



Global Traffic Technologies



OpticomTM

GPS System

The proven solution for both
emergency vehicle preemption
and transit signal priority.



Global Traffic
Technologies

Signaling a new paradigm in traffic management and safety.

More than 35 years ago, Opticom™ System Technology started a revolution in traffic management and safety. Today the world is a far busier and much more crowded place—and the need for better-managed roadways is greater than ever.

The Opticom™ GPS System addresses this need with the next generation of signal preemption and priority for intersection management.

Featuring global positioning satellite (GPS) technology, as well as highly secure radio communication, the Opticom GPS system delivers safe, efficient results for emergency service and transit vehicles everywhere. At the same time, it gives traffic engineers a new level of intersection management and control. And it's all protected with a full range of installation, training and setup services to ensure optimal, long-term system performance.

Find out how easy it is to improve the safety and management of your roadways. Call your Global Traffic Technologies systems consultant or visit www.gtt.com.

About Global Traffic Technologies

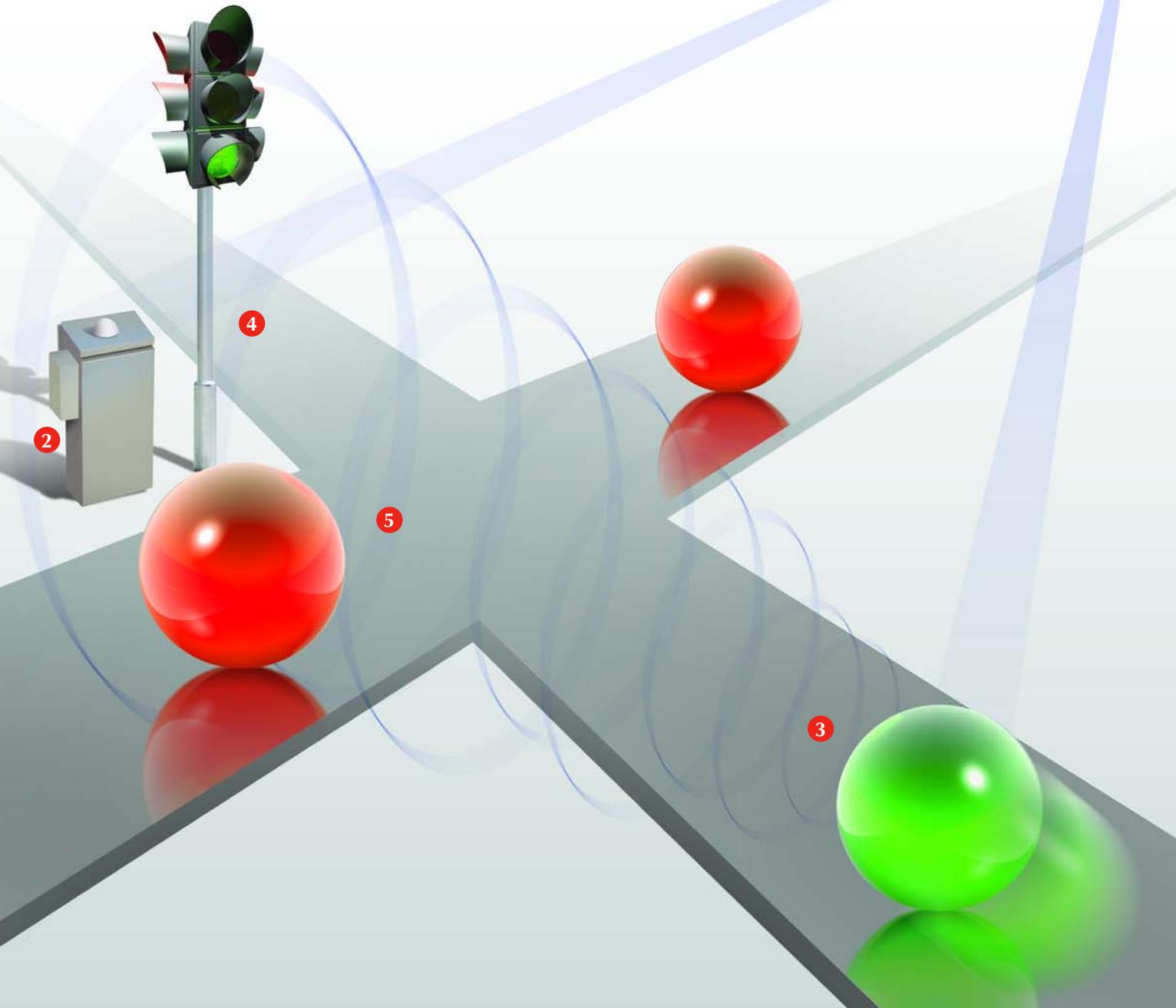
Global Traffic Technologies was formed from 3M's pioneering intelligent transportation systems. Our mission is to use our proven technologies and innovative mindset to improve traffic management and safety all over the world.



The intelligent intersection.

When an emergency vehicle responds to a 911 call or when a transit vehicle needs to pick up time, the Opticom™ GPS System gives those vehicles an advantage at intersections.

- 1 Using Department of Defense satellites, your Opticom GPS system vehicle equipment calculates vehicle speed, heading, longitude and latitude information.
- 2 The Opticom GPS system intersection equipment is programmed with an approach map to define corridors for priority control activity.
- 3 As the oncoming vehicle enters the intersection's radio range (up to 2,500 feet), the vehicle sends speed, heading and position information that is updated every second. The signal from the vehicle also transmits vehicle, class and agency ID information, as well as turn signal status.
- 4 The Opticom™ GPS system intersection equipment sends the priority request to the Opticom™ GPS Phase Selector in the controller cabinet, which requests green-light priority through normal controller functions.
- 5 The system recognizes the activated turn signal and relays the priority call forward to the next appropriate intersection on the route.





For emergency services:

Faster response for a world where every second counts.

Studies show that an effective signal preemption system improves response times by an average of 20%, while simultaneously reducing crashes at controlled intersections.¹ And it's no secret that response times and risk mitigation are critical in the emergency service world. The Opticom GPS system provides unique, precise control that anticipates vehicle movement and helps responders get to their destinations as quickly and safely as possible.

Improves safety by eliminating priority conflict at the intersection

- Authorization is granted on a “first-come, first-served” basis.
- Vehicle descriptors enable streamlined coding activity.

Facilitates safe, efficient movement through turns

- Turn signal recognition and relay leads preemption in the intended direction.
- Turn signal recognition clears right-of-way around corners.

Integrates easily with industry standard communication applications

- System provides GPS data output for other onboard devices.

Provides precise activation and data reporting

- Activation is based on estimated time of arrival (ETA) and/or distance.
- Superior preemption log accuracy improves liability identification.



For traffic engineers:

Easy integration into your current intersection management system.

The Opticom GPS system helps the people who manage intersections as much as it helps those who need to get through them. The system can be easily integrated into existing intersection systems. It's designed for efficient installation and compatibility with most traffic controllers. And it supports both emergency and transit services, with separate priority levels for signal preemption and priority—eliminating redundant systems and the potential for conflict at the intersection. One system for multiple agencies.

Streamlines intersection installation and maintenance

- Single intersection radio/GPS unit receives information from all directions.
- System accommodates hills, curves and varied distances without the need for advanced detectors.

Minimizes traffic disruption

- Turn-signal-dependent mode recognizes the need for protected left turns, reducing potential traffic delays.
- Adjustable activation, based on ETA and/or distance, enhances green time efficiency.

Integrates easily into current cabinets

- Opticom™ Phase Selector plugs directly into CA/NY 170 and most NEMA hardware.
- Opticom phase selectors are compatible with most traffic controllers with internal preemption and priority.

Software enables implementation and management

- Opticom™ ITS Explorer Software facilitates configuration, monitoring and diagnosis, and produces system reports.



For mass transit operations:

Lower costs, happier riders and reduced environmental impact.

Whether you're looking to improve headway, increase schedule adherence or activate queue jumping, the Opticom GPS system will serve you well. It provides a temporary advantage to individual buses, as needed, to help them catch up to schedules and maintain progression—crucial factors for maintaining a loyal rider base and attracting newcomers. Improving route timing by 10% or more may help you reduce your fleet needs.²

Provides precise activation of priority requests

- Activation can be based on ETA and/or distance, reducing traffic disruption.

Enables automated operation

- Unit communicates with AVL for conditional priority, enabling automated operation.

Integrates easily with industry standard communication applications

- System provides GPS data output for other onboard devices.

Provides per-vehicle identification data

- Detailed information eases creation of “before and after” effectiveness reports.
- Data enhances traffic signal controller reporting.



¹ *Traffic Signal Preemption for Emergency Vehicles: A Cross-Cutting Study*. January 2006: Federal Highway Administration, et al.

² *Transit Signal Priority (TSP): A Planning and Implementation Handbook*. May 2005: Smith, Hemily, Ivanovic for Intelligent Transportation Society of America.



Opticom™ GPS System Intersection Equipment Matched Components – Pole Mount: Opticom™ Model 1010 GPS Radio Unit, Opticom™ Model 1030 GPS Auxiliary Interface Panel, Opticom™ Model 1000 GPS Phase Selector



Opticom™ GPS System Vehicle Kit: Opticom™ Model 1020 or 1021 GPS Vehicle Control Unit, Opticom™ Model 1012 GPS Radio Unit, Opticom™ Model 1050 GPS/Radio Antenna



Opticom™ GPS System Intersection Equipment Matched Components – Cabinet Mount: Opticom™ Model 1012 GPS Radio Unit, Opticom™ Model 1050 GPS/Radio Antenna, Opticom™ Model 1030 GPS Auxiliary Interface Panel, Opticom™ Model 1000 GPS Phase Selector

Contact Global Traffic Technologies to learn more about service, maintenance and turnkey solutions in emergency vehicle preemption and transit signal priority that improve the quality of life for everyone in the community. Call **1-800-258-4610**, or visit us at **gtt.com**. The method of using the components of the Opticom™ GPS System may be covered by U.S. Patent Number 5,539,398 and Canada Patent Number 2,178,339. The use of Opticom GPS System components may be covered under one or more of the following U.S. Patent Numbers: 5,602,739; 5,926,113; 5,986,575; 6,243,026.



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