities	Status
		Provides maintenance to the farm-to-market extension roads with the cities under the established agreements.	Existing
	Jo Daviess County Highway Department	Provides construction management of county highways.	Existing
		Provides maintenance of county highways, including snow and ice removal and pavement maintenance.	Existing
		Provides maintenance on agency vehicle fleet.	Existing
	Wisconsin Department of Transportation District 1	Provides construction and maintenance services to the state roads within the region, including snow removal.	Existing
		Plans to collect road weather information via environmental sensors, and distribute them to other agencies.	Planned
Public Transportation	City of Clinton Municipal Transit Administration	Provides fixed route, flexible route and paratransit services to the City of Clinton.	Existing
		Provides maintenance on agency vehicle fleet.	Existing
		Exchanges transit information with other transit systems throughout Iowa State.	Existing
		Plans to perform scheduling and dispatching of transit services	Planned
		Plans to monitor transit vehicles, transit stops and transit yards via security monitoring systems.	Planned
		Plans to provide functionality needed to implement transit vehicle tracking.	Planned
	City of Dubuque Keyline Transit	Provides fixed route and paratransit services to the City of Dubuque and paratransit services to the City of East Dubuque.	Existing
		Provides maintenance on agency vehicle fleet.	Existing
	Jo Daviess County Transit Department	Provides paratransit service to the JoDaviess county.	Existing
		Provides maintenance on agency vehicle fleet.	Existing
		Plans to perform vehicle maintenance scheduling and manage both routine and corrective maintenance activities on vehicles.	Planned
		Plans to provide functionality needed to implement transit vehicle tracking.	Planned
	Regional Transit Authority	Provides fixed route and paratransit services to the three counties, including Delaware, Dubuque and Jackson.	Existing
		Provides maintenance on agency vehicle fleet.	Existing
		Plans to perform scheduling and dispatching of transit services	Planned
Plans to provide security monitoring on-board transit vehicles.		Planned	

Transportation Service	Stakeholder	Roles/Responsibilities	Status
		Plans to provide functionality needed to implement transit vehicle tracking and enhance vehicle routing and scheduling	Planned
		Plans to exchanges transit information with Iowa DOT Transit.	Planned
	River Bend Transit	Provides fixed route and paratransit services to the jurisdiction area, including Cedar County, Clinton County, Muscatine County, and Scott County in Iowa, and Rock Island County in Illinois.	Existing
		Provides maintenance on agency vehicle fleet.	Existing
		Exchanges transit information with local public transit agencies.	Existing
		Plans to provide functionality needed to implement transit vehicle tracking and enhance vehicle routing and scheduling.	Planned
		Plans to provide security monitoring on-board transit vehicles.	Planned
Traffic Management	City of Clinton Police Department	Operates Highway Advisory Radio.	Existing
	City of Dubuque Engineering Department	Operates traffic signal systems within the City of Dubuque.	Existing
		Performs traffic data collection via loop detectors and CCTV cameras.	Existing
		Operates Dynamic Message Signs.	Existing
		Operates vehicle speed monitoring system.	Existing
		Monitors and controls highway-rail intersections.	Existing
		Plans to interconnect existing signals via fiber to the traffic operations center.	Planned
	City of Dubuque Police Department	Operates Dynamic Message Signs.	Existing
	City of Maquoketa Public Works Department	Plans to collect real-time traffic data using loop detector technology.	Planned
	Dubuque 911 Center	Operates Dynamic Message Signs and Highway Advisory Radio.	Existing
	Dubuque County Sheriff	Operates Dynamic Message Signs.	Existing
	Illinois Department of Transportation District 2	Operates traffic signal systems within the jurisdiction area.	Existing
		Monitors and controls highway-rail intersections.	Existing
Illinois State Police District 16	Operates vehicle speed monitoring system.	Existing	
Iowa Department of Transportation District 6	Performs traffic data collection via loop detectors.	Existing	

Transportation Service	Stakeholder	Roles/Responsibilities	Status
	Jo Daviess County Sheriff	Operates vehicle speed monitoring system.	Existing
Traveler Information	City of Clinton Municipal Transit Administration	Plans to provide transit information to the public via Internet, Kiosks, Display/Audio in transit vehicles, and Electronic Displays/Audio Announcements at transit stations.	Planned
		Plans to provide transit trip planning for travelers via Internet.	Planned
	City of Clinton Police Department	Provides incident information to the public via TV/Radio, E-mail and Road Weather telephone system.	Existing
	City of Dubuque Cable TV Division	Provides local street construction information, Keyline Transit information, and during winter weather advisories, highway condition report contact information, to cable TV subscribers via the local government access channel, CityChannel 8.	Existing
	City of Dubuque Engineering Department	Provides traffic and maintenance information of city roads to the public via Internet, Pager or Personal Data Assistants.	Existing
	City of Dubuque Keyline Transit	Provides transit information to the public via Internet.	Existing
		Provides transit trip planning for travelers (local only).	Existing
		Plans to provide transit information to the public via Kiosks.	Planned
	City of Maquoketa Public Works Department	Provides traveler information to the public via media.	Existing
		Plans to provide traffic and maintenance information to the public through Internet.	Planned
	Dubuque 911 Center	Provides incident information to the public via TV/Radio, Internet, Email, and Pager or Personal Data Assistants.	Existing
	Dubuque County Sheriff	Provides incident information to the public via TV/Radio and Road Weather telephone services.	Existing
	Illinois Department of Transportation	Provides traffic, maintenance and construction, road weather and other information via Internet.	Existing
		Plans to provide telephone traveler information (511 System) within the region.	Planned
	Iowa Department of Transportation	Provides telephone traveler information (511 System) within the region.	Existing
		Provides traffic, maintenance and construction, road weather and other information via Internet.	Existing
Jo Daviess County Transit Department	Provides transit information to the public via Internet.	Existing	
Regional Transit Authority	Plans to provide transit information to the public via Internet and e-mail.	Existing	
River Bend Transit	Provides transit information to the public via Internet and TV/Radio.	Existing	
	Plans to provide transit trip planning for travelers.	Planned	

Transportation Service	Stakeholder	Roles/Responsibilities	Status
	Wisconsin Department of Transportation	Provides traffic, maintenance and construction, road weather and other information via Internet.	Existing
		Plans to provide telephone traveler information (511 System) within the region.	Planned
Transportation Planning and Regional ITS Architecture Management	East Central Intergovernmental Association	Provides transportation planning and technical assistance services to various agencies within the region, including ITS projects.	Existing
		Coordinates the stakeholders of the ECIA Regional ITS Architecture on the architecture implementation.	Existing
		Responsible for the maintenance of the ECIA Regional ITS Architecture.	Existing

Note:

- (1) indicates a stakeholder group of state patrol districts, including Illinois State Police District 16, Iowa State Patrol Districts 10 and 12, and Wisconsin State Patrol District 1.
- (2) indicates a stakeholder group of city fire departments, including City of Camanche Fire Department, City of Charlotte Fire Department, City of Clinton Fire Department, City of Dubuque Fire Department, City of Farley Fire Department, City of Maquoketa Fire Department, and City of Springbrook Fire and EMS Department.
- (3) indicates a stakeholder group of city public works departments, including City of Camanche Public Works Department, City of Dewitt Public Works Department, City of Grand Mound Public Works Department, City of Manchester Public Works Department, City of Asbury Public Works Department, City of Dubuque Engineering Department, City of Dubuque Operation and Maintenance Department, City of Farley Public Works Department, and City of Maquoketa Public Works Department.
- (4) indicates a stakeholder group of county engineer departments, including Clinton County Engineer, Delaware County Engineer, Dubuque County Engineering, Grant County Highway, Jackson County Engineers, and Jo Daviess County Highway.
- (5) indicates a stakeholder group of transit agencies, including Regional Transit Authority, River Bend Transit, City of Clinton Municipal Transit Administration, City of Dubuque Keyline Transit and Jo Daviess County Transit Department.

4. INVENTORY

A regional ITS architecture inventory defines a list of “elements” that represent all existing and planned ITS systems in a region as well as non-ITS systems that provide information to or get information from the ITS systems. The existing and future inventory elements of the DMATS/RPA 8 Regional ITS Architecture were identified based on a variety of sources, including existing plans and projects, stakeholder meetings and surveys, and adjacent or overlapping regional ITS architectures that have been completed and/or are currently underway.

Each inventory element in the regional ITS architecture was mapped to one or more subsystems and/or terminators defined in the National ITS Architecture. The current National ITS Architecture version 5.0 defines 22 subsystems and 73 terminators. Subsystems are principle structural elements to represent the major system components and important ITS interface of the National ITS Architecture. The 22 subsystems are grouped into four classes: Centers, Field, Vehicles and Travelers. Appendix A provides the descriptions of each subsystem from the National ITS Architecture version 5.0. Terminators define the architecture boundary. The National ITS Architecture terminators represent the people, systems, and general environment that interface to ITS. The mapping of regional ITS architecture elements to National ITS Architecture subsystem and terminator must be performed in order to identify the architecture flows and supporting ITS standards for the architecture. The association of elements with subsystems/terminators can also provide a head start in functional requirements definition.

The mapping of stakeholders and ITS inventory is illustrated in Table 4-1. Table 4-1 also summarizes the associated subsystems and/or terminators and the deployment status for each identified ITS element within the region.

Table 4-1. Regional ITS Inventory by Stakeholder

Stakeholder	Inventory (Architecture Element)	Subsystem/ Terminator	Status
City of Asbury Public Works Department	City of Asbury Public Works Department	Maintenance and Construction Management	Existing
City of Camanche Fire Department	City of Camanche Fire Department	Emergency Management	Existing
	City of Camanche Fire Department Emergency Vehicles	Emergency Vehicle	Existing
City of Camanche Police Department	City of Camanche Police Department	Emergency Management	Existing
	City of Camanche Police Department Emergency Vehicles	Emergency Vehicle	Existing
City of Camanche Public Works Department	City of Camanche Public Works Department	Maintenance and Construction Management	Existing
City of Charlotte Fire Department	City of Charlotte Fire Department	Emergency Management	Existing

Stakeholder	Inventory (Architecture Element)	Subsystem/ Terminator	Status
	City of Charlotte Fire Department Emergency Vehicles	Emergency Vehicle	Existing
City of Clinton Fire Department	City of Clinton Fire Department	Emergency Management	Existing
	City of Clinton Fire Department Emergency Vehicles	Emergency Vehicle	Existing
City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration	Emergency Management	Existing
		Information Service Provider	Existing
		Transit Management	Existing
	City of Clinton Municipal Transit Administration Transit Vehicles	Transit Vehicle	Existing
	City of Clinton Municipal Transit Administration Transit Station Electronic Display	Remote Traveler Support	Planned
	City of Clinton Municipal Transit Administration Security Monitoring Field Equipment	Remote Traveler Support	Planned
		Security Monitoring	Planned
	City of Clinton Municipal Transit Administration Kiosks	Remote Traveler Support	Planned
City of Clinton Municipal Transit Administration Traveler Card	Traveler Card	Planned	
City of Clinton Police Department	City of Clinton Police Department	Commercial Vehicle Administration	Existing
		Emergency Management	Existing
		Information Service Provider	Existing
		Traffic Management	Existing
	City of Clinton Police Department Emergency Vehicles	Emergency Vehicle	Existing
	City of Clinton Police Department Commercial Vehicle Inspection Facility	Commercial Vehicle Check	Planned
	City of Clinton Police Department Road Weather Information Telephone Service	Personal Information Access	Existing
	City of Clinton Police Department Security Monitoring Field Equipment	Security Monitoring	Planned
City of Clinton Police Department Highway Advisory Radio	Roadway	Existing	

Stakeholder	Inventory (Architecture Element)	Subsystem/ Terminator	Status
City of Dewitt Police Department	City of Dewitt Police Department	Emergency Management	Existing
	City of Dewitt Police Department Emergency Vehicles	Emergency Vehicle	Existing
City of Dewitt Public Works Department	City of Dewitt Public Works Department	Maintenance and Construction Management	Existing
City of Dubuque Cable TV Division	City of Dubuque Citychannel 8	Information Service Provider	Existing
City of Dubuque Engineering Department	City of Dubuque Engineering Department	Emergency Management	Existing
		Information Service Provider	Existing
		Traffic Management	Existing
		Maintenance and Construction Management	Existing
	City of Dubuque Engineering Department Roadside Equipment	Roadway	Existing
	City of Dubuque Engineering Department MCO Vehicles	Maintenance and Construction Vehicle	Existing
	City of Dubuque Engineering Department Security Monitoring Field Equipment	Security Monitoring	Existing
City of Dubuque Fire Department	City of Dubuque Fire Department	Emergency Management	Existing
	City of Dubuque Fire Department Emergency Vehicles	Emergency Vehicle	Existing
	City of Dubuque Fire Department Security Monitoring Field Equipment	Security Monitoring	Existing
City of Dubuque Keyline Transit	City of Dubuque Keyline Transit	Emergency Management	Existing
		Information Service Provider	Existing
		Transit Management	Existing
	City of Dubuque Keyline Transit Transit Vehicles	Transit Vehicle	Existing
	City of Dubuque Keyline Transit Security Monitoring Field Equipment	Security Monitoring	Existing
	City of Dubuque Keyline Transit Kiosks	Remote Traveler Support	Planned
	City of Dubuque Keyline Transit Traveler Card	Traveler Card	Planned
City of Dubuque Operation and Maintenance Department	City of Dubuque Operations and Maintenance Department	Maintenance and Construction Management	Existing

Stakeholder	Inventory (Architecture Element)	Subsystem/ Terminator	Status
	City of Dubuque Operations and Maintenance Department MCO Vehicles	Maintenance and Construction Vehicle	Existing
City of Dubuque Police Department	City of Dubuque Police Department	Emergency Management	Existing
	City of Dubuque Police Department Dynamic Message Signs	Roadway	Existing
	City of Dubuque Police Department Emergency Vehicles	Emergency Vehicle	Existing
City of East Dubuque Police Department	City of East Dubuque Police Department	Emergency Management	Existing
	City of East Dubuque Police Department Emergency Vehicles	Emergency Vehicle	Existing
City of Farley Fire Department	City of Farley Fire Department	Emergency Management	Existing
	City of Farley Fire Department Emergency Vehicles	Emergency Vehicle	Existing
City of Farley Public Works Department	City of Farley Public Works Department	Maintenance and Construction Management	Existing
City of Grand Mound Public Works Department	City of Grand Mound Public Works Department	Maintenance and Construction Management	Existing
City of Manchester Police Department	City of Manchester Police Department	Emergency Management	Existing
	City of Manchester Police Department Emergency Vehicles	Emergency Vehicle	Existing
City of Manchester Public Works Department	City of Manchester Public Works Department	Maintenance and Construction Management	Existing
	City of Manchester Public Works Department MCO Vehicles	Maintenance and Construction Vehicle	Existing
City of Maquoketa Fire Department	City of Maquoketa Fire Department	Emergency Management	Existing
	City of Maquoketa Fire Department Emergency Vehicles	Emergency Vehicle	Existing
City of Maquoketa Police Department	City of Maquoketa Police Department	Emergency Management	Existing
	City of Maquoketa Police Department Emergency Vehicles	Emergency Vehicle	Existing
	City of Maquoketa Police Department Security Monitoring Field Equipment	Security Monitoring	Existing

Stakeholder	Inventory (Architecture Element)	Subsystem/ Terminator	Status
City of Maquoketa Public Works Department	City of Maquoketa Public Works Department	Emergency Management	Existing
		Information Service Provider	Existing
		Traffic Management	Existing
		Maintenance and Construction Management	Existing
	City of Maquoketa Public Works Department Roadside Equipment	Roadway	Existing
	City of Maquoketa Public Works MCO Vehicles	Maintenance and Construction Vehicle	Existing
City of Maquoketa Public Works Department Security Monitoring Field Equipment	Security Monitoring	Planned	
City of Preston Community Ambulance Service	City of Preston Community Ambulance Service	Emergency Management	Existing
	City of Preston Community Ambulance Service Emergency Vehicles	Emergency Vehicle	Existing
City of Springbrook Fire and EMS Department	City of Springbrook Fire and EMS Department	Emergency Management	Existing
	City of Springbrook Fire and EMS Department Emergency Vehicles	Emergency Vehicle	Existing
Clinton County 911 Center	Clinton County 911 Center	Emergency Management	Existing
Clinton County Emergency Management Agency	Clinton County Emergency Management Agency	Emergency Management	Existing
	Clinton County Emergency Management Agency Security Monitoring Field Equipment	Security Monitoring	Existing
Clinton County Engineer	Clinton County Engineer	Maintenance and Construction Management	Existing
	Clinton County Engineer MCO Vehicles	Maintenance and Construction Vehicle	Existing
Clinton County Sheriff	Clinton County Sheriff	Emergency Management	Existing
	Clinton County Sheriff Emergency Vehicles	Emergency Vehicle	Existing
	Clinton County Sheriff Security Monitoring Field Equipment	Security Monitoring	Existing
Delaware County Emergency Management	Delaware County Emergency Management	Emergency Management	Existing
	Delaware County Emergency Management Emergency Vehicles	Emergency Vehicle	Existing

Stakeholder	Inventory (Architecture Element)	Subsystem/ Terminator	Status
	Delaware County Emergency Management Security Monitoring Field Equipment	Security Monitoring	Existing
Delaware County Engineer	Delaware County Engineer	Maintenance and Construction Management	Existing
	Delaware County Engineer MCO Vehicles	Maintenance and Construction Vehicle	Existing
Delaware County Sheriff	Delaware County Sheriff	Emergency Management	Existing
	Delaware County Sheriff Emergency Vehicles	Emergency Vehicle	Existing
	Delaware County Sheriff Security Monitoring Field Equipment	Security Monitoring	Existing
Dubuque 911 Center	Dubuque 911 Center	Emergency Management	Existing
		Information Service Provider	Existing
		Traffic Management	Existing
	Dubuque 911 Center Emergency Vehicles	Emergency Vehicle	Existing
	Dubuque 911 Center Roadside Equipment	Roadway	Existing
	Dubuque 911 Center Security Monitoring Field Equipment	Security Monitoring	Existing
Dubuque County Emergency Management Agency	Dubuque County Emergency Management Agency	Emergency Management	Existing
	Dubuque County Emergency Management Agency Security Monitoring Field Equipment	Security Monitoring	Existing
Dubuque County Engineer	Dubuque County Engineer	Maintenance and Construction Management	Existing
	Dubuque County Engineer MCO Vehicles	Maintenance and Construction Vehicle	Existing
Dubuque County Sheriff	Dubuque County Sheriff	Emergency Management	Existing
		Information Service Provider	Existing
		Traffic Management	Existing
	Dubuque County Sheriff Emergency Vehicles	Emergency Vehicle	Existing
	Dubuque County Sheriff Roadside Equipment	Roadway	Existing
	Dubuque County Sheriff Security Monitoring Field Equipment	Security Monitoring	Existing
	Dubuque County Sheriff Road Weather Information Telephone Service	Personal Information Access	Existing

Stakeholder	Inventory (Architecture Element)	Subsystem/ Terminator	Status
Grant County Emergency Management Agency	Grant County Emergency Management Agency	Emergency Management	Existing
	Grant County Emergency Management Agency Emergency Vehicles	Emergency Vehicle	Existing
	Grant County Emergency Management Agency Security Monitoring Field Equipment	Security Monitoring	Existing
Grant County Highway Department	Grant County Highway Department	Maintenance and Construction Management	Existing
		Other MCM	Existing
	Grant County Highway Department MCO Vehicles	Maintenance and Construction Vehicle	Existing
Grant County Sheriff	Grant County Sheriff	Emergency Management	Existing
		Traffic Management	Existing
	Grant County Sheriff Emergency Vehicles	Emergency Vehicle	Existing
	Grant County Sheriff Roadside Equipment	Roadway	Planned
	Grant County Sheriff Security Monitoring Field Equipment	Security Monitoring	Existing
	Grant County 911 Center	Emergency Management	Existing
Illinois Department of Transportation	Illinois DOT 511 Traveler Information System	Information Service Provider	Planned
	Illinois DOT Gateway	Other ISP	Planned
Illinois Department of Transportation District 2	Illinois DOT District 2	Traffic Management	Existing
		Maintenance and Construction Management	Existing
	Illinois DOT District 2 MCO Vehicles	Maintenance and Construction Vehicle	Existing
	Illinois DOT District 2 Portable Dynamic Message Signs	Roadway	Existing
	Illinois DOT District 2 Roadside Equipment	Roadway	Existing
Illinois State Police District 16	Illinois State Police District 16	Emergency Management	Existing
		Traffic Management	Existing
	Illinois State Police District 16 Emergency Vehicles	Emergency Vehicle	Existing
	Illinois State Police District 16 Security Monitoring Field Equipment	Remote Traveler Support Security Monitoring	Existing Existing
	Illinois State Police District 16 Roadside Equipment	Roadway	Existing

Stakeholder	Inventory (Architecture Element)	Subsystem/ Terminator	Status
Iowa Department of Transportation	Iowa DOT	Information Service Provider	Existing
		Traffic Management	Existing
	Iowa DOT 511 Traveler Information System	Information Service Provider	Existing
Iowa Department of Transportation District 6	Iowa DOT District 6	Emergency Management	Existing
		Traffic Management	Existing
		Maintenance and Construction Management	Existing
	Iowa DOT District 6 MCO Vehicles	Maintenance and Construction Vehicle	Existing
	Iowa DOT District 6 RWIS Stations	Roadway	Existing
	Iowa DOT District 6 Loop Detectors	Roadway	Existing
	Iowa DOT District 6 Portable Dynamic Message Signs	Roadway	Existing
	Iowa DOT District 6 Security Monitoring Field Equipment	Security Monitoring	Existing
Iowa State Patrol District 10	Iowa State Patrol District 10	Emergency Management	Existing
	Iowa State Patrol District 10 Emergency Vehicles	Emergency Vehicle	Existing
Iowa State Patrol District 12	Iowa State Patrol District 12	Emergency Management	Existing
	Iowa State Patrol District 12 Emergency Vehicles	Emergency Vehicle	Existing
Jackson County Emergency Management Agency	Jackson County Emergency Management Agency	Emergency Management	Existing
Jackson County Engineers	Jackson County Engineers	Maintenance and Construction Management	Existing
	Jackson County Engineers MCO Vehicles	Maintenance and Construction Vehicle	Existing
Jo Daviess County Highway Department	Jo Daviess County Highway Department	Maintenance and Construction Management	Existing
	Jo Daviess County Highway Department MCO Vehicles	Maintenance and Construction Vehicle	Existing
Jo Daviess County Sheriff	Jo Daviess County Sheriff	Emergency Management	Existing
		Traffic Management	Existing
	Jo Daviess County Sheriff Emergency Vehicles	Emergency Vehicle	Existing
	Jo Daviess County Sheriff Security Monitoring Field Equipment	Security Monitoring	Existing
	Jo Daviess County 911 Center	Emergency Management	Existing
	Jo Daviess County Sheriff Roadside Equipment	Roadway	Existing
Jo Daviess County Transit	Jo Daviess County Transit	Information Service Provider	Existing

Stakeholder	Inventory (Architecture Element)	Subsystem/ Terminator	Status	
Department		Transit Management	Existing	
	Jo Daviess County Transit Vehicles	Transit Vehicle	Existing	
	Jo Daviess County Transit Kiosks	Remote Traveler Support	Existing	
	Jo Daviess County Transit Traveler Card	Traveler Card	Planned	
Media	Media	Media	Existing	
Private Commercial Vehicle Companies	Commercial Vehicles	Commercial Vehicle	Existing	
Regional Transit Authority	Regional Transit Authority Traveler Card	Traveler Card	Planned	
	Regional Transit Authority	Information Service Provider	Existing	
		Transit Management	Existing	
	Regional Transit Authority Transit Vehicles	Transit Vehicle	Existing	
Regional Transit Authority Kiosks	Remote Traveler Support	Planned		
River Bend Transit	River Bend Transit	Information Service Provider	Existing	
		Transit Management	Existing	
	River Bend Transit Transit Vehicles	Transit Vehicle	Existing	
Wisconsin Department of Transportation	Wisconsin DOT 511 Traveler Information System	Information Service Provider	Planned	
Wisconsin Department of Transportation District 1	Wisconsin DOT District 1 Corridor TMC Roadside Equipment	Roadway	Existing	
		Wisconsin DOT District 1 Corridor TMC	Traffic Management	Existing
			Maintenance and Construction Management	Existing
	Wisconsin DOT District 1	Other Traffic Management	Existing	
Wisconsin State Patrol District 1	Wisconsin State Patrol District 1	Maintenance and Construction Management	Existing	
		Emergency Management	Existing	
	Weather Services	Weather Service	Existing	
	User Personal Computing Devices	Personal Information Access	Existing	
	Surface Transportation Weather Service	Surface Transportation Weather Service	Existing	

5. MARKET PACKAGES

5.1 Identification of Market Packages

Market packages provide an accessible, deployment-oriented perspective to the National ITS Architecture. They are tailored to fit—separately or in combination—real world transportation problems and needs. Market packages collect together one or more equipment packages that must work together to deliver a given transportation service and the Architecture Flows that connect them and other important external systems. In other words, they identify the pieces of the Physical Architecture that are required to implement a particular transportation service. Since the market packages are evaluated during the architecture development, supporting benefits and costs analyses are also available for the market packages. Market Packages document provides a wealth of information that can support market package selection including tables that relate user services to market packages, problems to market packages, and analyses that identify key institutional and technical issues associated with each market package.

A list of eighty-five “generic” market packages is provided in the National ITS Architecture (Version 5.0). While the National ITS Architecture provides a basic set of market packages from which to select, this list is not intended to be prescriptive. If necessary, market packages can be added, deleted, and/or modified to fit a specific local preference or existing legacy system. Using the National ITS Architecture as a reference and learning from projects being deployed throughout the nation, a comprehensive list of market packages that addresses the specific needs for the DMATS/RPA 8 region can be prepared.

All eighty-five market packages were examined with regard to their applicability to the DMATS/RPA 8 regional ITS current and future projects. Table 5-1 presents a list market packages included in the National ITS Architecture as well as the market packages that are appropriate for the DMATS/RPA 8 region. Descriptions of the market packages that are included in the DMATS/RPA 8 Regional ITS Architecture are provided in Appendix B.

Table 5-1. List of Market Packages

Category	Market Package	Market Package Name	Status
Advanced Public Transportation Systems (APTS)	APTS01	Transit Vehicle Tracking	Existing
	APTS02	Transit Fixed Route Operations	Existing
	APTS03	Demand Response Transit Operations	Existing
	APTS04	Transit Passenger and Fare Management	Planned
	APTS05	Transit Security	Existing
	APTS06	Transit Maintenance	Existing
	APTS07	Multi-Modal Coordination	Not Planned
	APTS08	Transit Traveler Information	Existing
Advanced Traveler Information Systems (ATIS)	ATIS01	Broadcast Traveler Information	Existing
	ATIS02	Interactive Traveler Information	Existing
	ATIS03	Autonomous Route Guidance	Not Planned
	ATIS04	Dynamic Route Guidance	Not Planned

Category	Market Package	Market Package Name	Status
	ATIS05	ISP Based Route Guidance	Not Planned
	ATIS06	Integrated Transportation Management/Route Guidance	Not Planned
	ATIS07	Yellow Pages and Reservation	Not Planned
	ATIS08	Dynamic Ridesharing	Not Planned
	ATIS09	In-Vehicle Signing	Not Planned
Advanced Traffic Management Systems (ATMS)	ATMS01	Network Surveillance	Existing
	ATMS02	Probe Surveillance	Not Planned
	ATMS03	Surface Street Control	Existing
	ATMS04	Freeway Control	Not Planned
	ATMS05	HOV Lane Management	Not Planned
	ATMS06	Traffic Information Dissemination	Existing
	ATMS07	Regional Traffic Control	Not Planned
	ATMS08	Traffic Incident Management System	Existing
	ATMS09	Traffic Forecast and Demand Management	Not Planned
	ATMS10	Electronic Toll Collection	Not Planned
	ATMS11	Emissions Monitoring and Management	Not Planned
	ATMS12	Virtual TMC and Smart Probe Data	Not Planned
	ATMS13	Standard Railroad Grade Crossing	Existing
	ATMS14	Advanced Railroad Grade Crossing	Existing
	ATMS15	Railroad Operations Coordination	Not Planned
	ATMS16	Parking Facility Management	Not Planned
	ATMS17	Regional Parking Management	Not Planned
	ATMS18	Reversible Lane Management	Not Planned
	ATMS19	Speed Monitoring	Existing
	ATMS20	Drawbridge Management	Not Planned
	ATMS21	Roadway Closure Management	Not Planned
Vehicle Safety (AVSS)	AVSS01	Vehicle Safety Monitoring	Not Planned
	AVSS02	Driver Safety Monitoring	Not Planned
	AVSS03	Longitudinal Safety Warning	Not Planned
	AVSS04	Lateral Safety Warning	Not Planned
	AVSS05	Intersection Safety Warning	Not Planned
	AVSS06	Pre-Crash Restraint Requirement	Not Planned
	AVSS07	Driver Visibility Improvement	Not Planned
	AVSS08	Advanced Vehicle Longitudinal Control	Not Planned
	AVSS09	Advanced Vehicle Lateral Control	Not Planned
	AVSS10	Intersection Collision Avoidance	Not Planned
	AVSS11	Automated Highway System	Not Planned
Commercial Vehicle Operations (CVO)	CVO01	Fleet Administration	Not Planned
	CVO02	Freight Administration	Not Planned
	CVO03	Electronic Clearance	Not Planned
	CVO04	CV Administrative Processes	Existing
	CVO05	International Border Electronic Clearance	Not Planned
	CVO06	Weigh In Motion	Not Planned
	CVO07	Roadside CVO Safety	Planned
	CVO08	On-Board CVO Safety	Not Planned
	CVO09	CVO Fleet Maintenance	Not Planned

Category	Market Package	Market Package Name	Status
	CVO10	HAZMAT Management	Not Planned
	CVO11	Roadside HAZMAT Security Detection and Mitigation	Planned
	CVO12	CA Driver Security Authentication	Not Planned
	CVO13	Freight Assignment Tracking	Not Planned
Emergency Management (EM)	EM01	Emergency Call-Taking and Dispatch	Existing
	EM02	Emergency Routing	Existing
	EM03	Mayday Support	Not Planned
	EM04	Roadway Service Patrols	Not Planned
	EM05	Transportation Infrastructure Protection	Existing
	EM06	Wide-Area Alert	Existing
	EM07	Early Warning System	Existing
	EM08	Disaster Response and Recovery	Existing
	EM09	Evacuation and Reentry Management	Existing
	EM10	Disaster Traveler Information	Existing
Archived Data Management (AD)	AD1	ITS Data Mart	Not Planned
	AD2	ITS Data Warehouse	Not Planned
	AD3	ITS Virtual Data Warehouse	Not Planned
Maintenance & Construction Management (MC)	MC01	Maintenance and Construction Vehicle and Equipment Tracking	Planned
	MC02	Maintenance and Construction Vehicle Maintenance	Existing
	MC03	Road Weather Data Collection	Existing
	MC04	Weather Information Processing and Distribution	Existing
	MC05	Roadway Automated Treatment	Not Planned
	MC06	Winter Maintenance	Existing
	MC07	Roadway Maintenance and Construction	Existing
	MC08	Work Zone Management	Existing
	MC09	Work Zone Safety Monitoring	Not Planned
	MC10	Maintenance and Construction Activity Coordination	Existing

5.2 Customization of Market Packages

Market Packages, customized for the specific requirements of each stakeholder, represent the information that will be exchanged between specific stakeholder elements to effect specific sets of user services. As such, they collectively represent the concept of operations for a region. The above market packages selected based on the stakeholders surveys were customized to correspond with the existing field elements and operations as well as future deployment and planned operations. Customization of market packages requires tailoring the elements (subsystems or terminators) in these market packages, along with associated architecture flows. In addition, architecture flows deemed by the stakeholders as not relevant to the regional deployment need to be removed. The results of such customization are summarized in terms of regional ITS elements and their deployment status as presented in Table 5-2. Completed results of the customization are detailed in the Appendix E and in the Turbo Architecture database.

Table 5-2. Mapping of Regional ITS Market Packages to Elements

Market Package	Market Package Name	Associated Element	Status
APTS1	Transit Vehicle Tracking	City of Clinton Municipal Transit Administration	Planned
		City of Clinton Municipal Transit Administration Transit Vehicles	Planned
		City of Dubuque Keyline Transit	Existing
		City of Dubuque Keyline Transit Transit Vehicles	Existing
		Jo Daviess County Transit	Planned
		Jo Daviess County Transit Vehicles	Planned
		Regional Transit Authority	Planned
		Regional Transit Authority Transit Vehicles	Planned
		River Bend Transit	Planned
		River Bend Transit Transit Vehicles	Planned
APTS2	Transit Fixed-Route Operations	City of Clinton Municipal Transit Administration	Existing
		City of Clinton Municipal Transit Administration Transit Vehicles	Existing
		City of Dubuque Keyline Transit	Existing
		City of Dubuque Keyline Transit Transit Vehicles	Existing
APTS3	Demand Response Transit Operations	City of Clinton Municipal Transit Administration	Existing
		City of Clinton Municipal Transit Administration Transit Vehicles	Existing
		City of Dubuque Keyline Transit	Existing
		City of Dubuque Keyline Transit Transit Vehicles	Existing
		Regional Transit Authority	Existing
		Regional Transit Authority Transit Vehicles	Existing
		River Bend Transit	Existing
		River Bend Transit Transit Vehicles	Existing
APTS4	Transit Passenger and Fare Management	City of Clinton Municipal Transit Administration	Planned
		City of Clinton Municipal Transit Administration Kiosks	Planned
		City of Clinton Municipal Transit Administration Transit Vehicles	Planned
		City of Clinton Municipal Transit Administration Traveler Card	Planned
		City of Dubuque Keyline Transit	Planned
		City of Dubuque Keyline Transit Kiosks	Planned
		City of Dubuque Keyline Transit Transit Vehicles	Planned
		City of Dubuque Keyline Transit Traveler Card	Planned
		Jo Daviess County Transit	Planned
		Jo Daviess County Transit Kiosks	Planned
		Jo Daviess County Transit Traveler Card	Planned
		Jo Daviess County Transit Vehicles	Planned
		Regional Transit Authority	Planned
		Regional Transit Authority Kiosks	Planned
		Regional Transit Authority Transit Vehicles	Planned

Market Package	Market Package Name	Associated Element	Status
		Regional Transit Authority Traveler Card	Planned
APTS5	Transit Security	City of Clinton Municipal Transit Administration	Planned
		City of Clinton Municipal Transit Administration Security Monitoring Field Equipment	Planned
		City of Clinton Municipal Transit Administration Transit Vehicles	Planned
		City of Dubuque Keyline Transit	Existing
		City of Dubuque Keyline Transit Security Monitoring Field Equipment	Existing
		Regional Transit Authority	Planned
		Regional Transit Authority Transit Vehicles	Planned
		River Bend Transit	Planned
		River Bend Transit Transit Vehicles	Planned
		APTS6	Transit Maintenance
City of Clinton Municipal Transit Administration Transit Vehicles	Existing		
City of Dubuque Keyline Transit	Existing		
City of Dubuque Keyline Transit Transit Vehicles	Existing		
Jo Daviess County Transit	Existing		
Jo Daviess County Transit Vehicles	Existing		
Regional Transit Authority	Existing		
Regional Transit Authority Transit Vehicles	Existing		
River Bend Transit	Existing		
River Bend Transit Transit Vehicles	Existing		
APTS8	Transit Traveler Information	City of Clinton Municipal Transit Administration	Planned
		City of Clinton Municipal Transit Administration Kiosks	Planned
		City of Clinton Municipal Transit Administration Transit Station Electronic Display	Planned
		City of Clinton Municipal Transit Administration Transit Vehicles	Planned
		City of Dubuque Keyline Transit	Existing
		City of Dubuque Keyline Transit Kiosks	Planned
		River Bend Transit	Planned
		User Personal Computing Devices	Planned
ATIS1	Broadcast Traveler Information	City of Clinton Municipal Transit Administration	Planned
		City of Clinton Municipal Transit Administration Kiosks	Planned
		City of Clinton Municipal Transit Administration Transit Station Electronic Display	Planned
		City of Clinton Police Department	Existing
		City of Clinton Police Department Road Weather Information Telephone Service	Existing
		City of Dubuque Citychannel 8	Existing
		City of Dubuque Engineering Department	Existing
		City of Dubuque Keyline Transit	Existing
		City of Maquoketa Public Works Department	Existing

Market Package	Market Package Name	Associated Element	Status
		Dubuque 911 Center	Existing
		Dubuque County Sheriff	Existing
		Dubuque County Sheriff Road Weather Information Telephone Service	Existing
		Illinois DOT 511 Traveler Information System	Planned
		Iowa DOT 511 Traveler Information System	Existing
		Jo Daviess County Transit	Planned
		Media	Existing
		Regional Transit Authority	Planned
		River Bend Transit	Planned
		User Personal Computing Devices	Existing
		Wisconsin DOT 511 Traveler Information System	Planned
ATIS2	Interactive Traveler Information	Illinois DOT 511 Traveler Information System	Planned
		Illinois DOT Gateway	Planned
		Iowa DOT	Existing
		Iowa DOT 511 Traveler Information System	Existing
		Iowa State Patrol District 10	Existing
		Iowa State Patrol District 12	Existing
		User Personal Computing Devices	Existing
		Weather Services	Existing
		Wisconsin DOT 511 Traveler Information System	Planned
		Wisconsin DOT District 1	Planned
		Wisconsin DOT District 1 Corridor TMC	Planned
		Wisconsin State Patrol District 1	Planned
ATMS01	Network Surveillance	City of Dubuque Engineering Department	Existing
		City of Dubuque Engineering Department Roadside Equipment	Existing
		City of Maquoketa Public Works Department	Planned
		City of Maquoketa Public Works Department Roadside Equipment	Planned
		Iowa DOT District 6	Existing
		Iowa DOT District 6 Loop Detectors	Existing
ATMS03	Surface Street Control	City of Dubuque Engineering Department	Existing
		City of Dubuque Engineering Department Roadside Equipment	Existing
		Illinois DOT District 2	Existing
		Illinois DOT District 2 Roadside Equipment	Existing
ATMS06	Traffic Information Dissemination	City of Clinton Police Department	Existing
		City of Clinton Police Department Highway Advisory Radio	Existing
		City of Dubuque Engineering Department	Existing
		City of Dubuque Engineering Department Roadside Equipment	Existing
		City of Dubuque Police Department	Existing
		City of Dubuque Police Department Dynamic Message Signs	Existing

Market Package	Market Package Name	Associated Element	Status
		Dubuque 911 Center	Existing
		Dubuque 911 Center Roadside Equipment	Existing
		Dubuque County Sheriff	Existing
		Dubuque County Sheriff Roadside Equipment	Existing
ATMS08	Traffic Incident Management System	City of Asbury Public Works Department	Existing
		City of Camanche Fire Department	Existing
		City of Camanche Fire Department Emergency Vehicles	Existing
		City of Camanche Police Department	Existing
		City of Camanche Police Department Emergency Vehicles	Existing
		City of Camanche Public Works Department	Existing
		City of Charlotte Fire Department	Existing
		City of Charlotte Fire Department Emergency Vehicles	Existing
		City of Clinton Fire Department	Existing
		City of Clinton Fire Department Emergency Vehicles	Existing
		City of Clinton Police Department	Existing
		City of Clinton Police Department Emergency Vehicles	Existing
		City of Dewitt Police Department	Existing
		City of Dewitt Police Department Emergency Vehicles	Existing
		City of Dewitt Public Works Department	Existing
		City of Dubuque Engineering Department	Existing
		City of Dubuque Engineering Department Roadside Equipment	Existing
		City of Dubuque Fire Department	Existing
		City of Dubuque Fire Department Emergency Vehicles	Existing
		City of Dubuque Operations and Maintenance Department	Existing
		City of Dubuque Police Department	Existing
		City of Dubuque Police Department Emergency Vehicles	Existing
		City of East Dubuque Police Department	Existing
		City of East Dubuque Police Department Emergency Vehicles	Existing
		City of Farley Fire Department	Existing
		City of Farley Fire Department Emergency Vehicles	Existing
		City of Farley Public Works Department	Existing
		City of Grand Mound Public Works Department	Existing
		City of Manchester Police Department	Existing
		City of Manchester Police Department Emergency Vehicles	Existing
		City of Manchester Public Works Department	Existing
		City of Maquoketa Fire Department	Existing
City of Maquoketa Fire Department Emergency Vehicles	Existing		

Market Package	Market Package Name	Associated Element	Status
		City of Maquoketa Police Department	Existing
		City of Maquoketa Police Department Emergency Vehicles	Existing
		City of Maquoketa Public Works Department	Existing
		City of Preston Community Ambulance Service	Existing
		City of Preston Community Ambulance Service Emergency Vehicles	Existing
		City of Springbrook Fire and EMS Department	Existing
		City of Springbrook Fire and EMS Department Emergency Vehicles	Existing
		Clinton County 911 Center	Existing
		Clinton County Engineer	Existing
		Clinton County Sheriff	Existing
		Clinton County Sheriff Emergency Vehicles	Existing
		Delaware County Emergency Management	Existing
		Delaware County Emergency Management Emergency Vehicles	Existing
		Delaware County Engineer	Existing
		Delaware County Sheriff	Existing
		Delaware County Sheriff Emergency Vehicles	Existing
		Dubuque 911 Center	Existing
		Dubuque 911 Center Emergency Vehicles	Existing
		Dubuque County Emergency Management Agency	Existing
		Dubuque County Engineer	Existing
		Dubuque County Sheriff	Existing
		Dubuque County Sheriff Emergency Vehicles	Existing
		Grant County 911 Center	Existing
		Grant County Emergency Management Agency	Existing
		Grant County Emergency Management Agency Emergency Vehicles	Existing
		Grant County Highway Department	Existing
		Grant County Sheriff	Existing
		Grant County Sheriff Emergency Vehicles	Existing
		Illinois DOT District 2	Existing
		Illinois State Police District 16	Existing
		Illinois State Police District 16 Emergency Vehicles	Existing
		Iowa DOT District 6	
		Iowa State Patrol District 10	Existing
		Iowa State Patrol District 10 Emergency Vehicles	Existing
		Iowa State Patrol District 12	Existing
		Iowa State Patrol District 12 Emergency Vehicles	Existing
		Jackson County Emergency Management Agency	Existing
		Jackson County Engineers	Existing
		Jo Daviess County 911 Center	Existing
		Jo Daviess County Highway Department	Existing

Market Package	Market Package Name	Associated Element	Status
		Jo Daviess County Sheriff	Existing
		Jo Daviess County Sheriff Emergency Vehicles	Existing
		Media	Existing
		Wisconsin DOT District 1	Existing
		Wisconsin DOT District 1 Corridor TMC	Planned
		Wisconsin DOT District 1 Corridor TMC Roadside Equipment	Planned
		Wisconsin State Patrol District 1	Existing
ATMS13	Standard Railroad Grade Crossing	City of Dubuque Engineering Department	Existing
		City of Dubuque Engineering Department Roadside Equipment	Existing
		Illinois DOT District 2	Existing
		Illinois DOT District 2 Roadside Equipment	Existing
ATMS14	Advanced Railroad Grade Crossing	City of Dubuque Engineering Department	Existing
		City of Dubuque Engineering Department Roadside Equipment	Existing
ATMS19	Speed Monitoring	City of Dubuque Engineering Department	Existing
		City of Dubuque Engineering Department Roadside Equipment	Existing
		Illinois State Police District 16	Existing
		Illinois State Police District 16 Roadside Equipment	Existing
		Jo Daviess County Sheriff	Existing
		Jo Daviess County Sheriff Roadside Equipment	Existing
CVO04	CV Administrative Processes	City of Clinton Police Department	Existing
CVO07	Roadside CVO Safety	City of Clinton Police Department	Planned
		City of Clinton Police Department Commercial Vehicle Inspection Facility	Planned
		Commercial Vehicles	Planned
CVO11	Roadside HAZMAT Security Detection and Mitigation	City of Clinton Police Department	Planned
		City of Clinton Police Department Commercial Vehicle Inspection Facility	Planned
		Commercial Vehicles	Planned
EM01	Emergency Call-Taking and Dispatch	City of Camanche Fire Department	Existing
		City of Camanche Fire Department Emergency Vehicles	Existing
		City of Camanche Police Department	Existing
		City of Camanche Police Department Emergency Vehicles	Existing
		City of Charlotte Fire Department	Existing
		City of Charlotte Fire Department Emergency Vehicles	Existing
		City of Clinton Fire Department	Existing
		City of Clinton Fire Department Emergency Vehicles	Existing
		City of Clinton Police Department	Existing
		City of Clinton Police Department Emergency Vehicles	Existing
		City of Dewitt Police Department	Existing

Market Package	Market Package Name	Associated Element	Status
		City of Dewitt Police Department Emergency Vehicles	Existing
		City of Dubuque Fire Department	Existing
		City of Dubuque Fire Department Emergency Vehicles	Existing
		City of Dubuque Police Department	Existing
		City of Dubuque Police Department Emergency Vehicles	Existing
		City of East Dubuque Police Department	Existing
		City of East Dubuque Police Department Emergency Vehicles	Existing
		City of Farley Fire Department	Existing
		City of Farley Fire Department Emergency Vehicles	Existing
		City of Manchester Police Department	Existing
		City of Manchester Police Department Emergency Vehicles	Existing
		City of Maquoketa Fire Department	Existing
		City of Maquoketa Fire Department Emergency Vehicles	Existing
		City of Maquoketa Police Department	Existing
		City of Maquoketa Police Department Emergency Vehicles	Existing
		City of Preston Community Ambulance Service	Existing
		City of Preston Community Ambulance Service Emergency Vehicles	Existing
		City of Springbrook Fire and EMS Department	Existing
		City of Springbrook Fire and EMS Department Emergency Vehicles	Existing
		Clinton County 911 Center	Existing
		Clinton County Sheriff	Existing
		Clinton County Sheriff Emergency Vehicles	Existing
		Delaware County Emergency Management	Existing
		Delaware County Emergency Management Emergency Vehicles	Existing
		Delaware County Sheriff	Existing
		Delaware County Sheriff Emergency Vehicles	Existing
		Dubuque 911 Center	Existing
		Dubuque 911 Center Emergency Vehicles	Existing
		Dubuque County Sheriff	Existing
		Dubuque County Sheriff Emergency Vehicles	Existing
		Grant County 911 Center	Existing
		Grant County Emergency Management Agency	Existing
		Grant County Emergency Management Agency Emergency Vehicles	Existing
		Grant County Sheriff	Existing
		Grant County Sheriff Emergency Vehicles	Existing
		Illinois State Police District 16	Existing
		Illinois State Police District 16 Emergency Vehicles	Existing
		Iowa State Patrol District 10	Existing

Market Package	Market Package Name	Associated Element	Status
		Iowa State Patrol District 10 Emergency Vehicles	Existing
		Iowa State Patrol District 12	Existing
		Iowa State Patrol District 12 Emergency Vehicles	Existing
		Jo Daviess County 911 Center	Existing
		Jo Daviess County Sheriff	Existing
		Jo Daviess County Sheriff Emergency Vehicles	Existing
		Wisconsin State Patrol District 1	Existing
EM02	Emergency Routing	City of Clinton Fire Department Emergency Vehicles	Existing
		City of Clinton Police Department Emergency Vehicles	Existing
		City of Dubuque Engineering Department	Existing
		City of Dubuque Engineering Department Roadside Equipment	Existing
		City of Dubuque Fire Department Emergency Vehicles	Existing
		City of Dubuque Police Department Emergency Vehicles	Existing
		City of Manchester Police Department	Planned
		City of Maquoketa Fire Department Emergency Vehicles	Existing
		City of Maquoketa Public Works Department Roadside Equipment	Existing
		Clinton County 911 Center	Existing
		Clinton County Sheriff Emergency Vehicles	Existing
		Delaware County Sheriff Emergency Vehicles	Planned
		Dubuque 911 Center	Existing
		Dubuque 911 Center Emergency Vehicles	Existing
		Dubuque County Sheriff Emergency Vehicles	Existing
		Grant County 911 Center	Planned
		Grant County Sheriff Emergency Vehicles	Planned
		Illinois State Police District 16	Existing
		Illinois State Police District 16 Emergency Vehicles	Existing
		Iowa State Patrol District 10	Existing
		Iowa State Patrol District 10 Emergency Vehicles	Existing
		Iowa State Patrol District 12	Existing
		Iowa State Patrol District 12 Emergency Vehicles	Existing
		Jo Daviess County 911 Center	Planned
		Jo Daviess County Sheriff Emergency Vehicles	Planned
		Wisconsin State Patrol District 1	Existing
EM05	Transportation Infrastructure Protection	City of Clinton Police Department	Planned
		City of Clinton Police Department Security Monitoring Field Equipment	Planned
		Dubuque County Sheriff	Existing
		Dubuque County Sheriff Roadside Equipment	Existing
		Grant County Sheriff	Existing
		Grant County Sheriff Roadside Equipment	Existing
		Illinois State Police District 16	Existing

Market Package	Market Package Name	Associated Element	Status
		Illinois State Police District 16 Security Monitoring Field Equipment	Existing
		Iowa DOT District 6	Existing
		Iowa DOT District 6 Security Monitoring Field Equipment	Existing
EM06	Wide-Area Alert	City of Dubuque Citychannel 8	Existing
		City of Dubuque Police Department	Existing
		Clinton County 911 Center	Existing
		Clinton County Sheriff	Existing
		Dubuque 911 Center	Existing
		Dubuque County Emergency Management Agency	Planned
		Dubuque County Sheriff	Existing
		Grant County Emergency Management Agency	Existing
		Iowa DOT District 6	Existing
		Jo Daviess County 911 Center	Existing
		Jo Daviess County Sheriff	Existing
EM07	Early Warning System	City of Clinton Municipal Transit Administration	Planned
		City of Dubuque Engineering Department	Existing
		City of Dubuque Engineering Department Security Monitoring Field Equipment	Existing
		City of Dubuque Fire Department	Existing
		City of Dubuque Fire Department Security Monitoring Field Equipment	Existing
		City of Maquoketa Police Department	Existing
		City of Maquoketa Police Department Security Monitoring Field Equipment	Existing
		City of Maquoketa Public Works Department	Existing
		City of Maquoketa Public Works Department Security Monitoring Field Equipment	Existing
		Clinton County Emergency Management Agency	Existing
		Clinton County Emergency Management Agency Security Monitoring Field Equipment	Existing
		Clinton County Sheriff	Existing
		Clinton County Sheriff Security Monitoring Field Equipment	Existing
		Delaware County Emergency Management	Existing
		Delaware County Emergency Management Security Monitoring Field Equipment	Existing
		Delaware County Sheriff	Existing
		Delaware County Sheriff Security Monitoring Field Equipment	Existing
		Dubuque 911 Center	Existing
		Dubuque 911 Center Security Monitoring Field Equipment	Existing
		Dubuque County Emergency Management Agency	Existing
		Dubuque County Emergency Management Agency Security Monitoring Field Equipment	Existing

Market Package	Market Package Name	Associated Element	Status
		Dubuque County Sheriff	Existing
		Dubuque County Sheriff Security Monitoring Field Equipment	Existing
		Grant County Emergency Management Agency	Existing
		Grant County Emergency Management Agency Security Monitoring Field Equipment	Existing
		Grant County Sheriff	Existing
		Grant County Sheriff Security Monitoring Field Equipment	Existing
		Illinois State Police District 16	Existing
		Illinois State Police District 16 Security Monitoring Field Equipment	Existing
		Iowa DOT District 6	Planned
		Iowa DOT District 6 Security Monitoring Field Equipment	Planned
		Jo Daviess County Sheriff	Existing
		Jo Daviess County Sheriff Security Monitoring Field Equipment	Existing
EM08	Disaster Response and Recovery	City of Camanche Police Department	Existing
		City of Camanche Public Works Department	Existing
		City of Charlotte Fire Department	Existing
		City of Clinton Fire Department	Existing
		City of Clinton Municipal Transit Administration	Existing
		City of Clinton Police Department	Existing
		City of Dubuque Engineering Department	Existing
		City of Dubuque Fire Department	Existing
		City of Dubuque Keyline Transit	Existing
		City of Dubuque Operations and Maintenance Department	Existing
		City of Dubuque Police Department	Existing
		City of East Dubuque Police Department	Existing
		City of Farley Fire Department	Existing
		City of Farley Public Works Department	Existing
		City of Grand Mound Public Works Department	Existing
		City of Manchester Police Department	Existing
		City of Manchester Public Works Department	Existing
		City of Maquoketa Police Department	Existing
		City of Springbrook Fire and EMS Department	Existing
		Clinton County 911 Center	Existing
		Clinton County Emergency Management Agency	Existing
		Clinton County Engineer	Existing
		Clinton County Sheriff	Existing
		Delaware County Emergency Management	Existing
		Delaware County Engineer	Existing
		Delaware County Sheriff	Existing
		Dubuque 911 Center	Existing

Market Package	Market Package Name	Associated Element	Status
		Dubuque County Emergency Management Agency	Existing
		Dubuque County Sheriff	Existing
		Grant County 911 Center	Existing
		Grant County Emergency Management Agency	Existing
		Grant County Sheriff	Existing
		Illinois State Police District 16	Existing
		Iowa DOT District 6	Existing
		Jackson County Emergency Management Agency	Existing
		Jackson County Engineers	Existing
		Jo Daviess County 911 Center	Existing
		Jo Daviess County Sheriff	Existing
		Jo Daviess County Transit	Planned
EM09	Evacuation and Reentry Management	City of Camanche Police Department	Existing
		City of Camanche Public Works Department	Existing
		City of Charlotte Fire Department	Existing
		City of Clinton Fire Department	Existing
		City of Clinton Municipal Transit Administration	Existing
		City of Clinton Police Department	Existing
		City of Dewitt Police Department	Existing
		City of Dubuque Engineering Department	Existing
		City of Dubuque Fire Department	Existing
		City of Dubuque Keyline Transit	Existing
		City of Dubuque Police Department	Existing
		City of Farley Fire Department	Existing
		City of Farley Public Works Department	Existing
		City of Grand Mound Public Works Department	Existing
		City of Manchester Police Department	Existing
		City of Springbrook Fire and EMS Department	Existing
		Clinton County 911 Center	Planned
		Clinton County Emergency Management Agency	Existing
		Clinton County Engineer	Existing
		Clinton County Sheriff	Planned
		Delaware County Emergency Management	Existing
		Delaware County Engineer	Existing
		Delaware County Sheriff	Existing
		Dubuque 911 Center	Existing
		Dubuque County Emergency Management Agency	Existing
		Dubuque County Sheriff	Existing
		Grant County 911 Center	Existing
		Grant County Emergency Management Agency	Existing
		Grant County Sheriff	Existing
		Jackson County Emergency Management Agency	Existing
		Jo Daviess County 911 Center	Existing
		Jo Daviess County Sheriff	Existing

Market Package	Market Package Name	Associated Element	Status
		Jo Daviess County Transit	Planned
EM10	Disaster Traveler Information	City of Clinton Police Department	Existing
		City of Dubuque Citychannel 8	Existing
		Dubuque 911 Center	Existing
		Dubuque County Sheriff	Existing
MC01	Maintenance and Construction Vehicle and Equipment Tracking	Clinton County Engineer	Planned
		Clinton County Engineer MCO Vehicles	Planned
		Delaware County Engineer	Planned
		Delaware County Engineer MCO Vehicles	Planned
		Grant County Highway Department	Planned
		Grant County Highway Department MCO Vehicles	Planned
MC02	Maintenance and Construction Vehicle Maintenance	City of Dubuque Engineering Department	Existing
		City of Dubuque Engineering Department MCO Vehicles	Existing
		City of Dubuque Operations and Maintenance Department	Existing
		City of Dubuque Operations and Maintenance Department MCO Vehicles	Existing
		City of Manchester Public Works Department	Existing
		City of Manchester Public Works Department MCO Vehicles	Existing
		Clinton County Engineer	Existing
		Clinton County Engineer MCO Vehicles	Existing
		Delaware County Engineer	Existing
		Delaware County Engineer MCO Vehicles	Existing
		Dubuque County Engineer	Existing
		Dubuque County Engineer MCO Vehicles	Existing
		Grant County Highway Department	Existing
		Grant County Highway Department MCO Vehicles	Existing
		Iowa DOT District 6	Existing
		Iowa DOT District 6 MCO Vehicles	Existing
		Jackson County Engineers	Existing
		Jackson County Engineers MCO Vehicles	Existing
		Jo Daviess County Highway Department	Existing
		Jo Daviess County Highway Department MCO Vehicles	Existing
MC03	Road Weather Data Collection	Iowa DOT District 6	Existing
		Iowa DOT District 6 RWIS Stations	Existing
		Wisconsin DOT District 1 Corridor TMC	Planned
		Wisconsin DOT District 1 Corridor TMC Roadside Equipment	Planned
MC04	Weather Information Processing and Distribution	City of Camanche Public Works Department	Existing
		City of Dewitt Public Works Department	Existing
		City of Dubuque Engineering Department	Existing
		City of Dubuque Operations and Maintenance Department	Existing

Market Package	Market Package Name	Associated Element	Status
		City of Farley Public Works Department	Existing
		City of Grand Mound Public Works Department	Existing
		Clinton County Engineer	Existing
		Delaware County Engineer	Existing
		Grant County Highway Department	Existing
		Iowa DOT District 6	Existing
		Jackson County Engineers	Existing
		Surface Transportation Weather Service	Existing
		Weather Services	Existing
		Wisconsin DOT District 1 Corridor TMC	Planned
MC06	Winter Maintenance	City of Asbury Public Works Department	Existing
		City of Camanche Public Works Department	Existing
		City of Dewitt Public Works Department	Existing
		City of Dubuque Engineering Department	Existing
		City of Dubuque Engineering Department MCO Vehicles	Existing
		City of Dubuque Operations and Maintenance Department	Existing
		City of Dubuque Operations and Maintenance Department MCO Vehicles	Existing
		City of Farley Public Works Department	Existing
		City of Grand Mound Public Works Department	Existing
		City of Manchester Public Works Department	Existing
		City of Manchester Public Works Department MCO Vehicles	Existing
		City of Maquoketa Public Works Department	Existing
		City of Maquoketa Public Works MCO Vehicles	Existing
		Clinton County Engineer	Existing
		Clinton County Engineer MCO Vehicles	Existing
		Delaware County Engineer	Existing
		Delaware County Engineer MCO Vehicles	Existing
		Dubuque County Engineer	Existing
		Dubuque County Engineer MCO Vehicles	Existing
		Grant County Highway Department	Existing
		Grant County Highway Department MCO Vehicles	Existing
		Illinois DOT District 2	Existing
		Illinois DOT District 2 MCO Vehicles	Existing
		Iowa DOT District 6	Existing
		Iowa DOT District 6 MCO Vehicles	Existing
		Jackson County Engineers	Existing
		Jackson County Engineers MCO Vehicles	Existing
		Jo Daviess County Highway Department	Existing
		Jo Daviess County Highway Department MCO Vehicles	Existing
MC07	Roadway Maintenance and Construction	City of Asbury Public Works Department	Existing

Market Package	Market Package Name	Associated Element	Status
		City of Camanche Public Works Department	Existing
		City of Dewitt Public Works Department	Existing
		City of Dubuque Engineering Department	Existing
		City of Dubuque Engineering Department MCO Vehicles	Existing
		City of Dubuque Operations and Maintenance Department	Existing
		City of Dubuque Operations and Maintenance Department MCO Vehicles	Existing
		City of Farley Public Works Department	Existing
		City of Grand Mound Public Works Department	Existing
		City of Manchester Public Works Department	Existing
		City of Manchester Public Works Department MCO Vehicles	Existing
		City of Maquoketa Public Works Department	Existing
		City of Maquoketa Public Works MCO Vehicles	Existing
		Clinton County Engineer	Existing
		Clinton County Engineer MCO Vehicles	Existing
		Delaware County Engineer	Existing
		Delaware County Engineer MCO Vehicles	Existing
		Dubuque County Engineer	Existing
		Dubuque County Engineer MCO Vehicles	Existing
		Grant County Highway Department	Existing
		Grant County Highway Department MCO Vehicles	Existing
		Illinois DOT District 2	Existing
		Illinois DOT District 2 MCO Vehicles	Existing
		Iowa DOT District 6	Existing
		Iowa DOT District 6 MCO Vehicles	Existing
		Jackson County Engineers	Existing
		Jackson County Engineers MCO Vehicles	Existing
		Jo Daviess County Highway Department	Existing
		Jo Daviess County Highway Department MCO Vehicles	Existing
MC08	Work Zone Management	City of Dubuque Engineering Department	Existing
		City of Dubuque Engineering Department MCO Vehicles	Existing
		City of Dubuque Engineering Department Roadside Equipment	Existing
		Illinois DOT District 2	Existing
		Illinois DOT District 2 MCO Vehicles	Existing
		Illinois DOT District 2 Portable Dynamic Message Signs	Existing
		Iowa DOT District 6	Existing
		Iowa DOT District 6 MCO Vehicles	Existing
		Iowa DOT District Portable Dynamic Message Signs	Existing
MC10	Maintenance and Construction Activity	City of Dubuque Engineering Department	Existing

Market Package	Market Package Name	Associated Element	Status
	Coordination	City of Dubuque Operations and Maintenance Department	Existing
		City of Maquoketa Public Works Department	Existing
		Clinton County Engineer	Existing
		Delaware County Engineer	Existing
		Iowa DOT District 6	Existing
		Jackson County Engineers	Existing

6. EQUIPMENT PACKAGES AND FUNCTIONAL REQUIREMENTS

As one of the required components of a regional ITS architecture identified in FHWA Final Rule and FTA Policy on ITS Architecture and Standards, this section of the report summarizes the system functional requirements for the DMATS/RPA 8 Regional ITS Architecture in terms of market packages, subsystems, and equipment packages.

6.1 Mapping of Market Packages to Subsystems and Equipment Packages

A market package is implemented with a combination of interrelated equipment; this equipment often resides in several different subsystems within the architecture framework and may be operated by different stakeholders. For instance, the Transit Vehicle Tracking market package includes vehicle location equipment in the Transit Vehicle Subsystem and a base station element in the Transit Management Subsystem. In this example, all market package elements are owned and operated by the same transit stakeholder.

In other cases, the market package elements are owned and operated by different stakeholders. Many of the Advanced Traveler Information Systems (ATIS) market packages require equipment in the Information Service Provider Subsystem that is owned and operated by a public or private information provider and equipment that is acquired and operated by the consumer as part of the Vehicle Subsystem or Personal Information Access Subsystem. Since equipment in different subsystems may be purchased and operated by different end-users, these subsystem-specific components may encounter varied deployment.

To understand and analyze these potential deployment variations, the defined market packages must be decomposed to their constituent elements. The portion of the market package capabilities that are allocated to each subsystem are segregated and defined as equipment packages to support this additional resolution. An equipment package represents a set of equipment/capabilities that are likely to be purchased by an end-user as a component to an overall system. It should be noted that there are no equipment packages defined for the terminators of the National ITS Architecture, as they represent systems on the boundary of the architecture and do not have functional descriptions within the architecture.

Table 6-1 illustrates the subsystems and equipment packages that mapped to the customized list of market packages. The table illustrates the specific market packages in the DMATS/RPA 8 Regional ITS Architecture, the subsystems that are part of the market packages, and the equipment packages that make up the market packages. The equipment packages identified in Table 6-1 were used to develop the specific functional requirements of each element. The definitions of the equipment packages appropriate for the DMATS/RPA 8 region are provided in Appendix C.

Table 6-1. Market Packages, Subsystems and Equipment Packages

Market Package	Market Package Name	Subsystem	Equipment Package		
ATMS01	Network Surveillance	Traffic Management	Collect Traffic Surveillance Traffic Maintenance		
		Roadway Subsystem	Roadway Basic Surveillance		
ATMS03	Surface Street Control	Traffic Management	TMC Signal Control Traffic Maintenance		
		Roadway Subsystem	Roadway Signal Controls Roadway Basic Surveillance Roadway Equipment Coordination		
			Traffic Management	TMC Traffic Information Dissemination	
			Roadway Subsystem	Roadway Traffic Information Dissemination	
ATMS08	Traffic Incident Management System	Traffic Management	TMC Incident Detection TMC Incident Dispatch Coordination/Communication		
		Roadway Subsystem	Roadway Incident Detection		
		Emergency Management	Emergency Response Management Incident Command		
		Maintenance and Construction Management	MCM Incident Management		
		Emergency Vehicle	On-board EV Incident Management Communication		
		ATMS13	Standard Railroad Grade Crossing	Traffic Management	HRI Traffic Management
				Roadway Subsystem	Standard Rail Crossing
ATMS14	Advanced Railroad Grade Crossing	Traffic Management	HRI Traffic Management		
		Roadway Subsystem	Advanced Rail Crossing		
ATMS19	Speed Monitoring	Traffic Management	TMC Speed Monitoring		
		Roadway Subsystem	Roadway Speed Monitoring Roadway Equipment Coordination		
			Maintenance and Construction Management	MCM Speed Monitoring	
		MC01	Maintenance and Construction Vehicle and Equipment Tracking	Maintenance and Construction Management	MCM Vehicle Tracking
Maintenance and Construction Vehicle	MCV Vehicle Location Tracking				
MC02	Maintenance and Construction Vehicle Maintenance	Maintenance and Construction Management	MCM Vehicle and Equipment Maintenance Management		
		Maintenance and Construction Vehicle	MCV Vehicle System Monitoring and Diagnostics		
MC03	Road Weather Data Collection	Maintenance and Construction Management	MCM Environmental Information Collection		
		Traffic Management	TMC Environmental Monitoring		
		Roadway Subsystem	Roadway Environmental Monitoring		
MC04	Weather Information Processing and Distribution	Maintenance and Construction Management	MCM Environmental Information Processing		
		Traffic Management	TMC Environmental Monitoring		
		Information Service Provider	Basic Information Broadcast		
MC06	Winter Maintenance	Maintenance and Construction Management	MCM Maintenance Decision Support MCM Winter Maintenance Management		
		Maintenance and Construction Vehicle	MCV Winter Maintenance		

Market Package	Market Package Name	Subsystem	Equipment Package
		Traffic Management	TMC Incident Dispatch Coordination/Communication
MC07	Roadway Maintenance and Construction	Maintenance and Construction Management	MCM Maintenance Decision Support
		Traffic Management	MCM Roadway Maintenance and Construction
MC08	Work Zone Management	Traffic Management	Traffic Maintenance
		Maintenance and Construction Management	MCM Work Zone Management
		Traffic Management	TMC Work Zone Traffic Management
		Roadway Subsystem	Roadway Work Zone Traffic Control
MC10	Maintenance and Construction Activity Coordination	Maintenance and Construction Management	MCM Work Zone Support
		Emergency Management	MCM Work Activity Coordination
		Traffic Management	Emergency Response Management
		Traffic Management	TMC Work Zone Traffic Management
APTS1	Transit Vehicle Tracking	Transit Management	Transit Center Tracking and Dispatch
		Transit Vehicle Subsystem	On-board Transit Trip Monitoring
APTS2	Transit Fixed-Route Operations	Transit Management	Transit Center Fixed-Route Operations
		Transit Vehicle Subsystem	Transit Garage Operations
APTS3	Demand Response Transit Operations	Transit Management	On-board Fixed Route Schedule Management
		Transit Vehicle Subsystem	Transit Center Paratransit Operations
APTS4	Transit Passenger and Fare Management	Transit Management	Transit Garage Operations
		Transit Vehicle Subsystem	On-board Paratransit Operations
		Remote Traveler Support	Transit Center Fare and Load Management
APTS5	Transit Security	Transit Management	On-board Transit Fare and Load Management
		Transit Vehicle Subsystem	Remote Transit Fare Management
		Emergency Management	Transit Center Security
		Emergency Management	On-board Transit Security
		Emergency Management	Center Secure Area Alarm Support
		Emergency Management	Center Secure Area Sensor Management
APTS6	Transit Maintenance	Remote Traveler Support	Center Secure Area Surveillance
		Remote Traveler Support	Remote Traveler Security
		Remote Traveler Support	Traveler Secure Area Sensor Monitoring
		Remote Traveler Support	Traveler Secure Area Surveillance
APTS8	Transit Traveler Information	Security Monitoring Subsystem	Field Secure Area Sensor Monitoring
		Security Monitoring Subsystem	Field Secure Area Surveillance
ATIS1	Broadcast Traveler Information	Transit Management	Transit Garage Maintenance
		Transit Vehicle Subsystem	On-board Maintenance
		Transit Management	Transit Center Information Services
		Transit Vehicle Subsystem	On-board Transit Information Services
ATIS2	Interactive Traveler Information	Remote Traveler Support	Remote Transit Information Services
		Information Service Provider	Interactive Infrastructure Information
		Information Service Provider	Basic Information Broadcast
ATIS1	Broadcast Traveler Information	Personal Information Access	Personal Basic Information Reception
		Remote Traveler Support	Remote Basic Information Reception
ATIS2	Interactive Traveler Information	Information Service Provider	Traveler Telephone Information
		Personal Information Access	Personal Interactive Information Reception

Market Package	Market Package Name	Subsystem	Equipment Package
CV004	CV Administrative Processes	Commercial Vehicle Administration	Credentials and Taxes Administration CV Information Exchange
CV007	Roadside CVO Safety	Commercial Vehicle Administration	CV Information Exchange CV Safety Administration
		Commercial Vehicle Check	Roadside Safety and Security Inspection Citation and Accident Electronic Recording
		Commercial Vehicle Subsystem	On-board CV Electronic Data
CVO11	Roadside HAZMAT Security Detection and Mitigation	Emergency Management	Emergency Call-Taking
		Commercial Vehicle Check	Roadside HAZMAT detection
EM01	Emergency Call-Taking and Dispatch	Emergency Management	Emergency Call-Taking Emergency Dispatch
		Emergency Vehicle Subsystem	On-board EV Incident Management Communication
EM02	Emergency Routing	Emergency Management	Emergency Dispatch Emergency Routing
		Emergency Vehicle Subsystem	On-board EV En Route Support
		Traffic Management	TMC Incident Dispatch Coordination/Communication
		Roadway Subsystem	Roadway Signal Priority
EM05	Transportation Infrastructure Protection	Emergency Management	Center Secure Area Sensor Management Center Secure Area Surveillance
		Roadway Subsystem	Field Barrier System Control Field Safeguard System Control
		Security Monitoring Subsystem	Field Secure Area Sensor Monitoring Field Secure Area Surveillance
		Traffic Management	Barrier System Management Safeguard System Management
EM06	Wide-Area Alert	Emergency Management	Emergency Early Warning System
EM07	Early Warning System	Emergency Management	Center Secure Area Sensor Management Center Secure Area Surveillance Emergency Early Warning System Emergency Environmental Monitoring
		Traffic Management	TMC Incident Detection
		Maintenance and Construction Management	MCM Incident Management
EM08	Disaster Response and Recovery	Emergency Management	Emergency Response Management Incident Command
		Maintenance and Construction Management	MCM Incident Management MCM Roadway Maintenance and Construction
		Traffic Management	TMC Incident Dispatch Coordination/Communication
EM09	Evacuation and Reentry Management	Emergency Management	Emergency Evacuation Support
		Traffic Management	TMC Evacuation Support
		Transit Management	Transit Evacuation Support
		Maintenance and Construction Management	MCM Incident Management
EM10	Disaster Traveler Information	Information Service Provider	ISP Emergency Traveler Information

6.2 Functional Requirements

A functional requirement is a task or activity that is currently performed or is planned to be performed by each system in the region to provide the required regional ITS services. In the National ITS Architecture, each equipment package has defined several specific functional requirements that are required for performing the equipment package capabilities. These specific functional requirements of the National ITS Architecture are commonly used as a baseline to develop the functional requirements of a regional ITS architecture.

The approach to develop the functional requirements of the DMATS/RPA 8 Regional ITS Architecture begins with the mapping of equipment packages to market packages and associated elements as an initial definition of the functions being performed by each element. The National ITS Architecture functional requirements of each equipment package were then tailored to provide a more accurate picture of the functions performed.

The following example illustrates the process that develops the functional requirements associated with the ATMS01 – Network Surveillance market package for the City of Dubuque Engineering Department. A complete set of functional requirements for all regional ITS elements is detailed in the Turbo Architecture database.

As illustrated in Table 6-1, the City of Dubuque Engineering Department, as a traffic management subsystem, is associated with two equipment packages: Collect Traffic Surveillance and Traffic Maintenance. The definitions of the two equipment packages from the National ITS Architecture, as shown in the following, provide the initial function requirements:

Collect Traffic Surveillance: This equipment package collects, stores, and provides electronic access to the traffic surveillance data.

Traffic Maintenance: This equipment package provides monitoring and remote diagnostics of field equipment to detect field equipment failures, issues problem reports, and tracks the repair or replacement of the failed equipment.

In the National ITS Architecture, the Collect Traffic Surveillance equipment package contains 9 specific functional requirements, and the Traffic Maintenance equipment package has 8. However, not all of them are applicable to the functions and services provided by the City of Dubuque Engineering Department. Therefore, the appropriate functional requirements were tailored and identified as:

Functional Requirements for Collect Traffic Surveillance

- The center shall monitor, analyze, and store traffic sensor data collected from field elements under remote control of the center.
- The center shall monitor, analyze, and distribute traffic images from CCTV systems under remote control of the center.
- The center shall monitor, analyze, and store multimodal crossing sensor data under remote control of the center.

- The center shall maintain a database of surveillance and sensors and the freeways, surface street and rural roadways, e.g. where they are located, to which part(s) of the network their data applies, the type of data, and the ownership of each link (that is, the agency or entity responsible for collecting and storing surveillance of the link) in the network.
- The center shall distribute road network conditions data (raw or processed) based on collected and analyzed traffic sensor and surveillance data to other centers.
- The center shall respond to control data from center personnel regarding sensor and surveillance data collection, analysis, storage, and distribution.

Functional Requirements for Traffic Maintenance

- The center shall collect and store sensor operational status.
- The center shall collect and store CCTV surveillance system operational status.
- The center shall collect and store sensor fault data and send to the maintenance center for repair.
- The center shall collect and store CCTV surveillance system fault data send to the maintenance center for repair.
- The center shall exchange data with maintenance centers concerning the reporting of faulty equipment and the schedule/status of their repair. Information exchanged includes details of new equipment faults, and clearances when the faults are cleared.

7. INTERCONNECTS AND ARCHITECTURE FLOWS

While it is important to identify the various systems and stakeholders as part of a regional ITS architecture, a primary purpose of a regional ITS architecture is to identify the *connectivity* between systems in the region. Architecture interconnects define an ITS architecture from a physical perspective, which shows the connections that can be established between equipment and systems which may be deployed by different organizational or operating agencies throughout the region. Architecture flows define an ITS architecture from a logical perspective, which identify a high level information exchange associated with each interconnect between equipment and systems.

7.1 Regional System Interconnect Diagrams

Interconnects between architecture elements can be depicted in different detail levels. In this report, examples of the architecture interconnects for the DMATS/RPA Regional ITS Architecture are illustrated in two detail levels: regional and county. A regional level interconnect diagram, often referred to as a “sausage diagram,” shows the subsystems in the region and the basic communications channel between these subsystems. Figure 7-1, the sausage diagram for the DMATS/RPA 8 Regional ITS Architecture, illustrates the subsystems and primary types of interconnections in the region. The sausage diagram was customized to reflect the systems of the DMATS/RPA 8 region. In the center of the figure, the rectangles represent the subsystems that were identified for the region. The shaded rectangles in Figure 7-1 indicate the region currently does not have nor plan to have functions and services related to the subsystems. The sausage diagram also identifies four basic types of communications used to interconnect the elements in the region. The definitions of the four communications types are:

- **Fixed Point to Fixed Point Communications:** a communication link serving stationary entities. It may be implemented using a variety of public or private communication networks and technologies. It can include, but is not limited to, twisted pair, coaxial cable, fiber optic, microwave relay networks, spread spectrum, etc. In Fixed-Point to Fixed-Point communication the important issue is that it serves stationary entities. Both dedicated and shared communication resources may be used.
- **Wide Area Wireless Communications:** a communications link that provides communications via a wireless device between a user and an infrastructure-based system. Both broadcast (one-way) and interactive (two-way) communications services are grouped into wide-area wireless communications in the National ITS Architecture. These links support a range of services in the National ITS Architecture including real-time traveler information and various forms of fleet communications.
- **Vehicle to Vehicle Communications:** dedicated wireless system handling high data rate, low probability of error, line of sight communications between vehicles. Advanced vehicle services may use this link in the future to support advanced collision avoidance implementations, road condition information sharing, and active coordination to advanced control systems.
- **Dedicated Short Range Communications:** a wireless communications channel used for close-proximity communications between vehicles and the immediate infrastructure. It supports location-specific communications for ITS capabilities such as toll collection,

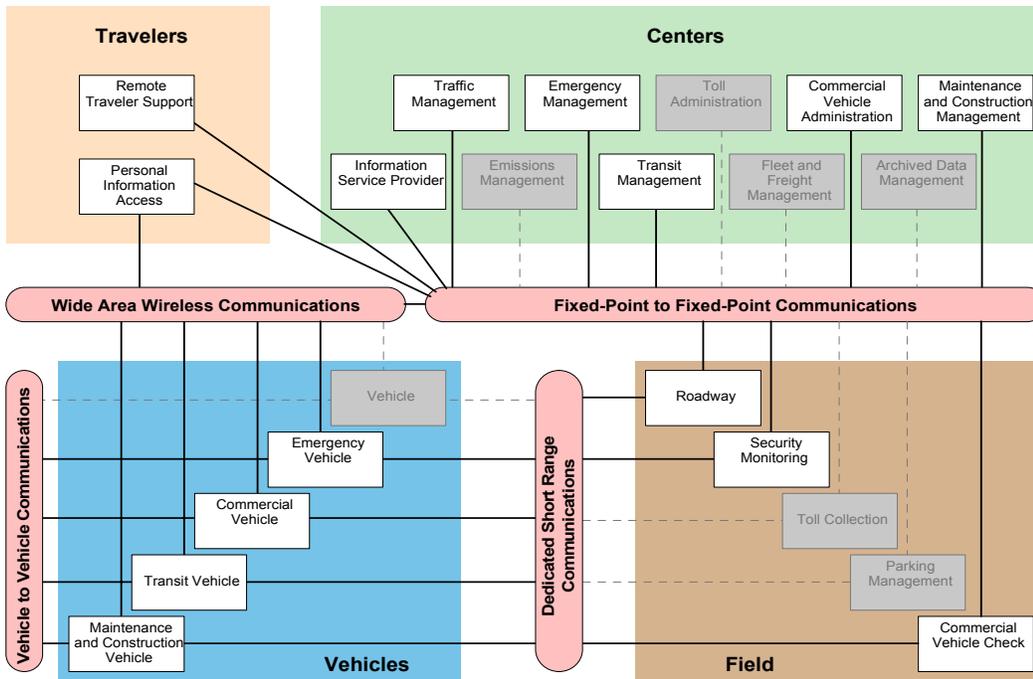


Figure 7-1. Sausage Diagram

transit vehicle management, driver information, and automated commercial vehicle operations.

At county level, the interconnect diagrams depict the interactions between various agencies and their systems within a specific county. Figures 7-2 to 7-6 illustrate interconnects between existing or planned elements within the geographic area of Dubuque County. These diagrams are categorized in five transportation service areas: traffic management, maintenance and construction, transit, emergency management, and traveler information system. A complete list of the architecture interconnect that are included in the DMATS/RPA 8 Region ITS Architecture is presented in Appendix D and can be found in the Turbo Architecture database.

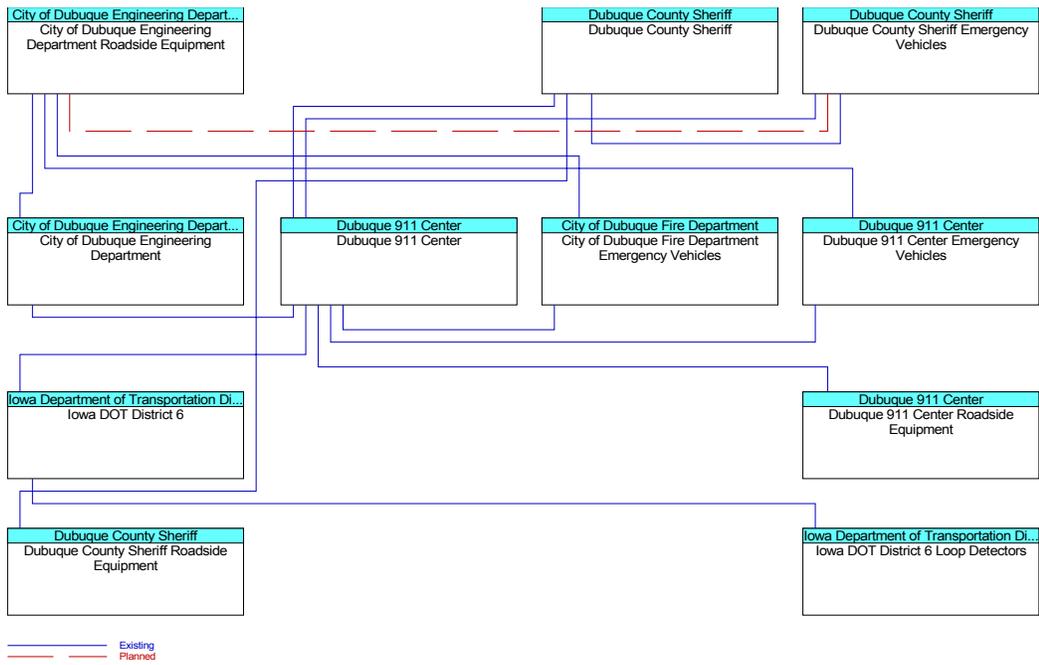


Figure 7-2. Interconnect Diagram: Dubuque County Area Traffic Management

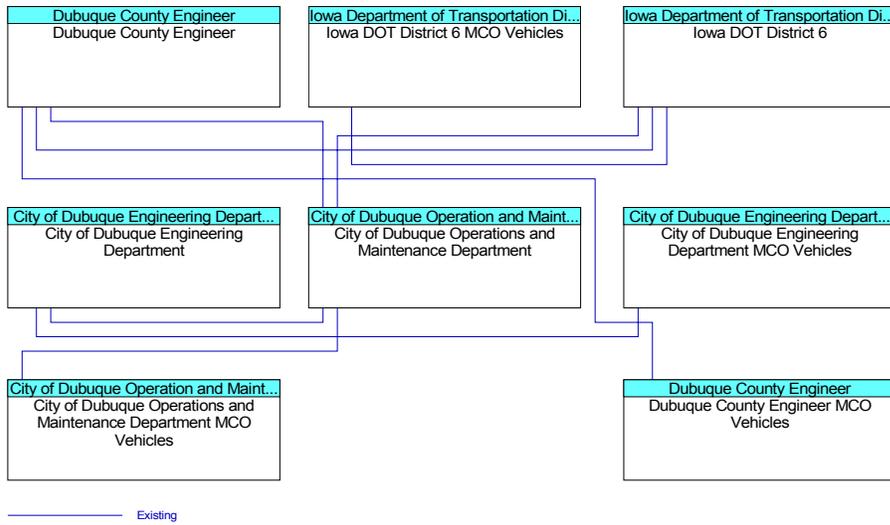


Figure 7-3. Interconnect Diagram: Dubuque County Area Maintenance and Construction Management

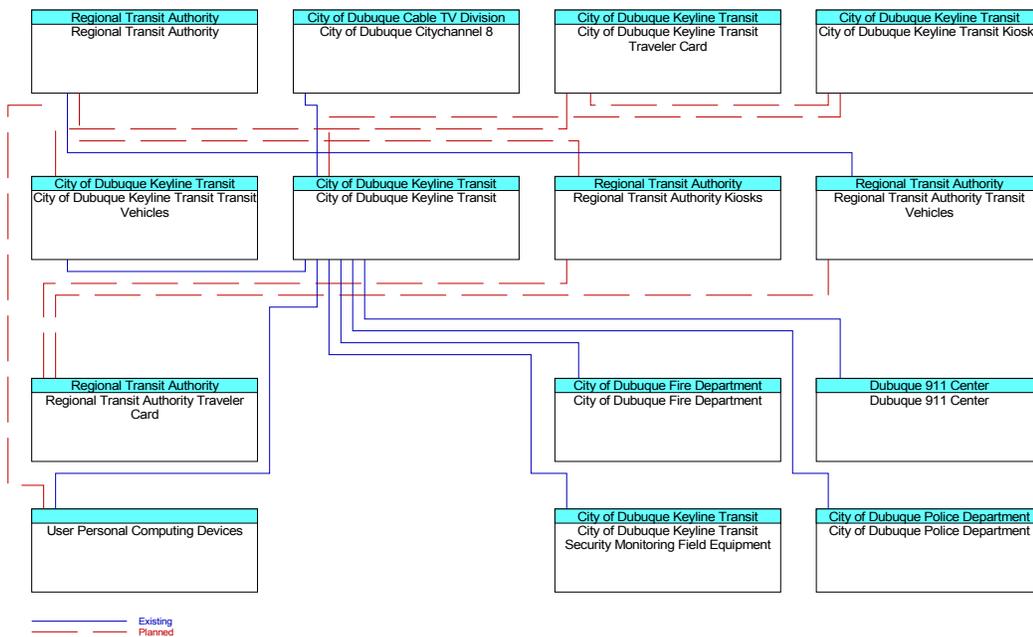


Figure 7-4. Interconnect Diagram: Dubuque County Area Transit Management

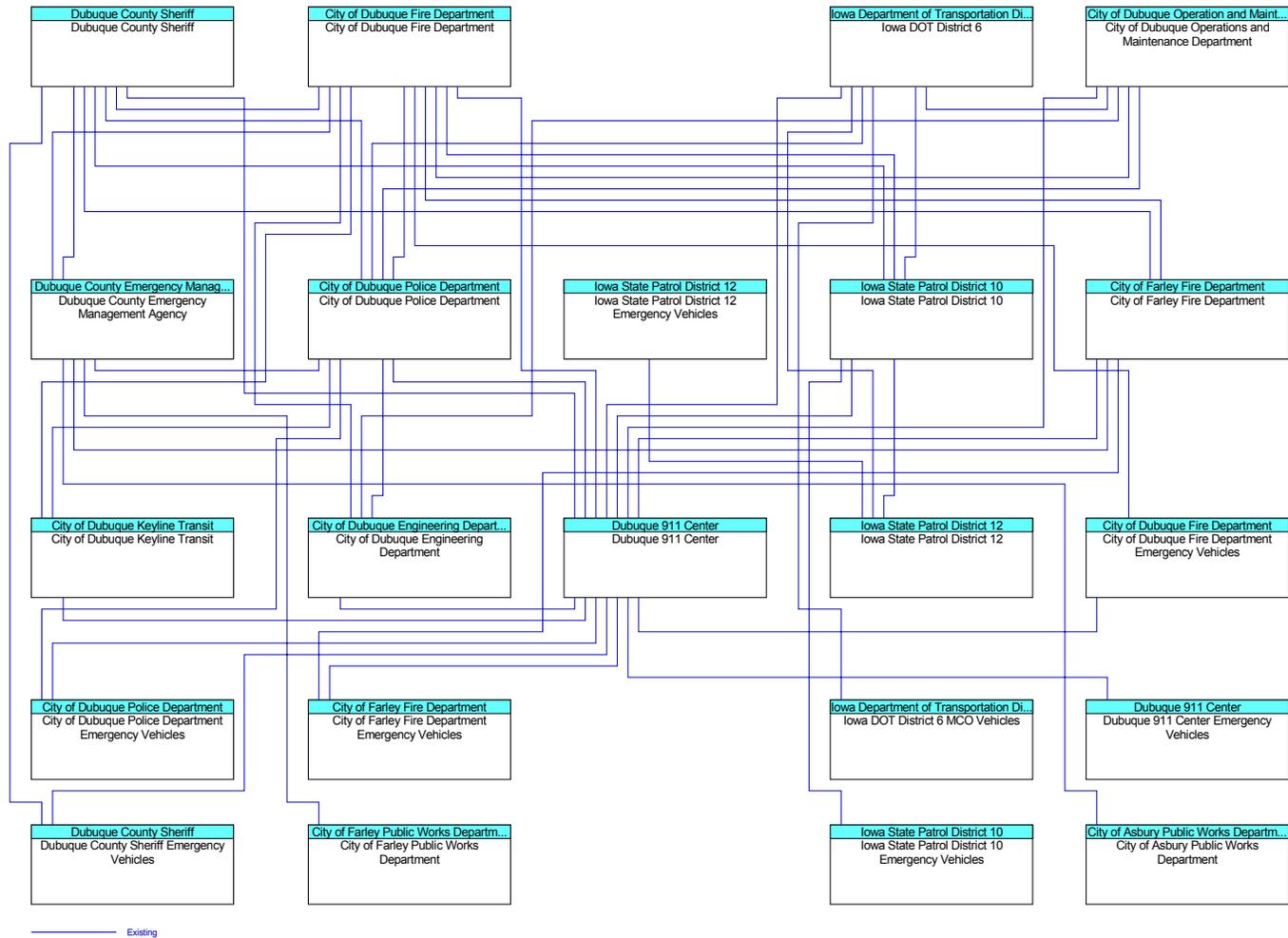


Figure 7-5. Interconnect Diagram: Dubuque County Area Emergency Management

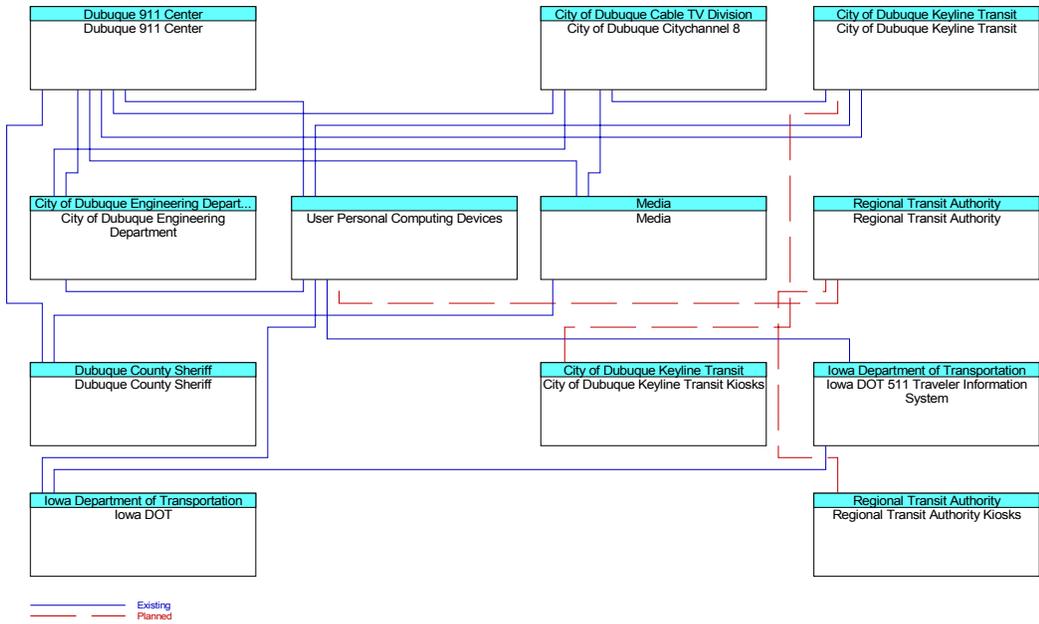


Figure 7-6. Interconnect Diagram: Dubuque County Area Traveler Information

7.2 Architecture Flow Diagrams

The following discussion provides a description of interactions between the subsystems identified in the architecture. This discussion will concentrate on the information flows between the various subsystem components and the shared communication and control functions.

The discussion below presents the architecture flows focused on the following selected stakeholders:

- City of Clinton Municipal Transit Administration
- City of Dubuque Engineering Department
- City of Dubuque Keyline Transit
- City of Maquoketa Public Works Department
- Clinton County 911 Center
- Delaware County Sheriff
- Dubuque County Sheriff
- Grant County 911 Center
- Illinois DOT District 2
- Iowa DOT District 6
- Jo Daviess County Sheriff

- Jo Daviess County Transit
- Regional Transit Authority
- Wisconsin DOT District 1

The architecture flow diagrams for these stakeholders and their associated elements are illustrated in Figures 7-7 to 7-19. The architecture flows identified in the diagrams were derived from the architecture flow diagrams within the National ITS Architecture, and therefore, they are consistent with the National ITS Architecture. Through the architecture flow diagrams, stakeholders can easily identify the existing or potential information exchange between agencies and systems. This provides a framework for analyzing how elements are related and thereby to identify the areas for potential coordination and cooperation among agencies. A complete list of architecture flows for the DMATS/RPA 8 Regional ITS Architecture is provided in Appendix E.

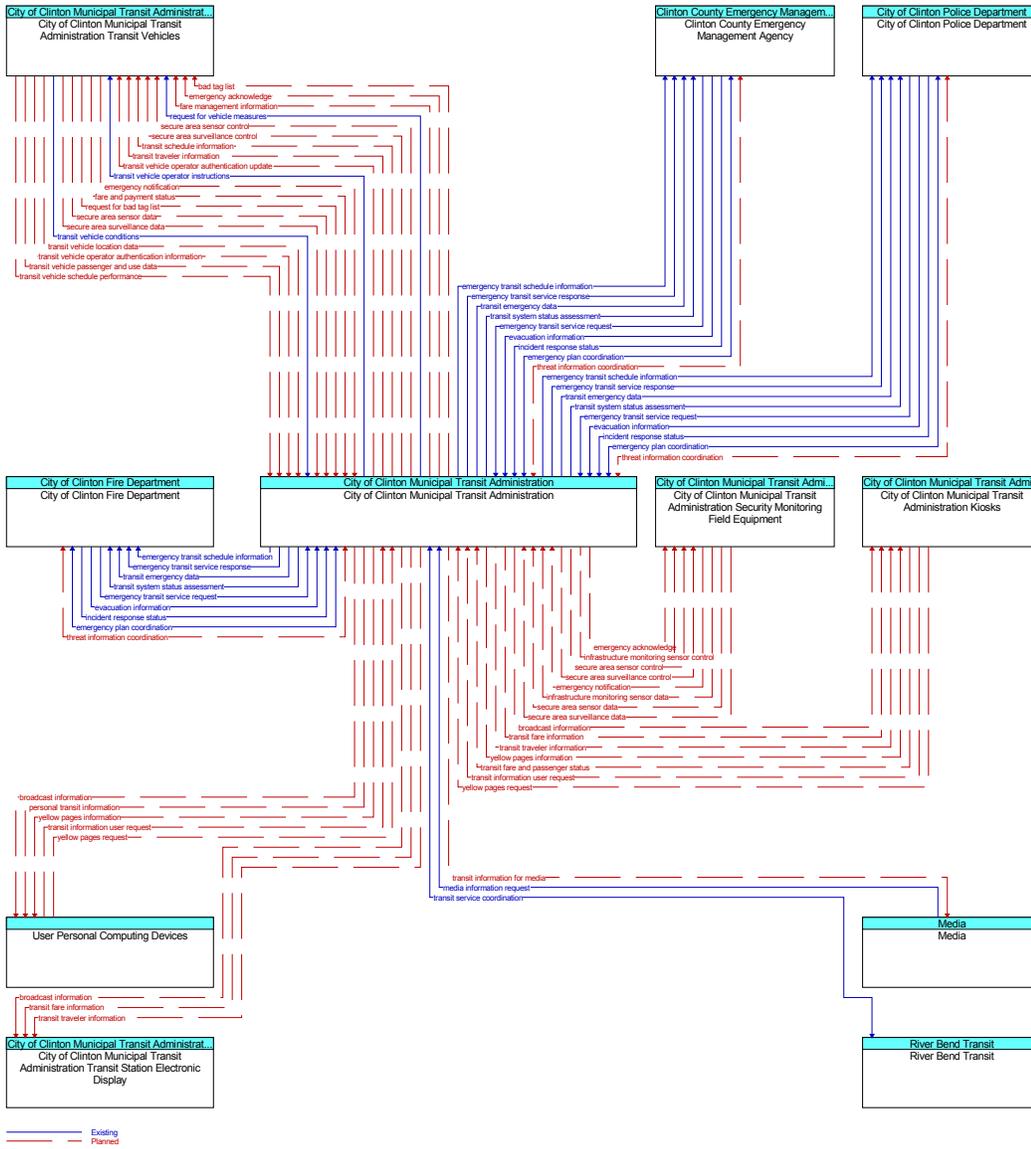


Figure 7-7. Clinton MTA Architecture Flow Diagram

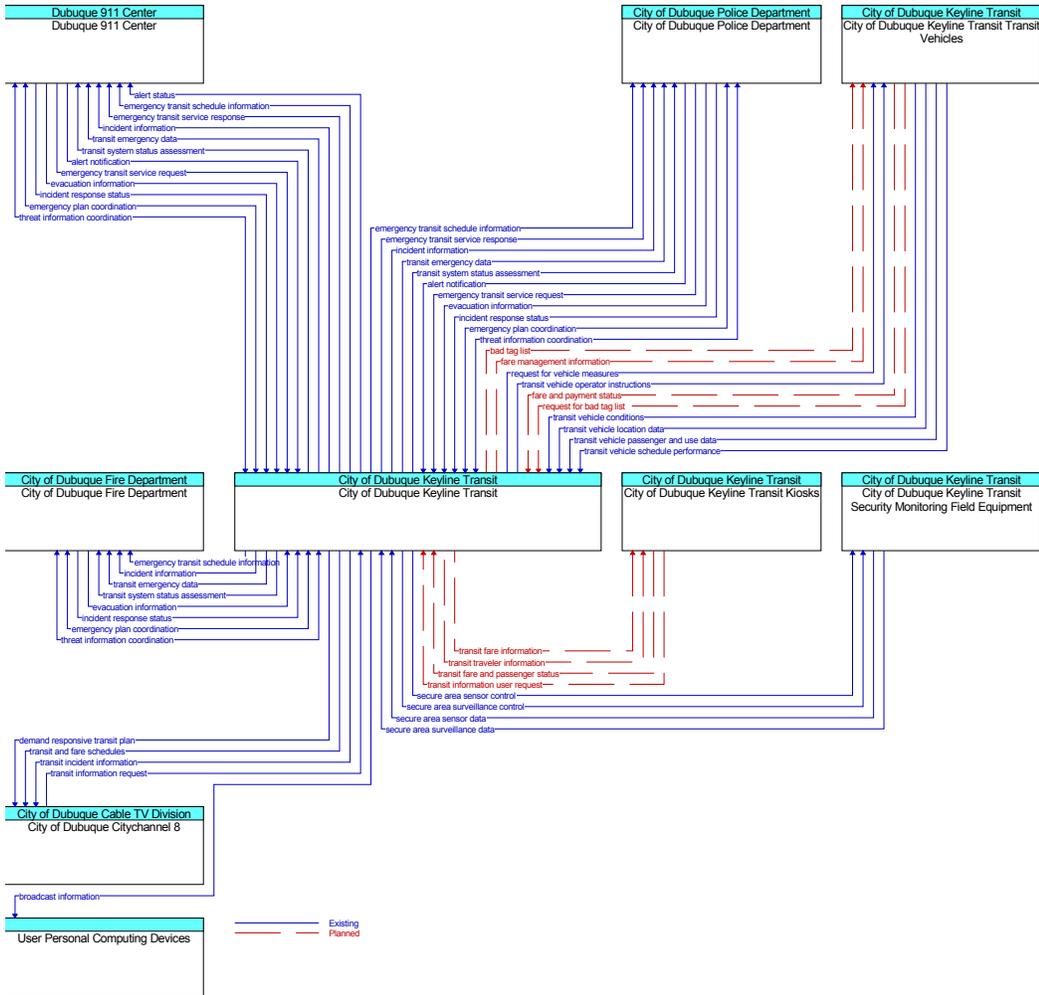


Figure 7-9. City of Dubuque Keyline Transit Architecture Flow Diagram

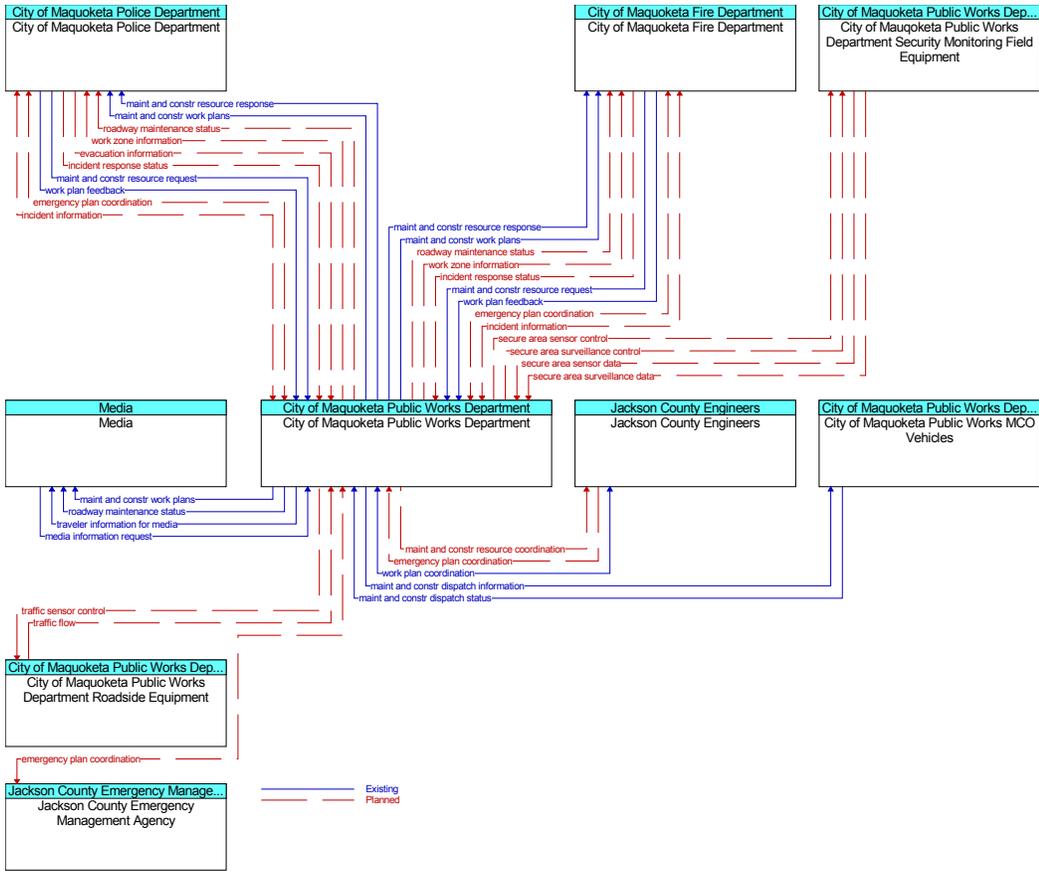


Figure 7-10. City of Maquoketa Public Works Department Architecture Flow Diagram

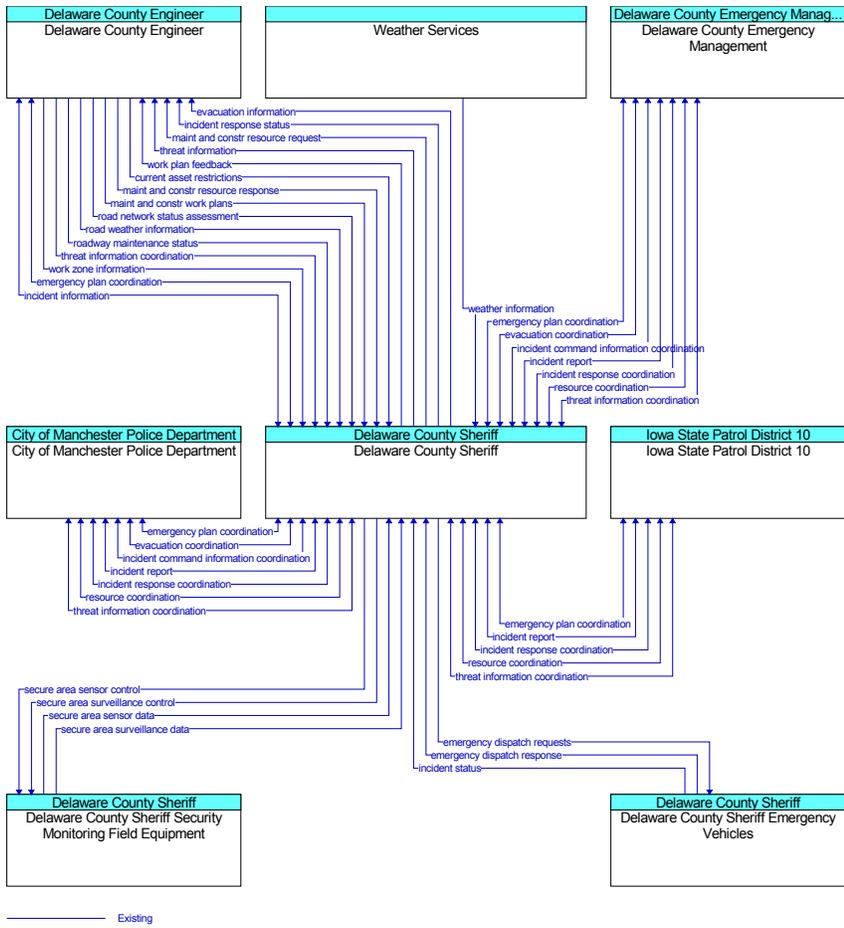


Figure 7-12. Delaware County Sheriff Architecture Flow Diagram

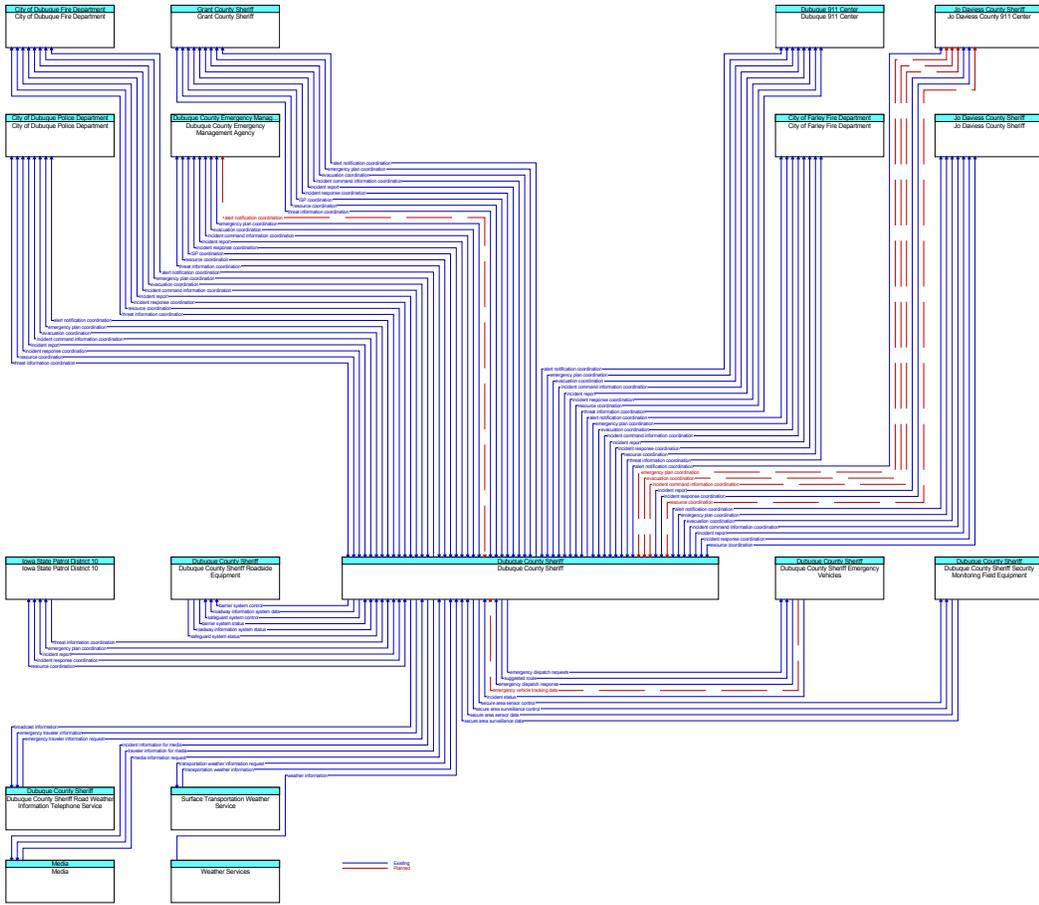


Figure 7-13. Dubuque County Sheriff Architecture Flow Diagram

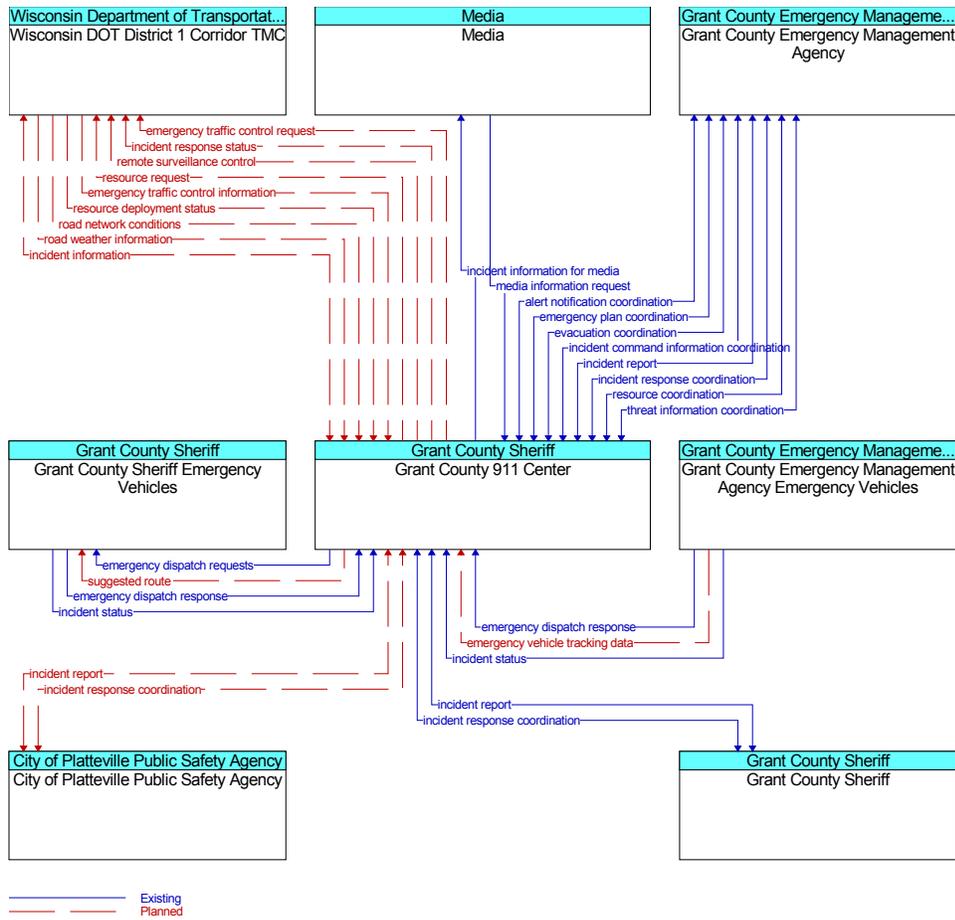


Figure 7-14. Grant County 911 Center Architecture Flow Diagram

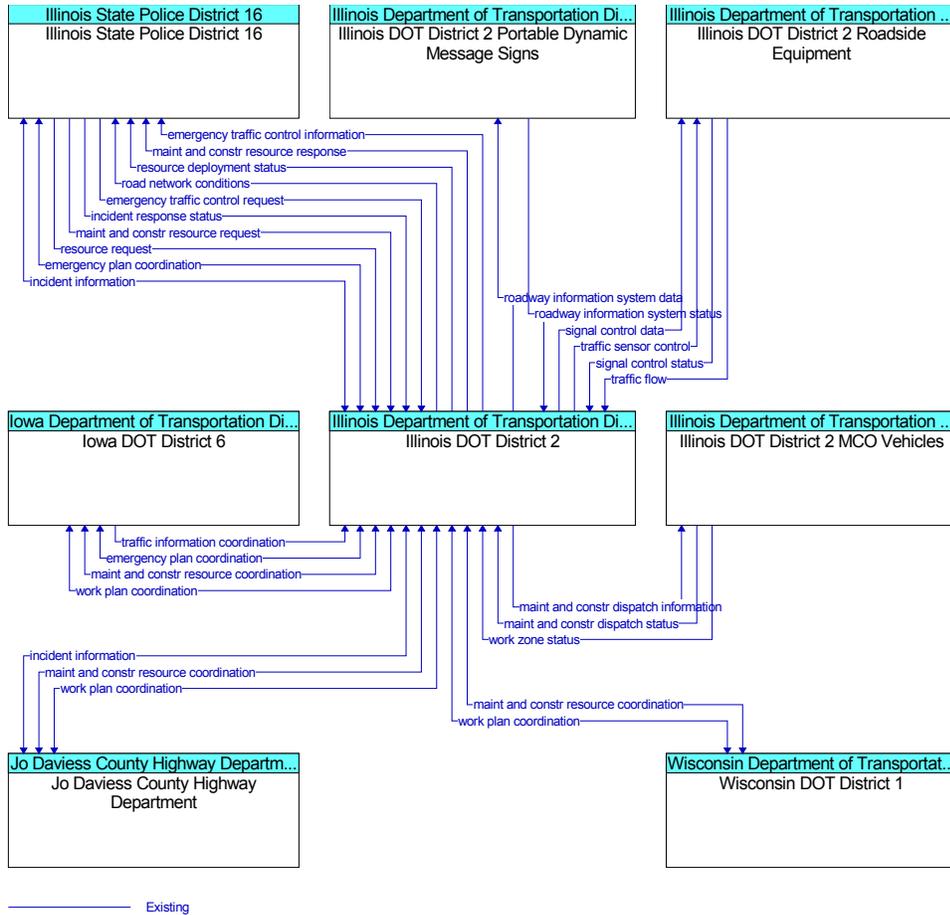


Figure 7-15. Illinois DOT District 2 Architecture Flow Diagram

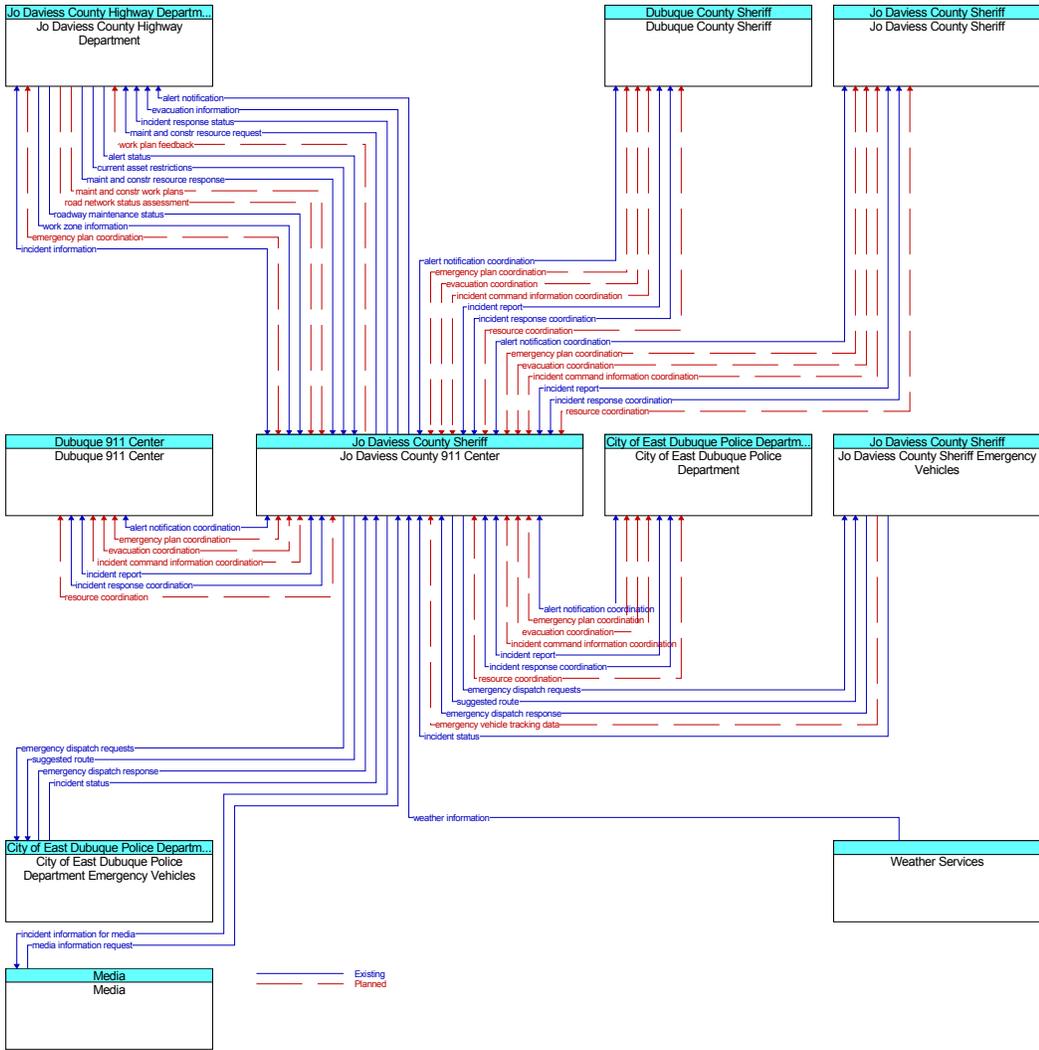


Figure 7-17. Jo Daviess County Sheriff Architecture Flow Diagram

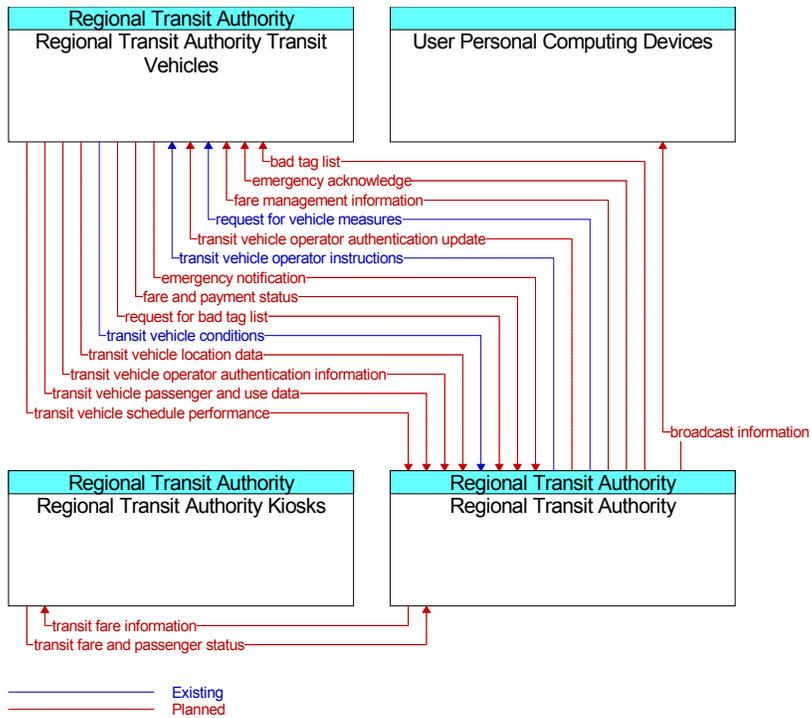


Figure 7-18. Regional Transit Authority Architecture Flow Diagram

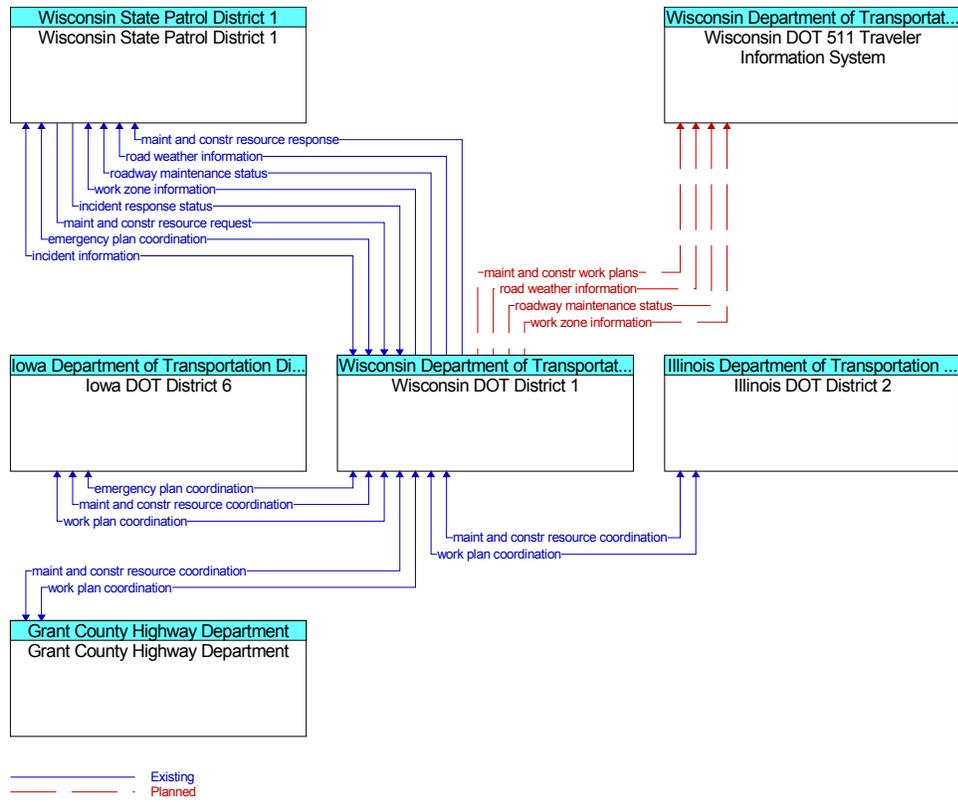


Figure 7-19. Wisconsin DOT District 1 Architecture Flow Diagram

8. NATIONAL ITS STANDARDS

ITS Standards are fundamental to the establishment of an open ITS environment that achieves the goals originally envisioned by the U.S. Department of Transportation. Standards facilitate deployment of interoperable systems at local, regional, and national levels without impeding innovation as technology advances and new approaches evolve.

Standards can be thought of as the glue that holds the various pieces of architecture together. The logical architecture presents a functional view of the ITS user services. It defines the functions or processes that are required to perform the selected ITS user services, and the information or data flows that need to be exchanged between these functions. The physical architecture partitions the functions defined by the logical architecture into systems and subsystems. To accomplish the functions outlined in the logical architecture, communication must take place between the elements of the physical architecture. Standards define how these communications take place.

8.1 Standards Benefits

Many of the benefits the public receives from the National ITS Architecture are a direct result of the development and implementation of standards. Primarily, standards provide benefits in the following areas:

- **National Compatibility** – National compatibility is represented by the ability to use the same equipment and services, regardless of the geographical location. The architecture identifies specific interfaces requiring nationwide compatibility. Examples include the delivery of real-time traveler information to in-vehicle devices and the dedicated short-range interface between the vehicle and the roadside. Nationwide standards for these types of interfaces will allow travelers and commercial vehicles to use their compliant equipment anywhere within the United States.
- **Multiple Suppliers** – The architecture can encourage competition in the delivery of ITS services through the implementation of standards in areas where a standard is not necessarily required to provide a traveler with seamless operation of his ITS service. These interfaces will benefit from standards in allowing multiple suppliers of equipment and software that will directly connect to other ITS systems.
- **Ranges of Functionality** – The standard packages contain data flows that support several levels of service. For example, the *trip plan* data flow contains a large number of optional data fields. The standards developer is encouraged to maintain the flexibility in the data flow specifications to allow for multiple implementations.
- **Synergy** – As discussed above, the architecture began with a logical architecture that satisfied the identified user services. As a result, there are functions and data flows common to several of the services. These “processes” appear in several higher-level data flows, and because they come from a single source they support synergy and consistency.
- **Risk Reduction** – The architecture reduces risk to public providers, private providers and consumers. For public providers, existence of standards means that equipment purchased one year will be likely to operate with new equipment purchased several years from now. This also means that agencies will not be locked into specific vendors since all vendors

will be able to build to the same standard. For private providers, existence of standards means that they can gather information from multiple sources using well-defined message sets and thereby increase the level of service to their customers. For consumers, products build to a particular standard will allow a user to select their service provider from a number of companies, not just the company with which their equipment happens to be compatible.

Defined standards are fundamental to the establishment of nationally compatible and interoperable ITS deployments. Standards will enable deployment of consistent, non-interfering, reliable systems on local, regional and national levels. Open standards will further benefit the consumer by enhancing competition for the range of products necessary to implement the ITS user services. Larger markets for specific products will reduce production costs through economy of scale. Producers benefit from standards because they assure a wide market over which the product can be sold. As deployment occurs, diverse systems will be developed to address the special needs of urban, suburban and rural environments. Standards must ensure interoperability across these implementations without impeding innovation as technology advances and new approaches evolve.

Well-chosen, well-timed, and broadly accepted standards can provide the following frequently referenced benefits:

- **Interoperability between diverse systems** – This benefit facilitates cost-effective area-wide implementations that ultimately provide enhanced service to the consumer.
- **Preservation of investment** – Timely standards can reduce investments in multiple incompatible approaches, some of which will become casualties of natural selection in the market place.
- **Technology insertion** – Systems can be incrementally improved to take advantage of new technologies.
- **Creation of broader markets** – Interoperability standards set the stage for national and/or international markets. The lack of a standard may ultimately limit the size of the market.
- **Interchangeability** – Interchangeable equipment reduces capital costs through increased competition and reduces maintenance costs through smaller spares inventories of less expensive replacement parts.

Note that the adopted standards must be comprehensive to support interoperability. There are several examples (e.g., ATM and SONET standards) in which hastily developed and adopted standards have not included sufficient specification to guarantee interoperability between standard-compliant systems.

8.2 Recommended Standards for the DMATS/RPA 8 Region

More than 110 standards have been identified as part of the National ITS architecture standard development activities. The task of working with public and private sector ITS community to develop these standards has been tasked to seven different standards development organizations (SDOs). These SDOs include:

- American Association of State Highway and Transportation Officials (AASHTO)
- American National Standards Institute (ANSI)
- American Society for Testing and Materials (ASTM)
- Institute of Electrical and Electronics Engineers (IEEE)
- Institute of Transportation Engineers (ITE)
- National Electrical Manufacturers Association (NEMA)
- Society of Automotive Engineers (SAE)

Information on the complete list of ITS Standards can be found on the ITS Standards webpage at <http://www.standards.its.dot.gov/>.

While the DMATS/RPA 8 Regional ITS Architecture is a comprehensive plan which includes various ITS applications, it does not cover every conceivable ITS technology. As such, not all ITS standards will be applicable to the existing and proposed projects for the region. Table 8-1 summarizes the appropriate ITS standards for all existing and proposed projects within the region.

Table 8-1. Key Standards Supporting the DMATS/RPA 8 Regional ITS Projects

No.	Standard Title	SDO	Document ID	Status*
1	NTCIP - Simple Transportation Management Framework (STMF)	AASHTO	1101	P
2	NTCIP - Base Standard: Octet Encoding Rules (OER)	AASHTO	1102	A
3	NTCIP - Simple Transportation Management Protocol (STMP)	AASHTO	1103	U
4	NTCIP – CORBA Naming Convention	AASHTO	1104	U
5	NTCIP – CORBA Security Service	AASHTO	1105	U
6	NTCIP – CORBA Near-Real Time Data Service	AASHTO	1106	U
7	NTCIP - Global Object Definitions	AASHTO	1201	P
8	NTCIP - Object Definitions for Actuated Traffic Signal Controller Units	AASHTO	1202	P
9	NTCIP - Object Definitions for Dynamic Message Signs	AASHTO	1203	P
10	NTCIP - Object Definitions for Environmental Sensor Stations & Roadside Weather Information System	AASHTO	1204	P
11	NTCIP - Data Dictionary for Closed Circuit Television (CCTV)	AASHTO	1205	P
12	NTCIP - Object Definitions for Video Switches	AASHTO	1208	B
13	NTCIP - Transportation System Sensor Objects	AASHTO	1209	B
14	NTCIP - Objects for Signal Systems Master	AASHTO	1210	U
15	NTCIP - Objects for Signal Control Priority	AASHTO	1211	B
16	NTCIP - Point to Multi-Point Protocol Using RS-232 Subnetwork Profile	AASHTO	2101	P
17	NTCIP - Subnet Profile for PMPP Over FSK modems	AASHTO	2102	P

No.	Standard Title	SDO	Document ID	Status*
18	NTCIP - Subnet Profile for Point-to-Point Protocol using RS 232	AASHTO	2103	A
19	NTCIP - Subnet Profile for Ethernet	AASHTO	2104	A
20	NTCIP - Internet (TCP/IP and UDP/IP) Transport Profile	AASHTO	2202	P
21	NTCIP - Application Profile for Simple Transportation Management Framework (STMF)	AASHTO	2301	P
22	NTCIP - Application Profile for Trivial File Transfer	AASHTO	2302	P
23	NTCIP - Application Profile for File Transfer Protocol	AASHTO	2303	P
24	NTCIP - Application Profile for Data Exchange ASN.1 (DATEX)	AASHTO	2304	A
25	NTCIP - Application Profile for Common Object Request Broker Architecture (CORBA)	AASHTO	2305	U
26	NTCIP - Information Profile for DATEX	AASHTO	2501	U
27	NTCIP - Information Profile for CORBA	AASHTO	2502	U
28	Commercial Vehicle Safety Reports	ANSI	TS284	P
29	Commercial Vehicle Safety and Credentials Information Exchange	ANSI	TS285	P
30	Commercial Vehicle Credentials	ANSI	TS286	P
31	Standard Specification for Dedicated Short Range Communication (DSRC) Physical Layer using Microwave in the 90-928 MHz Band	ASTM	E 2158-01	P
32	Standard Provisional Specification for Dedicated Short Range Communication (DSRC) Data Link Layer	ASTM	PS 105-99	P
33	Standard for Traffic Incident Management Message Sets for Use by EMCs	IEEE	1512.1 – 2003	P
34	Standard for Public Safety IMMS for use by EMCs	IEEE	P1512.2	P
35	Standard for Hazardous Material IMMS for use by EMCs	IEEE	1512.3 – 2002	P
36	Standard for Message Sets for Vehicle/Roadside Communications	IEEE	1455-1999	P
37	Standard for Common Incident Management Message Sets (IMMS) for use by EMCs	IEEE	1512-2000	P
38	Resource Manager for DSRC 5.9 GHz	IEEE	1609.1	U
39	Application Services (Layers 6,7) for DSRC 5.9 GHz	IEEE	1609.2	U
40	Communications Services (Layers 4,5) for DSRC 5.9 GHz (Future Standard)	IEEE	1609.3	U
41	Medium Access Control (MAC) Extension & the MAC Extension Management Entity for DSRC 5.9 GHz	IEEE	1609.4	U
42	Standard Specification for Telecommunications and Information Exchange Between Roadside and Vehicle Systems – 5 GHz Band Dedicated Short Range Communications (DSRC) Medium Access Control (MAC) and Physical Layer (PHY) Specifications	IEEE	802.11	P
43	Logical Link (Layer 2) for DSRC 5.9 GHz	IEEE	802.2	P
44	Networking Services (Layer 3) for DSRC 5.9 GHz	ISO	21210	P
45	TCIP - Common Public Transportation (CPT) Business Area Standard	ITE	1401	P
46	TCIP - Incident Management (IM) Business Area Standard	ITE	1402	P
47	TCIP - Passenger Information (PI) Business Area Standard	ITE	1403	P
48	TCIP - Scheduling/Runcutting (SCH) Business Area	ITE	1404	P

No.	Standard Title	SDO	Document ID	Status*
49	TCIP – Onboard (OB) Business Area Standard	ITE	1406	P
50	TCIP – Control Center (CC) Business Area Standard	ITE	1407	P
51	TCIP – Fare Collection (FC) Business Area Standard	ITE	1408	P
52	Standard for Functional Level Traffic Management Data Dictionary (TMDD)	ITE	TM 1.03	A
53	Message Sets for External TMC Communication (MS/ETMCC)	ITE	TM 2.01	A
54	Location Referencing Message Specification (LRMS)	SAE	J2266	P
55	Message Set for Advanced Traveler Information System (ATIS)	SAE	J2354	P
56	Standard for ATIS Message Sets Delivered Over Bandwidth Restricted Media	SAE	J2369	P
57	Rules for Standardizing Street Names and Route Ids	SAE	J2529	A
58	Messages for Handling Strings and Look-Up Tables in ATIS Standards	SAE	J2540	P
59	RDS (Radio Data System) Phrase List	SAE	J2540-1	P
60	ITIS (International Traveler Information System) Phrase List	SAE	J2540-2	P
61	National Names Phrase List	SAE	J2540-3	P
62	Converting ATIS Message Standards from ASN.1 to XML	SAE	J2630	P

*Status (as of January 2005):

P – Published
B – In Ballot

A – Approved
U – Under Development

9. PROJECT SEQUENCING

A project sequence defines the order in which ITS projects should be implemented. Project sequence is dependent upon two factors:

1. *Prioritization of projects based on existing conditions and stakeholder needs.* The regional ITS projects were prioritized to reflect a deployment path (sequence) on stakeholder needs. Although the information collected through stakeholder surveys and meetings was the basis of the regional ITS architecture, technology, funding opportunities and requirements continue to evolve. It is expected that the stakeholders from throughout the region will reevaluate and reprioritize projects frequently.
2. *Project dependencies, based on how successive ITS projects can build upon one another.* Project dependencies that influence the project sequencing. It is beneficial to identify the information and functional dependencies between projects based on the regional ITS architecture and any other external dependencies that affect the project sequence.

The following table lists the ITS projects that were identified for deployment for the next 10 years in the ECIA/RPA region. When possible, ITS system components will be deployed in conjunction with major construction activities along the corridor to minimize cost and disruption to traffic. In some cases, the hardware component will be installed in advance of a fully functional system. An example would be in-pavement loop detectors. The cost of deploying a loop detector during construction is much lower than cutting a loop detector into an existing roadway.

Table 9-1. List of Planned Projects

Project Title	Lead Stakeholder	Timeframe*
Regional Transit Authority RouteMatch Software and Radio Study	Regional Transit Authority	Short Time
Illinois Statewide 511 Traveler Information System	Illinois Department of Transportation	Short Term
City of Dewitt Police Vehicle Wireless Data Communications	City of Dewitt Police Department	Short/Medium Term
City of Dubuque Fiber Installation and Traffic Signal Interconnect	City of Dubuque Engineering Department	Short/Medium Term
City of Dubuque Fire Department Communication Upgrades	City of Dubuque Fire Department	Short/Medium Term
City of Dubuque Signal Preemption for Fire Department Vehicles	City of Dubuque Fire Department/Engineering Department	Short/Medium Term
Dubuque 911 Center Communication Upgrades	Dubuque 911 Center	Short/Medium Term
Jo Daviess County Sheriff AVL Deployment	Jo Daviess County Sheriff	Short/Medium Term
Jo Daviess County Sheriff Dispatch Center Upgrade	Jo Daviess County Sheriff	Short/Medium Term

Project Title	Lead Stakeholder	Timeframe*
River Bend Transit AVL/GPS Deployment and System Upgrade	River Bend Transit	Short/Medium Term
Clinton Municipal Transit Administration AVL/GPS Deployment and RouteMatch Software	City of Clinton Municipal Transit Administration	Medium Term
City of Manchester Police Communications Center Upgrades	City of Manchester Police Department	Medium Term
Grant County Maintenance Snow and Ice Management	Grant County Highway Department	Medium Term
Grant County 911 Center Upgrades	Grant County Sheriff	Medium Term
Regional Transit Authority AVL/GPS Deployment and System Upgrade	Regional Transit Authority	Medium Term
Wisconsin Enhanced Weather and Pavement Conditions Monitoring System	Wisconsin Department of Transportation	Medium Term
Wisconsin Statewide 511 Traveler Information System	Wisconsin Department of Transportation	Medium Term
Clinton Municipal Transit Administration Transit Information System	City of Clinton Municipal Transit Administration	Medium/Long Term
City of Maquoketa Traffic Surveillance and Data Collection	City of Maquoketa Public Works Department	Medium/Long Term
Clinton County Engineer Automatic Vehicle Maintenance Scheduling	Clinton County Engineer	Medium/Long Term
Clinton County Maintenance Vehicle AVL Deployment	Clinton County Engineer	Medium/Long Term
Delaware County Maintenance Vehicle AVL Deployment	Delaware County Engineer	Medium/Long Term
Delaware County Sheriff AVL Deployment	Delaware County Sheriff	Medium/Long Term
Dubuque 911 Center AVL Deployment	Dubuque 911 Center	Medium/Long Term
Dubuque 911 Center Emergency Vehicle Signal Preemption	Dubuque 911 Center/City of Dubuque Engineering Department	Medium/Long Term
Dubuque County Sheriff AVL Deployment	Dubuque County Sheriff	Medium/Long Term
Dubuque County Sheriff Emergency Vehicle Signal Preemption	Dubuque County Sheriff	Medium/Long Term
Jo Daviess County Transit AVL Deployment	Jo Daviess County Transit Department	Medium/Long Term
Jo Daviess County Transit Electronic Fare Payment System	Jo Daviess County Transit Department	Medium/Long Term
River Bend Transit Traveler Information/Trip Planning System	River Bend Transit	Medium/Long Term
Clinton Municipal Transit Administration Electronic Fare Payment System	City of Clinton Municipal Transit Administration	Long Term
Clinton Municipal Transit Administration Security Monitoring System	City of Clinton Municipal Transit Administration	Long Term
City of Clinton CVO Safety Monitoring	City of Clinton Police Department	Long Term
City of Clinton Police Department Infrastructure Security Monitoring System	City of Clinton Police Department	Long Term
Keyline Transit Electronic Fare Collection and Transit Information	City of Dubuque Keyline Transit	Long Term

Project Title	Lead Stakeholder	Timeframe*
Dubuque County Emergency Management Agency Wider-Area Alert System	Dubuque County Emergency Management Agency	Long Term
Jo Daviess County Transit Automated Vehicle Maintenance System	Jo Daviess County Transit Department	Long Term
Jo Daviess County Transit Disaster Response and Evacuation Plan	Jo Daviess County Transit Department	Long Term
Regional Transit Authority Electronic Fare Collection System	Regional Transit Authority	Long Term
Regional Transit Authority On-board Security Monitoring System	Regional Transit Authority	Long Term
River Bend Transit On-board Security Monitoring System	River Bend Transit	Long Term

Note: * Timeframe is defined as: short term – 1-3 years; short/medium term – 2-6 years; medium term – 4-7 years; medium/long term – 5-8 years; and long term – 9 years or beyond.

10. AGREEMENTS

The Regional ITS Architecture provides both a technical and institutional framework for the deployment of ITS in the DMATS/RPA 8 region. Institutional integration involves cooperation and coordination between various agencies and jurisdictions to achieve seamless operations and interoperability.

There are several types of arrangements associated with the interfaces identified in the DMATS/RPA 8 Regional ITS Architecture. Information sharing and exchanges between systems require agreements on the transmission protocol and data formats to ensure compatibility. Coordinating field device operations owned by different agencies requires defined procedures for submitting message requests and rules governing when such requests can be honored. Such coordination can be done with informal arrangements such as a Memorandum of Understanding (MOU). Sharing control of field devices operated by different agencies involves more liability issues, which requires more formal agreements. Coordinated incident response may also require formal agreements, but also requires group training of personnel from various agencies. While all interfaces involve agreements for data compatibility, agreements for procedure, operation, and maintenance as well as training can also be critical elements to optimizing the benefits of the architecture.

The following are a list of existing and potential agreements that are required for the implementation and operations of the ITS systems and projects within the region:

- **Multi-Agency ITS Partnership Agreement:** A multi-state agreement between regional stakeholders that jointly support the development of a regional ITS plan will foster a truly integrated regional ITS system. The purpose of the agreement is to support a joint effort of cooperating in the continued development of multi-state, multi-agency ITS using a regional approach to transportation management.
- **Endorsement of Coordinated Incident Management Practices:** The coordinated incident management strategies will result in the better definition of how technology can address incident management. Agreements between transportation and emergency management organizations will be needed to foster inter-agency coordination and cooperation.
- **Multi-State Incident Response Teams in State Border Regions:** Agreements and coordination procedures need to be developed to support existing and new multi-agency incident response teams at the Iowa-Wisconsin and Iowa-Illinois state border regions. The incident response teams will be composed of individuals from the agencies (e.g. fire, police, DOT, EMS) that deliver incident management services in the field, and in conjunction with their colleagues in traffic operations centers.
- **Multi-Agency Communication Infrastructure Sharing:** There are multiple examples and opportunities for the sharing of communications infrastructure throughout the region. A regional plan and subsequent agreements that define responsibilities could result in the communications network required to link the various ITS applications together.
- **Data Exchange Across Jurisdictions:** Formal agreements are required to cover the exchange of incident and other transportation data between transportation agencies in

different areas, or for coordinated response to major incidents. However, informally, the exchange of information may occur on an as-needed basis.

- **Multi-Agency Limited Liability Agreements:** Agreements will be developed to address the varying levels of liability limitation associated with the various agencies that would need to work together to enable coordinated, multi-agency transportation and emergency management strategies.
- **Multi-Agency Radio Communication Integration:** Integrated EMS communications allows for quickly sharing of current incident response status between allied response agencies and creates a flow of information that reduces or eliminates delay due to a lag in communication. Agreements should be made between all Emergency Service Providers in the region including police, fire, and ambulance services to establish common protocols when deploying new EMS communication equipment.
- **Inter-Agency Jurisdictional Signal Operations and Maintenance Agreement:** Iowa DOT has developed operations and maintenance agreements with counties and cities to cover traffic signals and other roadside equipment.
- **Inter-Agency Jurisdictional Road Maintenance/Snow Removal Agreement:** Several cities have developed agreements with counties to cover maintenance and snow removal on city streets.
- **Data Archiving:** Movement toward an automated system of archiving data at the regional level will require the development of agreements on the format, access and use of the information.

11. USING THE REGIONAL ITS ARCHITECTURE

The DMATS/RPA 8 Regional ITS Architecture represents a detailed plan for the evolution of the ITS systems in the region and can be used to support regional transportation planning efforts and ITS project development efforts.

11.1 Support Transportation Planning Process

Once the regional ITS architecture has been created, it's important that it be used as a key reference in the transportation planning process. This will ensure all proposed ITS projects are consistent with the regional ITS architecture and additional integration opportunities are considered, leading to more efficient implementations.

Long Range Transportation Plan

One of the principal planning documents is the Long Range Transportation Plan (LRTP). The LRTP is a long-range guide for major projects, systems, policies and strategies designed to maintain the existing regional multi-modal surface transportation system and serve the region's future travel needs. The LRTP must be updated periodically. Serving as the MPO for the Dubuque urbanized area, ECIA is responsible for developing and maintaining the DMATS LRTP. Updating the DMATS LRTP for 2025 is currently underway. ECIA is also designated as the RPA 8 in the State of Iowa. As the RPA, ECIA organizes and oversees the planning and development of the multi-modal transportation system within the region. ECIA is developing a 20-year RPA LRTP with general description of projects using federal, state and significant local funds.

The DMATS/RPA 8 Regional ITS Architecture can serve as a key input to both DMATS and RPA LRTPs. The ITS services and projects identified in the regional ITS architecture can support the development of long-range and short-range strategies/actions during the LRTP planning that lead to an integrated, efficient inter-modal transportation system. The descriptions of the key goals and attributes of the systems and services included in the regional ITS architecture can support measurement assessment during the LRTP planning. The Project Sequencing from the regional ITS architecture can assist the development of prioritized projects and address the consistency of proposed transportation investments in the financial plan, which is typically a part of the LRTP. In addition, the regional ITS architecture provides a framework for analyzing how ITS elements are related and thereby to identify the areas for potential coordination and cooperation among agencies. This can promote both systems and inter-jurisdictional integration during the LRTP planning.

Transportation Improvement Program

Transportation Improvement Program (TIP) is another primary transportation planning output that can be supported by the regional ITS architecture. The DMATS TIP and the Regional TIP (RTIP) describe prioritized transportation projects funded with federal, state and local funds that will be deployed and/or operated over a three-year period. TIPs are prepared every year and the projects in the TIPs should be consistent with the LRTPs.

As part of the TIP preparation, a project prioritization and selection process is conducted, where the regional ITS architecture can play a key role. The Project Sequencing output from the regional ITS architecture can be a major input to prioritization. Integration opportunities identified in the regional ITS can be used to better define the full benefits of ITS projects. In addition, some of the project description information might be available from the outputs of the regional ITS architecture, specially the Project Sequencing output.

In addition to the LRTP and TIP planning, the regional ITS architecture can be considered to support other transportation planning activities or services associated with ITS projects or projects with ITS elements in the region.

11.2 Support ITS Project Development

The regional ITS architecture should be considered for support in ITS project development cycle. A typical ITS project development cycle begins with project definition, followed by Request For Proposal (RFP) generation, leading to project implementation. Information in the regional ITS architecture can assist in all three of these areas of project development.

Project Definition

Project Definition may occur at several levels of detail. Early in the planning process a project may be defined only in terms of the transportation services it will provide, or by the major system pieces it contains. At some point prior to the beginning of implementation the details of the project must be developed. This could include further system definition and interface definition including exactly what systems or parts of systems will make up the project, what interconnections the project entails, and what information needs to flow across the system interconnections. Requirement definition may go through similar levels of detail, starting with very high-level description of project functions and moving toward system specifications. By identifying the portions of the regional ITS architecture that define the project, the regional ITS architecture outputs can be used to create key aspects of the project definition.

The areas that a regional ITS architecture can assist in project definition are:

- The identification of agency roles and responsibilities (including any inter-agency cooperation) can come from the operational concept developed as part of the regional ITS architecture. This operational concept can either serve as a starting point for a more detailed definition, or possibly provide all the needed information.
- Requirements definition can be completely or partly defined by using the regional ITS architecture functional requirements applicable to the project.
- The regional ITS architecture includes a map to ITS standards and the project mapping to the regional ITS architecture can extract the applicable ITS standards for the project.

RFP Generation

Once a project is defined, and funding for it is committed, the implementation process can commence with the generation of a RFP, which is the common governmental practice for initiating a contract with the private sector to implement the project. Once a contract is in place, project implementation begins and moves through design, development, integration, and testing.

The regional ITS architecture, and the products produced during its development, can support this RFP generation. First the project definition described above forms the basis for what is being procured. Mapping the project to the regional ITS architecture allows bidders to have a clear understanding of the scope of the project and of the interfaces that need to be developed. The functional requirements created as part of the regional ITS architecture can be used to describe the functional requirements for the project. In addition a subset of the ITS Standards identified as part of the regional ITS architecture development can be specified in the RFP.

Project Implementation

Because ITS projects involve systems and their interconnections, it is very important to follow a systems engineering approach to designing and implementing the project. While the exact process followed is at the discretion of the local agency, the FHWA and FTA ITS Architecture and Standards Final Rule/Policy lay out a set of required systems engineering analyses for ITS projects funded through the highway trust fund. The required systems engineering analysis steps are:

- Identification of portions of the regional ITS architecture being implemented;
- Identification of participating agencies’ roles and responsibilities;
- Requirements definitions;
- Analysis of alternative system configurations and technology options to meet requirements;
- Procurement options;
- Identification of applicable ITS standards and testing procedures; and
- Procedures and resources necessary for operations and management of the system.

The regional ITS architecture can provide inputs to a number of these steps as shown in the table below:

Table 11-1. Systems Engineering Requirements Supported by Regional ITS Architecture

Systems Engineering Requirements	Regional ITS Architecture Output
Identification of portions of the regional ITS architecture being implemented	Mapping the project to the elements and interfaces of the regional ITS architecture.
Identification of participating agencies’ roles and responsibilities	Using Operational Concept as a starting point.
Requirements definitions	Using Functional Requirements as a starting point.
Identification of applicable ITS standards and testing procedures	Using regional architecture standards outputs as a starting point for the standards definition.

12. ARCHITECTURE MAINTENANCE PLAN

12.1 Introduction

The DMATS/RPA 8 Regional ITS Architecture has been created as a consensus view of what ITS systems the region's stakeholders have implemented and what systems they plan to implement in the future. By its nature, the architecture is not a static set of outputs. The architecture should be modified as plans and priorities change, ITS projects are implemented, and the ITS needs and services evolve in the region. There are many actions that may cause a need to update the architecture, including:

- **Changes in Project Definition.** When actually defined, a project may add, subtract or modify elements, interfaces, or information flows of the regional ITS architecture. Because the architecture is meant to describe not only ITS planned for the region, but also the current ITS implementations, it should be updated to correctly reflect the deployed projects.
- **Changes due to Project Addition/Deletion.** Occasionally a project will be added, deleted or modified during the planning process. When this occurs, the aspects of the regional ITS architecture associated with the project have to be added, deleted or modified.
- **Changes in Project Status.** As projects are deployed, the status of the architecture elements, services and flows that are part of the projects will have to be changed from planned to existing. Elements, services and flows will be considered to exist when they are substantially complete.
- **Changes in Project Priority.** Due to funding constraints, technological changes or other considerations, a project planned for the region may be delayed or accelerated. Such changes will need to be reflected in the regional ITS Architecture.
- **Changes in Regional Needs.** Transportation planning is done to address regional transportation needs. Over time these needs change and the corresponding aspects of the regional ITS architecture that addresses these needs may need to be updated.
- **Changes in Participating Stakeholders.** Stakeholder involvement can also change over time. The regional ITS architecture should be updated to reflect the participating stakeholder roles in the regional view of ITS elements, interfaces, and information flows.
- **Changes in National ITS Architecture.** The National ITS Architecture may be expanded and evolved from time to time to include new user services or refine existing services. These changes should be considered as the regional ITS architecture is updated.

The following sections define the key aspects of the process for the maintenance of the DMATS/RPA 8 Regional ITS Architecture:

- Who is responsible for architecture maintenance?
- What will be maintained?
- How will it be maintained (i.e. what configuration control process will be used?)?

12.2 Who Is Responsible for Architecture Maintenance

Responsibility for maintaining the DMATS/RPA 8 Regional ITS Architecture will lie with ECIA, which serves as the MPO for DMATS and RPA 8. While it is recommended that ECIA assumes responsibility for maintenance, it is further recommended that a group of core stakeholders act as an “institutional framework” to review proposed changes to the architecture. That is, Change Control Groups should be established to review proposed changes to the Regional ITS Architecture.

As ECIA serves as a planning agency for DMATS and the RPA 8 Area, it is recommended that the DMATS Technical Advisory Committee become the “Change Control Group” which reviews proposed ITS architecture changes within the area made by ECIA Staff, and make recommendations to the DMATS Policy Committee for review and final approval. The RPA 8 Technical Advisory Committee, acting as the “Change Control Group”, performs similar roles for the RPA 8 region. The RPA 8 Technical Advisory Committee reviews the recommendations made by ECIA Staff and then reports to the RPA Policy Committee with recommendations for review and approval. ECIA and its staff will be responsible for updating the architecture once the proposed changes are approved by the policy committees.

12.3 What Will Be Maintained

There are several different components that make up the DMATS/RPA 8 Regional ITS Architecture. Some will require more frequent updates than others, but the entire architecture will need periodic review to ensure that it is consistent with regional goals. The initial version of the DMATS/RPA 8 Regional ITS Architecture will be established as the baseline architecture, and the maintenance timeframe identified in this document will become effective upon completion of the architecture.

The DMATS/RPA 8 Regional ITS Architecture was developed using Turbo Architecture Software and stored in an electronic Turbo Architecture database. The architecture is represented through a set of outputs including various reports and diagrams. Collectively these outputs can be used to develop a general ITS architecture document. The architecture will be maintained through updates in the electronic database using Turbo Architecture.

The following will be reviewed and updated at regular intervals:

- Description of the region
- Participating agencies and other stakeholders, including key contact information
- Inventory of existing and planned ITS systems in the region
- Operational concept that identifies the roles and responsibilities of participating agencies and stakeholders in the operation and implementation of the systems

- Agreements required for operations, including at a minimum those affecting ITS project interoperability, utilization of ITS related standards, and the operation of the systems
- System functional requirements
- Interface requirements and information exchanges with planned and existing systems and subsystems
- Applicable ITS standards supporting regional and national interoperability
- Sequence of projects required for implementation

Outputs such as interconnect and architecture flow diagrams, inventory lists, stakeholders lists and other diagrams and reports can be produced from the Turbo Architecture software, so they are by-products of the architecture database. These outputs can be updated as necessary for meetings or outreach activities.

To aid the architecture version document control, it is recommended that the filename of the database should contain the version number and/or date on which the architecture was updated. Also the version number and date should be included in the Turbo Architecture database.

12.4 Configuration Control

Once the architecture baseline is defined, the process for making changes to this baseline must be established. The change management process specifies how changes are identified, how often changes are made, and how the changes will be reviewed, implemented, and released.

How Changes are identified

Changes to the DMATS/RPA 8 Regional ITS Architecture may be identified in two channels. One is that ECIA proposes changes to the architecture according to the ITS projects or projects with ITS components within the region. Another channel is that any stakeholders within the region may propose potential changes to the architecture to maintain consistency with their ITS projects or projects with ITS components. Change request from stakeholders should be sent to ECIA. ECIA will present the proposed changes to the appropriate Technical Advisory Committees. The changes to the architecture, the reasons for the proposed modifications and the stakeholder contact should be clearly defined in the request.

How often Changes are made

It is recommended that a comprehensive, formal update of the DMATS/RPA 8 Regional ITS Architecture Baseline be performed in corresponding with the LRTP updates. This architecture baseline update should be made within 6 months prior to the update of the LRTPs. This will allow an updated version of the architecture to be used as the basis for the LRTP updates. This maintenance schedule will also ensure that the architecture continues to accurately represent regional goals. Minor, informal updates may be made at the discretion of the ECIA staff, assuming the updates are approved by the DMATS and/or RPA 8 Policy Committees.

Change Review, Implementation, and Release

The general steps in the process of change review, implementation and release are:

1. ECIA and the DMATS Technical Committee and/or the RPA 8 Technical Advisory Committee define changes per the recommendations given above.
2. The DMATS and/or RPA 8 Technical Committee members, if necessary in coordination with the stakeholders proposing the changes, evaluate the changes and determine what impact they may have upon the current regional architecture.
3. The DMATS Technical Advisory Committee and/or the RPA Technical Advisory Committee review the proposed changes for recommendations to the Policy Committees, according to the jurisdictional area where the changes may have impact on. If the changes are related to both jurisdictional areas, the recommendations should be sent to both Committees for review. The reviews could be done through meetings, electronic correspondence, or a combination of both.
4. Upon its review, the DMATS Technical Advisory Committee or the RPA 8 Technical Advisory Committee makes recommendations on the requested changes to the DMATS Policy Committee or the RPA Policy Committee, respectively, for approval.
5. The DMATS Policy Committee and/or the RPA Policy Committee makes decisions to either accept the change, reject it, or ask for additional evaluation. If the Policy Committees reach different decisions regarding changes that have impacts on both jurisdictional areas, the two Committees should coordinate for conflict resolution.
6. ECIA implements the decisions. If the decision is to accept the change, then the appropriate portions of the architecture baseline are updated (per the schedule discussed above) and an updated architecture baseline is defined.
7. Once the regional architecture has been modified, the stakeholders in the region should be notified of architecture updates and informed on how to obtain the latest version of the architecture.

The time required to perform this configuration control process will be a direct function of the number of changes suggested to the architecture, which will be driven by how much the architecture is being used. It is suggested that this process be reviewed periodically and fine-tuned to most appropriately address the level of change that has occurred.

13. GLOSSARY AND DEFINITION

Advanced Public Transportation System (APTS)

APTS involves the application and integration of existing and emerging technologies in the areas of communications, navigation, information processing, and control systems to improve the effectiveness of transit operations.

Advanced Traffic Management Systems (ATMS)

Systems, which collect, utilize, and disseminate real-time data on congestion on arterial streets and expressways, and will alert motorists of alternate routes. Components of an ATMS include CCTV monitoring, ramp metering, traffic signal control, vehicle detection, and communications.

Advanced Traveler Information Systems (ATIS)

Systems, which disseminate information to the traveling public over a variety of methods such as variable-message sign, kiosks, Internet, cable television, personal hand-held devices, etc.

Architecture Flow

Information that is exchanged between subsystems and terminators in the physical architecture view of the National ITS Architecture. Architecture flows are the primary tool that is used to define the Regional ITS Architecture interfaces. These architecture flows and their communication requirements define the interfaces which form the basis for much of the ongoing standards work in the national ITS program. The terms "information flow" and "architecture flow" are used interchangeably.

Architecture Interconnect

Communications paths that carry information between subsystems and terminators in the physical architecture view of the National ITS Architecture. Several different types of interconnects are defined in the National ITS Architecture to reflect the range of interface requirements in ITS.

Arterial (Non-Freeway) Traffic Management

Systems that monitor traffic flow on arterial street and non-freeway rural roadway systems and implement signal timing plans in order to optimize the progression of traffic, including coordination with railroad crossings.

Automated Vehicle Maintenance

This technology performs vehicle maintenance scheduling and manages both routine and corrective maintenance activities on vehicles and other maintenance and construction equipment. It includes on-board sensors capable of automatically performing diagnostics for maintenance and construction vehicles, and the systems that collect this diagnostic information and use it to schedule and manage vehicle maintenance.

Automatic Vehicle Location (AVL)

AVL systems enable the approximate location of a vehicle to be determined and tracked as it traverses the transportation network. The most common application of AVL technology is for

dispatching emergency vehicles, tracking transit vehicles and providing passengers with arrival time estimations through information displays, and delivery companies.

Closed-Loop System

A system in which the computer controls an external process using information received from the process—e.g., the closed loop in a traffic signal control system is from the computer to the controllers affecting the vehicular traffic and sensed by the traffic detectors and this information sent to the computer.

Computer-Aided Dispatch (CAD)

An "intelligent" interactive mapping and data entry system to dispatch, monitor, and manage emergency services. The emergency-dispatching hub uses a database and configuration tools in which an agency can store, use, and report on information such as incident histories, unit activities, etc., in a way that is logical and useful to the dispatcher and administrator.

Commercial Vehicle Operations (CVO)

Systems that support administrative functions for commercial vehicle operations, including credentialing, taxing, and enforcement of safety regulations, as well as oversize/overweight and HAZMAT permitting.

Dedicated Short Range Communications

A wireless communications channel used for close-proximity communications between vehicles and the immediate infrastructure. It supports location-specific communications for ITS capabilities such as toll collection, transit vehicle management, driver information, and automated commercial vehicle operations.

Dynamic Message Sign (DMS)

A sign that uses electronics or mechanics to vary the visual word, number, or symbolic display as traffic conditions warrant. The term is used interchangeably with variable message sign (VMS) and changeable message sign (CMS).

Electronic Fare Payment Systems

Electronic Fare Payment Systems use electronic communication, data processing, and data storage techniques to automate manual fare collection processes. Electronic fare media are capable of storing information in read/write format. Some examples are magnetic storage cards, radio-frequency proximity cards, and smart cards imbedded with microchips.

Electronic Screening

The electronic screening allows trucks that have been tagged with transponders to bypass inspection stations. It provides roadside inspection facilities the capabilities for two-way communication with approaching properly equipped commercial vehicles at mainline speeds, reading tags for automated vehicle identification and credential checking.

Element

This is the basic building block of Regional ITS Architectures and Project ITS Architectures. It is the name used by stakeholders to describe a system or piece of a system.

Emergency Vehicle Preemption (EVP)

This technology allows emergency vehicles (police, fire trucks, ambulances, etc.) to intervene in the normal operation of traffic control systems using wireless communications installed on traffic intersections and emergency vehicles. As the emergency vehicle approaches a traffic signal, it is recognized by the traffic signal controller through light, radio waves, or sound. The normal green-yellow-and-red cycle can then be interrupted to change the light to green.

Environmental Sensor Stations

A specific type of roadway equipment that monitors pollution, emissions, weather, roadway surface, and air/water quality conditions. The environmental sensor station is comprised of a remote processor unit connected to one or more sensors that collect environmental or meteorological data. It collects weather data such as air temperature, amount and type of precipitation, visibility, dew point, relative humidity, wind speed, and wind direction. It also collects surface conditions, including pavement temperature, subsurface temperature, surface conditions (dry, wet, or frozen), amount of deicing material, and freezing point on the road surface. The primary users of the information from these devices are roadway maintenance and traffic operations.

Equipment Package

Equipment packages are the building blocks of the physical architecture subsystems. Equipment Packages group similar processes of a particular subsystem together into an “implementable” package. The grouping also takes into account the user services and the need to accommodate various levels of functionality. The equipment packages were used as a basis for estimating deployment costs (as part of the evaluation that was performed).

Fixed-Point to Fixed-Point Communications

A communication link serving stationary entities. It may be implemented using a variety of public or private communication networks and technologies. It can include, but is not limited to, twisted pair, coaxial cable, fiber optic, microwave relay networks, spread spectrum, etc.

Freeway Management Systems

Freeway management systems provide real-time control, guidance, warning, and management of traffic in order to improve flow of people and goods safely and efficiently.

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HAZMAT Detection

This technology provides the capability to detect and classify security sensitive hazardous materials on commercial vehicles using roadside sensing and imaging technology.

Highway Advisory Radio (HAR)

A low-powered radio (generally AM) station devoted to presenting travel-related information to the public

In-vehicle Signing

In-Vehicle Signing (IVS) system supports distribution of traffic and travel advisory information to drivers through in-vehicle devices. It brings information from roadway signs, signals, and pavement markings into the vehicle for presentation to the driver.

Incident Detection

Incident Detection provides the capability to traffic managers to detect and verify incidents. This capability includes analyzing and reducing the collected data from traffic surveillance equipment, monitoring external alerting and advisory and incident reporting systems, collecting special event information, and monitoring for incidents and hazardous conditions through available sensor and surveillance systems.

Incident/Emergency Management

A system that enables communities to quickly identify crashes/breakdowns and ensure agency coordination so that the closest available and most appropriate emergency unit can be dispatched to minimize clean-up and medical response time.

Intelligent Transportation Systems (ITS)

ITS applies state-of-the-art and emerging technologies to provide more efficient and effective solutions to current multimodal transportation problems. Some examples of ITS are ramp metering, variable-message signs, closed-circuit television monitoring system, and traffic signal systems.

ITS Architecture

A common framework for planning, defining, and integrating intelligent transportation systems. An architecture functionally defines what the pieces of the system are and the information that is exchanged between them. An architecture is functionally oriented and not technology-specific which allows the architecture to remain effective over time. It defines "what must be done," not "how it will be done."

Maintenance and Construction Operations (MCO)

MCO functions to support monitoring, operating, maintaining, improving and managing the physical condition of roadways, the associated infrastructure equipment, and the required resources.

Market Package

The market packages provide an accessible, service-oriented perspective to the National ITS Architecture. They are tailored to fit, separately or in combination, real world transportation problems and needs. Market packages collect together one or more equipment packages that must work together to deliver a given transportation service and the architecture flows that connect them and other important external systems.

On Board Security Monitoring System

On board security monitoring system provides security and safety functions on-board the transit vehicle. This includes surveillance and sensors to monitor the on-board environment, silent alarms that can be activated by transit user or vehicle operator, operator authentication, and a

remote vehicle disable function. The surveillance equipment includes video (e.g. CCTV cameras), audio systems and/or event recorder systems. The sensor equipment includes threat sensors (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors) and object detection sensors (e.g. metal detectors).

Physical Architecture

The physical architecture is the part of the National ITS Architecture that provides agencies with a physical representation (though not a detailed design) of the important ITS interfaces and major system components. It provides a high-level structure around the processes and data flows defined in the logical architecture.

Regional ITS Architecture

A specific, tailored framework for ensuring institutional agreement and technical integration for the implementation of ITS projects or groups of projects in a particular region. It functionally defines what pieces of the system are linked to others and what information is exchanged between them.

Road Weather Information System (RWIS)

A system consisting of meteorological components strategically located alongside the highway, which allow the owner to make more informed decision during winter storms. Specialized equipment and computer programs monitor air and pavement temperature to make forecasts regarding how the winter storms impact the highways. The principal components of RWIS include pavement sensors, atmospheric sensors, remote processing unit (RPU), and central processing unit (CPU).

Security Sensors and Surveillance Equipment

This technology includes cameras and sensors to monitor transportation infrastructure (e.g., bridges, tunnels and management centers) to detect potential threats. Such equipment includes acoustic, environmental threat (nuclear, explosive, chemical), motion and object sensors, and video and audio surveillance.

Standards

Documented technical specifications sponsored by a Standards Development Organization (SDO) to be used consistently as rules, guidelines, or definitions of characteristics for the interchange of data.

Subsystem

The principle structural element of the physical architecture view of the National ITS Architecture. Subsystems are individual pieces of the Intelligent Transportation System defined by the National ITS Architecture. Subsystems are grouped into four classes: Centers, Field, Vehicles, and Travelers.

Terminator

Terminators define the boundary of an architecture. The National ITS Architecture terminators represent the people, systems, and general environment that interface to ITS.

Transit Signal Priority

Transit signal priority is an operational strategy that facilitates the movement of in-service transit vehicles through traffic-signal controlled intersections. Transit signal priority modifies the normal signal operation process to better accommodate transit vehicles. The objectives of transit signal priority include improved schedule adherence, improved transit efficiency, contribution to enhanced transit information, and increased road network efficiency.

Turbo Architecture

An automated software tool used to input and manage system inventory, market packages, architecture flows and interconnects with regard to a Regional ITS Architecture and/or multiple Project ITS Architectures.

Weigh In Motion (WIM)

Various technologies that enable vehicle weights to be determined without the need for a vehicle to physically stop on a scale. High-speed WIM enables trucks to be weighed at highway speed with or without Automated Vehicle Identification (AVI) capabilities.

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Dubuque Metropolitan Area Transportation Study

and

Regional Planning Affiliation 8

Regional ITS Architecture

Appendices

Prepared by



March 2005

APPENDIX A: DESCRIPTIONS OF SUBSYSTEMS

Brief descriptions of the subsystems in the DMATS/RPA 8 Regional ITS Architecture are presented below.

1. CENTER SUBSYSTEMS

Traffic Management

The Traffic Management Subsystem monitors and controls traffic and the road network. It represents centers that manage a broad range of transportation facilities including freeway systems, rural and suburban highway systems, and urban and suburban traffic control systems. This subsystem communicates with the Roadway Subsystem to monitor and manage traffic flow and monitor the condition of the roadway, surrounding environmental conditions, and field equipment status. This subsystem coordinates with the Maintenance and Construction Management Subsystem to maintain the road network and coordinate and adapt to maintenance activities, closures, and detours. Incidents are detected, verified, and incident information is provided to allied agencies, drivers (through Roadway Subsystem highway advisory radio and dynamic message signs), and information service providers. This subsystem also manages traffic and transportation resources to support allied agencies in responding to, and recovering from, incidents ranging from minor traffic incidents through major disasters. When required, special traffic management strategies are implemented to support evacuation and reentry. The Traffic Management Subsystem supports HOV lane management and coordination, road pricing, and other demand management policies that can alleviate congestion and influence mode selection. It also manages reversible lane facilities and barrier and safeguard systems that control access to transportation infrastructure. The subsystem communicates with other Traffic Management Subsystems to coordinate traffic information and control strategies in neighboring jurisdictions. It also coordinates with rail operations to support safer and more efficient highway traffic management at highway-rail intersections. Finally, the Traffic Management Subsystem provides the capabilities to exercise control over those devices utilized for automated highway system (AHS) traffic and vehicle control.

Transit Management

The Transit Management Subsystem manages transit vehicle fleets and coordinates with other modes and transportation services. It provides operations, maintenance, customer information, planning and management functions for the transit property. It spans distinct central dispatch and garage management systems and supports the spectrum of fixed route, flexible route, paratransit services, transit rail, and bus rapid transit (BRT) service. The subsystem's interfaces allow for communication between transit departments and with other operating entities such as emergency response services and traffic management systems. This subsystem receives special event and real-time incident data from the traffic management subsystem. It provides current transit operations data to other center subsystems. It interfaces with the Emergency Management Subsystem to allow coordinated use of transit vehicles to facilitate response to major emergencies or evacuations. The Transit Management Subsystem collects and stores accurate ridership levels and implements corresponding fare structures. It collects operational and maintenance data from transit vehicles, manages vehicle service

histories, and assigns vehicle operators and maintenance personnel to vehicles and routes. The Transit Management Subsystem also provides the capability for automated planning and scheduling of public transit operations. It furnishes travelers with real-time travel information, continuously updated schedules, schedule adherence information, transfer options, and transit routes and fares. In addition, the subsystem supports transit security features. This includes monitoring silent alarms, both passenger and operator initiated, on-board transit vehicles. It also includes the capability to support transit vehicle operator authentication and the capability to remotely disable a transit vehicle. The subsystem includes the capability to monitor for a transit vehicle being off the assigned route. The subsystem also includes the capability to alert operators and police to potential incidents identified by these security features.

Emergency Management

The Emergency Management Subsystem represents public safety, emergency management, and other allied agency systems that support incident management, disaster response and evacuation, security monitoring, and other security and public safety-oriented ITS applications. The subsystem includes the functions associated with fixed and mobile public safety communications centers including public safety call taker and dispatch centers operated by police (including transit police), fire, and emergency medical services. It includes the functions associated with Emergency Operations Centers that are activated at local, regional, state, and federal levels for emergencies and the portable and transportable systems that support Incident Command System operations at an incident. This subsystem also represents other allied systems including centers associated with towing and recovery, freeway service patrols, HAZMAT response teams, and mayday service providers.

The subsystem manages sensor and surveillance equipment used to enhance transportation security of the roadway infrastructure (including bridges, tunnels, interchanges, and other key roadway segments) and the public transportation system (including transit vehicles, public areas such as transit stops and stations, facilities such as transit yards, and transit infrastructure such as rail, bridges, tunnels, or bus guideways). The subsystem provides security/surveillance services to improve traveler security in public areas not a part of the public transportation system.

This subsystem monitors alerts, advisories, and other threat information and prepares for and responds to identified emergencies. It interfaces with other Emergency Management Subsystems to support coordinated emergency response involving multiple agencies. The subsystem stores, coordinates, and utilizes emergency response and evacuation plans to facilitate this coordinated response. As the response progresses, situation information including damage assessments, response status, evacuation information, and resource information are shared to keep all allied agencies apprised of the response. Interface with the Transit Management Subsystem allows coordinated use of transit vehicles to facilitate response to major emergencies and to support evacuation efforts. The Emergency Management Subsystem also provides a focal point for coordination of the emergency and evacuation information that is provided to the traveling public, including wide-area alerts when immediate public notification is warranted.

The subsystem tracks and manages emergency vehicle fleets using real-time road network status and routing information from the other center subsystems to aide in selecting the emergency vehicle(s) and routes that will provide the most timely response. Interface with the Traffic Management Subsystem allows strategic coordination in tailoring traffic control to support emergency vehicle ingress and egress, implementation of special traffic restrictions and closures, evacuation traffic control plans, and other special strategies that adapt the transportation system to better meet the unique demands of an emergency.

Information Service Provider

This subsystem collects, processes, stores, and disseminates transportation information to system operators and the traveling public. The subsystem can play several different roles in an integrated ITS. In one role, the ISP provides a general data warehousing function, collecting information from transportation system operators and redistributing this information to other system operators in the region and other ISPs. In this information redistribution role, the ISP provides a bridge between the various transportation systems that produce the information and the other ISPs and their subscribers that use the information. The second role of an ISP is focused on delivery of traveler information to subscribers and the public at large. Information provided includes basic advisories, traffic and road conditions, transit schedule information, yellow pages information, ridematching information, and parking information. The subsystem also provides the capability to provide specific directions to travelers by receiving origin and destination requests from travelers, generating route plans, and returning the calculated plans to the users. In addition to general route planning for travelers, the ISP also supports specialized route planning for vehicle fleets. In this third role, the ISP function may be dedicated to, or even embedded within, the dispatch system. Reservation services are also provided in advanced implementations. The information is provided to the traveler through the Personal Information Access Subsystem, Remote Traveler Support Subsystem, and various Vehicle Subsystems through available communications links. Both basic one-way (broadcast) and personalized two-way information provision are supported. The subsystem provides the capability for an informational infrastructure to connect providers and consumers, and gather the market information needed to assist in the planning of service improvements and in maintenance of operations.

Maintenance and Construction Management

The Maintenance and Construction Management Subsystem monitors and manages roadway infrastructure construction and maintenance activities. Representing both public agencies and private contractors that provide these functions, this subsystem manages fleets of maintenance, construction, or special service vehicles (e.g., snow and ice control equipment). The subsystem receives a wide range of status information from these vehicles and performs vehicle dispatch, routing, and resource management for the vehicle fleets and associated equipment. The subsystem participates in incident response by deploying maintenance and construction resources to an incident scene, in coordination with other center subsystems. The subsystem manages equipment at the roadside, including environmental sensors and automated systems that monitor and mitigate adverse road and surface weather conditions. The subsystem manages the repair and maintenance of both non-ITS and ITS equipment including the traffic controllers, detectors, dynamic message signs, signals, and other

equipment associated with the roadway infrastructure. Additional interfaces to weather information providers (the weather service and surface transportation weather service providers) provide current and forecast weather information that can be fused with other data sources and used to support advanced decision support systems that increase the efficiency and effectiveness of maintenance and construction operations.

The subsystem remotely monitors and manages ITS capabilities in work zones, gathering, storing, and disseminating work zone information to other systems. It manages traffic in the vicinity of the work zone and advises drivers of work zone status (either directly at the roadside or through an interface with the Information Service Provider or Traffic Management subsystems.) It schedules and manages the location and usage of maintenance assets (such as portable dynamic message signs).

Construction and maintenance activities are tracked and coordinated with other systems, improving the quality and accuracy of information available regarding closures and other roadway construction and maintenance activities.

Commercial Vehicle Administration

The Commercial Vehicle Administration Subsystem will operate at one or more fixed locations within a region. This subsystem performs administrative functions supporting credentials, tax, and safety regulations. It issues credentials, collects fees and taxes, and supports enforcement of credential requirements. This subsystem communicates with the Fleet Management Subsystems associated with the motor carriers to process credentials applications and collect fuel taxes, weight/distance taxes, and other taxes and fees associated with commercial vehicle operations. The subsystem also receives applications for, and issues special Oversize/Overweight and HAZMAT permits in coordination with other cognizant authorities. The subsystem coordinates with other Commercial Vehicle Administration Subsystems (in other states/regions) to support nationwide access to credentials and safety information for administration and enforcement functions. This subsystem supports communications with Commercial Vehicle Check Subsystems operating at the roadside to enable credential checking and safety information collection. The collected safety information is processed, stored, and made available to qualified stakeholders to identify carriers and drivers that operate unsafely.

2. FIELD SUBSYSTEMS

Roadway

This subsystem includes the equipment distributed on and along the roadway that monitors and controls traffic and monitors and manages the roadway itself. Equipment includes traffic detectors, environmental sensors, traffic signals, highway advisory radios, dynamic message signs, CCTV cameras and video image processing systems, grade crossing warning systems, and freeway ramp metering systems. HOV lane management, reversible lane management functions, and barrier systems that control access to transportation infrastructure such as roadways, bridges and tunnels are also supported. This subsystem also provides the capability for environmental monitoring including sensors that measure road conditions, surface weather, and vehicle emissions. In adverse conditions, automated systems can be

used to apply anti-icing materials, disperse fog, etc. Work zone systems including work zone surveillance, traffic control, driver warning, and work crew safety systems are also included. To enhance security, safeguard systems such as blast shields, exhaust systems and other automated and remotely controlled systems to protect transportation infrastructure is also provided. In advanced implementations, this subsystem supports automated vehicle safety systems by safely controlling access to and egress from an Automated Highway System through monitoring of, and communications with, AHS vehicles. Intersection collision avoidance functions are provided by determining the probability of a collision in the intersection and sending appropriate warnings and/or control actions to the approaching vehicles.

Security Monitoring

This subsystem includes surveillance and sensor equipment used to provide enhanced security and safety for transportation facilities or infrastructure. The equipment represented by this subsystem is located in non-public areas of transportation facilities (e.g. maintenance and transit yards) or located on or near non-roadway parts of the transportation infrastructure (e.g. transit railway and guideways). This subsystem also includes surveillance and sensor equipment located on or near major roadway features such as bridges, tunnels, and interchanges, when the equipment's primary function is one of security and safety. If the primary function of the equipment is traffic surveillance or incident detection, then the surveillance or sensors would be covered as part of the Roadway Subsystem. Similarly, the surveillance and sensor equipment for public areas of transportation facilities is covered in the Remote Traveler Support Subsystem. The surveillance equipment includes video (e.g. CCTV cameras) and/or audio systems. The sensor equipment includes threat sensors (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors), object detection (e.g. metal detectors), intrusion or motion detection, and infrastructure integrity monitoring (e.g. rail track continuity checking or bridge structural integrity monitoring). Limited processing of collected sensor and surveillance data is also included in this subsystem to support threat detection and classification.

Commercial Vehicle Check

The Commercial Vehicle Check Subsystem supports automated vehicle identification at mainline speeds for credential checking, roadside safety inspections, and weigh-in-motion using two-way data exchange. These capabilities include providing warnings to the commercial vehicle drivers, their fleet managers, and proper authorities of any safety problems that have been identified, accessing and examining historical safety data, and automatically deciding whether to allow the vehicle to pass or require it to stop with operator manual override. The Commercial Vehicle Check Subsystem also provides supplemental inspection services to current capabilities by supporting expedited brake inspections, the use of operator hand-held devices, on-board safety database access, and the enrollment of vehicles and carriers in the electronic clearance program.

3. VEHICLE SUBSYSTEMS

Transit Vehicle

This subsystem resides in a transit vehicle and provides the sensory, processing, storage, and communications functions necessary to support safe and efficient movement of passengers. The types of transit vehicles containing this subsystem include buses, paratransit vehicles, light rail vehicles, other vehicles designed to carry passengers, and supervisory vehicles. The subsystem collects accurate ridership levels and supports electronic fare collection. The subsystem supports a traffic signal prioritization function that communicates with the roadside subsystem to improve on-schedule performance. Automated vehicle location functions enhance the information available to the Transit Management Subsystem enabling more efficient operations. On-board sensors support transit vehicle maintenance. The subsystem supports on-board security and safety monitoring. This monitoring includes transit user or vehicle operator activated alarms (silent or audible), as well as surveillance and sensor equipment. The surveillance equipment includes video (e.g. CCTV cameras), audio systems and/or event recorder systems. The sensor equipment includes threat sensors (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors) and object detection sensors (e.g. metal detectors). In addition, the subsystem supports vehicle operator authentication prior to operation of the vehicle and remote vehicle disabling. The subsystem also furnishes travelers with real-time travel information, continuously updated schedules, transfer options, routes, and fares.

Commercial Vehicle

This subsystem resides in a commercial vehicle and provides the sensory, processing, storage, and communications functions necessary to support safe and efficient commercial vehicle operations. The Commercial Vehicle Subsystem provides two-way communications between the commercial vehicle drivers, their fleet managers, attached freight equipment, and roadside officials, and provides HAZMAT response teams with timely and accurate cargo contents information after a vehicle incident. This subsystem provides the capability to collect and process vehicle, cargo information from the attached freight equipment, and driver safety data and status and alert the driver whenever there is a potential safety or security problem. Basic identification, security and safety status data are supplied to inspection facilities at mainline speeds. In addition, the subsystem will automatically collect and record mileage, fuel usage, and border crossings.

Emergency Vehicle

This subsystem resides in an emergency vehicle and provides the sensory, processing, storage, and communications functions necessary to support safe and efficient incident response. The subsystem represents a range of vehicles including those operated by police, fire, and emergency medical services. In addition, this subsystem represents other incident response vehicles including towing and recovery vehicles and freeway service patrols. The Emergency Vehicle Subsystem includes two-way communications to support coordinated response to emergencies in accordance with an associated Emergency Management Subsystem. Emergency vehicles are equipped with automated vehicle location capability for monitoring by vehicle tracking and fleet management functions in the Emergency Management Subsystem. Using these capabilities, the appropriate emergency vehicle to

respond to each emergency is determined. Route guidance capabilities within the vehicle enable safe and efficient routing to the emergency. In addition, the emergency vehicle may be equipped to support signal preemption through communications with the Roadway Subsystem.

Maintenance and Construction Vehicle

This subsystem resides in a maintenance, construction, or other specialized service vehicle or equipment and provides the sensory, processing, storage, and communications functions necessary to support highway maintenance and construction. All types of maintenance and construction vehicles are covered, including heavy equipment and supervisory vehicles. The subsystem provides two-way communications between drivers/operators and dispatchers and maintains and communicates current location and status information. A wide range of operational status is monitored, measured, and made available, depending on the specific type of vehicle or equipment. For example, for a snow plow, the information would include whether the plow is up or down and material usage information. The subsystem may also contain capabilities to monitor vehicle systems to support maintenance of the vehicle itself and other sensors that monitor environmental conditions including the road condition and surface weather information. This subsystem can represent a diverse set of mobile environmental sensing platforms, including wheeled vehicles and any other vehicle that collects and reports environmental information.

4. TRAVELER SUBSYSTEMS

Personal Information Access

This subsystem provides the capability for travelers to receive formatted traffic advisories from their homes, place of work, major trip generation sites, personal portable devices, over multiple types of electronic media. These capabilities also provide basic routing information and allow users to select those transportation modes that allow them to avoid congestion, or more advanced capabilities to allow users to specify those transportation parameters that are unique to their individual needs and receive travel information. This subsystem provides travelers with the capability to receive route planning from the infrastructure at fixed locations such as in their homes, their place of work, and at mobile locations using personal portable devices and vehicle-based devices. In addition to end user devices, this subsystem may also represent a device that is used by a merchant or other service provider to receive traveler information and relay important information to their customers. This subsystem also provides the capability to initiate a distress signal and cancel a prior-issued manual request for help.

Remote Traveler Support

This subsystem provides access to traveler information at transit stations, transit stops, other fixed sites along travel routes (e.g., rest stops, merchant locations), and major trip generation locations such as special event centers, hotels, office complexes, amusement parks, and theaters. Traveler information access points include kiosks and informational displays supporting varied levels of interaction and information access. At transit stops, simple displays providing schedule information and imminent arrival signals can be provided. This basic information may be extended to include multi-modal information including traffic

conditions and transit schedules along with yellow pages information to support mode and route selection at major trip generation sites. Personalized route planning and route guidance information can also be provided based on criteria supplied by the traveler. The subsystem also supports electronic payment of transit fares.

In addition to the traveler information provisions, this subsystem also supports security and safety monitoring of public areas. This monitoring includes traveler activated silent alarms, as well as surveillance and sensor equipment. The surveillance equipment includes video (e.g. CCTV cameras) and/or audio systems. The sensor equipment includes threat sensors (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors) and object detection sensors (e.g. metal detectors).

APPENDIX B: DESCRIPTIONS OF MARKET PACKAGE

Brief descriptions of the DMATS/RPA 8 Regional ITS Architecture market packages are presented below. The descriptions are taken directly from the National ITS Architecture version 5.0.

APTS1 – Transit Vehicle Tracking

This market package monitors current transit vehicle location using an Automated Vehicle Location System. The location data may be used to determine real time schedule adherence and update the transit system's schedule in real-time. Vehicle position may be determined either by the vehicle (e.g., through GPS) and relayed to the infrastructure or may be determined directly by the communications infrastructure. A two-way wireless communication link with the Transit Management Subsystem is used for relaying vehicle position and control measures. Fixed route transit systems may also employ beacons along the route to enable position determination and facilitate communications with each vehicle at fixed intervals. The Transit Management Subsystem processes this information, updates the transit schedule and makes real-time schedule information available to the Information Service Provider.

APTS2 – Transit Fixed-Route Operations

This market package performs vehicle routing and scheduling, as well as automatic operator assignment and system monitoring for fixed-route and flexible-route transit services. This service determines current schedule performance using AVL data and provides information displays at the Transit Management Subsystem. Static and real time transit data is exchanged with Information Service Providers where it is integrated with that from other transportation modes (e.g. rail, ferry, air) to provide the public with integrated and personalized dynamic schedules.

APTS3 – Demand Response Transit Operations

This market package performs vehicle routing and scheduling as well as automatic operator assignment and monitoring for demand responsive transit services. In addition, this market package performs similar functions to support dynamic features of flexible-route transit services. This package monitors the current status of the transit fleet and supports allocation of these fleet resources to service incoming requests for transit service while also considering traffic conditions. The Transit Management Subsystem provides the necessary data processing and information display to assist the transit operator in making optimal use of the transit fleet. This service includes the capability for a traveler request for personalized transit services to be made through the Information Service Provider (ISP) Subsystem. The ISP may either be operated by a transit management center or be independently owned and operated by a separate service provider. In the first scenario, the traveler makes a direct request to a specific paratransit service. In the second scenario, a third party service provider determines that the paratransit service is a viable means of satisfying a traveler request and makes a reservation for the traveler.

APTS4 - Transit Passenger and Fare Management

This market package manages passenger loading and fare payments on-board transit vehicles using electronic means. It allows transit users to use a traveler card or other electronic payment device. Sensors mounted on the vehicle permit the operator and central operations to determine vehicle loads, and readers located either in the infrastructure or on-board the transit vehicle allow

electronic fare payment. Data is processed, stored, and displayed on the transit vehicle and communicated as needed to the Transit Management Subsystem. Two other market packages, ATMS10: Electronic Toll Collection and ATMS16: Parking Facility Management also provide electronic payment services. These three market packages in combination provide an integrated electronic payment system for transportation services.

APTS5 – Transit Security

This market package provides for the physical security of transit passengers and transit vehicle operators. On-board equipment is deployed to perform surveillance and sensor monitoring in order to warn of potentially hazardous situations. The surveillance equipment includes video (e.g., CCTV cameras), audio systems and/or event recorder systems. The sensor equipment includes threat sensors (e.g., chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors) and object detection sensors (e.g., metal detectors). Transit user or transit vehicle operator activated alarms are provided on-board. Public areas (e.g., transit stops, park and ride lots, stations) are also monitored with similar surveillance and sensor equipment and provided with transit user activated alarms. In addition this market package provides surveillance and sensor monitoring of non-public areas of transit facilities (e.g., transit yards) and transit infrastructure such as bridges, tunnels, and transit railways or bus rapid transit (BRT) guideways. The surveillance equipment includes video and/or audio systems. The sensor equipment includes threat sensors and object detection sensors as described above as well as, intrusion or motion detection sensors and infrastructure integrity monitoring (e.g., rail track continuity checking or bridge structural integrity monitoring).

The surveillance and sensor information is transmitted to the Emergency Management Subsystem, as are transit user activated alarms in public secure areas. On-board alarms, activated by transit users or transit vehicle operators are transmitted to both the Emergency Management Subsystem and the Transit Management Subsystem, indicating two possible approaches to implementing this market package. In addition the market package supports remote transit vehicle disabling by the Transit Management Subsystem and transit vehicle operator authentication.

APTS6 – Transit Maintenance

This market package supports automatic transit maintenance scheduling and monitoring. On-board condition sensors monitor system status and transmit critical status information to the Transit Management Subsystem. Hardware and software in the Transit Management Subsystem processes this data and schedules preventative and corrective maintenance.

APTS8 – Transit Traveler Information

This market package provides transit users at transit stops and on-board transit vehicles with ready access to transit information. The information services include transit stop annunciation, imminent arrival signs, and real-time transit schedule displays that are of general interest to transit users. Systems that provide custom transit trip itineraries and other tailored transit information services are also represented by this market package.

ATIS1 – Broadcast Traveler Information

This market package collects traffic conditions, advisories, general public transportation, toll and parking information, incident information, roadway maintenance and construction information, air quality and weather information, and broadly disseminates this information through existing infrastructures and low cost user equipment (e.g., FM subcarrier, cellular data broadcast). The information may be provided directly to travelers or provided to merchants and other traveler service providers so that they can better inform their customers of travel conditions. Different from the market package ATMS6 - Traffic Information Dissemination, which provides localized HAR and DMS information capabilities, ATIS1 provides a wide area digital broadcast service. Successful deployment of this market package relies on availability of real-time traveler information from roadway instrumentation, probe vehicles or other sources.

ATIS2 – Interactive Traveler Information

This market package provides tailored information in response to a traveler request. Both real-time interactive request/response systems and information systems that 'push' a tailored stream of information to the traveler based on a submitted profile are supported. The traveler can obtain current information regarding traffic conditions, roadway maintenance and construction, transit services, ride share/ride match, parking management, detours and pricing information. A range of two-way wide-area wireless and fixed-point to fixed-point communications systems may be used to support the required data communications between the traveler and Information Service Provider. A variety of interactive devices may be used by the traveler to access information prior to a trip or en route including phone via a 511-like portal, kiosk, Personal Digital Assistant, personal computer, and a variety of in-vehicle devices. This market package also allows value-added resellers to collect transportation information that can be aggregated and be available to their personal devices or remote traveler systems to better inform their customers of transportation conditions. Successful deployment of this market package relies on availability of real-time transportation data from roadway instrumentation, transit, probe vehicles or other means. A traveler may also input personal preferences and identification information via a 'traveler card' that can convey information to the system about the traveler as well as receive updates from the system so the card can be updated over time.

ATMS01 – Network Surveillance

This market package includes traffic detectors, other surveillance equipment, the supporting field equipment, and fixed-point to fixed-point communications to transmit the collected data back to the Traffic Management Subsystem. The derived data can be used locally such as when traffic detectors are connected directly to a signal control system or remotely (e.g., when a CCTV system sends data back to the Traffic Management Subsystem). The data generated by this market package enables traffic managers to monitor traffic and road conditions, identify and verify incidents, detect faults in indicator operations, and collect census data for traffic strategy development and long range planning. The collected data can also be analyzed and made available to users and the Information Service Provider Subsystem.

ATMS03 – Surface Street Control

This market package provides the central control and monitoring equipment, communication links, and the signal control equipment that support local surface street control and/or arterial traffic management. A range of traffic signal control systems are represented by this market

package ranging from fixed-schedule control systems to fully traffic responsive systems that dynamically adjust control plans and strategies based on current traffic conditions and priority requests. Additionally, general advisory and traffic control information can be provided to the driver while en route. This market package is generally an intra-jurisdictional package that does not rely on real-time communications between separate control systems to achieve area-wide traffic signal coordination. Systems that achieve coordination across jurisdictions by using a common time base or other strategies that do not require real time coordination would be represented by this package. This market package is consistent with typical urban traffic signal control systems.

ATMS06 – Traffic Information Dissemination

This market package provides driver information using roadway equipment such as dynamic message signs or highway advisory radio. A wide range of information can be disseminated including traffic and road conditions, closure and detour information, incident information, and emergency alerts and driver advisories. This package provides information to drivers at specific equipped locations on the road network. Careful placement of the roadway equipment provides the information at points in the network where the drivers have recourse and can tailor their routes to account for the new information. This package also covers the equipment and interfaces that provide traffic information from a traffic management center to the media (for instance via a direct tie-in between a traffic management center and radio or television station computer systems), Transit Management, Emergency Management, and Information Service Providers. A link to the Maintenance and Construction Management subsystem allows real time information on road/bridge closures due to maintenance and construction activities to be disseminated.

ATMS08 – Traffic Incident Management System

This market package manages both unexpected incidents and planned events so that the impact to the transportation network and traveler safety is minimized. The market package includes incident detection capabilities through roadside surveillance devices (e.g. CCTV) and through regional coordination with other traffic management, maintenance and construction management and emergency management centers as well as rail operations and event promoters. Information from these diverse sources is collected and correlated by this market package to detect and verify incidents and implement an appropriate response. This market package supports traffic operations personnel in developing an appropriate response in coordination with emergency management, maintenance and construction management, and other incident response personnel to confirmed incidents. The response may include traffic control strategy modifications or resource coordination between center subsystems. Incident response also includes presentation of information to affected travelers using the Traffic Information Dissemination market package and dissemination of incident information to travelers through the Broadcast Traveler Information or Interactive Traveler Information market packages. The roadside equipment used to detect and verify incidents also allows the operator to monitor incident status as the response unfolds. The coordination with emergency management might be through a CAD system or through other communication with emergency field personnel. The coordination can also extend to tow trucks and other allied response agencies and field service personnel.

ATMS13 – Standard Railroad Grade Crossing

This market package manages highway traffic at highway-rail intersections (HRIs) where operational requirements do not dictate more advanced features (e.g., where rail operational speeds are less than 80 miles per hour). Both passive (e.g., the crossbuck sign) and active warning systems (e.g., flashing lights and gates) are supported. (Note that passive systems exercise only the single interface between the roadway subsystem and the driver in the architecture definition.) These traditional HRI warning systems may also be augmented with other standard traffic management devices. The warning systems are activated on notification by interfaced wayside equipment of an approaching train. The equipment at the HRI may also be interconnected with adjacent signalized intersections so that local control can be adapted to highway-rail intersection activities. Health monitoring of the HRI equipment and interfaces is performed; detected abnormalities are reported to both highway and railroad officials through wayside interfaces and interfaces to the traffic management subsystem.

ATMS14 – Advanced Railroad Grade Crossing

This market package manages highway traffic at highway-rail intersections (HRIs) where operational requirements demand advanced features (e.g., where rail operational speeds are greater than 80 miles per hour). This market package includes all capabilities from the Standard Railroad Grade Crossing Market Package and augments these with additional safety features to mitigate the risks associated with higher rail speeds. The active warning systems supported by this market package include positive barrier systems that preclude entrance into the intersection when the barriers are activated. Like the Standard Package, the HRI equipment is activated on notification by wayside interface equipment which detects, or communicates with the approaching train. In this market package, the wayside equipment provides additional information about the arriving train so that the train's direction of travel, estimated time of arrival, and estimated duration of closure may be derived. This enhanced information may be conveyed to the driver prior to, or in context with, warning system activation. This market package also includes additional detection capabilities that enable it to detect an entrapped or otherwise immobilized vehicle within the HRI and provide an immediate notification to highway and railroad officials.

ATMS19 – Speed Monitoring

This market package monitors the speeds of vehicles traveling through a roadway system. If the speed is determined to be excessive, roadside equipment can suggest a safe driving speed. Environmental conditions may be monitored and factored into the safe speed advisories that are provided to the motorist. This service can also support notifications to an enforcement agency to enforce the speed limit on a roadway system.

CVO04 – CV Administrative Processes

This market package provides for electronic application, processing, fee collection, issuance, and distribution of CVO credential and tax filing. Through this process, carriers, drivers, and vehicles may be enrolled in the electronic clearance program provided by a separate market package which allows commercial vehicles to be screened at mainline speeds at roadside check facilities. Through this enrollment process, current profile databases are maintained in the Commercial Vehicle Administration subsystem and snapshots of this database are made

available to the roadside check facilities at the roadside to support the electronic clearance process.

Commercial Vehicle Administration subsystems can share credential information with other Commercial Vehicle Administration subsystems, so that it is possible for any Commercial Vehicle Administration subsystem to have access to all credentials, credential fees, credentials status and safety status information. In addition, it is possible for one Commercial Vehicle Administration subsystem to collect HAZMAT route restrictions information from other Commercial Vehicle Administration subsystems and then act as a clearinghouse for this route restrictions information for Information Service Providers, Map Update Providers, and Fleet and Freight Management subsystems.

CVO07 – Roadside CVO Safety

This market package provides for automated roadside safety monitoring and reporting. It automates commercial vehicle safety inspections at the roadside check facilities. The capabilities for performing the safety inspection are shared between this market package and the On-board CVO and Freight Safety & Security (CVO08) Market Package which enables a variety of implementation options. The basic option, directly supported by this market package, facilitates safety inspection of vehicles that have been pulled in, perhaps as a result of the automated screening process provided by the Electronic Clearance (CVO03) Market Package. In this scenario, only basic identification data and status information is read from the electronic tag on the commercial vehicle. The identification data from the tag enables access to additional safety data maintained in the infrastructure which is used to support the safety inspection, and may also inform the pull-in decision if system timing requirements can be met. More advanced implementations, supported by the On-board CVO and Freight Safety & Security (CVO08) market package, utilize additional on-board vehicle safety monitoring and reporting capabilities in the commercial vehicle to augment the roadside safety check.

CVO11 – Roadside HAZMAT Security Detection and Mitigation

This market package provides the capability to detect and classify security sensitive HAZMAT on commercial vehicles using roadside sensing and imaging technology. Credentials information can be accessed to verify if the commercial driver, vehicle and carrier are permitted to transport the identified HAZMAT. If the credentials analysis and sensed HAZMAT information do not agree, the vehicle can be signaled to pull in, and if required, an alarm can be sent to Emergency Management to request they monitor, traffic stop or disable the vehicle.

EM01 – Emergency Call-Taking and Dispatch

This market package provides basic public safety call-taking and dispatch services. It includes emergency vehicle equipment, equipment used to receive and route emergency calls, and wireless communications that enable safe and rapid deployment of appropriate resources to an emergency. Coordination between Emergency Management Subsystems supports emergency notification between agencies. Wide area wireless communications between the Emergency Management Subsystem and an Emergency Vehicle supports dispatch and provision of information to responding personnel.

EM02 – Emergency Routing

This market package supports automated vehicle location and dynamic routing of emergency vehicles. Traffic information, road conditions, and suggested routing information are provided to enhance emergency vehicle routing. Special priority or other specific emergency traffic control strategies can be coordinated to improve the safety and time-efficiency of responding vehicle travel on the selected route(s). The Emergency Management Subsystem provides the routing for the emergency fleet based on real-time conditions and has the option of requesting a route from the Traffic Management subsystem. The Emergency Vehicle may also be equipped with dedicated short range communications for local signal preemption. The service provides for information exchange between care facilities and both the Emergency Management Subsystem and emergency vehicles.

EM05 – Transportation Infrastructure Protection

This market package includes the monitoring of transportation infrastructure (e.g., bridges, tunnels and management centers) for potential threats using sensors and surveillance equipment and barrier and safeguard systems to preclude an incident, control access during and after an incident or mitigate impact of an incident. Threats can result from acts of nature (e.g., hurricanes, earthquakes), terrorist attacks or other incidents causing damage to the infrastructure (e.g., stray barge hitting a bridge support). Infrastructure may be monitored with acoustic, environmental threat (such as nuclear, biological, chemical, and explosives), infrastructure condition and integrity, motion and object sensors and video and audio surveillance equipment. Data from such sensors and surveillance equipment may be processed in the field or sent to a center for processing. The data enables operators at the center to detect and verify threats. When a threat is detected, agencies are notified. Detected threats or advisories received from other agencies result in an increased level of system preparedness. In response to threats, barrier and safeguard systems may be activated by Traffic Management Subsystems to deter an incident, control access to an area or mitigate the impact of an incident. Barrier systems include gates, barriers and other automated and remotely controlled systems that manage entry to transportation infrastructure. Safeguard systems include blast shields, exhaust systems and other automated and remotely controlled systems that mitigate impact of an incident.

EM06 – Wide-Area Alert

This market package uses ITS driver and traveler information systems to alert the public in emergency situations such as child abductions, severe weather events, civil emergencies, and other situations that pose a threat to life and property. The alert includes information and instructions for transportation system operators and the traveling public, improving public safety and enlisting the public's help in some scenarios. The ITS technologies will supplement and support other emergency and homeland security alert systems such as the Emergency Alert System (EAS). When an emergency situation is reported and verified and the terms and conditions for system activation are satisfied, a designated agency broadcasts emergency information to traffic agencies, transit agencies, information service providers, toll operators, and others that operate ITS systems. The ITS systems, in turn, provide the alert information to transportation system operators and the traveling public using ITS technologies such as dynamic message signs, highway advisory radios, in-vehicle displays, transit displays, 511 traveler information systems, and traveler information web sites.

EM07 – Early Warning System

This market package monitors and detects potential, looming, and actual disasters including natural disasters (hurricanes, earthquakes, floods, winter storms, tsunamis, etc.) and technological and man-made disasters (hazardous materials incidents, nuclear power plant accidents, and acts of terrorism including nuclear, chemical, biological, and radiological weapons attacks). The market package monitors alerting and advisory systems, ITS sensors and surveillance systems, field reports, and emergency call-taking systems to identify emergencies and notifies all responding agencies of detected emergencies.

EM08 – Disaster Response and Recovery

This market package enhances the ability of the surface transportation system to respond to and recover from disasters. It addresses the most severe incidents that require an extraordinary response from outside the local community. All types of disasters are addressed including natural disasters (hurricanes, earthquakes, floods, winter storms, tsunamis, etc.) and technological and man-made disasters (hazardous materials incidents, nuclear power plant accidents, and national security emergencies such as nuclear, chemical, biological, and radiological weapons attacks).

The market package supports coordination of emergency response plans, including general plans developed before a disaster as well as specific tactical plans with short time horizon that are developed as part of a disaster response. The market package provides enhanced access to the scene for response personnel and resources, provides better information about the transportation system in the vicinity of the disaster, and maintains situation awareness regarding the disaster itself. In addition, this market package tracks and coordinates the transportation resources - the transportation professionals, equipment, and materials - that constitute a portion of the disaster response.

The market package identifies the key points of integration between transportation systems and the public safety, emergency management, and other allied organizations that form the overall disaster response. In this market package, the Emergency Management subsystem represents the federal, regional, state, and local Emergency Operations Centers and the Incident Commands that are established to respond to the disaster. The interface between the Emergency Management Subsystem and the other center subsystems provides situation awareness and resource coordination among transportation and other allied response agencies. In its role, traffic management implements special traffic control strategies and detours and restrictions to effectively manage traffic in and around the disaster. Maintenance and construction provides damage assessment of road network facilities and manages service restoration. Transit management provides a similar assessment of status for transit facilities and modifies transit operations to meet the special demands of the disaster. As immediate public safety concerns are addressed and disaster response transitions into recovery, this market package supports transition back to normal transportation system operation, recovering resources, managing on-going transportation facility repair, supporting data collection and revised plan coordination, and other recovery activities.

This market package builds on the basic traffic incident response service that is provided by ATMS08, the Traffic Incident Management market package. This market package addresses the

additional complexities and coordination requirements that are associated with the most severe incidents that warrant an extraordinary response from outside the local jurisdictions and require special measures such as the activation of one or more emergency operations centers. Many users of the National ITS Architecture will want to consider both ATMS08 and this market package since every region is concerned with both day-to-day management of traffic-related incidents and occasional management of disasters that require extraordinary response.

Disaster Response and Recovery is also supported by EM10, the “Disaster Traveler Information” market package that keeps the public informed during a disaster response.

EM09 – Evacuation and Reentry Management

This market package supports evacuation of the general public from a disaster area and manages subsequent reentry to the disaster area. The market package addresses evacuations for all types of disasters, including disasters like hurricanes that are anticipated and occur slowly, allowing a well-planned orderly evacuation, as well as disasters like terrorist acts that occur rapidly, without warning, and allow little or no time for preparation or public warning.

This market package supports coordination of evacuation plans among the federal, state, and local transportation, emergency, and law enforcement agencies that may be involved in a large-scale evacuation. All affected jurisdictions (e.g., states and counties) at the evacuation origin, evacuation destination, and along the evacuation route are informed of the plan. Information is shared with traffic management agencies to implement special traffic control strategies and to control evacuation traffic, including traffic on local streets and arterials as well as the major evacuation routes. Reversible lanes, shoulder use, closures, special signal control strategies, and other special strategies may be implemented to maximize capacity along the evacuation routes. Transit resources play an important role in an evacuation, removing many people from an evacuated area while making efficient use of limited capacity. Additional shared transit resources may be added and managed in evacuation scenarios. Resource requirements are forecast based on the evacuation plans, and the necessary resources are located, shared between agencies if necessary, and deployed at the right locations at the appropriate times.

Evacuations are also supported by EM10, the “Disaster Traveler Information” market package, which keeps the public informed during evacuations. See that market package for more information.

EM10 – Disaster Traveler Information

This market package uses ITS to provide disaster-related traveler information to the general public, including evacuation and reentry information and other information concerning the operation of the transportation system during a disaster. This market package collects information from multiple sources including traffic, transit, public safety, emergency management, shelter provider, and travel service provider organizations. The collected information is processed and the public is provided with real-time disaster and evacuation information using ITS traveler information systems.

A disaster will stress the surface transportation system since it may damage transportation facilities at the same time that it places unique demands on these facilities to support public

evacuation and provide access for emergency responders. Similarly, a disaster may interrupt or degrade the operation of many traveler information systems at the same time that safety-critical information must be provided to the traveling public. This market package keeps the public informed in these scenarios, using all available means to provide information about the disaster area including damage to the transportation system, detours and closures in effect, special traffic restrictions and allowances, special transit schedules, and real-time information on traffic conditions and transit system performance in and around the disaster.

This market package also provides emergency information to assist the public with evacuations when necessary. Information on mandatory and voluntary evacuation zones, evacuation times, and instructions are provided. Available evacuation routes and destinations and current and anticipated travel conditions along those routes are provided so evacuees are prepared and know their destination and preferred evacuation route. Information on available transit services and traveler services (shelters, medical services, hotels, restaurants, gas stations, etc.) is also provided. In addition to general evacuation information, this market package provides specific evacuation trip planning information that is tailored for the evacuee based on origin, selected destination, and evacuee-specified evacuation requirements and route parameters.

This market package augments the ATIS market packages that provide traveler information on a day-to-day basis for the surface transportation system. This market package provides focus on the special requirements for traveler information dissemination in disaster situations.

MC01 – Maintenance and Construction Vehicle and Equipment Tracking

This market package will track the location of maintenance and construction vehicles and other equipment to ascertain the progress of their activities. These activities can include ensuring the correct roads are being plowed and work activity is being performed at the correct locations.

MC02 – Maintenance and Construction Vehicle Maintenance

This market package performs vehicle maintenance scheduling and manages both routine and corrective maintenance activities on vehicles and other maintenance and construction equipment. It includes on-board sensors capable of automatically performing diagnostics for maintenance and construction vehicles, and the systems that collect this diagnostic information and use it to schedule and manage vehicle maintenance.

MC03 – Road Weather Data Collection

This market package collects current road and weather conditions using data collected from environmental sensors deployed on and about the roadway (or guideway in the case of transit related rail systems). In addition to fixed sensor stations at the roadside, sensing of the roadway environment can also occur from sensor systems located on Maintenance and Construction Vehicles and on-board sensors provided by auto manufacturers. The collected environmental data is used by the Weather Information Processing and Distribution Market Package to process the information and make decisions on operations.

MC04 – Weather Information Processing and Distribution

This market package processes and distributes the environmental information collected from the Road Weather Data Collection market package. This market package uses the environmental

data to detect environmental hazards such as icy road conditions, high winds, dense fog, etc. so system operators and decision support systems can make decision on corrective actions to take. The continuing updates of road condition information and current temperatures can be used by system operators to more effectively deploy road maintenance resources, issue general traveler advisories, issue location specific warnings to drivers using the Traffic Information Dissemination market package, and aid operators in scheduling work activity.

MC06 – Winter Maintenance

This market package supports winter road maintenance including snow plow operations, roadway treatments (e.g., salt spraying and other anti-icing material applications), and other snow and ice control activities. This package monitors environmental conditions and weather forecasts and uses the information to schedule winter maintenance activities, determine the appropriate snow and ice control response, and track and manage response operations.

MC07 - Roadway Maintenance and Construction

This market package supports numerous services for scheduled and unscheduled maintenance and construction on a roadway system or right-of-way. Maintenance services would include landscape maintenance, hazard removal (roadway debris, dead animals), routine maintenance activities (roadway cleaning, grass cutting), and repair and maintenance of both ITS and non-ITS equipment on the roadway (e.g., signs, traffic controllers, traffic detectors, dynamic message signs, traffic signals, CCTV, etc.). Environmental conditions information is also received from various weather sources to aid in scheduling maintenance and construction activities.

MC08 – Work Zone Management

This market package directs activity in work zones, controlling traffic through portable dynamic message signs (DMS) and informing other groups of activity (e.g., ISP, traffic management, other maintenance and construction centers) for better coordination management. Work zone speeds and delays are provided to the motorist prior to the work zones.

MC10 – Maintenance and Construction Activity Coordination

This market package supports the dissemination of maintenance and construction activity to centers that can utilize it as part of their operations, or to the Information Service Providers who can provide the information to travelers.

APPENDIX C: DESCRIPTIONS OF EQUIPMENT PACKAGES

The following descriptions of the DMATS/RPA 8 Regional ITS Architecture equipment packages are taken directly from the ITS National Architecture version 5.0.

1. Commercial Vehicle Administration (Subsystem)

- **Credentials and Taxes Administration**

This equipment package provides administrative capabilities for commercial vehicle operations including database management and administrator-to-roadside and administrator-to-administrator interfaces. For example, this equipment package would manage the electronic credentials database for a state, perform reconciliation of mileage and fuel taxes (possibly post trip), and interface with roadsides performing credential checks. This equipment package communicates with similar packages in other CVAS locations to exchange credentials database information. This equipment package also exchanges HAZMAT route restrictions information, and provides a clearinghouse for this information that then can share the information with Map Update Providers, Fleet and Freight Management subsystems and Information Service Providers.

- **CV Safety Administration**

This equipment package augments the Credentials and Taxes Administration equipment package with safety data. This package ensures that safety criteria are available for automated roadside safety checks. It supports the collection and review of carrier safety data and determines the carrier safety rating.

- **CV Information Exchange**

This equipment package supports the exchange of safety and credentials data among jurisdiction. The package also supports the exchange of safety and credentials data between agencies (for example, an administrative center and the roadside check facilities) within a single jurisdiction. Data are collected from multiple authoritative sources and packaged into snapshots (top-level summary and critical status information) and profiles (detailed and historical data).

2. Commercial Vehicle Check (Subsystem)

- **Roadside Safety and Security Inspection**

This equipment package provides the Commercial Vehicle Check Subsystem the capabilities for operators to automate the roadside safety inspection process including the support of use of hand held devices to rapidly inspect the vehicle and driver. In addition this equipment package provides the Roadside Check Subsystem the capabilities for operators to automate the roadside safety inspection process including the support of automated mainline speed reading of on-board safety data to rapidly screen the vehicle and driver. This equipment package shall also provide the capabilities to collect, store, maintain, and provide safety data and access historical safety data after receiving identification from vehicles at mainline speeds or while stopped at the roadside. Results of screening and summary safety inspection can be written back onto the tag. The

capabilities to process safety data and issue pull-in messages or provide warnings to the driver, carrier, and enforcement agencies shall be provided. These capabilities have a prerequisite of the Roadside Electronic Screening equipment package and shall be provided primarily through the utilization of an additional safety database.

- **Citation and Accident Electronic Recording**

The equipment package documents violations and forwards the information to the Commercial Vehicle Administration Subsystem for processing as part of the normal credentials processing package.

- **Roadside HAZMAT Detection**

This equipment package monitors roadside remote sensing sensor data deployed to collect physical characteristics of security sensitive materials. It assesses the likelihood of the presence of security sensitive HAZMAT materials based on remote sensed data as well as other physical information acquired about the CV. It then determines if any detected HAZMAT is authorized. If unauthorized HAZMAT material is detected then it messages the Commercial Vehicle Driver to pull-in. The equipment package may also issue a message to the Emergency Management (Police Dispatch) function with jurisdiction over the location of the incident that the event has occurred including: the location of the incident, and current location of the commercial vehicle and a timestamp, Vehicle ID, Carrier ID, Driver ID, CV Credentials information, HAZMAT material or category detected and expected cargo manifest (if known). The CVCS may issue a similar message to the TMS agency(ies) with jurisdiction over the region of the incident, as well as to the CVAS and then to the FMS which manages the vehicle (does not need to be real-time). This might be used to disable the vehicle.

3. **Commercial Vehicle Subsystem (Subsystem)**

- **On-board CV Electronic Data**

This equipment package provides the Commercial Vehicle Subsystem the capability for two-way data exchange between the vehicle and the roadside facility with the transmission of information such as status of driver, vehicle, and carrier IDs and cargo information. The driver, vehicle and carrier are identified via the tag so that actual weight from roadside mainline weigh-in-motion may be checked. This includes only the equipment on the commercial vehicle including a processor/tag for identification, especially a HAZMAT identification. The actual reading and processing required for the credential checking and weigh-in-motion will be performed by the roadside.

4. **Emergency Management (Subsystem)**

- **Emergency Call-Taking**

This equipment package supports the emergency call-taker, collecting available information about the caller and the reported emergency, and forwarding this information to other equipment packages that formulate and manage the emergency response. This equipment package receives 9-1-1, 7-digit local access, and motorist call-box calls and

interfaces to other agencies to assist in the verification and assessment of the emergency and to forward the emergency information to the appropriate response agency.

- **Emergency Dispatch**

This equipment package supports safe and efficient dispatch of emergency vehicles. It tracks the location and status of emergency vehicles and dispatches these vehicles to incidents. Pertinent incident information is gathered from the public and other public safety agencies (see the Emergency Call-Taking equipment package) and relayed to the responding units. Incident status and the status of the responding units is tracked so that additional units can be dispatched and/or unit status can be returned to available when the incident is cleared and closed.

- **Emergency Routing**

This equipment package supports routing of emergency vehicles and enlists support from the Traffic Management Subsystem to facilitate travel along these routes. Routes may be determined by this equipment package based on real-time traffic information and road conditions or routes may be provided by the Traffic Management Subsystem on request.

- **Emergency Early Warning System**

This equipment package monitors alerting and advisory systems, information collected by ITS surveillance and sensors, and reports from other agencies and uses this information to identify potential, imminent, or in-progress major incidents or disasters. Notification is provided to other equipment packages that provide the emergency response, including public notification using ITS traveler information systems, where appropriate.

- **Emergency Response Management**

This equipment package provides the strategic emergency response capabilities and broad inter-agency interfaces that are implemented for extraordinary incidents and disasters that require response from outside the local community. It provides the functional capabilities and interfaces commonly associated with Emergency Operations Centers. This equipment package develops and stores emergency response plans and manages overall coordinated response to emergencies. It tracks the availability of resources and assists in the appropriate allocation of these resources for a particular emergency response. This equipment package provides coordination between multiple allied agencies before and during emergencies to implement emergency response plans and track progress through the incident. It provides vital communications linkages which provide real-time information to emergency response personnel in the field.

- **Incident Command**

The equipment package provides tactical decision support, resource coordination, and communications integration for Incident Commands that are established by first responders to support local management of an incident. The equipment package supports communications with public safety, emergency management, transportation, and other allied response agency centers, tracks and maintains resource information, action plans, and the incident command organization itself. Information is shared with agency centers

including resource deployment status, hazardous material information, traffic, road, and weather conditions, evacuation advice, and other information that enables emergency or maintenance personnel in the field to implement an effective, safe incident response.

- **Emergency Evacuation Support**

This equipment package coordinates evacuation plans among allied agencies and manages evacuation and reentry of a population in the vicinity of a disaster or other emergency that poses a risk to public safety. Where appropriate, the affected population is evacuated in shifts, using more than one evacuation route, and including several evacuation destinations to spread demand and thereby expedite the evacuation. All affected jurisdictions (e.g., states and counties) at the evacuation origin, evacuation destination, or along the evacuation route are informed of the plan. The public is provided with real-time evacuation guidance including basic information to assist potential evacuees in determining whether evacuation is necessary. Resource requirements are forecast based on the evacuation plans, and the necessary resources are located, shared between agencies if necessary, and deployed at the right locations at the appropriate times. The evacuation and reentry status are monitored

- **Emergency Environmental Monitoring**

This equipment package assimilates current and forecast road conditions and surface weather information from a variety of sources, including both weather service providers and vehicle probes. The collected environmental information is monitored and presented to the operator. This information can be used to more effectively manage incidents.

- **Center Secure Area Surveillance**

This equipment package monitors surveillance inputs from secure areas in the transportation system. The surveillance may be of secure areas frequented by travelers (i.e., transit stops, transit stations, rest areas, park and ride lots, modal interchange facilities, on-board a transit vehicle, etc.) or around transportation infrastructure such as bridges, tunnels and transit railways or guideways. It provides both video and audio surveillance information to emergency personnel. It automatically alerts emergency personnel of potential incidents.

- **Center Secure Area Sensor Management**

This equipment package manages sensors that monitor secure areas in the transportation system, processes the collected data, performs threat analysis in which data is correlated with other sensor, surveillance, and advisory inputs, and then disseminates resultant threat information to emergency personnel and other agencies. The sensors may be in secure areas frequented by travelers (i.e., transit stops, transit stations, rest areas, park and ride lots, modal interchange facilities, on-board a transit vehicle, etc.) or around transportation infrastructure such as bridges, tunnels and transit railways or guideways. The types of sensors include acoustic, threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors), infrastructure condition and integrity, motion and object sensors.

- **Center Secure Area Alarm Support**

This equipment package receives traveler or transit vehicle operator alarm messages, provides acknowledgement of alarm receipt back to the originator of the alarm, and determines an appropriate response. The alarms received can be generated by silent or audible alarm systems and may originate from public areas (e.g. transit stops, park and ride lots, transit stations, rest areas) or transit vehicles. The nature of the emergency may be determined based on the information in the alarm message as well as other inputs.

5. Emergency Vehicle Subsystem (Subsystem)

- **On-board EV En Route Support**

This equipment package provides capabilities that support safe and expedient arrival to and departure from the incident scene. This package provides dispatch and routing information, tracks the vehicle, and preempt signals via short range communication directly with traffic control equipment at the roadside.

- **On-board EV Incident Management Communication**

This equipment package provides a direct interface between the emergency vehicle and incident management personnel.

6. Information Service Provider (Subsystem)

- **Basic Information Broadcast**

This equipment package provides the capabilities to collect, process, store, bill, and disseminate traveler information including traveler, transit, ride matching, traffic, and parking information. The traveler information shall include maintaining a database of local area services available to travelers with up-to-the-minute information and providing an interactive connectivity between, sponsors, and providers of services. The transit information shall include the latest available information on transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence. The traffic information shall include latest available information on traffic and highway conditions, and current situation information in real-time including incidents, road construction, recommended routes, current speeds on specific routes, current parking conditions in key areas, schedules for any current or soon to start events, and current weather situations. This equipment package shall also provide users with real-time travel related information while they are traveling, and disseminate to assist the travelers in making decisions about transfers and modification of trips. These capabilities shall be provided using equipment such as a fixed facility with a communications system such as a data Subcarrier multiplexing device.

- **Interactive Infrastructure Information**

This equipment package shall have as prerequisite the capabilities of the Basic Information Broadcast equipment package. This equipment package augments the Basic Information Broadcast equipment package by providing the capabilities for interactive traveler information.

- **Traveler Telephone Information**

This equipment package services voice-based traveler requests for information that supports traveler telephone information systems like 511. The equipment package takes requests for traveler information, which could be voice-formatted traveler requests, dual-tone multifrequency (DTMF)-based requests, or a simple traveler information request, and returns the requested traveler information in the proper format. In addition to servicing requests for traveler information, this equipment package also collects and forwards alerts and advisories to traveler telephone information systems.

- **ISP Emergency Traveler Information**

This equipment package collects and provides emergency information to the public, including wide-area alerts and evacuation information. Building on functionality included in other ISP equipment packages, this equipment package provides emergency alerts, information on evacuation zones and evacuation requirements, evacuation destinations and shelter information, available transportation modes, and traffic and road conditions at the origin, destination, and along the evacuation routes. In addition to general evacuation information, personalized information including tailored evacuation routes, service information, and estimated travel times is also provided based on traveler specified origin, destination, and route parameters. Updated information is provided throughout the evacuation and subsequent reentry as status changes and plans are adapted.

7. Maintenance and Construction Management (Subsystem)

- **MCM Vehicle Tracking**

This equipment package tracks the location of maintenance and construction vehicles and other equipment. Vehicle location and associated information is presented to the operator.

- **MCM Vehicle and Equipment Maintenance Management**

This equipment package monitors vehicle and equipment condition, tracks maintenance history, and schedules routine and corrective maintenance.

- **MCM Environmental Information Collection**

This equipment package collects current road and weather conditions using data collected from environmental sensors deployed on and about the roadway. In addition to fixed sensor stations at the roadside, this equipment package also collects environmental information from sensor systems located on Maintenance and Construction Vehicles, and sensor data that is made available by other systems.

- **MCM Environmental Information Processing**

This equipment package processes current and forecast weather data, road condition information, local environmental data, and uses internal models to develop specialized detailed forecasts of local weather and surface conditions. The processed environmental information products are presented to the user.

- **MCM Incident Management**
 This equipment package supports coordinated response to highway incidents. Incident notifications are shared, incident response resources are managed, and the overall incident situation and incident response is coordinated among allied response organizations.
- **MCM Maintenance Decision Support**
 This equipment package recommends maintenance courses of action based on current and forecast environmental and road conditions and additional application specific information. Decisions are supported through understandable presentation of filtered and fused environmental and road condition information for specific time horizons as well as specific maintenance recommendations that are generated by the system based on this integrated information. The recommended courses of action are supported by information on the anticipated consequences of action or inaction, when available.
- **MCM Winter Maintenance Management**
 This equipment package manages winter road maintenance, tracking and controlling snow plow operations, roadway treatment (e.g., salt spraying and other material applications) based on weather information.
- **MCM Roadway Maintenance and Construction**
 This equipment package provides overall management and support for routine maintenance on a roadway system or right-of-way. Services managed are landscape maintenance, hazard removal (roadway debris, dead animals), routine maintenance activities (roadway cleaning, grass cutting), and repair and maintenance of both ITS and non-ITS equipment on the roadway (e.g., signs, traffic controllers, traffic detectors, dynamic message signs, traffic signals, etc.). Environmental conditions information is also received from various weather sources to aid in scheduling routine maintenance activities.
- **MCM Work Zone Management**
 This equipment package remotely monitors and supports work zone activities, controlling traffic through portable dynamic message signs (DMS) and informing other groups of activity (e.g., ISP, TM, other maintenance and construction centers) for better coordination management. Work zone speeds and delays are provided to the motorist prior to the work zones.
- **MCM Speed Monitoring**
 This equipment package manages remote devices that monitor vehicle speeds and optionally provide safe speed advisories to the motorist. This equipment package can monitor speeds and notify an enforcement agency if excessive speeds are identified.
- **MCM Work Activity Coordination**
 This equipment package disseminates work activity schedules to other agencies. Work schedules are coordinated, factoring in the needs and activities of other agencies and adjacent jurisdictions.

8. Maintenance and Construction Vehicle (Subsystem)

- **MCV Vehicle Location Tracking**
This equipment package tracks vehicle location and reports this location to a dispatch center.
- **MCV Vehicle System Monitoring and Diagnostics**
This equipment package includes on-board sensors capable of monitoring the condition of each of the vehicle systems and diagnostics that can be used to support vehicle maintenance.
- **MCV Winter Maintenance**
This equipment package supports snow plow operations and other roadway treatments (e.g., salt spraying and other material applications).
- **MCV Roadway Maintenance and Construction**
This equipment package includes the on-board systems that support routine non-winter maintenance on a roadway system or right-of-way. Routine maintenance includes landscape maintenance, hazard removal (roadway debris, dead animals), routine maintenance activities (roadway cleaning, grass cutting), and repair and maintenance of both ITS and non-ITS equipment on the roadway (e.g., signs, traffic controllers, traffic detectors, dynamic message signs, traffic signals, etc.).
- **MCV Work Zone Support**
This equipment package provides communications and support for local management of a work zone.

9. Personal Information Access (Subsystem)

- **Personal Basic Information Reception**
This equipment package shall provide the capability for travelers to interface with the ISP Subsystem Basic Information Broadcast equipment package and receive formatted traffic advisories including accurate traveling information concerning available travel options and their availability, and congestion information from their Personal Information Access Subsystem to include their homes, place of work, major trip generation sites, personal portable devices, and over multiple types of electronic media such as facsimile machines, portable AM/FM radios, and a pager processor.
- **Personal Interactive Information Reception**
This equipment package shall provide the capability for travelers to interface with the ISP Subsystem Infrastructure equipment packages including the Interactive Infrastructure Information equipment package, and the Infrastructure Provided Route Selection, Yellow Pages and Reservation, and Dynamic Ridesharing equipment packages. These capabilities shall be provided using the Personal Information Access Subsystem equipment such as cellular telephone, interactive TV, Personal Computer, and pager with

alpha display using communication medium and equipment such as two-way radio, CATV, and wireless data transceivers.

10. Remote Traveler Support (Subsystem)

- **Remote Basic Information Reception**

This equipment package shall provide the capability for travelers to interface with the ISP Subsystem Basic Information Broadcast equipment package and receive formatted traffic advisories including accurate traveling information concerning available travel options and their availability, and congestion information at the Remote Traveler Support Subsystem.

- **Traveler Secure Area Surveillance**

This equipment package manages surveillance equipment that monitors secure areas in the transportation system that are frequented by travelers (i.e., transit stops, transit stations, rest areas, park and ride lots, modal interchange facilities, etc). This package collects the images and audio inputs at the secure area and provides the surveillance information to the Emergency Management Subsystem. The equipment package also provides local processing of the video or audio information, providing processed or analyzed results to the Emergency Management Subsystem. This equipment package provides the same functions as the Field Secure Area Surveillance equipment package.

- **Traveler Secure Area Sensor Monitoring**

This equipment package includes sensors that monitor conditions of secure areas that are frequented by travelers (i.e., transit stops, transit stations, rest areas, park and ride lots, modal interchange facilities, etc). Included are acoustic, environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors), and motion and object sensors.

- **Remote Traveler Security**

This equipment package provides the capability to report an emergency and summon assistance from secure areas such as transit stops, transit stations, modal transfer facilities, rest stops and picnic areas, park-and-ride areas, tourism and travel information areas, remote roadways and emergency pull off areas. This package includes interfaces that facilitate initiation of an alarm, which is communicated to the Emergency Management Subsystem. This package allows for an acknowledgement of the alarm as well as a broadcast message to advise or warn the traveler.

- **Remote Transit Information Services**

The equipment package furnishes transit users with real-time travel-related information at transit stops, multi-modal transfer points, and other public transportation areas. It provides transit users with the latest available information on transit routes, schedules, transfer options, bicycle accessibility, fares, real-time schedule adherence, current incidents, weather conditions, and special events. In addition to tailored information for individual transit users, this equipment package supports general annunciation and/or

display of imminent arrival information and other information of general interest to transit users.

- **Remote Transit Fare Management**

This equipment package provides the capability for the traveler to use a common fare medium for all applicable surface transportation services, to pay without stopping, have payment media automatically identified as void and/or invalid and eligibility verified. This may be implemented as a payment instrument reader at a kiosk. In addition, capability to provide expansion into other uses for payment medium such as retail and telephone and for off-line billing for fares paid by agencies shall be supported.

11. Roadway Subsystem (Subsystem)

- **Roadway Basic Surveillance**

This equipment package monitors traffic conditions using fixed equipment such as loop detectors and CCTV cameras.

- **Roadway Signal Controls**

This equipment package provides the capabilities to control traffic signals at major intersections and on main highways for urban areas. This equipment package is generally constrained to a single jurisdiction.

- **Roadway Signal Priority**

This equipment package shall provide the capability to receive vehicle signal priority requests and control traffic signals accordingly.

- **Roadway Traffic Information Dissemination**

This equipment package provides the roadside elements of traffic information dissemination including DMS, HAR, and talking pedestrian signs.

- **Roadway Incident Detection**

This equipment package provides incident detection capability to reside at the roadside. For example, advanced CCTV's with built-in incident detection algorithms would allow the actual detection function to be roadside rather than transmitting images to a center for visual or automated detection.

- **Standard Rail Crossing**

This equipment package manages highway traffic at highway-rail intersections (HRIs) where operational requirements do not dictate advanced features (e.g., where rail operational speeds are less than 80 miles per hour). Either passive (e.g., the crossbuck sign) or active warning systems (e.g., flashing lights and gates) are supported depending on the specific requirements for each intersection. These traditional HRI warning systems may also be augmented with other standard traffic management devices. The warning systems are activated on notification by interfaced wayside equipment of an approaching train. The equipment at the HRI may also be interconnected with adjacent signalized intersections so that local control can be adapted to highway-rail intersection activities.

Health monitoring of the HRI equipment and interfaces is performed; detected abnormalities are reported through interfaces to the wayside interface equipment and the traffic management subsystem.

- **Advanced Rail Crossing**

This equipment package manages highway traffic at highway-rail intersections (HRIs) where operational requirements demand advanced features (e.g., where rail operational speeds are greater than 80 miles per hour). It includes all capabilities from the Standard Rail Crossing equipment package and augments these with additional safety features. The active warning systems supported by this market package includes positive barrier systems which preclude entrance into the intersection when the barriers are activated. Like the Standard package, the HRI equipment is activated on notification by wayside interface equipment which detects, or communicates with the approaching train. In this equipment package, additional information about the arriving train is also provided by the wayside interface equipment so that the train's direction of travel, its estimated time of arrival, and the estimated duration of closure may be derived. This enhanced information may be conveyed to the driver prior to, or in context with, warning system activation. This equipment package also includes detection capabilities which enable it to detect an entrapped or otherwise immobilized vehicle within the HRI and provide an immediate notification to the wayside interface equipment and traffic management.

- **Roadway Equipment Coordination**

This equipment package coordinates field equipment that is distributed along the roadway by supporting direct communications between field equipment. This includes coordination between remote sensors and field devices (e.g., Dynamic Message Signs) and coordination between the field devices themselves (e.g., coordination between traffic controllers that are controlling adjacent intersections.).

- **Roadway Environmental Monitoring**

This equipment package measures environmental conditions and communicates the collected information back to a center where it can be monitored and analyzed. A broad array of general weather and road surface information may be collected. Weather conditions that may be measured include temperature, wind, humidity, precipitation, and visibility. Surface and sub-surface sensors can measure road surface temperature, moisture, icing, salinity, and other measures.

- **Field Barrier System Control**

This equipment package provides the control of barrier systems for transportation facilities and infrastructure. Barrier systems include automatic or remotely controlled gates, barriers and other systems intended to preclude an attack or control access during and after an incident.

- **Roadway Speed Monitoring**

This equipment package monitors vehicle speeds. If the speed is determine to be excessive, then roadside equipment can suggest a safe driving speed. Environmental conditions may be monitored and factored into the safe speed advisories that are provided

to the motorist. This equipment package can also provide an enforcement function, reporting speed violations to an enforcement agency.

- **Roadway Work Zone Traffic Control**

This equipment package directs activity in work zones, controlling traffic through portable dynamic message signs (DMS) and informing other groups of activity (e.g., ISP, TM, other maintenance and construction centers) for better coordination management. Work zone speeds and delays are provided to the motorist prior to the work zones.

- **Field Safeguard System Control**

This equipment package provides the control of safeguard systems for transportation facilities and infrastructure. Safeguard systems include blast shielding, exhaust systems and other automatic or remotely controlled systems intended to mitigate the impact of an incident.

12. Security Monitoring Subsystem (Subsystem)

- **Field Secure Area Surveillance**

This equipment package includes video and audio surveillance equipment that monitors conditions of secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. as bridges, tunnels, interchanges, and transit railways or guideways). This package provides the surveillance information to the Emergency Management Subsystem for possible threat detection. The equipment package also provides local processing of the video or audio information, providing processed or analyzed results to the Emergency Management Subsystem. This equipment package provides the same functions as the Traveler Secure Area Surveillance equipment package.

- **Field Secure Area Sensor Monitoring**

This equipment package includes sensors that monitor conditions of secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, and transit railways or guideways). Included are acoustic, environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors), infrastructure condition and integrity and motion and object sensors.

13. Traffic Management (Subsystem)

- **Collect Traffic Surveillance**

This equipment package collects, stores, and provides electronic access to the traffic surveillance data.

- **TMC Signal Control**

This equipment package provides the capability for traffic managers to monitor and manage the traffic flow at signalized intersections. This capability includes analyzing and reducing the collected data from traffic surveillance equipment and developing and implementing control plans for signalized intersections. Control plans may be developed

and implemented that coordinate signals at many intersections under the domain of a single traffic management subsystem. In advanced implementations, this package collects route planning information and integrates and uses this information in predicting future traffic conditions and optimizing the traffic control strategy for these conditions. These capabilities are achieved through real-time communication of logged routes from an Information Service Provider. The planned control strategies can be passed back to the Information Service Provider so that the intended strategies can be reflected in future route planning.

- **TMC Traffic Information Dissemination**

This equipment package provides the capability to disseminate traffic and road conditions information to travelers. Information is provided to drivers using DMS, HAR, and in-vehicle signing equipment. Information is provided to other travelers by making current road network conditions information available to information service providers and the media.

- **TMC Incident Detection**

This equipment package provides the capability to traffic managers to detect and verify incidents. This capability includes analyzing and reducing the collected data from traffic surveillance equipment, monitoring external alerting and advisory and incident reporting systems, collecting special event information, and monitoring for incidents and hazardous conditions through available sensor and surveillance systems.

- **TMC Incident Dispatch Coordination/Communication**

This equipment package provides the capability for an incident response formulation function minimizing the incident potential, incident impacts, and/or resources required for incident management including proposing and facilitating the dispatch of emergency response and service vehicles as well as coordinating response with all appropriate cooperating agencies.

- **TMC Evacuation Support**

This equipment package supports development, coordination, and execution of special traffic management strategies during evacuation and subsequent reentry of a population in the vicinity of a disaster or major emergency. A traffic management strategy is developed based on anticipated demand, the capacity of the road network including access to and from the evacuation routes, and existing and forecast conditions. The strategy supports efficient evacuation and also protects and optimizes movement of response vehicles and other resources that are responding to the emergency.

- **TMC Environmental Monitoring**

This equipment package assimilates current and forecast road conditions and surface weather information using a combination of weather service provider information and an array of environmental sensors deployed on and about the roadway. The collected environmental information is monitored and presented to the operator. This information can be used to more effectively deploy road maintenance resources, issue general traveler

advisories, and support location specific warnings to drivers. Other equipment packages process the collected information and provide decision support.

- **HRI Traffic Management**

This equipment package monitors highway-rail intersection (HRI) equipment at the roadside which manages highway traffic. Various levels of roadside equipment may be interfaced to, and supported by, this equipment package to include standard speed active warning systems and high speed systems which provide additional information on approaching trains and detect and report on obstructions in the HRI. This equipment package remotely monitors and reports the status of this roadside equipment. A two way interface supports explicitly status requests or remote control plan updates to be generated by this equipment package. Status may also be received periodically in the absence of a request or asynchronously in the event of a detected failure or other unsafe condition at the intersection.

- **TMC Speed Monitoring**

This equipment package manages remote devices that monitor vehicle speeds and optionally provide safe speed advisories to the motorist. This equipment package can monitor speeds and notify an enforcement agency if excessive speeds are identified.

- **Barrier System Management**

This equipment package provides the management of barrier systems for transportation facilities and infrastructure. Barrier systems include automatic or remotely controlled gates, barriers and other systems intended to preclude an attack or control access during and after an incident. When access to part of the transportation system is impacted by the activation of a barrier system, travelers and appropriate subsystems are notified.

- **Safeguard System Management**

This equipment package provides the management of safeguard systems for transportation facilities and infrastructure. Safeguard systems include blast shielding, exhaust systems and other automatic or remotely controlled systems intended to mitigate the impact of an incident. When access to a transportation facility is impacted by the activation of a safeguard system, travelers and appropriate subsystems are notified.

- **Traffic Maintenance**

This equipment package provides monitoring and remote diagnostics of field equipment to detect field equipment failures, issues problem reports, and tracks the repair or replacement of the failed equipment.

- **TMC Work Zone Traffic Management**

This equipment package supports coordination with maintenance systems so that work zones are established that have minimum traffic impact. Traffic control strategies are implemented to further mitigate traffic impacts associated with work zones that are established.

14. Transit Management (Subsystem)

- **Transit Center Tracking and Dispatch**

This equipment package provides the capabilities for monitoring transit vehicle locations and determining vehicle schedule adherence. The equipment package shall also furnish users with real-time travel related information, continuously updated with real-time information from each transit system within the local area of jurisdiction, inclusive of all transportation modes, from all providers of transportation services, and provide users with the latest available information on transit routes, schedules, transfer options, fares, real-time schedule adherence, current incidents conditions, weather conditions, and special events. This equipment package also supports the capability for two-way voice communication between the transit vehicle operator and a facility, two-way data communication between the transit vehicles and a facility.

- **Transit Center Fixed-Route Operations**

This equipment package enhances the planning and scheduling associated with fixed and flexible route transit services. The package allows fixed-route and flexible-route transit services to develop, print and disseminate schedules and automatically updates customer service operator systems with the most current schedule information. Current vehicle schedule adherence and optimum scenarios for schedule adjustment shall also be provided.

- **Transit Center Paratransit Operations**

This equipment package provides the capability to automate planning and scheduling, allowing paratransit and flexible-route transit services to develop, print and disseminate schedules, and automatically update customer service operator systems with the most current schedule. In addition, this equipment package provides the capability to assign vehicle operators to routes in a fair manner while minimizing labor and overtime services, including operator preferences and qualifications, and automatically tracking and validating the number of work hours performed by each individual operator. These capabilities shall be provided through the utilization of dispatch and fleet management software running on a workstation type processor.

- **Transit Center Fare and Load Management**

This equipment package provides the capability to accept collected data required to determine accurate ridership levels and implement variable and flexible fare structures. Support shall be provided for the traveler for use of a fare medium for all applicable surface transportation services, to pay without stopping, have payment media automatically identified as void and/or invalid and eligibility verified, and allow for third party payment. In addition, capability to provide expansion into other uses for payment medium such as retail and telephone and for off-line billing for fares paid by agencies shall be supported. This equipment package also supports the capability for two-way voice communication between the transit vehicle operator and a facility, two-way data communication between the transit vehicles and a facility, sensor data to be transmitted from the transit vehicles to a facility, and data transmission from individual facilities to a central facility for processing/analysis if desired. These equipment package builds on

basic capabilities provided by the Transit Center Tracking and Dispatch equipment package.

- **Transit Center Security**

This equipment package provides the capability to monitor transit vehicle operator or transit user activated alarms received from on-board a transit vehicle. This package also includes the capability to support transit vehicle operator authentication and the capability to remotely disable a transit vehicle. This package also includes the capability to alert operators and police to potential incidents identified by these security features.

- **Transit Garage Operations**

This equipment package automates and supports the assignment of transit vehicles and operators to enhance the daily operation of a transit service. It provides the capability to assign operators to routes or service areas in a fair manner while minimizing labor and overtime services, considering operator preferences and qualifications, and automatically tracking and validating the number of work hours performed by each individual operator.

- **Transit Garage Maintenance**

This equipment package provides advanced maintenance functions for the transit property. It collects operational and maintenance data from transit vehicles, manages vehicle service histories, and monitors operators and vehicles. It collects vehicle mileage data and uses it to automatically generate preventative maintenance schedules for each vehicle by utilizing vehicle tracking data from a prerequisite vehicle tracking equipment package. In addition, it provides information to proper service personnel to support maintenance activities and records and verifies that maintenance work was performed. This equipment package receives special events and real-time incident data from the traffic management subsystem and assigns operators to vehicles and transit routes. Garage maintenance also receives information about incidents involving transit vehicles from the TMC in order to dispatch tow trucks and other repair vehicles.

- **Transit Center Information Services**

This equipment package collects the latest available information for a transit service and makes it available to transit customers and to Information Service Providers for further distribution. Customers are provided information at transit stops and other public transportation areas before they embark and on-board the transit vehicle once they are enroute. Information provided can include the latest available information on transit routes, schedules, transfer options, fares, real-time schedule adherence, current incidents, weather conditions, and special events. In addition to general service information, tailored information (e.g, itineraries) are provided to individual transit users.

- **Transit Evacuation Support**

This equipment package manages transit resources to support evacuation and subsequent reentry of a population in the vicinity of a disaster or other emergency. It supports coordination of regional evacuation plans, identifying the transit role in a regional evacuation and identifying transit resources that would be used. During an evacuation, this equipment package coordinates the use of transit and school bus fleets, supporting

evacuation of those with special needs and the general population. Transit service and fare schedules are adjusted and updated service and fare information is made available through traveler information systems. This equipment package coordinates the functions in other Transit equipment packages to support these requirements.

15. Transit Vehicle Subsystem (Subsystem)

- **On-board Transit Trip Monitoring**

This equipment package provides the capabilities to support fleet management with automatic vehicle location and automated mileage and fuel reporting and auditing. This package may also record other special events resulting from communication with roadside equipment. This includes only the equipment on board the vehicle to support this function including the vehicle location devices such as GPS equipment, communication interfaces, a processor to record trip length, and the sensors/actuators/interfaces necessary to record mileage and fuel usage.

- **On-board Fixed Route Schedule Management**

This equipment package provides both fixed and flexible route transit services with the capability to automate planning and scheduling, by collecting data for schedule generation. Capability shall also be provided to automatically determine optimum scenarios for schedule adjustment. This equipment package also supports the capability for two-way voice communication between the transit vehicle operator and a facility, two-way data communication between the transit vehicles and a facility, on-board safety sensor data to be transmitted from the transit vehicles to a facility, and data transmission from individual facilities to a central facility for processing/analysis if desired.

- **On-board Paratransit Operations**

This equipment package forwards paratransit and flexible-route dispatch requests to the operator and forwards acknowledgements to the center. It coordinates with, and assists the operator in managing multi-stop runs associated with demand responsive, flexibly routed transit services.

- **On-board Transit Fare and Load Management**

This equipment package provides the capability to collect data required to determine accurate ridership levels and implement variable and flexible fare structures. Support shall be provided for the traveler for use of a fare medium for all applicable surface transportation services, to pay without stopping, have payment media automatically identified as void and/or invalid and eligibility verified, and allow for third party payment. In addition, capability to provide expansion into other uses for payment medium such as retail and telephone and for off-line billing for fares paid by agencies shall be supported. This equipment package also supports the capability for two-way voice communication between the transit vehicle operator and a facility, two-way data communication between the transit vehicles and a facility, sensor data to be transmitted from the transit vehicles to a facility, and data transmission from individual facilities to a central facility for processing/analysis if desired. These capabilities require integration with an existing On-board Trip Monitoring equipment package.

- **On-board Transit Security**

This equipment package provides security and safety functions on-board the transit vehicle. This includes surveillance and sensors to monitor the on-board environment, silent alarms that can be activated by transit user or vehicle operator, operator authentication, and a remote vehicle disable function. The surveillance equipment includes video (e.g. CCTV cameras), audio systems and/or event recorder systems. The sensor equipment includes threat sensors (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors) and object detection sensors(e.g. metal detectors).

- **On-board Maintenance**

This equipment package provides the capability to use transit vehicle mileage data to automatically generate preventative maintenance schedules for each specific bus by utilizing vehicle tracking data and storing with a trip computer. It also provides the capability for real-time condition monitoring on board the vehicle, and transmission of this information via two-way communication to the management center.

- **On-board Transit Information Services**

The equipment package furnishes enroute transit users with real-time travel-related information. Current information that can be provided to transit users includes transit routes, schedules, transfer options, fares, real-time schedule adherence, current incidents, weather conditions, non-motorized transportation services, and special events are provided. In addition to tailored information for individual transit users, this equipment package also supports general annunciation and/or display of general schedule information, imminent arrival information, and other information of general interest to transit users.

APPENDIX D: LIST OF ARCHITECTURE INTERCONNECTS

The following table summarizes the architecture interconnects that are included in the DMATS/RPA 8 Regional ITS Architecture.

Architecture Element	Interconnected Architecture Element	Status
City of Asbury Public Works Department	Dubuque County Emergency Management Agency	Existing
	Media	Existing
	Surface Transportation Weather Service	Existing
	Weather Services	Existing
City of Camanche Fire Department	City of Camanche Fire Department Emergency Vehicles	Existing
	City of Camanche Police Department	Existing
	City of Clinton Fire Department	Existing
	Clinton County 911 Center	Existing
	Clinton County Sheriff	Existing
City of Camanche Fire Department Emergency Vehicles	City of Camanche Fire Department	Existing
	Clinton County 911 Center	Existing
City of Camanche Police Department	City of Camanche Fire Department	Existing
	City of Camanche Police Department Emergency Vehicles	Existing
	City of Camanche Public Works Department	Existing
	Clinton County 911 Center	Existing
	Clinton County Emergency Management Agency	Existing
	Clinton County Sheriff	Existing
	Media	Existing
	Weather Services	Existing
City of Camanche Police Department Emergency Vehicles	City of Camanche Police Department	Existing
	Clinton County 911 Center	Existing
City of Camanche Public Works Department	City of Camanche Police Department	Existing
	Clinton County 911 Center	Existing
	Clinton County Sheriff	Existing
	Iowa DOT District 6	Existing
	Weather Services	Existing
City of Charlotte Fire Department	City of Charlotte Fire Department Emergency Vehicles	Existing
	Clinton County 911 Center	Existing
City of Charlotte Fire Department Emergency Vehicles	City of Charlotte Fire Department	Existing
	Clinton County 911 Center	Existing
City of Clinton Fire Department	City of Camanche Fire Department	Existing
	City of Clinton Fire Department Emergency Vehicles	Existing
	City of Clinton Municipal Transit Administration	Existing
	City of Clinton Police Department	Existing
	Clinton County 911 Center	Existing
	Clinton County Sheriff	Existing
	Iowa DOT District 6	Existing
	Media	Existing
City of Clinton Fire Department Emergency Vehicles	City of Clinton Fire Department	Existing
	Clinton County 911 Center	Existing

Architecture Element	Interconnected Architecture Element	Status
City of Clinton Municipal Transit Administration	City of Clinton Fire Department	Existing
	City of Clinton Municipal Transit Administration Kiosks	Planned
	City of Clinton Municipal Transit Administration Security Monitoring Field Equipment	Planned
	City of Clinton Municipal Transit Administration Transit Station Electronic Display	Planned
	City of Clinton Municipal Transit Administration Transit Vehicles	Existing
	City of Clinton Police Department	Existing
	Clinton County Emergency Management Agency	Existing
	Media	Existing
	River Bend Transit	Existing
	User Personal Computing Devices	Planned
City of Clinton Municipal Transit Administration Kiosks	City of Clinton Municipal Transit Administration	Planned
	City of Clinton Municipal Transit Administration Traveler Card	Planned
City of Clinton Municipal Transit Administration Security Monitoring Field Equipment	City of Clinton Municipal Transit Administration	Planned
City of Clinton Municipal Transit Administration Transit Station Electronic Display	City of Clinton Municipal Transit Administration	Planned
City of Clinton Municipal Transit Administration Transit Vehicles	City of Clinton Municipal Transit Administration	Existing
	City of Clinton Municipal Transit Administration Traveler Card	Planned
City of Clinton Municipal Transit Administration Traveler Card	City of Clinton Municipal Transit Administration Kiosks	Planned
	City of Clinton Municipal Transit Administration Transit Vehicles	Planned
City of Clinton Police Department	City of Clinton Fire Department	Existing
	City of Clinton Municipal Transit Administration	Existing
	City of Clinton Police Department Commercial Vehicle Inspection Facility	Existing
	City of Clinton Police Department Emergency Vehicles	Existing
	City of Clinton Police Department Highway Advisory Radio	Existing
	City of Clinton Police Department Road Weather Information Telephone Service	Existing
	City of Clinton Police Department Security Monitoring Field Equipment	Planned
	Clinton County 911 Center	Existing
	Clinton County Emergency Management Agency	Existing
	Clinton County Sheriff	Existing
	Iowa DOT District 6	Existing
Media	Existing	
City of Clinton Police Department Commercial Vehicle Inspection Facility	City of Clinton Police Department	Existing
	Commercial Vehicles	Planned
City of Clinton Police Department Emergency Vehicles	City of Clinton Police Department	Existing
	Clinton County 911 Center	Existing
City of Clinton Police Department Highway	City of Clinton Police Department	Existing

Architecture Element	Interconnected Architecture Element	Status
Advisory Radio		
City of Clinton Police Department Road Weather Information Telephone Service	City of Clinton Police Department	Existing
City of Clinton Police Department Security Monitoring Field Equipment	City of Clinton Police Department	Planned
City of Dewitt Police Department	City of Dewitt Police Department Emergency Vehicles	Existing
	City of Dewitt Public Works Department	Existing
	Clinton County 911 Center	Existing
	Clinton County Sheriff	Existing
	Iowa DOT District 6	Existing
	Media	Existing
	Weather Services	Existing
City of Dewitt Police Department Emergency Vehicles	City of Dewitt Police Department	Existing
	Clinton County 911 Center	Existing
City of Dewitt Public Works Department	City of Dewitt Police Department	Existing
	Clinton County 911 Center	Existing
	Weather Services	Existing
City of Dubuque Citychannel 8	City of Dubuque Engineering Department	Existing
	City of Dubuque Fire Department	Existing
	City of Dubuque Keyline Transit	Existing
	City of Dubuque Operations and Maintenance Department	Existing
	City of Dubuque Police Department	Existing
	Dubuque 911 Center	Existing
	Media	Existing
	Weather Services	Existing
City of Dubuque Engineering Department	City of Dubuque Citychannel 8	Existing
	City of Dubuque Engineering Department MCO Vehicles	Existing
	City of Dubuque Engineering Department Roadside Equipment	Existing
	City of Dubuque Engineering Department Security Monitoring Field Equipment	Existing
	City of Dubuque Fire Department	Existing
	City of Dubuque Operations and Maintenance Department	Existing
	City of Dubuque Police Department	Existing
	Dubuque 911 Center	Existing
	User Personal Computing Devices	Existing
	Weather Services	Existing
City of Dubuque Engineering Department MCO Vehicles	City of Dubuque Engineering Department	Existing
City of Dubuque Engineering Department Roadside Equipment	City of Dubuque Engineering Department	Existing
	City of Dubuque Fire Department Emergency Vehicles	Existing
	City of Dubuque Police Department Emergency Vehicles	Existing
	Dubuque 911 Center Emergency Vehicles	Existing
	Dubuque County Sheriff Emergency Vehicles	Planned
City of Dubuque Engineering Department Security Monitoring Field Equipment	City of Dubuque Engineering Department	Existing
City of Dubuque Fire Department	City of Dubuque Citychannel 8	Existing

Architecture Element	Interconnected Architecture Element	Status
	City of Dubuque Engineering Department	Existing
	City of Dubuque Fire Department Emergency Vehicles	Existing
	City of Dubuque Fire Department Security Monitoring Field Equipment	Existing
	City of Dubuque Keyline Transit	Existing
	City of Dubuque Operations and Maintenance Department	Existing
	City of Dubuque Police Department	Existing
	City of Farley Fire Department	Existing
	Dubuque 911 Center	Existing
	Dubuque County Emergency Management Agency	Existing
	Dubuque County Sheriff	Existing
	Iowa State Patrol District 10	Existing
	Media	Existing
	Weather Services	Existing
	City of Dubuque Fire Department Emergency Vehicles	City of Dubuque Engineering Department Roadside Equipment
City of Dubuque Fire Department		Existing
Dubuque 911 Center		Existing
City of Dubuque Fire Department Security Monitoring Field Equipment	City of Dubuque Fire Department	Existing
City of Dubuque Keyline Transit	City of Dubuque Citychannel 8	Existing
	City of Dubuque Fire Department	Existing
	City of Dubuque Keyline Transit Kiosks	Planned
	City of Dubuque Keyline Transit Security Monitoring Field Equipment	Existing
	City of Dubuque Keyline Transit Transit Vehicles	Existing
	City of Dubuque Police Department	Existing
	Dubuque 911 Center	Existing
	User Personal Computing Devices	Existing
City of Dubuque Keyline Transit Kiosks	City of Dubuque Keyline Transit	Planned
	City of Dubuque Keyline Transit Traveler Card	Planned
City of Dubuque Keyline Transit Security Monitoring Field Equipment	City of Dubuque Keyline Transit	Existing
City of Dubuque Keyline Transit Transit Vehicles	City of Dubuque Keyline Transit	Existing
	City of Dubuque Keyline Transit Traveler Card	Planned
City of Dubuque Keyline Transit Traveler Card	City of Dubuque Keyline Transit Kiosks	Planned
	City of Dubuque Keyline Transit Transit Vehicles	Planned
City of Dubuque Operations and Maintenance Department	City of Dubuque Citychannel 8	Existing
	City of Dubuque Engineering Department	Existing
	City of Dubuque Fire Department	Existing
	City of Dubuque Operations and Maintenance Department MCO Vehicles	Existing
	City of Dubuque Police Department	Existing
	Dubuque 911 Center	Existing
	Dubuque County Engineer	Existing
	Iowa DOT District 6	Existing
Media	Existing	

Architecture Element	Interconnected Architecture Element	Status
	Weather Services	Existing
City of Dubuque Operations and Maintenance Department MCO Vehicles	City of Dubuque Operations and Maintenance Department	Existing
City of Dubuque Police Department	City of Dubuque Citychannel 8	Existing
	City of Dubuque Engineering Department	Existing
	City of Dubuque Fire Department	Existing
	City of Dubuque Keyline Transit	Existing
	City of Dubuque Operations and Maintenance Department	Existing
	City of Dubuque Police Department Emergency Vehicles	Existing
	Dubuque 911 Center	Existing
	Dubuque County Emergency Management Agency	Existing
	Dubuque County Sheriff	Existing
	Iowa DOT District 6	Existing
	Weather Services	Existing
City of Dubuque Police Department Emergency Vehicles	City of Dubuque Engineering Department Roadside Equipment	Existing
	City of Dubuque Police Department	Existing
	Dubuque 911 Center	Existing
City of East Dubuque Police Department	City of East Dubuque Police Department Emergency Vehicles	Existing
	Illinois DOT District 2	Existing
	Illinois State Police District 16	Existing
	Jo Daviess County 911 Center	Existing
	Jo Daviess County Sheriff	Existing
	Media	Existing
	Weather Services	Existing
City of East Dubuque Police Department Emergency Vehicles	City of East Dubuque Police Department	Existing
	Jo Daviess County 911 Center	Existing
City of Farley Fire Department	City of Dubuque Fire Department	Existing
	City of Farley Fire Department Emergency Vehicles	Existing
	Dubuque 911 Center	Existing
	Dubuque County Emergency Management Agency	Existing
	Dubuque County Sheriff	Existing
	Media	Existing
	Weather Services	Existing
City of Farley Fire Department Emergency Vehicles	City of Farley Fire Department	Existing
	Dubuque 911 Center	Existing
City of Farley Public Works Department	Dubuque County Emergency Management Agency	Existing
	Media	Existing
	Weather Services	Existing
City of Grand Mound Public Works Department	Clinton County 911 Center	Existing
	Clinton County Sheriff	Existing
	Iowa DOT District 6	Existing
	Weather Services	Existing
City of Manchester Police Department	City of Manchester Police Department Emergency Vehicles	Existing
	Delaware County Emergency Management	Existing

Architecture Element	Interconnected Architecture Element	Status
	Delaware County Emergency Management Emergency Vehicles	Existing
	Delaware County Sheriff	Existing
	Delaware County Sheriff Emergency Vehicles	Existing
	Media	Existing
	Weather Services	Existing
City of Manchester Police Department Emergency Vehicles	City of Manchester Police Department	Existing
City of Manchester Public Works Department	City of Manchester Public Works Department MCO Vehicles	Existing
	Weather Services	Planned
City of Manchester Public Works Department MCO Vehicles	City of Manchester Public Works Department	Existing
City of Maquoketa Fire Department	City of Maquoketa Fire Department Emergency Vehicles	Existing
	City of Maquoketa Police Department	Existing
	City of Maquoketa Public Works Department	Existing
	Jackson County Emergency Management Agency	Existing
City of Maquoketa Fire Department Emergency Vehicles	City of Maquoketa Fire Department	Existing
	City of Maquoketa Police Department	Existing
	City of Maquoketa Public Works Department Roadside Equipment	Existing
City of Maquoketa Police Department	City of Maquoketa Fire Department	Existing
	City of Maquoketa Fire Department Emergency Vehicles	Existing
	City of Maquoketa Police Department Emergency Vehicles	Existing
	City of Maquoketa Police Department Security Monitoring Field Equipment	Existing
	City of Maquoketa Public Works Department	Existing
	City of Preston Community Ambulance Service	Existing
	City of Preston Community Ambulance Service Emergency Vehicles	Existing
	City of Springbrook Fire and EMS Department	Existing
	City of Springbrook Fire and EMS Department Emergency Vehicles	Existing
	Jackson County Emergency Management Agency	Existing
Media	Existing	
City of Maquoketa Police Department Emergency Vehicles	City of Maquoketa Police Department	Existing
	City of Maquoketa Public Works Department Roadside Equipment	Existing
City of Maquoketa Police Department Security Monitoring Field Equipment	City of Maquoketa Police Department	Existing
City of Maquoketa Public Works Department	City of Maquoketa Fire Department	Existing
	City of Maquoketa Police Department	Existing
	City of Maquoketa Public Works Department Roadside Equipment	Planned
	City of Maquoketa Public Works MCO Vehicles	Existing
	City of Maquoketa Public Works Department Security Monitoring Field Equipment	Planned
	Iowa DOT District 6	Existing

Architecture Element	Interconnected Architecture Element	Status
	Jackson County Emergency Management Agency	Planned
	Jackson County Engineers	Existing
	Media	Existing
City of Maquoketa Public Works Department Roadside Equipment	City of Maquoketa Fire Department Emergency Vehicles	Existing
	City of Maquoketa Police Department Emergency Vehicles	Existing
	City of Maquoketa Public Works Department	Planned
City of Maquoketa Public Works MCO Vehicles	City of Maquoketa Public Works Department	Existing
City of Maquoketa Public Works Department Security Monitoring Field Equipment	City of Maquoketa Public Works Department	Planned
City of Preston Community Ambulance Service	City of Maquoketa Police Department	Existing
	City of Preston Community Ambulance Service Emergency Vehicles	Existing
City of Preston Community Ambulance Service Emergency Vehicles	City of Maquoketa Police Department	Existing
	City of Preston Community Ambulance Service	Existing
City of Springbrook Fire and EMS Department	City of Maquoketa Police Department	Existing
	City of Springbrook Fire and EMS Department Emergency Vehicles	Existing
	Jackson County Emergency Management Agency	Existing
	Media	Existing
	Weather Services	Existing
City of Springbrook Fire and EMS Department Emergency Vehicles	City of Maquoketa Police Department	Existing
	City of Springbrook Fire and EMS Department	Existing
Clinton County 911 Center	City of Camanche Fire Department	Existing
	City of Camanche Fire Department Emergency Vehicles	Existing
	City of Camanche Police Department	Existing
	City of Camanche Police Department Emergency Vehicles	Existing
	City of Camanche Public Works Department	Existing
	City of Charlotte Fire Department	Existing
	City of Charlotte Fire Department Emergency Vehicles	Existing
	City of Clinton Fire Department	Existing
	City of Clinton Fire Department Emergency Vehicles	Existing
	City of Clinton Police Department	Existing
	City of Clinton Police Department Emergency Vehicles	Existing
	City of Dewitt Police Department	Existing
	City of Dewitt Police Department Emergency Vehicles	Existing
	City of Dewitt Public Works Department	Existing
	City of Grand Mound Public Works Department	Existing
	Clinton County Emergency Management Agency	Existing
	Clinton County Engineer	Existing
	Clinton County Sheriff	Existing
	Clinton County Sheriff Emergency Vehicles	Existing
	River Bend Transit	Existing
Weather Services	Existing	
Clinton County Emergency Management	City of Camanche Police Department	Existing

Architecture Element	Interconnected Architecture Element	Status
Agency	City of Clinton Municipal Transit Administration	Existing
	City of Clinton Police Department	Existing
	Clinton County 911 Center	Existing
	Clinton County Emergency Management Agency Security Monitoring Field Equipment	Existing
	Clinton County Sheriff	Existing
	Media	Existing
	Weather Services	Existing
Clinton County Emergency Management Agency Security Monitoring Field Equipment	Clinton County Emergency Management Agency	Existing
Clinton County Engineer	Clinton County 911 Center	Existing
	Clinton County Engineer MCO Vehicles	Existing
	Clinton County Sheriff	Existing
	Iowa DOT District 6	Existing
	Surface Transportation Weather Service	Existing
	Weather Services	Existing
Clinton County Engineer MCO Vehicles	Clinton County Engineer	Existing
Clinton County Sheriff	City of Camanche Fire Department	Existing
	City of Camanche Police Department	Existing
	City of Camanche Public Works Department	Existing
	City of Clinton Fire Department	Existing
	City of Clinton Police Department	Existing
	City of Dewitt Police Department	Existing
	City of Grand Mound Public Works Department	Existing
	Clinton County 911 Center	Existing
	Clinton County Emergency Management Agency	Existing
	Clinton County Engineer	Existing
	Clinton County Sheriff Emergency Vehicles	Existing
	Clinton County Sheriff Security Monitoring Field Equipment	Existing
	Iowa State Patrol District 12	Existing
	River Bend Transit	Existing
Weather Services	Existing	
Clinton County Sheriff Emergency Vehicles	Clinton County 911 Center	Existing
	Clinton County Sheriff	Existing
Clinton County Sheriff Security Monitoring Field Equipment	Clinton County Sheriff	Existing
Commercial Vehicles	City of Clinton Police Department Commercial Vehicle Inspection Facility	Planned
Delaware County Emergency Management	City of Manchester Police Department	Existing
	Delaware County Emergency Management Emergency Vehicles	Existing
	Delaware County Emergency Management Security Monitoring Field Equipment	Existing
	Delaware County Engineer	Existing
	Delaware County Sheriff	Existing
Delaware County Emergency Management	City of Manchester Police Department	Existing

Architecture Element	Interconnected Architecture Element	Status
Emergency Vehicles	Delaware County Emergency Management	Existing
Delaware County Emergency Management Security Monitoring Field Equipment	Delaware County Emergency Management	Existing
Delaware County Engineer	Delaware County Emergency Management	Existing
	Delaware County Engineer MCO Vehicles	Existing
	Delaware County Sheriff	Existing
	Iowa DOT District 6	Existing
	Weather Services	Existing
Delaware County Engineer MCO Vehicles	Delaware County Engineer	Existing
Delaware County Sheriff	City of Manchester Police Department	Existing
	Delaware County Emergency Management	Existing
	Delaware County Engineer	Existing
	Delaware County Sheriff Emergency Vehicles	Existing
	Delaware County Sheriff Security Monitoring Field Equipment	Existing
	Iowa State Patrol District 10	Existing
	Weather Services	Existing
Delaware County Sheriff Emergency Vehicles	City of Manchester Police Department	Existing
	Delaware County Sheriff	Existing
Delaware County Sheriff Security Monitoring Field Equipment	Delaware County Sheriff	Existing
Dubuque 911 Center	City of Dubuque Citychannel 8	Existing
	City of Dubuque Engineering Department	Existing
	City of Dubuque Fire Department	Existing
	City of Dubuque Fire Department Emergency Vehicles	Existing
	City of Dubuque Keyline Transit	Existing
	City of Dubuque Operations and Maintenance Department	Existing
	City of Dubuque Police Department	Existing
	City of Dubuque Police Department Emergency Vehicles	Existing
	City of Farley Fire Department	Existing
	City of Farley Fire Department Emergency Vehicles	Existing
	Dubuque 911 Center Emergency Vehicles	Existing
	Dubuque 911 Center Roadside Equipment	Existing
	Dubuque 911 Center Security Monitoring Field Equipment	Existing
	Dubuque County Sheriff	Existing
	Dubuque County Sheriff Emergency Vehicles	Existing
	Grant County Sheriff	Existing
	Iowa DOT District 6	Existing
	Iowa State Patrol District 10	Existing
	Jo Daviess County 911 Center	Existing
	Jo Daviess County Sheriff	Existing
	Media	Existing
	Surface Transportation Weather Service	Existing
	User Personal Computing Devices	Existing
Weather Services	Existing	

Architecture Element	Interconnected Architecture Element	Status
Dubuque 911 Center Emergency Vehicles	City of Dubuque Engineering Department Roadside Equipment	Existing
	Dubuque 911 Center	Existing
Dubuque 911 Center Roadside Equipment	Dubuque 911 Center	Existing
Dubuque 911 Center Security Monitoring Field Equipment	Dubuque 911 Center	Existing
Dubuque County Emergency Management Agency	City of Asbury Public Works Department	Existing
	City of Dubuque Fire Department	Existing
	City of Dubuque Police Department	Existing
	City of Farley Fire Department	Existing
	City of Farley Public Works Department	Existing
	Dubuque County Emergency Management Agency Security Monitoring Field Equipment	Existing
	Dubuque County Sheriff	Existing
	Media	Existing
	Surface Transportation Weather Service	Existing
	Weather Services	Existing
Dubuque County Emergency Management Agency Security Monitoring Field Equipment	Dubuque County Emergency Management Agency	Existing
Dubuque County Engineer	City of Dubuque Operations and Maintenance Department	Existing
	Dubuque County Engineer MCO Vehicles	Existing
	Iowa DOT District 6	Existing
Dubuque County Engineer MCO Vehicles	Dubuque County Engineer	Existing
Dubuque County Sheriff	City of Dubuque Fire Department	Existing
	City of Dubuque Police Department	Existing
	City of Farley Fire Department	Existing
	Dubuque 911 Center	Existing
	Dubuque County Emergency Management Agency	Existing
	Dubuque County Sheriff Emergency Vehicles	Existing
	Dubuque County Sheriff Road Weather Information Telephone Service	Existing
	Dubuque County Sheriff Roadside Equipment	Existing
	Dubuque County Sheriff Security Monitoring Field Equipment	Existing
	Grant County Sheriff	Existing
	Iowa State Patrol District 10	Existing
	Jo Daviess County 911 Center	Existing
	Jo Daviess County Sheriff	Existing
	Media	Existing
	Surface Transportation Weather Service	Existing
Weather Services	Existing	
Dubuque County Sheriff Emergency Vehicles	City of Dubuque Engineering Department Roadside Equipment	Planned
	Dubuque 911 Center	Existing
	Dubuque County Sheriff	Existing
Dubuque County Sheriff Road Weather	Dubuque County Sheriff	Existing

Architecture Element	Interconnected Architecture Element	Status
Information Telephone Service		
Dubuque County Sheriff Roadside Equipment	Dubuque County Sheriff	Existing
Dubuque County Sheriff Security Monitoring Field Equipment	Dubuque County Sheriff	Existing
Grant County 911 Center	Grant County Emergency Management Agency	Existing
	Grant County Emergency Management Agency Emergency Vehicles	Existing
	Grant County Sheriff	Existing
	Grant County Sheriff Emergency Vehicles	Existing
	Media	Existing
	Wisconsin DOT District 1 Corridor TMC	Planned
Grant County Emergency Management Agency	Grant County 911 Center	Existing
	Grant County Emergency Management Agency Emergency Vehicles	Existing
	Grant County Emergency Management Agency Security Monitoring Field Equipment	Existing
	Grant County Sheriff	Existing
	Media	Existing
Grant County Emergency Management Agency Emergency Vehicles	Grant County 911 Center	Existing
	Grant County Emergency Management Agency	Existing
Grant County Emergency Management Agency Security Monitoring Field Equipment	Grant County Emergency Management Agency	Existing
Grant County Highway Department	Grant County Highway Department MCO Vehicles	Planned
	Wisconsin DOT District 1	Existing
	Wisconsin DOT District 1 Corridor TMC	Planned
Grant County Highway Department MCO Vehicles	Grant County Highway Department	Planned
Grant County Sheriff	Dubuque 911 Center	Existing
	Dubuque County Sheriff	Existing
	Grant County 911 Center	Existing
	Grant County Emergency Management Agency	Existing
	Grant County Sheriff Emergency Vehicles	Existing
	Grant County Sheriff Roadside Equipment	Planned
	Grant County Sheriff Security Monitoring Field Equipment	Existing
	Media	Existing
	Weather Services	Existing
Grant County Sheriff Emergency Vehicles	Grant County 911 Center	Existing
	Grant County Sheriff	Existing
Grant County Sheriff Roadside Equipment	Grant County Sheriff	Planned
Grant County Sheriff Security Monitoring Field Equipment	Grant County Sheriff	Existing
Illinois DOT 511 Traveler Information System	Illinois DOT Gateway	Planned
	User Personal Computing Devices	Planned
	Weather Services	Planned
Illinois DOT District 2	City of East Dubuque Police Department	Existing

Architecture Element	Interconnected Architecture Element	Status
	Illinois DOT District 2 MCO Vehicles	Existing
	Illinois DOT District 2 Portable Dynamic Message Signs	Existing
	Illinois DOT District 2 Roadside Equipment	Existing
	Illinois State Police District 16	Existing
	Iowa DOT District 6	Existing
	Jo Daviess County Highway Department	Existing
	Wisconsin DOT District 1	Existing
Illinois DOT District 2 MCO Vehicles	Illinois DOT District 2	Existing
	Illinois DOT District 2 Portable Dynamic Message Signs	Existing
Illinois DOT District 2 Portable Dynamic Message Signs	Illinois DOT District 2	Existing
	Illinois DOT District 2 MCO Vehicles	Existing
Illinois DOT District 2 Roadside Equipment	Illinois DOT District 2	Existing
Illinois DOT Gateway	Illinois DOT 511 Traveler Information System	Planned
Illinois State Police District 16	City of East Dubuque Police Department	Existing
	Illinois DOT District 2	Existing
	Illinois State Police District 16 Emergency Vehicles	Existing
	Illinois State Police District 16 Roadside Equipment	Existing
	Illinois State Police District 16 Security Monitoring Field Equipment	Existing
	Jo Daviess County Sheriff	Existing
	Media	Existing
Illinois State Police District 16 Emergency Vehicles	Illinois State Police District 16	Existing
Illinois State Police District 16 Roadside Equipment	Illinois State Police District 16	Existing
Illinois State Police District 16 Security Monitoring Field Equipment	Illinois State Police District 16	Existing
Iowa DOT	Iowa DOT 511 Traveler Information System	Existing
	Iowa DOT District 6	Existing
	User Personal Computing Devices	Existing
Iowa DOT 511 Traveler Information System	Iowa DOT	Existing
	Iowa State Patrol District 10	Existing
	Iowa State Patrol District 12	Existing
	User Personal Computing Devices	Existing
Iowa DOT District 6	City of Camanche Public Works Department	Existing
	City of Clinton Fire Department	Existing
	City of Clinton Police Department	Existing
	City of Dewitt Police Department	Existing
	City of Dubuque Operations and Maintenance Department	Existing
	City of Dubuque Police Department	Existing
	City of Grand Mound Public Works Department	Existing
	City of Maquoketa Public Works Department	Existing
	Clinton County Engineer	Existing
	Delaware County Engineer	Existing
	Dubuque 911 Center	Existing
	Dubuque County Engineer	Existing

Architecture Element	Interconnected Architecture Element	Status
	Illinois DOT District 2	Existing
	Iowa DOT	Existing
	Iowa DOT District 6 Loop Detectors	Existing
	Iowa DOT District 6 MCO Vehicles	Existing
	Iowa DOT District 6 RWIS Stations	Existing
	Iowa DOT District 6 Security Monitoring Field Equipment	Existing
	Iowa DOT District Portable Dynamic Message Signs	Existing
	Iowa State Patrol District 10	Existing
	Iowa State Patrol District 12	Existing
	Jackson County Engineers	Existing
	Wisconsin DOT District 1	Existing
Iowa DOT District 6 Loop Detectors	Iowa DOT District 6	Existing
Iowa DOT District 6 MCO Vehicles	Iowa DOT District 6	Existing
	Iowa DOT District Portable Dynamic Message Signs	Existing
Iowa DOT District 6 RWIS Stations	Iowa DOT District 6	Existing
Iowa DOT District 6 Security Monitoring Field Equipment	Iowa DOT District 6	Existing
Iowa DOT District Portable Dynamic Message Signs	Iowa DOT District 6	Existing
	Iowa DOT District 6 MCO Vehicles	Existing
Iowa State Patrol District 10	City of Dubuque Fire Department	Existing
	Delaware County Sheriff	Existing
	Dubuque 911 Center	Existing
	Dubuque County Sheriff	Existing
	Iowa DOT 511 Traveler Information System	Existing
	Iowa DOT District 6	Existing
	Iowa State Patrol District 10 Emergency Vehicles	Existing
	Iowa State Patrol District 12	Existing
Iowa State Patrol District 10 Emergency Vehicles	Iowa State Patrol District 10	Existing
Iowa State Patrol District 12	Clinton County Sheriff	Existing
	Iowa DOT 511 Traveler Information System	Existing
	Iowa DOT District 6	Existing
	Iowa State Patrol District 10	Existing
	Iowa State Patrol District 12 Emergency Vehicles	Existing
Iowa State Patrol District 12 Emergency Vehicles	Iowa State Patrol District 12	Existing
Jackson County Emergency Management Agency	City of Maquoketa Fire Department	Existing
	City of Maquoketa Police Department	Existing
	City of Maquoketa Public Works Department	Planned
	City of Springbrook Fire and EMS Department	Existing
	Jackson County Engineers	Existing
	Media	Existing
Jackson County Engineers	City of Maquoketa Public Works Department	Existing
	Iowa DOT District 6	Existing
	Jackson County Emergency Management Agency	Existing

Architecture Element	Interconnected Architecture Element	Status
	Jackson County Engineers MCO Vehicles	Existing
	Media	Existing
	Weather Services	Existing
Jackson County Engineers MCO Vehicles	Jackson County Engineers	Existing
Jo Daviess County 911 Center	City of East Dubuque Police Department	Existing
	City of East Dubuque Police Department Emergency Vehicles	Existing
	Dubuque 911 Center	Existing
	Dubuque County Sheriff	Existing
	Jo Daviess County Highway Department	Existing
	Jo Daviess County Sheriff	Existing
	Jo Daviess County Sheriff Emergency Vehicles	Existing
	Media	Existing
Jo Daviess County Highway Department	Weather Services	Existing
	Illinois DOT District 2	Existing
	Jo Daviess County 911 Center	Existing
	Jo Daviess County Highway Department MCO Vehicles	Existing
Jo Daviess County Highway Department MCO Vehicles	Jo Daviess County Sheriff	Existing
	Jo Daviess County Highway Department	Existing
Jo Daviess County Sheriff	Jo Daviess County Highway Department	Existing
	City of East Dubuque Police Department	Existing
	Dubuque 911 Center	Existing
	Dubuque County Sheriff	Existing
	Illinois State Police District 16	Existing
	Jo Daviess County 911 Center	Existing
	Jo Daviess County Highway Department	Existing
	Jo Daviess County Sheriff Emergency Vehicles	Existing
	Jo Daviess County Sheriff Roadside Equipment	Existing
	Jo Daviess County Sheriff Security Monitoring Field Equipment	Existing
Jo Daviess County Sheriff Emergency Vehicles	Jo Daviess County Transit	Existing
	Media	Existing
Jo Daviess County Sheriff Roadside Equipment	Jo Daviess County 911 Center	Existing
	Jo Daviess County Sheriff	Existing
Jo Daviess County Sheriff Security Monitoring Field Equipment	Jo Daviess County Sheriff	Existing
Jo Daviess County Transit	Jo Daviess County Sheriff	Existing
	Jo Daviess County Transit Kiosks	Planned
	Jo Daviess County Transit Vehicles	Existing
	User Personal Computing Devices	Existing
	Weather Services	Existing
Jo Daviess County Transit Kiosks	Jo Daviess County Transit	Planned
	Jo Daviess County Transit Traveler Card	Planned
Jo Daviess County Transit Traveler Card	Jo Daviess County Transit Kiosks	Planned

Architecture Element	Interconnected Architecture Element	Status
	Jo Daviess County Transit Vehicles	Planned
Jo Daviess County Transit Vehicles	Jo Daviess County Transit	Existing
	Jo Daviess County Transit Traveler Card	Planned
Media	City of Asbury Public Works Department	Existing
	City of Camanche Police Department	Existing
	City of Clinton Fire Department	Existing
	City of Clinton Municipal Transit Administration	Existing
	City of Clinton Police Department	Existing
	City of Dewitt Police Department	Existing
	City of Dubuque Citychannel 8	Existing
	City of Dubuque Fire Department	Existing
	City of Dubuque Operations and Maintenance Department	Existing
	City of East Dubuque Police Department	Existing
	City of Farley Fire Department	Existing
	City of Farley Public Works Department	Existing
	City of Manchester Police Department	Existing
	City of Maquoketa Police Department	Existing
	City of Maquoketa Public Works Department	Existing
	City of Springbrook Fire and EMS Department	Existing
	Clinton County Emergency Management Agency	Existing
	Dubuque 911 Center	Existing
	Dubuque County Emergency Management Agency	Existing
	Dubuque County Sheriff	Existing
	Grant County 911 Center	Existing
	Grant County Emergency Management Agency	Existing
	Grant County Sheriff	Existing
	Illinois State Police District 16	Existing
	Jackson County Emergency Management Agency	Existing
	Jackson County Engineers	Existing
	Jo Daviess County 911 Center	Existing
	Jo Daviess County Sheriff	Existing
	River Bend Transit	Existing
Regional Transit Authority	Regional Transit Authority Kiosks	Planned
	Regional Transit Authority Transit Vehicles	Existing
	User Personal Computing Devices	Planned
Regional Transit Authority Kiosks	Regional Transit Authority	Planned
	Regional Transit Authority Traveler Card	Planned
Regional Transit Authority Transit Vehicles	Regional Transit Authority	Existing
	Regional Transit Authority Traveler Card	Planned
Regional Transit Authority Traveler Card	Regional Transit Authority Kiosks	Planned
	Regional Transit Authority Transit Vehicles	Planned
River Bend Transit	City of Clinton Municipal Transit Administration	Existing
River Bend Transit	Clinton County 911 Center	Existing
	Clinton County Sheriff	Existing
	Media	Existing
	River Bend Transit Transit Vehicles	Existing

Architecture Element	Interconnected Architecture Element	Status
	User Personal Computing Devices	Existing
River Bend Transit Transit Vehicles	River Bend Transit	Existing
Surface Transportation Weather Service	City of Asbury Public Works Department	Existing
	Clinton County Engineer	Existing
	Dubuque 911 Center	Existing
	Dubuque County Emergency Management Agency	Existing
	Dubuque County Sheriff	Existing
User Personal Computing Devices	City of Clinton Municipal Transit Administration	Planned
	City of Dubuque Engineering Department	Existing
	City of Dubuque Keyline Transit	Existing
	Dubuque 911 Center	Existing
	Illinois DOT 511 Traveler Information System	Planned
	Iowa DOT	Existing
	Iowa DOT 511 Traveler Information System	Existing
	Jo Daviess County Transit	Existing
	Regional Transit Authority	Planned
	River Bend Transit	Existing
	Wisconsin DOT 511 Traveler Information System	Planned
Weather Services	City of Asbury Public Works Department	Existing
	City of Camanche Police Department	Existing
	City of Camanche Public Works Department	Existing
	City of Dewitt Police Department	Existing
	City of Dewitt Public Works Department	Existing
	City of Dubuque Citychannel 8	Existing
	City of Dubuque Engineering Department	Existing
	City of Dubuque Fire Department	Existing
	City of Dubuque Operations and Maintenance Department	Existing
	City of Dubuque Police Department	Existing
	City of East Dubuque Police Department	Existing
	City of Farley Fire Department	Existing
	City of Farley Public Works Department	Existing
	City of Grand Mound Public Works Department	Existing
	City of Manchester Police Department	Existing
	City of Manchester Public Works Department	Planned
	City of Springbrook Fire and EMS Department	Existing
	Clinton County 911 Center	Existing
	Clinton County Emergency Management Agency	Existing
	Clinton County Engineer	Existing
	Clinton County Sheriff	Existing
	Delaware County Engineer	Existing
	Delaware County Sheriff	Existing
	Dubuque 911 Center	Existing
	Dubuque County Emergency Management Agency	Existing
	Dubuque County Sheriff	Existing
	Grant County Sheriff	Existing
	Illinois DOT 511 Traveler Information System	Planned

Architecture Element	Interconnected Architecture Element	Status
	Jackson County Engineers	Existing
	Jo Daviess County 911 Center	Existing
	Jo Daviess County Transit	Existing
	Wisconsin DOT 511 Traveler Information System	Planned
Wisconsin DOT 511 Traveler Information System	User Personal Computing Devices	Planned
	Weather Services	Planned
	Wisconsin DOT District 1	Planned
	Wisconsin DOT District 1 Corridor TMC	Planned
	Wisconsin State Patrol District 1	Planned
Wisconsin DOT District 1	Grant County Highway Department	Existing
	Illinois DOT District 2	Existing
	Iowa DOT District 6	Existing
	Wisconsin DOT 511 Traveler Information System	Planned
	Wisconsin State Patrol District 1	Existing
Wisconsin DOT District 1 Corridor TMC	Grant County 911 Center	Planned
	Grant County Highway Department	Planned
	Wisconsin DOT 511 Traveler Information System	Planned
	Wisconsin DOT District 1 Corridor TMC Roadside Equipment	Planned
	Wisconsin State Patrol District 1	Planned
Wisconsin DOT District 1 Corridor TMC Roadside Equipment	Wisconsin DOT District 1 Corridor TMC	Planned
Wisconsin State Patrol District 1	Wisconsin DOT 511 Traveler Information System	Planned
	Wisconsin DOT District 1	Existing
	Wisconsin DOT District 1 Corridor TMC	Planned

APPENDIX E: LIST OF ARCHITECTURE FLOWS

The following table presents the architecture flows that are included in the DMATS/RPA 8 Regional ITS Architecture. Descriptions of the architecture flows can be found on the National ITS Architecture webpage at <http://www.iteris.com/itsarch/html/af/padde.htm>.

Architecture Flow Name	Source	Destination	Status
alert status	City of Asbury Public Works Department	Dubuque County Emergency Management Agency	Planned
emergency plan coordination	City of Asbury Public Works Department	Dubuque County Emergency Management Agency	Existing
maint and constr resource response	City of Asbury Public Works Department	Dubuque County Emergency Management Agency	Existing
roadway maintenance status	City of Asbury Public Works Department	Media	Existing
emergency dispatch requests	City of Camanche Fire Department	City of Camanche Fire Department Emergency Vehicles	Existing
incident response coordination	City of Camanche Fire Department	City of Clinton Fire Department	Existing
incident command information coordination	City of Camanche Fire Department	Clinton County 911 Center	Existing
incident report	City of Camanche Fire Department	Clinton County 911 Center	Existing
incident response coordination	City of Camanche Fire Department	Clinton County 911 Center	Existing
incident command information coordination	City of Camanche Fire Department	Clinton County Sheriff	Existing
incident report	City of Camanche Fire Department	Clinton County Sheriff	Existing
incident response coordination	City of Camanche Fire Department	Clinton County Sheriff	Existing
emergency dispatch response	City of Camanche Fire Department Emergency Vehicles	City of Camanche Fire Department	Existing
incident status	City of Camanche Fire Department Emergency Vehicles	City of Camanche Fire Department	Existing
emergency dispatch response	City of Camanche Fire Department Emergency Vehicles	Clinton County 911 Center	Existing
incident status	City of Camanche Fire Department Emergency Vehicles	Clinton County 911 Center	Existing
alert notification coordination	City of Camanche Police Department	City of Camanche Fire Department	Existing
incident command information coordination	City of Camanche Police Department	City of Camanche Fire Department	Existing
incident report	City of Camanche Police Department	City of Camanche Fire Department	Existing
incident response coordination	City of Camanche Police Department	City of Camanche Fire Department	Existing
emergency dispatch requests	City of Camanche Police Department	City of Camanche Police Department Emergency Vehicles	Existing

Architecture Flow Name	Source	Destination	Status
alert notification	City of Camanche Police Department	City of Camanche Public Works Department	Existing
emergency plan coordination	City of Camanche Police Department	City of Camanche Public Works Department	Existing
evacuation information	City of Camanche Police Department	City of Camanche Public Works Department	Existing
incident information	City of Camanche Police Department	City of Camanche Public Works Department	Existing
incident response status	City of Camanche Police Department	City of Camanche Public Works Department	Existing
maint and constr resource request	City of Camanche Police Department	City of Camanche Public Works Department	Existing
security field equipment status	City of Camanche Police Department	City of Camanche Public Works Department	Existing
work plan feedback	City of Camanche Police Department	City of Camanche Public Works Department	Existing
alert notification coordination	City of Camanche Police Department	Clinton County 911 Center	Existing
emergency plan coordination	City of Camanche Police Department	Clinton County 911 Center	Existing
evacuation coordination	City of Camanche Police Department	Clinton County 911 Center	Planned
incident command information coordination	City of Camanche Police Department	Clinton County 911 Center	Existing
incident report	City of Camanche Police Department	Clinton County 911 Center	Existing
incident response coordination	City of Camanche Police Department	Clinton County 911 Center	Existing
resource coordination	City of Camanche Police Department	Clinton County 911 Center	Existing
alert notification coordination	City of Camanche Police Department	Clinton County Emergency Management Agency	Existing
emergency plan coordination	City of Camanche Police Department	Clinton County Emergency Management Agency	Existing
evacuation coordination	City of Camanche Police Department	Clinton County Emergency Management Agency	Existing
incident command information coordination	City of Camanche Police Department	Clinton County Emergency Management Agency	Existing
incident report	City of Camanche Police Department	Clinton County Emergency Management Agency	Existing
incident response coordination	City of Camanche Police Department	Clinton County Emergency Management Agency	Existing
resource coordination	City of Camanche Police Department	Clinton County Emergency Management Agency	Existing
alert notification coordination	City of Camanche Police Department	Clinton County Sheriff	Existing
emergency plan coordination	City of Camanche Police Department	Clinton County Sheriff	Existing
evacuation coordination	City of Camanche Police Department	Clinton County Sheriff	Planned

Architecture Flow Name	Source	Destination	Status
incident command information coordination	City of Camanche Police Department	Clinton County Sheriff	Existing
incident report	City of Camanche Police Department	Clinton County Sheriff	Existing
incident response coordination	City of Camanche Police Department	Clinton County Sheriff	Existing
resource coordination	City of Camanche Police Department	Clinton County Sheriff	Existing
incident information for media	City of Camanche Police Department	Media	Existing
emergency dispatch response	City of Camanche Police Department Emergency Vehicles	City of Camanche Police Department	Existing
incident status	City of Camanche Police Department Emergency Vehicles	City of Camanche Police Department	Existing
emergency dispatch response	City of Camanche Police Department Emergency Vehicles	Clinton County 911 Center	Existing
incident status	City of Camanche Police Department Emergency Vehicles	Clinton County 911 Center	Existing
alert status	City of Camanche Public Works Department	City of Camanche Police Department	Existing
current asset restrictions	City of Camanche Public Works Department	City of Camanche Police Department	Existing
emergency plan coordination	City of Camanche Public Works Department	City of Camanche Police Department	Existing
incident information	City of Camanche Public Works Department	City of Camanche Police Department	Existing
maint and constr resource response	City of Camanche Public Works Department	City of Camanche Police Department	Existing
maint and constr work plans	City of Camanche Public Works Department	City of Camanche Police Department	Existing
road network status assessment	City of Camanche Public Works Department	City of Camanche Police Department	Existing
road weather information	City of Camanche Public Works Department	City of Camanche Police Department	Existing
roadway maintenance status	City of Camanche Public Works Department	City of Camanche Police Department	Existing
work zone information	City of Camanche Public Works Department	City of Camanche Police Department	Existing
current asset restrictions	City of Camanche Public Works Department	Clinton County 911 Center	Existing
emergency plan coordination	City of Camanche Public Works Department	Clinton County 911 Center	Existing
incident information	City of Camanche Public Works Department	Clinton County 911 Center	Existing
maint and constr resource response	City of Camanche Public Works Department	Clinton County 911 Center	Existing
maint and constr work plans	City of Camanche Public Works Department	Clinton County 911 Center	Existing
road network status assessment	City of Camanche Public Works Department	Clinton County 911 Center	Existing

Architecture Flow Name	Source	Destination	Status
road weather information	City of Camanche Public Works Department	Clinton County 911 Center	Existing
roadway maintenance status	City of Camanche Public Works Department	Clinton County 911 Center	Existing
work zone information	City of Camanche Public Works Department	Clinton County 911 Center	Existing
current asset restrictions	City of Camanche Public Works Department	Clinton County Sheriff	Existing
emergency plan coordination	City of Camanche Public Works Department	Clinton County Sheriff	Existing
incident information	City of Camanche Public Works Department	Clinton County Sheriff	Existing
maint and constr resource response	City of Camanche Public Works Department	Clinton County Sheriff	Existing
maint and constr work plans	City of Camanche Public Works Department	Clinton County Sheriff	Existing
road network status assessment	City of Camanche Public Works Department	Clinton County Sheriff	Existing
road weather information	City of Camanche Public Works Department	Clinton County Sheriff	Existing
roadway maintenance status	City of Camanche Public Works Department	Clinton County Sheriff	Existing
work zone information	City of Camanche Public Works Department	Clinton County Sheriff	Existing
alert status	City of Camanche Public Works Department	Iowa DOT District 6	Existing
emergency plan coordination	City of Camanche Public Works Department	Iowa DOT District 6	Existing
incident information	City of Camanche Public Works Department	Iowa DOT District 6	Existing
maint and constr resource coordination	City of Camanche Public Works Department	Iowa DOT District 6	Existing
work plan coordination	City of Camanche Public Works Department	Iowa DOT District 6	Existing
emergency dispatch requests	City of Charlotte Fire Department	City of Charlotte Fire Department Emergency Vehicles	Existing
emergency plan coordination	City of Charlotte Fire Department	Clinton County 911 Center	Existing
evacuation coordination	City of Charlotte Fire Department	Clinton County 911 Center	Planned
incident command information coordination	City of Charlotte Fire Department	Clinton County 911 Center	Existing
incident report	City of Charlotte Fire Department	Clinton County 911 Center	Existing
incident response coordination	City of Charlotte Fire Department	Clinton County 911 Center	Existing
resource coordination	City of Charlotte Fire Department	Clinton County 911 Center	Existing
threat information coordination	City of Charlotte Fire Department	Clinton County 911 Center	Existing

Architecture Flow Name	Source	Destination	Status
emergency dispatch response	City of Charlotte Fire Department Emergency Vehicles	City of Charlotte Fire Department	Existing
incident status	City of Charlotte Fire Department Emergency Vehicles	City of Charlotte Fire Department	Existing
emergency dispatch response	City of Charlotte Fire Department Emergency Vehicles	Clinton County 911 Center	Existing
incident status	City of Charlotte Fire Department Emergency Vehicles	Clinton County 911 Center	Existing
incident command information coordination	City of Clinton Fire Department	City of Camanche Fire Department	Existing
incident report	City of Clinton Fire Department	City of Camanche Fire Department	Existing
incident response coordination	City of Clinton Fire Department	City of Camanche Fire Department	Existing
emergency dispatch requests	City of Clinton Fire Department	City of Clinton Fire Department Emergency Vehicles	Existing
suggested route	City of Clinton Fire Department	City of Clinton Fire Department Emergency Vehicles	Existing
emergency plan coordination	City of Clinton Fire Department	City of Clinton Municipal Transit Administration	Existing
emergency transit service request	City of Clinton Fire Department	City of Clinton Municipal Transit Administration	Existing
evacuation information	City of Clinton Fire Department	City of Clinton Municipal Transit Administration	Existing
incident response status	City of Clinton Fire Department	City of Clinton Municipal Transit Administration	Existing
threat information coordination	City of Clinton Fire Department	City of Clinton Municipal Transit Administration	Planned
emergency plan coordination	City of Clinton Fire Department	City of Clinton Police Department	Existing
evacuation coordination	City of Clinton Fire Department	City of Clinton Police Department	Existing
incident command information coordination	City of Clinton Fire Department	City of Clinton Police Department	Existing
incident report	City of Clinton Fire Department	City of Clinton Police Department	Existing
incident response coordination	City of Clinton Fire Department	City of Clinton Police Department	Existing
resource coordination	City of Clinton Fire Department	City of Clinton Police Department	Existing
threat information coordination	City of Clinton Fire Department	City of Clinton Police Department	Planned
emergency plan coordination	City of Clinton Fire Department	Clinton County 911 Center	Existing
evacuation coordination	City of Clinton Fire Department	Clinton County 911 Center	Planned
incident command information coordination	City of Clinton Fire Department	Clinton County 911 Center	Existing
incident report	City of Clinton Fire Department	Clinton County 911 Center	Existing
incident response coordination	City of Clinton Fire Department	Clinton County 911 Center	Existing
resource coordination	City of Clinton Fire Department	Clinton County 911 Center	Existing

Architecture Flow Name	Source	Destination	Status
threat information coordination	City of Clinton Fire Department	Clinton County 911 Center	Existing
emergency plan coordination	City of Clinton Fire Department	Clinton County Sheriff	Existing
evacuation coordination	City of Clinton Fire Department	Clinton County Sheriff	Planned
incident command information coordination	City of Clinton Fire Department	Clinton County Sheriff	Existing
incident report	City of Clinton Fire Department	Clinton County Sheriff	Existing
incident response coordination	City of Clinton Fire Department	Clinton County Sheriff	Existing
resource coordination	City of Clinton Fire Department	Clinton County Sheriff	Existing
threat information coordination	City of Clinton Fire Department	Clinton County Sheriff	Existing
alert notification coordination	City of Clinton Fire Department	Iowa DOT District 6	Existing
emergency plan coordination	City of Clinton Fire Department	Iowa DOT District 6	Existing
emergency route request	City of Clinton Fire Department	Iowa DOT District 6	Existing
emergency traffic control request	City of Clinton Fire Department	Iowa DOT District 6	Existing
evacuation information	City of Clinton Fire Department	Iowa DOT District 6	Existing
incident information	City of Clinton Fire Department	Iowa DOT District 6	Existing
incident response status	City of Clinton Fire Department	Iowa DOT District 6	Existing
maint and constr resource request	City of Clinton Fire Department	Iowa DOT District 6	Existing
resource request	City of Clinton Fire Department	Iowa DOT District 6	Existing
threat information coordination	City of Clinton Fire Department	Iowa DOT District 6	Existing
incident information for media	City of Clinton Fire Department	Media	Existing
emergency dispatch response	City of Clinton Fire Department Emergency Vehicles	City of Clinton Fire Department	Existing
incident status	City of Clinton Fire Department Emergency Vehicles	City of Clinton Fire Department	Existing
emergency dispatch response	City of Clinton Fire Department Emergency Vehicles	Clinton County 911 Center	Existing
incident status	City of Clinton Fire Department Emergency Vehicles	Clinton County 911 Center	Existing
emergency plan coordination	City of Clinton Municipal Transit Administration	City of Clinton Fire Department	Existing
emergency transit schedule information	City of Clinton Municipal Transit Administration	City of Clinton Fire Department	Existing
emergency transit service response	City of Clinton Municipal Transit Administration	City of Clinton Fire Department	Existing
threat information coordination	City of Clinton Municipal Transit Administration	City of Clinton Fire Department	Planned
transit emergency data	City of Clinton Municipal Transit Administration	City of Clinton Fire Department	Existing
transit system status assessment	City of Clinton Municipal Transit Administration	City of Clinton Fire Department	Existing
broadcast information	City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration Kiosks	Planned
transit fare information	City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration Kiosks	Planned
transit traveler information	City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration Kiosks	Planned
yellow pages information	City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration Kiosks	Planned

Architecture Flow Name	Source	Destination	Status
emergency acknowledge	City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration Security Monitoring Field Equipment	Planned
infrastructure monitoring sensor control	City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration Security Monitoring Field Equipment	Planned
secure area sensor control	City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration Security Monitoring Field Equipment	Planned
secure area surveillance control	City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration Security Monitoring Field Equipment	Planned
broadcast information	City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration Transit Station Electronic Display	Planned
transit fare information	City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration Transit Station Electronic Display	Planned
transit traveler information	City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration Transit Station Electronic Display	Planned
bad tag list	City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration Transit Vehicles	Planned
emergency acknowledge	City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration Transit Vehicles	Planned
fare management information	City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration Transit Vehicles	Planned
request for vehicle measures	City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration Transit Vehicles	Existing
secure area sensor control	City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration Transit Vehicles	Planned
secure area surveillance control	City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration Transit Vehicles	Planned
transit schedule information	City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration Transit Vehicles	Planned
transit traveler information	City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration Transit Vehicles	Planned
transit vehicle operator authentication update	City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration Transit Vehicles	Planned
transit vehicle operator instructions	City of Clinton Municipal Transit Administration	City of Clinton Municipal Transit Administration Transit Vehicles	Existing
emergency plan coordination	City of Clinton Municipal Transit Administration	City of Clinton Police Department	Existing
emergency transit schedule information	City of Clinton Municipal Transit Administration	City of Clinton Police Department	Existing
emergency transit service response	City of Clinton Municipal Transit Administration	City of Clinton Police Department	Existing
threat information coordination	City of Clinton Municipal Transit Administration	City of Clinton Police Department	Planned

Architecture Flow Name	Source	Destination	Status
transit emergency data	City of Clinton Municipal Transit Administration	City of Clinton Police Department	Existing
transit system status assessment	City of Clinton Municipal Transit Administration	City of Clinton Police Department	Existing
emergency plan coordination	City of Clinton Municipal Transit Administration	Clinton County Emergency Management Agency	Existing
emergency transit schedule information	City of Clinton Municipal Transit Administration	Clinton County Emergency Management Agency	Existing
emergency transit service response	City of Clinton Municipal Transit Administration	Clinton County Emergency Management Agency	Existing
threat information coordination	City of Clinton Municipal Transit Administration	Clinton County Emergency Management Agency	Planned
transit emergency data	City of Clinton Municipal Transit Administration	Clinton County Emergency Management Agency	Existing
transit system status assessment	City of Clinton Municipal Transit Administration	Clinton County Emergency Management Agency	Existing
transit information for media	City of Clinton Municipal Transit Administration	Media	Planned
transit service coordination	City of Clinton Municipal Transit Administration	River Bend Transit	Existing
broadcast information	City of Clinton Municipal Transit Administration	User Personal Computing Devices	Planned
personal transit information	City of Clinton Municipal Transit Administration	User Personal Computing Devices	Planned
yellow pages information	City of Clinton Municipal Transit Administration	User Personal Computing Devices	Planned
transit fare and passenger status	City of Clinton Municipal Transit Administration Kiosks	City of Clinton Municipal Transit Administration	Planned
transit information user request	City of Clinton Municipal Transit Administration Kiosks	City of Clinton Municipal Transit Administration	Planned
yellow pages request	City of Clinton Municipal Transit Administration Kiosks	City of Clinton Municipal Transit Administration	Planned
request for payment	City of Clinton Municipal Transit Administration Kiosks	City of Clinton Municipal Transit Administration Traveler Card	Planned
traveler card update	City of Clinton Municipal Transit Administration Kiosks	City of Clinton Municipal Transit Administration Traveler Card	Planned
emergency notification	City of Clinton Municipal Transit Administration Security Monitoring Field Equipment	City of Clinton Municipal Transit Administration	Planned
infrastructure monitoring sensor data	City of Clinton Municipal Transit Administration Security Monitoring Field Equipment	City of Clinton Municipal Transit Administration	Planned
secure area sensor data	City of Clinton Municipal Transit Administration Security Monitoring Field Equipment	City of Clinton Municipal Transit Administration	Planned
secure area surveillance data	City of Clinton Municipal Transit Administration Security Monitoring Field Equipment	City of Clinton Municipal Transit Administration	Planned
emergency notification	City of Clinton Municipal Transit Administration Transit Vehicles	City of Clinton Municipal Transit Administration	Planned

Architecture Flow Name	Source	Destination	Status
fare and payment status	City of Clinton Municipal Transit Administration Transit Vehicles	City of Clinton Municipal Transit Administration	Planned
request for bad tag list	City of Clinton Municipal Transit Administration Transit Vehicles	City of Clinton Municipal Transit Administration	Planned
secure area sensor data	City of Clinton Municipal Transit Administration Transit Vehicles	City of Clinton Municipal Transit Administration	Planned
secure area surveillance data	City of Clinton Municipal Transit Administration Transit Vehicles	City of Clinton Municipal Transit Administration	Planned
transit vehicle conditions	City of Clinton Municipal Transit Administration Transit Vehicles	City of Clinton Municipal Transit Administration	Existing
transit vehicle location data	City of Clinton Municipal Transit Administration Transit Vehicles	City of Clinton Municipal Transit Administration	Planned
transit vehicle operator authentication information	City of Clinton Municipal Transit Administration Transit Vehicles	City of Clinton Municipal Transit Administration	Planned
transit vehicle passenger and use data	City of Clinton Municipal Transit Administration Transit Vehicles	City of Clinton Municipal Transit Administration	Planned
transit vehicle schedule performance	City of Clinton Municipal Transit Administration Transit Vehicles	City of Clinton Municipal Transit Administration	Planned
request for payment	City of Clinton Municipal Transit Administration Transit Vehicles	City of Clinton Municipal Transit Administration Traveler Card	Planned
payment	City of Clinton Municipal Transit Administration Traveler Card	City of Clinton Municipal Transit Administration Kiosks	Planned
traveler card information	City of Clinton Municipal Transit Administration Traveler Card	City of Clinton Municipal Transit Administration Kiosks	Planned
payment	City of Clinton Municipal Transit Administration Traveler Card	City of Clinton Municipal Transit Administration Transit Vehicles	Planned
emergency plan coordination	City of Clinton Police Department	City of Clinton Fire Department	Existing
evacuation coordination	City of Clinton Police Department	City of Clinton Fire Department	Existing
incident command information coordination	City of Clinton Police Department	City of Clinton Fire Department	Existing
incident report	City of Clinton Police Department	City of Clinton Fire Department	Existing
incident response coordination	City of Clinton Police Department	City of Clinton Fire Department	Existing
resource coordination	City of Clinton Police Department	City of Clinton Fire Department	Existing
threat information coordination	City of Clinton Police Department	City of Clinton Fire Department	Planned
emergency plan coordination	City of Clinton Police Department	City of Clinton Municipal Transit Administration	Existing
emergency transit service request	City of Clinton Police Department	City of Clinton Municipal Transit Administration	Existing
evacuation information	City of Clinton Police Department	City of Clinton Municipal Transit Administration	Existing
incident response status	City of Clinton Police Department	City of Clinton Municipal Transit Administration	Existing
threat information coordination	City of Clinton Police Department	City of Clinton Municipal Transit Administration	Planned

Architecture Flow Name	Source	Destination	Status
credentials information	City of Clinton Police Department	City of Clinton Police Department Commercial Vehicle Inspection Facility	Existing
credentials status information	City of Clinton Police Department	City of Clinton Police Department Commercial Vehicle Inspection Facility	Existing
safety inspection report	City of Clinton Police Department	City of Clinton Police Department Commercial Vehicle Inspection Facility	Planned
safety status information	City of Clinton Police Department	City of Clinton Police Department Commercial Vehicle Inspection Facility	Planned
emergency dispatch requests	City of Clinton Police Department	City of Clinton Police Department Emergency Vehicles	Existing
suggested route	City of Clinton Police Department	City of Clinton Police Department Emergency Vehicles	Existing
roadway information system data	City of Clinton Police Department	City of Clinton Police Department Highway Advisory Radio	Existing
broadcast information	City of Clinton Police Department	City of Clinton Police Department Road Weather Information Telephone Service	Existing
emergency traveler information	City of Clinton Police Department	City of Clinton Police Department Road Weather Information Telephone Service	Existing
infrastructure monitoring sensor control	City of Clinton Police Department	City of Clinton Police Department Security Monitoring Field Equipment	Planned
secure area sensor control	City of Clinton Police Department	City of Clinton Police Department Security Monitoring Field Equipment	Planned
secure area surveillance control	City of Clinton Police Department	City of Clinton Police Department Security Monitoring Field Equipment	Planned
alert notification coordination	City of Clinton Police Department	Clinton County 911 Center	Existing
emergency plan coordination	City of Clinton Police Department	Clinton County 911 Center	Existing
evacuation coordination	City of Clinton Police Department	Clinton County 911 Center	Planned
incident command information coordination	City of Clinton Police Department	Clinton County 911 Center	Existing
incident report	City of Clinton Police Department	Clinton County 911 Center	Existing
incident response coordination	City of Clinton Police Department	Clinton County 911 Center	Existing
resource coordination	City of Clinton Police Department	Clinton County 911 Center	Existing
threat information coordination	City of Clinton Police Department	Clinton County 911 Center	Planned

Architecture Flow Name	Source	Destination	Status
emergency plan coordination	City of Clinton Police Department	Clinton County Emergency Management Agency	Existing
evacuation coordination	City of Clinton Police Department	Clinton County Emergency Management Agency	Existing
incident command information coordination	City of Clinton Police Department	Clinton County Emergency Management Agency	Existing
incident report	City of Clinton Police Department	Clinton County Emergency Management Agency	Existing
incident response coordination	City of Clinton Police Department	Clinton County Emergency Management Agency	Existing
resource coordination	City of Clinton Police Department	Clinton County Emergency Management Agency	Existing
threat information coordination	City of Clinton Police Department	Clinton County Emergency Management Agency	Planned
alert notification coordination	City of Clinton Police Department	Clinton County Sheriff	Existing
emergency plan coordination	City of Clinton Police Department	Clinton County Sheriff	Existing
evacuation coordination	City of Clinton Police Department	Clinton County Sheriff	Planned
incident command information coordination	City of Clinton Police Department	Clinton County Sheriff	Existing
incident report	City of Clinton Police Department	Clinton County Sheriff	Existing
incident response coordination	City of Clinton Police Department	Clinton County Sheriff	Existing
resource coordination	City of Clinton Police Department	Clinton County Sheriff	Existing
threat information coordination	City of Clinton Police Department	Clinton County Sheriff	Planned
alert notification coordination	City of Clinton Police Department	Iowa DOT District 6	Existing
emergency plan coordination	City of Clinton Police Department	Iowa DOT District 6	Existing
emergency route request	City of Clinton Police Department	Iowa DOT District 6	Existing
emergency traffic control request	City of Clinton Police Department	Iowa DOT District 6	Existing
evacuation information	City of Clinton Police Department	Iowa DOT District 6	Existing
incident information	City of Clinton Police Department	Iowa DOT District 6	Existing
incident response status	City of Clinton Police Department	Iowa DOT District 6	Existing
maint and constr resource request	City of Clinton Police Department	Iowa DOT District 6	Existing
resource request	City of Clinton Police Department	Iowa DOT District 6	Existing
threat information coordination	City of Clinton Police Department	Iowa DOT District 6	Planned

Architecture Flow Name	Source	Destination	Status
incident information for media	City of Clinton Police Department	Media	Existing
traveler information for media	City of Clinton Police Department	Media	Existing
accident report	City of Clinton Police Department Commercial Vehicle Inspection Facility	City of Clinton Police Department	Planned
alarm	City of Clinton Police Department Commercial Vehicle Inspection Facility	City of Clinton Police Department	Planned
citation	City of Clinton Police Department Commercial Vehicle Inspection Facility	City of Clinton Police Department	Planned
daily site activity data	City of Clinton Police Department Commercial Vehicle Inspection Facility	City of Clinton Police Department	Planned
safety inspection report	City of Clinton Police Department Commercial Vehicle Inspection Facility	City of Clinton Police Department	Planned
violation notification	City of Clinton Police Department Commercial Vehicle Inspection Facility	City of Clinton Police Department	Planned
pass/pull-in	City of Clinton Police Department Commercial Vehicle Inspection Facility	Commercial Vehicles	Planned
safety inspection record	City of Clinton Police Department Commercial Vehicle Inspection Facility	Commercial Vehicles	Planned
safety inspection request	City of Clinton Police Department Commercial Vehicle Inspection Facility	Commercial Vehicles	Planned
emergency dispatch response	City of Clinton Police Department Emergency Vehicles	City of Clinton Police Department	Existing
incident status	City of Clinton Police Department Emergency Vehicles	City of Clinton Police Department	Existing
emergency dispatch response	City of Clinton Police Department Emergency Vehicles	Clinton County 911 Center	Existing
incident status	City of Clinton Police Department Emergency Vehicles	Clinton County 911 Center	Existing
roadway information system status	City of Clinton Police Department Highway Advisory Radio	City of Clinton Police Department	Existing
emergency traveler information request	City of Clinton Police Department Road Weather Information Telephone Service	City of Clinton Police Department	Existing
infrastructure monitoring sensor data	City of Clinton Police Department Security Monitoring Field Equipment	City of Clinton Police Department	Planned
secure area sensor data	City of Clinton Police Department Security Monitoring Field Equipment	City of Clinton Police Department	Planned

Architecture Flow Name	Source	Destination	Status
secure area surveillance data	City of Clinton Police Department Security Monitoring Field Equipment	City of Clinton Police Department	Planned
emergency dispatch requests	City of Dewitt Police Department	City of Dewitt Police Department Emergency Vehicles	Existing
emergency plan coordination	City of Dewitt Police Department	City of Dewitt Public Works Department	Existing
evacuation information	City of Dewitt Police Department	City of Dewitt Public Works Department	Existing
incident information	City of Dewitt Police Department	City of Dewitt Public Works Department	Existing
incident response status	City of Dewitt Police Department	City of Dewitt Public Works Department	Existing
maint and constr resource request	City of Dewitt Police Department	City of Dewitt Public Works Department	Existing
work plan feedback	City of Dewitt Police Department	City of Dewitt Public Works Department	Existing
emergency plan coordination	City of Dewitt Police Department	Clinton County 911 Center	Existing
evacuation coordination	City of Dewitt Police Department	Clinton County 911 Center	Planned
incident command information coordination	City of Dewitt Police Department	Clinton County 911 Center	Existing
incident report	City of Dewitt Police Department	Clinton County 911 Center	Existing
incident response coordination	City of Dewitt Police Department	Clinton County 911 Center	Existing
resource coordination	City of Dewitt Police Department	Clinton County 911 Center	Existing
emergency plan coordination	City of Dewitt Police Department	Clinton County Sheriff	Existing
evacuation coordination	City of Dewitt Police Department	Clinton County Sheriff	Planned
incident command information coordination	City of Dewitt Police Department	Clinton County Sheriff	Existing
incident report	City of Dewitt Police Department	Clinton County Sheriff	Existing
incident response coordination	City of Dewitt Police Department	Clinton County Sheriff	Existing
resource coordination	City of Dewitt Police Department	Clinton County Sheriff	Existing
alert notification coordination	City of Dewitt Police Department	Iowa DOT District 6	Existing
emergency plan coordination	City of Dewitt Police Department	Iowa DOT District 6	Existing
incident information	City of Dewitt Police Department	Iowa DOT District 6	Existing
incident response status	City of Dewitt Police Department	Iowa DOT District 6	Existing
maint and constr resource request	City of Dewitt Police Department	Iowa DOT District 6	Existing
resource request	City of Dewitt Police Department	Iowa DOT District 6	Existing
threat information coordination	City of Dewitt Police Department	Iowa DOT District 6	Existing
incident information for media	City of Dewitt Police Department	Media	Existing
emergency dispatch response	City of Dewitt Police Department Emergency Vehicles	City of Dewitt Police Department	Existing
incident status	City of Dewitt Police Department Emergency Vehicles	City of Dewitt Police Department	Existing
emergency dispatch response	City of Dewitt Police Department Emergency Vehicles	Clinton County 911 Center	Existing
incident status	City of Dewitt Police Department Emergency Vehicles	Clinton County 911 Center	Existing

Architecture Flow Name	Source	Destination	Status
current asset restrictions	City of Dewitt Public Works Department	City of Dewitt Police Department	Existing
emergency plan coordination	City of Dewitt Public Works Department	City of Dewitt Police Department	Existing
incident information	City of Dewitt Public Works Department	City of Dewitt Police Department	Existing
maint and constr resource response	City of Dewitt Public Works Department	City of Dewitt Police Department	Existing
maint and constr work plans	City of Dewitt Public Works Department	City of Dewitt Police Department	Existing
road weather information	City of Dewitt Public Works Department	City of Dewitt Police Department	Existing
roadway maintenance status	City of Dewitt Public Works Department	City of Dewitt Police Department	Existing
work zone information	City of Dewitt Public Works Department	City of Dewitt Police Department	Existing
alert status	City of Dewitt Public Works Department	Clinton County 911 Center	Existing
current asset restrictions	City of Dewitt Public Works Department	Clinton County 911 Center	Existing
emergency plan coordination	City of Dewitt Public Works Department	Clinton County 911 Center	Existing
incident information	City of Dewitt Public Works Department	Clinton County 911 Center	Existing
maint and constr resource response	City of Dewitt Public Works Department	Clinton County 911 Center	Existing
maint and constr work plans	City of Dewitt Public Works Department	Clinton County 911 Center	Existing
road network status assessment	City of Dewitt Public Works Department	Clinton County 911 Center	Existing
road weather information	City of Dewitt Public Works Department	Clinton County 911 Center	Existing
roadway maintenance status	City of Dewitt Public Works Department	Clinton County 911 Center	Existing
work zone information	City of Dewitt Public Works Department	Clinton County 911 Center	Existing
transit information request	City of Dubuque Citychannel 8	City of Dubuque Keyline Transit	Existing
alert status	City of Dubuque Citychannel 8	City of Dubuque Police Department	Existing
alert status	City of Dubuque Citychannel 8	Dubuque 911 Center	Existing
traveler information for media	City of Dubuque Citychannel 8	Media	Existing
current asset restrictions	City of Dubuque Engineering Department	City of Dubuque Citychannel 8	Existing
maint and constr work plans	City of Dubuque Engineering Department	City of Dubuque Citychannel 8	Existing
road network conditions	City of Dubuque Engineering Department	City of Dubuque Citychannel 8	Existing
road weather information	City of Dubuque Engineering Department	City of Dubuque Citychannel 8	Existing

Architecture Flow Name	Source	Destination	Status
roadway maintenance status	City of Dubuque Engineering Department	City of Dubuque Citychannel 8	Existing
work zone information	City of Dubuque Engineering Department	City of Dubuque Citychannel 8	Existing
maint and constr dispatch information	City of Dubuque Engineering Department	City of Dubuque Engineering Department MCO Vehicles	Existing
hri control data	City of Dubuque Engineering Department	City of Dubuque Engineering Department Roadside Equipment	Existing
hri request	City of Dubuque Engineering Department	City of Dubuque Engineering Department Roadside Equipment	Existing
roadway information system data	City of Dubuque Engineering Department	City of Dubuque Engineering Department Roadside Equipment	Existing
roadway treatment system control	City of Dubuque Engineering Department	City of Dubuque Engineering Department Roadside Equipment	Existing
signal control data	City of Dubuque Engineering Department	City of Dubuque Engineering Department Roadside Equipment	Existing
speed monitoring control	City of Dubuque Engineering Department	City of Dubuque Engineering Department Roadside Equipment	Existing
traffic sensor control	City of Dubuque Engineering Department	City of Dubuque Engineering Department Roadside Equipment	Existing
video surveillance control	City of Dubuque Engineering Department	City of Dubuque Engineering Department Roadside Equipment	Existing
secure area sensor control	City of Dubuque Engineering Department	City of Dubuque Engineering Department Security Monitoring Field Equipment	Existing
secure area surveillance control	City of Dubuque Engineering Department	City of Dubuque Engineering Department Security Monitoring Field Equipment	Existing
current asset restrictions	City of Dubuque Engineering Department	City of Dubuque Fire Department	Existing
emergency plan coordination	City of Dubuque Engineering Department	City of Dubuque Fire Department	Existing
emergency routes	City of Dubuque Engineering Department	City of Dubuque Fire Department	Existing
emergency traffic control information	City of Dubuque Engineering Department	City of Dubuque Fire Department	Existing
evacuation coordination	City of Dubuque Engineering Department	City of Dubuque Fire Department	Existing
incident information	City of Dubuque Engineering Department	City of Dubuque Fire Department	Existing
maint and constr resource response	City of Dubuque Engineering Department	City of Dubuque Fire Department	Existing
maint and constr work plans	City of Dubuque Engineering Department	City of Dubuque Fire Department	Existing
resource deployment status	City of Dubuque Engineering Department	City of Dubuque Fire Department	Existing
road network conditions	City of Dubuque Engineering Department	City of Dubuque Fire Department	Existing
road network status assessment	City of Dubuque Engineering Department	City of Dubuque Fire Department	Existing

Architecture Flow Name	Source	Destination	Status
road weather information	City of Dubuque Engineering Department	City of Dubuque Fire Department	Existing
roadway maintenance status	City of Dubuque Engineering Department	City of Dubuque Fire Department	Existing
threat information coordination	City of Dubuque Engineering Department	City of Dubuque Fire Department	Existing
work zone information	City of Dubuque Engineering Department	City of Dubuque Fire Department	Existing
emergency plan coordination	City of Dubuque Engineering Department	City of Dubuque Operations and Maintenance Department	Existing
maint and constr resource coordination	City of Dubuque Engineering Department	City of Dubuque Operations and Maintenance Department	Existing
maint and constr resource request	City of Dubuque Engineering Department	City of Dubuque Operations and Maintenance Department	Existing
road network conditions	City of Dubuque Engineering Department	City of Dubuque Operations and Maintenance Department	Existing
road network status assessment	City of Dubuque Engineering Department	City of Dubuque Operations and Maintenance Department	Existing
road weather information	City of Dubuque Engineering Department	City of Dubuque Operations and Maintenance Department	Existing
roadway maintenance status	City of Dubuque Engineering Department	City of Dubuque Operations and Maintenance Department	Existing
threat information	City of Dubuque Engineering Department	City of Dubuque Operations and Maintenance Department	Existing
work plan coordination	City of Dubuque Engineering Department	City of Dubuque Operations and Maintenance Department	Existing
work plan feedback	City of Dubuque Engineering Department	City of Dubuque Operations and Maintenance Department	Existing
work zone information	City of Dubuque Engineering Department	City of Dubuque Operations and Maintenance Department	Existing
alert status	City of Dubuque Engineering Department	City of Dubuque Police Department	Existing
current asset restrictions	City of Dubuque Engineering Department	City of Dubuque Police Department	Existing
emergency plan coordination	City of Dubuque Engineering Department	City of Dubuque Police Department	Existing
emergency routes	City of Dubuque Engineering Department	City of Dubuque Police Department	Existing
emergency traffic control information	City of Dubuque Engineering Department	City of Dubuque Police Department	Existing
incident information	City of Dubuque Engineering Department	City of Dubuque Police Department	Existing
maint and constr resource response	City of Dubuque Engineering Department	City of Dubuque Police Department	Existing
maint and constr work plans	City of Dubuque Engineering Department	City of Dubuque Police Department	Existing
resource deployment status	City of Dubuque Engineering Department	City of Dubuque Police Department	Existing
road network conditions	City of Dubuque Engineering Department	City of Dubuque Police Department	Existing

Architecture Flow Name	Source	Destination	Status
road network status assessment	City of Dubuque Engineering Department	City of Dubuque Police Department	Existing
road weather information	City of Dubuque Engineering Department	City of Dubuque Police Department	Existing
roadway maintenance status	City of Dubuque Engineering Department	City of Dubuque Police Department	Existing
threat information coordination	City of Dubuque Engineering Department	City of Dubuque Police Department	Existing
work zone information	City of Dubuque Engineering Department	City of Dubuque Police Department	Existing
alert status	City of Dubuque Engineering Department	Dubuque 911 Center	Existing
current asset restrictions	City of Dubuque Engineering Department	Dubuque 911 Center	Existing
emergency plan coordination	City of Dubuque Engineering Department	Dubuque 911 Center	Existing
emergency routes	City of Dubuque Engineering Department	Dubuque 911 Center	Existing
emergency traffic control information	City of Dubuque Engineering Department	Dubuque 911 Center	Existing
evacuation coordination	City of Dubuque Engineering Department	Dubuque 911 Center	Existing
incident information	City of Dubuque Engineering Department	Dubuque 911 Center	Existing
maint and constr resource response	City of Dubuque Engineering Department	Dubuque 911 Center	Existing
maint and constr work plans	City of Dubuque Engineering Department	Dubuque 911 Center	Existing
resource deployment status	City of Dubuque Engineering Department	Dubuque 911 Center	Existing
road network conditions	City of Dubuque Engineering Department	Dubuque 911 Center	Existing
road network status assessment	City of Dubuque Engineering Department	Dubuque 911 Center	Existing
road weather information	City of Dubuque Engineering Department	Dubuque 911 Center	Existing
roadway maintenance status	City of Dubuque Engineering Department	Dubuque 911 Center	Existing
threat information coordination	City of Dubuque Engineering Department	Dubuque 911 Center	Existing
work zone information	City of Dubuque Engineering Department	Dubuque 911 Center	Existing
broadcast information	City of Dubuque Engineering Department	User Personal Computing Devices	Existing
maint and constr dispatch status	City of Dubuque Engineering Department MCO Vehicles	City of Dubuque Engineering Department	Existing
maint and constr vehicle conditions	City of Dubuque Engineering Department MCO Vehicles	City of Dubuque Engineering Department	Existing
work zone status	City of Dubuque Engineering Department MCO Vehicles	City of Dubuque Engineering Department	Existing

Architecture Flow Name	Source	Destination	Status
field device status	City of Dubuque Engineering Department Roadside Equipment	City of Dubuque Engineering Department	Existing
hri status	City of Dubuque Engineering Department Roadside Equipment	City of Dubuque Engineering Department	Existing
intersection blockage notification	City of Dubuque Engineering Department Roadside Equipment	City of Dubuque Engineering Department	Existing
request for right-of-way	City of Dubuque Engineering Department Roadside Equipment	City of Dubuque Engineering Department	Existing
roadway information system status	City of Dubuque Engineering Department Roadside Equipment	City of Dubuque Engineering Department	Existing
roadway treatment system status	City of Dubuque Engineering Department Roadside Equipment	City of Dubuque Engineering Department	Existing
signal control status	City of Dubuque Engineering Department Roadside Equipment	City of Dubuque Engineering Department	Existing
traffic flow	City of Dubuque Engineering Department Roadside Equipment	City of Dubuque Engineering Department	Existing
traffic images	City of Dubuque Engineering Department Roadside Equipment	City of Dubuque Engineering Department	Existing
secure area sensor data	City of Dubuque Engineering Department Security Monitoring Field Equipment	City of Dubuque Engineering Department	Existing
secure area surveillance data	City of Dubuque Engineering Department Security Monitoring Field Equipment	City of Dubuque Engineering Department	Existing
evacuation information	City of Dubuque Fire Department	City of Dubuque Citychannel 8	Existing
incident information	City of Dubuque Fire Department	City of Dubuque Citychannel 8	Existing
emergency plan coordination	City of Dubuque Fire Department	City of Dubuque Engineering Department	Existing
emergency route request	City of Dubuque Fire Department	City of Dubuque Engineering Department	Existing
emergency traffic control request	City of Dubuque Fire Department	City of Dubuque Engineering Department	Existing
evacuation information	City of Dubuque Fire Department	City of Dubuque Engineering Department	Existing
incident information	City of Dubuque Fire Department	City of Dubuque Engineering Department	Existing
incident response status	City of Dubuque Fire Department	City of Dubuque Engineering Department	Existing
maint and constr resource request	City of Dubuque Fire Department	City of Dubuque Engineering Department	Existing
resource request	City of Dubuque Fire Department	City of Dubuque Engineering Department	Existing
threat information coordination	City of Dubuque Fire Department	City of Dubuque Engineering Department	Existing
work plan feedback	City of Dubuque Fire Department	City of Dubuque Engineering Department	Existing
emergency dispatch requests	City of Dubuque Fire Department	City of Dubuque Fire Department Emergency Vehicles	Existing

Architecture Flow Name	Source	Destination	Status
suggested route	City of Dubuque Fire Department	City of Dubuque Fire Department Emergency Vehicles	Existing
secure area sensor control	City of Dubuque Fire Department	City of Dubuque Fire Department Security Monitoring Field Equipment	Existing
secure area surveillance control	City of Dubuque Fire Department	City of Dubuque Fire Department Security Monitoring Field Equipment	Existing
emergency plan coordination	City of Dubuque Fire Department	City of Dubuque Keyline Transit	Existing
evacuation information	City of Dubuque Fire Department	City of Dubuque Keyline Transit	Existing
incident response status	City of Dubuque Fire Department	City of Dubuque Keyline Transit	Existing
threat information coordination	City of Dubuque Fire Department	City of Dubuque Keyline Transit	Existing
emergency plan coordination	City of Dubuque Fire Department	City of Dubuque Operations and Maintenance Department	Existing
evacuation information	City of Dubuque Fire Department	City of Dubuque Operations and Maintenance Department	Existing
incident information	City of Dubuque Fire Department	City of Dubuque Operations and Maintenance Department	Existing
incident response status	City of Dubuque Fire Department	City of Dubuque Operations and Maintenance Department	Existing
maint and constr resource request	City of Dubuque Fire Department	City of Dubuque Operations and Maintenance Department	Existing
work plan feedback	City of Dubuque Fire Department	City of Dubuque Operations and Maintenance Department	Existing
emergency plan coordination	City of Dubuque Fire Department	City of Dubuque Police Department	Existing
evacuation coordination	City of Dubuque Fire Department	City of Dubuque Police Department	Existing
incident command information coordination	City of Dubuque Fire Department	City of Dubuque Police Department	Existing
incident report	City of Dubuque Fire Department	City of Dubuque Police Department	Existing
incident response coordination	City of Dubuque Fire Department	City of Dubuque Police Department	Existing
resource coordination	City of Dubuque Fire Department	City of Dubuque Police Department	Existing
threat information coordination	City of Dubuque Fire Department	City of Dubuque Police Department	Existing
emergency plan coordination	City of Dubuque Fire Department	City of Farley Fire Department	Existing
evacuation coordination	City of Dubuque Fire Department	City of Farley Fire Department	Existing
incident command information coordination	City of Dubuque Fire Department	City of Farley Fire Department	Existing
incident report	City of Dubuque Fire Department	City of Farley Fire Department	Existing

Architecture Flow Name	Source	Destination	Status
incident response coordination	City of Dubuque Fire Department	City of Farley Fire Department	Existing
resource coordination	City of Dubuque Fire Department	City of Farley Fire Department	Existing
threat information coordination	City of Dubuque Fire Department	City of Farley Fire Department	Existing
alert notification coordination	City of Dubuque Fire Department	Dubuque 911 Center	Existing
emergency plan coordination	City of Dubuque Fire Department	Dubuque 911 Center	Existing
evacuation coordination	City of Dubuque Fire Department	Dubuque 911 Center	Existing
incident command information coordination	City of Dubuque Fire Department	Dubuque 911 Center	Existing
incident report	City of Dubuque Fire Department	Dubuque 911 Center	Existing
incident response coordination	City of Dubuque Fire Department	Dubuque 911 Center	Existing
resource coordination	City of Dubuque Fire Department	Dubuque 911 Center	Existing
threat information coordination	City of Dubuque Fire Department	Dubuque 911 Center	Existing
alert notification coordination	City of Dubuque Fire Department	Dubuque County Emergency Management Agency	Planned
emergency plan coordination	City of Dubuque Fire Department	Dubuque County Emergency Management Agency	Planned
evacuation coordination	City of Dubuque Fire Department	Dubuque County Emergency Management Agency	Existing
incident command information coordination	City of Dubuque Fire Department	Dubuque County Emergency Management Agency	Existing
incident report	City of Dubuque Fire Department	Dubuque County Emergency Management Agency	Existing
incident response coordination	City of Dubuque Fire Department	Dubuque County Emergency Management Agency	Existing
resource coordination	City of Dubuque Fire Department	Dubuque County Emergency Management Agency	Existing
threat information coordination	City of Dubuque Fire Department	Dubuque County Emergency Management Agency	Existing
emergency plan coordination	City of Dubuque Fire Department	Dubuque County Sheriff	Existing
evacuation coordination	City of Dubuque Fire Department	Dubuque County Sheriff	Existing
incident command information coordination	City of Dubuque Fire Department	Dubuque County Sheriff	Existing
incident report	City of Dubuque Fire Department	Dubuque County Sheriff	Existing
incident response coordination	City of Dubuque Fire Department	Dubuque County Sheriff	Existing
resource coordination	City of Dubuque Fire Department	Dubuque County Sheriff	Existing

Architecture Flow Name	Source	Destination	Status
threat information coordination	City of Dubuque Fire Department	Dubuque County Sheriff	Existing
emergency plan coordination	City of Dubuque Fire Department	Iowa State Patrol District 10	Existing
incident report	City of Dubuque Fire Department	Iowa State Patrol District 10	Existing
incident response coordination	City of Dubuque Fire Department	Iowa State Patrol District 10	Existing
resource coordination	City of Dubuque Fire Department	Iowa State Patrol District 10	Existing
threat information coordination	City of Dubuque Fire Department	Iowa State Patrol District 10	Existing
incident information for media	City of Dubuque Fire Department	Media	Existing
local signal preemption request	City of Dubuque Fire Department Emergency Vehicles	City of Dubuque Engineering Department Roadside Equipment	Existing
emergency dispatch response	City of Dubuque Fire Department Emergency Vehicles	City of Dubuque Fire Department	Existing
incident status	City of Dubuque Fire Department Emergency Vehicles	City of Dubuque Fire Department	Existing
emergency dispatch response	City of Dubuque Fire Department Emergency Vehicles	Dubuque 911 Center	Existing
incident status	City of Dubuque Fire Department Emergency Vehicles	Dubuque 911 Center	Existing
secure area sensor data	City of Dubuque Fire Department Security Monitoring Field Equipment	City of Dubuque Fire Department	Existing
secure area surveillance data	City of Dubuque Fire Department Security Monitoring Field Equipment	City of Dubuque Fire Department	Existing
demand responsive transit plan	City of Dubuque Keyline Transit	City of Dubuque Citychannel 8	Existing
transit and fare schedules	City of Dubuque Keyline Transit	City of Dubuque Citychannel 8	Existing
transit incident information	City of Dubuque Keyline Transit	City of Dubuque Citychannel 8	Existing
emergency plan coordination	City of Dubuque Keyline Transit	City of Dubuque Fire Department	Existing
emergency transit schedule information	City of Dubuque Keyline Transit	City of Dubuque Fire Department	Existing
threat information coordination	City of Dubuque Keyline Transit	City of Dubuque Fire Department	Existing
transit emergency data	City of Dubuque Keyline Transit	City of Dubuque Fire Department	Existing
transit system status assessment	City of Dubuque Keyline Transit	City of Dubuque Fire Department	Existing
transit fare information	City of Dubuque Keyline Transit	City of Dubuque Keyline Transit Kiosks	Planned
transit traveler information	City of Dubuque Keyline Transit	City of Dubuque Keyline Transit Kiosks	Planned
secure area sensor control	City of Dubuque Keyline Transit	City of Dubuque Keyline Transit Security Monitoring Field Equipment	Existing

Architecture Flow Name	Source	Destination	Status
secure area surveillance control	City of Dubuque Keyline Transit	City of Dubuque Keyline Transit Security Monitoring Field Equipment	Existing
bad tag list	City of Dubuque Keyline Transit	City of Dubuque Keyline Transit Transit Vehicles	Planned
fare management information	City of Dubuque Keyline Transit	City of Dubuque Keyline Transit Transit Vehicles	Planned
request for vehicle measures	City of Dubuque Keyline Transit	City of Dubuque Keyline Transit Transit Vehicles	Existing
transit vehicle operator instructions	City of Dubuque Keyline Transit	City of Dubuque Keyline Transit Transit Vehicles	Existing
emergency plan coordination	City of Dubuque Keyline Transit	City of Dubuque Police Department	Existing
emergency transit schedule information	City of Dubuque Keyline Transit	City of Dubuque Police Department	Existing
emergency transit service response	City of Dubuque Keyline Transit	City of Dubuque Police Department	Existing
threat information coordination	City of Dubuque Keyline Transit	City of Dubuque Police Department	Existing
transit emergency data	City of Dubuque Keyline Transit	City of Dubuque Police Department	Existing
transit system status assessment	City of Dubuque Keyline Transit	City of Dubuque Police Department	Existing
alert status	City of Dubuque Keyline Transit	Dubuque 911 Center	Existing
emergency plan coordination	City of Dubuque Keyline Transit	Dubuque 911 Center	Existing
emergency transit schedule information	City of Dubuque Keyline Transit	Dubuque 911 Center	Existing
emergency transit service response	City of Dubuque Keyline Transit	Dubuque 911 Center	Existing
incident information	City of Dubuque Keyline Transit	Dubuque 911 Center	Existing
threat information coordination	City of Dubuque Keyline Transit	Dubuque 911 Center	Existing
transit emergency data	City of Dubuque Keyline Transit	Dubuque 911 Center	Existing
transit system status assessment	City of Dubuque Keyline Transit	Dubuque 911 Center	Existing
broadcast information	City of Dubuque Keyline Transit	User Personal Computing Devices	Existing
transit fare and passenger status	City of Dubuque Keyline Transit Kiosks	City of Dubuque Keyline Transit	Planned
transit information user request	City of Dubuque Keyline Transit Kiosks	City of Dubuque Keyline Transit	Planned
request for payment	City of Dubuque Keyline Transit Kiosks	City of Dubuque Keyline Transit Traveler Card	Planned
traveler card update	City of Dubuque Keyline Transit Kiosks	City of Dubuque Keyline Transit Traveler Card	Planned
secure area sensor data	City of Dubuque Keyline Transit Security Monitoring Field Equipment	City of Dubuque Keyline Transit	Existing
secure area surveillance data	City of Dubuque Keyline Transit Security Monitoring Field Equipment	City of Dubuque Keyline Transit	Existing

Architecture Flow Name	Source	Destination	Status
fare and payment status	City of Dubuque Keyline Transit Transit Vehicles	City of Dubuque Keyline Transit	Planned
request for bad tag list	City of Dubuque Keyline Transit Transit Vehicles	City of Dubuque Keyline Transit	Planned
transit vehicle conditions	City of Dubuque Keyline Transit Transit Vehicles	City of Dubuque Keyline Transit	Existing
transit vehicle location data	City of Dubuque Keyline Transit Transit Vehicles	City of Dubuque Keyline Transit	Existing
transit vehicle passenger and use data	City of Dubuque Keyline Transit Transit Vehicles	City of Dubuque Keyline Transit	Existing
transit vehicle schedule performance	City of Dubuque Keyline Transit Transit Vehicles	City of Dubuque Keyline Transit	Existing
request for payment	City of Dubuque Keyline Transit Transit Vehicles	City of Dubuque Keyline Transit Traveler Card	Planned
payment	City of Dubuque Keyline Transit Traveler Card	City of Dubuque Keyline Transit Kiosks	Planned
traveler card information	City of Dubuque Keyline Transit Traveler Card	City of Dubuque Keyline Transit Kiosks	Planned
payment	City of Dubuque Keyline Transit Traveler Card	City of Dubuque Keyline Transit Transit Vehicles	Planned
current asset restrictions	City of Dubuque Operations and Maintenance Department	City of Dubuque Citychannel 8	Existing
maint and constr work plans	City of Dubuque Operations and Maintenance Department	City of Dubuque Citychannel 8	Existing
road weather information	City of Dubuque Operations and Maintenance Department	City of Dubuque Citychannel 8	Existing
roadway maintenance status	City of Dubuque Operations and Maintenance Department	City of Dubuque Citychannel 8	Existing
work zone information	City of Dubuque Operations and Maintenance Department	City of Dubuque Citychannel 8	Existing
current asset restrictions	City of Dubuque Operations and Maintenance Department	City of Dubuque Engineering Department	Existing
emergency plan coordination	City of Dubuque Operations and Maintenance Department	City of Dubuque Engineering Department	Existing
equipment maintenance status	City of Dubuque Operations and Maintenance Department	City of Dubuque Engineering Department	Existing
incident information	City of Dubuque Operations and Maintenance Department	City of Dubuque Engineering Department	Existing
maint and constr resource coordination	City of Dubuque Operations and Maintenance Department	City of Dubuque Engineering Department	Existing
maint and constr resource response	City of Dubuque Operations and Maintenance Department	City of Dubuque Engineering Department	Existing
maint and constr work plans	City of Dubuque Operations and Maintenance Department	City of Dubuque Engineering Department	Existing
road network status assessment	City of Dubuque Operations and Maintenance Department	City of Dubuque Engineering Department	Existing
road weather information	City of Dubuque Operations and Maintenance Department	City of Dubuque Engineering Department	Existing
roadway maintenance status	City of Dubuque Operations and Maintenance Department	City of Dubuque Engineering Department	Existing

Architecture Flow Name	Source	Destination	Status
work plan coordination	City of Dubuque Operations and Maintenance Department	City of Dubuque Engineering Department	Existing
work zone information	City of Dubuque Operations and Maintenance Department	City of Dubuque Engineering Department	Existing
current asset restrictions	City of Dubuque Operations and Maintenance Department	City of Dubuque Fire Department	Existing
emergency plan coordination	City of Dubuque Operations and Maintenance Department	City of Dubuque Fire Department	Existing
incident information	City of Dubuque Operations and Maintenance Department	City of Dubuque Fire Department	Existing
maint and constr resource response	City of Dubuque Operations and Maintenance Department	City of Dubuque Fire Department	Existing
maint and constr work plans	City of Dubuque Operations and Maintenance Department	City of Dubuque Fire Department	Existing
road network status assessment	City of Dubuque Operations and Maintenance Department	City of Dubuque Fire Department	Existing
road weather information	City of Dubuque Operations and Maintenance Department	City of Dubuque Fire Department	Existing
roadway maintenance status	City of Dubuque Operations and Maintenance Department	City of Dubuque Fire Department	Existing
work zone information	City of Dubuque Operations and Maintenance Department	City of Dubuque Fire Department	Existing
maint and constr dispatch information	City of Dubuque Operations and Maintenance Department	City of Dubuque Operations and Maintenance Department MCO Vehicles	Existing
alert status	City of Dubuque Operations and Maintenance Department	City of Dubuque Police Department	Existing
current asset restrictions	City of Dubuque Operations and Maintenance Department	City of Dubuque Police Department	Existing
emergency plan coordination	City of Dubuque Operations and Maintenance Department	City of Dubuque Police Department	Existing
incident information	City of Dubuque Operations and Maintenance Department	City of Dubuque Police Department	Existing
maint and constr resource response	City of Dubuque Operations and Maintenance Department	City of Dubuque Police Department	Existing
maint and constr work plans	City of Dubuque Operations and Maintenance Department	City of Dubuque Police Department	Existing
road network status assessment	City of Dubuque Operations and Maintenance Department	City of Dubuque Police Department	Existing
road weather information	City of Dubuque Operations and Maintenance Department	City of Dubuque Police Department	Existing
roadway maintenance status	City of Dubuque Operations and Maintenance Department	City of Dubuque Police Department	Existing
work zone information	City of Dubuque Operations and Maintenance Department	City of Dubuque Police Department	Existing
alert status	City of Dubuque Operations and Maintenance Department	Dubuque 911 Center	Existing
current asset restrictions	City of Dubuque Operations and Maintenance Department	Dubuque 911 Center	Existing

Architecture Flow Name	Source	Destination	Status
emergency plan coordination	City of Dubuque Operations and Maintenance Department	Dubuque 911 Center	Existing
incident information	City of Dubuque Operations and Maintenance Department	Dubuque 911 Center	Existing
maint and constr resource response	City of Dubuque Operations and Maintenance Department	Dubuque 911 Center	Existing
maint and constr work plans	City of Dubuque Operations and Maintenance Department	Dubuque 911 Center	Existing
road network status assessment	City of Dubuque Operations and Maintenance Department	Dubuque 911 Center	Existing
road weather information	City of Dubuque Operations and Maintenance Department	Dubuque 911 Center	Existing
roadway maintenance status	City of Dubuque Operations and Maintenance Department	Dubuque 911 Center	Existing
work zone information	City of Dubuque Operations and Maintenance Department	Dubuque 911 Center	Existing
maint and constr resource coordination	City of Dubuque Operations and Maintenance Department	Dubuque County Engineer	Existing
road weather information	City of Dubuque Operations and Maintenance Department	Dubuque County Engineer	Existing
roadway maintenance status	City of Dubuque Operations and Maintenance Department	Dubuque County Engineer	Existing
work plan coordination	City of Dubuque Operations and Maintenance Department	Dubuque County Engineer	Existing
work zone information	City of Dubuque Operations and Maintenance Department	Dubuque County Engineer	Planned
alert status	City of Dubuque Operations and Maintenance Department	Iowa DOT District 6	Existing
emergency plan coordination	City of Dubuque Operations and Maintenance Department	Iowa DOT District 6	Existing
incident information	City of Dubuque Operations and Maintenance Department	Iowa DOT District 6	Existing
maint and constr resource coordination	City of Dubuque Operations and Maintenance Department	Iowa DOT District 6	Existing
work plan coordination	City of Dubuque Operations and Maintenance Department	Iowa DOT District 6	Existing
maint and constr work plans	City of Dubuque Operations and Maintenance Department	Media	Existing
road weather information	City of Dubuque Operations and Maintenance Department	Media	Existing
roadway maintenance status	City of Dubuque Operations and Maintenance Department	Media	Existing
maint and constr dispatch status	City of Dubuque Operations and Maintenance Department MCO Vehicles	City of Dubuque Operations and Maintenance Department	Existing
maint and constr vehicle conditions	City of Dubuque Operations and Maintenance Department MCO Vehicles	City of Dubuque Operations and Maintenance Department	Existing
alert notification	City of Dubuque Police Department	City of Dubuque Citychannel 8	Existing

Architecture Flow Name	Source	Destination	Status
evacuation information	City of Dubuque Police Department	City of Dubuque Citychannel 8	Existing
incident information	City of Dubuque Police Department	City of Dubuque Citychannel 8	Existing
alert notification	City of Dubuque Police Department	City of Dubuque Engineering Department	Existing
emergency plan coordination	City of Dubuque Police Department	City of Dubuque Engineering Department	Existing
emergency route request	City of Dubuque Police Department	City of Dubuque Engineering Department	Existing
emergency traffic control request	City of Dubuque Police Department	City of Dubuque Engineering Department	Existing
evacuation information	City of Dubuque Police Department	City of Dubuque Engineering Department	Existing
incident information	City of Dubuque Police Department	City of Dubuque Engineering Department	Existing
incident response status	City of Dubuque Police Department	City of Dubuque Engineering Department	Existing
maint and constr resource request	City of Dubuque Police Department	City of Dubuque Engineering Department	Existing
resource request	City of Dubuque Police Department	City of Dubuque Engineering Department	Existing
threat information coordination	City of Dubuque Police Department	City of Dubuque Engineering Department	Existing
work plan feedback	City of Dubuque Police Department	City of Dubuque Engineering Department	Existing
alert notification coordination	City of Dubuque Police Department	City of Dubuque Fire Department	Existing
emergency plan coordination	City of Dubuque Police Department	City of Dubuque Fire Department	Existing
evacuation coordination	City of Dubuque Police Department	City of Dubuque Fire Department	Existing
incident command information coordination	City of Dubuque Police Department	City of Dubuque Fire Department	Existing
incident report	City of Dubuque Police Department	City of Dubuque Fire Department	Existing
incident response coordination	City of Dubuque Police Department	City of Dubuque Fire Department	Existing
resource coordination	City of Dubuque Police Department	City of Dubuque Fire Department	Existing
threat information coordination	City of Dubuque Police Department	City of Dubuque Fire Department	Existing
alert notification	City of Dubuque Police Department	City of Dubuque Keyline Transit	Existing
emergency plan coordination	City of Dubuque Police Department	City of Dubuque Keyline Transit	Existing
emergency transit service request	City of Dubuque Police Department	City of Dubuque Keyline Transit	Existing
evacuation information	City of Dubuque Police Department	City of Dubuque Keyline Transit	Existing

Architecture Flow Name	Source	Destination	Status
incident response status	City of Dubuque Police Department	City of Dubuque Keyline Transit	Existing
threat information coordination	City of Dubuque Police Department	City of Dubuque Keyline Transit	Existing
alert notification	City of Dubuque Police Department	City of Dubuque Operations and Maintenance Department	Existing
emergency plan coordination	City of Dubuque Police Department	City of Dubuque Operations and Maintenance Department	Existing
evacuation information	City of Dubuque Police Department	City of Dubuque Operations and Maintenance Department	Existing
incident information	City of Dubuque Police Department	City of Dubuque Operations and Maintenance Department	Existing
incident response status	City of Dubuque Police Department	City of Dubuque Operations and Maintenance Department	Existing
maint and constr resource request	City of Dubuque Police Department	City of Dubuque Operations and Maintenance Department	Existing
work plan feedback	City of Dubuque Police Department	City of Dubuque Operations and Maintenance Department	Existing
emergency dispatch requests	City of Dubuque Police Department	City of Dubuque Police Department Emergency Vehicles	Existing
suggested route	City of Dubuque Police Department	City of Dubuque Police Department Emergency Vehicles	Existing
alert notification coordination	City of Dubuque Police Department	Dubuque 911 Center	Existing
emergency plan coordination	City of Dubuque Police Department	Dubuque 911 Center	Existing
evacuation coordination	City of Dubuque Police Department	Dubuque 911 Center	Existing
incident command information coordination	City of Dubuque Police Department	Dubuque 911 Center	Existing
incident report	City of Dubuque Police Department	Dubuque 911 Center	Existing
incident response coordination	City of Dubuque Police Department	Dubuque 911 Center	Existing
resource coordination	City of Dubuque Police Department	Dubuque 911 Center	Existing
alert notification coordination	City of Dubuque Police Department	Dubuque County Emergency Management Agency	Planned
emergency plan coordination	City of Dubuque Police Department	Dubuque County Emergency Management Agency	Existing
evacuation coordination	City of Dubuque Police Department	Dubuque County Emergency Management Agency	Existing
incident command information coordination	City of Dubuque Police Department	Dubuque County Emergency Management Agency	Existing
incident report	City of Dubuque Police Department	Dubuque County Emergency Management Agency	Existing
incident response coordination	City of Dubuque Police Department	Dubuque County Emergency Management Agency	Existing
resource coordination	City of Dubuque Police Department	Dubuque County Emergency Management Agency	Existing

Architecture Flow Name	Source	Destination	Status
alert notification coordination	City of Dubuque Police Department	Dubuque County Sheriff	Existing
emergency plan coordination	City of Dubuque Police Department	Dubuque County Sheriff	Existing
evacuation coordination	City of Dubuque Police Department	Dubuque County Sheriff	Existing
incident command information coordination	City of Dubuque Police Department	Dubuque County Sheriff	Existing
incident report	City of Dubuque Police Department	Dubuque County Sheriff	Existing
incident response coordination	City of Dubuque Police Department	Dubuque County Sheriff	Existing
resource coordination	City of Dubuque Police Department	Dubuque County Sheriff	Existing
threat information coordination	City of Dubuque Police Department	Dubuque County Sheriff	Existing
alert notification coordination	City of Dubuque Police Department	Iowa DOT District 6	Existing
emergency plan coordination	City of Dubuque Police Department	Iowa DOT District 6	Existing
emergency route request	City of Dubuque Police Department	Iowa DOT District 6	Existing
emergency traffic control request	City of Dubuque Police Department	Iowa DOT District 6	Existing
evacuation information	City of Dubuque Police Department	Iowa DOT District 6	Existing
incident information	City of Dubuque Police Department	Iowa DOT District 6	Existing
incident response status	City of Dubuque Police Department	Iowa DOT District 6	Existing
maint and constr resource request	City of Dubuque Police Department	Iowa DOT District 6	Existing
resource request	City of Dubuque Police Department	Iowa DOT District 6	Existing
threat information coordination	City of Dubuque Police Department	Iowa DOT District 6	Existing
local signal preemption request	City of Dubuque Police Department Emergency Vehicles	City of Dubuque Engineering Department Roadside Equipment	Existing
emergency dispatch response	City of Dubuque Police Department Emergency Vehicles	City of Dubuque Police Department	Existing
incident status	City of Dubuque Police Department Emergency Vehicles	City of Dubuque Police Department	Existing
emergency dispatch response	City of Dubuque Police Department Emergency Vehicles	Dubuque 911 Center	Existing
incident status	City of Dubuque Police Department Emergency Vehicles	Dubuque 911 Center	Existing
emergency dispatch requests	City of East Dubuque Police Department	City of East Dubuque Police Department Emergency Vehicles	Existing
suggested route	City of East Dubuque Police Department	City of East Dubuque Police Department Emergency Vehicles	Existing

Architecture Flow Name	Source	Destination	Status
incident information	City of East Dubuque Police Department	Illinois DOT District 2	Existing
maint and constr resource request	City of East Dubuque Police Department	Illinois DOT District 2	Existing
emergency plan coordination	City of East Dubuque Police Department	Illinois State Police District 16	Existing
incident command information coordination	City of East Dubuque Police Department	Illinois State Police District 16	Existing
incident report	City of East Dubuque Police Department	Illinois State Police District 16	Existing
incident response coordination	City of East Dubuque Police Department	Illinois State Police District 16	Existing
resource coordination	City of East Dubuque Police Department	Illinois State Police District 16	Existing
threat information coordination	City of East Dubuque Police Department	Illinois State Police District 16	Existing
alert notification coordination	City of East Dubuque Police Department	Jo Daviess County 911 Center	Existing
emergency plan coordination	City of East Dubuque Police Department	Jo Daviess County 911 Center	Planned
evacuation coordination	City of East Dubuque Police Department	Jo Daviess County 911 Center	Planned
incident command information coordination	City of East Dubuque Police Department	Jo Daviess County 911 Center	Planned
incident report	City of East Dubuque Police Department	Jo Daviess County 911 Center	Existing
incident response coordination	City of East Dubuque Police Department	Jo Daviess County 911 Center	Existing
resource coordination	City of East Dubuque Police Department	Jo Daviess County 911 Center	Planned
alert notification coordination	City of East Dubuque Police Department	Jo Daviess County Sheriff	Planned
emergency plan coordination	City of East Dubuque Police Department	Jo Daviess County Sheriff	Existing
evacuation coordination	City of East Dubuque Police Department	Jo Daviess County Sheriff	Existing
incident report	City of East Dubuque Police Department	Jo Daviess County Sheriff	Existing
incident response coordination	City of East Dubuque Police Department	Jo Daviess County Sheriff	Existing
resource coordination	City of East Dubuque Police Department	Jo Daviess County Sheriff	Existing
incident information for media	City of East Dubuque Police Department	Media	Existing
emergency dispatch response	City of East Dubuque Police Department Emergency Vehicles	City of East Dubuque Police Department	Existing
incident status	City of East Dubuque Police Department Emergency Vehicles	City of East Dubuque Police Department	Existing
emergency dispatch response	City of East Dubuque Police Department Emergency Vehicles	Jo Daviess County 911 Center	Existing

Architecture Flow Name	Source	Destination	Status
incident status	City of East Dubuque Police Department Emergency Vehicles	Jo Daviess County 911 Center	Existing
emergency plan coordination	City of Farley Fire Department	City of Dubuque Fire Department	Existing
evacuation coordination	City of Farley Fire Department	City of Dubuque Fire Department	Existing
incident command information coordination	City of Farley Fire Department	City of Dubuque Fire Department	Existing
incident report	City of Farley Fire Department	City of Dubuque Fire Department	Existing
incident response coordination	City of Farley Fire Department	City of Dubuque Fire Department	Existing
resource coordination	City of Farley Fire Department	City of Dubuque Fire Department	Existing
threat information coordination	City of Farley Fire Department	City of Dubuque Fire Department	Existing
emergency dispatch requests	City of Farley Fire Department	City of Farley Fire Department Emergency Vehicles	Existing
emergency plan coordination	City of Farley Fire Department	Dubuque 911 Center	Existing
evacuation coordination	City of Farley Fire Department	Dubuque 911 Center	Existing
incident command information coordination	City of Farley Fire Department	Dubuque 911 Center	Existing
incident report	City of Farley Fire Department	Dubuque 911 Center	Existing
incident response coordination	City of Farley Fire Department	Dubuque 911 Center	Existing
resource coordination	City of Farley Fire Department	Dubuque 911 Center	Existing
threat information coordination	City of Farley Fire Department	Dubuque 911 Center	Existing
alert notification coordination	City of Farley Fire Department	Dubuque County Emergency Management Agency	Planned
emergency plan coordination	City of Farley Fire Department	Dubuque County Emergency Management Agency	Existing
evacuation coordination	City of Farley Fire Department	Dubuque County Emergency Management Agency	Existing
incident command information coordination	City of Farley Fire Department	Dubuque County Emergency Management Agency	Existing
incident report	City of Farley Fire Department	Dubuque County Emergency Management Agency	Existing
incident response coordination	City of Farley Fire Department	Dubuque County Emergency Management Agency	Existing
resource coordination	City of Farley Fire Department	Dubuque County Emergency Management Agency	Existing
threat information coordination	City of Farley Fire Department	Dubuque County Emergency Management Agency	Existing
emergency plan coordination	City of Farley Fire Department	Dubuque County Sheriff	Existing
evacuation coordination	City of Farley Fire Department	Dubuque County Sheriff	Existing
incident command information coordination	City of Farley Fire Department	Dubuque County Sheriff	Existing
incident report	City of Farley Fire Department	Dubuque County Sheriff	Existing
incident response coordination	City of Farley Fire Department	Dubuque County Sheriff	Existing
resource coordination	City of Farley Fire Department	Dubuque County Sheriff	Existing

Architecture Flow Name	Source	Destination	Status
threat information coordination	City of Farley Fire Department	Dubuque County Sheriff	Existing
incident information for media	City of Farley Fire Department	Media	Existing
emergency dispatch response	City of Farley Fire Department Emergency Vehicles	City of Farley Fire Department	Existing
incident status	City of Farley Fire Department Emergency Vehicles	City of Farley Fire Department	Existing
emergency dispatch response	City of Farley Fire Department Emergency Vehicles	Dubuque 911 Center	Existing
incident status	City of Farley Fire Department Emergency Vehicles	Dubuque 911 Center	Existing
alert status	City of Farley Public Works Department	Dubuque County Emergency Management Agency	Planned
current asset restrictions	City of Farley Public Works Department	Dubuque County Emergency Management Agency	Existing
emergency plan coordination	City of Farley Public Works Department	Dubuque County Emergency Management Agency	Existing
incident information	City of Farley Public Works Department	Dubuque County Emergency Management Agency	Existing
maint and constr resource response	City of Farley Public Works Department	Dubuque County Emergency Management Agency	Existing
maint and constr work plans	City of Farley Public Works Department	Dubuque County Emergency Management Agency	Existing
road network status assessment	City of Farley Public Works Department	Dubuque County Emergency Management Agency	Existing
road weather information	City of Farley Public Works Department	Dubuque County Emergency Management Agency	Existing
roadway maintenance status	City of Farley Public Works Department	Dubuque County Emergency Management Agency	Existing
road weather information	City of Farley Public Works Department	Media	Existing
roadway maintenance status	City of Farley Public Works Department	Media	Existing
alert status	City of Grand Mound Public Works Department	Clinton County 911 Center	Existing
current asset restrictions	City of Grand Mound Public Works Department	Clinton County 911 Center	Existing
emergency plan coordination	City of Grand Mound Public Works Department	Clinton County 911 Center	Existing
incident information	City of Grand Mound Public Works Department	Clinton County 911 Center	Existing
maint and constr resource response	City of Grand Mound Public Works Department	Clinton County 911 Center	Existing
maint and constr work plans	City of Grand Mound Public Works Department	Clinton County 911 Center	Existing
road network status assessment	City of Grand Mound Public Works Department	Clinton County 911 Center	Existing
road weather information	City of Grand Mound Public Works Department	Clinton County 911 Center	Existing
roadway maintenance status	City of Grand Mound Public Works Department	Clinton County 911 Center	Existing

Architecture Flow Name	Source	Destination	Status
work zone information	City of Grand Mound Public Works Department	Clinton County 911 Center	Existing
alert status	City of Grand Mound Public Works Department	Clinton County Sheriff	Existing
current asset restrictions	City of Grand Mound Public Works Department	Clinton County Sheriff	Existing
emergency plan coordination	City of Grand Mound Public Works Department	Clinton County Sheriff	Existing
incident information	City of Grand Mound Public Works Department	Clinton County Sheriff	Existing
maint and constr resource response	City of Grand Mound Public Works Department	Clinton County Sheriff	Existing
maint and constr work plans	City of Grand Mound Public Works Department	Clinton County Sheriff	Existing
road network status assessment	City of Grand Mound Public Works Department	Clinton County Sheriff	Existing
road weather information	City of Grand Mound Public Works Department	Clinton County Sheriff	Existing
roadway maintenance status	City of Grand Mound Public Works Department	Clinton County Sheriff	Existing
work zone information	City of Grand Mound Public Works Department	Clinton County Sheriff	Existing
alert status	City of Grand Mound Public Works Department	Iowa DOT District 6	Existing
emergency plan coordination	City of Grand Mound Public Works Department	Iowa DOT District 6	Existing
incident information	City of Grand Mound Public Works Department	Iowa DOT District 6	Existing
maint and constr resource coordination	City of Grand Mound Public Works Department	Iowa DOT District 6	Existing
work plan coordination	City of Grand Mound Public Works Department	Iowa DOT District 6	Existing
emergency dispatch requests	City of Manchester Police Department	City of Manchester Police Department Emergency Vehicles	Existing
emergency plan coordination	City of Manchester Police Department	Delaware County Emergency Management	Existing
evacuation coordination	City of Manchester Police Department	Delaware County Emergency Management	Existing
incident command information coordination	City of Manchester Police Department	Delaware County Emergency Management	Existing
incident report	City of Manchester Police Department	Delaware County Emergency Management	Existing
incident response coordination	City of Manchester Police Department	Delaware County Emergency Management	Existing
resource coordination	City of Manchester Police Department	Delaware County Emergency Management	Existing
threat information coordination	City of Manchester Police Department	Delaware County Emergency Management	Existing

Architecture Flow Name	Source	Destination	Status
emergency dispatch requests	City of Manchester Police Department	Delaware County Emergency Management Emergency Vehicles	Existing
emergency plan coordination	City of Manchester Police Department	Delaware County Sheriff	Existing
evacuation coordination	City of Manchester Police Department	Delaware County Sheriff	Existing
incident command information coordination	City of Manchester Police Department	Delaware County Sheriff	Existing
incident report	City of Manchester Police Department	Delaware County Sheriff	Existing
incident response coordination	City of Manchester Police Department	Delaware County Sheriff	Existing
resource coordination	City of Manchester Police Department	Delaware County Sheriff	Existing
threat information coordination	City of Manchester Police Department	Delaware County Sheriff	Existing
emergency dispatch requests	City of Manchester Police Department	Delaware County Sheriff Emergency Vehicles	Existing
suggested route	City of Manchester Police Department	Delaware County Sheriff Emergency Vehicles	Planned
incident information for media	City of Manchester Police Department	Media	Existing
emergency dispatch response	City of Manchester Police Department Emergency Vehicles	City of Manchester Police Department	Existing
incident status	City of Manchester Police Department Emergency Vehicles	City of Manchester Police Department	Existing
maint and constr dispatch information	City of Manchester Public Works Department	City of Manchester Public Works Department MCO Vehicles	Existing
maint and constr dispatch status	City of Manchester Public Works Department MCO Vehicles	City of Manchester Public Works Department	Existing
maint and constr vehicle conditions	City of Manchester Public Works Department MCO Vehicles	City of Manchester Public Works Department	Existing
emergency dispatch requests	City of Maquoketa Fire Department	City of Maquoketa Fire Department Emergency Vehicles	Existing
incident command information coordination	City of Maquoketa Fire Department	City of Maquoketa Police Department	Existing
incident report	City of Maquoketa Fire Department	City of Maquoketa Police Department	Existing
incident response coordination	City of Maquoketa Fire Department	City of Maquoketa Police Department	Existing
resource coordination	City of Maquoketa Fire Department	City of Maquoketa Police Department	Existing
emergency plan coordination	City of Maquoketa Fire Department	City of Maquoketa Public Works Department	Planned
incident information	City of Maquoketa Fire Department	City of Maquoketa Public Works Department	Planned
incident response status	City of Maquoketa Fire Department	City of Maquoketa Public Works Department	Planned

Architecture Flow Name	Source	Destination	Status
maint and constr resource request	City of Maquoketa Fire Department	City of Maquoketa Public Works Department	Existing
work plan feedback	City of Maquoketa Fire Department	City of Maquoketa Public Works Department	Existing
incident command information coordination	City of Maquoketa Fire Department	Jackson County Emergency Management Agency	Existing
incident report	City of Maquoketa Fire Department	Jackson County Emergency Management Agency	Existing
incident response coordination	City of Maquoketa Fire Department	Jackson County Emergency Management Agency	Existing
resource coordination	City of Maquoketa Fire Department	Jackson County Emergency Management Agency	Existing
emergency dispatch response	City of Maquoketa Fire Department Emergency Vehicles	City of Maquoketa Fire Department	Existing
incident status	City of Maquoketa Fire Department Emergency Vehicles	City of Maquoketa Fire Department	Existing
emergency dispatch response	City of Maquoketa Fire Department Emergency Vehicles	City of Maquoketa Police Department	Existing
incident status	City of Maquoketa Fire Department Emergency Vehicles	City of Maquoketa Police Department	Existing
local signal preemption request	City of Maquoketa Fire Department Emergency Vehicles	City of Maquoketa Public Works Department Roadside Equipment	Existing
emergency plan coordination	City of Maquoketa Police Department	City of Maquoketa Fire Department	Existing
evacuation coordination	City of Maquoketa Police Department	City of Maquoketa Fire Department	Existing
incident command information coordination	City of Maquoketa Police Department	City of Maquoketa Fire Department	Existing
incident report	City of Maquoketa Police Department	City of Maquoketa Fire Department	Existing
incident response coordination	City of Maquoketa Police Department	City of Maquoketa Fire Department	Existing
resource coordination	City of Maquoketa Police Department	City of Maquoketa Fire Department	Existing
threat information coordination	City of Maquoketa Police Department	City of Maquoketa Fire Department	Existing
emergency dispatch requests	City of Maquoketa Police Department	City of Maquoketa Fire Department Emergency Vehicles	Existing
emergency dispatch requests	City of Maquoketa Police Department	City of Maquoketa Police Department Emergency Vehicles	Existing
secure area sensor control	City of Maquoketa Police Department	City of Maquoketa Police Department Security Monitoring Field Equipment	Existing
secure area surveillance control	City of Maquoketa Police Department	City of Maquoketa Police Department Security Monitoring Field Equipment	Existing
emergency plan coordination	City of Maquoketa Police Department	City of Maquoketa Public Works Department	Planned
evacuation information	City of Maquoketa Police Department	City of Maquoketa Public Works Department	Planned

Architecture Flow Name	Source	Destination	Status
incident information	City of Maquoketa Police Department	City of Maquoketa Public Works Department	Planned
incident response status	City of Maquoketa Police Department	City of Maquoketa Public Works Department	Planned
maint and constr resource request	City of Maquoketa Police Department	City of Maquoketa Public Works Department	Existing
work plan feedback	City of Maquoketa Police Department	City of Maquoketa Public Works Department	Existing
emergency plan coordination	City of Maquoketa Police Department	City of Preston Community Ambulance Service	Existing
evacuation coordination	City of Maquoketa Police Department	City of Preston Community Ambulance Service	Existing
incident report	City of Maquoketa Police Department	City of Preston Community Ambulance Service	Existing
incident response coordination	City of Maquoketa Police Department	City of Preston Community Ambulance Service	Existing
resource coordination	City of Maquoketa Police Department	City of Preston Community Ambulance Service	Existing
emergency dispatch requests	City of Maquoketa Police Department	City of Preston Community Ambulance Service Emergency Vehicles	Existing
emergency plan coordination	City of Maquoketa Police Department	City of Springbrook Fire and EMS Department	Existing
evacuation coordination	City of Maquoketa Police Department	City of Springbrook Fire and EMS Department	Existing
incident command information coordination	City of Maquoketa Police Department	City of Springbrook Fire and EMS Department	Existing
incident report	City of Maquoketa Police Department	City of Springbrook Fire and EMS Department	Existing
incident response coordination	City of Maquoketa Police Department	City of Springbrook Fire and EMS Department	Existing
resource coordination	City of Maquoketa Police Department	City of Springbrook Fire and EMS Department	Existing
threat information coordination	City of Maquoketa Police Department	City of Springbrook Fire and EMS Department	Existing
emergency dispatch requests	City of Maquoketa Police Department	City of Springbrook Fire and EMS Department Emergency Vehicles	Existing
emergency plan coordination	City of Maquoketa Police Department	Jackson County Emergency Management Agency	Existing
evacuation coordination	City of Maquoketa Police Department	Jackson County Emergency Management Agency	Existing
incident command information coordination	City of Maquoketa Police Department	Jackson County Emergency Management Agency	Existing
incident report	City of Maquoketa Police Department	Jackson County Emergency Management Agency	Existing
incident response coordination	City of Maquoketa Police Department	Jackson County Emergency Management Agency	Existing
resource coordination	City of Maquoketa Police Department	Jackson County Emergency Management Agency	Existing

Architecture Flow Name	Source	Destination	Status
threat information coordination	City of Maquoketa Police Department	Jackson County Emergency Management Agency	Existing
incident information for media	City of Maquoketa Police Department	Media	Existing
emergency dispatch response	City of Maquoketa Police Department Emergency Vehicles	City of Maquoketa Police Department	Existing
incident status	City of Maquoketa Police Department Emergency Vehicles	City of Maquoketa Police Department	Existing
local signal preemption request	City of Maquoketa Police Department Emergency Vehicles	City of Maquoketa Public Works Department Roadside Equipment	Existing
secure area sensor data	City of Maquoketa Police Department Security Monitoring Field Equipment	City of Maquoketa Police Department	Existing
secure area surveillance data	City of Maquoketa Police Department Security Monitoring Field Equipment	City of Maquoketa Police Department	Existing
emergency plan coordination	City of Maquoketa Public Works Department	City of Maquoketa Fire Department	Planned
incident information	City of Maquoketa Public Works Department	City of Maquoketa Fire Department	Planned
maint and constr resource response	City of Maquoketa Public Works Department	City of Maquoketa Fire Department	Existing
maint and constr work plans	City of Maquoketa Public Works Department	City of Maquoketa Fire Department	Existing
roadway maintenance status	City of Maquoketa Public Works Department	City of Maquoketa Fire Department	Planned
work zone information	City of Maquoketa Public Works Department	City of Maquoketa Fire Department	Planned
emergency plan coordination	City of Maquoketa Public Works Department	City of Maquoketa Police Department	Planned
incident information	City of Maquoketa Public Works Department	City of Maquoketa Police Department	Planned
maint and constr resource response	City of Maquoketa Public Works Department	City of Maquoketa Police Department	Existing
maint and constr work plans	City of Maquoketa Public Works Department	City of Maquoketa Police Department	Existing
roadway maintenance status	City of Maquoketa Public Works Department	City of Maquoketa Police Department	Planned
work zone information	City of Maquoketa Public Works Department	City of Maquoketa Police Department	Planned
traffic sensor control	City of Maquoketa Public Works Department	City of Maquoketa Public Works Department Roadside Equipment	Planned
maint and constr dispatch information	City of Maquoketa Public Works Department	City of Maquoketa Public Works MCO Vehicles	Existing
secure area sensor control	City of Maquoketa Public Works Department	City of Maquoketa Public Works Department Security Monitoring Field Equipment	Planned
secure area surveillance control	City of Maquoketa Public Works Department	City of Maquoketa Public Works Department Security Monitoring Field Equipment	Planned

Architecture Flow Name	Source	Destination	Status
alert notification coordination	City of Maquoketa Public Works Department	Iowa DOT District 6	Existing
emergency plan coordination	City of Maquoketa Public Works Department	Iowa DOT District 6	Existing
maint and constr resource coordination	City of Maquoketa Public Works Department	Iowa DOT District 6	Existing
threat information coordination	City of Maquoketa Public Works Department	Iowa DOT District 6	Existing
traffic control coordination	City of Maquoketa Public Works Department	Iowa DOT District 6	Existing
transportation system status	City of Maquoketa Public Works Department	Iowa DOT District 6	Existing
emergency plan coordination	City of Maquoketa Public Works Department	Jackson County Emergency Management Agency	Planned
maint and constr resource coordination	City of Maquoketa Public Works Department	Jackson County Engineers	Planned
work plan coordination	City of Maquoketa Public Works Department	Jackson County Engineers	Existing
maint and constr work plans	City of Maquoketa Public Works Department	Media	Existing
roadway maintenance status	City of Maquoketa Public Works Department	Media	Existing
traveler information for media	City of Maquoketa Public Works Department	Media	Existing
traffic flow	City of Maquoketa Public Works Department Roadside Equipment	City of Maquoketa Public Works Department	Planned
maint and constr dispatch status	City of Maquoketa Public Works MCO Vehicles	City of Maquoketa Public Works Department	Existing
secure area sensor data	City of Maquoketa Public Works Department Security Monitoring Field Equipment	City of Maquoketa Public Works Department	Planned
secure area surveillance data	City of Maquoketa Public Works Department Security Monitoring Field Equipment	City of Maquoketa Public Works Department	Planned
emergency plan coordination	City of Preston Community Ambulance Service	City of Maquoketa Police Department	Existing
evacuation coordination	City of Preston Community Ambulance Service	City of Maquoketa Police Department	Existing
incident report	City of Preston Community Ambulance Service	City of Maquoketa Police Department	Existing
resource coordination	City of Preston Community Ambulance Service	City of Maquoketa Police Department	Existing
emergency dispatch requests	City of Preston Community Ambulance Service	City of Preston Community Ambulance Service Emergency Vehicles	Existing
emergency dispatch response	City of Preston Community Ambulance Service Emergency Vehicles	City of Maquoketa Police Department	Existing

Architecture Flow Name	Source	Destination	Status
emergency dispatch response	City of Preston Community Ambulance Service Emergency Vehicles	City of Preston Community Ambulance Service	Existing
incident status	City of Preston Community Ambulance Service Emergency Vehicles	City of Preston Community Ambulance Service	Existing
emergency plan coordination	City of Springbrook Fire and EMS Department	City of Maquoketa Police Department	Existing
evacuation coordination	City of Springbrook Fire and EMS Department	City of Maquoketa Police Department	Existing
incident command information coordination	City of Springbrook Fire and EMS Department	City of Maquoketa Police Department	Existing
incident report	City of Springbrook Fire and EMS Department	City of Maquoketa Police Department	Existing
incident response coordination	City of Springbrook Fire and EMS Department	City of Maquoketa Police Department	Existing
resource coordination	City of Springbrook Fire and EMS Department	City of Maquoketa Police Department	Existing
threat information coordination	City of Springbrook Fire and EMS Department	City of Maquoketa Police Department	Existing
emergency dispatch requests	City of Springbrook Fire and EMS Department	City of Springbrook Fire and EMS Department Emergency Vehicles	Existing
emergency plan coordination	City of Springbrook Fire and EMS Department	Jackson County Emergency Management Agency	Existing
evacuation coordination	City of Springbrook Fire and EMS Department	Jackson County Emergency Management Agency	Existing
incident command information coordination	City of Springbrook Fire and EMS Department	Jackson County Emergency Management Agency	Existing
incident report	City of Springbrook Fire and EMS Department	Jackson County Emergency Management Agency	Existing
incident response coordination	City of Springbrook Fire and EMS Department	Jackson County Emergency Management Agency	Existing
resource coordination	City of Springbrook Fire and EMS Department	Jackson County Emergency Management Agency	Existing
threat information coordination	City of Springbrook Fire and EMS Department	Jackson County Emergency Management Agency	Existing
incident information for media	City of Springbrook Fire and EMS Department	Media	Existing
emergency dispatch response	City of Springbrook Fire and EMS Department Emergency Vehicles	City of Maquoketa Police Department	Existing
emergency dispatch response	City of Springbrook Fire and EMS Department Emergency Vehicles	City of Springbrook Fire and EMS Department	Existing
incident status	City of Springbrook Fire and EMS Department Emergency Vehicles	City of Springbrook Fire and EMS Department	Existing
alert notification coordination	Clinton County 911 Center	City of Camanche Fire Department	Existing

Architecture Flow Name	Source	Destination	Status
incident command information coordination	Clinton County 911 Center	City of Camanche Fire Department	Existing
incident report	Clinton County 911 Center	City of Camanche Fire Department	Existing
incident response coordination	Clinton County 911 Center	City of Camanche Fire Department	Existing
emergency dispatch requests	Clinton County 911 Center	City of Camanche Fire Department Emergency Vehicles	Existing
alert notification coordination	Clinton County 911 Center	City of Camanche Police Department	Existing
emergency plan coordination	Clinton County 911 Center	City of Camanche Police Department	Existing
evacuation coordination	Clinton County 911 Center	City of Camanche Police Department	Planned
incident command information coordination	Clinton County 911 Center	City of Camanche Police Department	Existing
incident report	Clinton County 911 Center	City of Camanche Police Department	Existing
incident response coordination	Clinton County 911 Center	City of Camanche Police Department	Existing
resource coordination	Clinton County 911 Center	City of Camanche Police Department	Existing
threat information coordination	Clinton County 911 Center	City of Camanche Police Department	Existing
emergency dispatch requests	Clinton County 911 Center	City of Camanche Police Department Emergency Vehicles	Existing
alert notification	Clinton County 911 Center	City of Camanche Public Works Department	Existing
emergency plan coordination	Clinton County 911 Center	City of Camanche Public Works Department	Existing
evacuation information	Clinton County 911 Center	City of Camanche Public Works Department	Planned
incident information	Clinton County 911 Center	City of Camanche Public Works Department	Existing
incident response status	Clinton County 911 Center	City of Camanche Public Works Department	Existing
maint and constr resource request	Clinton County 911 Center	City of Camanche Public Works Department	Existing
threat information	Clinton County 911 Center	City of Camanche Public Works Department	Existing
work plan feedback	Clinton County 911 Center	City of Camanche Public Works Department	Existing
emergency plan coordination	Clinton County 911 Center	City of Charlotte Fire Department	Existing
evacuation coordination	Clinton County 911 Center	City of Charlotte Fire Department	Planned
incident command information coordination	Clinton County 911 Center	City of Charlotte Fire Department	Existing
incident report	Clinton County 911 Center	City of Charlotte Fire Department	Existing

Architecture Flow Name	Source	Destination	Status
incident response coordination	Clinton County 911 Center	City of Charlotte Fire Department	Existing
resource coordination	Clinton County 911 Center	City of Charlotte Fire Department	Existing
threat information coordination	Clinton County 911 Center	City of Charlotte Fire Department	Existing
emergency dispatch requests	Clinton County 911 Center	City of Charlotte Fire Department Emergency Vehicles	Existing
alert notification coordination	Clinton County 911 Center	City of Clinton Fire Department	Existing
emergency plan coordination	Clinton County 911 Center	City of Clinton Fire Department	Existing
evacuation coordination	Clinton County 911 Center	City of Clinton Fire Department	Planned
incident command information coordination	Clinton County 911 Center	City of Clinton Fire Department	Existing
incident report	Clinton County 911 Center	City of Clinton Fire Department	Existing
incident response coordination	Clinton County 911 Center	City of Clinton Fire Department	Existing
resource coordination	Clinton County 911 Center	City of Clinton Fire Department	Existing
threat information coordination	Clinton County 911 Center	City of Clinton Fire Department	Existing
emergency dispatch requests	Clinton County 911 Center	City of Clinton Fire Department Emergency Vehicles	Existing
suggested route	Clinton County 911 Center	City of Clinton Fire Department Emergency Vehicles	Existing
alert notification coordination	Clinton County 911 Center	City of Clinton Police Department	Existing
emergency plan coordination	Clinton County 911 Center	City of Clinton Police Department	Existing
evacuation coordination	Clinton County 911 Center	City of Clinton Police Department	Planned
incident command information coordination	Clinton County 911 Center	City of Clinton Police Department	Existing
incident report	Clinton County 911 Center	City of Clinton Police Department	Existing
incident response coordination	Clinton County 911 Center	City of Clinton Police Department	Existing
resource coordination	Clinton County 911 Center	City of Clinton Police Department	Existing
threat information coordination	Clinton County 911 Center	City of Clinton Police Department	Planned
emergency dispatch requests	Clinton County 911 Center	City of Clinton Police Department Emergency Vehicles	Existing
suggested route	Clinton County 911 Center	City of Clinton Police Department Emergency Vehicles	Existing
alert notification coordination	Clinton County 911 Center	City of Dewitt Police Department	Existing
emergency plan coordination	Clinton County 911 Center	City of Dewitt Police Department	Existing
evacuation coordination	Clinton County 911 Center	City of Dewitt Police Department	Planned
incident command information coordination	Clinton County 911 Center	City of Dewitt Police Department	Existing
incident report	Clinton County 911 Center	City of Dewitt Police Department	Existing
incident response coordination	Clinton County 911 Center	City of Dewitt Police Department	Existing
resource coordination	Clinton County 911 Center	City of Dewitt Police Department	Existing

Architecture Flow Name	Source	Destination	Status
threat information coordination	Clinton County 911 Center	City of Dewitt Police Department	Existing
emergency dispatch requests	Clinton County 911 Center	City of Dewitt Police Department Emergency Vehicles	Existing
alert notification	Clinton County 911 Center	City of Dewitt Public Works Department	Existing
emergency plan coordination	Clinton County 911 Center	City of Dewitt Public Works Department	Existing
evacuation information	Clinton County 911 Center	City of Dewitt Public Works Department	Planned
incident information	Clinton County 911 Center	City of Dewitt Public Works Department	Existing
incident response status	Clinton County 911 Center	City of Dewitt Public Works Department	Existing
maint and constr resource request	Clinton County 911 Center	City of Dewitt Public Works Department	Existing
threat information	Clinton County 911 Center	City of Dewitt Public Works Department	Existing
work plan feedback	Clinton County 911 Center	City of Dewitt Public Works Department	Existing
alert notification	Clinton County 911 Center	City of Grand Mound Public Works Department	Existing
emergency plan coordination	Clinton County 911 Center	City of Grand Mound Public Works Department	Existing
evacuation information	Clinton County 911 Center	City of Grand Mound Public Works Department	Planned
incident information	Clinton County 911 Center	City of Grand Mound Public Works Department	Existing
incident response status	Clinton County 911 Center	City of Grand Mound Public Works Department	Existing
maint and constr resource request	Clinton County 911 Center	City of Grand Mound Public Works Department	Existing
work plan feedback	Clinton County 911 Center	City of Grand Mound Public Works Department	Existing
alert notification coordination	Clinton County 911 Center	Clinton County Emergency Management Agency	Existing
emergency plan coordination	Clinton County 911 Center	Clinton County Emergency Management Agency	Existing
evacuation coordination	Clinton County 911 Center	Clinton County Emergency Management Agency	Planned
incident command information coordination	Clinton County 911 Center	Clinton County Emergency Management Agency	Existing
incident report	Clinton County 911 Center	Clinton County Emergency Management Agency	Existing
incident response coordination	Clinton County 911 Center	Clinton County Emergency Management Agency	Existing
resource coordination	Clinton County 911 Center	Clinton County Emergency Management Agency	Existing
threat information coordination	Clinton County 911 Center	Clinton County Emergency Management Agency	Existing
alert notification	Clinton County 911 Center	Clinton County Engineer	Existing

Architecture Flow Name	Source	Destination	Status
emergency plan coordination	Clinton County 911 Center	Clinton County Engineer	Existing
evacuation information	Clinton County 911 Center	Clinton County Engineer	Planned
incident information	Clinton County 911 Center	Clinton County Engineer	Existing
incident response status	Clinton County 911 Center	Clinton County Engineer	Existing
maint and constr resource request	Clinton County 911 Center	Clinton County Engineer	Existing
threat information	Clinton County 911 Center	Clinton County Engineer	Existing
work plan feedback	Clinton County 911 Center	Clinton County Engineer	Existing
alert notification coordination	Clinton County 911 Center	Clinton County Sheriff	Existing
emergency plan coordination	Clinton County 911 Center	Clinton County Sheriff	Existing
evacuation coordination	Clinton County 911 Center	Clinton County Sheriff	Planned
incident command information coordination	Clinton County 911 Center	Clinton County Sheriff	Existing
incident report	Clinton County 911 Center	Clinton County Sheriff	Existing
incident response coordination	Clinton County 911 Center	Clinton County Sheriff	Existing
resource coordination	Clinton County 911 Center	Clinton County Sheriff	Existing
threat information coordination	Clinton County 911 Center	Clinton County Sheriff	Existing
emergency dispatch requests	Clinton County 911 Center	Clinton County Sheriff Emergency Vehicles	Existing
suggested route	Clinton County 911 Center	Clinton County Sheriff Emergency Vehicles	Existing
alert notification	Clinton County 911 Center	River Bend Transit	Existing
incident response status	Clinton County 911 Center	River Bend Transit	Existing
emergency plan coordination	Clinton County Emergency Management Agency	City of Camanche Police Department	Existing
evacuation coordination	Clinton County Emergency Management Agency	City of Camanche Police Department	Existing
incident command information coordination	Clinton County Emergency Management Agency	City of Camanche Police Department	Existing
incident report	Clinton County Emergency Management Agency	City of Camanche Police Department	Existing
incident response coordination	Clinton County Emergency Management Agency	City of Camanche Police Department	Existing
resource coordination	Clinton County Emergency Management Agency	City of Camanche Police Department	Existing
threat information coordination	Clinton County Emergency Management Agency	City of Camanche Police Department	Existing
emergency plan coordination	Clinton County Emergency Management Agency	City of Clinton Municipal Transit Administration	Existing
emergency transit service request	Clinton County Emergency Management Agency	City of Clinton Municipal Transit Administration	Existing
evacuation information	Clinton County Emergency Management Agency	City of Clinton Municipal Transit Administration	Existing
incident response status	Clinton County Emergency Management Agency	City of Clinton Municipal Transit Administration	Existing
threat information coordination	Clinton County Emergency Management Agency	City of Clinton Municipal Transit Administration	Planned
emergency plan coordination	Clinton County Emergency Management Agency	City of Clinton Police Department	Existing

Architecture Flow Name	Source	Destination	Status
evacuation coordination	Clinton County Emergency Management Agency	City of Clinton Police Department	Existing
incident command information coordination	Clinton County Emergency Management Agency	City of Clinton Police Department	Existing
incident report	Clinton County Emergency Management Agency	City of Clinton Police Department	Existing
incident response coordination	Clinton County Emergency Management Agency	City of Clinton Police Department	Existing
resource coordination	Clinton County Emergency Management Agency	City of Clinton Police Department	Existing
threat information coordination	Clinton County Emergency Management Agency	City of Clinton Police Department	Planned
emergency plan coordination	Clinton County Emergency Management Agency	Clinton County 911 Center	Existing
evacuation coordination	Clinton County Emergency Management Agency	Clinton County 911 Center	Planned
incident command information coordination	Clinton County Emergency Management Agency	Clinton County 911 Center	Existing
incident report	Clinton County Emergency Management Agency	Clinton County 911 Center	Existing
incident response coordination	Clinton County Emergency Management Agency	Clinton County 911 Center	Existing
resource coordination	Clinton County Emergency Management Agency	Clinton County 911 Center	Existing
threat information coordination	Clinton County Emergency Management Agency	Clinton County 911 Center	Existing
secure area sensor control	Clinton County Emergency Management Agency	Clinton County Emergency Management Agency Security Monitoring Field Equipment	Existing
secure area surveillance control	Clinton County Emergency Management Agency	Clinton County Emergency Management Agency Security Monitoring Field Equipment	Existing
emergency plan coordination	Clinton County Emergency Management Agency	Clinton County Sheriff	Existing
evacuation coordination	Clinton County Emergency Management Agency	Clinton County Sheriff	Planned
incident command information coordination	Clinton County Emergency Management Agency	Clinton County Sheriff	Existing
incident report	Clinton County Emergency Management Agency	Clinton County Sheriff	Existing
incident response coordination	Clinton County Emergency Management Agency	Clinton County Sheriff	Existing
resource coordination	Clinton County Emergency Management Agency	Clinton County Sheriff	Existing
threat information coordination	Clinton County Emergency Management Agency	Clinton County Sheriff	Existing
incident information for media	Clinton County Emergency Management Agency	Media	Existing

Architecture Flow Name	Source	Destination	Status
secure area sensor data	Clinton County Emergency Management Agency Security Monitoring Field Equipment	Clinton County Emergency Management Agency	Existing
secure area surveillance data	Clinton County Emergency Management Agency Security Monitoring Field Equipment	Clinton County Emergency Management Agency	Existing
alert status	Clinton County Engineer	Clinton County 911 Center	Existing
current asset restrictions	Clinton County Engineer	Clinton County 911 Center	Existing
emergency plan coordination	Clinton County Engineer	Clinton County 911 Center	Existing
incident information	Clinton County Engineer	Clinton County 911 Center	Existing
maint and constr resource response	Clinton County Engineer	Clinton County 911 Center	Existing
maint and constr work plans	Clinton County Engineer	Clinton County 911 Center	Existing
road network status assessment	Clinton County Engineer	Clinton County 911 Center	Existing
road weather information	Clinton County Engineer	Clinton County 911 Center	Existing
roadway maintenance status	Clinton County Engineer	Clinton County 911 Center	Existing
work zone information	Clinton County Engineer	Clinton County 911 Center	Existing
maint and constr dispatch information	Clinton County Engineer	Clinton County Engineer MCO Vehicles	Existing
alert status	Clinton County Engineer	Clinton County Sheriff	Existing
current asset restrictions	Clinton County Engineer	Clinton County Sheriff	Existing
emergency plan coordination	Clinton County Engineer	Clinton County Sheriff	Existing
incident information	Clinton County Engineer	Clinton County Sheriff	Existing
maint and constr resource response	Clinton County Engineer	Clinton County Sheriff	Existing
maint and constr work plans	Clinton County Engineer	Clinton County Sheriff	Existing
road network status assessment	Clinton County Engineer	Clinton County Sheriff	Existing
road weather information	Clinton County Engineer	Clinton County Sheriff	Existing
roadway maintenance status	Clinton County Engineer	Clinton County Sheriff	Existing
work zone information	Clinton County Engineer	Clinton County Sheriff	Existing
emergency plan coordination	Clinton County Engineer	Iowa DOT District 6	Existing
maint and constr resource coordination	Clinton County Engineer	Iowa DOT District 6	Existing
work plan coordination	Clinton County Engineer	Iowa DOT District 6	Existing
transportation weather information request	Clinton County Engineer	Surface Transportation Weather Service	Existing
maint and constr dispatch status	Clinton County Engineer MCO Vehicles	Clinton County Engineer	Existing
maint and constr vehicle conditions	Clinton County Engineer MCO Vehicles	Clinton County Engineer	Planned
maint and constr vehicle location data	Clinton County Engineer MCO Vehicles	Clinton County Engineer	Planned
maint and constr vehicle operational data	Clinton County Engineer MCO Vehicles	Clinton County Engineer	Planned
alert notification coordination	Clinton County Sheriff	City of Camanche Fire Department	Existing
incident command information coordination	Clinton County Sheriff	City of Camanche Fire Department	Existing
incident report	Clinton County Sheriff	City of Camanche Fire Department	Existing

Architecture Flow Name	Source	Destination	Status
incident response coordination	Clinton County Sheriff	City of Camanche Fire Department	Existing
alert notification coordination	Clinton County Sheriff	City of Camanche Police Department	Existing
emergency plan coordination	Clinton County Sheriff	City of Camanche Police Department	Existing
evacuation coordination	Clinton County Sheriff	City of Camanche Police Department	Planned
incident command information coordination	Clinton County Sheriff	City of Camanche Police Department	Existing
incident report	Clinton County Sheriff	City of Camanche Police Department	Existing
incident response coordination	Clinton County Sheriff	City of Camanche Police Department	Existing
resource coordination	Clinton County Sheriff	City of Camanche Police Department	Existing
threat information coordination	Clinton County Sheriff	City of Camanche Police Department	Existing
alert notification	Clinton County Sheriff	City of Camanche Public Works Department	Existing
emergency plan coordination	Clinton County Sheriff	City of Camanche Public Works Department	Existing
evacuation information	Clinton County Sheriff	City of Camanche Public Works Department	Planned
incident information	Clinton County Sheriff	City of Camanche Public Works Department	Existing
incident response status	Clinton County Sheriff	City of Camanche Public Works Department	Existing
maint and constr resource request	Clinton County Sheriff	City of Camanche Public Works Department	Existing
threat information	Clinton County Sheriff	City of Camanche Public Works Department	Existing
work plan feedback	Clinton County Sheriff	City of Camanche Public Works Department	Existing
alert notification coordination	Clinton County Sheriff	City of Clinton Fire Department	Existing
emergency plan coordination	Clinton County Sheriff	City of Clinton Fire Department	Existing
evacuation coordination	Clinton County Sheriff	City of Clinton Fire Department	Planned
incident command information coordination	Clinton County Sheriff	City of Clinton Fire Department	Existing
incident report	Clinton County Sheriff	City of Clinton Fire Department	Existing
incident response coordination	Clinton County Sheriff	City of Clinton Fire Department	Existing
resource coordination	Clinton County Sheriff	City of Clinton Fire Department	Existing
threat information coordination	Clinton County Sheriff	City of Clinton Fire Department	Existing
alert notification coordination	Clinton County Sheriff	City of Clinton Police Department	Existing
emergency plan coordination	Clinton County Sheriff	City of Clinton Police Department	Existing
evacuation coordination	Clinton County Sheriff	City of Clinton Police Department	Planned

Architecture Flow Name	Source	Destination	Status
incident command information coordination	Clinton County Sheriff	City of Clinton Police Department	Existing
incident report	Clinton County Sheriff	City of Clinton Police Department	Existing
incident response coordination	Clinton County Sheriff	City of Clinton Police Department	Existing
resource coordination	Clinton County Sheriff	City of Clinton Police Department	Existing
threat information coordination	Clinton County Sheriff	City of Clinton Police Department	Planned
alert notification coordination	Clinton County Sheriff	City of Dewitt Police Department	Existing
emergency plan coordination	Clinton County Sheriff	City of Dewitt Police Department	Existing
evacuation coordination	Clinton County Sheriff	City of Dewitt Police Department	Planned
incident command information coordination	Clinton County Sheriff	City of Dewitt Police Department	Existing
incident report	Clinton County Sheriff	City of Dewitt Police Department	Existing
incident response coordination	Clinton County Sheriff	City of Dewitt Police Department	Existing
resource coordination	Clinton County Sheriff	City of Dewitt Police Department	Existing
threat information coordination	Clinton County Sheriff	City of Dewitt Police Department	Existing
alert notification	Clinton County Sheriff	City of Grand Mound Public Works Department	Existing
emergency plan coordination	Clinton County Sheriff	City of Grand Mound Public Works Department	Existing
evacuation information	Clinton County Sheriff	City of Grand Mound Public Works Department	Planned
incident information	Clinton County Sheriff	City of Grand Mound Public Works Department	Existing
incident response status	Clinton County Sheriff	City of Grand Mound Public Works Department	Existing
maint and constr resource request	Clinton County Sheriff	City of Grand Mound Public Works Department	Existing
work plan feedback	Clinton County Sheriff	City of Grand Mound Public Works Department	Existing
alert notification coordination	Clinton County Sheriff	Clinton County 911 Center	Existing
emergency plan coordination	Clinton County Sheriff	Clinton County 911 Center	Existing
evacuation coordination	Clinton County Sheriff	Clinton County 911 Center	Planned
incident command information coordination	Clinton County Sheriff	Clinton County 911 Center	Existing
incident report	Clinton County Sheriff	Clinton County 911 Center	Existing
incident response coordination	Clinton County Sheriff	Clinton County 911 Center	Existing
resource coordination	Clinton County Sheriff	Clinton County 911 Center	Existing
threat information coordination	Clinton County Sheriff	Clinton County 911 Center	Existing
alert notification coordination	Clinton County Sheriff	Clinton County Emergency Management Agency	Existing
emergency plan coordination	Clinton County Sheriff	Clinton County Emergency Management Agency	Existing
evacuation coordination	Clinton County Sheriff	Clinton County Emergency Management Agency	Planned

Architecture Flow Name	Source	Destination	Status
incident command information coordination	Clinton County Sheriff	Clinton County Emergency Management Agency	Existing
incident report	Clinton County Sheriff	Clinton County Emergency Management Agency	Existing
incident response coordination	Clinton County Sheriff	Clinton County Emergency Management Agency	Existing
resource coordination	Clinton County Sheriff	Clinton County Emergency Management Agency	Existing
threat information coordination	Clinton County Sheriff	Clinton County Emergency Management Agency	Existing
alert notification	Clinton County Sheriff	Clinton County Engineer	Existing
emergency plan coordination	Clinton County Sheriff	Clinton County Engineer	Existing
evacuation information	Clinton County Sheriff	Clinton County Engineer	Planned
incident information	Clinton County Sheriff	Clinton County Engineer	Existing
incident response status	Clinton County Sheriff	Clinton County Engineer	Existing
maint and constr resource request	Clinton County Sheriff	Clinton County Engineer	Existing
work plan feedback	Clinton County Sheriff	Clinton County Engineer	Existing
emergency dispatch requests	Clinton County Sheriff	Clinton County Sheriff Emergency Vehicles	Existing
suggested route	Clinton County Sheriff	Clinton County Sheriff Emergency Vehicles	Existing
secure area sensor control	Clinton County Sheriff	Clinton County Sheriff Security Monitoring Field Equipment	Existing
secure area surveillance control	Clinton County Sheriff	Clinton County Sheriff Security Monitoring Field Equipment	Existing
emergency plan coordination	Clinton County Sheriff	Iowa State Patrol District 12	Existing
incident report	Clinton County Sheriff	Iowa State Patrol District 12	Existing
incident response coordination	Clinton County Sheriff	Iowa State Patrol District 12	Existing
resource coordination	Clinton County Sheriff	Iowa State Patrol District 12	Existing
threat information coordination	Clinton County Sheriff	Iowa State Patrol District 12	Existing
alert notification	Clinton County Sheriff	River Bend Transit	Existing
incident response status	Clinton County Sheriff	River Bend Transit	Existing
threat information	Clinton County Sheriff	River Bend Transit	Existing
emergency dispatch response	Clinton County Sheriff Emergency Vehicles	Clinton County 911 Center	Existing
incident status	Clinton County Sheriff Emergency Vehicles	Clinton County 911 Center	Existing
emergency dispatch response	Clinton County Sheriff Emergency Vehicles	Clinton County Sheriff	Existing
incident status	Clinton County Sheriff Emergency Vehicles	Clinton County Sheriff	Existing
secure area sensor data	Clinton County Sheriff Security Monitoring Field Equipment	Clinton County Sheriff	Existing
secure area surveillance data	Clinton County Sheriff Security Monitoring Field Equipment	Clinton County Sheriff	Existing
safety inspection record	Commercial Vehicles	City of Clinton Police Department Commercial Vehicle Inspection Facility	Planned

Architecture Flow Name	Source	Destination	Status
emergency plan coordination	Delaware County Emergency Management	City of Manchester Police Department	Existing
evacuation coordination	Delaware County Emergency Management	City of Manchester Police Department	Existing
incident command information coordination	Delaware County Emergency Management	City of Manchester Police Department	Existing
incident report	Delaware County Emergency Management	City of Manchester Police Department	Existing
incident response coordination	Delaware County Emergency Management	City of Manchester Police Department	Existing
resource coordination	Delaware County Emergency Management	City of Manchester Police Department	Existing
threat information coordination	Delaware County Emergency Management	City of Manchester Police Department	Existing
emergency dispatch requests	Delaware County Emergency Management	Delaware County Emergency Management Emergency Vehicles	Existing
secure area sensor control	Delaware County Emergency Management	Delaware County Emergency Management Security Monitoring Field Equipment	Existing
secure area surveillance control	Delaware County Emergency Management	Delaware County Emergency Management Security Monitoring Field Equipment	Existing
emergency plan coordination	Delaware County Emergency Management	Delaware County Engineer	Existing
evacuation information	Delaware County Emergency Management	Delaware County Engineer	Existing
incident information	Delaware County Emergency Management	Delaware County Engineer	Existing
incident response status	Delaware County Emergency Management	Delaware County Engineer	Existing
maint and constr resource request	Delaware County Emergency Management	Delaware County Engineer	Existing
work plan feedback	Delaware County Emergency Management	Delaware County Engineer	Existing
emergency plan coordination	Delaware County Emergency Management	Delaware County Sheriff	Existing
evacuation coordination	Delaware County Emergency Management	Delaware County Sheriff	Existing
incident command information coordination	Delaware County Emergency Management	Delaware County Sheriff	Existing
incident report	Delaware County Emergency Management	Delaware County Sheriff	Existing
incident response coordination	Delaware County Emergency Management	Delaware County Sheriff	Existing
resource coordination	Delaware County Emergency Management	Delaware County Sheriff	Existing
threat information coordination	Delaware County Emergency Management	Delaware County Sheriff	Existing

Architecture Flow Name	Source	Destination	Status
emergency dispatch response	Delaware County Emergency Management Emergency Vehicles	City of Manchester Police Department	Existing
incident status	Delaware County Emergency Management Emergency Vehicles	City of Manchester Police Department	Existing
emergency dispatch response	Delaware County Emergency Management Emergency Vehicles	Delaware County Emergency Management	Existing
incident status	Delaware County Emergency Management Emergency Vehicles	Delaware County Emergency Management	Existing
secure area sensor data	Delaware County Emergency Management Security Monitoring Field Equipment	Delaware County Emergency Management	Existing
secure area surveillance data	Delaware County Emergency Management Security Monitoring Field Equipment	Delaware County Emergency Management	Existing
current asset restrictions	Delaware County Engineer	Delaware County Emergency Management	Existing
emergency plan coordination	Delaware County Engineer	Delaware County Emergency Management	Existing
incident information	Delaware County Engineer	Delaware County Emergency Management	Existing
maint and constr resource response	Delaware County Engineer	Delaware County Emergency Management	Existing
maint and constr work plans	Delaware County Engineer	Delaware County Emergency Management	Existing
road network status assessment	Delaware County Engineer	Delaware County Emergency Management	Existing
road weather information	Delaware County Engineer	Delaware County Emergency Management	Existing
roadway maintenance status	Delaware County Engineer	Delaware County Emergency Management	Existing
work zone information	Delaware County Engineer	Delaware County Emergency Management	Existing
maint and constr dispatch information	Delaware County Engineer	Delaware County Engineer MCO Vehicles	Existing
current asset restrictions	Delaware County Engineer	Delaware County Sheriff	Existing
emergency plan coordination	Delaware County Engineer	Delaware County Sheriff	Existing
incident information	Delaware County Engineer	Delaware County Sheriff	Existing
maint and constr resource response	Delaware County Engineer	Delaware County Sheriff	Existing
maint and constr work plans	Delaware County Engineer	Delaware County Sheriff	Existing
road network status assessment	Delaware County Engineer	Delaware County Sheriff	Existing
road weather information	Delaware County Engineer	Delaware County Sheriff	Existing
roadway maintenance status	Delaware County Engineer	Delaware County Sheriff	Existing
work zone information	Delaware County Engineer	Delaware County Sheriff	Existing
emergency plan coordination	Delaware County Engineer	Iowa DOT District 6	Existing
maint and constr resource coordination	Delaware County Engineer	Iowa DOT District 6	Existing

Architecture Flow Name	Source	Destination	Status
work plan coordination	Delaware County Engineer	Iowa DOT District 6	Existing
maint and constr dispatch status	Delaware County Engineer MCO Vehicles	Delaware County Engineer	Existing
maint and constr vehicle conditions	Delaware County Engineer MCO Vehicles	Delaware County Engineer	Existing
maint and constr vehicle location data	Delaware County Engineer MCO Vehicles	Delaware County Engineer	Planned
maint and constr vehicle operational data	Delaware County Engineer MCO Vehicles	Delaware County Engineer	Planned
emergency plan coordination	Delaware County Sheriff	City of Manchester Police Department	Existing
evacuation coordination	Delaware County Sheriff	City of Manchester Police Department	Existing
incident command information coordination	Delaware County Sheriff	City of Manchester Police Department	Existing
incident report	Delaware County Sheriff	City of Manchester Police Department	Existing
incident response coordination	Delaware County Sheriff	City of Manchester Police Department	Existing
resource coordination	Delaware County Sheriff	City of Manchester Police Department	Existing
threat information coordination	Delaware County Sheriff	City of Manchester Police Department	Existing
emergency plan coordination	Delaware County Sheriff	Delaware County Emergency Management	Existing
evacuation coordination	Delaware County Sheriff	Delaware County Emergency Management	Existing
incident command information coordination	Delaware County Sheriff	Delaware County Emergency Management	Existing
incident report	Delaware County Sheriff	Delaware County Emergency Management	Existing
incident response coordination	Delaware County Sheriff	Delaware County Emergency Management	Existing
resource coordination	Delaware County Sheriff	Delaware County Emergency Management	Existing
threat information coordination	Delaware County Sheriff	Delaware County Emergency Management	Existing
emergency plan coordination	Delaware County Sheriff	Delaware County Engineer	Existing
evacuation information	Delaware County Sheriff	Delaware County Engineer	Existing
incident information	Delaware County Sheriff	Delaware County Engineer	Existing
incident response status	Delaware County Sheriff	Delaware County Engineer	Existing
maint and constr resource request	Delaware County Sheriff	Delaware County Engineer	Existing
threat information	Delaware County Sheriff	Delaware County Engineer	Existing
work plan feedback	Delaware County Sheriff	Delaware County Engineer	Existing
emergency dispatch requests	Delaware County Sheriff	Delaware County Sheriff Emergency Vehicles	Existing
secure area sensor control	Delaware County Sheriff	Delaware County Sheriff Security Monitoring Field Equipment	Existing

Architecture Flow Name	Source	Destination	Status
secure area surveillance control	Delaware County Sheriff	Delaware County Sheriff Security Monitoring Field Equipment	Existing
emergency plan coordination	Delaware County Sheriff	Iowa State Patrol District 10	Existing
incident report	Delaware County Sheriff	Iowa State Patrol District 10	Existing
incident response coordination	Delaware County Sheriff	Iowa State Patrol District 10	Existing
resource coordination	Delaware County Sheriff	Iowa State Patrol District 10	Existing
threat information coordination	Delaware County Sheriff	Iowa State Patrol District 10	Existing
emergency dispatch response	Delaware County Sheriff Emergency Vehicles	City of Manchester Police Department	Existing
emergency vehicle tracking data	Delaware County Sheriff Emergency Vehicles	City of Manchester Police Department	Planned
incident status	Delaware County Sheriff Emergency Vehicles	City of Manchester Police Department	Existing
emergency dispatch response	Delaware County Sheriff Emergency Vehicles	Delaware County Sheriff	Existing
incident status	Delaware County Sheriff Emergency Vehicles	Delaware County Sheriff	Existing
secure area sensor data	Delaware County Sheriff Security Monitoring Field Equipment	Delaware County Sheriff	Existing
secure area surveillance data	Delaware County Sheriff Security Monitoring Field Equipment	Delaware County Sheriff	Existing
alert notification	Dubuque 911 Center	City of Dubuque Citychannel 8	Existing
evacuation information	Dubuque 911 Center	City of Dubuque Citychannel 8	Existing
incident information	Dubuque 911 Center	City of Dubuque Citychannel 8	Existing
ISP coordination	Dubuque 911 Center	City of Dubuque Citychannel 8	Existing
alert notification	Dubuque 911 Center	City of Dubuque Engineering Department	Existing
emergency plan coordination	Dubuque 911 Center	City of Dubuque Engineering Department	Existing
emergency route request	Dubuque 911 Center	City of Dubuque Engineering Department	Existing
emergency traffic control request	Dubuque 911 Center	City of Dubuque Engineering Department	Existing
evacuation information	Dubuque 911 Center	City of Dubuque Engineering Department	Existing
incident information	Dubuque 911 Center	City of Dubuque Engineering Department	Existing
incident response status	Dubuque 911 Center	City of Dubuque Engineering Department	Existing
maint and constr resource request	Dubuque 911 Center	City of Dubuque Engineering Department	Existing
resource request	Dubuque 911 Center	City of Dubuque Engineering Department	Existing
threat information coordination	Dubuque 911 Center	City of Dubuque Engineering Department	Existing

Architecture Flow Name	Source	Destination	Status
work plan feedback	Dubuque 911 Center	City of Dubuque Engineering Department	Existing
alert notification coordination	Dubuque 911 Center	City of Dubuque Fire Department	Existing
emergency plan coordination	Dubuque 911 Center	City of Dubuque Fire Department	Existing
evacuation coordination	Dubuque 911 Center	City of Dubuque Fire Department	Existing
incident command information coordination	Dubuque 911 Center	City of Dubuque Fire Department	Existing
incident report	Dubuque 911 Center	City of Dubuque Fire Department	Existing
incident response coordination	Dubuque 911 Center	City of Dubuque Fire Department	Existing
resource coordination	Dubuque 911 Center	City of Dubuque Fire Department	Existing
threat information coordination	Dubuque 911 Center	City of Dubuque Fire Department	Existing
emergency dispatch requests	Dubuque 911 Center	City of Dubuque Fire Department Emergency Vehicles	Existing
suggested route	Dubuque 911 Center	City of Dubuque Fire Department Emergency Vehicles	Existing
alert notification	Dubuque 911 Center	City of Dubuque Keyline Transit	Existing
emergency plan coordination	Dubuque 911 Center	City of Dubuque Keyline Transit	Existing
emergency transit service request	Dubuque 911 Center	City of Dubuque Keyline Transit	Existing
evacuation information	Dubuque 911 Center	City of Dubuque Keyline Transit	Existing
incident response status	Dubuque 911 Center	City of Dubuque Keyline Transit	Existing
threat information coordination	Dubuque 911 Center	City of Dubuque Keyline Transit	Existing
alert notification	Dubuque 911 Center	City of Dubuque Operations and Maintenance Department	Existing
emergency plan coordination	Dubuque 911 Center	City of Dubuque Operations and Maintenance Department	Existing
incident information	Dubuque 911 Center	City of Dubuque Operations and Maintenance Department	Existing
incident response status	Dubuque 911 Center	City of Dubuque Operations and Maintenance Department	Existing
maint and constr resource request	Dubuque 911 Center	City of Dubuque Operations and Maintenance Department	Existing
threat information	Dubuque 911 Center	City of Dubuque Operations and Maintenance Department	Existing
work plan feedback	Dubuque 911 Center	City of Dubuque Operations and Maintenance Department	Existing
alert notification coordination	Dubuque 911 Center	City of Dubuque Police Department	Existing
emergency plan coordination	Dubuque 911 Center	City of Dubuque Police Department	Existing
evacuation coordination	Dubuque 911 Center	City of Dubuque Police Department	Existing

Architecture Flow Name	Source	Destination	Status
incident command information coordination	Dubuque 911 Center	City of Dubuque Police Department	Existing
incident report	Dubuque 911 Center	City of Dubuque Police Department	Existing
incident response coordination	Dubuque 911 Center	City of Dubuque Police Department	Existing
resource coordination	Dubuque 911 Center	City of Dubuque Police Department	Existing
threat information coordination	Dubuque 911 Center	City of Dubuque Police Department	Existing
emergency dispatch requests	Dubuque 911 Center	City of Dubuque Police Department Emergency Vehicles	Existing
suggested route	Dubuque 911 Center	City of Dubuque Police Department Emergency Vehicles	Existing
alert notification coordination	Dubuque 911 Center	City of Farley Fire Department	Existing
emergency plan coordination	Dubuque 911 Center	City of Farley Fire Department	Existing
evacuation coordination	Dubuque 911 Center	City of Farley Fire Department	Existing
incident command information coordination	Dubuque 911 Center	City of Farley Fire Department	Existing
incident report	Dubuque 911 Center	City of Farley Fire Department	Existing
incident response coordination	Dubuque 911 Center	City of Farley Fire Department	Existing
resource coordination	Dubuque 911 Center	City of Farley Fire Department	Existing
threat information coordination	Dubuque 911 Center	City of Farley Fire Department	Existing
emergency dispatch requests	Dubuque 911 Center	City of Farley Fire Department Emergency Vehicles	Existing
emergency dispatch requests	Dubuque 911 Center	Dubuque 911 Center Emergency Vehicles	Existing
suggested route	Dubuque 911 Center	Dubuque 911 Center Emergency Vehicles	Existing
roadway information system data	Dubuque 911 Center	Dubuque 911 Center Roadside Equipment	Existing
secure area sensor control	Dubuque 911 Center	Dubuque 911 Center Security Monitoring Field Equipment	Existing
secure area surveillance control	Dubuque 911 Center	Dubuque 911 Center Security Monitoring Field Equipment	Existing
alert notification coordination	Dubuque 911 Center	Dubuque County Sheriff	Existing
emergency plan coordination	Dubuque 911 Center	Dubuque County Sheriff	Existing
evacuation coordination	Dubuque 911 Center	Dubuque County Sheriff	Existing
incident command information coordination	Dubuque 911 Center	Dubuque County Sheriff	Existing
incident report	Dubuque 911 Center	Dubuque County Sheriff	Existing
incident response coordination	Dubuque 911 Center	Dubuque County Sheriff	Existing
resource coordination	Dubuque 911 Center	Dubuque County Sheriff	Existing
threat information coordination	Dubuque 911 Center	Dubuque County Sheriff	Existing
emergency dispatch requests	Dubuque 911 Center	Dubuque County Sheriff Emergency Vehicles	Existing
suggested route	Dubuque 911 Center	Dubuque County Sheriff Emergency Vehicles	Existing

Architecture Flow Name	Source	Destination	Status
alert notification coordination	Dubuque 911 Center	Grant County Sheriff	Existing
emergency plan coordination	Dubuque 911 Center	Grant County Sheriff	Existing
evacuation coordination	Dubuque 911 Center	Grant County Sheriff	Existing
incident command information coordination	Dubuque 911 Center	Grant County Sheriff	Existing
incident report	Dubuque 911 Center	Grant County Sheriff	Existing
incident response coordination	Dubuque 911 Center	Grant County Sheriff	Existing
resource coordination	Dubuque 911 Center	Grant County Sheriff	Existing
threat information coordination	Dubuque 911 Center	Grant County Sheriff	Existing
alert notification coordination	Dubuque 911 Center	Iowa DOT District 6	Existing
emergency plan coordination	Dubuque 911 Center	Iowa DOT District 6	Existing
incident information	Dubuque 911 Center	Iowa DOT District 6	Existing
incident response status	Dubuque 911 Center	Iowa DOT District 6	Existing
maint and constr resource request	Dubuque 911 Center	Iowa DOT District 6	Existing
resource request	Dubuque 911 Center	Iowa DOT District 6	Existing
threat information coordination	Dubuque 911 Center	Iowa DOT District 6	Existing
alert notification coordination	Dubuque 911 Center	Iowa State Patrol District 10	Existing
emergency plan coordination	Dubuque 911 Center	Iowa State Patrol District 10	Existing
incident report	Dubuque 911 Center	Iowa State Patrol District 10	Existing
incident response coordination	Dubuque 911 Center	Iowa State Patrol District 10	Existing
resource coordination	Dubuque 911 Center	Iowa State Patrol District 10	Existing
threat information coordination	Dubuque 911 Center	Iowa State Patrol District 10	Existing
alert notification coordination	Dubuque 911 Center	Jo Daviess County 911 Center	Existing
emergency plan coordination	Dubuque 911 Center	Jo Daviess County 911 Center	Planned
evacuation coordination	Dubuque 911 Center	Jo Daviess County 911 Center	Planned
incident command information coordination	Dubuque 911 Center	Jo Daviess County 911 Center	Planned
incident report	Dubuque 911 Center	Jo Daviess County 911 Center	Existing
incident response coordination	Dubuque 911 Center	Jo Daviess County 911 Center	Existing
resource coordination	Dubuque 911 Center	Jo Daviess County 911 Center	Planned
alert notification coordination	Dubuque 911 Center	Jo Daviess County Sheriff	Existing
emergency plan coordination	Dubuque 911 Center	Jo Daviess County Sheriff	Existing
evacuation coordination	Dubuque 911 Center	Jo Daviess County Sheriff	Existing
incident command information coordination	Dubuque 911 Center	Jo Daviess County Sheriff	Existing
incident report	Dubuque 911 Center	Jo Daviess County Sheriff	Existing
incident response coordination	Dubuque 911 Center	Jo Daviess County Sheriff	Existing
resource coordination	Dubuque 911 Center	Jo Daviess County Sheriff	Existing
threat information coordination	Dubuque 911 Center	Jo Daviess County Sheriff	Existing
incident information for media	Dubuque 911 Center	Media	Existing
traveler information for media	Dubuque 911 Center	Media	Existing
broadcast information	Dubuque 911 Center	User Personal Computing Devices	Existing
emergency traveler information	Dubuque 911 Center	User Personal Computing Devices	Existing
local signal preemption request	Dubuque 911 Center Emergency Vehicles	City of Dubuque Engineering Department Roadside Equipment	Existing

Architecture Flow Name	Source	Destination	Status
emergency dispatch response	Dubuque 911 Center Emergency Vehicles	Dubuque 911 Center	Existing
emergency vehicle tracking data	Dubuque 911 Center Emergency Vehicles	Dubuque 911 Center	Planned
incident status	Dubuque 911 Center Emergency Vehicles	Dubuque 911 Center	Existing
roadway information system status	Dubuque 911 Center Roadside Equipment	Dubuque 911 Center	Existing
secure area sensor data	Dubuque 911 Center Security Monitoring Field Equipment	Dubuque 911 Center	Existing
secure area surveillance data	Dubuque 911 Center Security Monitoring Field Equipment	Dubuque 911 Center	Existing
alert notification	Dubuque County Emergency Management Agency	City of Asbury Public Works Department	Planned
emergency plan coordination	Dubuque County Emergency Management Agency	City of Asbury Public Works Department	Existing
evacuation information	Dubuque County Emergency Management Agency	City of Asbury Public Works Department	Existing
maint and constr resource request	Dubuque County Emergency Management Agency	City of Asbury Public Works Department	Existing
alert notification coordination	Dubuque County Emergency Management Agency	City of Dubuque Fire Department	Planned
emergency plan coordination	Dubuque County Emergency Management Agency	City of Dubuque Fire Department	Existing
evacuation coordination	Dubuque County Emergency Management Agency	City of Dubuque Fire Department	Existing
incident command information coordination	Dubuque County Emergency Management Agency	City of Dubuque Fire Department	Existing
incident report	Dubuque County Emergency Management Agency	City of Dubuque Fire Department	Existing
incident response coordination	Dubuque County Emergency Management Agency	City of Dubuque Fire Department	Existing
resource coordination	Dubuque County Emergency Management Agency	City of Dubuque Fire Department	Existing
threat information coordination	Dubuque County Emergency Management Agency	City of Dubuque Fire Department	Existing
alert notification coordination	Dubuque County Emergency Management Agency	City of Dubuque Police Department	Planned
emergency plan coordination	Dubuque County Emergency Management Agency	City of Dubuque Police Department	Existing
evacuation coordination	Dubuque County Emergency Management Agency	City of Dubuque Police Department	Existing
incident command information coordination	Dubuque County Emergency Management Agency	City of Dubuque Police Department	Existing
incident report	Dubuque County Emergency Management Agency	City of Dubuque Police Department	Existing
incident response coordination	Dubuque County Emergency Management Agency	City of Dubuque Police Department	Existing
resource coordination	Dubuque County Emergency Management Agency	City of Dubuque Police Department	Existing

Architecture Flow Name	Source	Destination	Status
threat information coordination	Dubuque County Emergency Management Agency	City of Dubuque Police Department	Existing
alert notification coordination	Dubuque County Emergency Management Agency	City of Farley Fire Department	Planned
emergency plan coordination	Dubuque County Emergency Management Agency	City of Farley Fire Department	Existing
evacuation coordination	Dubuque County Emergency Management Agency	City of Farley Fire Department	Existing
incident command information coordination	Dubuque County Emergency Management Agency	City of Farley Fire Department	Existing
incident report	Dubuque County Emergency Management Agency	City of Farley Fire Department	Existing
incident response coordination	Dubuque County Emergency Management Agency	City of Farley Fire Department	Existing
resource coordination	Dubuque County Emergency Management Agency	City of Farley Fire Department	Existing
threat information coordination	Dubuque County Emergency Management Agency	City of Farley Fire Department	Existing
alert notification	Dubuque County Emergency Management Agency	City of Farley Public Works Department	Planned
emergency plan coordination	Dubuque County Emergency Management Agency	City of Farley Public Works Department	Existing
evacuation information	Dubuque County Emergency Management Agency	City of Farley Public Works Department	Existing
incident information	Dubuque County Emergency Management Agency	City of Farley Public Works Department	Existing
incident response status	Dubuque County Emergency Management Agency	City of Farley Public Works Department	Existing
maint and constr resource request	Dubuque County Emergency Management Agency	City of Farley Public Works Department	Existing
secure area sensor control	Dubuque County Emergency Management Agency	Dubuque County Emergency Management Agency Security Monitoring Field Equipment	Existing
secure area surveillance control	Dubuque County Emergency Management Agency	Dubuque County Emergency Management Agency Security Monitoring Field Equipment	Existing
alert notification coordination	Dubuque County Emergency Management Agency	Dubuque County Sheriff	Planned
emergency plan coordination	Dubuque County Emergency Management Agency	Dubuque County Sheriff	Existing
evacuation coordination	Dubuque County Emergency Management Agency	Dubuque County Sheriff	Existing
incident command information coordination	Dubuque County Emergency Management Agency	Dubuque County Sheriff	Existing
incident report	Dubuque County Emergency Management Agency	Dubuque County Sheriff	Existing
incident response coordination	Dubuque County Emergency Management Agency	Dubuque County Sheriff	Existing
resource coordination	Dubuque County Emergency Management Agency	Dubuque County Sheriff	Existing

Architecture Flow Name	Source	Destination	Status
threat information coordination	Dubuque County Emergency Management Agency	Dubuque County Sheriff	Existing
incident information for media	Dubuque County Emergency Management Agency	Media	Existing
transportation weather information request	Dubuque County Emergency Management Agency	Surface Transportation Weather Service	Existing
secure area sensor data	Dubuque County Emergency Management Agency Security Monitoring Field Equipment	Dubuque County Emergency Management Agency	Existing
secure area surveillance data	Dubuque County Emergency Management Agency Security Monitoring Field Equipment	Dubuque County Emergency Management Agency	Existing
maint and constr resource coordination	Dubuque County Engineer	City of Dubuque Operations and Maintenance Department	Existing
road weather information	Dubuque County Engineer	City of Dubuque Operations and Maintenance Department	Existing
roadway maintenance status	Dubuque County Engineer	City of Dubuque Operations and Maintenance Department	Existing
work plan coordination	Dubuque County Engineer	City of Dubuque Operations and Maintenance Department	Existing
work zone information	Dubuque County Engineer	City of Dubuque Operations and Maintenance Department	Existing
maint and constr dispatch information	Dubuque County Engineer	Dubuque County Engineer MCO Vehicles	Existing
emergency plan coordination	Dubuque County Engineer	Iowa DOT District 6	Existing
maint and constr resource coordination	Dubuque County Engineer	Iowa DOT District 6	Existing
work plan coordination	Dubuque County Engineer	Iowa DOT District 6	Existing
maint and constr dispatch status	Dubuque County Engineer MCO Vehicles	Dubuque County Engineer	Existing
maint and constr vehicle conditions	Dubuque County Engineer MCO Vehicles	Dubuque County Engineer	Existing
alert notification coordination	Dubuque County Sheriff	City of Dubuque Fire Department	Existing
emergency plan coordination	Dubuque County Sheriff	City of Dubuque Fire Department	Existing
evacuation coordination	Dubuque County Sheriff	City of Dubuque Fire Department	Existing
incident command information coordination	Dubuque County Sheriff	City of Dubuque Fire Department	Existing
incident report	Dubuque County Sheriff	City of Dubuque Fire Department	Existing
incident response coordination	Dubuque County Sheriff	City of Dubuque Fire Department	Existing
resource coordination	Dubuque County Sheriff	City of Dubuque Fire Department	Existing
threat information coordination	Dubuque County Sheriff	City of Dubuque Fire Department	Existing
alert notification coordination	Dubuque County Sheriff	City of Dubuque Police Department	Existing

Architecture Flow Name	Source	Destination	Status
emergency plan coordination	Dubuque County Sheriff	City of Dubuque Police Department	Existing
evacuation coordination	Dubuque County Sheriff	City of Dubuque Police Department	Existing
incident command information coordination	Dubuque County Sheriff	City of Dubuque Police Department	Existing
incident report	Dubuque County Sheriff	City of Dubuque Police Department	Existing
incident response coordination	Dubuque County Sheriff	City of Dubuque Police Department	Existing
resource coordination	Dubuque County Sheriff	City of Dubuque Police Department	Existing
threat information coordination	Dubuque County Sheriff	City of Dubuque Police Department	Existing
alert notification coordination	Dubuque County Sheriff	City of Farley Fire Department	Existing
emergency plan coordination	Dubuque County Sheriff	City of Farley Fire Department	Existing
evacuation coordination	Dubuque County Sheriff	City of Farley Fire Department	Existing
incident command information coordination	Dubuque County Sheriff	City of Farley Fire Department	Existing
incident report	Dubuque County Sheriff	City of Farley Fire Department	Existing
incident response coordination	Dubuque County Sheriff	City of Farley Fire Department	Existing
resource coordination	Dubuque County Sheriff	City of Farley Fire Department	Existing
threat information coordination	Dubuque County Sheriff	City of Farley Fire Department	Existing
alert notification coordination	Dubuque County Sheriff	Dubuque 911 Center	Existing
emergency plan coordination	Dubuque County Sheriff	Dubuque 911 Center	Existing
evacuation coordination	Dubuque County Sheriff	Dubuque 911 Center	Existing
incident command information coordination	Dubuque County Sheriff	Dubuque 911 Center	Existing
incident report	Dubuque County Sheriff	Dubuque 911 Center	Existing
incident response coordination	Dubuque County Sheriff	Dubuque 911 Center	Existing
resource coordination	Dubuque County Sheriff	Dubuque 911 Center	Existing
threat information coordination	Dubuque County Sheriff	Dubuque 911 Center	Existing
alert notification coordination	Dubuque County Sheriff	Dubuque County Emergency Management Agency	Planned
emergency plan coordination	Dubuque County Sheriff	Dubuque County Emergency Management Agency	Existing
evacuation coordination	Dubuque County Sheriff	Dubuque County Emergency Management Agency	Existing
incident command information coordination	Dubuque County Sheriff	Dubuque County Emergency Management Agency	Existing
incident report	Dubuque County Sheriff	Dubuque County Emergency Management Agency	Existing
incident response coordination	Dubuque County Sheriff	Dubuque County Emergency Management Agency	Existing
resource coordination	Dubuque County Sheriff	Dubuque County Emergency Management Agency	Existing
threat information coordination	Dubuque County Sheriff	Dubuque County Emergency Management Agency	Existing

Architecture Flow Name	Source	Destination	Status
emergency dispatch requests	Dubuque County Sheriff	Dubuque County Sheriff Emergency Vehicles	Existing
suggested route	Dubuque County Sheriff	Dubuque County Sheriff Emergency Vehicles	Existing
broadcast information	Dubuque County Sheriff	Dubuque County Sheriff Road Weather Information Telephone Service	Existing
emergency traveler information	Dubuque County Sheriff	Dubuque County Sheriff Road Weather Information Telephone Service	Existing
barrier system control	Dubuque County Sheriff	Dubuque County Sheriff Roadside Equipment	Existing
roadway information system data	Dubuque County Sheriff	Dubuque County Sheriff Roadside Equipment	Existing
safeguard system control	Dubuque County Sheriff	Dubuque County Sheriff Roadside Equipment	Existing
secure area sensor control	Dubuque County Sheriff	Dubuque County Sheriff Security Monitoring Field Equipment	Existing
secure area surveillance control	Dubuque County Sheriff	Dubuque County Sheriff Security Monitoring Field Equipment	Existing
alert notification coordination	Dubuque County Sheriff	Grant County Sheriff	Existing
emergency plan coordination	Dubuque County Sheriff	Grant County Sheriff	Existing
evacuation coordination	Dubuque County Sheriff	Grant County Sheriff	Existing
incident command information coordination	Dubuque County Sheriff	Grant County Sheriff	Existing
incident report	Dubuque County Sheriff	Grant County Sheriff	Existing
incident response coordination	Dubuque County Sheriff	Grant County Sheriff	Existing
resource coordination	Dubuque County Sheriff	Grant County Sheriff	Existing
threat information coordination	Dubuque County Sheriff	Grant County Sheriff	Existing
emergency plan coordination	Dubuque County Sheriff	Iowa State Patrol District 10	Existing
incident report	Dubuque County Sheriff	Iowa State Patrol District 10	Existing
incident response coordination	Dubuque County Sheriff	Iowa State Patrol District 10	Existing
resource coordination	Dubuque County Sheriff	Iowa State Patrol District 10	Existing
alert notification coordination	Dubuque County Sheriff	Jo Daviess County 911 Center	Existing
emergency plan coordination	Dubuque County Sheriff	Jo Daviess County 911 Center	Planned
evacuation coordination	Dubuque County Sheriff	Jo Daviess County 911 Center	Planned
incident command information coordination	Dubuque County Sheriff	Jo Daviess County 911 Center	Planned
incident report	Dubuque County Sheriff	Jo Daviess County 911 Center	Existing
incident response coordination	Dubuque County Sheriff	Jo Daviess County 911 Center	Existing
resource coordination	Dubuque County Sheriff	Jo Daviess County 911 Center	Planned
alert notification coordination	Dubuque County Sheriff	Jo Daviess County Sheriff	Existing
emergency plan coordination	Dubuque County Sheriff	Jo Daviess County Sheriff	Existing
evacuation coordination	Dubuque County Sheriff	Jo Daviess County Sheriff	Existing
incident command information coordination	Dubuque County Sheriff	Jo Daviess County Sheriff	Existing
incident report	Dubuque County Sheriff	Jo Daviess County Sheriff	Existing
incident response coordination	Dubuque County Sheriff	Jo Daviess County Sheriff	Existing

Architecture Flow Name	Source	Destination	Status
resource coordination	Dubuque County Sheriff	Jo Daviess County Sheriff	Existing
incident information for media	Dubuque County Sheriff	Media	Existing
traveler information for media	Dubuque County Sheriff	Media	Existing
transportation weather information request	Dubuque County Sheriff	Surface Transportation Weather Service	Existing
local signal preemption request	Dubuque County Sheriff Emergency Vehicles	City of Dubuque Engineering Department Roadside Equipment	Planned
emergency dispatch response	Dubuque County Sheriff Emergency Vehicles	Dubuque 911 Center	Existing
emergency vehicle tracking data	Dubuque County Sheriff Emergency Vehicles	Dubuque 911 Center	Planned
incident status	Dubuque County Sheriff Emergency Vehicles	Dubuque 911 Center	Existing
emergency dispatch response	Dubuque County Sheriff Emergency Vehicles	Dubuque County Sheriff	Existing
emergency vehicle tracking data	Dubuque County Sheriff Emergency Vehicles	Dubuque County Sheriff	Planned
incident status	Dubuque County Sheriff Emergency Vehicles	Dubuque County Sheriff	Existing
emergency traveler information request	Dubuque County Sheriff Road Weather Information Telephone Service	Dubuque County Sheriff	Existing
barrier system status	Dubuque County Sheriff Roadside Equipment	Dubuque County Sheriff	Existing
roadway information system status	Dubuque County Sheriff Roadside Equipment	Dubuque County Sheriff	Existing
safeguard system status	Dubuque County Sheriff Roadside Equipment	Dubuque County Sheriff	Existing
secure area sensor data	Dubuque County Sheriff Security Monitoring Field Equipment	Dubuque County Sheriff	Existing
secure area surveillance data	Dubuque County Sheriff Security Monitoring Field Equipment	Dubuque County Sheriff	Existing
alert notification coordination	Grant County 911 Center	Grant County Emergency Management Agency	Existing
emergency plan coordination	Grant County 911 Center	Grant County Emergency Management Agency	Existing
evacuation coordination	Grant County 911 Center	Grant County Emergency Management Agency	Existing
incident command information coordination	Grant County 911 Center	Grant County Emergency Management Agency	Existing
incident report	Grant County 911 Center	Grant County Emergency Management Agency	Existing
incident response coordination	Grant County 911 Center	Grant County Emergency Management Agency	Existing
resource coordination	Grant County 911 Center	Grant County Emergency Management Agency	Existing
threat information coordination	Grant County 911 Center	Grant County Emergency Management Agency	Existing
incident report	Grant County 911 Center	Grant County Sheriff	Existing

Architecture Flow Name	Source	Destination	Status
incident response coordination	Grant County 911 Center	Grant County Sheriff	Existing
emergency dispatch requests	Grant County 911 Center	Grant County Sheriff Emergency Vehicles	Existing
suggested route	Grant County 911 Center	Grant County Sheriff Emergency Vehicles	Planned
incident information for media	Grant County 911 Center	Media	Existing
emergency traffic control request	Grant County 911 Center	Wisconsin DOT District 1 Corridor TMC	Planned
incident information	Grant County 911 Center	Wisconsin DOT District 1 Corridor TMC	Planned
incident response status	Grant County 911 Center	Wisconsin DOT District 1 Corridor TMC	Planned
alert notification coordination	Grant County Emergency Management Agency	Grant County 911 Center	Existing
emergency plan coordination	Grant County Emergency Management Agency	Grant County 911 Center	Existing
evacuation coordination	Grant County Emergency Management Agency	Grant County 911 Center	Existing
incident command information coordination	Grant County Emergency Management Agency	Grant County 911 Center	Existing
incident report	Grant County Emergency Management Agency	Grant County 911 Center	Existing
incident response coordination	Grant County Emergency Management Agency	Grant County 911 Center	Existing
resource coordination	Grant County Emergency Management Agency	Grant County 911 Center	Existing
threat information coordination	Grant County Emergency Management Agency	Grant County 911 Center	Existing
emergency dispatch requests	Grant County Emergency Management Agency	Grant County Emergency Management Agency Emergency Vehicles	Existing
secure area sensor control	Grant County Emergency Management Agency	Grant County Emergency Management Agency Security Monitoring Field Equipment	Existing
secure area surveillance control	Grant County Emergency Management Agency	Grant County Emergency Management Agency Security Monitoring Field Equipment	Existing
emergency plan coordination	Grant County Emergency Management Agency	Grant County Sheriff	Existing
evacuation coordination	Grant County Emergency Management Agency	Grant County Sheriff	Existing
incident command information coordination	Grant County Emergency Management Agency	Grant County Sheriff	Existing
incident report	Grant County Emergency Management Agency	Grant County Sheriff	Existing
incident response coordination	Grant County Emergency Management Agency	Grant County Sheriff	Existing
resource coordination	Grant County Emergency Management Agency	Grant County Sheriff	Existing

Architecture Flow Name	Source	Destination	Status
threat information coordination	Grant County Emergency Management Agency	Grant County Sheriff	Existing
incident information for media	Grant County Emergency Management Agency	Media	Existing
emergency dispatch response	Grant County Emergency Management Agency Emergency Vehicles	Grant County 911 Center	Existing
emergency vehicle tracking data	Grant County Emergency Management Agency Emergency Vehicles	Grant County 911 Center	Planned
incident status	Grant County Emergency Management Agency Emergency Vehicles	Grant County 911 Center	Existing
emergency dispatch response	Grant County Emergency Management Agency Emergency Vehicles	Grant County Emergency Management Agency	Existing
incident status	Grant County Emergency Management Agency Emergency Vehicles	Grant County Emergency Management Agency	Existing
secure area sensor data	Grant County Emergency Management Agency Security Monitoring Field Equipment	Grant County Emergency Management Agency	Existing
secure area surveillance data	Grant County Emergency Management Agency Security Monitoring Field Equipment	Grant County Emergency Management Agency	Existing
maint and constr dispatch information	Grant County Highway Department	Grant County Highway Department MCO Vehicles	Planned
maint and constr resource coordination	Grant County Highway Department	Wisconsin DOT District 1	Existing
work plan coordination	Grant County Highway Department	Wisconsin DOT District 1	Existing
maint and constr work plans	Grant County Highway Department	Wisconsin DOT District 1 Corridor TMC	Planned
roadway maintenance status	Grant County Highway Department	Wisconsin DOT District 1 Corridor TMC	Planned
work zone information	Grant County Highway Department	Wisconsin DOT District 1 Corridor TMC	Planned
maint and constr dispatch status	Grant County Highway Department MCO Vehicles	Grant County Highway Department	Planned
maint and constr vehicle conditions	Grant County Highway Department MCO Vehicles	Grant County Highway Department	Planned
maint and constr vehicle location data	Grant County Highway Department MCO Vehicles	Grant County Highway Department	Planned
maint and constr vehicle operational data	Grant County Highway Department MCO Vehicles	Grant County Highway Department	Planned
emergency plan coordination	Grant County Sheriff	Dubuque 911 Center	Existing
evacuation coordination	Grant County Sheriff	Dubuque 911 Center	Existing
incident command information coordination	Grant County Sheriff	Dubuque 911 Center	Existing
incident report	Grant County Sheriff	Dubuque 911 Center	Existing

Architecture Flow Name	Source	Destination	Status
incident response coordination	Grant County Sheriff	Dubuque 911 Center	Existing
resource coordination	Grant County Sheriff	Dubuque 911 Center	Existing
threat information coordination	Grant County Sheriff	Dubuque 911 Center	Existing
emergency plan coordination	Grant County Sheriff	Dubuque County Sheriff	Existing
evacuation coordination	Grant County Sheriff	Dubuque County Sheriff	Existing
incident command information coordination	Grant County Sheriff	Dubuque County Sheriff	Existing
incident report	Grant County Sheriff	Dubuque County Sheriff	Existing
incident response coordination	Grant County Sheriff	Dubuque County Sheriff	Existing
resource coordination	Grant County Sheriff	Dubuque County Sheriff	Existing
threat information coordination	Grant County Sheriff	Dubuque County Sheriff	Existing
incident report	Grant County Sheriff	Grant County 911 Center	Existing
incident response coordination	Grant County Sheriff	Grant County 911 Center	Existing
emergency plan coordination	Grant County Sheriff	Grant County Emergency Management Agency	Existing
evacuation coordination	Grant County Sheriff	Grant County Emergency Management Agency	Existing
incident command information coordination	Grant County Sheriff	Grant County Emergency Management Agency	Existing
incident report	Grant County Sheriff	Grant County Emergency Management Agency	Existing
incident response coordination	Grant County Sheriff	Grant County Emergency Management Agency	Existing
resource coordination	Grant County Sheriff	Grant County Emergency Management Agency	Existing
threat information coordination	Grant County Sheriff	Grant County Emergency Management Agency	Existing
emergency dispatch requests	Grant County Sheriff	Grant County Sheriff Emergency Vehicles	Existing
barrier system control	Grant County Sheriff	Grant County Sheriff Roadside Equipment	Planned
safeguard system control	Grant County Sheriff	Grant County Sheriff Roadside Equipment	Planned
secure area sensor control	Grant County Sheriff	Grant County Sheriff Security Monitoring Field Equipment	Existing
secure area surveillance control	Grant County Sheriff	Grant County Sheriff Security Monitoring Field Equipment	Existing
incident information for media	Grant County Sheriff	Media	Existing
emergency dispatch response	Grant County Sheriff Emergency Vehicles	Grant County 911 Center	Existing
incident status	Grant County Sheriff Emergency Vehicles	Grant County 911 Center	Existing
emergency dispatch response	Grant County Sheriff Emergency Vehicles	Grant County Sheriff	Existing
incident status	Grant County Sheriff Emergency Vehicles	Grant County Sheriff	Existing
barrier system status	Grant County Sheriff Roadside Equipment	Grant County Sheriff	Planned

Architecture Flow Name	Source	Destination	Status
safeguard system status	Grant County Sheriff Roadside Equipment	Grant County Sheriff	Planned
secure area sensor data	Grant County Sheriff Security Monitoring Field Equipment	Grant County Sheriff	Existing
secure area surveillance data	Grant County Sheriff Security Monitoring Field Equipment	Grant County Sheriff	Existing
ISP coordination	Illinois DOT 511 Traveler Information System	Illinois DOT Gateway	Planned
broadcast information	Illinois DOT 511 Traveler Information System	User Personal Computing Devices	Planned
emergency traveler information	Illinois DOT 511 Traveler Information System	User Personal Computing Devices	Planned
traveler information	Illinois DOT 511 Traveler Information System	User Personal Computing Devices	Planned
maint and constr resource response	Illinois DOT District 2	City of East Dubuque Police Department	Existing
roadway maintenance status	Illinois DOT District 2	City of East Dubuque Police Department	Existing
maint and constr dispatch information	Illinois DOT District 2	Illinois DOT District 2 MCO Vehicles	Existing
roadway information system data	Illinois DOT District 2	Illinois DOT District 2 Portable Dynamic Message Signs	Existing
signal control data	Illinois DOT District 2	Illinois DOT District 2 Roadside Equipment	Existing
traffic sensor control	Illinois DOT District 2	Illinois DOT District 2 Roadside Equipment	Existing
emergency plan coordination	Illinois DOT District 2	Illinois State Police District 16	Existing
emergency traffic control information	Illinois DOT District 2	Illinois State Police District 16	Existing
incident information	Illinois DOT District 2	Illinois State Police District 16	Existing
maint and constr resource response	Illinois DOT District 2	Illinois State Police District 16	Existing
resource deployment status	Illinois DOT District 2	Illinois State Police District 16	Existing
road network conditions	Illinois DOT District 2	Illinois State Police District 16	Existing
emergency plan coordination	Illinois DOT District 2	Iowa DOT District 6	Existing
maint and constr resource coordination	Illinois DOT District 2	Iowa DOT District 6	Existing
work plan coordination	Illinois DOT District 2	Iowa DOT District 6	Existing
incident information	Illinois DOT District 2	Jo Daviess County Highway Department	Existing
maint and constr resource coordination	Illinois DOT District 2	Jo Daviess County Highway Department	Existing
work plan coordination	Illinois DOT District 2	Jo Daviess County Highway Department	Existing
maint and constr resource coordination	Illinois DOT District 2	Wisconsin DOT District 1	Existing
work plan coordination	Illinois DOT District 2	Wisconsin DOT District 1	Existing
maint and constr dispatch status	Illinois DOT District 2 MCO Vehicles	Illinois DOT District 2	Existing
work zone status	Illinois DOT District 2 MCO Vehicles	Illinois DOT District 2	Existing
roadway information system data	Illinois DOT District 2 MCO Vehicles	Illinois DOT District 2 Portable Dynamic Message Signs	Existing

Architecture Flow Name	Source	Destination	Status
roadway information system status	Illinois DOT District 2 Portable Dynamic Message Signs	Illinois DOT District 2	Existing
roadway information system status	Illinois DOT District 2 Portable Dynamic Message Signs	Illinois DOT District 2 MCO Vehicles	Existing
signal control status	Illinois DOT District 2 Roadside Equipment	Illinois DOT District 2	Existing
traffic flow	Illinois DOT District 2 Roadside Equipment	Illinois DOT District 2	Existing
ISP coordination	Illinois DOT Gateway	Illinois DOT 511 Traveler Information System	Planned
emergency plan coordination	Illinois State Police District 16	City of East Dubuque Police Department	Existing
incident command information coordination	Illinois State Police District 16	City of East Dubuque Police Department	Existing
incident report	Illinois State Police District 16	City of East Dubuque Police Department	Existing
incident response coordination	Illinois State Police District 16	City of East Dubuque Police Department	Existing
resource coordination	Illinois State Police District 16	City of East Dubuque Police Department	Existing
threat information coordination	Illinois State Police District 16	City of East Dubuque Police Department	Existing
emergency plan coordination	Illinois State Police District 16	Illinois DOT District 2	Existing
emergency traffic control request	Illinois State Police District 16	Illinois DOT District 2	Existing
incident information	Illinois State Police District 16	Illinois DOT District 2	Existing
incident response status	Illinois State Police District 16	Illinois DOT District 2	Existing
maint and constr resource request	Illinois State Police District 16	Illinois DOT District 2	Existing
resource request	Illinois State Police District 16	Illinois DOT District 2	Existing
emergency dispatch requests	Illinois State Police District 16	Illinois State Police District 16 Emergency Vehicles	Existing
speed monitoring control	Illinois State Police District 16	Illinois State Police District 16 Roadside Equipment	Existing
secure area sensor control	Illinois State Police District 16	Illinois State Police District 16 Security Monitoring Field Equipment	Existing
secure area surveillance control	Illinois State Police District 16	Illinois State Police District 16 Security Monitoring Field Equipment	Existing
emergency plan coordination	Illinois State Police District 16	Jo Daviess County Sheriff	Existing
incident report	Illinois State Police District 16	Jo Daviess County Sheriff	Existing
incident response coordination	Illinois State Police District 16	Jo Daviess County Sheriff	Existing
threat information coordination	Illinois State Police District 16	Jo Daviess County Sheriff	Existing
road network conditions	Illinois State Police District 16	Media	Existing
emergency dispatch response	Illinois State Police District 16 Emergency Vehicles	Illinois State Police District 16	Existing
incident status	Illinois State Police District 16 Emergency Vehicles	Illinois State Police District 16	Existing
speed monitoring information	Illinois State Police District 16 Roadside Equipment	Illinois State Police District 16	Existing

Architecture Flow Name	Source	Destination	Status
secure area sensor data	Illinois State Police District 16 Security Monitoring Field Equipment	Illinois State Police District 16	Existing
secure area surveillance data	Illinois State Police District 16 Security Monitoring Field Equipment	Illinois State Police District 16	Existing
ISP coordination	Iowa DOT	Iowa DOT 511 Traveler Information System	Existing
emergency plan coordination	Iowa DOT	Iowa DOT District 6	Existing
traffic information coordination	Iowa DOT	Iowa DOT District 6	Existing
broadcast information	Iowa DOT	User Personal Computing Devices	Existing
emergency traveler information	Iowa DOT	User Personal Computing Devices	Existing
traveler information	Iowa DOT	User Personal Computing Devices	Existing
ISP coordination	Iowa DOT 511 Traveler Information System	Iowa DOT	Existing
broadcast information	Iowa DOT 511 Traveler Information System	User Personal Computing Devices	Existing
traveler information	Iowa DOT 511 Traveler Information System	User Personal Computing Devices	Existing
alert notification	Iowa DOT District 6	City of Camanche Public Works Department	Existing
emergency plan coordination	Iowa DOT District 6	City of Camanche Public Works Department	Existing
maint and constr resource coordination	Iowa DOT District 6	City of Camanche Public Works Department	Existing
work plan coordination	Iowa DOT District 6	City of Camanche Public Works Department	Existing
alert notification coordination	Iowa DOT District 6	City of Clinton Fire Department	Existing
emergency plan coordination	Iowa DOT District 6	City of Clinton Fire Department	Existing
emergency routes	Iowa DOT District 6	City of Clinton Fire Department	Existing
emergency traffic control information	Iowa DOT District 6	City of Clinton Fire Department	Existing
incident information	Iowa DOT District 6	City of Clinton Fire Department	Existing
maint and constr resource response	Iowa DOT District 6	City of Clinton Fire Department	Existing
resource deployment status	Iowa DOT District 6	City of Clinton Fire Department	Existing
road network conditions	Iowa DOT District 6	City of Clinton Fire Department	Existing
road network status assessment	Iowa DOT District 6	City of Clinton Fire Department	Existing
roadway maintenance status	Iowa DOT District 6	City of Clinton Fire Department	Existing
threat information coordination	Iowa DOT District 6	City of Clinton Fire Department	Existing
work zone information	Iowa DOT District 6	City of Clinton Fire Department	Existing
alert notification coordination	Iowa DOT District 6	City of Clinton Police Department	Existing
emergency plan coordination	Iowa DOT District 6	City of Clinton Police Department	Existing
emergency routes	Iowa DOT District 6	City of Clinton Police Department	Existing

Architecture Flow Name	Source	Destination	Status
emergency traffic control information	Iowa DOT District 6	City of Clinton Police Department	Existing
incident information	Iowa DOT District 6	City of Clinton Police Department	Existing
maint and constr resource response	Iowa DOT District 6	City of Clinton Police Department	Existing
resource deployment status	Iowa DOT District 6	City of Clinton Police Department	Existing
road network conditions	Iowa DOT District 6	City of Clinton Police Department	Existing
road network status assessment	Iowa DOT District 6	City of Clinton Police Department	Existing
roadway maintenance status	Iowa DOT District 6	City of Clinton Police Department	Existing
threat information coordination	Iowa DOT District 6	City of Clinton Police Department	Planned
work zone information	Iowa DOT District 6	City of Clinton Police Department	Existing
alert notification coordination	Iowa DOT District 6	City of Dewitt Police Department	Existing
emergency plan coordination	Iowa DOT District 6	City of Dewitt Police Department	Existing
incident information	Iowa DOT District 6	City of Dewitt Police Department	Existing
maint and constr resource response	Iowa DOT District 6	City of Dewitt Police Department	Existing
resource deployment status	Iowa DOT District 6	City of Dewitt Police Department	Existing
road network conditions	Iowa DOT District 6	City of Dewitt Police Department	Existing
road network status assessment	Iowa DOT District 6	City of Dewitt Police Department	Existing
roadway maintenance status	Iowa DOT District 6	City of Dewitt Police Department	Existing
threat information coordination	Iowa DOT District 6	City of Dewitt Police Department	Existing
work zone information	Iowa DOT District 6	City of Dewitt Police Department	Existing
alert notification	Iowa DOT District 6	City of Dubuque Operations and Maintenance Department	Existing
emergency plan coordination	Iowa DOT District 6	City of Dubuque Operations and Maintenance Department	Existing
incident information	Iowa DOT District 6	City of Dubuque Operations and Maintenance Department	Existing
maint and constr resource coordination	Iowa DOT District 6	City of Dubuque Operations and Maintenance Department	Existing
work plan coordination	Iowa DOT District 6	City of Dubuque Operations and Maintenance Department	Existing
alert notification coordination	Iowa DOT District 6	City of Dubuque Police Department	Existing
emergency plan coordination	Iowa DOT District 6	City of Dubuque Police Department	Existing
emergency routes	Iowa DOT District 6	City of Dubuque Police Department	Existing
emergency traffic control information	Iowa DOT District 6	City of Dubuque Police Department	Existing
incident information	Iowa DOT District 6	City of Dubuque Police Department	Existing

Architecture Flow Name	Source	Destination	Status
maint and constr resource response	Iowa DOT District 6	City of Dubuque Police Department	Existing
resource deployment status	Iowa DOT District 6	City of Dubuque Police Department	Existing
road network conditions	Iowa DOT District 6	City of Dubuque Police Department	Existing
road network status assessment	Iowa DOT District 6	City of Dubuque Police Department	Existing
roadway maintenance status	Iowa DOT District 6	City of Dubuque Police Department	Existing
threat information coordination	Iowa DOT District 6	City of Dubuque Police Department	Existing
work zone information	Iowa DOT District 6	City of Dubuque Police Department	Existing
alert notification	Iowa DOT District 6	City of Grand Mound Public Works Department	Existing
emergency plan coordination	Iowa DOT District 6	City of Grand Mound Public Works Department	Existing
maint and constr resource coordination	Iowa DOT District 6	City of Grand Mound Public Works Department	Existing
work plan coordination	Iowa DOT District 6	City of Grand Mound Public Works Department	Existing
alert notification coordination	Iowa DOT District 6	City of Maquoketa Public Works Department	Existing
emergency plan coordination	Iowa DOT District 6	City of Maquoketa Public Works Department	Existing
maint and constr resource coordination	Iowa DOT District 6	City of Maquoketa Public Works Department	Existing
threat information coordination	Iowa DOT District 6	City of Maquoketa Public Works Department	Existing
traffic control coordination	Iowa DOT District 6	City of Maquoketa Public Works Department	Existing
work plan coordination	Iowa DOT District 6	City of Maquoketa Public Works Department	Existing
emergency plan coordination	Iowa DOT District 6	Clinton County Engineer	Existing
maint and constr resource coordination	Iowa DOT District 6	Clinton County Engineer	Existing
work plan coordination	Iowa DOT District 6	Clinton County Engineer	Existing
emergency plan coordination	Iowa DOT District 6	Delaware County Engineer	Existing
maint and constr resource coordination	Iowa DOT District 6	Delaware County Engineer	Existing
work plan coordination	Iowa DOT District 6	Delaware County Engineer	Existing
alert notification coordination	Iowa DOT District 6	Dubuque 911 Center	Existing
emergency plan coordination	Iowa DOT District 6	Dubuque 911 Center	Existing
incident information	Iowa DOT District 6	Dubuque 911 Center	Existing
maint and constr resource response	Iowa DOT District 6	Dubuque 911 Center	Existing
resource deployment status	Iowa DOT District 6	Dubuque 911 Center	Existing
road network conditions	Iowa DOT District 6	Dubuque 911 Center	Existing
road network status assessment	Iowa DOT District 6	Dubuque 911 Center	Existing
roadway maintenance status	Iowa DOT District 6	Dubuque 911 Center	Existing

Architecture Flow Name	Source	Destination	Status
threat information coordination	Iowa DOT District 6	Dubuque 911 Center	Existing
work zone information	Iowa DOT District 6	Dubuque 911 Center	Existing
emergency plan coordination	Iowa DOT District 6	Dubuque County Engineer	Existing
maint and constr resource coordination	Iowa DOT District 6	Dubuque County Engineer	Existing
work plan coordination	Iowa DOT District 6	Dubuque County Engineer	Existing
emergency plan coordination	Iowa DOT District 6	Illinois DOT District 2	Existing
maint and constr resource coordination	Iowa DOT District 6	Illinois DOT District 2	Existing
traffic information coordination	Iowa DOT District 6	Illinois DOT District 2	Existing
work plan coordination	Iowa DOT District 6	Illinois DOT District 2	Existing
emergency plan coordination	Iowa DOT District 6	Iowa DOT	Existing
traffic control coordination	Iowa DOT District 6	Iowa DOT	Existing
traffic information coordination	Iowa DOT District 6	Iowa DOT	Existing
traffic sensor control	Iowa DOT District 6	Iowa DOT District 6 Loop Detectors	Existing
maint and constr dispatch information	Iowa DOT District 6	Iowa DOT District 6 MCO Vehicles	Existing
environmental sensors control	Iowa DOT District 6	Iowa DOT District 6 RWIS Stations	Existing
secure area sensor control	Iowa DOT District 6	Iowa DOT District 6 Security Monitoring Field Equipment	Existing
secure area surveillance control	Iowa DOT District 6	Iowa DOT District 6 Security Monitoring Field Equipment	Existing
roadway information system data	Iowa DOT District 6	Iowa DOT District Portable Dynamic Message Signs	Existing
alert notification coordination	Iowa DOT District 6	Iowa State Patrol District 10	Existing
emergency plan coordination	Iowa DOT District 6	Iowa State Patrol District 10	Existing
evacuation coordination	Iowa DOT District 6	Iowa State Patrol District 10	Existing
incident information	Iowa DOT District 6	Iowa State Patrol District 10	Existing
maint and constr resource response	Iowa DOT District 6	Iowa State Patrol District 10	Existing
resource deployment status	Iowa DOT District 6	Iowa State Patrol District 10	Existing
road network conditions	Iowa DOT District 6	Iowa State Patrol District 10	Existing
alert notification coordination	Iowa DOT District 6	Iowa State Patrol District 12	Existing
emergency plan coordination	Iowa DOT District 6	Iowa State Patrol District 12	Existing
emergency traffic control information	Iowa DOT District 6	Iowa State Patrol District 12	Existing
incident information	Iowa DOT District 6	Iowa State Patrol District 12	Existing
maint and constr resource response	Iowa DOT District 6	Iowa State Patrol District 12	Existing
resource deployment status	Iowa DOT District 6	Iowa State Patrol District 12	Existing
road network conditions	Iowa DOT District 6	Iowa State Patrol District 12	Existing
emergency plan coordination	Iowa DOT District 6	Jackson County Engineers	Existing
maint and constr resource coordination	Iowa DOT District 6	Jackson County Engineers	Existing
work plan coordination	Iowa DOT District 6	Jackson County Engineers	Existing
emergency plan coordination	Iowa DOT District 6	Wisconsin DOT District 1	Existing
maint and constr resource coordination	Iowa DOT District 6	Wisconsin DOT District 1	Existing
work plan coordination	Iowa DOT District 6	Wisconsin DOT District 1	Existing
traffic flow	Iowa DOT District 6 Loop Detectors	Iowa DOT District 6	Existing

Architecture Flow Name	Source	Destination	Status
maint and constr dispatch status	Iowa DOT District 6 MCO Vehicles	Iowa DOT District 6	Existing
maint and constr vehicle conditions	Iowa DOT District 6 MCO Vehicles	Iowa DOT District 6	Existing
work zone status	Iowa DOT District 6 MCO Vehicles	Iowa DOT District 6	Existing
roadway information system data	Iowa DOT District 6 MCO Vehicles	Iowa DOT District Portable Dynamic Message Signs	Existing
environmental conditions data	Iowa DOT District 6 RWIS Stations	Iowa DOT District 6	Existing
secure area sensor data	Iowa DOT District 6 Security Monitoring Field Equipment	Iowa DOT District 6	Existing
secure area surveillance data	Iowa DOT District 6 Security Monitoring Field Equipment	Iowa DOT District 6	Existing
roadway information system status	Iowa DOT District Portable Dynamic Message Signs	Iowa DOT District 6	Existing
roadway information system status	Iowa DOT District Portable Dynamic Message Signs	Iowa DOT District 6 MCO Vehicles	Existing
emergency plan coordination	Iowa State Patrol District 10	City of Dubuque Fire Department	Existing
incident report	Iowa State Patrol District 10	City of Dubuque Fire Department	Existing
incident response coordination	Iowa State Patrol District 10	City of Dubuque Fire Department	Existing
resource coordination	Iowa State Patrol District 10	City of Dubuque Fire Department	Existing
threat information coordination	Iowa State Patrol District 10	City of Dubuque Fire Department	Existing
emergency plan coordination	Iowa State Patrol District 10	Delaware County Sheriff	Existing
incident report	Iowa State Patrol District 10	Delaware County Sheriff	Existing
incident response coordination	Iowa State Patrol District 10	Delaware County Sheriff	Existing
resource coordination	Iowa State Patrol District 10	Delaware County Sheriff	Existing
threat information coordination	Iowa State Patrol District 10	Delaware County Sheriff	Existing
alert notification coordination	Iowa State Patrol District 10	Dubuque 911 Center	Existing
emergency plan coordination	Iowa State Patrol District 10	Dubuque 911 Center	Existing
evacuation information	Iowa State Patrol District 10	Dubuque 911 Center	Existing
incident information	Iowa State Patrol District 10	Dubuque 911 Center	Existing
incident response status	Iowa State Patrol District 10	Dubuque 911 Center	Existing
resource request	Iowa State Patrol District 10	Dubuque 911 Center	Existing
threat information coordination	Iowa State Patrol District 10	Dubuque 911 Center	Existing
emergency plan coordination	Iowa State Patrol District 10	Dubuque County Sheriff	Existing
incident report	Iowa State Patrol District 10	Dubuque County Sheriff	Existing
incident response coordination	Iowa State Patrol District 10	Dubuque County Sheriff	Existing
resource coordination	Iowa State Patrol District 10	Dubuque County Sheriff	Existing
threat information coordination	Iowa State Patrol District 10	Dubuque County Sheriff	Existing
incident information	Iowa State Patrol District 10	Iowa DOT 511 Traveler Information System	Existing
alert notification coordination	Iowa State Patrol District 10	Iowa DOT District 6	Existing

Architecture Flow Name	Source	Destination	Status
emergency plan coordination	Iowa State Patrol District 10	Iowa DOT District 6	Existing
emergency route request	Iowa State Patrol District 10	Iowa DOT District 6	Planned
emergency traffic control request	Iowa State Patrol District 10	Iowa DOT District 6	Existing
incident information	Iowa State Patrol District 10	Iowa DOT District 6	Existing
incident response status	Iowa State Patrol District 10	Iowa DOT District 6	Existing
maint and constr resource request	Iowa State Patrol District 10	Iowa DOT District 6	Existing
resource request	Iowa State Patrol District 10	Iowa DOT District 6	Existing
emergency dispatch requests	Iowa State Patrol District 10	Iowa State Patrol District 10 Emergency Vehicles	Existing
suggested route	Iowa State Patrol District 10	Iowa State Patrol District 10 Emergency Vehicles	Existing
alert notification coordination	Iowa State Patrol District 10	Iowa State Patrol District 12	Planned
emergency plan coordination	Iowa State Patrol District 10	Iowa State Patrol District 12	Planned
evacuation coordination	Iowa State Patrol District 10	Iowa State Patrol District 12	Planned
incident report	Iowa State Patrol District 10	Iowa State Patrol District 12	Existing
incident response coordination	Iowa State Patrol District 10	Iowa State Patrol District 12	Existing
resource coordination	Iowa State Patrol District 10	Iowa State Patrol District 12	Planned
emergency dispatch response	Iowa State Patrol District 10 Emergency Vehicles	Iowa State Patrol District 10	Existing
incident status	Iowa State Patrol District 10 Emergency Vehicles	Iowa State Patrol District 10	Existing
emergency plan coordination	Iowa State Patrol District 12	Clinton County Sheriff	Existing
incident report	Iowa State Patrol District 12	Clinton County Sheriff	Existing
incident response coordination	Iowa State Patrol District 12	Clinton County Sheriff	Existing
resource coordination	Iowa State Patrol District 12	Clinton County Sheriff	Existing
threat information coordination	Iowa State Patrol District 12	Clinton County Sheriff	Existing
incident information	Iowa State Patrol District 12	Iowa DOT 511 Traveler Information System	Existing
alert notification coordination	Iowa State Patrol District 12	Iowa DOT District 6	Existing
emergency plan coordination	Iowa State Patrol District 12	Iowa DOT District 6	Existing
emergency route request	Iowa State Patrol District 12	Iowa DOT District 6	Planned
emergency traffic control request	Iowa State Patrol District 12	Iowa DOT District 6	Existing
incident information	Iowa State Patrol District 12	Iowa DOT District 6	Existing
maint and constr resource request	Iowa State Patrol District 12	Iowa DOT District 6	Existing
resource request	Iowa State Patrol District 12	Iowa DOT District 6	Existing
alert notification coordination	Iowa State Patrol District 12	Iowa State Patrol District 10	Planned
emergency plan coordination	Iowa State Patrol District 12	Iowa State Patrol District 10	Planned
evacuation coordination	Iowa State Patrol District 12	Iowa State Patrol District 10	Planned
incident command information coordination	Iowa State Patrol District 12	Iowa State Patrol District 10	Planned
incident report	Iowa State Patrol District 12	Iowa State Patrol District 10	Existing
incident response coordination	Iowa State Patrol District 12	Iowa State Patrol District 10	Existing
resource coordination	Iowa State Patrol District 12	Iowa State Patrol District 10	Planned
emergency dispatch requests	Iowa State Patrol District 12	Iowa State Patrol District 12 Emergency Vehicles	Existing
suggested route	Iowa State Patrol District 12	Iowa State Patrol District 12 Emergency Vehicles	Existing

Architecture Flow Name	Source	Destination	Status
emergency dispatch response	Iowa State Patrol District 12 Emergency Vehicles	Iowa State Patrol District 12	Existing
incident status	Iowa State Patrol District 12 Emergency Vehicles	Iowa State Patrol District 12	Existing
emergency plan coordination	Jackson County Emergency Management Agency	City of Maquoketa Fire Department	Existing
evacuation coordination	Jackson County Emergency Management Agency	City of Maquoketa Fire Department	Existing
incident command information coordination	Jackson County Emergency Management Agency	City of Maquoketa Fire Department	Existing
incident report	Jackson County Emergency Management Agency	City of Maquoketa Fire Department	Existing
incident response coordination	Jackson County Emergency Management Agency	City of Maquoketa Fire Department	Existing
resource coordination	Jackson County Emergency Management Agency	City of Maquoketa Fire Department	Existing
emergency plan coordination	Jackson County Emergency Management Agency	City of Maquoketa Police Department	Existing
evacuation coordination	Jackson County Emergency Management Agency	City of Maquoketa Police Department	Existing
incident command information coordination	Jackson County Emergency Management Agency	City of Maquoketa Police Department	Existing
incident report	Jackson County Emergency Management Agency	City of Maquoketa Police Department	Existing
incident response coordination	Jackson County Emergency Management Agency	City of Maquoketa Police Department	Existing
resource coordination	Jackson County Emergency Management Agency	City of Maquoketa Police Department	Existing
emergency plan coordination	Jackson County Emergency Management Agency	City of Maquoketa Public Works Department	Planned
emergency plan coordination	Jackson County Emergency Management Agency	City of Springbrook Fire and EMS Department	Existing
evacuation coordination	Jackson County Emergency Management Agency	City of Springbrook Fire and EMS Department	Existing
incident command information coordination	Jackson County Emergency Management Agency	City of Springbrook Fire and EMS Department	Existing
incident report	Jackson County Emergency Management Agency	City of Springbrook Fire and EMS Department	Existing
incident response coordination	Jackson County Emergency Management Agency	City of Springbrook Fire and EMS Department	Existing
resource coordination	Jackson County Emergency Management Agency	City of Springbrook Fire and EMS Department	Existing
emergency plan coordination	Jackson County Emergency Management Agency	Jackson County Engineers	Existing
evacuation information	Jackson County Emergency Management Agency	Jackson County Engineers	Existing
incident information	Jackson County Emergency Management Agency	Jackson County Engineers	Existing
incident response status	Jackson County Emergency Management Agency	Jackson County Engineers	Existing

Architecture Flow Name	Source	Destination	Status
maint and constr resource request	Jackson County Emergency Management Agency	Jackson County Engineers	Existing
work plan feedback	Jackson County Emergency Management Agency	Jackson County Engineers	Existing
incident information for media	Jackson County Emergency Management Agency	Media	Existing
emergency plan coordination	Jackson County Engineers	City of Maquoketa Public Works Department	Planned
work plan coordination	Jackson County Engineers	City of Maquoketa Public Works Department	Existing
emergency plan coordination	Jackson County Engineers	Iowa DOT District 6	Existing
maint and constr resource coordination	Jackson County Engineers	Iowa DOT District 6	Existing
work plan coordination	Jackson County Engineers	Iowa DOT District 6	Existing
current asset restrictions	Jackson County Engineers	Jackson County Emergency Management Agency	Existing
emergency plan coordination	Jackson County Engineers	Jackson County Emergency Management Agency	Existing
incident information	Jackson County Engineers	Jackson County Emergency Management Agency	Existing
maint and constr resource response	Jackson County Engineers	Jackson County Emergency Management Agency	Existing
maint and constr work plans	Jackson County Engineers	Jackson County Emergency Management Agency	Existing
road network status assessment	Jackson County Engineers	Jackson County Emergency Management Agency	Existing
road weather information	Jackson County Engineers	Jackson County Emergency Management Agency	Existing
roadway maintenance status	Jackson County Engineers	Jackson County Emergency Management Agency	Existing
work zone information	Jackson County Engineers	Jackson County Emergency Management Agency	Existing
maint and constr dispatch information	Jackson County Engineers	Jackson County Engineers MCO Vehicles	Existing
maint and constr work plans	Jackson County Engineers	Media	Existing
road weather information	Jackson County Engineers	Media	Existing
roadway maintenance status	Jackson County Engineers	Media	Existing
maint and constr dispatch status	Jackson County Engineers MCO Vehicles	Jackson County Engineers	Existing
maint and constr vehicle conditions	Jackson County Engineers MCO Vehicles	Jackson County Engineers	Existing
alert notification coordination	Jo Daviess County 911 Center	City of East Dubuque Police Department	Existing
emergency plan coordination	Jo Daviess County 911 Center	City of East Dubuque Police Department	Planned
evacuation coordination	Jo Daviess County 911 Center	City of East Dubuque Police Department	Planned
incident command information coordination	Jo Daviess County 911 Center	City of East Dubuque Police Department	Planned

Architecture Flow Name	Source	Destination	Status
incident report	Jo Daviess County 911 Center	City of East Dubuque Police Department	Existing
incident response coordination	Jo Daviess County 911 Center	City of East Dubuque Police Department	Existing
resource coordination	Jo Daviess County 911 Center	City of East Dubuque Police Department	Planned
emergency dispatch requests	Jo Daviess County 911 Center	City of East Dubuque Police Department Emergency Vehicles	Existing
suggested route	Jo Daviess County 911 Center	City of East Dubuque Police Department Emergency Vehicles	Existing
alert notification coordination	Jo Daviess County 911 Center	Dubuque 911 Center	Existing
emergency plan coordination	Jo Daviess County 911 Center	Dubuque 911 Center	Planned
evacuation coordination	Jo Daviess County 911 Center	Dubuque 911 Center	Planned
incident command information coordination	Jo Daviess County 911 Center	Dubuque 911 Center	Planned
incident report	Jo Daviess County 911 Center	Dubuque 911 Center	Existing
incident response coordination	Jo Daviess County 911 Center	Dubuque 911 Center	Existing
resource coordination	Jo Daviess County 911 Center	Dubuque 911 Center	Planned
alert notification coordination	Jo Daviess County 911 Center	Dubuque County Sheriff	Existing
emergency plan coordination	Jo Daviess County 911 Center	Dubuque County Sheriff	Planned
evacuation coordination	Jo Daviess County 911 Center	Dubuque County Sheriff	Planned
incident command information coordination	Jo Daviess County 911 Center	Dubuque County Sheriff	Planned
incident report	Jo Daviess County 911 Center	Dubuque County Sheriff	Existing
incident response coordination	Jo Daviess County 911 Center	Dubuque County Sheriff	Existing
resource coordination	Jo Daviess County 911 Center	Dubuque County Sheriff	Planned
alert notification	Jo Daviess County 911 Center	Jo Daviess County Highway Department	Existing
emergency plan coordination	Jo Daviess County 911 Center	Jo Daviess County Highway Department	Planned
evacuation information	Jo Daviess County 911 Center	Jo Daviess County Highway Department	Existing
incident information	Jo Daviess County 911 Center	Jo Daviess County Highway Department	Existing
incident response status	Jo Daviess County 911 Center	Jo Daviess County Highway Department	Existing
maint and constr resource request	Jo Daviess County 911 Center	Jo Daviess County Highway Department	Existing
work plan feedback	Jo Daviess County 911 Center	Jo Daviess County Highway Department	Planned
alert notification coordination	Jo Daviess County 911 Center	Jo Daviess County Sheriff	Existing
emergency plan coordination	Jo Daviess County 911 Center	Jo Daviess County Sheriff	Planned
evacuation coordination	Jo Daviess County 911 Center	Jo Daviess County Sheriff	Planned
incident command information coordination	Jo Daviess County 911 Center	Jo Daviess County Sheriff	Planned
incident report	Jo Daviess County 911 Center	Jo Daviess County Sheriff	Existing
incident response coordination	Jo Daviess County 911 Center	Jo Daviess County Sheriff	Existing
resource coordination	Jo Daviess County 911 Center	Jo Daviess County Sheriff	Planned

Architecture Flow Name	Source	Destination	Status
emergency dispatch requests	Jo Daviess County 911 Center	Jo Daviess County Sheriff Emergency Vehicles	Existing
suggested route	Jo Daviess County 911 Center	Jo Daviess County Sheriff Emergency Vehicles	Existing
incident information for media	Jo Daviess County 911 Center	Media	Existing
incident information	Jo Daviess County Highway Department	Illinois DOT District 2	Existing
maint and constr resource coordination	Jo Daviess County Highway Department	Illinois DOT District 2	Existing
work plan coordination	Jo Daviess County Highway Department	Illinois DOT District 2	Existing
alert status	Jo Daviess County Highway Department	Jo Daviess County 911 Center	Existing
current asset restrictions	Jo Daviess County Highway Department	Jo Daviess County 911 Center	Existing
emergency plan coordination	Jo Daviess County Highway Department	Jo Daviess County 911 Center	Planned
incident information	Jo Daviess County Highway Department	Jo Daviess County 911 Center	Existing
maint and constr resource response	Jo Daviess County Highway Department	Jo Daviess County 911 Center	Existing
maint and constr work plans	Jo Daviess County Highway Department	Jo Daviess County 911 Center	Planned
road network status assessment	Jo Daviess County Highway Department	Jo Daviess County 911 Center	Planned
roadway maintenance status	Jo Daviess County Highway Department	Jo Daviess County 911 Center	Existing
work zone information	Jo Daviess County Highway Department	Jo Daviess County 911 Center	Existing
maint and constr dispatch information	Jo Daviess County Highway Department	Jo Daviess County Highway Department MCO Vehicles	Existing
emergency plan coordination	Jo Daviess County Highway Department	Jo Daviess County Sheriff	Existing
incident information	Jo Daviess County Highway Department	Jo Daviess County Sheriff	Existing
maint and constr resource response	Jo Daviess County Highway Department	Jo Daviess County Sheriff	Existing
maint and constr work plans	Jo Daviess County Highway Department	Jo Daviess County Sheriff	Existing
roadway maintenance status	Jo Daviess County Highway Department	Jo Daviess County Sheriff	Existing
work zone information	Jo Daviess County Highway Department	Jo Daviess County Sheriff	Existing
maint and constr dispatch status	Jo Daviess County Highway Department MCO Vehicles	Jo Daviess County Highway Department	Existing
maint and constr vehicle conditions	Jo Daviess County Highway Department MCO Vehicles	Jo Daviess County Highway Department	Existing
alert notification coordination	Jo Daviess County Sheriff	City of East Dubuque Police Department	Planned

Architecture Flow Name	Source	Destination	Status
emergency plan coordination	Jo Daviess County Sheriff	City of East Dubuque Police Department	Existing
evacuation coordination	Jo Daviess County Sheriff	City of East Dubuque Police Department	Existing
incident command information coordination	Jo Daviess County Sheriff	City of East Dubuque Police Department	Existing
incident report	Jo Daviess County Sheriff	City of East Dubuque Police Department	Existing
incident response coordination	Jo Daviess County Sheriff	City of East Dubuque Police Department	Existing
resource coordination	Jo Daviess County Sheriff	City of East Dubuque Police Department	Existing
alert notification coordination	Jo Daviess County Sheriff	Dubuque 911 Center	Existing
emergency plan coordination	Jo Daviess County Sheriff	Dubuque 911 Center	Existing
evacuation coordination	Jo Daviess County Sheriff	Dubuque 911 Center	Existing
incident command information coordination	Jo Daviess County Sheriff	Dubuque 911 Center	Existing
incident report	Jo Daviess County Sheriff	Dubuque 911 Center	Existing
incident response coordination	Jo Daviess County Sheriff	Dubuque 911 Center	Existing
resource coordination	Jo Daviess County Sheriff	Dubuque 911 Center	Existing
alert notification coordination	Jo Daviess County Sheriff	Dubuque County Sheriff	Existing
emergency plan coordination	Jo Daviess County Sheriff	Dubuque County Sheriff	Existing
evacuation coordination	Jo Daviess County Sheriff	Dubuque County Sheriff	Existing
incident command information coordination	Jo Daviess County Sheriff	Dubuque County Sheriff	Existing
incident report	Jo Daviess County Sheriff	Dubuque County Sheriff	Existing
incident response coordination	Jo Daviess County Sheriff	Dubuque County Sheriff	Existing
resource coordination	Jo Daviess County Sheriff	Dubuque County Sheriff	Existing
emergency plan coordination	Jo Daviess County Sheriff	Illinois State Police District 16	Existing
incident report	Jo Daviess County Sheriff	Illinois State Police District 16	Existing
incident response coordination	Jo Daviess County Sheriff	Illinois State Police District 16	Existing
resource coordination	Jo Daviess County Sheriff	Illinois State Police District 16	Existing
threat information coordination	Jo Daviess County Sheriff	Illinois State Police District 16	Existing
alert notification coordination	Jo Daviess County Sheriff	Jo Daviess County 911 Center	Existing
emergency plan coordination	Jo Daviess County Sheriff	Jo Daviess County 911 Center	Planned
evacuation coordination	Jo Daviess County Sheriff	Jo Daviess County 911 Center	Planned
incident command information coordination	Jo Daviess County Sheriff	Jo Daviess County 911 Center	Planned
incident report	Jo Daviess County Sheriff	Jo Daviess County 911 Center	Existing
incident response coordination	Jo Daviess County Sheriff	Jo Daviess County 911 Center	Existing
resource coordination	Jo Daviess County Sheriff	Jo Daviess County 911 Center	Planned
alert notification	Jo Daviess County Sheriff	Jo Daviess County Highway Department	Planned
emergency plan coordination	Jo Daviess County Sheriff	Jo Daviess County Highway Department	Existing
evacuation information	Jo Daviess County Sheriff	Jo Daviess County Highway Department	Existing

Architecture Flow Name	Source	Destination	Status
incident information	Jo Daviess County Sheriff	Jo Daviess County Highway Department	Existing
incident response status	Jo Daviess County Sheriff	Jo Daviess County Highway Department	Existing
maint and constr resource request	Jo Daviess County Sheriff	Jo Daviess County Highway Department	Existing
work plan feedback	Jo Daviess County Sheriff	Jo Daviess County Highway Department	Existing
emergency dispatch requests	Jo Daviess County Sheriff	Jo Daviess County Sheriff Emergency Vehicles	Existing
speed monitoring control	Jo Daviess County Sheriff	Jo Daviess County Sheriff Roadside Equipment	Existing
secure area sensor control	Jo Daviess County Sheriff	Jo Daviess County Sheriff Security Monitoring Field Equipment	Existing
secure area surveillance control	Jo Daviess County Sheriff	Jo Daviess County Sheriff Security Monitoring Field Equipment	Existing
emergency plan coordination	Jo Daviess County Sheriff	Jo Daviess County Transit	Planned
emergency transit service request	Jo Daviess County Sheriff	Jo Daviess County Transit	Planned
evacuation information	Jo Daviess County Sheriff	Jo Daviess County Transit	Planned
incident response status	Jo Daviess County Sheriff	Jo Daviess County Transit	Existing
incident information for media	Jo Daviess County Sheriff	Media	Existing
emergency dispatch response	Jo Daviess County Sheriff Emergency Vehicles	Jo Daviess County 911 Center	Existing
emergency vehicle tracking data	Jo Daviess County Sheriff Emergency Vehicles	Jo Daviess County 911 Center	Planned
incident status	Jo Daviess County Sheriff Emergency Vehicles	Jo Daviess County 911 Center	Existing
emergency dispatch response	Jo Daviess County Sheriff Emergency Vehicles	Jo Daviess County Sheriff	Existing
emergency vehicle tracking data	Jo Daviess County Sheriff Emergency Vehicles	Jo Daviess County Sheriff	Planned
incident status	Jo Daviess County Sheriff Emergency Vehicles	Jo Daviess County Sheriff	Existing
speed monitoring information	Jo Daviess County Sheriff Roadside Equipment	Jo Daviess County Sheriff	Existing
secure area sensor data	Jo Daviess County Sheriff Security Monitoring Field Equipment	Jo Daviess County Sheriff	Existing
secure area surveillance data	Jo Daviess County Sheriff Security Monitoring Field Equipment	Jo Daviess County Sheriff	Existing
emergency plan coordination	Jo Daviess County Transit	Jo Daviess County Sheriff	Planned
emergency transit schedule information	Jo Daviess County Transit	Jo Daviess County Sheriff	Planned
emergency transit service response	Jo Daviess County Transit	Jo Daviess County Sheriff	Planned
transit emergency data	Jo Daviess County Transit	Jo Daviess County Sheriff	Planned
transit system status assessment	Jo Daviess County Transit	Jo Daviess County Sheriff	Planned

Architecture Flow Name	Source	Destination	Status
transit fare information	Jo Daviess County Transit	Jo Daviess County Transit Kiosks	Planned
bad tag list	Jo Daviess County Transit	Jo Daviess County Transit Vehicles	Planned
fare management information	Jo Daviess County Transit	Jo Daviess County Transit Vehicles	Planned
request for vehicle measures	Jo Daviess County Transit	Jo Daviess County Transit Vehicles	Planned
transit vehicle operator instructions	Jo Daviess County Transit	Jo Daviess County Transit Vehicles	Existing
broadcast information	Jo Daviess County Transit	User Personal Computing Devices	Existing
transit fare and passenger status	Jo Daviess County Transit Kiosks	Jo Daviess County Transit	Planned
request for payment	Jo Daviess County Transit Kiosks	Jo Daviess County Transit Traveler Card	Planned
payment	Jo Daviess County Transit Traveler Card	Jo Daviess County Transit Kiosks	Planned
payment	Jo Daviess County Transit Traveler Card	Jo Daviess County Transit Vehicles	Planned
fare and payment status	Jo Daviess County Transit Vehicles	Jo Daviess County Transit	Planned
request for bad tag list	Jo Daviess County Transit Vehicles	Jo Daviess County Transit	Planned
transit vehicle conditions	Jo Daviess County Transit Vehicles	Jo Daviess County Transit	Planned
transit vehicle location data	Jo Daviess County Transit Vehicles	Jo Daviess County Transit	Planned
transit vehicle passenger and use data	Jo Daviess County Transit Vehicles	Jo Daviess County Transit	Planned
transit vehicle schedule performance	Jo Daviess County Transit Vehicles	Jo Daviess County Transit	Planned
request for payment	Jo Daviess County Transit Vehicles	Jo Daviess County Transit Traveler Card	Planned
media information request	Media	City of Asbury Public Works Department	Existing
media information request	Media	City of Camanche Police Department	Existing
media information request	Media	City of Clinton Fire Department	Existing
media information request	Media	City of Clinton Municipal Transit Administration	Existing
media information request	Media	City of Clinton Police Department	Existing
media information request	Media	City of Dewitt Police Department	Existing
media information request	Media	City of Dubuque Citychannel 8	Existing
media information request	Media	City of Dubuque Fire Department	Existing
media information request	Media	City of East Dubuque Police Department	Existing

Architecture Flow Name	Source	Destination	Status
media information request	Media	City of Farley Fire Department	Existing
media information request	Media	City of Farley Public Works Department	Existing
media information request	Media	City of Manchester Police Department	Existing
media information request	Media	City of Maquoketa Police Department	Existing
media information request	Media	City of Maquoketa Public Works Department	Existing
media information request	Media	City of Springbrook Fire and EMS Department	Existing
media information request	Media	Clinton County Emergency Management Agency	Existing
media information request	Media	Dubuque 911 Center	Existing
media information request	Media	Dubuque County Emergency Management Agency	Existing
media information request	Media	Dubuque County Sheriff	Existing
media information request	Media	Grant County 911 Center	Existing
media information request	Media	Grant County Emergency Management Agency	Existing
media information request	Media	Grant County Sheriff	Existing
media information request	Media	Illinois State Police District 16	Existing
media information request	Media	Jackson County Emergency Management Agency	Existing
media information request	Media	Jackson County Engineers	Existing
media information request	Media	Jo Daviess County 911 Center	Existing
media information request	Media	Jo Daviess County Sheriff	Existing
media information request	Media	River Bend Transit	Existing
transit fare information	Regional Transit Authority	Regional Transit Authority Kiosks	Planned
bad tag list	Regional Transit Authority	Regional Transit Authority Transit Vehicles	Planned
emergency acknowledge	Regional Transit Authority	Regional Transit Authority Transit Vehicles	Planned
fare management information	Regional Transit Authority	Regional Transit Authority Transit Vehicles	Planned
request for vehicle measures	Regional Transit Authority	Regional Transit Authority Transit Vehicles	Existing
transit vehicle operator authentication update	Regional Transit Authority	Regional Transit Authority Transit Vehicles	Planned
transit vehicle operator instructions	Regional Transit Authority	Regional Transit Authority Transit Vehicles	Existing
broadcast information	Regional Transit Authority	User Personal Computing Devices	Planned
transit fare and passenger status	Regional Transit Authority Kiosks	Regional Transit Authority	Planned
request for payment	Regional Transit Authority Kiosks	Regional Transit Authority Traveler Card	Planned

Architecture Flow Name	Source	Destination	Status
emergency notification	Regional Transit Authority Transit Vehicles	Regional Transit Authority	Planned
fare and payment status	Regional Transit Authority Transit Vehicles	Regional Transit Authority	Planned
request for bad tag list	Regional Transit Authority Transit Vehicles	Regional Transit Authority	Planned
transit vehicle conditions	Regional Transit Authority Transit Vehicles	Regional Transit Authority	Existing
transit vehicle location data	Regional Transit Authority Transit Vehicles	Regional Transit Authority	Planned
transit vehicle operator authentication information	Regional Transit Authority Transit Vehicles	Regional Transit Authority	Planned
transit vehicle passenger and use data	Regional Transit Authority Transit Vehicles	Regional Transit Authority	Planned
transit vehicle schedule performance	Regional Transit Authority Transit Vehicles	Regional Transit Authority	Planned
request for payment	Regional Transit Authority Transit Vehicles	Regional Transit Authority Traveler Card	Planned
payment	Regional Transit Authority Traveler Card	Regional Transit Authority Kiosks	Planned
payment	Regional Transit Authority Traveler Card	Regional Transit Authority Transit Vehicles	Planned
transit service coordination	River Bend Transit	City of Clinton Municipal Transit Administration	Existing
alert status	River Bend Transit	Clinton County 911 Center	Existing
transit emergency data	River Bend Transit	Clinton County 911 Center	Existing
transit system status assessment	River Bend Transit	Clinton County 911 Center	Existing
alert status	River Bend Transit	Clinton County Sheriff	Existing
transit emergency data	River Bend Transit	Clinton County Sheriff	Existing
transit system status assessment	River Bend Transit	Clinton County Sheriff	Existing
transit information for media	River Bend Transit	Media	Existing
emergency acknowledge	River Bend Transit	River Bend Transit Transit Vehicles	Planned
request for vehicle measures	River Bend Transit	River Bend Transit Transit Vehicles	Existing
transit vehicle operator authentication update	River Bend Transit	River Bend Transit Transit Vehicles	Planned
transit vehicle operator instructions	River Bend Transit	River Bend Transit Transit Vehicles	Existing
broadcast information	River Bend Transit	User Personal Computing Devices	Existing
personal transit information	River Bend Transit	User Personal Computing Devices	Planned
emergency notification	River Bend Transit Transit Vehicles	River Bend Transit	Planned
transit vehicle conditions	River Bend Transit Transit Vehicles	River Bend Transit	Existing
transit vehicle location data	River Bend Transit Transit Vehicles	River Bend Transit	Planned

Architecture Flow Name	Source	Destination	Status
transit vehicle operator authentication information	River Bend Transit Transit Vehicles	River Bend Transit	Planned
transit vehicle passenger and use data	River Bend Transit Transit Vehicles	River Bend Transit	Existing
transit vehicle schedule performance	River Bend Transit Transit Vehicles	River Bend Transit	Planned
transportation weather information	Surface Transportation Weather Service	City of Asbury Public Works Department	Existing
transportation weather information	Surface Transportation Weather Service	Clinton County Engineer	Existing
transportation weather information	Surface Transportation Weather Service	Dubuque 911 Center	Existing
transportation weather information	Surface Transportation Weather Service	Dubuque County Emergency Management Agency	Existing
transportation weather information	Surface Transportation Weather Service	Dubuque County Sheriff	Existing
transit information user request	User Personal Computing Devices	City of Clinton Municipal Transit Administration	Planned
yellow pages request	User Personal Computing Devices	City of Clinton Municipal Transit Administration	Planned
emergency traveler information request	User Personal Computing Devices	Dubuque 911 Center	Existing
emergency traveler information request	User Personal Computing Devices	Illinois DOT 511 Traveler Information System	Planned
traveler profile	User Personal Computing Devices	Illinois DOT 511 Traveler Information System	Planned
traveler request	User Personal Computing Devices	Illinois DOT 511 Traveler Information System	Planned
emergency traveler information request	User Personal Computing Devices	Iowa DOT	Existing
traveler profile	User Personal Computing Devices	Iowa DOT	Existing
traveler request	User Personal Computing Devices	Iowa DOT	Existing
traveler profile	User Personal Computing Devices	Iowa DOT 511 Traveler Information System	Existing
traveler request	User Personal Computing Devices	Iowa DOT 511 Traveler Information System	Existing
transit information user request	User Personal Computing Devices	River Bend Transit	Planned
emergency traveler information request	User Personal Computing Devices	Wisconsin DOT 511 Traveler Information System	Planned
traveler profile	User Personal Computing Devices	Wisconsin DOT 511 Traveler Information System	Planned
traveler request	User Personal Computing Devices	Wisconsin DOT 511 Traveler Information System	Planned
weather information	Weather Services	City of Asbury Public Works Department	Existing
weather information	Weather Services	City of Camanche Police Department	Existing

Architecture Flow Name	Source	Destination	Status
weather information	Weather Services	City of Camanche Public Works Department	Existing
weather information	Weather Services	City of Dewitt Police Department	Existing
weather information	Weather Services	City of Dewitt Public Works Department	Existing
weather information	Weather Services	City of Dubuque Citychannel 8	Existing
weather information	Weather Services	City of Dubuque Engineering Department	Existing
weather information	Weather Services	City of Dubuque Fire Department	Existing
weather information	Weather Services	City of Dubuque Operations and Maintenance Department	Existing
weather information	Weather Services	City of Dubuque Police Department	Existing
weather information	Weather Services	City of East Dubuque Police Department	Existing
weather information	Weather Services	City of Farley Fire Department	Existing
weather information	Weather Services	City of Farley Public Works Department	Existing
weather information	Weather Services	City of Grand Mound Public Works Department	Existing
weather information	Weather Services	City of Manchester Police Department	Existing
weather information	Weather Services	City of Manchester Public Works Department	Planned
weather information	Weather Services	City of Springbrook Fire and EMS Department	Existing
weather information	Weather Services	Clinton County 911 Center	Existing
weather information	Weather Services	Clinton County Emergency Management Agency	Existing
weather information	Weather Services	Clinton County Engineer	Existing
weather information	Weather Services	Clinton County Sheriff	Existing
weather information	Weather Services	Delaware County Engineer	Existing
weather information	Weather Services	Delaware County Sheriff	Existing
weather information	Weather Services	Dubuque 911 Center	Existing
weather information	Weather Services	Dubuque County Emergency Management Agency	Existing
weather information	Weather Services	Dubuque County Sheriff	Existing
weather information	Weather Services	Grant County Sheriff	Existing
weather information	Weather Services	Illinois DOT 511 Traveler Information System	Planned
weather information	Weather Services	Jackson County Engineers	Existing
weather information	Weather Services	Jo Daviess County 911 Center	Existing
weather information	Weather Services	Jo Daviess County Transit	Existing
weather information	Weather Services	Wisconsin DOT 511 Traveler Information System	Planned
broadcast information	Wisconsin DOT 511 Traveler Information System	User Personal Computing Devices	Planned

Architecture Flow Name	Source	Destination	Status
emergency traveler information	Wisconsin DOT 511 Traveler Information System	User Personal Computing Devices	Planned
traveler information	Wisconsin DOT 511 Traveler Information System	User Personal Computing Devices	Planned
alert status	Wisconsin DOT 511 Traveler Information System	Wisconsin State Patrol District 1	Planned
maint and constr resource coordination	Wisconsin DOT District 1	Grant County Highway Department	Existing
work plan coordination	Wisconsin DOT District 1	Grant County Highway Department	Existing
maint and constr resource coordination	Wisconsin DOT District 1	Illinois DOT District 2	Existing
work plan coordination	Wisconsin DOT District 1	Illinois DOT District 2	Existing
emergency plan coordination	Wisconsin DOT District 1	Iowa DOT District 6	Existing
maint and constr resource coordination	Wisconsin DOT District 1	Iowa DOT District 6	Existing
work plan coordination	Wisconsin DOT District 1	Iowa DOT District 6	Existing
maint and constr work plans	Wisconsin DOT District 1	Wisconsin DOT 511 Traveler Information System	Planned
road weather information	Wisconsin DOT District 1	Wisconsin DOT 511 Traveler Information System	Planned
roadway maintenance status	Wisconsin DOT District 1	Wisconsin DOT 511 Traveler Information System	Planned
work zone information	Wisconsin DOT District 1	Wisconsin DOT 511 Traveler Information System	Planned
emergency plan coordination	Wisconsin DOT District 1	Wisconsin State Patrol District 1	Existing
incident information	Wisconsin DOT District 1	Wisconsin State Patrol District 1	Existing
maint and constr resource response	Wisconsin DOT District 1	Wisconsin State Patrol District 1	Existing
road weather information	Wisconsin DOT District 1	Wisconsin State Patrol District 1	Existing
roadway maintenance status	Wisconsin DOT District 1	Wisconsin State Patrol District 1	Existing
work zone information	Wisconsin DOT District 1	Wisconsin State Patrol District 1	Existing
emergency traffic control information	Wisconsin DOT District 1 Corridor TMC	Grant County 911 Center	Planned
incident information	Wisconsin DOT District 1 Corridor TMC	Grant County 911 Center	Planned
road network conditions	Wisconsin DOT District 1 Corridor TMC	Grant County Highway Department	Planned
road weather information	Wisconsin DOT District 1 Corridor TMC	Grant County Highway Department	Planned
work plan feedback	Wisconsin DOT District 1 Corridor TMC	Grant County Highway Department	Planned
road network conditions	Wisconsin DOT District 1 Corridor TMC	Wisconsin DOT 511 Traveler Information System	Planned
road weather information	Wisconsin DOT District 1 Corridor TMC	Wisconsin DOT 511 Traveler Information System	Planned
environmental sensors control	Wisconsin DOT District 1 Corridor TMC	Wisconsin DOT District 1 Corridor TMC Roadside Equipment	Planned
emergency traffic control information	Wisconsin DOT District 1 Corridor TMC	Wisconsin State Patrol District 1	Planned

Architecture Flow Name	Source	Destination	Status
incident information	Wisconsin DOT District 1 Corridor TMC	Wisconsin State Patrol District 1	Planned
resource deployment status	Wisconsin DOT District 1 Corridor TMC	Wisconsin State Patrol District 1	Planned
road network conditions	Wisconsin DOT District 1 Corridor TMC	Wisconsin State Patrol District 1	Planned
road weather information	Wisconsin DOT District 1 Corridor TMC	Wisconsin State Patrol District 1	Planned
environmental conditions data	Wisconsin DOT District 1 Corridor TMC Roadside Equipment	Wisconsin DOT District 1 Corridor TMC	Planned
alert notification	Wisconsin State Patrol District 1	Wisconsin DOT 511 Traveler Information System	Planned
evacuation information	Wisconsin State Patrol District 1	Wisconsin DOT 511 Traveler Information System	Planned
incident information	Wisconsin State Patrol District 1	Wisconsin DOT 511 Traveler Information System	Planned
transportation system status	Wisconsin State Patrol District 1	Wisconsin DOT 511 Traveler Information System	Planned
emergency plan coordination	Wisconsin State Patrol District 1	Wisconsin DOT District 1	Existing
incident information	Wisconsin State Patrol District 1	Wisconsin DOT District 1	Existing
incident response status	Wisconsin State Patrol District 1	Wisconsin DOT District 1	Existing
maint and constr resource request	Wisconsin State Patrol District 1	Wisconsin DOT District 1	Existing
emergency traffic control request	Wisconsin State Patrol District 1	Wisconsin DOT District 1 Corridor TMC	Planned
incident information	Wisconsin State Patrol District 1	Wisconsin DOT District 1 Corridor TMC	Planned
incident response status	Wisconsin State Patrol District 1	Wisconsin DOT District 1 Corridor TMC	Planned
remote surveillance control	Wisconsin State Patrol District 1	Wisconsin DOT District 1 Corridor TMC	Planned
resource request	Wisconsin State Patrol District 1	Wisconsin DOT District 1 Corridor TMC	Planned