

In|Time

The Next Evolution of
Travel-Time Analysis



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In|Time is a travel-time measurement solution that offers unprecedented accuracy through automatic license plate recognition. All collected data is encrypted as vehicles are individually tracked throughout a specified corridor. This real-time operation enables the collection and reporting of exceptionally-accurate travel-time data with virtually no data loss, all while protecting the anonymity of each motorist.



Reliable Real-Time Measurement is Essential

Transportation Infrastructure Degrades Over Time

Arterial and freeway systems require frequent evaluation and modification to maintain peak efficiency for traffic flows. Without accurate travel-time data, traffic engineers are limited in their abilities to effectively evaluate their infrastructure, prioritize improvements and implement solutions.

Unreliable Data Negatively Impacts Motorists

Motorists, freight operators and public transit agencies all depend on accurate travel-time data to set schedules and plan routes. Accordingly, the Federal Highway Administration (FHWA) has asked agencies to improve the quality of travel-time measurements through the use of reliable, real-time data collection.

Real Problems Demand Real-Time Solutions

Older, less-accurate data-collection and measurement methods may have worked in the past; however, with increasingly congested roads, a boom in commercial shipping and the need for fresh thinking about public transit, outdated technologies no longer meet contemporary needs.

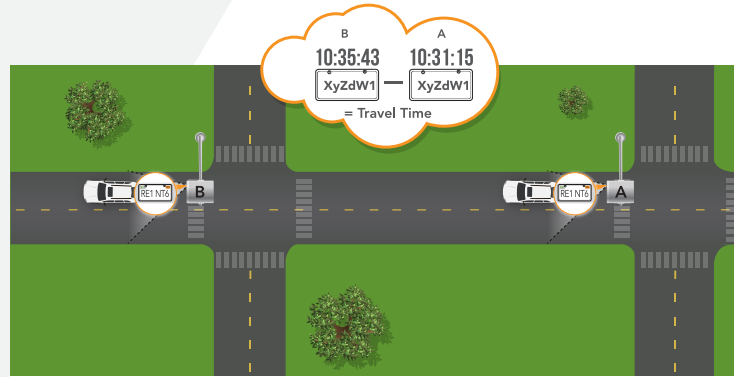


How In|Time Works

Automatic License Plate Recognition (ALPR)

Each vehicle is identified, time-stamped and given a unique ID as it passes the first In|Time camera. Its unique identifier is again registered and time-stamped when it passes a second In|Time camera, typically placed at the end of a corridor or arterial section being measured. The difference between the time stamps for a vehicle yields its actual point-to-point travel time. Anomalies either above or below a certain threshold are rejected by In|Time's data-acceptance model, returning 100 percent accurate travel time to the traffic professional.

In|Time passes each recognized license plate to the In|Traffic Central Command Console to encrypt and assign it a unique identification. This ID or "fingerprint" is then tracked throughout the travel route. The actual license plate data is never stored, safeguarding the integrity and anonymity of license plate information and the privacy of motorists.



Elements of the Solution

The In|Time camera combines a LED-illuminated, high-resolution ALPR camera, a secondary context video camera and onboard processor in a single device for instantaneous vehicle identification. It works day or night and in most weather conditions to accurately capture license plates up to 115 feet away and across two lanes of traffic. The short-pulse LED illuminator is effective for totally dark environments and eliminates motion blur, even for vehicles moving as fast as 200 mph.

In|Time can be accessed anywhere using a computer, tablet or mobile device. It displays real-time and historical travel-time data through either Google Maps™ or OpenStreetMap™, helping agency staff identify incidents and congestion as they happen across the transportation network.

Technology Comparison Matrix

In|Time's advanced algorithm can pinpoint the location, direction and time-of-capture for each vehicle. This makes In|Time significantly more accurate than any other travel-time measuring system, including Bluetooth and WiFi.

	In Time	Bluetooth	Wifi
Detection Range	Pinpoints Exact Location	32-328 ft.	up to 1640 ft.
Detection Rate	≥ 98%	20-25%	up to 40%
Overall Accuracy Rate*	≥ 95%	3-4%	35-40%

Product Specifications



Weight	10.1 lbs. (4.6 kg)
Size	2.5 in x 9.25 in x 11.25 in (63 mm x 235 mm x 286 mm)
Camera	ALPR – 1024 x 946 scan at 30 fps, monochrome, camera supports wide mode (1280 x 808) & full mode (1264 x 948) Context camera sensor: Color camera 640 x 480 @ 30 fps Camera lens options: 8 mm, 12 mm, 16 mm, 25 mm, 35 mm, 50 mm
Data Repository Software	Installation of In Traffic Data Repository (see In Traffic requirements)
User Portal	Latest version of a WebKit-based browser (Chrome, Safari, etc.) or Firefox Recommended screen resolution of at least 1920 x 1080
Camera Power	12/24VDC @ 27 Watts power required for camera operation (power supply provided with camera)
Camera Interfaces	HTTP ports open on client network for device IP Network port (RJ45) available in cabinet where device is located, with network access to In Traffic External interface: 1 x 10/100/1000 Base-T Ethernet port
Camera Operating Specifications	Water resistance: IEC 60529 IPx5, IPx7 IEC 60529 IP6x Vibration: MIL-STD-810G Method 514.6 Cat 4 Mechanical shock: <ul style="list-style-type: none"> • IEC 60068-2-27 Test Ea • IEC 60068-2-31 Test Ec, Procedure 1 Electromagnetic immunity & emissions: <ul style="list-style-type: none"> • FCC part 15 Subpart B ICES-003 Issue 4 • CISPR22 / EN55022 • CISPR 24 / EN 55024
Camera Temperature	-40°F to 140°F (-40°C to 60°C) operating -40°F to 185°F (-40°C to 85°C) storage IEC 60068-2-1 Category Ad IEC 60068-2-2 Category Bd IEC 60068-2-14 Category Na Includes hi-temp auto-shutoff protection
Plate Encryption	SHA-1 one way encryption, no non-encrypted data is stored