

Posting Date: April 20th, 2016

Request for Qualifications Notification

Title: Traffic Signals Central Software for the WL ATMS

Response Due Date & Time: May 18th, 2016. 8:30 AM Local Time

This Request for Qualifications (RFQ) is official notification of needed services. This RFQ is being issued to solicit a Letter of Interest (LOI) and other documents from vendors qualified to provide equipment and services as described within this document. A submittal does not guarantee the vendor will be contracted to perform any services but only serves as notice the vendor desires to be considered.

Contact for Questions:

David Buck, P.E.
West Lafayette Public Works Director
Morton Community Center
222 N. Chauncey Ave., Rm 102
(765) 775-5130
dbuck@westlafayette.in.gov

cc: Tom Vandenberg, P.E., PTOE
Traffic Engineer
Butler, Fairman & Seufert, Inc.
10 N 3rd Street
(765) 423-5602
tvandenberg@bfsengr.com

Project Description:

The City of West Lafayette, Indiana is implementing a central traffic signal system in order to communicate with the City's in-field traffic signal controllers from a central office location. As such, the City is looking to select a single vendor that will supply and install the central software for the traffic signals system. The vendor should be expected to provide support services during the install process.

Submittal Requirements:

1. Letter of Interest (5 hard copies + 1 electronic .pdf copy of LOI information provided on a CD/DVD or flash drive)
2. Software Requirements Responses
3. Estimated costs of central software and estimated yearly operation/maintenance cost (include within a separate, sealed envelope labeled “Central Software Budget Estimate”)

Submit To:

David Buck, P.E.
Public Works Director
Morton Community Center
222 N. Chauncey Ave., Rm 102
(765) 775-5130
dbuck@westlafayette.in.gov

Selection Procedures:

Vendors will be selected for work further described herein, based on the evaluation of the Letter of Interest (LOI) and other required documents. The Vendor Selection Rating Form used to evaluate and score submittals is included for your reference. Final selection ranking will be determined by the weighted score totals with the highest score being the top ranked vendor.

Requirements for Letters of Interest (LOI):**A. General Instructions**

1. Provide the information, as stated in Item B below, in the same order listed and signed by an officer of the vendor. Signed and scanned documents, or electronically applied signatures are acceptable. Do not send additional forms, resumes, brochures, or other material unless otherwise noted in the item description.
2. LOI's shall be limited to seven (7) 8 ½" x 11" pages that include Identification, Qualifications, Key Staff, and Project Approach.

3. LOI's must be received no later than the "Response Due Date & Time" as shown in the RFQ header above. Responses received after this deadline will not be considered. Submittals must include all required attachments to be considered for selection.

B. Letter of Interest Content

1. Identification, Qualifications and Key Staff

- i. Provide the vendor name, address of the responsible office from which the work will be performed and the name and email address of the contact person that will be in charge of this work.
- ii. List the Project Manager and other key staff members. Address the experience of the key staff members on similar projects and the staff qualifications relative to the required item qualifications.
- iii. Describe the capacity of vendor staff and their ability to deliver products and services in a timely manner relative to present workload. It is intended for installation of the central software in August to October 2016.

2. Project Approach

- i. Provide a description of your project approach relative to the advertised services. For all items, address your company's technical understanding of the project or services, cost containment practices, innovative ideas and any other relevant information concerning your company's qualifications for the project. If future updates to the central software require corresponding updates to the signal controller firmware, please provide a description of the process used to update both the software and firmware.

3. Schedule

- i. Provide a schedule for completion of the project including all services to be provided.

- ii. Provide the typical time required to install any necessary equipment per individual intersection (if needed).

4. Similar Projects and References

- i. Provide a list of similar projects your company has completed within the past five (5) years. Include a summary of the scope of work and services provided and client reference information for the individual projects.

C. Software Requirements Responses

1. Each vendor MUST meet the Absolute Software Requirements A - GG on the attached requirements list. If any of these requirements cannot be met then the vendor will not be considered for this project. A written description of how each of these will be met must be included.
2. Each vendor will describe in detail how their product will satisfy Optional Software Requirements 1 - 4 on the attached requirements list. Vendors are not required to meet every one of these requirements. However, each one will be scored as shown on the attached Rating Sheet.
3. Software Requirements Responses shall be limited to fourteen (14) 8 ½" x 11" pages.

D. Estimated Costs

1. Each vendor shall provide an estimate of all software costs and any necessary signal, computer and communication equipment costs (if needed) to fully implement the central signal system. The costs to achieve the Absolute Software Requirements A - GG and any additional costs to achieve the Optional Software Requirements 1 - 4 shall be shown separately. This estimate should include references and costs of similar systems throughout the United States.

2. Each vendor will provide an estimate of yearly costs to operate and maintain the central software. This estimate should include references and costs of similar systems throughout the United States.
3. This shall be limited to ten (10) 8 ½” x 11” pages
4. **This section will not be scored and will be submitted in a sealed envelope separate from the other proposal items. Please label the sealed envelope as “Central Software Budget Estimate”.** The estimated costs will be examined after scoring takes place for the highest scored vendor. If the estimated values for the highest scored vendor are higher than the City of West Lafayette anticipated budgetary resources (to be defined) then the proposal will be disregarded and the process will be repeated for the second place proposal (assuming that the second place proposal adequately meets all other criteria).

Additional Information:

- A. Vendor must submit five (5) hard copies of the RFQ application as well as one (1) electronic .pdf copy to be provided on a CD/DVD or flash drive.
- B. The central software will be installed on the City of West Lafayette’s existing computer network server in a virtual environment consisting of the following:
 1. Windows Server 2012
 2. SQL Server
- C. Communication to each of the in-field traffic signal controllers will be provided by the City of West Lafayette’s communication system consisting of the following:
 1. Single-mode fiber optic cable.
 2. Fiber optic switch located in each of the in-field traffic signal controllers, interfaced with the City’s network.
- D. The in-field traffic signal controllers to be managed by the central software are shown in the table on page 7. See also the attached exhibit showing the traffic signal locations.

- E. Multiple traffic signals (intersections #14 through #36) will be modernized at later dates through two constructions projects (State St and CSO) as listed in the table on page 7.
- F. The traffic signals along Sagamore Parkway (intersections #37 through #39) are currently under INDOT jurisdiction (U.S. 52). Preliminary discussions were held between West Lafayette and INDOT for a potential inter-local agreement to allow West Lafayette to have read-only access to the Sagamore controllers via the City's central signal software.

In-Field Traffic Signal Controllers

(see also attached exhibit showing traffic signal locations)

#	Intersection	Existing Controller Type	Future Controller Type	Construction Project	Notes
1	Salisbury St & Kalberer Rd	Econolite ASC/3-1000	---	---	---
2	Salisbury St & Cumberland Ave	Econolite ASC/3-1000	---	---	---
3	Salisbury St & Navajo St	Econolite ASC/3-1000	---	---	---
4	Salisbury St & Lindberg Rd	Econolite ASC/3-2100	---	---	---
5	Salisbury St & Grant St	Econolite ASC/3-1000	---	---	---
6	Salisbury St & Fowler Ave	Econolite ASC/3-2100	---	---	---
7	Salisbury St & Wiggins St	Econolite ASC/3-2100	---	---	---
8	Northwestern Ave & Lindberg Rd	Econolite ASC/3-2100	---	---	---
9	Northwestern Ave & Cherry Ln	Econolite ASC/3-2100	---	---	---
10	Northwestern Ave & Dodge St	Econolite ASC/3-1000	---	---	---
11	Northwestern Ave & Stadium Ave	Econolite ASC/3-2100	---	---	---
12	Northwestern Ave & Midblock	Econolite ASC/3-1000	---	---	---
13	Northwestern Ave & Grant St	Econolite ASC/3-1000	---	---	---
14	State St & Airport Rd	Econolite ASC/2S-2100	To be determined	State St	Signal to be modernized
15	State St & Martin Jischke Dr	Econolite ASC/2S-2100	To be determined	State St	Signal to be modernized
16	State St & Russell St	Econolite ASC/2S-2100	To be determined	State St	Signal to be modernized
17	State St & North University St	Econolite ASC/2S-2100	To be determined	State St	Signal to be modernized
18	State St & Marsteller St	Econolite ASC/2S-2100	To be determined	State St	Signal to be modernized
19	State St & Sheetz St	---	To be determined	State St	Future traffic signal
20	State St & Grant St	Econolite ASC/2S-2100	To be determined	State St	Signal to be modernized
21	State St & Northwestern Ave	Econolite ASC/2S-2100	To be determined	State St	Signal to be modernized
22	State St & Chauncey Ave	---	To be determined	State St	Future traffic signal
23	State St & River Rd	Econolite ASC/3-2100	To be determined	State St	Signal to be modernized
24	State St & Roebuck Dr	---	To be determined	State St	Future traffic signal
---	State St & Tapawingo Dr	Econolite ASC/3-2100	---	State St	Future roundabout
25	Northwestern Ave & North St	---	To be determined	State St	Future traffic signal
26	Wood St & Grant St	Econolite ASC/3-1000	To be determined	State St	Signal to be modernized
27	Wood St & Chauncey Ave	Econolite ASC/2S-2100	To be determined	State St	Signal to be modernized
---	River Rd & Tapawingo Dr	Econolite ASC/3-2100	---	CSO	Future roundabout
28	River Rd & Howard Ave	Econolite ASC/3-2100	To be determined	CSO	Signal to be modernized
29	River Rd & Wiggins EB Off-Ramp	Econolite ASC/3-2100	To be determined	CSO	Signal to be modernized
30	River Rd & Fowler WB Off-Ramp	Econolite ASC/3-2100	To be determined	CSO	Signal to be modernized
31	River Rd & Robinson St	Peek 3000E	To be determined	CSO	Signal to be modernized
32	Stadium Ave & Martin Jische Dr	---	To be determined	State St	Future traffic signal
33	Stadium Ave & Russell St	Eagle EPAC 3000	To be determined	State St	Signal to be modernized
34	Stadium Ave & University St	TCT LMD 8000	To be determined	State St	Signal to be modernized
35	3 rd St & Russell St	---	To be determined	State St	Future traffic signal
36	3 rd St & University St	Peek 3000	To be determined	State St	Signal to be modernized
37	Sagamore Pkwy & Yeager Rd	Econolite ASC/2S-2100	---	---	Currently under INDOT jurisdiction
38	Sagamore Pkwy & Salisbury St	Econolite ASC/2S-2100	---	---	Currently under INDOT jurisdiction
39	Sagamore Pkwy & Nighthawk Dr	Econolite ASC/2S-2100	---	---	Currently under INDOT jurisdiction

Absolute Software Requirements (Mandatory for Consideration)	
A.	The software shall be a Commercially-available Off-the-Shelf (COTS), National Transportation Communication for ITS Protocol (NTCIP) compliant, Advanced Transportation Management System (ATMS) software application.
B.	The software shall have the ability to communicate with up to and including 50 in-field traffic signal controllers concurrently.
C.	The software shall provide the ability to manage all in-field traffic signal controller databases to monitor and control all in-field traffic signal controllers from one central location and optional remote facilities.
D.	The software shall allow for user and group privileges to be defined and assigned by an Administrator.
E.	The software shall be a graphical user interface using Geographic Information System (GIS) base maps.
F.	The software shall incorporate an agency-wide map as the major portion of the main graphics display.
G.	The software shall communicate to the in-field traffic signal controllers using Ethernet or serial communications, using the agency's local area network (LAN), licensed band or spread-spectrum radios, private twisted-wire-pair (TWP), or fiber-optic cabling.
H.	The software shall communicate with the in-field traffic signal controllers using NTCIP protocols, or established proprietary protocols.
I.	The software shall be capable of controlling, receiving status and data from, uploading and downloading data, and applicable control parameters to and from each in-field traffic signal controller.
J.	The software shall maintain a copy of each in-field traffic signal controller's database of applicable operational parameters.
K.	The software's controller database management shall provide an operator menu selection interface that is similar to the in-field traffic signal controller's menu selections.
L.	When the operator of the software selects either an upload or download of an in-field traffic signal controller database, it shall be possible for the operator to select only the segments of the database to upload or download provided the controller can accept the data transfer in this manner.
M.	The software shall be capable of automatically sending alphanumeric messages (short message service, SMS - text messaging) to cellular telephones and email addresses upon detecting problems with the system or from any device.
N.	The software shall provide database management with full upload, download and control to the City's in-field traffic signal controllers.

O.	The software shall provide the user the ability to schedule in-field traffic signal controller events and functions to be implemented or terminated by time-of-day (TOD) / day-of-week (DOW), and shall include means by which the events can be called with the following frequencies: <ul style="list-style-type: none"> • Daily • Weekly • Annually • Seasonally • Holidays • Special - an event for any situation not described above (IE. sporting events, concerts, etc.) • One-Time Event - provide the ability to run an event once and only once.
P.	The software shall have the ability to issue manual commands to the in-field traffic signal controllers which override the scheduled events and functions accordingly.
Q.	The software shall provide an alert indicator which lists real-time details on the number of open alerts and the criticality of each alert.
R.	The software shall provide a display where intersection timings, phase details, and ring information is presented in graphical form.
S.	The software shall allow the operator to display time-space diagrams.
T.	The software shall include a real-time split monitor.
U.	The software shall be fully operational within the following platform: <ul style="list-style-type: none"> • Windows-PC
V.	The software shall be capable of operating in conjunction with a hosted firewall.
W.	The vendor shall provide the following training: <ul style="list-style-type: none"> • The vendor shall provide training on the operations of the central software. • The vendor shall provide training on trouble-shooting the software. • If additional hardware is needed, the vendor shall provide training on trouble-shooting the additional hardware. • The vendor shall provide training on preventive maintenance. • The vendor shall provide training on software configuration. • The vendor shall provide training on administration of the software. • The vendor shall provide training on software calibration. • The vendor's training delivery shall include: printed course materials and references, electronic copies of presentations and references. • The vendor's training shall be delivered at the City of West Lafayette facilities. • The vendor shall provide a minimum of 10 hours training to a minimum of 2 staff. • The vendor shall provide a minimum of 2 training sessions.
X.	The vendor shall provide warranty covered maintenance of software for 4 years.
Y.	If additional hardware is needed, the vendor shall provide warranty covered maintenance of the additional hardware for 4 years.

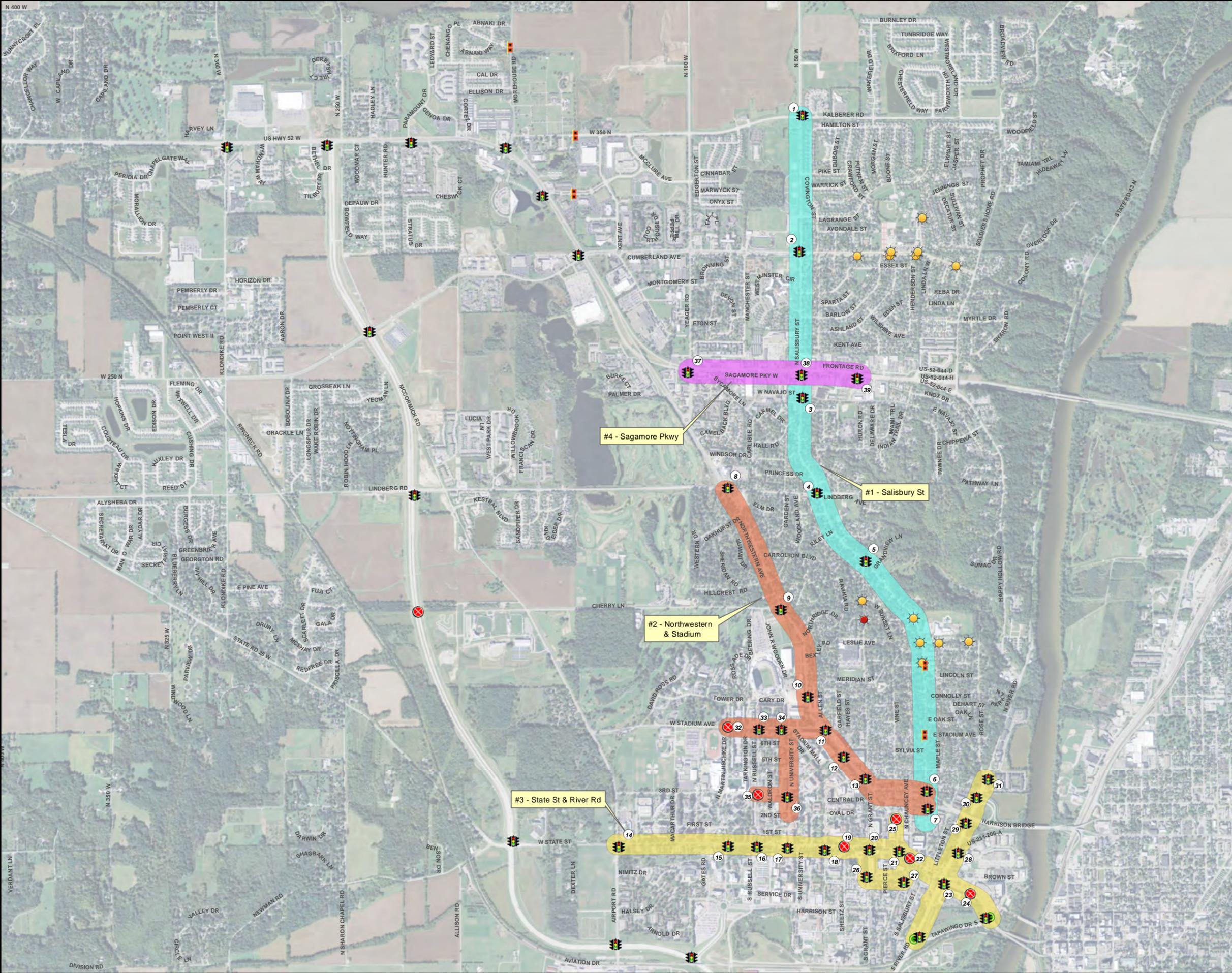
Z.	Vendor shall provide warranty for 4 years, covering parts and labor for all material supplied. Warranty is defined as correcting defects (either through repair or replacement) in materials and workmanship (subject to other language included in the purchase documents). Defect is defined as any circumstance in which the material does not perform according to its specification.
AA.	The vendor shall provide basic customer service phone support for all material supplied after the warranty period.
BB.	The vendor shall supply engineer and technical support for a period of 4 years.
CC.	The vendor shall respond to requests for hardware maintenance within 24 hours.
DD.	The vendor shall respond to requests for software maintenance within 24 hours.
EE.	Acquisition and installation of upgrades of all central software to the latest version for a period of 4 years shall be included in the purchase price.
FF.	The vendor shall set up and fine tune the operation of the central software prior to handover to the agency.
GG.	If requested, the vendor will provide refresher training after 12 months of system operation to a maximum of 3 individuals determined by the City of West Lafayette at no additional cost.

Optional Software Requirements (Scored)	
1.	The software shall be capable of expanding communication with 100 total in-field traffic signal controllers concurrently (either through initial licensing or through additional licensing).
2.	The software shall provide a list of reports (either through base software or through an add-on module), providing information compiled from data retrieved from the system and any field device capable of logging data. These reports shall include, but not be limited to the following: <ul style="list-style-type: none"> • Alerts Log Report • Raw Detector Reports • Device Communications Configuration Report • Scheduler Report • Signal Detector Events Report • Split Monitor Report • System Events Report • Upload and Compare Report • Detector VOS Reports <ul style="list-style-type: none"> ➤ Daily ➤ Hourly ➤ Multi-date / Hourly ➤ Multi-date / Daily

3. The software shall support (either through the base software or through an add-on module) the following graphical Measure of Effectiveness (MOE) monitors or displays. MOE displays or reports shall be based on high density data, collected by the in-field traffic signal controller at a frequency of 10 times per second.
 - Purdue Coordination Diagram (PCD) which visually plots vehicle arrivals against the Green Band, Yellow Band and Red Band portions of the Cycle.
 - Cycle Length Report which visually plots the cycle lengths for each cycle of a 24-hour period.
 - Flow Rate Report which visually plots vehicle volumes for each cycle over a 24-hour period.
 - Green Times Report which visually plots the green time for any phase of a cycle over a 24-hour period.
 - Percent Ped Calls Report which visually plots the percent of cycles affected by pedestrian calls for standard pedestrian phases of a cycle over a 24-hour period.
 - Volume-to-Capacity Report which visually plots the vehicle volume to capacity ratio for each cycle over a 24-hour period relative to the capacity of the intersection.
 - Split Failure Report which visually plots the number of split failures (volume exceeds capacity) for each phase of the intersection over a 24 period.
4. The software shall support (either through the base software or through an add-on module) the ability for the City of West Lafayette to, at a minimum, obtain read-only controller database information from the neighboring City of Lafayette's traffic signals, of which are connected to Lafayette's central signal system software (named the Lafayette ATMS).

ATTACHMENTS

1. Exhibit showing location of traffic signal intersections (1 page).
2. Example vendor selection rating sheet (1 page).



Legend

-  EXISTING TRAFFIC SIGNAL
-  FUTURE TRAFFIC SIGNAL
-  ALL-WAY STOP BEACON
-  SCHOOL BEACON
-  WARNING BEACON
-  FUTURE ROUNDABOUT

FUNCTIONAL SIGNAL CORRIDORS

-  #1 SALISBURY ST
-  #2 NORTHWESTERN & STADIUM
-  #3 STATE ST & RIVER RD
-  #4 SAGAMORE PKWY



**West Lafayette ATMS
Traffic Signal Locations**

April 5, 2016

Vendor Selection Rating Sheet

RFQ Selection Rating for City of West Lafayette Des. No. _____
(City, County, Town, etc.) - or - (Local Public Agency)

Vendor Name: _____ Services Description: _____

Evaluation Criteria to be Rated by Scorers					
Category	Scoring Criteria	Scale	Weight	Score	Weighted Score
Capacity	Evaluation of the team's personnel and equipment to perform the project on				
	Capacity to exceed schedule to result in added value	1	25		0
	Adequate capacity to meet schedule	0			
	Insufficient available capacity to meet the schedule	-1			
Qualification	Technical expertise: Unique resources that yield a relevant added value or efficiency to the deliverable.				
	High level of expertise and experience with similar projects	1	60		0
	Basic level of expertise and experience with similar projects	0			
	Little or no expertise or experience with similar projects	-2			
Approach	Project Understanding and Innovation that provides cost and/or time savings.				
	High level of project understanding	1	40		0
	Basic level of project understanding	0			
	Lack of project understanding	-2			
Requirements	Ability to meet project requirements.				
	Requirement met or exceeded with typical system install	1	1 Each		0
	Requirement can be met but needs specific add-on features	0			
	Requirement cannot be met	-2			
Weighted Sub-Total:					0

It is the responsibility of the scorers to make every effort to identify the vendor most capable of producing the highest quality deliverables in a timely and cost effective manner without regard to personal preference.

I certify that I do not have any conflicts of interest associated with this vendor as defined in 49CFR18.36.

I have thoroughly reviewed the Letter of Interest for this vendor and certify that the above scores represent my best judgement of the company's abilities.

Signature: _____

Print Name: _____

Title: _____

Date: _____