Medical Express Ambulance & Children's Memorial

SAFETY HIGHLIGHTS

September 2010

I. Communications & Routing

- Nextel & Programming (EMT & Team)
- Cell Phones
- Pagers
- Nomad
- MERCI Radio & List
- Tom – Tom (pre-trip plans)
- Map Book (pre-trip plans)

II. Design & Equipment

- Control Panel (Front and Back)
- Overhead lighting
- Blanket Warmer
- O-2 and Medical Air Tanks (on-board & storage)
  - Testing of Port Pressures
- On Board & Portable Suction
- Shore Line Connection
- Sharps Containers
- Team Bag Compartment

III. Operations

- Seat Belts
- Traffic Law Compliance (Stop Lights & Signs)
- Accidents – Come upon the scene or Involved
- Inclement Weather & Aborting if Safety Concern
- Entering & Exiting the Ambulance
- Equipment in Cabinets & Securing of Equipment
- Patient Loading & Unloading (Hands On)
- Secure Idle
- Use of Lights & Sirens
- Rate of Speed
- Refueling Procedures
- EMT Duty & Rest Time
- Keeping Doors Locked
- Use of Road Shoulders
- Drivers Who Tailgate
- New Orientation – Recording

IV. Cleanliness

- Beginning of shift and after every call
- Patient, Crew & Storage Areas
- Eating in the Ambulance
- Updated crew assignments
- "You Get What You Inspect"

V. Vehicle Breakdown & Other Hazards

- Decision to Stay in the Vehicle or Exit (Dictated by Imminent Threats)
- Ambulance Evacuation
- Hazardous Material Recognition & Response
- Survival Training / Techniques / Equipment
  - Hot Packs; Heavy Duty Gloves; Snow Shovel Saw; Mylar; and Other Items
- Fire Suppression
- Review Safety Bag (Hands On)
- Use of Road Hazard Equipment
- Flats
- Hot Weather & Floods

VI. Maintaining a Safe Work Environment – Create a Culture of Safety

Communications and Follow-up is Key Regarding Safety Issues -- Everybody is a risk manager!!!

Safety Class Notes

I. **Communications & Routing**

II. **Design & Equipment**

III. **Operations**

IV. **Cleanliness**

V. **Vehicle Breakdowns & Other Hazards**

VI. **Creating a Culture of Safety**

TO: ***THE ENTIRE FIELD TEAM***

FROM: ***JIM WITTEMAN***

RE: ***WINTER BLIZZARD – DRIVING SAFETY***

DATE: ***31 JANUARY 2011***

We want you and your patients to stay safe on the roads. By following these tips and advice, you will be better prepared. Don't forget: ***Ice and Snow, take it Slow!***

- ***Cushion of Safety and Speed:*** Drive slower and increase your cushion of safety between you and the vehicles around you. The faster you're going the longer it will take to stop. When accelerating take it slow to avoid slipping or sliding.
  Give snowplows room to work. Plows are wide and can cross the centerline or shoulder.
- ***Seatbelts:*** As always, your vehicle should not be in gear until all are seat belted in place. This applies to everyone – front cab and patient care area. All patients will be in their x5 point restraint belts on the stretcher.
- ***Brake:*** Brake early and when necessary – press the brake pedal down firmly and hold it. Give yourself plenty of room to stop.
- ***Control:*** When driving in ice or snow, do not use cruise control and avoid abrupt steering maneuvers. When merging into traffic, take it slow. Sudden movements can cause the vehicle to slide.
- ***Ramps & Bridges:*** Ramps & Bridges can be a hazard in blizzard conditions. Drive slower than the posted speed. Whenever you feel the rig slip or slide – decrease your speed.
- ***Wind Gusts:*** Be aware of the wind. Remember to maintain a firm hold of the stretcher. Also, hold doors when exiting & entering the vehicle. Watch the rear doors when loading/offloading they can slam on you or your patient.
- ***Clear:*** Keep your vehicle windows clear of ice. Make sure that your wiper fluid is filled as you begin your shift.
- ***Start of Shift Vehicle Check:*** Make sure you perform your SOS vehicle check. Insure that all is safe and operational.
- ***Plan:*** Plan your routing before driving the ambulance.
- ***Distracted Driving:*** Do not be a distracted driver – stay focused on driving conditions. Do Not: Text, talk on Cell. Phones, Adjust radios, Use audio devices in your ears, Use Nomad while driving....
- ***Limited Visibility:*** Stay attentive and reduce speed. Be aware of what's going on around you. In heavy snow conditions use low beams not high beams.
- ***Status Dispatch:*** If you are delayed more than 15 minutes keep status dispatch. Contact dispatch or operations in the event of any accident or incident.
- ***Stretcher use On Ice & Snow:*** Control and hold on to the stretcher at all times. Scan ahead and be aware of conditions that may affect stretcher movement. Keep the stretcher as low as possible while still enabling you to safely control the stretcher (should never be in loading position with patient unless loading into the vehicle). With Power-Cots: Loading / Off-loading of the Power-Cot, x2 people should be at the foot of the stretcher lifting in/out of the ambulance (after one person confirms that the stretcher has been safety hooked).
- ***Vehicle Gets Stuck in Snow:*** Contact dispatch or operations immediately. Keep the front wheels straight, place the vehicle in gear to get the stuck tires on a higher level → Stop the vehicle fully when on the higher level → Place the vehicle in the opposite gear (after tires stopped moving) and gently, along with vehicle inertia pull out of the rut. If this doesn't work call dispatch or operations and request assistance. We have provided you with shovels in order to assist you.
- ***Extreme Cold Temperatures:*** Should the temperature be colder than 20 degrees, avoid turning diesel engines off.

SAFETY REMINDER

To: ***Entire EMS Team***
Re: ***Use of Stretcher Belts***

Whenever a patient is on the stretcher you must use the: x2 Lap Belts and the x4 – Point Shoulder Restraints.

Make sure you check the stretcher at the beginning of your shift for this equipment.

If you are unable to secure your patient safely in all of these straps, you are to contact your operations supervisor prior to transport and advise of the reason the straps cannot be used. Be sure to document on an Incident Report the reason straps cannot be used.

Thank you for making safety a priority.

SAFETY REMINDER

To: ***Entire Field Team***
Re: ***Driver Safety***
From: ***Jim Witteman***

Code 1 Driving: Drive with due regard with the safety of you, your partner, your patient and the community in mind. You do not have the right of way, you request the right of way when operating Code 1.
Red lights & Stop signs: Stop at all stop signs and red lights. After confirming that there are no people or vehicles entering the intersection then you proceed with caution.

Backing of Ambulances: Size up the scene prior to backing. Check for: Overhangs, obstacles, people, dumpsters. When in doubt get out and check. Roll your window down so you can hear, do frequent mirror checks, back with caution. If you have no patient in back you are required to have your partner spot you. The spotter backs on the operator side (unless it is unsafe to do so or due to other obstacles). The spotter will keep an eye for all of the above. The driver and spotter will make sure that they see each other in the side view mirror. When the spotter drops out of view, the driver stops the ambulance.

Adverse Weather Conditions: Keep your headlights on. Slow down. Hydroplaning can occur at speeds lower than 30 mph. Increase your following distance. Increase your cushion of safety.

Preventable Accidents: Should you be involved in an accident that you could have prevented you will be suspended. If you are involved in an accident in which you are at fault or you have caused you may be separated from MedEx.

Thank you for making safety a priority at MedEx.

Memo

To: All MedEx Field Personnel

From: Jeff Collins; Jim Witteman

CC: Management

Date: November 4, 2009

Re: Driving

There has been an increase in the number of preventable accidents by crew members and other employees. This memo serves to advise everyone who may drive on behalf of Medical Express Ambulance to drive in a manner that is safe for you, your partner, your patient, and the community. Remember to practice what you learned in CEVO, including cushion of safety, scanning ahead, communicating with your partner/spotter, and driving with due regard.

Any accident can lead to serious injuries. Accidents, in addition to personal injuries, can also cause considerable damage to vehicles and equipment. Please exercise safe driving principles to prevent injuries and damage to vehicles and equipment.

Crews involved in an accident, regardless of how minor it may seem, must report the accident to Dispatch as soon as possible so that the proper notifications can be made. Crews may not report accidents via the Drive Cam. A vehicle accident is defined as any contact between a vehicle and any other object, including but not limited to people, other vehicles, and stationary objects. There need not be any visible damage to the ambulance or the object struck to constitute an accident. When in doubt, contact your supervisor to determine what type of report is to be prepared.

Management and our insurance company investigate all accidents. Drive Cams are downloaded and reviewed on a regular basis. Accidents determined to have been preventable will result in disciplinary action and may result in immediate termination. Failure to report accidents will also result in disciplinary action and may result in immediate termination.

Attached to this memo are safety reminders. Please review them and put them into practice. Please contact Jeff, Jim, or an Operations Supervisor with questions.

SAFETY REMINDER

Turning Your Vehicles Off:

Turn the vehicle off and let the vehicle cool down in hot weather. Consider this, would you let your personal vehicle run continuously? While posting or holding an area you can follow this simple procedure: Let the Communication Center know of your location and let them know you will be stepping into a particular facility to keep cool; Shut the vehicle off and make sure that all of your electrical is off and that your master switch(es) are off; Move valuable items and patient information out of view of the windows; Lock all doors to the vehicle; Take your keys, pagers and Nextel radio with you; Stay together; and Let your ambulance cool down. When you return status the Communications Center when you get back in the vehicle.

Be sensitive while parking at facilities as well as the community around these facilities: Make every effort to turn off your vehicle in order to minimize exhaust exposure to the community.

This practice will keep the engine cooler and minimize fuel consumption.

Adverse Weather Conditions (Water on Road Surfaces):

Avoid driving through standing water that is higher than the level of the axle on the MedEx vehicle you drive. Watch for the signs of standing water that may be too deep: Stalled vehicles in or just outside of standing water; Water levels breeching the bottom of doors on cars; and Water over the level of curbs. Keep in mind that vehicles such as fire apparatus and larger trucks have chassis that may be much higher than yours. Following these vehicles will place your safety (and patient safety) at risk. The vehicle may also be in jeopardy of breakdown and may result in major financial loss. When a road is closed due to standing water that means it's closed. Always status dispatch if your route is detoured (or patient access or transport may be delayed) due to situations that may include standing water.

You should keep your headlights on at all times. Slow down when the pavement is wet. Hydroplaning can occur at speeds less than 30 mph. Increase your following distance and increase your cushion of safety.

SAFETY REMINDER

Priority 1 Driving:

Drive with due regard for your safety, and that of your partner, your patient and the community. Due regard means that you must operate your vehicle while looking out for the welfare of all other users of the roadway. Driving Priority 1 does not give you the right of way; you request the right of way from other drivers when operating Priority 1. Remember that in Priority 1 driving, you must use **both** lights and sirens. During Priority 1 driving, stop at all stop signs and red lights and scan the intersection. After confirming there are no people or vehicles entering the intersection, proceed with caution.

If you are involved in an accident, you are not absolved from responsibility simply because you were using lights and sirens.

Backing of Ambulances:

Scan the area prior to backing. Check for:

- People
- Dumpsters
- Light poles
- Obstacles
- Overhangs
- Any other item(s), which may cause a potential backing hazard.

Before putting the vehicle in reverse, roll down the driver's side window. This will allow you to listen for any warning sounds and reduce in-cab noise such as fans. While backing up, frequently check your mirrors. If there is no patient, your partner **must** exit the vehicle and act as a spotter. The spotter should be on the operator's side unless it is unsafe to do so or due to other obstacles. The spotter has an important responsibility to act as the driver's eyes. The driver and spotter must have agreed upon hand signals and communicate with each other and be visible to each other in the driver's side view mirror. If the spotter drops out of the driver's view, the driver must stop the ambulance immediately.

Adverse Weather Conditions:

Keep your headlights on. You should keep your headlights on at all times. Slow down. Hydroplaning can occur at speeds less than 30 mph. Increase your following distance which increases your cushion of safety.

Special Considerations:

School is in session. Please be aware of children in crosswalks, exiting school buses, and riding bikes. Their safety is your responsibility.

Medical Express Ambulance Service

Policy and Procedure: ***Opticom – Emergency Vehicle Preemption System (EVP)***

Date: 2-1-2012

Policy:

The Opticom Emergency Preemption System (EVP) will be activated automatically. The EVP will assist in traffic control when the ambulance is in the emergency mode and when there is a light traffic controlled intersection with an EVP receiver.

Procedure:

The Opticom (EVP) is the center positioned strobe light on the front top of the ambulance. The EVP will activate automatically when the: Engine is running; Master switch is on; Primary emergency light function is on and the ambulance is in drive.

When the Opticom is on it may activate any intersection that is equipped with EVP reception. Activation may result in an intersection light changing to a green light. The City of Chicago currently does not have any preemptive intersections. Some of the suburbs do have preemptive activation potential.

In the event there are two emergency vehicles with an EVP coming to an intersection, the vehicle who's EVP activates the receiver first will get the green light.

Regardless of whether the Opticom (EVP) controls the intersection or not ***All MedEx traffic and safety practices will be adhered to at all times:***

Red Lights or Stop Signs: Come to a complete stop and proceed only after confirming that there is nothing on approach into the intersection. After confirming it is safe to proceed through the intersection then advance one lane at a time driving slowly through the intersection.

Stay Yellow or Yellow: Slow down, cover the brake on approach to the intersection and make sure the intersection is cleared before proceeding. Be prepared to stop.

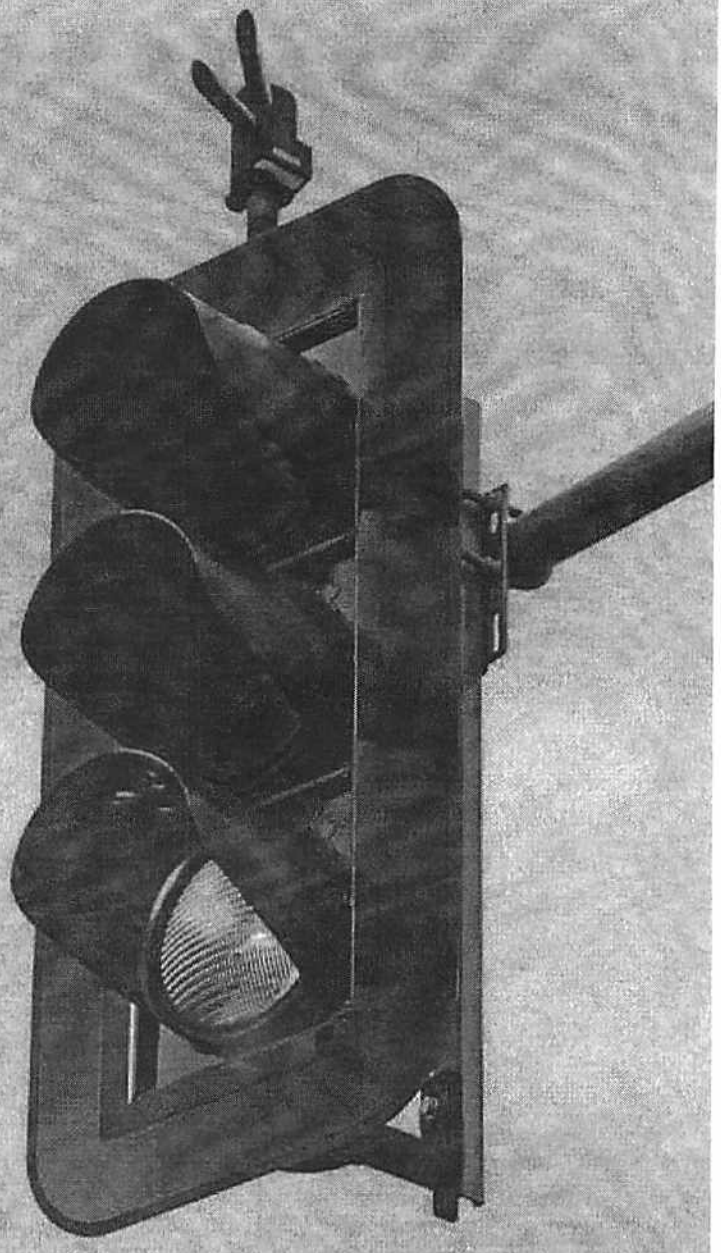
Stay Green or Green: Cover the brake before entering the intersection. Make sure that the intersection is cleared before proceeding through.

Remember: You must be a defensive driver. Stay in control of the ambulance at all times. Be alert at all times. All occupants must be seat belted at all times. Stay alert. Never be a distracted driver. Always expect the unexpected. You are requesting the right of way when operating lights and sirens. Failure to obey Emergency Driving Procedures and unlawful use of lights and sirens may result in immediate discharge.

As with any equipment or vehicle failure, immediately report any failure in the operation of this EVP device.

GTT

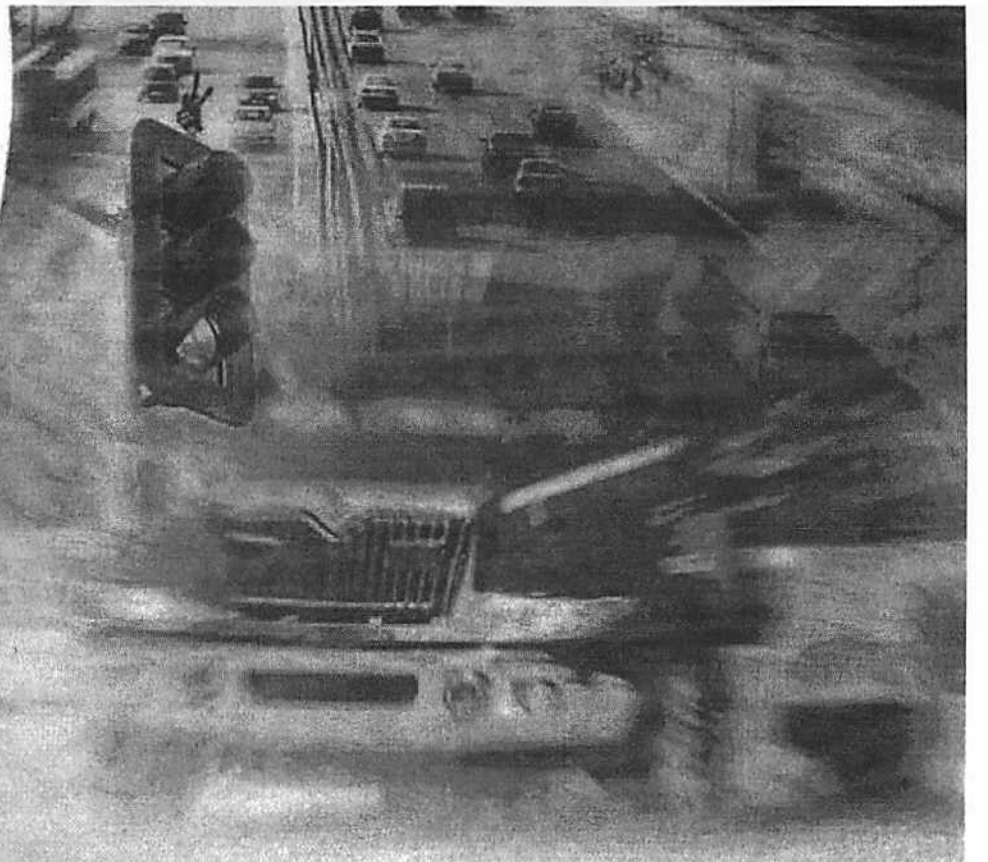
Building critical traffic connections℠



Opticom™

Infrared System

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



GTT

Building critical traffic connections℠

Helping manage the world's traffic problems, one intersection at a time.

As the world becomes a busier and more crowded place, traffic concerns are growing everywhere.

The Opticom™ Infrared System can go a long way toward meeting these challenges. Using coded infrared transmitters mounted on your emergency and transit vehicles, the Opticom infrared system communicates securely with the intersection traffic controller to gain a temporary right of way. The system has been proven effective at thousands of installations all over the world—helping elevate safety, minimize traffic disruptions, accelerate response times, improve service reliability, reduce crashes and save lives.

So whether you work in traffic management, transit or emergency services, you now have the ability to manage intersection traffic flow. And that can make a big difference in the efficiency, reliability and safety of your roadways.

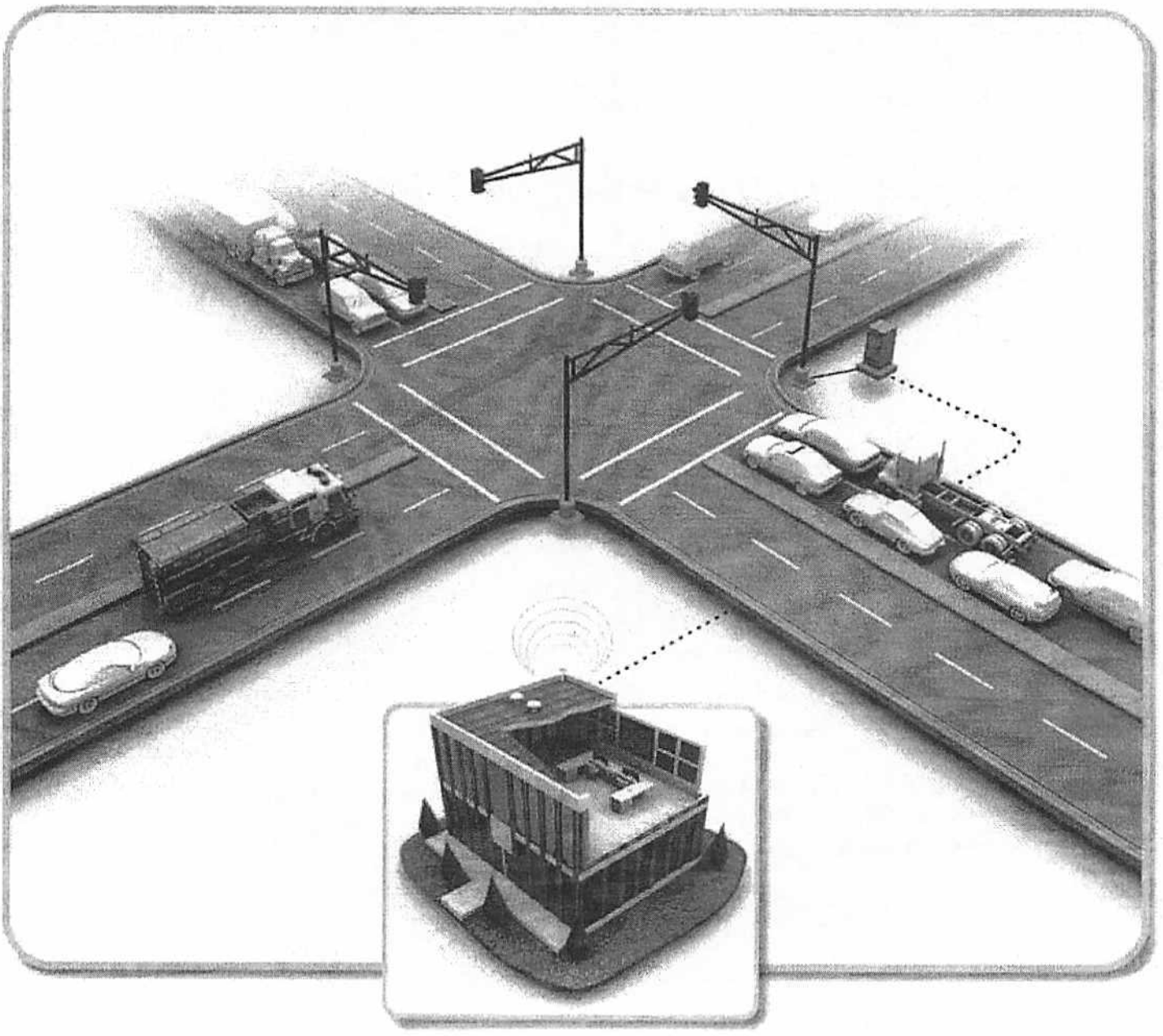
About Global Traffic Technologies

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 schedule time, the Opticom™ Infrared System gives equipped vehicles an advantage at intersections.

1. An Opticom™ Emitter mounted on the vehicle activates the system by broadcasting a secure, encoded priority request to the intersection.
2. An Opticom™ Detector at the intersection receives the infrared transmission and relays the request to the phase selector.
3. The Opticom™ Phase Selector validates the request and provides input to the traffic controller, which then provides a green light through normal operations.
4. In a manner that appears natural, the vehicle gains valuable time along the route without hindering overall traffic flow.



ENHANCING PUBLIC SAFETY

SAVING LIVES

Emergency Vehicle Preemption

Traffic Congestion Delays Emergency Vehicles

"It is next to impossible for an emergency vehicle driver to be assured that all the traffic at an intersection is aware he is proceeding through the intersection. New soundproof cars and louder stereo systems often override the awareness of a siren. Our emergency vehicle drivers rely on emergency vehicle preemption to improve their response safety and the safety to the public."
—Ray Digby, Fire Chief, Nanaimo, Canada

Rapid growth in our nation's cities has significantly increased traffic congestion at major intersections. To improve emergency vehicle response times and safety, as well as to resolve the challenges that extended rush-hour commutes and gridlock situations present to drivers of emergency vehicles, communities are turning to emergency vehicle preemption systems for traffic signals.

"We can provide a better response time to fire and emergency medical service (EMS) vehicles en route to an emergency. We're equipping our signalized intersections with emergency vehicle preemption, a system that enables the drivers of fire and EMS vehicles to change red lights to green, moving them more efficiently through intersections."
—Tom Outlaw, Deputy Assistant Director, Traffic and Transportation Division, Houston Public Works and Engineering Department

Emergency Vehicle Preemption Creates Efficiency in Motion

Emergency vehicle preemption allows fire trucks and ambulances to intervene in the normal operation of traffic control systems using wireless communications installed on traffic intersections and emergency vehicles.

As the emergency vehicle approaches a traffic signal, it is recognized by the traffic signal controller through light, radio waves, or sound. The normal green-yellow-and-red cycle can then be interrupted to change the light to green.

Nationwide, officials experienced in emergency vehicle preemption are praising the rewards of this system.

"The benefits in terms of improved response times and safety are highly desirable. We believe emergency vehicle preemption for ambulances and fire trucks is of significant value to warrant its application."
—George Human, Transportation Director, Richardson, Texas

Fairfax County, Virginia

First Responders Arrive at Scene Faster with Emergency Vehicle Preemption

Shorter response times for emergency vehicles enable them to arrive at a scene in the initial moments when their key decisions are important. For a fire fighter, arriving a minute sooner at a scene may mean being able to stop the spread of fire. In a medical emergency, saved time may be the difference between life and death, giving medics the opportunity to stabilize and treat a victim.

Emergency vehicle preemption increases:

- Speed of responders in reaching a scene
- The time available for making critical decisions

And potentially reduces:

- Damage to public and private property caused by delayed responses to fires, chemical spills, and other hazardous events
- Fatalities

"We are installing traffic signal preemption on a large-scale basis in the City of Cheyenne. The demonstration system now in place for our main fire station shows signal preemption to be vital for public safety—it significantly reduces response times, virtually eliminates the risk of emergency/civilian vehicle collisions in the protected areas, and dramatically lowers the stress levels that fire fighters experience while transiting the protected intersections."
— Mike Pfender, Traffic Services Superintendent, Cheyenne, Wyoming

Giving Emergency Vehicles the Green Light to Save Lives and Property

Realize Cost Savings with Emergency Vehicle Preemption

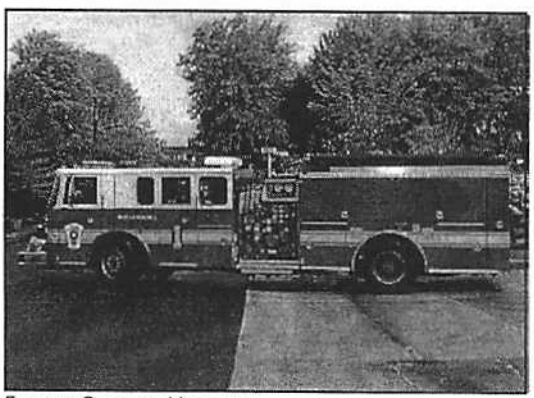
Consider the costs to city budgets of one traffic incident involving an emergency vehicle. The scene of the emergency loses its critically needed assistance, and a second crisis is created. Additional local or nearby emergency vehicles must be dispatched to both scenes, straining limited resources and increasing the chances for yet another incident.

Emergency vehicle preemption increases:

- The area that emergency vehicles can cover in required response times
- Safety of emergency vehicle personnel and the public

And reduces:

- Costs of replacing emergency vehicles damaged in crashes
- Legal liability of public agencies when motorists are injured



Fairfax County, Virginia

"The highest rate of return for an investment is when lives are saved. We know our AVL [Automatic Vehicle Location] and vehicle preemption systems have saved lives."
—John Nelson, Phoenix City Councilman

"We've had cases with six figure claims against us that we could successfully refute because we had the technology to prove that our driver had the green light. We can also substantiate the training our drivers have had and the protocol they follow when using the preemption system. This translates into substantial savings in claims to the community."
—Richard Gonzales, Fire Chief, Denver, Colorado

"As congestion increases, we must find ways to allow emergency vehicles to move freely on our streets, sometimes even at the expense of general traffic. We are using signal preemption systems as one way to get the fire vehicles where they need to go."
—William Kloos, Signal System Manager, Portland Office of Transportation

"There is a difference driving through signals where we know we will have the green light. We are driving much safer, and not having to stop is improving our response by a considerable amount of time."
—Captain Pat Davies, Logistics Department, Portland Fire Bureau

INTELLIGENT TRANSPORTATION SYSTEMS

U.S. Department of Transportation
Room 3422, HVH-1
400 7th Street, SW
Washington, DC 20590
Phone: (202) 366-0722
Facsimile: (202) 366-3302
Or visit our web site at www.its.dot.gov

FHWA-JPO-99-002

Opticom™ Infrared and GPS Systems
Emergency Vehicle Preemption (EVP) Systems

Benefits of Using Opticom™ Systems:

- ✓ Emergency vehicle preemption (EVP) and transit signal priority (TSP) systems are compatible and can be integrated in your community - one investment benefits multiple agencies
- ✓ Opticom systems for EVP and TSP can be deployed easily within 90-120 days
- ✓ Over 35 years of proven industry and product performance – GTT was formed from 3M's pioneering intelligent transportation systems
- ✓ 1 Job-year creation for every 5 intersections installed (350,000 intersections in the US)

Benefits of Using Emergency Vehicle Preemption:

- ✓ Improve health and well being of emergency personnel - reduce driver stress, lowers accident potential and cost of injured personnel
- ✓ Reduce liability exposure and improve safety of emergency personnel – safer passage through intersections, lower accident potential (up to 70% crash reduction)
- ✓ Increase mobility & accessibility – interoperability between jurisdictions by supporting mutual aid response, improve response efficiency by expanding coverage
- ✓ Improve public safety – reduce incident response times for Police, Fire & Ambulance
- ✓ Improve travel time to meet NFPA 1710 Standard in Fire Operations - reduce response time by an average of 20%, reduce total idle/stop time during incident response
- ✓ Reduce cost in fire/rescue and EMS planning –investment of additional vehicles, stations and personnel
- ✓ Reduce maintenance and impact on vehicle systems – less braking and less stops
- ✓ Reduce cost of fuel consumption – less braking and idling during incident response
- ✓ Increase environmental stability - reduce "emissions" via shortened travel time and reduced number of stops and idle time
- ✓ Reduce cost of insurance premiums – lower incident rate (crash rates) with safer passage through intersections.

References:

"Desktop Reference for Crash Reduction Factors" USDOT/FHWA (Report No. FHWA-SA-07-015) Sept 2007

"Traffic Signal Preemption for Emergency Vehicles: A Cross Cutting Study" FHWA, January 2006

"Intersection Traffic Preemption System Expansion Proposal" City of Surrey, October 2003