Fire Products › Fire Apparatus

Could traffic preemption reduce fire response times and save lives?

Once overlooked as expensive and impractical, signal preemption has come a long way since the 1970s

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It's all too common and frustrating to be stuck in gridlocked traffic, unable to move your apparatus as you're rushing to a fire. Even if you have some drivers trying to get out of the way, often many drivers simply do not see or hear your emergency response vehicle.

Every fire department wants to provide its citizens with the safest, yet fastest response time possible, but distracted drivers and general traffic are obstacles.

But what if you could turn that red light green before you got stopped? The good news is that there's already a wireless technology known as traffic signal pre-emption that's been around since the early 1970s. When it was first introduced, this tool was music to the ears of first responders, but it came with several challenges. Not only was it too

costly for many departments, but often the preemption transmitter would have a very limited range that often didn't give enough optimal green time for emergency vehicles to successfully pass through.

But all of that has changed over the past few years, according to Goshen Fire Department Chief Danny Sink, who says signal preemption has become an affordable option for small to mid-sized fire departments across the country.

DRIVING FASTER, SAFER RESPONSES

Unfortunately fire apparatus accidents plague departments year after year. According to the United States Fire Administration, vehicle crashes account for the death of approximately 20 to 25 percent of the annual line-of-duty deaths.

In Goshen, Indiana, the fire department saw shorter response times after using a traffic preemption system. (image/iStock)

Making fire safety improvements is an ongoing effort in all corners of the nation, but making those improvements without lengthening response times continues to be a challenge. Chief Sink wanted to do something to protect providers and prevent accidents from happening in advance. He looked into the Eliminator, a traffic pre-emption system, as an option to cut dispatch response times while also protecting everyone from possible collisions.

Within just a month of introducing the Eliminator to several busy intersections around Goshen, the agency saw shorter response times.

"The system allows us to work through traffic at a sustained pace, especially at some of those angled intersections that are more prone to accidents which prevent civilians from seeing our apparatus," Sink said. "This makes us a safer department while decreasing our response times"

The Eliminator gives fire rescue staff total visibility into traffic signal pre-emption status. It also offers a touch screen that displays traffic signals and other vehicles equipped with pre-emption technology over a real time map.

"The system is completely automatic and doesn't require any intervention on the driver's end," Sink said.

When combined with proper seat belt use, pre-emption technology can protect first responders in transit and save departments the hefty cost of an accident. When your emergency response vehicle collides with a civilian when the civilian has a green light there's the

question of right-of-way and liability. By changing the light to green ahead of time not only does it create a safer, faster, less congested path for your apparatus, but it also solves the problem of liability because your vehicle now has the right-of-way.

FITTING TRAFFIC TECHNOLOGY INTO YOUR BUDGET

When Chief Sink looked for a pre-emption solution, he knew his department couldn't wait for another grant cycle and had to make the purchase directly from his department budget.

Unlike pre-emption technologies that rely solely on line-of-sight optical technology, the Eliminator uses GPS positioning and 900 megahertz radio transmission to pre-empt traffic signals. But the good news is that Collision Control's pre-emption technology is available at a price comparable to a standard optical system both at the intersection and in the vehicle (that's a fraction of the price your typical GPS-based solution would go for.)

Drivers can see the pre-emption as it happens to traffic lights without the department needing to pay for confirmation lights in a traffic signal, which would have tagged on an additional maintenance fee. The purchase was a no-brainer, Sink says.

"Collision Control charged us a third to a half of the price I've seen and heard from other fire chiefs with pre-emption products," he said.

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When people call 911, they're having an emergency and need an immediate response. The threat of a costly collision and the potential to shave precious minutes off response times make traffic signal pre-emption systems worth a second look.