

Fire Department

To: Finance Committee

From: Chief Tanya Reynen

Date: 4/24/2025

Subject: Emergency Vehicle Preemption system

Background

The fire department is relocating to a new station located just off State Highway 26—a busy corridor with several traffic signals between the station and key city areas. Without a traffic signal preemption system, these intersections could slow down emergency vehicles and increase the risk of accidents during responses. City Council has supported implementing an emergency vehicle preemption (EVP) system as part of planning and constructing the new fire station. EVP systems allow emergency vehicles to automatically control traffic lights, turning them green in the direction of travel. This helps clear intersections and reduce response times.

EVP provides faster response times by reducing delays at intersections, improved safety for emergency responders and the public and smoother and more predictable travel during emergency calls. Miovision reports a 70% reduction in intersection crash risk and 14–20 seconds of time saved per intersection during emergency responses.

EVP implementation has been funded as a capital project for 2025 after two years of review and unsuccessfully seeking grant funding. Current Fire department administration reviewed past recommendations and researched four versions of EVP systems. These included infrared, radio/GPS, priority control as a service, and cloud Based. After re-evaluating all options, we determined that the **Miovision Opticom Cloud system** is the best choice for our city and department needs.

Why Miovision Opticom Cloud?

The Miovision Opticom system offers advanced, real-time traffic signal control for emergency vehicles that connect vehicles to intersections controllers via cell or wifi. Technology has advanced and can work with Whelan VSG or Cradlepoint. The Whelan VSG system is already installed in our newer fire apparatus. The Whelan VSG system tracks our apparatus and communicates the GPS coordinates to the Opticom cloud system. This means:

- No new hardware is needed for those vehicles

- No reliance direct line-of-sight, which is especially important due to the curves on the approach from the station to Highway 26 and during snow events
- One-time cost—no recurring subscription fees for Opticom Cloud. (Whelan VSG does have a service fee, we are already paying for in new apparatus and it serves dual purpose)
- Ability to customize settings and expand the system over time such as adding mutual aid fire and EMS apparatus and any necessary city vehicles. This is easily done with no additional hardware if they have connectivity to wifi/cell signal.

Other options to accomplish Emergency Vehicle Preemption include an infrared line of site devices, Opticom as a “Service” and an Applied Information system. An infrared line of site is not recommended due to lack of customization and our routes from station to hwy 26. Opticom as a Service is the most expensive option. Applied Information systems require all new hardware in all apparatus to utilize the system and is geared for smart cities with city and school bus routes and more, the system connection is also more expensive overall.

Budget Goal

This project supports the City’s goal of maintaining a safe and healthy community while anticipating future needs. Implementing this system is a proactive investment in public and responder safety, service efficiency, and operational readiness.

Financial Impact

The project *is budgeted and approved* with \$200,000 in 2025 capital funds. The Miovision Opticom system, purchased through Mid-American Signal, will cost \$119,445. Mid-American Signal is the sole source vendor for Miovision Opticom in Wisconsin and surrounding states. The remaining \$80,000 will be used to upgrade required vehicles with the necessary components to connect to the new system.

Recommendation

Three companies were contacted about proposals. Miovision Opticom Cloud, distributed through Mid-American Signal, is the recommended solution.

I am requesting a motion and approval to proceed with the purchase of the Miovision Opticom Cloud EVP system from Mid-American Signal for \$119,445.

There are various ways to make Miovision Opticom GPS system work, the red outlines the path Watertown Fire Department will be utilizing this system.

Opticom Architecture

