

**AMENDMENT NO. 1**  
**INTERLOCAL AGREEMENT NO. 23-017**  
**INTERLOCAL AGREEMENT BETWEEN REGIONAL TRANSPORTATION**  
**COMMISSION OF SOUTHERN NEVADA AND CLARK COUNTY, CITY OF LAS**  
**VEGAS, CITY OF NORTH LAS VEGAS, AND CITY OF HENDERSON**

This AMENDMENT is made and entered into as of this 13th day of June 2024, (“Effective Date”), by and between the REGIONAL TRANSPORTATION COMMISSION OF SOUTHERN NEVADA, (hereinafter referred to as “RTC”) and CLARK COUNTY, a political subdivision; the CITY OF LAS VEGAS, a municipal corporation; the CITY OF NORTH LAS VEGAS, a municipal corporation; the CITY OF HENDERSON, a municipal corporation; the CITY OF BOULDER CITY, a municipal corporation; and the CITY OF MESQUITE, a municipal corporation; (hereinafter referred to collectively as “ENTITIES”), collectively referred to herein as the “PARTIES.”

**RECITALS**

WHEREAS, the PARTIES entered into Interlocal Agreement No. 23-017 entitled “Interlocal Agreement Between Regional Transportation Commission of Southern Nevada and Clark County, City of Las Vegas, City of North Las Vegas, and City of Henderson” (hereinafter referred to as “AGREEMENT”) dated August 11, 2022; and

WHEREAS, the PARTIES desire to amend the AGREEMENT by revising the agreement term and scope of agreement; and

WHEREAS, the City of Boulder City and City of Mesquite wish to join as signatories to this AGREEMENT; and

NOW THEREFORE, in mutual consideration of the mutual covenants, promises, terms and conditions herein, the RTC and the ENTITIES agree as follows:

**AGREEMENT**

1. The PARTIES, pursuant to Section 17 Amendments of the AGREEMENT, agree to amend and modify the AGREEMENT as follows:
  - a. The following language shall be deleted from the AGREEMENT, Section 1 Term and Termination:

TERM AND TERMINATION. This Agreement shall be effective from July 1, 2022 to June 30, 2024 (“Term”).

The following language shall replace the deleted language referenced directly above:

TERM AND TERMINATION. This Agreement shall be effective from July 1, 2022, to June 30, 2026 (“Term”).

- b. The following language shall be deleted from the AGREEMENT, Section 1 Term and Termination, subsection (a):

This Agreement shall commence on the first day of the quarter following approval by the last PARTY, and terminate on June 30, 2024, unless by a vote of 2/3 majority of the PARTIES agree to an earlier date of termination. After June 30, 2024 the Agreement shall automatically be extended annually for one year intervals unless a PARTY submits a request in writing to amend or terminate this Agreement a minimum of one hundred eighty (180) days prior to the Agreement expiration date.

The following language shall replace the deleted language referenced directly above:

This Agreement shall commence on the first day of the quarter following approval by the last PARTY, and terminate on June 30, 2026, unless by a vote of 2/3 majority of the PARTIES agree to an earlier date of termination. After June 30, 2026, the Agreement shall automatically be extended annually for one year intervals unless a PARTY submits a request in writing to amend or terminate this Agreement a minimum of one hundred eighty (180) days prior to the Agreement expiration date.

- c. Exhibit A, Scope of Agreement, shall be removed and replaced with the attached revised Exhibit A Scope of Agreement.

### **Miscellaneous**

2. Effect of this Amendment on the Agreement; Interpretation. The Parties acknowledge and agree that the AGREEMENT has not been amended or modified in any respect, other than as set forth in Section 1 above. This Amendment does not alter, amend, or otherwise modify the terms and conditions of the Agreement, all of which unmodified terms and conditions shall continue in full force and effect.
3. Dispute Resolution. If any dispute arises under this Amendment, then such dispute shall be resolved pursuant to the dispute resolution provisions contained in the Agreement.
4. Counterparts. This Amendment may be executed in multiple counterparts including .PDF, and each counterpart when fully executed and delivered shall constitute an original instrument, and all such multiple counterparts shall constitute but one and the same instrument.
5. Severability. If any term or provision of this Amendment shall be adjudicated invalid or unenforceable by a non-appealable order of an arbitrator or court of competent jurisdiction, then the remainder of this Amendment, or the application of such term or provision to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected

thereby and each term and provision of this Amendment shall be valid and be enforced to the fullest extent permitted by law.

6. Conflicts. The terms of this Amendment shall control over any conflicts between the terms of the Agreement and the terms of this Amendment.

7. Successors and Assigns. This Amendment shall be binding upon and inure to the benefit of the Parties hereto and their respective successors and assigns.

8. Governing Law. This Amendment shall be governed by and construed in accordance with the laws of the State of Nevada.

9. No Party Deemed Drafter. The Parties agree no Party shall be deemed the drafter of this Amendment and in the event this Amendment is ever construed by an arbitrator or court of competent jurisdiction, such arbitrator or court shall not construe this Amendment or any provision hereof against any Party as the drafter thereof. Each Party to this Amendment acknowledges that it has contributed substantially and materially in the preparation and negotiation of this instrument.

10. Additional Actions and Documents. The Parties agree to take such additional actions and execute such additional documents as may be necessary or useful to carry out the transactions contemplated by this Amendment.

**IN WITNESS WHEREOF**, the PARTIES hereto have executed this AMENDMENT as of the Effective Date written above.

Date of Commission Action:

June 13, 2024

DocuSigned by:  
REGIONAL TRANSPORTATION COMMISSION OF  
SOUTHERN NEVADA

*Justin Jones*  
134746B11CDF44C...

BY:

\_\_\_\_\_  
RTC Chair

Attest

DocuSigned by:

*Marin DuBois*

67F25985C7F8458...

\_\_\_\_\_  
MARIN DUBOIS

Government Affairs Supervisor

Approved as to Form

DocuSigned by:

*David Clyde*

C20A409B6B774C0...

\_\_\_\_\_  
RTC Legal Counsel

DS  
PC

Date of Commission Action:

\_\_\_\_\_

CLARK COUNTY BOARD OF COMMISSIONERS

BY:

\_\_\_\_\_  
TICK SEGERBLOM  
Chair

Attest

\_\_\_\_\_  
LYNN MARIE GOYA

County Clerk

Approved as to Form

\_\_\_\_\_  
ASHLEY A. BALDUCCI

Deputy District Attorney

Date of Council Action:

CITY OF LAS VEGAS

---

BY:

---

CAROLYN G. GOODMAN  
Mayor

Attest

---

LUANN D. HOLMES, MMC  
City Clerk

Approved as to Form

---

Deputy City Attorney

Date of Council Action:

CITY OF NORTH LAS VEGAS

---

BY:

---

PAMELA A. GOYNES-BROWN  
Mayor

Attest

---

JACKIE RODGERS  
City Clerk

Approved as to Form

---

ANDY MOORE  
Acting City Attorney

Date of Council Action:

CITY OF HENDERSON

\_\_\_\_\_

BY:

\_\_\_\_\_  
RICHARD A. DERRICK  
City Manager/CEO

Approved as to Finance:

Attest

\_\_\_\_\_

MARIA GAMBOA  
Director of Finance

\_\_\_\_\_

JOSE LUIS VALDEZ, CMC  
City Clerk

Approved as to Content:

Approved as to Form

\_\_\_\_\_

LANCE M. OLSON, P.E.  
Director of Public Works

\_\_\_\_\_

NICHOLAS G. VASKOV  
City Attorney

Date of Council Action:

CITY OF BOULDER CITY

---

BY:

---

JOE HARDY  
Mayor

Attest

---

TAMI MCKAY  
City Clerk

Approved as to Form

---

BRITTANY LEE WALKER, ESQ.  
City Attorney

Date of Council Action:

CITY OF MESQUITE

---

BY:

---

ALLAN S. LITMAN  
Mayor

Attest

---

JULIE GOODSELL  
City Clerk

Approved as to Form

---

BRYAN J. PACK  
City Attorney

**Exhibit A**

**Scope of Agreement**

## EXHIBIT A:

Freeway and Arterial System of Transportation (FAST)  
Arterial Management System (AMS) Scope of Agreement

## CONTENTS

1. GENERAL .....	4
1.1 FAST Goals .....	4
1.2 NDOT FMS Agreement .....	4
1.3 TMC Facility .....	5
1.4 Public Meetings .....	5
1.5 Title To System Property .....	5
2. FAST PERSONNEL ROLES.....	6
2.1 FAST Director.....	6
2.2 FAST Manager of Engineering .....	6
2.3 FAST Manager of Traffic Systems Maintenance .....	7
2.4 FAST Operations Theater Personnel .....	7
2.5 FAST Traffic Signal Personnel .....	7
2.6 FAST AMS Maintenance Personnel .....	7
2.7 FAST FMS Maintenance Personnel (funded under NDOT FMS Agreement) .....	7
2.8 FAST Fiber Optic Personnel .....	8
2.9 FAST Professional and Administrative Personnel .....	8
2.10 FAST Hours of Operation .....	8
3. RESPONSIBILITIES .....	9
3.1 Administrator .....	9
3.2 Operations Theater .....	10
3.3 Traffic Signals .....	11
3.4 AMS Maintenance.....	13
3.5 Fiber Optic Infrastructure.....	14
3.6 Utility Locates.....	15
3.7 Fiber Repair .....	15
3.8 Data .....	15
3.9 Regional Events Traffic Management .....	16
3.10 Emergency Traffic Management Strategies .....	17
3.11 FAST Information Technologies (IT) System Administration Tasks.....	17
APPENDIX 1. FAST PERSONNEL POSITIONS .....	20

APPENDIX 2. FAST MAINTENANCE BOUNDARY MAP ..... 22  
APPENDIX 3. DEFINITIONS ..... 23  
APPENDIX 4. ITS DEVICE PREVENTATIVE MAINTENANCE (PM) ACTIVITIES ..... 26

## 1. GENERAL

On April 15, 2003, Nevada Department of Transportation (NDOT), City of Las Vegas, City of North Las Vegas, City of Henderson, Clark County (hereinafter ENTITIES) and the Regional Transportation Commission (RTC) of Southern Nevada (hereinafter PARTIES) entered into the Freeway and Arterial System of Transportation (FAST) Interlocal Agreement (hereinafter AGREEMENT). The AGREEMENT provided the RTC with the necessary funding for the operation, staffing, maintenance, and resourcing of the Freeway and Arterial System of Transportation (FAST) Traffic Management Center (TMC) and the Freeway Management System (FMS) and Arterial Management System (AMS) components of the FAST System (hereinafter PROJECT). Subsequent updates to the original AGREEMENT have been approved in previous years. The purpose of the AGREEMENT is to define the roles and responsibilities of FAST and the ENTITIES, as it relates to the operations and maintenance of Intelligent Transportation System (ITS) infrastructure and traffic operations and management in the County of Clark. The updated Arterial Management System Interlocal Agreement, along with this Exhibit A, shall be referred to as AGREEMENT hereinafter.

### 1.1 FAST Goals

As a TMC, RTC FAST plays a key role in implementation and successful management and operation of the regional Transportation Systems Management and Operations (TSMO) strategies. This AGREEMENT includes key TSMO Goals, including improving safety, preserving existing roadway capacity and reducing congestion. The RTC's recently completed ACCESS 2050 Plan establishes strategies for Southern Nevada in order to implement the plan's goals. The first two goals of "Improve Safety" and "Manage Congestion" directly align with the FAST's TSMO goals.

Table 1. RTC's Access 2050 Goals

<b>ACCESS 2050 Goal</b>	<b>ACCESS 2050 Indicator</b>
Improve Safety	<ol style="list-style-type: none"><li>1. Fatality Rates</li><li>2. Serious Injury Rates</li><li>3. Non-motorized Fatalities/Injuries</li></ol>
Manage Congestion	<ol style="list-style-type: none"><li>1. System Reliability</li><li>2. Average Commute Delay</li><li>3. Incident Clearance Time</li></ol>

### 1.2 NDOT FMS Agreement

The FAST System is comprised of two components: the Freeway Management System (FMS) and the Arterial Management System (AMS). The PARTIES acknowledge that the operations, maintenance, staffing, and resources of the FMS and AMS will overlap occasionally, and the PARTIES agree to share proportional costs and responsibilities when applicable. NDOT and RTC have a separate Interlocal

Agreement which details the FMS services FAST provides NDOT. This Interlocal AGREEMENT details the AMS services FAST provides for the ENTITIES.

### 1.3 TMC Facility

The FAST TMC is designed to provide the ENTITIES and the FAST Department of RTC with an integrated Intelligent Transportation System (ITS) network that allows the PARTIES to manage and operate the region's freeway and arterial transportation network. The FAST TMC is also home to NDOT's District I Road Operation Center Personnel, FAST Personnel, State of Nevada Department of Public Safety (DPS) Personnel, and Nevada State Police (NSP) personnel for optimized interoperable communications for traffic management and incident management purposes.

### 1.4 Public Meetings

This AGREEMENT restructures the existing OMC Agreement to align with RTC's path of approval through the RTC Board, with oversight from the ENTITIES. The OMC bi-monthly meetings will be incorporated as part of the RTC's Operations Subcommittee (OPS) bi-monthly public meetings. OPS is a subcommittee of the Executive Advisory Committee (EAC). It assists the EAC by considering traffic management and roadway operations and making recommendations. The policies and procedures of OPS, including the membership, meeting frequency, scope, and structure, are provided in the *RTC's Policies and Procedures Manual*, which can be found on the RTC's website:

<https://www.rtcnv.com/projects-initiatives/streets-highways/policies-and-procedures/>

### 1.5 Title To System Property

Title ownership of all property, which is acquired with funds appropriated by the ENTITIES under this Agreement, shall be determined in the following manner.

- (1) Any and all property installed at the site of a traffic signal or ITS Field Device shall vest in title and ownership in the name of the ENTITY in whose jurisdiction the property is located unless identified otherwise by separate agreement;
- (2) Fiber connections and visual displays installed at an ENTITY's Jurisdictional Management Center (JMC) shall vest in title and ownership in the name of the JMC operator and be the responsibility of the ENTITY to provide;
- (3) Computers (including keyboards and mouse), switches, and decoders located at an ENTITY's JMC shall vest in title and ownership in the name of RTC, and will be the responsibility of RTC to provide;
- (4) Fiber infrastructure shall vest in title and ownership in the name of the ENTITY in whose jurisdiction the property is located, unless identified otherwise by separate agreement. FAST shall maintain and repair fiber optic cable, network switches, and CCTV at ENTITIES traffic signal or ITS Field Device locations, for ENTITIES.
- (5) RTC will be the owner and maintainer of all Layer 2 and 3 Switches, for the fiber optic communication network.

## 2. FAST PERSONNEL ROLES

FAST is a Department of the RTC. The RTC is the administrator of FAST. Administrator responsibilities are described in Section 3. FAST is comprised of management, professional, administrative and technical personnel. The professional, technical and administrative personnel shall be employees of the Administrator assigned to the operations of FAST with all of the same rights and benefits of other employees of the Administrator (including the benefits and rights under any collective bargaining agreement, which may cover the employee's job classification). The FAST organizational chart is available upon request.

The PARTIES acknowledge that AMS responsibilities will overlap occasionally with FMS responsibilities and vice versa. For example, the Manager of Traffic Systems Maintenance, Fiber Maintenance Supervisor, and Senior Project Engineer (which are FMS positions) split their time between AMS and FMS duties. Furthermore, the PARTIES agree to share proportional costs and responsibilities when applicable. **Appendix 1** presents a list of the AMS positions FMS positions, and the FAST Organizational Chart. The position qualifications, position summary, examples of duties, physical demands, requirements, and Fair Labor Standard Act (FLSA) status are provided on the RTC's website: <https://www.governmentjobs.com/careers/rtc/classspecs>

FAST will provide updates to staffing, as needed, to the Operations Subcommittee.

### 2.1 FAST Director / Senior Director

The FAST Director / Senior Director shall be an appointive employee of the Administrator assigned to FAST. The FAST Director / Senior Director is responsible for the daily operations of FAST including, without limitation, the day-to-day supervision of the FAST Personnel, system operation and maintenance activities, and preparation of the annual budget. The FAST Director / Senior Director shall provide the RTC executive leadership and the OPS updates on FAST activities and projects. The FAST Director / Senior Director shall prepare and maintain the Southern Nevada ITS Master Plan. Annually, the FAST Director / Senior Director shall present the State of the Traffic System to the RTC Board and the EAC. Whenever the provisions of this Agreement refer to the Director / Senior Director of FAST, that reference includes the Director's designee. The Director / Senior Director, with the approval of the RTC CEO, may authorize employees of other departments to enforce any or all provisions of this Agreement.

### 2.2 FAST Manager of Engineering

The FAST Manager of Engineering is responsible for the daily operations of FAST Traffic Signal System, operational staff members, and Operations personnel. These responsibilities including, without limitation, the day-to-day supervision of said personnel, system operation activities, and traffic network performance.

## 2.3 FAST Manager of Traffic Systems Maintenance

The FAST Manager of Traffic Systems Maintenance is responsible for the daily operations of FAST AMS Maintenance, FMS Maintenance, and Fiber Optic, Telecommunication and GIS personnel. These responsibilities including, without limitation, the day-to-day supervision of said personnel, system maintenance activities (including fiber, traffic signal controllers, and CCTV cameras), fiber asset management, fiber system planning, and fiber optic network operations.

## 2.4 FAST Operations Theater Personnel

The FAST Operations Theater personnel positions include:

- Traffic Management Center Supervisor
- Senior Traffic Engineering Technicians
- Traffic Engineering Technicians

## 2.5 FAST Traffic Signal Personnel

The FAST Traffic Signal personnel positions include:

- Principal Project Engineer
- Senior Traffic Systems Technicians
- Traffic Systems Technicians

## 2.6 FAST AMS Maintenance Personnel

The FAST AMS Maintenance personnel positions include:

- Traffic Systems Maintenance Supervisor
- Senior Traffic Communications Systems Technician - CDL
- Traffic Communications Systems Technicians - CDL
- Traffic Communications Systems Technicians

## 2.7 FAST FMS Maintenance Personnel (funded under NDOT FMS Agreement)

The FAST FMS Maintenance personnel positions include:

- Traffic Systems Maintenance Supervisor
- Senior Traffic Communications Systems Technician - CDL
- Traffic Communications Systems Technicians – CDL

## 2.8 FAST Fiber Optic Personnel

The FAST Fiber Optic personnel positions include:

- Fiber Optic Systems Maintenance Supervisor
- Senior Traffic Communications Systems Technician - CDL
- Traffic Communications Systems Technicians - CDL

## 2.9 FAST Professional and Administrative Personnel

The FAST Professional and Administrative positions include:

- Senior Project Engineer
- Project Engineer
- Systems Technician (IT)
- Administrative Specialist
- ITS Telecommunications Supervisor
- Fiber Network GIS Analyst
- Traffic Communication Specialist
- Engineering Program Supervisor

## 2.10 FAST Hours of Operation

FAST has implemented a 4-day/10-hour schedule. FAST professional, administrative personnel, maintenance and fiber personnel cover all five weekdays via an overlapping schedule (Mon-Thu, and Tue-Fri). FAST traffic signal personnel cover a minimum of five weekdays and Saturdays via overlapping schedules. FAST Operations Theater personnel provide coverage 7 days a week.

Table 2. FAST Hours of Operation

<b>FAST Personnel</b>	<b>Days<sup>3, 4</sup></b>	<b>Hours<sup>3, 4</sup></b>
Operations Theater	Monday through Friday	5AM – 11PM
	Saturday	6AM – 11PM
	Sunday	7AM –11PM
	New Year’s Eve	As coordinated with law enforcement/special events

	Holidays <sup>1</sup>	10-hour shift
Traffic Signals <sup>5</sup>	Monday through Friday	5:30 a.m. 11:00 p.m.
	Saturday <sup>2</sup>	5:30 a.m. – 7:00 p.m.
	Sunday <sup>2</sup>	7 a.m. to 5:30 p.m.
Maintenance <sup>5</sup>	Monday through Friday	5:30 a.m. 4:00 p.m.

Table Notes:

1. Holidays were selected because of their anticipated much-higher-than-normal tourist visitor influx traffic volume and will have FAST personnel on duty in the Operations Theater. FAST personnel will provide 10 hours of Operations Theater coverage on holidays, of which the times will vary based on historical and anticipated traffic demand. Operations Theater personnel are not scheduled to work on Christmas Day. Thanksgiving Holiday Coverage will be determined as needed.
2. Weekend hours may be revised based on operational needs.
3. Additional coverage or overtime may be needed beyond the normal coverage for operational coverage during special events.
4. FAST Hours of Operation as shown in Table 2 may be modified as needed administratively to provide coverage as deemed necessary. An updated schedule of FAST Hours of Operation will be provided to ENTITIES.
5. Traffic Signals and Maintenance personnel are not scheduled to work holidays, except New Year’s Eve. Holidays include legal holidays observed by the State of Nevada pursuant to NRS Chapter 236.

### 3. RESPONSIBILITIES

#### 3.1 Administrator

RTC shall serve as the designated Administrator of FAST.

- A. The Administrator is responsible for funding FAST AMS, as determined by the approved budget.
- B. The Administrator shall maintain detailed expenditure records for the Operation and Maintenance of the FAST System. These records will be used to establish the annual FAST budget, providing the ENTITIES with adequate information to determine the cost for each type of equipment, function and location (freeway or arterials).
- C. The Administrator shall maintain under generally acceptable accounting principles full, true and complete records and documents pertaining to this Agreement, and present, at any reasonable

time, such information for inspection, examination, review, and audit at any office where such records and documentation is maintained.

- D. The Administrator shall provide an annual report on the State of the Traffic Signal System to RTC Board.
- E. The Administrator shall maintain a record of all adopted policies according to the Public Records Law, NRS Chapter 239. All FAST records shall be maintained in accordance with NRS 239.010 on public records and retained at the location designated by the Administrator.
- F. The Administrator shall implement the FAST organizational structure, job classifications, job descriptions, job status, and salary scale to conform to existing Human Resource policies and procedures. Any actions must be approved by the Administrator before they become effective.
- G. The Administrator agrees to hire the FAST Director / Senior Director. The OPS may be requested to develop a short list of qualified candidates. The ENTITIES may be requested to participate in the interview of the final candidates. The Administrator shall make the final hiring decision.
- H. The Administrator shall be responsible for implementing the hiring, reassignment, demotion and termination decisions of the FAST Director / Senior Director.
- I. The Administrator agrees to consider discipline or termination of the FAST Director / Senior Director, if so requested by the unanimous vote of the OPS provided, however, that the Administrator reserve the right to separately and independently discipline or terminate the FAST Director / Senior Director for violations of the policies and procedures of the Administrator. Prior to termination by the Administrator, the Administrator may suspend the FAST Director / Senior Director and shall notify the OPS for the purpose of informing of the termination action. The Administrator retains the final decision.
- J. The Administrator agrees to discipline or terminate administrative personnel in accordance with existing Human Resource policies and procedures.

## 3.2 Operations Theater

### 3.2.1 FAST Responsibilities

The Operations Theater personnel maintains the safe and efficient flow of traffic on the arterial and freeway system by minimizing adverse impacts caused by both planned and unplanned events. The Operations Theater contributes to the safe and efficient traffic flow by providing timely delivery of arterial and freeway status information to motorists (i.e. real-time traveler information) and those vehicles planning to enter the arterial and freeway system (i.e. pre-trip traveler information). This is accomplished by using available technology in conjunction with well-trained personnel, who are committed to excellent service and performance. All FAST personnel in the Operations Theater perform both FMS and AMS duties.

Operations Theater responsibilities include, but are not limited to, the following activities:

- A. Operate AMS and FMS devices in accordance with the FAST Operation Theater Standard Operating Procedures (SOPs), CCTV Policy and Media Policy.
- B. Monitor Nevada State Police and Las Vegas Metro Police Department activity for traffic incidents by using website or links available.

- C. Answer and direct phone calls with the public and media, monitor and respond to traffic conditions and incidents, coordinate and communicate with partner agencies, and use ticketing software to log relevant activities.
- D. Provide traffic alerts and use software to post messages on digital message systems.
- E. Prepare responses to Public Records Requests.
- F. Notify Entities in a timely manner of operational and equipment deficiencies that require emergency repair or a maintenance response.
- G. Accommodate ENTITIES that desire to have a workstation within the Theater or War Room during special events or emergencies.

### 3.2.2 ENTITIES Responsibilities

Once notified by the Operations Theater personnel of system operational deficiencies, ENTITIES shall repair and maintain system within an agreed upon timeframe. ENTITIES will provide the contact information and/or emails for ENTITY personnel to be notified. ENTITIES shall respond in a timely manner to notifications such as traffic signal equipment and operational failures, traffic signal detection failures, maintenance items, etc.

ENTITIES may provide personnel to staff the Operations Theater as desired during special events or emergencies.

## 3.3 Traffic Signals

### 3.3.1 FAST Responsibilities

FAST Traffic Signal personnel responsibilities include, but are not limited to, the following activities:

- A. Based on the signal timing sheets and detector layouts provided by ENTITIES, develop and maintain traffic signal operational plans for ENTITIES' traffic signals.
- B. Program, test, and load new and modified traffic signal controllers based on the signal timing sheets and detector layouts provided by ENTITIES, and track activities in software system.
- C. Maintain traffic signal coordination along corridors with communications. Traffic Signal coordination shall be reviewed along each major corridor (i.e. 100' ROW or greater) or designed corridor segments/groups at least once every three years or as mutually agreed by owning ENTITY.
- D. Provide assistance and troubleshooting direction to ENTITY personnel, as requested.
- E. Review design plans and specifications and collaborate with ENTITY's construction projects, as requested, as it pertains to traffic signal operations. Develop special construction traffic signal timing plans, as requested, for major projects and special circumstances
- F. Maintain inventory of signal controllers.
- G. Adjust traffic signal timing as needed due to crashes or incidents that impact traffic operations, coordinate and communicate with ENTITIES, and use software to log and track relevant activities.

- H. Assist ENTITIES with traffic signal operations at intersections with communications within their jurisdictions during a permitted Special Event or Construction based on FAST staff availability.
- I. Participate in Depositions, as it pertains to traffic signal timing.
- J. Respond to public inquiries that are received by FAST notification systems.
- K. Responsible to procure, host, maintain, and operate the Regional Traffic Signal System, which is comprised of the Central Traffic Signal Software (ATMS) and Controller Firmware.
- L. Archive signal timing databases in Central Traffic Signal Software. Coordinate with Central Traffic Signal Software vendor on updates and trouble-shooting system issues.
- M. Notify ENTITIES of traffic signal equipment failures such as detection that have an operational impact.
- N. Track maintenance request sent to ENTITIES in the tracking software.
- O. Develop and maintain the Southern Nevada Traffic Signal Management Plan, in accordance with FHWA guidance. FAST will collaborate with the ENTITIES on the policies and plans included within this comprehensive, regional document.
- P. Upon installation of communications along a corridor, develop timing plans.
- Q. At the request of local law enforcement or agency staff, FAST will program an intersection for all-way red operation.

### 3.3.2 ENTITY Responsibilities

ENTITY responsibilities include, but are not limited to, the following activities:

- A. Maintain the Traffic Signal Detection, which is owned by the local ENTITIES. When faulty or defective detection is identified, the ENTITY will repair and/or replace the traffic signal detection within an agreed upon timeframe of notification by FAST personnel. Notifications may be sent by email, and email will constitute an official form of notification. If detection is not repaired within the agreed upon timeframe of notification, FAST may perform the repairs or replacements with internal resources or contract services.
- B. Provide at no cost encroachment and barricade permit(s) to FAST for the detection repair or replacement performed by FAST personnel. Contractor shall be required to pay fees for encroachment permit and barricade plan.
- C. Repair and replacement of traffic signal equipment. RTC Will program controllers supplied by the ENTITIES. ENTITY is responsible for all components of the traffic signal installation.
- D. Responsible for troubleshooting of traffic signal operational deficiencies.
- E. Submit construction and work zone plans to FAST within 72 hours or as responsibly feasible for projects that will affect traffic signal operations. Notifications may be sent by email, and email will constitute an official form of notification.
- F. Notify FAST of upgraded communications along corridors to coordinate the development of timing plans.
- G. Traffic Signals within Boulder City are maintained by City of Henderson.
- H. Will be responsible for traffic signal operations at intersections without communications within their jurisdictions during a permitted special event or construction.

- I. Develop construction traffic signal timing plans, request FAST assistance for major projects or special circumstances.
- J. Provide signal timing sheets and detection layouts to FAST for any new or modified signals.

### 3.4 AMS Maintenance

#### 3.4.1 FAST Responsibilities

FAST AMS Maintenance responsibilities include, but are not limited to, the following activities:

- A. Provide expert-level assistance and troubleshooting direction to assigned personnel on a shift, project, or assignment.
- B. Install, inspect, maintain, repair, and monitor ITS infrastructure.
- C. Collaborate with the design of and/or adaptations of equipment or procedures to specific project requirements.
- D. Maintain reports and records of work performed on ITS infrastructure, within the Asset Management Program (AMP).
- E. Review construction plans and specifications and perform inspections of new construction projects/equipment.
- F. Maintain inventory of parts and supplies; and order materials as needed.
- G. Provide information and assistance to internal and external customers as required.
- H. Document fiber-optics communication infrastructure and associated information such as fiber/communications Hubs, conduit (only when information is given), vaults, pull boxes, fiber splice diagrams, splice locations, etc.
- I. FAST maintenance boundary limits are provided in **Appendix 2**.
- J. FAST is required to notify ENTITY of upgraded communications along corridors.

The AMS Hubs are physical cabinets or small structures, which are the field transfer points for all ITS communications. The local agencies are the owners of the Hubs. RTC will be the owner and maintainer of all Layer 3 Switch, no matter of the location (i.e., Hub Buildings, Hub Cabinets, and ENTITY facilities that house JMCs. FAST will also be the owner and maintainer of the Layer 2 switches.

FAST, in coordination with the ENTITIES, will ensure that the Preventative Maintenance (PM) Plans and Maintenance Reports are entered and tracked in AMP. FAST will keep a documented log of each device location, preventative and routine maintenance activities, repair logs, parts replacement, special notes, recommendations, and the equipment's warranty records (if available). CCTV is the only device that FAST will perform PM. AMP automatically plans a 2-year CCTV schedule. The Layer 2 switch is changed out when failure occurs.

Additionally, opportunities to test and evaluate with innovative ITS strategies and devices may be undertaken by either the ENTITIES or FAST if agreed to by all PARTIES involved over the course of this Agreement.

FAST remedial and Preventative Maintenance (PM) services for the ENTITIES AMS include, but are not limited to, troubleshooting, testing, calibrating, configuring, and integrating the devices with the latest version of the ATMS. The PM activities for each device type are provided in **Appendix 4**. The ITS Device PM Schedule is provided in Table 3.

Table 3. ITS Device PM Schedule

Preventive Maintenance: Types of Devices	PM Services per 24-Month Period:
CCTV	1 per device
DMS	1 per device
Wireless Communications System	1 per device
Fiber Optic Infrastructure	As requested
Communications Hub/Cabinet Building	1 per device
Network Switches	1 per device
FAST TMC On-Site Equipment	1 per device
FAST TMC Video Wall System	1 per device

### 3.4.2 ENTITY Responsibilities

The ENTITIES shall provide RTC encroachment and barricade permits at no cost for preventative maintenance activities performed by FAST staff.

The ENTITIES agree to pursue reimbursement for switches damaged as the result of an incident or crash.

The ENTITIES are responsible for maintaining the AMS infrastructure, except for those listed above, which will be maintained by FAST.

## 3.5 Fiber Optic Infrastructure

### 3.5.1 FAST Responsibilities

FAST is not the owner of the Southern Nevada ITS Fiber Optic Communications Network. FAST is the maintainer of the entire Southern Nevada ITS Fiber Optic Communication Network. FAST Fiber Optic Infrastructure responsibilities include, but are not limited to, the following activities:

- A. Maintain and update a GIS Fiber Optic Management Platform
- B. Maintain and repair fiber optic cable, network switches, and CCTV at ENTITIES' traffic signal or ITS Field Device locations, for ENTITIES.
- C. Utilize GIS mapping software to update and maintain the fiber optic ITS infrastructure network. The GIS mapping elements include fiber optic cables, fiber splicing, live and dark fibers, and fiber optic ITS conduit (vacant and occupied). ITS conduit will be input into the GIS mapping software

**when information is provided by ENTITY.** GIS Fiber Optic Mapping software will be a shared platform between RTC and ENTITIES, as well as, NDOT in Southern Nevada.

- D. Facilitate as-needed meetings to coordinate and discuss the fiber optic network and associated infrastructure.
- E. Provide fiber optic splicing details, fiber termination panel details, network diagrams and asset inventory records for all ITS sites.
- F. Review ITS plans, and prepare all Fiber Optic splice diagrams for ENTITY Public Works projects.
- G. Plan and designing for the growth, in-fill of gaps, and system redundancy of the Fiber Optic Network Architecture as an element of the Southern Nevada ITS Master Plan.

### 3.5.2 ENTITIES Responsibilities

ENTITIES responsibilities include, but are not limited to, the following activities:

- A. Notify FAST of construction completion for projects that contain ITS infrastructure
- B. Provide electronic as-built drawings for ITS infrastructure upon construction completion. Plans may be submitted in PDF format, but AutoCAD is preferred.

## 3.6 Utility Locates

All utility locates are the owning ENTITY's responsibility, including but not limited to fiber optic cable, pull boxes, splice vaults, and conductors. FAST is not responsible for locating any utilities on the arterial network. FAST will provide available documentation to ENTITIES to assist ENTITIES as needed for utility locates.

## 3.7 Fiber Repair

If the fiber is damaged during construction, it is the ENTITY's responsibility to work with the developer/contractor, who damaged the fiber, to repair/replace it. The ENTITIES shall repair the fiber within an agreed upon timeframe. ENTITY is be responsible for issuing permits to private parties and as such the permitting agency is be responsible for inspecting the project and verifying the status of the fiber and adjacent traffic signal undergrounds. On completion of repairs, the contractor will provide FAST with the fiber splice test results in a standardized electronic format.

## 3.8 Data

### 3.8.1 FAST Responsibilities

FAST is continuously collecting and storing data from ITS field device and operating platforms. FAST maintains a Data Warehouse to improve the accessibility to various data for more effective and efficient data analytics and reporting.

FAST is the developer and maintainer of the FAST Bugatti Dashboard and the Traffic Signal Performance Metrics dashboard. This publicly available website provides access to ITS infrastructure, such as CCTV camera feeds, current postings of DMS, flow detector data, and traffic signal performance data. FAST provides traffic signal detection performance updates to the ENTITIES daily. These updates include signals with max recall, signals with pedestrian recalls, and signals with consecutive maxouts (possible indication of equipment issues). Data that resides on the FAST network will be managed, modified, maintained, or eliminated as needed by FAST. Input from the ENTITIES will be considered.

### 3.8.2 ENTITIES Responsibilities

The entities shall authorize the sharing of relevant data impacting FAST's carrying out of the responsibilities described in this agreement and in support of the RTC's ACCESS 2050 goals of improving safety and managing congestion. Entities will freely share relevant data to which they hold all legal rights; which may be shared in accordance with all applicable laws; and which does not implicate the intellectual property, confidentiality, or privacy interests of any other party. For relevant data that may only be shared pursuant to the execution of a data sharing agreement between the entities and FAST, the entities will authorize the execution of any necessary data sharing agreements, approval of which will not be unreasonably withheld. Relevant data necessary to the support of the RTC's ACCESS 2050 goals may include, but will not be limited to:

- Geographical Information System data
- Traffic Operations data
- Automated Vehicle Locating data
- Traffic Safety data

## 3.9 Regional Events Traffic Management

### 3.9.1 FAST Responsibilities

FAST is the host and coordinator of the Regional Events Traffic Management meeting. This working group meeting is comprised of representatives from local agencies, law enforcements, traffic control companies, event traffic managers, event venue owners and operators, and event promoters. These meetings provide a forum for the exchange of upcoming event information for Southern Nevada, and debriefs on past events for lessons learned and best practices.

Regional Events Traffic Management meetings occur every other week. Meeting frequency can be adjusted as requested by the working group. FAST will maintain a calendar of Southern Nevada events based on publicly available information and information provided by working group participants. FAST will prepare and distribute meeting minutes and calendar of events to the participant distribution list following each meeting.

### 3.9.2 ENTITIES Responsibilities

The ENTITIES will provide a representative to attend the Regional Events Traffic Management meetings and be responsible to notify FAST of events larger than 10,000 attendees that may require FAST staff during ENTITY permitted events.

### 3.10 Emergency Traffic Management Strategies

#### 3.10.1 FAST Responsibilities

FAST maintains the Southern Nevada Emergency Traffic Management Strategies Plan. This plan was developed through coordinated efforts between FAST and the local entities. FAST and the local entities will continue to coordinate to practice and revise this comprehensive, regional document based on lessons learned from incident debriefs, and best practices.

#### 3.10.2 ENTITIES Responsibilities

The ENTITIES will participate in the development of the Strategies Plan and provide input into the diversion routes and emergency response. Each ENTITY shall share their emergency response plans. Each ENTITY shall include participation from their emergency response team.

### 3.11 FAST Information Technologies (IT) System Administration Tasks

FAST will provide and perform system administration tasks that will monitor and manage the software and communications network. System administration tasks include monitoring the system software daily to ensure that the software is functioning properly, including updating system databases, updating operator displays, and controlling field devices. System administration tasks also include monitoring the field devices and communications network, including verifying the devices are functioning properly and the system is communicating with all of the field devices. If device or communication issues or failures are identified, FAST will accomplish initial troubleshooting from the TMC to attempt to bring the device back online. If the device cannot be brought online from the TMC, FAST will create a work order to initiate repairs. System administration tasks includes, but is not limited to, the responsibilities laid out in the following subsections.

#### General Tasks:

- Determining development project goals and requirements
- Coordinating with senior personnel, providing a single point of contact between vendor and contractor, external agencies and FAST
- Developing systems software from prescribed specifications; defining, programming, testing, debugging, and installing components and subcomponents of operating and support systems
- Authorizing payments to vendors
- Configuring mechanisms for measurement of IT system performance and efficiency for capacity planning
- Specifying, coordinating, installing, and maintaining enterprise software packages
- Providing network documentation, training, and guidance to users and other IT Personnel
- Managing, designing, and implementing software and databases

- Interfacing with project personnel and users via the CCTV suppression distribution list ensure customer service and communication
- Managing activities of contracted vendors in relation to systems software operations
- Providing technical assistance for system operational issues
- FAST will perform PM on vital components of the FAST TMC facility, including the video wall, server farm, and the computer network.
- IT consists of administrators, analysts and technicians that support various FAST IT System Administration tasks.
- Configure and provide access to the FAST system from ENTITY owned equipment and install or update software as needed (MMU, detection, opticom, controllers, CCTV, pedestrian push button system, etc.)

#### Network Tasks:

- Cisco layer 3 switches support (HUBS), Palo Alto firewall, provides protection against outside cyber attackers by shielding internal computers and network from malicious or unnecessary network traffic. Palo Alto VPN remote access, Create and configure specific access for vendors to connect to their ITS devices securely supporting those vendors and their ongoing needs. Internet Gateway Router, layer 3 switches (FAST cores and TMC distribution), configuration of VLANs, maintain distribution switches to support all FAST connected systems in the TMC. Configuration and support of layer 2 network switches managed by AMS team. Configuration, installation and support to connect cameras and ITS devices to the distribution network.
- Network management
  - IP addressing for all devices, VLAN, and routing configurations. Traffic planning and management.
- Network design and implementation to support current requirement and future growth of assets.
- Network Security, adhere to current security (physical and cyber) best practices

#### Helpdesk Tasks:

- Team provides hardware/software support for the TMC, JMCCs and EOCs

#### System Administration Tasks (servers and associated applications)

- Applications: Responsible for installing, testing, configuring, updating, monitoring, of current application. Also deleting outdated applications and systems

#### Data Analytics Tasks:

- Building and maintaining FAST data warehouse and dashboards
- Ingesting ATMS and incident management platform data



## APPENDIX 1. FAST PERSONNEL POSITIONS

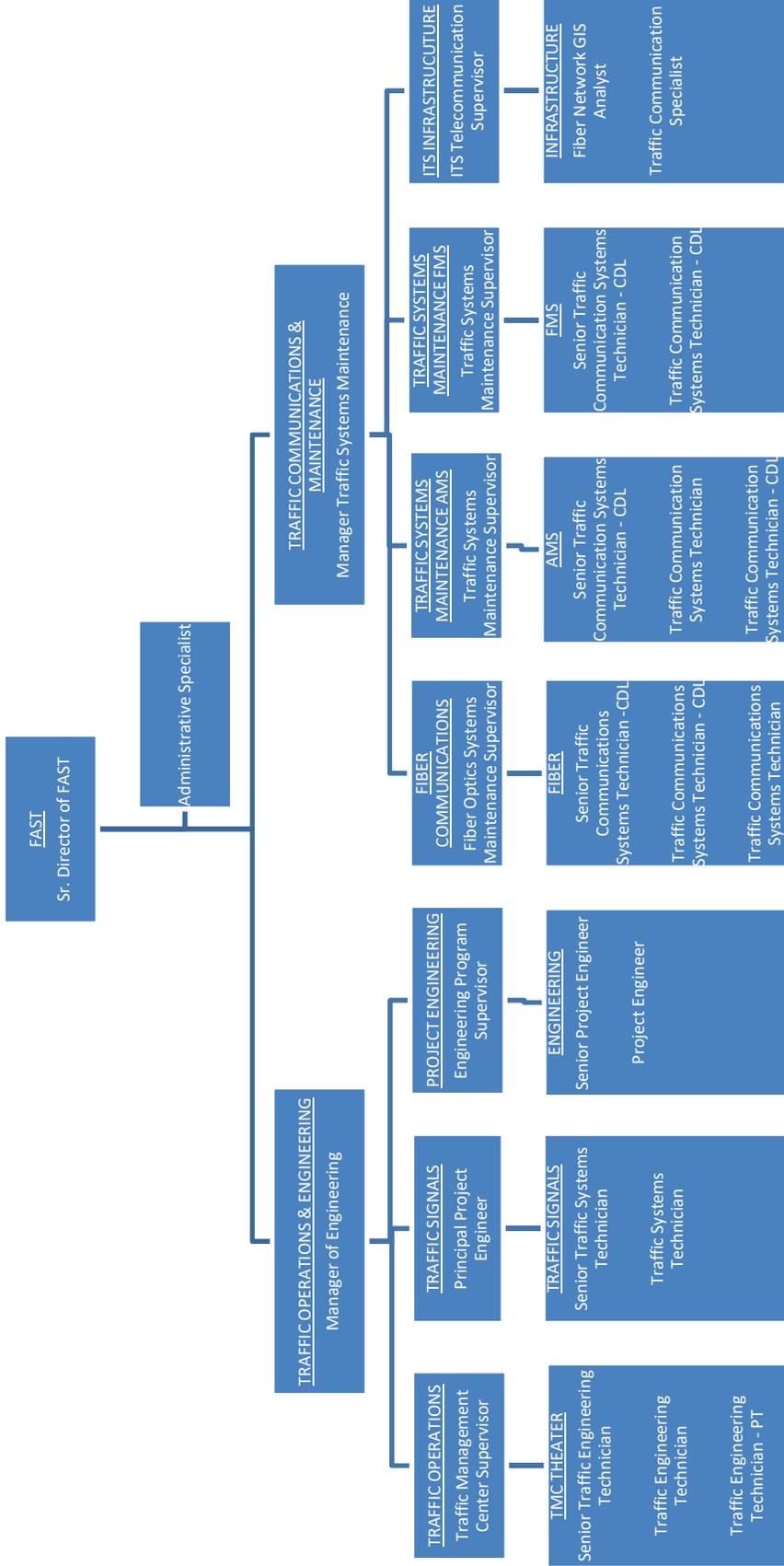
FAST personnel position titles are provided below, including whether the position is AMS or FMS funded. A link to the Position Descriptions from the RTC website is provided below:

<https://www.governmentjobs.com/careers/rtc/classspecs>

- Senior Director of FAST (AMS funded)
- Manager of Engineering (AMS funded)
- Manager of Traffic Systems Maintenance (FMS funded)
- Engineering Program Supervisor (AMS funded)
- Traffic Systems Maintenance Supervisor (FMS funded)
- Traffic Systems Maintenance Supervisor (AMS funded)
- Fiber Optic Systems Maintenance Supervisor (AMS funded)
- Senior Traffic Communications Systems Technician - CDL (FMS funded)
- Senior Traffic Communications Systems Technician - CDL (AMS funded)
- Traffic Communications Systems Technician - CDL (FMS funded)
- Traffic Communications Systems Technician - CDL (AMS funded)
- Traffic Communications Systems Technician (AMS funded)
- Traffic Communication Specialist (AMS funded)
- Senior Project Engineer (FMS funded)
- Traffic Management Center Supervisor (AMS funded)
- Senior Traffic Engineering Technician (FMS funded)
- Senior Traffic Engineering Technician (AMS funded)
- Traffic Engineering Technician (FMS funded)
- Traffic Engineering Technician (AMS funded)
- Principal Project Engineer (AMS funded)
- Senior Traffic Systems Technician (AMS funded)
- Traffic Systems Technician (AMS system)
- ITS Telecommunication Supervisor (AMS funded)
- Fiber Network GIS Analyst (50/50 - FMS/AMS funded)
- Systems Technician (IT) (FMS funded)
- Project Engineer (AMS funded)
- Administrative Specialist (AMS funded)

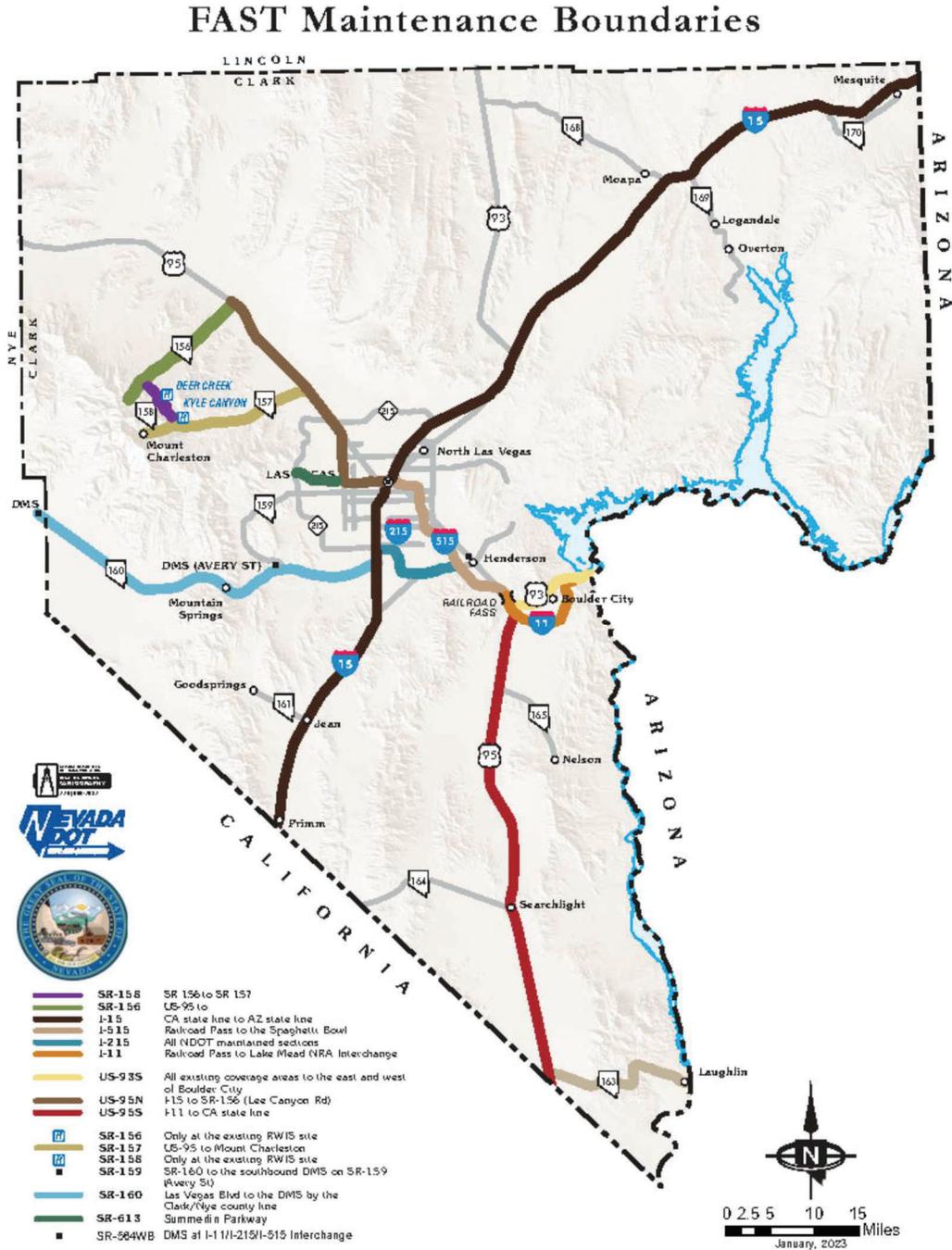
FAST

Organizational Chart



## APPENDIX 2. FAST MAINTENANCE BOUNDARY MAP

The following map reflects the latest FAST Maintenance Boundaries Clark County and Southern Nevada at the time of PROJECT execution.



## APPENDIX 3. DEFINITIONS

- Administrator – The Administrator is Regional Transportation Commission of Southern Nevada. The Administrator is responsible for the Human Resource administrative and financial functions necessary for the operation and management of FAST as more specifically described in Section 3.
- Arterial Management System (AMS) – The AMS manages the movement of traffic on the local street network. AMS includes a combination of ITS Field Devices, communication networks, computer hardware, and software platforms to manage and control traffic.
- Executive Advisory Committee (EAC) – The EAC responsibilities include the formulation of recommendations to the Regional Transportation Commission on all non-personnel related administrative, planning, technical, transit, street and highway funding, operational matters, and other items as requested by the Commission.
- FAST Director / Senior Director – The Director reports to the Deputy Chief Executive Officer of the RTC and is responsible for the daily operation of FAST the Traffic Management Center.
- FAST – FAST is a Department of the RTC consisting of the freeway and arterial system director, managers, professional, technical, and administrative personnel.
- FAST System – Components consist of a Traffic Management Center Transportation Management Infrastructure and the Transportation Management Strategies that are combined to provide a system to safely and efficiently manage the transportation infrastructure. The System includes the operational functions and features of the freeway and arterial management systems. This would include the central system software; hardware; operator work stations; video wall; the communication system, including the fiber optic and wireless network; the ITS Field Devices, including closed circuit television cameras (CCTV), ramp meters, dynamic message signs (DMS), active traffic management gantries (ATM), travel time signs, and flow detectors; and traffic signals.
- Fiber Optic Communication Network – is a system that uses the method of transmitting information from one place to another by sending pulses of light through an optical fiber.
- Freeway Management System (FMS) – (NDOT/FAST INTERLOCAL) The FMS manages the movement of traffic onto and on the controlled access roadway facilities owned or maintained by NDOT. FMS includes a combination of ITS Field Devices, communication networks, computer hardware, and software platforms to manage and control traffic.

- Incident – An incident is an unscheduled event generally characterized by non-recurrent congestion.
- Intelligent Transportation System (ITS) – ITS is the collective term for using technology to implement measures targeting the safe and efficient operations and management of transportation facilities and services.
- ITS Field Devices – Including but not limited to field equipment located along existing roadway including closed circuit television cameras (CCTV), ramp meters, dynamic message signs (DMS), active traffic management gantries (ATM), travel time signs, and flow detectors, traffic signals, wireless communications devices, and network switches.
- Jurisdictional Boundary – For the ENTITIES, other than NDOT, the jurisdictional boundary shall be the legal boundary of the entity as established by statute or charter. NDOT’s jurisdictional boundary shall be right-of-way it either owns or maintains refer to NDOT/FAST INTERLOCAL agreement
- Jurisdictional Management Centers (JMCs) – The site(s) or location(s) designated by agencies controlling and monitoring those freeway and arterial FAST ITS Field Devices authorized through this Agreement.
- Entity – Is a public agency as defined by Nevada Revised Statutes and a party to this Agreement.
- Entities – The collective term used for incorporated and unincorporated public agencies within the unincorporated Clark County Boundary and the Nevada Department of Transportation.
- Operations and Maintenance (O&M) – The Operations and Maintenance activities associated with the Transportation Management Infrastructure. O&M costs may include, but are not limited to such items as, personnel salaries and benefits, utility costs, purchase of equipment and supplies, rental and leasing of equipment or facilities, purchase and repair of vehicles, consultant/contractor costs, and the upgrade and repair costs of equipment.
- Operations Subcommittee (OPS) – The OPS shall participate in regional projects and policy development of FAST as more specifically described in Section 1.4.
- Policy Board – The RTC, whose function is to establish policy as the governing body, as recommended by the OPS, RTC Chief Executive Officer, or FAST Director / Senior Director.
- Policy Issue – A statement or plan, which guides present or future discussions. A Policy Issue cannot be employed to countermand or establish Transportation Management Strategies nor can

a Policy Issue be used to determine signal-timing phasing or transit priority during periods that are not Priority Times.

- Priority Times – The period of time as recommended by the OPS during which all Transportation Management Infrastructure is operated and controlled according to the OPS approved Transportation Management Strategies.
- Traffic Management Center (TMC) –Site at which the FAST operational personnel and equipment capable of controlling and coordinating the arterial, freeway, and other FAST System elements are located.
- Transportation Management Infrastructure – The various transportation related telecommunications and field components, such as, but not limited to, conduit, fiber optic cable, traffic signals, network switches, Closed Circuit Television cameras, ramp meters, Dynamic Message Sign (DMS), Active Traffic Management Signs (ATM), Static Travel Time Signs, Bluetooth systems, flow detectors, and Wireless systems, as part of the transportation communications network that are part of the FAST System.
- Transportation Management Strategies – Traffic control and other transportation measures that are approved by the OPS and used to manage the transportation infrastructure, including but not limited to, freeways, arterials, bicyclists, pedestrians, and transit, for maximum safety and efficiency during priority times.

## APPENDIX 4. ITS DEVICE PREVENTATIVE MAINTENANCE (PM) ACTIVITIES

1. Closed-Circuit Television Cameras (CCTV): PM activities to be performed must include:
  - Clean the camera lens
  - Repair/replace any damage cause by gunshots or thrown objects
  - Straighten and tighten all wiring and fiber
  - Complete inventory and preventative maintenance documentation procedures
  - Verify full operation before performing maintenance and upon completion of work
  
2. Dynamic Message Signs (DMSs): PM activities to be performed must include:
  - Replace filter
  - Perform display panel diagnostic and replace panels as needed
  - Clean the interior of the sign window (front panel)
  - Repair/replace any damage cause by gunshots or thrown objects
  - Check and tighten all electrical connections
  - Check heating and cooling fan and report any and all deficiencies
  - Measure voltage at the distribution panel and disconnect at the base of the structure
  - Lubricate hinges and locks
  - Inspect lock and report deficiencies
  - Straighten and tighten all wiring and fiber
  - Complete inventory and preventative maintenance documentation procedures
  - Report all defects to appropriate personnel identify if taken off-line and include approximate timeframe for repair
  - Verify full operation before performing maintenance and upon completion of work
  
3. Fiber Optic Infrastructure: Fiber optic cable typically needs no PM attention; however when accessing field sites cables should be inspected for damage; splice enclosures should be inspected for damage and/or leaks; grounding should be inspected cleaned and validated. Water intrusion is a major problem for fiber optic cable.
  - Vault inspections to ensure vault/conduit integrity and protect against rodent infestations or identify vandalism/theft damages and affect repairs
  - Fiber-connected ITS system cabinet inspections to ensure continued operability inspect for and correct any rodent or equipment problems
  - Optical Time Domain Reflectometer (OTDR) testing of existing dark fiber trunk strands to ensure continuity between trunk segments when tasked specifically
  - Maintain inventory of fiber facility locations and fiber assignments
  
4. Communications Building: PM activities to be performed must include:
  - Sweeping
  - Trash Removal
  - Power systems

- Battery backup systems
  - Uninterruptable power supply
  - Rectifiers
  - Power distribution unit
5. Network Switches: PM activities to be performed must include and will be consistent with those detailed in the manufacturer's maintenance manual.
- Check and tighten all connections both electrical and communications
  - Straighten and tighten up all wiring and fiber
  - Inspect for moisture and excessive dust
  - Inspect airflow is unobstructed around the switch and into the air intake vents
  - Report all defects to appropriate personnel
  - Check for system alarms and LEDs
  - Verify all labeling is correct and present for equipment devices and cabling
  - Validate and update any documentation