

**2018 QBS
REQUEST FOR STATEMENT OF INTEREST (SOI)
COUNTY WIDE
NETWORK OPERATIONS & MANAGEMENT (NOM)
SECTION NUMBER 18-00365-06-EG**

The Kane County Division of Transportation is in need of professional services from a qualified engineering firm to provide assistance in the area of communication network planning, design, maintenance, and operations primarily in the modes of fiber and Ethernet over copper routed through layer 2 and layer 3 network topologies and across firewalls and servers, although experience in wireless communication modes such as cellular and radio is also desirable. Good communication skills and coordination with County Information Technology staff will be required at times. These services are required to assist our Traffic Engineering staff in the management and operations of the County's Traffic Signal/ITS/Street Lighting Systems.

The attached Preliminary Scope of Services provides in detail anticipated items that are necessary as part of the services for Network Operations & Management.

At this time the County anticipates services available in December of 2018 with duration of approximately twenty-four (24) months with provisions for up to but not to exceed an additional twelve (12) months at the discretion of the Kane County Engineer.

The 2-Page Statement of Interest shall be submitted electronically via KDOT QBS no later than 4:00 pm on July 27, 2018

If you plan to enter into a joint venture with another firm for this project please note this on your Statement of Interest, including the name of the firm you are entering into a joint venture with for this project.

The Short-listed firms will be posted on our Consultant Selection Summary Table website at <http://www.co.kane.il.us/dot/SOISummary.aspx>.

Any new firm interested in doing work with the Kane County in regards to this or any other future professional service, must first submit their Prequalification Document to Kane County by following the instructions found at <http://kdot.countyofkane.org/Shared%20Documents/QBS.pdf>. The prequalification document will be reviewed and approved in a short period of time if the appropriate documentation was provided. Each firm must first be prequalified in order to electronically submit their Statement of Interest via KDOT QBS no later than the deadline described above.

More information regarding the Qualifications Based Selection process may be found at <http://www.co.kane.il.us/dot/consultant.aspx>.

Firms interested in providing services to Kane County are hereby notified of the Kane County's Ethics Ordinance No. 10-206, in particular, Section 10, page 15. Only the firm that is ultimately selected for these professional services will be required to provide the Ethic Ordinance information directly to the Kane County Division of Transportation as part of the consultant services agreement. The complete Ethics Ordinance No. 10-206 document is available online at the following link [Kane County Ethics Ordinance](#).

A Statement of Interest (SOI) received after the above noted deadline will not be used as part of our consultant selection process.

Please refer to the following Description of Project Scope for more information on this project.

I. PROJECT DESCRIPTION / PRELIMINARY SCOPE OF SERVICES

The consultant will provide administration assistance to County Traffic Engineering staff for the management and operational oversight of the County's traffic operations infrastructure, which includes approximately 140 traffic signal and flashing beacon locations, 1,100 street light locations as well as the County's growing centrally controlled ATMS (Advanced Traffic Management System) network. These services will include but are not limited to the following responsibilities and requirements:

1. System Monitoring and Reporting

- The remote monitoring of all Kane County maintained network connected devices and traffic signal (ITS) systems, which can be communicated via internet through VPN (Virtual Personal Network) access for the purpose of identifying specific operational issues/deficiencies.
- The remote monitoring of all Kane County maintained ATMS communications infrastructure. Generally ensuring all devices are online and provide capacity utilization reports if available in county monitoring software or switch interfaces.
- The Consultant shall investigate and develop an appropriate course of action to resolve any and all operational issues/deficiencies that are identified, which may include coordination with the Electrical Maintenance Contractor (EMC) or other contractors that might have temporary maintenance responsibilities of County facilities. The Consultant shall provide any guidance and oversight necessary to the EMC or other contractor in order to assure the issue has been resolved.
- Maintain and update as necessary a *GIS based fiber optic network and Splice/Termination* Inventory of the County's traffic signal communication network. This model may also incorporate infrequent updates to Kane County's Information Technology Department fiber network which is shared among many traffic signal network conduits.
- Generate, maintain, and update as needed an active directory of configuration files necessary to "re-image" any layer 2 or layer 3 switch on the network using a "factory default" version of the same switch to get the replacement working at the same configuration as the "original" switch.

2. Operational Trouble Shooting

- Assist KDOT Traffic staff in responding to network communication outages or network performance issues. This assistance includes remotely correcting issue when possible or providing a diagnostic review of the network to pin-point locations or areas to be further checked "in the field", typically by County Electrical Maintenance Contractor (EMC) or KDOT Traffic staff.
- Provide analysis and recommendations related to issues with network design or further expansion as requested by KDOT Traffic staff.
- Analyze and adjust existing switch, router, or device network configurations or other system programming as directed by the KDOT Traffic staff.
- Maintain "tracking" database of all known network issues or outages and their status. Provide weekly status reports to KDOT Traffic staff for all open issues or outages.
- The Consultant shall possess proficiency in programming the following network switches and routers in both telnet based interfaces and web browser based interfaces as applicable:
 - Cisco Layer 3 – Catalyst 3850 24 (WS-C3850-24T)
 - Cisco Layer 3 – IE-4000-8GT4G-E
 - Layer 2 - Belden GarrettCom 6KQ series, 6K25 series, and 6K32 series
 - Layer 2 – Comtrol RocketLinx 24+4G (ES9528)
 - Layer 2 – Comtrol RocketLinx ES8510
 - Layer 2 – Comtrol RocketLinx ES8520

3. Electrical Maintenance Contractor (EMC) Assistance

In concert with the KDOT Traffic staff, provide direct general contract assistance of the County's EMC as follows:

- Coordination with the EMC and any other designated maintenance agent on specific issues related to Fiber optics or Ethernet/ITS equipment maintenance, repair, modifications, scheduling and general trouble shooting.
- Field inspection of all Fiber or splicing work performed by the EMC.
- Occasionally provide remote assistance to EMC field personnel in helping to troubleshoot or proxy configure new switch hardware. Typically through use of Team Viewer or similar software, perform the necessary work through teamed cooperation with EMC field personnel adjusting requested connections to facilitate troubleshooting or programming

4. Field Inspections

- Coordinate and provide detailed (intermediate/final) inspection for new/modernized traffic signal/roadway lighting/ITS equipment at maintenance transfers and "turn-ons".
- Provide detailed inspection and analysis on existing fiber optic cable and terminations to provide KDOT traffic recommendations on alternate fiber pathways for new communication routes. Analysis may include requesting OTDR testing.

5. Engineering "Peer" Review

- Review prepared interconnect and fiber splicing plans submitted by others and provide written comments the KDOT Traffic staff.
- Review interconnect and fiber splicing plans and specifications prepared by others and provide written comments the KDOT Traffic staff.
- Review manufactures' material submittal ("catalog cuts") and provide written comments the KDOT Traffic staff.
- Periodic review and revisions of the County's Fiber optic, switch, or other ITS based Specifications and other traffic related standards and guidelines.

6. Special Projects

- Provide GIS mapping updates of COUNTY ATMS (fiber optic) network. This includes GPS locating sizing and surveying of Interconnect Handholes, conduit paths, fiber cable fiber counts, signal cabinet locations, photos of cabinets and handholes, and a detailed fiber termination and splicing diagram at every splice and termination point.
 - Kane County plans to utilize ArcGIS Online (AGOL) and would require the CONSULTANT to acquire at least 1 "Contributor" level license in order to perform edits and updates to this existing GIS database.
- Teaming with Transcore to provide Software updates to County's Existing TransSuite ATMS suite (once per year) and ongoing support
 - Transcore's Contact Information is 770-246-6202 or ITS@Transcore.com or Rick.zygowicz@transcore.com
- Teaming with County network monitoring software vendor to provide software updates (once per year) and ongoing support (if requested by KDOT traffic)
- Wireless/Broadband Radio interconnect surveys and analysis and integration needs to implement new wireless links to existing county network.
- Procure and configure new switch hardware at an existing or new network location
- Procure and configure alternate SFP modules and/or additional in cabinet splicing of unused fibers. OTDR testing may also be included.

II. QUALIFICATIONS

Interested consultants should possess competency in the following areas of expertise:

- Project staff working on the County network shall possess a Cisco Certified Network Professional, Routing and Switching (CCNP) or be overseen by a professional who is certified.
- Project staff working on the County network shall be experienced in the working knowledge of routed networks involving VLANs, gateways, virtual workstation servers, network port routing through firewalls, Network switch port assignments to specific VLANs, Rapid spanning tree protocol.
- Project staff shall possess knowledge of planning, design, construction, implementation, and maintenance of field networks in an industrially hardened environment of Traffic signals under NEMA standards.
- Project manager shall possess a working knowledge of multiple modes of network communication such as in the planning, design, construction, implementation, and maintenance of twisted copper, fiber optic(SM or MM), cellular, and radio communication. This working knowledge shall also include typically required conversion requirements when working or interfacing between differing modes or in communicating back to a central server.
- Project manager and or representatives that possess IMSA certification in
 - Traffic Signals (Level II as a min, Field, desirable)
 - Traffic Signal Inspection
 - Fiber Optics in ITS (Level I as a min. and Level II Field desirable)
- Oversight/project management of traffic signal/street lighting/ITS infrastructure maintenance

III. PROJECT DURATION

Contract duration shall begin upon the receipt of the notice to proceed from the COUNTY to the CONSULTANT, which is anticipated to be in early December 2018 and continue through December of 2020 for an approximate duration of 24 months with provisions for up to but not to exceed an additional twelve (12) months at the discretion of the Kane County Engineer. This provisional extension may extend the contract through December 2021.