

**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