



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
PROGRAM DEVELOPMENT & ADMINISTRATION DIVISION
SUITE 600, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TENNESSEE 37243-1402
(615) 741-3301

BUTCH ELEY
Deputy Governor & Commissioner of Transportation

BILL LEE
GOVERNOR

TO: Ben Price, Assistant Chief Engineer of Operations

FROM: *RP* Ronnie Porter, Director, Program Development and Administration Division

SUBJECT: **Proprietary Item Request and Justification for the City of Oak Ridge for McCain Advance Transportation Controllers, Transparity Central Software, Cisco and Meraki Network Devices, and Wavetronix vehicle detection**

I, Ronnie Porter, Director of the Program Development and Administration Division, request approval for the City of Oak Ridge to be certified to utilize the following proprietary item(s) over the next three years, where Federal funding is used:

McCain ATC eX controllers,
Transparity Traffic Management System (TMS) central signal software
Cisco and Meraki network devices
Wavetronix radar vehicle detection

Justification

The City of Oak Ridge requests the use of the McCain eX Controllers and McCain's Transparity central signal software to provide full synchronization among signal controllers and the traffic operations center and to optimize signal timing. Please see the attached letter from the City of Oak Ridge for more detailed justification.

If you have any questions or comments, please contact **Erin Rakus** at (615)532-1191 with the Local Programs Development Office or at Erin.Rakus@tn.gov.

I, Ronnie Porter, Program Development and Administration Division Director, of the Tennessee Department of Transportation, do hereby certify that in accordance with the requirements of 23 CFR 635.411(a) (2) that the patented or proprietary item(s) as listed above is essential for the synchronization with existing facilities or no equally suitable alternative exists for this patented or proprietary item as listed above.

Lee J. Smith
Lee Smith (Aug 30, 2022 10:12 CDT)

Recommendation for Approval

Benjamin Price

Assistant Chief Engineer of Operations

Aug 31, 2022

Date

CITY OF OAK RIDGE



POST OFFICE BOX 1 • OAK RIDGE, TENNESSEE 37831-0001

March 24, 2022

Mr. Steve Bryan, P.E.
TDOT Traffic Operations Division
James K. Polk Building, Suite 1800
505 Deaderick Street
Nashville, TN 37243

RE: TDOT Project Number: 01LPLM-F3-051, TDOT PINs: 127949.00

Dear Mr. Bryan,

The City of Oak Ridge would like to request the use of McCain ATC controllers and Transparity Traffic Management System (TMS) central signal software in conjunction with the above-referenced project (Oak Ridge Signal Timing Optimization Project – Phase II) and at all traffic signals that are maintained and operated by the City over the next three (3) years. This request encompasses all projects that will be completed using either federal or state funding.

Transparity TMS was the central signal software system selected by the City during a qualifications-based selection process. The City of Oak Ridge issued a request for proposals (RFP), on October 14, 2020, asking qualified vendors to submit proposals to provide services and equipment to operate as the City's signal software standard for the above-referenced project and future traffic signal installations and upgrades. The RFP contained several qualifications and system requirements that each vendor was required to explain in detail how they would meet those requirements in order to be considered. The qualifications and requirements included, but were not limited to, ATC controllers that are compatible with NEMA TS-1, TS-2, and ATC/ITS cabinet standards; the deployment of at least fifty (50) ATC controllers, a central system that supports multiple central operation facilities; and availability of staff for technical support. The deadline for proposals was November 25, 2020, and four (4) vendors submitted proposals to the City. Based on a thorough review of the four (4) proposals and scoring criteria, the City determined that McCain would best serve the City's need for an advanced traffic management system.

When procuring Intelligent Transportation System (ITS) services and components, a traditional low-bid process may not ensure that the signal system is sufficiently integrated or customized for an agency's needs or requirements. Therefore, a competitive RFP process, as outlined above, is recommended by the Federal Highway Administration (FHWA) for assessing and procuring complex ITS equipment and software.

Thanks for your consideration concerning this request as the City of Oak Ridge upgrades and enhances the operation of the City's traffic signal system. If you have any questions, please contact me by phone at (865) 425-1816 or email at rflynn@oakridgetn.gov.

CITY OF
OAK RIDGE



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Sincerely,

A handwritten signature in blue ink that reads "Roger Flynn".

Roger Flynn, P.E.
City Engineer
City of Oak Ridge

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TDOT Traffic Operations Division
James K. Polk Building, Suite 1800
505 Deaderick Street
Nashville, TN 37243

RE: TDOT Project Number: 01LPLM-F3-051, TDOT PINs: 127949.00

Dear Mr. Bryan,

The City of Oak Ridge would like to request the use of Cisco and Meraki Network Devices with the implementation of all traffic signal projects that are state or federally funded over the next three (3) years. The City currently employs the use of Cisco and Meraki Network Devices for the existing network that connects the majority of City owned buildings. The City would like to use Cisco and Meraki network devices to connect the proposed traffic operations center to fourteen (14) of the City's traffic signals as part of the Oak Ridge Signal Timing Optimization Project – Phase II. This connection will allow the City to monitor and operate the signals remotely and maintain communications compatibility and synchronization along the two corridors.

City staff has a wide range of experience in the use of Cisco and Meraki network devices and currently use the following equipment in their fiber and wireless network:

- Two (2) – CISCO Nexus1000v
- Eight (8) – CISCO Firewalls (mix of models)
- One (1) – CISCO WS-C4948-E
- Two (2) – CISCO WS-C4506-E (MPC8548)
- Two (2) – CISCO WS-C3750G-12S-S
- One (1) – CISCO WS-C3650-48PS
- Three (3) – CISCO WS-C3560G-48TS-E
- Six (6) – CISCO WS-C3560CX-12PC-S
- One (1) – CISCO WS-C2960XR-48FPD-I
- Four (4) – CISCO WS-C2960X-48FPS-L
- Nine (9) – CISCO WS-C2960X-48FPD-
- One (1) – CISCO WS-C2960S-48LPD-L
- One (1) – CISCO WS-C2960-48TC-L
- Two (2) – CISCO WS-C2960-48PST-L
- One (1) – CISCO WS-C2960-24TC
- One (1) – CISCO WS-3560-G
- Fifteen (15) – CISCO WS-C2960X-8PC-L
- Nine (9) – CISCO WS-C2960X-24PD-L
- Ten (10) – CISCO 1841 Routers

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Additionally, the City's IT department has completed training, have on-the-job experience, and are familiar with the operation of Cisco and Meraki network devices and their components as well as the Cisco switch management software. The IT staff performs routine maintenance and troubleshooting for the network.

Thank you for your consideration concerning this request as the City of Oak Ridge seeks to upgrade and enhance their existing advanced traffic control system. If you have any questions, please contact me by phone at (865) 425-1816 or email at rflynn@oakridgetn.gov, or Adam Fiscor, Information Systems Manager – City of Oak Ridge, at (865) 425-3598 or afiscor@oakridgetn.gov.

Sincerely,

A handwritten signature in blue ink that reads "Roger Flynn".

Roger Flynn, P.E.
City Engineer
City of Oak Ridge

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RE: TDOT Project Number: 01LPLM-F3-051, TDOT PINs: 127949.00

Dear Mr. Bryan,

The City of Oak Ridge respectfully requests the use of Wavetronix Radar Detection equipment on all projects within the City. The specific products are the Wavetronix SmartSensor Matrix for stop bar detection and the SmartSensor Advance for advanced intersection detection on high-speed approaches.

The City of Oak Ridge is responsible for the operation and maintenance of all signals within the City and has defined specifications for signal products including the Wavetronix detection equipment. The Wavetronix products currently provide the only true high-definition radar detection on the market and has been the specified detection equipment by the City for the past seven (7) years. There are currently nineteen (19) intersections with Wavetronix detection installed and another intersection in design with Wavetronix detection specified. Advantages of radar detection over in-pavement loops or video is the reliability and life-cycle cost savings because of broken loops, replacement of loops due to roadway maintenance and construction, and video interference due to rain, fog, winter weather, or changing lighting conditions. In addition to stop bar detection, the Wavetronix equipment will also provide intersection counts, which helps the City stay current with timing plans.

City signal maintenance staff is well-trained in the Wavetronix products and there is a local vendor who assists with the purchase and installation of the Wavetronix products. The City is currently replacing all detection equipment over the next few years through signal upgrades to Wavetronix equipment. Moving to one type of detection product will aid in the function and logistics for installation, operation, and inventory of the equipment.

Thanks for your consideration concerning this request as the City of Oak Ridge upgrades and enhances the operation of the City's traffic signal system. If you have any questions, please contact me by phone at (865) 425-1816 or email at rflynn@oakridgetn.gov.

Sincerely,

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Roger Flynn, P.E.
City Engineer
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