# MNPASS TOLLING SYSTEM DATA INTEGRATION

The U.S. Department of Transportation's Urban Partnership Agreement awarded Minnesota DOT the funds needed in order to improve traffic flow on I-35W to and from downtown Minneapolis. The project consisted of retrofitting existing high-occupancy vehicle (HOV) lanes with technology that would enable single occupant vehicles to use the HOV lanes for a toll.

Upon completion, the toll lane needed to be dynamically priced, meaning the toll rate would increase as traffic on the main lanes increased. This would allow vehicles traveling in the high-occupancy toll (HOT) lane to maintain a speed of 55 MPH at all times no matter how congested the main lanes were. In order to become a HOT lane user, a driver must open a MNPass account. Upon registering the driver receives an RFID toll tag that is to be placed in the vehicle. This is how the driver is charged for the use of the HOT lane.

A piece of this project required MN DOT to Ethernet connect all of the toll tag readers along the I-35W corridor, while the actual readers communicated using serial technology, creating the need for a serial-to-Ethernet converter that could convert the serial output of the reader to Ethernet. Along with this connection requirement, the port server chosen needed to withstand the freezing winter temperatures and the hot and humid summer temperatures. With these two requirements in mind, MN DOT searched and tested port servers from many different companies.
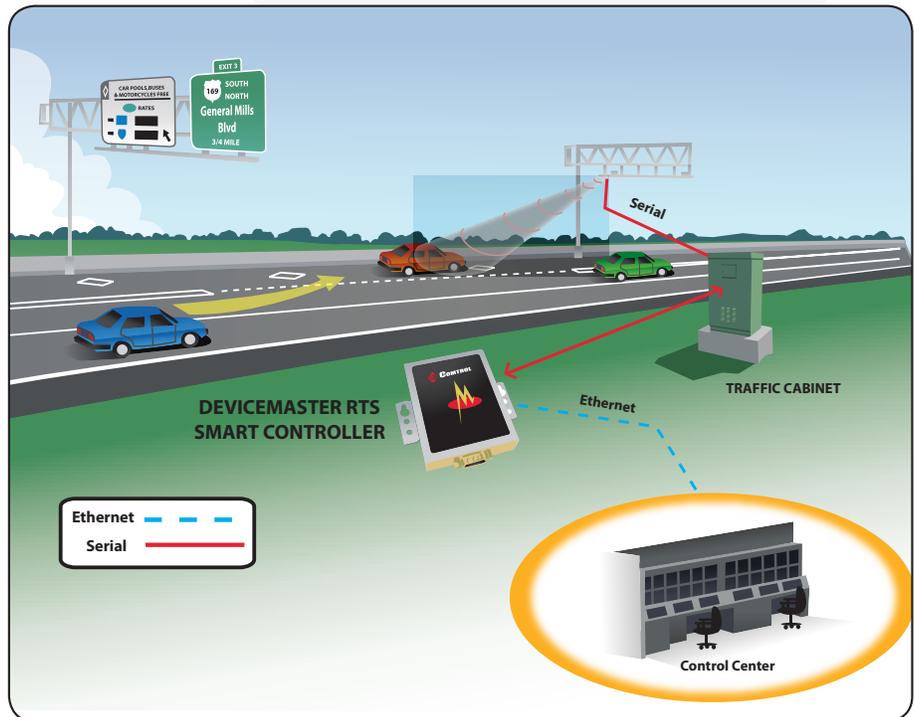
Comtrol's DeviceMaster RTS 1-port was chosen to be implemented into this project, reliably providing an Ethernet connection between all the toll tag readers along the I-35W corridor. The DeviceMaster is able to gather the serial information from each toll tag reader and send it out via Ethernet to the main control center where the information is managed. The DeviceMaster is also able to withstand a wide -37° to 74°C operating temperature, all at a cost-effective price, making it the perfect fit for this project.

connect. communicate. control.

DeviceMaster® RTS 1-Port

Part Number: 99435-0

KEY FEATURES AND BENEFITS

- RoHS 2 compliant under CE
- No serial cable distance limitations enables communication between a host PC and serial devices located anywhere across an Ethernet network
- RS-232/422/485 software selectable
- Supports native COM, TTY, or TCP/IP Socket communication modes
- Web-based configuration makes setup and management changes quick and easy
- Rugged stainless steel housing enables DIN rail or panel mounting
- Temperature rated for extreme conditions (-37° to 74°C)
- PortVision® Plus remote monitoring and management software
- Software Developer Kit available for users interested in writing custom applications to run on the DeviceMaster platform
- NEMA TS2 Certified
- IPV6 support

PRODUCT DESCRIPTION

The Comtrol DeviceMaster RTS 1-Port DB9 is a single-port device server designed for network-enabling serial communications devices. When used with the included NS-Link™ driver software and a host PC, the DeviceMaster RTS enables placement of COM or TTY ports anywhere on an Ethernet network or across the internet.

In applications where connecting legacy serial devices to a PC without software changes is a requirement, a pair of DeviceMaster RTS units can be used to create a point-to-point serial tunnel across the network that seamlessly transfers serial data via TCP or UDP socket connections. The product complies with the European RoHS 2 compliant under CE.

COMTROL®