



Request for Proposal (RFP)

for

Advanced Traffic Management System

Project No: PW-2017-1

Date: March 13, 2017

Submittal Deadline: April 6, 2016, 10:00 AM

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Request for Proposal (RFP) Advanced Traffic Management System

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**Issue Date: March 13, 2017
Submittal Deadline: April 6, 2017, 10:00 AM**

Description of Services

The Town of Superior is interested in procuring software to manage the existing traffic signals located within the Town of Superior and the City of Louisville. This project will replace the Town's Translink32 Central Software with a new Central System. Translink32 is no longer officially supported by Econolite. The new Advanced Traffic Management System (ATMS) should have the capability to handle up to 50 signals at full build out of the two communities. Advanced capabilities the Town needs include: Centralized operation & management, real-time monitoring of all intersections instead of closed loops, SMS text/e-mail alerts, system-wide device, communication and alarm status monitoring. The new system would also allow the Town to consider the use of adaptive timing in the future as well as other higher level functions. The Town of Superior is taking the lead on this procurement and will host the system. The City of Louisville will have rights to access the system along with each jurisdictions signal maintenance contractor.

Information for Respondents

1. The Scope of Work section of the Request for Proposals (RFP) describes the services required. The Town reserves the right to modify the requirements for this RFP.
2. The Town does not assume responsibility for reimbursement of costs incurred by respondents in replying to this RFP. All proposals submitted will become the property of the Town. The Town reserves the right to reject any or all responses, or select the response most advantageous to the Town.
3. Copies of this RFP are available free of charge and may be obtained as follows:

By email: alexa@superiorcolorado.gov

Town website: www.superiorcolorado.gov

By mail or in person:

Town of Superior
Public Works & Utilities Department
124 E. Coal Creek Drive
Superior, CO 80027
Attn: Alex Ariniello, Public Works Director

4. Schedule

March 13:	RFP Issued
March 28:	Questions/Request for clarification due 4:00 PM
April 6:	Proposals due, 10:00 AM
April 12-14:	Software demonstrations, if necessary
April 18:	Contractor selected
April 24:	Town Board approval of Contract
May 4:	Kick-off meeting
May-September:	Installation/Training

5. Requests for clarification concerning the RFP shall be submitted to the Town in writing (emails accepted), and must be received by 4:00 PM on March 28, 2017. Requests submitted via telephone will not be accepted. Responses to requests for clarification, if deemed necessary by the Town, will be provided in writing via mail or e-mail to all prospective respondents, in the form of a supplement and without identification of the source of any inquiry. All requests for clarification shall be directed to: Alex Ariniello at alexa@superiorcolorado.gov
6. Proposals shall be submitted as instructed in Section 2 of the RFP, and will be received by the Town until **10:00 AM, MST, April 6, 2017**. Proposals received after this date and time will not be accepted and will be returned unopened. Four (4) hard copies and one (1) electronic copy of the proposal shall be submitted to:

Alex Ariniello
Town of Superior
124 E. Coal Creek Drive
Superior, CO 80027
303-499-3675 ext. 111
alexa@superiorcolorado.gov

1. General Background and Proposal Instructions

1.1 Background and Scope

The Town of Superior, hereinafter referred to as the “Town”, and the City of Louisville are jointly soliciting proposals relating to the procurement of an Advanced Traffic Management System (ATMS) to serve both communities. The Town is taking the lead on this procurement and any reference to the “Town” shall mean both Superior and Louisville unless otherwise noted. For the purposes of this procurement, ATMS is defined primarily as a traffic signal system (with other functionality as defined herein). The procurement of this system will allow for the replacement of the Town’s current traffic signal system software *Translink 32*. The selected Vendor will provide an ATMS that meets the functional requirements, has future expandability, is fully integrated, tested, operational, and functional at the end of the contract and that Town staff is fully trained on its use.

This Request for Proposal (RFP) details the information requested by the Town to compare each proposal and make a selection of the most qualified proposer. This consideration for value takes into account, but is not limited to, price, project management, system functional requirements, functionality, implementation and integration, technical support, and licensing structure. Described in this document and its attachments are the functional requirements of the ATMS and any candidate firmware(s) that can be deployed with the system. Aside from the information requested in the detailed functional requirements, the Town requires information from each Vendor on its intended project approach, scope of work, integration of ATMS hardware in the Town’s communications network, client references, recommended maintenance, licensing structure, warranties and training. This list is not exhaustive and this RFP should be read thoroughly for all requirements.

The Town is interested in an ATMS where the field components in the traffic operations network can be non-proprietary and not vendor dependent. The Town is not replacing any of the cabinets as part of this project.

Also of great interest are connectivity capabilities with adjacent jurisdictions which are a vital first step towards a metro region with increased interoperability and connectivity. It is important that the successful vendor has demonstrated success with implementing Center to Center connectivity, as this is a major goal of the region. Vendors will need to show how their system will provide such interoperability and connectivity.

Superior’s & Louisville’s existing and future conditions are described in Section 4 and provide a brief overview of the Town’s traffic signal hardware and system operations both now and in the near future. The vendor shall thoroughly review this section to ensure that its proposed equipment is compatible with existing hardware and software in the office and the field. Upgrades or replacements required to make the existing system compatible with the proposed solution shall be listed, along with associated costs for such. The quantities and devices documented in Section 4 are the best information available at the time of print, but they are subject to change. Vendors will be notified of major changes to the existing conditions during the submittal process.

The Town has identified the following objectives for the ATMS (these are not exhaustive):

- Provide reliable coordination of local traffic signal controllers.
- Provide reporting of failed local control subsystems such as loop, radar or video detectors, pedestrian push buttons, pre-emption, and other devices.
- Ability of the system to support Center to Center (C2C) operations to support future regional incorporation of traffic signals into the system to include full functionality.
- Continuous, automatic central system monitoring of traffic signals along with future identified Intelligent Transportation Systems (ITS) devices.
- Traffic signal operational failure monitoring, alert, and logging to include the ability to create user-defined reporting of failures and alarms.
- Perform management of special events and incidents through central deployment of appropriate timing plans to impacted signals.
- Monitor traffic on local streets during normal operating conditions.
- Enable local agencies to share information and control strategies to enhance traffic management during an incident, special events, or under normal operating conditions thereby creating a regional partnership to manage traffic.
- Ability to integrate with various controller manufacturers and utilize full functionality of the controllers.
- Proactively manage traffic and minimize delays on local streets during normal operating conditions.
- Proactively manage traffic and minimize delays on local streets due to traffic that has diverted off the freeway during an accident, an incident or a special event.
- Enhance the communications and coordination between Town and other local public agencies to create a region wide approach to managing incident traffic.
- Support traffic responsive and traffic adaptive control strategies.

1.2 Schedule of Events

See page 4 of RFP.

1.3 Evaluations and Awards

Award will be made to the vendor who is established in the business of providing ATMS, and who has demonstrated the ability to perform the required service in an acceptable manner.

The criteria to be used for the proposal evaluation include but are not limited to:

- A. Cover Letter and Written Response (Section 2.1.1)
- B. Project Management (Section 2.1.2)
- C. Project Approach (Section 1.1)
- D. Project Scope of Work (1.1)
- E. Functional Requirements/Criteria (4.2)*
- F. Additional Functional Requirements (2.1.5)
- G. System Description (Section 2.1.9)
- H. Testing Outline (Section 2.1.10)
- I. Licensing (Section 2.1.11)

J. Support, Training, and Maintenance (Section 2.1.12)

K. Warranty (Section 2.1.13)

* Requires each vendor to complete specific forms from the RFP and submit it with its proposal.

The Town may request oral presentations as part of the evaluation process; the Town reserves the right to conduct demonstrations or oral presentations with one or more vendors.

Any award as a result of this proposal shall be contingent upon the execution of an appropriate contract. See Appendix B for a Sample Agreement.

1.4 Technical Requirements and Statement of Work

This RFP contains the proposed Statement of Work and Technical Requirements. Exceptions or deviations to this proposal must be added to the proposal pages, but must be on vendor's letterhead and accompany its proposal. Any exceptions to this documentation will be taken into consideration when evaluating the proposals submitted. As part of their proposals, vendors are encouraged to modify the draft requirements of the RFP as they believe are necessary to meet the goals of the Town. The Town reserves the right to reject any or all of vendor's proposed modifications. The Town welcomes cost saving proposals, which still satisfy all technical and business objectives.

1.5 Pricing

All pricing quoted shall be allowed to be negotiated prior to the signing of the contract. Pricing shall be in the format of the cost schedule contained in Appendix D of this RFP. Do not include cost and price figures anywhere except in the cost schedule. Alternative approaches for the pricing of the requested products and services may be provided; however, such alternate approaches shall be described separately and must be in addition to the format in Appendix D. Do not include cost or price figures anywhere except in the cost schedule. All pricing shall be guaranteed for 180 days from proposal submittal.

2. Proposal Requirements

The information submitted in response to this RFP must be complete and in the format requested in this section. Failure to provide all requested information or any significant deviation from this format could be cause for rejection of the proposal.

All information submitted shall become property of the Town. At the discretion of the Town, vendors submitting a response to this RFP may be requested to provide on-site system demonstrations and product evaluations as a part of the Town's assessment process. The Town will not reimburse the vendors responding to this RFP for any costs associated with the preparation and submission of said responses or in the preparation for and attendance at the on-site system demonstrations and product evaluations. The Town reserves the option to request any vendor submitting a response to clarify its response or to supply additional information, as necessary.

All responses shall include all of the information requested in this RFP and any additional data that the vendor deems pertinent to the understanding and evaluation of the response. Vendors should not withhold any information from the written response in anticipation of presenting the information orally, since it may not be invited to perform an oral presentation.

The successful vendor will be required to convert their proposal to a Scope of Work during the contracting phase of the procurement. The Final Contractual Scope of Work will likely be a combination of the RFP Scope of Work and the Vendor Proposal.

2.1 Proposal Format

The Town requests all proposals to be identical in format in order to facilitate comparison. While the Town's format may represent departure from the vendor's preference, the Town requires strict adherence to the format. The proposal will be in the format described herein and in the order listed.

In order to assure that each vendor's response receives the attention it deserves, vendors are asked to limit the size of their response to approximately 50 double-sided 8½" x 11" pages (100 single-sided will also be accepted, but not preferred).

The page limit previously specified does not apply to the responses described in the following sections: Sample Documents, Conformance Documents, and Specification Documents. Sample Documents should be limited to 20 double-sided 8½" x 11" pages (40 single-sided will also be accepted, but not preferred). Conformance and Specification Documents should be limited to only the amount necessary.

2.1.1 Cover Letter and Written Response

All vendors' RFP responses must address each of the items in Section 2.1.1 through 2.1.13 in the cover letter and written response. Vendors may not exclude any major or minor items of

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information not specifically mentioned, but which would normally and reasonably be provided. Please be advised that the greater degree of specifics will help the Town in the review process.

Specific items the vendor shall include are the following:

- A. Provide the company name.
- B. Provide the RFP number.
- C. Name and Contact Information for vendor's Project Manager, and cover letter signed by an authorized representative.
- D. Acknowledgement of addenda issued.
- E. Company References, including a list of five current references, with a minimum of three being State and/or Local Government clients. Vendors are encouraged to select references that closely match the project that the Town is embarking on (e.g. similar controllers and firmware, central traffic signal control system software, types of communications, number of traffic signals, C2C connectivity, etc...). For reference projects included in the proposal the vendor shall describe adherence to project budget and scheduling. All references shall include name, title, address, telephone number, fax number, and e-mail address for which you are currently furnishing or have in the past furnished services on a same or similar contract or agreement. The failure to include references and/or the inability to contact the references shall be ample cause for rejection of the RFP response.
- F. Provide a summary of the partnership you envision with the Town and regional partners.
- G. Provide a complete description of your firm to include: the number of years your firm has been in business, as well as the number of years your firm has been doing business in Colorado, and the prior experience your firm has had with similar projects. The vendor shall also supply 3 years of financials that have been audited by a Certified Public Accountant.
- H. Provide a detailed list of accomplishments on a same and/or similar type and scale of project.
- I. A project approach consisting of a detailed narrative of how your firm would embark upon and successfully complete this project. Provide specific project approach, details, ideas, suggestions, proposed equipment, implementation, training, and project schedule.
- J. A summary list of suppliers, subcontractors, and any other third-parties the vendor plans to use, including a description of their role in the project.
- K. A description of the proposed ATMS hardware, operating system, software, and middleware.
- L. A brief description of the product installation process. Include a brief description of involvement and the extent of that involvement with Town's IT Department during and after the installation, testing and approval process.
- M. A brief description of the system maintenance and support including weekends, holidays, and non-business day hours.
- N. Coverage and terms for typical software maintenance agreements, warranties, guarantees and on-site support, including sample agreements the Town will be asked to sign.
- O. Provide a description of the licensing structure needed for full system functionality.
- P. Suggestions for innovative and other strategic approaches for cost efficiencies, deployment, testing and training that would benefit the Town.
- Q. Suggestions for optional features or modules that are currently available and that the

vendor feels add value to the functionality and management of the Town's traffic infrastructure.

- R. A list of assumptions used in the preparation of the RFP response, if applicable.

2.1.2 Project Management

The response should cover any and all areas of information requested in Section 3.

2.1.3 Response to Functional Requirements

Complete and submit the Functional Requirements matrix in Appendix C (See Section 4.2.1 through 4.2.6). The response should cover any and all areas of information requested by the Functional Requirements matrix located in Appendix C. Note: The responses must be contained within the original Functional Requirements matrix (MS Excel format), provided to each vendor as part of the RFP, on either 8½" x 11" or 11" x 17" paper in the landscape orientation. The Functional Requirements matrix shall not be modified by the vendor as to the content or substance of the requirements being requested. Any alterations to this effect may result in the vendor's response to be discarded and not considered for this procurement.

2.1.4 Controller and Firmware Requirements

Clearly describe which traffic controller and local firmware(s) the proposed central system software is compatible with, and provide a detailed history of the proven compatibility.

2.1.5 Additional Functionality Requirements

1. Describe how the proposed ATMS will meet the requirements of Section 4.5 Additional Central System Software Requirements.
2. Describe how the proposed ATMS would meet the requirements of Section 4.7 Center-to-Center Links to Adjacent Local Agencies.
3. Describe suggestions for innovative and other strategic approaches for cost efficiencies, deployment, testing and training. Each vendor is encouraged to offer any innovative concepts or ideas pertaining to the rollout of the new ATMS and cost-cutting strategies that would benefit the Town.

Please provide information on any other current out-of-box features of your proposed solution which is not listed as requirements in the RFP.

2.1.6 Cost Schedule

Using the supplied Cost Schedule the vendor shall provide a **separate sealed pricing list** as stated on the schedule (Appendix D). See Section 1.5 of this document relative to this cost schedule.

2.1.7 Sample Documents

The vendor is encouraged to include, at its option, additional samples of their products (e.g., central system software screen shot images, sample timing plans, sample reports, etc.).

2.1.8 Specifications Documents

The response shall include detailed specifications and/or cut-sheets for 3rd party hardware (e.g.

servers, monitors, switches, etc.) it requires for its proposed system and any other relevant cut sheets the vendor feels would benefit their response.

2.1.9 System Description

The vendor shall provide the information requested below and provide the information outlined in Section 4.4:

- An overview of the proposed hardware configuration showing all major hardware subsystems. The overview shall include block diagrams in sufficient detail to show the interrelationships of major hardware subsystems and the elements that comprise them. The base hardware configuration shall support connection of the Town's traffic signals that are on the Town's communication infrastructure at the time of implementation. Vendor shall furnish and setup new servers, computers, and corresponding networking related hardware in the TMC. Refer to Section 5.5 for additional details.
- A description of the proposed major hardware subsystems, their relationships, and the functions they perform.
- An overview of the proposed major software subsystems, describing the software, the interrelationship of software within a subsystem and the relationship between subsystems. High-level software subsystem block/flow diagrams shall be included to enhance the reader's understanding of the overall capability of the system. The subsystems to be described shall include operating systems, system interfaces, support utilities, database, display and mapping, and report generation.

2.1.10 Testing Outline

Provide a description of the testing plan as described in Section 6 including timeline, the expected level of effort for the Town's staff, and the type of effort required from the Town's staff.

2.1.11 Licensing

Proposal must specifically address each of the questions/issues that are listed below. Vendors are encouraged to give examples and provide additional information to support your compliance on each point.

Licensing questions/issues:

- What is the licensing model utilized with your solution?
- Describe the structure of license between server and client components.
- Are "users" counted as the number of client installations or as the maximum number of concurrent users or processes?
- Do different application modules and software packages have different numbers of licensed concurrent users?
- What is the maximum number of users allowed at the price quoted for the license(s)?
- What limitations on concurrent users are imposed by the hardware or software?

2.1.12 Support and Maintenance

Describe your company's policy and ability to provide software and hardware support, including support presence in the Greater Denver Metro Area (if any), phone help sessions (including 24 hour or extended hour support call operations), remote access diagnosis and maintenance, on-site

upgrades and updates.

Coverage, terms, and cost for typical software maintenance agreements, warranties, guarantees, and on-site support, including sample agreements the Town will be asked to sign. Vendor shall respond in Comments Section on Appendix D / Cost Schedule.

2.1.13 Warranty

Describe applicable software and hardware warranties per component as well as method, level, and timeliness. Describe any hardware or software required to perform diagnostics and of these, what would be supplied to the Town as part of this project.

The Vendor shall describe the proposed initial warranty including the following:

- a. Term (warranty shall be included for the period of one (1) year).
- b. Description of services.
- c. Expected response times.
- d. Hours of response.
- e. If upgrades are included in the warranty and if the Town is required to pay for associated configuration costs.

Note: Vendor shall also include warranty extension package(s) / options for Central system software maintenance agreement for 2nd, 3rd, 4th, and 5th year (not part of this project – cost to the Town).

2.1.14 Software Upgrades

Describe the software release strategies and procedures for minor software updates, major software releases and emergency releases / fixes.

2.1.15 Security

Describe the security hardening procedures and standards followed for both hardware and software components.

2.1.16 Training

See Section 7 for details regarding training requirements.

3. Project Management Requirements

3.1 Project Managements

The vendor shall designate a Project Manager (PM) for this project. The PM shall be the single point of contact for the Town. The PM shall be responsible for coordinating all efforts involved in this project. The PM shall be responsible for their team.

Under the Project Management task, include the following information in the proposal:

- **Organization Chart:** Include an organization chart listing all key staff that would be involved in this project (also include the names of staff from consultants and subcontractors that might be involved). In addition, provide a table with the names of each key staff member proposed for this project, their title, area of expertise, role on this project, years of experience, years with the company, percent available and office location.
- **Proposed Schedule:** It is required that all tasks included in this project be completed within a maximum of 120 calendar days from the Notice-To-Proceed (NTP). The vendor shall complete all Training and Final Acceptance Testing within an additional 60 calendar days. This testing period can be extended beyond 90 days at the discretion of the Town. The vendor is encouraged to provide any alternative schedule duration, if necessary or appropriate. The consultant will need to identify in the schedule the need for Town IT Department support and schedule associated with implementation/integration of the system. Availability of IT staff may warrant the need to adjust the schedule to accommodate such coordination.

However, if the vendor can complete the project sooner, please highlight that in the schedule as the Town would like to complete this project as soon as practical. Describe your approach in meeting this schedule. Provide a detailed schedule in your proposal to include both a beginning and an end for each of the tasks. It should be noted that the Town wishes to bring the signals on-line to the new ATMS at a manageable pace such that there are enough Town resources available to assist. The project schedule developed should reflect this. Upon award of the project, the vendor must define the timeline for conducting each work activity and develop an overall project schedule that will be updated and submitted monthly to the Town. Identify those activities that will require input or deliverables from the Town and highlight those in each monthly submittal.

Milestone assumptions for separate hardware purchase, delivery, and setup will need to be made and accounted for in the schedule since those are separate purchasing actions of the Town. With each monthly submittal, note and explain any changes in the previously submitted schedule that forecast a delay or acceleration in completion of the project. Throughout the development and implementation period, the vendor will be required to prepare and submit monthly (or as needed) written progress reports to the Town PM. The monthly reports shall at minimum:

- Update the project schedule indicating progress for each task, percent complete, and milestone dates.
- For any risk and problem identified, state the impact on the project schedule.
- Identify all changes in the project schedule that affect personnel, equipment, facilities, and

resources of the Town (which will be required for the vendor to perform its services) a minimum of 2 weeks in advance of the need.

3.2 Project Management Responsibilities

Project management shall be a key responsibility and a continuous function of the selected vendor. The vendor must designate a dedicated PM that will be committed to this project through the duration of the contract. The PM must have the authority to make commitments and decisions that are binding on the vendor.

3.3 Vendor's Project Management Responsibilities

The vendor's PM shall develop and maintain a master project schedule and oversee expenditures to ensure tasks are completed on time and within budget. The PM shall be responsible for all work performed by the vendor and must review and approve all deliverables and documentation prior to submittal to the Town. The PM is expected to oversee acceptance testing, training of Town staff, and any software customization undertaken as part of this project. The PM shall prepare progress reports and attend progress meetings. The PM shall approve and submit invoices to the Town PM.

3.4 Town's Project Management Responsibility

The Town PM will administer the vendor's contract and will monitor project progress, schedule and budget. The Town PM will review and approve all deliverables and documentation submitted by the vendor. The Town PM or assigned will also serve as the point(s) of contact for the vendor. The Town PM will participate in acceptance testing, review and approve the results of each test, and take part in any software customization review activities (including coordination of Town staff to take part in reviews). The Town PM must approve training courses and documentation as well as participate in appropriate training courses. The Town PM will review and approve submitted invoices for payment to the vendor.

3.5 Progress Meetings

Progress meetings will be scheduled once every two weeks (or as needed) and must be attended by the vendor and Town's PM, along with additional staff as needed. These meetings will be used to review progress reports, open action items, upcoming activities and written correspondence exchanged since the last meeting. During these progress meetings, the vendor is expected to discuss technical aspects of the project and to review comments on documents submitted for approval. Any software customization reviews by the Town can coincide with these meetings if approved by both PMs. Alternatively, these progress meetings may occur by phone if both PMs agree to do so. The vendor's PM will be responsible for developing and distributing meeting minutes via email, project reports, etc.

4. Central System Software Requirements

4.1 Current Operations

The Town contracts with a signal maintenance firm to operate and maintain an existing traffic signal control system - known as *Translink 32*- monitored through a dial-up modem. The Town's contractor currently uses the existing traffic control system to monitor and communicate with 5 of the 11 Town traffic signals. The existing system has reached the end of its expected useful service life, and the Town desires to upgrade the system to an Advanced Traffic Management System (ATMS).

The City of Louisville uses an Aries system to operate 16 of the City's 20 traffic signals. Most of the City's signals are connected through fiber-optic cable.

The Town and City are anticipating that their entire traffic signal inventories will be connected to the new ATMS system and the system will have expandability in the future. The current traffic signal inventory of Superior/Louisville is listed Table 1.

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Table 1
Existing Superior/Louisville Traffic Signal Hardware

Agency	Major Street	Minor Street	Coordination Type	In System	Coord	Cabinet	Controller	Communications
SUPERIOR	Coalton Rd	Rock Creek Cir	TBC	NO	YES	170-X	170	
SUPERIOR	Coalton Rd	Rock Creek Pkwy	TBC	NO	YES	170-X	170	
SUPERIOR	Rock Creek Pkwy	Indiana St	TBC	NO	NO	170-X	170	
SUPERIOR	Coalton Rd	Indiana St	TBC	NO	YES	170-X	170	
SUPERIOR	McCaslin Blvd	High Plains Dr	UNCOORDINATED	NO	NO	170-X	170	
SUPERIOR	McCaslin Blvd	Rock Creek Pkwy	TBC	YES	YES	170-X	170	SPREAD SPECTRUM RADIO
SUPERIOR	McCaslin Blvd	US-36 @ N Ramp	SYSTEM	YES	YES	170-X	170	AGENCY OWNED FIBER
SUPERIOR	McCaslin Blvd	US-36 @ S Ramp	SYSTEM	YES	YES	170-X	170	AGENCY OWNED FIBER
SUPERIOR	Marshall Rd	Sycamore St	SYSTEM	YES	YES	170-X	170	SPREAD SPECTRUM RADIO
SUPERIOR	McCaslin Blvd	Marshall Rd	SYSTEM	YES	YES	170-X	170	AGENCY OWNED FIBER
SUPERIOR	Marshall Rd	Center Dr	SYSTEM	YES	YES	170-X	170	SPREAD SPECTRUM RADIO
LOUISVILLE	Dillion Rd	St. Andrews	SYSTEM	YES	YES		ASC/3	FIBER OPTIC/PHONE MASTER
LOUISVILLE	SH-42	Paschal Dr	SYSTEM - ARIES	YES	YES	NEMA	ASC/3	ETHERNET - RADIO
LOUISVILLE	South Boulder Rd	SH-42	SYSTEM	YES	YES	NEMA P	ASC/3	AGENCY OWNED FIBER
LOUISVILLE	South Boulder Rd	Centennial Dr	SYSTEM	YES	YES	NEMA-M	ASC/3	AGENCY OWNED FIBER
LOUISVILLE	McCaslin Blvd	Via Appia / Centennial Pkwy	SYSTEM	YES	YES	NEMA-M	ASC/3	FIBER OPTIC/PHONE MASTER
LOUISVILLE	South Boulder Rd	Main St / Centennial	SYSTEM	YES	YES	NEMA-M	ASC/3	AGENCY OWNED FIBER
LOUISVILLE	South Boulder Rd	Garfield Ave	SYSTEM	YES	YES	NEMA-M	ASC/3	AGENCY OWNED FIBER
LOUISVILLE	McCaslin Blvd	Dillon Rd	SYSTEM	YES	YES	NEMA-M	ASC/3	FIBER OPTIC/PHONE MASTER
LOUISVILLE	South Boulder Rd	McCaslin Blvd	SYSTEM	YES	YES	NEMA-M	ASC/3	AGENCY OWNED FIBER
LOUISVILLE	South Boulder Rd	Plaza Dr	SYSTEM	YES	YES	NEMA-M	ASC/3	AGENCY OWNED FIBER
LOUISVILLE	South Boulder Rd	Via Appia	SYSTEM	YES	YES	NEMA-M	ASC/3	AGENCY OWNED FIBER
LOUISVILLE	McCaslin Blvd	Century Dr	SYSTEM	YES	YES	NEMA-M	ASC/3	FIBER OPTIC/PHONE MASTER
LOUISVILLE	88th St	Health Park / Campus Dr	UNCOORDINATED	YES	NO	NEMA-P	ASC/2	AGENCY OWNED PHONE LINE
LOUISVILLE	Dillon Rd	Dahlia St	SYSTEM	YES	YES	NEMA-P	ASC/2	AGENCY OWNED PHONE LINE
LOUISVILLE	Dillon Rd	96th St	UNCOORDINATED	NO	NO	NEMA-P	ASC/2	
LOUISVILLE	Dillon Rd	88th St	UNCOORDINATED	YES	NO	NEMA-P	ASC/2	AGENCY OWNED PHONE LINE
LOUISVILLE	South Boulder Rd	Washington Ave	SYSTEM	YES	YES	NEMA-P	ASC/3	AGENCY OWNED FIBER
LOUISVILLE	McCaslin Blvd	Cherry St	SYSTEM	YES	YES	NEMA-P	ASC/3	FIBER OPTIC/PHONE MASTER
LOUISVILLE	Cherry St	Dahlia St	SYSTEM	YES	YES	NEMA-P	ASC/2	AGENCY OWNED PHONE LINE
LOUISVILLE	Dillon Rd	Pierce Ave	UNCOORDINATED		NO	Unknown		

Signals designated for acceptance testing

4.2 Project Requirements

This RFP presents requirements and outlines general specifications and desired capabilities for the Town's procurement of the ATMS software. In keeping with recent findings, the selection and procurement process is not intended to follow past practices of rigid specifications followed by a bid process for the selection of a vendor; rather it follows more recent examples of ITS procurement using a modern comparative cost/capability evaluation of preferably "off-the-shelf" systems. This method is intended to eliminate issues related to the rapid growth and change in software technology, and to help ensure the Town is satisfied with the final product.

The Town is seeking a vendor to supply a Certified Off the Shelf System (COTS) ATMS software, along with a proposal for installation, configuration, integration, and fine tuning that will be capable of serving both current and future requirements for efficient management of the Town's traffic management and related services. As such, the general specifications which follow are intended to provide vendors with an understanding of the capabilities which are of major interest to the Town.

The Town, at its sole discretion, reserves the right to invite a responding party or parties to do a system demonstration and/or evaluation of their product as outlined in Section 9.3.

Appendix C contains the Town's ATMS Functional Requirements matrix in a Microsoft Excel spreadsheet that each Vendor is required to complete as part of its submittal. Sections 4.2.1 through 4.2.6 below explain the category associated with each requirement as it relates to each function. The list of Functional Requirements shall be considered a binding document that will be specifically incorporated into the final contract with the selected vendor and utilized in the development of acceptance testing plans. The requirements are not a comprehensive listing of details necessary for system implementation. Vendors may include, in the written response of their proposal, a description of additional functionalities provided by their software outside of the requirements outlined by the Town.

It is the vendor's responsibility to provide and implement the system such that it will fulfill the agreed upon requirements. The vendor shall provide all software licenses required for a functional ATMS installation, including operating systems and application software, for all TMC servers, workstations, tablets, and laptops, as applicable.

The Functional Requirements are presented in tabular format. Each vendor must complete and submit the matrix as part of their submittal. Submittals that do not include them shall be deemed non-responsive.

The Town realizes that no single software system is likely to meet all the requirements listed in the Functional Requirements matrix. The Town will select the submittal that presents the best combination of requirements satisfied along with additional features, cost, suitability and other evaluation factors as described in this RFP. The Functional Requirements matrix, including Additional Functionality Requirements specified in Section 2.1.5, will be scored as part of the RFP evaluations.

4.2.1 Column A

Column A is numbered for tracking purposes only.

4.2.2 Columns D through F – Category Field

These columns identify the relative importance of the function to the Town as a “Required”, “Preferred” or “Considered” designation. The Category Field will be scored on a gradient in order of importance. Table 2 on page 19 identifies the significance of each category.

4.2.3 Column G – Function Field

This column provides a description of the requested function.

4.2.4 Column H through I – Requirement Field

This column identifies each function as “Central”, required function for the overall system or “Local”, required function for each controller firmware. “Local” features that are not currently functions of the newly selected controller, yet are “Preferred” or “Considered” by the Town, will only be scored for vendors that are proposing future purchased controllers and firmware that can provide this functionality.

It is important to reiterate that this procurement does not include new controllers. This information is being requested by the Town to ascertain the types of controllers that are interoperable with the vendor’s proposed ATMS solution and provides functionality that meets or exceeds the Town’s newly selected controllers as requested in the functional requirements. The new controller(s) and firmware purchased by the Town may be implemented in a test and/or field environment for connectivity to the proposed ATMS.

4.2.5 Columns J through L – Function Compliance Field

These columns are used to determine if the vendor’s products are fully “Compliant,” “Partially Compliant” or “Not Compliant” with the stated requirement as defined below:

- All functions identified with a “Compliant” response shall be assumed to be available in ready- to- manufacture form at the time of submittal (i.e. beyond release candidate and beta testing) and each vendor should be prepared to possibly demonstrate this feature during the system demonstrations and product evaluations. “Compliant” responses shall be given the highest point value in scoring.
- All functions identified with a “Partially Compliant” response shall require further explanation from the vendor in the “Comments” section. If the vendor fails to provide an accompanying elaboration for the “Partially Compliant” status, the Town shall consider the requirement to be “Not Compliant”. “Partially Compliant” responses shall be given a moderate point value in scoring.
- All functions identified with a “Not Compliant” response shall be assumed to mean that the vendor cannot or will not be able to meet this requirement without further customization or development of the product. “Not Compliant” responses will be given no value in scoring.

4.2.6 Column N Comments Field

This column allows each vendor to provide comments that qualify its answers and to document any assumptions made when responding. The comments should enhance the Town’s understanding of how the vendor proposes to meet the requirement. The Comments column is provided for vendors to provide the following information:

- Current or Planned Availability – Unless otherwise specified in the Functional Compliance Field and/or the Comments section, the Town will assume that the requirement is currently unavailable from the vendor.
- Included or Not Included – Unless otherwise specified in the Comments section, the Town will assume that the requirement will be included by the vendor. Each vendor should also indicate in the comments if the requested feature requires any other optional component or module in order to be implemented and if the component/module is a COTS product or one that requires additional development.
- Limited or Additional Functionality – The vendor should identify any limitations in how its product fulfills this requirement or describe any functionality in its product that exceeds this requirement.
- Simultaneous Compliance of Functions – Unless otherwise specified in the Comments section, the Town will assume all compliant functions can be simultaneously compliant with other compliant functions. For example, a comment to the exception may read, “The system cannot perform two or more simultaneous uploads or downloads if controllers are grouped across communication channels.”
- Pertinent Comments – The vendor may include any comments it considers relevant to the discussion.

**Table 2
Defining the Category Field in the Functional Requirements**

Category Field	Definition
R (Required)	Requirements are features or functionalities that are highly desired from the vendor to fulfill the core mission of the Town Traffic Operations Section. If the feature or functionality is not within the COTS standard product, the vendor must clearly identify this fact or indicate that it can be provided through customization. Any cost required to implement this feature through customization must be included and clearly identified in the submittal.
P (Preferred)	Requirements are features or functionalities that are advantageous to the Town and enhance the functionality of the new ATMS, but are not necessarily required as part of the initial implementation covered by this RFP process.
C (Considered)	Requirements are features or functionalities that would be worthwhile to have in the initial implementation, but may not be available from the vendor or the Town is considering implementation in the future.

4.3 Controller and Firmware Requirements

The vendor is required to connect to existing controllers and firmware or make necessary upgrades to all 30 signals as part of their base bid.

The vendor shall clearly describe which traffic signal controllers and firmware with which their proposed central system has a history of proven compatibility.

If a vendor recommends the upgrade of local controller firmware(s) to be used with its proposed central system, it shall be clearly stated in its proposal what specific version(s) of the local controller firmware(s) it is compatible with. In general, it is recommended that the local controller firmware(s) be proposed based on how closely its capability meets the Town's requirements.

The benefits of utilizing the proposed traffic signal controllers and/or the proposed local controller firmware(s) with the vendor's proposed central system shall be discussed in the proposal to assist the Town in its evaluation.

4.4 Software Support/Hardware Requirements

Vendors shall identify all servers, supporting hardware, switches, firewall settings, required server and services required by their application. For example: database servers, application servers, web servers, file system access, and other back office requirements. For each identified component, vendors shall:

- Identify all supported hardware (server and client) platforms and operating systems on which the component runs.
- Identify all COTS software required to implement this project, including middleware (e.g., data integration, message oriented, object request brokers, etc.) and imaging software (e.g., multi-resolution seamless image database, etc.), that the Town will be paying for (directly or indirectly).
- Identify the number of installations of each supported component / hardware platform / operating system / COTS software combination.
- Identify their primary / best supported component / hardware platform / operating system / COTS software combination.
- Identify all cabling types, connector types, and cable lengths needed to support the implementation.

Vendors shall identify GIS requirements, including Economic Social Research Institute (ESRI) desktop versions required, other digital data software platforms (Microsoft Bing, OpenMap maps), and other GIS back office requirements.

4.5 Additional Central System Software Requirements

The Town requires the new system to be able to provide the capabilities / modules listed below through the base ATMS software, addition of COTS modules offered by the vendor, or through customization of the software:

Advanced Traffic Management System

- Support traffic adaptive operation. Vendor shall list the type of adaptive operation available with its system along with any additional requirements for licensing, warranty, training, technical support, additional hardware (e.g., servers), detection needs of algorithm (e.g., technology, placement, etc.), and operations and maintenance (e.g., system reliability).
- Support traffic responsive operations. Vendor shall elaborate on the traffic responsive functionality in their ATMS.
- Data Collection and Management System module - to provide the capability to monitor, in real-time, the traffic and travel conditions.
- CCTV module - to provide management of digital video networks.

The ATMS must have the ability to monitor and control the aforementioned capabilities or, if not possible, have the capability to do so through a hyperlink available on the Graphical User Interface (GUI).

4.6 Network and System Security Requirements

The vendor shall coordinate system security requirements with the Town's IT Department staff. At a minimum the system shall comply with all Federal, State and local regulations regarding securing the traffic signal system. The systems must all be secured by implementing the following:

- Must provide secure authentication
- Wireless Network traffic must be encrypted at a minimum with WPA2
- All unnecessary ports and services must be removed or turned off
- Role Base Access must be configurable
- Remote access must be accessed through secure VPN access provided by the Town of Superior

4.7 Center to Center Links to Adjacent Transportation Agencies

Center to Center (C2C) connectivity is a regional goal (the network architecture and functionality for these inter-agency connections have not yet been defined). However, the Town will be evaluating vendors on demonstrated success of C2C implementation for a similar sized geographical area with local agencies similar to that of the Denver metropolitan area. As such, the vendor shall include specific details regarding existing and functional C2C links that they have implemented for other agencies, provide references in their written proposal, and also outline potential C2C architectures for the following cases:

- a) Using the vendor's central system across multiple jurisdictional boundaries in either a server-server model or client-server model.
- b) Using the vendor's central system to interface with other jurisdictional boundaries that have deployed different central systems.

5. System Integration Requirements

The vendor shall be responsible for the integration into a fully operational ATMS the following components:

- The ATMS software and other software provided by the vendor. To be considered fully operational the ATMS must provide all functionality as described by the vendor.
- Additional required components supplied by the vendor.
- Computers, servers, and associated equipment as specified and supplied by the vendor to the Town.
- Up to 50 (31 initially) traffic signal intersections.

The Town anticipates that the new ATMS software shall become operational in phases through the use of its existing and expanded communication system. The following implementation steps are proposed, though the vendor may propose an alternative process with reasonable justification approved in writing by the Town.

5.1 Initiation, Management, and Administration

The vendor shall meet with the Town Project Manager to review and refine the scope of work, project objectives, process, and deliverables. The vendor shall establish a project work plan and schedule, identify potential issues, and coordinate with the Town to minimize impact to the driving public.

5.2 Expected System Integration by Vendor

The successful vendor will be responsible for fully integrating all aspects of the software and hardware into the Town's communication infrastructure to include field integration, if necessary, as detailed in this RFP. This will specifically include interfacing, as applicable, with all new or existing servers, existing databases of traffic signal controller data, field equipment, firewalls, and staff knowledgeable on technology and/or traffic signal systems. The vendor will have documented experience with successful C2C implementation; however, this integration will not fall under the scope of this project.

5.3 Furnish ATMS

The vendor shall furnish an ATMS that is National Transportation Communication for ITS Protocol NTCIP 1201 and 1202 compliant and satisfies the requirements as described in this RFP, including database, middleware, imaging software, and other required third-party software. If any customization is required to the COTS system, the vendor shall be responsible for the following:

- Identification of any risks to the COTS product by performing this customization.
- Recommendations for any incremental development of customization to minimize risks to the stability of the COTS product.
- Provide active customer involvement with the Town during the customization process through software prototyping.
- Utilize software configuration management and version control for the customized portion of the COTS software.

- Development and submittal of a sealed cost schedule for furnish/installation/customization task(s).

5.4 Generate Databases, Maps and Configuration Files

The vendor shall create the signal timing databases for a set of 31 traffic signals at locations specified by the Town. The vendor shall populate on-screen maps and generate all configuration files utilized by the ATMS. This effort shall include development of aerial images for each project intersection developed in coordination with imaging software and/or COTS graphics software.

5.5 Furnish Hardware

5.5.1 Overview

The signal master requirements shall include the following:

- Server and support equipment shall be installed at the Superior Town Hall
- One work station, with two 36 inch monitors, will be located at the Superior Public Works Department in a building a half mile away, connected by fiber optics or wireless microwave.
- One work station, with one 36 inch monitor, will be located at the Louisville City Hall, connected by fiber optics.

5.5.2 Computer Hardware and Software

The Vendor shall provide the required number of servers to accommodate the application, communication and database functions associated with the traffic signal control system software. Servers should be used in a rack mount configuration compatible with standard EIA 19” rack widths. Data backup shall be provided through products that are also rack mountable.

At a minimum, all necessary servers must include the following:

- The required operating system
- Application software licensing
- All manufacturer supplied documentation
- All service contract information
- Real-time backup with hot swappable drives
- CD-RW/DVD ROM drive
- Gigabit Ethernet NIC

The system shall include a UPS sized to support the servers and support equipment for a period of 10 minutes. In addition to providing battery backup during outages it shall provide automatic voltage regulation, protection from damaging surges and spikes, and allow the use of management software.

The vendor shall provide three 36 inch (minimum) computer monitors (as listed above)

- Minimum Display Resolution: 1920 x 1080

- Ethernet
- USB 3.0
- DVI
- RS232
- Input Voltage: 120 V AC, 230 V AC

Vendor shall complete Appendix A, Hardware Description, for the servers and work stations.

5.5.3. Installation and Warranty

The Vendor shall provide comprehensive system specifications and proposed product submittals, including a summary of power requirements (Watts) and heat output (BTU/hour), for review and approval by Town of Superior. The servers, fiber optic equipment and data protection hardware will be installed in Town Hall communications room. The Vendor shall be responsible for the system installation

All computer equipment must include a manufacturer service contract for a minimum of two years on-site support.

5.5.4 Cabling and Cable Management

The Vendor shall be responsible for furnishing all necessary cabling and design of the proposed cable management. Cabling is expected to include all cords, cables, connectors, clips, brackets, CAT6 patch panels, labels and other miscellaneous components needed for a functioning system that is neat and well organized. All cables will be labeled at each connector. Labels must also be placed on the servers and backup hardware indicating its function and IP address, as applicable.

5.5.5 Alternate Configuration

The Town of Superior will entertain a cloud based solution for the Central server and software. Vendor shall meet all requirements of the specifications for functionality; however, a modified hardware solution that uses cloud based technology will be evaluated. The vendor, in addition to supplying the required information in the RFP, will give a detailed description and a list of exceptions to the RFP requirements.

5.6 System Backup

The vendor shall provide a system backup scheme that provides the most storage reliability in coordination of such with the Town's IT representatives. As part of the system backup scheme, the vendor shall provide the Town with a list of equipment it proposes to perform this function for the servers, workstations, PC tablets, and laptops. The list shall include the proposed storage types along with the capacity required for each storage type. Catalog cut-sheets of specific storage devices are encouraged to help the Town in its evaluation.

The vendor shall determine what equipment and backup functionality is needed to restore operations from a catastrophic failure. This shall include consideration for a minimum down-time and shall also include what support would be available to the Town to restore any servers.

5.7 System Acceptance and Validation

The vendor shall have tested all components of the system, hardware (as applicable) and software, at its facility prior to installation at the Town. All documentation of system acceptance and validation test results performed at the Town shall be provided to the Town. Successful completion of the system validation shall be achieved when the vendor has demonstrated, to the satisfaction of the Town PM, that the installation has met all of the Functional Requirements set forth in the vendor's completed forms (submitted with its proposal), and in accordance with the system validation test procedures. Acceptance is also contingent on the Town having a full comprehension of the training materials. See Section 6 for additional testing, acceptance, validation and documentation requirements and Section 7 for training.

5.8 Training

Training shall be provided as with Section 7 of this RFP.

5.9 Maintenance Agreement

The vendor shall adhere to all requirements set forth in Section 8.3 regarding maintenance coverage and agreements.

6. Testing Requirements

The successful vendor will be responsible for developing and executing the testing requirements of the ATMS software for the following:

- The Town's ATMS functional requirements
 - Interfaced with existing controllers and firmware(s).
 - Interfaced with any controller and firmware noted by the vendor in its proposal as having compatibility with the ATMS and procured separately by the Town, if applicable.
- Functionality of any COTS software customization performed by the vendor to fulfill the requirements of Section 4.5.

Since the successful implementation of the ATMS software is dependent on a complex, integrated blend of software, hardware and processes, the Town considers this aspect of the procurement to be a critical part of the deployment to assure that "what was required is what was delivered."

Acceptance testing must confirm that system hardware, software and integration have been implemented successfully, are in compliance with the functional requirements, and exhibit stable and reliable performance. The test must also show the new software is capable of managing the traffic signals with no functional regressions in traffic flow. The test period for final acceptance shall not include days spent by the vendor correcting errors or the Town verifying that the errors have been corrected without the introduction of new errors. If significant errors are discovered, the Town, at its sole discretion, may choose to restart acceptance testing at no additional cost to the Town. The vendor must provide on-site technical support, as needed, for all components of the central hardware and software during acceptance testing. Testing will be broken down into two areas: software and hardware.

6.1 Acceptance Test Plan

Prior to any testing, the vendor shall prepare a comprehensive acceptance test plan for review and approval by the Town. The plan must serve as a guide to operationally test system hardware, software and integration. The plan must include a detailed description of the tests to be conducted and the purpose of each test. Each test should be mapped to at least one of the functional requirements. Test procedures, including specific steps and the sequence of steps to be followed, must be specified.

A testing schedule shall be included in the acceptance test plan. This schedule must demonstrate the order in which tests are to be performed, as well as the expected duration of each test. The testing schedule must include 20 days of final acceptance testing and 20 days of continuous operations.

The acceptance test plan shall include evaluation criteria for each test based on the functional requirements matrix. The criteria set forth by the plan will be used as the standard by which the Town will judge the success or failure of each test. Sample test report forms shall also be provided in the acceptance test plan. Report forms must be designed for successful tests as well as anomalies and failures during testing. A form to report corrective actions, including changes to the software must also be designed and included in the plan.

The Town will review the acceptance test plan to ensure appropriate procedures have been designed to rigorously test the system software, hardware and integration. To assist the Town in this review, the acceptance test plan must include a compliance matrix that confirms the tests evaluate all Functional Requirements. Upon written approval from the Town, the vendor can begin acceptance testing.

6.2 Software Testing

This testing applies to software that resides on and executes from servers procured and configured as part of this project, including any customization to the COTS product. The vendor shall be responsible for incorporating the requirements herein into the test plan they develop. It applies to the following:

- The operating system software including device handlers and communication interfaces that support the ATMS application software. It also includes basic 3rd party software used by the ATMS software such as database management software, middleware), backup/cluster utilities and report generation utilities.
- The ATMS application software for field device management (e.g., traffic signal controllers, school flashers, special electronic signage, etc.), user services (e.g., GUI, GIS interface, imaging software, third-party backup applications, etc.) and external users (e.g., remote desktop, VPN access, etc.).

Since the ATMS software has the potential for being a semi-custom software product, design verification and prototype testing shall be required. This will include the specific customizations for the Town, including school flashers and special event signal timing plans, as well as any other customizations if these capabilities are not available as part of the COTS product.

6.2.1 Environmental Testing

This testing will be used to verify that the ATMS software product operates properly in the installed environment within the Town's TMC.

6.2.2 Functionality Testing

Functionality testing verifies that the ATMS software performs all of the testable requirements listed in the ATMS software Functional Requirements submitted by the vendor as part of its proposal.

6.2.3 Performance Testing

Performance requirements testing will include such items as interactive response time between an operator command input and a display update and the change that comes as a response to that command input. It will also apply to items such as the maximum time interval between map display updates and the minimum number of traffic signal controllers that the ATMS software can effectively control and coordinate.

6.2.4 Software Maintenance

Software maintenance involves implementing changes to a controlled software baseline for the purposes of correcting errors and implementing enhancements. It is expected that the ATMS software will be maintained by the vendor under a written maintenance agreement or product use license and warranted to the Town.

6.3 Hardware Testing

Hardware testing applies to the hardware provide by the vendor as part of this RFP.

Hardware testing shall conform to the following phases:

1. Factory Acceptance Testing
2. Field Installation Testing
3. Burn-In Testing
4. Final Acceptance Testing

6.4 Final Acceptance Testing

Final acceptance testing shall be in accordance with the procedures specified in the approved acceptance test plan. Final acceptance testing shall include tests for the customized ATMS software (if applicable), additional software modules implemented, interfaces to new/existing hardware and software and communications between the field devices and the TMC components. The test period for the final acceptance testing must be 20 work days and must follow a testing schedule created by the vendor. The vendor must conduct all phases of final acceptance testing in coordination with Town staff. Final acceptance testing should include appropriate vendor and Town staff and should occur at a time agreeable to both parties. Software testing must be conducted on an operator workstation in the TMC and using the operational server infrastructure. Historical and operational data, system parameters and live data must be used for testing. Final acceptance testing must verify the following:

- Central ATMS software is properly installed and configured.

- All functional requirements are met.
- Verify remote accessibility.
- Integration of the ATMS software and the communications network is complete and successful.
- Interfaces between the ATMS software and additional software customizations or COTS modules, as applicable, function properly.
- Data conversion by the vendor is complete and valid.
- Alarms and reports are generated as designed.
- System executable files are generated.
- Bug fixes are successful.
- Graceful failure of system under hardware, software and communications fault.
- Quick and full recovery.

The Town will evaluate the success of each test using the evaluation criteria set forth in the acceptance test plan. Any revisions to the plan must be approved by the Town prior to implementation and must be documented.

6.5 Test Reports

The vendor shall record all test results. Each report should follow the steps enumerated in the test procedures. The following items must be included in the test reports:

- 1) Reference to the appropriate test and test procedures.
- 2) Date of test.
- 3) Test results for each test segment, including a pass/fail indication and any modifications made to the procedures during the test.
- 4) Identification of the vendor's tester and the Town's representative witnessing the test.
- 5) Provision for comments by the Town's representative.
- 6) Copies of any variance reports generated.
- 7) System logs or printouts saved as part of the test. (softcopy preferred)
- 8) Repeatability.

6.6 Final Acceptance and Warranty Period

The Town will grant final acceptance of the ATMS software, hardware, configuration, data conversion, training and other services following the vendor's completion of all such work in accordance with the contract and after twenty (30) calendar days of continuous, successful and error-free operation of the ATMS software in the Town's operating environment.

If any portion of the vendor-supplied system or services is deemed unacceptable to the Town, it will notify the vendor within ten (10) calendar days following such operation period. The vendor must repair or replace unacceptable ATMS hardware, software, customizations or services within a mutually agreed upon time period at no additional charge to the Town. Another ten (10) days of successful operation must follow any corrections or replacements.

If the vendor does not correct or replace the unacceptable system component or services within the specified time period, or such system component or services are deemed unacceptable by the Town, it may, at its option, withhold payment until acceptable remedy is completed.

The Town will issue a Letter of Acceptance after the twenty (20) calendar days of operation are complete and all variances are resolved. The established acceptance date will mark the beginning of the vendor's initial 1 year warranty and associated maintenance period(s) and approval for the Town to make the appropriate milestone payment.

7. Training

The vendor shall provide training onsite for engineering, maintenance staff, contract maintenance staff, and town's IT staff during each aspect of implementation and system operations, including while installation is in process. This should include both "hands-on" and classroom training for both field and central system components. This should take place throughout the entire project schedule, and be such that existing Town and contract staff requires minimal support by the vendor when the system goes live.

Within the time periods and by the completion dates set forth in the project schedule, the vendor shall prepare and provide to the Town for approval a written comprehensive training program that shall outline the content, sequence and duration of each segment of each training session necessary to thoroughly and comprehensively train Town and contract staff to fully utilize the ATMS (henceforth referred to as the "Training Plan"). The Training Plan will outline all subjects necessary to train Town staff to fully understand and utilize all user functions of the ATMS. In the Training Plan, the vendor shall provide Town staff with a written description of the types of the precise training classes that will be conducted. All training will be conducted onsite as listed in Section 7.1.

Without limiting the vendor's obligations hereunder, the vendor will provide the Training Plan which will include each of the following courses, as a minimum (the Vendor will elaborate if different):

- System Overview
- System Setup
- Graphics Setup
- Basic Operations
- Advanced Operations
- Reports and Alarms Generations
- System Maintenance
- Troubleshooting

The vendor will provide a documentation template in electronic format so that the Town can replicate all training material and pass it out to Town staff and other authorized users of the ATMS.

The Training Plan provided by the vendor during the Project will include the following information:

- a) Course summary/outline.
- b) Duration of training for each module.
- c) Location of training.

The vendor shall supply all training aids and course materials for the training. For each course referenced in the chart included in this section, the vendor shall provide, at a minimum, the number of complete sets of all course materials and training aids for each class equal to the number of students shown on the chart.

The Town shall be entitled (but not required) to record video of all training classes provided by the vendor, and to use the recorded video as a permanent training aid as part of the ongoing Town ATMS training program. The Town shall have royalty free unrestricted rights to reproduce an unlimited number of copies of the Training Program, the course lesson plan and all vendor supplied course materials and training aids (including the recorded video), for use by the Town as part of its ongoing training.

All training required for Town and contract staff to successfully operate and manage the ATMS shall be provided as part of the contract price. Any travel expenses for training shall be included in the contract price.

7.1 Training Locations

Training will be conducted at the Superior Town Hall, field locations as appropriate and/or other approved venue(s).

7.2 Instructor

The instructor or instructors provided by the vendor must be well versed in the use of and configuration of the ATMS software and hardware. Instructors must demonstrate a thorough knowledge of the material covered in the training and familiarity with the training manuals. If prerecorded lectures or other video presentations are part of the training, the instructor must also supplement recorded material. The instructor must present all material to the Town in person.

The Town reserves the right to review and approve all instructors. Should an instructor prove unsatisfactory to the Town, the vendor must provide a suitable replacement.

7.3 Manuals and Instructional Aids

The vendor shall prepare training manuals and submit them to the Town for review prior to the start of classroom instruction. The training manuals must be prepared specifically for use as training aids; reference, maintenance and user's manuals may be used as supplementary training material, but not as the primary training manual. Principal documents used for training must be tailored to reflect the town's actual hardware and software configuration.

Upon completion of the training, all training materials, including but not limited to instructor's manuals, training manuals, video and DVD/CDs will become the property of the Town as a work- for-hire to the extent that the vendor has copyrights to those materials. As part of the documentation, the vendor must provide the Town with all changes and revisions to the training manuals and other training documentation. The Town reserves the right to copy all training manuals and aids for use in future Town training sessions.

The vendor must provide the Town with licenses for any materials that the vendor does not own copyright. The vendor must furnish for use during training all training aids and any other materials required to train course participants. The number of training aids must be adequate for the number of participants attending the course.

7.4 Documentation

The vendor shall provide the following system documents in electronic and physical format to support operation of the ATMS, controllers, communication infrastructure, and any other hardware/software deployed as part of this project:

- System operations/configuration manuals
- Users manuals
- Maintenance manuals
- Troubleshooting guides
- Provide data connection drawing schematic showing network control head, server and PCs, labeling of any fixed IP addresses and configuration information, master account and password list for any devices or software programs

The vendor shall provide the Town with complete documentation of the ATMS software. Each document must be identified by a Town contract number and date. Where a document is revised for any reason, each such revision must be indicated by the revision number, date and explanation in a revision block along with an indication of official approval by the vendor's PM.

The Town requires a copy of all final vendor-supplied documentation in an electronic file format compatible with commercially available Microsoft Office software, such that it can be maintained and updated. Final documentation must be easily reproducible by the Town.

7.5 Configuration Management and Documentation Requirements

The vendor shall have a defined, documented, and successful configuration management process in place to maintain the consistency of their software throughout the development and testing processes. A high-level outline and approach for the configuration management plan will be required from the selected vendor, and must be made available for comment and revision.

The successful vendor must show documented adherence to best practice quality assurance procedures which may be internal or industry wide such as ISO9001. In addition, a final version control documentation showing all furnished software shall be provided upon final acceptance by the Town. Version or build information shall be part of the listing.

8. Software Terms

The vendor shall provide the Town with software licensing, warranties, technical support and upgrades for all software products in the ATMS software, including COTS, customized, third-party products and database software. The vendor must provide the terms for each software component. Third-party licenses must be covered within the warranty and maintenance periods.

8.1 Licensing Terms

The central management system software license shall include:

- Management of all traffic signals owned or operated by the Town (up to 50 traffic signal controllers).
- Optional components of central management system software license include:
 - 1) Allowances for future integration of other controller firmware.
 - 2) Allowances for future integration with other traffic management systems.

The vendor shall provide all necessary software licenses, including for database, middleware, and other third-party software, used for this project including installations of software in servers, workstations, tablets, and field laptops. It is the vendor's responsibility to state clearly the licensing terms that are included within the scope and budget of its proposal.

All software license terms shall be indefinite with no yearly fees. The terms and conditions of software licenses will be incorporated into the final contract. Prior to finalizing any contract, the Town reserves the right to negotiate terms of the software license.

8.2 Warranty Terms

The vendor shall provide all necessary on-site/off-site support as appropriate during the course of implementation. In addition, following full completion and acceptance of the system, the vendor shall support the software (supplying both error corrections and version updates) for a period as requested in the cost schedule (Appendix D).

The cost of the warranties, as required in each vendor's proposal, must be included in the cost of the software licenses for the Town. The warranty period, including manufacturer warranty, will begin on the date of final acceptance, as described in Section 6.6. The duration of the warranty period does not include time spent repairing significant software failures. The terms and conditions of the software warranty will be incorporated into the final contracts.

8.3 Maintenance Terms

The vendor shall provide technical support for the duration referenced in the cost schedule (Appendix D). The vendor shall be responsible for identifying and performing preventive maintenance of the central management system and for software updates addressing glitches and substandard performance. The vendor shall be available to provide technical support coverage for all maintenance related activities for all elements of the supplied system within 24 hours on weekdays and on the following day after weekends and the day after holidays. The vendor shall resolve demonstrated software and hardware failures. Restrictions or limitations shall be clearly identified.

8.4 Technical Support Terms

Technical support shall be provided by the vendor to assist the Town with routine questions regarding the use of the software.

The vendor must provide technical support during system integration, the warranty period and

the maintenance periods identified in the cost schedule (Appendix D). The vendor must describe the proposed maintenance terms, including the proposed methods of communication (e.g., phone, email, Web, on-site, etc.), hours of availability and maximum response times, including for each agency on the pricing structure.

8.4.1 Installation (for updates and upgrades)

Where installation assistance is required by the Town for system updates and upgrades that fall outside of what is covered in the warranty and maintenance agreements, the vendor shall provide an hourly cost for technicians that would provide support to the Town as referenced in the cost schedule (Appendix D).

8.4.2 Technical Support

Where technical support is required by the Town for items that fall outside of what is covered in the warranty and maintenance agreements (e.g., networking issues, firewall problems, etc.), the vendor shall provide an hourly cost for technicians that would provide support to the Town as referenced in the sealed cost schedule (Appendix D).

8.5 Upgrade Terms

Software upgrades shall be considered enhancements to the software code to add new features or functions to the system or software patches to correct errors, defects, malfunctions and security issues.

The vendor must provide all released upgrades to the system, at no cost other than the Town's configuration requirements, through the warranty period. Additional upgrades provided during the maintenance period, at no additional charge, will be evaluated in the ranking of the written responses by the selection committee. The ATMS software must retain all system, user configuration and preference changes when upgrades are applied. The vendor must describe the upgrade terms and how new version releases will accommodate prior system customization.

The vendor shall clearly identify any separate upgrade costs for software customization to the ATMS resulting from requests by the Town for additional functionality as part of this contract, especially if these customizations are not included in the base COTS ATMS software.

The vendor shall document its practices with respect to the support of future releases of operating systems (e.g., Vendor releases an update within six months of a major OS update).

9. Evaluation and Selection Process

9.1 Evaluation of Written Responses

The scoring of the bids is broken down into three categories: functional requirements, pricing and vendor's work history. The maximum score a bid can receive is one hundred. Below is a description of how a vendor is scored for each category using the description shown in the table below. The vendor's work history will be scored based on their existing presence within the region as well as using references and existing bodies of work to show proven track record. The rest of the scoring will be toward system functional requirements and pricing. There are eleven

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subcategories within the functional requirements that have been weighted according to their importance as it relates to critical aspects of the system. The subcategories with more points being awarded to it represents its overall value to the system. Each line item in every subcategory will be given a score based on the following table. For example, the Standards section has seventeen functional criteria. If every category is compliant, the vendor gets a score of 17 out of 17 for Section 1 or 100 percent of the points for Section 1. It is possible to gain “bonus” points for functional criteria by providing a description in the comments section that clearly shows additional functionality that is deemed beneficial to the Town by Town staff.

Scoring Designation Description

Description	Score
Not Compliant	0
Partially Compliant	0.5
Compliant	1
Provides additional functionality deemed beneficial by Town staff	1.25

Functional Requirements 70%

Sections	Category	Points
Section 1	Standards	3
Section 2	Communications	5
Section 3	Graphical User Interface (GUI)	10
Section 4	Traffic Signal Operations and Control	15
Section 5	Security/ User Access	5
Section 6	Data Collection/ Reports	10
Section 7	Alarms	12
Section 8	System Configuration	5
Section 9	System Interface	5
Section 10	Software Standard Compliance	5
Section 11	System Software	5
TOTAL		70

Pricing 20%

With pricing being worth twenty points the lowest bid will receive the full twenty points. The other vendors’ points will come from ranking the bids from lowest to highest. If there were four bids that means the multiplier is five. The vendor with the highest price bid would be ranked one and multiplied by five for this example giving them a total score of five for pricing.

Existing Vendors Work History 10%

- A. Vendor must have existing deployments of ATMS systems within the DRCOG area. (5pts)
- B. References from other cities and examples of similar work. (5pts)

9.2 Reference Checks

The Town will contact references for each vendor. The evaluation of the reference checks are based upon comments provided by each reference regarding personal evaluation of vendor, vendor's key staff, software/hardware components, system performance and technical support.

9.3 System Demonstrations and Product Evaluations

At the Town's sole discretion, the Town may short-list the top-scoring vendors. Each vendor may be invited to demonstrate their product for the selection committee and/or Town staff. The vendor's PM and other key team members would be required to attend the system demonstration.

The selected vendors may be asked to demonstrate their systems by presenting a working simulation of their proposed system. The product demonstration will be held at the Town's TMC with adequate electrical power supplied (as requested by each invited vendor). At the discretion of the Town this demonstration may include controller devices that currently exist in the field. The vendor must provide all hardware and software components, except as noted below. The vendor must demonstrate application of the proposed software on a group of existing Econolite Cobalt controllers provided by the Town, and other controller(s) (supplied by the vendor for demonstration purposes). Additionally, the vendor may also be required to demonstrate on any controller listed as having compatibility with the ATMS. The rationale is to demonstrate the compatibility of proposed software with existing 170 controllers as well as Econolite ASC/3 and Cobalt controllers and other candidate controllers that are compatible with the vendor's system while meeting the requirements of the functional requirements. The system demonstration must include the basic functional components of the system necessary to simulate the system in a lab environment. The selection committee must be able to interact with the product simulation through an unstructured hands-on simulation period.

More details on this system demonstration will be provided to the vendors invited to participate in this event.

The criteria used to evaluate performance under this section will be as follows:

System Demonstration and Product Evaluation: Based upon responses to questions, system demonstration, quality of demonstration, display of functional requirements capabilities, ease of use, and experience/teamwork displayed by vendor's team.

9.4 Contract Award

The contract will be awarded to the vendor that produces an offering that is determined to be in the best interest of the Town in price, functionality, scope and product, and thus best provides the services described in this RFP.

Prior to finalizing any contract, the Town reserves the right to negotiate terms of the software license, scope of services, functional requirements and cost. This process usually takes two to four weeks. Upon award, the Town will enter into a professional services agreement. A sample copy of the professional services agreement is included in Appendix B. The terms of the contract are non-negotiable.

APPENDIX A

HARDWARE DESCRIPTION

Vendor shall fill in the following information for proposed server.

Module	Description
Operating System	
Processor	
Memory	
Keyboard	
Monitor (36" minimum)	
Graphics	
Boot Hard Drive	
Hard Drive Configuration	
Mouse	
Network Adapter	
DVD and Read-Write Devices	
Sound Card	
Documentation	
Adapters	
Hardware Support Services	

Vendor shall fill in the following information for your proposed workstations

Module	Description
Operating System	
Processor	
Memory	
Keyboard	
Monitor 36" minimum)	
Graphics	
Boot Hard Drive	
Hard Drive Configuration	
Mouse	
Network Adapter	
DVD and Read-Write Devices	
Sound Card	
Documentation	
Adapters	
Hardware Support Services	

APPENDIX B

SAMPLE AGREEMENT FOR SERVICES

THIS AGREEMENT is made and entered into this ____ day of _____, 2017 (the "Effective Date"), by and between the Town of Superior, 124 East Coal Creek Drive, Superior, Colorado 80027, a Colorado municipal corporation (the "Town"), and _____, an independent contractor with a principal place of business at _____, Colorado _____ ("Contractor") (each individually a "Party" and collectively the "Parties").

WHEREAS, the Town requires services; and

WHEREAS, Contractor has held itself out to the Town as having the requisite expertise and experience to perform the required services.

NOW THEREFORE, for the consideration hereinafter set forth, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

I. SCOPE OF SERVICES

A. Contractor shall furnish all labor and materials required for the complete and prompt execution and performance of all duties, obligations, and responsibilities which are described or reasonably implied from the Scope of Services set forth in **Exhibit A**, attached hereto and incorporated herein by this reference.

B. A change in the Scope of Services shall not be effective unless authorized as an amendment to this Agreement. If Contractor proceeds without such written authorization, Contractor shall be deemed to have waived any claim for additional compensation, including a claim based on the theory of unjust enrichment, quantum merit or implied contract. Except as expressly provided herein, no agent, employee, or representative of the Town is authorized to modify any term of this Agreement, either directly or implied by a course of action.

II. TERM AND TERMINATION

A. This Agreement shall commence on the Effective Date, and shall continue until Contractor completes the Scope of Services to the satisfaction of the Town, or until terminated as provided herein.

B. Either Party may terminate this Agreement upon 30 days advance written notice. The Town shall pay Contractor for all work previously authorized and completed prior to the date of termination. If, however, Contractor has substantially or materially breached this Agreement, the Town shall have any remedy or right of set-off available at law and equity.

III. COMPENSATION

In consideration for the completion of the Scope of Services by Contractor, the Town shall pay Contractor \$_____. This amount shall include all fees, costs and expenses incurred by Contractor, and no additional amounts shall be paid by the Town for such fees, costs and expenses. Contractor shall not be paid until the Scope of Services is completed to the satisfaction of the Town.

IV. RESPONSIBILITY

A. Contractor hereby warrants that it is qualified to assume the responsibilities and render the services described herein and has all requisite corporate authority and licenses in good standing, required by law.

B. The work performed by Contractor shall be in accordance with generally accepted practices and the level of competency presently maintained by other practicing contractors in the same or similar type of work in the applicable community. The work and services to be performed by Contractor hereunder shall be done in compliance with applicable laws, ordinances, rules and regulations.

C. The Town's review, approval or acceptance of, or payment for any services shall not be construed to operate as a waiver of any rights under this Agreement or of any cause of action arising out of the performance of this Agreement.

V. OWNERSHIP

Any materials, items, and work specified in the Scope of Services, and any and all related documentation and materials provided or developed by Contractor shall be exclusively owned by the Town. Contractor expressly acknowledges and agrees that all work performed under the Scope of Services constitutes a "work made for hire." To the extent, if at all, that it does not constitute a "work made for hire," Contractor hereby transfers, sells, and assigns to the Town all of its right, title, and interest in such work. The Town may, with respect to all or any portion of such work, use, publish, display, reproduce, distribute, destroy, alter, retouch, modify, adapt, translate, or change such work without providing notice to or receiving consent from Contractor.

VI. INDEPENDENT CONTRACTOR

Contractor is an independent contractor. Notwithstanding any other provision of this Agreement, all personnel assigned by Contractor to perform work under the terms of this Agreement shall be, and remain at all times, employees or agents of Contractor for all purposes. Contractor shall make no representation that it is a Town employee for any purposes.

VII. INSURANCE

A. Contractor agrees to procure and maintain, at its own cost, a policy or policies of insurance sufficient to insure against all liability, claims, demands, and other obligations assumed by Contractor pursuant to this Agreement. At a minimum, Contractor shall procure and maintain,

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and shall cause any subcontractor to procure and maintain, the insurance coverages listed below, with forms and insurers acceptable to the Town.

1. Worker's Compensation insurance as required by law.

2. Commercial General Liability insurance with minimum combined single limits of \$1,000,000 each occurrence and \$1,000,000 general aggregate. The policy shall be applicable to all premises and operations, and shall include coverage for bodily injury, broad form property damage, personal injury (including coverage for contractual and employee acts), blanket contractual, products, and completed operations. The policy shall contain a severability of interests provision, and shall include the Town and the Town's officers, employees, and contractors as additional insureds. No additional insured endorsement shall contain any exclusion for bodily injury or property damage arising from completed operations.

B. Such insurance shall be in addition to any other insurance requirements imposed by law. The coverages afforded under the policies shall not be canceled, terminated or materially changed without at least 30 days prior written notice to the Town. In the case of any claims-made policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage. Any insurance carried by the Town, its officers, its employees, or its contractors shall be excess and not contributory insurance to that provided by Contractor. Contractor shall be solely responsible for any deductible losses under any policy.

C. Contractor shall provide to the Town a certificate of insurance as evidence that the required policies are in full force and effect. The certificate shall identify this Agreement.

VIII. INDEMNIFICATION

Contractor agrees to indemnify and hold harmless the Town and its officers, insurers, volunteers, representative, agents, employees, heirs and assigns from and against all claims, liability, damages, losses, expenses and demands, including attorney fees, on account of injury, loss, or damage, including without limitation claims arising from bodily injury, personal injury, sickness, disease, death, property loss or damage, or any other loss of any kind whatsoever, which arise out of or are in any manner connected with this Agreement if such injury, loss, or damage is caused in whole or in part by, the act, omission, error, professional error, mistake, negligence, or other fault of Contractor, any subcontractor of Contractor, or any officer, employee, representative, or agent of Contractor, or which arise out of a worker's compensation claim of any employee of Contractor or of any employee of any subcontractor of Contractor.

IX. ILLEGAL ALIENS

A. Certification. By entering into this Agreement, Contractor hereby certifies that, at the time of this certification, it does not knowingly employ or contract with an illegal alien who will perform work under this Agreement and that Contractor will participate in either the E-Verify Program administered by the U.S. Department of Homeland Security and Social Security Administration or the Department Program administered by the Colorado Department of Labor and

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Employment to confirm the employment eligibility of all employees who are newly hired to perform work under this Agreement.

B. Prohibited Acts. Contractor shall not knowingly employ or contract with an illegal alien to perform work under this Agreement, or enter into a contract with a subcontractor that fails to certify to Contractor that the subcontractor shall not knowingly employ or contract with an illegal alien to perform work under this Agreement.

C. Verification.

1. If Contractor has employees, Contractor has confirmed the employment eligibility of all employees who are newly hired to perform work under this Agreement through participation in either the E-Verify Program or the Department Program.

2. Contractor shall not use the E-Verify Program or Department Program procedures to undertake pre-employment screening of job applicants while this Agreement is being performed.

3. If Contractor obtains actual knowledge that a subcontractor performing work under this Agreement knowingly employs or contracts with an illegal alien who is performing work under this Agreement, Contractor shall: notify the subcontractor and the Town within 3 days that Contractor has actual knowledge that the subcontractor is employing or contracting with an illegal alien who is performing work under this Agreement; and terminate the subcontract with the subcontractor if within 3 days of receiving the notice required pursuant to subsection 1 hereof, the subcontractor does not stop employing or contracting with the illegal alien who is performing work under this Agreement; except that Contractor shall not terminate the subcontract if during such 3 days the subcontractor provides information to establish that the subcontractor has not knowingly employed or contracted with an illegal alien who is performing work under this Agreement.

D. Duty to Comply with Investigations. Contractor shall comply with any reasonable request by the Colorado Department of Labor and Employment made in the course of an investigation conducted pursuant to C.R.S. § 8-17.5-102(5)(a) to ensure that Contractor is complying with the terms of this Agreement.

E. Affidavits. If Contractor does not have employees, Contractor shall sign the "No Employee Affidavit" attached hereto. If Contractor wishes to verify the lawful presence of newly hired employees who perform work under the Agreement via the Department Program, Contractor shall sign the "Department Program Affidavit" attached hereto.

X. MISCELLANEOUS

A. Governing Law and Venue. This Agreement shall be governed by the laws of the State of Colorado, and any legal action concerning the provisions hereof shall be brought in Boulder County, Colorado.

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B. No Waiver. Delays in enforcement or the waiver of any one or more defaults or breaches of this Agreement by the Town shall not constitute a waiver of any of the other terms or obligation of this Agreement.

C. Integration. This Agreement constitutes the entire agreement between the Parties, superseding all prior oral or written communications.

D. Third Parties. There are no intended third-party beneficiaries to this Agreement.

E. Notice. Any notice under this Agreement shall be in writing, and shall be deemed sufficient when directly presented or sent pre-paid, first class U.S. Mail to the party at the address set forth on the first page of this Agreement.

F. Severability. If any provision of this Agreement is found by a court of competent jurisdiction to be unlawful or unenforceable for any reason, the remaining provisions hereof shall remain in full force and effect.

G. Modification. This Agreement may only be modified upon written agreement of the Parties.

H. Assignment. Neither this Agreement nor any of the rights or obligations of the Parties hereto, shall be assigned by either Party without the written consent of the other.

I. Governmental Immunity. The Town and its officers, attorneys and employees, are relying on, and do not waive or intend to waive by any provision of this Agreement, the monetary limitations or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, C.R.S. § 24-10-101, *et seq.*, as amended, or otherwise available to the Town and its officers, attorneys or employees.

J. Rights and Remedies. The rights and remedies of the Town under this Agreement are in addition to any other rights and remedies provided by law. The expiration of this Agreement shall in no way limit the Town's legal or equitable remedies, or the period in which such remedies may be asserted, for work negligently or defectively performed.

K. Subject to Annual Appropriation. Consistent with Article X, § 20 of the Colorado Constitution, any financial obligation of the Town not performed during the current fiscal year is subject to annual appropriation, shall extend only to monies currently appropriated, and shall not constitute a mandatory charge, requirement, debt or liability beyond the current fiscal year.

IN WITNESS WHEREOF, the Parties have executed this Agreement on the date first set forth above.

TOWN OF SUPERIOR, COLORADO

Clint Folsom, Mayor

ATTEST:

Advanced Traffic Management System

EXHIBIT A SCOPE OF SERVICES

Contractor's Duties

During the term of this Agreement, Contractor shall perform the following duties, as directed by the Town:

(Relevant sections of vendor proposal to be added here)

NO EMPLOYEE AFFIDAVIT

[To be completed only if Contractor has no employees]

1. Check and complete one:

I, _____, am a sole proprietor doing business as _____. I do not currently employ any individuals. Should I employ any employees during the term of my Agreement with the Town of Superior (the "Town"), I certify that I will comply with the lawful presence verification requirements outlined in that Agreement.

OR

I, _____, am the sole owner/member/shareholder of _____, a _____ [specify type of entity – *i.e.*, corporation, limited liability company], that does not currently employ any individuals. Should I employ any individuals during the term of my Agreement with the Town, I certify that I will comply with the lawful presence verification requirements outlined in that Agreement.

2. Check one.

I am a United States citizen or legal permanent resident.

The Town must verify this statement by reviewing one of the following items:

- *A valid Colorado driver's license or a Colorado identification card;*
- *A United States military card or a military dependent's identification card;*
- *A United States Coast Guard Merchant Mariner card;*
- *A Native American tribal document;*
- *In the case of a resident of another state, the driver's license or state-issued identification card from the state of residence, if that state requires the applicant to prove lawful presence prior to the issuance of the identification card; or*
- *Any other documents or combination of documents listed in the Town's "Acceptable Documents for Lawful Presence Verification" chart that prove both Contractor's citizenship/lawful presence and identity.*

OR

I am otherwise lawfully present in the United States pursuant to federal law.

Contractor must verify this statement through the federal Systematic Alien Verification of Entitlement ("SAVE") program, and provide such verification to the Town.

Signature

Date

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DEPARTMENT PROGRAM AFFIDAVIT

[To be completed only if Contractor participates in the Department of Labor Lawful Presence Verification Program]

I, _____, as a public contractor under contract with the Town of Superior (the "Town"), hereby affirm that:

1. I have examined or will examine the legal work status of all employees who are newly hired for employment to perform work under this public contract for services ("Agreement") with the Town within 20 days after such hiring date;

2. I have retained or will retain file copies of all documents required by 8 U.S.C. § 1324a, which verify the employment eligibility and identity of newly hired employees who perform work under this Agreement; and

3. I have not and will not alter or falsify the identification documents for my newly hired employees who perform work under this Agreement.

Signature

Date

STATE OF COLORADO)
) ss.
COUNTY OF _____)

The foregoing instrument was subscribed, sworn to and acknowledged before me this ____ day of _____, 2017, by _____ as _____ of _____.

My commission expires:

(S E A L)

Notary Public

Appendix C

Required: Requirements are features or functionalities that must be provided by the selected proposer to fulfill the core mission of the traffic signal system for the Superior/Louisville program. If the feature or functionality is not within the COTS standard product, such a feature must be priced as additional work through software customization separate from the base bid. A "no bid" notation may be cause for a bid to be disqualified. The proposer must clearly indicate why the requirement will not be met and if an alternative functionality is proposed.

Preferred: Requirements are features or functionalities that are desirable to TOCR and that enhance the functionality of the traffic signal system, but are not necessarily needed in the initial implementation covered by this RFP process. Including more preferred requirements in the proposed system will improve the proposal's overall score. If the proposer commits to providing a preferred requirement, the cost of implementation must be part of total amount of the proposal.

If the proposer does not commit to providing a preferred requirement within this proposal, the proposer may comment on the possible offering of the requirement at a separate fee in a later phase.

Considered: Requirements are features or functionalities that would be worthwhile to have in the initial implementation, but describe features or functionalities that are not expected to yet be available from the proposer or because Superior/Louisville are not yet ready to implement them. Superior/Louisville are requesting that the proposer provide information regarding the function or feature for evaluating the overall suitability of the traffic signal system for use by Superior/Louisville. Any considered requirements that the proposer commits to providing in the proposal must be implemented as part of the total amount of the proposal.

APPENDIX C

Traffic Signal System Functional Requirements

System Vendor:
Primary Contact:

For each Function noted, please identify if your proposed system is Compliant, Partially Compliant or Not Compliant. Please explain the reason for any Functions that are noted Partially Compliant.

A	D	E	F	G	H	I	J	K	L	N								
											Category			Requirement (see 4.2.4 in RFP)	Function Compliance			Comments
											Required	Preferred	Considered		Central	Local	Compliant	
1.0 Standards																		
1.1		x		System should support integration with existing cabinet components such as controller, Cabinet Management Unit (CMU)/Malfunction Management Unit (MMU), power supply, detector units (veh & ped), Bus Interface Unit (BIU), load switches, transfer relays and solid-state flasher.	x			✓	✓	✓								
1.2	x			System shall support all mandatory and optional National Transportation Communications for ITS Protocol 1201 object	x	x												
1.3	x			System shall support all mandatory and optional NTCIP 1202 object	x	x												
1.4	x			Conformance to the NTCIP communication protocols previously stated shall not be accomplished through the use of embedding proprietary protocols.	x	x												
1.5	x			System application software shall be compatible with shipping and currently supported server-class versions of the Microsoft (MS) Windows® Operating Systems (OS). List all OS systems supported in Comments.	x													
1.6	x			System application software shall be compatible with shipping and currently supported workstation and laptop versions of MS Windows® operating systems. List all OS systems supported in Comments.	x													
1.7	x			System servers and workstations shall not require a "dongle" or hardware key for software copy protection	x													
1.8	x			System servers shall utilize Active Directory for network administration and security	x													
1.9	x			System software shall have a demonstrable ability to run in a virtual server environment. Please list supported platforms, host CPU/OS and guest CPU/OS, as applicable.	x													
1.10	x			System shall support data outputs in Extensible Markup Language (XML) format.	x													
1.11	x			System shall employ and operate on a standards-based database storage platform. Please list database systems supported in Comments section.	x													
1.12	x			System application software shall access database using Open Database Connectivity (ODBC) interface.	x													
				System shall support user access to the system as listed below. Describe means of access for each in Comments section.														
1.13	x			Networked computer (workstation, tablet PC or laptop)	x													
1.14		x		Direct database sync using a laptop or tablet PC	x													
1.15	x			Remote connection via Virtual Private Network (VPN) access	x													
1.16	x			System shall provide manual or user-defined time intervals per day for time synchronization from network time server using the Simple Network Time Protocol (SNTP).	x													
1.17		x		System should support Universal Resource Locator (URL) parameters at the local TCP/IP system level and the Internet.	x													
2.0 Communications																		
2.1	x			System shall support Internet Protocol (IP) addressable field controller.	x	x												
2.2	x			System shall utilize an IP address mapped to the Medium Access Control (MAC) address without the use of a serial converter.	x	x												
2.3	x			System shall support Central and Field data communication over a 10/100/1000/10000 Mbps Ethernet network (i.e., fiber and wireless spread spectrum radio).	x	x												
2.4		x		Central system shall support a direct connection (Ethernet) with CMU/MMU. User shall also be able to access CMU/MMU via local controller. List compatible CMU/MMU vendors and connection type in Comments section.	x	x												
2.5		x		Central system shall support a direct connection (Ethernet) with UPS. User shall be able to access UPS via local Ethernet switch and/or controller.	x	x												
2.6		x		Central system shall support a direct connection (Ethernet) with preemption detector cards. User shall be able to access detector cards via local Ethernet switch and/or controller. List compatible preemption vendors, supported connections and connection type in Comments section.	x	x												
2.7	x			System shall provide second by second polling to signalized intersection	x	x												
2.8		x		System shall provide exception-based polling to signalized intersection	x	x												
2.9		x		If exception-based polling to signalized intersections is utilized, the system shall support a non-requested "heartbeat" or "status" response from the field using dynamic objects or traps at intervals not less than four times each minute.	x	x												
2.10	x			System shall communicate with standard IEEE 802.3x Ethernet specification.	x	x												
2.11	x			System shall transmit a Gratuitous Address Resolution Protocol (GARP) reply packet when first connected to an Ethernet network even though no request has been made.		x												
2.12	x			System shall be able to extract Virtual Local Area Networks (VLANs) from a tagged trunk of VLANs being received from the Ethernet network.		x												

3.0 Graphical User Interface

APPENDIX C

Traffic Signal System Functional Requirements

System Vendor:
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A	D	E	F	G	H	I	J K L			N
							Function Compliance			
Category	Required	Preferred	Considered	Function	Requirement	Local	Compliant	Partially Compliant	Not Compliant	Comments
3.2	x			The system will be provided with complete graphics of all existing signals (11 in Superior, 20 in Louisville). System shall provide templates for intersection graphics and the ability to copy/paste existing intersection graphics. The system shall support the display of signalized intersections b	x					
3.3	x			Multi-level, logical groupings regardless of intersection's physical location, jurisdiction or communication chan	x					
3.4	x			Geographical location in Superior/Louisvill	x					
3.5	x			Device or IP address	x					
3.6	x			Specific corridors	x					
3.7	x			Membership to a group or group:	x					
3.8		x		System shall interface with ESRI ArcGIS 10.xx (or other currently supported version used by Superior/Louisville) so that GIS maps and aerials may be used as a base for system maps. List currently supported versions and other options (i.e. Microsoft Bing, OpenMaps maps) in Comments.	x					
3.9	x			System shall allow hyperlinks from the GUI to other Windows-based applications to facilitate a "loosely integrated" multifunction system.	x					
3.10	x			System shall provide full Signal System manual access from the application software.	x					
3.11	x			System shall provide a graphical display for scheduling and reviewing scheduled even	x					
				System should support customizable graphics configuration to include the following option:						
3.12		x		User customizable window display (organize window display, show/hide tools, savable customized windows configurations for each user)	x					
3.13		x		User selectable map layers (drop down box of available layers)	x					
3.14		x		User configurable links (each individual link) to be placed on map display	x					
3.15	x			View all intersections at once (system level map)	x					
3.16	x			View one intersection at a time (intersection level map)	x					
3.17	x			View user defined subset of intersections (section level map)	x					
3.18	x			Capability to window in/out of the main map using the cursor	x					
				System should support user defined Graphic Display options for current traffic conditions and individual intersection status as follows:						
3.19	x			System shall show intersection coordination status for one or multiple intersection	x					
3.20	x			Real-time split status	x					
3.21	x			Phase max reached	x					
3.22	x			Phase gap out	x					
3.23	x			Phase force off	x					
3.24	x			Full signal indications (green/yellow/red)	x					
3.25	x			Control status (i.e., free, coordinated, preempt, transition, flash, off-line, bad communication)	x					
3.26	x			Transition status (i.e., short, long)	x					
3.27	x			Current timing plan (including local cycle time)	x					
3.28	x			Timing plan request	x					
3.29	x			Manual commands active (including police, stop time)	x					
3.30	x			Preemption events	x					
3.31			x	Transit signal priority event:	x					
3.32		x		System should support user configurable GUI tool that allows split time utilization (phases 1-8 on standard dual ring controller)	x					
				System should support zoom options as follows						
3.33		x		User defined zoom preset	x					
3.34		x		User defined zoom box	x					
3.35		x		Dynamic zoom in-out	x					
3.36		x		User selectable home view zoom	x					
3.37		x		User selectable auto layers for user specified layers at predefined zoom level	x					
				System shall display detector information including the following:						
3.38	x			Detector actuations (per detector and/or per phase)	x					
3.39		x		Volume/occupancy from system detectors:	x					

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A	D	E	F	G	H		J			K	L	N
					Requirement	Local	Compliant	Partially Compliant	Not Compliant			
Category			Function	Comments	Central	Local	Compliant	Partially Compliant	Not Compliant			
Required	Preferred	Considered			Compliant	Partially Compliant	Not Compliant					
3.40	x			Speed								
3.41			x	Classification	x							
3.42	x			Pedestrian phase service	x							
3.43	x			System shall display signal programming sheets	x							
3.44	x			User shall be able to select the signal timing sheet to display	x							
3.45	x			System should support user configurable links to signalized intersection as-built and intersection photo	x							
3.46		x		System shall be able to display a graphical representation of the controller's front panel display in near real-time	x							
3.47	x			System should create and display real-time time-space diagrams	x							
3.48	x			System should show green progression on the real-time time-space diagram	x							
3.49		x		System shall be able to display a virtual sticky note as a reminder or status indication to system operators about any equipment or operational parameters that may need to be checked, such as incidents, construction and special events, work on traffic signals.	x							
4.0 Traffic Signal Operation and Control												
Basic Timing Parameters												
4.01	x			The System shall be supplied with all existing timing plans in field controllers uploaded into the server and integrated with the GUI intersection graphics								
4.1	x			System shall default to standard eight-phase, dual-ring operation	x	x						
4.2	x			System shall provide a minimum of four rings	x	x						
4.3	x			System shall provide a minimum of 16 vehicle phases	x	x						
4.4	x			System shall provide a minimum of four pedestrian phases	x	x						
4.5	x			System shall support fixed-time operation	x	x						
4.6	x			System shall provide capability to control multiple intersections with one controller	x	x						
4.7	x			System shall support interval advance		x						
4.8	x			System shall provide capability to modify left-turn phasing by TOD/DOW plan	x	x						
4.9	x			System shall allow nesting schedules in local software (deletable events)	x	x						
4.10	x			System shall support soft recall	x	x						
4.11	x			System shall support time-based coordinator	x	x						
4.12	x			System shall maintain last scheduled plan if communication is lost and revert back to Time of Day (TOD) plan after running special event plans.	x	x						
4.13	x			System shall support traffic responsive operation (setup menu, parameters (V, O, K & W), plan and pattern selector)	x	x						
4.14	x			System shall base the traffic-responsive algorithm on the UTCS signature matching algorithm or other TOCR/DRCOG approved traffic responsive algorithm.	x	x						
4.15	x			System shall, in traffic responsive operation, select the timing plan that is best suited to the existing traffic conditions as measured by the system detectors and analyzed by the system's traffic responsive process.	x	x						
4.16	x			System shall, in traffic responsive operation, command the selected timing plan to the intersections on a continuous basis until the traffic responsive process recognizes, based on sufficient change in traffic conditions, the need to command a different timing plan.	x	x						
				In order to enhance traffic responsive operations, the following four traffic responsive process points shall be implemented:								
4.17	x			Each logical grouping of signals shall be capable of being associated with zero other groupings, one of which shall be designated as the master grouping. When traffic conditions warrant a traffic responsive timing plan change for the master grouping, the system shall automatically change the timing plans for the other associated groupings. If no other groupings are associated with the process, only that grouping shall change timing plans.	x	x						
4.18	x			The operator shall be able to define a single detector station as a grouping. When the traffic responsive process detects that this station has exceeded operator defined thresholds, the associated groupings shall implement the appropriate traffic responsive plan. This process is intended for use in conjunction with special events, such as a surge of traffic leaving a parking lot at the end of an event.	x	x						
4.19	x			Logical groupings of signals shall be changeable on a time-of-day basis. The intersections within a grouping shall be changeable, allowing intersections to be in different groupings depending on the time-of-day. Definition of master groupings and associated groupings shall be changeable, allowing groupings to be associated with different master groupings depending on the time-of-day.	x	x						
4.20	x			If an operator-definable number (or percent) of controllers or detectors are offline due to a communications failure then the traffic responsive plan shall not be initiated.	x	x						

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	Category				Requirement	Local	Function Compliance				Comments
	Required	Preferred	Considered				Compliant	Partially Compliant	Not Compliant		
4.21	x			System application software shall provide stop time Basic phase timing and status shall be accessible using :	x						
4.22	x			Laptop	x						
4.23		x		Tablet computer	x						
4.24	x			Smartphone	x						
4.25	x			System shall allow access to all timing tables offered by the local controller firmware.	x						
4.26	x			System shall monitor for duplicated commands programmed from central and warn user prior to implementation.	x						
4.27		x		System shall allow single or continuous actuation (vehicle or pedestrian phases) remotely without changes to timing plans.	x						
4.28	x			System shall allow remote recall (vehicle or pedestrian phases) without changes to timing plans.	x						
4.29		x		System should have a control hierarchy (e.g., manual, TOD, standby/local controller default) via GUI menus.	x						
4.30		x		Manual override Assignment screen - groups all defined manual step entries and actions (Enabled, entity, entity description, action, authorized by, start date/time, stop date/time, duration, description) via GUI menus	x						
4.31		x		Action set editor menu - Allows for a series of actions to be applied to various entities in a single en	x						
4.32	x			System shall allow the user to send manual commands to a controller to initiate patterns, free operation or flas	x	x					
4.33	x			System shall provide the user with the ability to initiate a single manual command to one or all intersections to turn on/off free operation and, by phase, turn on/off max recall and adjust max green.	x	x					
4.34	x			System shall support TOD, DOW, WOY and central scheduling	x	x					
4.35	x			System shall provide editing capabilities of all timing parameter.	x	x					
4.36	x			System shall store a backup of intersection timings organized by intersection numbers or names.	x						
4.37	x			System shall have the capability to store a minimum of three versions of timing parameters for each intersect	x						
4.38	x			System to allow local and remote download/upload of controller database to/ from the fiel	x	x					
4.39	x			User shall be able to upload or download user-defined data one timing page at a tim	x						
4.40		x		System shall allow the user to select, single, multiple, or user-defined groups of intersections to upload/download timing tables at one time.	x						
4.41	x			System shall provide upload and download capabilities for user-defined or all timing parameters to one or multiple controllers.	x						
4.42	x			System shall allow user to compare and display differences in the uploaded controller database versus the database stored on the server.	x						
4.43	x			System shall allow remote upload/download of entire intersection database from the field to the central database via the controller's front panel.	x	x					
4.44	x			System shall support automatic upload and comparison of timing plans by the central system at user-defined time intervals.	x						
4.45	x			System shall not experience local data crashes during uploads or downloads that would place controllers into flashing operation.	x	x					
4.46	x			System shall support the use of a rugged, portable and non-volatile memory data storage device (e.g., data key, USB flash drive, etc.) that can be used by field personnel for controller data transport and firmware updates.	x	x					
4.47	x			System shall provide the ability to copy controller timing data from one controller to another through user selection of one or multiple pages of a controller's database.	x						
4.48		x		System shall allow for automatic synchronization of timing data with field personnel							
4.48		x		Laptop	x						
4.49		x		Tablet computer	x						
4.50		x		Smartphone	x						
4.51	x			System shall provide a configurable start and end time of manual command.	x						
4.52	x			User shall be able to configure new templates for signal timing data.	x						
4.53	x			User shall be able to manually download server time to the controllers in the fiel	x						
4.54	x			System shall provide the capability to select for automatic implementation of special signal and/or timing plans to accommodate traffic flow patterns during special events.	x	x					
4.55	x			User shall be able to schedule any command for execution at any time. For example; patterns, pedestrian/vehicle calls.	x						
4.56	x			System shall be able to support the operation of a flashing yellow arrow (FYA) graphically and within the controller.	x						
Overlaps											
4.57	x			System shall provide a minimum of eight overlaps	x	x					
4.58	x			System shall support right-turn overlap phasing without additional programmin	x	x					

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	Required	Preferred	Considered		Central	Local	Compliant	Partially Compliant	Not Compliant	
4.59		x		System shall support a "Negative Pedestrian Overlap" (run a right-turn overlap green arrow with the adjacent through movement based on whether there is an active ped call).	x					
Preemption and Priority										
4.60	x			System shall support a minimum of 10 multiple class-based preemption routines.	x	x				
4.61	x			System shall support a minimum of 10 multiple class-based priority routines.	x	x				
4.62	x			System shall support priority service without skipping phases.	x	x				
4.63	x			System shall operate priority service in either free or coordinated modes.	x	x				
4.64	x			System shall support multiple simultaneous conflicting priority calls from different approaches. This will allow a second priority request to be stored and served following the active request.	x	x				
4.65	x			System shall provide early green/green extension for multiple priority routines.	x	x				
4.66	x			System shall support separate max and walk times for use during priority service	x	x				
4.67		x		System shall continue background cycle timer and have the option to exit preemption in sync or choose exit phases and not be in sync.	x	x				
4.68	x			After preempt, system shall allow capability to serve all other phases, that have a demand, before a second preempt.	x	x				
4.69			x	System shall be able to operate a transit queue jump signal that allows a parallel bus through movement to start a user programmed amount of time before the adjacent through traffic.	x	x				
4.70	x			System shall support green extension. Ability to extend the designated low priority phase green a pre-determined amount of time when a low priority call is received during the priority phase.	x	x				
4.71	x			System shall support early green. Ability to truncate selected non-priority phases to a pre-determined value when a low priority call is received while the intersection is in a phase other than the priority phase.	x	x				
4.72	x			System shall log all early green and green extension events.	x	x				
4.73	x			System shall stay in coordination while truncating or extending phases for a low priority call.	x	x				
4.74	x			System shall provide a frequency timer that controls the amount of time that must pass before the next low priority is served.	x	x				
4.75	x			System shall support ability for the user to select whether a low priority call is locked in when the signal is initially received or if it only stays active as long as the call is present.	x	x				
4.76	x			System shall support user selection of non-conflicting vehicle phases during a heavy rail preemption.	x	x				
4.77	x			System shall support pedestrian inhibit, restricting pedestrian movements upon receiving an advanced rail input separate from the preempt input.	x	x				
Detectors and Input										
4.78	x			System shall support a minimum of 44 addressable detector input:	x	x				
4.79	x			System shall support expansion of addressable detector inputs up to 6:	x	x				
4.80		x		User defined detector parameters (Volume, Occupancy, Speed, logging, display, and export):	x	x				
4.81		x		User defined secondary poll message and period parameters	x	x				
4.82		x		User defined collection time period and error threshold parameters	x	x				
4.83		x		Configurable Historical Volume, Speed & Occupancy Data Display (tabular or graphical format) through GUI	x	x				
4.84		x		Data exportable to comma delimited text files	x	x				
4.85		x		System detectors supply real time roadway data to update link displays	x	x				
4.86		x		User defined parameter(s) to update link display status (Volume, Occupancy, Speed, Weighted Volume-Occupancy) via GUI menu	x					
4.87	x			System shall provide vehicle and pedestrian detector diagnostics, stuck calls, no calls, based on user defined time fran	x	x				
4.87	x			System shall provide conflict monitor diagnostics	x	x				
4.88	x			System shall provide user-definable cabinet input function mappings. This will allow the user to map any detector input to one or more phases.		x				
4.89	x			System shall provide user-definable cabinet output function mappings. This will allow the user flexibility to drive signs, flashing beacons, etc.		x				
4.90	x			System shall provide logic editor to drive inputs/outputs based on test		x				
Coordination										
4.91	x			System shall support a minimum of 16 signal timing plans/patterns, which can call for coordinated, free, or programmed flash operation.	x					

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	Category				Requirement		Function Compliance			
	Required	Preferred	Considered		Central	Local	Compliant	Partially Compliant	Not Compliant	
Function				Comments						
4.92	x			System shall support plan (pattern) selection manually and local TOD scheduler at the local field control	x					
4.93	x			System shall support event-based pattern selection based on volume-occupancy and logic time	x					
4.94	x			System shall be able to coordinate with single and/or multiple band permissive	x					
4.95	x			System shall support maximum recall phases by plan	x	x				
4.96	x			System shall support minimum recall phases by plan	x	x				
4.97	x			System shall support pedestrian recall phases by plan	x	x				
4.98	x			System shall support reserve phases by plan (conditional service).	x	x				
4.99	x			System shall support pedestrian rest-in-walk.	x	x				
4.100	x			System shall allow the user to select phases not to shorten when using short way transition methc	x	x				
4.101	x			Controller shall support multiple offset recovery options (short way, long way, dwell, return to coordinatio	x	x				
5.0 Security/User Access										
5.1	x			System shall provide scheduled deletion of log and system detector data (user selectable time intervals).	x					
5.2	x			System shall log all users' (local or central) activities (upload/download, etc	x	x				
5.3	x			System shall provide the option to require comments when timing changes are made (system administrator can select as required or optional).	x					
5.4	x			System shall allow access for a minimum of 20 users	x					
5.5	x			System shall allow users to access the system simultaneousl	x					
5.6	x			System shall allow users to view the same intersection data simultaneousl	x					
5.7	x			System shall simultaneously support all workstations at any one time for both networked and remote use	x					
5.8	x			System shall provide a login screen with username and password protection, managed by the system administrator, with user selectable time inter for password expiration.	x					
				System Administrator shall be able to set system configuration access privileges, including:						
5.9	x			Ability to define new controllers, groups, users, alarms, masters, system detectors, et	x					
				System Administrator shall be able to configure access privileges by jurisdiction, includin						
5.10	x			Read/write privileges	x					
5.11	x			Upload/download privileges	x					
5.12		x		System Administrator shall be able to define users who can develop reports, includin						
				Ability to develop report queries	x					
5.13	x			Ability to set collection of reports	x					
5.14	x			System shall support configuration of individual user and group profile	x					
5.15	x			System shall allow the system Administrator to designate a user by jurisdictrc	x					
				System shall log user access						
5.16	x			System shall log user access date and time	x					
5.17	x			System shall log user ID	x					
5.18	x			System shall log amount of time user was logged into the system	x					
5.19	x			System shall display users currently logged in	x					
5.20	x			Edits to graphics and changes to system administration shall be refreshed after a save and all clients need to see made changes.	x					
6.0 Data Collection/Reports										
6.1	x			Event Log, Signal Phase Data and Event Log Monitor - allow denoting loggable events and formatting how data is recorded and archived.	x					
6.2	x			Status reports should allow user defined event log and signal phase data monitoring (configurable table sizes to desired record count, tables can be individually managed and archived) via GUI menus.	x					
6.3	x			System should allow user defined filters for status reports	x					
				System shall allow the user to configure system detector logs including:						
6.4	x			Volume - Every lane needs to be able to be counted and reported; reporting needs to be able to be stored in a user-defined format (TMC, 24 hour, etc.) without the software smoothing or rounding the numbers.	x	x				
6.5	x			Occupancy	x	x				
6.6	x			Speed	x	x				
6.7	x			Pedestrian calls (locked and non-locked)	x	x				

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	Category				Requirement		Function Compliance			
	Required	Preferred	Considered		Central	Local	Compliant	Partially Compliant	Not Compliant	
Function				Comments						
6.8	x			Pedestrian phased service (constant on	x	x				
6.9	x			System shall provide user-definable report query by intersection and/or by failure. Queries shall have an option to be saved for future use.	x					
6.10	x			System shall monitor and report the clock time error in real-time to verify the local offsets/clocks are accurate.	x					
6.11	x			System shall utilize a 3rd party software product (e.g., Crystal Reports, SSRS, etc.) to allow users to design and generate custom reports.	x					
6.12	x			System shall allow user to directly export custom and summary reports to a universal format (e.g., HTML, PDF) for viewing, saving or printing.	x					
6.13	x			User shall be able to select a print of all sheet	x					
6.14	x			User shall be able to select a print out with only sheets containing timing da	x					
6.15	x			User shall be able to select a print out with only user selected shee	x					
6.16	x			User shall be able to select a print out with only a user-configured set of shee	x					
6.17	x			System shall support predefined intersection diagrams (i.e., T-intersection, ramp interchange, one way, etc.) with vehicles, pedestrians, detectors coordination plans, etc.	x					
				System shall report logs from the following or provide through a hyperlin						
6.18	x			CMU/MMU	x					
6.19	x			UPS	x					
6.20	x			EVP phase selector cards	x					
6.21	x			Emergency Vehicle Pre-emptor	x					
6.22	x			System shall support HTML or XML data output for traffic flow map (real-time from system detectors	x					
				System shall log and provide a report of the following performance datz						
6.23	x			Real-time split usage	x					
6.24	x			Phase max reachec	x					
6.25	x			Phase gap out	x					
6.26	x			Phase force off	x					
6.27	x			Coordination events & cause:	x					
6.28	x			Transition events & cause:	x					
				User shall be able to generate a system status report. System status report could be generated b						
6.29		x		A group of intersections	x					
6.30	x			A group of intersections by even	x					
6.31	x			All intersections	x					
6.32	x			All intersections by even	x					
6.33	x			An individual intersector	x					
6.34		x		System should provide a report for system performance measures (average corridor travel times, stops, delay:	x					
7.0 Alarms										
7.1	x			User configurable alarm priority	x					
7.2	x			TOCR Administrator shall be able to configure how an alarm will be delivered by the type of event (flash, preempt, transition, cabinet door, etc.):	x					
7.3	x			User defined alarm hierarchy and corresponding on-call technician notification based on time of day, shift, day of week, etc.	x					
7.4		x		Alarm notification (includes alarm text description and location) via GUI menu	x					
7.5	x			Phone	x					
7.6	x			Pop-up window (GUI)	x					
7.7	x			Text message	x					
7.8	x			Email	x					
7.9	x			Report	x					
7.10	x			Instant messaging	x					
7.11	x			System shall provide a minimum of four user-defined redundant alarms. Alarms shall be configurable via controller log	x					
7.12	x			System shall provide a date and time stamp for each alarm	x					
7.13	x			System shall have the capability to filter alarm types and allow predetermined collection of alarm	x					
7.14	x			System should allow for a trigger function based on an alarm	x					

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	Category				Requirement		Function Compliance			
	Required	Preferred	Considered		Central	Local	Compliant	Partially Compliant	Not Compliant	
Function				Comments						
				System shall allow the following alarm collection function:						
7.15	x			Scheduled collection of alarms		x				
7.16	x			User-selected alarms to collec		x				
7.17	x			Automatically display selected alarm:		x				
				System shall display user defined system/corridor/intersection alarms including the followir						
7.18	x			Cabinet flash (e.g., malfunction		x	x			
7.19	x			Cabinet door open		x	x			
7.20	x			Off-line		x	x			
7.21	x			UPS activation		x	x			
7.22	x			UPS inactive		x	x			
7.23	x			Keyboard entry		x	x			
7.24	x			Loss of communication		x	x			
7.25	x			Bad communication		x	x			
7.26	x			Loss of coordination and cause		x	x			
7.27	x			Preemption timeout or exceeding a fixed time		x	x			
7.28		x		Cycle failure		x	x			
7.29	x			System and local clock drift/time error, based on user defined threshold		x	x			
7.30	x			Police Panel Door open		x	x			
7.31	x			Manual Operator		x	x			
8.0 System Configuration										
8.1	x			System is scalable, supporting up to 500 intersections. System shall be purchased with a 50 intersection site license for Superior/Louisville.		x				
8.2		x		System is scalable, supporting up to 5,000 system detector		x				
8.3	x			System Administrator shall be able to assign an intersection ID numbe		x				
8.4		x		ID numbers shall have a capability of seven digit		x				
8.5	x			System Administrator shall be able to assign an intersection to logical groups. Intersections must also be able to exist in multiple groups and temporary groups created on the fly. All groups should be able to be created through selection in a map tree.		x				
8.6	x			Intersection groups should be able to be assigned regardless of communication channels intersections are on.		x				
8.7	x			System Administrator shall be able to assign an intersection to a jurisdiction.		x				
8.8	x			System shall provide backup and storage capability for all data as frequently as possible without affecting overall system performance. This data shall be time stamped and archived for records for 5 years. The system shall also log and record all user activity tagged by date and time.		x				
8.9	x			System shall be designed for unattended operations 24 hours per day, 7 days a week, without requiring an operator to be logged into the system. The system shall provide system control by coordinating intersection operations on an individual, grouping, or system- wide basis.		x				
8.10	x			System shall be capable of dividing the traffic network into a minimum of 50 groupings of signals for items such as special events, pattern changes, traffic responsive, incident management, etc.		x				
8.11	x			System must provide an automatic routine to systematically test all combination of inputs and outputs of a controller cabinet in a bench or test environment.			x			
9.0 System Interface										
9.1		x		System should support upload/download of signal timing data to/from Synchro via UTDF forms		x				
9.2		x		User should be able to select the individual UTDF data elements to upload/downloa		x				
9.3	x			System shall have the capability to support deployed 170 and Econolite controllers and future selected Town ATC infrastructure to maximize future investments on new hardware.		x				
9.4	x			System shall support cross-platform hardware interchangeability to ensure no sole source controller is required.		x				
9.5	x			System shall provide the capability to select from a variety of traffic controller firmware as it relates to 9.3 and the functional requirements contained herein.		x	x			
10.0 Software Standards Compliance										

APPENDIX C

Traffic Signal System Functional Requirements

System Vendor:
Primary Contact:

For each Function noted, please identify if your proposed system is Compliant, Partially Compliant or Not Compliant. Please explain the reason for any Functions that are noted Partially Compliant.

A	D E F			G	H I		J K L			N
	Required	Preferred	Considered		Requirement	Function Compliance	Compliant	Partially Compliant	Not Compliant	
				Function	Central	Local				Comments
10.1	x			The system manufacturer shall utilize a methodology for software development, testing, configuration management and quality assurance processes using CMMI, IEEE, ISO or in-house developed procedures.	x					
10.2	x			Testing for NTCIP 1201 and 1202 conformance shall be performed either in-house by the manufacturer or through an Independent Verification and Validation (IVV) process to perform and certify the results.	x					
10.3	x			The system manufacturer must provide Town with a Statement of Compliance (SOC) or certification from the IVV to substantiate NTCIP-compliance for this procurement.	x					
11.0 System Software										
11.1	x			System documentation shall include a user guide	x					
11.2	x			System manufacturer shall be responsible for developing the test plan and procedures, however, it shall be submitted to Town for review, modifications and written approval prior to its use.	x					
11.3	x			The system manufacturer's test plan and procedures must include the functional requirements contained herein, as applicable.	x					
11.4		x		System software compatible with off-shelf PC software (GIS, CAD, Spreadsheet	x					
11.5		x		System software shall provide customizable tools to interface with other program	x					

**Appendix D
Superior ATMS Cost Schedule**

Note: Fill in gray shaded cells only.

Item	Quantity	Unit	Description	Bid Price (up to 50 Traffic Signal Controllers)	Vendor Comments
Base System					
1	1	LS	Project management.	\$	
2	1	LS	Existing communication system validation testing (optional by vendor).	\$	
3	1	LS	Furnish and install central system software and hardware, including database, middleware, and other 3rd party software. Include all costs for hardware required in the RFP.	\$	
3A	1	LS	As an alternative to 3, furnish and install central system software "in the cloud" including database, middleware, and other 3rd party software. Include all costs for hardware required in the RFP.	\$	
4	-	EA	Software licensing fee (50 intersections) for central system. License for combined system for Superior/Louisville.	\$	
5	-	EA	Software licensing fee for database, middleware, and other 3rd party software. License for combined system for Superior/Louisville.	\$	
6	1	LS	System configuration and integration for 11 Superior intersections and 20 Louisville intersections including generate databases, maps, intersection graphics, configuration files, and integration.	\$	
7	1	LS	System documentation.	\$	
8	1	YR	Central system software warranty (1st year)	\$	
9	1	LS	Traffic signal master system acceptance testing	\$	
Sub-Total				\$	

Optional Items					
10	1	\$/HR	Installation (for updates and upgrades)	\$	
11	1	\$/HR	Technical support	\$	
12	1	LS	Module for traffic responsive operation. Please describe in Vendor Comments section.	\$	
13	1	LS	Module for traffic adaptive operation. Please describe in Vendor Comments section.	\$	
14	1	LS	Data Collection and Management system module. Please describe in Vendor Comments section.	\$	
15	1	LS	Advanced CCTV module. Please describe in Vendor Comments section.	\$	
16	1	LS	Module for tablet PC and/or smartphone software (support upload/download to controllers in the field and synchronize database files with central system). Please describe in Vendor Comments section.	\$	
17	1	LS	Software customization for monitoring of school zone flashers (if unavailable as a module or not part of COTS central system software).	\$	
18	1	LS	Software customization for activation of special event signal timing plans (if unavailable as a module or not part of COTS central system software).	\$	
19	1	\$/YR	Central system software maintenance agreement (per additional year) Submit warranty details in Vendor comments	\$	
Sub-Total					

Total Cost

1 All operating system and 3rd party COTS software licenses for database, middleware, report customization, and other supporting applications shall be written in the name of the purchasing agency or transferred to the agency prior to completion of acceptance testing.

- Indicates association with Base System

- Indicates association with Additional Modules

Vendor Name

Date

Signature _____