



NoTraffic Quick Start Guide

Version 2.2

July 2024

NoTraffic System Overview

Sensor Units use video/radar for object-based detection and classification of all modes. 1 Sensor has a V2X RSU.

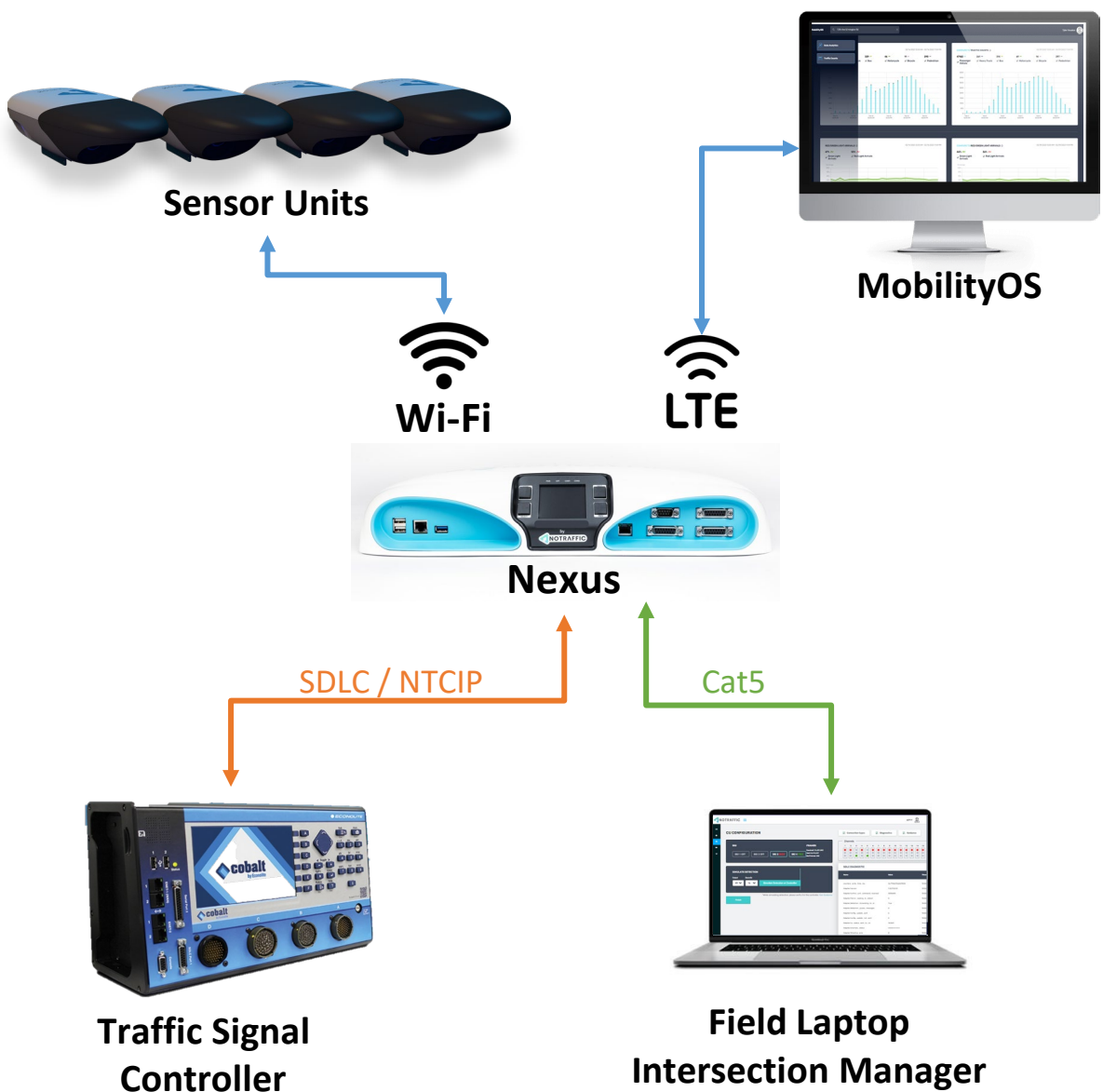
Processed data is sent to the **Nexus** over Wi-Fi (270' range).

Nexus places detector calls via SDLC and reads traffic light status via SDLC or NTCIP.

Real-time and historical data is sent to MobilityOS over LTE.

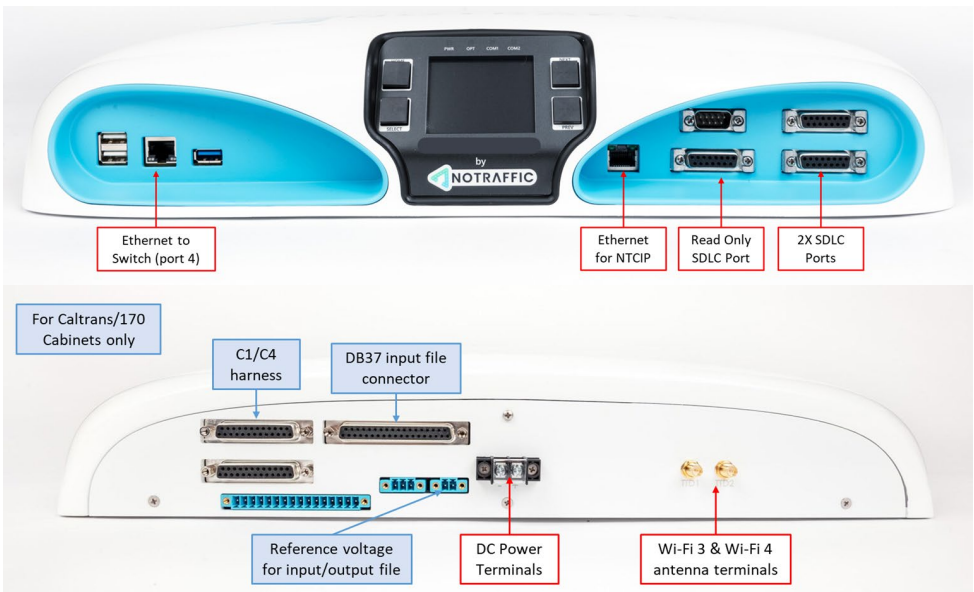
MobilityOS (MoS) provides remote access to video streams, detection zones, performance measures, and alerts.

Intersection Manager provides local access at the cabinet for configuration.

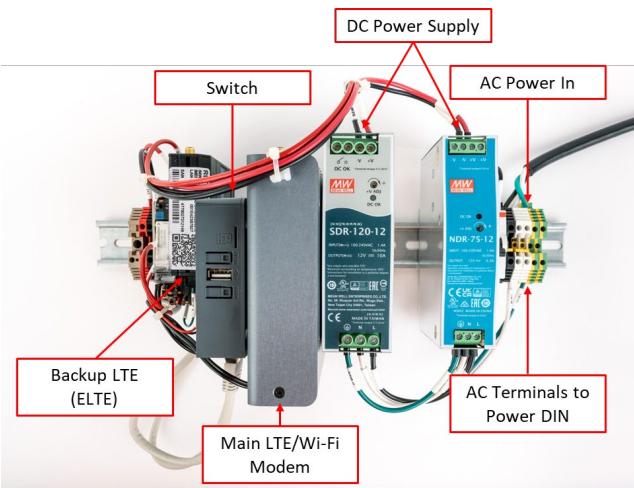


NoTraffic Standard Hardware Overview

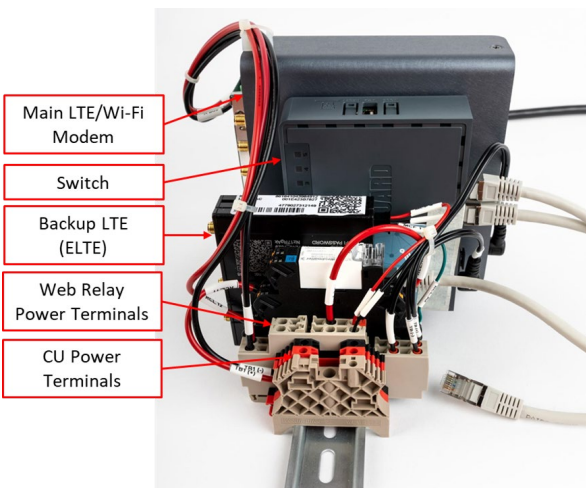
Nexus



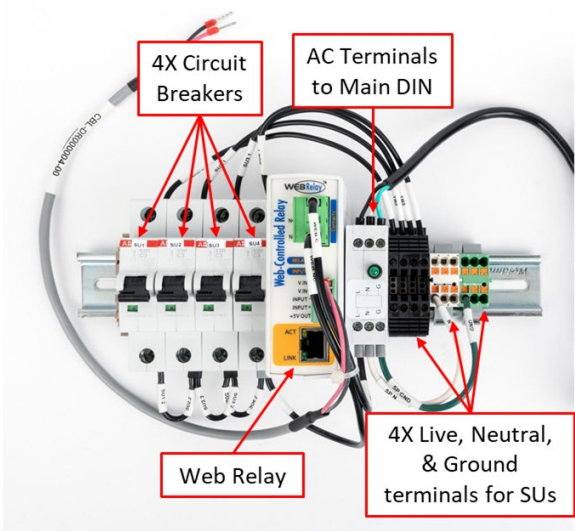
Main DIN Rail (top view)



Main DIN Rail (side view)



Power DIN Rail



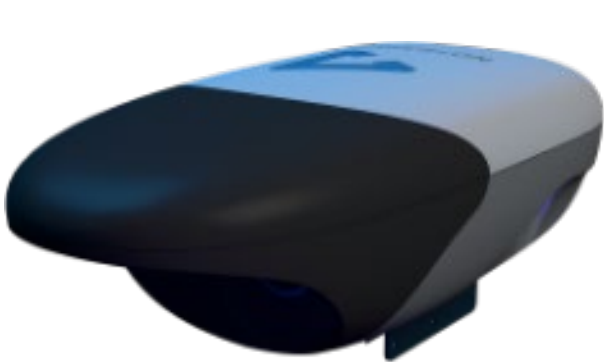
Antenna



Sensor Unit V2X



Sensor Unit



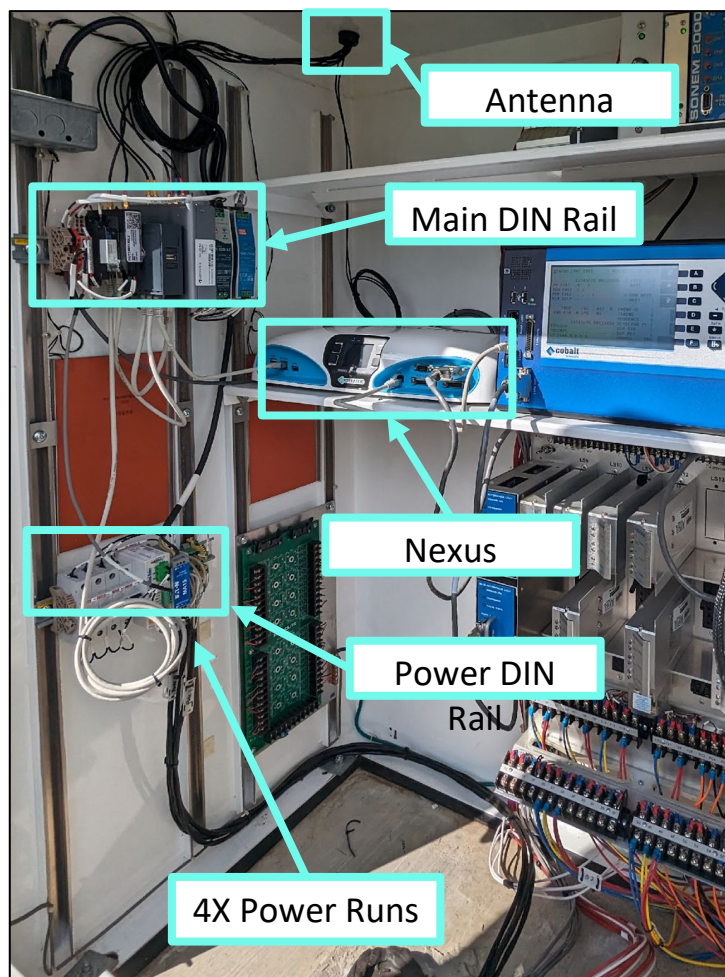
Recommended Preparation

Power Cable & Mounts for Sensors:

1. Pull cable (14-18 AWG, 3-conductor stranded copper) from cabinet to mounting locations.
2. Install mounts and Sensors.

Cabinet Review, Configuration & Install

1. Provide phasing diagram or timing sheet.
2. Confirm Detection I/O. Note if SDLC is 25-Pin only.
3. Confirm NTCIP or SDLC can provide Traffic Light Status.
4. Install Antenna, Main DIN, Power DIN & Nexus. See Cabinet Installation Page for guidance.



Assign IP for City Network (optional)

1. If the City will add NoTraffic to their network, provide the assigned IP & Subnet.

Mobility OS Accounts & Alerting:

1. Provide email addresses for user accounts.
2. Provide any specific alerting procedures.

Update Nexus & Sensor Units Prior to Install

1. See Nexus & Sensor Updates page.

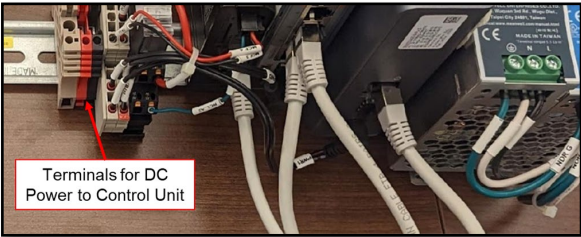
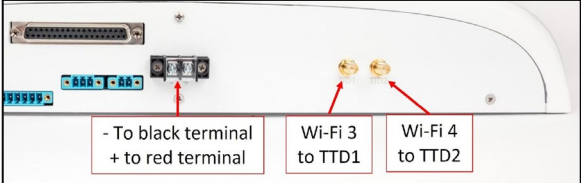
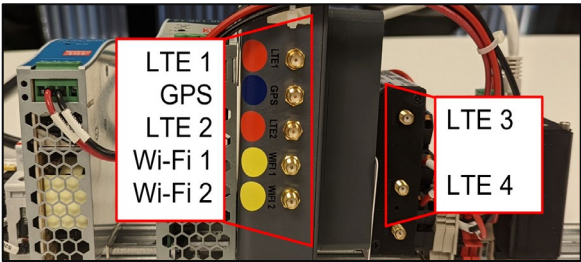
Nexus & Sensor Updates

NoTraffic Download Manager (NDM) Overview

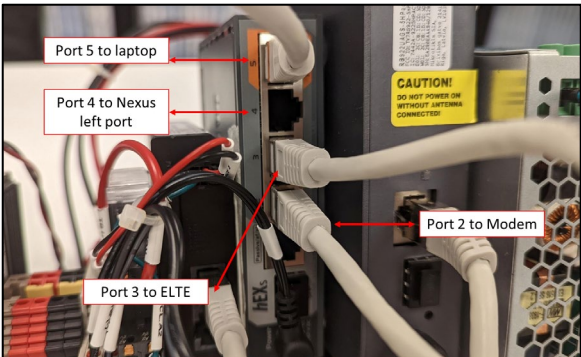
- NDM is a Windows software that stores the latest Nexus & Sensor versions to update equipment locally.
- Use the “NoTraffic Download Manager – Install Guide” to install the software and create your account.

Create Workstation & Update Units

1. Connect Antenna leads:
 - **Main DIN Router:** LTE 1, GNSS, LTE 2, Wi-Fi 1 and 2
 - **Main DIN ELTE:** LTE 3 & 4
 - **Control Unit:** Wi-Fi 3 & 4
2. Connect DC power cable from Main DIN’s red & black terminals to the Nexus + (red) and – (black) terminals.



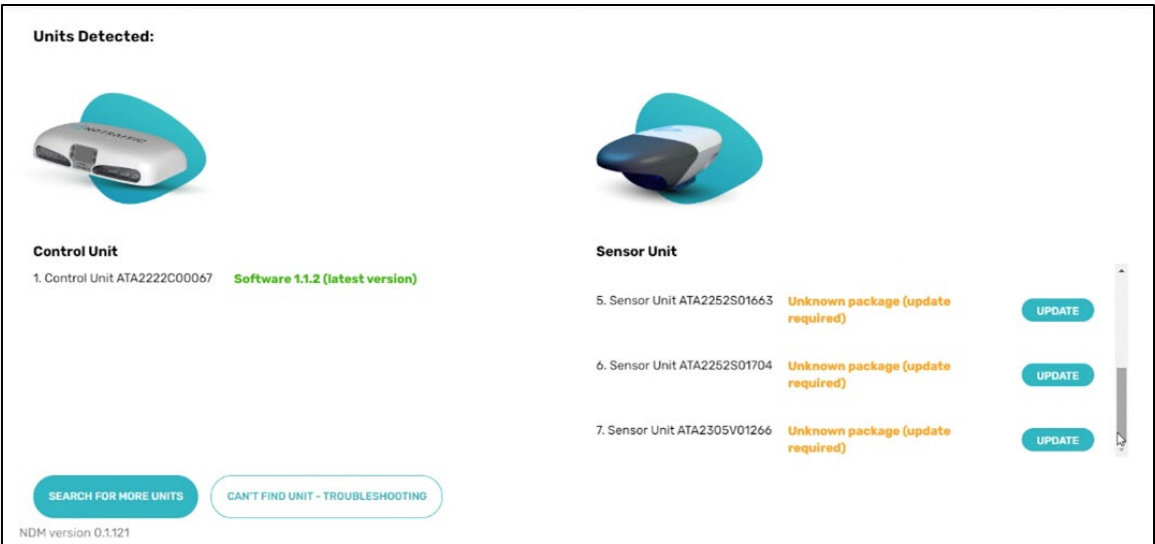
1. Connect Ethernet from Switch:
 - **Port 2:** Main Router
 - **Port 3:** ELTE
 - **Port 4:** Nexus left side port
 - **Port 5:** Laptop
2. Connect Sensors to power using a 14-18/3 power whip.



1. Open NDM on your laptop. It will check the versions on the Nexus & Sensors.



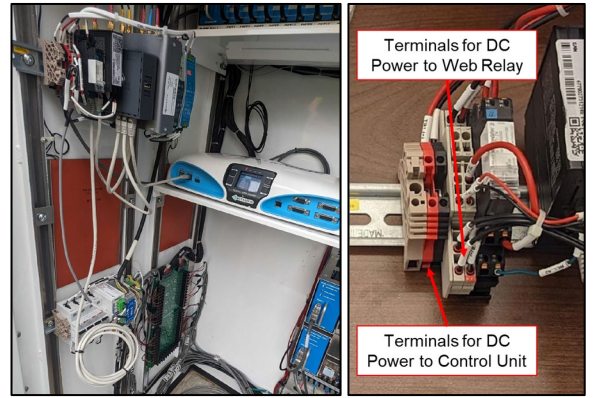
1. Update units as required.



Cabinet Installation

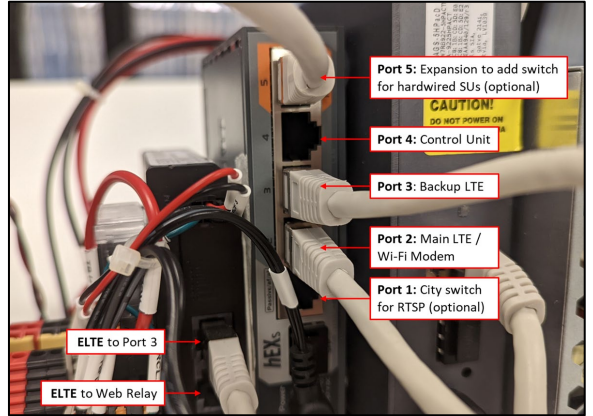
Install DIN Rails:

1. Mount Main DIN Rail, Power DIN Rail and Nexus
2. **Recommendation:** Connect the DC power for the Nexus, and DC power for the web relay (tan terminals) prior to mounting)
3. Connect Cat5 cables on Switch:
 - **Port 1:** City WAN (not required)
 - **Port 2:** Main Modem
 - **Port 3:** Backup Modem (ELTE)
 - **Port 4:** Nexus ("Router" Port)
 - **Port 5:** Technician Port for later



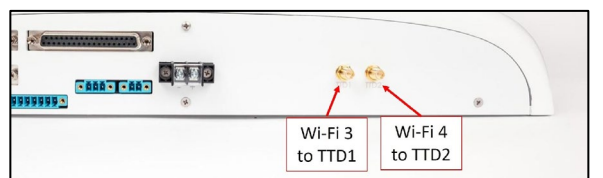
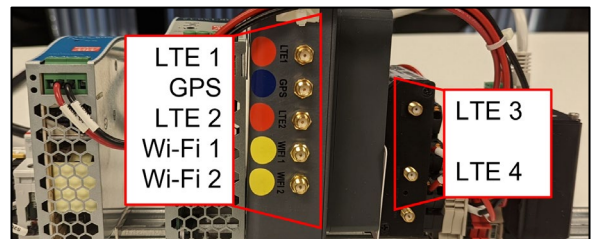
Install Antenna:

1. Drill 7/8" hole on top of cabinet.
2. Remove 3M adhesive and firmly affix antenna to the cabinet.
3. Hand-tighten slotted antenna nut.
4. Apply a silicon waterproof sealant bead around the antenna.



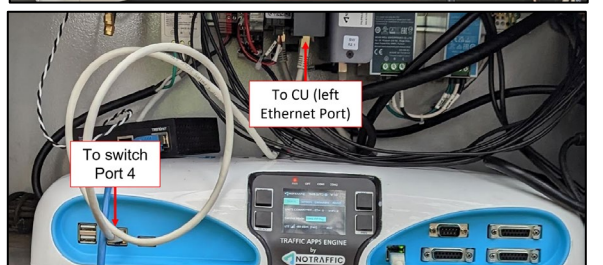
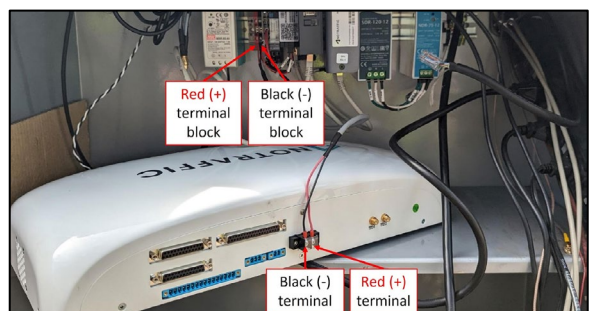
Connect Antenna Leads:

1. **Main Router:** LTE 1, GPS/GNSS, LTE 2, Wi-Fi 1 and Wi-Fi 2.
2. **Backup Modem (ELTE):** LTE 3 & LTE 4.
3. **Control Unit:** Wi-Fi 3 to TTD1 & Wi-Fi 4 to TTD2.



Connect Nexus Power & Comms:

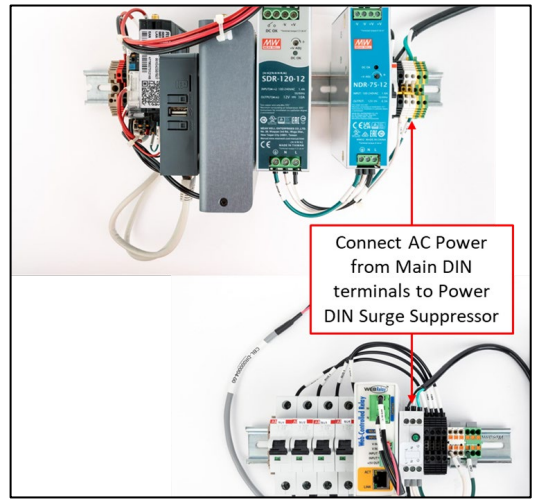
1. Terminate Nexus's DC power cable to (+) and (-) terminals on CU from the Main DIN's red & black terminals.
2. Connect Cat5 cable from Port 4 to Nexus **left side** port labeled "Router".



Cabinet Installation Continued

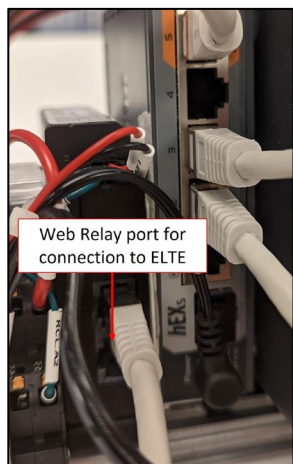
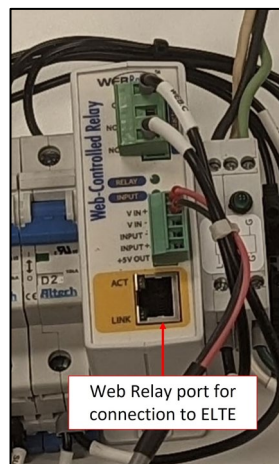
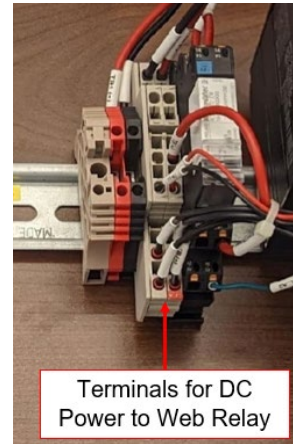
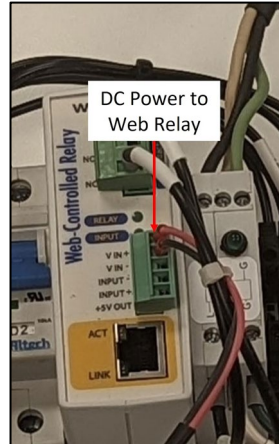
Bridge AC Power to Power DIN Rail:

1. Terminate the 3-conductor cable to the bottom of the Main Din's Black / White / Green terminals
2. Terminate the other end to the Power Din's surge suppressor (L=black, N=white, G=green)



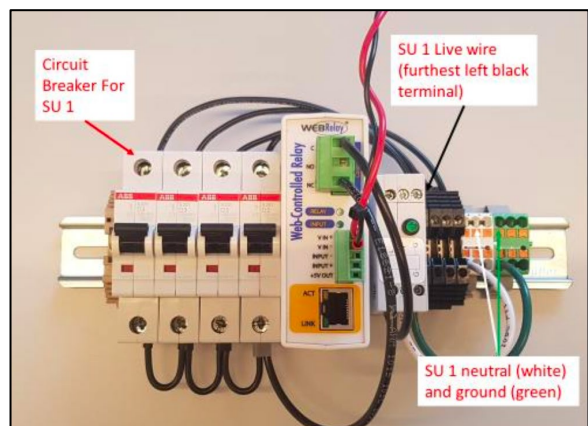
Connect Web Relay Power & Comms:

1. Terminate the DC Cable from the Power DIN's Web Relay to the **tan** terminals on the Main Din.
Note: You need a small electronics flathead to open the circle terminal by pressing into the square
2. Plug the DC Power back into the Power DIN's Web Relay.
3. Connect Cat5 cable from the Main Din's Backup Modem (ELTE) to the Power DIN's Web Relay.
 - The ELTE is the smaller black modem with 2 ports. Either port can be used.



Terminate Power Runs to Power DIN:

1. Terminate sensor power cables to the Live (black), Neutral (white) and Ground (Green) terminals.
2. The Live terminals correspond to the circuit breakers from left to right.
 - Leave circuit breakers off (green) until ready for power.



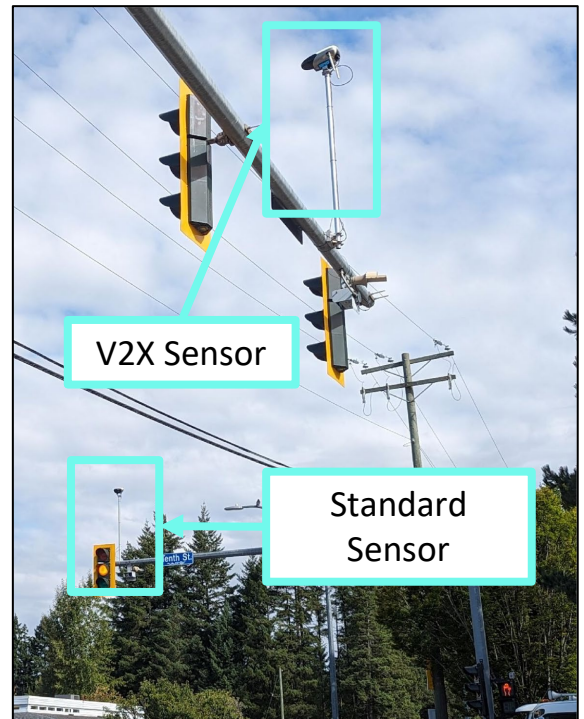
Call NoTraffic NOC Engineer & Power On

1. Call NOC Deployment Line: +1 (202) 800-1890, line #2.
2. Flip circuit breaker on Main DIN to on (red).
3. NOC Engineer will assign equipment to intersection and assist with aiming, calibration and configuration as needed.
 - Provide Last 4 digits of serial # for Nexus, Sensors & Main DIN.

Sensor Unit Installation & Aiming

Mount Sensors

1. Attach Sensor Unit to mounting bracket, right-side-up, as shown.
2. **Note:** One Sensor has a V2X RSU and 2 Antennas. Hand tighten the antennas. The V2X Sensor should be on the main road, closest to the cabinet.



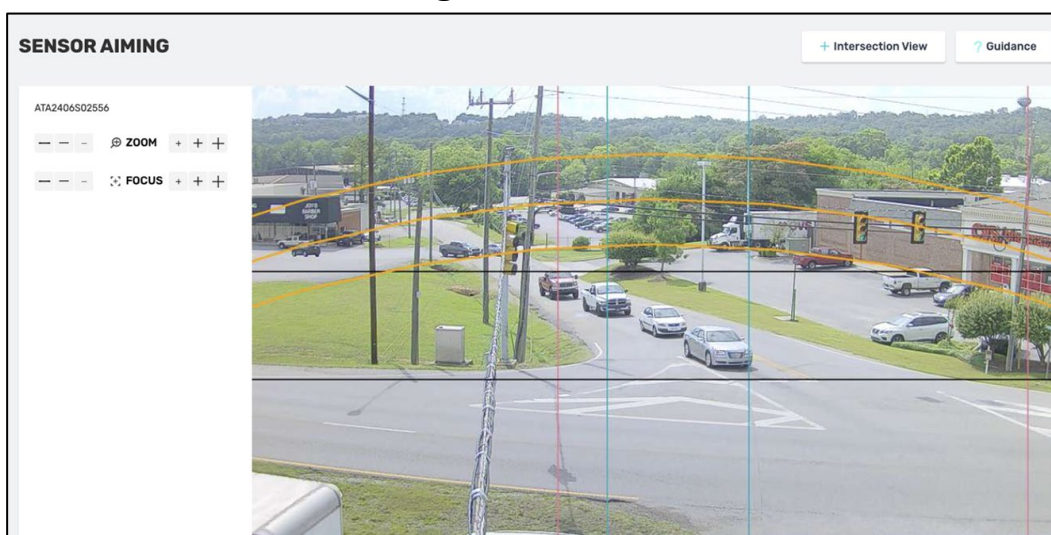
Connect Power

1. Remove back compartment (**Note:** Requires a **2.5mm Hex**).
2. Feed power cable through the larger hole.
3. Terminate power cable to Sensor Units: **Note:** Terminals are either **orange lever connectors** (do not use any tools) or **press-down connectors** (use small flathead to open).
 - Live to L, Ground to PE, Neutral to N.
4. Re-attach the back compartment and tighten down.



Aim & Calibrate Sensors

1. Flip circuit breaker to on (red) to power on Sensors.
2. Call NOC Deployment line to aim sensors; OR,
3. Proceed to next page to aim locally using Intersection Manager.
4. Open the SU Aiming page. Aiming Guidance:
5. **Vertical:** Stop bar should be between the black lines
6. **Horizontal:** The pink line (radar FOV) should capture a right turn
7. Once aimed, the NOC Engineer will calibrate the sensor (~15 min)

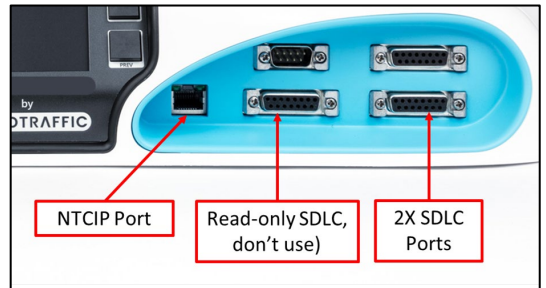


Local Configuration with Intersection Manager

Intersection Manager (IM) is used at the cabinet via laptop & technician port to configure the detection, controller status, detection zones and Agency Network connection.

Step 1: Open IM & Make I/O Connections

1. Connect laptop to Port 5.
2. Open <http://10.5.0.2:6080/>
 - **Login:** admin
 - **Password:** notraffic2017
3. **SDLC:** Connect SDLC from Nexus to Controller or SDLC Bus.
4. **NTCIP:** Connect Cat5 from Nexus NTCIP Port to controller or Agency's switch.
 - If using an Agency's switch, assign an IP on the controller's network.



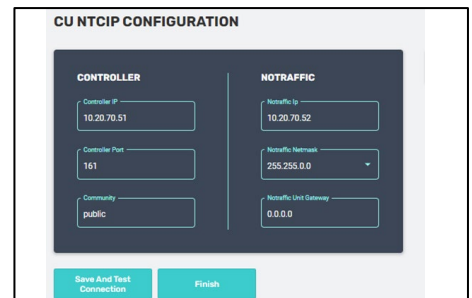
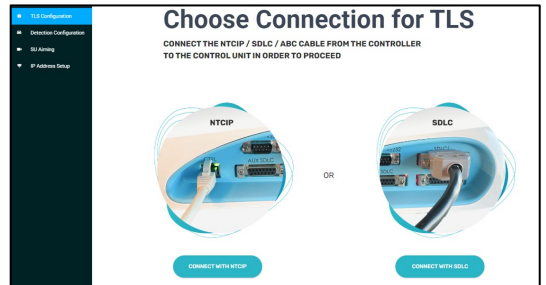
Note: NTCIP is optional but provides call status and is required for some modules.

Step 2: Configure Traffic Light Status

1. Select **NTCIP OR SDLC**.

NTCIP (optional but preferred):

1. Input controller's IP & NTCIP Port
2. Input a NoTraffic IP on same network.
Ex: Controller = 172.30.30.30, NT = 172.30.30.29).
3. Input netmask from controller.
4. Save & Test connection. Click Finish.

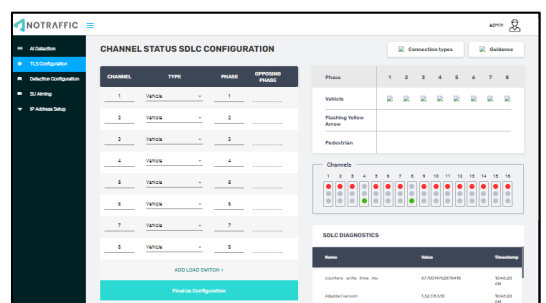


CONTROLLER		NOTRAFFIC	
Controller IP	10.20.70.51	Notraffic Ip	10.20.70.52
Controller Port	161	Notraffic Netmask	255.255.0.0
Community	public	Notraffic Unit Gateway	0.0.0.0

Buttons: Save And Test Connection, Finish

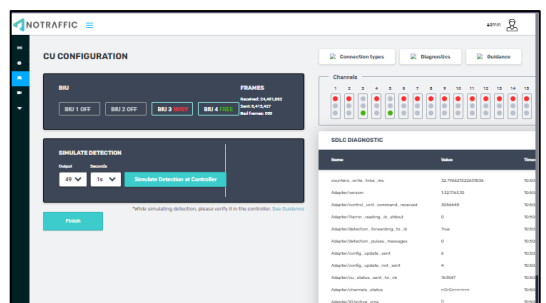
SDLC (required if no NTCIP available):

1. Add the channel, channel type and phase for each load switch.
2. Click Finalize configuration.
3. Verify the channels & diagnostics.



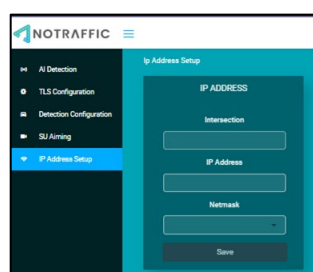
Step 3: Configure SDLC Detection

1. Ensure the BIU is **Free** and simulate a detector call to an output.
2. Click Finish. **Note:** This must be done prior to publishing zones.
3. Verify channels & diagnostics.



Step 4: Add Agency Network IP (optional)

1. Connect Port 1 to Agency's switch.
2. Intersection name auto-populates.
3. Input NoTraffic's assigned IP & netmask
4. Click Save.



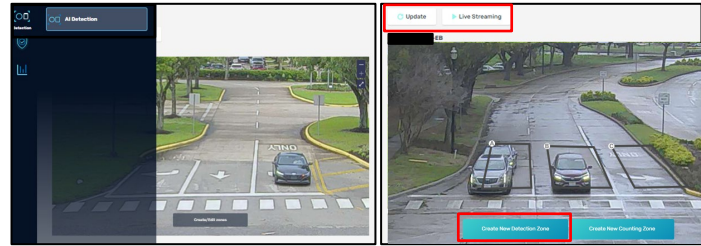
Publish Detection Zones & Validate

Overview

1. The NOC Engineer will notify you when Sensor calibration is complete, and zones can be drawn.
2. Zones can be added using Intersection Manager or Mobility OS

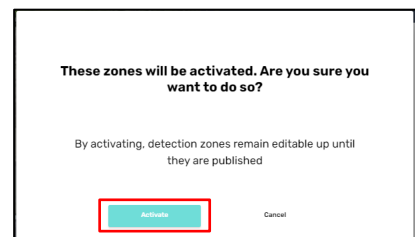
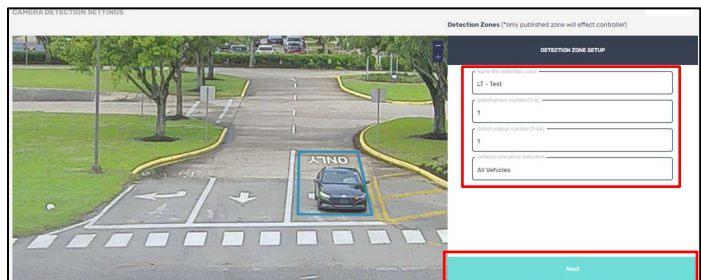
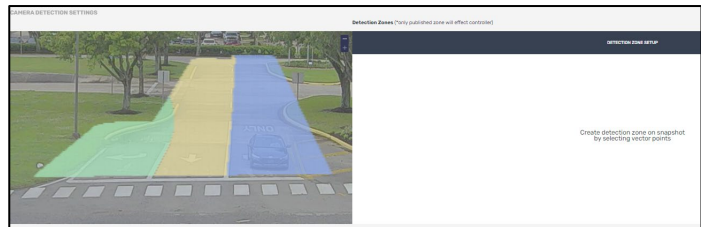
Open Stream & Select Approach

1. Open the AI Detection page in MobilityOS or Intersection Manager.
2. Click Live Streaming to start the feeds
 - Click Update to save the image
 - Stop streaming



Add Presence Zones

1. Click Create new Detection Zone.
2. Click on a lane and place 4 points to draw your detection zone. **Note:** Zone must be within a colored lane.
3. Input the following:
 - Detector Name
 - Phase
 - Detector Output
 - Detector type (All Vehicles or Bikes Only)
4. Click Next.
5. Click Activate to start sending calls.
6. Validate at controller.



Optional: Add Pulse & Count Zones

Pulse Zones

1. Follow the same steps as above
2. Select output type = pulse

Name the detection zone
WB-ADV 1

Select phase number (1-6)
6

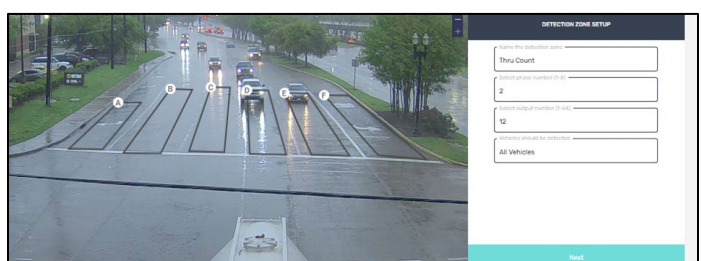
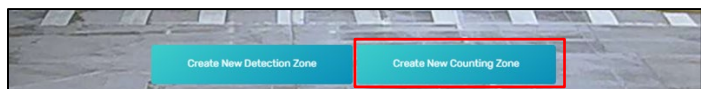
Select output number (1-64)
12

Select output type
pulse

Vehicles should be detected
All Vehicles

Count Zones

1. From AI Detection page, click Create/Edit Zones
2. Click Create New Counting Zone
3. Click on the lane
 - Input name
 - Input phase
 - Input detector output
 - Select detection type (All Vehicles or Bikes Only)
4. Click Next & Publish.



NoTraffic Support Line

Technical support for troubleshooting is available 24/7/365 by phone or email.

Phone: +1 202-800-1890

Email: support@notraffic.tech