



**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
TRAFFIC DESIGN DIVISION**

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WILL REID
COMMISSIONER

BILL LEE
GOVERNOR

TO: Shane Hester, Chief of Engineering

FROM: Andy Barlow, Director of Traffic Design Division

SUBJECT: **Proprietary Item Request and Justification**
Metropolitan Government of Nashville and Davidson County

The Metropolitan Government of Nashville and Davidson County is requesting the following items be used in all signalization projects within their jurisdiction over the next three years where Federal and/or State funding are used.

- 1) **Traffic Signal Detection:** Smartmicro Radar Detection.
- 2) **LiDAR Detection:** Ouster Detection.
- 3) **Pedestrian Pushbuttons:** Polara Bulldog III.
- 4) **Traffic Signal Communications:** Cisco Equipment.
- 5) **Cameras:** Axis Devices.
- 6) **Roadside Units (RSU):** Commsignia RSU.
- 7) **Battery Backup System:** Clary Battery Backup System.
- 8) **Solar Equipment:** Carmanah Solar Equipment.
- 9) **Cabinet Electronic Locks:** Assa Abloy Electronic Locks.
- 10) **ATMS System Software:** Q-Free Software.
- 11) **Lighting:** American Electric Lighting (AEL) and Holophane Lighting Fixtures.

The above items are essential for synchronization with existing facilities. The Metropolitan Government of Nashville and Davidson County staff has been extensively trained to install, operate, maintain, program, troubleshoot, and repair these items. This allows technicians to quickly diagnose issues which reduces the time required to maintain the system overall and helps keep the system operational during heavy traffic times to ensure maximum capacity of the synchronized system. By utilizing these items as the standard for the Metropolitan Government of Nashville and Davidson County, there will be a cost savings in stocking replacement equipment and will result in faster and less costly repair. See attached letter for additional justification details of this request.

Approval of items for proprietary use does not guarantee state or federal reimbursement on the project. The local government agrees to comply with all current, applicable provisions of the Build America Buy America (BABA) requirements established under 23 USC 313 and 23 CFR 635.410.

I, Andy Barlow, Director of Traffic Design Division of the Tennessee Department of Transportation, do hereby certify that in accordance with the requirements of Procedures for Using Patented or Proprietary Products (SOP 1-5) that the patented or proprietary items listed above are essential for the synchronization of existing facilities.



Andrew Barlow (Jun 24, 2026 16:08:03 CDT)

Director of Traffic Design Division



Chief of Engineering

06/25/2026

Date

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

FREDDIE O'CONNELL
MAYOR



NASHVILLE DEPARTMENT OF
TRANSPORTATION AND MULTIMODAL
INFRASTRUCTURE

June 23, 2026

Stephen K. Bryan, P.E., PTOE
Tennessee Department of Transportation
Traffic Design Division
Tennessee Tower, 20th Floor
312 Rosa L Parks Ave., Nashville, TN. 37243

Request for Proprietary Traffic Signal Products Certification: Traffic Signal Equipment

Mr. Bryan,

Nashville Department of Transportation (NDOT) of the Metropolitan Government of Nashville and Davidson County would like to request a proprietary product certification for the following equipment:

1. Polara Bulldog III pushbutton
2. Smartmicro Radar detection
3. Ouster LiDAR detection
4. Q-Free ATMS Software
5. Cisco Communication Equipment.
6. Axis Cameras
7. Clary Battery Backup System
8. Carmanah Solar Equipment
9. American Electric Lighting (AEL) and Holophane Lighting Fixtures
10. Commsignia RSUs
11. Assa Abloy electronic locks

The above Items shall be used in all signalization projects within the City over the next three years. This request stems from the requirement to supply our Q-Free Traffic Management system with extremely reliable pedestrian and vehicle detection as well as standardized controller and communications equipment. Additionally, since many of Nashville's traffic signals are situated along state routes, using the proprietary equipment would enable the city to operate and maintain the coordinated traffic signal systems more effectively and proficiently.

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Currently, Nashville has over 1,200 Polara pushbuttons, 86 Cisco IE 2000 Network switches, 210 Wavetronix units, 76 Smartmicro units, 115 Commsignia RSUs, 115 Ouster units, 3,100 Axis cameras, 15 Clary battery back systems, over 900 Assa Abloy electronic signal cabinet locks and 200 Carmanah solar units in operation throughout the city. Axis cameras are used for traffic observation and monitoring to ensure traffic safety, while Wavetronix, Ouster, Commsignia and Smartmicoro support data sensor technologies. The Assa Abloy electronic signal cabinet locks enhance the security of Nashville's signal network by enabling signal staff to monitor all cabinet access and prevent unauthorized entry.

Due to recent advancements in vehicle and pedestrian detection technologies, NDOT plans to specify Smartmicro radar detection and Ouster LiDAR systems on upcoming projects that require stop bar and advance detection. The Rosa Parks CHYM project has deployed 76 Smartmicro Radar Detection sensors and Smartmicro sensors have also been deployed at two other pilot locations in Nashville. NDOT is now requiring Smartmicro sensors at locations that require advance detection capabilities. Additional advance radar units purchased in the future will need to be manufactured by Smartmicro to be compatible with the 80+ Smartmicro units NDOT has already purchased and deployed. As a result, NDOT intends to add this technology to its proprietary equipment list.

Ouster Lidar detection is currently installed as a pilot project at multiple intersections on Broadway in downtown Nashville. The Ouster Lidar detection has proven to be very effective at detecting pedestrians which allows NDOT TMC staff to monitor when crowds exceed sidewalk capacity and spill into the streets during special events. When this occurs, NDOT TMC staff are able to coordinate with Metro Police to shut down vehicular traffic to protect the pedestrians walking in the street. Ouster Lidar detection is also installed at eight intersections on Clarksville Pike as a part of another pilot project designed to detect pedestrians when they are crossing the road. NDOT has already procured an additional 100 Ouster Lidar units and has plans to install them at all intersections within the downtown CBD. Additional Lidar units purchased in the future will need to be manufactured by Ouster to be compatible with the 115+ Ouster units NDOT has already purchased. As a result, NDOT intends to add this technology to its proprietary equipment list.

Carmanah solar units directly support Metro Nashville's Vision Zero efforts by enabling warning beacons to be placed at any location throughout the 550 square mile county regardless of the availability of wired electrical connections.

To prepare the City of Nashville for future connected vehicle applications, NDOT wishes to add Commsignia RSUs to their proprietary equipment list for TDOT, ensuring compatibility and standardization across upcoming intelligent transportation system projects. NDOT has already procured 115 Commsignia RSUs to be deployed as a part of the CHYM signal upgrade project that will be starting within the next year. NDOT went through an extensive review process to select Commsignia after evaluating several other RSU manufacturers. Additional RSUs purchased in the future will need to be manufactured by Commsignia to be compatible with the 115+ Commsignia

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units NDOT has already purchased and deployed. As a result, NDOT intends to add this technology to its proprietary equipment list.

The Metropolitan Government of Nashville & Davidson County has also established the use of American Electric Lighting (AEL) and Holophane lighting fixtures as the street lighting standard for use in citywide projects. The lighting fixtures that are being used currently within the city and Nashville Electric Service (NES) lighting system. With these lighting fixtures as our standards, NES will continue to provide street lighting system to maintain synchronization with existing facilities.

The City of Nashville currently maintains a network of over 900 traffic signals throughout the municipality. NDOT recently conducted a comprehensive public procurement process to evaluate available signal controller vendors and Advanced Traffic Management System (ATMS) software solutions. Following a thorough assessment, Q-Free was selected as the preferred vendor for ATMS software, based on the superior network security and advanced functionality their products offer. Consequently, NDOT intends to add Q-Free's ATMS software to its proprietary equipment list. NDOT has not yet selected a preferred signal controller vendor. Once a vendor is chosen, NDOT will submit an updated proprietary letter to TDOT specifying the selected controller manufacturer.

The use of these proprietary items will facilitate efficient integration and synchronization with existing infrastructure, enabling seamless coordination of functions such as traffic detection, monitoring, street lighting, and comprehensive control of the city's extensive network of over 900 signalized intersections. By designating these products as proprietary, NDOT will ensure seamless integration, consistent performance, and reliable maintenance across Nashville's growing, interconnected traffic management system. This approach supports our commitment to safety, operational efficiency, sustainability, and readiness for future mobility technologies.

Thank you for consideration of this request.

Respectfully,
Walter Knauf, P.E.

A handwritten signature in blue ink, appearing to read "W. Knauf", is positioned above the typed name and title.

Nashville Department of Transportation & Multimodal Infrastructure (NDOT)
Metropolitan Government of Nashville & Davidson County
700 President Ronald Reagan Way
Nashville, TN 37210

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Lighting Fixtures

Type	Light Fixture	Manufacturer	Catalog Part Number	NES Stock Number
High Mast	1000W HPS High Mast	Holophane	HMST C10HP MT S 1 PS	303 370 000
	65,000 Lumen LED High Mast	Holophane	HMLED3 PK3 30K MVOLT GAW P7	303 441 650
Offset	400W HPS Offset	Holophane	G 400HP MA H DR V G C P R 6	303 355 000
	400W HPS Offset	Holophane	G 400HP MC H DR V G C P R 6	303 355 000
	250W HPS Offset	Holophane	G 250HP MA H DR V G C P R 6	303 346 000
	250W HPS Offset	Holophane	G 250HP MC H DR V G C P R 6	303 346 000
	30,000 Lumen LED Offset	Holophane	MGLEDM P6 30K MVOLT WG VH GRSD NL PR7	303 445 300
Cobrahead	5,500 Lumen LED Cobrahead	American Electric Lighting	ATB0 20BLEDE70 MVOLT R2 3K P7	303 446 050
	10,000 Lumen LED Cobrahead	American Electric Lighting	ATB0 30BLEDE85 MVOLT R3 3K P7	303 446 100
	20,000 Lumen LED Cobrahead	American Electric Lighting	ATB2 60BLEDE85 MVOLT R3 3K P7	303 446 200
	35,000 Lumen LED Cobrahead	American Electric Lighting	ATB2 80BLEDE12 MVOLT R3 3K P7	303 446 350
NOTE: No proprietary required for HPS Cobrahead Light Fixtures				
Wallpack	150W HPS Wall Pack	Holophane	W4 15AHP MC S Z P	303 304 000
	7,000 Lumen LED Wallpack	Holophane	W4GLEDD 20C 1000 30K T3M MVOLT SPD P7 GYSDP	303 449 070

NOTE: No proprietary required for flood, open bottom, and shoebox light fixtures.