



# BlueTOAD Ethernet and Cellular

## Bluetooth Travel-time Origin And Destination

### Advanced System

BlueTOAD™ is the most advanced traffic-monitoring system on the market, directly measuring travel times using cost-effective, non-intrusive roadside technology.

### Reliable and Proven Technology

BlueTOAD detects anonymous Bluetooth signals broadcast from mobile devices to determine accurate travel times and speeds.

### Real-Time Data

BlueTOAD calculates travel times and speeds in real-time to provide route management capabilities.

### Easy and Reliable Installation

BlueTOAD can be installed independent of local power or communications systems by using a cellular data connection and solar panel, or can be plugged into existing electrical and/or fiber infrastructure. Utilizing Power over Ethernet (PoE) technology simplifies network design and accommodates unique infrastructure deployment.

### Powerful Data Processing

Either a cellular or Ethernet based communications system processes the data collected by BlueTOAD devices. Data can be viewed in real-time or analyzed historically using the web-based BlueARGUS software, which provides travel times, road speeds, MAC address detection counts, and field hardware monitoring.

### BlueTOAD with BlueARGUS System Advantages

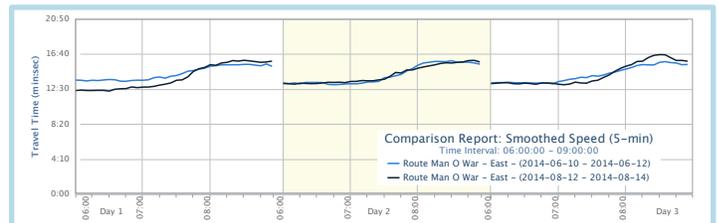
- BlueTOAD proven algorithms for filtering and processing data inputs to compute real-time travel times and speeds.
- Speeds/travel times updated in real-time on a secure web "BlueARGUS Dashboard" and speed maps.
- XML schema is available for third-party integration such as an Advanced Traffic Management System (ATMS), agency website, or Dynamic Message Sign (DMS) software control system.
- Available in a self-hosted or secure web interface for generating statistical and analytical reports covering: speeds, travel times, origin/destination, and before and after comparisons.
- Real-time monitoring of device status and performance.

### Power over Ethernet (PoE) Benefits

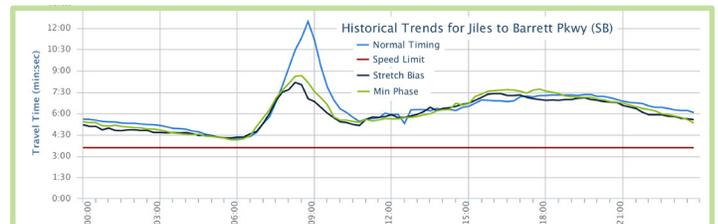
- Single Power over Ethernet (PoE) shielded CAT-5 Ethernet cable supplies power and network connection to each BlueTOAD unit.
- Save conduit space and simplify installation using single Ethernet cable suitable for longer distances.



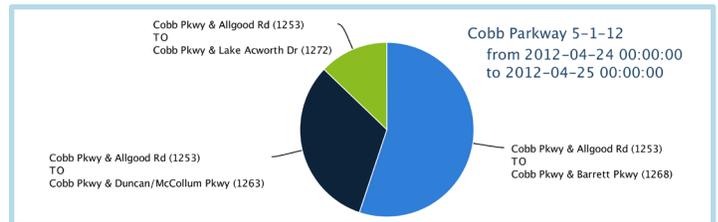
Set 5-Color Speed map to highlight and analyze congestion anomalies.



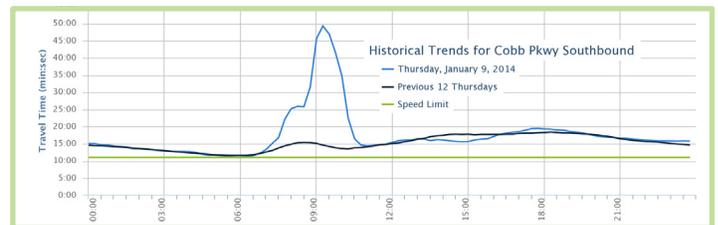
Manage Before & After Studies, or monitor M.O.E. & traffic congestion trends.



Study signal timing changes & Performance Measures, compare historical data.



Create O/D reports to compare routes and view multiple outputs!



View the effects incidents have on travel times and measure the results.

### Alarms

Active Alarms Enabled Alarms Add Pair/Route Alarm Add Device Alarm Alarm Recipients

Change Alarm Settings

Enable Alarm

Active From  :  Until  :

Notification Method

Send Email  Send SMS

Send Alarm when speed drops below  % historical -OR-  mph

Recipients

Default  Custom

Minutes to wait before sending initial alarm

Minutes between repeating unacknowledged alarm

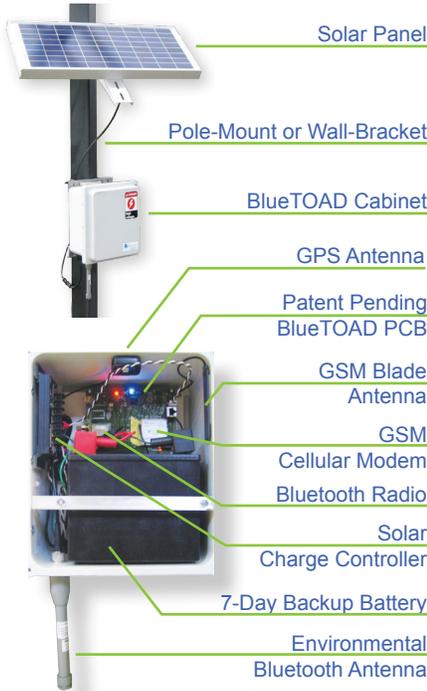
User-defined Alarms for field hardware and route threshold monitoring.



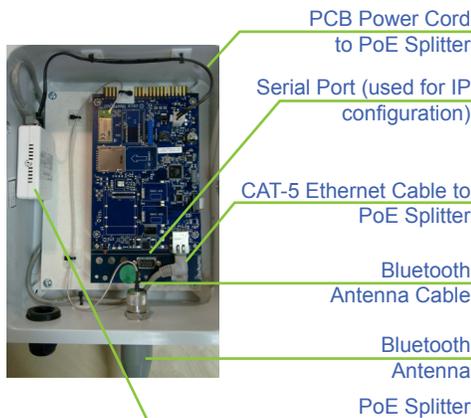
BlueTOAD™



## BlueTOAD Cellular



## BlueTOAD Ethernet (PoE)



BlueTOAD Cellular Power Options	BlueTOAD Ethernet Power Options
Solar Power with Battery 110-220 VAC / 6-40 VDC	
AC Power 110-220 VAC	Power over Ethernet (PoE) 110-220 VAC / 6-40 VDC
Power over Ethernet (PoE) 110-220 VAC / 6-40 VDC	

## Technical Specifications

### BlueTOAD Cellular

#### Power Specifications

Voltage Input: 6 – 30 Volts  
GSM Modem-Based - Max Current @ 12V - 350 mA (Typical 140 mA)

#### Power Source Options

100 - 240 VAC

**Solar Power 30W, 16.8Vmp Solar**  
Weight: 16.6 lbs. (incl. mounting bracket)  
Battery: 44 Ah Sealed AGM

**Solar Power 50W, 17.5Vmp Solar**  
Weight: 25.2 lbs. (incl. mounting bracket)  
Battery: 44 Ah Sealed AGM

**Power over Ethernet (PoE)**  
IEEE 802.3af standard  
110/220 VAC supply to injector

#### Operating Range

-34°C to +74°C (-29°F to +165°F)

#### Processor

Real time microcontroller

#### Connectivity

GSM Quad-band Bluetooth

#### Bluetooth

CSR Bluecore 4 Class 1

#### Data Storage

Secure Digital (SD) – up to 1 year of storage

#### Antennae

**Bluetooth:** 4 dBi Omni (Standard)  
Custom options available

**GSM:** I-Bar Penta Band Cellular Antenna

**GPS:** Active Patch 31 dBi

#### NEMA 4X Enclosure

12 in. x 10 in. x 7.75 in.

Weight (with battery & mounting brackets): 43 lbs.

### BlueTOAD Ethernet

#### Power Specifications

DC Supply Voltage: Minimum - 6 VDC  
Maximum - 40 VDC

DC Supply Current: Maximum 100 mA @ 12 VDC

#### Power Source Options

#### Power over Ethernet (PoE)

IEEE 802.3af standard

110/220 VAC supply to injector

Operating Range

-34°C to +74°C (-29°F to +165°F)

#### Processor

Real time microcontroller

#### Connectivity

Ethernet 10BASE-T / 100BASE-T

Static or DHCP IP Addressing

#### Bluetooth

CSR Bluecore 4 Class 1

#### Data Storage

Secure Digital (SD) – up to 1 year of storage

#### Antenna

**Bluetooth:** 4 dBi Omni (Standard)  
Custom options available

#### NEMA 4X Enclosure

10 in. x 8 in. x 5.75 in.

Weight (with mounting brackets): 9 lbs.

Functionality	BlueTOAD Cellular	BlueTOAD Ethernet
Non-intrusive detection		
Power over Ethernet		
Solar Power Option		
Real-Time Communications		
Web-based Software		
Travel Time, Speed Reports & Graphs		
Archived data		

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