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NoTraffic Quick Start Guide

Support

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

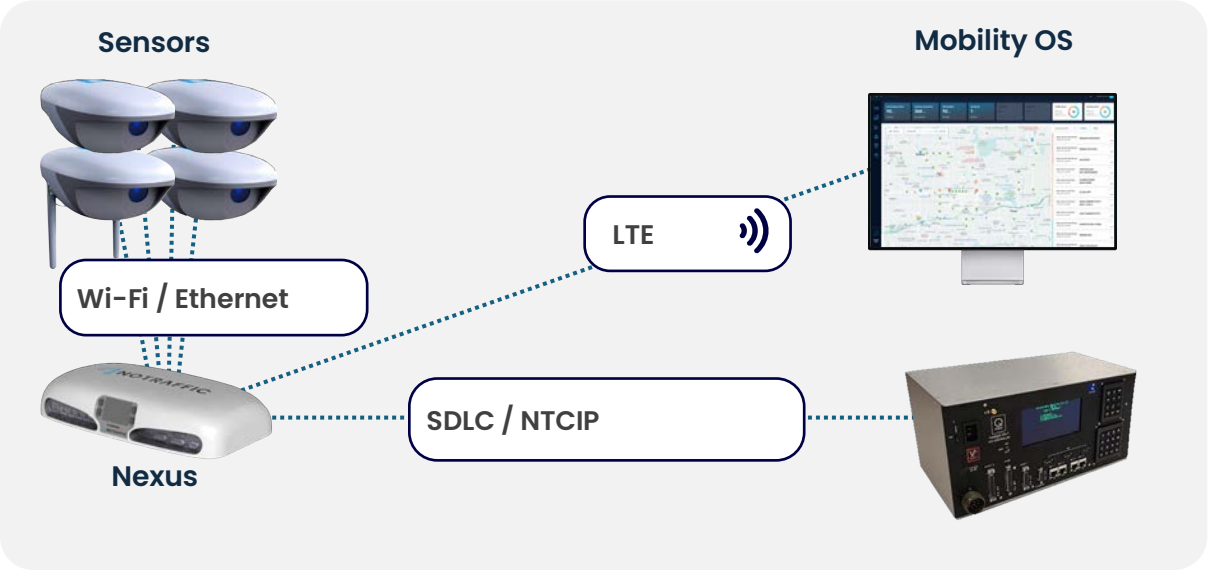
Phone: +1 202-800-1890

Email: support@notraffic.tech

NoTraffic System Overview and Definitions

- *Nexus* – The Nexus is installed in the cabinet and receives detection data from the Sensors and places calls to the traffic controller. The Nexus connects to the cloud-based Mobility OS and runs applications like Optimization Mode for improved traffic safety and performance.
- *Type 1 Sensor* – The Sensor fuses video and radar to deliver precise, real-time detection and classification of road users in a broad range of weather and lighting conditions. A typical intersection uses one Sensor per approach including: one Type 2 Sensor with a built-in C-V2X RSU for direct V2X applications, and multiple Type 1 Sensors for the remainder of approaches.
- *Type 2 Sensor* – Agencies typically use one Type 2 Sensor per intersection. Features all the capabilities of a Type 1 Sensor and contains a built-in C-V2X RSU for direct V2X applications.
- *Main DIN Rail* – The Main NoTraffic DIN rail in the cabinet that houses the communications and power supply equipment
- *Power DIN Rail* – A DIN Rail is required when sensors are powered from the cabinet. It contains circuit breakers, surge suppressors, and relays to allow power cycling.
- *Mobility Operating System (Mobility OS)* – Mobility OS is NoTraffic's intuitive cloud-based traffic management software that tracks turning movement counts, signal performance measures, safety analytics, and provides live video & real-time alerts, and access to the Mobility Store.

- *Intersection Manager* – Software installed on the Nexus that helps to enable local management of the intersection.
- *Installation Assistant* – Software installed on the Nexus that helps to build, aim, and configure the intersection. Part of Intersection Manager.
- *NoTraffic Operations Center (NOC)* – The NOC is our US-based 24/7 managed service, that performs monitoring of all edge devices, remote troubleshooting, over-the-air service and updates, and responds to system alerts.



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Preparing to Install NoTraffic

Power Cables and Mounts for Sensors

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

Cabinet Review, Configuration & Install

- Provide phasing diagram or timing sheet.
- Confirm Detection I/O. Note if SDLC is 25-Pin only.
- Confirm NTCIP or SDLC can provide Traffic Light Status.

Assign IP for City Network (optional)

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

Mobility OS Accounts & Alerts

- Provide email addresses for user accounts.
- Provide any specific alerting procedures to the NOC team.

Cabinet Installation

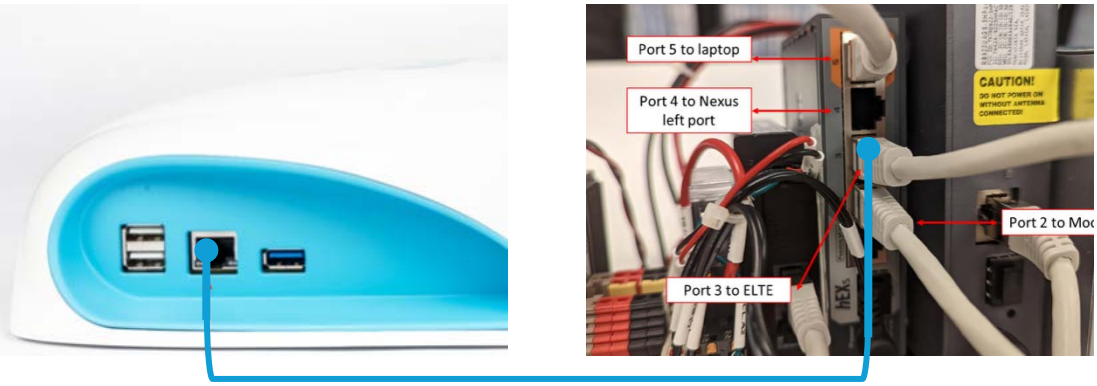
Install Nexus and DIN Rails

(1) Mount Main DIN Rail, Power DIN Rail (if required), and Nexus

⚠ *NOTE: Connect the DC power for the Nexus, and DC power for the web relay (tan terminals) prior to mounting*

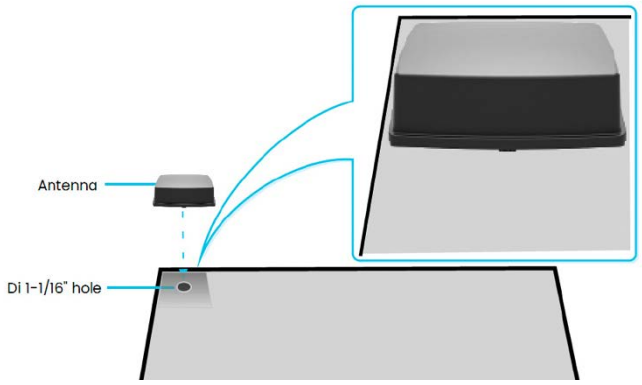
(2) Connect Cat5 cables on Switch:

- Port 1: City WAN (optional)
- Port 2: to Main Modem (on Main DIN)
- Port 3: to Backup Modem / ELTE (on Main DIN)
- Port 4: to Nexus left side port ("Router" Port)
- Port 5: to LapTop for Intersection Manager / Installation Assistant configuration (after cabinet and sensor installation)



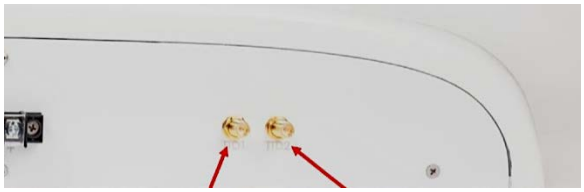
Install Antenna

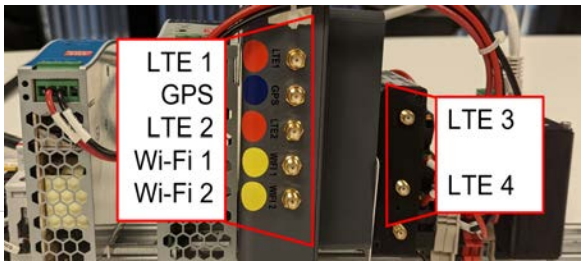
- Locate antenna on top of traffic cabinet or on antenna bracket.
- Drill 1″ hole in mounting surface
- Remove adhesive cover on bottom of antenna and press to mounting surface.
- Hand-tighten antenna nut.
- Apply a silicon waterproof sealant bead around the antenna.



(1) Using the color codes, connect Antenna leads (9 cables from antenna)

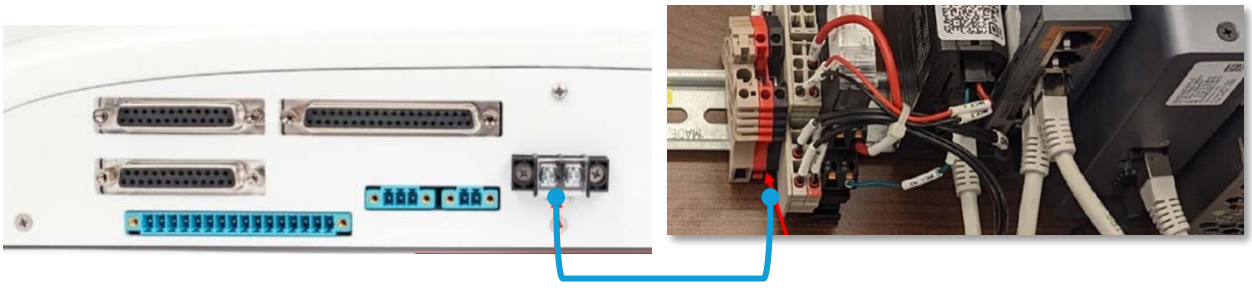
- Main DIN Main Modem: LTE 1, GNSS, LTE 2, Wi-Fi 1 and 2
- Main DIN Backup Modem / ELTE: LTE 3 & 4
- Nexus: Wi-Fi 3 & 4





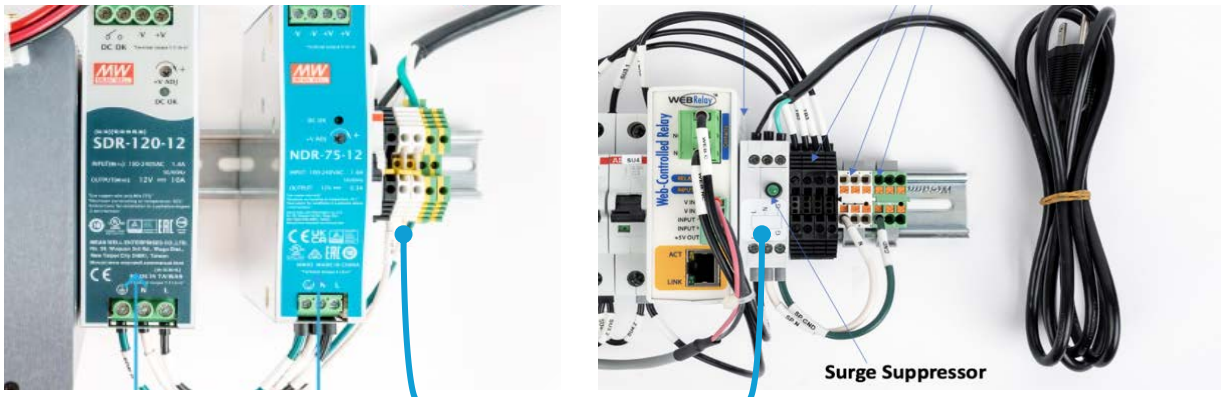
Connect Nexus Power & Comms:

- Terminate Nexus's DC power cable to (+) and (–) terminals on CU from the Main DIN's red & black terminals.



Bridge AC Power to Power DIN Rail

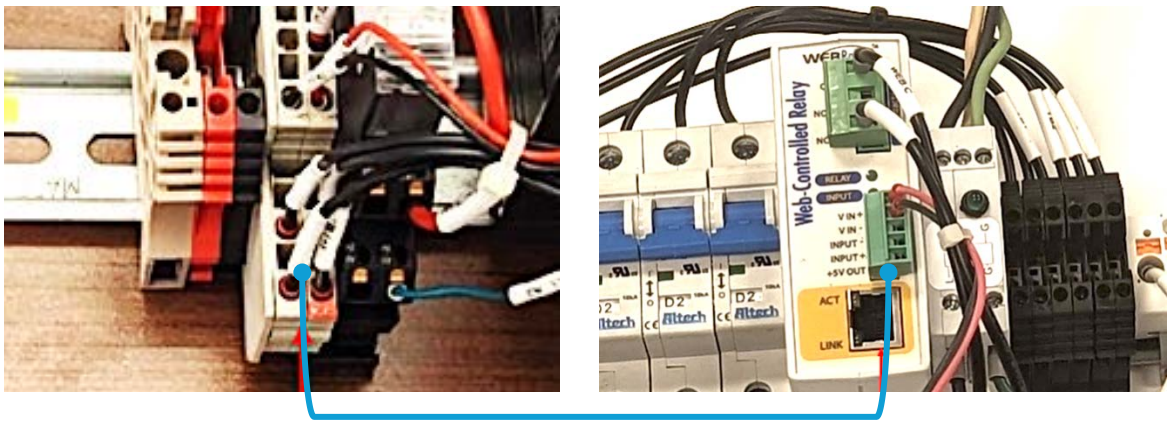
- Terminate the 3-conductor cable to the bottom of the Main Din's Black / White / Green terminals (L=black, N=white, G=green)
- Terminate the other end to the Power Din's surge suppressor (L=black, N=white, G=green)



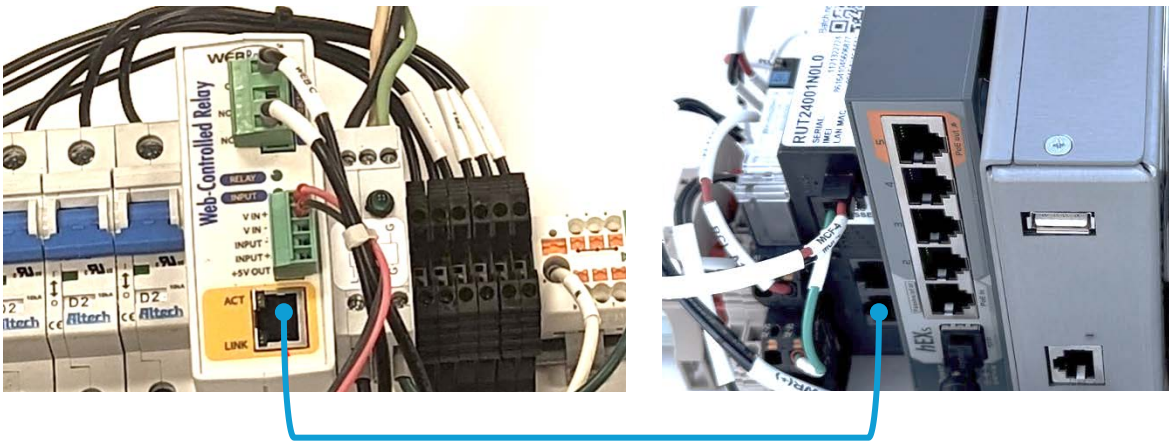
Connect Web Relay Power & Comms

- To power the web relay, terminate the DC Cable from the Main DIN's tan terminals to the Power DIN's Web Relay.

  ⚠ *Note: Use a small electronics flathead to open the circle terminal by pressing into the square*

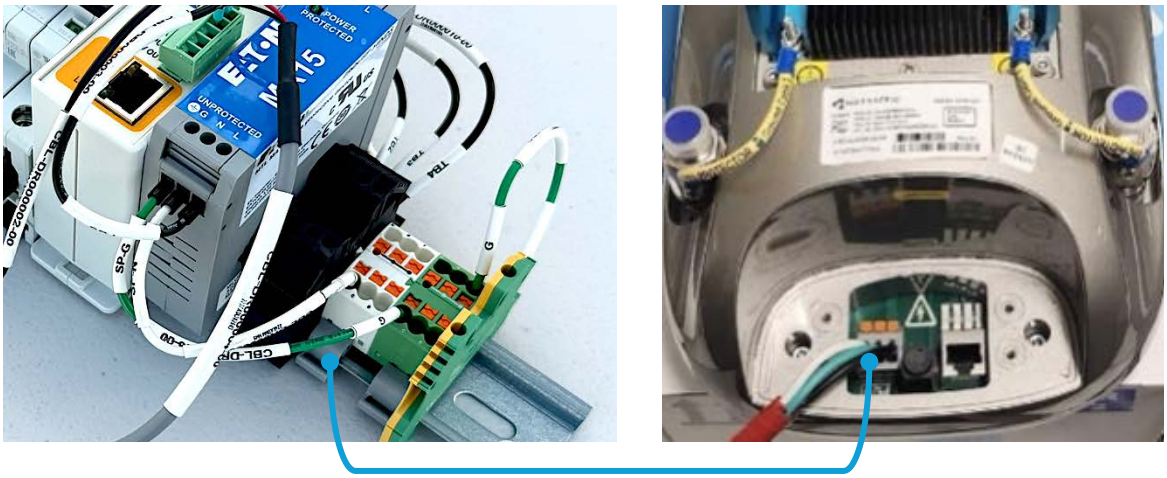


- Connect Cat5 cable from the Main Din's Backup Modem (ELTE) to the Power DIN's Web Relay.
  - ⚠ The ELTE is the smaller black modem with 2 ports. Either port can be used.



Terminate Power Runs to Power DIN

- Terminate sensor power cables to the terminals. (L=black, N=white, G=green)
- The Live terminals correspond to the circuit breakers from left to right.
- Leave circuit breakers off (green) until ready for power.



Sensor Installation and Aiming

Mount Sensors

- Attach Sensor Unit to mounting bracket, right-side-up, as shown.

⚠ 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

- Remove back compartment (Note: Requires a 2.5mm Hex).
- Feed power cable through the larger hole.
- 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.
- Re-attach the back compartment and tighten down.

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Installation Assistant

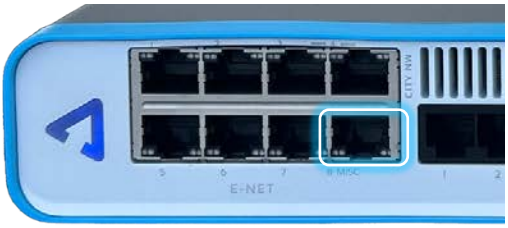
Welcome to NoTraffic Intersection Manager

Once the Cabinet equipment is installed, you can open Intersection Manager (IM). Inside of IM, you can access Installation Assistant which will guide you through the rest of the installation.

Connect to Installation Assistant:

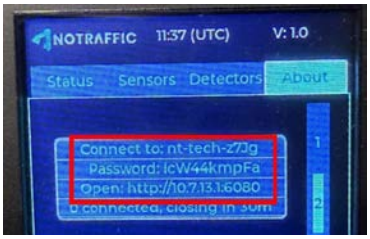
Method 1: Ethernet

- Connect a Cat 6 shielded Ethernet cable from a PC to the RJ45 MISC port on the front of the Nexus.
- On a laptop, Go to Network > Ethernet > DNS server assignment, set the option to Automatic (DHCP).
- Open a Chrome browser and type in: http://10.5.0.2:6080/
- Login: admin
- Password: notraffic2017



Method 2: Wireless

- Press NEXT to move to 'About' menu.
- Press SELECT 2x to move to Option 2.
- Press NEXT to enable Wi-Fi access.
- On a PC, enter the URL in a browser to open Intersection Assistant
- Wi-Fi will remain open for 60 minutes



Once connected, click 'Let's start' to get started

Let's start

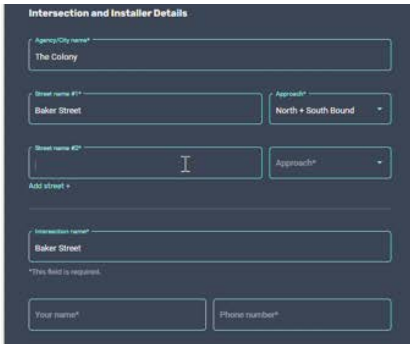
Installation Assistant Menu

Once inside Installation Assistant, you will see the following icons for each section of the installation process. The Assistant is a step by step, guided procedure.

⚠ NOTE: This guide serves as a general overview only. If you need extra assistance, click  on the lower left to display the user manual.

Input Intersection General Information

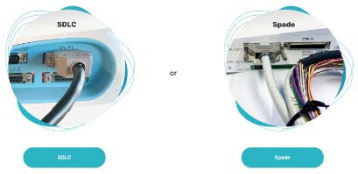
Input the following Intersection Information:



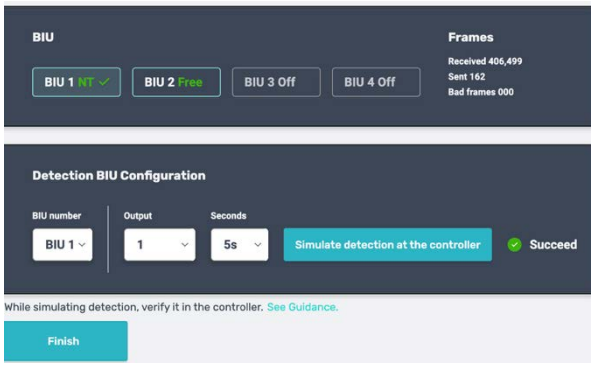
- Agency Name (end username in Mobility OS)
- Street 1 Name & Direction(s)
- Street 2 Name & Direction(s)
- Intersection Name overwrite (not required)
- Installer Name & Contact

Configure Detection (SDLC)

Select the detection interface (commonly SDLC)



Set up Detection (SDLC)



- Select a BIU labelled 'Free'
- Output auto-generated
- Seconds: Use 5s for default
- Click 'Simulate detection'
- After successful test, BIU reads "NT"

Note: Only 1 detector needs to be simulated, any free BIU can then be used.

Configure Traffic Light Status

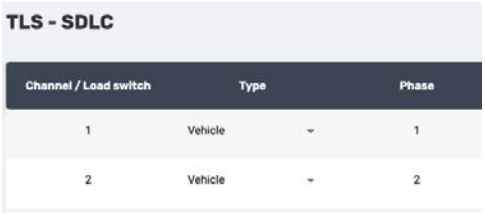
Select the TLS method (NTCIP, SDLC, or Spade)

NTCIP:

- Controller's IP: found in controller
- Controller port: NTCIP or SNMP port number
- Community name: 'public'
- NoTraffic IP: same network as controller e.g.: Controller 10.5.0.25 = NoTraffic: 10.5.0.24
- Click 'Save and Test Connection' and then 'Next'

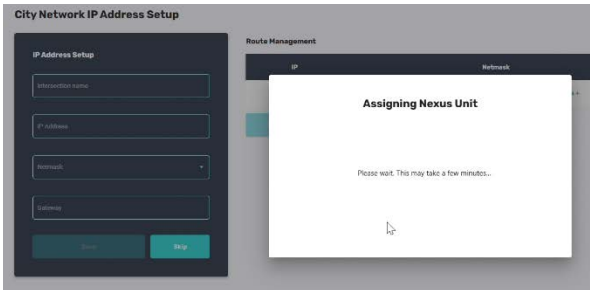
SDLC:

- Assign each channel in the cabinet to its corresponding vehicle, pedestrian, or Flashing Yellow Arrow
- Click 'Save Configuration' and then 'Next'



Configure City Network (Optional) & Assign Nexus

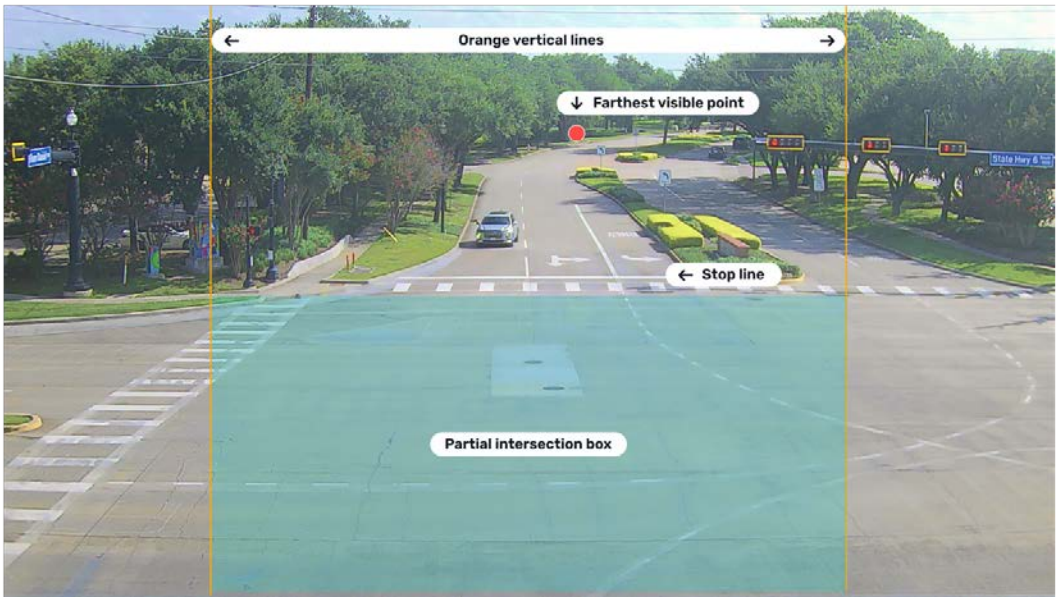
- If NOT connected to the City WAN Select 'Skip' to bypass this step and assign the Nexus
- If connected to the City WAN, input the assigned IP address, Netmask, and Gateway
- Select Save to assign the Nexus



Configure Sensors – Overview

The sensors are then aimed and configured in Installation Assistant

Aim the Sensors



- NOTE: Click 'Guidance' if you need more information on aiming the Sensors
- Ensure stop line and intersection box are centered between the two orange vertical lines.
- Maximize red dot placement down the approach keeping stop line / intersection box in position.
- Zoom in until the stop line is fully positioned between the two orange vertical lines and is large enough to be clearly visible. Check for the following:
  - Departure zone is visible.
  - Far end of the approach is visible.
  - Right and left turn trajectories remain partially visible.
  - All required detection zones (stop line, crosswalk, departure) are visible.
  - Each Sensor captures approximately half of the intersection box
- NOTE: When balancing zoom and framing, prioritize stop line and feature coverage over zoom.
- Adjust focus as needed.
- NOTE: For Pedestrian protection, ensure entire crosswalk is visible between orange lines.
- Lock the unit and make sure it hasn't moved while it was locked

NOTE: For curved approaches:

- Adjust sensor direction to follow the road's bend while keeping the stop line clearly framed.
- Fine-tune the red dot to follow the lane curvature, making sure vehicles approaching the stop line stay visible and covered within the orange lines.

Update Sensor Information

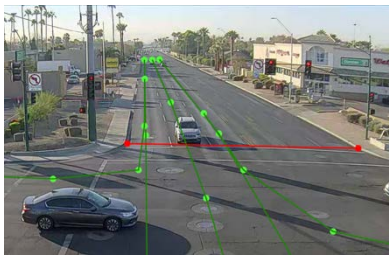
- Select the sensor, name the approach, aim, and lock down following the instructions
- Click 'Save' to save changes and advance to Calibration
- Note: Depending on installation workflow, you can select 'Intersection view' to finish aiming all sensors before proceeding

Calibrate Sensors

- Click on 'Guidance' for information on calibration
- Place the 3 cars using the keys identified
- NOTE: You can double click to quickly place the car in an approximate area
- Place vehicles: near the stop line; midway; and close to the horizon, spreading across lanes

Add Stop Line and Trajectories

- Draw the stop line across the stop bar
- Draw trajectories for all possible movements
- Select the lane (i.e., If there is a left and thru in the same lane, they will both be lane 1)



Assign phases to lanes

- Click on the bubble of each lane to assign its phase.

Add Detection Zones

- Select the approach
- Draw a box for your detection zone
- Assign a name, vehicle type, output type, and output number

Assign Sensors

- Once all steps are complete, you can assign the Sensor
- Assign one Sensor at a time
- Ensure that they are properly named and configured
- Allow 2–5 minutes per sensor

Run System Tests

The system tests screen guides you through a list of verifications to before to confirm a successful installation.

- Click Run Test
- After achieving 'Passed' status for each text, click Request registration
- Call support for any persistent issues

Register with NoTraffic

Verify your information on the summary screen

- Check the box next to 'Register Intersection' and press 'Register Intersection'
- You will see a Congrats! Screen
- Installation Assistant setup is complete

Confirm a Successful Installation

- Verify that all Sensors are working properly on Installation Assistant
- Check that calls are being sent from the Nexus to the Controller
- Check your site on Mobility OS to verify creation
- Our NOC team will also conduct a series of checks and confirmations over the next few days to ensure proper operation