INTELLIGENT TRAFFIC SENSORS

+ Key Advantages of Using Laser Sensors
+ Alternative Technology That Doesn't Measure Up
+ Successful Test Project

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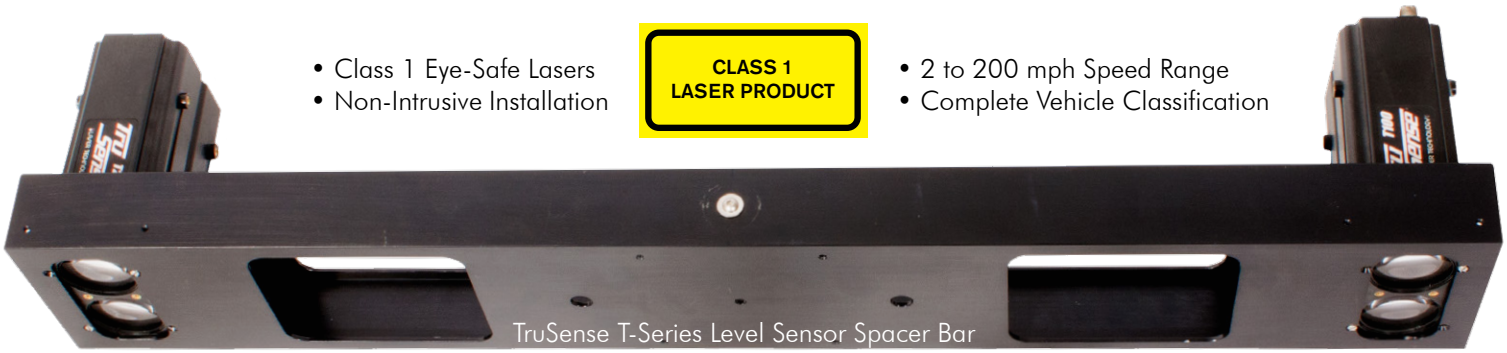
LASER TECHNOLOGY INC
Measurably Superior®

- Class 1 Eye-Safe Lasers
- Non-Intrusive Installation

CLASS 1 LASER PRODUCT

- 2 to 200 mph Speed Range
- Complete Vehicle Classification



TruSense T-Series Level Sensor Spacer Bar

Key Advantages of Laser Sensors

- Install the TruSense more quickly and safely in comparison to intrusive systems.
- Never compromise data integrity again, because LTI lasers never degrade over time.
- Measure speeds as low as 2 mph (3 kmh) with the utmost accuracy.
- Capture height and length of vehicles and classify them with a high rate of repeatability.
- Save time and money with minimal operation training.
- Drastically reduce typical, ongoing maintenance issues and experience a low lifetime cost of ownership.
- Eliminate occlusion problems with the sensor's narrow beam width and the ability to target specific lanes on major highways.

Why Alternative Technology Does Not Measure Up

- Embedded loops rely on inaccurate signatures, suffer from adjacent lane vehicle straying, provide limited data and require roads to be closed when performing maintenance.
- Radar requires continual calibration for data integrity, has difficulty capturing speeds less than 25 mph (40 kmh), and undermines speed and accuracy in multi-lane applications.
- The IR ground level sensors are expensive, complicated, need regular cleaning in wet weather and with road grime buildup to uphold integrity, and the road camber creates occulsion complications.
- A wireless magnetometer is easily destroyed during road milling and snow removal operations, is difficult to replace, and is prone to complications with access points and battery life.

Data Output Formats

- Precise Individual Vehicle Speed
- Vehicle Counting
- Profile
- Classification
- Time Between Vehicles
- Wrong-Way Driver Detection
- Traffic Statistics

SPEED
Guarantee an ultra-fast repetition rate that ensures all vehicles are captured regardless of size or speed.

CLASSIFY
Categorize vehicles according to shared qualities or characteristics, such as height and length.

HEADWAY
Measure the average interval of time between vehicles moving in the same direction with precise accuracy.

Successful Test Project

In late 2013, VicRoads, the state of Victoria's DOT, sought to validate the accuracy of various sensors being used on Melbourne's M80 ring road.

After analyzing multiple sensors, VicRoads called upon the help of Laser Technology Australia (LTA). VicRoads discovered that the TruSense laser systems had baselines between 1.8m (5.9 ft) and 3m (9.8 ft) and were equipped to capture vehicle speeds within 0.1km/h (0.06 mph). The TruSense laser systems also measured vehicle length, profile and headway (gap) to centimeter accuracy, with the sensors pulsing up to 25 kHz.

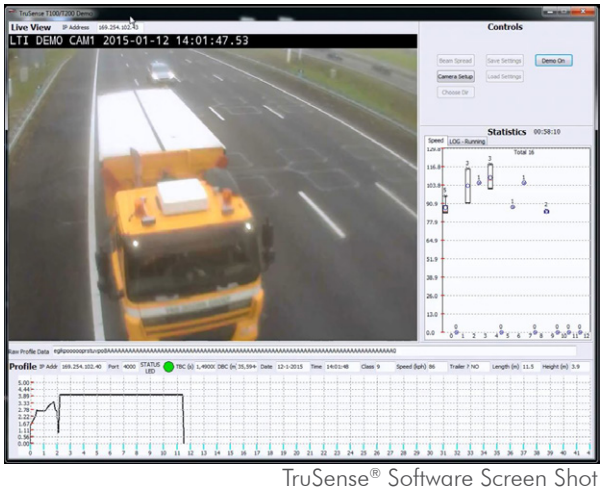
VicRoads concluded that LTA's laser sensors were extremely accurate in detecting the headway of vehicles. Because of the TruSense T100/T200 laser's dual sensors, the required parameters were effortlessly calculated at the highest degree of accuracy.

Because of this success, VicRoads increased the coverage to all five lanes by installing sets of T100/T200 lasers over each lane. Laser Technology Australia provided software that collected data from all of the lasers and analyzed it against various other sensors in the same lanes. None of the other sensors were able to provide the amount of data the T100/T200 laser system was capable of detecting, including height, profile and on-board calculations.

LTA's system was used as a standard against which all other sensing technologies were compared to verify speed, length and headway by the VicRoads engineers. The rapid-pulsing lasers also created a real-time visual profile of each passing vehicle, providing accurate overall length and height. In addition, remote monitoring of the site was possible through IP video cameras installed above each lane. These were connected through a hard-wired Ethernet network to a 4G wireless modem that allowed engineers to view a live feed of vehicles and their profile, length and speed while they passed under the lasers.

The LTA TruSense laser system has been in operation since late September 2013 and has continued to prove itself, detecting over 100,000 vehicles per day. When it comes to traffic monitoring, reliability and accuracy are critical and LTA's laser sensors have proven themselves again and again, consistently delivering the highest level of reliability and precision.

T100/T200 Level Sensors on Melbourne's M80 Ring Road



TruSense® Software Screen Shot

Evaluation Package

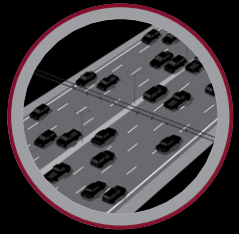
LTI evaluation package comes complete with:

- Speed System Set (T-100 and T-200) with spacer bar
- Demonstration Software
- POE Camera
- Data Converter Box
- Optics
- All necessary interface cables

Next Steps

- Request an interactive one-on-one webcast
- Apply for site calculation
- Fill out new product application

STATISTICS
Count, profile and classify vehicles as well as calculate the speed, height, length and time between them.



OCCUPANCY
Determine the amount of vehicles passing by at any given time.

WRONG WAY
Detect wrong-way drivers and send out alerts.

TruSense T-Series Specifications

Performance	Min Range	1.5 ft (46 cm)
	Max Range	165 ft (50 m)
	Accuracy	Distance = +/- 3.9 in (10 cm) dual sensor speed = 2% with 30 in (75 cm) spacing
	Data Output Rate	<1 Hz to 25 kHz: depending on RS232 or RS485
	Target Modes	Profile, speed (dual sensors), Time Between Vehicles (TBV), height, length, distance
Optical/Electrical	Wavelength	905 nm (near IR)
	Divergence	3 mrad (equal to 1 ft beam diameter @ 328 ft, or 30 cm @ 100 m)
	I/O	RS232, RS485, TRIG
	Input Power	12-24 VDC nominal
	Current Draw	Measuring = 150 mA
Physical	Dimensions (L x W x H)	6.8 x 2.9 x 4.5 in (172.7 x 73.7 x 114.3 mm)
	Weight	Standard = 18.2 oz (517.10 g)
	Housing & Frame Material	Glass-filled polycarbonate
Environmental	Eye Safety	Class 1, 7 mm (FDA, CFR21) Class 1m (IEC 60825 - 1 : 2001)
	Shock / Vibration	MIL-STD-810
	Moisture	IP54
	Operating Temperature	-20° to 140° F (-28° to 60° C)

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Tel: 1.303.649.1000
Toll Free: 1.877.696.2584
Email: info@lasertech.com
Web: www.lasertech.com