



**LEGAL NOTICE**

**REQUEST FOR PROPOSAL**

**RFP 20-044**

**For**

**GATEWAY GREEN LIGHT (GGL) PHASE 6 – PE PACKAGE C  
IMPLEMENTATION OF EMERGENCY VEHICLE PREEMPTION**

**CMAQ-5414(634)**

**ST. CHARLES COUNTY GOVERNMENT  
ST. CHARLES, MISSOURI**

St. Charles County is seeking Proposals for the manufacture, delivery, installation, and maintenance of a centrally radio activated, GPS based Traffic Signal Preemption and Priority Control system in accordance with the terms and conditions set forth in this RFP. The County reserves the right to terminate the contract for reasons of violations by the successful Offeror of any term or condition of the contract by giving thirty (30) days written notice stating the reasons therefore and giving the party ample time to remedy the deficiencies.

**REQUEST FOR PROPOSALS FOR**  
**—**  
**GATEWAY GREEN LIGHT (GGL) PHASE 6 – PE PACKAGE C**  
**IMPLEMENTATION OF EMERGENCY VEHICLE PREEMPTION**  
**RFP # 20-044**

**TABLE OF CONTENTS:**

Instructions .....	3
Certifications by Offeror .....	4
Terms and Conditions .....	5
Overview .....	12
Introduction .....	13
Administration Information .....	14
Project Requirements .....	15
Scope of Work .....	17
Schedule .....	26
Training .....	26
System Maintenance .....	27
System License .....	27
Presentation / Demonstration .....	27
Proposal Requirements .....	28
Cost Proposal .....	30
Proposal Evaluation Criteria and Selection .....	32
Disclaimer .....	33
Exception Sheet .....	34
Audit Clause for Contracts / Examination of Records .....	35
Affidavit of Work Authorization .....	36
Exhibit A – GGL Intersection .....	37
Exhibit B – MoDOT Network Intersection .....	44
Exhibit C – Cost Proposal .....	50
Exhibit D – System Architecture Option .....	51

## INSTRUCTIONS

One [1] signed original, one [1] signed copy, and one [1] digitized copy of the Statement of Proposal must be received in a sealed envelope plainly marked **"20-044 Proposal – Gateway Green Light (GGL) Phase 6 – PE Package C – Implementation of Emergency Vehicle Preemption"** with the due date and time in the lower left corner of the envelope.

An authorized representative of the company/person submitting the statement of qualification must sign it in blue ink.

Statements of Proposals must be submitted to the St. Charles County Finance Department, 201 North Second Street, Room 541, St. Charles, MO 63301 prior to **09/10/2020 at 2:00 PM**.

St. Charles County reserves the right to accept and/or reject any and all proposals.

## INQUIRIES

Any questions or clarifications concerning this RFP must be submitted in writing to:

Kurt Mandernach, Purchasing Manager  
St. Charles County Government  
Finance Department  
201 North Second St  
St. Charles, Missouri 63301  
[kmandernach@sccmo.org](mailto:kmandernach@sccmo.org)

**For questions or inquiries concerning the specifications please contact:**

Amanda Brauer, Manager  
St. Charles County Government  
Roads and Traffic Department  
201 North Second St  
St. Charles, Missouri 63301  
Fax: (636)949-3074  
[abrauer@sccmo.org](mailto:abrauer@sccmo.org)

- The RFP number and title shall be referenced on all correspondence.
- All questions must be received no later than **5:00 PM** on **08/27/2020**.
- Any question received after this deadline may not be answered.

### **Prohibited Communication**

***Contact with any representative, other than through the procedure outlined in the section titled "Inquiries", concerning this request is prohibited PRIOR TO PROPOSAL DUE DATE. Representative shall include, but not be limited to, all elected and appointed officials, and employees of St. Charles County and their Agents within St. Charles County.***

***Any Offeror engaging in such prohibited communications prior to proposal due date may be disqualified at the sole discretion of St. Charles County.***

## CERTIFICATIONS BY OFFEROR

- The undersigned signatory certifies that he/she has read and understands all of the terms and conditions of this RFP and of doing business with the County in response to this RFP, that in doing so he is acting on behalf of the Offeror, and that his/her signature placed hereon is binding on the Offeror to the full extent allowed by law.
- The Offeror shall provide a Proposal to the County in response to, and in accordance with, the terms of this RFP.
- The Offeror agrees to provide the services under the terms of this RFP and the Proposal as accepted by the County.
- By submitting the Proposal in response to this RFP, the Offeror and each person signing on behalf of the Offeror, under penalty of perjury, certifies to the best of its knowledge and belief:
  - ✓ The Offeror has established the price terms in this Proposal independently without collusion, consultation, communication or agreement with any other Offeror as to any matter relating to such price terms; and
  - ✓ The Offeror has made no attempt, and will not in the future make any attempt, to induce any other person, partnership or corporation to submit or not to submit a proposal for the purpose of restricting competition.
  - ✓ The Offeror certifies that this proposal is in all respects fair and without collusion or fraud, and that no elected official or other member, officer or employee or person whose salary is payable in whole or in part by the County is directly or indirectly interested therein, or in any portion of the profits thereof.

Company Name: \_\_\_\_\_

Authorized Signature of Offeror: \_\_\_\_\_

Date of Proposal: \_\_\_\_\_

Printed or Typed Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_

Fax: \_\_\_\_\_

Electronic Mail: \_\_\_\_\_

## TERMS AND CONDITIONS

1. Sealed Proposals will be received until 2:00 (Two o'clock) P.M., **September 10, 2020** by: St. Charles County Finance Department 201 North Second Street, Suite 541 St. Charles, Missouri 63301

Any proposals received after the time and date specified above shall not be considered. The outside of the envelope containing one [1] signed original, one [1] signed copy, and one [1] digitized copy of the proposal must be received in a sealed envelope, and designated in the lower left corner of the envelope with:

Sealed proposal for: **Gateway Green Light: Phase 6 – PE Package C  
Implementation of Emergency Vehicle Preemption**  
OFFEROR'S Name **OFFEROR'S Name**  
OFFEROR'S address **OFFEROR'S address**  
Date and Time of proposal opening: **September 10, 2020 at 2:00 PM**

If forwarded by mail, the sealed envelope containing the proposal must be enclosed in another envelope, addressed as specified in the proposal form.

2. Interested firms are requested to submit a Statement of Proposal of no more than thirty (30) pages.
3. No additions, deletions, corrections, or adjustments will be accepted after submissions are opened.
4. St. Charles County reserves the right to reject any and all Proposals.
5. Award will be made to the firm best qualified and capable of performing the desired work, subject to successful contract negotiations.
6. All requests for clarifications on these RFP documents must be received in writing no later than **5:00 PM** on **08/27/2020**.
7. An authorized officer of the company submitting the response must sign all copies, in blue ink.
8. Vendors must submit two [2] signed copies of their Statement of Proposal; one is to be an original and so marked, and one [1] digitized copy.
9. The DBE goal for this letting is a minimum **10%** (ten percent) of the total contract amount.
10. No 2nd tier subcontracting will be allowed on this project.
11. The successful firm is specifically denied the right of using in any form or medium the names of St. Charles County or any other public agency of St. Charles County Government for public advertising unless express written permission is granted.

12. All firms must possess the necessary and appropriate business and/or professional licenses in their field.
13. St. Charles County will not award any proposal to an individual or business having any outstanding amounts due from a prior Contract or business relationship with the County or who owes any amount(s) for delinquent Federal, State or Local taxes, fees and licenses.
14. The successful firm shall be registered to do business in Missouri and shall provide a Certificate of Good Standing from the Missouri Secretary of State's Office prior to executing a contract with St. Charles County.

15. **INSURANCE**

**Errors and Omissions (Professional Liability):** With limits of not less than \$1.0 million per claim/\$2.0 million aggregate covering all services provided by the Contract. Coverage to be written on a claims-made basis.

**Commercial General Liability (CGL):** \$1,000,000/\$3,000,000 including Products/Completed Operations. CGL coverage shall cover all liability arising from premises, operations, independent contractor and personal injury and liability assumed under an insured contract.

**Automobile Liability:** covering liability arising out of the use of any owned, hired, leased or non-owned vehicle in an amount of no less than \$1,000,000 per occurrence.

**Workers Compensation/Employer's Liability:** Statutory WC limits as required by the Statutes of the State of Missouri, (or a qualified self-insurer) and Employers Liability in an amount of no less than \$1.0 million.

**Excess Umbrella:** liability with a limit of no less than \$1,000,000 in excess of the above policies.

All insurance to be written through a company duly authorized to do business in the State of Missouri with an A.M. Best Rating of A-IX or higher.

The Professional Liability, CGL, Automobile and Umbrella policies shall be endorsed to include the County as an additional insured and provide for 30 days advance written notice of any material change.

A Waiver of Subrogation in favor of the County shall be endorsed on each of the policies.

The required insurance provided by the Successful Offeror shall be primary insurance with respect to any other insurance or self-insurance programs maintained by the County.

A Certificate of Insurance evidencing the above coverage(s) together with a copy of the required endorsements shall be provided to the County prior to the commencement of any work.

## 16. **CERTIFICATION**

The Offeror understands and agrees that by signing the statement of Qualification document, the Offeror certifies the following:

The Offeror shall only utilize licensed professional personnel who have had their qualifications submitted as part of the Offeror's Qualifications document (or subsequent updates). All personnel utilized must be authorized to work in the United States in accordance with applicable federal and state laws. This includes but is not limited to the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) and INA Section 274A.

If the Offeror is found to be in violation of this requirement or applicable federal, state and/or local laws and/or regulations, and if the County of St. Charles has reasonable cause to believe that the Offeror has knowingly employed individuals who are not eligible to work in the United States, the County shall have the right to cancel the contract immediately without penalty or recourse and suspend or debar the Offeror from doing business with the County.

The Offeror agrees to fully cooperate with any audit from federal, state, or local auditor or investigation by federal, state, or local law enforcement agencies.

The Offeror agrees to Certifications for Federal-Aid Projects as follows:

### Certifications for Federal-Aid Projects

(Note: These certifications are from MoDOT Standard Specifications Section 102.18.)

**102.18 Certifications.** The Offeror makes the following certifications by signing and submitting the proposal.

**102.18.1 Certification Regarding Affirmative Action and Equal Opportunity.** If the Offeror does not meet all requirements set forth in sub-paragraphs (a), (b) and (c) of this section, then the Offeror shall submit a statement indicating which elements the Offeror has complied with and those elements that are not in fact true and correct. The statement shall be on company letterhead, signed by the Offeror and inserted inside the submitted proposal. The Offeror shall provide the following elements:

- a. The Offeror has developed and has on file at each of the Offeror's establishments affirmative action programs pursuant to 41 CFR Part 60-2.
- b. The Offeror has participated in a previous contract or subcontract subject to the equal opportunity clause set forth in 41 CFR 60-1.4 and Executive Order No. 11246.
- c. The Offeror has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance Programs or the Director's designate or the EEO Commission, all reports due under the applicable filing requirements contained in 41 CFR, Part 60-1.

This certification applies to and shall be executed by each Offeror or proposed subcontractor if the proposed contract or subcontract on this project will equal or exceed \$10,000.00. This certification will also apply to any contractor or subcontractor that has contracts or subcontracts on federally assisted projects in any 12-month period that have or can reasonably be expected to have an aggregate total value exceeding \$10,000.00, 41 CFR 60-1.5(a)(1). The prime contractor shall assure that each of the subcontractors that meet the criteria will also execute and submit this certification to the Commission.

**102.18.2 Certification Regarding Disbarment, Eligibility, Indictments, Convictions or Civil Judgments.** The president or authorized official of the Offeror, under penalty of perjury under the laws of the USA, shall certify that, except as noted in the exceptions, the company or any person associated therewith in the capacity of owner, partner, director, officer, principal investor, project director, manager, auditor or any position involving the administration of federal funds:

- a. Is not currently under suspension, debarment, voluntary exclusion or determination of ineligibility by any federal agency.
- b. Has not been suspended, debarred, voluntarily excluded or determined ineligible by any federal agency within the past three years.
- c. Does not have a proposed debarment or suspension pending.
- d. Has not been indicted, convicted or had a civil judgment rendered against any of the listed parties by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three years.

**102.18.2.1** If there are any exceptions, the Offeror shall submit the exceptions on company letterhead, signed by the Offeror and inserted inside the Proposal submitted.

**102.18.2.2** Exceptions will be considered in determining Offeror responsibility and may result in rejection of the Proposal.

**102.18.2.3** For any exception noted, the Offeror shall indicate to whom it applies, the initiating agency, and dates of action.

**102.18.2.4** Providing false information may result in criminal prosecution or administrative sanctions.

**102.18.3 Certification Regarding Anti-Collusion.** In accordance with 23 USC 112, the Offeror shall certify, under penalty of perjury, that the Offeror has not, either directly or indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive Offeror in connection with this contract.

**102.18.4 Certification Regarding Lobbying Activities.** In accordance with 31 USC 1352, the Offeror shall certify that:



- a. No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any federal agency, a member of Congress, an officer or employee of Congress or an employee of a member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement and the extension, continuation, renewal, amendment or modification of any federal contract, grant, loan or cooperative agreement.
- b. If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any federal agency, a member of Congress, an officer or employee of Congress or an employee of a member of Congress in connection with this federal contract, grant, loan or cooperative agreement, the Offeror shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with the instructions.

**102.18.4.1** This certification shall be a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification shall be a prerequisite for making or entering into this transaction imposed by 31 USC 1352. Any person who fails to file the required certification will be subject to a civil penalty of no less than \$10,000 and no more than \$100,000 for each such failure.

**102.18.4.2** The Offeror also agrees by submitting an offer that the Offeror shall require that the language of this certification be included in all subcontracts that exceed \$100,000, and that all such subrecipients shall certify and disclose any lobbying activities accordingly.

17. Employment of Unauthorized Aliens Prohibited (*Missouri Revised Statutes* Section 285.530)

- a. As a condition for the award of any contract or grant in excess of five thousand dollars by St. Charles County to a business entity (Offeror), the business entity shall, by sworn affidavit and provision of documentation\*\*, affirm its enrollment and participation in a federal work authorization program (**E-Verify**) with respect to the employees working in connection with the contracted services. Every such business entity shall sign an affidavit affirming that it does not knowingly employ any person who is an unauthorized alien in connection with the contracted services. [RSMO 285.530 (2)]
- b. An employer may enroll and participate in a federal work authorization program (**E-Verify**) and shall verify the employment eligibility of every employee in the employer's hire whose employment commences after the employer enrolls in a federal work authorization program. The employer shall retain a copy of the dated verification report received from the federal government. Any business entity that participates in such program shall have an affirmative defense that such business entity has not violated subsection 1 of this section. [RSMO 285.530 (4)]

- c. Any entity contracting with St. Charles County shall only be required to provide the referenced affidavit on an annual basis. A copy of the affidavit is included in this Qualification request. Offerors may choose to send the required documentation using one of the following options:
- Send the notarized affidavit and E-Verify MOU signature page to: St. Charles County, Attn: Purchasing Manager, 201 N Second Street, Room 541, St. Charles, MO 63301 prior to responding to any solicitations; **OR**
  - Send the notarized affidavit and E-Verify MOU signature page along with a Qualification solicitation response.

**\*\*PLEASE NOTE\*\***

**Acceptable enrollment and participation documentation consist of a valid copy of the signature page of the E-Verify Memorandum of Understanding, completed and signed by the Offeror, and the Department of Homeland Security - Verification Division**

**The online address to enroll in the E-verify program is:**  
<https://e-verify.uscis.gov/enroll/StartPage.aspx?JS=YES>

18. Veteran Friendly Employment Policy

Indicate whether you have developed a veteran friendly employment policy and, if so, attach a copy of such policy to your response as a point of information.

\_\_\_\_\_ "YES" our company has a veteran friendly employment policy.

\_\_\_\_\_ "NO" our company does not have a veteran friendly employment policy.

Please include a copy of your veteran friendly employment policy with your submission.

19. Open Records

Any and all information contained in or submitted with the proposal becomes a public record subject to the Missouri Sunshine Law when a contract is executed, or all proposals are rejected. If Proposer believes that any information contained in or submitted with the proposal is protected by the Missouri Sunshine Law, Proposer must clearly identify what information Proposer believes is so protected and must also clearly identify the legal basis therefor.

**RFP 20-044**  
**Gateway Green Light (GGL) Phase 6 – PE Package C**  
**Implementation of Emergency Vehicle Preemption**

St. Charles County (referred to hereafter as County) seeks a qualified consultant to assist the County and Missouri Department of Transportation in the implementation of emergency vehicle preemption.

Proposals are due on **Thursday, 09/10/2020 at 2:00 p.m.** local time to the following address:

Kurt Mandernach  
Purchasing Manager  
St. Charles County Government  
201 North Second St, Room 541  
St. Charles, MO 63301

Late proposals will be returned unopened. One [1] signed original, one [1] signed copy, and one [1] digitized copy is to be an original and so marked. Please also provide one digital copy of the proposal in Acrobat Portable Document Format (PDF) on CD or USB. **Faxed or emailed proposals will not be accepted.**

## 1. OVERVIEW

The project area is St Charles County, MO and includes all county, city and MoDOT owned and maintained signalized intersections and controlled entrances accessed by Fire Department personnel. The interested Offeror shall submit a proposal to supply a central priority control system for three hundred and fifty-one (351) intersections and up to two hundred (200) vehicle preemption kits.

The COUNTY currently operates and maintains “208” signalized intersections crossings controlled by Econolite “Model Details or reference a spreadsheet” controller units. Additionally, “142” signalized intersections operated and maintained by MODOT are part of the GGL network.

Traffic signal locations and equipment are summarized in Exhibits A and B.

The City of St. Peters currently does have emergency vehicle preemption (Opticom) implemented at a small number of intersections. The current pre-empt operation must be accommodated in the new central priority control system with an identified plan to serve our mutual aid partners.

Communications infrastructure has been deployed across the county through other projects, summarized as follows:

All signals within the county are connected to our ATMS server (Transcore). MoDOT uses Transcore as well for their networked intersections. The two servers are interlinked with Transcore Center-to-Center (C2C) module. The field layer 2 network is largely comprised of fiber interconnect with a mixture of cell and radio to fill in the outlying areas.

Each proposal must include all costs associated to purchase, install, operate and maintain the central priority control system for three years following complete system integration (all signals online) with the option for two additional one-year periods for operations and maintenance.

Those costs may include, but are not limited to:

- installation charges,
- maintenance fees,
- training fees,
- service charges,
- network costs including cellular usage charges,
- phone line charges, and
- administrative costs.

Any charges or fees associated with the operation of the central priority control system that are not disclosed during the proposal will be void.

NOTE: The COUNTY reserves the right to host & operate the hardware & software requested in this RFP. Implementation may be purchased as part of this RFP or separately.

COUNTY requests proposals for the manufacture, delivery, installation, and maintenance of a centrally radio activated, GPS based Traffic Signal Preemption and Priority Control system in accordance with the terms and conditions set forth in this RFP. The Contract shall be a firm-fixed-price Contract. This purchase is funded in part by East West Gateway funds. The selected Offeror will have to comply with the necessary federal, State and local laws.

The COUNTY desires to contract with a provider that will provide installation, training, and ongoing support & maintenance of the centrally-activated, GPS-based traffic signal preemption system, including a priority control unit, for a minimum of 351 intersections and the integration of such equipment with existing components and platform for up to 200 fire rescue & EMS vehicles, including the integration of equipment with the current suite of AVL equipment as noted in this RFP.

The system must also integrate with the County's Econolite, Siemens, Intelight X3 and McCain Controllers.

## **2. INTRODUCTION**

### **2.1 Purpose**

The purpose of this Request for Proposal (RFP) is to solicit responses from qualified Offerors to provide products and services necessary to successfully deploy a cloud based, Central software-based traffic signal preemption and priority control system that integrates with existing vehicle equipment, network and traffic infrastructure where supported. The RFP process will evaluate the Offerors qualifications, products, services, and make a selection recommendation. Recommendation acceptance by the COUNTY will allow a formal award to be extended to the successful Offeror.

### **2.2 Definitions**

Common terms used in the RFP sections are defined herein and are intended to be consistent with best practices and those used in similar fields.

"Offeror" means individual, company or entity submitting a response in response to the RFP.

"CONSULTANT" shall be in reference to the successful Offeror, once contracted.

"COUNTY" means St. Charles County, Missouri.

"RFP" means Request for Proposal and includes any attachments, exhibits; schedules or addenda considered to be a proposal and referred herein as response or submission.

### **2.3 Acronyms**

The following acronyms are used in the RFP.

ATMS	Advanced Traffic/Transportation Management System
C2C	Center-to-Center
IoT	Internet of Things

ISO	International Organization of Standards
MoDOT	Missouri Department of Transportation
MQTT	MQ Telemetry Transport
NIST/FIPS	National Institute of Standards and Technology / Federal Information Processing Standards
NMEA	National Marine Electronics Association
NTCIP	National Transportation Communications for ITS Protocol
TLS	Transport Layer Security
USB	Universal Serial Bus

### 3. ADMINISTRATION INFORMATION

#### 3.1 Pre-Proposal Meeting

In order to allow for an orderly discussion on the project and to assist Offerors in their efforts to prepare their proposals and identify qualified DBE firms, A Pre-Proposal Conference will be held at **10:00 AM on Thursday August 24, 2020 in the St. Charles County Training Rm 542**. Offerors intending to submit Proposals as a prime consultant are strongly encouraged to attend the Conference in person or via virtual meeting. However, representatives of all firms interested in providing services for the project are encouraged to attend. Qualified DBE firms capable of providing project related services are encouraged to attend to become familiar with potential prime consultants. **Please register for the meeting in advance by e-mailing Jacob Becher at [jbecher@sccmo.org](mailto:jbecher@sccmo.org).**

Following the meeting, a list of participants will be made available to all interested firms to facilitate networking between prime consultants and potential subconsultants, DBE firms, and suppliers.

Questions can be asked during the pre-proposal meeting; however, formal answers to those questions will be released in a subsequent addendum, which will serve as an official response

#### 3.2 Questions

Offerors are expected to raise any questions, exceptions, or additions they anticipate concerning the RFP. If there are any significant errors, omissions, or deficiencies in the RFP, the Offeror should respectfully request modification or clarification by the date noted.

## **4. PROJECT REQUIREMENTS**

### **4.1 System Requirements Overview**

#### **4.1.1 Intelligent Preemption and Priority Control Application**

##### **a. Core Application**

- Process preemption and priority control messages from one or more vehicle types including emergency vehicles (required), transit buses, and public works vehicles.
- Authenticate vehicle message requests.
- Prioritize preemption and priority requests based on vehicle type and classification.
- Configure preemption and priority request behavior based on time of day, direction of travel, service level, route (transit), passenger count (transit), on-schedule status (transit).
- Store preemption and priority data for later retrieval and analysis.
- Host the application in a cloud-based server environment. Alternatively, the application should also have the ability to be customer-hosted in an on-premise server environment.
- Adjust for GPS signal accuracy and latency

##### **b. Vehicle Interface**

- Accept preemption and priority control requests from one or more vehicle types such as transit, public safety, and public works vehicles
- Accept vehicle data including vehicle ID, GPS location, speed, direction, heading, en-route status (public safety), dispatch code (public safety), route (transit), passenger count (transit), on-schedule status (transit)
- Internet of Things (IoT) communication capability using MQTT messaging protocol standard
- Secure in-flight messages using Transport Layer Security (TLS) using NIST/FIPS based standards

##### **c. Intersection Interface**

- Ability to issue preemption and priority control requests to one or both of the following traffic-side systems including:  
Advanced Traffic Management System (ATMS)  
Traffic Controller directly
- Send preemption and priority control requests to traffic-side systems via IP-based communication methods including wired/fiber and cellular networks
- Issue preemption and priority control requests to traffic-side systems using NTCIP-1211 and/or NTICP-1202 message standards

#### 4.1.2 Vehicle and Intersection Management Software

- Registration and configuration of new vehicles
- Registration and configuration of new intersections
- Ability to modify existing intersection and vehicle configurations
- Create and view vehicle and intersection historical reports
- Ability to schedule periodic reports to be sent through email

#### 4.1.3 Optional - On-board vehicle hardware

- GPS-enabled geo-spatial locating and improved locational accuracy with dead reckoning
- Vehicle to intersection communication via cellular networks
- Internet of Things (IoT) communication capability using MQTT messaging protocol standard
- Ability to send vehicle data in real-time to the core application or store on-vehicle and send when a network connection is available
- Ability to send vehicle status including, speed, direction, heading, GPS position, turn signal, light bar, and brake to the core application for preemption and priority control
- Ability to interface with other on-board equipment using J1708 or discrete wiring
- Ability to remotely manage the device using the core application

#### 4.2 System Operation

The preemption and priority control application shall be configured with the necessary vehicle provisions, relative priority settings, conditional preemption/priority parameters, and intersection location information. As supported vehicles travel throughout the supported region, vehicle data shall be sent to the application. The application shall process the vehicle data, applying any necessary relative priority and conditional factors to determine the appropriate time to send the preemption or priority request along with identifying the appropriate intersection to send the preemption or priority request to. Once determined, the application shall package the preemption or priority request data into the defined message structure and issue to the preconfigured traffic-side system. The traffic-side system shall then process and act upon the preemption or priority request based on its pre-configured settings.

Throughout this process, the preemption and priority control application shall store specific log data for retrieval and analysis using management software.

#### 4.3 Proposer Experience

The Offeror must be experienced with preemption and priority control-based systems including the following:

- At least two (2) existing installations of central software only systems (no vendor supplied hardware)



Must send some or all preemption and/or priority requests through the existing ATMS or to traffic controller directly

Must utilize existing customer supplied hardware for the solution without the need for additional vendor supplied hardware on the vehicle or intersections

Must support multiple makes and models of traffic controllers

- At least 5 years of preemption and priority control experience
- At least 5 active preemption and/or priority control installations

## **5. SCOPE OF WORK**

### **5.1 Core Application**

The preemption and priority control application shall receive preemption and priority request data from equipped vehicles and assess the data to determine if the request is valid, secure and complete. The application shall process the vehicle data and apply pre-configured business rules including relative priority and conditional factors. Once complete, the core application shall package the preemption or priority request data into the supported message structure and issue to the preconfigured traffic-side system. The traffic-side system shall then process and act upon the preemption or priority request based on its pre-configured settings. Features include ability to:

1. Process preemption and priority control messages from one or more vehicle types including transit buses, emergency vehicles, and public works vehicles;
2. Authenticate vehicle message requests;
3. Prioritize preemption and priority requests based on vehicle type and classification;
4. Configure preemption and priority request behavior based on time of day, direction of travel, service level, route (transit), passenger count (transit), on-schedule status (transit);
5. Issue preemption and priority control requests to one or more types of traffic-side infrastructure. Preemption/Priority requests to an ATMS should use the NTCIP 1211 protocol using the following Object Definitions:
  - Priority Request
  - Priority Update
  - Priority Clear;
6. Store preemption and priority data for later retrieval and analysis; and
7. Host the application in a cloud-based server environment. Alternatively, the application should have the ability to be customer-hosted in an on-premise server environment.
8. Adjust for GPS signal accuracy and latency.

## 5.2 Vehicle Interface

The vehicle interface shall include ability to:

1. Accept preemption and priority control requests from one or more vehicle types such as transit, public safety, and public works vehicles;
2. Accept vehicle data including vehicle ID, GPS location, speed, heading, route (transit), passenger count (transit), on-schedule status (transit)
3. Internet of Things (IoT) communication capability using MQTT messaging protocol standard.
4. Secure in-flight messages using Transport Layer Security (TLS) using NIST/FIPS based standards.
5. Receive vehicle data through a standard vendor specified web-based API:

Emergency Vehicles:

- Dispatch Status (Dispatched, En Route, Arrived)
- Incident classification
- Ignition on/off
- Doors open/closed
- Emergency/Parking break
- Light bar on/off
- Left turn signal on/off
- Right turn signal on/off

Transit Vehicle:

- Ignition on/off
- Doors open/closed
- Static and Real-Time GTFS data for schedule adherence
- Passenger count in compatible formats
- Minutes late in compatible formats

Public Works Vehicles:

- Ignition on/off
- Doors open/closed

6. The vehicle shall provide GPS geo-locating with the following data requirements:

- NMEA format
  - RMC
  - GGA
  - VTG
  - GSA
- Update rate: < 1 sec
- Accuracy: < 5m
- Position: 2m
- Altitude: < 3m
- PPS: +/- 25ns
- Tracking sensitivity: -160dBm
- Acquisition sensitivity: -140dBm
- Hot start: < 2 seconds

- Warm start: < 35 seconds
- Cold start: < 38 seconds
- Dead reckoning

The central software-based preemption and priority system should receive the vehicle data by the core application without the need for onboard hardware or software provided by the vendor. The configuration of existing vehicle systems to send this data to the core application would be the responsibility of the purchaser. The vendor should provide their API documentation to the purchaser as part of the project for configuration of the vehicle systems. The API documentation should include detailed instructions for sending the data through the API.

### **5.3 Intersection Interface**

The intersection interface shall include ability to:

1. Issue preemption and priority control requests to up to three (3) traffic-side systems including:
  - Advanced Traffic Management System (ATMS)
  - Traffic Controller
  - Preemption / Priority Control equipment
2. Send preemption and priority control requests to traffic-side systems via IP-based communication methods including wired/fiber and cellular networks.
3. Issue preemption and priority control requests to traffic-side systems using NTCIP-1211 and/or NTCIP-1202 message standards.

### **5.4 Vehicle and Intersection Management Software**

The system management software shall be available on a cloud-based server environment. Optionally the application should have the ability to be customer-hosted in an on-premise server environment. The management software shall provide a means to configure and update preemption and priority control settings within the Intelligent Preemption and Priority Control Application. In addition, the management software shall provide the ability to create and view reports for the vehicle and intersections.

1. The management software shall be capable of managing the vehicles and intersections centrally.
2. The management software shall use GIS data in the shapefile format from sources such as the US Census Bureau.
3. The management software shall track all configuration changes made through the management system, including the user who made the change, the date and time of the change, and the specific configuration information changed.
4. The management software shall provide for management of the priority system by jurisdiction, intersection, agency and vehicle.
5. The management software shall allow the user to directly manage the security of the priority control system only allowing authorized vehicles to use the preemption

and priority system.

6. The management software shall allow the user to block access to the priority control system by specific vehicle, vehicle code, or agency.
7. The management software shall provide a configurable alerting interface that may send email when designated priority calls or system events occur.
8. The management software shall provide ad-hoc and scheduled reports for system usage, usage by agency, vehicle and intersection, and excessive preemption duration.
9. The management software shall display active (in-progress) priority calls and recently logged priority calls, filterable by jurisdiction, agency, vehicle, intersection, and/or priority call attribute.
10. The management software shall display recent system events, including communications status, filterable by jurisdiction, intersection, event severity, and/or additional event attributes.
11. The management software shall store all collected log and configuration information in the central database, and augment all log data to include agency, vehicle, and intersection information as configured by the user.
12. The management software shall support analysis of all system log data through sorting, filtering, and pivot table analysis of all log fields.
13. The management software shall support user roles such that each user is allowed to perform only those operations essential to their position.
14. The management software shall provide access to online help.
15. The management software shall provide asset inventory information of all configured vehicles
16. Data from vehicles will allow for proactive and remote monitoring and updating, including:
  - a. Monitoring
  - b. Trip logs
  - c. Event logs
  - d. Ontime/early/late performance
  - e. Variance from headway spacing
  - f. Configuration Settings – the ability to make changes to the settings listed above
  - g. Bus Schedule information – the ability to make schedule and headway changes when needed
17. The management software will offer the following distinct application sections for managing and monitoring equipped vehicles.
  - a. Vehicle Inventory - dashboard to summarize the status of TSP and EVP vehicles. Minimum vehicle information will include Vehicle Name, ID, Last Online, Registration Status, & Health Indicator. The vehicle inventory section will provide the option of Viewing all vehicle settings.

- b. Active and Inactive Vehicles List – summary information about TSP and EVP vehicle status. Minimum vehicle information to be included in the Active Vehicles List will include Device Name, Vehicle, Name, Last Online Status, # of Stops and Registration Status. Minimum vehicle information to be included in the Inactive Vehicle List will include Device Name, Vehicle Name, Last Online Status and Registration Status.
- 18. The management software shall allow the user to view asset inventory information of all configured intersections.
- 19. The management software shall display the current (when last polled) operational status of each intersection.
- 20. The management software shall allow the user to establish, view and update all programmable configuration parameters of the intersections including:
  - a. Intersection and approach names for each of the four channels and store these as part of the intersection configuration.
  - b. Preemption and priority zones directly on a GIS map. Provided the map data is complete, it shall not be necessary to drive a vehicle to create the preemption zones. In areas where map data is incomplete or incorrect, it shall be possible to record points to be used as a reference to create the preemption zones.
- 21. The management software shall allow the user to restore the configuration for an intersection from a saved configuration file.
- 22. The management software shall provide a mechanism to import configuration and log information from offline intersections (those without communication to the central server) into the management database.
- 23. The management software shall allow the user to view, save, and print the activity log data from the intersection.

## **5.5 Optional - On-board vehicle hardware (Vehicle Control Kit)**

The Vehicle Control Kit shall include the communications device, antenna and cables (Installation by others). The vehicle control unit shall obtain the vehicle position, speed and heading information and transmit this information to the centralized application. The vehicle control unit will provide the interface to the vehicle to monitor the vehicle's turn signal status, provide activation and disable inputs as well as regulate the vehicle power provided to the vehicle control unit.

- 1. A GPS receiver and antenna will obtain the vehicle position, speed and heading from the GPS satellite system operated by the DoD.
- 2. The vehicle control unit will have the ability to send preemption and priority request information using a customer provided cellular communication network.
- 3. The vehicle control unit shall be capable of (Message Queuing Telemetry Transport) MQTT communication per ISO/IEC PRF 20922 publisher/subscriber messaging protocol. It shall work on top of the TCP/IP protocol and support TLS\SSL security.

4. The vehicle control unit will monitor the status of the vehicle's turn signals via an interface cable and the left and right turn signal lines in the vehicle. The vehicle control unit will also monitor the disable input line as well as the remote activation input.
5. The GPS receiver shall be able to provide via discrete wires, vehicle speed and direction information for Dead reckoning.
6. The vehicle control unit shall be capable of logging vehicle position data including geo-spatial position, speed, heading, and data validity.
7. The vehicle control unit shall be capable of distributing the vehicle position data to other systems for applications such as performance analytics and predictive operations.
8. The vehicle control unit shall be capable of distributing data in real-time. The unit shall distribute the data to other systems as it is collected by the device versus persisting the data for offloading at a scheduled time or relying on a client to poll at a specific interval.
9. The vehicle control unit will transmit the following information to the centralized application:
  - The priority level setting of the vehicle. This will be either high priority or low priority. The priority level will be factory set. The high priority model will have the option to be wired to operate as low priority either permanently or temporarily.
  - The agency ID, vehicle classification ID and vehicle ID of the vehicle. Setting these ID numbers will be accomplished through programming software. Each vehicle control unit will be capable of setting 254 different agency IDs and 15 different vehicle type classifications with 9,999 different identification numbers per class for a total of 38,096,190 codes per priority level.
  - The location, speed and heading of the vehicle.
  - The status of the vehicle's turn signals.
  - The serial number of the vehicle control unit.
  - An Ethernet port and a USB port shall be available on the GPS control unit. The ethernet port shall be the primary connection point to the customer provided cellular devices as described in item #2 above.
  - The Vehicle control unit shall also include multi-purpose communication ports compliant with the RS-232 communication standard. The Vehicle control unit shall also include a USB port. These ports enable unit configuration to be set into the Vehicle control unit and read from Vehicle control unit. It also allows real-time communication between the Vehicle control unit and the interface computer as well as interfacing with other devices. One of the RS-232 ports may be configured to output GPS data at 38400 baud rate in the NMEA format. It will output the following messages:
    - GGA Global Positioning System Fix Data
    - GSA GPS DOP and active satellites
    - GSV Satellites in view
    - RMC Recommended Minimum Navigation Information

- The GPS data shall be available while the equipment is shut off.
10. The vehicle control unit will also have a series of indicator lights that will operate as follows:
- A status indicator as well as an indicator light in the switch will indicate that the equipment is powered on.
  - A GPS indicator will indicate the status of GPS reception. A green indication means that GPS has been acquired.
  - A priority indicator will indicate the priority level currently being broadcast. A green indication means high priority. An amber indication means low priority. If the indicator is off, probe priority is being broadcast
  - A disable indicator will indicate if the vehicle equipment is in a disable mode. The disable indicator will flash amber and the indicator in the power switch will flash green at a rate of 2 Hz.
  - These indicators shall be configurable via software to change their brightness based on ambient light levels. There shall be separate settings for daytime and nighttime.
11. The turn signal inputs shall be configurable to accept the following types of inputs:
- A flashing input
  - A steady ground input
  - A Steady+10-36 VDC input
12. The vehicle control unit will be equipped with an ON/OFF switch to activate the system and request priority. The switch will be depressed to activate the system. In addition, a remote activation line is provided to interface with other vehicle equipment. This line may have the following signals applied to request priority.
- +10-36 VDC
  - +5VDC
  - Ground
  - The equipment may also be configured to be activated with the light bar/remote activation line or the ON/OFF switch rather than both.
13. The vehicle control unit will be equipped with a disable input that, when activated, will cause the vehicle kit to transmit that the vehicle is in disable mode, thereby eliminating the possibility of the priority request continuing after the priority vehicle has arrived at its destination. The disable input will be programmable to operate in either a latching or non-latching mode. The disable input will be programmed so that the input may be activated by applying ground or by applying +10-36 VDC. Operation of the disable input will be programmable using software.
14. Separate inputs shall be available to temporarily force the vehicle control unit to broadcast that it is in low priority and in probe priority. These inputs shall be configurable to accept a ground input or a +10-36 VDC input.

15. The communication protocol will be made available upon request for creating software to implement real-time communication via J-1708 to other onboard devices such as Automatic Vehicle Location (AVL) equipment. This interface may be used to initiate preemption and transit signal priority requests. In addition, the AVL equipment will be able to perform the following actions on the Vehicle control unit:
- Temporarily change priority level
  - Change Agency, Class and Vehicle ID
  - Activate and deactivate disable mode
  - Set turn signal status
  - Set transit route ID
16. The vehicle control unit will be able to provide the following to the AVL equipment:
- GPS RMC message data
  - Door status
  - Date and time
  - Make and Model
  - Discrete input status
17. The low priority version (transit) of the vehicle unit will be able to receive passenger count data and minutes late data from compatible AVL and passenger counter. It shall use this information to calculate and transmit a conditional priority level which will be used by the phase selector to calculate a conditional priority for approaching low priority vehicles.
- Conditional priority may be calculated according to one of the following methods:
- Minutes Late Only
- Passenger Count Only
- Highest value of minutes late or passenger count
- Addition of minutes late and passenger count
- The minutes late threshold may be 0-254 minutes for each of 15 priority levels.
- The passenger count threshold may be 0-254 passengers for each of 15 priority levels.
18. The vehicle control unit will have the capability of storing up to 10,000 of the most recent priority control calls. When the log is full, the vehicle unit will drop the oldest entry to accommodate the new entry. The Vehicle control unit will store the record in non-volatile memory and will retain the record if power terminates. Each record entry will include the following points of information about the priority call:
- Agency: Indicates the operating agency of the vehicle.
  - Classification: Indicates the class type of vehicle.
  - Identification number: Indicates the unique ID number of the vehicle.
  - Priority level: Indicates the vehicle's priority level (High or Low priority).
  - Approach Direction: Channel A, B, C, or D; indicates the vehicle's direction of travel.



- Call duration: Indicates the total time in seconds the priority status is active.
  - Minutes late (if received from compatible AVL)
  - Passenger Count (if received from compatible AVL or passenger counter)
  - Conditional Priority (if received from compatible AVL or passenger counter)
  - Time and date call started and ended: Indicates the time a priority call started and ended, provided in seconds, minutes, hours, day, month, year.
  - Turn signal status: Indicates the status of the turn signal at the beginning of the hold time.
  - Intersection: Indicates the name being transmitted by the intersection equipment that received the request.
  - Intersection ID: Indicates the ID being transmitted by the intersection equipment that received the request.
  - Speed of vehicle: entry speed, exit speed, average speed through call.
  - Disabled Status: Indicates if the vehicle was disabled
  - Preemption Confirmed: Indicates if the preemption was confirmed by the intersection.
  - No Preempt Status: The reason the preemption did not occur.
19. Green sense information received from the phase selector shall show first phase, first phase state, first phase green time, first phase non-green time, second phase, second phase state, second phase green time, second phase non-green time. The vehicle control unit will have dimensions of no greater than 5.5 inches (14.0cm) wide by 1.75 inches (4.4 cm) high by 7.35 inches (18.4 cm) deep.
  20. The vehicle unit shall be configured and managed with management software installed on a Windows™ based computer, for programming the vehicle control unit through its RS-232 compatible multi-purpose port, Ethernet port or USB port.
  21. The GPS antenna will be a hemispherical dome with a height of 1.43" (3.6 cm) a diameter of 2.85" (7.2 cm) with a pair of 15' (4.6m) coax cables with factory terminated SMA connectors. One of these connectors will have a pin and the other will have a socket.
  22. The vehicle control unit will be supplied complete with a 25-foot (7.6m) (or longer) vehicle interface cable.
  23. The vehicle control unit will operate over a temperature range of –30° F (-34° C) to 165° F (+74° C).
  24. The vehicle control unit will operate over a relative humidity range of 5% to 95%.

### **Cities Adjacent to Saint Charles County, MO**

The proposed system must enable neighboring mutual aid partners to use the central priority control system described above while traversing St Charles County, MO signalized intersections with a similar, extensible design for their own jurisdictional

intersections.

In this case, no fiber Ethernet communications presently exists, nor be planned for the foreseeable future.

Instead of sending the priority request to a traffic signal controller, in these cases the central priority control application sends the request over the network to a phase selector located in the traffic control cabinet. The phase selector then uses discrete outputs to request preemption/priority directly from the controller.

The central priority control application determines which mode to use (central to the controller or central to the Phase Selector) based on intersection attributes programmed via the central priority control system.

## **6. SCHEDULE**

- 6.1 Schedule** Offeror shall submit a deployment schedule. The schedule shall show the anticipated critical path starting from the point of award through final acceptance testing.
- 6.2 Project Kick-Off Meeting** The successful Offeror shall attend a project kick-off meeting to be held at a location predetermined by the COUNTY. The COUNTY or its representative will coordinate the meeting location and agenda with the Project Manager. The Offeror is expected to document and provide a summary of the discussion to attendees within three (3) days of the meeting conclusion.
- 6.3 Progress Meetings** Progress meetings will be requested or scheduled at regular intervals as designated during the kick off meeting. The meetings will be used to inform the COUNTY and MoDOT on progress made as well as coordinate upcoming project activities. Updates to the project schedule will be provided during these meetings. The Offeror is expected to document and provide a summary of the discussion to attendees within three (3) days of the meeting conclusion.

## **7. TRAINING**

Training shall be provided by the Offeror using qualified staff that has knowledge of the system components, software, and configuration deployed during the effort. The effort shall be conducted within two weeks of the system acceptance testing and be done under the following requirements:

- 7.1 Training Session** Offeror shall prepare a training course for users and administrators of the system. The training course outline and materials shall be approved by the COUNTY before the session(s) are held. Training sessions shall be completed over two days. The first session will be for operators and focus on daily system use. The second session will be for administrators that will have to work with system configuration, maintenance, and troubleshooting. Each session will have no more than twenty (20) participants. The Offeror shall provide all materials and instructors for the training.
- 7.2** The COUNTY will provide a training location. The Offeror will provide all equipment, including but not limited to laptop, projector (may be available and should be requested), and or system hardware and software to be used during the session.

7.3 Driver training program with materials available via CD-ROM.

## 8. SYSTEM MAINTENANCE

Ongoing support will be needed to ensure continued use of the Offeror provided solution. The following actions will be required.

8.1 Regular Maintenance Offeror shall be responsible for providing all software updates and/or upgrades for the products procured under this contract as part of the maintenance package for a period of three (3) years from the date of system acceptance with the option to renew or extend the service agreement upon expiration for two (2) additional one (1) year periods. Responsibilities for storage, bandwidth, server software, or hardware needed to deliver system functionality are also considered covered by regular maintenance.

8.2 Release / Maintenance Schedules Offeror will provide the COUNTY and partner agencies written notice of pending new releases or planned maintenance dates and schedule to allow enough time for users to prepare for anticipated downtime. Maintenance should not impact data collection; there should be no gaps in data records do to scheduled efforts.

8.3 Urgent Maintenance Requests made by the COUNTY will be acknowledged and a response by the Offeror is expected within 24 hours. After identification or diagnosis of a problem, the Offeror shall begin work on warranty-covered repairs within five (5) calendar days after receiving notification of Defect from the COUNTY.

## 9. SYSTEM LICENSE

The deployed solution will meet the following software licensing requirements:

The Offeror shall provide all software licenses necessary to operate the final deployment.

The cost of the software and licenses or other fees shall be included in the cost proposal. For example, if licensing is based on a per user basis or capacity used; than the cost to add each additional user or expand system volume shall be provided This price will be consider locked in over the course of the deployment and maintenance periods.

## 10. PRESENTATION / DEMONSTRATION

The COUNTY may request a presentation or demonstration of the highest scoring candidates. If requested, Offeror shall be asked to discuss their solution, highlighting key areas of interest to the COUNTY. Offeror can choose to run the proposed solution locally or to connect into a remote system and highlight desired functionality.

The COUNTY reserves the right to review initial proposal scoring and to make final adjustments based on the information provided during the demonstrations.

All costs associated with the demonstration will be incurred by the Offeror, the COUNTY will not reimburse these expenses.

## **11. PROPOSAL REQUIREMENTS**

An Offeror shall provide three (3) paper copies and one (1) proposal marked as "ORIGINAL". Along with these documents the Offeror shall also provide one digital copy of the proposal in Acrobat Portable Document Format (PDF) on CD or USB. Any proposal package or envelope submitted after the due date and time will not be considered. The guidelines of this RFP submittal and required proposal format are listed below. The Proposals shall be no more than 30 pages submitted on 8 ½" x 11" paper using a font no less than size 10 (excluding charts, graphs, tables, and other visual exhibits) and standard margins with identifiers or tabs separating the major sections of the Proposal.

Proposal tabs should be as follows:

Cover Letter

Introduction

Project Approach

Work Plan

Security

Maintenance and Support

DBE, Workforce Diversity, and OJT Plan

Appendix A: Resumes/Certifications

Appendix B: Product / Solution Materials (optional)

Appendix C: Sample Maintenance Plan (optional)

### **11.1 Cover Letter (3 pages maximum)**

Letter on the firm's letterhead transmitting the proposal to the COUNTY, and signed by an authorized person, include the firm's contact and information on how to reach this person should questions by the COUNTY be necessary.

### **11.2 Introduction (5 pages maximum)**

The section will provide an overview of the Offeror and their qualifications. As part of this section provide the following:

Description of the Offeror; history, company size, experience, etc

Project Manager name, contact information, summary of qualifications

Project team structure and organizational chart; include any sub-consultants or vendors that may support the project

List of key staff to work on the proposal with brief descriptions; attach formal resumes and product certifications for staff members listed in the proposal's appendix

Brief description of three similar deployments in the last 3 years; include contacts, dollar values, location, technology/systems deployed, and installation dates

### **11.3 Project Approach (15 pages maximum)**

The Section will provide an overview of the technology and solutions to be deployed to support the requirements of the RFP; include the following in the proposal:

Describe the proposed solution its advantages, and how it meets the requirements of the RFP.

Provide a description of any hardware and equipment to be procured as part of the solution, include a basic description of each and include product cut sheets in the proposal's appendix

### **11.4 Work Plan (5 pages maximum)**

Under this Section, the Offeror will provide a summary of how they will design, deploy, configure, test, train, and maintain the proposed solution.

Provide a work plan that will describe how the Offeror will successful approach meeting the requirements of the RFP

Provide a preliminary project schedule

Identify any critical actions that will be required of the COUNTY to ensure a successful deployment

Identify any challenges or anticipated issues that the COUNTY should be aware of that might impact the Offerors ability to complete the work as specified

Identify any assumptions that were made in preparing the work plan

### **11.5 Maintenance and Support (3 pages maximum)**

The Section will cover how the Offeror handles maintenance and service for the provided solution and related hardware; include the following in the proposal:

Describe how support calls are received, tracked, and any reports that are provided to the client to show how the issues have been resolved

Describe the recommend regular maintenance that will be needed for the deployed solution

Describe how software will be maintained through the maintenance period; detail how a typical maintenance update would be performed

### **11.6 DBE, Workforce Diversity, and OJT Plan (3 pages maximum)**

The Section will cover how the Offeror will address DBE program requirements, Workforce Diversity, and OJT Training; include the following in the proposal:

Describe how your firm will utilize a DBE firm or firms as part of your project team to achieve the DBE participation goal.

Describe your firm's approach to promoting, developing, and utilizing a diverse workforce. Also describe how your firm will assemble a well-rounded diverse project team to work on this project.

Describe your firm's approach to developing an OJT training curriculum and how your firm would utilize professional/technical IT trainees. Also describe how your firm would recruit professional/technical IT trainee candidates to participate on the project team.

#### **11.7 Appendix A: Resumes / Certificates**

Place full resumes of critical staff that will be assigned to the work under this section. Resumes should be kept to no more than two (2) pages per individual. Also include, if applicable any software or product certifications, training credentials, or other materials that demonstrates competence of the staff to provide installation, configuration, and support of proposed solution.

#### **11.8 Appendix B: Product / Solution Materials (optional)**

Screen shots, technical overviews, or other visual representations of the products, software, or services should be placed in this section. This is not a required section; a Offeror may choose not to provide this information. If provided should be no more than five (5) pages in length.

#### **11.9 Appendix C: Sample Maintenance Plan (optional)**

Provide a sample maintenance plan that details how support will be initialized, tracked, and executed. This is not a required section; a Offeror may choose not to provide this information. If provided should be no more than five (5) pages in length.

### **12. COST PROPOSAL**

The COUNTY would request Offerors provide pricing on the form provided in Exhibit C. Cost proposals will be submitted in an envelope, clearly labeled, and separate from the proposal documents. Projects scoring in the top tier of proposals based on qualifications will be further evaluated based on cost proposals. As part of the cost proposal, a separate document or sheet should be included that indicates how the licensing costs were calculated, and further indicates that pricing to purchase additional licenses if applicable. These prices will be firm over the term of the contract.

#### **12.1 Basis of Payment**

Payment for the project will be based on successful completion of measurable objectives as identified in the cost proposal and with approval by the COUNTY. Payments for services will not be made in advance of work performed. A brief summary of the cost proposal items is below.

#### **12.2 Project Management / Mobilization**

The basis for payment shall be lump sum and paid in two (2) installments. The first payment will be 50% for the proposal item billable thirty days after the formal kick off meeting. The remaining 50% will be billable at the successful completion of the project, with acceptance of the system by the COUNTY and with the COUNTY's notification of

the formal start to the maintenance period.

### **12.3 System Interface Deployment**

The basis of payment shall be per signal and paid upon the successful completion and approval by the COUNTY of the installation and configuration of the system interfaces needed to support current data processing from partner agencies. This will also include any configuration cost to develop initial interfaces and configure information user users access.

The basis of payment shall be per signal and paid upon successful approval by the COUNTY of the system interface and initial data processing of current data from partner agencies.

### **12.4 Vehicle Control Kits**

The vehicle control kits shall include radio, antenna and cable. Modems Installation and configuration shall be done by others.

### **12.5 Testing**

The basis of payment shall be lump sum and paid upon the successful completion and approval by the COUNTY of all testing as detailed in the RFP. The item shall include all costs for developing and administering a system test procedure, system testing, 45-day test, and data quality check.

### **12.6 Training**

The basis of payment shall be lump sum and paid upon the successful completion and approval by the COUNTY of all training as detailed in the RFP.

### **12.7 Documentation**

The basis of payment shall be lump sum and paid upon the successful completion and approval by the COUNTY of all documentation as detailed in the RFP.

### **12.8 Software License**

The basis of the payment shall be per license and paid upon the successful completion of the full system testing and approval by the COUNTY. The software licensing includes all cost for the software associated with the Preemption functions as well as any licensing necessary for user access.

### **12.9 Maintenance and Support Years 1-3**

The basis of payment shall be lump sum and paid upon final acceptance of the solution in the first month of the start of the maintenance period with approval by the COUNTY. The COUNTY reserves the right to ask for a summary detailing the actions and activities taken by the Offeror over the previous maintenance period for tracking and record

keeping purposes.

## 12.10 Maintenance and Support Years 4 and 5

The basis of payment shall be lump sum and paid in the first month of the start of each one year optional maintenance period with approval of the COUNTY. The COUNTY reserves the right to ask for a summary detailing the actions and activities taken by the Offeror over the previous maintenance period for tracking and record keeping purposes.

## 13. PROPOSAL EVALUATION CRITERIA AND SELECTION

The COUNTY intends to use an evaluation committee to conduct an evaluation of the Proposals received in response to this RFP. The evaluation committee will consist of members who have been selected because of their knowledge and special expertise of the services and/or products that are subject to this RFP. The Offeror may not contact members of the evaluation committee except at the COUNTY's request.

The Proposals will be initially reviewed to determine if they are in compliance with the guidelines and required proposal format as outlined within the Proposal Requirements section of this RFP. All Proposals will then be evaluated to determine if they comply with the minimum qualifications of the RFP. Failure to meet these prerequisites could result in the Proposal being rejected.

All Proposals that satisfy the RFP prerequisites will then be reviewed and scored against the evaluation criteria noted below. The evaluation committee reserves the right to review references, request interview presentations, and/or conduct demonstrations for short-listed Respondents as part of the evaluation process. The evaluation committee may also make adjustments to its initial scoring based on the additional or supplemental information obtained as part of any reference checks, the interview presentation, and/or product demonstrations requested.

All of this information will be used to tabulate a numerical final score using a point-rating and total score ranking system on the Proposals for consideration of potential selection and award. The COUNTY reserves the right to continue the evaluation of, and potentially select, any Proposal that most closely satisfies the prerequisites of this RFP.

### **Proposed Solution, Evaluation Criteria**

<b>No.</b>	<b>Description</b>	<b>Percentage</b>
1	Qualifications & Certifications as outlined in RFP	Pass/Fail
2	Capabilities and Staff Experience	20%
3	Project Approach (Quality of Hardware Systems and Displays and Quality of Software Solution)	40%
4	Work Plan/Schedule	15%
5	Maintenance & Support	15%
6	Workforce Diversity and On the Job Training	10%



## 14. DISCLAIMER

The COUNTY will not be liable for any costs incurred by Offerors to prepare a submission, or any related follow-up (e.g., interview, demonstration, etc.). The COUNTY reserves the right to reject and/or accept any and all proposals in whole or in part. Furthermore, the COUNTY reserves the right, at any time and for any reason, to cancel this RFP or any portion thereof.

In addition, the COUNTY reserves the right to waive any immaterial defect in any proposal or to seek clarification from a Offeror at any time; an Offeror's failure to respond promptly is cause for rejection. Furthermore, the COUNTY, reserves the right to negotiate supplemental terms and conditions, as necessary or appropriate, to accomplish the intent of this RFP.

Proposal materials submitted will become the property of the COUNTY and cannot be returned. Proposal shall remain valid and in effect for a period of one hundred and twenty (120) days after the due date. The COUNTY may also require submission of best and final offers at its discretion.

**Exhibit A: GGL Network Intersections** (attached)

**Exhibit B: MoDOT Network Intersections** (attached)

**Exhibit C: Cost Proposal** (attached)

**Exhibit D: System Architecture Options** (attached):

There are Two (2) options of system architecture acceptance:

1. (Preferred): A cloud-based server to communicate to the Traffic-Side equipment via NTCIP 1211 message standards.
2. Cloud based server to communicate through ATMS (Transcore Server)

### **Exception Sheet**

If the item(s) and/or services proposed in the response to this Request for Proposals is in any way different from that contained in this Request for Proposals, the Offeror is responsible to clearly identify all such differences in the space provided below. Otherwise, it will be assumed that the Offeror's offer is in total compliance with all aspects of the proposal or Qualification.

Below are the exceptions or differences to the stated specifications (attach additional sheets as needed):

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

**THIS FORM MUST BE COMPLETED AND ENCLOSED WITH THE QUALIFICATION**

**Audit Clause for Contracts**

**Examination of Records**

The Offeror's records must include, but not be limited to, accounting records (hard copy, as well as computer readable data), written policies and procedures, sub-consultant files, indirect cost records, overhead allocation records, correspondence, instructions, drawings, receipts, vouchers, memoranda, and any other data relating to this contract shall be open to inspection and subject to audit and/or reproduction by the County Auditor, or a duly authorized representative from the County, at the County's expense. The Offeror must preserve all such records for a period of three years, unless permission to destroy them is granted by the County, or for such longer period as may be required by law, after the final payment. Since the Offeror is not subject to the Missouri Sunshine Law (Chapter 610, RSMo), information regarding the Offeror's operations, obtained during audits, will be kept confidential.

The Offeror will require all sub-consultants under this contract to comply with the provisions of this article by including the requirements listed above in written contracts with the sub-consultants.

**Offeror Information**

Company Name: \_\_\_\_\_

Business Address: \_\_\_\_\_

Business Hours: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email address: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_  
(Indicates acceptance of all Qualification terms and conditions)

Date: \_\_\_\_\_

## **AFFIDAVIT OF WORK AUTHORIZATION**

The Offeror who meets the section 285.525, RSMo definition of a business entity must complete and return the following Affidavit of Work Authorization.

Comes now \_\_\_\_\_ **(Name of Business Entity Authorized Representative)** as \_\_\_\_\_ **(Position/Title)** first being duly sworn on my oath, affirm \_\_\_\_\_

**(Business Entity Name)** is enrolled and will continue to participate in the E-Verify federal work authorization program with respect to employees hired after enrollment in the program who are proposed to work in connection with the services related to contract(s) with the County for the duration of the contract(s), if awarded in accordance with subsection 2 of section 285.530, RSMo. I also affirm that \_\_\_\_\_ **(Business Entity Name)** does not and will not knowingly employ a person who is an unauthorized alien in connection with the contracted services provided to the contract(s) for the duration of the contract(s), if awarded.

In Affirmation thereof, the facts stated above are true and correct. (The undersigned understands that false statements made in this filing are subject to the penalties provided under section 575.040, RSMo.)

\_\_\_\_\_  
**Authorized Representative's Signature**

\_\_\_\_\_  
**Printed Name**

\_\_\_\_\_  
**Title**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**E-Mail Address**

Subscribed and sworn to before me this \_\_\_\_\_ of \_\_\_\_\_. I am  
**(DAY) (MONTH, YEAR)**

commissioned as a notary public within the County of \_\_\_\_\_, State of  
**(NAME OF COUNTY)**

\_\_\_\_\_, and my commission expires on \_\_\_\_\_.  
**(NAME OF STATE) (DATE)**

\_\_\_\_\_  
**Signature of Notary**

\_\_\_\_\_  
**Date**

# **EXHIBIT A – GGL INTERSECTIONS**

INT	Description	Chann	Drop	Net Address	Firmware	Manufacturer
1	Arena Pkwy @ Friedens/S River Rd	104	1	10.191.33.89	ASC/3 2.55	Econolite
2	Arena Pkwy @ N Arena Entrance	104	2	10.191.33.88	ASC/3 2.55	Econolite
3	Arena Pkwy @ S Arena Entr./ S River Rd	104	3	10.191.33.87	ASC/3 2.55	Econolite
4	Knaust Rd @ Birdie Hills Rd	104	4	10.191.129.154	ASC/3 2.55	Econolite
5	Cottleville Pkwy @ SCC College S-E Entr.	110	1	10.191.129.151	ASC/3 2.55	Econolite
6	Cottleville Pkwy @ SCC College S-W Entr.	110	2	10.191.129.152	ASC/3 2.55	Econolite
7	Cottleville Pkwy/Knaust Rd. @ Weiss Rd.	110	3	10.191.129.153	ASC/3 2.55	Econolite
8	Route N @ Cottleville Campus	110	4	10.190.50.66	ASC/3 2.55	Econolite
10	Route N @ Motherhead Rd	110	5	10.190.51.114	ASC/3 2.55	Econolite
12	Knaust Rd @ Laura Hill Rd	104	6	10.190.51.98	ASC/3 2.55	Econolite
13	Jungs Station Rd @ Upper Bottom Rd	104	7	10.190.50.82	ASC/3 2.55	Econolite
14	Upper Bottom Rd @ Old Upper Bottom Rd	104	8	10.190.51.18	ASC/3 2.55	Econolite
16	Route N @ Country Ridge/Brittany Cove	110	6	10.190.50.50	ASC/3 2.55	Econolite
17	St Peters-Howell Rd @ McClay Rd	104	10	10.191.17.171	ASC/3 2.55	Econolite
18	St. Peters-Howell Rd @ Toelle Dr	104	11	10.191.17.172	ASC/3 2.55	Econolite
19	N @ Merz Farm/Dardenne Town Square	105	1	10.191.97.165	ASC/3 2.55	Econolite
20	N @ Crossroads Elementary School	105	2	10.191.97.167	ASC/3 2.55	Econolite
21	Route N @ Hanley Rd/Post Rd	105	3	10.191.97.166	ASC/3 2.55	Econolite
22	Hanley Rd. @ Feise Rd.	105	4	10.191.97.164	ASC/3 2.55	Econolite
24	Mid Rivers Mall Drive @ Cottleville Parkway	110	15	10.199.1.51	ASC/3 2.55	Econolite
25	Mid Rivers Mall Drive @ Community College N	108	2	10.199.1.53	ASC/3 2.50	Econolite
26	Mid Rivers Mall Drive @ Ohmes Road	108	3	10.199.1.54	ASC/3 2.50	Econolite
27	Mid Rivers Mall Drive @ Mid Rivers Commons	108	4	10.199.1.52	ASC/3 2.50	Econolite
28	Mid Rivers Mall Drive @ N	108	5	10.199.1.48	ASC/3 2.50	Econolite
29	Mid Rivers Mall Drive @ Town Center South	108	6	10.199.1.49	ASC/3 2.50	Econolite
30	Mid Rivers Mall Drive @ Home Depot	108	7	10.199.1.47	ASC/3 2.50	Econolite
31	Mid Rivers Mall Drive @ 94 Crossing	108	8	10.199.1.46	ASC/3 2.50	Econolite

**EXHIBIT A – GGL INTERSECTIONS**

<b>INT</b>	<b>Description</b>	<b>Chann</b>	<b>Drop</b>	<b>Net Address</b>	<b>Firmware</b>	<b>Manufacturer</b>
32	Mid Rivers Mall Drive @ Town Center North	108	9	10.199.1.50	ASC/3 2.50	Econolite
33	Wentzville Parkway @ West Meyer Road	112	1	10.191.113.132	ASC/3 2.55	Econolite
34	Wentzville Parkway @ William Dierbergs Drive	112	2	10.191.113.131	ASC/3 2.63	Econolite
35	Wentzville Parkway @ Dierbergs Entrance	112	3	10.191.113.130	ASC/3 2.55	Econolite
36	Wentzville Parkway @ Home Depot Entrance	112	4	10.191.113.129	ASC/3 2.55	Econolite
37	Wentzville Parkway @ West Pearce Boulevard	112	5	10.191.113.128	ASC/3 2.50	Econolite
38	W Pearce Boulevard @ Bear Creek	112	6	10.191.113.174	ASC/3 2.50	Econolite
39	Wentzville Parkway @ Schroeder Creek Boulevard	112	7	10.191.113.133	ASC/3 2.50	Econolite
40	Wentzville Parkway @ Meyer Road	112	8	10.191.113.134	ASC/3 2.50	Econolite
41	Wentzville Parkway @ Luetkenhaus Boulevard	112	9	10.191.113.136	ASC/3 2.50	Econolite
42	Wentzville Parkway @ QT Entrance	112	10	10.191.113.135	ASC/3 2.50	Econolite
43	West Meyer Road @ Peine Road	112	11	10.191.113.176	ASC/3 2.50	Econolite
44	West Meyer Road @ North Point Prairie Road	112	12	10.191.113.177	ASC/3 2.50	Econolite
46	Tom Ginnever @ Fort Zumwalt North High School	111	1	10.191.65.20	ASC/3 2.50	Econolite
47	TR Hughes Blvd @ Tom Ginnever	111	2	10.191.65.162	ASC/3 2.50	Econolite
48	Tom Ginnever @ St. Matthew Ave	111	3	10.191.65.19	ASC/3 2.50	Econolite
49	TR Hughes Blvd @ Cool Springs Ind Dr	111	4	10.191.49.161	ASC/3 2.50	Econolite
50	TR Hughes Blvd @ Wabash Ave	111	5	10.191.49.160	ASC/3 2.50	Econolite
51	TR Hughes Blvd @ Public Works Dr	111	6	10.191.49.159	ASC/3 2.50	Econolite
55	Main Street @ Tom Ginnever	111	7	10.191.65.123	ASC/3 2.50	Econolite
57	Main Street @ St. Joseph	111	8	10.191.65.122	ASC/3 2.50	Econolite
58	Main Street @ Third St	111	9	10.191.65.121	ASC/3 2.50	Econolite
59	Main Street @ Elm St	111	10	10.191.65.120	ASC/3 2.50	Econolite
60	Main Street @ Church St	111	11	10.191.65.119	ASC/3 2.50	Econolite
61	Main Street @ Pitman St	111	12	10.191.65.118	ASC/3 2.50	Econolite
65	Mexico Rd @ Mexico Loop Rd East/Bramblett Rd	111	13	10.191.97.7	ASC/3 2.50	Econolite
66	Mexico Road @ Sonderen St./White Oak Ln	111	14	10.191.97.8	ASC/3 2.50	Econolite

# **EXHIBIT A – GGL INTERSECTIONS**

INT	Description	Chann	Drop	Net Address	Firmware	Manufacturer
67	Mexico Road @ Belleau Creek Road	108	10	10.199.1.9	ASC/3 2.50	Econolite
69	Sonderen @ Sonderen Loop N	111	15	10.190.53.130	ASC/3 2.50	Econolite
70	Veterans Memorial Pkwy @ Sonderen St	111	16	10.190.53.50	ASC/3 2.50	Econolite
73	Mexico Road @ S Woodlawn Ave	111	17	10.191.97.5	ASC/3 2.50	Econolite
74	Mexico Road @ Mexico Loop Road West	111	18	10.191.97.4	ASC/3 2.50	Econolite
75	Mexico Road @ Washington's Crossing Dr	111	19	10.191.97.3	ASC/3 2.50	Econolite
76	Mexico Road @ Turtle Creek Dr/Crooked Stick Dr	111	20	10.191.97.2	ASC/3 2.50	Econolite
77	Mexico Road @ Bryan Rd	111	21	10.191.97.1	ASC/3 2.50	Econolite
78	Bryan Rd @ Great Warrior Dr/Norwood Hills Dr	111	22	10.191.97.38	ASC/3 2.50	Econolite
79	Bryan Rd @ Sunview Dr	111	23	10.191.97.39	ASC/3 2.50	Econolite
81	Bryan Rd @ Veterans Memorial Pkwy	110	16	10.191.97.24	ASC/3 2.55	Econolite
82	Veterans Memorial Pkwy @ Thornbury Crossing Dr	111	26	10.191.97.43	ASC/3 2.50	Econolite
83	Bryan Rd @ W. Terra Ln	111	24	10.191.97.40	ASC/3 2.50	Econolite
84	Hoff Rd @ W Terra Ln	111	27	10.191.97.23	ASC/3 2.50	Econolite
86	Feise Rd @ Glengate Estates Dr	111	28	10.190.52.50	ASC/3 2.50	Econolite
93	Bryan Rd @ Feise Rd	111	29	10.191.97.37	ASC/3 2.50	Econolite
95	Winghaven Blvd @ Pedestrian Xing	111	30	10.191.97.35	ASC/3 2.50	Econolite
96	Winghaven Blvd @ Phoenix Pkwy	111	31	10.191.97.34	ASC/3 2.50	Econolite
97	Winghaven Blvd @ St. Lukes Medical/Hammack Rd	111	32	10.191.97.33	ASC/3 2.50	Econolite
102	O'Fallon Rd @ Monticello Plz	111	33	10.190.53.146	ASC/3 2.50	Econolite
103	O'Fallon Rd @ Pedestrian Xing	111	34	10.190.52.194	ASC/3 2.50	Econolite
105	Crusher Dr @ 4101 Crusher Dr	111	35	10.190.53.66	ASC/3 2.50	Econolite
107	Kingshighway @ Jefferson St.	106	1	10.191.33.196	ASC/3 2.50	Econolite
108	Elm St./Monroe @ Kingshighway/Rte 94	106	2	10.191.33.195	ASC/3 2.50	Econolite
109	Droste Rd. @ Westborough Dr.	106	4	10.191.39.2	ASC/3 2.50	Econolite
110	Fifth St. @ McDonough St.	106	33	10.191.33.3	SEPAC 4.52	Siemens
111	Fifth St. @ Boones Lick Rd.	106	5	10.191.33.95	SEPAC 4.52	Siemens

# **EXHIBIT A – GGL INTERSECTIONS**

INT	Description	Chann	Drop	Net Address	Firmware	Manufacturer
112	Fifth St. @ Ameristar Blvd.	106	6	10.191.33.94	SEPAC 4.52	Siemens
113	Fifth St. @ S. River Rd.	106	7	10.191.33.91	ASC/3 2.50	Econolite
114	S. River Rd. @ S. Main St.	106	8	10.191.33.90	ASC/3 2.50	Econolite
115	S. Main St. @ Ameristar Blvd.	106	9	10.191.33.184	ASC/3 2.50	Econolite
116	Elm St. @ Duchesne Dr.	106	10	10.190.55.66	ASC/3 2.50	Econolite
117	Elm St. @ Hunters Ridge	106	11	10.190.55.98	ASC/3 2.50	Econolite
118	Elm St. @ Elm Point Ind. Dr.	106	12	10.190.55.82	ASC/3 2.50	Econolite
119	Droste Rd. @ Duchesne Dr.	106	13	10.190.55.34	ASC/3 2.50	Econolite
120	West Clay St. @ Duchesne Dr.	106	14	10.191.33.199	ASC/3 2.50	Econolite
121	West Clay St. @ Droste Rd.	106	15	10.191.33.197	ASC/3 2.50	Econolite
122	West Clay St. @ Westbury Dr.	106	16	10.191.33.200	ASC/3 2.50	Econolite
124	Harry S. Truman Rd. @ Ehlmann Rd.	114	1	10.191.1.81	ASC/3 2.50	Econolite
125	Muegge Rd. @ Fountainview Dr.	106	19	10.191.1.76	ASC/3 2.50	Econolite
126	Muegge Rd. @ Old Muegge Rd.	106	20	10.191.1.75	ASC/3 2.50	Econolite
127	Muegge Rd. @ Timberidge Dr.	106	21	10.191.1.74	ASC/3 2.50	Econolite
128	Muegge Rd. @ Treetop Dr.	106	22	10.191.1.73	ASC/3 2.50	Econolite
129	Muegge Rd. @ Hackmann/Country Club Rd.	106	23	10.191.1.72	ASC/3 2.50	Econolite
130	Muegge Rd. @ Prongue Dr.	106	24	10.191.1.71	ASC/3 2.50	Econolite
131	Muegge Rd. @ Graystone Dr.	106	25	10.191.1.70	ASC/3 2.50	Econolite
132	Muegge Rd. @ Old Hwy 94	106	26	10.191.1.69	ASC/3 2.50	Econolite
133	Pralle Ln. @ Kunze Dr.	106	27	10.190.56.226	ASC/3 2.50	Econolite
134	Zumbehl Rd. @ Hawks Nest Dr.	106	28	10.191.1.142	ASC/3 2.50	Econolite
135	Zumbehl Rd. @ Schnucks Entrance	106	29	10.191.1.143	ASC/3 2.50	Econolite
136	Zumbehl Rd. @ Regency Parkway	106	30	10.191.1.144	ASC/3 2.50	Econolite
137	Zumbehl Rd. @ S Dierbergs Entrance	106	31	10.191.1.145	ASC/3 2.50	Econolite
138	Zumbehl Rd. @ N. Dierbergs Entrance	106	32	10.191.1.146	ASC/3 2.50	Econolite
139	Zumbehl Rd. @ Droste Rd.	105	15	10.191.39.151	ASC/3 2.50	Econolite
140	New Town Blvd. @ Fountain Lakes Blvd.	106	34	10.190.56.178	ASC/3 2.50	Econolite



**EXHIBIT A – GGL INTERSECTIONS**

<b>INT</b>	<b>Description</b>	<b>Chann</b>	<b>Drop</b>	<b>Net Address</b>	<b>Firmware</b>	<b>Manufacturer</b>
141	New Town Blvd. @ Fountain Lakes Ind. Dr.	106	35	10.190.56.194	ASC/3 2.50	Econolite
142	New Town Blvd. @ Mueller Rd.	106	36	10.190.56.210	ASC/3 2.50	Econolite
143	Old Hwy 94 @ Hackmann Rd.	106	37	10.191.1.202	ASC/3 2.50	Econolite
144	Hackmann Rd. @ McClay Rd.	106	38	10.191.1.203	ASC/3 2.50	Econolite
145	Hackmann Rd. @ Diekamp Farm Trail	106	39	10.190.57.82	ASC/3 2.50	Econolite
146	Hawks Nest Dr. @ Plaza Way	106	40	10.191.33.206	ASC/3 2.50	Econolite
147	MO 94 @ Fox Hill Rd.	106	41	10.190.56.242	ASC/3 2.50	Econolite
166	Mexico Road @ Mid Rivers Mall Drive	108	11	10.199.1.16	ASC/3 2.50	Econolite
167	Salt Lick Road @ Janis Ann	108	12	10.199.1.208	ASC/3 2.50	Econolite
168	Salt Lick Road @ Timberbrook	108	13	10.199.1.209	ASC/3 2.50	Econolite
170	Salt Lick Road @ Spanish Trails	108	14	10.199.1.210	ASC/3 2.50	Econolite
171	Mexico Road @ Oakridge West Drive	108	15	10.199.1.10	ASC/3 2.50	Econolite
172	Mexico Road @ Salt Lick Road	108	16	10.199.1.11	ASC/3 2.50	Econolite
173	Mexico Road @ West Sunny Hill	108	17	10.199.1.12	ASC/3 2.50	Econolite
174	Mexico Road @ Mid Rivers Elementary	108	18	10.199.1.13	ASC/3 2.50	Econolite
175	Mexico Road @ South Church Street	108	19	10.199.1.15	ASC/3 2.50	Econolite
176	Mid Rivers Mall Drive @ Connection E	108	20	10.199.1.64	ASC/3 2.50	Econolite
177	Mid Rivers Mall Drive @ Suemandy Drive	108	21	10.199.1.63	ASC/3 2.50	Econolite
178	Mid Rivers Mall Drive @ Mid Rivers Plaza	108	22	10.199.1.62	ASC/3 2.50	Econolite
179	Mid Rivers Mall Drive @ McMenamy	108	23	10.199.1.61	ASC/3 2.50	Econolite
180	Suemandy Drive @ Connection D	108	24	10.199.1.211	ASC/3 2.50	Econolite
181	Suemandy Drive @ Grand Teton	108	25	10.199.1.212	ASC/3 2.50	Econolite
182	Suemandy @ Executive Center	108	26	10.199.17.213	ASC/3 2.50	Econolite
183	Mexico Road @ Grand Teton	108	27	10.199.17.17	ASC/3 2.50	Econolite
184	Mexico Road @ Connemara	108	28	10.199.17.18	ASC/3 2.50	Econolite
185	Mexico Road @ St. Peters Centre Blvd	108	29	10.199.17.20	ASC/3 2.50	Econolite
186	Spencer Road @ Executive Center Parkway	108	30	10.199.17.214	ASC/3 2.50	Econolite

**EXHIBIT A – GGL INTERSECTIONS**

<b>INT</b>	<b>Description</b>	<b>Chann</b>	<b>Drop</b>	<b>Net Address</b>	<b>Firmware</b>	<b>Manufacturer</b>
187	Spencer Road @ Spencer Loop South	108	31	10.199.17.215	ASC/3 2.50	Econolite
188	Mexico Road @ Spencer Road	108	32	10.199.17.19	ASC/3 2.50	Econolite
189	Spencer Road @ Holly Springs Trail	108	33	10.199.17.216	ASC/3 2.50	Econolite
190	Spencer Road @ Boone Hills Drive	108	34	10.199.17.217	ASC/3 2.50	Econolite
191	Spencer Road @ Shadow Creek Drive	108	35	10.199.17.218	ASC/3 2.50	Econolite
192	Mid Rivers Mall Drive @ Grand Teton Drive	108	36	10.199.1.58	ASC/3 2.50	Econolite
193	Mid Rivers Mall Drive @ Countryside Drive	108	37	10.199.1.57	ASC/3 2.50	Econolite
194	Mid Rivers Mall Drive @ St. Peters Square	108	38	10.199.1.59	ASC/3 2.50	Econolite
195	Mid Rivers Mall Drive @ Willott Road	108	39	10.199.1.56	ASC/3 2.50	Econolite
196	Mid Rivers Mall Drive @ St. Peters-Howell Road	108	40	10.199.1.55	ASC/3 2.50	Econolite
197	Spencer Road @ Sutters Mill Road	108	41	10.199.17.219	ASC/3 2.50	Econolite
198	Spencer Road @ Willott Road	108	42	10.199.17.220	ASC/3 2.50	Econolite
199	St. Peters-Howell Rd. @ Central School Rd.	108	43	10.191.17.173	ASC/3 2.50	Econolite
200	Central School Road @ Kisker Road	108	44	10.190.51.178	ASC/3 2.50	Econolite
201	Jungs Station Road @ Plum Creek Drive	108	45	10.190.51.242	ASC/3 2.50	Econolite
202	Harvester Road @ Caulks Hill Road	108	46	10.199.17.223	ASC/3 2.50	Econolite
203	Jungermann Road @ Wal-Mart	108	47	10.199.17.100	ASC/3 2.50	Econolite
204	Jungermann Road @ Queensbrooke Blvd	108	48	10.199.17.103	ASC/3 2.50	Econolite
205	Jungermann Road @ McClay Road	108	49	10.199.17.104	ASC/3 2.50	Econolite
206	McClay Road @ Harvester Road	108	50	10.199.17.224	ASC/3 2.50	Econolite
207	Jungermann Road @ Country Creek Drive	109	1	10.199.17.105	ASC/3 2.50	Econolite
208	Jungermann Road @ Barkwood Trails Drive	109	2	10.199.17.106	ASC/3 2.50	Econolite
209	Jungermann Road @ Willott Road	109	3	10.199.17.107	ASC/3 2.50	Econolite
210	Willott Road @ St. Peters Condos/Del Ray	109	4	10.199.17.225	ASC/3 2.50	Econolite
211	Jungermann Road @ Sutters Mill Road	109	5	10.199.17.108	ASC/3 2.50	Econolite
212	Jungermann Road @ Boone Hills Road	109	6	10.199.17.110	ASC/3 2.50	Econolite
213	Mexico Road @ Jungermann Road	109	7	10.199.17.22	ASC/3 2.50	Econolite

# **EXHIBIT A – GGL INTERSECTIONS**

INT	Description	Chann	Drop	Net Address	Firmware	Manufacturer
214	Jungermann Road @ Hospital Drive	109	8	10.199.17.111	ASC/3 2.50	Econolite
215	Mexico Road @ Cave Springs Road	109	9	10.199.17.24	ASC/3 2.50	Econolite
216	Mexico Road @ Cave Springs Blvd	109	10	10.199.17.23	ASC/3 2.50	Econolite
217	Spencer Road @ Spencer Loop North	109	11	10.199.17.226	ASC/3 2.50	Econolite
218	Mexico Road @ Pioneer Drive	109	12	10.199.1.14	ASC/3 2.50	Econolite
219	McClay Road @ Thoele Road	109	13	10.199.17.227	ASC/3 2.50	Econolite
220	Willott Road @ Kimberly Lane	109	14	10.199.17.228	ASC/3 2.50	Econolite
221	St. Peters Centre Blvd @ Executive Centre Pkwy	109	15	10.199.17.229	ASC/3 2.50	Econolite
222	Jungermann Road @ Orchard Hills Drive	109	16	10.199.17.109	ASC/3 2.50	Econolite
223	Mexico Road @ First Executive	109	17	10.199.17.21	ASC/3 2.50	Econolite
224	Harvester/Old 94 @ Woodstone	109	18	10.199.17.230	ASC/3 2.50	Econolite
225	Jungermann Road @ Harvester Rd	109	19	10.199.17.99	ASC/3 2.50	Econolite
226	Harvester/Old 94 @ Dingleline	109	20	10.199.17.231	ASC/3 2.50	Econolite
227	Mid Rivers Mall Drive @ Aldi	109	21	10.199.1.60	ASC/3 2.50	Econolite
276	Lake Saint Louis Blvd @ Technology Drive	107	1	10.191.97.181	ASC/3 2.50	Econolite
282	Ronald Reagan Drive @ Hawk Ridge Drive	107	2	10.191.97.180	ASC/3 2.50	Econolite
299	Technology Drive @ S. Henke Road	107	3	10.191.97.179	ASC/3 2.50	Econolite
301	Ronald Reagan Drive @ Lila Lane	107	4	10.191.97.182	ASC/3 2.50	Econolite
303	Technology Drive @ The Meadows	107	5	10.191.97.183	ASC/3 2.50	Econolite
304	Hackmann Rd. @ Lost Meadow Dr.	106	43	10.191.1.205	ASC/3 2.50	Econolite
310	Lake Saint Louis Blvd @ S. Henke Road	107	6	10.191.97.178	ASC/3 2.50	Econolite
312	Country Club Rd. @ Sundowner Dr.	106	44	10.190.55.18	ASC/3 2.50	Econolite
323	Mexico Road @ Dubray Dr	109	22	10.199.17.30	ASC/3 2.50	Econolite
324	Birdie Hills @ Ohmes Road	109	23	10.190.51.162	ASC/3 2.50	Econolite
325	Mexico Road @ City Center Park Drive	109	24	10.199.17.50	ASC/3 2.50	Econolite
326	Harvester @ Queens Brooke	109	25	10.190.51.226	ASC/3 2.50	Econolite
341	Mid Rivers Mall Drive @ Salt River Road	109	26	10.199.1.68	ASC/3 2.50	Econolite
342	Spencer @ Salt River EBOR/WBOR	109	27	10.190.51.210	ASC/3 2.50	Econolite

**EXHIBIT A – GGL INTERSECTIONS**

INT	Description	Chann	Drop	Net Address	Firmware	Manufacturer
344	Elm St. @ Millstone Corporate Parkway	106	45	10.190.55.114	ASC/3 2.50	Econolite
346	Boschertown @ Little Hills Expressway	106	46	10.190.55.2	ASC/3 2.50	Econolite
347	E Pearce Boulevard @ Luetkenhaus Boulevard	112	13	10.190.54.226	ASC/3 2.50	Econolite
348	W Pearce Blvd @ Schroeder Creek Blvd	105	13	10.191.113.48	SEPAC 4.52	Siemens
350	Spencer Road @ Menards	109	28	10.199.17.51	ASC/3 2.50	Econolite
351	Salt River Road @ Arrowhead Industrial Drive	109	29	10.190.54.178	ASC/3 2.50	Econolite
352	Central School Rd @ Highfield Dr	104	12	10.190.50.2	ASC/3 2.50	Econolite
353	Sommers @ Paul Renaud					
354	Elm St @ Hardin Middle School	114	2	10.190.55.242	Cobalt 32.65	Econolite
368	O'Fallon Rd @ Gutermuth Rd	104	20	10.190.51.82	ASC/3 2.50	Econolite
500	Premier Parkway @ Lakeside Park Drive	114	3	10.191.1.82	Cobalt 32.63	Econolite
501	Premier Parkway @ Premier #3	114	4	10.191.1.39	Cobalt 32.63	Econolite
502	Premier Parkway @ Premier #2	114	5	10.191.1.40	Cobalt 32.63	Econolite
503	Premier Parkway @ Executive Center	114	6	10.191.1.41	Cobalt 32.63	Econolite

**Exhibit B - MoDOT Network Intersections**

INT	Description	Chann	Drop	Net Address	Firmware	Manufacturer
1001	IS 64 NOR @ Verizon Wireless	103	18	10.6.111.49	ASC/3 2.50	Econolite
1003	IS 64 NOR @ Mastercard Entrance	103	20	10.6.155.176	ASC/3 2.50	Econolite
1004	IS 64 NOR @ Winghaven Blvd	101	22	10.6.155.175	ASC/3 2.50	Econolite
1005	IS 64 WB @ DD	101	23	10.6.155.172	ASC/3 2.50	Econolite
1006	I-64 EB @ RT DD	103	21	10.6.155.174	ASC/3 2.50	Econolite
1007	IS 64 SOR @ Old Rt N	103	8	10.6.172.234	ASC/3 2.50	Econolite
1009	IS 64 WB @ Lake St. Louis Blvd	102	38	10.6.155.161	ASC/3 2.50	Econolite
1010	IS 64 EB @ Lake St. Louis Blvd	102	39	10.6.155.160	ASC/3 2.50	Econolite
1022	IS 70 @ 5th St DDI	103	31	10.6.126.92	SEPAC 4.52	Siemens
1023	IS 70 SOR/Lombard St @ 5th St	101	36	10.6.126.110	ASC/3 2.50	Econolite

Exhibit B - MoDOT Network Intersections						
INT	Description	Chann	Drop	Net Address	Firmware	Manufacturer
1024	IS 70 @ Convention Center Blvd	103	3	10.6.110.88	SEPAC 4.52	Siemens
1026	IS 70 NOR @ Lowes Entrance	103	2	10.6.126.47	ASC/3 2.50	Econolite
1027	IS 70 NOR @ Zumbuhl Rd	102	2	10.6.132.194	ASC/3 2.50	Econolite
1028	IS 70 WB @ Zumbuhl Rd	102	3	10.6.132.203	ASC/3 2.50	Econolite
1029	IS 70 EB @ Zumbuhl Rd	102	4	10.6.132.195	ASC/3 2.50	Econolite
1030	IS 70 SOR @ Zumbuhl Rd	102	5	10.6.132.197	ASC/3 2.50	Econolite
1031	IS 70 SOR @ Dierbergs	103	10	10.6.126.32	ASC/3 2.50	Econolite
1032	IS 70 SOR @ Country Club Rd	102	6	10.6.126.48	ASC/3 2.50	Econolite
1033	IS 70 NOR @ Campus Dr	103	1	10.6.126.46	ASC/3 2.50	Econolite
1035	Cave Springs Rd @ I-70 NOR	102	8	10.6.132.206	ASC/3 2.50	Econolite
1036	Cave Springs Rd @ I-70 WB	102	7	10.6.132.254	ASC/3 2.50	Econolite
1037	Cave Springs @ I-70 EB	101	40	10.6.132.205	ASC/3 2.50	Econolite
1038	Cave Springs Rd @ I-70 SOR	101	41	10.6.132.207	ASC/3 2.50	Econolite
1039	IS 70 NOR @ Shady Springs	103	11	10.6.110.49	ASC/3 2.50	Econolite
1040	IS 70 SOR @ Jungermann Rd	101	39	10.6.110.47	ASC/3 2.50	Econolite
1041	IS 70 NOR @ Executive Center Loop	103	35	10.6.110.48	ASC/3 2.50	Econolite
1043	IS 70 NOR @ Spencer Loop	101	37	10.6.102.83	ASC/3 2.50	Econolite
1044	IS 70 SOR @ Spencer Loop	101	38	10.6.102.84	ASC/3 2.50	Econolite
1045	IS 70 SOR @ Suemandy Dr	102	9	10.6.159.12	ASC/3 2.50	Econolite
1046	IS 70 NOR @ Mid Rivers Mall Dr (Mall Entrance)	106	3	10.6.102.113	Cobalt 32.63	Econolite
1047	IS 70 NOR @ Mid Rivers Mall Dr	101	35	10.6.102.96	ASC/3 2.50	Econolite
1048	IS 70 @ Mid Rivers Mall Dr DDI	101	43	10.6.102.95	ASC/3 2.50	Econolite
1050	IS 70 WB @ MO 79	101	33	10.6.132.186	ASC/3 2.50	Econolite
1051	IS 70 SOR @ Salt Lick Rd	101	34	10.6.132.182	ASC/3 2.50	Econolite
1053	IS 70 NOR @ TR Hughes Blvd	101	3	10.6.120.177	ASC/3 2.50	Econolite
1054	IS 70 @ TR Hughes Blvd	101	4	10.6.120.178	ASC/3 2.50	Econolite
1055	IS 70 SOR @ TR Hughes Blvd	101	5	10.6.120.176	ASC/3 2.50	Econolite
1058	IS 70 NOR @ Woodlawn Ave	101	11	10.6.111.81	ASC/3 2.50	Econolite
1059	IS 70 SOR @ Woodlawn Ave	101	12	10.6.111.82	ASC/3 2.50	Econolite



Exhibit B - MoDOT Network Intersections						
INT	Description	Chann	Drop	Net Address	Firmware	Manufacturer
1060	IS 70 WB @ Bryan Rd	102	10	10.6.122.233	ASC/3 2.50	Econolite
1061	IS 70 EB @ Bryan Rd	101	13	10.6.122.232	ASC/3 2.50	Econolite
1063	IS 70 NOR @ Lake St. Louis Blvd	102	37	10.6.120.180	ASC/3 2.50	Econolite
1064	I-70 WB @ Lake St. Louis Blvd	102	36	10.6.120.175	ASC/3 2.50	Econolite
1065	IS70 EB/SOR @ Lake St. Louis Blvd	102	35	10.6.120.181	ASC/3 2.50	Econolite
1070	IS 70 EB @ RT A	103	37	10.6.123.39	Cobalt 32.63	Econolite
1071	IS 70 WB @ RT A	103	39	10.6.123.43	Cobalt 32.63	Econolite
1080	IS 70 WB @ Wentzville Pkwy	102	11	10.6.112.40	ASC/3 2.50	Econolite
1081	IS 70 EB/SOR @ Wentzville Pkwy	102	12	10.6.112.53	ASC/3 2.50	Econolite
1090	IS 70 NOR @ RT W	103	34	10.6.124.171	ASC/3 2.50	Econolite
1103	US 61 NB @ RT A	102	13	10.6.155.234	ASC/3 2.50	Econolite
1104	US 61 SB @ RT A	102	16	10.6.155.233	ASC/3 2.50	Econolite
1107	US 61 NB @ Pitman St	103	33	10.6.155.231	ASC/3 2.50	Econolite
1108	US 61 SB @ Pitman St	102	17	10.6.155.232	ASC/3 2.50	Econolite
1201	MO 79 @ RT M	103	32	10.6.157.158	ASC/3 2.50	Econolite
1203	MO 79 @ TR Hughes Blvd	101	2	10.6.157.159	ASC/3 2.50	Econolite
1205	MO 79 NB @ Salt River Rd	101	32	10.6.157.161	ASC/3 2.50	Econolite
1206	MO 79 SB @ Salt River Rd	101	31	10.6.157.160	ASC/3 2.50	Econolite
1210	MO 94 @ Little Hills Expwy	103	13	10.6.157.20	ASC/3 2.50	Econolite
1211	MO 94 @ MO 370 WB	101	46	10.6.157.22	ASC/3 2.50	Econolite
1212	MO 94 @ MO 370 EB	101	45	10.6.157.24	ASC/3 2.50	Econolite
1216	MO 94 @ Jefferson St	102	1	10.6.73.211	ASC/3 2.50	Econolite
1217	MO 94 @ First Capitol Dr	103	7	10.6.73.212	ASC/3 2.50	Econolite
1218	MO 94 @ 6th St	103	9	10.6.73.240	ASC/3 2.50	Econolite
1220	MO 94 @ Kingshighway	103	4	10.6.73.247	ASC/3 2.50	Econolite
1221	MO 94 @ Tompkins St	103	5	10.6.73.243	ASC/3 2.50	Econolite
1222	MO 94 @ West Clay St	103	6	10.6.73.213	ASC/3 2.50	Econolite
1228	MO 94 @ RT D	102	23	10.6.132.88	ASC/3 2.50	Econolite
1229	MO 94 @ Francis Howell H.S.	102	24	10.6.132.119	ASC/3 2.50	Econolite

Exhibit B - MoDOT Network Intersections						
INT	Description	Chann	Drop	Net Address	Firmware	Manufacturer
1232	MO 364 WB Ramp @ Arena Pkwy	103	15	10.6.111.189	ASC/3 2.50	Econolite
1233	MO 364 EB @ Arena Pkwy	103	16	10.6.111.186	ASC/3 2.50	Econolite
1236	MO 364 NOR @ Heritage Crossing	102	14	10.6.155.6	ASC/3 2.50	Econolite
1237	MO 364 SOR @ Heritage Crossing	102	15	10.6.73.59	ASC/3 2.50	Econolite
1238	MO 364 @ Jungs Station Rd	101	44	10.6.155.14	ASC/3 2.50	Econolite
1239	MO 364 NOR @ Harvester Rd	103	17	10.6.73.39	ASC/3 2.50	Econolite
1240	MO 364 SOR @ Harvester Rd	101	42	10.6.73.78	ASC/3 2.50	Econolite
1241	MO 364 NOR @ Woodstone Dr	103	29	10.6.155.47	ASC/3 2.50	Econolite
1242	MO 364 SOR @ Woodstone Dr	103	30	10.6.73.12	ASC/3 2.50	Econolite
1243	MO 364 NOR @ Jungermann Rd	103	28	10.6.155.48	ASC/3 2.50	Econolite
1244	MO 364 SOR @ Jungermann Rd	101	30	10.6.72.222	ASC/3 2.50	Econolite
1245	MO 364 NOR @ Central School Rd/Harvestowne Industrial Dr	103	27	10.6.72.213	ASC/3 2.50	Econolite
1246	MO 364 SOR @ Central School Rd/Harvestowne Industrial Dr	101	29	10.6.72.217	ASC/3 2.50	Econolite
1247	MO 364 NOR @ Kisker Rd	103	26	10.6.72.205	ASC/3 2.50	Econolite
1248	MO 364 SOR @ Kisker Rd	101	28	10.6.72.214	ASC/3 2.50	Econolite
1251	MO 364 NOR @ Mid Rivers Mall Dr/Pitman Hill Rd	103	24	10.6.72.251	ASC/3 2.50	Econolite
1252	MO 364 SOR @ Mid Rivers Mall Dr/Pitman Hill Rd	103	25	10.6.72.194	ASC/3 2.50	Econolite
1253	MO 94 @ MO 364 EB	103	40	10.6.72.198	SEPAC 4.06	Siemens
1256	Rte 364 WB @ Bryan Rd	103	12	10.6.172.201	ASC/3 2.50	Econolite
1257	MO 364 EB @ Bryan Rd	103	14	10.6.172.200	ASC/3 2.50	Econolite
1258	MO 364 SOR @ Bryan Rd	101	21	10.6.172.205	ASC/3 2.50	Econolite
1259	364 WB RAMP @ Henke Rd	102	18	10.6.172.197	ASC/3 2.50	Econolite
1272	MO 370 WB @ Elm St	101	10	10.6.156.230	ASC/3 2.50	Econolite
1273	MO 370 EB @ Elm St	101	47	10.6.156.232	ASC/3 2.50	Econolite
1276	MO 370 WB @ Lakeside Park	35	19	10.6.156.25	Cobalt 32.65	Econolite
1277	MO 370 EB @ Harry S Truman	35	20	10.6.156.49	Cobalt 32.65	Econolite
1301	RT A @ GM East Entrance	103	23	10.6.155.249	SEPAC 4.52	Siemens

Exhibit B - MoDOT Network Intersections						
INT	Description	Chann	Drop	Net Address	Firmware	Manufacturer
1303	RT A @ GM Plant	102	19	10.6.155.248	SEPAC 4.52	Siemens
1305	Rt A @ Mexico Rd/Enterprise Dr	103	22	10.6.155.235	ASC/3 2.50	Econolite
1307	Rt A @ Logistics Center Dr	105	1	10.6.155.228	Cobalt 32.63	Econolite
1310	RT K @ IS 70 NOR (E/W Terra Ln)	102	34	10.6.132.171	ASC/3 2.50	Econolite
1311	RT K @ IS 70 WBOR	102	33	10.6.132.188	ASC/3 2.50	Econolite
1312	RT K @ IS 70 EBOR	102	32	10.6.132.172	ASC/3 2.50	Econolite
1313	RT K @ IS 70 SOR (Veterans Memorial Pkwy)	101	7	10.6.176.15	ASC/3 2.50	Econolite
1315	RT K @ O'Fallon Pointe	101	8	10.6.176.16	ASC/3 2.50	Econolite
1316	RT K @ Mexico Rd	101	9	10.6.176.17	ASC/3 2.50	Econolite
1317	RT K @ Mexico Loop Rd/Home Depot	102	31	10.6.176.18	ASC/3 2.50	Econolite
1318	RT K @ Clear Creek Dr/Megan Crossings	102	30	10.6.176.19	ASC/3 2.50	Econolite
1319	RT K @ Mill Pond Dr/Winding Woods Dr	102	29	10.6.176.20	ASC/3 2.50	Econolite
1320	RT K @ Feise Rd/Laura Hill Rd	101	14	10.6.176.21	ASC/3 2.50	Econolite
1321	RT K @ Target/Kohl's	101	15	10.6.176.22	ASC/3 2.50	Econolite
1322	RT K @ Hutchings Farm Dr	101	16	10.6.176.23	ASC/3 2.50	Econolite
1323	RT K @ Dardenne Elem/BJC	101	17	10.6.176.24	ASC/3 2.50	Econolite
1325	RT K @ Fallon Pkwy/Royallsprings Pkwy	102	28	10.6.176.25	ASC/3 2.50	Econolite
1326	RT K @ Christina Marie Dr	101	18	10.6.176.26	ASC/3 2.50	Econolite
1327	RT K @ RT N	101	19	10.6.132.109	ASC/3 2.50	Econolite
1328	RT K @ MO 364	103	38	10.6.176.51	SEPAC	Siemens
1329	RT K @ MO 364 SOR	102	27	10.6.132.108	ASC/3 2.50	Econolite
1331	RT K @ Waterford Crossing Dr/Pheasant Meadow Dr	101	24	10.6.132.107	ASC/3 2.50	Econolite
1333	RT K @ O'Fallon Rd	101	25	10.6.132.106	ASC/3 2.50	Econolite
1335	RT K @ Waterbury Falls Dr	102	26	10.6.176.27	ASC/3 2.50	Econolite
1336	RT K @ Crusher Dr	101	26	10.6.176.28	ASC/3 2.50	Econolite
1337	RT K @ IS 64 NOR (Technology Dr)	102	25	10.6.176.29	ASC/3 2.50	Econolite
1338	RT K @ IS 64 WB	101	27	10.6.132.89	ASC/3 2.50	Econolite
1339	RT K @ I-64 SOR	103	19	10.6.176.30	ASC/3 2.50	Econolite
1341	RT M @ RT P	101	6	10.6.157.157	ASC/3 2.50	Econolite



Exhibit B - MoDOT Network Intersections						
INT	Description	Chann	Drop	Net Address	Firmware	Manufacturer
1351	Rte N @ Weiss Rd	101	1	10.191.129.12	ASC/3 2.50	Econolite
1353	RT N @ Dierbergs/Schnucks	101	20	10.6.176.9	ASC/3 2.50	Econolite
1357	RT N @ IS 64 SOR/Hawk Ridge Trl	102	20	10.6.172.198	ASC/3 2.50	Econolite
1358	RT N @ Sommers Rd/Ronald Reagan Dr	102	21	10.6.172.199	ASC/3 2.50	Econolite
1359	RT N @ Lake St. Louis Blvd	105	2	10.6.186.195	Omni eX 1.5	McCain
1362	RT N @ Perry Cate Blvd	102	22	10.6.186.217	Cobalt 32.65	Econolite
1370	Rte Z @ Interstate	103	44	10.6.124.240	Cobalt 32.65	Econolite
1371	RT Z @ Perry Cate Blvd	32	4	10.6.33.10	Omni eX 1.5	McCain
1380	Rte DD @ Sommers			0.0.0.0		
9981	MO 94 @ IS 70	113	1	10.6.132.199	SEPAC 4.52	Siemens
9982	MO 94 @ Sherman Dr	106	1	10.6.73.151	SEPAC	Siemens
9983	MO 94 @ Zumbuhl Rd/Friedens Rd	105	3	10.6.73.152	SEPAC	Siemens
9984	MO 94 @ Pralle Ln	106	2	10.6.73.149	SEPAC	Siemens
9985	MO 94 @ Portwest Dr	106	4	10.6.73.150	SEPAC 4.52	Siemens
9986	MO 94 @ Westwood Dr/Florence Dr	105	4	10.6.72.157	SEPAC	Siemens
9987	MO 94 @ Wolfrum Rd	105	7	10.6.72.225	SEPAC	Siemens
9988	MO 94 @ O'fallon Rd	105	8	10.6.72.212	SEPAC	Siemens
9989	MO 94 @ Cedar Glen Dr	105	9	10.6.72.168	SEPAC	Siemens
9990	MO 94 @ Siedentop Rd	105	10	10.6.72.169	SEPAC	Siemens
9991	MO 94 @ IS 64 WB	105	5	10.6.132.102	SEPAC	Siemens
9992	MO 94 @ IS 64 SOR	105	6	10.6.132.123	SEPAC	Siemens

## Exhibit C: Cost Proposal

Project Management / Mobilization	_____ <u>Lump Sum</u>
System Design	_____ <u>Lump Sum</u>
System Interface Deployment (Per Signal)	_____ <u>Each</u> x 351
	_____ <u>Total</u>
Vehicle Kits (Equipment Only)	_____ <u>Each</u> x 200
	_____ <u>Total</u>
Testing	_____ <u>Lump Sum</u>
Training	_____ <u>Lump Sum</u>
Documentation	_____ <u>Lump Sum</u>
Software License	_____ <u>Lump Sum</u>
Maintenance – Year 1	_____ <u>Lump Sum</u>
Maintenance – Year 2	_____ <u>Lump Sum</u>
Maintenance – Year 3	_____ <u>Lump Sum</u>
Maintenance – Year 4	_____ <u>Lump Sum</u>
Maintenance – Year 5	_____ <u>Lump Sum</u>
<b>TOTAL PROJECT COST</b>	<b>\$</b> _____

**Exhibit D**  
**System Architecture Options**

