



**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION**

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JOHN C. SCHROER
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TO: Chuck Rychen
Assistant Chief Engineer of Operations

FROM: ²⁹Brad Freeze, Director of Traffic Operations

SUBJECT: **Proprietary Item Request and Justification**
City of Mt. Juliet

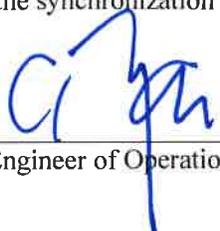
1) Traffic Signal Detection Equipment

- 1) **Traffic Signal Detection Equipment:** The City of Mt. Juliet is requesting that the Wavetronix (radar) traffic signal detection equipment be used in all signalization projects within the City over the next three years where Federal and/or State funding is used. The radar detection equipment includes both SmartSensor Matrix for stop bar detection and the SmartSensor Advance for advanced approach detection. This request is based on the necessity to provide highly reliable detection for the synchronization with the existing traffic signal systems operated and maintained by the City. The following are justification items for this request:

The City of Mt. Juliet currently has one intersection with Wavetronix radar detection. Because of the re-occurring maintenance costs of replacing loops and experiences with periodic failures from video detection, the City developed standards and specifications that require all traffic signal detection equipment installed in the City be Wavetronix radar detection. The City's traffic signal standards and specifications can be found on their website: <http://www.cityofmtjuliet.org/>. This standardization of Wavetronix traffic signal detection ensures that design plans install this detection system on all new projects plus converting the detection system at existing signalized intersection as existing detection systems fail. In addition, the City is currently preparing a five year plan to replace all traffic signal detection equipment with Wavetronix traffic signal detection equipment. The City has seen excellent performance with this system for a number of years with little or no maintenance required. In addition, a cost savings over time is expected because this system will not have to be replaced when milling/resurfacing is done as compared to loop installations.

The City of Mt. Juliet staff has been extensively trained to install, operate, maintain, and troubleshoot the Wavetronix detection system. By utilizing this detection system as the standard for the City, there will be a cost savings in stocking replacement equipment and will result in faster and less costly repair.

I, Brad Freeze, Director of the Traffic Operations Division 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 items listed above are essential for the synchronization of existing facilities.


Assistant Chief Engineer of Operations


Date



City of Mt. Juliet

Public Works Department

January 15, 2016

Steve Bryan, PE, PTOE
Traffic Operations Division
James K. Polk Bldg., 12th Floor
505 Deaderick St.
Nashville, TN 37243

**Subject: Proprietary Request Letter
City of Mt. Juliet
Wavetronix Radar Detection Equipment**

Steve,

The City of Mt. Juliet respectfully request 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 Mt. Juliet 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 two years. 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 in staying current with timing plans.

City signal maintenance staff is well-trained in the Wavetronix products and has a locally-available vendor who assists with the purchase and installation of the Wavetronix products. Most importantly, the Wavetronix vendor provides free technical support to the City on a regular basis for additional maintenance protection. The City is currently putting in a plan to replace all detection equipment over the next 5 years through signal upgrades to move exclusively to the Wavetronix equipment. Moving to one type of detection product will aid in the function and logistics for installation, operation, and inventory of the equipment.

Attached to this letter you will find the data sheets for both the SmartSensor Matrix and the SmartSensor Advance products. If you have any questions or comments, feel free to contact me by email at abarlow@cityofmtjuliet.org or by phone at 615.773.7957.

Thanks,

Andy Barlow, P.E.
Mt. Juliet Deputy Public Works Director