SYSTEMS ENGINEERING ANALYSIS

Baton Rouge TMC Operations

FINAL

January 2011

Presented to:

Louisiana Department of Transportation
And Development

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Mr. Stephen Glascock, P.E., PTOE
ITS Director
LA Dept of Transportation and Development
1212 E. Highway Dr.
Baton Rouge, LA 70802

RE: TO 701-65-1138, FAP ITS-9908(541) BATON ROUGE TMC OPERATIONS

Dear Mr. Glascock:

We are very pleased to submit the final system engineering analysis for the Baton Rouge Traffic Management Center. This analysis documents the "as-is" condition of the BR TMC.

All comments received to date have been addressed as part of this submittal.

We can provide further assistance at your request.

Yours truly,

ABMB ENGINEERS, INCORPORATED

Jonathan Fox P.E., PTOE
Director of ITS Services

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FOR INFORMATIONAL PURPOSES ONLY

1 Concept of Operations

1.1 Scope

1.1.1 Overview

The Baton Rouge Regional Transportation Management Center (BR TMC) is housed within the Advanced Traffic Management and Emergency Operations Center (ATM/EOC) at 3773 Harding Boulevard, Baton Rouge Louisiana. The activity or work conducted within the BR TMC is commonly referred to as TMC Operations, which are outlined in this document.

This Concept of Operations documents the "As-Is" condition of TMC operations.

1.1.2 Area of Operations

The Baton Rouge Area of Operation (BR AO) includes Interstate and US highway routes within the metropolitan area. On I-10, the BR AO exists from Mile Marker 139 (Bayou Rd., Gross Tete) to 177 (LA 30, Gonzales), and on I-12 the BR AO exists from Mile Marker 0 (I-10/I-12 split, Baton Rouge) to 19 (Satsuma Rd., Satsuma).

1.1.3 TMC Functions

The primary functions of the TMC are Incident Management, Traffic Management, and Traveler Information. These functions are served by an Advanced Traffic Management System (ATMS) controlled and operated within the BR TMC, The ATMS is composed of hardware and software, the ITS field devices, and the statewide ITS communications network. ITS field devices include closed-circuit television (CCTV) cameras, dynamic message signs (DMS), and vehicle detectors (VD). The Statewide TMC operates 24/7 and assumes BR TMC operating responsibilities during overnight and weekend hours, when the BR TMC is not operational.

1.2 Roles, Responsibilities, and Hours of Operations

The BR TMC Operations Staff is currently composed of one TMC Operations Supervisor and two full-time TMC Operators. The supervisor is present Monday through Friday from 8:00 AM to 4:00 PM, and at least one operator is present during normal operating hours, Monday through Friday from 6:00 AM to 10:00 PM. These hours may be extended or shortened by DOTD directive for incidents, weather response, etc. Special staffing considerations are made to provide operational coverage for major events and scheduled construction projects. TMC Operator roles include operations of field devices within the BR AO. TMC Operations Supervisor roles include management of the TMC Operators.

1.2.1 TMC Operator Responsibilities

- Operate the ATMS hardware and software

- Monitor the existing conditions of the highway network and recognize changes in condition

- Coordinate with the TMC Operations Supervisor to maintain a schedule

- Become familiar with all TMC hardware and software applications

- Perform routine administrative tasks with supervision and guidance

- Perform record keeping tasks such as the preparation of daily communication logs and incident reports and generating reports for management on system performance and activities

- Perform Incident Management and Congestion Management – Actively monitor and assess traffic flow, select and operate traffic management equipment, monitor system resources to identify incidents or hazardous conditions, use the CCTV cameras and DMS as necessary, and coordinate with DOTD Road Patrol Operators

- Perform Emergency Management Coordination – Coordinate, communicate, and dispatch personnel and emergency vehicles to respond to traffic incidents or congestion.

- Disseminate Public, Private and Interagency Information – Prepare incident and construction event information, disseminate information to the public through the use of message signs and CARS/511 System, and provide managers with data and travel condition information that may impact the traveling public

- Perform Special Event Management – control, surveillance, and monitoring

- Perform Data Fusion – Given instruction and guidance, integrate various data sources, such as field video devices, radio communication, and telephone communications with other transportation management agencies, in order to perform traffic data synthesis and analysis tasks.

1.2.2 TMC Operations Supervisor Responsibilities

- Perform all duties required of a TMC Operator position

- Supervise and provide guidance to the TMC Operator(s)

- Coordinate TMC Operator schedules

- Serve as the primary TMC operations point of contact

- Perform routine administrative tasks without supervision

- Conduct tours and brief TMC visitors

- Monitor system performance and manage the generation of work order reports as required

- Become proficient in performing ATMS administration tasks

- Manage record keeping tasks such as the preparation of daily communication logs and incident reports and generate reports for management on system performance and activities

- Perform Incident and Congestion Management – Supervise TMC Operators or actively monitor and assess information on traffic flow, supervise the operators in their selection and operation of traffic management equipment, supervise or assist TMC Operators to monitor system resources to quickly identify incidents or hazardous conditions, develop and maintain

the DMS library and message template, and coordinate with various traffic management technicians and supervisors to resolve traffic control congestion and problems.

- Disseminate Public, Private and Interagency Information – Prepare or supervise the preparation of incident and construction event information for subsequent dissemination. Disseminate information to the public and public media through message signs, advisory radio, websites and other media.

- Perform Special Event Management – Evaluate traffic incidents and formulate operational plans, using policies, procedures, and precedents. Supervises how TMC Operators monitor and manage special events;

- Perform Data Fusion – Integrate or monitor TMC Operators who integrate various data sources in order to perform traffic data synthesis and analysis tasks. Gather and synthesize reliable data from various field video devices, as well as through radio and telephone communications with other transportation management agencies, and the public.

- Interagency Outreach – Meet with other local agencies to promote the incident management program and develop a relationship for TMC coordination.

1.3 Equipment

The ATMS software for operating vehicle detectors and dynamic message signs is the Management Information System for Transportation (MIST™), which is an information management and traffic signal control system. MIST™ is dedicated to the effective management of traffic. The ATMS software operating surveillance cameras is Cameleon ITS.

1.3.1 TMC Operator Workstation

TMC Operations is assigned four workstations within the ATM/EOC Operations Room. Currently two stations are equipped for daily use.

Station One is the primary workstation for TMC Operators and is equipped with one desktop computer with four computer monitors. This computer is on the DOTD ITS communications network and has the following capabilities: MIST™ OI, ITS Incident Database, Daily Equipment Status Form, Internet, Shared Database Drive, and Shared T Drive.

Station Two is located to the left of Station One and is also equipped with one desktop computer with four computer monitors and one TV monitor connected to an analog video output for viewing the CCTV. This station is on the DOTD ITS communications network and is used if Station One fails or by the TMC Operations Supervisor when major incidents occur, and it has the same capabilities as the computer at Station One.

Station Three and Station Four are independent workstations. Station Three is equipped with one computer that uses one monitor. This computer is not on any network. This station is used as a generic computer when needed. Station Four is vacant.

The operator workstations assigned to DOTD are indicated in pink in **Figure 1**.

Figure 1: Baton Rouge ATM/EOC Operations Room
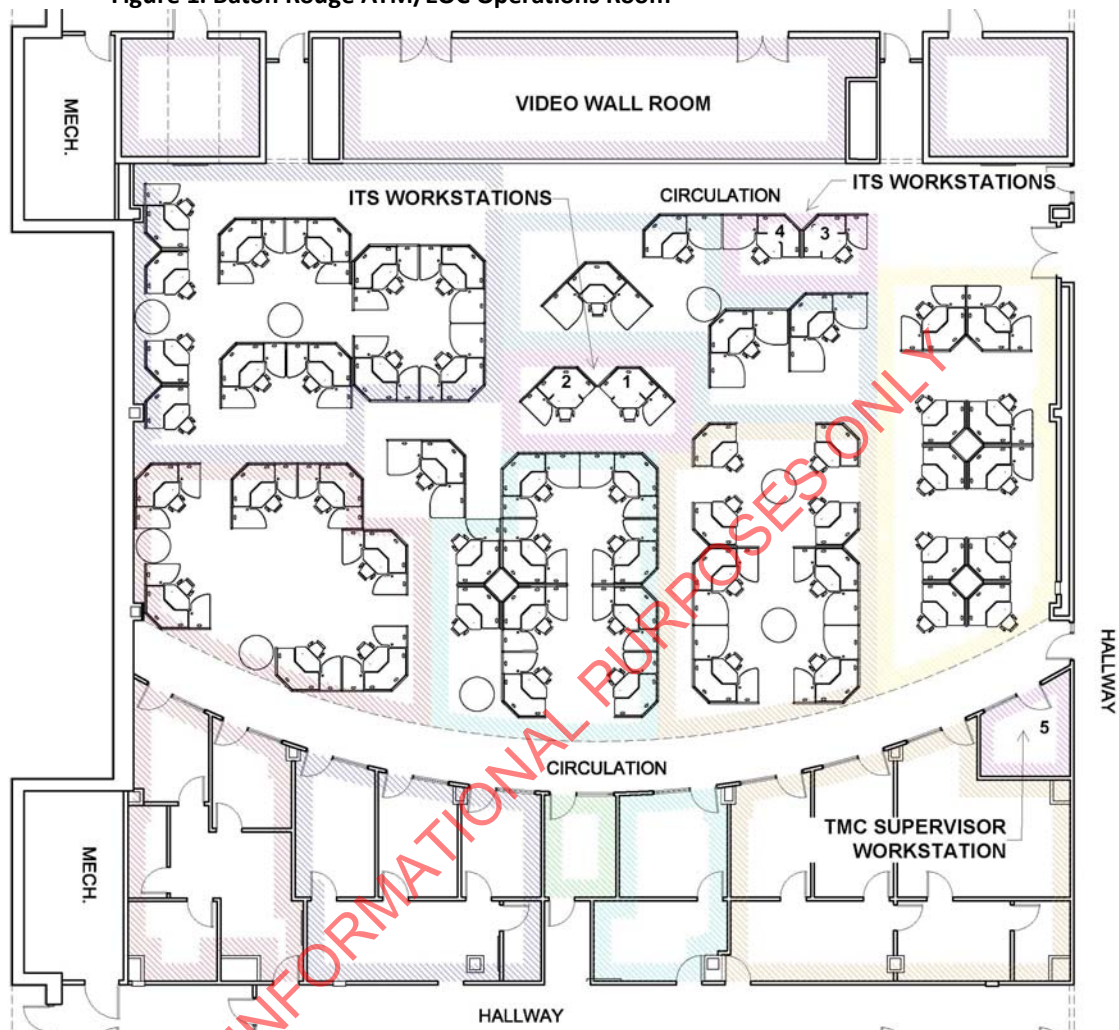
1.3.2   TMC Operations Supervisor Workstation

Station Five is the TMC Operations Supervisor's workstation and is equipped with one computer and one monitor on the DOTD ITS communications network. This station is used by the TMC Operations Supervisor to access e-mail or to make PDF files and has the following capabilities: Adobe Acrobat, MIST™ OI, ITS Incident Database, Daily Equipment Status Form, Internet, Shared Database Drive, Shared T Drive, historic Incident Summary Reports, and historic Equipment reports.

1.3.3   Monitor Wall

The TMC is equipped with six rear projectors capable of displaying up to 14 separate images. An incident should be displayed on the wall as quickly as possible for the Operations Room staff to view the incident. The software which controls the setup for the wall is located at the East Baton Rouge Department of Public Work's Traffic Division's workstation in the Operations Room.

1.3.4   Server Room Equipment

The Server Room houses communications equipment for almost every agency with permanent staff at the ATM/EOC. Access to this equipment is limited to employees designated by the ITS Director.

1.3.5   CCTV

The Closed Circuit Television (CCTV) cameras located along the highways in the Baton Rouge area provide real time video of the transportation system. They are controlled by the ATMS and are equipped with pan, tilt, and zoom capabilities.

1.3.6   DMS

The Dynamic Message Signs (DMS) located along I-10, I-12, and I-110 in the Baton Rouge area are used to display information regarding incidents, construction, or other messages as directed by DOTD.

1.3.7   VD

The Vehicle Detectors (VD) located along the highways in the Baton Rouge area are used to determine travel-times for posting on the DMS and to send information to the TMCs regarding vehicle speed, volume, and lane occupancy.

1.4   Incident Response

TMC Operators respond to an incident based on the type of incident, the location and the severity. In general, incidents are verified using CCTV cameras when available. Messages are posted on DMS. Local police, emergency operations center, and/or 911 dispatchers are notified of the location of the incident when necessary. The TMC Operator logs the incident into the CARS/511 system and the ITS Incident Database. DOTD Road Patrol Operators are directly notified by the TMC Operator using the DOTD Road Patrol radio. When the incident is on the I-10 Mississippi River Bridge during weekday peak traffic hours (6:30am – 9:30am and 3:30pm – 6:30pm), the DOTD Road Patrol Tow Truck Operator is notified. The TMC Operators continue to monitor all incidents until they have been cleared. All stages of the incident are logged in the Incident Database by the TMC Operator including arrivals and departures of agencies, tow trucks, EMS, etc. Upon traffic returning to normal free flow conditions, the DMS, ITS Incident Database event, and CARS/511 system event should be terminated/closed.

1.5   Incident Notification

After notifying the public of an incident through CARS/511 System and the activation of DMS, the TMC Operator will email to the current distribution list when the incident meets advisory standards. Also, the TMC Operator shall post the message on the DOTD Twitter page.

1.6   DOTD CARS/511 System

The DOTD CARS/511 system is a resource which allows the public to access near real-time incident information via the internet or phone system. All incidents which involve a lane blockage are entered by ITS Operations into the CARS/511 system. Construction projects not entered into the system by the DOTD Project Engineers are entered into CARS/511 by ITS Operations if it is able to be monitored.

1.7   Roadway Safety and Incident Patrol Program

Formerly known as the Motorist Assistance Patrol (MAP) program, the Roadway Safety and Incident Patrol (RSIP) operates patrol vehicles daily from 6:00 AM to 8:00 PM. RSIP may be simply referred to as the DOTD Road Patrol. Radio contact between the TMC Operators and the DOTD Road Patrol Operators improves incident detection and decreases response times. TMC Operators are able to update the DOTD Road Patrol incident responders as information changes, eliminating false calls. DOTD Road Patrol Operators will notify the TMC Operators of incidents detected outside the view of available CCTV cameras.

1.8   Reports

- ITS Operations Reports: The TMC Operations Supervisor is responsible for producing weekly, quarterly and annual report on activities conducted by the TMC based on information entered into the DOTD Incident Database.

- Daily Equipment Status Form: The TMC Operator performs an equipment check on all field devices in service and enters all issues into the Daily Equipment Status Form at the beginning of every morning shift. This form is to be sent to the Statewide TMC Supervisor.

- Baton Rouge Incident Management Team: TMC Operations Supervisor provides incident statistics and video or still images of the significant events to the other participants of the Baton Rouge Incident Management (BRIM) team which is composed of emergency responders (Fire, PD; EMS), private companies (trucking, tow; media) and government agencies (parish and state).

1.9   System Maintenance

The TMC Operators on duty start their shift with a daily check of operational equipment, logging any issues into the Daily Equipment Status Form. The morning TMC Operator briefs the evening TMC Operator on all outstanding maintenance issues. The evening operator emails the morning operator and TMC Operations Supervisor in the event of any major issues. Any issues concerning the physical building are immediately reported to the TMC Operations Supervisor who coordinates with the Facility Manager for repairs.

2 Physical Architecture

2.1 BR TMC Inventory Elements

Table 1: BR TMC Inventory Elements

Element	Status	Description	Comment	Figure
Acadian Ambulance	Existing	This element represents the Acadian Ambulance services within the Baton Rouge Area of Operations. They are a contracted medical provider used by the parishes.	This element is an instance of the "Local Public Safety Agencies" found in the ITS regional architecture.	4
Ascension Parish Emergency Operations Center (EOC)	Existing	This element represents the Ascension Parish emergency response operations including City fire, police, 911, and any other emergency response operators. This element is responsible for the emergency response operations and management within the Ascension Parish jurisdiction.	This element is an instance of the "Local Public Safety Agencies" found in the ITS regional architecture.	3
Ascension Parish Sheriff Office	Existing	This element represents the Ascension Parish Sherriff's Office dispatch center and operations personnel.	This element is an instance of the "Local Public Safety Agencies" found in the ITS regional architecture.	3
Baton Rouge Emergency Medical Services	Existing	This element represents emergency medical services within the Baton Rouge Area of Operations.	This element is an instance of the "City of Baton Rouge" found in the ITS regional architecture.	4
Baton Rouge Police Department	Existing	This element represents the Baton Rouge Police Department dispatch center and operations personnel.	This element is an instance of the "City of Baton Rouge" found in the ITS regional architecture.	2

Element	Status	Description	Comment	Figure
Capital Region Planning Commission (CRPC) Planning Division	Existing	This element represents the planners of the Capital Region Planning Commission.	This element is an instance of the "Capital Regional Planning Commission (Regional MPO)" found in the ITS regional architecture.	5
City of Baker Police Department	Existing	This element represents City of Baker Police Department dispatch center and operations personnel.	This element is an instance of the "Local Public Safety Agencies" found in the ITS regional architecture.	3
City of Denham Springs Police Department	Existing	This element represents City of Denham Springs Police Department dispatch center and operations personnel.	This element is an instance of the "Local Public Safety Agencies" found in the ITS regional architecture.	2
City of Gonzales Police Department	Existing	This element represents City of Gonzales Police Department dispatch center and personnel.	This element is an instance of the "Local Public Safety Agencies" found in the ITS regional architecture.	2
City of Port Allen Police Department	Existing	This element represents City of Port Allen Police Department dispatch center and operations personnel.	This element is an instance of the "Local Public Safety Agencies" found in the ITS regional architecture.	3
City of Walker Police Department	Existing	This element represents City of Walker Police Department dispatch center and operations personnel.	This element is an instance of the "Local Public Safety Agencies" found in the ITS regional architecture.	3

Element	Status	Description	Comment	Figure
City of Zachary Police Department	Existing	This element represents City of Zachary Police Department dispatch center and operations personnel.	This element is an instance of the "Local Public Safety Agencies" found in the ITS regional architecture.	3
City-Parish DPW Traffic Engineering Division (ATM/EOC)	Existing	This element represents City of Baton Rouge/East Baton Rouge Parish DPW traffic engineering division. The traffic engineering division is responsible for traffic operations management within the city jurisdiction. The division also responsible for the ATM/EOC operations center that houses several traffic, ITS, and emergency response providers from city and state agency.	This element is an instance of the "City of Baton Rouge" found in the ITS regional architecture.	4
City-Parish Emergency Response Operations 911	Existing	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 and East Baton Rouge Parish jurisdiction.	This element is an instance of the "City of Baton Rouge" found in the ITS regional architecture.	2
City-Parish Mayors Office of Homeland Security + Emergency Preparedness (EOC)	Existing	This element is an emergency management planning agency for the City of Baton Rouge and East Baton Rouge Parish jurisdiction.	This element is an instance of the "City of Baton Rouge" found in the ITS regional architecture.	2
City-Parish Web Site	Existing	This element provides traveler information service provided by the DOTD.	This element is an instance of the "City of Baton Rouge" found in the ITS regional architecture.	4

Element	Status	Description	Comment	Figure
DOTD Adjacent District Office	Existing	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.	This element is an instance of the "Adjacent DOTD Districts" found in the ITS regional architecture.	5
DOTD Baton Rouge CCTV Cameras	Existing	This element includes the CCTV cameras located within the Baton Rouge Area of Operations.	This element is an instance of the "Louisiana Department of Transportation and Development District Office (LA DOTD Districts 61 & 62)" found in the ITS regional architecture.	5
DOTD Baton Rouge DMS	Existing	This element includes the DMS located within the Baton Rouge Area of Operations.	This element is an instance of the "Louisiana Department of Transportation and Development District Office (LA DOTD Districts 61 & 62)" found in the ITS regional architecture.	4
DOTD Baton Rouge TMC	Existing	This element represents ITS TMC operations that are responsible for traffic management activities within the metropolitan area. The typical activities include traffic monitoring, traffic data collection, operation of ITS elements (CCTV, DMS, etc.), detection and verification of incidents, and other traffic management related activities. This also includes communicating with other agencies.	This element is an instance of the "Louisiana Department of Transportation and Development District Office (LA DOTD Districts 61 & 62)" found in the ITS regional architecture.	2-5

Element	Status	Description	Comment	Figure
DOTD Baton Rouge Vehicle Detectors	Existing	This element includes the vehicle detectors located within the Baton Rouge Area of Operations.	This element is an instance of the "Louisiana Department of Transportation and Development District Office (LA DOTD Districts 61 & 62)" found in the ITS regional architecture.	4
DOTD District 61 Construction	Existing	This element represents the district construction department that is responsible for all the roadway construction within the district jurisdiction. This element also helps coordinating with other departments for scheduling of construction activities.	This element is an instance of the "Louisiana Department of Transportation and Development District Office (LA DOTD Districts 61 & 62)" found in the ITS regional architecture.	5
DOTD District 61 Maintenance Division	Existing	This element represents the 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.	This element is an instance of the "Louisiana Department of Transportation and Development District Office (LA DOTD Districts 61 & 62)" found in the ITS regional architecture.	5

Element	Status	Description	Comment	Figure
DOTD District 61 Traffic Operations Engineering	Existing	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.	This element is an instance of the "Louisiana Department of Transportation and Development District Office (LA DOTD Districts 61 & 62)" found in the ITS regional architecture.	4
DOTD District 62 Construction	Existing	This element represents the district construction department that is responsible for all the roadway construction within the district jurisdiction. This element also helps coordinating with other departments for scheduling of construction activities.	This element is an instance of the "Louisiana Department of Transportation and Development District Office (LA DOTD Districts 61 & 62)" found in the ITS regional architecture.	4
DOTD District 62 Maintenance Division	Existing	This element represents the 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.	This element is an instance of the "Louisiana Department of Transportation and Development District Office (LA DOTD Districts 61 & 62)" found in the ITS regional architecture.	5

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Element	Status	Description	Comment	Figure
DOTD District 62 Traffic Operations Engineering	Existing	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.	This element is an instance of the "Louisiana Department of Transportation and Development District Office (LA DOTD Districts 61 & 62)" found in the ITS regional architecture.	4
DOTD ITS Section	Existing	This element represents ITS section under the DOTD Central Office. The ITS section is responsible for statewide operations center located in DOTD headquarters. Also, the ITS section is responsible for management of the information system for transportation, statewide 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.	This element is an instance of the "Louisiana Department of Transportation and Development (LA DOTD) Central Office" found in the ITS regional architecture.	5

Element	Status	Description	Comment	Figure
DOTD Roadway Safety and Incident Patrol	Existing	This element represents the roadway safety and incident patrol program vehicles.	This element is an instance of the "Louisiana Department of Transportation and Development District Office (LA DOTD Districts 61 & 62)" found in the ITS regional architecture.	4
DOTD Statewide TMC	Existing	This element represents ITS TMC operations that are responsible for traffic management activities across the state. The typical activities include traffic monitoring, traffic data collection, operation of ITS elements (CCTV, DMS, etc.), detection and verification of incidents, and other traffic management related activities. This also includes communicating with other agencies.	This element is an instance of the "Louisiana Department of Transportation and Development (LA DOTD) Central Office" found in the ITS regional architecture.	5
East Baton Rouge Parish Sheriff Office	Existing	This element represents the East Baton Rouge Parish Sheriff's Office dispatch center and operations personnel.	This element is an instance of the "Local Public Safety Agencies" found in the ITS regional architecture.	3
Livingston Parish Communications District 911	Existing	This element represents the Livingston Parish emergency response operations including City fire, police, 911, and any other emergency response operators.	This element is an instance of the "Local Public Safety Agencies" found in the ITS regional architecture.	2
Livingston Parish Emergency Operations Center (EOC)	Existing	This element is responsible for the emergency response operations and management within the Livingston Parish jurisdiction.	This element is an instance of the "Local Public Safety Agencies" found in the ITS regional architecture.	3

Element	Status	Description	Comment	Figure
Livingston Parish Sheriff Office	Existing	This element represents the Livingston Parish Sherriff's Office dispatch center and operations personnel.	This element is an instance of the "Local Public Safety Agencies" found in the ITS regional architecture.	3
Local Tow Companies	Existing	This element represents local towing companies that respond to incidents in response to local police/sheriff/LSP request. TMC operations coordinate status and routing.	This element is currently not included in the regional architecture. It will need to be added when the architecture is updated.	4
Louisiana 511	Existing	This element provides traveler information service provided by the DOTD in conjunction with private partner.	This element is an instance of the "Tourism and Travel Information Providers" found in the ITS regional architecture.	4
Louisiana State Police - Troop A	Existing	This element represents Louisiana State Police Department; the Baton Rouge metropolitan area is covered by Troop A.	This element is an instance of the "Louisiana State Police (LSP)" found in the ITS regional architecture.	2
Town of Sorrento Police Department	Existing	This element represents the Town of Sorrento Police Department dispatch center and operations personnel.	This element is an instance of the "Local Public Safety Agencies" found in the ITS regional architecture.	3
Traffic Monitoring Web Sites	Existing	This element represents web based local traffic providers in conjunction with traveler information service provided by the DOTD.	This element is an instance of the "Tourism and Travel Information Providers" found in the ITS regional architecture.	4

Element	Status	Description	Comment	Figure
West Baton Rouge Office of Homeland Security/Emergency Preparedness/911	Existing	This element represents the West Baton Rouge Parish emergency response operations including fire, police, 911, and any other emergency response operators. This element is responsible for the emergency response operations and management within the West Baton Rouge Parish jurisdiction.	This element is an instance of the "West Baton Rouge Parish" found in the ITS regional architecture.	2
West Baton Rouge Parish Sheriff Office	Existing	This element represents the West Baton Rouge Parish Sherriff's Office dispatch center and operations personnel.	This element is an instance of the "West Baton Rouge Parish" found in the ITS regional architecture.	3

2.2   BR TMC Physical Architecture

This section includes the architecture flow diagrams that define the interfaces for the BR TMC operations. In the diagram, "Planned" interfaces are shown where interfaces that are currently not existing but will be implemented within the near future. All of the architecture flows in **Figures 2** through **5** are described in **Table 2**.

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Figure 2: Architecture Flow Diagram (Public Safety Agencies Interfaces 1 of 2)

Figure 3: Architecture Flow Diagram (Public Safety Agencies Interfaces 2 of 2)

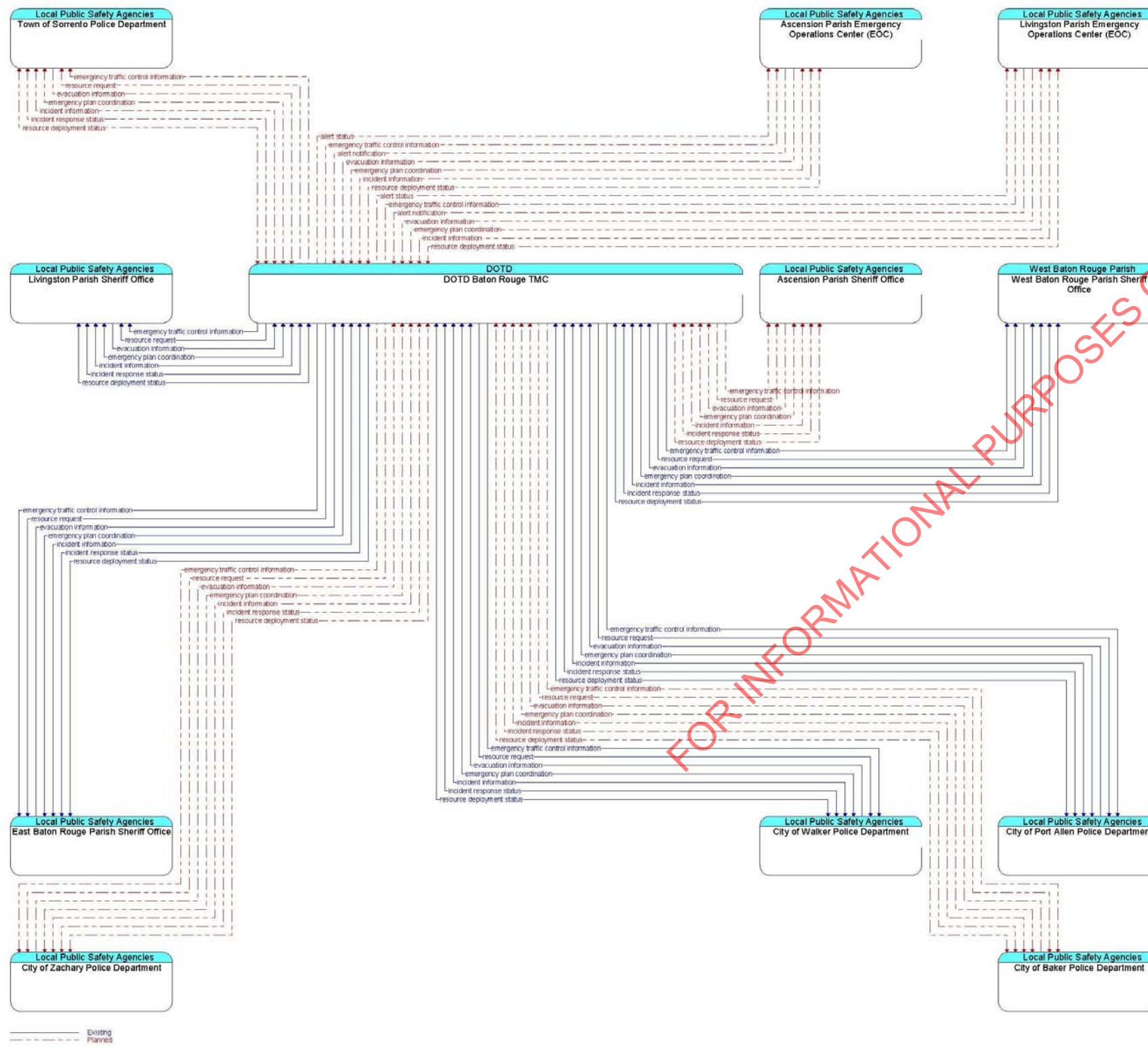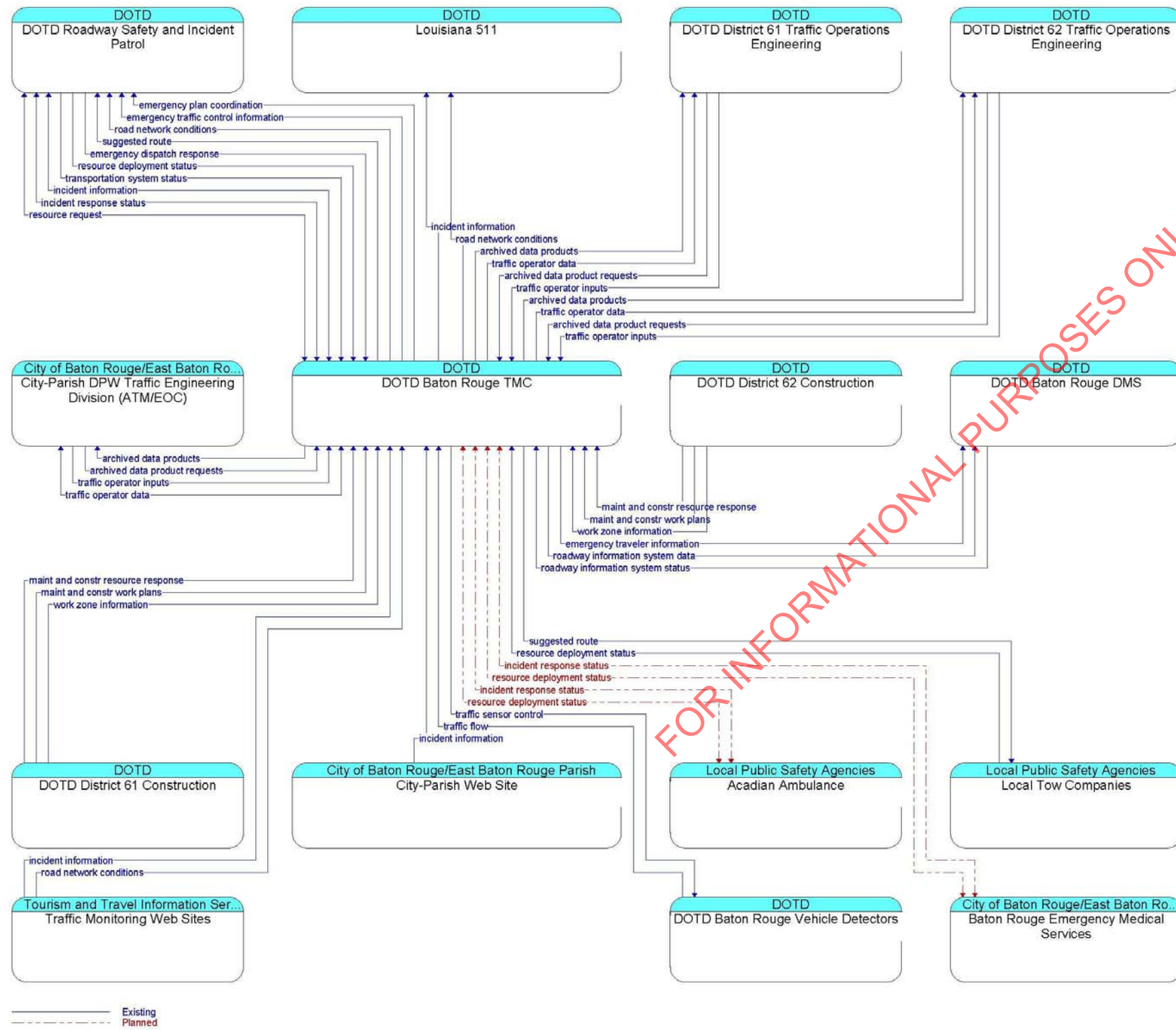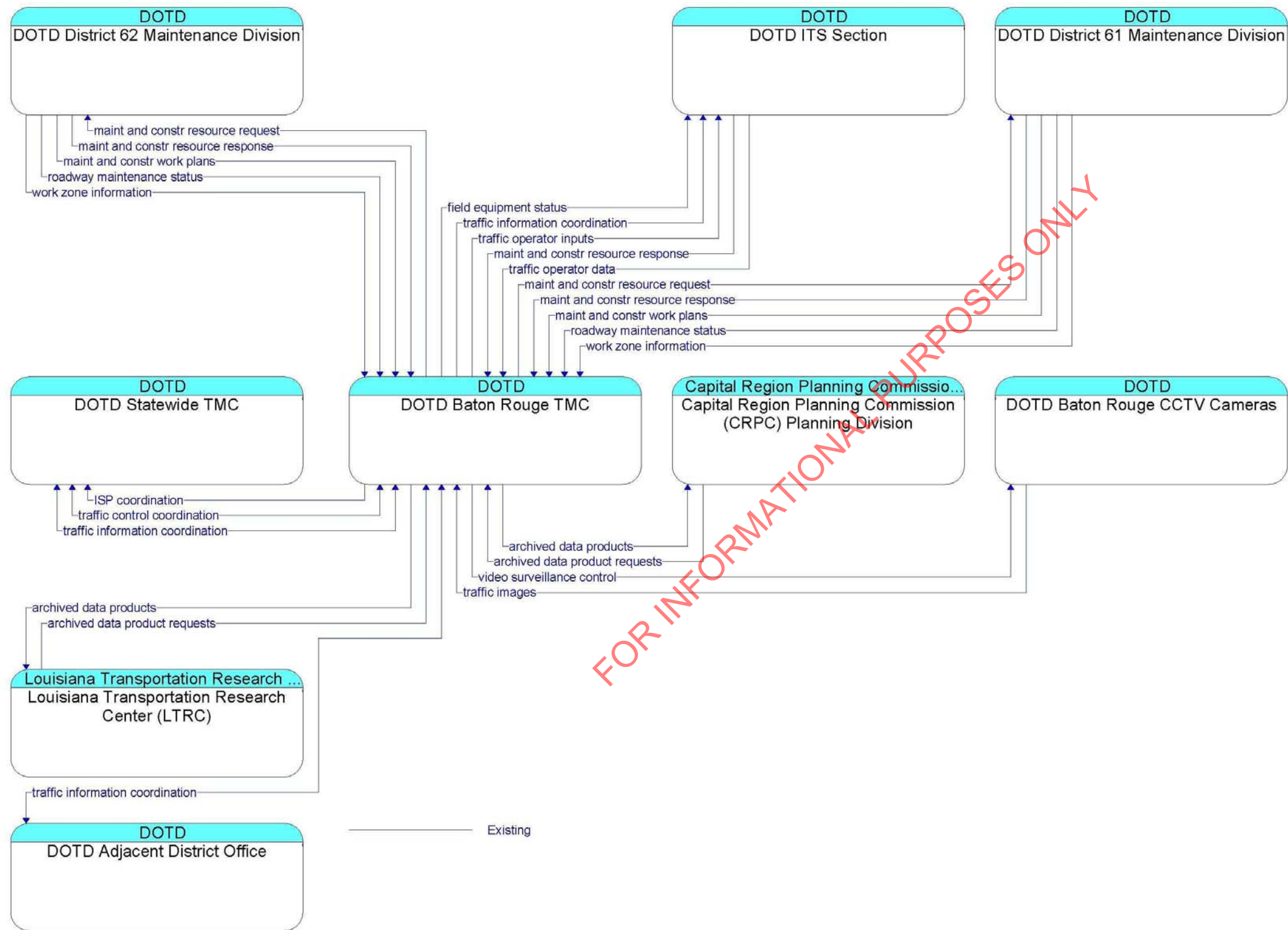**Figure 4: Architecture Flow Diagram (DOTD Interfaces 1 of 2)**

Figure 5: Architecture Flow Diagram (DOTD Interfaces 2 of 2)

Table 2: Architecture Flow Definitions

Name	Description
Alert Notification	Notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public. The flow identifies the alert originator, the nature of the emergency, the geographic area affected by the emergency, the effective time period, and information and instructions necessary for the public to respond to the alert. This flow may also identify specific information that should not be released to the public.
Alert Status	Information indicating the current status of the emergency alert including identification of the traveler and driver information systems that are being used to provide the alert.
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.
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 Control Information	Status of a special traffic control strategy or system activation implemented in response to an emergency traffic control request, a request for emergency access routes, a request for evacuation, a request to activate closure systems, a request to employ driver information systems to support public safety objectives, or other special requests. Identifies the selected traffic control strategy and system control status.
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.
Evacuation Information	Evacuation instructions and information including evacuation zones, evacuation times, and reentry times.
Field Equipment Status	Identification of field equipment requiring repair and known information about the associated faults.

Name	Description
Incident Information	Notification of existence of incident and expected severity, location, time and nature of incident. As additional information is gathered and the incident evolves, updated incident information is provided. Incidents include any event that impacts transportation system operation ranging from routine incidents (e.g., disabled vehicle at the side of the road) through large-scale natural or human-caused disasters that involve loss of life, injuries, extensive property damage, and multi-jurisdictional response. This also includes special events, closures, and other planned events that may impact the transportation system.
Incident Response Status	Status of the current incident response including a summary of incident status and its impact on the transportation system, traffic management strategies implemented at the site (e.g., closures, diversions, traffic signal control overrides), and current and planned response activities.
Maint and Const Resource Request	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. The request may poll for resource availability or request pre-staging, staging, or immediate dispatch of resources.
Maint and Const Resource Response	Current status of maintenance and construction resources including availability and deployment status. General resource inventory information covering vehicles, equipment, materials, and people and specific resource deployment status may be included.
Maint and Const 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.
Resource Deployment Status	Status of resource deployment identifying the resources (vehicles, equipment, materials, and personnel) available and their current status. General resource inventory information and specific status of deployed resources may be included.
Resource Request	A request for resources to implement special traffic control measures, assist in clean up, verify an incident, etc. The request may poll for resource availability or request pre-staging, staging, or immediate deployment of resources. Resources may be explicitly requested or a service may be requested and the specific resource deployment may be determined by the responding agency.
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.

Name	Description
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.
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).
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.
Traffic Control Coordination	Information transfers that enable remote monitoring and control of traffic management devices. This flow is intended to allow cooperative access to, and control of, field equipment during incidents and special events and during day-to-day operations. This flow also allows 24-hour centers to monitor and control assets of other centers during off-hours, allows system redundancies and fail-over capabilities to be established, and otherwise enables integrated traffic control strategies in a region.
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. This flow includes the images and the operational status of the surveillance system.
Traffic Information Coordination	Traffic information exchanged between TMC's. Normally would include incidents, congestion data, traffic data, signal timing plans, and real-time signal control information.
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 apprised 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.

Name	Description
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.
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.
Video Surveillance Control	Information used to configure and control video surveillance systems.
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.

FOR INFORMATIONAL PURPOSES ONLY

3   Operator Requirements

1   General TMC Operator user requirements:

  1.1   The TMC Operator shall operate the ATMS hardware and software including:

- Cameleon ITS
- MIST DMS Interface
- MIST Congestion Map
- CARS/511
- ITS Incident Database

  1.1.1   The TMC Operators shall have an operational knowledge of the ATMS software applications.

  1.1.2   The TMC Operator shall have an operational knowledge of the ATMS hardware.

  1.2   The TMC Operator shall monitor the existing conditions of the roadway system.

  1.2.1   The TMC Operator shall recognize changes in the highway network conditions to identify the following:

- Incident
- Abnormal congestion

  1.3   The TMC Operator shall receive scheduled closure notifications from:

- DOTD District Office
- Construction contractor personnel

  1.4   The TMC Operator shall perform the following routine ATMS software administrative activities:

- Develop reports
- Modify graphical user interface (GUI) layout
- Configure devices

  1.4.1   The TMC Operator shall perform the following daily administrative activities:

- Pull Detailed Failure Report from MIST software for DMS
- Detect CCTV failure visually by checking each camera through Cameleon, AXIS, and the public 511 website
- Prepare Daily Equipment Status Form
- Prepare incident reports

   1.4.1.1   The TMC Operator shall email the Daily Equipment Status Form to the Statewide TMC Operation Supervisor by 10:00 A.M.

   1.4.1.1.1   The TMC Operator may submit the Daily Equipment Status Form later if delayed due to traffic incident response.

  1.4.2   The BR TMC phones shall be forwarded to pass calls to the LA TMC.

   1.4.2.1   The BR TMC phones shall be forwarded to pass calls to the LA TMC after hours.

   1.4.2.2   The BR TMC phones shall be forwarded to pass calls to the LA TMC if the operator is away from the console for any reason.

   1.4.2.3   The BR TMC phones shall be forwarded to pass calls to the LA TMC if the operator is

unable to perform required functions as indicated by this document.

2   Traffic Management

  2.1   The TMC Operator shall monitor the roadway system.

    2.1.1   The TMC Operator shall monitor the roadway system via CCTV image viewing.

      2.1.1.1   The TMC Operator shall utilize "Active Monitoring" of the CCTV by:

        2.1.1.1.1   The TMC Operator shall take control of a CCTV device

        2.1.1.1.2   The TMC Operator shall modify the camera view by:
- Using presets
- Switching directions

        2.1.1.1.3   The TMC Operator shall take note of the status of the roadway.

        2.1.1.1.4   The TMC Operator shall take control of the next camera in line with the monitored roadway.

        2.1.1.1.5   The TMC Operator shall repeat the "Active Monitoring" requirements until each camera has been checked at least once.

        2.1.1.1.6   The TMC Operator shall continue to utilize "Active Monitoring" until an incident is detected.

    2.1.2   The TMC Operator shall monitor the roadway system via traffic flow detector monitoring using the ATMS software.

      2.1.2.1   The TMC Operator shall keep the map visible at all times.

      2.1.2.2   The TMC Operator shall monitor the map for any changes in the links' colors.

    2.1.3   The TMC Operator shall monitor the roadway system via listening to the RSIP radio

      2.1.3.1   The TMC Operator shall have the radio loud enough to easily hear radio traffic.

      2.1.3.2   The TMC Operator shall have the radio loud enough to easily understand radio traffic.

    2.1.4   The TMC Operator shall monitor the roadway system via notification from agencies collocated within the Operations Room.

      2.1.4.1   The TMC Operator shall investigate areas via CCTV Cameras based on information received from emergency dispatchers.

    2.1.5   The TMC Operator shall monitor the roadway system via monitoring the Computer Aided Dispatching (CAD) website.

      2.1.5.1   The TMC Operator shall keep the CAD website visible at all times.

      2.1.5.2   The TMC Operator shall investigate any incident posted that is related to the Area of Operations.

    2.1.6   The TMC Operator shall monitor the roadway system via received phone calls.

2.1.6.1   The TMC Operator shall answer all calls to the TMC Operator's console.

2.1.6.2   The TMC Operator shall investigate any incident called in that is related to the Area of Operations.

2.2   The TMC Operator shall perform incident management in the Area of Operations.

2.2.1   The TMC Operator shall monitor the area of operations for highway incidents.

2.2.1.1   The TMC Operator shall use the following for incident detection:

- CCTV cameras
- Input from DOTD Road Patrol Operators
- ATMS Congestion map
- Traffic monitoring websites

2.2.1.2   The TMC Operator shall immediately acknowledge notification of an incident.

2.2.1.2.1   The TMC Operator shall view incident data.

2.2.1.2.2   The TMC Operator shall determine the location of the incident.

2.2.1.2.3   The TMC Operator shall verify incidents within 3 minutes of being notified by using one or more of the following:
- CCTV camera
- DOTD Road Patrol Operator
- Police/EMS

2.2.2   The TMC Operator shall classify incident alarms.

2.2.2.1   The TMC Operator shall classify an incident in the following categories:

- Lane blockage within the area of operations
- Shoulder blockage within the area of operations
- Total closure
- Lane blockage outside the area of operations
- False alarm

2.2.3   The TMC Operator shall evaluate the severity of the incident for the following:
- Injuries
- Number of vehicles involved
- Number of lanes affected
- Hazardous material involved

2.3   The TMC Operator shall initiate a response plan to the following incidents:
- Lane blockage
- Shoulder blockage
- Total road closures
- Incident detours
- Road construction

2.4   The TMC Operator shall enact appropriate defined operating procedures.

2.4.1   The TMC Operator shall immediately notify police of a verified incident in accordance with the defined operating procedures.

2.4.2   The TMC Operator shall notify affected agencies of the incident in accordance with the defined operating procedures by one of the following:

- Verbal within the TMC
- Phone
- Email

2.4.3   The TMC Operator shall notify emergency services when incident involve injuries in accordance with the defined operating procedures.

2.4.4   The TMC Operator shall support the on-site police in the response to the incident in accordance with the defined operating procedures.

2.4.5   The TMC Operator shall provide notification of incidents by the following methods in accordance with the defined operating procedures:

1) Dynamic message sign (DMS) closest to incident
2) CARS/511 system
3) Twitter
4) Email
5) Supplemental DMS further from incident

2.4.5.1   The TMC Operator shall post messages on appropriate DMS within 3 minutes after verifying the incident (i.e., 6 minutes after initial notification).

2.4.5.2   The TMC Operator shall provide notification in the CARS/511 system within 5 minutes after verifying the incident (i.e., 8 minutes after initial notification).

2.4.5.3   The TMC Operator shall provide email notification within 7 minutes after verifying the incident (i.e., 10 minutes after initial notification).

2.4.5.4   In the event of e-mail failure or a serious incident which may require additional detail, the TMC Operator shall call via phone the TMC Operations Supervisor.

2.4.5.4.1   If the TMC Operations Supervisor is unavailable, the TMC Operator shall call via phone the TMC Operations Manager.

2.4.5.5   The TMC Operator shall dispatch DOTD Road Patrol vehicles to support the incident.

2.4.5.6   The TMC Operator shall call the DOTD District switchboard operator for dispatching maintenance equipment in support of the incident.

2.4.5.7   The TMC Operator shall call the DOTD District switchboard operator for dispatching materials in support of the incident.

2.4.6   The TMC Operator shall monitor the progress of the response to the incident until it is cleared in accordance with the defined procedures.

2.4.6.1   The TMC Operator shall view the defined procedures appropriate to the incident.

2.4.6.2   The TMC Operator shall follow the defined procedures as the needs of the incident

change.

2.4.6.3 In unplanned incidents, the TMC Operator shall modify the appropriate defined procedures.

2.4.6.3.1 The TMC Operator shall notify the TMC Supervisor of any modifications to the defined procedures.

2.4.6.3.2 The TMC Operator shall coordinate with the TMC Supervisor for the appropriate actions for the modified procedures.

2.4.6.3.3 The TMC Operator shall document the modified procedures as part of the post incident evaluation.

2.4.6.4 The TMC Operator shall coordinate with on-site police for estimated duration to clear.

2.4.7 The TMC Operator shall defer to TMC operations Supervisor for the following incident detours:

- Minor detour (off and on ramps for bypass)
- Construction detours
- Other detours (long term, major re-routes)

2.5 The TMC Operator shall provide notification when the incident has been cleared.

2.5.1 The TMC Operator shall notify affected agencies when the incident has been cleared by the following:

- Verbal within the TMC
- Phone
- Email

2.5.2 The TMC Operator shall remove incident messages from the following:

- DMS notification
- 511 notification
- Twitter

2.6 The TMC Operator shall document the on-going activities during the incident.

2.6.1 The TMC Operator shall log incidents into the ITS Incident Database.

3 Traveler Information

3.1 The TMC Operator shall prepare the following information for dissemination:

- Incident reports
- Construction event reports

3.1.1 The TMC Operator shall directly disseminate information to the public via the following:

- DMS messages
- CARS/511 information
- Twitter

3.1.2 The TMC Operator shall disseminate coordination information using the following methods:

- Email
- Radio communications with DOTD Road Patrol
- Verbally with co-located agencies
- Telephone communications

3.1.2.1 The TMC Operator/Supervisor shall follow the method indicated in the TMC Information Flow Table for communications with each agency.

3.1.3 The TMC Operator shall activate a pre-closure message on the DMS for scheduled construction events.

3.1.3.1 The TMC Operator shall not activate the pre-closure message while incident messages are required.

3.1.3.2 The TMC Operator shall post specific information pertaining to scheduled construction events at the time of closure.

3.2 The TMC Operator shall recognize that an incident meets advisory standards defined as:

- A closure of all lanes on an interstate
- An incident on a two lane corridor in which one lane is blocked
- An incident involving a blockage of two or more lanes
- An incident causing a queue of at least a mile
- An incident with one lane blocked for over 30 minutes
- A closure of an exit ramp
- Any incident blocking a lane during rush hour
- Any hazardous material situation
- An Amber Alert

4 Operations

4.1 Operations Procedures

TMC operators need to be able to perform numerous functions and control various devices to handle the requirements of a TMC. The TMC operators shall monitor the ATMS via Cameleon ITS, MIST DMS Interface, MIST Congestion Map, CARS/511, and the ITS Incident Database. Upon detecting abnormal traffic congestion and/or traffic incidents, the TMC operator shall notify the public and affected agencies through the procedures outlined below.

4.1.1 Beginning of Shift

At the beginning of each shift, the operator shall login to the workstation and open all necessary programs. The operator shall open and login to the following:

- Cameleon ITS
- The MIST DMS Interface and Congestion Map
- The ITS Incident Database
- The CAD web page
- The CARS/511 entry page
- The BR_Traffic Twitter page

The operator shall check the shift pass down for any ongoing events and check for email or any information passed on from the supervisor or previous operator. The operator shall read the Daily Equipment Status Form.

After gathering information from the previous shift, the operator shall perform equipment tests on the cameras, RVDs, and DMSs and record changes into the Daily Equipment Status Form. The first daily shift is responsible for sending the form to the Statewide TMC Supervisor.

The operator should set up sequences on video wall monitors for maximum surveillance in the shortest amount of time. If no incidents are detected, the operator shall begin normal operating procedures.

4.1.2   Normal Operating Procedures

The operator shall continuously monitor the cameras, DOTD Road Patrol radio traffic, the MIST map, and CAD display to identify and verify events that cause abnormal traffic congestion and to give motorists information about road conditions.

The operator shall investigate all unusual back-ups, stopped traffic, vehicles on shoulders, and lane blockages. The operator shall utilize active monitoring of the entire system to minimize incident detection time.

4.1.3   Incident Detected By Operator

When an incident is detected by the TMC Operator, the following steps shall be taken:

1. Verify location of the incident to nearest cross street.

2. Display incident on wall for viewing of TMC staff.

3. Notify Police/911 if the incident involves a collision

4. Notify DOTD Road Patrol Daily Patrol Vehicle Operator if not aware.

5. Activate and verify DMS messages.

6. Initiate 511 entry and Twitter entry if lanes are blocked.

7. Email TMC Operations Supervisor, Statewide TMC Supervisor and the current DOTD Incident Distribution List when an incident meets advisory standards.

8. Initiate entry into the Incident Log in the ITS Incident Database.

9. Monitor Incident for changes and update Incident Log, 511, and field equipment.

10. When incident clears: close Incident Log, deactivate DMS message, remove from 511, update Twitter, and send a follow-up email.

11. Monitor queue until normal traffic resumes.

4.1.4   Incident Detected by DOTD Road Patrol

When an incident is detected by a DOTD Road Patrol Daily Patrol Vehicle Operator, the following steps shall be taken by the TMC operator:

1. Verify location of the incident to nearest cross street.

2. Display incident on wall for viewing of TMC staff.

3. Notify Police/911 if the incident involves a collision.

4. Activate and verify DMS messages.

5. Initiate 511 entry and Twitter entry if lanes are blocked.

6. Email TMC Operations Supervisor, Statewide TMC Supervisor and the current DOTD Incident Distribution List when an incident meets advisory standards.

7. Initiate entry into the Incident Log.

8. Monitor Incident for changes and update Incident Log, 511, and field equipment.

9. When incident clears: close Incident Log, deactivate DMS message, remove from 511, update twitter, and send a follow-up email.

10. Monitor queue until normal traffic resumes.

4.1.5   Incident Detected by Police Department

When notified of an incident detected by the Police Department, the following steps shall be taken by the TMC operator:

1. Verify location of the incident to nearest cross street.

2. Display incident on wall for viewing of TMC staff.

3. Notify DOTD Road Patrol Daily Patrol Vehicle Operator with brief description if not aware

4. Activate and verify DMS messages.

5. Initiate 511 entry and Twitter entry if lanes are blocked.

6. Email TMC Operations Supervisor, Statewide TMC Supervisor and the current DOTD Incident Distribution List when an incident meets advisory standards.

7. Initiate entry into the Incident Log.

8. Monitor the incident for changes and update Incident Log, 511, and field equipment.

9. When incident clears: close Incident Log, deactivate DMS message, remove from 511, update twitter, and send a follow-up email.

10. Monitor queue until normal traffic resumes.

4.1.6   DOTD Road Patrol Response to Motorists Assistance

When DOTD Road Patrol Daily Patrol Vehicle provides motorist assistance such as for a disabled vehicle on the shoulder, the following steps shall be taken:

1. Notify DOTD Road Patrol Daily Patrol Vehicle Operator of need for assistance if detected by the TMC Operator and DOTD Road Patrol Daily Patrol Vehicle Operator is not aware.

2. Initiate entry into the Incident Log.

3. Monitor event for changes and update Incident Log

4. When event clears: close Incident Log.

4.1.7   Total Closure

In the event of a total closure, the TMC Operator shall follow the steps as outlined for all incidents. In addition to these steps, the TMC Operator may post detour information if directed by the TMC Operations Supervisor.

4.1.8   Planned Closure

When notified of a planned closure, the TMC Operator shall activate a pre-closure message on the DMS. This pre-closure message shall not be posted while incident messages are required. At the time of the closure, the TMC Operator shall post specific information pertaining to the scheduled construction event.

4.1.9   End of Shift

Since the Baton Rouge TMC does not operate 24/7, at the end of the last shift of the day the TMC Operator shall forward the phones to pass calls to the Statewide TMC. In the event that a major incident is ongoing during the end of shift, the TMC Operator shall remain working the incident until the incident is clear unless directed otherwise by the Statewide TMC Supervisor.

4.2   Operations Policy

4.2.1   Background

Transportation Management Centers have been constructed to serve major urban areas of the state. Multiple agencies including police and other first responders, city, and state officials can be collocated in a TMC to more effectively and efficiently manage roadway incidents. Modern traffic signal equipment, surveillance equipment, and reliable communications allow for off-site monitoring and remote management of the roadway network.

4.2.2   Goals and Objectives

The primary goal of any TMC is to improve overall incident response through the use of ITS and coordination among multiple public and private agencies. TMC operators monitor real time roadway status to detect incidents and communicate quickly and effectively to relay details to emergency responders and the travelling public. The ultimate objective of TMC operations is to decrease incident response times and increase roadway safety.

4.2.3   Equipment

4.2.3.1   CCTV Cameras and Video Recording

The use of all system CCTV cameras shall be confined to viewing incidents which may impact the highway. No CCTV camera shall be used to specifically focus on an individual, private vehicle, or group of individuals. Camera images are displayed on DOTD's website and video is provided directly to the media. Images and video may be blocked by the TMC Operator if the TMC Operations Staff is required to zoom in close to an incident scene to assist with incident management.

The TMC Operator shall actively monitor the roadway using CCTV cameras throughout the shift by taking control of each camera and scanning the viewable area of the roadway. Simply waiting for cameras to switch directions according to program is not adequate.

The TMC Operations Staff shall not record video from the CCTV cameras without prior approval from DOTD. Video recordings are on a special circumstances (e.g., analysis of equipment performance, analysis of traffic conditions, etc) and used for training.

4.2.3.2   DMS and Message Posting

The use of all DMS, regardless of whether fixed positioned or portables, assigned to the TMC are limited to official TMC business. TMC Operators are expected to post an appropriate message on each DMS to notify motorists of pertinent information such as real-time information about incidents, traffic, roadwork, environmental, or pavement conditions that could have an effect on driver safety and traffic efficiency. Message accuracy shall be a top priority for TMC Operators. The TMC Operator shall constantly monitor incidents and modify messages as the situation changes.

The MIST system contains a message library that allows TMC Operators to utilize preset messages or defined message formats to follow. No new message format may run without the prior approval of the Statewide TMC Supervisor or TMC Operations Supervisor. If a new message must be created, the principles and procedures illustrated in the Baton Rouge Regional TMC Handbook should be followed to formulate the message.

Messages shall be posted to DMS based on prioritized need. Pre-closure messages related to planned construction closures or other planned event messages shall not be posted while incident related messages are required.

4.2.3.3   Vehicle Detection and Traffic Data Distribution

Traffic data is collected from vehicle detectors in the field and is archived. Radar detector data is collected on a MIST server at the BR TMC. Video detector data is collected and archived on the Data Collection and Management System (DCMS) server at DOTD Headquarters.

Traffic data reports can be made available upon written request to the TMC Operations Staff. The TMC Operations Supervisor shall provide approval prior to transmitting traffic data. Generally, traffic data is provided via email as a PDF report.

4.2.4   Incident Detours

In the event of a total closure of a roadway, the TMC Supervisor shall assess the situation to ensure that all possible efforts are being made by the TMC. In general, alternate routing detours must be approved by DOTD management, the Statewide TMC Supervisor, or greater. Location specific diversion plans are available and based on ideal conditions.

4.2.5   Email Notification

The TMC Operations Staff are expected to send an email notification to the current incident distribution list when an incident meets advisory standards. The TMC Operations Staff are expected to not send an email notification when an incident fails to meet advisory standards.

The advisory standards are defined as:

- A closure of all lanes on an Interstate

- An incident on a two lane corridor in which one lane is blocked

- An incident involving a blockage of two or more lanes

- An incident causes a queue of at least a mile

- An incident with one lane blocked for over 30 minutes

- A closure of an exit ramp

- Any incident blocking a lane during rush hour

- Any hazardous material situation

- An Amber Alert

Email notification is the lowest priority activity conducted by the TMC Operators. Notifying the public through the activation of DMS, the CARS/511 System, and Twitter are the first concerns. All other tasks should be completed before composing the email. An initial email should be sent no more than seven minutes after verifying the incident.

4.2.6 TMC Operations Reports

The TMC Operations Supervisor shall produce a weekly, quarterly, and annual report on activities conducted by the TMC. The weekly report shall focus on several areas included but not limited to the following:

- Total number of incidents

- Total incidents with lane blockage

- Total of incidents which blocked all lanes

- Total minutes of blocked lane

- Average time to clear lanes

- Average recovery time

- Totals by incident type and average clear time

- Totals by severity level

- Totals of secondary, commercial vehicle, Haz-Mat, construction zone, detours, and after hours

- Totals by incidents by time of day and severity, specifically peak periods

- Total of shoulder incidents

- All operational activity (DMS activation, CARS/511 entry, e-mail notifications)

- Totals of primary detector of an incident (TMC, MAP, or PD/EMS) by lane blockage or shoulder impacting only

- DMS usage by type of incident, period of use, and average duration of use

- Response times of all agencies involved in the Incident Management process

- Incident location by lane blockage or shoulder impacting only

- Equipment maintenance and downtime statistics

TMC Operators shall populate the ITS Incident Database throughout their shift according to standard operating procedures.

At the beginning of every morning shift, the TMC Operator shall perform an equipment check on all field devices in service. All issues shall be entered into the Daily Equipment Status Form which shall produce a report detailing each issue. This report is to be sent to the Statewide TMC Supervisor each morning.

4.2.7   Contact with the Media, Public, and other Agencies

All media requests are to be directed to the DOTD Public Relations Director, the ITS Director, or the Statewide TMC Supervisor. Under no circumstances is a TMC Operations Supervisor or TMC Operator allowed to talk with the media about incidents, the operating system, or planned events without DOTD approval.

Requests by the news media to view specific CCTV images shall only be accepted with the prior approval of the DOTD ITS Director or his authorized representative. When media agencies request a different viewing angle on a camera, the TMC Operator shall first determine if the camera is needed to remain stationary for operational reasons. TMC Operators do not need to accept a media agency request when a camera is being used for operational reasons.

4.2.8   Document Change Policy

The purpose of this specific procedure is to recognize that procedures that govern the operation of the TMC shall change as the system is used and deployed in new geographic areas. The new procedure to be created or the existing procedure to be changed shall be documented and presented to the DOTD ITS Section or a similar approval authority for review and approval. When the procedure is accepted as written, then the DOTD ITS Section will provide a documented acceptance for the operations historical file and the procedure shall be added to this document. If the procedure is not acceptable as written, then the person(s) presenting the procedure (generally the Statewide TMC Supervisor) shall meet with DOTD to modify the procedure for future approval or file the procedure with a non-concurrence decision. It is expected that this document shall be reviewed and updated at least on an annual basis.

APPENDIX A

BR TMC Contact List

Contacts*	Phone Number
Acadian Ambulance	1-800-558-5387
Ascension Parish Emergency Operations Center (EOC)	225-621-8360
Ascension Parish Sheriff Office	225-621-8330
Baton Rouge Emergency Medical Services	225-389-3300
Baton Rouge Police Department	225-389-3874
Capital Region Planning Commission (CRPC) Planning Division	225-383-5203
City of Baker Police Department	225-775-6000
City of Denham Springs Police Department	225-686-0463
City of Gonzales Police Department	225-647-7511
City of Port Allen Police Department	225-343-5525
City of Walker Police Department	225-667-3870
City of Zachary Police Department	225-654-9393
City-Parish DPW Traffic Engineering Division (ATM/EOC)	225-389-3246
City-Parish Emergency Response Operations 911	225-389-3300
City-Parish Mayors Office of Homeland Security + Emergency Preparedness (EOC)	225-389-2100
DOTD District 61	225-202-6804
DOTD District 62	985-375-0100
DOTD ITS Section	225-379-2517
DOTD Roadway Safety and Incident Patrol	225-413-6030/225-229-0209
DOTD Statewide TMC	225-379-2577
East Baton Rouge Parish Sheriff Office	225-343-9234
Livingston Parish Communications District 911	225-686-2241
Livingston Parish Emergency Operations Center (EOC)	225-686-2241
Livingston Parish Sheriff Office	225-686-2241
Louisiana State Police - Troop A	225-754-8500
Town of Sorrento Police Department	225-675-5355
West Baton Rouge Office of Homeland Security/Emergency Preparedness/911	225-490-8599
West Baton Rouge Parish Sheriff Office	225-490-8599

*Note these organizations may or may not be contacted depending on the situation and location of an incident