



I do hereby certify that in accordance with the requirements of 23 CFR 635.411(a)(2), this patented or proprietary item is essential for synchronization with existing highway facilities.

TO: Cynthia R. Simmons
District Design Liaison

CC: Brian Eads
Design Consultant, Crawford, Murphy, and Lilly

State Design Engineer

FROM: Robert Schaffer, PE
City of Sullivan, Local Public Agency

DATE: November 23, 2015

SUBJECT: STP-6006(602) Springfield & Elmont Signal
ITS Expansion
Proprietary Item (Cisco Systems)
Public Interest Finding Request

With respect to the above mentioned project, we request approval of a finding in the public interest to use the communications network equipment manufactured by Cisco Systems.

This project includes the deployment of new intelligent transportation system (ITS) equipment including CCTV cameras, detectors, and an extension of the fiber backbone from I-44 Exit 225 southwest along Springfield Road to the Elmont Overpass. This project includes the installment of new network equipment including network Layer 2 switches used to facilitate ITS device communications to the Gateway Guide system.

CISCO NETWORK EQUIPMENT

Based on the evaluation of the current system and Cisco network equipment in place within the MoDOT central office and St. Louis District, and a consideration of the integration risks associated with using other non-Cisco products, the St. Louis District of the MoDOT respectfully requests to use the following Cisco network equipment for this project:

Cisco IE 3000 Switch

Existing Cisco Deployment

Currently, the above referenced Cisco equipment is being utilized across the St. Louis District's ITS network to facilitate device and backhaul communications in to the Gateway Guide ITS system. On past projects, the MoDOT have provided the Cisco network equipment as part of the Commission furnished items on each contract. Throughout the system, Cisco Layer 2 switching equipment (Cisco IE 3000) is used to transport device communications to Node locations strategically located throughout the region. These Node locations use Cisco Layer 3 switch equipment (Cisco 3750), as well as SONET multiplexing equipment (Cisco ONS-15454) to backhaul device communications to the Transportation management Center (TMC) located in

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Chesterfield, MO. This project will have the Contractor

Integration with Current System

To ensure continuity of the MoDOT's communication network, the following equipment be used to extend the network along Springfield Road. This project will include integration of the new equipment at proposed locations shown on the plans. In addition, integration with existing backhaul equipment at adjacent Node locations may be required to enable redundant communications per the MoDOT's network policy. The work for this project includes the following tasks:

- Configuring Layer 2 device at new signal controller at Springfield and Elmont.
- Field testing equipment post installation.

Discussion of Alternatives

Research of potential alternatives indicates that other than Cisco equipment, there is not a singular system that reasonably meets the current needs and requirements of the MoDOT's backhaul communications network. There is industry standard switching equipment that would meet specifications, but would require substantial integration with existing Cisco equipment found elsewhere in the network. This would require additional resources of staff and budget to complete this deployment and integration within a reasonable amount of time. It would also require an increase in staff training for deployment of a new vendor's product and on-going maintenance. Other vendor's products may have interoperability issues when administering protocol that may be proprietary to Cisco found elsewhere on the MoDOT's ITS network. Reconfiguring the current system to allow for a 3rd party vendor protocol to be interoperable would require a significant undertaking and is not recommended.

In conclusion, if another vendor's product is deployed on this corridor, the cost to procure, integrate, and maintain the communication equipment is expected to be significantly more than the Cisco products proposed above. Additionally, the system deployment for this project represents a small system expansion in comparison to the overall St. Louis metro area deployment.

Therefore, it is recommended that Cisco equipment be used for the expansion of the ITS system. Approval of this request at your earliest convenience would be appreciated.