

Emergency Vehicle Preemption (EVP)



What is Traffic Signal Preemption?

- ▶ **Traffic signal preemption** is a type of system that allows the normal operation of traffic lights to be preempted.
- ▶ The most common use of these systems is to manipulate traffic signals in the path of an emergency vehicle, halting conflicting traffic and allowing the emergency vehicle right-of-way, to help reduce response times and enhance traffic safety.

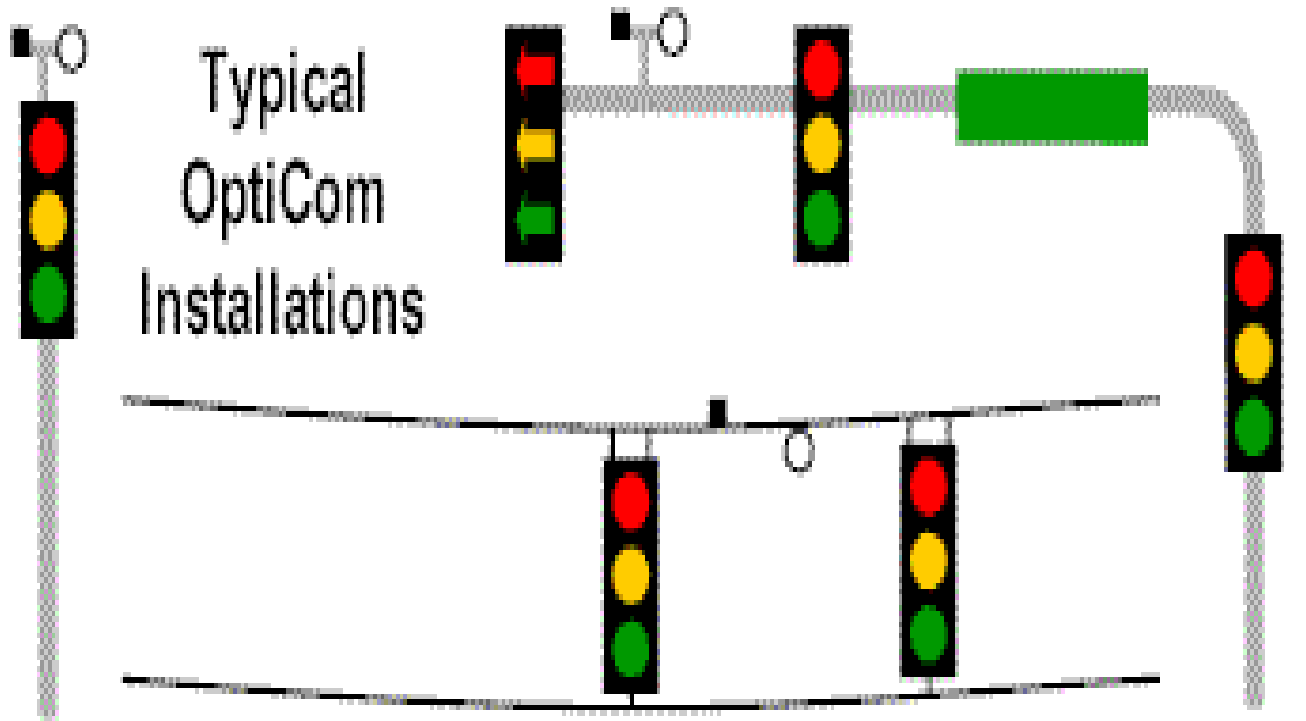
Why is Signal Preemption Important?

- The Fire Department uses a standard of 8 minute response times 90% of the time.
- Without Preemption, there could be a reduction in emergency response times by **25 percent or higher**.
- Population growth equates to more congestion. Austin's population has grown to **over 38%** in the last fifteen years.

Opticom Type Device



Examples of Receiver Locations



Current Status of Preemption Devices

- ▶ Infrared (IR) Opticom installed in the mid-1990s.
- ▶ Devices are tested quarterly, roughly about 115 devices.
- ▶ A technician visits each location and uses an emitter which mimics the signal the emergency vehicles broadcast.

Current Use of Preemption Devices

- ▶ Line of sight can be obtained from about 2500 ft.
- ▶ All AFD Apparatus are equipped with emitters
- ▶ Requires 10 to 15 flashes per second from strobes, only emergency vehicles equipped with the strobe can activate it.

The Future of Preemption Devices


- ▶ The current trend for new EVP systems is to shift away from the traditional optical based systems that use line of sight.
- ▶ The industry trend appears to be shifting toward a global positioning system (GPS) in which each vehicle communicates with traffic signals through a radio signal.

Benefits of newer GPS type Technology

- ▶ Reduce intersection crash rates by up to 70 percent
- ▶ Improve response times by up to 25 percent
- ▶ Accommodate hills, curves and extended distances without additional detectors
- ▶ Activate signal preemption based on estimated time of arrival or distance
- ▶ Achieve interoperability with most traffic light controllers

AFD's Support for Next Generation EVP

- ▶ In **January 2018**, a letter was sent by the Fire Chief to the Capital Area Metropolitan Planning Organization (CAMPO) in support of the Austin Transportation Department's Emergency Vehicle Preemptive Project.

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- ▶ 2 minute Video on emergency response with and without preemption devices

Questions

