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LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

CAPITAL REGION PLANNING COMMISSION

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Baton Rouge Regional ITS Architecture

Prepared By

Stantec

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ITS ARCHITECTURE (UPDATES)

BATON ROUGE REGIONAL ITS ARCHITECTURE

Presented to:

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

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1 Introduction

This document describes the Intelligent Transportation System (ITS) architecture for the Baton Rouge area. A Regional ITS Architecture is "a regional framework for ensuring institutional agreement and technical integration for the implementation of ITS projects or groups of projects". This architecture conforms to Federal Highway Administration (FHWA) Final Rule 940 Part 11 which mandates that projects planning to use Federal Funds in their ITS deployments must have established an ITS Architecture for the region. Paragraph 940.9 (a) states that:

> "A regional ITS architecture shall be developed to guide the development of ITS projects and programs and be consistent with ITS strategies and projects contained in applicable transportation plans. The National ITS Architecture shall be used as a resource in the development of the regional ITS architecture. The regional ITS architecture shall be on a scale commensurate with the scope of ITS investment in the region. Provision should be made to include participation from the following agencies, as appropriate, in the development of the regional ITS architecture: Highway agencies; public safety agencies (e.g., police, fire, emergency/medical); transit operators; Federal lands agencies; State motor carrier agencies; and other operating agencies necessary to fully address regional ITS integration."

ITS regional architectures have been promoted by the United States Department of Transportation (USDOT) as a tool for describing, using a standard vocabulary and set of concepts, regional deployments to aid in the integration of User Services and Service Packages to address regional transportation problems. Regional ITS Architectures are also used to constrain projects, funded by the FHWA using high technology products, to highway or transit applications.

1.1 Background

What are Intelligent Transportation Systems or ITS? Simply put, they are the application of technology to highway or transit applications. The formal description is as follows:

> "ITS improves transportation safety and mobility and enhances productivity through the use of advanced information and communications technologies. Intelligent transportation systems (ITS) encompass a broad range of wireless and wire line communications-based information and electronics technologies. When integrated into the transportation system's infrastructure, and in vehicles themselves, these technologies relieve congestion, improve safety and enhance American productivity."

To effectively apply ITS to highway and transit projects, the National ITS Architecture, initiated in 1991 and sponsored by USDOT, is used to describe a wide range of likely ITS applications, using high technology products, for highway and transit projects. In 2001, the FHWA and Federal Transit Administration (FTA) established 23 Code of Federal Regulations (CFR) 940 Part 11 which required agencies using federal funds to establish ITS Architectures for their regions. The architecture must contain the following elements summarized in **Table 1**.

Table 1: Federal Rule Compliance

FHWA Rule Element	Section of Document Addressing Rule
(1) Description of region	**Section 3.1**
(2) Identification of participating agencies and other stakeholders	**Section 5**
(3) An operational concept that identifies the roles and responsibilities of participating agencies and stakeholders in the operation and implementation of the systems included in the regional ITS architecture	**Section 9**

FHWA Rule Element	Section of Document Addressing Rule
(4) Any agreements (existing or new) required for operations, including at a minimum those affecting ITS project interoperability, utilization of ITS related standards, and the operation of the projects identified in the regional ITS architecture	**Section 13**
(5) System functional requirements	**Section 11 & Turbo source file**
(6) Interface requirements and information exchanges with planned and existing systems and subsystems	**Section 8**
(7) Identification of ITS standards supporting regional and national interoperability	**Section 12**
(8) The sequence of projects required for implementation	**Section 9**

Products derived from the architecture development process provide a number of benefits to the transportation planners and engineers. The following are examples of these benefits:

1. Establishes a common terminology for the various ITS elements needed to implement and operate ITS applications.
2. Defines those elements and the functions they perform, and identifies, in theory, all of the possible interrelationships among the ITS elements.
3. The National ITS Architecture does not dictate a specific approach to implementing or operating any ITS application. Rather, it provides a common set of terms and concepts that local ITS implementers are encouraged to utilize in describing their specific ITS activities.
4. Provides a “living” planning document that promotes modularity, integration, and minimizes impacts when needs to regional issues change.
5. Promotes a thorough, coordinated, and multi-jurisdictional “systems” approach to ITS and the use of a Systems Engineering process to its deployment.
6. Fosters the utilization of the “standards” that are being developed through the USDOT National ITS Architecture program.

2 Acronyms and Abbreviations

ATIS – Advanced Traveler Information System

ATMC – Advanced Traffic Management Center

ATM/EOC – Advanced Traffic Management/Emergency Operations Center

CAD – Computer Aided Dispatch

CCTV – Closed Circuit Television

CFR – Code of Federal Regulations

CMP – Congestion Management Process

CMU – Conflict Monitor Units

CNG – Compressed Natural Gas

CORBA – Common Object Request Broker Architecture

CRPC – Capital Region Planning Commission

DCM – Data Collection and Monitoring

DMS – Dynamic Message Signs

DPW – Department of Public Works

DOTD – Department of Transportation and Development

FHWA – Federal Highway Administration

FMS – Field Management Stations

HAR – Highway Advisory Radio

ICMS – Integrated Corridor Management System

ITS – Intelligent Transportation Systems

LADOTD – Louisiana Department of Transportation and Development

LSP – Louisiana State Police

MAP – Motorist Assistance Patrol

MPO – Metropolitan Planning Organization

MS/ETMCC – Message Sets for External Traffic Management Center Communications

NTCIP – National Transportation Communications for Intelligent Transportation System Protocol

O & M – Operations and Maintenance

PCMS – Portable Changeable Message Signs

RVD – Radar Vehicle Detector

RR – Roles and Responsibilities

SCP – Signal Control and Prioritization

SDO – Standards Development Organizations

SSL – Signal System Local

SSM – Signal System Master

TMA – Transportation Management Area

TIM – Traffic Incident Management

TIP – Transportation Improvement Program

TMC – Traffic Management Center

TMDD – Traffic Management Data Dictionary

TSS – Transportation Sensor Systems

USDOT – United States Department of Transportation

XML – Extensive Markup Language

3 Description of Region and Scope

The Baton Rouge Regional ITS Architecture is a roadmap for transportation systems integration within the Baton Rouge area. The architecture was developed through a cooperative effort by the region's transportation agencies, covering diverse modes and all major roads in the region. It represents a shared vision of how each agency's systems will work together, sharing information and resources to provide a safer, more efficient, and more effective transportation system for travelers in the region.

The architecture provides an overarching framework that spans all of the region's transportation organizations and individual transportation projects. Using the architecture, each transportation project can be viewed as an element of the overall transportation system, providing visibility into the relationship between individual transportation projects and ways to cost-effectively build an integrated transportation system over time. This section establishes the scope of the architecture in terms of its geographic breadth, the scope of services that are covered, and the time horizon that is addressed.

3.1 Geographic Scope

The region for which this ITS Architecture is being developed corresponds with the Baton Rouge MPO area which is administered by Capital Regional Planning Commission (CRPC). The parishes within the MPO area include Ascension, East Baton Rouge, Iberville, Livingston, and West Baton Rouge. See **Section 3.1** for the geographic scope. The City of Baton Rouge has a population of about 230,000 and the population of the urban area is about 450,000 and the Greater Baton Rouge metropolitan area is estimated to have a population of about 800,000. Baton Rouge is one of the fastest growing cities in America with population less than one million people.

The Baton Rouge regional ITS architecture covers the interstate highway systems (I-10, I-110, and I-12), and major principal arterials (e.g., US 61 and US 190). The Baton Rouge regional ITS architecture covers about 40 miles of interstate routes and over 40 miles of State/US routes.

3.2 Service Scope

This Regional ITS Architecture covers a range of ITS services intended to address transportation needs identified within the defined geographic scope. These transportation deficiencies in the region may be existing or emerging transportation issues. The national ITS architecture provides a common framework to address emerging issues using intelligent transportation systems. Service packages consist of several different subsystems that provide desired services. The transportation issues in the Baton Rouge area will therefore be addressed with the aid of specific service packages that can be deployed incrementally in various phases of projects. **Section 7** of this document shows a range of existing and planned ITS services.

3.3 Timeframe

The period for a comprehensive review of the Baton Rouge Regional ITS Architecture is five years. However, the architecture will continuously evolve and changes made to remain current and relevant.

3.4 Maintainer

The Louisiana Department of Transportation and Development (LADOTD) will take the lead to maintain the Baton Rouge Regional ITS Architecture.

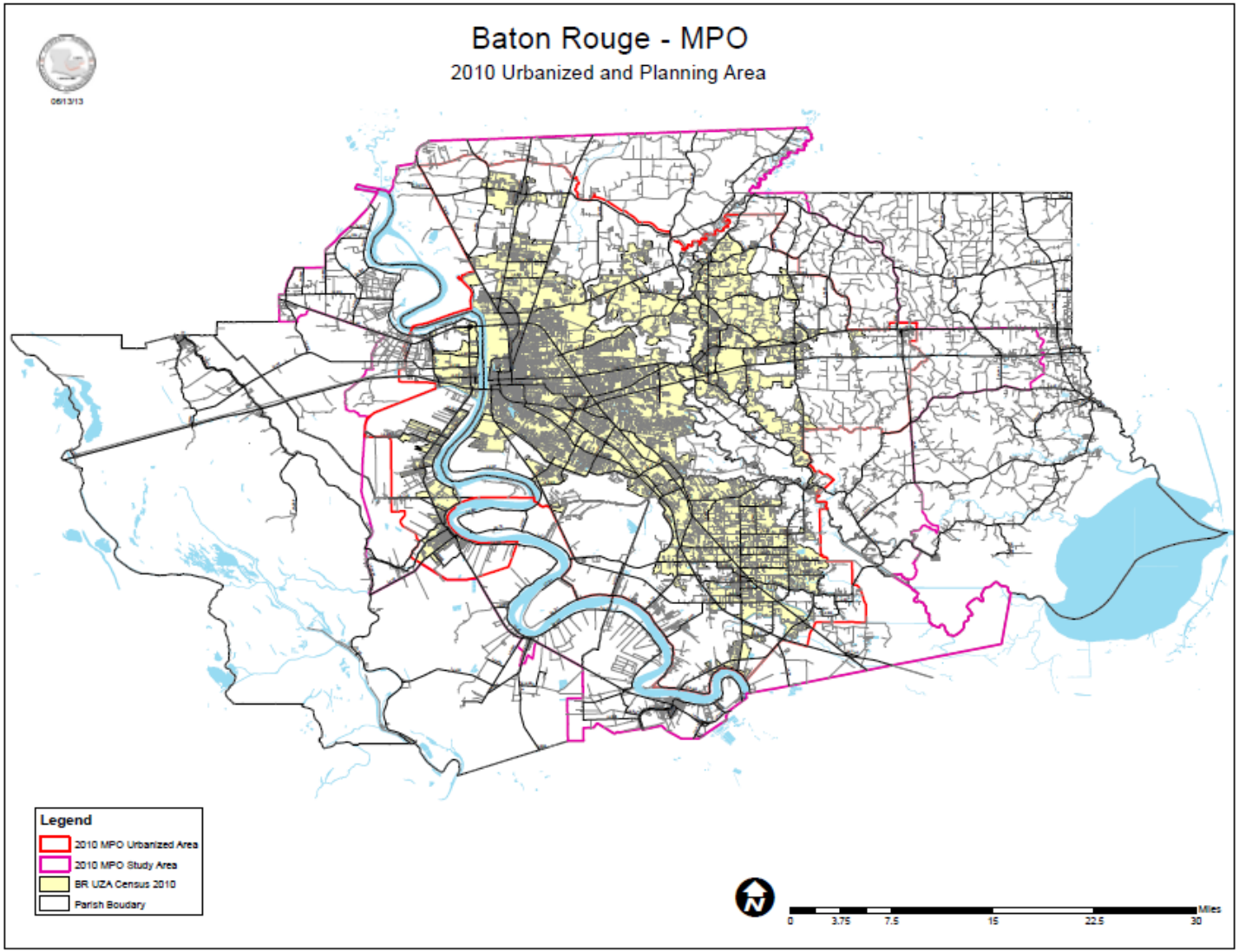


Figure 1: Baton Rouge Regional ITS Architecture Boundary

4 Relationship to Planning

The Baton Rouge Regional ITS Architecture is an integral part of planning for the operations and maintenance strategies that are addressed by the regional transportation planning process. The architecture provides a framework that connects operations and maintenance objectives and strategies with the integrated transportation system improvements that are implemented as a progressive series of ITS projects. The architecture also is used to define the data needs associated with performance monitoring that supports an informed planning process. **Table 2** identifies the planning objectives and strategies from the regional plan[1]. (The regional plan does not propose performance measure category and performance measure. The metrics or parameters in **Table 2** are consistent with accepted methods.) These planning elements are connected with ITS services in the Turbo Architecture database.

Table 2: Relationship to Planning

Number	Name	Description	Performance Measure Category*	Performance Measure*
1	Enhance transportation system mobility and accessibility for all roadway users and modes	This goal will be achieved by relieving traffic congestion and decreasing travel time; designing roadways for multimodal use; enhancing availability, attractiveness and efficiency of public transportation; ensuring equity in transportation development; improving rural/urban connectivity for roadway and transit; pursuing integrated development of corridors; improving regional access to community facilities; facilitating intermodal goods movement; improving bicycle and pedestrian mobility and accessibility; and optimizing available resources.	Accessibility	Benefits per income group
			Travel Time Reliability	Buffer Time Index, Planning Time Index
2	Enhance regional connectivity and economic viability	This goal will be achieved by improving regional connectivity and mobility within metropolitan area; maximizing the economic development potential through increased arterial share of regional highway mileage; providing balanced transportation system compatible with future plans to support economic vitality.	Economic Viability	Life Cycle Cost Analysis, Benefit/Cost Ratio, NPV
3	Enhance environmental quality and public safety	This goal will be achieved by supporting hurricane and emergency evacuation planning by increasing emergency evacuation route mileage and vehicular capacity; promoting the safety of users of all modes of travel both motorized and non-motorized; upgrading grade crossing protection and warning systems for rail lines; enhancing air quality by reducing mobile-source emissions; promoting access management and maximizing safety for all road users; designing safer intersections for all users; promoting traffic calming where needed; using context sensitive design in the project development process; considering environmental impacts of transportation project alternatives.	Air Quality	NOX, CO, VOC, PM
			Noise Pollution	Noise Level
			Safety	Fatal Crashes, Injury Crashes, PDO Crashes

[1] The Baton Rouge MTP 2037 Metropolitan Transportation Plan (June 2013)

Number	Name	Description	Performance Measure Category*	Performance Measure*
4	Support local values and preserve existing community resources	This goal will be achieved by preserving and maximizing use of existing transportation infrastructure with the aid of intelligent transportation system and transportation system management techniques; ensuring that proposed improvements are consistent with local plans, goals, and objectives; giving priority to community expectations regarding walkability, aesthetic appeal and quality-of-life issues; promoting access management and traffic calming strategies for transportation system development; acquiring right of way in advance for future improvements at minimal cost; promoting scenic byways.	Infrastructure	Infrastructure Condition Index
			Land Use Pattern	Land Use Ratios
			Noise Pollution	Noise Level
5	Provide a transportation planning process that informs and involves the public as well as elected officials	This goal will be achieved by engaging the public in regional transportation planning; encouraging stakeholder participation in development of long range transportation plans; providing adequate public input into decision making.	Accessibility	Benefits per income group
			Community Cohesion	Displaced Persons or Businesses
6	Develop and long-range regional transportation plan that is financially feasible	This goal will be achieved by ensuring long-range plans meet federal highway and federal transit requirements.	Economic Viability	Life Cycle Cost Analysis, Benefit/Cost Ratio, NPV

5 ITS Stakeholders

An effective ITS architecture involves the participation of multiple stakeholders and integration of the stakeholders' systems to manage the overall transportation network. This section describes the stakeholders who either participated in the creation of the Baton Rouge Regional ITS Architecture or whom the participating stakeholders felt needed to be included in the architecture development. Some stakeholders have been grouped in order to better reflect mutual participation or involvement in transportation services and elements.

5.1 List of Stakeholders

Table 3 presents a list and a brief summary of the stakeholders for the Baton Rouge regional ITS architecture. The list is revised and updated periodically to be current and responsive to the needs of the public.

Table 3: List of ITS Stakeholders

Stakeholder Name	Stakeholder Description
Ascension Parish	Ascension Parish is one of the primary regional government agencies that is responsible for traffic management, emergency response and management, and other transportation system management activities within its jurisdiction.
Baton Rouge Metropolitan Airport	The Baton Rouge Metropolitan Airport (BTR) is serviced by four major airlines to five hub airports. There are over 60 jet flights daily providing single connection via hub airports to final destinations both local and international. Over 1.6 million residents from across south Louisiana and southwest Mississippi are served by this airport. The airport is also responsible for operating field devices and parking management. Airport authority is also responsible for emergency, parking, and traffic management within the airport.
Capital Area Transit System (CATS)	Capital Area Transit System (CATS) is the regional transit agency in the metropolitan Baton Rouge area. CATS serves the region with several routes and a full service transit vehicle fleet.
Capital Region Planning Commission (CRPC)	The Capital Region Planning Commission (CRPC) is a Council of Governments serving the eleven-parish Capital Region. CRPC is the Baton Rouge area's designated Metropolitan Planning Organization (MPO), which each metropolitan area must have in order to carry out regional transportation planning efforts and receive federal highway funds. As the regional MPO, the Capital Region Planning Commission focuses a great deal of its resources on transportation planning issues and activities, which includes highway planning, the regional ridesharing program, and air quality issues. In addition, CRPC is one of eight sub-state planning and development districts, which cover all 64 parishes in the state of Louisiana. Toward that end, CRPC provides technical assistance for economic development, comprehensive planning, and zoning to its members.
City of Baton Rouge/East Baton Rouge Parish	The City of Baton Rouge/East Baton Rouge Parish (a.k.a., City-Parish) is one of the primary regional government agencies that is responsible for traffic management, emergency response and management, and other transportation system management activities within its jurisdiction.
Iberville Parish	Iberville Parish is one of the primary regional government agencies that is responsible for traffic management, emergency response and management, and other transportation system management activities within its jurisdiction.
LADOTD	Louisiana Department of Transportation and Development (LADOTD) is an arm of the Louisiana government responsible for statewide transportation. LADOTD's responsibilities also include statewide transportation system operations. This stakeholder group includes all LADOTD units (ITS, Office of Planning Programming, Highway Safety, Weights and Standards, Traffic Services, and Traffic Engineering) involved in transportation planning, operations, and maintenance. Some of the typical responsibilities include incident detection and response, evacuation planning and management, transportation data collection, management, and distribution for the Baton Rouge region as well as for the entire state.

Stakeholder Name	Stakeholder Description
LADOTD District Office	The Louisiana Department of Transportation and Development (LADOTD) District office focus on operations and maintenance throughout the district. The Baton Rouge metropolitan region includes two separate district offices, District 61 and District 62, with separate jurisdictional responsibilities within the region. District offices are responsible for planning, construction, operations and maintenance of the State transportation elements (Interstate facilities, Primary & Secondary Routes) in the entire Baton Rouge region.
Livingston Parish	The Livingston Parish is one of the primary regional government agencies that is responsible for traffic management, emergency response and management, and other transportation system management activities within its jurisdiction.
Local Public Safety Agencies	This stakeholder group is responsible for operating local police, fire, and EMS offices and vehicles throughout region. This stakeholder group includes all the regional agencies that are involved in emergency, fire, police, and other public safety/emergency response activities. The list of agencies included in this stakeholder group is as follows: Baton Rouge Police Department, West Baton Rouge Parish Sheriff's Office, East Baton Rouge Parish Sheriff's Office, Iberville Parish Sheriff's Office, Ascension Parish Sheriff's Office, Livingston Parish Sheriff's Office, Baker Police Department, Zachary Police Department, Gonzales Police Department, Denham Springs Police Department, Brusly Police Department, Walker Police Department, West Baton Rouge Parish Office of Homeland Security/Emergency Preparedness and 911, Iberville Parish Office of Emergency Preparedness, Ascension Parish Office of Homeland Security and Emergency Preparedness, East Baton Rouge Parish Mayor's Office of Homeland Security and Emergency Preparedness (MOHSEP) and Livingston Parish Office of Homeland Security and Livingston Parish 911 Center.
Louisiana Transportation Research Center (LTRC)	Responsible for transportation technology research, training and continuing education, technology transfer, and problem-solving services for Louisiana Transportation community.
LSP Troop A	Louisiana State Police agency is responsible for operating Louisiana State Police Centers. The activities include Computer Aided Dispatch database, which collects incident/emergency detection, dispatch, response, status information related to the Louisiana State Police officers/equipment, and Louisiana State Police vehicles. LSP Troop A is responsible for the Baton Rouge area.
Media	This stakeholder group includes local TV/Radio Channels, and print media that is responsible for receiving and distributing transportation information like traffic conditions, incidents and road weather conditions.
Port of Greater Baton Rouge	The Port of Greater Baton Rouge ranks among the top U.S. ports in total tonnage. It is located in Port Allen on the Mississippi River and part of the Louisiana Maritime industry and overall economy. The port is at the convergence of the Mississippi River and the Gulf Intracoastal Waterway and provides connection to other inland ports and other ports in the Gulf and Atlantic seaboard. The port also provides excellent access to diverse intermodal transportation facilities including truck and rail. The port is in close proximity to major freeways and interstates.
Public (Traveler)	Members of the general public own and operate various devices/systems to access ITS information, including PDAs, cell phones, and personal computers.
Tourism and Travel Information Service Providers	Various tourism agencies, chambers of commerce, hotel associations, motorist services, and traveler information providers.
West Baton Rouge Parish	West Baton Rouge Parish is a regional government agency that is responsible for traffic management, emergency response and management, and other transportation system management activities within its jurisdiction.

5.2 Origin of the Advisory Committee and Steering Committee

The Advisory Committee was set up to guide the development of regional ITS architecture for the Baton Rouge area by setting the required policy and procedures for the deployment of intelligent transportation systems for advanced traffic management. The representatives of the Advisory Committee were drawn from stakeholders who would either have lead responsibility or cooperate in the implementation, operations, and maintenance of ITS architecture system in the Baton Rouge area. The initial responsibility of the Advisory Committee was met with the establishment of the Advanced Traffic Management Center (ATMC) for Baton Rouge.

The ITS Steering Committee was established to oversee and direct planning and development of ITS within the Baton Rouge Transportation Management Area. As the region grows and technology evolves, updates to the ITS architecture and programs have to be made to ensure the transportation needs of the Baton Rouge area are met efficiently. These updates include changes in the stakeholders, planning objectives, project implementation and changes to the national ITS architecture. These and similar activities fell under the purview of the Steering Committee. **Table 4** provides the list of stakeholders serving on the Advisory and Steering Committees when it was originally instituted.

Table 4: Baton Rouge Regional ITS Steering and Advisory Committees

Steering Committee	Advisory Committee
LADOTD ITS Section	City-Parish Mayor's Office
LADOTD Districts 61	City-Parish DPW
LADOTD Districts 62	LADOTD District 61 Traffic Engineer
City-Parish Department of Public Works (DPW) Traffic Engineering	LADOTD District 62 Traffic Engineer
FHWA	LSP (Troop A)
Mayor's Office of Homeland Security and Emergency Preparedness (MOHSEP)	FHWA
Port of Greater Baton Rouge	Capital Area Transit System
Capital Area Transit System	Baton Rouge Metropolitan Airport Director
Baton Rouge Metropolitan Airport	Capital Region Planning Commission
Louisiana Transportation Research Center	
Capital Region Planning Commission	
Baton Rouge Traffic Incident Management Team	

5.2.1 Status of Advisory Committee

The ITS Advisory Committee has not been active for some time. The Advisory Committee was set up to guide the initial implementation of ITS and it appears when the primary goal of the Advisory Committee was met, its role diminished and over time stopped. This could be partially attributed to the overlapping responsibilities of the ITS Steering Committee that was existing at the time. The 2005[2] and 2009[3] FHWA Certification Reviews

[2] Certification Review of the Baton Rouge Metropolitan Transportation Planning Process (2005)

recommended the reactivation of the Advisory Committee. The latter Certification Review recommended reestablishment as outlined in the Baton Rouge Preliminary Implementation Plan for ITS because the Advisory Committee is required to "continuously monitor" the operations of the Advanced Traffic Management Center/Emergency Operations Center (ATM/EOC).

5.2.2 Status of Steering Committee

The ITS architecture planning documents for an MPO are revised every 5 years. However, since regional needs and technology evolve continuously, provision for amendments or administrative revisions have been made. Periodic meetings are needed to evaluate the existing ITS architecture and propose modifications. This responsibility falls under the purview of the Steering Committee. As shown in the FHWA Certification Reviews referenced above, the Steering Committee has not been able to meet regularly to address emerging ITS needs.

5.2.3 Proposed Changes to Committees

Although neither the Advisory Committee nor the Steering Committee has met recently, the development of ITS in the region has continued to grow. The ITS architecture updates for Baton Rouge have been obtained by convening meetings with the stakeholders when necessary. Currently, the Traffic Incident Management (TIM) meetings are held generally on a quarterly basis and serves as an avenue to address gaps in ITS deployments. However, during the meetings conducted to develop this document, a proposal was made by CRPC to establish a TAC ITS sub-committee. This group would serve under the leadership of the TAC Chair and function in both capacities of the original advisory and steering committees. Its members should consist of vetted technical experts from each municipality as well as LSP and DOTD ITS Section. Also, this group would be actively involved in ITS planning, project selecting and prioritizing for implementation. The MPO can help to ensure the public is involved in any amendments to the ITS architecture consistent with CRPC's Public Involvement Plan. This effort will be supplemented by the comprehensive reviews or the regional ITS architectures that are scheduled for every five years (See **Section 3.3**).

[3] Certification Review of the Baton Rouge Metropolitan Transportation Planning Process. FHWA and FTA Joint Review of the Transportation Planning Process in the Baton Rouge Metropolitan Planning Process. (2009)

6 ITS System Inventory

An inventory of existing and planned transportation systems is the basis for the Baton Rouge Regional ITS Architecture. The transportation system inventory was developed based on input from stakeholders throughout the region. The inventory includes a list of ITS elements and the associated stakeholder responsible for system operation.

Table 5 describes the surface transportation inventory elements for the region. A transportation element can be a center, vehicle, traveler or field equipment. Each transportation element listed below has one or more stakeholders associated with it. In order to reduce the complexity of the architecture, some transportation elements with like functionality have been grouped together. Each transportation inventory element is mapped to at least one National ITS Architecture entity.

Table 5: ITS Inventory

Element Name	Subsystem	Element Description	Stakeholder	Element Status	Associated Entity
Archived Data Users	Center	This element represents Capital Region Planning Commission (CRPC) and other planning and research agencies in the region that use the transportation data for transportation planning purposes. The primary example can be the technical advisory committee formed by CRPC making use of operations data for future planning and other system planning and deployment purposes.	Capital Region Planning Commission (CRPC)	Existing	Archived Data Management Archived Data User Systems
Ascension Parish DPW	Center	Ascension Parish DPW is responsible for operating local field devices including traffic signal systems and parking systems.	Ascension Parish	Existing	Maintenance and Construction Management Parking Management Traffic Management Traffic Operations Personnel
Baton Rouge TMC	Center	This element represents the traffic operations center that is responsible for traffic management activities within the Baton Rouge regional ITS architecture. The typical activities include traffic monitoring, traffic data collection, operation of ITS elements (CCTV, DMS, etc.), detection and verification of incidents, traffic signal monitoring, and other traffic management related activities. This also includes communicating with other agencies, districts, TMCs, and DOTD departments for roadway maintenance activities.	LADOTD	Existing	Archived Data Management Emergency Management Traffic Management Traffic Operations Personnel

Element Name	Subsystem	Element Description	Stakeholder	Element Status	Associated Entity
Capital Area Transit System (CATS)	Center	This element represents the regional transit system for the Baton Rouge metropolitan area.	Capital Area Transit System (CATS)	Existing	Information Service Provider Transit Management Transit Operations Personnel
Capital Region Planning Commission (CRPC)	Center	CRPC represents the Baton Rouge MPO and is responsible for transportation planning and policy making. CRPC is made up of representatives from local government and transportation authorities. The Baton Rouge MPO is made up of eleven Parishes: Ascension, East Baton Rouge, East Feliciana, Iberville, Livingston, Point Coupee, St Helena, Tangipahoa, Washington, West Baton Rouge and West Feliciana.	Capital Region Planning Commission (CRPC)	Existing	Archived Data Management Archived Data User Systems Asset Management Government Reporting Systems Information Service Provider
CATS Transit Vehicles	Vehicle	CATS Transit Vehicles	Capital Area Transit System (CATS)	Existing	Transit Vehicle Transit Vehicle Operator
City-Parish DPW Traffic Engineering Division	Center	This element represents City of Baton Rouge/Parish of East Baton Rouge DPW traffic engineering division. The traffic engineering division is responsible for traffic operations management within the city jurisdiction.	City of Baton Rouge/Parish of East Baton Rouge	Existing	Archived Data Management Emergency Management Emergency System Operator Information Service Provider Traffic Management Traffic Operations Personnel

Element Name	Subsystem	Element Description	Stakeholder	Element Status	Associated Entity
City-Parish Emergency Response Operations 911	Center	This element represents the City-Parish emergency response operations including City fire, police, 911, and any other emergency response operators housed in the ATM/EOC building. This element is responsible for the emergency response operations and management within the City of Baton Rouge/Parish of East Baton Rouge jurisdiction	City of Baton Rouge/East Baton Rouge Parish	Existing	Archived Data Management
					Emergency Management
					Emergency Personnel
					Emergency System Operator
					Emergency Telecommunications System
					Archived Data Management
					Emergency Management
City-Parish Emergency Vehicles	Vehicle	This element represents emergency vehicles operated and maintained by the City of Baton Rouge/Parish of East Baton Rouge emergency personnel. These vehicles include emergency, fire, and police vehicles owned by city-parish.	City of Baton Rouge/Parish of East Baton Rouge	Existing	Emergency Personnel
					Emergency Vehicle
City-Parish ITS Field Devices	Field	This element represents several ITS field devices operated by the city-parish traffic engineering division.	City of Baton Rouge/East Baton Rouge Parish	Existing	Roadway
City-Parish Website	Center	This element represents the City of Baton Rouge/Parish of East Baton Rouge website which directly or indirectly provides transportation information to travelers.	City of Baton Rouge/Parish of East Baton Rouge	Existing	Information Service Provider
DOTD Adjacent District Office	Center	This element represents other DOTD district offices including four adjacent districts which are involved in direct corridor level co-ordination with the Baton Rouge region.	Adjacent LADOTD Districts	Existing	Other Emergency Management
					Other Maintenance and Construction Management
					Other Roadway
					Other Traffic Management

Element Name	Subsystem	Element Description	Stakeholder	Element Status	Associated Entity
					Traffic Management
DOTD District 61 Maintenance Division	Center	This element represents district maintenance department that is responsible for all the roadway construction, maintenance, and repair within the district jurisdiction. This element also helps coordinating with other departments for scheduling of maintenance activities.	LADOTD District Office	Existing	Maintenance and Construction Management
DOTD District 61 ITS Field Devices	Field	This element 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, dynamic message signs, CCTV cameras and video image processing systems, grade crossing warning systems, and freeway ramp metering systems.	LADOTD	Existing	Roadway
DOTD District 61 Traffic Operations	Center	This element represents traffic operations center or traffic engineering division within the district office that is responsible for traffic management activities within the district jurisdiction. The typical activities include traffic monitoring, traffic data collection, operation of ITS elements (CCTV,DMS, etc.), detection and verification of incidents, traffic signal operations, and other traffic management related activities. This also includes communicating with other departments like maintenance for roadway maintenance activities.	LADOTD	Existing	Archived Data Management
					Emergency Management
					Information Service Provider
					Maintenance and Construction Management
					Traffic Management
					Traffic Operations Personnel
DOTD District 62 ITS Field Devices	Field	This element 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, dynamic message signs, CCTV cameras and video image processing systems, grade crossing warning systems, and freeway ramp metering systems.	LADOTD	Existing	Roadway

Element Name	Subsystem	Element Description	Stakeholder	Element Status	Associated Entity
DOTD District 62 Maintenance Division		This element represents district maintenance department that is responsible for all the roadway construction, maintenance, and repair within the district jurisdiction. This element also helps coordinating with other departments for scheduling of maintenance activities.	LADOTD	Existing	Maintenance and Construction Management
DOTD District 62 Traffic Operations	Center	This element represents traffic operations center or traffic engineering division within the district office that is responsible for traffic management activities within the district jurisdiction. The typical activities include traffic monitoring, traffic data collection, operation of ITS elements (CCTV, DMS, etc.), detection and verification of incidents, traffic signal operations, and other traffic management related activities. This also includes communicating with other departments like maintenance for roadway maintenance activities.	LADOTD	Existing	Archived Data Management Emergency Management Information Service Provider Maintenance and Construction Management Traffic Management Traffic Operations Personnel
DOTD District Vehicles (MAP - District 61)	Vehicle	This element represents the motorist assistance patrol vehicles operated and maintained by the District 61	LADOTD	Existing	Emergency Personnel Emergency Vehicle
DOTD ITS Division Maintenance Vehicles	Vehicle	This element represents all the vehicles and associated equipment that assist in ITS field equipment maintenance and repair activities.	LADOTD	Existing	Maintenance and Construction Field Personnel Maintenance and Construction Vehicle
DOTD ITS Section	Center	This element represents ITS section under the LADOTD Central Office. The ITS section is responsible for state-wide operations center located in DOTD headquarters. Also, the ITS section is responsible for management information system for transportation, state-wide ITS elements operations, and maintenance. The ITS section is also responsible for maintenance of all ITS equipment in the state including district 61 and 62.	LADOTD	Existing	Archived Data Management Maintenance and Construction Management Maintenance and Construction Vehicle Roadway

Element Name	Subsystem	Element Description	Stakeholder	Element Status	Associated Entity
					Traffic Management
					Traffic Operations Personnel
DOTD Planning and Programming Division	Center	This element represents DOTD Planning and Programming division that is responsible for collecting and distributing myriad of transportation data including traffic counts, roadway inventory, infrastructure (pavement, tunnel, bridges, etc.) maintenance status, etc.	LADOTD	Existing	Archived Data Management
DOTD Website	Center	This element represents the LADOTD website and social media feeds which directly or indirectly provides transportation information to travelers.	LADOTD	Existing	Information Service Provider
DOTD Weights and Standards Division	Center	This element represents Weights and Standards division responsible for commercial vehicle checking and permit issuance.	LADOTD	Existing	Commercial Vehicle Administration
					Commercial Vehicle Check
					CVO Inspector
Livingston Parish DPW	Center	Livingston Parish DPW is responsible for operating local field devices including traffic signal systems and parking systems.	Livingston Parish	Existing	Maintenance and Construction Management
					Parking Management
					Traffic Management
					Traffic Operations Personnel
Local Emergency Operations Centers	Center	This element represents emergency dispatch centers operated by local agencies including 911, emergency, and fire response dispatch center.	Local Public Safety Agencies	Existing	Archived Data Management
					Emergency Management
					Emergency System Operator

Element Name	Subsystem	Element Description	Stakeholder	Element Status	Associated Entity
					Emergency Telecommunications System
Local Public Safety Agencies	Center	This refers to all the local public safety agencies including police, fire, emergency services.	Local Public Safety Agencies	Existing	Emergency Management
					Emergency Personnel
					Emergency System Operator
					Emergency Telecommunications System
					Emergency Vehicle
					Enforcement Agency
					Traffic Management
Local Traffic Operations	Center	This element represents local (city/town) DPW traffic engineering operations within their own jurisdiction	Local Traffic Management Agencies	Existing	Traffic Management
					Traffic Operations Personnel
MOHSEP	Center	This element represents Mayor's Office of Homeland Security and Emergency Preparedness. MOHSEP is responsible for emergency response to major disaster in East Baton Rouge Parish and the ATM-EOC facility.	City of Baton Rouge / Parish of East Baton Rouge	Existing	Alerting and Advisory Systems
					Emergency Management
Louisiana 511	Center	This element provides traveler information service provided by the LADOTD in conjunction with private partner.	LADOTD	Existing	Information Service Provider
					Telecommunications System for Traveler Information
Louisiana State Police - Troop A	Center	This element represents Louisiana State Police department; the Baton Rogue metropolitan area is covered by troop A.	LSP Troop A	Existing	Archived Data Management
					Emergency Management
					Emergency System Operator

Element Name	Subsystem	Element Description	Stakeholder	Element Status	Associated Entity
					Emergency Telecommunications System
Louisiana State Police Vehicles	Vehicle	Louisiana State Police Vehicles	LSP Troop A	Existing	Emergency Personnel
					Emergency Vehicle
Louisiana Transportation Research Center (LTRC)	Center	This element represented the LTRC that performs short-term and long-term research and provides technology assistance, engineering training and continuing education, technology transfer, and problem-solving services to DOTD and others in the transportation community.	Louisiana Transportation Research Center (LTRC)	Existing	Archived Data Administrator
					Archived Data Management
					Archived Data User Systems
Media	Center	This element provides information to the public using television and radio broadcasts, websites and social media	Media	Existing	Information Service Provider
					ISP Operator
					Media
Parish OHEP	Center	This element refers to the Office of Emergency Preparedness and Homeland Security department within each Parish in the MPO which is responsible for developing parish wide emergency operations plan in accordance with state and federal guidelines. The plan details emergency assignments before, during, and following any declared emergency.	Local Public Safety Agencies	Existing	Archived Data Management
					Emergency Management
					Emergency Personnel
					Emergency System Operator
					Emergency Telecommunications System
Port of Baton Rouge	Center	This Stakeholder represents the Ports which are transfer points or multimodal facilities	Port of Greater Baton Rouge	Existing	Fleet and Freight Management
					Fleet-Freight Manager
					Freight Equipment

Element Name	Subsystem	Element Description	Stakeholder	Element Status	Associated Entity
					Intermodal Freight Depot
					Intermodal Freight Shipper
					Security Monitoring
Tourism and Travel Service Information Sources	Traveler	Private Tourism and Traveler Information Websites, local hotel associations, visitor centers, etc.	Tourism and Travel Information Service Providers	Existing	Care Facility
					Event Promoters
					Information Service Provider
					Map Update Provider
					Travel Services Provider
Traveler	Traveler	Motorist or user of the regional transportation system	Public (traveler)	Existing	Personal Information Access
					Traveler
WBR Parish DPW	Center	West Baton Rouge Parish DPW is responsible for operating local field devices including traffic signal systems and parking systems.	West Baton Rouge Parish	Existing	Maintenance and Construction Management
					Parking Management
					Traffic Management
					Traffic Operations Personnel

6.1 Existing Regional ITS Systems and Operations

The Baton Rouge region has some ITS elements already deployed by LADOTD including a regional TMC and many ITS field devices such as closed circuit television (CCTV) cameras, vehicle detectors, DMS and traffic signal systems with communications to help manage traffic. **Table 6** gives a summary of the ITS field device counts for surveillance, incident detection and traveler information. In addition to the Baton Rouge TMC the Statewide TMC is located in Baton Rouge and provides coverage after hours.

Currently under construction is the Baton Rouge Phase 3 project which will deploy CCTV cameras, Bluetoad devices and travel time message signs, and DMS. A total of 16 CCTV cameras, 30 Bluetoad devices, and 5 DMS are to be constructed. There are also 8 ramp metering systems currently in the design phase to be deployed on I-10 between Dalrymple Drive and Siegen Lane.

Table 6: ITS Field Device Count

ITS Equipment	Description	Stakeholder	Element Name
CCTV Cameras	There are 119 CCTV cameras. Cameras are deployed along interstate freeway system and major arterials and used for surveillance, incident detection and verification.	LADOTD	DOTD District 61 ITS Field Devices DOTD District 62 ITS Field Devices
DMS	There are 14 dynamic message sign (DMS) devices used for traveler information.	LADOTD	DOTD District 61 ITS Field Devices DOTD District 62 ITS Field Devices
RVD	There are 60 radar vehicle detector (RVD) devices used for vehicle detection.	LADOTD	DOTD District 61 ITS Field Devices DOTD District 62 ITS Field Devices
Statewide 511/Twitter/Way To Geaux App	The Statewide 511 is used for traveler information about construction, major incidents, and traffic speeds. Periodic traffic messages are tweeted to travelers to inform them of congestions levels in the Baton Rouge area. Way to Geaux is an app that can be downloaded onto smartphones and travelers can receive alerts when incidents are entered into the system by TMC operators. This app is hands-free and eyes-free and gives real-time traffic and road conditions update.	LADOTD	DOTD Website
Signal Systems	District 61 has about 524 active traffic signals. Within EBR Parish, 268 of these signals are maintained by the Parish	LADOTD	DOTD District 61 ITS Field Devices

ITS Equipment	Description	Stakeholder	Element Name
	and 9 by the State. Others are 90 signals in Ascension Parish, 24 in Iberville Parish, and 20 in West Baton Rouge Parish.		
	District 62 has 33 signals in Denham Springs and Walker.	LADOTD	DOTD District 62 ITS Field Devices
	East Baton Rouge DPW TED maintains a total of about 497 signals. 227 of these are City owned and 270 are State owned signals.	City of Baton Rouge/East Baton Rouge Parish	City-Parish ITS Field Devices

6.1.1 ATM/EOC Facility

The ATM/EOC facility is the center for operations of the advanced transportation management system for the Baton Rouge Area (Baton Rouge TMC). The facility is occupied by the following agencies: LADOTD (District 61 Operations Engineer, TMC), City of Baton Rouge (311, City Police, Fire Department, Emergency Medical Services, Mayor's Office of Homeland Security and Emergency Preparedness) and the Parish of East Baton Rouge (St. George Fire Department, Sheriff's Office). The DPW 311 Call Center and EBR Sheriff's office are the new additions to the facility.

The ATM/EOC facility was modified recently to improve its capacity and utilization for operational effectiveness. The aftermath of Hurricane Katrina prompted changes to meet day-to-day operational needs and improve the coordination required for rapid emergency response. The functional changes made included addition of the EBR Sheriff's Office, a DPW 311-Call Center and medical service support. The control center on the first floor was reconfigured (by regrouping and clustering consoles) for better utilization of space. This reconfiguration enabled new space to be allocated to East Baton Rouge Sheriff and the 311-Call operators on the floor. Each agency with representation at the consoles on the floor also needed an adjoining administrative office space and therefore some spaces/rooms were re-designated for offices. The management office for the 311-Call Center has been located in the break room formerly designated for smoking, and part of the receptionist area has been assigned for use by the Sheriff's Office.

The Emergency Operations Center (EOC) was expanded by removing walls to add about 400sqft of additional space. Nearly half of the 800 square feet of space for the 2nd floor lobby area has been converted to office space for medical service support during disasters. The media observation area that was under-utilized has now been converted into a DPW operational and conference room. The City Parish also increased staffing (system operators and traffic signal technicians) to support traffic engineering and traffic management. While these new additions have improved traffic incident response, it has also resulted in a reduction in storage and equipment evaluation space. **Appendix A** shows the existing facility space allocation maps of the ATM-EOC. The ATM/EOC is now being managed by MOHSEP.

6.1.2 Motorist Assistance Patrol (MAP)

The Baton Rouge area has a Motorist Assistance Patrol program operating in the region. The program is funded by LADOTD. The limits of MAP have been illustrated in **Figure 2**. The general services currently provided by the MAP program are listed below:

- Change tires
- Inflate tires
- Provide fuel
- Perform first aid
- Clear travel lanes
- Traffic control
- Cell phone use
- Support incident management

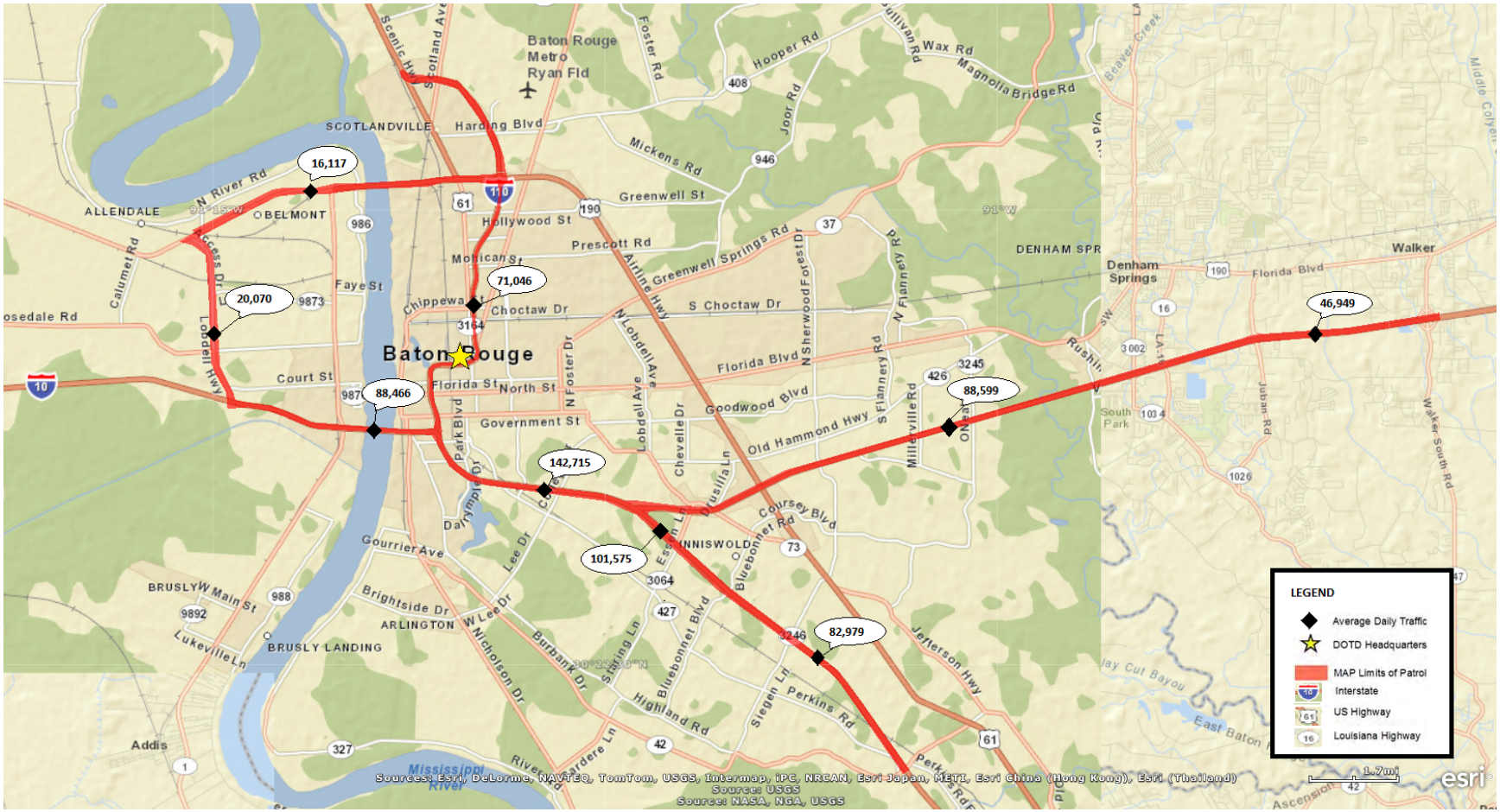


Figure 2: Baton Rouge Motorist Assistance Patrol Limits

6.1.3 Traveler Information System:

The Louisiana 511/ Website is a traveler information system which allows the public to actively engage in smart travel by choosing less congested routes and also avoid routes with incidents. 511 can be reached by most cell phones and landlines or accessed on the internet at www.511LA.org. The information broadcasted/displayed for Baton Rouge contains construction information, lane closures, speed information, and reported incidents on state routes. All information for entry to 511 can be input by the Baton Rouge or Statewide TMC. The lane closure and construction information is communicated from LADOTD District 61 and 62 via My DOTD. Incidents that occur on the roadways are communicated from the State Police and municipal police/sheriff departments.

6.2 Transportation Issues and Needs

6.2.1 Congested Corridors

The interstate and interchanges in the Baton Rouge area experience rush hour congestion. This congestion is capacity related and exacerbated in the event of an incident. The major arterials (Airline Hwy, Florida Boulevard, Burbank Drive, Essen Lane, Sherwood Forest, and College Drive) also experience significant congestion. See **Appendix B** for congestion maps.

6.2.2 Freight Routes

The interstate system (I-10, I-110 and I-12) and major arterials (US 61, LA 1, and US 190) are the primary routes used by freight trucks to access the Port of Greater Baton Rouge. Other modes include water/river and rail access. Currently there is only one Class I railroad servicing the port and this poses a challenge in moving freight. The roadway routes experience rush hour congestion and that affects delivery time of trucks to the port. Smooth traffic flow on the freight routes can reduce emissions and noise from trucks and improve the environment and quality of life for residents. Intelligent freight technologies enhance the efficiency and productivity of operators and enforcement agencies and this can significantly improve the safety benefits to the public. Goods and services can also be delivered at a lower cost to consumers.

6.2.3 Integrated Corridor Management – Bridge Crossings

Baton Rouge has been recently rated as one of the top congested medium-size city according to the Texas Transportation Institute's 2012 Urban Mobility Report. The existing bridge crossings on the Mississippi River experience congestion during peak periods. The congestions is exacerbated when incidents occur. This situation leads to significant disruption of traffic flow and safety hazards. An integrated corridor management (ICM) strategy that leverages capacity of all transportation modes could reduce the impact of incidents and mitigate congestion. Travel time reliability and safety could also improve. For instance, lane control signals could be used in the ICM strategy to manage incidents. Using lane control systems to move drivers out of lanes impacted by an incident or stalled vehicles further upstream of the incident location could potentially reduce congestion and improve safety.

6.2.4 Reversible Lanes

A reversible lane is one that can permit traffic to travel in either direction depending on demand. Reversible lanes allow more lane capacity to be assigned in the direction with high demand and can be used to manage directional demands on bridges or arterials with the aid of movable barriers or lane control signals. Currently LADOTD does not have a policy on implementation of reversible lanes. Implementation of reversible lanes helps to maximize existing capacity within the right of way without building more lanes.

6.2.5 Incident Management

Incident detection and rapid response reduces congestion and secondary incidents. ITS devices that facilitate incident detection and verification could help emergency responders manage incidents better by deploying the

appropriate response to the crash scene. The following locations have been identified as high crash areas that could benefit from targeted crash mitigation:

- 4 H Club Road @ US 190
- LA 64 @ LA 16

6.2.6 Traveler Information

Traveler information enhancements are desired including dissemination of real-time travel time information. Currently the TMC tweets out information about incidents in addition to posting messages on the DMS. The Way-To-Geaux App also disseminates LADOTD travel advisories and incidents. DMS may be needed at the following locations to improve traveler information and network management:

- I-110 SB before the I-110/US 61 interchange
- I-12 WB before Juban Road
- US 190 WB approaching LA 415

6.2.7 Signal System Improvements

Traffic signal systems with communication and are coordination enhance traffic flow especially during an emergency or evacuation. Furthermore, signals that are responsive to real-time traffic conditions reduce congestion and environmental emissions. In East Baton Rouge Parish all the signal systems on US 190 and US 61 have emergency timing patterns which can be initiated for emergency evacuation. A few corridors have been identified that could benefit from communications and coordination and these include signal systems along the I-12 corridor and US 190. Improving these signal systems will facilitate congestion management. CRPC is recommending that ITS implementations must facilitate transit signal pre-emption on the transit corridors (see **Appendix C**) to improve transit efficiency. The challenges associated with the implementation of the transit signal pre-emption system are yet to be addressed.

6.2.8 ITS Coverage Improvements

There are various locations identified that could benefit from ITS devices to improve operations and also enhance safety. The locations include the following:

- CCTV camera coverage in the gaps on the I-110 Corridor.
- LA 42 corridor could use ITS devices (CCTV camera, traveler information, etc.) to manage congestion and incidents.
- The existing I-12 ramp meters could be tied to mainline flow and made traffic responsive. Current system operates using pre-timed control developed from historical data.
- Lane control has been proposed as a system that can help with incident management to mitigate congestion on the I-10 Bridge crossing the Mississippi River.

6.2.9 Traffic Detection

Traffic detection data for vehicle count, speed and classification improve operations and planning. In planning, such data is used to develop trend maps and serves as an indicator for where investors can develop. Detection for turning movement counts especially along congested corridors has been recommended. Also, detection (counts, volumes and classification) on all major and minor arterials, and before and after each freeway interchange for future interchange justification studies is desired. The detection technology may also be leveraged to develop real-time travel data. Such travel time data can be used to evaluate performance of coordinated signal systems. Travel time information could also help TMC operators select routes for better

rerouting of traffic. The City currently has approximately 200 locations where Centracs is used to monitor and record video counts at all locations with Econolite video detection.

6.2.10 Archive Data Management System

There is no unified system for traffic data storage and management. Various agencies collect traffic data as needed and this can lead to duplication of data collection. The City of Baton Rouge has counting programs and maintains all of its intersection counts, which are available upon request. A data repository or clearinghouse is desired. Data collected by different agencies could then be archived in this repository and made available to all stakeholders or facilitate data sharing. This new data repository could eliminate repetitive data collection and save money. The archive data users should also agree on metadata standards.

6.2.11 Transit Service

Capital Area Transit (CATS) provides both transit and paratransit service in the Baton Rouge area. The transit buses do not serve communities west of the Mississippi River. The parishes west of the river have paratransit services. CATS uses its paratransit service for people who cannot use the transit system because of disability. The paratransit system only services areas within three-quarters of a mile of the fixed route system.

CATS is proposing express or limited stop bus service from the airport and O'Neal Lane park-and-ride to downtown Baton Rouge. Also limited stop bus service has been proposed for Florida Boulevard. CATS has expressed a desire for transit signal priority in these corridors since it could enhance transit operations. However, no immediate plans to implement signal preemption for buses has resulted from past stakeholder discussions.

CATS has also expressed a desire for bus lanes to significantly enhance transit travel times and attract more riders which could help alleviate some congestion. Intermittent bus lane (IBL) or moving bus lane (MBL) describe concepts where lane use can be restricted for bus use only for the short duration that the bus traverses that lane. A lane can be exclusively assigned to a bus just for that duration it passes through the corridor after which the lane reverts back to general purpose use until the next bus arrives. The restrictions on lane use are only required when travel speeds have dropped below a threshold that could adversely affect transit bus travel time. Speed detection and lane control systems would be required for such a system and also enforcement.

Currently, the CATS bus tracking and AVL system does not function as originally envisioned in part because of institutional barriers. Bus tracking with AVL could provide real-time bus location and expected arrival times can be posted to passengers. No schedule information is currently being pushed to passenger personal devices. CATS Trax, the technology CATS uses to track transit vehicles, is being updated to provide the capability to acquire real-time transit bus locations.

6.2.12 Pedestrian Detection

CRPC desires ITS deployments to support all modes of transportation to improve mode choice and enhance accessibility. While significant ITS deployments have focused on automobiles, there have not been significant investments for pedestrians and bicyclists.

6.2.13 Highway Rail Intersections

At-grade highway rail intersections in the Baton Rouge area pose challenges to automobile and pedestrian safety, and delays associated with intersection blockage. Rail crossing control signals could be provided with communications to facilitate coordination with local signals to improve mobility and reduce congestion. This could be achieved if green times are effectively reassigned to phases that can move. Intersection blockage signs if deployed could warn drivers to use alternate routes and thereby minimize the negative impacts when intersections are blocked by trains.

7 ITS Services

ITS services describe what can be done to improve the efficiency, safety, and convenience of the regional transportation system through better information, advanced systems and new technologies. Some services are specific to one primary stakeholder while others require broad stakeholder participation. This section describes the ITS services that meet the transportation needs in the region.

Table 7: ITS Services

Service Package	Service Package Name	Service Package Description	Service Package Status	Included Elements
AD1	ITS Data Mart	This service package provides a focused archive that houses data collected and owned by a single agency, district, private sector provider, research institution, or other organization. This focused archive typically includes data covering a single transportation mode and one jurisdiction that is collected from an operational data store and archived for future use. It provides the basic data quality, data privacy, and meta data management common to all ITS archives and provides general query and report access to archive data users.	Planned	Archived Data Users Baton Rouge Police Department Baton Rouge TMC Capital Area Transit System (CATS) Capital Region Planning Commission (CRPC) City-Parish DPW Traffic Engineering Division (ATM/EOC) City-Parish Emergency Response Operations 911 LADOTD District 61 Traffic Operations LADOTD District 62 Traffic Operations LADOTD ITS Section LADOTD Planning and Programming Division Local Emergency Operations Centers Louisiana State Police - Troop A Louisiana Transportation Research Center (LTRC)
AD2	ITS Data Warehouse	This service package includes all the data collection and management capabilities provided by the ITS Data Mart, and adds the functionality and interface definitions that allow collection of data from multiple agencies and data sources spanning across modal and jurisdictional boundaries. It performs the additional transformations and provides the additional meta data management features that are necessary so that all this data can be managed in a single repository with consistent formats. The potential for large volumes of varied data suggests additional on-line analysis and data mining features that are also included in this service package in addition to the basic	Planned	Archived Data Users Baton Rouge Police Department Baton Rouge TMC Capital Area Transit System (CATS) Capital Region Planning Commission (CRPC) City-Parish DPW Traffic Engineering Division (ATM/EOC) City-Parish Emergency Response Operations 911 LADOTD District 61 Maintenance Division

Service Package	Service Package Name	Service Package Description	Service Package Status	Included Elements
		query and reporting user access features offered by the ITS Data Mart.		LADOTD District 61 Traffic Operations
				LADOTD District 62 Maintenance Division
				LADOTD District 62 Traffic Operations
				LADOTD ITS Section
				LADOTD Planning and Programming Division
				LADOTD Website
				Local Emergency Operations Centers
				Louisiana Transportation Research Center (LTRC)
APTS01	Transit Vehicle Tracking	This service 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.	Existing	Capital Area Transit System (CATS)
				CATS Transit Vehicles
APTS02	Transit Fixed-Route Operations	This service package performs automated dispatch and system monitoring for fixed-route	Existing	Capital Area Transit System (CATS)

Service Package	Service Package Name	Service Package Description	Service Package Status	Included Elements
		and flexible-route transit services. This service performs scheduling activities including the creation of schedules, blocks and runs, as well as operator assignment. This service determines the transit vehicle trip performance against the schedule 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.		CATS Transit Vehicles
APTS03	Demand Response Transit Operations	This service package performs automated dispatch and system monitoring for demand responsive transit services. This service performs scheduling activities as well as operator assignment. In addition, this service 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.	Existing	Capital Area Transit System (CATS) CATS Transit Vehicles

Service Package	Service Package Name	Service Package Description	Service Package Status	Included Elements
APTS05	Transit Security	This service 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 service 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 service package. In addition the service package supports remote transit vehicle disabling by the Transit Management Subsystem and transit vehicle operator authentication.	Existing	Capital Area Transit System (CATS) CATS Transit Vehicles
APTS06	Transit Fleet Management	This service package supports automatic transit maintenance scheduling and monitoring. On-	Existing	Capital Area Transit System (CATS)

Service Package	Service Package Name	Service Package Description	Service Package Status	Included Elements
		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. The service package also supports the day to day management of the transit fleet inventory, including the assignment of specific transit vehicles to blocks.		CATS Transit Vehicles
APTS07	Multi-modal Coordination	This service package establishes two way communications between multiple transit and traffic agencies to improve service coordination. Multimodal coordination between transit agencies can increase traveler convenience at transit transfer points and clusters (a collection of stops, stations, or terminals where transfers can be made conveniently) and also improve operating efficiency. Transit transfer information is shared between Multimodal Transportation Service Providers and Transit Agencies.	Existing	Capital Area Transit System (CATS) CATS Transit Vehicles City-Parish DPW Traffic Engineering Division (ATM/EOC) LADOTD District 61 Traffic Operations LADOTD District 62 Traffic Operations
APTS08	Transit Traveler Information	This service 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 service package.	Existing	Capital Area Transit System (CATS) CATS Transit Vehicles Media Traveler
ATIS01	Broadcast Traveler Information	This service 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 broadcasts the information to travelers using technologies such as FM subcarrier, satellite radio, cellular data broadcasts, and Internet web casts. 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 service package ATMS06 - Traffic Information Dissemination, which provides localized HAR and DMS information capabilities, ATIS01 provides a wide area digital broadcast service. Successful deployment of this service package relies on	Existing	Baton Rouge TMC Capital Area Transit System (CATS) City-Parish DPW Traffic Engineering Division (ATM/EOC) City-Parish Website LADOTD District 61 Traffic Operations LADOTD District 62 Traffic Operations LADOTD ITS Section LADOTD Website Louisiana 511 Media Tourism and Travel Service Information Sources

Service Package	Service Package Name	Service Package Description	Service Package Status	Included Elements
		availability of real-time traveler information from roadway instrumentation, probe vehicles or other sources.		Traveler
ATIS02	Interactive Traveler Information	This service 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. Although the Internet is the predominate network used for traveler information dissemination, 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 and web pages via kiosk, personal digital assistant, personal computer, and a variety of in-vehicle devices. This service 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 service 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.	Existing	Capital Area Transit System (CATS) Capital Region Planning Commission (CRPC) City-Parish Website LADOTD Website Louisiana 511 Tourism and Travel Service Information Sources Traveler
ATIS07	Travel Services Information and Reservation	This service package provides travel information and reservation services to the user. These additional traveler services may be provided using the same basic user equipment used for Interactive Traveler Information. This service package provides multiple ways for accessing information either while en route in a vehicle using wide-area wireless communications or pre-trip via fixed-point to fixed-point connections.	Existing	Capital Area Transit System (CATS) Louisiana 511 Tourism and Travel Service Information Sources Traveler

Service Package	Service Package Name	Service Package Description	Service Package Status	Included Elements
ATMS01	Network Surveillance	This service 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 service 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.	Existing	Baton Rouge TMC City-Parish DPW Traffic Engineering Division (ATM/EOC) City-Parish ITS Field Devices LADOTD District 61 ITS Field Devices LADOTD District 61 Traffic Operations LADOTD District 62 ITS Field Devices LADOTD District 62 Traffic Operations LADOTD ITS Section Local Traffic Operations Louisiana 511
ATMS03	Traffic Signal Control	This service package provides the central control and monitoring equipment, communication links, and the signal control equipment that support traffic control at signalized intersections. A range of traffic signal control systems are represented by this service 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. This service package is generally an intra-jurisdictional package. Systems that achieve coordination across jurisdictions by using a common time base or other strategies that do not require real time coordination would also be represented by this package. Coordination of traffic signal systems using real-time communications is covered in the ATMS07-Regional Traffic Management service package. This service package is consistent with typical traffic signal control systems.	Existing	Ascension Parish DPW Baton Rouge TMC LADOTD Adjacent District Office LADOTD District 61 ITS Field Devices LADOTD District 61 Traffic Operations LADOTD District 61 Traffic Signals LADOTD District 62 ITS Field Devices LADOTD District 62 Traffic Operations LADOTD District 62 Traffic Signals Livingston Parish DPW Local Traffic Operations WBR Parish DPW
ATMS04	Traffic Metering	This service package provides central monitoring and control, communications, and field equipment that support metering of traffic. It supports the complete range of metering strategies including ramp, interchange, and mainline metering. This package incorporates the instrumentation included in the Network Surveillance service package (traffic sensors are used to measure	Existing	Baton Rouge TMC City-Parish DPW Traffic Engineering Division (ATM/EOC) City-Parish ITS Field Devices LADOTD District 61 ITS Field Devices LADOTD District 61 Traffic Operations

Service Package	Service Package Name	Service Package Description	Service Package Status	Included Elements
		traffic flow and queues) to support traffic monitoring so responsive and adaptive metering strategies can be implemented. Also included is configurable field equipment to provide information to drivers approaching a meter, such as advance warning of the meter, its operational status (whether it is currently on or not, how many cars per green are allowed, etc.), lane usage at the meter (including a bypass lane for HOVs) and existing queue at the meter.		LADOTD District 62 ITS Field Devices LADOTD District 62 Traffic Operations LADOTD ITS Section
ATMS06	Traffic Information Dissemination	This service 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, travel restrictions, 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 and restrictions due to maintenance and construction activities to be disseminated. The sharing of transportation operations data described in this service package also supports other services like ATMS09- Traffic Decision Support and Demand Management.	Existing	Baton Rouge TMC City-Parish DPW Traffic Engineering Division (ATM/EOC) City-Parish ITS Field Devices LADOTD District 61 ITS Field Devices LADOTD District 61 Traffic Operations LADOTD District 62 ITS Field Devices LADOTD District 62 Traffic Operations LADOTD ITS Section LADOTD Website Local Traffic Operations Louisiana 511
ATMS07	Regional Traffic Management	This service package provides for the sharing of traffic information and control among traffic management centers to support regional traffic management strategies. Regional traffic management strategies that are supported include inter-jurisdictional, real-time coordinated traffic signal control systems and	Existing	Ascension Parish DPW Baton Rouge TMC City-Parish DPW Traffic Engineering Division (ATM/EOC) City-Parish ITS Field Devices LADOTD Adjacent District Office

Service Package	Service Package Name	Service Package Description	Service Package Status	Included Elements
		coordination between freeway operations and traffic signal control within a corridor. This service package advances the ATMS03-Traffic Signal Control and ATMS04-Traffic Metering service packages by adding the communications links and integrated control strategies that enable integrated, interjurisdictional traffic management. The nature of optimization and extent of information and control sharing is determined through working arrangements between jurisdictions. This package relies principally on roadside instrumentation supported by the Traffic Signal Control and Traffic Metering service packages and adds hardware, software, and fixed-point to fixed-point communications capabilities to implement traffic management strategies that are coordinated between allied traffic management centers. Several levels of coordination are supported from sharing of information through sharing of control between traffic management centers.		LADOTD District 61 ITS Field Devices LADOTD District 61 Traffic Operations LADOTD District 61 Traffic Signals LADOTD District 62 ITS Field Devices LADOTD District 62 Traffic Operations LADOTD District 62 Traffic Signals LADOTD ITS Section Livingston Parish DPW Local Public Safety Agencies Local Traffic Operations WBR Parish DPW
ATMS08	Traffic Incident Management System	This service package manages both unexpected incidents and planned events so that the impact to the transportation network and traveler safety is minimized. The service 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 service package to detect and verify incidents and implement an appropriate response. This service 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 service package and dissemination of incident information to travelers through the Broadcast Traveler Information or Interactive Traveler	Existing	Ascension Parish DPW Ascension Parish Sheriff's Office Baton Rouge Police Department Baton Rouge TMC City-Parish DPW Traffic Engineering Division (ATM/EOC) City-Parish Emergency Response Operations 911 City-Parish Emergency Vehicles City-Parish ITS Field Devices LADOTD Adjacent District Office LADOTD District 61 Maintenance Division LADOTD District 61 ITS Field Devices LADOTD District 61 Traffic Operations LADOTD District 62 ITS Field Devices LADOTD District 62 Maintenance Division LADOTD District 62 Traffic Operations LADOTD District Vehicles (MAP - District 61)

Service Package	Service Package Name	Service Package Description	Service Package Status	Included Elements
		Information service 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.		LADOTD ITS Section
				EBR Parish Sheriff's Office
				Iberville Parish OEP
				Iberville Parish Sheriff's Office
				Livingston Parish DPW
				Livingston Parish Sheriff's Office
				Local Emergency Operations Centers
				Local Police Department
				Local Public Safety Agencies
				Local Traffic Operations
				Louisiana 511
				Louisiana State Police - Troop A
				Louisiana State Police Vehicles
				Media
				Parish OHEP
				WBR Parish DPW
				WBR Parish Sheriff's Office
ATMS09	Transportation Decision Support and Demand Management	This service package recommends courses of action to traffic operations personnel based on an assessment of current and forecast road network performance. Recommendations may include predefined incident response plans and regional surface street and freeway control strategies that correct network imbalances. Where applicable, this service package also recommends transit, parking, and toll strategies to influence traveler route and mode choices to support travel demand	Existing	Baton Rouge TMC
				Capital Region Planning Commission (CRPC)
				LADOTD District 61 Traffic Operations
				LADOTD District 62 Traffic Operations
				LADOTD ITS Section
				LADOTD Planning and Programming Division

Service Package	Service Package Name	Service Package Description	Service Package Status	Included Elements
		management (TDM) programs and policies managing both traffic and the environment. TDM recommendations are coordinated with transit, parking, and toll administration centers to support regional implementation of TDM strategies. Incident response and congestion management recommendations are implemented by the local traffic management center and coordinated with other regional centers by other service packages (see ATMS07-Regional Traffic Management and ATMS08-Traffic Incident Management). All recommendations are based on historical evaluation, real-time assessment, and forecast of the roadway network performance based on predicted travel demand patterns. Traffic data is collected from sensors and surveillance equipment as well as other transportation management centers (see ATIS06-Transportation Operations Data Sharing). Forecasted traffic loads are derived from historical data and route plans supplied by the Information Service Provider Subsystem. This service package also collects air quality, parking availability, transit usage, and vehicle occupancy data to support TDM, where applicable.		Louisiana State Police - Troop A
ATMS11	Emissions Monitoring and Management	This service package monitors individual vehicle emissions and provides general air quality monitoring using distributed sensors to collect the data. The collected information is transmitted to the emissions management subsystem for processing. Both area wide air quality monitoring and point emissions monitoring are supported by this service package. For area wide monitoring, this service package measures air quality, identifies sectors that are non-compliant with air quality standards, and collects, stores and reports supporting statistical data. For point emissions monitoring, this service package collects data from on-board diagnostic systems and measures tail pipe emissions to identify vehicles that exceed emissions standards and/or clean vehicles that could be released from standard emissions tests, depending on policy and regulations. Summary emissions information or warnings can also be displayed to drivers. The gathered information can be used to implement environmentally sensitive TDM programs, policies, and regulations.	Existing	Capital Region Planning Commission (CRPC)

Service Package	Service Package Name	Service Package Description	Service Package Status	Included Elements
CVO03	Electronic Clearance	This service package provides for automated clearance at roadside check facilities. The roadside check facility communicates with the Commercial Vehicle Administration subsystem to retrieve infrastructure snapshots of critical carrier, vehicle, and driver data to be used to sort passing vehicles. This allows a good driver/vehicle/carrier to pass roadside facilities at highway speeds using transponders and Field-Vehicle Communications to the roadside. Results of roadside clearance activities will be passed on to the Commercial Vehicle Administration. The roadside check facility may be equipped with Automated Vehicle Identification (AVI), weighing sensors, transponder read/write devices and computer workstations.	Existing	LADOTD Weights and Standards Division Port of Baton Rouge
CVO13	Freight Assignment Tracking	This service package provides for the planning and tracking of three aspects of commercial vehicle shipments. For each shipment, the commercial vehicle, the freight equipment, and the commercial vehicle driver are monitored for consistency with the planned assignment. Any unauthorized changes are determined by the Fleet and Freight Management subsystem and then the appropriate people and subsystems are notified. Data collected by the On-board CV and Freight Safety & Security and the On-board Driver Authentication equipment packages used in other service packages are also used to monitor the three aspects of assignment for this service package. In addition to this service package, Fleet and Freight Managers may also monitor routes and itineraries and this capability is included in Fleet Administration.	Existing	Local Public Safety Agencies Port of Baton Rouge
EM01	Emergency Call-Taking and Dispatch	This service 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	Existing	Ascension Parish Sheriff's Office Baton Rouge Police Department City-Parish Emergency Response Operations 911 City-Parish Emergency Vehicles LADOTD District Vehicles (MAP - District 61) EBR Parish Sheriff's Office Iberville Parish Sheriff's Office Livingston Parish Sheriff's Office Local Emergency Operations Centers

Service Package	Service Package Name	Service Package Description	Service Package Status	Included Elements
		personnel.		Local Police Department
				Louisiana State Police - Troop A
				Louisiana State Police Vehicles
				WBR Parish Sheriff's Office
EM02	Emergency Routing	This service 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 and the transmission of alerts to surrounding vehicles. The service provides for information exchange between care facilities and both the Emergency Management Subsystem and emergency vehicles.	Existing	City-Parish Emergency Response Operations 911
				City-Parish Emergency Vehicles
EM04	Roadway Service Patrols	This service package supports roadway service patrol vehicles that monitor roads that aid motorists, offering rapid response to minor incidents (flat tire, accidents, out of gas) to minimize disruption to the traffic stream. If problems are detected, the roadway service patrol vehicles will provide assistance to the motorist (e.g., push a vehicle to the shoulder or median). The service package monitors service patrol vehicle locations and supports vehicle dispatch to identified incident locations. Incident information collected by the service patrol is shared with traffic, maintenance and construction, and traveler information systems.	Existing	LADOTD District Vehicles (MAP - District 61)
				Louisiana State Police Vehicles
EM05	Transportation Infrastructure Protection	This service 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 control access, preclude an incident, and mitigate the impact of an incident if it occurs. Threats can result from	Existing	Ascension Parish DPW
				Baton Rouge TMC
				City-Parish DPW Traffic Engineering Division (ATM/EOC)
				City-Parish Emergency Response Operations 911
				City-Parish ITS Field Devices

Service Package	Service Package Name	Service Package Description	Service Package Status	Included Elements
		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.		LADOTD District 61 Maintenance Division LADOTD District 61 ITS Field Devices LADOTD District 62 ITS Field Devices LADOTD District 62 Maintenance Division LADOTD District Vehicles (MAP - District 61) LADOTD ITS Section Iberville Parish OEP Livingston Parish DPW Local Traffic Operations LOHSEP Parish OHEP WBR Parish DPW WBR Parish Sheriff's Office
EM06	Wide-Area Alert	This service 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,	Existing	Baton Rouge TMC City-Parish DPW Traffic Engineering Division (ATM/EOC) City-Parish Emergency Response Operations 911 City-Parish ITS Field Devices City-Parish Website LADOTD District 61 ITS Field Devices LADOTD District 61 Traffic Operations LADOTD District 62 ITS Field Devices LADOTD District 62 Traffic Operations LADOTD ITS Section LADOTD Website Iberville Parish OEP Local Public Safety Agencies LOHSEP

Service Package	Service Package Name	Service Package Description	Service Package Status	Included Elements
		highway advisory radios, in-vehicle displays, transit displays, 511 traveler information systems, and traveler information web sites.		Louisiana 511
				Louisiana State Police - Troop A
				Media
				Parish OHEP
				Traveler
EM07	Early Warning System	This service 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 service 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.	Existing	Ascension Parish Sheriff's Office
				Baton Rouge Police Department
				Baton Rouge TMC
				City-Parish Emergency Response Operations 911
				EBR Parish Sheriff's Office
				Iberville Parish OEP
				Iberville Parish Sheriff's Office
				Livingston Parish Sheriff's Office
				Local Emergency Operations Centers
				Local Public Safety Agencies
				LOHSEP
				Louisiana State Police - Troop A
				Parish OHEP
				WBR Parish Sheriff's Office
EM08	Disaster Response and Recovery	This service 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 service 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 service 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 service package tracks and coordinates the transportation resources -	Existing	Ascension Parish DPW
				Ascension Parish Sheriff's Office
				Baton Rouge Police Department
				Baton Rouge TMC
				Capital Area Transit System (CATS)
				City-Parish DPW Traffic Engineering Division (ATM/EOC)
				City-Parish Emergency Response Operations 911
				LADOTD Adjacent District Office
				LADOTD District 61 Maintenance Division
				LADOTD District 61 Traffic Operations
				LADOTD District 62 Maintenance Division
				LADOTD District 62 Traffic Operations
				LADOTD ITS Section

Service Package	Service Package Name	Service Package Description	Service Package Status	Included Elements
		the transportation professionals, equipment, and materials - that constitute a portion of the disaster response.		EBR Parish Sheriff's Office
				Iberville Parish OEP
				Iberville Parish Sheriff's Office
				Livingston Parish DPW
				Livingston Parish Sheriff's Office
				Local Emergency Operations Centers
				Local Public Safety Agencies
				Local Traffic Operations
				Louisiana State Police - Troop A
				Parish OHEP
				WBR Parish DPW
				WBR Parish Sheriff's Office
EM09	Evacuation and Reentry Management	This service package supports evacuation of the general public from a disaster area and manages subsequent reentry to the disaster area. The service 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 service 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.	Existing	Ascension Parish DPW
				Ascension Parish Sheriff's Office
				Baton Rouge Police Department
				Baton Rouge TMC
				Capital Area Transit System (CATS)
				Capital Region Planning Commission (CRPC)
				City-Parish DPW Traffic Engineering Division (ATM/EOC)
				City-Parish Emergency Response Operations 911
				City-Parish Website
				LADOTD Adjacent District Office
				LADOTD District 61 Maintenance Division
				LADOTD District 61 Traffic Operations
				LADOTD District 62 Maintenance Division
				LADOTD District 62 Traffic Operations
				LADOTD ITS Section
				LADOTD Website
				EBR Parish Sheriff's Office
				Iberville Parish OEP
				Iberville Parish Sheriff's Office
				Livingston Parish DPW

Service Package	Service Package Name	Service Package Description	Service Package Status	Included Elements
		Evacuations are also supported by EM10, the "Disaster Traveler Information" service package, which keeps the public informed during evacuations. See that service package for more information.		Livingston Parish Sheriff's Office
				Local Emergency Operations Centers
				Local Public Safety Agencies
				Local Traffic Operations
				Louisiana 511
				Louisiana State Police - Troop A
				Parish OHEP
				WBR Parish DPW
				WBR Parish Sheriff's Office
EM10	Disaster Traveler Information	This service 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 service 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 service 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.	Existing	Baton Rouge TMC
				City-Parish Emergency Response Operations 911
				Iberville Parish OEP
				Louisiana 511
				Louisiana State Police - Troop A
				Media
				Parish OHEP
				Tourism and Travel Service Information Sources
				Traveler
				WBR Parish Sheriff's Office
MC03	Road Weather Data Collection	This service 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	Planned	Baton Rouge TMC
				City-Parish DPW Traffic Engineering Division (ATM/EOC)
				City-Parish ITS Field Devices
				LADOTD District 61 ITS Field Devices

Service Package	Service Package Name	Service Package Description	Service Package Status	Included Elements
		sensor systems located on Maintenance and Construction Vehicles. The collected environmental data is used by the Weather Information Processing and Distribution service package to process the information and make decisions on operations. The collected environmental data may be aggregated, combined with data attributes and sent to meteorological systems for data qualification and further data consolidation. The service package may also request and receive qualified data sets from meteorological systems.		LADOTD District 61 Traffic Operations LADOTD District 62 ITS Field Devices LADOTD District 62 Traffic Operations LADOTD ITS Section Media
MC07	Roadway Maintenance and Construction	This service 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.	Existing	Ascension Parish DPW City-Parish ITS Field Devices LADOTD District 61 Maintenance Division LADOTD District 61 ITS Field Devices LADOTD District 61 Traffic Operations LADOTD District 61 Traffic Signals LADOTD District 62 ITS Field Devices LADOTD District 62 Maintenance Division LADOTD District 62 Traffic Operations LADOTD ITS Division Maintenance Vehicles LADOTD ITS Section Livingston Parish DPW WBR Parish DPW
MC08	Work Zone Management	This service package manages work zones, controlling traffic in areas of the roadway where maintenance, construction, and utility work activities are underway. Traffic conditions are monitored using CCTV cameras and controlled using dynamic message signs (DMS), Highway Advisory Radio (HAR), gates and barriers. Work zone information is coordinated with other groups (e.g., ISP, traffic management, other maintenance and construction centers). Work zone speeds and delays are provided to the motorist prior to the work zones. This service package provides	Existing	Ascension Parish DPW Baton Rouge Police Department Baton Rouge TMC City-Parish DPW Traffic Engineering Division (ATM/EOC) City-Parish ITS Field Devices City-Parish Website LADOTD District 61 Maintenance Division LADOTD District 61 ITS Field Devices

Service Package	Service Package Name	Service Package Description	Service Package Status	Included Elements
		control of field equipment in all maintenance and construction areas, including fixed, portable, and truck-mounted devices supporting both stationary and mobile work zones.		LADOTD District 61 Traffic Operations
				LADOTD District 62 ITS Field Devices
				LADOTD District 62 Maintenance Division
				LADOTD District 62 Traffic Operations
				LADOTD ITS Division Maintenance Vehicles
				LADOTD ITS Section
				LADOTD Website
				Local Traffic Operations
				Louisiana 511
				Louisiana State Police - Troop A
MC09	Work Zone Safety Monitoring	This service package includes systems that improve work crew safety and reduce collisions between the motoring public and maintenance and construction vehicles. This service package detects vehicle intrusions in work zones and warns crew workers and drivers of imminent encroachment or other potential safety hazards. Crew movements are also monitored so that the crew can be warned of movement beyond the designated safe zone. The service package supports both stationary and mobile work zones. The intrusion detection and alarm systems may be collocated or distributed, allowing systems that detect safety issues far upstream from a work zone (e.g., detection of over dimension vehicles before they enter the work zone).	Planned	LADOTD District 61 ITS Field Devices
				LADOTD District 62 ITS Field Devices

8 Interfaces between Systems

The interfaces of the transportation systems in the architecture are based on the National ITS Architecture and tailored to reflect the plan for this region. Architecture diagrams display the transportation systems in the Baton Rouge Regional ITS Architecture and, more importantly, how these systems are and will be connected with one another so that information can be exchanged and transportation services can be coordinated. Stakeholders may use these diagrams to identify integration opportunities. Each system in the region can be represented with two types of diagrams: an overall interconnect diagram and element specific architecture flow context diagrams, both described below.

The interconnect context diagram shows the connections between systems (i.e., Elements). Interconnects are represented as single lines and indicate information sharing without specifying the type of information being shared or the direction of the information movement, shown as planned or existing. An architecture flow context diagram shows a particular system and all other systems with which it is interconnected, the information being shared (i.e. architecture flows), and the direction of the flow. Descriptions of the architecture flows are included in **Appendix D**. The architecture flow and interconnect context diagrams have been included within this document as part of **Appendix E**. Information about the interfaces of the systems in the region is contained in the Turbo Architecture™ database. Turbo Architecture™ can be used to create tailored interconnect and architecture flow diagrams for any system in the database.

9 Operational Concept

The Operational Concept lists the Roles and Responsibilities (RR) that each participating agency must take on to provide the ITS services included in the ITS Architecture. Changing needs may arise that define new or additional roles and will require an agreement to be formed between all affected parties. Defining the roles and responsibilities of the participating stakeholders in the region and the willingness of agencies to accept their roles and responsibilities is an important step in realizing the common goal of an interoperable ITS throughout the region. LADOTD will lead the stakeholder group to ensure that the regional ITS architecture is current and relevant to the transportation needs of the region.

9.1 Operational Regimes

The initial ITS architecture plan for Louisiana[4] details the operational responsibilities of stakeholders under three (3) distinct operational regimes and the primary agency responsible for operations. These are normal, major incident and emergency operations. "Normal" operations describe recurring traffic such as during rush hour with occasional minor incidents that may cause additional delay. "Major incident" operations refer to a scenario where an event may require road closures and detours that can affect regional travel patterns. An event may refer to bridge collapse, public function, flooding or chemical spill. "Emergency" operations refer to situations where there is eminent threat to human lives for instance a hurricane hazard or HAZMAT spill where massive and immediate evacuation of residents is required. In these three operational scenarios all stakeholders collaborate however LADOTD, LSP and GOHSEP respectively the take the lead in traffic management. **Table 8** summarizes the roles and responsibilities of each stakeholder for the Baton Rouge regional ITS architecture.

Table 8: Operational Concept

RR Area Name	Stakeholder	RR Description	RR Status
Archived Data Systems	Capital Area Transit System (CATS)	Provide transit ridership data	Existing
		Provide transit operations data	
	Capital Region Planning Commission (CRPC)	Archived data administrator	Existing
		Operations and maintenance of ADMS	Planned
		Provide user access to ADMS	
	City of Baton Rouge/Parish of East Baton Rouge	Provide traffic operations data	Existing
	LADOTD	Provide transportation operations data	
	Local Public Safety Agencies	Provide emergency operations data	

[4] *Louisiana Statewide ITS Implementation and Telecommunications Plan(2002)*

RR Area Name	Stakeholder	RR Description	RR Status
	Local Traffic Management Agencies	Archive transportation operations data	Planned
	Louisiana Transportation Research Center (LTRC)	Archive transportation data	
		Archived data products	
	LSP Troop A	Provide commercial vehicle enforcement data	Existing
		Provide commercial vehicle incident data	
	Port of Greater Baton Rouge	Provide freight commercial vehicle data	Planned
Commercial Vehicle Operations	LADOTD	Provide commercial vehicle operations data	Planned
	LSP Troop A	Provide commercial vehicle enforcement data	Existing
		Provide commercial vehicle incident data	
Emergency Management	Capital Area Transit System (CATS)	Provide support for emergency evacuation	Existing
	Capital Region Planning Commission (CRPC)	Provide demographic data	
	City of Baton Rouge/Parish of East Baton Rouge	Provide emergency support	
	LADOTD	Evacuation plan coordination	
		Emergency traveler information	
		Emergency network surveillance	
		Provide transportation operations data	
	Local Public Safety Agencies	Provide emergency operations data	
	Local Traffic Management Agencies	Emergency operations support	

RR Area Name	Stakeholder	RR Description	RR Status
	Louisiana Office of Homeland Security and Emergency Preparedness (LOHSEP)	Coordinate emergency management operations	
		Provide resources to support emergency management	
	LSP Troop A	Evacuation and re-entry coordination	
		Roadway closure	
		Evacuation monitoring	
	Media	Emergency information dissemination	
	Public (traveler)	Emergency information end user	
	Tourism and Travel Information Service Providers	Emergency information dissemination	
Freeway Management	Capital Area Transit System (CATS)	Support travel demand management	Planned
	City of Baton Rouge/Parish of East Baton Rouge	Traffic control	Existing
		Incident response	
	LADOTD	Network surveillance	
		Traveler information	
		Motorist assistance	
	LADOTD District Office	Provide transportation operations data	
		Incident response	
	Local Public Safety Agencies	Incident response	
		Incident management	
	Local Traffic Management Agencies	Traffic control	
	LSP Troop A	Speed enforcement	

RR Area Name	Stakeholder	RR Description	RR Status
		Incident response	
		Incident management	
	Media	Traveler information dissemination	
	Public (traveler)	End user of traveler information	
	Tourism and Travel Information Service Providers	Traveler information dissemination	
Incident Management	City of Baton Rouge/Parish of East Baton Rouge	Incident response	Existing
	LADOTD District Office	Incident response	
		Traffic control	
	Local Public Safety Agencies	Incident response	
		Incident management	
	Local Traffic Management Agencies	Traffic control	
	LSP Troop A	Incident response	
		Incident management	
	Media	Traveler information dissemination	
	Tourism and Travel Information Service Providers	Traveler information dissemination	
Maintenance and Construction for Baton Rouge Regional ITS Architecture	Capital Region Planning Commission (CRPC)	Infrastructure planning	Existing
	City of Baton Rouge/Parish of East Baton Rouge	Surface street maintenance	
	LADOTD	Traffic data collection	
		Traffic signal system maintenance and construction	
		Roadway maintenance and construction	

RR Area Name	Stakeholder	RR Description	RR Status
	LADOTD District Office	Traffic signal system maintenance and construction	
		Roadway maintenance and construction	
	Local Traffic Management Agencies	Traffic signal system maintenance and construction	
		Roadway maintenance and construction	
Surface Street Management	City of Baton Rouge/Parish of East Baton Rouge	Provide traffic operations data	Existing
		Traffic control	
		Incident response	
		Surface street maintenance	
	LADOTD	Network surveillance	
		Traffic signal system operations	
		Surface street data collection	
	LADOTD District Office	Surface street data collection	
		Surface street signal operation	
	Local Public Safety Agencies	Incident response and management	
	Local Traffic Management Agencies	Traffic control	
	LSP Troop A	Speed enforcement	
		Incident response	
		Incident management	
	Media	Traveler information dissemination	
	Public (traveler)	End user of traveler information	

RR Area Name	Stakeholder	RR Description	RR Status
	Tourism and Travel Information Service Providers	Traveler information dissemination	
Transit Services	Capital Area Transit System (CATS)	Transit provider	Existing
		Transit data collection	
	Capital Region Planning Commission (CRPC)	Transit coordination and planning	Planned
	City of Baton Rouge/Parish of East Baton Rouge	Transit data collection	Existing
	LADOTD	Traveler information	
	LADOTD District Office	Traveler information	
	Media	Traveler information dissemination	
	Public (traveler)	End user of traveler information	
	Tourism and Travel Information Service Providers	Traveler information dissemination	

9.2 ITS Project Sequencing

The Baton Rouge Regional ITS Architecture is implemented incrementally as funding is made available. This section lists the potential projects that have been identified as a result of a review of the existing ITS architecture and operational needs. The various stakeholders provided inputs to develop and prioritize the proposed projects. Additional details for each of these ITS projects are included in the Turbo Architecture database. **Appendix F** contains the deployment plan detailed schematics.

Table 9: Project Sequencing

Name	Description	Service Scope	Geographic Scope	Priority	Market Packages	SEA			Design Cost			Capital Cost			O&M			Total Cost		
MAP (H.007025)	Motorist Assistance Patrol	Project to deploy Motorist Assistance Patrol vehicles and services	Motorist Services (e.g., chilled water, change tires, fuel, first aid, etc) -Emergency vehicle fleet -Traffic incident management -TMC support -General Contract Management	High	EM04	N/A	-	N/A	N/A	-	N/A	N/A	-	N/A	N/A	-	N/A	N/A	-	$ 962,000/year
MAP (H.011538)	Motorist Assistance Patrol	Project to deploy Motorist Assistance Patrol vehicles and services	Motorist Services (e.g., chilled water, change tires, fuel, first aid, etc) -Emergency vehicle fleet -Traffic incident management -TMC support -General Contract Management	High	EM04	N/A	-	N/A	N/A	-	N/A	N/A	-	N/A	N/A	-	N/A	N/A	-	$ 962,000/year
Traffic Management Center (TMC) Operations (2-72803)	Traffic monitoring and management	TMC Operations includes traffic monitoring, incident management, MAP dispatch, traveler information, coordination with public safety and emergency services.	Coverage area for Baton Rouge Regional ITS Architecture.	High	ATMS07	N/A	-	N/A	N/A	-	N/A	N/A	-	N/A	N/A	-	N/A	N/A	-	$315,000/year
ITS Maintenance (4400002500)	Maintenance/upgrades of ITS infrastructure	Maintenance and replacement of components and systems for ITS infrastructure.	Systems and components for the l ITS infrastructure.	High	N/A	N/A	-	N/A	N/A	-	N/A	N/A	-	N/A	N/A	-	N/A	N/A	-	$3,000,000/year
Urban Baton Rouge Signal Project Phase 5B	Construction of Project	This project will provide signal upgrades and the scope includes support poles, cabinets, controllers, detection, wiring, indications, signage, pedestrian access ramps, push buttons, communications (fiber, microwave, or wireless), central system	Foster Drive -From Winbourne to Hollywood Choctaw Drive -From Chippewa to Flannery	High	ATMS03 ATMS07	TBD	-	TBD	TBD	-	TBD	TBD	-	TBD	TBD	-	TBD	TBD	-	TBD

Name	Description	Service Scope	Geographic Scope	Priority	Market Packages	SEA			Design Cost			Capital Cost			O&M			Total Cost		
		software, CCTV (PTZ on mast arm) and integration. Operations of signal systems are based on owner agencies and agreements established.																		
Livingston Parish ITS	CCTV cameras and communications	This project includes CCTV cameras and communications for alternate routing in Livingston Parish	Communications -Range Rd. -US 190 CCTV -US 190@LA 426 -US 190@Amite River -US 190 @ 4-H Club Rd. -US 190 @ Range Ave. -Range Ave @ Veterans Blvd.	Medium	ATMS01	$35,000.00	-	$40,000.00	$80,000.00	-	$160,000.00	$1,600,000.00	-	$2,000,000.00	$80,000.00	-	$300,000.00	$1,760,000.00	-	$2,460,000.00
I-110 CCTV Cameras and DMS	Deployment of DMS and CCTV cameras with communications on I-110 for traffic monitoring and traveler information.	The project is envisioned to include closed circuit television cameras, DMS and communications, whether wireless or fiber optic, and integration with the Baton Rouge TMC.	CCTV Cameras deployed from Chippewa Street to the US 61 interchange: -US 61 Interchange -Scotland Ave -Wilbur Street - Wyandotte Street -Evangeline Street DMS will be deployed on I-110 southbound in advance of the I-110/US 61 Interchange	Medium	ATMS01 ATMS06 ATMS07	$35,000.00	-	$40,000.00	$46,500.00	-	$80,000.00	$930,000.00	-	$1,000,000.00	$139,500.00	-	$250,000.00	$1,116,000.00	-	$1,330,000.00
I-10 CCTV (Prairieville/Sorrento)	Deployment of CCTV on I-10 to extend or fill in gaps in current CCTV coverage	The project is envisioned to include closed circuit television cameras and communications, whether wireless or fiber optic, and integration with the Baton Rouge TMC.	I-10 between Prairieville and Sorrento	Medium	ATMS01	$35,000.00	-	$40,000.00	$ 55,000.00	-	$ 96,000.00	$ 1,100,000.00	-	$ 1,200,000.00	$ 165,000.00	-	$ 300,000.00	$ 1,320,000.00	-	$ 1,596,000.00

Name	Description	Service Scope	Geographic Scope	Priority	Market Packages	SEA			Design Cost			Capital Cost			O&M			Total Cost		
Detection (Major and Minor Arterials)	Detection for travel time analysis and turning movement count on major and minor arterials	This project will deploy detection and communication systems on principal arterials to develop arterial travel time information and counts.	Major and minor arterials -College Drive -Siegen Lane -Perkins Road -Essen Lane -Bluebonnet Blvd	Medium	ATMS01 ATMS03 ATMS07 ATMS08	$35,000.00	-	$40,000.00	$ 210,820.00	-	$ 354,177.60	$ 4,216,400.00	-	$ 4,427,220.00	$ 632,460.00	-	$ 1,106,805.00	$ 5,059,680.00	-	$ 5,888,202.60
Lane Control Signals	Deployment of lane control signals on each lane of the Mississippi River Bridge and its approach with communications to Baton Rouge TMC	The project will provide overhead sign support structures, lane control signs, signal controller, power and communications to TMC.	Mississippi River Bridge Crossings I-10 US 190	Medium	ATMS01 ATMS03 ATMS07 ATMS08 ATMS09	$70,000.00	-	$80,000.00	$ 260,000.00	-	$ 440,000.00	$ 5,200,000.00	-	$ 5,500,000.00	$ 780,000.00	-	$ 1,375,000.00	$ 6,240,000.00	-	$ 7,315,000.00
US 190 Communications Improvement (H.011511)	Fiber communication and integration to TMC	The project will provide fiber optic communication for ITS devices that will be deployed on US190 between Baton Rouge and Opelousas. The limits under the Baton Rouge RA will be LA-415 to the MPO boundary (Atchafalaya Bridge	US 190 -From LA 1 to I-49	Medium	ATIS01 ATIS06 ATMS01 ATMS03	$35,000.00	-	$40,000.00	$ 250,000.00	-	$ 400,000.00	$ 6,750,000.00	-	$ 7,500,000.00	$ 337,500.00	-	$ 600,000.00	$ 7,337,500.00	-	$ 8,500,000.00
I-10 Ramp Meters Baton Rouge (H.011518)	This project includes ramp meters for the I-10 corridor from I-10/I-110 interchange to Highland Road	Provision of ramp meters at interchanges along I-10. This will include ramp meter signals and communication and integration into Baton Rouge TMC	I-10 from I-10/I-110 Interchange to Highland Road: Dalrymple Drive WB; Perkins Road WB; Acadian Thruway WB and College Drive WB. Essen Lane WB; Bluebonnet Blvd WB; Picardy Avenue WB; Siegen Lane WB; Highland Road EB; Siegen Lane EB; Essen Lane EB.	Medium - Low	ATMS01 ATMS03 ATMS07 ATMS08	$35,000.00	-	$40,000.00	$ 156,500.00	-	$ 240,660,000.00	$ 3,130,000.00	-	$ 3,438,000,000.00	$ 469,500.00	-	$ 859,500,000.00	$ 3,756,000.00	-	$ 4,540,000,000.00

Name	Description	Service Scope	Geographic Scope	Priority	Market Packages	SEA			Design Cost			Capital Cost			O&M			Total Cost		
Urban Baton Rouge Signal Project Phase 6	Traffic Signal upgrade; vehicle detection and video surveillance	This project will provide signal upgrades and the scope includes support poles, cabinets, controllers, detection, wiring, indications, signage, pedestrian access ramps, push buttons, communications (fiber, microwave, or wireless), central system software, CCTV (PTZ on mast arm) and integration. Operations of signal systems are based on owner agencies and agreements established.	Scenic Hwy -Project scope to be determined	Low	ATMS03 ATMS07	TBD	-	TBD	TBD	-	TBD	TBD	-	TBD	TBD	-	TBD	TBD	-	TBD
Urban Baton Rouge Signal Project Phase 7	Traffic Signal upgrade; vehicle detection and video surveillance	This project will provide signal upgrades and the scope includes support poles, cabinets, controllers, detection, wiring, indications, signage, pedestrian access ramps, push buttons, communications (fiber, microwave, or wireless), central system software, CCTV (PTZ on mast arm) and integration. Operations of signal systems are based on owner agencies and agreements established.	Acadian Thruway -Project scope to be determined Plank Road -Project Scope to be determined	Low	ATMS03 ATMS07	TBD	-	TBD	TBD	-	TBD	TBD	-	TBD	TBD	-	TBD	TBD	-	TBD

9.3 Operations and Maintenance of Regional ITS

Table 8 provides operation and maintenance (O&M) responsibilities that have been identified/assigned to a particular agency for each applicable service package. Although such O&M arrangements may differ at a project level based on specific agencies involved, the operations and maintenance requirements section under each service package provides guidelines on which agency should assume the maintenance responsibilities for each ITS component.

LADOTD has in place a maintenance plan[5] detailing how ITS devices are maintained. The goal of the plan is to improve the ITS system reliability and maximize benefits while reducing the life cycle cost. In this plan ITS maintenance may be classified in two ways: routine (preventive) maintenance; and responsive maintenance.

Routine (or preventive) maintenance is performed at regularly scheduled intervals to ensure ITS devices are kept in optimal operating conditions during their service life. Routine maintenance aims to identify incipient defects or faults and address them before they occur. Routine maintenance helps to reduce or mitigate the failure of ITS devices. The approach used for routine maintenance typically mimics the manufacturers required schedule and procedures for caring for ITS devices and components. LADOTD has developed a detailed device checklist and standardized reporting for this process and integrated the process into the maintenance management system (MMS). Routine maintenance is also used by LADOTD for system evaluation and systemic change of devices nearing the end of useful life.

Responsive maintenance is used to rectify failures of ITS devices. This may require repair of defective device or replacement of device. The urgency to visit a site for diagnostics and repair is determined by the criticality of the site or device for operations which LADOTD determines in advance as high, medium or low priority. Responsive maintenance may be flexible and can be deferred until an opportune time to reduce cost and impact. For instance, it may be combined with other work to reduce impact on traffic.

In instances where failed components of devices are critical for operations, immediate repair to restore functionality is used and this is referred to as emergency maintenance. Emergency maintenance is similar to responsive maintenance and they both share similar criteria except that emergency maintenance is escalated to restore functionality as soon as possible.

9.4 ITS Funding

LADOTD ITS Section has a capital budget of $10 million each year as part of the highway funding program, which is allocated statewide to ITS. There is currently no dedicated funding source in the associated Transportation Improvement Program (TIP) for the Baton Rouge region. As part of the follow-up to this architecture effort, it is recommended that the Capital Region Planning Commission (CRPC), being the regional planning entity, work together with LADOTD and the other stakeholders to pursue funding sources for the ITS deployment within the region.

[5] *ITS Maintenance Plan (August 2010)*

10 Architecture Maintenance Plan

This section discusses the proposed Maintenance Plan for the Baton Rouge Regional ITS Architecture. FHWA's Final Rule on ITS Architecture and Standards (23 CFR Part 940) requires development of an architecture maintenance plan. Paragraph 940.9 (f) states that:

> "The agencies and other stakeholders participating in the development of the regional ITS architecture shall develop and implement procedures and responsibilities for maintaining it, as needs evolve within the region."

In January 2004, FHWA issued guidance[6] on what should be contained in an architecture maintenance plan in order to be compliant with FHWA requirements. The White Paper on this subject is available at http://ops.fhwa.dot.gov/its_arch_imp/guidance.htm. The Maintenance Plan for the Baton Rouge Regional ITS Architecture is based on the guidelines provided by FHWA's White Paper.

This report provides some background on the need for architecture maintenance and addresses key issues under the following headings:

- Why maintain a Regional ITS Architecture?
- Who will maintain the Architecture?
- When will the Architecture be updated?
- What will be maintained?
- How will the Architecture be maintained?

10.1 Why Maintain a Regional ITS Architecture?

As ITS projects are implemented this architecture document will need to be updated to reflect new ITS priorities and strategies that emerge through the transportation planning process. It will also need to be updated to account for expansion in ITS scope and to allow for the evolution and incorporation of new ideas. The goal of the maintenance plan is to guide controlled updates to the regional ITS architecture baseline so that it continues to accurately reflect the region's existing ITS capabilities and future plans.

10.2 Who Will Maintain the Architecture?

Ideally all stakeholders should participate in the architecture maintenance process. In practice, typically, one or two agencies take the lead responsibility to maintain the regional ITS architecture. The primary requirements of the regional architecture maintainer are the mission/authority to perform such functions and the necessary skills to perform the same. The mission of the ITS architecture maintainer most closely resembles a regional planning body that, as consistent with its mission, has the authority to initiate, update, and document changes in regional planning documents. For the Baton Rouge Regional ITS Architecture, LADOTD will assume the lead role as the ITS Architecture keeper and maintainer as indicated in **Section 3.4**.

ITS architecture maintenance is recurring, and is a necessary long-term effort. To be effective in ITS architecture maintenance, LADOTD will need to have staff that:

- Is knowledgeable of the existing regional ITS architecture. This implies a detailed technical understanding of the various parts of the architecture and how changes would affect each part.
- Has an understanding of transportation systems in the region. This understanding can reside jointly in the group of agencies/ stakeholders who participate in the maintenance process.
- Has an understanding of the tools used to create (and to update) the architecture. This might include, for example, knowledge of the Turbo Architecture™ tool, if that is used to hold some of the architecture information.

[6] FHWA-HOP-04-004, Regional ITS Architecture Maintenance White Paper, prepared by the National ITS Architecture Team, January 31, 2004

As the agency with the lead responsibility for maintaining the architecture, LADOTD needs to have the skills within its own organization and/or use a qualified consultant. In either case, the agency needs the necessary funding to support the maintenance effort. Although LADOTD will lead the architecture maintenance activities, like all other regional planning activities, ITS architecture maintenance will take close coordination between major stakeholders in the region, including:

- Louisiana Department of Transportation and Development (LADOTD) District 61
- Louisiana Department of Transportation and Development (LADOTD) District 62
- Louisiana Department of Transportation and Development (LADOTD) ITS Section
- Louisiana State Police (Troop A)
- Capital Region Planning Commission (CRPC)
- Department of Public Works
- City of Baton Rouge

*Note – Other stakeholders may be included as necessary based on ITS development and deployment activities.

Following this architecture adoption by the MPO, it is recommended that the Regional ITS Architecture items below be frequently reviewed (e.g. annually):

- Review progress in ITS implementation projects
- Verify that the regional ITS architecture Turbo Architecture™ source file is kept up to date with the region's ITS projects
- Update plans for future deployments by each regional stakeholder
- Review changes in State and National ITS Architectures, regulations, and requirements, if any
- Determine any needs for an update to the Baton Rouge Regional ITS Architecture

10.3 When Will the Architecture be Updated?

The regional ITS architecture is not static. It must change as plans change, as ITS projects are implemented, and as the ITS needs and services evolve in the region. At a minimum, the regional ITS architecture should be reviewed annually by LADOTD and architecture updates performed frequently to keep with the pace of the region's ITS implementation. Annual or more frequent updates will include integrating completed projects into the regional ITS architecture Turbo Architecture™ source file. A one page summary of the change will be added as an appendix to the regional ITS architecture document.

Regardless of the frequency selected for periodic updates, it is recommended that LADOTD recognize the potential need for "Exception Maintenance" to occur in the event of major project implementations, major revisions to the National ITS Architecture, or to meet the requirements of future regulations. It is recommended that the regional ITS architecture is fully updated every five years, prior to the periodic updating of the Regional Transportation Improvement Program, which occurs once a year.

Upon recommendation of LADOTD, the MPO Technical Advisory Committee will make a resolution to accept any revisions/changes/updates to the ITS architecture. The following list includes many of the events that may cause change to a regional ITS architecture:

10.3.1 Changes in Regional Needs

Regional ITS architectures are created to support transportation planning in addressing regional needs. Over time these needs can change and the corresponding aspects of the regional ITS architecture that addresses these needs may need to be updated. These changes in needs should be expressed in updates to planning documents such as the Regional Transportation Plan.

10.3.2 New Stakeholders

As new stakeholders become active in ITS, the regional ITS architecture should be updated to reflect their place in the regional view of ITS elements, interfaces, and information flows. New stakeholders might represent new organizations that were not in place during the original development of the regional ITS architecture.

10.3.3 Changes in Scope of Services Considered

The range of services considered in the regional ITS architecture will naturally evolve over time. This might happen because of National ITS Architecture updates to include new user services or to better define how existing elements satisfy the user services. The National ITS Architecture may be expanded to include a user service that has been discussed in a region, but not in the regional ITS architecture, or was included in only a very cursory manner. Changes in the National ITS Architecture are not of themselves a reason to update a regional ITS architecture, but a region may want to consider any new services in the context of their regional needs.

10.3.4 Changes in Stakeholder or Element Names

The name of an agency or element used in the regional ITS architecture may change over time. Transportation agencies occasionally merge, split, or just rename themselves. In addition, element names may evolve as projects are defined. The regional ITS architecture should be updated to use the current, correct names for both stakeholders and elements.

10.3.5 Changes in Other Architectures

A regional ITS architecture covers not only elements and interfaces within a region, but also interfaces to elements in adjoining regions. Changes in the regional ITS architecture in one region may necessitate changes in the architecture in an adjoining region to maintain consistency between the two. Architectures may also overlap (e.g. a statewide ITS architecture and a regional ITS architecture for a region within the state) and a change in one might necessitate a change in the other.

10.3.6 Changes due to Project Definition or Implementation

There are several changes relating to project definition that will cause the need for updates to the regional ITS architecture. When actually defined or implemented, a project may add, subtract or modify elements, interfaces, or information flows from the regional ITS architecture. Because the regional ITS architecture is meant to describe the current, as well as future, regional implementation of ITS, it must be updated to correctly reflect how the developed projects integrate into the region.

10.3.7 Changes due to Project Addition/Deletion

Occasionally a project will be added or deleted through the planning process, or through project delivery, and some aspects of the regional ITS architecture that are associated with the project may be expanded, changed, or removed.

10.3.8 Changes in Project Priority

Due to funding constraints, or other considerations, the planned project sequencing may change. Delaying a project may have a ripple effect on other projects that depend on it. Raising the priority for a project's implementation may impact other projects that are related to it.

10.4 What Will be Maintained?

Those constituent parts of a regional ITS architecture that will be maintained are referred to as the "baseline". This section considers the different "parts" of the regional ITS architecture and whether they should be a part of the baseline. Baseline parts are annually updated within the regional ITS architecture Turbo file and every five years within the document. The parts discussed are:

- Description of Region
- Participating Agencies and Stakeholders
- Operational Concept
- Agreements
- System Functional Requirements
- Interface Requirements
- ITS Standards
- Sequence of Projects

One of the benefits of a regional ITS architecture is to enable the efficient exchange of information between ITS elements in a region and with elements outside the region. Efficiency refers to the economical deployment of ITS elements and their interfaces. The result of these ITS deployments should be contributions to the safe and efficient operation of the surface transportation network. Each of the components in the regional ITS architecture below have a role in this economy and an appropriate effort should be levied to maintain them.

10.4.1 Description of Region

This description includes the geographic scope, service scope, architecture timeframe and maintainer, and helps frame each of the following parts of a regional ITS architecture. Geographic scope defines the ITS elements that are "in" the region, although additional ITS elements outside the region may be need to be described if they communicate ITS information to elements inside the region. Service scope defines which services are included in a regional ITS architecture. Architecture timeframe is the time (in years) into the future that the regional ITS architecture will consider.

10.4.2 List of Stakeholders

Stakeholders are of great importance to the definition of the architecture. Within a region, they may consolidate or separate and such changes should be reflected in the architecture. Furthermore, stakeholders that have not been engaged in the past may be approached through outreach to be sure that the regional ITS architecture represents their ITS requirements as well. The stakeholders should be described in architecture documentation (and may also reside in a database representing aspects of the regional ITS architecture). Their listing and description should be part of the baseline.

10.4.3 Operational Concepts

It is crucial that the operational concepts represented as roles and responsibilities or as customized service packages in a regional ITS architecture accurately represent the consensus vision of how the stakeholders want their ITS to operate for the benefit of surface transportation users. These should be reviewed and, if necessary, changed to represent both what has been deployed (which may have been shown as "planned" in the earlier version of the regional ITS architecture) and the current consensus view of the stakeholders. Many of the remaining maintenance efforts will depend on the outcome of the changes made here. The operational concept will reside in the architecture documentation and possibly in a diagramming tool if a customized service package approach is used, and should be part of the baseline.

10.4.4 List of ITS Elements

The inventory of ITS elements is a key aspect of the regional ITS architecture. Changes in stakeholders as well as operational concepts may impact the inventory of ITS elements. Furthermore, recent implementation of ITS elements may change their individual status (e.g. from planned to existing). The list of elements is often contained in architecture documentation and is key information in any architecture database. It is a key aspect of the baseline.

10.4.5 List of Agreements

One of the greatest values of a regional ITS architecture is to identify where information will cross an agency boundary, which may indicate a need for an agency agreement. An update to the list of agreements can follow the update to the Operational Concept and/or interfaces between elements. The list of agreements will usually be found in the architecture documentation. This listing should be a part of the baseline.

10.4.6 Interfaces between Elements

Interfaces between elements define the "details" of the architecture. They are the detailed description of how the various ITS are or will be integrated throughout the timeframe of the architecture. These details are usually held in the Turbo Architecture™ source file. They are a key aspect of the architecture baseline and one that will likely see the greatest amount of change during the maintenance process.

10.4.7 System Functional Requirements

High-level functions are allocated to ITS elements as part of the regional ITS architecture. These can serve as a starting point for the functional definition of projects that map to portions of the regional ITS architecture. This information is he usually held in the Turbo Architecture™ source file.

10.4.8 Applicable ITS Standards

The selection of standards depends on the information exchange requirements. But in addition, the maintenance process should consider how ITS standards may have evolved and matured since the last update and consider how any change in the "standards environment" may impact previous regional standards choices (especially where competing standards exist). For example, if Extensive Markup Language (XML) based Center-To-Center standards reach a high level of maturity, reliability, and cost-effectiveness, then a regional standards technology decision may be made to transition from investments in other standards technologies (e.g. Common Object Request Broker Architecture (CORBA) to XML). The description of the standards environment for the region, as well as the details of which standards apply to the architecture, should be part of the baseline.

10.4.9 Project Sequencing

While project sequencing is partly determined by functional dependencies (e.g. "surveillance" must be a precursor to "traffic management"), the reality is that most project sequences are local policy decisions. Project sequences should be reviewed to make sure that they are in line with current policy decisions. Furthermore, policy makers should be informed of the sequences and their input should be sought to make the project sequences coincide with their expectations. For instance, a cooperatively developed implementation process that addresses multifaceted goals such as safety, congestion management and travel demand management will enhance the effectiveness of ITS projects. This is crucial to eliminate the possibility of the regional ITS architecture becoming irrelevant. The project sequencing should be included in the architecture documentation and may also be held in a spreadsheet or database. These should be part of the architecture baseline.

10.5 How will the Architecture be Maintained?

LADOTD ITS Section (Section 56) will oversee and ensure that the regional architecture is maintained. LADOTD will utilize its contracted consulting services contract for ITS Traffic Incident Management (TIM) Program TMC Operations Staffing and Systems Engineering Support for this effort. The guidelines contained within FHWA's *Regional ITS Architecture Maintenance White Paper* will be helpful in guiding the maintenance effort. In addition to detailing the recommended maintenance process, the White Paper also contains examples of Maintenance Plans developed by a range of agencies and regions throughout the country.

11 System Functional Requirements

Each ITS system operated by the stakeholders must perform certain functions to effectively deliver the ITS services desired by the region. The primary functions that each system needs to perform are broadly defined in the Baton Rouge Regional ITS Architecture. The high-level requirements are grouped into functional areas that identify requirements associated with each selected ITS service.

Table 10: Functional Requirements (Sample)

Element Name	Entity Name	Functional Area	Functional Area Description	FA User Defined	Requirement	Status
Archived Data Users	Archived Data Management	Government Reporting Systems Support	Selects and formats data residing in an ITS archive to facilitate local, state, and federal government data reporting requirements.	No	The center shall provide the capability to format data from an ITS archive suitable for input into government reports.	Existing
					The center shall provide the applicable meta-data for any ITS archived data to satisfy government reporting system requests. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	
		On-Line Analysis and Mining	Advanced data analysis and mining features to support discovery of information, patterns, and correlations in large ITS archives.	No	The center shall support the interface with Archive Data User Systems for requests for analysis of the archive data.	Existing
					The center shall provide the capability to perform activities such as data mining, data fusion, summarizations, aggregations, and recreation from archive data. This may include multidimensional analysis, selective summarization and expansion of data details, and many other advanced analysis services.	
					The center shall respond to users systems requests for a catalog of the archived data analysis products available.	

12 Applicable ITS Standards

Standardizing the flow of information between the systems is essential to cost-effectively integrating ITS throughout the region. ITS standards are fundamental to the establishment of an open ITS environment that achieves the goal of interoperability for ITS. Standards facilitate deployment of interoperable systems at local, regional, and national levels without impeding innovation as technology advances and new approaches evolve.

Establishing standards for exchanging information among ITS is important not only from an interoperability point of view, it also provides interchangeability and expandability thereby reducing risk and cost. Since an agency using standardized interfaces can select among multiple vendors for products and applications, competition is maintained and prices are lower in the long term.

Standards Development Organizations (SDO) are developing ITS standards that support interoperability and interchangeability. Several of the communication standards overlap in applicability. This provides flexibility in the design of ITS allowing agencies to choose the most applicable standard for their needs. Before systems are designed, all stakeholders involved in the applicable ITS service(s) should decide upon the standards and their specifics that will be used. Once a decision is made, all future systems should use the agreed upon standards.

Table 11: Applicable ITS Standards Details

SDO	Document ID	Standard Title	Standard Type	User Defined
AASHTO/ITE	ITE TMDD	Traffic Management Data Dictionary (TMDD) and Message Sets for External Traffic Management Center Communications (MS/ETMCC)	Message/Data	No
AASHTO/ITE/NEMA	NTCIP 1201	Global Object Definitions	Message/Data	No
AASHTO/ITE/NEMA	NTCIP 1202	Object Definitions for Actuated Traffic Signal Controller (ASC) Units	Message/Data	No
AASHTO/ITE/NEMA	NTCIP 1203	Object Definitions for Dynamic Message Signs (DMS)	Message/Data	No
AASHTO/ITE/NEMA	NTCIP 1204	Object Definitions for Environmental Sensor Stations (ESS)	Message/Data	No
AASHTO/ITE/NEMA	NTCIP 1205	Object Definitions for Closed Circuit Television (CCTV) Camera Control	Message/Data	No
AASHTO/ITE/NEMA	NTCIP 1206	Object Definitions for Data Collection and Monitoring (DCM) Devices	Message/Data	No
AASHTO/ITE/NEMA	NTCIP 1207	Object Definitions for Ramp Meter Control (RMC) Units	Message/Data	No
AASHTO/ITE/NEMA	NTCIP 1208	Object Definitions for Closed Circuit Television (CCTV) Switching	Message/Data	No
AASHTO/ITE/NEMA	NTCIP 1209	Data Element Definitions for Transportation Sensor Systems (TSS)	Message/Data	No
AASHTO/ITE/NEMA	NTCIP 1210	Field Management Stations (FMS) - Part 1: Object Definitions for Signal System Masters	Message/Data	No

SDO	Document ID	Standard Title	Standard Type	User Defined
AASHTO/ITE/NEMA	NTCIP 1211	Object Definitions for Signal Control and Prioritization (SCP)	Message/Data	No
AASHTO/ITE/NEMA	NTCIP 1214	Object Definitions for Conflict Monitor Units (CMU)	Message/Data	No
APTA	APTA TCIP-S-001 3.0.4	Standard for Transit Communications Interface Profiles	Message/Data	No
ASTM	ASTM E2468-05	Standard Practice for Metadata to Support Archived Data Management Systems	Other	No
ASTM	ASTM E2665-08	Standard Specifications for Archiving ITS-Generated Traffic Monitoring Data	Message/Data	No
AASHTO/ITE/NEMA	NTCIP C2C	NTCIP Center-to-Center Standards Group	Group	No
AASHTO/ITE/NEMA	NTCIP C2F	NTCIP Center-to-Field Standards Group	Group	No
ASTM	DSRC 915MHz	Dedicated Short Range Communication at 915 MHz Standards Group	Group	No
ASTM/IEEE/SAE	DSRC 5GHz	Dedicated Short Range Communication at 5.9 GHz Standards Group	Group	No
IEEE	IEEE IM	Incident Management Standards Group	Group	No
SAE	ATIS General Use	Advanced Traveler Information Systems (ATIS) General Use Standards Group	Group	No
SAE	ATIS Low Bandwidth	Advanced Traveler Information Systems (ATIS) Bandwidth Limited Standards Group	Group	No

13 List of Agreements

This section identifies the list of existing agreements between stakeholder organizations. Copies of the agreements that were obtained are in **Appendix G**. The existing known agreements in the region are summarized in **Table 12**. As the ITS evolves agreements must be reviewed for applicability. Agreements are typically updated by addendums or let expire based on their terms. It is recommended that stakeholder review the existing agreement as part of the ITS architecture updates to ensure their validity or if they need to be revised and/or terminated.

Table 12: Summary of Agreements

Title	Agencies Involved	Deliverables/Activities	Agreement Dates
Memorandum of Understanding For S.P. No. 700-17-0161 Advanced Traffic Management Communications Building	The City of Baton Rouge/East Baton Rouge Parish LADOTD USDOT (FHWA)	Cost sharing for ATM/EOC facility operations and maintenance	Executed: Feb. 26,1998 No term indicated
Memorandum of Understanding For S.P. Nos. 742-17-0119, 742-17-0120, & 742-17-0121 Advanced Traffic Management And Emergency Operations Center	The City of Baton Rouge/East Baton Rouge Parish LADOTD	Agreement for the design and construction of the ATM/EOC	Executed: Oct. 9, 1998 No term indicated
Memorandum of Understanding For S.P. No. 742-17-0120 Advanced Traffic Management /Emergency Operations Center	The City of Baton Rouge/East Baton Rouge Parish LADOTD USDOT (FHWA)	Defines Capital Outlay and Operations and Maintenance	Executed: March 18, 1999 No term indicated
Memorandum of Understanding	The City of Baton Rouge/East Baton Rouge Parish LADOTD USDOT (FHWA)	Clarifies and documents the action steps from the MOU executed March 18, 1999	Executed: May 23, 2000 No term indicated
Cooperative Endeavor Agreement - Advanced Traffic Management & Emergency Operations Center (ATM-EOC)	Federal Highway Administration LADOTD City of Baton Rouge/Parish of East Baton Rouge	Operations, maintenance and funding responsibilities for the ATM/EOC Term: 10-yr w/ 5-yr renewals (no limit on renewals)	Executed: Feb. 2, 2001 (approved June 21, 2001) Original Expiration: June, 2011 (References previous MOUs)

Title	Agencies Involved	Deliverables/Activities	Agreement Dates
Addendum to Cooperative Endeavor Agreement - Advanced Traffic Management & Emergency Operations Center (ATM-EOC) (S.P. Nos: 742-17-0120 & 742-17-0128)	Federal Highway Administration LADOTD City of Baton Rouge/Parish of East Baton Rouge	Clarifies the costs and funding of the CEA executed Feb. 2, 2001	Executed June 21, 2001 Follows original CEA expiration
Renewal and Amendment No. 1 (S.P. Nos: 742-17-0120 & 742-17-0128) Cooperative Endeavor Agreement - Advanced Traffic Management & Emergency Operations Center (ATM-EOC)	Federal Highway Administration LADOTD City of Baton Rouge/Parish of East Baton Rouge	Amends and supplements the CEA (org. Feb. 2, 2001 & Addendum June 21, 2001) for operations, maintenance and funding responsibilities for the ATM/EOC.	Executed: July 7, 2010 Renewed: July 2010 Latest expiration: June 2016
Cooperative Endeavor Agreement For Emergency Operations Center	City of Baton Rouge/Parish of East Baton Rouge East Baton Rouge Parish Sheriff's Office	Allocation of space in the ATM/EOC facility for the EBR Sheriff Term: 10-yr /w up to two 1-yr renewals	Executed: May 1, 2009 Expires: May, 2019
Full Signals Maintenance Agreement	City of Baton Rouge Municipality LADOTD	Maintaining agency shall perform studies for new signal installations and modifications to existing traffic signals with TSI for new installation. Maintenance and continuous operation of traffic signal system (267 total signals)	Expires: June 30, 2014
Memorandum of Understanding Command and Control For Traffic Incident Management on I-10 between Baton Rouge and Lafayette, LA	LSP, LADOTD, St. Martin Parish Sheriff, Breaux Bridge PD, Henderson PD, Iberville Parish Sheriff, Bayou Blue Vol. FD, Grosse Tete/Rosedale Vol. FD, Lafayette Parish Sheriff, Layette PD, Carencro PD, Sunset PD, Grande Coteau PD, Opelousas PD, St. Landry Parish Sheriff, Port Barre PD, Krotz Springs PD, Pointe Coupee Parish Sheriff, WBR Sheriff, BR PD, Village of Grosse/Tete PD, St. Martin Parish FD, & St. Martin Parish Fire District	Establishes guidelines and procedures for the management of vehicular crashes and breakdowns, spilled cargo and any other event that impedes the normal flow of traffic on I-10 between BR and Lafayette.	Executed: March 2006 No term indicated

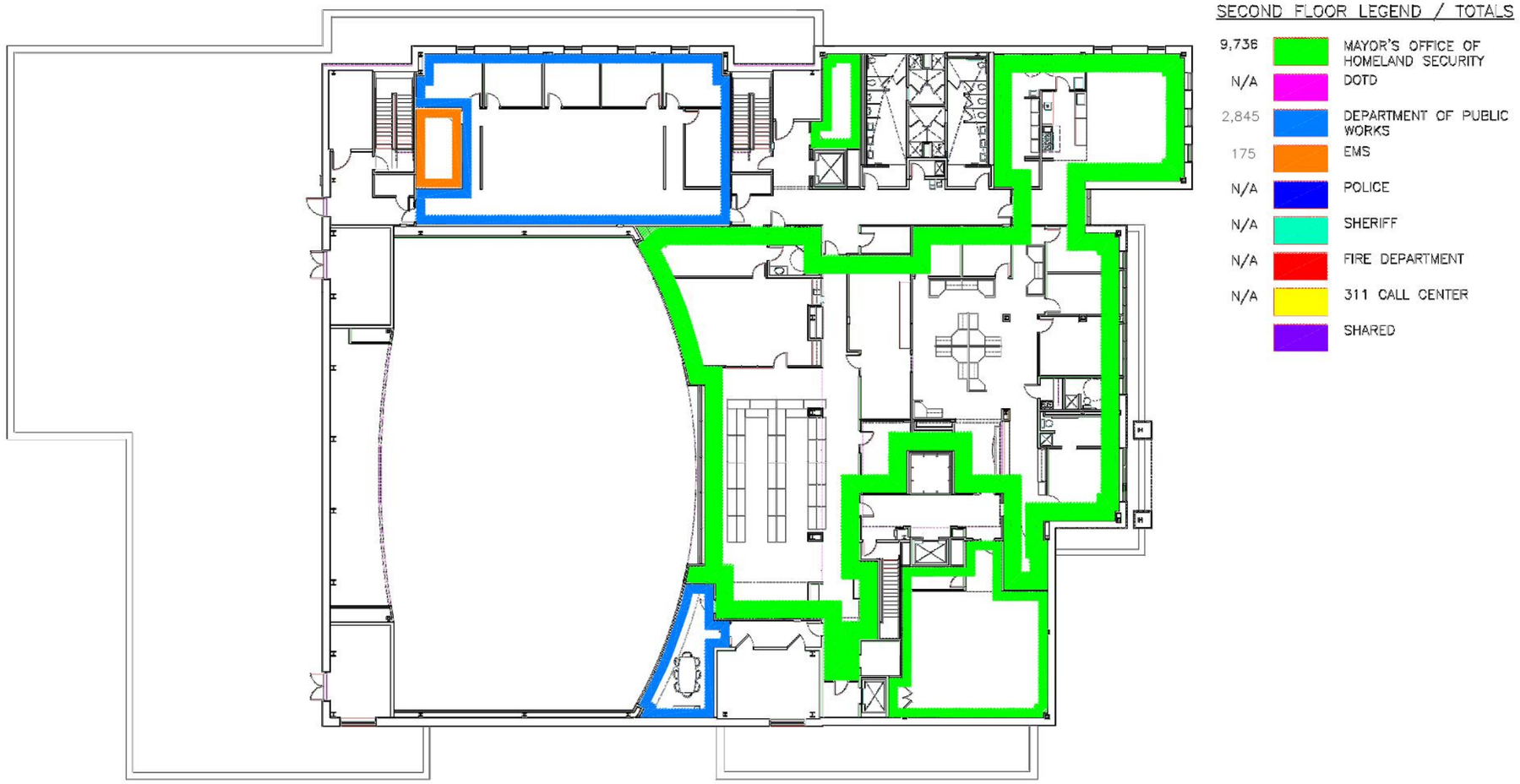
Title	Agencies Involved	Deliverables/Activities	Agreement Dates
Cooperative Endeavor Agreement	LADOTD TrafficLand Inc.	Sets usage and guidelines for video distribution using DOTD's cameras. Term: 5-yrs w/ 1-yr auto renewals unless 30-days notice before renewal. (no limit on renewals)	Executed: March 2008

Appendix A. ATM/EOC Facility

FIRST FLOOR LEGEND / TOTALS

1,726	MAYOR'S OFFICE OF HOMELAND SECURITY
3,237	DOTD
1,133	DEPARTMENT OF PUBLIC WORKS
1,891	EMS
2,059	POLICE
1,192	SHERIFF
1,411	FIRE DEPARTMENT
1,354	311 CALL CENTER
	SHARED

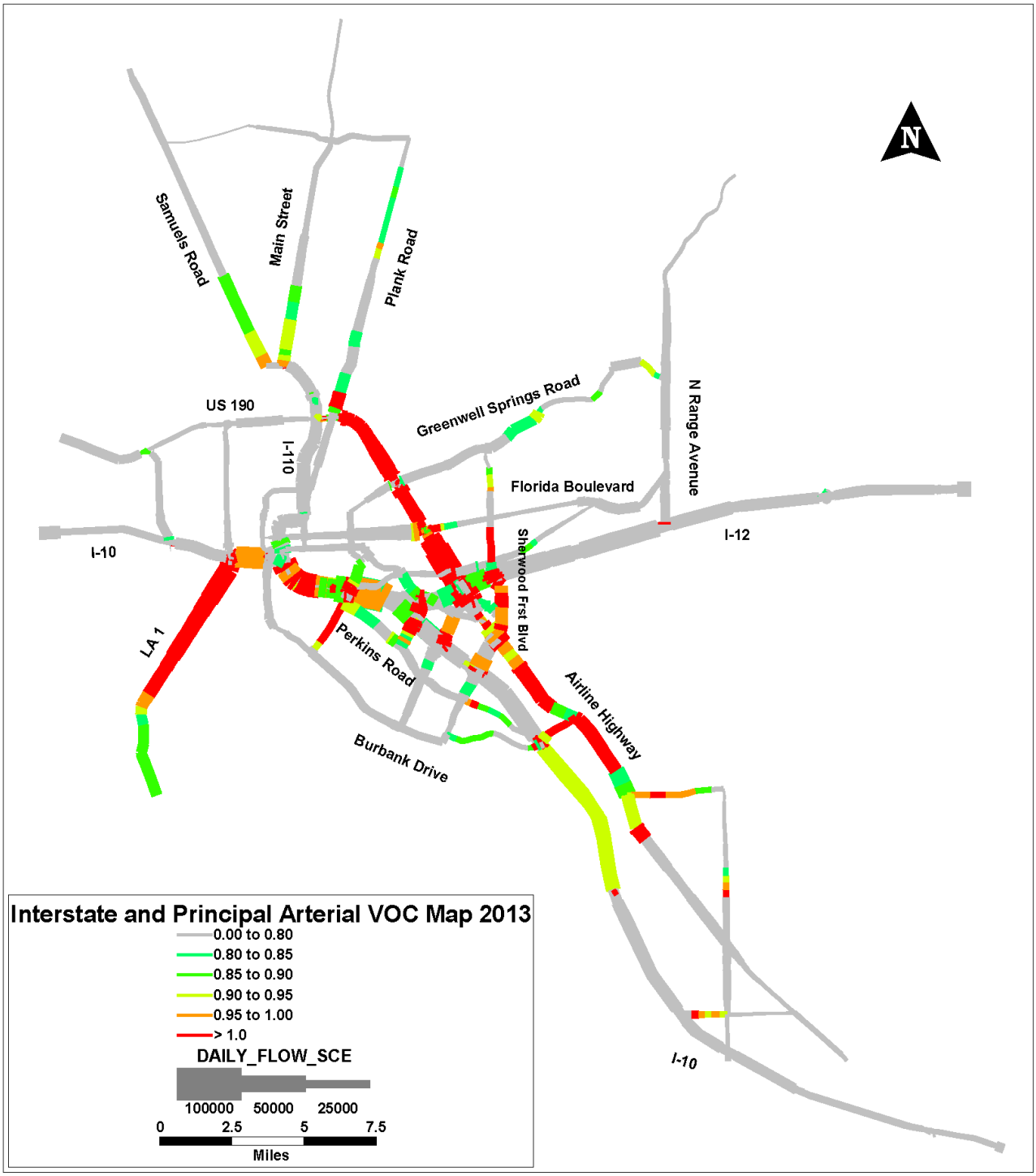
1. FIRST FLOOR PLAN
SCALE: 1/32" = 1'-0"

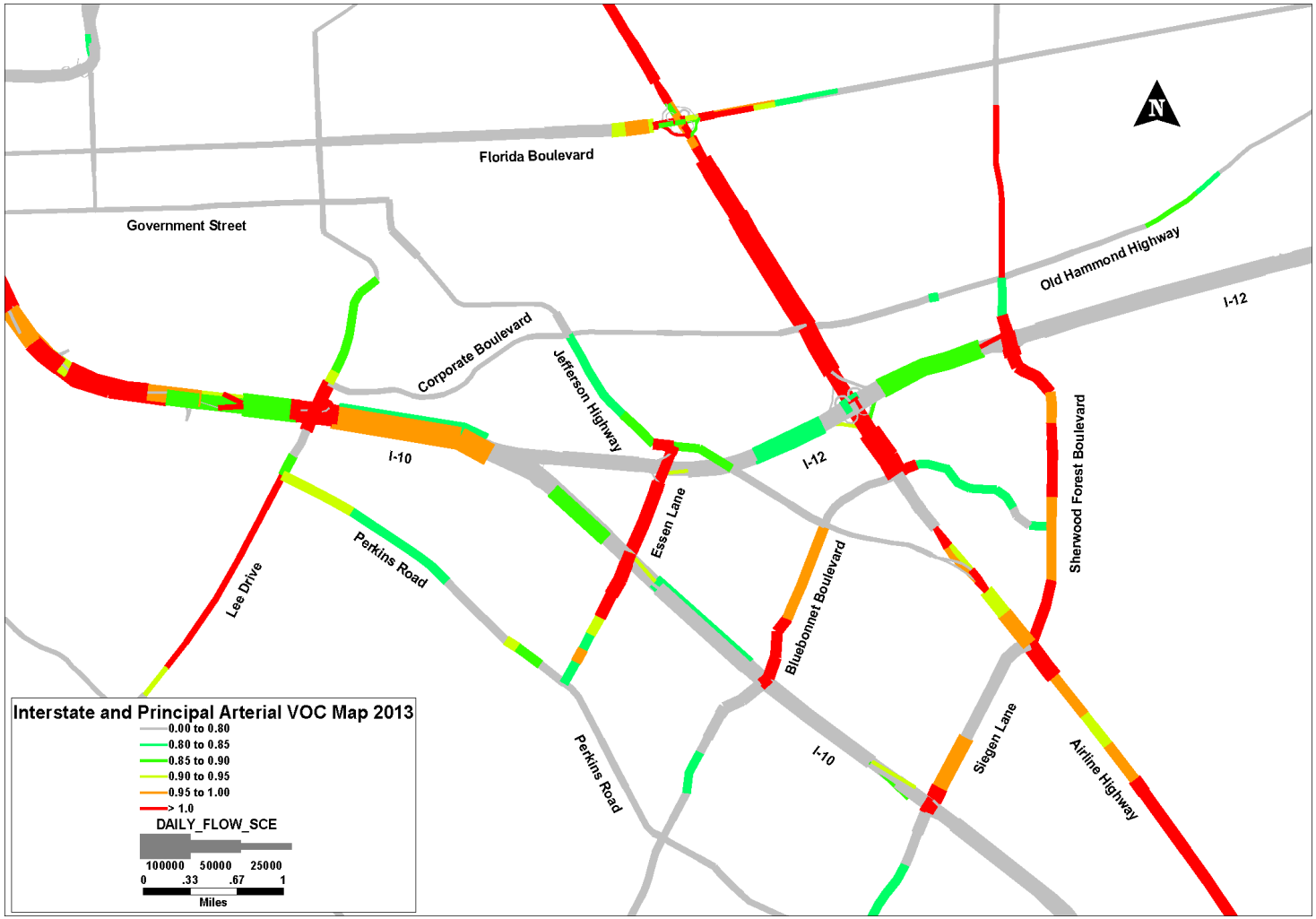


1. SECOND FLOOR PLAN
SCALE: 3/32" = 1'-0"

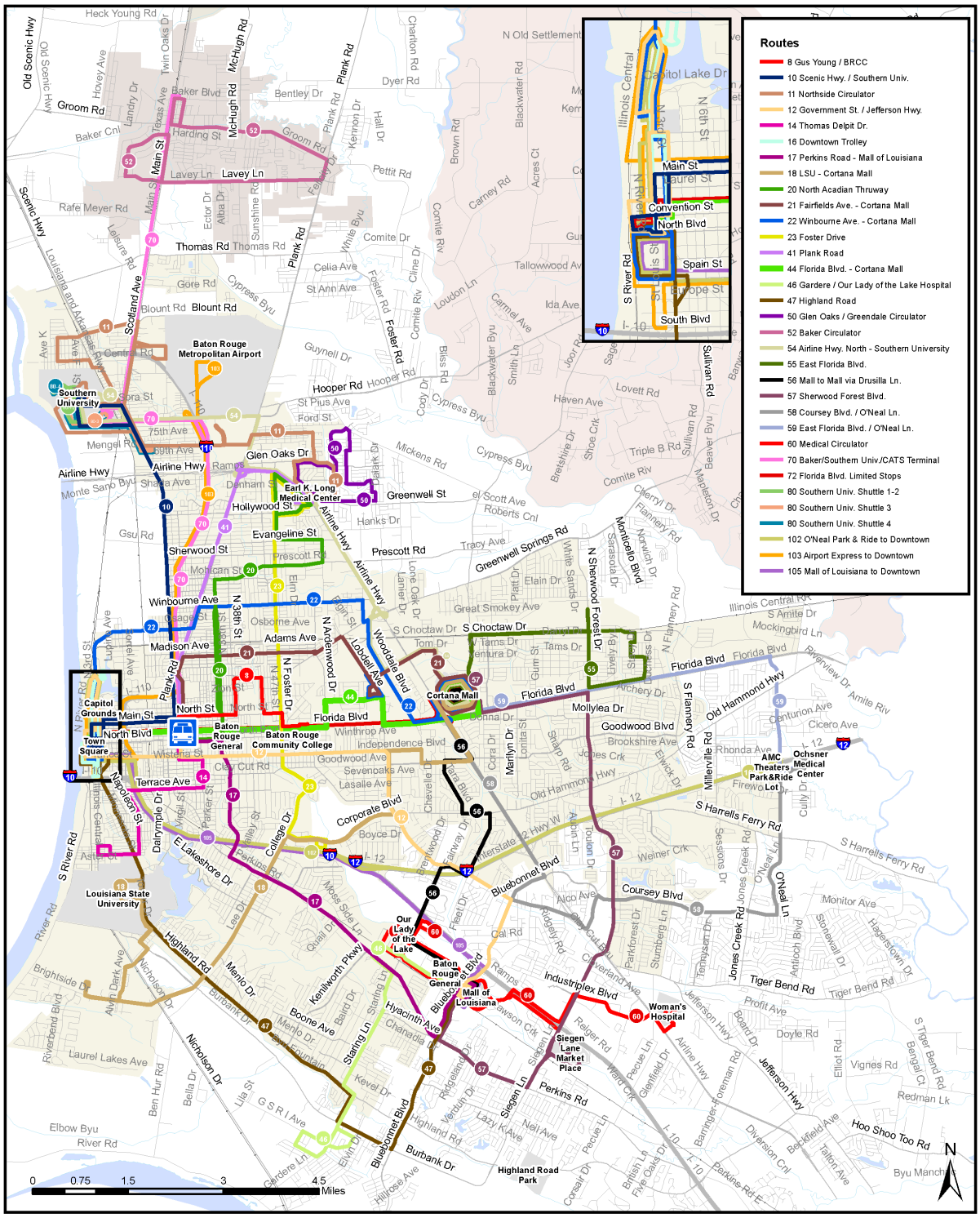
Appendix B. Interstate and Principal Arterial Congestion Map (2013)

(Maps provided by CRPC)




Florida Boulevard
Government Street
Old Hammond Highway
I-12
Corporate Boulevard
Jefferson Highway
I-10
I-12
Sherwood Forest Boulevard
Lee Drive
Perkins Road
Essen Lane
Bluebonnet Boulevard
Perkins Road
I-10
Siegen Lane
Airline Highway
N
Interstate and Principal Arterial VOC Map 2013
0.00 to 0.80
0.80 to 0.85
0.85 to 0.90
0.90 to 0.95
0.95 to 1.00
> 1.0
DAILY_FLOW_SCE
100000 50000 25000
0 .33 .67 1
Miles

Appendix C. Capital Area Transit Route Map



Appendix D. Architecture Flow Definitions

Flow Name	Flow Description
alarm	Information about a Commercial Vehicle or Freight Equipment breach, non-permitted security sensitive hazmat detected at the roadside, route deviation, or Commercial Vehicle Driver / Commercial Vehicle / Freight Equipment assignment mismatches which includes the location of the Commercial Vehicle and appropriate identities.
alarm acknowledge	Confirmation that alarm was received, instructions and additional information for the alarm initiator, and requests for additional information.
alarm notification	Notification of activation of an audible or silent alarm by a traveler in a public area or by a transit vehicle operator using an on-board device.
alert notification coordination	Coordination of emergency alerts to be distributed to the public. This includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public and status of the public notification.
archived data product requests	A user-specified request for archived data products (i.e. data, meta data, or data catalogs). The request also includes information that is used to identify and authenticate the user and support electronic payment requirements, if any.
archived data products	Raw or processed data, meta data, data catalogs and other data products provided to a user system upon request. The response may also include any associated transaction information.
asset archive data	Information describing transportation assets including pavements, bridges, and all other infrastructure included in the transportation network. In addition, information can cover support assets (support equipment and systems, software, etc.). Content may include a catalog of available information, the actual information to be archived, and associated meta data that describes the archived information.
broadcast traveler information	General traveler information that contains traffic and road conditions, link travel times, incidents, advisories, restrictions, transit service information, weather information, parking information, and other related traveler information.
commercial vehicle archive data	Information describing commercial vehicle travel and commodity flow characteristics. Content may include a catalog of available information, the actual information to be archived, and associated meta data that describes the archived information.
current asset restrictions	Restrictions levied on transportation asset usage based on infrastructure design, surveys, tests, or analyses. This includes standard facility design height, width, and weight restrictions, special restrictions such as spring weight restrictions, and temporary facility restrictions that are imposed during maintenance and construction.
data collection and monitoring control	Information used to configure and control data collection and monitoring systems.
decision support information	Information provided to support effective and safe incident response, including local traffic, road, and weather conditions, hazardous material information, and the current status of resources that have been allocated to an incident.

Flow Name	Flow Description
demand response passenger and use data	Data collected on board a demand response vehicle relating to the picking up and discharging of passengers.
device control request	Request for device control action
device status	Status information from devices
emergency archive data	Logged emergency information including information that characterizes identified incidents (routine highway incidents through disasters), corresponding incident response information, evacuation information, surveillance data, threat data, and resource information. Content may include a catalog of available information, the actual information to be archived, and associated meta data that describes the archived information.
emergency dispatch requests	Emergency vehicle dispatch instructions including incident location and available information concerning the incident.
emergency dispatch response	Request for additional emergency dispatch information and provision of en route status.
emergency operations inputs	Emergency operator inputs supporting call taking, dispatch, emergency operations, security monitoring, and other operations and communications center operator functions.
emergency operations status	Presentation of information to the operator including emergency operations data, supporting a range of emergency operating positions including call taker, dispatch, emergency operations, security monitoring, and various other operations and communications center operator positions.
emergency plan coordination	Information that supports coordination of emergency management plans, continuity of operations plans, emergency response and recovery plans, evacuation plans, and other emergency plans between agencies. This includes general plans that are coordinated prior to an incident and shorter duration tactical plans that are prepared during an incident.
emergency route request	Request for access routes for emergency response vehicles and equipment. This may be a request for ingress or egress routes or other emergency routes.
emergency routes	Suggested ingress and egress routes for access to and between the scene and staging areas or other specialized emergency access routes.
emergency traffic coordination	Coordination supporting disaster response including evacuation and reentry. Includes coordination of special traffic control strategies that support efficient evacuation and reentry while protecting and optimizing movement of response vehicles and other resources responding to the emergency.
emergency transit schedule information	Information on transit schedule and service changes that adapt the service to better meet needs of responders and the general public in an emergency situation, including special service schedules supporting evacuation.
emergency transit service request	Request to modify transit service and fare schedules to address emergencies, including requests for transit services to evacuate people from and/or deploy response agency personnel to an emergency scene. The request may poll for resource availability or request pre-staging, staging, or immediate dispatch of transit resources.

Flow Name	Flow Description
emergency transit service response	Response indicating changes to transit service, fares, and/or restrictions that will be made and status of transit resources to be deployed to support emergency response and/or evacuation.
emergency traveler information	Public notification of an emergency such as a natural or man-made disaster, civil emergency, or child abduction. This flow also includes evacuation information including evacuation instructions, evacuation zones, recommended evacuation times, tailored evacuation routes and destinations, traffic and road conditions along the evacuation routes, traveler services and shelter information, and reentry times and instructions.
emergency traveler information request	Request for alerts, evacuation information, and other emergency information provided to the traveling public.
emergency vehicle tracking data	The current location and operating status of the emergency vehicle.
environmental conditions data	Current road conditions (e.g., surface temperature, subsurface temperature, moisture, icing, treatment status) and surface weather conditions (e.g., air temperature, wind speed, precipitation, visibility) as measured and reported by fixed and/or mobile environmental sensors and aggregated by the data collector. Attributes relating to the data collection (and aggregation) are also included.
equipment maintenance status	Current status of field equipment maintenance actions.
evacuation coordination	Coordination of information regarding a pending or in-process evacuation. Includes evacuation zones, evacuation times, evacuation routes, forecast network conditions, and reentry times.
event information	Special event information for travelers. This would include a broader array of information than the similar "event plans" that conveys only information necessary to support traffic management for the event.
event information request	Request for special event information.
external reports	Traffic and incident information that is collected by the media through a variety of mechanisms (e.g., radio station call-in programs, air surveillance).
field device status	Reports from field equipment (sensors, signals, signs, controllers, etc.) which indicate current operational status.
field equipment status	Identification of field equipment requiring repair and known information about the associated faults.
freight equipment information	Container, trailer, or chassis information regarding identity, type, location, brake wear data, mileage, seal #, seal type, door open/close status, chassis bare/covered status, tethered / untethered status, Bill of Lading, and sensor status.
hri control data	Data required for HRI information transmitted at railroad grade crossings and within railroad operations.
hri request	A request for highway-rail intersection status or a specific control request intended to modify HRI operation.
hri status	Status of the highway-rail intersection equipment including both the current state or mode of operation and the current equipment condition.

Flow Name	Flow Description
incident notification response	Interactive acknowledgement and verification of the incident information received, requests for additional information, and general information on incident response status.
incident response coordination	Incident response procedures and current incident response status that are shared between allied response agencies to support a coordinated response to incidents. This flow provides current situation information, including a summary of incident status and its impact on the transportation system and other infrastructure, and current and planned response activities. This flow also coordinates a positive hand off of responsibility for all or part of an incident response between agencies.
incident status	Information gathered at the incident site that more completely characterizes the incident and provides current incident response status.
infrastructure conditions data	Current condition of pavement, bridges, culverts, signs, and other roadway infrastructure as measured by on-board sensors or read from infrastructure-based sensors. The data may include raw data or images (e.g., photo logs) that indicate the current status of the infrastructure.
interactive traveler information	Traveler information provided in response to a traveler request. The provided information includes traffic and road conditions, advisories, incidents, payment information, transit services, parking information, weather information, and other travel-related data updates and confirmations.
intermodal freight archive data	Information describing demand at intermodal freight terminals including loading/unloading activities of trailers and containers. Content may include a catalog of available information, the actual information to be archived, and associated meta data that describes the archived information.
intersection blockage notification	Notification that a highway-rail intersection is obstructed and supporting information.
ISP operations information presentation	Presentation of information to the ISP Operator including current operational status, parameters for broadcast information settings, route selection controls, and travel optimization algorithms.
local signal preemption request	Direct control signal or message to a signalized intersection that results in preemption of the current control plan and grants right-of-way to the requesting vehicle.
local signal priority request	Request from a vehicle to a signalized intersection for priority at that intersection.
maint and constr resource coordination	Request for road maintenance and construction resources that can be used in the diversion of traffic (cones, portable signs), clearance of a road hazard, repair of ancillary damage, or any other incident response.
maint and constr work plans	Future construction and maintenance work schedules and activities including anticipated closures with anticipated impact to the roadway, alternate routes, anticipated delays, closure times, and durations.
multimodal information	Schedule information for alternate mode transportation providers such as train, ferry, air and bus.
parking information	General parking information and status, including current parking availability.

Flow Name	Flow Description
personal transit information	General and personalized transit information for a particular fixed route, flexible route, or paratransit system.
remote surveillance control	The control commands used to remotely operate another center's sensors or surveillance equipment so that roadside surveillance assets can be shared by more than one agency.
request for vehicle measures	Request for vehicle performance and maintenance data collected by onboard sensors.
request transit information	Request for transit service information and current transit status.
resource coordination	Coordination of resource inventory information, specific resource status information, resource prioritization and reallocation between jurisdictions, and specific requests for resources and responses that service those requests.
reversible lane control	Control of automated reversible lane configuration and driver information systems.
reversible lane status	Current reversible lane status including traffic sensor and surveillance data and the operational status and mode of the reversible lane control equipment.
right-of-way request notification	Notice that a request has occurred for signal prioritization, signal preemption, pedestrian call, multi-modal crossing activation, or other source for right-of-way.
road network conditions	Current and forecasted traffic information, road and weather conditions, and other road network status. Either raw data, processed data, or some combination of both may be provided by this architecture flow. Information on diversions and alternate routes, closures, and special traffic restrictions (lane/shoulder use, weight restrictions, width restrictions, HOV requirements) in effect is included along with a definition of the links, nodes, and routes that make up the road network.
road network status assessment	Assessment of damage sustained by the road network including location and extent of the damage, estimate of remaining capacity, required closures, alternate routes, necessary restrictions, and time frame for repair and recovery.
roadside archive data	A broad set of data derived from roadside sensors that includes current traffic conditions, environmental conditions, and any other data that can be directly collected by roadside sensors. This data also indicates the status of the sensors and reports of any identified sensor faults.
roadway equipment coordination	The direct flow of information between field equipment. This includes transfer of information between sensors and driver information systems (e.g., DMS, HAR, variable speed limit signs, dynamic lane signs) or control devices (e.g., traffic signals, ramp meters), direct coordination between adjacent control devices, interfaces between detection and warning or alarm systems, and any other direct communications between field equipment.
roadway information system data	Information used to initialize, configure, and control roadside systems that provide driver information (e.g., dynamic message signs, highway advisory radio, beacon systems). This flow can provide message content and delivery attributes, local message store maintenance requests, control mode commands, status queries, and all other commands and associated parameters that support remote management of these systems.

Flow Name	Flow Description
roadway information system status	Current operating status of dynamic message signs, highway advisory radios, beacon systems, or other configurable field equipment that provides dynamic information to the driver.
roadway maintenance status	Summary of maintenance fleet operations affecting the road network. This includes the status of winter maintenance (snow plow schedule and current status).
route assignment	Route assignment information for transit vehicle operator.
route restrictions	Information about routes, road segments, and areas that do not allow the transport of security sensitive hazmat cargoes or include other restrictions (such as height or weight limits).
safeguard system control	Data that controls safeguard systems (remotely controlled equipment used to mitigate the impact of incidents on transportation infrastructure, such as blast shields, exhaust systems, etc.).
signal control commands	Control of traffic signal controllers or field masters including clock synchronization.
signal control device configuration	Data used to configure traffic signal control equipment including local controllers and system masters.
signal control plans	Traffic signal timing parameters including minimum green time and interval durations for basic operation and cycle length, splits, offset, phase sequence, etc. for coordinated systems.
signal control status	Operational and status data of traffic signal control equipment including operating condition and current indications.
signal fault data	Faults from traffic signal control equipment.
suggested route	Suggested route for a dispatched emergency or maintenance vehicle that may reflect current network conditions and the additional routing options available to en route emergency or maintenance vehicles that are not available to the general public.
threat information coordination	Sensor, surveillance, and threat data including raw and processed data that is collected by sensor and surveillance equipment located in secure areas.
traffic control priority request	Request for signal priority at one or more intersections along a particular route.
traffic flow	Raw and/or processed traffic detector data which allows derivation of traffic flow variables (e.g., speed, volume, and density measures) and associated information (e.g., congestion, potential incidents). This flow includes the traffic data and the operational status of the traffic detectors.
traffic images	High fidelity, real-time traffic images suitable for surveillance monitoring by the operator or for use in machine vision applications.

Flow Name	Flow Description
traffic information for media	Report of traffic conditions including traffic incident reports and traffic images for public dissemination through the media. The reports may also include information on diversions and alternate routes, closures, and special traffic restrictions in effect.
traffic metering control	Control commands and operating parameters for ramp meters, interchange meters, mainline meters, and other systems equipment associated with roadway metering operations.
traffic metering status	Current operational status and operating parameters for ramp meters, interchange meters, mainline meters and other control equipment associated with roadway metering operations.
traffic operator data	Presentation of traffic operations data to the operator including traffic conditions, current operating status of field equipment, maintenance activity status, incident status, video images, security alerts, emergency response plan updates and other information. This data keeps the operator appraised of current road network status, provides feedback to the operator as traffic control actions are implemented, provides transportation security inputs, and supports review of historical data and preparation for future traffic operations activities.
traffic operator inputs	User input from traffic operations personnel including requests for information, configuration changes, commands to adjust current traffic control strategies (e.g., adjust signal timing plans, change DMS messages), and other traffic operations data entry.
traffic sensor control	Information used to configure and control traffic sensor systems.
transit and fare schedules	Transit service information including routes, schedules, and fare information.
transit archive data	Data used to describe and monitor transit demand, fares, operations, and system performance. Content may include a catalog of available information, the actual information to be archived, and associated meta data that describes the archived information.
transit emergency data	Initial notification of transit emergency at a transit stop or on transit vehicles and further coordination as additional details become available and the response is coordinated.
transit incident information	Information on transit incidents that impact transit services for public dissemination.
transit information for media	Report of transit schedule deviations for public dissemination through the media.
transit information request	Request for transit operations information including schedule and fare information. The request can be a subscription that initiates as-needed information updates as well as a one-time request for information.
transit information user request	Request for special transit routing, real-time schedule information, and availability information.
transit schedule adherence information	Dynamic transit schedule adherence and transit vehicle location information.

Flow Name	Flow Description
transit schedule information	Current and projected transit schedule information used to initialize the transit vehicle with a vehicle assignment, monitor schedule performance, and develop corrective actions on-board.
transit service information	Transit service information including routes, schedules, and fare information as well as dynamic transit schedule adherence and transit vehicle location information.
transit traveler information	Transit information prepared to support transit users and other travelers. It contains transit schedules, real-time arrival information, fare schedules, alerts and advisories, and general transit service information.
transit vehicle conditions	Operating conditions of transit vehicle (e.g., engine running, oil pressure, fuel level and usage).
transit vehicle location data	Current transit vehicle location and related operational conditions data provided by a transit vehicle.
transit vehicle operator availability	Transit vehicle operator availability data that can be used to develop vehicle operator assignments and detailed operations schedules.
transit vehicle operator information	Transit service instructions, wide area alerts, traffic information, road conditions, and other information for both transit and paratransit operators.
transit vehicle schedule performance	Estimated times of arrival and anticipated schedule deviations reported by a transit vehicle.
transportation system status	Current status and condition of transportation infrastructure (e.g., tunnels, bridges, interchanges, TMC offices, maintenance facilities). In case of disaster or major incident, this flow provides an assessment of damage sustained by the surface transportation system including location and extent of the damage, estimate of remaining capacity and necessary restrictions, and time frame for repair and recovery.
travel service information	Information supplied by a service provider (e.g., a hotel or restaurant) that identifies the service provider and provides details of the service offering. This flow covers initial registration of a service provider and subsequent submittal of new information and status updates so that data currency is maintained.
travel service information request	Requests for travel service information. This flow supports initial registration of service providers and requests for additional traveler service information from registered providers.
travel service reservation request	Reservation request for traveler services (e.g. for a hotel or restaurant) including billing information when applicable.
travel service reservations	Traveler service (e.g., for a hotel or restaurant) reservation information and status, including information on associated billing transactions, when applicable.
travel services information	Travel service information and reservations for tourist attractions, lodging, dining, service stations, emergency services, and other services and businesses of interest to the traveler.

Flow Name	Flow Description
travel services request	Request for travel service information including tourist attractions, lodging, restaurants, service stations, and emergency services. The request identifies the type of service, the area of interest, optional reservation request information, parameters that are used to prioritize or filter the returned information, and sorting preferences.
traveler alerts	Traveler information alerts reporting congestion, incidents, adverse road or weather conditions, parking availability, transit service delays or interruptions, and other information that may impact the traveler. Relevant alerts are provided based on traveler-supplied profile information including trip characteristics and preferences.
traveler archive data	Data associated with traveler information services including service requests, facility usage, rideshare, routing, and traveler payment transaction data. Content may include a catalog of available information, the actual information to be archived, and associated meta data that describes the archived information.
traveler information for media	General traveler information regarding incidents, unusual traffic conditions, transit issues, or other advisory information that has been desensitized and provided to the media.
traveler interface updates	Visual or audio information (e.g., routes, messages, guidance, emergency information) that is provided to the traveler.
traveler profile	Information about a traveler including equipment capabilities, personal preferences, and traveler alert subscriptions.
traveler request	A request for traveler information including traffic, transit, toll, parking, road weather conditions, event, and passenger rail information. The request identifies the type of information, the area of interest, parameters that are used to prioritize or filter the returned information, and sorting preferences.
video surveillance control	Information used to configure and control video surveillance systems.
work plan coordination	Coordination of work plan schedules and activities between maintenance and construction organizations or systems. This information includes the work plan schedules and comments and suggested changes that are exchanged as work plans are coordinated and finalized.
work plan feedback	Comments and suggested changes to proposed construction and maintenance work schedules and activities. This information influences work plan schedules so that they minimize impact to other system operations and the overall transportation system.
work zone information	Summary of maintenance and construction work zone activities affecting the road network including the nature of the maintenance or construction activity, location, impact to the roadway, expected time(s) and duration of impact, anticipated delays, alternate routes, and suggested speed limits. This information may be augmented with images that provide a visual indication of current work zone status and traffic impacts.
work zone warning device control	Data used to configure and control work zone safety monitoring and warning devices.
work zone warning status	Status of a work zone safety monitoring and warning devices. This flow documents system activations and includes additional supporting information (e.g., an image) that allows verification of the alarm.

Appendix E. Architecture Interface Diagrams

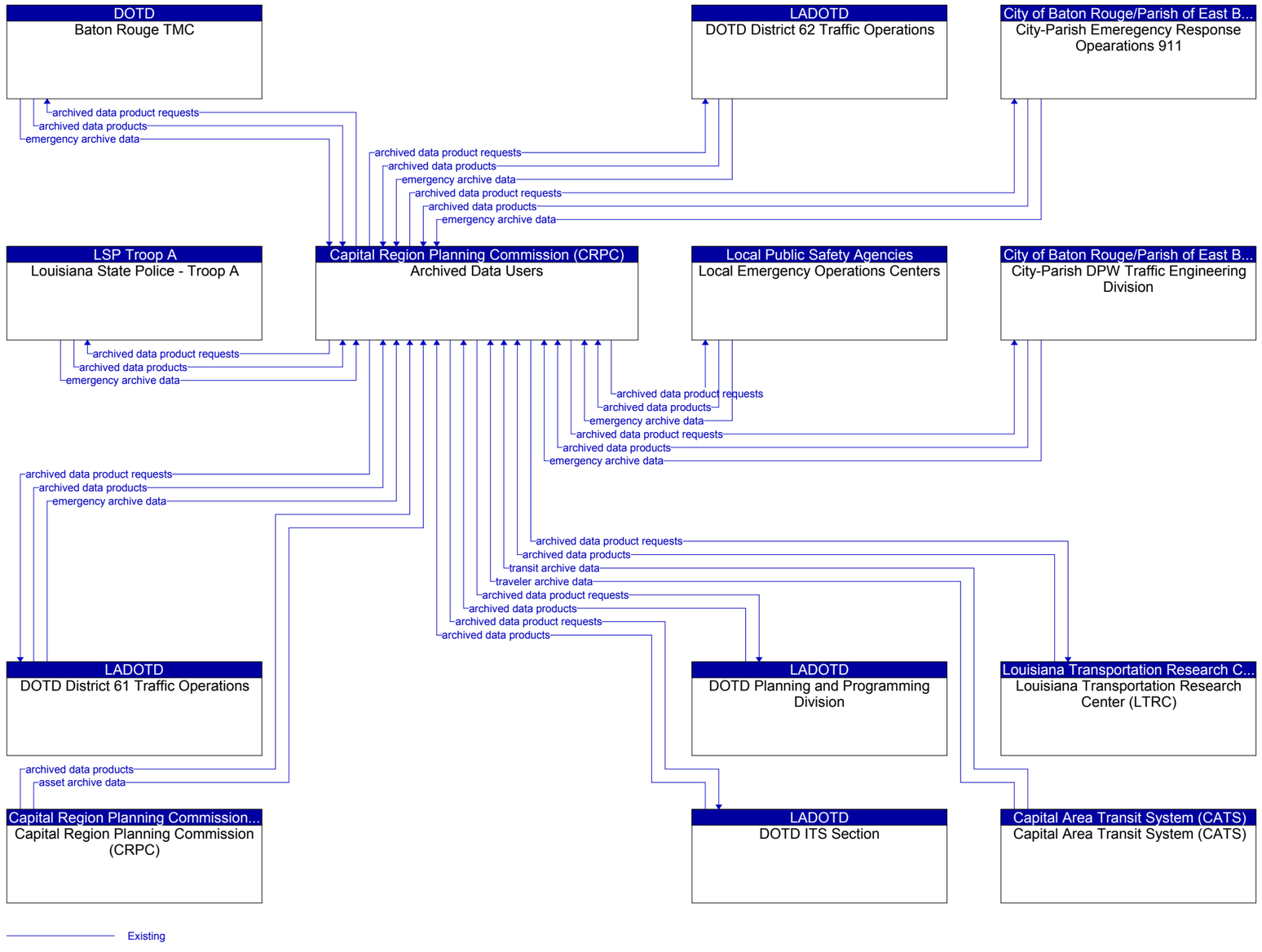


Figure E - 1: Archived Data Users Flow Context Diagram

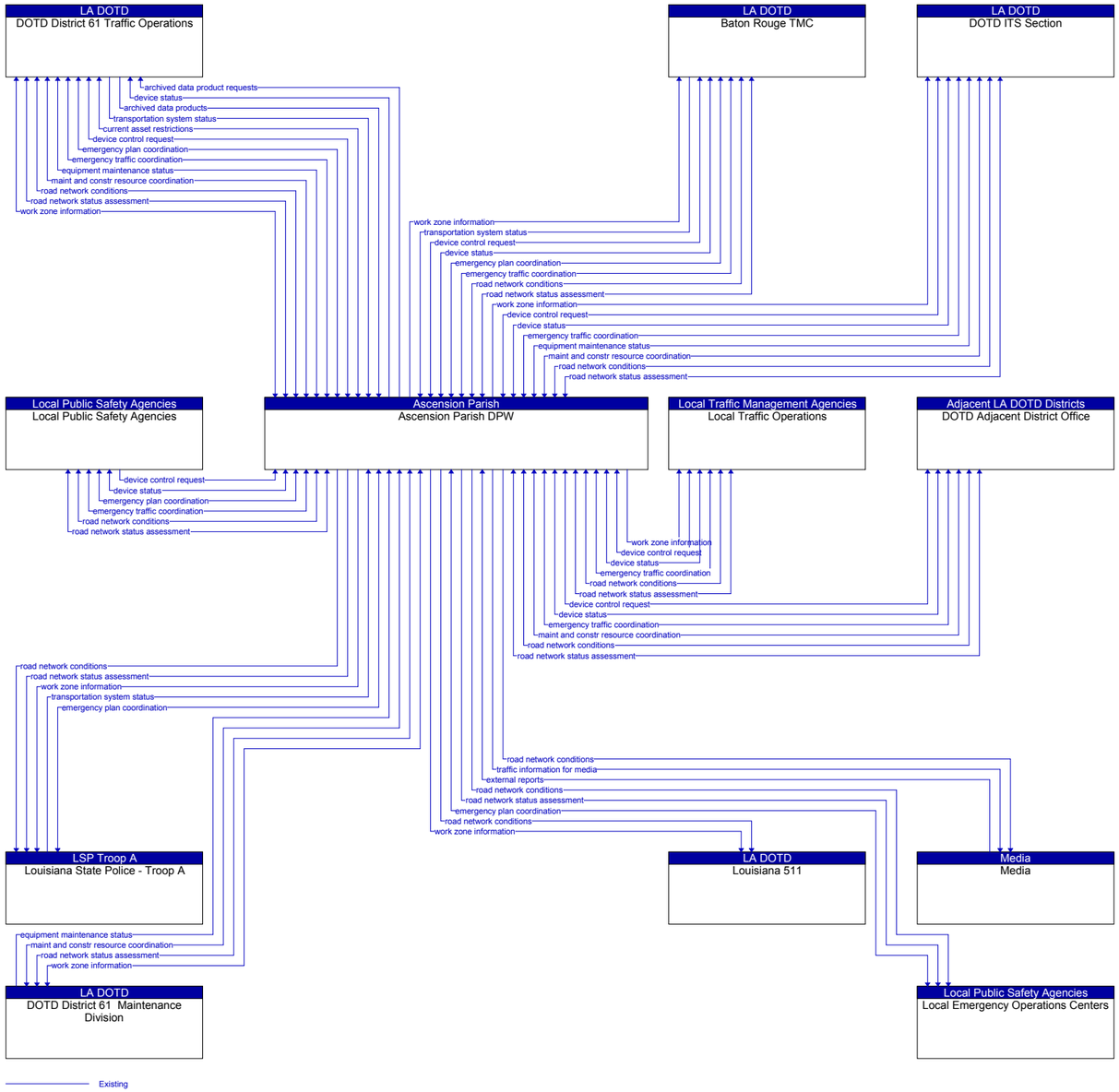


Figure E - 2: Ascension Parish DPW Flow Context Diagram

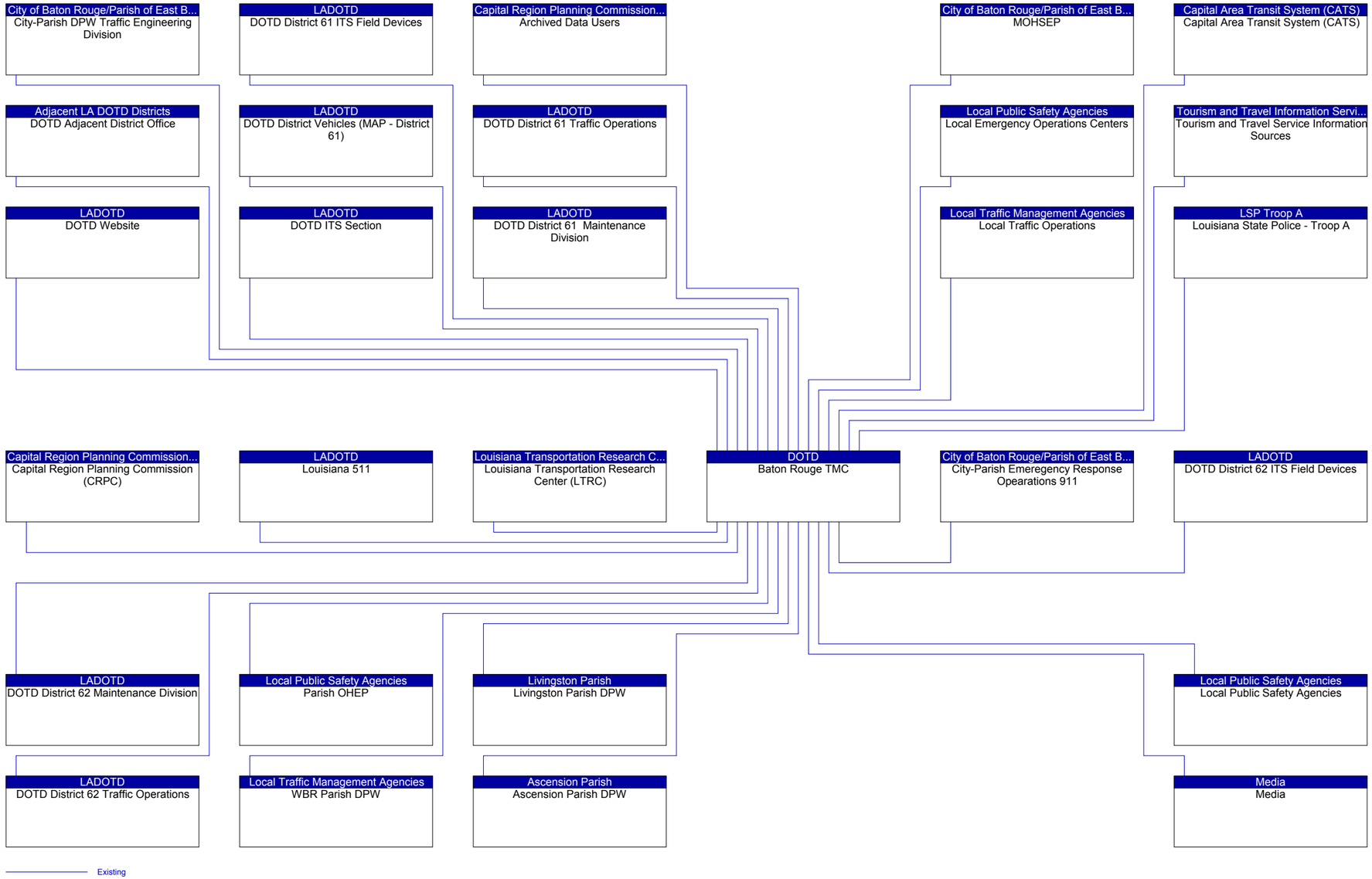


Figure E - 3: Baton Rouge TMC Interconnect Context Diagram

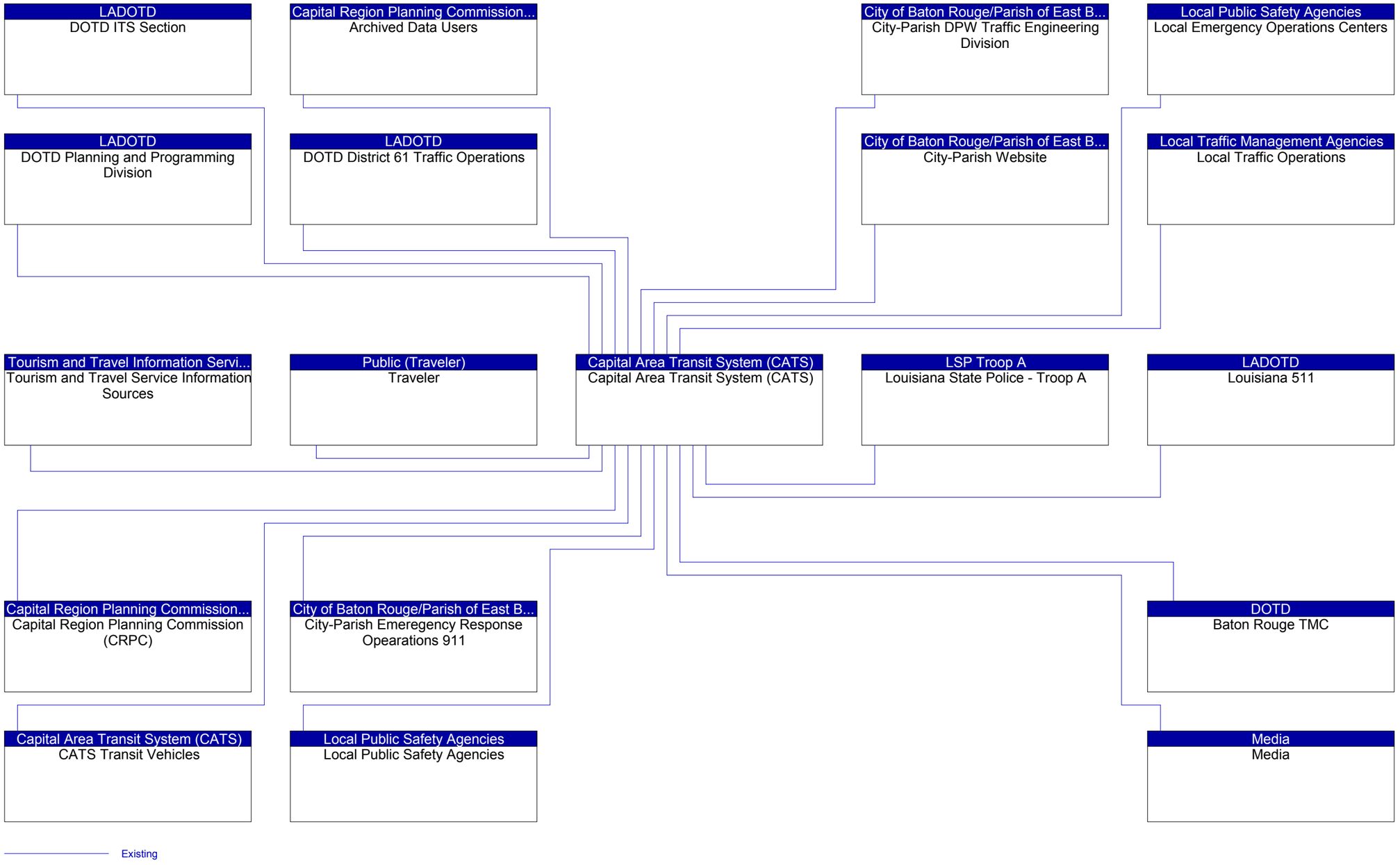


Figure E - 4: Capital Area Transit System (CATS) Interconnect Context Diagram.

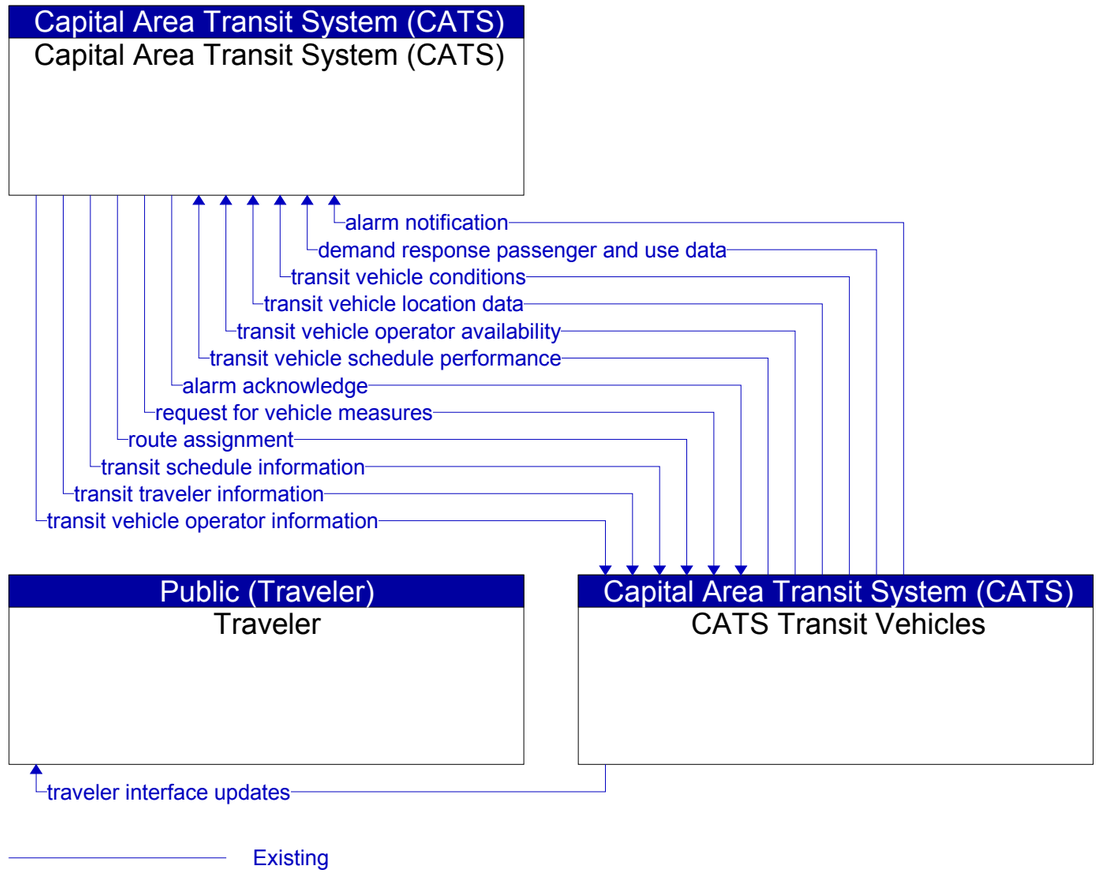


Figure E - 5: Capital Area Transit System (CATS) Vehicle Flow Context Diagram

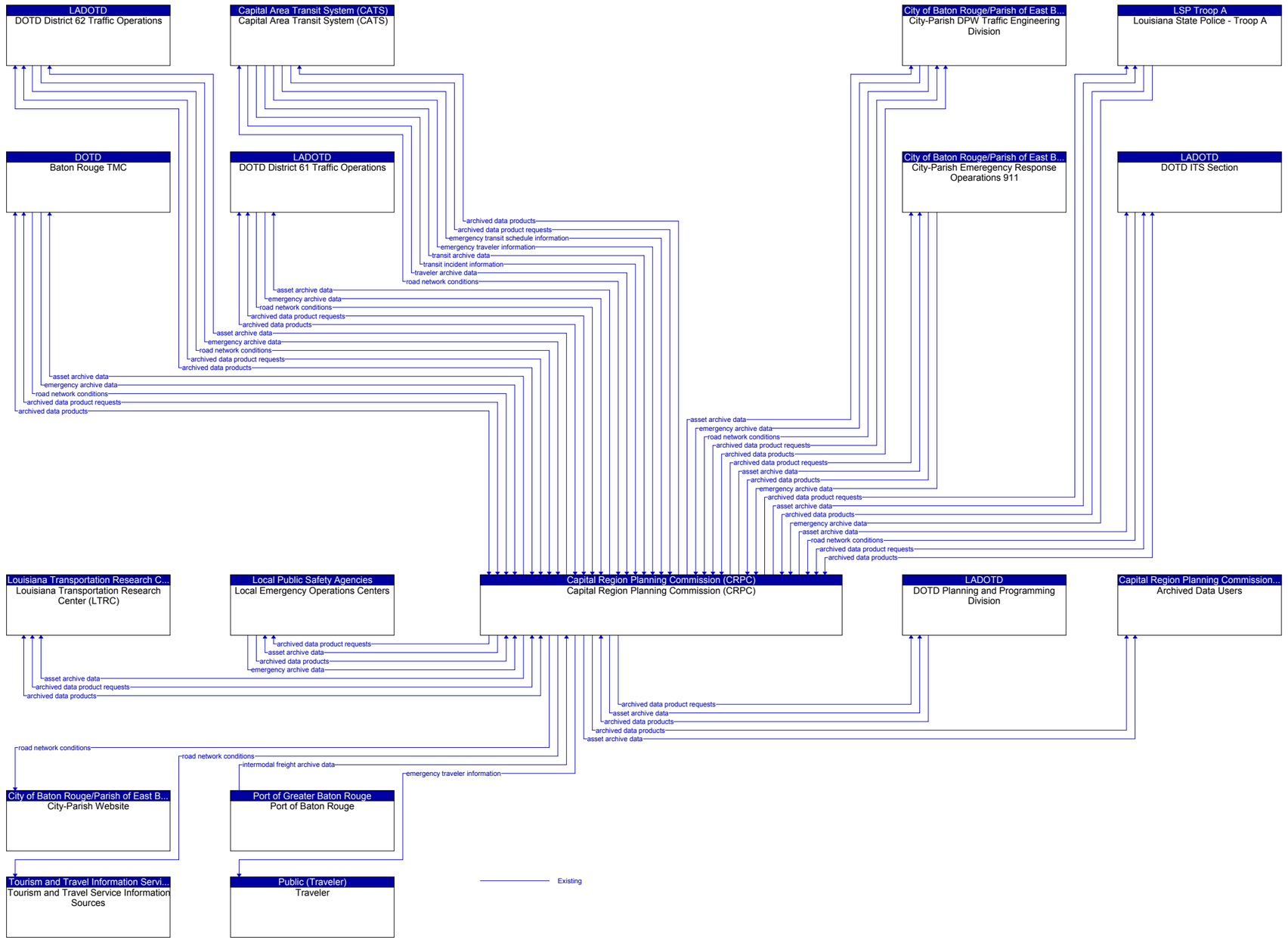


Figure E - 6: Capital Region Planning Commission Flow Context Diagram

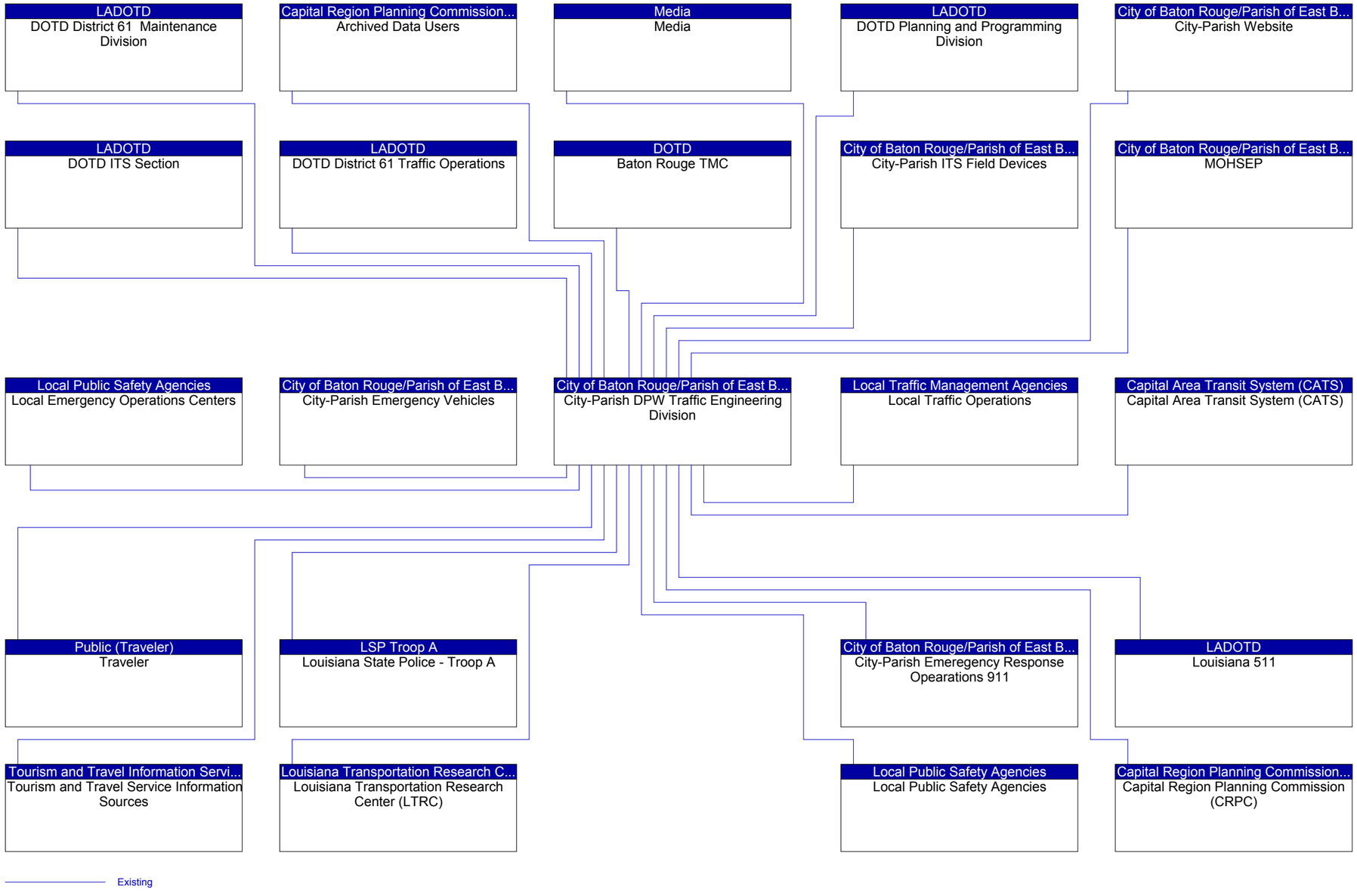


Figure E - 7: City-Parish DPW Traffic Engineering Division (ATM/EOC) Interconnect Context Diagram

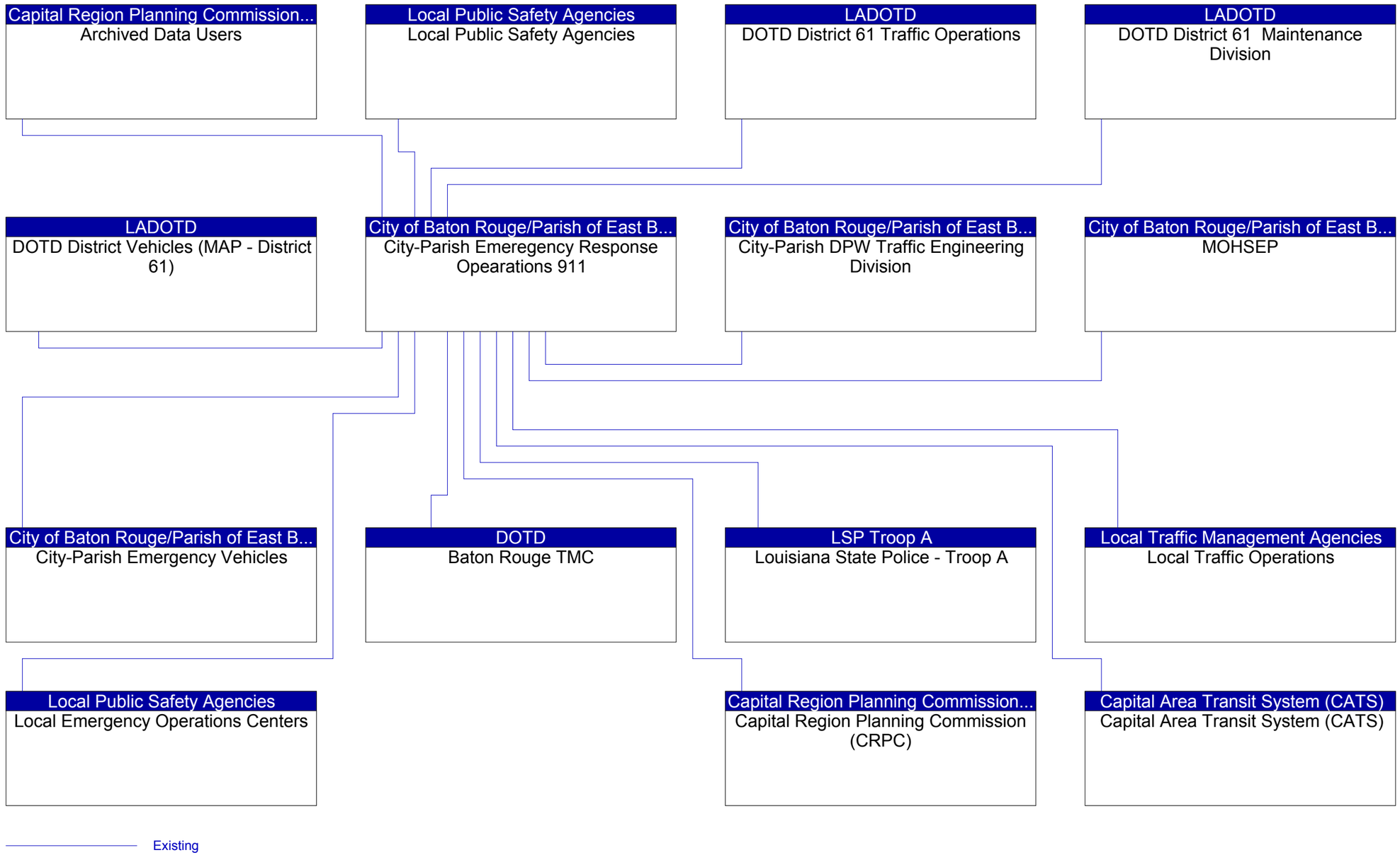


Figure E - 8: City-Parish Emergency Response Operations 911 Interconnect Context Diagram

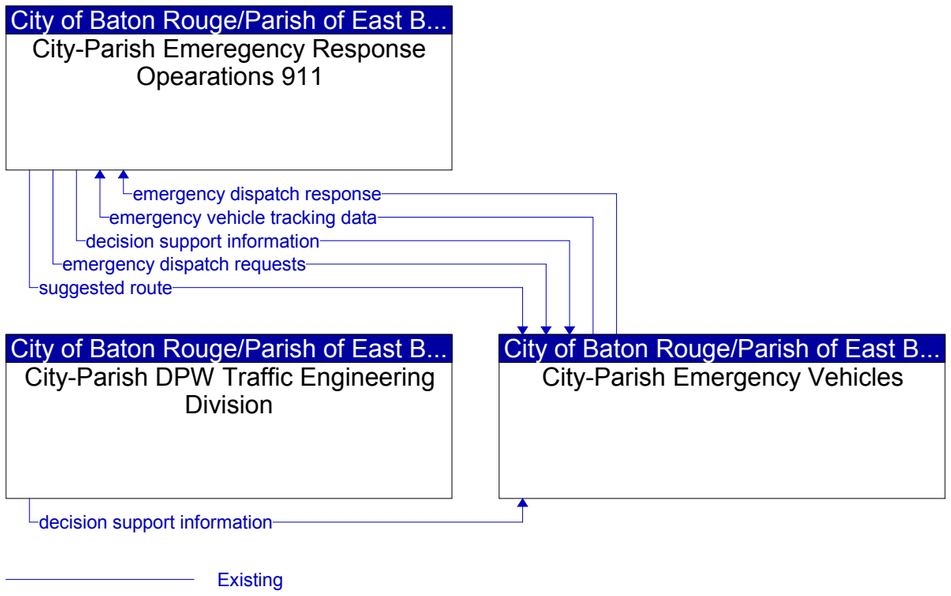


Figure E - 9: City-Parish Emergency Vehicles Flow Context Diagram

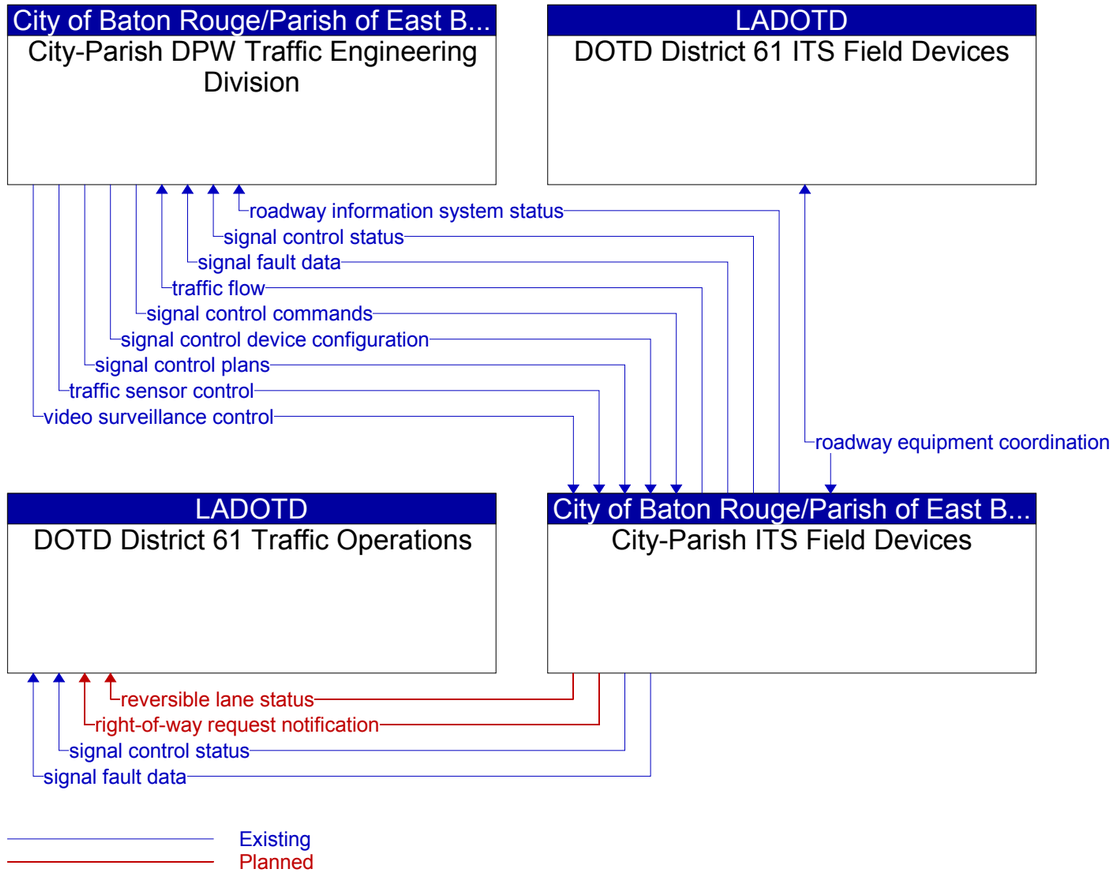


Figure E - 10: City-Parish ITS Field Devices Flow Context Diagram

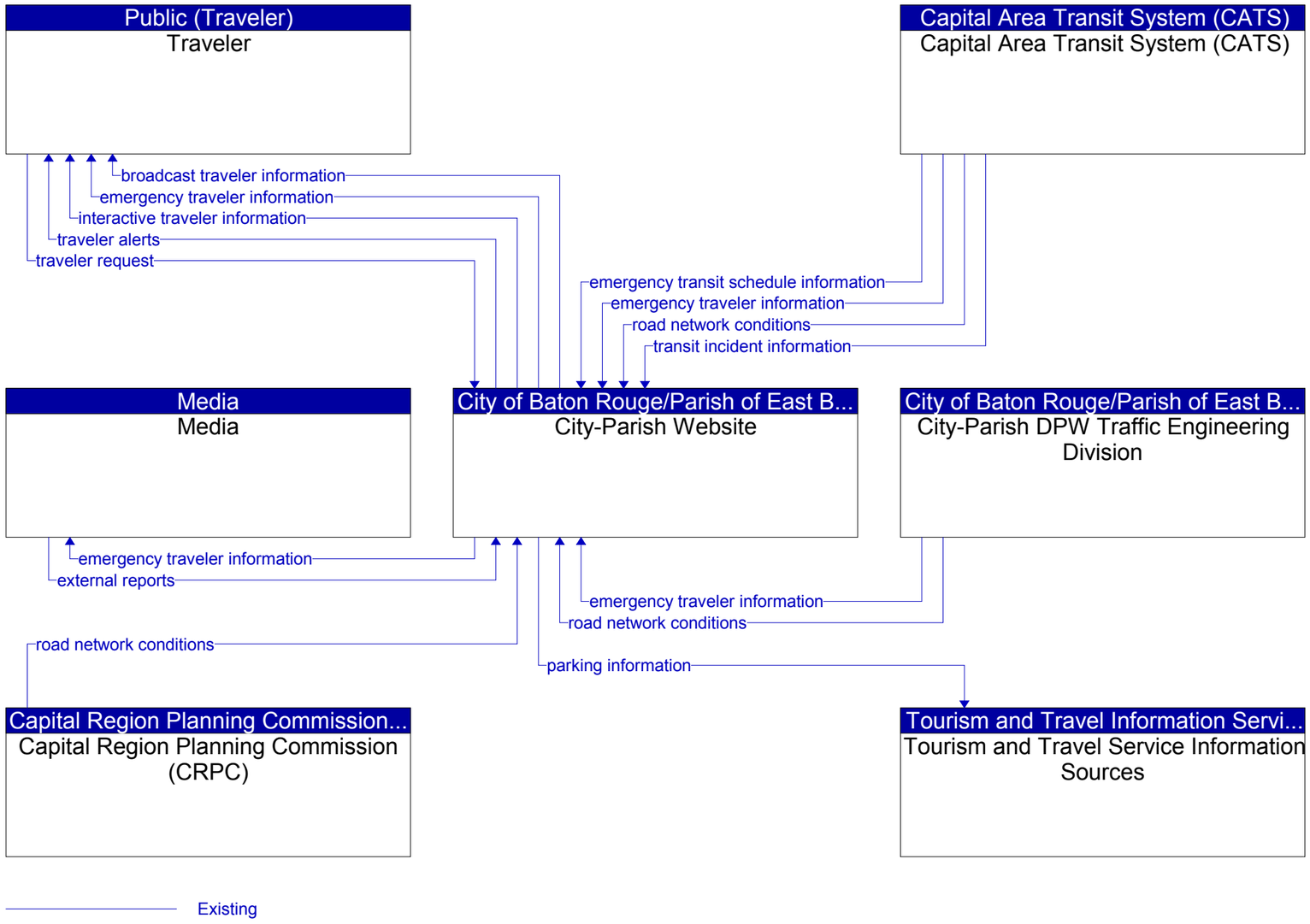


Figure E - 11: City-Parish Website Flow Context Diagram

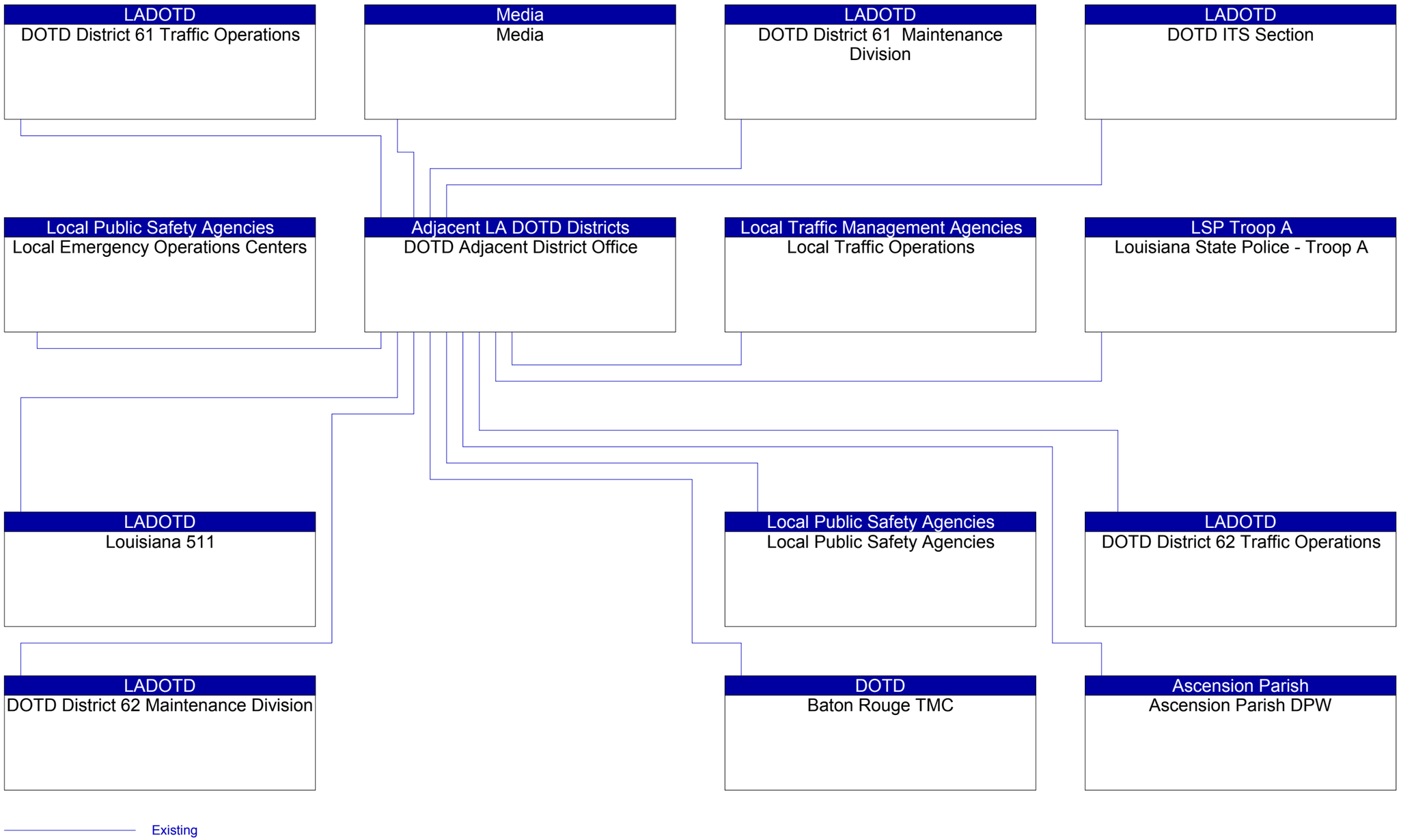


Figure E - 12: LADOTD Adjacent District Office Interconnect Context Diagram

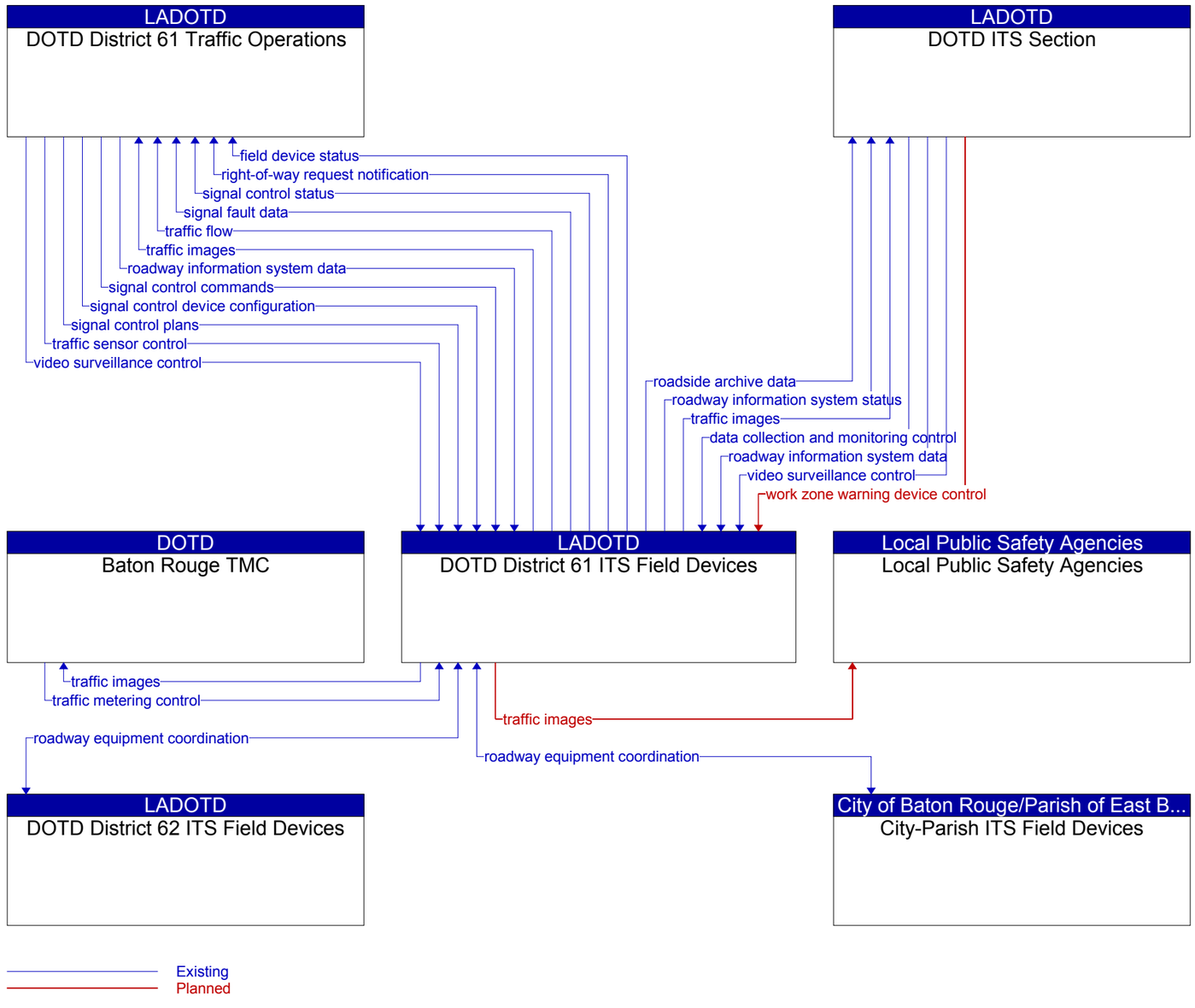


Figure E - 13: LADOTD District 61 ITS Field Devices Flow Context Diagram

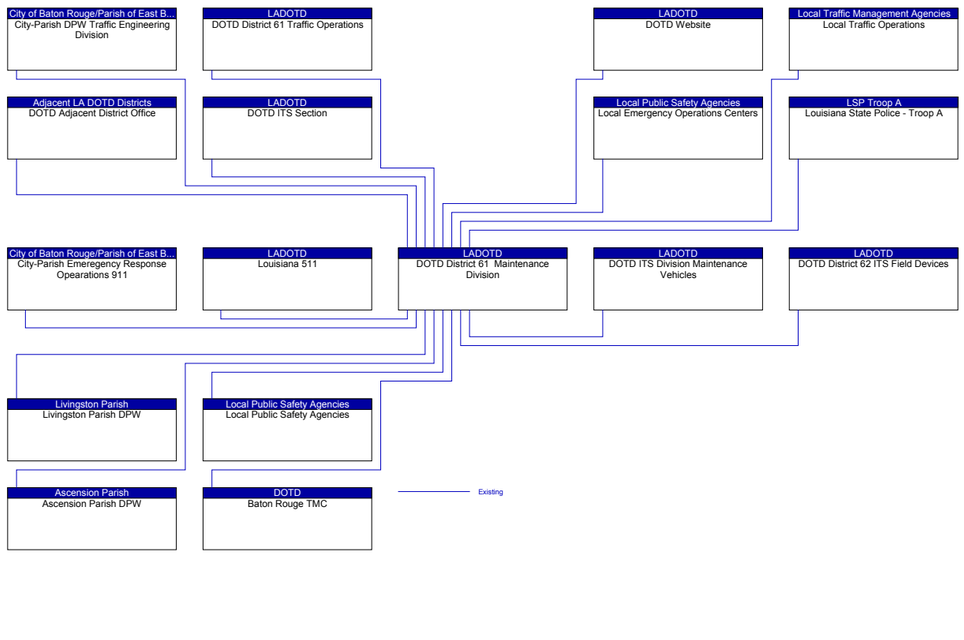


Figure E - 14: LADOTD District 61 Maintenance Interconnect Context Diagram

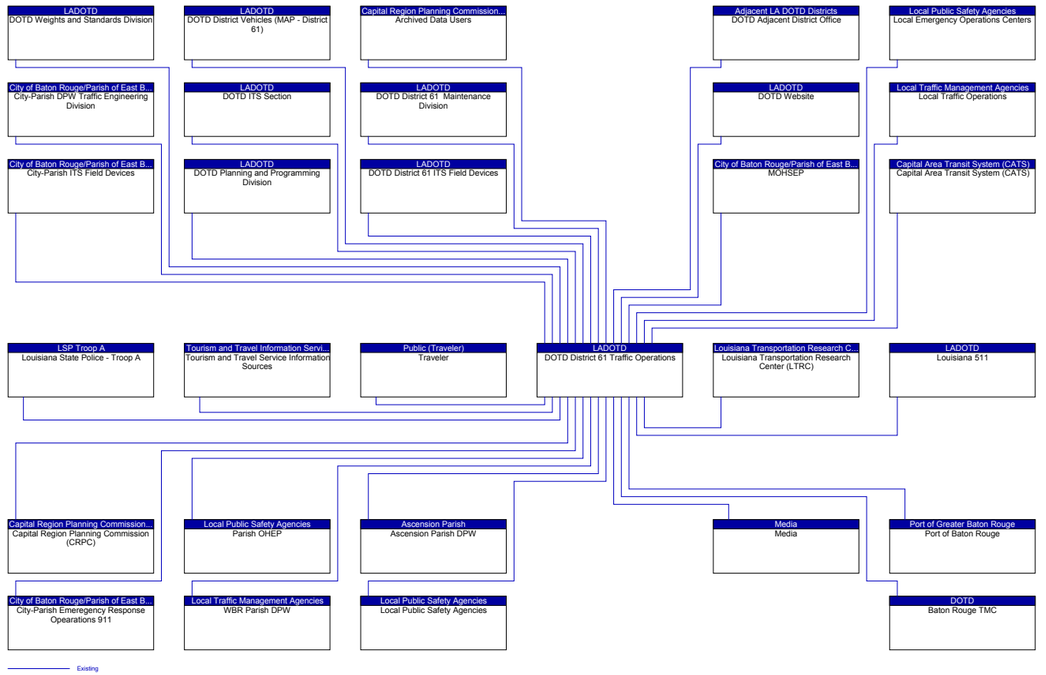


Figure E - 15: LADOTD District 61 Traffic Operations Interconnect Context Diagram

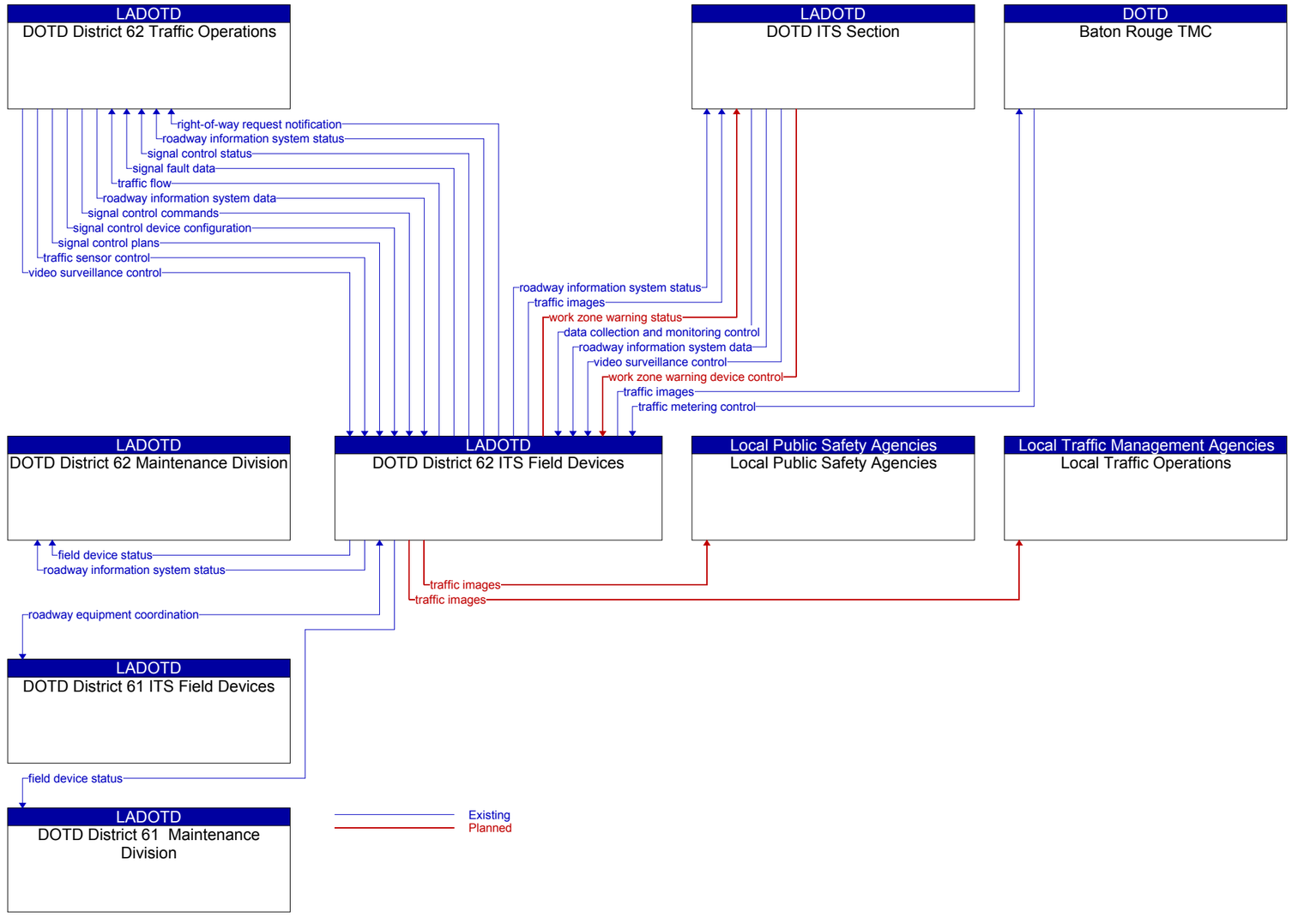


Figure E - 16: LADOTD District 62 ITS Field Devices Flow Context Diagram

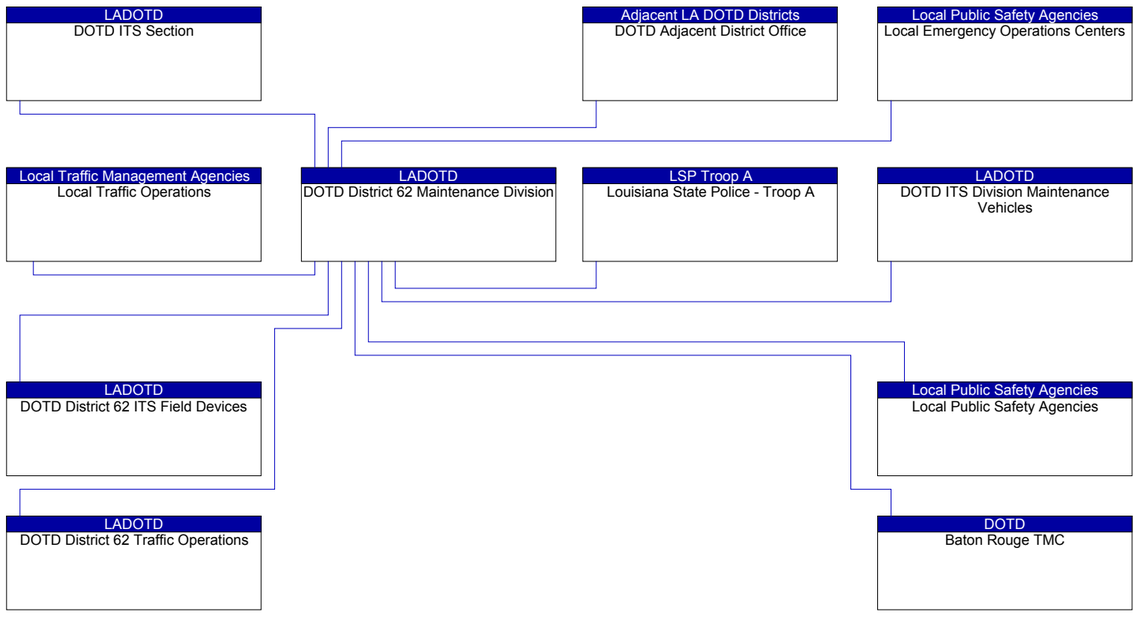


Figure E - 17: LADOTD District 62 Maintenance Division Interconnect Context Diagram

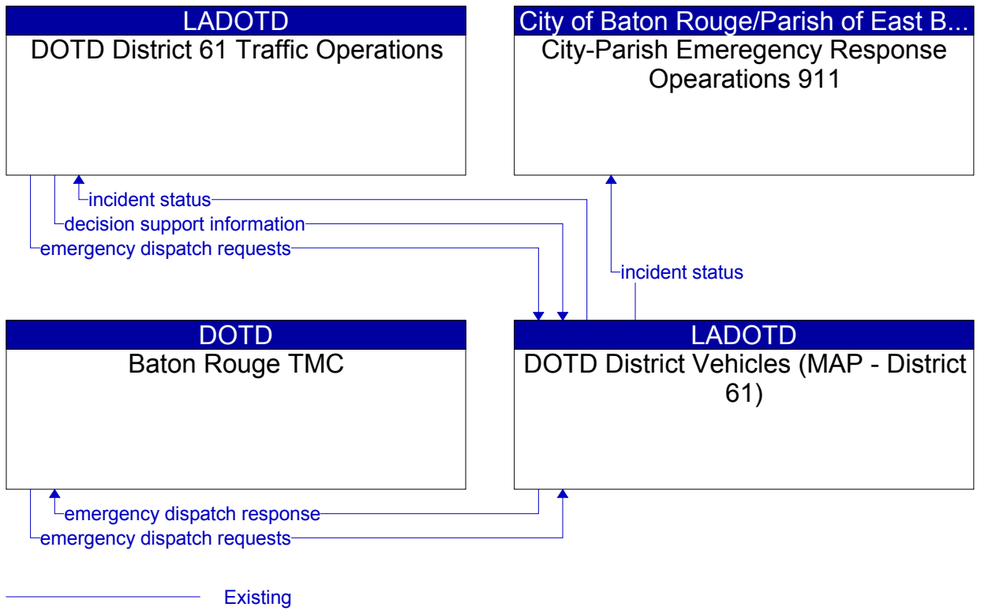


Figure E - 18: LADOTD District Vehicles (MAP-District 61) Flow Context Diagram

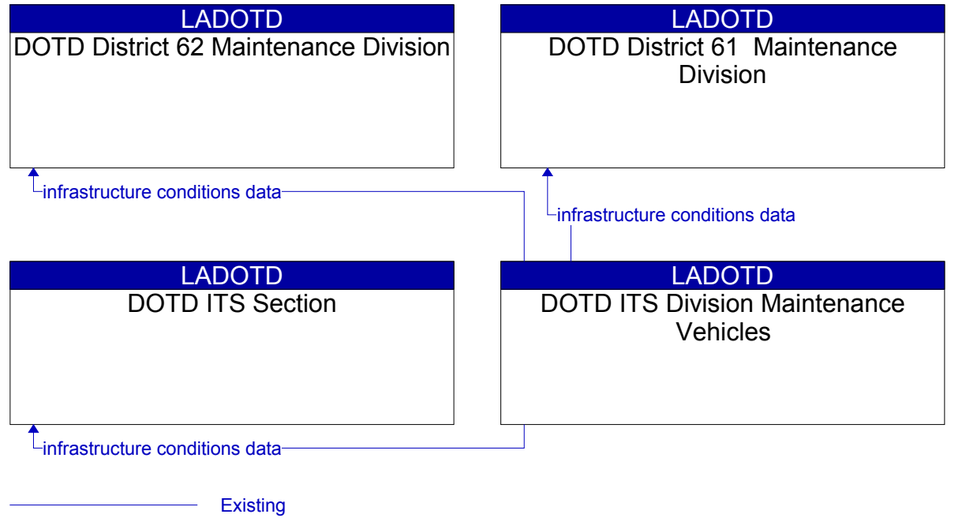


Figure E - 19: LADOTD ITS Division Maintenance Vehicles Flow Context Diagram

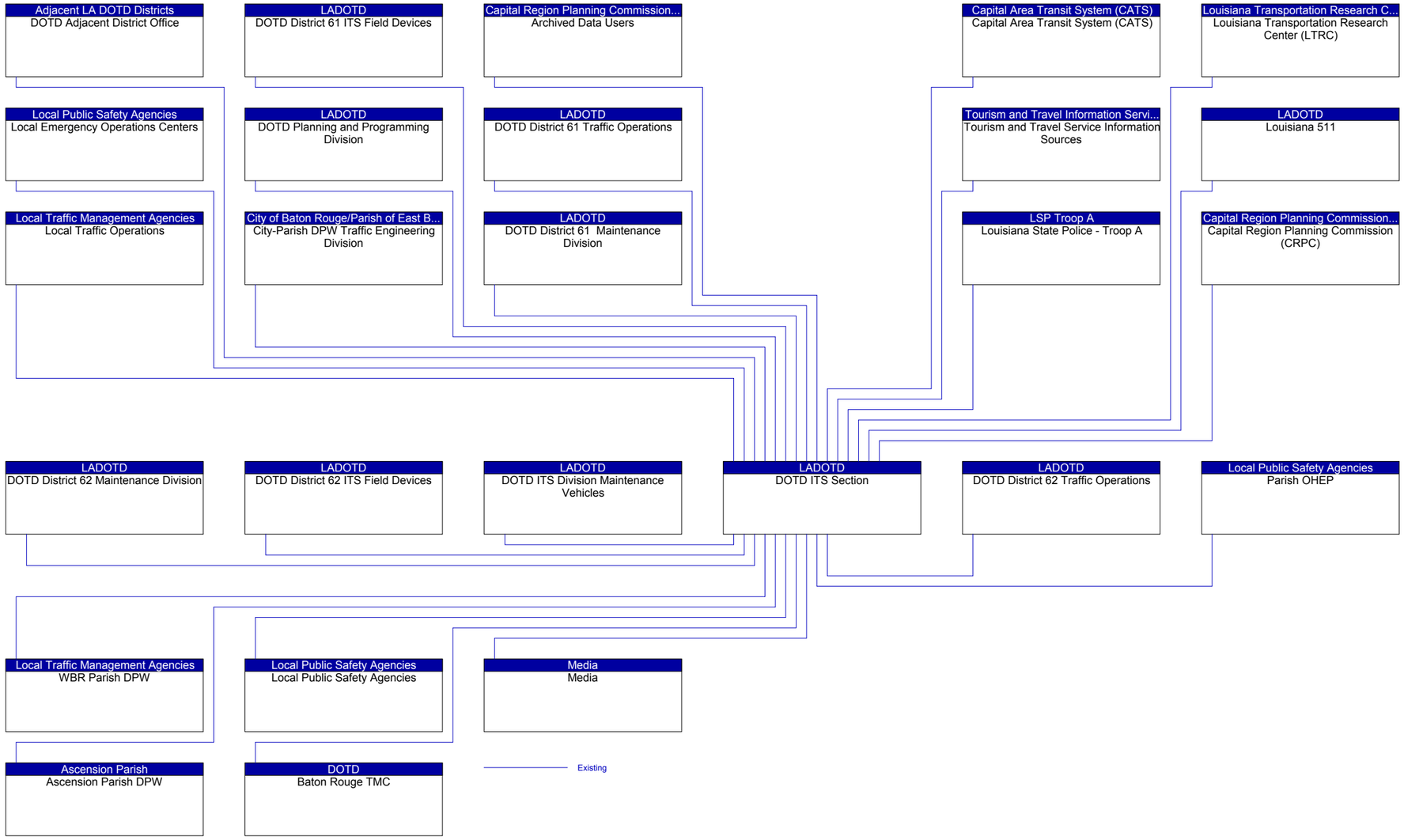


Figure E - 20: LADOTD ITS Section Interconnect Context Diagram

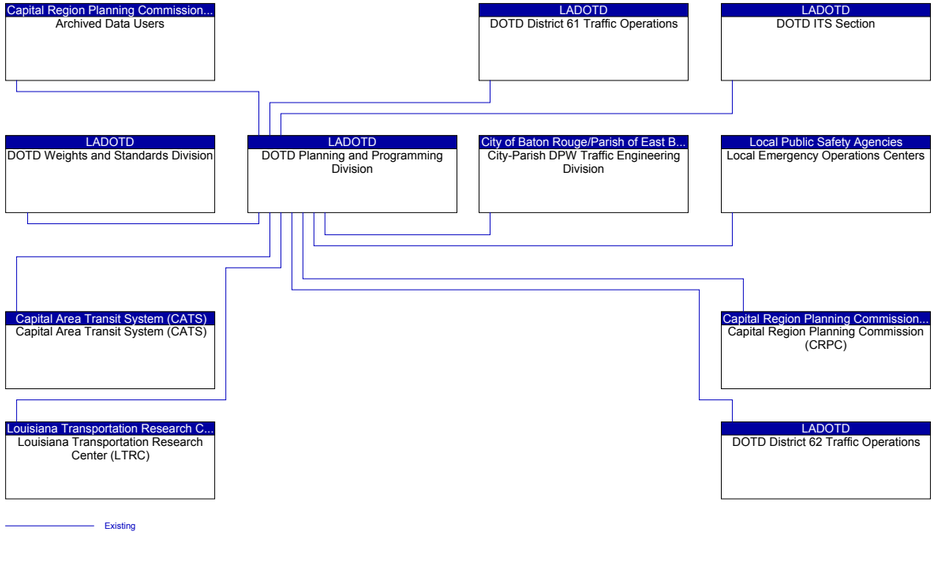


Figure E - 21: LADOTD Planning and Programming Division Interconnect Context Diagram

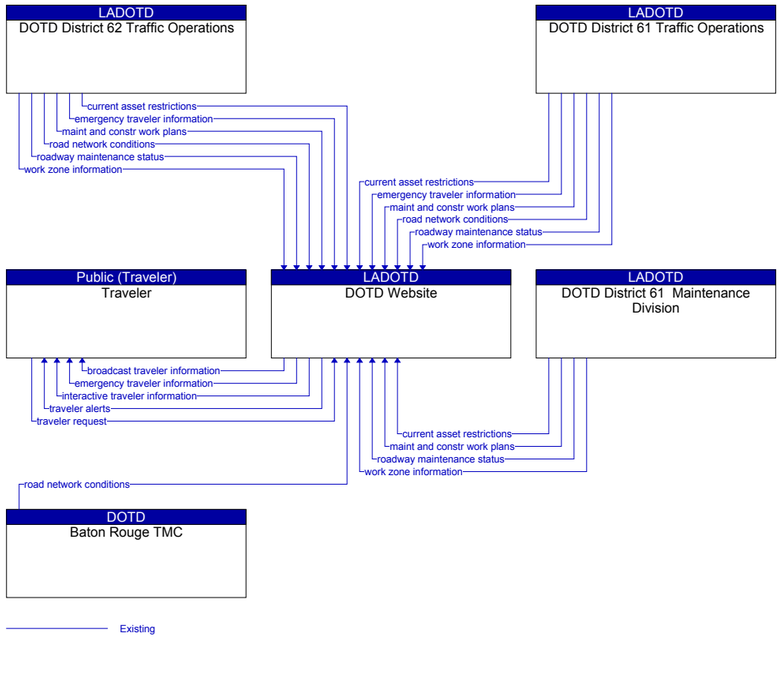


Figure E - 22: LADOTD Website Flow Context Diagram

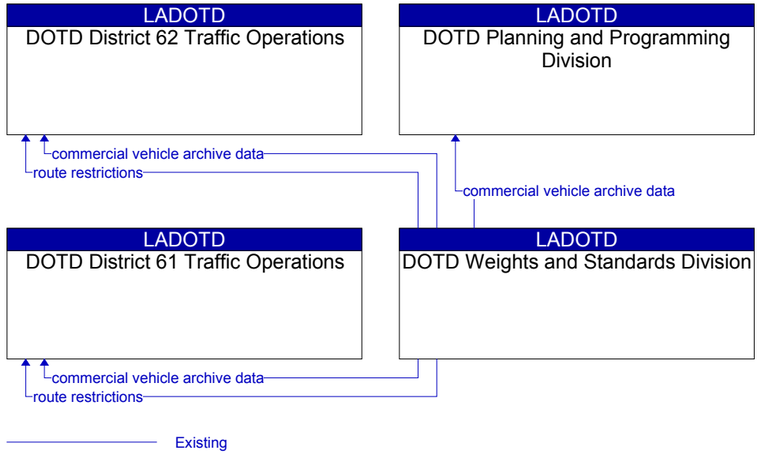


Figure E - 23: LADOTD Weights and Standards Division Flow Context Diagram

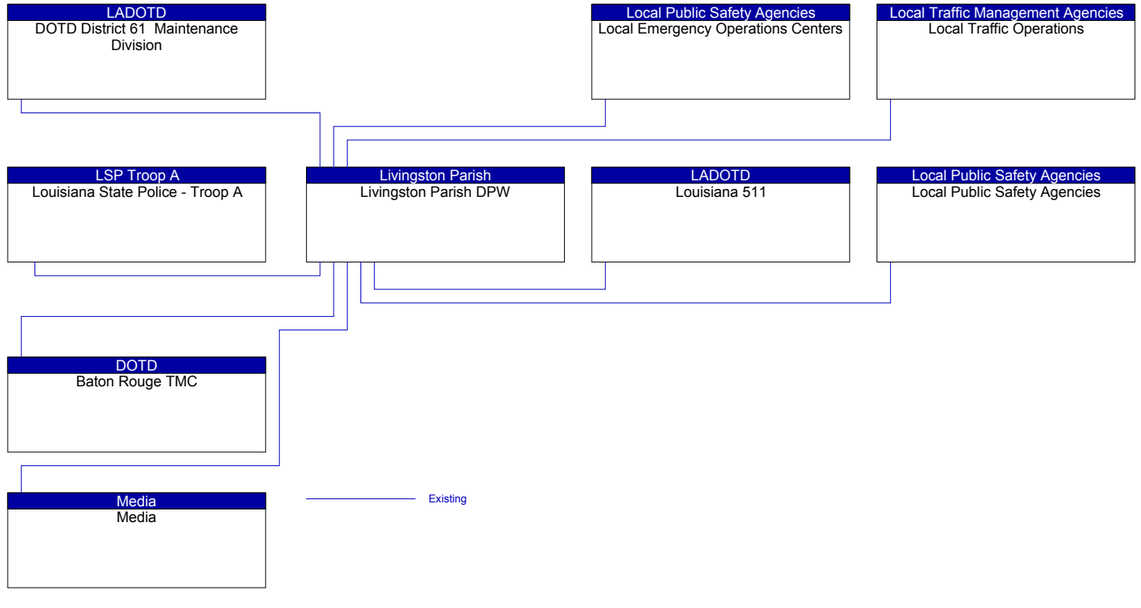


Figure E - 24: Livingston Parish DPW Interconnect Context Diagram

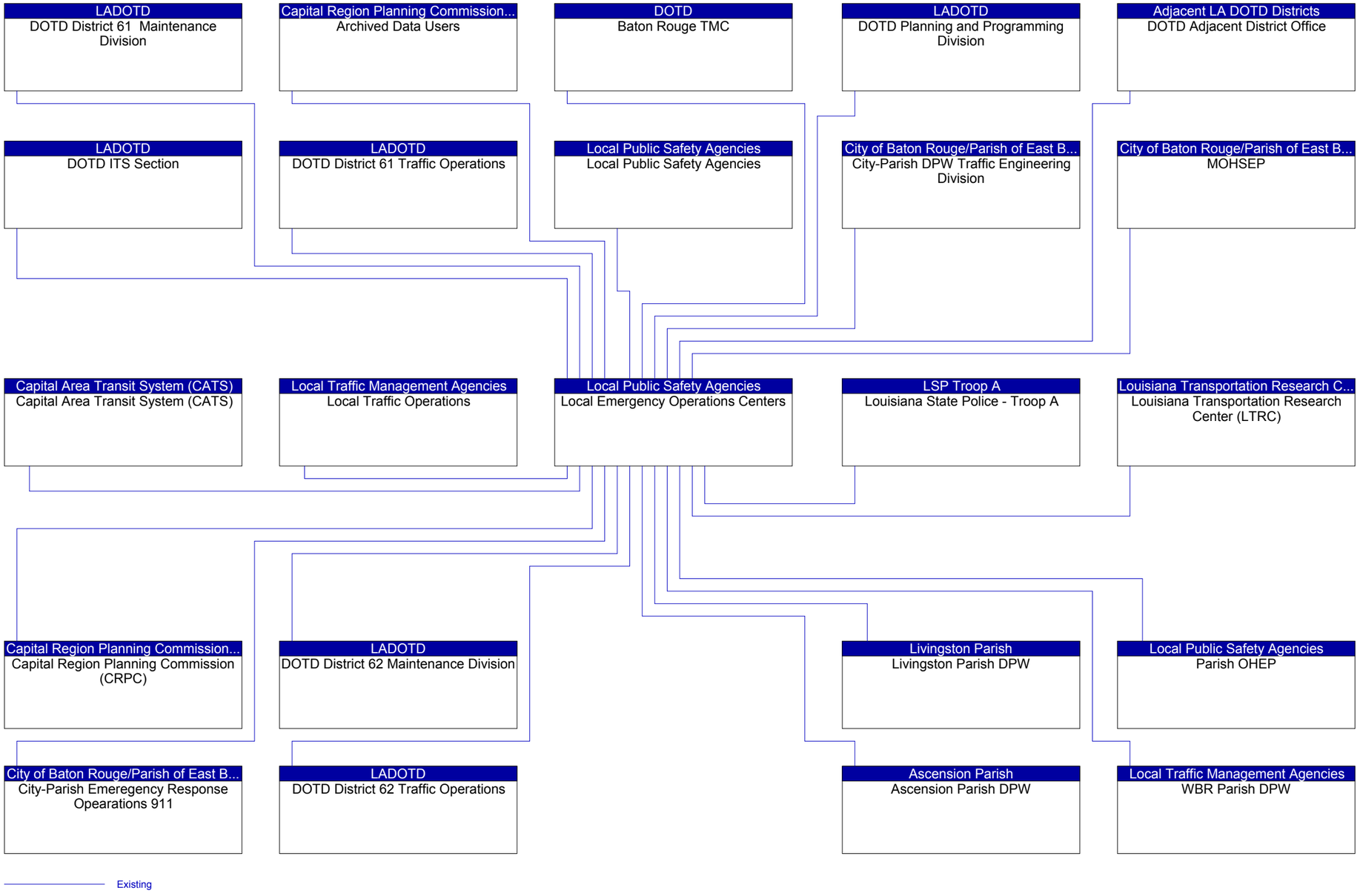


Figure E - 25: Local Emergency Operations Center Interconnect Context Diagram

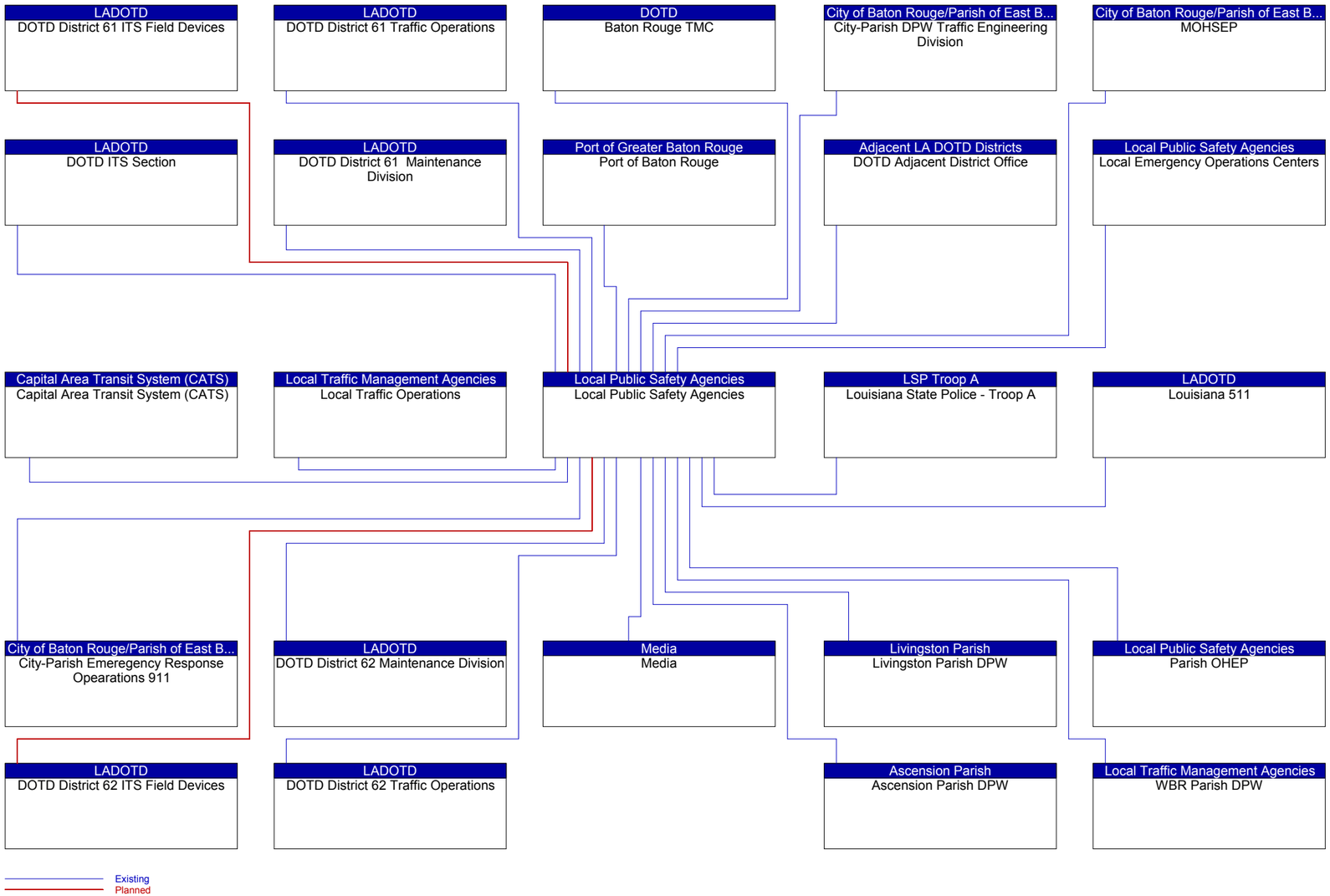


Figure E - 26: Local Public Safety Agencies Interconnect Context Diagram

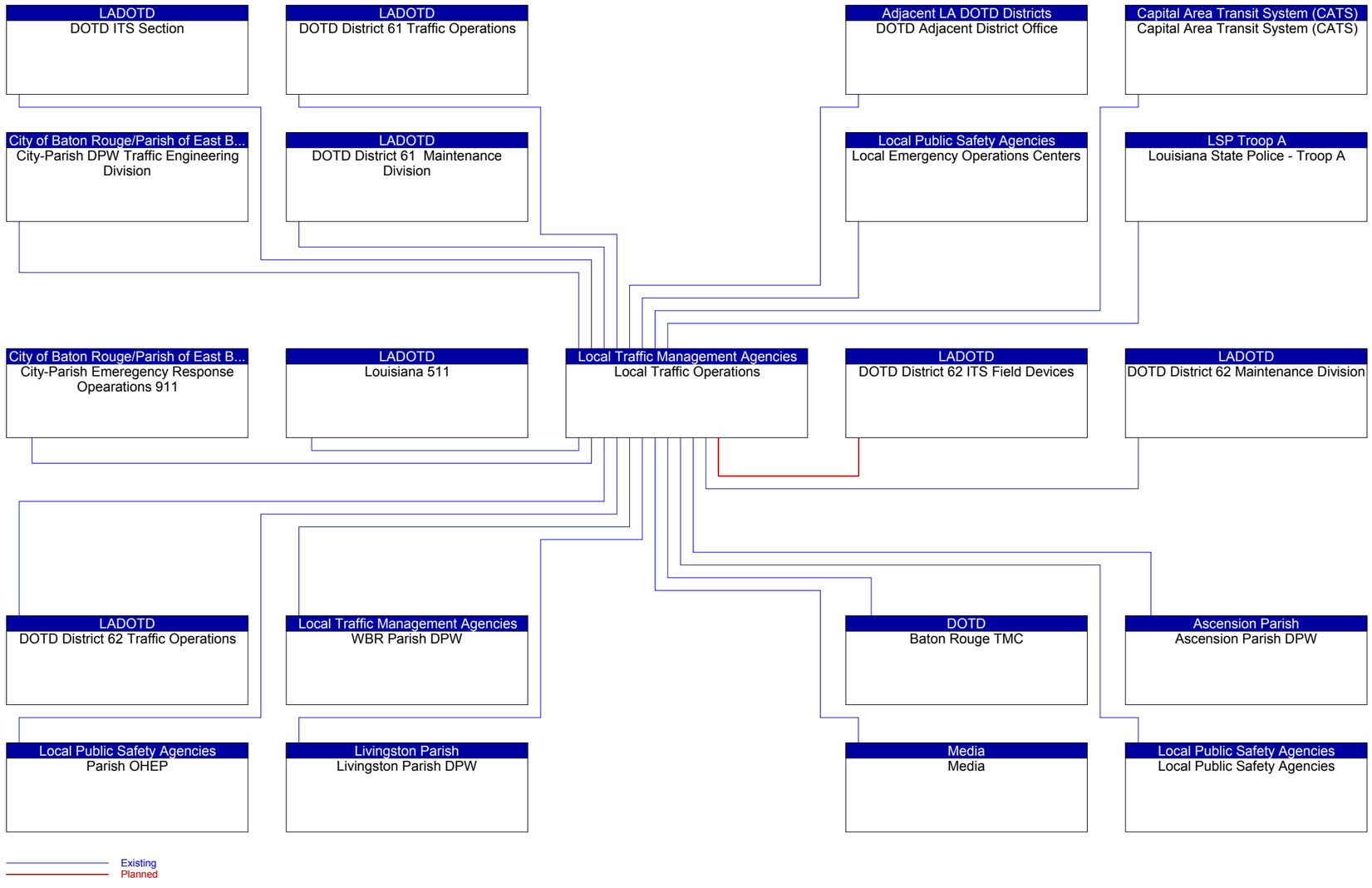


Figure E - 27: Local Traffic Operations Interconnect Context Diagram

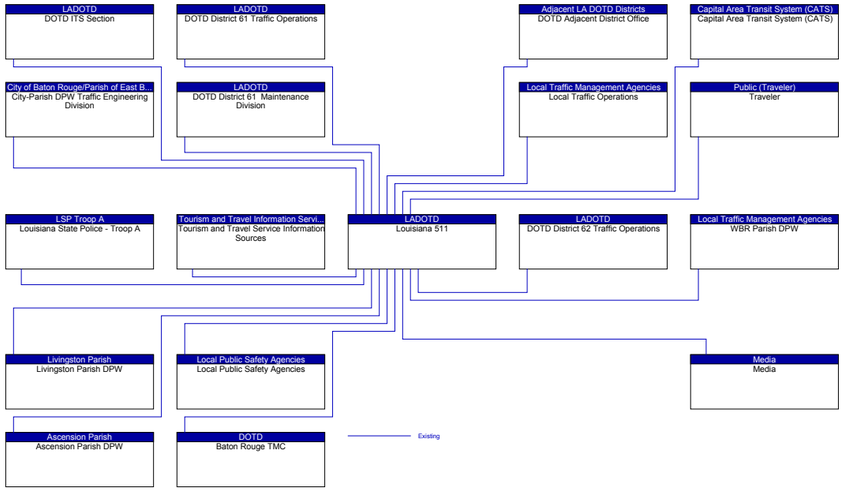


Figure E - 28: Louisiana 511 Interconnect Context Diagram

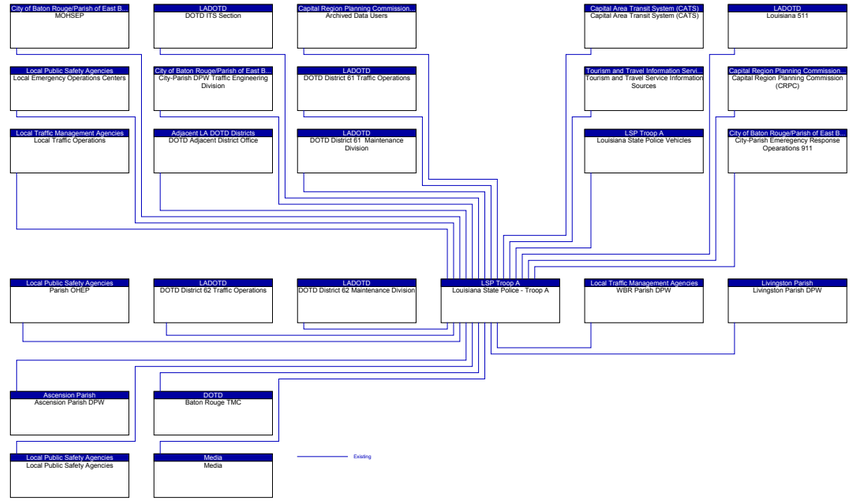


Figure E - 29: Louisiana State Police – Troop A Interconnect Context Diagram

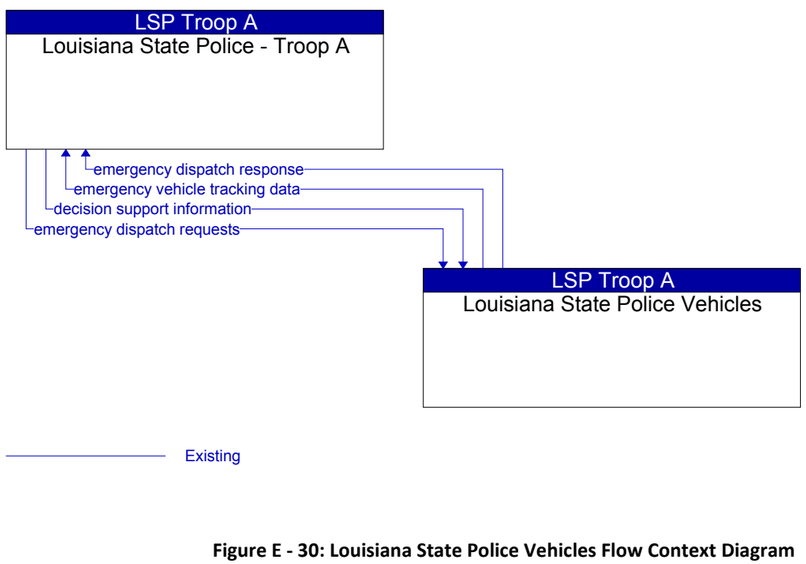


Figure E - 30: Louisiana State Police Vehicles Flow Context Diagram

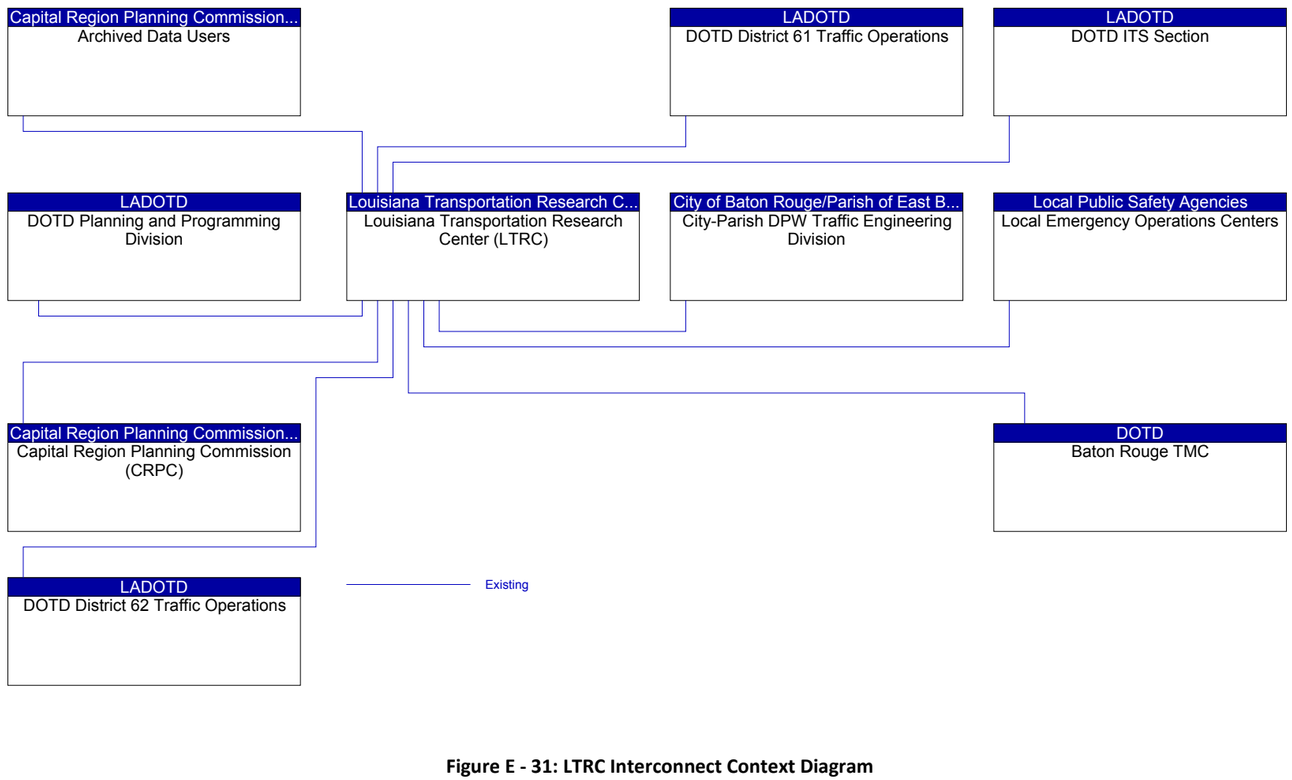


Figure E - 31: LTRC Interconnect Context Diagram

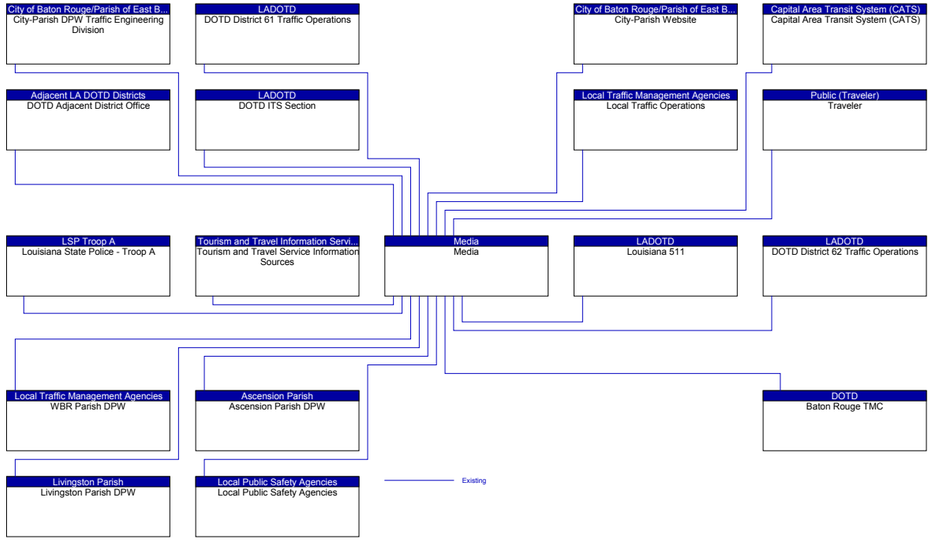


Figure E - 32: Media Interconnect Context Diagram

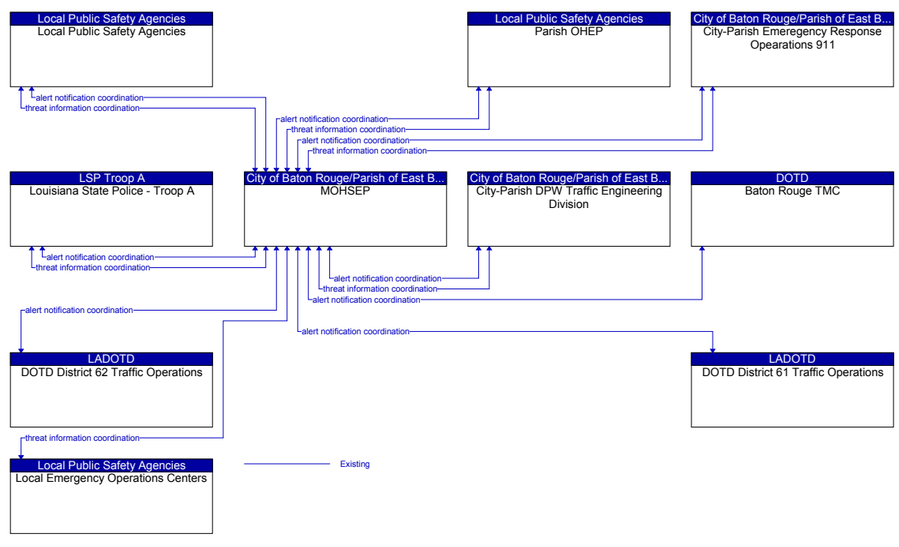


Figure E - 33: MOHSEP Flow Context Diagram

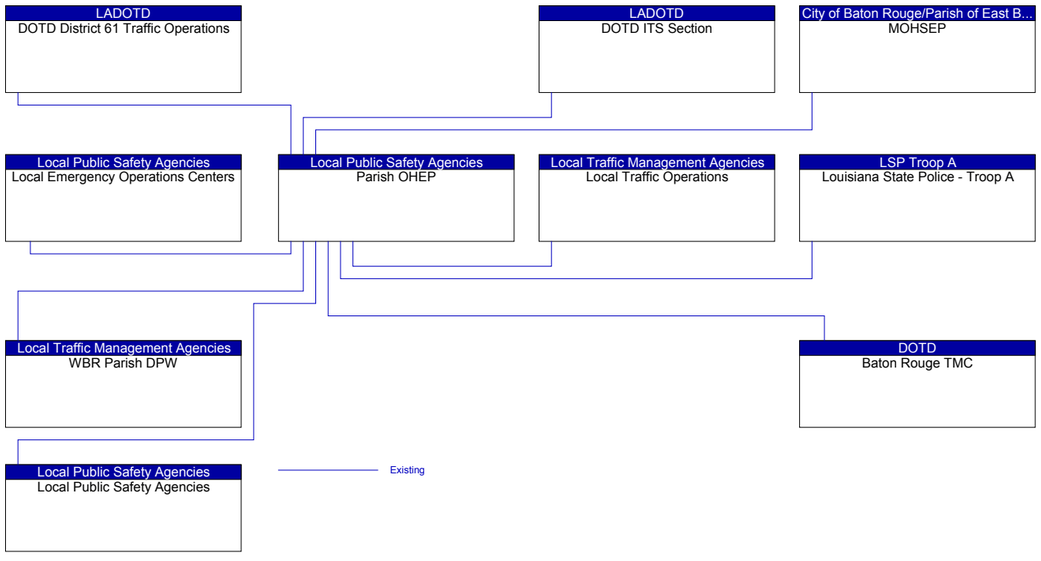


Figure E - 34: Parish OHSEP Interconnect Context Diagram

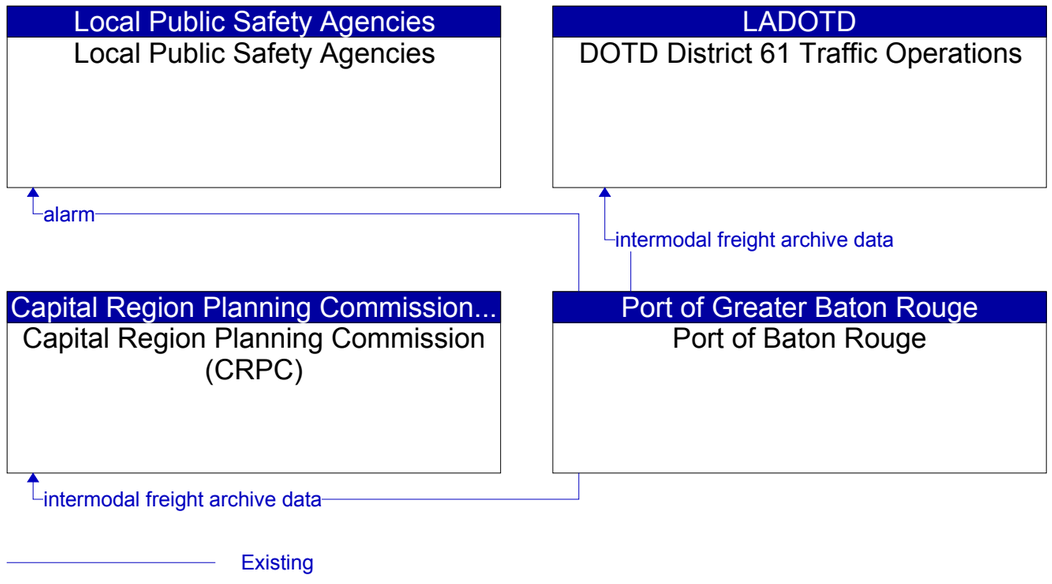


Figure E - 35: Port of Baton Rouge Flow Context Diagram

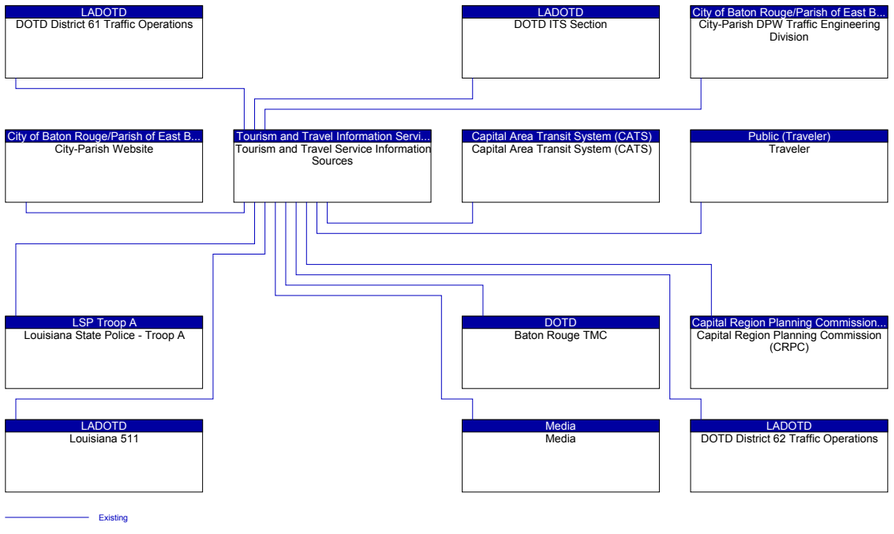


Figure E - 36: Tourism and Traveler Service Information Sources Interconnect Context Diagram

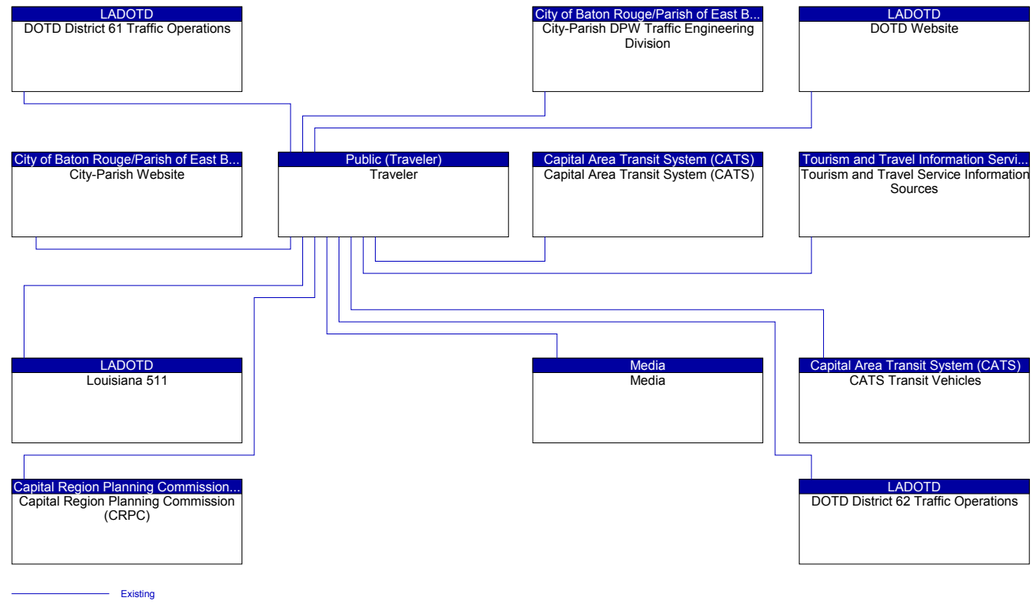


Figure E - 37: Traveler Interconnect Context Diagram

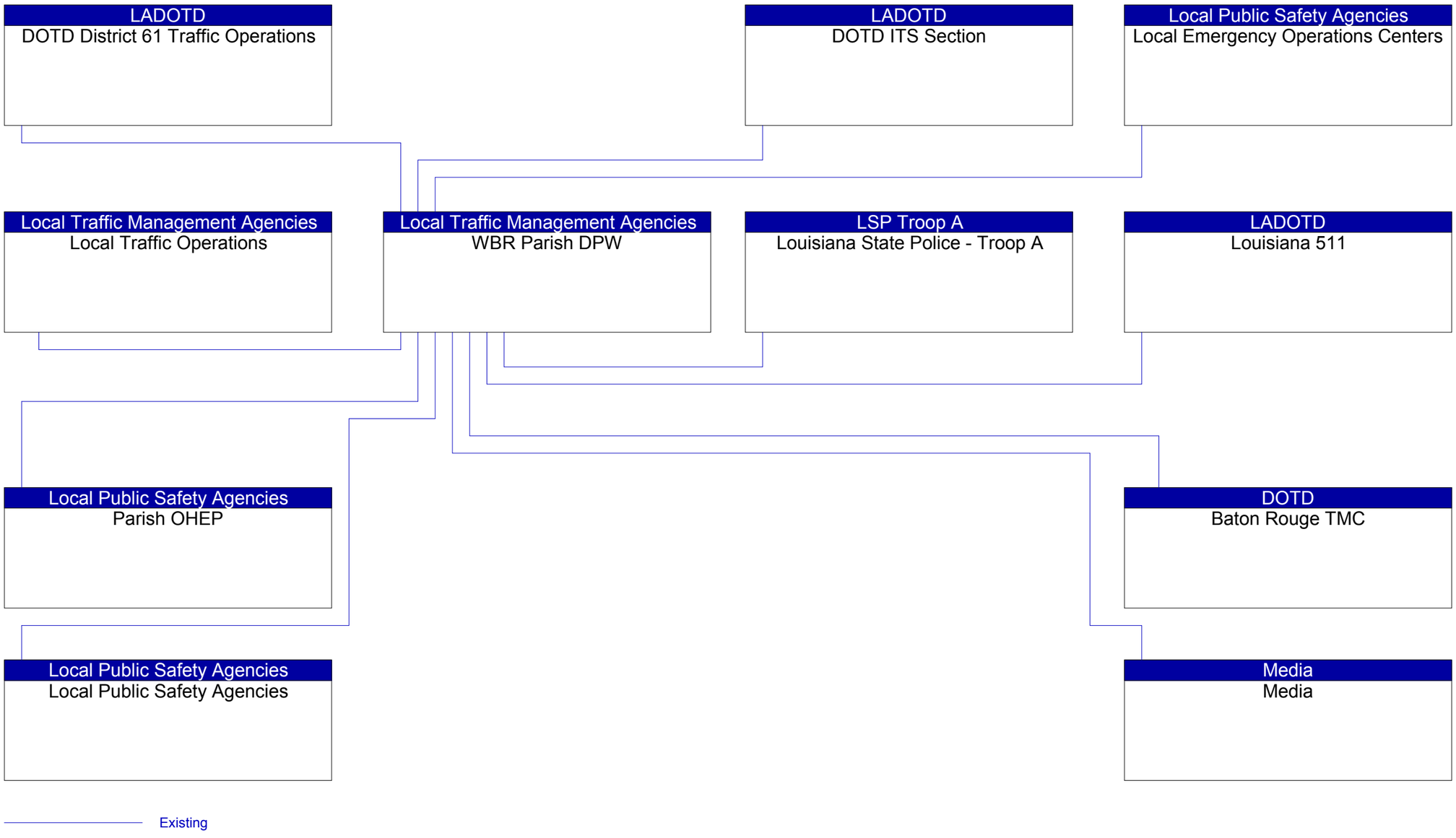
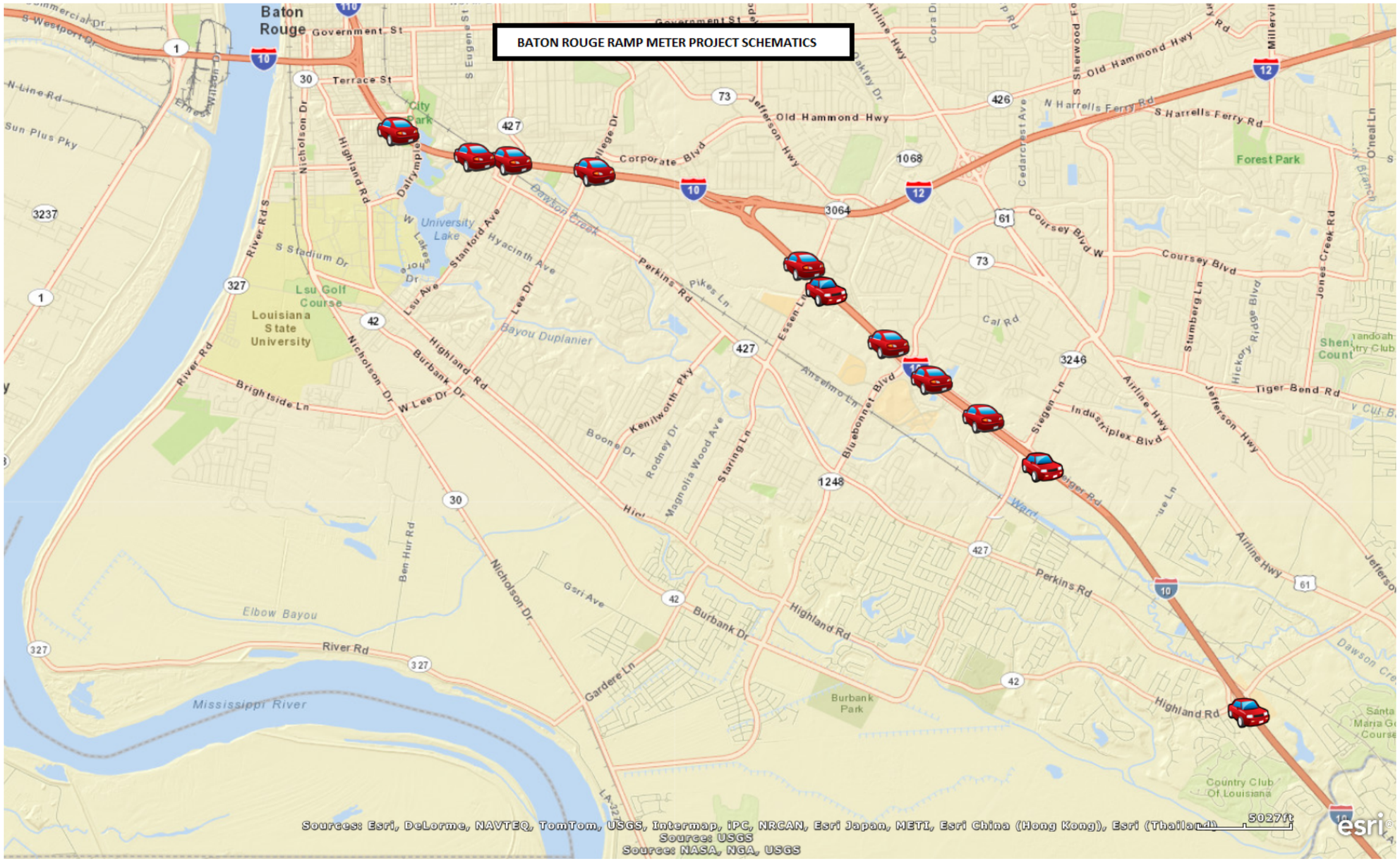
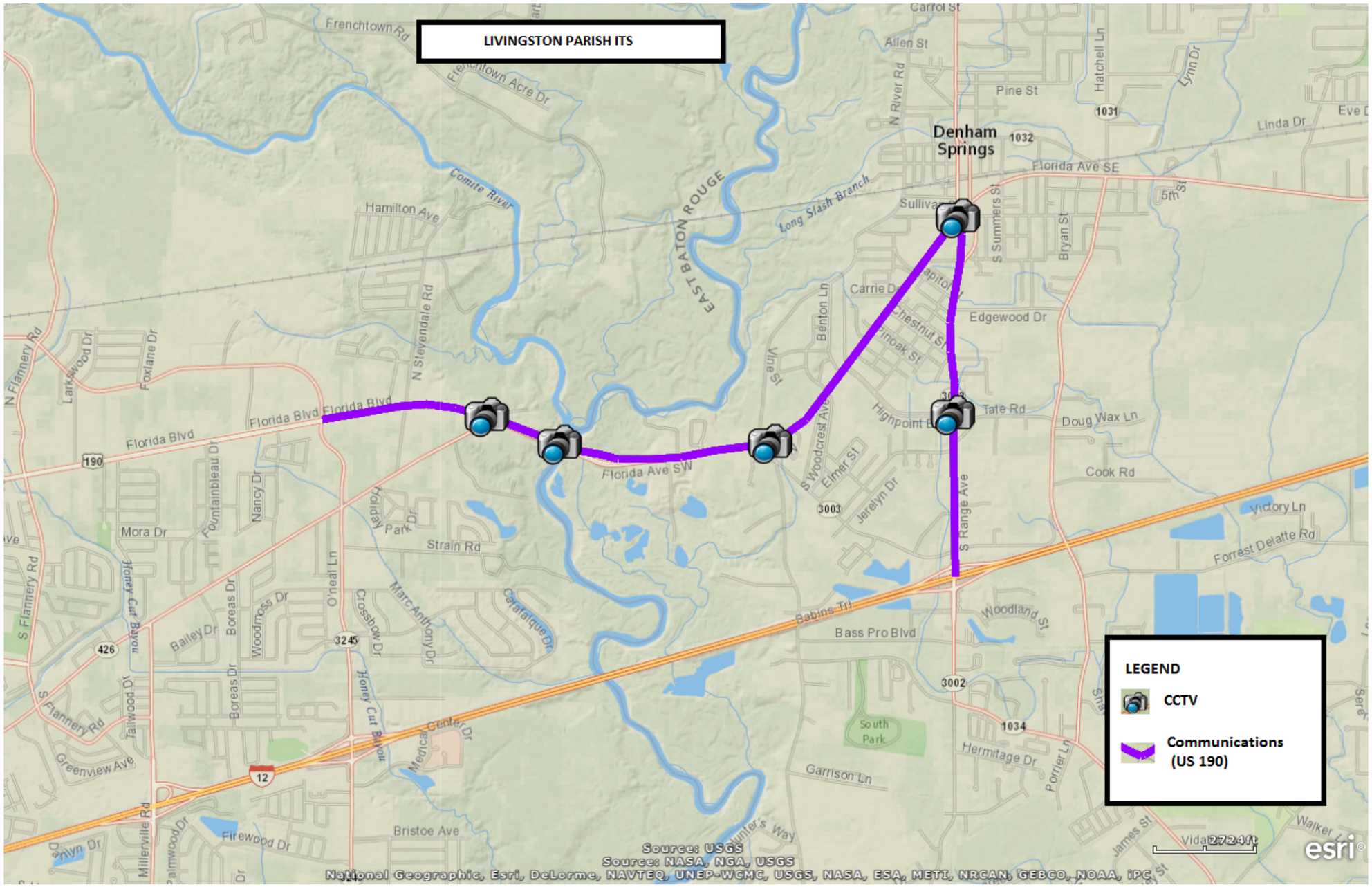
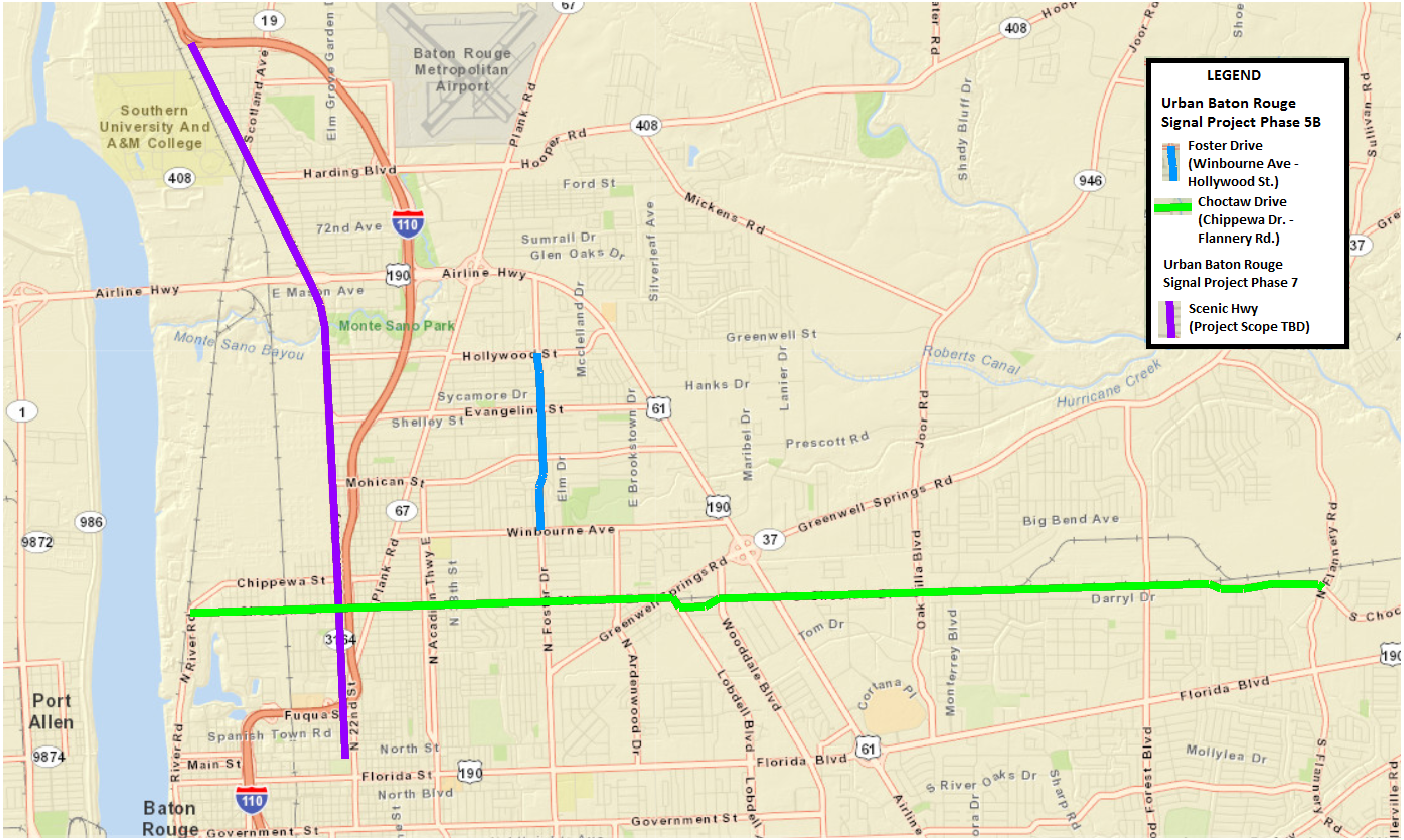


Figure E - 38: WBR Parish DPW Interconnect Context Diagram

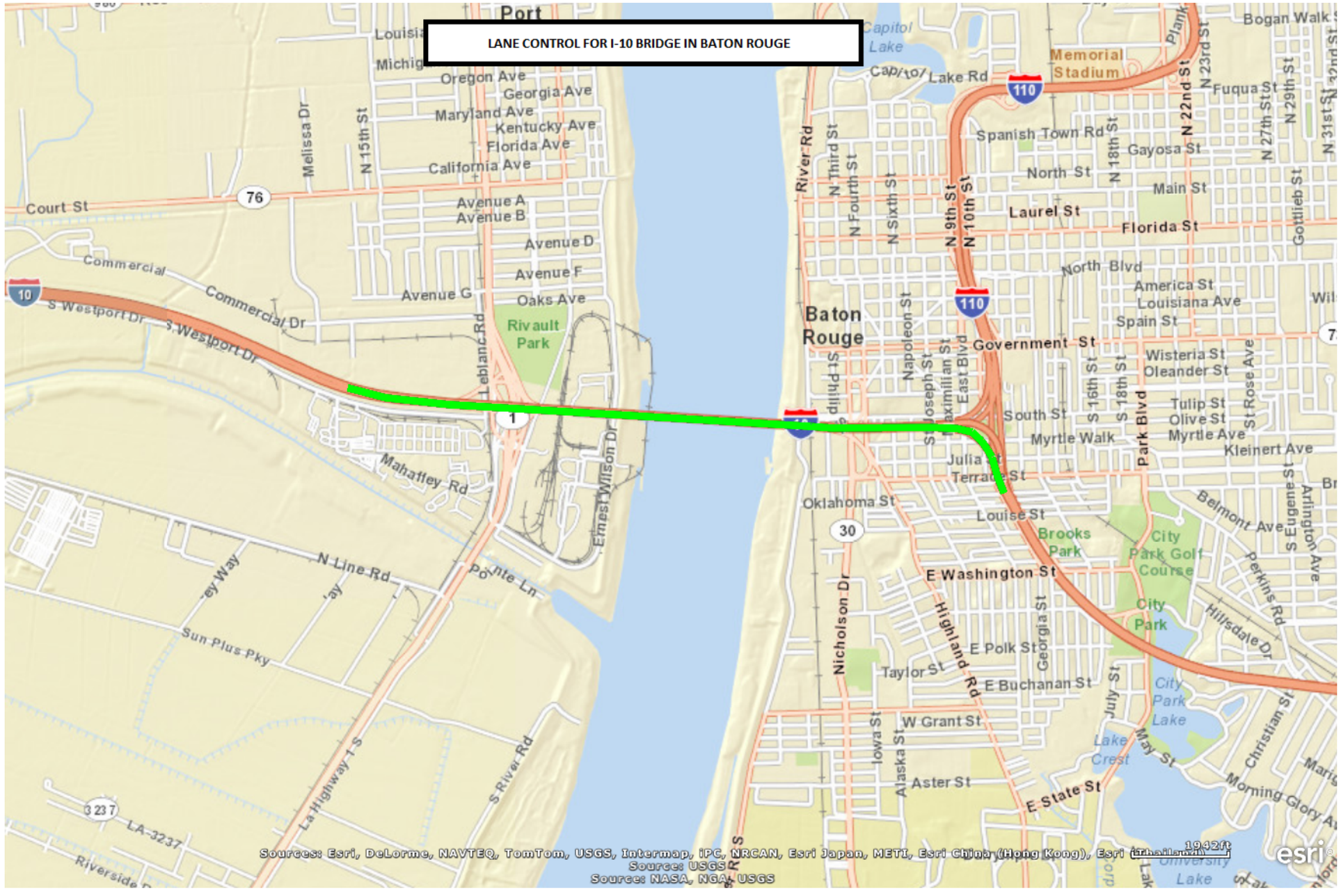
Appendix F. ITS Deployment Plan Detailed Schematics

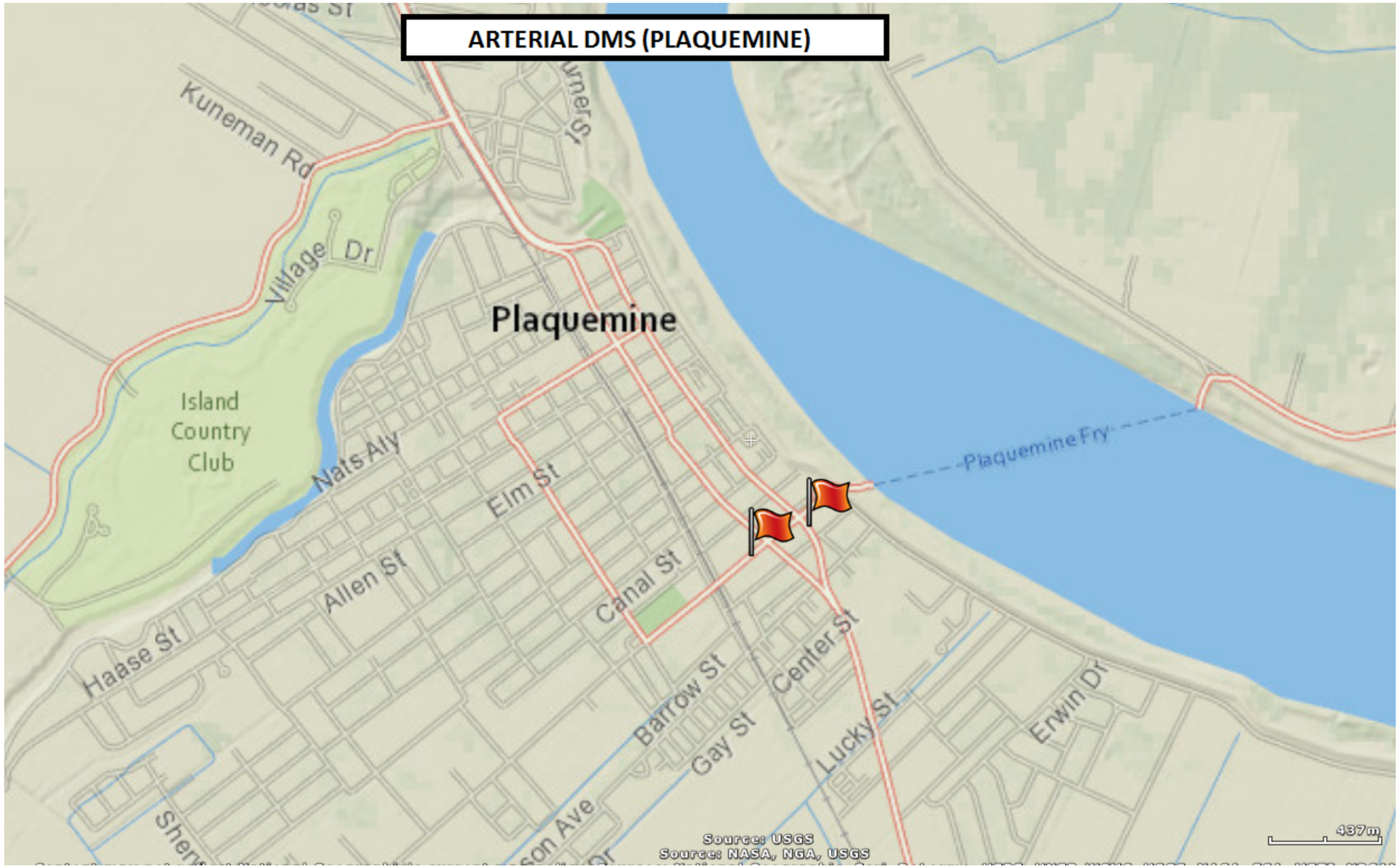



LIVINGSTON PARISH ITS
Frenchtown Rd
Frenchtown Acre Dr
Comite River
Hamilton Ave
EAST BATON ROUGE
Long Slash Branch
Carroll St
Allen St
N River Rd
Pine St
Hatchell Ln
Lynn Dr
1031
Linda Dr
Denham Springs
1032
Florida Ave SE
5th St
S Summers St
Bryan St
Sullivan
Carrie Dr
Capitol
Chestnut St
Pinoak St
Edgewood Dr
Benton Ln
Villa St
Highpoint Dr
Tate Rd
Doug Wax Ln
Cook Rd
Victory Ln
Forrest Delatte Rd
S Range Ave
Jerelyn Dr
3003
Elmer St
S Woodcrest Ave
N Flannery Rd
Larkwood Dr
Foxlane Dr
N Stevendale Rd
Florida Blvd
190
Fountainbleau Dr
Nancy Dr
Holiday Park Dr
Strain Rd
Mora Dr
Honey Cut Bayou
S Flannery Rd
Bailey Dr
Boreas Dr
Woodcross Dr
O'neal Ln
3245
Crossbow Dr
Marc Anthony Dr
Catafalque Dr
426
Tallwood Dr
Greenview Ave
12
Medical Center Dr
Millerville Rd
Palmwood Dr
Firewood Dr
Bristoe Ave
Hunter's Way
Babins Trl
Bass Pro Blvd
Woodland St
3002
1034
South Park
Hermitage Dr
Porrier Ln
Garrison Ln
James St
Walker
Vidal
2724ft
LEGEND
CCTV
Communications (US 190)
Source: USGS
Source: NASA, NGA, USGS
National Geographic, Esri, DeLorme, NAVTEQ, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, iPC
esri



LEGEND
Urban Baton Rouge Signal Project Phase 5B
Foster Drive (Winbourne Ave - Hollywood St.)
Choctaw Drive (Chippewa Dr. - Flannery Rd.)
Urban Baton Rouge Signal Project Phase 7
Scenic Hwy (Project Scope TBD)
Baton Rouge Metropolitan Airport
Southern University And A&M College
Monte Sano Park
Port Allen
Baton Rouge


LANE CONTROL FOR I-10 BRIDGE IN BATON ROUGE
Port
Capitol Lake
Capitol Lake Rd
Memorial Stadium
Bogan Walk
Fuqua St
Spanish Town Rd
Gayosa St
North St
Main St
Laurel St
Florida St
North Blvd
America St
Louisiana Ave
Spain St
Government St
Wisteria St
Oleander St
Tulip St
Olive St
Myrtle Ave
Kleinert Ave
Myrtle Walk
South St
Julia St
Terrace St
Oklahoma St
Louise St
Brooks Park
City Park Golf Course
City Park
City Park Lake
Lake Crest
E Washington St
E Polk St
E Buchanan St
Taylor St
W Grant St
Aster St
E State St
Belmont Ave
Perkins Rd
Hillsdale Dr
Morning Glory Ave
Arlington Ave
Christian St
May St
July St
Iowa St
Alaska St
Nicholson Dr
Highland Rd
Georgia St
Baton Rouge
River Rd
N Third St
N Fourth St
N Sixth St
N 9th St
N 10th St
N 15th St
N 18th St
N 22nd St
N 23rd St
N 27th St
N 29th St
N 31st St
Gottlieb St
Plank
Melissa Dr
Oregon Ave
Georgia Ave
Maryland Ave
Kentucky Ave
Florida Ave
California Ave
Avenue A
Avenue B
Avenue D
Avenue F
Avenue G
Oaks Ave
Rivault Park
Leblanc Rd
Court St
Commercial
Commercial Dr
S Westport Dr
Mahaffey Rd
Ernest Wilson Dr
N Line Rd
Pointe Ln
Sun Plus Pky
La Highway 1 S
S River Rd
LA-3237
Napoleon St
St Joseph St
St Philip
Maximilian St
East Blvd
Park Blvd
S 16th St
S 18th St
St Rose Ave
76
10
1
110
30
3237
1942ft
Sources: Esri, DeLorme, NAVTEQ, TomTom, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri
Source: USGS
Source: NASA, NGA, USGS
esri


ARTERIAL DMS (PLAQUEMINE)
Kuneman Rd
Village Dr
Plaquemine
Island Country Club
Nats Aly
Elm St
Allen St
Canal St
Haase St
Barrow St
Gay St
Center St
Lucky St
Erwin Dr
Plaquemine Fry
Source: USGS
Source: NASA, NGA, USGS
437m

Appendix G. AGREEMENTS

Dated 2/26/98

MEMORANDUM OF UNDERSTANDING

FOR

STATE PROJECT NUMBER: 700-17-0161

ADVANCED TRAFFIC MANAGEMENT COMMUNICATIONS BUILDING

By and Among

THE CITY OF BATON ROUGE/EAST BATON ROUGE PARISH
and
THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
and
THE U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

It is understood and agreed as follows:

1. Based on the proposed square footage requirements for traffic control systems and traffic related functions of other systems, 30% of the cost of the building is eligible for assistance through the Federal Highway Administration (FHWA) and Louisiana Department of Transportation and Development (LDOTD) using appropriate Federal-aid funds, limited to 80% of that cost.

2. The required 20% match for the Federal-aid share will be provided by the City of Baton Rouge-Parish of East Baton Rouge.

3. The City/Parish is paying for the design of the facility.

4. The City/Parish will operate and maintain the facility and the traffic control systems, as will be further defined in the Implementation Plan.

5. LDOTD will assign a coordinator to monitor the design and development of the facility.

6. FHWA will assign a coordinator to monitor the design and development of the facility.

7. FHWA will be the lead agency for the Environmental Clearance.

8. The City/Parish will let the project for construction following all LDOTD and FHWA procedures as outlined by these agencies. LDOTD and FHWA will review all documents for compliance.

9. Federal-aid construction authorization for the building will take place after the Early Deployment Study Report and the Implementation Plan and all necessary agreements have been reviewed and approved by the LDOTD and the FHWA following Federal-aid procedures.

Witnesses:

Ray D. Anders

Tom Ed McHugh, Mayor-President
City of Baton Rouge/Parish of East Baton Rouge

2/17/98
(Date)

Witnesses:

Marcia M. Eadly

Tommie Russo

Frank M. Denton, Secretary
Department of Transportation & Development

20 Feb 98
(Date)

Witnesses:

Paula B. Keyton

Frank L. Gravelle

William A. Sussmann, Division Administrator
Federal Highway Administration

2/26/98
(Date)

APPROVED AS TO FORM
FHWA'S OFFICE

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
P.O. Box 94245
Baton Rouge, Louisiana 70804-9245

L J. "MIKE" FOSTER, JR.
GOVERNOR

FRANK M. DENTON
SECRETARY

October 9, 1998

Mr. Jerry Klier, P.E.
Deputy Director
Department of Public Works
P O Box 1471
Baton Rouge, LA 70821

Re: **Original Agreement**
State Project Nos. 742-17-0119, 742-17-0120 and 742-17-0121
F.A.P. Nos. CM-HP-MISC(275) and CM-MISC(275)
East Baton Rouge Parish No. 97-MS-CP-0040
Advanced Traffic Management Center
and Emergency Operations Center
East Baton Rouge Parish

Dear Mr. Klier:

Enclosed is the City's fully executed agreement with the Department dated October 9, 1998. This agreement provides for the funding of the referenced project. Through a copy of this letter, the contract is being transmitted internally to those indicated below.

Very truly yours,

Jose D. Bacci, P.E.
Consultant Contract
Services Administrator

JDB:PBB
Attachments
pc: w/att. Financial Services Section
Mr. Gordon Nelson
Mr. Steve Cumbaa
Mr. Oscar Cruz
Consultant Contract Services Files
Project Control Files
Mr. Carl Ellis
Mr. Murphy Oufnac
FHWA

RECEIVED
OCT 14 1998
DIRECTOR, D.P.W.

DEPARTMENT'S COPY

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

AGREEMENT
STATE PROJECT NOS. 742-17-0119, 742-17-0120 AND 742-17-0121
FEDERAL AID PROJECT NOS. CM-HP-MISC(275) AND CM-MISC(275)
EAST BATON ROUGE PARISH PROJECT NO. 97-MS-CP-0040
ADVANCED TRAFFIC MANAGEMENT CENTER
AND
EMERGENCY OPERATIONS CENTER
EAST BATON ROUGE PARISH

THIS AGREEMENT, made and executed in three (3) original copies on this 9th day of October, 1998, by and between the Department of Transportation and Development, hereinafter referred to as "DOTD", and the City of Baton Rouge/Parish of East Baton Rouge, a political subdivision of the State of Louisiana, hereinafter referred to as "Grantee";

WITNESSETH: That;

WHEREAS, under the provisions of Title 23, United States Code, "Highways", as amended, funds have been appropriated under the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) to finance projects under the Congestion Mitigation and Air Quality (CMAQ) Program and under the Transportation Equitable Act for the 21st Century (TEA 21) which are under the direct administration of the DOTD; and

WHEREAS, the Grantee has requested an appropriation of funds to finance a portion of the project as described herein; and

WHEREAS, the project is part of a transportation improvements program serving the Baton Rouge Metropolitan Area and has been included in the local Metropolitan Planning (MPO) Transportation Improvement Program (TIP), as required by 23 CFR 450.324; and

WHEREAS, the DOTD is agreeable to the implementation of this Project and desires to cooperate with the Grantee as hereinafter provided:

NOW, THEREFORE, in consideration of the premises and mutual dependent covenants herein contained, the parties hereto agree as follows:

ARTICLE I - PROJECT DESCRIPTION

The improvement that is to be undertaken under this project will consist generally of building an advanced traffic management center and emergency operations center. All traffic control incident management and emergency functions for East Baton Rouge Parish will be housed in this specifically constructed facility. The facility will be located on Harding Boulevard (LA 408) approximately one-half mile east of Interstate Highway 110.

For purposes of identification and record keeping, State and Federal Project Numbers have been assigned to this project as follows:

For clearing and grubbing services, State Project No. 742-17-0119 and Federal-Aid Project No. CM-MISC(275) have been assigned to the federal participation portion and State Project No. 742-17-0121 for non-participating funds. All correspondence regarding clearing and grubbing shall be identified with these project numbers.

For all services relating to the construction of the facility, including construction, engineering/architectural inspection and testing services, State Project No. 742-17-0120 and Federal Project No. CM-HP-MISC(275) and CM-MISC(275) have been assigned. All correspondence regarding construction, including construction plans shall be identified with these project numbers.

All progress reports, invoices, etc. incurred in the performance of these services shall be identified with these project numbers.

ARTICLE II - FUNDING

Except for services hereinafter specifically listed to be furnished at the DOTD's expense or at the Grantee's expense, as the case may be, the cost of this project will be a joint participation between the Grantee and the Federal Highway Administration, hereinafter "FHWA". At the time of authorization the FHWA will participate at an 80% level in 30% of the clearing and grubbing, facility construction, architectural/engineering, testing and inspection services. The FHWA will also contribute an additional maximum amount of $5,400,000 which represents an 80% participation rate in the allowable remaining project costs. Total FHWA participation from all funding sources will not exceed 80% of allowable (participating) total costs incurred after FHWA authorization. The Grantee will fund all remaining and non-participating project costs. The Grantee does, however, reserve the right to incorporate items of work into the construction contract not eligible for Federal-Aid participation if it so desires. Funds will be disbursed as provided in Article VII.

The Grantee is hereby forewarned that no contractual obligations or expenditures of funds will be incurred until the DOTD and the Grantee are in receipt of the Federal Highway Administration authorization (FHWA form 1240) and the DOTD formally notifies the Grantee that it may incur contractual obligation and fund expenditures.

The cost of all services performed for the Grantee by the DOTD at the specific request of the Grantee will be determined on the basis of the DOTD's actual cost plus overhead including payroll additives. Payment for such services shall be made in advance by the Grantee based on a reasonable estimate prepared by the DOTD. Overruns and/or underruns in the cost of such services will be determined after completion of the services rendered and the proper party will be reimbursed accordingly. Services performed by the DOTD will be eligible for reimbursement by the FHWA in the appropriate ratio in effect at the Time of authorization.

ARTICLE III - CONSTRUCTION PLANS

Plans, specifications, and contract documents for the proposed facility shall be prepared by the Grantee or by a qualified architectural and/or engineering firm employed by the Grantee at no expense to the DOTD and Federal Highway Administration. Plans and specifications for the facility building shall as a minimum conform to Title 8 of the Code of Ordinances for the City of Baton Rouge, Louisiana and the Parish of East Baton Rouge, Louisiana. The plans, specifications, and contract documents shall be approved by the DOTD and Federal Highway Administration.

ARTICLE IV - RECEIPT OF BIDS

For State Project Nos. 742-17-0119 and 742-17-0221, the DOTD will, at its expense and at the proper time, prepare construction proposals based on Louisiana Standard Specifications for Roads and Bridges, 1992 edition, as amended to comply with the DOTD's current practices, advertise for and receive bids for the work in accordance with the DOTD's normal requirements. All such bids will be properly tabulated, extended and summarized to determine the official low bidder. The DOTD will then submit to the Grantee copies of the official bid tabulations for their information and comments or approval while its Review Committee will concurrently analyze the bids for the DOTD. The award of contract, which by law must be made within sixty (60) days following the receipt of bids, will be made by the DOTD on behalf of the Grantee following the favorable recommendation of award by the Review Committee and concurrence by the Federal Highway Administration and the Grantee.

For State Project No. 742-17-0220, unless otherwise amended by the DOTD, the grantee will, at its expense and at the proper time, prepare the construction plans, specifications and contract documents in accordance with the American Institute of Architects, requirements for federal projects, utilizing the Construction Specifications Institute format. The DOTD will then advertise for and receive bids for the work in accordance with the DOTD's normal requirements. The cost incurred by the grantee for the reproduction of plans, specifications, and contract documents, will be reimbursed in accordance with Article VII of this agreement.

Construction contracts will be prepared by the DOTD after the award of contract and will be transmitted to the Grantee for its further handling toward execution. The Grantee will be responsible for construction contract recordation. The DOTD will, at the proper time, inform the Grantee in writing to issue to the Contractor an official "Notice to Proceed" with construction.

ARTICLE V - CONSTRUCTION

The Grantee or its consultant will provide technical administration and inspection during the project construction; however, in the event a consultant provides this service for the Grantee it will be performed under the direct supervision of a full time employee of the Grantee who will have charge and control of the project at all times.

The DOTD will assign a project engineer from its District Office in Baton Rouge to serve as a construction coordinator for the DOTD during project construction. The construction coordinator will make intermittent trips to the construction site to insure that the construction contractor is following established construction procedures and that applicable Federal and State requirements are being enforced. The construction coordinator will advise the Project Engineer of any discrepancies noted and, if necessary, will direct that appropriate remedial action be taken. Failure to comply with such directives will result in the withholding of funds by DOTD until corrective measures are taken by the Grantee.

Except where a deviation has been mutually agreed to in writing by both the DOTD and the Grantee, the following specific requirements shall apply.

1. When it is stipulated in Louisiana Standard Specifications for Roads and Bridges that approval by the engineer or the DOTD is required for equipment and/or construction procedures, such approval must be obtained through the DOTD Construction Section. All DOTD policies and procedures for obtaining such approval shall be followed.

2. For all three (3) projects all construction inspections personnel utilized by the Grantee and/or the Grantee's consultant must meet the same qualifications required of DOTD construction personnel. When certification in a specific area is required, these personnel must meet the certification requirements of DOTD. Additionally, the construction inspection personnel for the building S.P. No. 742-17-0220 shall meet the certification requirements of the Southern Building Code Congress International.

3. All construction procedures must be in accordance with DOTD guidelines and policies established by the Construction Manual, Chapter IX, the Engineering Directives and Standard Manual, and any applicable memoranda. These documents will be made available to the Grantee or its consultant by DOTD.

4. All documentation of pay quantities must conform to the requirements of DOTD as outlined in the Construction Manual, Chapter VI. This manual will be made available to the Grantee or its consultant by DOTD.

5. All materials to be tested shall be sampled in accordance with the Department's Sampling Manual. All material testing other than those test normally run by project personnel on the job site shall be tested by the Department's District or Central Laboratory.

The consultant and/or the Grantee shall be required to comply with all parts of this section while performing duties as project engineer.

ARTICLE VI - SUBCONTRACTING

Any subcontracting performed under this project either by consulting engineers or architects engaged by the Grantee or the construction contractor must have the prior written consent of the Grantee. In the event that the consultant or the contractor elects to sublet any of the services required under this contract, it must take affirmative steps to utilize small business and disadvantaged/women-owned business as sources of supplies, equipment, construction, and services. Affirmative steps shall include the following:

(a) Including qualified small and disadvantaged/women businesses on solicitation lists.

(b) Assuring that small and disadvantaged/women businesses are solicited whenever they are potential sources.

(c) When economically feasible, dividing total requirements into smaller tasks or quantities so as to permit maximum small and disadvantaged/women business participation.

(d) Where the requirement permits, establishing delivery schedules which will encourage participation by small and disadvantaged/women business.

(e) Using the services and assistance of the Small Business Administration, the Office of Disadvantaged Business Enterprise of the Department of Commerce and the Community Services Administration as required.

Also, the Contractor is encouraged to procure goods and services from labor surplus areas.

ARTICLE VII - COST REIMBURSEMENTS

The DOTD will reimburse the Grantee monthly a percentage of the costs of clearing and grubbing, construction and construction architectural, engineering and/or testing services based upon the limitations as outlined in Article II. The Grantee shall render invoices monthly for reimbursement, which invoices shall be certified as correct by the proper designated official of the Grantee. All such charges shall be subject to verification, adjustment and/or settlement by the DOTD's Audit Officer.

In the event the Grantee elects to utilize consulting engineers and/or architects to perform construction engineering or architectural services, they shall be approved by DOTD prior to their utilization under this project.

When the final costs of clearing and grubbing, construction and construction architectural, engineering and/or testing services, have been determined, adjustments will be made so that the amount of participation in these items will not exceed the percentages outlined in Article II. Before final payment is recommended by DOTD, all documentation of pay quantities shall conform to DOTD policies and procedures. The Grantee acknowledges, however, that the FHWA will not participate in the cost of those items not constructed in accordance with the approved plans and specifications and in this event the Grantee will be obligated to assume full financial responsibility. The Grantee shall also submit all final billings for all phases of work within one year after the completion of final acceptance of the project. Failure to submit these billings within the specified one year period shall result in the project being closed on previously billed amounts and any unbilled cost shall be the responsibility of the Grantee. Federal reimbursement for a portion of the costs will be yearly as federal funds become available for this project.

The Grantee shall reimburse the DOTD any and all amounts which may be cited by the FHWA or DOTD due to the Grantee's noncompliance with Federal/State laws and/or regulations. The cited amounts reimbursed by the Grantee will be returned to the Grantee upon clearance of the citation(s).

Should the Grantee fail to reimburse the DOTD any and all cited amounts within a ninety (90) day period after notification, all future payment request(s) from the Grantee will be held until the cited amount is exceeded at which time only the amount over and above the cited amount(s) will be released for payment. Additionally, no new projects will be approved until such time as the cited amount is reimbursed to the DOTD.

The participation by the DOTD and the FHWA in the project shall in no way be construed to make the DOTD or the FHWA a party to the contract between the Grantee and its engineers, architects or contractors.

ARTICLE VIII - COST RECORDS

The Grantee and all others employed by the Grantee in connection with this project shall maintain all books, documents, papers, accounting records and other evidence pertaining to cost incurred relative to this project and shall keep such material available at their respective offices at all reasonable times during the contract period and for three (3) years from the date of final payment under the project, for inspection by the DOTD and/or Legislative Auditor, the FHWA or any authorized representative of the Federal Government under State and Federal Regulations effective as of the date of this contract and copies thereof shall be furnished if requested.

ARTICLE IX - CANCELLATION

The terms of this agreement shall be binding upon the parties hereto until the work has been completed and accepted and all payments required to be made to the Grantee have been made; but this agreement may be terminated under any or all of the following conditions:

1. By mutual agreement and consent of the parties hereto.

2. By the Grantee should it desire to cancel the project prior to the receipt of bids, provided any cost that has been incurred for the preparation of plans, specifications and contract documents is not eligible for reimbursement by the DOTD or the FHWA.

3. By the DOTD due to the withdrawal of State or Federal funding for the project.

ARTICLE X - PROJECT RESPONSIBILITY

The DOTD, its officers, engineers and employees will not be required to supervise or perform such other services in connection with the development of this project as specifically set forth herein; however, the Grantee will assume full responsibility for the project development and will save harmless the DOTD against any loss or damage of any kind incident to or occasioned by deeds undertaken in pursuance of this agreement.

ARTICLE XI - FINAL INSPECTION AND MAINTENANCE

Upon completion and final acceptance of the project construction, copy of which acceptance shall be furnished to the DOTD by the Grantee, the Grantee shall assume the maintenance of the improvement at its expense and in a manner satisfactory to the DOTD and/or the FHWA. The contractor's final acceptance will be recorded by the Grantee. Before making the final inspection, the DOTD's District Administrator shall be notified so that he may have a representative present for such inspection.

ARTICLE XII - OPERATIONAL RESPONSIBILITY

The Grantee will be responsible for the complete operation of the facility, including the Traffic Management Center. Further, DOTD and FHWA agrees that the Grantee shall have full and complete authority to operate and control all traffic devices on all federal, state and local routes. However, DOTD reserves the right to monitor all traffic operations and in emergency situations, retains the override authority on all federal and state routes.

ARTICLE XIII - CIVIL RIGHTS

The Grantee agrees that the project will be developed in full, in accordance with the principles and intents contained in the DOTD's latest Title VI Plan (Phase I) and that the same or closely related procedures providing for involvement of the Grantee designated civil rights specialist in appropriate key stages of project development as identified in the aforementioned Title VI Plan, will be followed.

Further, the Grantee agrees that its own employment policies and practices will afford fair and nondiscriminatory employment opportunities to all employees and applicants for employment and that a viable affirmative action program is maintained in the interest of increasing employment opportunities for minorities, women and other disadvantaged persons. It is understood that the Grantee, as a recipient of federal financial assistance under this agreement, is subject to monitoring and review of its civil rights activities by the DOTD and agrees to cooperate with DOTD officials in the achievement of civil rights objectives prescribed in the agreement and in any contracts resulting herefrom.

ARTICLE XIV - PUBLIC LIABILITY

The Grantee shall indemnify and save harmless the DOTD against any and all claims, demands, suits and judgements for sums of money allegedly due to any party for loss of life or injury or damage to persons or property growing out of, resulting from, or by reason of, any negligent act or omission, operation or work of the Grantee, its agents, servants or employees while engaged upon or in connection with the services required or performed by the Grantee or resulting from the ownership, possession or control of the improvement during its life.

ARTICLE XV- FEDERAL PROVISIONS

The provisions set forth in the attached "Agreement Provisions" (Federal Form PR-2) which will be formally entered into between the DOTD and the Federal Highway Administration following the execution of this agreement shall be made an integral part of this agreement by reference and adhered to by the Grantee.

The Grantee agrees that as a condition to payment of the Federal funds obligated, it accepts and will comply with the applicable provisions set forth in 23 CFR, Part 630, Subpart C, Appendix A, which is incorporated herein by reference.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed by their respective officers thereunto duly authorized as of the day and year first above written.

WITNESSES:

(Witness for First Party)

(Witness for First Party)

(Witness for Second Party)

(Witness for Second Party)

STATE OF LOUISIANA
CITY OF BATON ROUGE/
PARISH OF EAST BATON ROUGE

BY:

TOM ED McHUGH
Typed or Printed Name

TITLE: MAYOR-PRESIDENT

72-6000137

Federal Identification Number

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION
AND DEVELOPMENT

BY:
Secretary

RECOMMENDED FOR
APPROVAL BY:
Chief Engineer

APPROVED AS TO FORM
CONSULTANT CONTRACT
SERVICES SECTION

Approved as to Form
Parish Attorney's Office

ADOPTED
METROPOLITAN COUNCIL

SEP 09 1998

Brian Mayo
COUNCIL ADMINISTRATOR TREASURER

864 RESOLUTION 38972

AUTHORIZING THE MAYOR-PRESIDENT TO EXECUTE AN AGREEMENT BETWEEN THE CITY OF BATON ROUGE/PARISH OF EAST BATON ROUGE AND THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT FOR THE ADVANCED TRAFFIC MANAGEMENT CENTER AND EMERGENCY OPERATIONS CENTER, BEING STATE PROJECT NOS. 742-17-0119, 742-17-0220 & 742-17-0221, FEDERAL AID PROJECT NO. CM-HP-MISC(275), CITY/PARISH PROJECT NO. 97-MS-CP-0040.

BE IT RESOLVED by the Metropolitan Council of the Parish of East Baton Rouge and City of Baton Rouge that:

Section 1. The Mayor-President is hereby authorized to execute an agreement between the City of Baton Rouge/Parish of East Baton Rouge and the Louisiana Department of Transportation and Development for the Advanced Traffic Management Center and Emergency Operations Center, being State Project Nos. 742-17-0119, 742-17-0220 & 742-17-0221, Federal Aid Project No. CM-HP-MISC(275), City/Parish Project No. 97-MS-CP-0040.

Section 2. Said agreement shall be approved by the Office of the Parish Attorney.

CERTIFIED
A TRUE COPY

SEP 11 1998

Brian Mayo
COUNCIL ADMINISTRATOR

3/18/99

MEMORANDUM OF UNDERSTANDING

FOR

STATE PROJECT NUMBER: 742-17-0120

ADVANCED TRAFFIC MANAGEMENT/EMERGENCY OPERATIONS CENTER

By and Among

THE CITY OF BATON ROUGE/EAST BATON ROUGE PARISH
and
THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
and
THE U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

It is understood by all parties as follows:

I. **Capital Outlay**

A. The Advanced Traffic Management Center/Emergency Operations Center (ATMC/EOC) is funded by a combination of Congestion Mitigation and Air Quality funding (CMAQ) and High Priority funding. The required matching funds will be furnished by the City of Baton Rouge/East Baton Rouge Parish (City/Parish).

B. The field deployment of Intelligent Transportation Systems, Devices and Communications on the Interstate system will be funded using CMAQ funding. The Louisiana Department of Transportation and Development (DOTD) will furnish the required matching funds.

C. State and local Surface Street Control Systems (computerized signals), Intelligent Transportation Systems, Devices and Communications will be designed and constructed with Federal funds. No Local or State match is required. All Signal Systems shall be NTCIP compliant if the NTCIP protocol is complete prior to final design, or NTCIP compatible if the protocol is not complete at that stage.

II. Operations and Maintenance

A. The City/Parish will be responsible for all operations of the Advanced Traffic Management Center, will staff the Center in accordance with the preliminary implementation plan, and will maintain all equipment within the Center. All expenses involved in the operations and maintenance of the Center are the responsibility of the City of Baton Rouge/Parish of East Baton Rouge. The staffing may be by City Parish personnel or by contract with others.

B. The Louisiana Department of Transportation and Development will be responsible for the maintenance of all field deployed I.T.S. Systems, Devices and Communications on the interstate system. The required field operations and maintenance may be performed by DOTD staff or by contract with others. All expense involved with such maintenance will be the responsibility of DOTD. Space for storage and maintenance of the required spare units and spare parts for the field deployed I.T.S. Systems and Devices will be furnished by the contractor doing the maintenance or by DOTD at its Central Sign Shop location if the maintenance is to be accomplished by DOTD personnel.

C. The operations and maintenance of State system Surface Street Controls, Devices and Communications will be funded by DOTD. The operations and maintenance will be performed by DOTD or by contract with others. The capability to control the Computerized Signal Systems will be at the Advanced Traffic Management/Emergency Operations Center.

D. The Motorist Assistance Patrol (MAP) will be continued by DOTD utilizing Construction funding while any Interstate Construction is ongoing in the area. When Construction is not ongoing in the area, DOTD will continue funding for MAP utilizing CMAQ funds with DOTD providing the required match.

E. Hours of Operation.

- During the "Interim Phase," the Advanced Traffic Management Center (ATMC) will operate five days per week (Monday through Friday) from 6:00 a.m. to 7:00 p.m. as a minimum.

- During the "Near Term" deployment period, the ATMC will operate seven days per week with weekday operations from 6:00 a.m. to 7:00 p.m. and weekend operations from 8:00 a.m. to 6:00 p.m. as a minimum.

- The operations of the Motorist Assistance Patrol (MAP) shall be continued as presently established while Construction is under way in the area and shall be consistent with the operating hours of the ATMC when funded using Federal funds and State match.

F. Advisory Committee

The following is a listing of Advisory Committee organizations:

Mayor's Office
EBR DPW
DOTD District Office
DOTD State Traffic Engineer
State Police
FHWA
CTC
Director of ATM/EOC
Capital Region Planning Commission
Director of Office of Emergency Preparedness (EBR)

The initial appointees for these organizations are as follows:

Mayor's Office - Jim Brewer
EBR DPW - Fred Raiford
DOTD District Office - Gordon Nelson
DOTD State Traffic Engineer - Peter Allain
State Police - Mark Oxley
FHWA - Ms. Nellie Stringfellow
CTC - Debbie Moore
Director of ATM/EOC
Capital Region Planning Commission - Huey Dugas
Director of Office of Emergency Preparedness (EBR)
- JoAnne Moreau

This Advisory Committee has been established to develop and set policy and procedures for the operation of the Advanced Traffic Management System within the Baton Rouge TMA. The Advisory Committee is comprised of representatives from the lead organizations responsible for implementation, operations, and maintenance of the system.

Witnesses:

Tom Ed McHugh, Mayor-President
City of Baton Rouge/Parish of East Baton Rouge

3-16-99
(Date)

Witnesses:

Kam K. Movassaghi, Ph.D., P.E., Secretary
Department of Transportation & Development

3-17-99
(Date)

Witnesses:

William A. Sussmann, Division Administrator
Federal Highway Administration

3/18/99
(Date)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
5304 Flanders Dr. Suite A
BATON ROUGE, LOUISIANA 70808

June 6, 2000

IN REPLY REFER TO
Communications and Information Systems in the EBR Advanced Traffic Management/Emergency Operations Center

CONCURRENCES
RTG. SYMBOL JB
INITIALS/SIG.
DATE:
RTG. SYMBOL WF
INITIALS/SIG.
DATE: 6-22
RTG. SYMBOL MStinson
INITIALS/SIG. MAS
DATE: 6/26/00
RTG. SYMBOL
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Kam K. Movassaghi, Ph.D., P.E.
Secretary
Department of Transportation
and Development
Baton Rouge, Louisiana

Attention: Mr. Thomas Payment. P.E.
Traffic Engineering and Services Administrator

Dear Dr. Movassaghi:

In response to your letter dated May 30, 2000, we have reviewed the memorandum of understanding (MOU) and the Baton Rouge City-Parish Department of Public Works request dated April 7, 2000, for FHWA funding participation of the communications and information infrastructure system for the ATM-EOC.

We are in concurrence with the MOU and three signed original copies are enclosed. In determining the eligibility of the City-Parish request for Federal-aid, our analysis relied on recent FHWA guidance issued on "Operating costs for Transportation Management systems" and "Eligibility of ITS Projects for Federal-aid Funding." According to the guidance, most of the items requested were considered system integration. The enclosed table and notes provide details of our analysis and the level of FHWA participation.

In summary, we have determined that $2,080,950 of the $3,239,236 cost estimate is eligible for FHWA participation. At the CMAQ funding level of 80%, the total estimated FHWA participation would be $1,664,760. Please note the requested items vary as to the level of participation and only equipment and/or services procured from projects subject to FHWA oversight are eligible. Given the time-sensitive nature of this request, it is suggested that all

eligible items be procured through a change order to the building contract.

If you have any questions or need further information, please contact the undersigned at 757-7610.

Sincerely yours,

\s\ Mary M. Stringfellow MMS

Mary M. Stringfellow
Technology Management Systems Engineer

Enclosure
JB/sb
G:\data\shared\fedaid\wpwork\atm-eoc.jb

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
P.O. Box 15337 Broadview Station
Baton Rouge, Louisiana 70895-5337
Phone (225) 935-0100 Fax (225) 935-0262

May 30, 2000

M. J. "MIKE" FOSTER, JR.
GOVERNOR

KAM K. MOVASSAGHI, Ph. D. P.E.
SECRETARY

STATE PROJECT NO. 742-17-0120
F.A.P. NO. CM-HP-MISC (275)
CITY-PARISH PROJECT NO. 97-MS-CP-0040
ADVANCED TRAFFIC MANAGEMENT AND EMERGENCY OPERATIONS CENTER (ATM-EOC)
BUILDING AND SITE PLAN
EAST BATON ROUGE PARISH

Mr. William A. Sussman
Federal Highway Administration
5304 Flanders Drive, Suite A
Baton Rouge, Louisiana 70808

Dear Mr. Sussman:

The Department of Transportation and Development (DOTD) is in receipt of a request from Baton Rouge City-Parish Department of Public Works (DPW) dated April 7, 2000, for FHWA funding participation on the communications and information infrastructure system planned in the ATM-EOC. The enclosed system plan and cost estimate were developed by the City-Parish architect for the ATM-EOC and are hereby forwarded to you for review. Specifically, DPW is requesting federal assistance on all items included in this plan and to incorporate the Communications System Infrastructure package (Item 1) as a contractual plan change.

DOTD has reviewed this request with DPW officials and members of your staff. Paramount to our discussions in addition to facilitating communications and information systems were the management and operations of the ATM-EOC. As you are aware, through prior agreement, the City-Parish has committed itself to staffing the ATM-EOC in accordance with the implementation plan and has agreed to cover all expenses related to management and operations. It was felt by both DOTD and FHWA that specific staffing commitment was needed from City-Parish prior to any additional funding being committed for ATM-EOC specific equipment. Based on a memorandum of understanding (MOU) executed by the City-Parish and DOTD, we feel the City-Parish has made the necessary staffing, management, and operations commitment. Three original copies of this MOU are hereby submitted for your review, concurrence, and execution. It is requested that you forward the three copies of the MOU to Post Office Box 15337, Baton Rouge, Louisiana, 70895-5337, after execution for further processing.

Based on DOTD review attached information and in keeping with the objectives of the Intelligent Transportation Systems (ITS) program, it is recommended that the Communications System Infrastructure (Item 1) be approved as a change order to the building contract and federal funding be allocated for this expense. Furthermore, it is recommended that FHWA review all cost items associated with this package, identify the applicability of the item to achieving the objectives of the ITS program, and allocate the maximum amount of eligible federal funding for implementation.

If you have any questions or need additional information regarding this matter, you may contact Mr. Stephen Glascock or me at (225) 935-0130.

Sincerely,

Thomas L Payment

THOMAS L. PAYMENT, P.E.
TRAFFIC ENGINEERING AND SERVICES ADMINISTRATOR

TLP/SWG:vab
Attachments

cc: Dr. Kam K. Movassaghi
Mr. Blaise M. Carriere (w/attachments)
Mr. R.E. Dillon, Jr.
Mr. Karl J. Finch
Mr. Gordon E. Nelson
Mr. Stephen W. Glascock
Mr. Terry L. Cormier
Mr. Fred E. Raiford III, Baton Rouge City-Parish
Mr. Jim Brewer, Baton Rouge City-Parish
Mr. Kevin Babb, Post Architects

Department of Public Works

City of Baton Rouge
Parish of East Baton Rouge

Post Office Box 1471
Baton Rouge, Louisiana
70821

May 22, 2000

Mr. Stephen W. Glascock, P.E.
ITS Engineer Manager
Traffic Engineering & Services Section
Department of Transportation and Development
P. O. Box 15337
Baton Rouge, LA 70895-5337

Re: Memorandum of Understanding (MOU) for the Advanced Traffic Management Center and Emergency Operations Center (ATMC/EOC)
State Project No. 742-17-0120
Federal Aid Project No. CM-HP-MISC (275)
City/Parish Project No. 97-MS-CP-0040

Dear Mr. Glascock:

Enclosed are three (3) originals of the Memorandum of Understanding (MOU) for the Advanced Traffic Management Center and Emergency Operations Center. In accordance with Metropolitan Council Resolution No. 40273, adopted on May 10, 2000, the MOU has been executed on behalf of the City/Parish by Mayor-President Tom Ed McHugh.

As indicated in the MOU, the City/Parish will appoint a qualified engineer to manage the traffic operations of the ATMC/EOC. Additionally, the City/Parish will also grant LaDOTD use of its fiber-optic telecommunications resources. We feel the City/Parish has not only made a strong financial commitment for the construction of the ATMC/EOC, but has also committed to the staffing of the ATMC/EOC in accordance with the MOU. Therefore, the LaDOTD's and FHWA's favorable consideration of authorizing addtitional federal funds for the Communication/Information Infrastructure System Plan as outlined in my letter dated April 7, 2000, will be greatly appreciated.

Should you have any questions concerning the enclosed documents, or need any additional information, please do not hesitate to contact me at 389-3158. Your expeditious handling of this matter will be greatly appreciated.

Sincerely,

Jerome M. Klier, P.E./P.L.S.
Deputy Director

JMK/dmc
Enclosures
cc: Mr. Jim Brewer, Assistant Chief Administrative Officer (w/enclosure)
Mr. Fred E. Raiford III, Director - DPW (w/enclosure)
Ms. JoAnne Moreau, Director - Emergency Preparedness (w/enclosure)
Ms. Linda Hunt, Assistant Budget Officer - Finance Department (w/enclosure)
Ms. Mary Stringfellow - FHWA (w/enclosure) ✓
Mr. Kevin Babb, AIA - Post Architects (w/enclosure)
Mr. Charlie Higgins - Higgins Consultants (w/enclosure)

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
P.O. Box 15337 Broadview Station
Baton Rouge, Louisiana 70895-5337
Phone (225) 935-0100 Fax (225) 935-0262

M. J. "MIKE" FOSTER, JR.
GOVERNOR

KAM K. MOVASSAGHI, Ph.D., P.E.
SECRETARY

MEMORANDUM OF UNDERSTANDING (MOU)
By and among
The City of Baton Rouge/East Baton Rouge Parish (City-Parish)
and
The Louisiana Department of Transportation and Development (DOTD)
and
The United States Department of Transportation (US DOT)
Federal Highway Administration (FHWA)

The purpose of this memorandum of understanding is to clarify and document action steps by the parties hereto toward development and implementation of Intelligent Transportation Systems (ITS) in the Baton Rouge Transportation Management Area. Be it understood by all parties:

- The City-Parish will be responsible for all operations, maintenance, and staffing of the Advanced Traffic Management Systems (ATMs) within the Advanced Traffic Management and Emergency Operations Center (ATM-EOC) in accordance with the MOU executed on March 18, 1999.

- The DOTD will be responsible for field deployment and maintenance of intelligent transportation systems (ITS) devices on state-owned highways in accordance with the MOU executed on March 18, 1999.

- The operations and maintenance of the state ITS system will be funded by DOTD. This function will be performed by DOTD or by contract with others.

- The Parish-wide Computerized Traffic Signal Control System will be established at the ATM-EOC. The ATM-EOC will control this system and allow remote monitoring/surveillance capabilities to other agencies including, but not limited to, DOTD, DPW, and FHWA. The City-Parish will relocate support staff responsible for managing and operating this system to the ATM-EOC. The staffing of systems support will be by City-Parish personnel or contract.

- The City-Parish will appoint a qualified engineer as Advanced Traffic Management Systems (ATMS) Manager of the ATM-EOC. The ATMS Manager will establish a permanent office at the ATM-EOC in conjunction with the planned opening of the ATM-EOC. The ATMS Manager will be responsible for overseeing all ATMS functions in accordance with the preliminary implementation plan.

- DOTD will be responsible for maintenance of ITS software located at the ATM-EOC necessary for integration of ITS devices deployed on state-owned highways.

- The City-Parish will grant DOTD use of its fiber optic telecommunications shared resources for ITS/highway use at no charge. DOTD will facilitate equipment and resources necessary to operate such telecommunications. DOTD will share data and services generated from ITS/highway use with the Department of Public Works (DPW) at no charge. This network will include connections to DOTD and Department of Public Works facilities responsible for the management and operations of ITS and transportation-related functions.

All provisions of original memorandums of understanding remain in effect.

Witness

Tom Ed McHugh, Mayor-President
City of Baton Rouge/Parish of East Baton Rouge

Witness

5-19-00
Date

Witness

Kam K. Movassaghi, Ph.D., P.E., Secretary
Department of Transportation and Development

Witness

5-23-00
Date

Witness

William A. Sussman, Division Administrator
Federal Highway Administration

Witness

5/30/00
Date

Approved as to Form

Parish Attorney's Office

ADOPTED
METROPOLITAN COUNCI

MAY 1 0 2000

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RESOLUTION 40273 Brian Mayn

COUNCIL ADMINISTRATOR TREA

AUTHORIZING THE MAYOR-PRESIDENT TO EXECUTE A MEMORANDUM OF UNDERSTANDING (MOU) WITH THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT (DOTD) AND THE UNITED STATES DEPARTMENT OF TRANSPORTATION (US DOT), FEDERAL HIGHWAY ADMINISTRATION (FHWA) IN CONNECTION WITH THE ADVANCED TRAFFIC MANAGEMENT CENTER AND EMERGENCY OPERATIONS CENTER (ATM/EOC).

BE IT RESOLVED by the Metropolitan Council of the Parish of East Baton Rouge and City of Baton Rouge that:

Section 1. The Mayor-President is hereby authorized to execute a Memorandum of Understanding (MOU) with the Louisiana Department of Transportation and Development (DOTD) and The United States Department of Transportation (US DOT), Federal Highway Administration (FHWA) in connection with the Advanced Traffic management and Emergency Operations Center (ATM/EOC).

Section 2. Said memorandum shall be approved by the Office of the Parish Attorney.

Analysis of East Baton Rouge Parish ATM-EOC Funding Request
June 5, 2000

Guidance

In determining eligibility for Federal-aid, the January 3, 2000 memorandums from Christine Johnson regarding "Interim Guidance on Eligibility of ITS Projects for Federal-aid Funding" and "Eligibility of Operating Costs for Transportation Management Systems" were used. Specifically, the following two excerpts provide justification for those items determined to be eligible:

1) Definition of an ITS project: "An ITS project is any project that in whole or in part funds the acquisition of technologies or systems of technologies that provide or contribute to the provision of one or more ITS **user services** as defined in the National ITS Architecture." See Appendix A.
2) "Some examples of eligible Federal-aid capital expenditures for ITS projects are: Systems integration; telecommunications to support systems integration, infrastructure-based ITS capital improvements to link systems to improve transportation and public safety services"

The guidance also states that "the use of Federal-aid funds is not intended to procure general purpose information technology that is for administrative services."

Based on the guidance, four categories of eligibility were identified and are described as followed:

0%
This category includes items that are entirely outside the scope of the ITS user services.

30%
This category includes equipment that does not involve integration and is shared among the occupants of the EOC-ATM, i.e. the telephone system. The 30% figure was determined for the building by Frank Grabski in the original agreement.

94.59%
This category includes items that involve integration of the occupants of the ATM-EOC. The percentage not eligible (5.41%) includes integration of those occupants that are administrative.

100%
This category includes items that involve integration of operations personnel only or items that are entirely within the scope of the ITS user services.

The following table summarizes the City-Parish request and analyzes each item as to the eligibility for Federal-aid in accordance with the above guidance.

Baton Rouge City/Parish ATM-EOC Funding

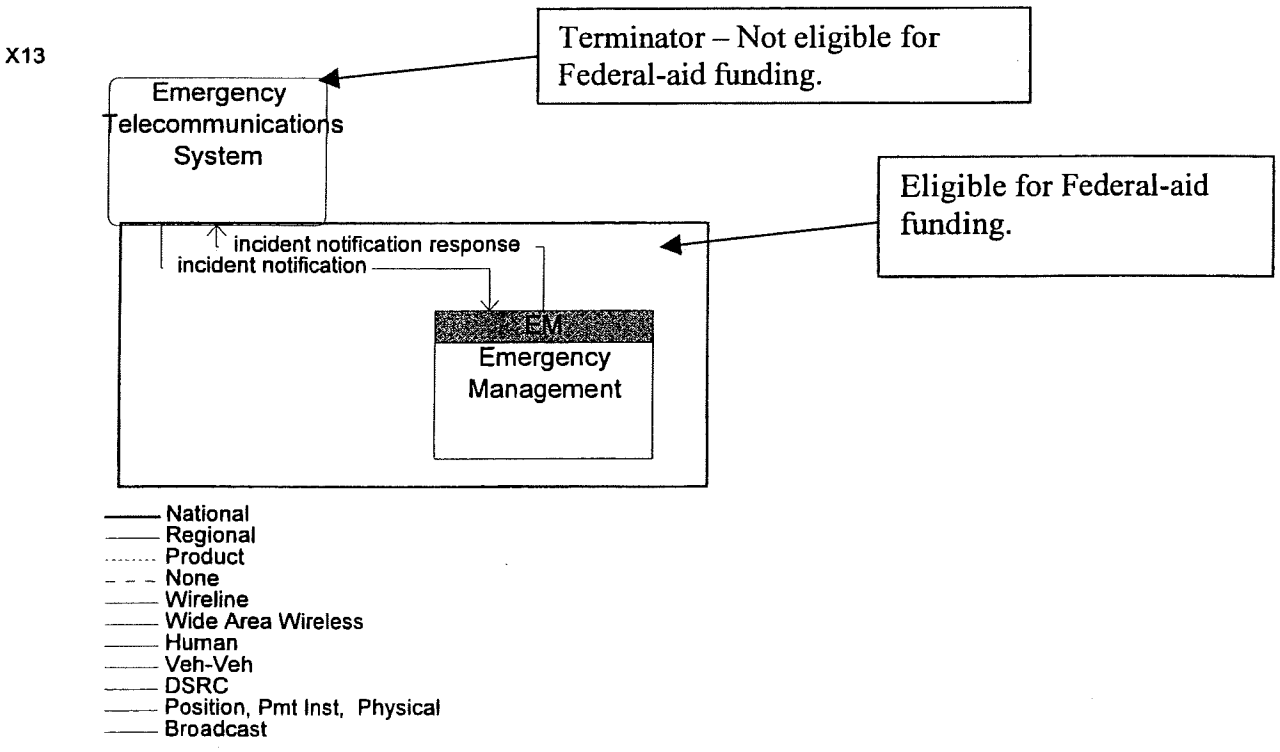
	ITEM	Budget Cost	Portion Eligible for Consideration	System Integration	% Eligible	Portion Eligible	Federal Participation (80% of eligible)	
1	Communication System Infrastructure	$600,000	$600,000	Yes	94.59	$567,540	$454,032	This item inclu infrastructure fo
2	Agency Equipment Relocation	$60,000	$60,000	No	30	$18,000	$14,400	Equipment relo personnel.
3	New Agency Equipment	$40,900	$40,900	No	30	$12,270	$ 9,816	Eligible only if occupants.
4a	Information Services – LAN	$223,772	$223,772	Yes	94.59	$211,666	$169,333	Computer hardv Absolutely esse See Note 1.
4b	Information Services – WAN	$74,088	$16,464	Yes	100	$16,464	$13,171	The portion elig Headquarters an not related to IT office, etc.)
4c	Fiber Connectivity – WAN	$200,000	$44,444	Yes	100	$44,444	$35,555	See above comn
4d	Fiber Installation Charges	$13,000	$2,889	Yes	100	$2,889	$2,889	See above comn
5	Computer Aided Dispatch System	$383,000	$383,000	No	100	$383,000	$306,400	See Note 2.
6	Radio/Central Electronics Bank	$520,000	$520,000	Yes	100	$520,000	$416,000	This is the radio provides integra field personnel (
7	PBX Phone System	$150,000	$150,000	No	30	$45,000	$36,000	Building-related
8	911 Telephone Equipment	$445,000	$0	No	0	0		Not an ITS user
9	Operator Consoles	$235,000	$235,000	No	30	$70,500	$56,400	Building-related
10	Contingency (10%)	$294,476	$227,647			$189,177	$151,342	
					TOTAL	**$2,080,950**	**$1,664,760**	

Discussion

Note 1: *Integration*

A terminator defines the boundary of the ITS Architecture. Terminators are people, systems or institutions that interact with transportation systems, but are outside the scope of what is considered ITS. For example, a financial institution that processes a credit card transaction at a toll facility is designated by the National Architecture as a terminator. A terminator is NOT part of the ITS user services and is therefore not eligible for federal aid. However, integrating or connecting that terminator with transportation systems is eligible for federal-aid.

For example, a 911 system is a terminator, thus, the building space and the computer hardware and software to run the 911 system is not eligible. However, the data that may be sent or received by the 911 system to other entities such as Traffic Operations or the Incident Management teams (fire, police, MAP) would be part of the ITS architecture. Therefore, the telecommunications equipment (fiber, routers, hubs, etc.) that allow the 911 system to send and receive data from other groups is part of the architecture and would be eligible for federal aid.



Infrastructure that integrates a Terminator to another Terminator or other entity outside the ITS architecture is not eligible for federal-aid. Thus, integration of administrative, non-operational personnel (not ITS-related) with operational personnel (an ITS terminator) is not eligible for federal-aid. This is why integration costs are eligible at 94.59 percent and not 100 percent. It was determined that administrative personnel occupy 5.41 percent of the EOC-ATM.

Note 2: *Computer-aided dispatch system and radio base station*

An emergency dispatch system is specifically addressed within the National ITS architecture. The Emergency Management subsystem includes the equipment packages of Emergency Call-Taking and Emergency Dispatch. See Appendix B and User Service 5.2. As shown in the appendix, the architecture specifically identifies emergency dispatch and supporting technology as part of ITS. Thus, the computer-aided dispatch software and the radio base station are part of the ITS architecture and are eligible for federal-aid.

APPENDIX A

Applicable User Services

1.7.0

ITS shall include an Incident Management (IM) function. Incident Management will identify incidents, formulate response actions, and support initiation and ongoing coordination of those response actions. Six major functions are provided which are (1) Scheduled Planned Incidents, (2) Identify Incidents, (3) Formulate response Actions, (4) Support Coordinated Implementation of Response Actions, (5) Support Initialization of Response to Actions, and (6) Predict Hazardous Conditions.

1.7.1

Incident Management shall provide an incident identification function to identify incidents.

1.7.1.1

The incident identification function shall include the capability to identify predicted incidents.

1.7.1.1.1

The incident identification function shall use information from the following types of sources, where available, to identify predicted incidents:

1.7.1.1.1(a)

Traffic flow sensors.

1.7.1.1.1(b)

Environmental sensors.

1.7.1.1.1(c)

Public safety sources.

1.7.1.1.1(d)

Media sources.

1.7.1.1.1(e)

Weather information sources.

1.7.1.1.1(f)

Transportation providers.

1.7.1.1.1(g)

Sponsors of special events.

1.7.1.1.1(h)

Hazardous condition prediction algorithms.

1.7.1.1.2

The incident identification function shall determine at least the following

characteristics of each predicted incident:

1.7.1.1.2(a)
Type.

1.7.1.1.2(b)
Extent.

1.7.1.1.2(c)
Severity.

1.7.1.1.2(d)
Location.

1.7.1.1.2(e)
Expected duration.

1.7.1.1.3
The incident identification function shall determine the expected traffic flow impact of each predicted incident.

1.7.1.2
The incident identification function shall include the capability to identify existing (both planned and unplanned) incidents.

1.7.1.2.1
The incident identification function shall use information from the following types of sources, where available, to identify existing incidents:

1.7.1.2.1(a)
Traffic flow sensors.

1.7.1.2.1(b)
Environmental sensors.

1.7.1.2.1(c)
Public safety sources.

1.7.1.2.1(d)
Media sources.

1.7.1.2.1(e)
Weather information sources.

1.7.1.2.1(f)
Transportation providers.

1.7.1.2.1(g)
Travelers.

1.7.1.2.2
The incident identification function shall determine and continuously monitor at least the following characteristics of each existing incident:

1.7.1.2.2(a)
Type.

1.7.1.2.2(b)
Extent.

1.7.1.2.2(c)
Severity.

1.7.1.2.2(d)
Location.

1.7.1.2.2(e)
Expected duration.

1.7.1.2.3
The incident identification function shall determine and continuously monitor the current and expected traffic flow impact of each existing incident.

1.7.2
Incident Management shall provide a response formulation function to formulate appropriate response actions to each identified incident and revise those actions when necessary.

1.7.2.1
The response formulation function shall propose and facilitate the appropriate scheduling of those predicted incidents that can be scheduled to minimize incident potential, incident impacts, and/or the resources required for incident management.

1.7.2.2
The response formulation function shall propose and facilitate the appropriate dispatch of emergency response vehicles to an incident.

1.7.2.3
The response formulation function shall propose and facilitate the appropriate dispatch of service vehicles to an incident.

1.7.2.4
The response formulation function shall propose and facilitate the appropriate dissemination of incident related information to travelers and potential travelers.

1.7.2.5
The response formulation function shall propose and facilitate the appropriate

control of traffic signals and other traffic control to reduce the traffic flow impact of an incident.

1.7.3

Incident Management shall include a response implementation function to provide those services needed to implement a coordinated incident response using all appropriate agencies.

1.7.3.1

The response implementation function shall provide at least the following decision support capabilities needed to implement coordinated incident response actions by all participating institutions:

1.7.3.1(a)

Response implementation shall allow coordinated selection/determination of the procedures needed for resolution of each incident and provide the procedures to those agencies responding to the incident.

1.7.3.1(b)

Response implementation shall provide the status of all resources needed for incident resolution to those agencies responding to the incident.

1.7.3.2

The response implementation function shall provide a link between Incident Management and all other user services necessary to implement incident response actions.

1.7.3.3

The response implementation function shall provide the capability to disseminate information relating to response status to other agencies and user services.

1.7.4

Incident Management shall provide the capability to predict the time and location of hazardous conditions that may cause an incident.

5.1.0

ITS shall include an Emergency Notification And Personal Security (ENPS) function that provides for the faster notification of travelers involved in an incident.

5.1.1

ENPS shall include a Driver and Personal Security (DPS) function.

5.1.1.1

DPS shall include an in-vehicle manually initiated distress signal capability to provide a first-alert that incident has occurred to include the following:

5.1.1.1(a)

Medical services required.

5.1.1.1(b)
Minor property damage only crashes.
5.1.1.1(c)
Breakdowns.
5.1.1.1(d)
Vehicle location.
5.1.1.1(e)
Vehicle identification.
5.1.1.2
DPS shall include the capability to cancel a prior issued manual request for help.
5.1.1.3
DPS shall include the capability to send an acknowledge signal to the motorist to indicate that the signal was received and help is on the way.
5.1.1.4
DPS shall include the capability for in-vehicle sensors to automatically detect vehicle problems, and for certain cases automatically send the appropriate distress signal.
5.1.2
ENPS shall include an Automated Collision Notification (ACN) function.
5.1.2.1
ACN shall provide the capability to automatically identify that a collision has occurred.
5.1.2.1.1
The ACN automatic collision notification function shall provide the capability to instantly transmit information about the occurrence of a collision.

5.1.2.1.2
The ACN crash sensors shall include the capability to provide information about the extent of crash damage.
5.1.2.2
When sending notification of a collision ACN shall send pertinent information about the collision including the following:
5.1.2.2(a)
That vehicle has been in a collision.
5.1.2.2(b)
Accurate vehicle location.
5.1.2.2(c)
Severity of collision and/or injuries.

5.2 Emergency Vehicle Management (User Service)

5.2.0
ITS shall include an Emergency Vehicle Management (EVM) Service.
5.2.1
Emergency Vehicle Management Service shall be provided by an Emergency Vehicle Fleet Management System.
5.2.1.1

Emergency Vehicle Fleet Management System shall maintain the availability status of relevant emergency vehicles.

5.2.1.2

Emergency Vehicle Fleet Management System shall determine the emergency response vehicles best suited to respond to an incident.

5.2.1.3

Emergency Vehicle Fleet Management System shall dispatch the appropriate emergency response vehicle (s) to the incident.

5.2.2

Emergency Vehicle Management Service shall be provided by a Route Guidance System.

5.2.2.1

Route Guidance System shall maintain real-time information on traffic conditions, emergency response vehicle locations, and emergency response vehicle destinations.

5.2.2.2

Route Guidance System shall advise emergency response vehicles of appropriate routes.

5.2.3

Emergency Vehicle Management Service shall be provided by a Signal Priority System.

5.2.3.1

Signal Priority System shall maintain real-time information on signal timing, emergency vehicle locations and emergency vehicle routing.

5.2.3.2

Signal Priority System shall determine signal prioritize timing sequences for relevant signals.

APPENDIX B

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.

This equipment package has the following Process specs (Pspec): 5.1.1, 5.1.3, 5.2

This equipment package is in the following Market Packages: EM1

This equipment package is in the Emergency Management subsystem and has the following Architecture Flows:

Source	Architecture Flow	Destination
Traffic Management	current network conditions	Emergency Management
Emergency System Operator	emergency operations request	Emergency Management
Emergency Telecommunications System	incident notification	Emergency Management
Emergency Vehicle Subsystem	incident status	Emergency Management
Transit Management	transit emergency data	Emergency Management
Emergency Management	emergency dispatch requests	Emergency Vehicle Subsystem
Emergency Management	emergency operations status	Emergency System Operator
Emergency Management	incident notification response	Emergency Telecommunications System
Emergency Management	incident report	Other EM
Emergency Management	incident response coordination	Other EM
Emergency Management	map update request	Map Update Provider
Emergency Management	remote surveillance control	Traffic Management

Emergency Response Management

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.

This equipment package has the following Pspecs: 5.1.2, 5.1.3, 5.1.4, 5.1.5, 5.2, 5.3.1, 5.3.4, 5.5

This equipment package is in the following Market Packages: EM1, ATMS08, CVO10

This equipment package is in the Emergency Management subsystem and has the following Architecture Flows:

Source	Architecture Flow	Destination
Traffic Management	current network conditions	Emergency Management
Personal Information Access	emergency notification	Emergency Management
Remote Traveler Support	emergency notification	Emergency Management
Vehicle	emergency notification	Emergency Management
Emergency System Operator	emergency operations request	Emergency Management
Event Promoters	event plans	Emergency Management
Fleet and Freight Management	HAZMAT information	Emergency Management
Emergency Vehicle Subsystem	incident command request	Emergency Management
Traffic Management	incident information	Emergency Management
Information Service Provider	incident information request	Emergency Management
Traffic Management	incident information request	Emergency Management
Emergency Telecommunications System	incident notification	Emergency Management
Other EM	incident report	Emergency Management
Other EM	incident response coordination	Emergency Management
Emergency Vehicle	incident status	Emergency Management

Subsystem		
Map Update Provider	map updates	Emergency Management
Media	media information request	Emergency Management
Traffic Management	resource deployment status	Emergency Management
Weather Service	weather information	Emergency Management
Emergency Management	emergency dispatch requests	Emergency Vehicle Subsystem
Emergency Management	emergency operations status	Emergency System Operator
Emergency Management	event confirmation	Event Promoters
Emergency Management	HAZMAT information request	Fleet and Freight Management
Emergency Management	incident command information	Emergency Vehicle Subsystem
Emergency Management	incident information	Information Service Provider
Emergency Management	incident information	Traffic Management
Emergency Management	incident information for media	Media
Emergency Management	incident notification response	Emergency Telecommunications System
Emergency Management	incident report	Other EM
Emergency Management	incident response coordination	Other EM
Emergency Management	incident response status	Traffic Management
Emergency Management	map update request	Map Update Provider
Emergency Management	remote surveillance control	Traffic Management
Emergency Management	resource request	Traffic Management
Emergency Management	transit emergency coordination data	Transit Management

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

FEDERAL HIGHWAY ADMINISTRATION

COOPERATIVE ENDEAVOR AGREEMENT
ADVANCED TRAFFIC MANAGEMENT &
EMERGENCY OPERATIONS CENTER (ATM-EOC)

STATE PROJECT NOS. 742-17-0120 & 742-17-0128
F.A.P. NO. CM-HP-MISC (275)
CITY-PARISH PROJECT NO. 97-MS-CP-0040

EAST BATON ROUGE PARISH

THIS AGREEMENT, made and executed in four (4) original copies on this the 2nd day of February, 2001, by and among the Department of Transportation and Development, through its Secretary ("DOTD"), the Federal Highway Administration, through its Division Administrator ("FHWA"), and the City of Baton Rouge and Parish of East Baton Rouge, a political subdivision of the State of Louisiana, through its Mayor-President ("City-Parish"), to serve the public as hereinafter provided;

WITNESSETH: That

WHEREAS, Article VII, Section 14(c) of the Constitution of the State of Louisiana provides that "for a public purpose, the state and its political subdivisions....may engage in cooperative endeavors with each other...; and

WHEREAS,the parties wish to cooperate with each other in the development, implementation, and operation of Intelligent Transportation Systems (ITS) in the Greater Baton Rouge Metropolitan Transportation Management Area and the State of Louisiana to benefit the public by means of more effective traffic control, incident management, and improved safety; and

WHEREAS, it is more economically feasible for agencies responsible for traffic and incident management to co-locate in such a facility to deliver seamless transportation services in a region and state; and

WHEREAS, the parties have previously entered into Memoranda of Understanding dated February 26, 1998, March 18, 1999, and May 30, 2000, with each other and concurred in by the Federal Highway Administration (FHWA) to govern each parties' duties and responsibilities with regard to operation, maintenance, and funding responsibilities for the Advanced Traffic

Management/Emergency Operations Center ("ATM-EOC") which is being constructed at 3773 Harding Boulevard adjacent to the Baton Rouge Metropolitan Airport in East Baton Rouge Parish; and

WHEREAS, the FHWA has defined federal funding participation for a portion of the communications and information infrastructure system for the ATM-EOC, as per the attached list identified as Exhibit A, and the DOTD is committed to the matching requirements of these federal funds and the portion of the funding in this Exhibit that is not eligible for federal participation; and

WHEREAS, the DOTD and the City-Parish wish to supplement the previous Memoranda of Understanding to further clarify their respective responsibilities in funding and managing joint regional/state operations utilizing the above referenced ATM-EOC;

NOW THEREFORE, in consideration of the mutual covenants herein contained, the parties hereto agree as follows:

ARTICLE I - SCOPE OF SERVICES

It is the intent of each of the parties hereto that the ATM-EOC shall be maintained as the preeminent "state-of-the art" Regional/State ITS facility for the duration of this agreement.

RESPONSIBILITIES OF DOTD

The DOTD agrees to purchase and/or reimburse the City-Parish the communications equipment necessary, including a video wall display system, to implement ITS within the ATM-EOC, as per the attached list identified as Exhibit A.

Additionally, DOTD agrees to deploy and maintain ITS devices on state-owned highways and to maintain and update as necessary the ITS software in the ATM-EOC for integration of the system on a regional and statewide basis.

RESPONSIBILITIES OF CITY-PARISH

In order that DOTD may effectively operate its statewide ITS functions, and in conjunction with regional traffic management functions and operations provided by the City-Parish utilizing the ATM-EOC, the City-Parish agrees to provide the following to DOTD for its use within the ATM-EOC:

- 4 Control Room Operator Consoles (Nos. 14, 15, 32 & 40)
- 15 Rooms (Nos. 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134 and 154)

These areas comprise approximately 2,900 square feet, and are hereby solely reserved for DOTD office and support space to be utilized exclusively for DOTD ITS purposes. (See attached Exhibit B). Furthermore, the City-Parish, agrees, at its expense, to finish this office area.

Additionally, the City-Parish agrees to provide DOTD with use at no charge, of support and shared areas of the ATM-EOC; including restrooms, break and vending areas, stairways, hallways, conference and library areas and access to non-restricted keyed entry areas (common areas are not to be restricted); with the understanding that a reservation schedule for the library, conference rooms and classrooms must be obtained from the ATM-EOC Manager in advance. Reservations will be made on a "first come/first served" basis with neither party being given preferential treatment.

The City-Parish agrees to pay all normal building operating expenses (lights, HVAC, water, sewer, custodial services and ground maintenance) of the ATM-EOC for DOTD use for the first ten (10) years of this agreement. Should this agreement be renewed pursuant to Article II, then and in such event, payment of such expenses shall be renegotiated.

The City-Parish agrees to provide DOTD with fifteen (15) dedicated (marked) parking spaces in the parking lot of the ATM-EOC, for use by DOTD employees while performing their responsibilities under this agreement. Visitor spaces shall be utilized jointly by the parties hereto.

ARTICLE II - TERM

This Agreement shall become effective from the date of approval by the Division of Administration, Office of Contractual Review, and shall remain in effect for ten (10) years, with options to renew for five (5) year periods thereafter if the parties agree.

ARTICLE III - TERMINATION

The DOTD may terminate this Agreement for cause based upon the failure of the City-Parish to comply with the terms and/or conditions of the Agreement; provided that the DOTD shall give the City-Parish written notice specifying the failure. If within ninety (90) days after receipt of such notice, the City-Parish shall not have either corrected such failure and thereafter proceeded diligently to complete such correction, then the Agreement shall terminate on the date specified in the notice. The City-Parish may exercise any rights available to it under Louisiana law to terminate for cause upon the failure of the DOTD to comply with the terms and conditions applicable to it under this Agreement; provided that the City-Parish shall give the DOTD written notice specifying the failure and a ninety (90) day period within which DOTD may cure the defect.

Either party may terminate this Agreement at any time by giving sixty (60) days written notice to the other party.

Upon termination of the agreement, whether for cause or without cause, the parties hereto shall negotiate a "buy-out" of all equipment purchased for the City-Parish.

ARTICLE IV - OWNERSHIP/MAINTENANCE

All records, reports, documents, equipment and other movable property generated or provided by the DOTD under this Agreement shall remain the property of the DOTD. All records, reports, documents, equipment and other movable property generated or provided by the City-Parish under this Agreement shall remain the property of City-Parish. (This paragraph does not apply to that list of items enumerated in Exhibit A which shall be owned by the City-Parish.)

The City-Parish shall own and maintain all communications equipment enumerated in Exhibit A, for the duration of this agreement.

It is further understood by both parties hereto that an appropriate process must be identified to exchange/upgrade outmoded equipment enumerated in Exhibit A. Procedures for accomplishing this exchange/upgrade will be detailed in a future memorandum of understanding between the parties hereto.

All future equipment acquired during the term of this agreement shall be owned by the party purchasing the equipment and shall be maintained and operated by said purchaser, unless otherwise agreed in a future memorandum of understanding.

ARTICLE V - ASSIGNMENT

The City-Parish shall not assign any interest in this Agreement and shall not transfer any interest in same (whether by assignment or novation), without prior written consent of the DOTD. The DOTD shall not assign any interest in this Agreement and shall not transfer any interest in same (whether by assignment or novation), without prior written consent of the City-Parish.

ARTICLE VI - AUDIT

The City-Parish agrees that the Legislative Auditor of the State of Louisiana and/or the Office of the Governor, Division of Administration auditors shall have the option of auditing all accounts of the City-Parish which relate to this Agreement.

ARTICLE VII - DISCRIMINATION

The DOTD and City-Parish agree to abide by the requirements of the following as applicable: Title VI and VII of the Civil Rights Act of 1964, as amended by the Equal Opportunity Act of 1972, Federal Executive Order 11246, the Federal Rehabilitation Act of 1973, as amended, the Vietnam Era Veteran's Readjustment Assistance Act of 1974, Title IX of the Education Amendments of 1972, the Age Act of 1975, and the Americans with Disabilities Act of 1990.

The DOTD and City-Parish agrees not to discriminate in its employment practices, and will render services under this Agreement without regard to race, color, religion, sex, national original, veteran status, political affiliation, or disabilities.

Any act of discrimination committed by the DOTD or City-Parish, or failure to comply with these statutory obligations when applicable shall be grounds for termination of this Agreement.

ARTICLE VIII - AMENDMENTS

The DOTD and City-Parish agree that any amendment to this Cooperative Endeavor Agreement must be in writing and executed by both parties.

ARTICLE IX - PREVIOUS MEMORANDA OF UNDERSTANDING

The DOTD and City-Parish agree that any provisions of the previous Memoranda of Understanding dated February 26, 1998, March 18, 1999, and May 30, 2000, to the extent not inconsistent with this Cooperative Endeavor Agreement, shall remain in full force and effect, unless amended in accordance with a supplemental written agreement.

THUS DONE AND SIGNED at Baton Rouge, Louisiana, on the 25TH day of JANUARY, 2001.

WITNESSES:

Ray D. Endres

Joyce A. Hood

CITY OF BATON ROUGE/PARISH OF EAST BATON ROUGE

BY: _____
Bobby Simpson
Mayor-President

Tax ID: 72-6000137

THUS DONE AND SIGNED at Baton Rouge, Louisiana, on the 1st day of FEBRUARY, 2001.

WITNESSES:

Fay Ayers

Gail V. Raleigh

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

BY: _____
Kam K. Movassaghi, Ph.D., P.E.
Secretary

Tax ID: _____

RECOMMENDED FOR APPROVAL

BY: _____
William H. Temple, P.E.
Chief Engineer

THUS DONE AND SIGNED at Baton Rouge, Louisiana, on the 2nd day of February, 2001.

WITNESSES:

Mary A. Stumpf Allen

FEDERAL HIGHWAY ADMINISTRATION

BY: _____
William A. Sussman
Division Administrator

Approved as to Form
Parish Attorney's Office

ADOPTED
METROPOLITAN COUNCIL

OCT 1 1 2000

993 RESOLUTION 40594 Brian Mayeux
COUNCIL ADMINISTRATOR TREAS

AUTHORIZING THE MAYOR-PRESIDENT TO EXECUTE A COOPERATIVE ENDEAVOR AGREEMENT WITH THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT (DOTD) IN CONNECTION WITH THE ADVANCED TRAFFIC MANAGEMENT & EMERGENCY OPERATIONS CENTER (ATM-EOC), STATE PROJECT NO. 742-17-0120; F.A.P. NO. CM-HP-MISC(275) AND CITY-PARISH PROJECT NO. 97-MS-CP-0040.

BE IT RESOLVED by the Metropolitan Council of the Parish of East Baton Rouge and City of Baton Rouge that:

Section 1. The Mayor-President is hereby authorized to execute a Cooperative Endeavor Agreement with the Louisiana Department of Transportation and Development (DOTD) in connection with the Advanced Traffic Management & Emergency Operations Center (ATM-EOC), State Project No. 742-17-0120; F.A.P. No. CM-HP-MISC(275) and City-Parish Project No. 97-MS-CP-0040.

Section 2. Said agreement herein authorized shall be approved by the Office of the Parish Attorney as to form and legality.

ADVANCED TRAFFIC MANAGEMENT CENTER and EMERGENCY OPERATIONS CENTER

State Project No. 742-17-0120 (Building and Site)
State Project No. 742-17-0128 (Communications and Systems Infrastructure)
Federal Project No. CM-HP-MISC-275
City-Parish Project No. 97-MS-CP-0040

EXHIBIT A

Communications & Systems Infrastructure (Equipment, Acquisitions, Services & Installations)

ITEM NO.	TELECOMMUNICATIONS EQUIPMENT SYSTEM	FUNDING BY						
		Estimated Cost	Portion Eligible for Consideration	% Eligible	Portion Eligible	DOTD (Other)	DOTD Match	Federal
1	COMMUNICATIONS INFRASTRUCTURE PACKAGE	$600,000	$600,000	94.59%	$567,540	$32,460	$113,508	$454,032
2	AGENCY EQUIPMENT RELOCATION - FURNITURE	NON-PARTICIPATING				NON-PARTICIPATING		
	AGENCY EQUIPMENT RELOCATION - PCS,							
3	NEW AGENCY EQUIPMENT - TVS, FAXES, VCRs, PRINTERS,	$11,264	$11,264	30%	$3,379	$7,885	$676	$2,703
4	INFORMATION SERVICES - COMPUTER EQUIPMENT	$192,929	$192,929	94.59%	$182,492	$10,437	$36,498	$145,993
	INFORMATION SERVICES - LAN/WAN	$315,967	$70,215	100%	$70,215	$245,752	$14,043	$56,172
	FIBER CONNECTIVITY - FIRE DEPT HQ CONDUIT AND FIBER	$200,000	$44,444	100%	$44,444	$155,556	$8,889	$35,555
	FIBER INSTALLATION CHARGES (FOR THE OC3 "SMART RING")	$13,000	$2,889	100%	$2,889	$10,111	$578	$2,311
5	CAD HARDWARE	$145,633	$145,633	100%	$145,633	$0	$29,127	$116,506
	CAD SYSTEM SOFTWARE							
	CAD SYSTEM SERVICES							
	CAD SYSTEM SUPPORT							
6	UPGRADE EXIST C.E.B., RADIO PCs, CONSOLE EQUIP	$485,757	$485,757	100%	$485,757	$0	$97,151	$388,606
	C.E.B. PROJ MGMNT, INSTALLATION, STAGING							
7	PBX PHONE SYSTEM	$216,668	$216,668	30%	$65,000	$151,668	$13,000	$52,000
8	911 TELEPHONE SYSTEM	NOT ELIGIBLE				NOT ELIGIBLE		
9	CONTROL CENTER CONSOLES	$375,000	$235,000	30%	$70,500	$304,500	$14,100	$56,400
10	VIDEO WALL DISPLAY SYSTEM	$390,000	$390,000	100%	$390,000	$0	$78,000	$312,000
11	ATMS COMPUTERS & EQUIPMENT	$75,000	$75,000	100%	$75,000	$0	$15,000	$60,000
CONTINGENCY (10%)		$302,122	$246,980		$210,285	$91,837	$42,057	$168,228
TOTAL ESTIMATED COSTS		**$3,323,340**	**$2,716,779**		**$2,313,134**	**$1,010,206**	**$462,627**	**$1,850,507**
Contract Change Order Total		**$1,501,500**	**$1,347,500**		**$1,130,844**	**$370,656**	**$226,169**	**$904,675**
State Procurement Total		**$1,739,340**	**$1,286,779**		**$1,099,790**	**$639,550**	**$219,958**	**$879,832**
Traffic Services Procurement Total		**$82,500**	**$82,500**		**$82,500**	**$0**	**$16,500**	**$66,000**

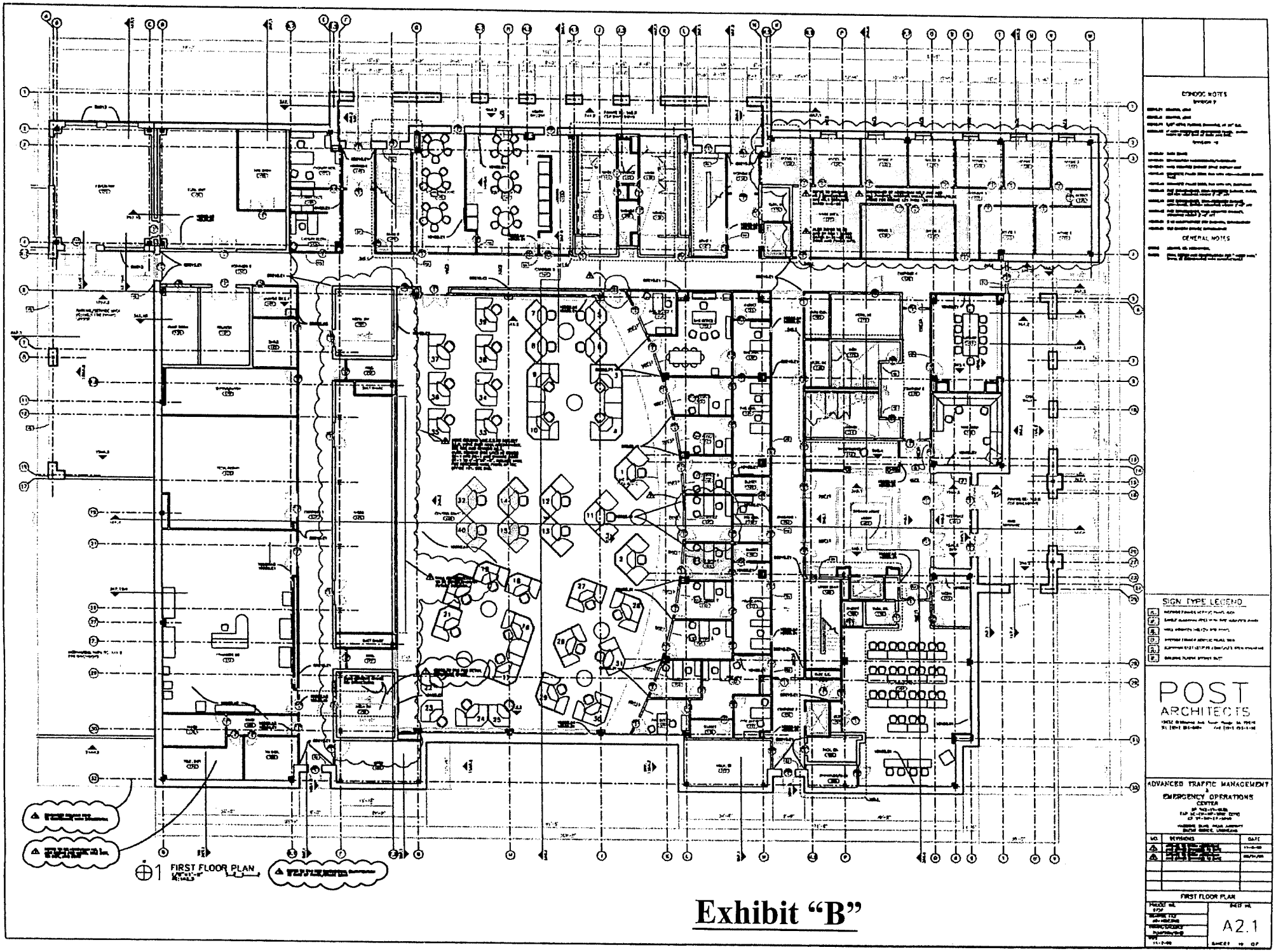

1 FIRST FLOOR PLAN
SIGN TYPE LEGEND
POST
ARCHITECTS
ADVANCED TRAFFIC MANAGEMENT
&
EMERGENCY OPERATIONS
CENTER
FIRST FLOOR PLAN
A2.1

Exhibit "B"

FULL SIGNALS MAINTENANCE AGREEMENT

FOR THE FISCAL YEAR ENDING JUNE 30, 2014

BETWEEN

CITY OF EAST BATON ROUGE

MUNICIPALITY

AND

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

State of Louisiana Department of Transportation

TRAFFIC SIGNAL MAINTENANCE AGREEMENT

THIS AGREEMENT, made and entered into this 1st day of July, 2013, and between the Louisiana Department of Transportation, an agency of the State of Louisiana, herein called the "Department" and the Parish of East Baton Rouge, a political subdivision of the State of Louisiana, herein called the "Maintaining Agency".

WITNESSETH:

WHEREAS: by the provisions of Section 193 of Title 48 of the Louisiana Revised Statutes OF 1950 vest in the Department of Transportation and Development full control of all municipal streets which form a continuation of the State Highway System, designated in R.S. 48:191 as modified by action of the Secretary of Transportation and Development; and

WHEREAS, the provision of L.R.S. 48:193 permit the Department of Transportation and Development to contract with the Maintaining Agency for the performance of such repair maintenance functions as the Maintaining Agency is able to perform, and both the Department and the Maintaining Agency will provide certain services.

WHEREAS, the maintenance, and operation of traffic signals (controller, cabinet, heads, loops, and etc.) or signal systems (interconnect, modems, telecommunication drops, central computers, and etc.) are necessary for safe and efficient highway transportation along the State Highway System; and

WHEREAS, the Department proposes that the Maintaining Agency shall maintain and operate traffic signals and signal systems at certain locations along the State Highway System within the City Limits of East Baton Rouge, Louisiana, as shown on the attached list.

NOW, THEREFORE, in consideration of the premises and the mutual covenants contained herein to be undertaken by the respective parties hereto, the parties mutually agree and covenant as follows:

1. When the District Administrator of the Department has submitted a Traffic Signal Maintenance Agreement to the Maintaining Agency, and designated officer of the Maintaining Agency has approved the Traffic Signal Maintenance Agreement, the Maintaining Agency shall undertake the responsibilities to maintain and operate existing signals, signals installed by permit or new traffic signals and signal systems as designed in the Traffic Signal Maintenance Agreement.

2. The Maintaining Agency shall perform all studies and investigations for new traffic signal installations and modifications to existing traffic signals, when requested by

the Department, and a proposed design and Traffic Signal Inventory (TSI) shall be provided if the Maintaining Agency recommends the new installation. The maintaining Agency shall also be required to perform studies and investigations to justify or deny the upgrading or modification of an existing traffic signal installation, when deemed necessary and when requested in writing by the Department and will provide a recommended design and TSI.

When deemed necessary, the Maintaining Agency may also do so on its own initiative. Should the Maintaining Agency recommend denial of a new traffic signal installation and the Department subsequently approves the new installation, the Maintaining Agency will not be responsible for the design of the new installation or for providing a TSI.

All studies and investigations performed as indicated above shall be under the direction and supervision of a qualified professional engineer experienced in Traffic Engineering and registered in the State of Louisiana. Engineering reports shall be signed and sealed in accordance with state law. All studies and investigations shall be coordinated with the District Traffic Operations Engineer of the Department before installation or modification of the traffic signal is authorized.

3. Regardless of whether the installation of new traffic signals and signal systems is performed by the Maintaining Agency, by permit or by the Department, such installation shall not endanger highway travel and shall be conducted in accord with the Manual on Uniform Traffic Control Devices (MUTCD) and the Department's Signal Design Manual, and with all applicable Department standards, specifications and plans governing traffic control for street and highway construction and maintenance.

4. The Maintaining Agency shall be responsible for the maintenance and continuous operation of the traffic signals and signal systems, and the payment of electrical and communication charges incurred in connection with operation of such traffic signals and signal systems upon completion of their installation. The Maintaining Agency shall undertake the maintenance and continuous operation of said traffic signal and signal systems for new construction contracts upon final acceptance of the installation by the Department.

5. The Maintaining Agency shall maintain and operate the traffic signals and signal systems in a manner that agrees with maintenance practices recommended by the International Municipal Signal Association (IMSA) manual on "Preventative Maintenance of Traffic Signal Equipment" and operational requirements of the MUTCD, as amended. The Maintaining Agency's maintenance responsibilities shall include, but not be limited to, preventive maintenance (trouble shooting in the event of equipment malfunction, failure, or damage). The Maintaining Agency shall utilize qualified traffic signal technicians to maintain and operate the traffic signals and signals systems. The Maintaining Agency is urged and expected to work toward IMSA certification of signal technicians.

The Maintaining Agency shall keep records of its maintenance activities in compliance with "Louisiana Public Records Law" on each traffic signal maintained.

6. The Maintaining Agency may remove any component of the installed equipment for repair; however, it shall not make any permanent modifications or major equipment changes without the prior written approval of the Department. Conversely, the Department shall not make any modifications and/or equipment replacements without prior written notice to the Maintaining Agency.

   Where the Maintaining Agency correctly establishes that existing traffic signal equipment (controllers, cabinets, signal heads, mast arms and signal poles) provided by the Department can no longer be reasonably repaired or maintained due to the unavailability of parts, the Department will make arrangement with all due haste to rectify the situation so as to ensure that equipment can be adequately maintained in proper operating condition. Any nonstandard signal equipment, even if it has been approved by the Department (ornamental designs, large bolt patterns, emergency preemption, etc.), will be the sole responsibility of the Maintaining Agency.

7. The maintaining Agency shall maintain the timing and phasing circuitry of the traffic signals in accordance with the Department's timing and phasing plans, specifications, or special provisions. The Maintaining Agency will obtain written approval from the Department prior to rephasing any signal covered under the contract. The Department's approval will not be required for adjustment to signal timing. However, the Maintaining Agency will advise the District Traffic Operations Engineer of any changes.

   The Maintaining Agency shall provide the Department with unrestricted access to all State owned traffic signal controllers through appropriate keys, telephone numbers, and software administrative rights and passwords necessary to monitor signal performance and modify signal timings. The Maintaining Agency shall provide remote access to any central control computers and software used to manage isolated and interconnected State owned traffic signals.

   The Department reserves the right to examine equipment, timing and phasing at any time and, after consultation with the Maintaining Agency, may make modifications in the timing and phasing. If such changes require new or additional traffic signal control equipment, the Department will furnish and install such equipment to be maintained by the Maintaining Agency.

   The Department will provide a minimum of one (1) week notice to the Maintaining Agency prior to completion of a new installation or a major modification of a traffic signal included in the existing agreement or to be added to the existing agreement. Thirty (30) days after receipt of such notice the Maintaining Agency will assume maintenance responsibility providing that the new or modified equipment has operated properly for at least thirty (30) days.

The Department shall provide to the Maintaining Agency the appropriate plans, wiring diagrams, TSI, etc. necessary to maintain the signal. This information shall be provided to the Maintaining Agency prior to the municipality assuming maintenance responsibility.

8. The Maintaining Agency shall, insofar as practical, place a copy of the Department's letter approving any modification or replacement of equipment or any changes in phasing circuitry in the documentation container within the controller cabinet.

9. The Maintaining Agency may enter into agreements with other parties pertaining to traffic signals and signal systems including, but not limited to, agreements relating to costs and expenses incurred in connection with the operation of traffic signals and signal systems on the State Highway System, provided that such agreements are consistent with the mutual covenants contained in this agreement. The Maintaining Agency shall furnish a copy of such agreements to the Department.

10. When a major knockdown and/or damage to traffic signal equipment occurs, the Maintaining Agency may use available equipment to return the signal to operation and file a claim with the responsible party to recover damages. If the responsible party fails to settle the claim or is unable to settle the claim, the Department may furnish its current standard equipment defined as signal heads, controller, cabinets, mast arms, and poles for reinstallation by the Maintaining Agency. Upon notice, the Department may monetarily reimburse the Maintaining Agency when its current standard equipment is not available or it is more expedient to do so. The Maintaining Agency shall provide traffic controls at an intersection during a traffic signal malfunction or knockdown within a reasonable period of time. Portable traffic signals will not be used for temporary control unless approved in writing by the Department.

11. If, in the opinion of the Department's District Administration, the Maintaining Agency has failed to properly maintain any of the traffic signals under contract, and after the Maintaining Agency has been notified in writing and given adequate opportunity to correct the condition and the Maintaining Agency has refused to correct said condition, the Department's District Administrator may order the Department's maintenance forces to perform such work as, in his opinion, is necessary, and deduct the cost thereof from any monies due or to become due to the Maintaining Agency.

12. However, not withstanding anything to the contrary herein, Municipality shall neither indemnify nor hold harmless the Department for any negligence of any party other than that which is directly attributable to the Maintaining Agency, its agent or employees. Specifically, but without limitation, the Maintaining Agency shall not indemnify nor hold harmless the Department for the negligence of employees or agents of the Department, and shall not indemnify nor hold harmless the Department for the negligence of any parties, persons, or employees or agents of a

third party over which the Maintaining Agency has no dominion or control.

13. This agreement may be terminated by either party upon thirty (30) days notice in writing to the other party, in which event the Department shall reimburse the Maintaining Agency the amount due up to the time of discontinuance.

14. As part of the maintenance of these traffic signals, the contracting agency shall perform annual preventative maintenance inspection for each location. The preventative maintenance inspection shall be documented with the attached "Traffic Signal Preventative Maintenance Report" form. The copies of the inspection reports shall be provided to the department no later than May 1 of each year. Failure to provide reports may result in cancellation of future agreements.

15. **For the maintenance obligations herein assumed by the Maintaining Agency, the Department will reimburse the Maintaining Agency on a semi-annual basis for each approved traffic signal installation (267), shown on the attached listing, at the rate of $2,440.00 per signal/per year. For each traffic signal added or removed during the year by the Department, the maintenance costs shall be computed on a pro-rated basis of the yearly amount for the number of months remaining in the year.**

The agreement for said maintenance shall begin July 1, 2013 and end June 30, 2014, unless same shall be sooner terminated.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed by their respective officers, thereunto duly authorized as of the day and year first above written.

WITNESSES AS TO MUNICIPALITY:

PARISH OF EAST BATON ROUGE

APPROVED
PARISH ATTORNEY'S OFFICE

BY: _____
MELVIN "KIP" HOLDEN
MAYOR-PRESIDENT

WITNESSES AS TO OFFICE:

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION
AND DEVELOPMENT
OFFICE OF ENGINEERING

APPROVED: _____

DISTRICT ADMINISTRATOR

CITY OF BATON ROUGE
TRAFFIC SIGNALS UNDER CONTRACT

	TSI NO.	LOCATION OF SIGNAL		
1	327	I-10 RAMP EB	@	COLLEGE (SOUTH INT)/CONSTITUTION
2	36	I-10 RAMP WB	@	COLLEGE (NORTH INTRSCN)
3	154	I-10 RAMPS	@	WASHINGTON & KENTUCKY
4	157	I-10 RAMPS	@	DALRYMPLE
5	27	I-10 RAMPS	@	LA 427 (ACADIAN)
6	158	I-10 RAMPS	@	DALRYMPLE & E. LAKESHORE
7	159	I-10 RAMPS	@	PERKINS RD
8	203	I-10 RAMPS	@	LA 3064 (ESSEN)
9	256	I-10 RAMPS	@	BLUEBONNET BLVD
10	257	I-10 RAMPS	@	LA 3246 (SIEGEN)
11	181	I-10 SERV (BRADDOCK)	@	LOUISE ST
12	371	I-10 WB SERV	@	PICARDY / MALL RING ROAD
13	202	I-110 RAMPS	@	LA 67 (PLANK) & 22ND
14	193	I-110 RAMPS	@	LA 408 & AIRBASE
15	28	I-110 RAMPS	@	HOLLYWOOD ST
16	30	I-110 RAMPS	@	EVANGELINE ST
17	31	I-110 RAMPS	@	MOHICAN ST
18	32	I-110 RAMPS	@	CHIPPEWA ST
19	34	I-110 RAMPS	@	LA 73 (GOVT)
20	222	I-110 RAMPS	@	LA 19
21	135	I-110 SERV NB (10th)	@	MAIN ST
22	137	I-110 SERV NB (10th)	@	NORTH STREET
23	143	I-110 SERV NB (10th)	@	LAUREL
24	150	I-110 SERV NB (10th)	@	CONVENTION ST
25	121	I-110 SERV NB (10th)/SB (9th)	@	NORTH BOULEVARD & EAST BLVD
26	113	I-110 SERV SB (9th)	@	NORTH STREET
27	133	I-110 SERV SB (9th)	@	BOYD AVE (SPAN TOWN RD)
28	134	I-110 SERV SB (9th)	@	MAIN ST
29	144	I-110 SERV SB (9th)	@	LAUREL
30	151	I-110 SERV SB (9th)	@	CONVENTION ST
31	33	I-110 SERVICE RD	@	WYANDOTTE ST
32	170	I-12 EB EXIT RAMP	@	LA 3064 (ESSEN) & SHOLAR
33	29	I-12 RAMPS	@	SOUTH SHERWOOD FORREST BLVD
34	247	I-12 RAMPS	@	MILLERVILLE RD
35	254	I-12 RAMPS	@	LA 3245 (O'NEAL)
36	220	I-12 SERV (HARRELLS FY/MEAD)	@	SHERWOOD FOREST
37	301	I-12 WB EXIT RAMP	@	LA 1068 (DRUSILLA) & CARLO
38	300	LA 1068 (DRUSILLA)	@	INTERLINE AVE
39	341	LA 1248 (BLUEBONNET)	@	MALL DRIVEWAY 1 (north)
40	342	LA 1248 (BLUEBONNET)	@	PICARDY / MALL DRIVEWAY 2
41	343	LA 1248 (BLUEBONNET)	@	MALL DRIVEWAY 3 (south)

CITY OF BATON ROUGE
TRAFFIC SIGNALS UNDER CONTRACT

	TSI NO.	LOCATION OF SIGNAL		
42	344	LA 1248 (BLUEBONNET)	@	ANSELMO
43	345	LA 1248 (BLUEBONNET)	@	TIMBERLAKE (flashing sign)
44	346	LA 1248 (BLUEBONNET)	@	HIGHLAND
45	347	LA 1248 (BLUEBONNET)	@	NORTH OAK HILLS
46	359	LA 1248 (BLUEBONNET)	@	PERKINS ROWE AVE
47	185	LA 19	@	BLOUNT RD
48	146	LA 19 (SCOTLAND AVE)	@	ROSENWALD
49	152	LA 30 (NICHOLSON)	@	ST. LOUIS & SOUTH BLVD
50	155	LA 30 (NICHOLSON)	@	LA 327 (S. STADIUM)
51	156	LA 30 (NICHOLSON)	@	MCKINLEY ST
52	174	LA 30 (NICHOLSON)	@	BOB PETTIT & JENNIFER JEAN
53	176	LA 30 (NICHOLSON)	@	NICHOLSON EXT
54	212	LA 30 (NICHOLSON)	@	BRIGHTSIDE / W. LEE
55	219	LA 30 (NICHOLSON)	@	TERRACE AVE
56	228	LA 30 (NICHOLSON)	@	W. ROOSEVELT ST
57	273	LA 30 (NICHOLSON)	@	N. STADIUM
58	274	LA 30 (NICHOLSON)	@	LA 42 (BURBANK)/GOURRIER
59	353	LA 30 (NICHOLSON)	@	LA 1248 (BLUEBONNET)
60	239	LA 30 (NICHOLSON)	@	LA 327 SPUR (GARDERE)
61	253	LA 30 (ST. PHILIP)	@	SOUTH BLVD
62	350	LA 3034 (SULLIVAN)	@	HUNTLEY/CENTRAL WOODS
63	227	LA 3034 (SULLLIVAN)	@	LA 3034 (WAX RD)
64	119	LA 3045 (CAPITAL ACCESS)	@	W. HIGHWAY DR
65	361	LA 3064 (ESSEN)	@	ARCHIVES DR/SHOLAR DR.
66	211	LA 3064 (ESSEN)	@	HENNESSY & SUMMA AVE
67	252	LA 3064 (ESSEN)	@	PICARDY
68	294	LA 3064 (ESSEN)	@	NORTH UNITED PLAZA BLVD
69	322	LA 3064 (ESSEN)	@	MARGARET ANN / OLOL EMERG
70	330	LA 3064 (ESSEN)	@	ESSEN PARK
71	349	LA 3064 (ESSEN)	@	SOUTH UNITED PLAZA BLVD (Shaw)
72	178	LA 3164 (SCENIC)	@	CHOCTAW DR
73	180	LA 3164 (SCENIC)	@	FOSS ST
74	279	LA 3245 (O'NEAL)	@	FIREWOOD DR
75	282	LA 3245 (O'NEAL)	@	HARRELL'S FERRY RD
76	283	LA 3245 (O'NEAL)	@	MED CENTER DRIVEWAY
77	292	LA 3245 (O'NEAL)	@	WALMART & OLE LONDON TOWNE
78	317	LA 3245 (O'NEAL)	@	WALMART (SOUTH OF I-12)
79	338	LA 3245 (O'NEAL)	@	BRISTOE
80	280	LA 3246 (SIEGEN)	@	INDUSTRIPLEX BLVD
81	281	LA 3246 (SIEGEN)	@	REITZ AVE
82	286	LA 3246 (SIEGEN)	@	NORTH MALL & KINGLET

CITY OF BATON ROUGE
TRAFFIC SIGNALS UNDER CONTRACT

	TSI NO.	LOCATION OF SIGNAL		
83	291	LA 3246 (SIEGEN)	@	RIEGER RD
84	368	LA 3246 (SIEGEN)	@	CLOVERLAND DR
85	375	LA 3246 (SIEGEN)	@	N OAK HILLS PKWY
86	204	LA 327 (GARDERE) SPUR	@	HIGHLAND RD
87	237	LA 327 (GARDERE) SPUR	@	LA 42 (BURBANK DR)
88	243	LA 327 (GARDERE) SPUR	@	G.S.R.I. RD
89	22	LA 37 (GRNWL SPRGS)	@	WOODDALE BLVD
90	23	LA 37 (GRNWL SPRGS)	@	LA 946 (JOOR) & CRESTAIRE
91	24	LA 37 (GRNWL SPRGS)	@	MONTERREY DR
92	208	LA 37 (GRNWL SPRGS)	@	JOYCE DR
93	215	LA 37 (GRNWL SPRGS)	@	N. SHERWOOD FRST
94	224	LA 37 (GRNWL SPRGS)	@	LANIER DR
95	268	LA 37 (GRNWL SPRGS)	@	PLATT DR
96	271	LA 37 (GRNWL SPRGS)	@	RIDGEMONT
97	184	LA 408 (HARDING)	@	ELTON C. HARRISON (SU CAMPUS)
98	240	LA 408 (HARDING)	@	PEMBROKE/HEATH
99	357	LA 408 (HARDING)	@	HOWELL BLVD
100	363	LA 408 (HARDING)	@	ATM/EOC DWY
101	231	LA 42 (BURBANK)	@	W. LEE DR
102	259	LA 42 (BURBANK)	@	LA 3246 (SIEGEN) & HIGHLAND
103	267	LA 42 (BURBANK)	@	E. BOYD DR
104	304	LA 42 (BURBANK)	@	LA 1248 (BLUEBONNET)
105	306	LA 42 (BURBANK)	@	JENNIFER JEAN
106	374	LA 42 (BURBANK)	@	STARING LANE
107	25	LA 426 (OLD HAMMOND)	@	SHARP RD
108	26	LA 426 (OLD HAMMOND)	@	SHERWOOD FOREST BLVD
109	209	LA 426 (OLD HAMMOND)	@	FLANNERY RD
110	210	LA 426 (OLD HAMMOND)	@	TARA BLVD/FAIRWAY
111	255	LA 426 (OLD HAMMOND)	@	LA 1068 (DRUSILLA)
112	321	LA 426 (OLD HAMMOND)	@	CHEVELLE DRIVE
113	348	LA 426 (OLD HAMMOND)	@	ELWICK DRIVE
114	366	LA 426 (OLD HAMMOND)	@	N HARRELL'S FERRY RD
115	244	LA 426 (OLD HAMMOND)	@	MILLERVILLE RD
116	232	LA 427 (ACADIAN)	@	HUNDRED OAKS AVE
117	233	LA 427 (ACADIAN)	@	BROUSSARD ST
118	234	LA 427 (ACADIAN)	@	CLAYCUT RD
119	308	LA 427 (ACADIAN)	@	RICHLAND & ACADIAN CTR
120	309	LA 427 (ACADIAN)	@	BAWELL ST
121	78	LA 427 (PERKINS)	@	LA 427 (ACADIAN)
122	79	LA 427 (PERKINS)	@	COLLEGE & LEE
123	80	LA 427 (PERKINS)	@	LA 3064 (ESSEN) & STARING

CITY OF BATON ROUGE
TRAFFIC SIGNALS UNDER CONTRACT

	TSI NO.	LOCATION OF SIGNAL		
124	81	LA 427 (PERKINS)	@	SIEGEN LANE
125	195	LA 427 (PERKINS)	@	KENILWORTH PKWY
126	223	LA 427 (PERKINS)	@	BLUEBONNET RD
127	270	LA 427 (PERKINS)	@	POLLARD PARKWAY
128	299	LA 427 (PERKINS)	@	QUAIL DR
129	310	LA 427 (PERKINS)	@	CONGRESS BLVD
130	320	LA 427 (PERKINS)	@	ONE PERKINS PLACE
131	323	LA 427 (PERKINS)	@	BALIS & STUART
132	331	LA 427 (PERKINS)	@	OAKDALE
133	332	LA 427 (PERKINS)	@	WIMBLEDON / GREAT OAKS
134	335	LA 427 (PERKINS)	@	VALLEY STREET
135	340	LA 427 (PERKINS)	@	YMCA / WINDERMERE
136	367	LA 427 (PERKINS)	@	GRAND AVE
137	372	LA 427 (PERKINS)	@	PECUE LANE
138	92	LA 67 (22ND)	@	NORTH BLVD
139	93	LA 67 (22ND)	@	MAIN ST
140	94	LA 67 (22ND)	@	NORTH STREET
141	95	LA 67 (22ND)	@	FUQUA ST
142	96	LA 67 (PLANK)	@	FAIRFIELDS & PAWNEE
143	97	LA 67 (PLANK)	@	CHOCTAW DR
144	98	LA 67 (PLANK)	@	CHIPPEWA ST
145	99	LA 67 (PLANK)	@	WINBOURNE AVE
146	100	LA 67 (PLANK)	@	MOHICAN ST
147	103	LA 67 (PLANK)	@	EVANGELINE ST
148	104	LA 67 (PLANK)	@	LORRAINE ST
149	105	LA 67 (PLANK)	@	ST. GERARD ST
150	106	LA 67 (PLANK)	@	HOLLYWOOD ST
151	107	LA 67 (PLANK)	@	VILLAGE SHOPPING CENTER
152	108	LA 67 (PLANK)	@	DAWSON ST & SERV RD
153	109	LA 67 (PLANK)	@	SUMRALL DR/MONTE SANTO
154	148	LA 67 (PLANK)	@	LA 408 (HARDING BLVD)
155	199	LA 67 (PLANK)	@	72ND AVE/MONARCH AVE
156	275	LA 67 (PLANK)	@	DENHAM ST
157	370	LA 67 (PLANK)	@	COKE PLANT DRIVEWAY
158	10	LA 67 (PLANK)	@	GROOM ROAD
159	9	LA 67 (PLANK)	@	LA 3006 (LAVEY LANE)
160	60	LA 73 (GOVT ST)	@	LA 30 (ST PHILIP ST)
161	61	LA 73 (GOVT ST)	@	ST. LOUIS
162	62	LA 73 (GOVT ST)	@	ST. FERDINAND
163	63	LA 73 (GOVT ST)	@	ST CHARLES ST
164	64	LA 73 (GOVT ST)	@	EAST BLVD

CITY OF BATON ROUGE
TRAFFIC SIGNALS UNDER CONTRACT

	TSI NO.	LOCATION OF SIGNAL		
165	65	LA 73 (GOVT ST)	@	S. 13TH & EDDIE ROBINSON
166	66	LA 73 (GOVT ST)	@	19TH & PARK BLVD
167	67	LA 73 (GOVT ST)	@	21ST ST & CAMELIA ST
168	68	LA 73 (GOVT ST)	@	LA 67 (22ND ST)
169	69	LA 73 (GOVT ST)	@	EUGENE ST
170	70	LA 73 (GOVT ST)	@	HEARTHSTONE ST
171	71	LA 73 (GOVT ST)	@	LA 427 (ACADIAN)
172	72	LA 73 (GOVT ST)	@	EDISON ST
173	73	LA 73 (GOVT ST)	@	FOSTER DRIVE
174	260	LA 73 (GOVT ST)	@	REBEL DR
175	74	LA 73 (JEFF HWY)	@	LA 73 (GOVT ST)
176	75	LA 73 (JEFF HWY)	@	GOODWOOD/CLAYCUT
177	76	LA 73 (JEFF HWY)	@	LOBDELL
178	77	LA 73 (JEFF HWY)	@	LA 426 (OLD HAMMOND)
179	123	LA 73 (JEFF HWY)	@	COLLEGE DR
180	160	LA 73 (JEFF HWY)	@	MCCARROLL DR
181	161	LA 73 (JEFF HWY)	@	LA 3064 (ESSEN)
182	162	LA 73 (JEFF HWY)	@	LA 1068 (DRUSILLA)
183	235	LA 73 (JEFF HWY)	@	BLUEBONNET RD (Old)
184	236	LA 73 (JEFF HWY)	@	STUMBERG LN
185	311	LA 73 (JEFF HWY)	@	I-12 EB ON RAMP
186	326	LA 73 (JEFF HWY)	@	WRENWOOD
187	334	LA 73 (JEFF HWY)	@	BLUEBONNET (New)
188	365	LA 73 (JEFF HWY)	@	TOWNE CENTER BLVD
189	89	US 190 (FLORIDA)	@	CORA DR
190	90	US 190 (FLORIDA)	@	SHARP RD
191	91	US 190 (FLORIDA)	@	SHERWOOD FOREST BLVD
192	186	US 190 (FLORIDA)	@	FLANNERY RD
193	187	US 190 (FLORIDA)	@	OAK VILLA
194	190	US 190 (FLORIDA)	@	LITTLE JOHN DR
195	216	US 190 (FLORIDA)	@	STEVENDALE RD
196	229	US 190 (FLORIDA)	@	MCGEHEE / GREEN OAKS
197	245	US 190 (FLORIDA)	@	MONTEREY BLVD
198	250	US 190 (FLORIDA)	@	MARILYN DR
199	272	US 190 (FLORIDA)	@	LA 3245 & CHOCTAW
200	333	US 190 (FLORIDA)	@	CENTERWAY
201	354	US 190 (FLORIDA)	@	US 61 BUS (RIVER ROAD)
202	130	US 61 (AIRLINE)	@	LA 426 (OLD HAMMOND)
203	131	US 61 (AIRLINE)	@	GOODWOOD BLVD
204	172	US 61 (AIRLINE)	@	CEDARCREST AVE
205	217	US 61 (AIRLINE)	@	DAWNADELE & DARADELE

CITY OF BATON ROUGE
TRAFFIC SIGNALS UNDER CONTRACT

	TSI NO.	LOCATION OF SIGNAL		
206	225	US 61 (AIRLINE)	@	INTERLINE AVE
207	248	US 61 (AIRLINE)	@	COURSEY BLVD
208	249	US 61 (AIRLINE)	@	VINE ST / TARA EXT
209	287	US 61 (AIRLINE)	@	HAMMOND AIRE
210	328	US 61 (AIRLINE)	@	HOME DEPOT
211	305	US 61 (AIRLINE)	@	SHERWOOD COMMON
212	251	US 61 (AIRLINE)	@	INDUSTRIPLEX BLVD/PECUE
213	376	US 61 (AIRLINE)	@	STUMBERG EXT/PECUE
214	49	US 61 (SCENIC)	@	MENGEL RD & 72ND AVE
215	112	US 61 (SCENIC)	@	LA 19 & SWAN AVE
216	125	US 61 (SCENIC)	@	LA 408 (HARDING BLVD)
217	173	US 61 (SCENIC)	@	THOMAS RD
218	177	US 61 (SCENIC)	@	BLOUNT RD
219	194	US 61 (SCENIC)	@	MILLS AVE
220	351	US 61 BUS (RIVER RD)	@	STATE CAPITOL DRIVE
221	355	US 61 BUS (RIVER RD)	@	LAUREL
222	50	US 61/190 (AIRLINE)	@	BEECHWOOD DR
223	51	US 61/190 (AIRLINE)	@	MCCLELLAND DR
224	52	US 61/190 (AIRLINE)	@	GREENWELL ST
225	53	US 61/190 (AIRLINE)	@	MERRYDALE AVE
226	54	US 61/190 (AIRLINE)	@	EVANGELINE ST
227	55	US 61/190 (AIRLINE)	@	WINBOURNE & MARIBEL
228	114	US 61/190 (AIRLINE)	@	NORTH FOSTER DRIVE
229	128	US 61/190 (AIRLINE)	@	S. CHOCTAW DR
230	129	US 61/190 (AIRLINE)	@	TOM DRIVE
231	175	US 61/190 (AIRLINE)	@	PRESCOTT
232	188	US 61/190 (AIRLINE)	@	FLORLINE BLVD
233	284	US 61/190 (AIRLINE)	@	E. INDUSTRIAL
234	126	US 61/190 (CHIPPEWA) BUS	@	SORREL AVE
235	38	US 61/190 (CHIPPEWA) BUS	@	CHOCTAW
236	39	US 61/190 (CHIPPEWA) BUS	@	PHLOX & PLANK
237	82	US 61/190 (FLORIDA) BUS	@	9TH ST
238	83	US 61/190 (FLORIDA) BUS	@	10TH ST
239	84	US 61/190 (FLORIDA) BUS	@	ACADIAN THRUWAY
240	86	US 61/190 (FLORIDA) BUS	@	PEACHTREE ST
241	87	US 61/190 (FLORIDA) BUS	@	BON MARCHE ENTRANCE
242	88	US 61/190 (FLORIDA) BUS	@	LOBDELL AVE
243	124	US 61/190 (FLORIDA) BUS	@	LAFAYETTE ST
244	139	US 61/190 (FLORIDA) BUS	@	N. 4TH
245	140	US 61/190 (FLORIDA) BUS	@	N. 5TH
246	141	US 61/190 (FLORIDA) BUS	@	N. 6TH

CITY OF BATON ROUGE
TRAFFIC SIGNALS UNDER CONTRACT

	TSI NO.	LOCATION OF SIGNAL		
247	142	US 61/190 (FLORIDA) BUS	@	N. 7TH
248	163	US 61/190 (FLORIDA) BUS	@	WOODDALE BLVD
249	164	US 61/190 (FLORIDA) BUS	@	ARDENWOOD DR
250	165	US 61/190 (FLORIDA) BUS	@	NORTH FOSTER DRIVE
251	166	US 61/190 (FLORIDA) BUS	@	EUGENE ST
252	167	US 61/190 (FLORIDA) BUS	@	LA 67 (N. 22ND)
253	168	US 61/190 (FLORIDA) BUS	@	19TH ST
254	206	US 61/190 (FLORIDA) BUS	@	DONMOOR AVE
255	262	US 61/190 (FLORIDA) BUS	@	CLOUD DR
256	138	US 61/190 (FLORIDA)BUS	@	RIVERSIDE/N. 3RD
257	37	US 61/190 (RIVER RD) BUS	@	NORTH STREET
258	312	US 61/190 (RIVER RD) BUS	@	LA CASINO (HOLLYWOOD CASINO)
259	373	US 61/190 (RIVER RD) BUS	@	RIVER PARK
260	127	US 61/190 (SCENIC) BUS	@	CHIPPEWA ST
261	41	US 61/190 (SCENIC) BUS	@	WINNEBAGO ST
262	42	US 61/190 (SCENIC) BUS	@	GULF STATES RD & EVANGELINE
263	43	US 61/190 (SCENIC) BUS	@	BEECH & EXXON ENTRANCE
264	44	US 61/190 (SCENIC) BUS	@	HOLLYWOOD ST
265	47	US 61/190 (SCENIC) BUS	@	MASON ST
266	116	US 61/190 (SCENIC) BUS	@	WINBOURNE
267	117	US 61/190 (SCENIC) BUS	@	MOHICAN ST

TOTAL NUMBER OF SIGNALS: 267