

# OPTICOM® | Central Management Software

## Bellevue improves maintenance, reduces operating costs

### CHALLENGE

#### Calling for a new maintenance strategy

With population surpassing 130,000, a thriving downtown business district and the bustling city of Seattle just across Lake Washington, Bellevue is experiencing increased traffic pressures. The challenge has been to accommodate the growing number of motorists without taxing resources.

For the past several decades, Bellevue has used Opticom® traffic signal priority control at each of its 185 intersections to help the Bellevue Fire Department drive through intersections safely and reach emergencies more quickly. The Bellevue Police Department was added to the system after a couple of its officers were involved in serious accidents at intersections. Response times and safety metrics improved significantly for each agency.

The Bellevue Traffic Department manages maintenance for all traffic signal operations, including Opticom® equipment. With more motorists on the roads, more efficient maintenance programs are required. Bellevue needed to streamline routine maintenance tasks at intersections and maximize its resources without compromising its budget.

“We had full confidence in the effectiveness of the Opticom® traffic signal priority control system when properly maintained” said Mike Whiteaker, Bellevue Intelligent Transportation Systems Manager. “It improved our response times. We just needed to find a more effective way to manage and maintain it.”

### SOLUTION

#### The next phase of signal priority

The city began to transition from Opticom® Infrared (IR) System components to Opticom® Multimode as part of its equipment replacement strategy. The first replacement stage included new phase selectors placed in the cabinets at 11 intersections.

The new models — Opticom® 764 Multimode Phase Selectors — are compatible with current IR technology and GPS traffic signal priority control technology. As a result, emergency responders from neighboring communities with GPS equipment can trigger signal preemption as easily as Bellevue agencies can with IR technology. The new models also allow for a seamless transition to GPS technology in the future.

“We conduct extensive mutual aid operations with several agencies in the area, from Redmond right next to us to Mercer Island across the bridge,” said Whiteaker. “Some of those communities are deploying GPS technology already. Our new interoperable



### LOCATION

Bellevue, WA

### MUNICIPALITY

- Bellevue Fire Department
- Bellevue Police Department
- Bellevue Transportation Department

### CHALLENGE

- Streamline maintenance processes
- Maximize resources without compromising budget

### SOLUTION

- Opticom® Model 764 Multimode Phase Selectors
- Opticom® Central Management Software (CMS) for remote, streamlined management

### PERFORMANCE

- Manage traffic signal priority control maintenance from desktop
- Real-time monitoring
- Identify and resolve issues quickly and efficiently
- Ensure smooth transition for mutual aid

equipment ensures their response teams won't be slowed when aiding our citizens."

It's the city's deployment of another Opticom® solution, however, that has revolutionized the way traffic signal priority control in Bellevue operates moving forward.

Bellevue implemented Opticom® CMS — which works with ethernet connections at the city's intersections — so phase selectors can relay critical data back to traffic engineers at the centralized traffic management center (TMC).

## PERFORMANCE

### More data, less guesswork

Within moments of activating CMS, Whiteaker and his team received an array of information about signal preemption at each intersection, and technicians could generate customized reports on selected criteria

"The benefits were immediate," said Whiteaker. "We can check out activity logs and preemption activity and even identify specific vehicles using signal preemption. We can isolate issues in real time and make smarter and faster maintenance decisions."

Bellevue is committed to using traffic signal preemption judiciously. Now that engineers can measure efficiencies and plan ahead, it's no surprise that CMS has become part of the daily routine.

CMS is used to discover other issues, too. For example, it reported long duration signal preemptions for a few intersections. The problem was traced to incorrect emitter installation. As a result, emitters on vehicles didn't shut off even while parked. The team also uses CMS to improve accountability. Specific vehicles can be identified, so system abuse is easier to monitor.

Automation simplifies tasks and reduces operating costs. Technicians know what is wrong at an intersection before they get there. They can

repair equipment faster and minimize traffic flow interference. In fact, many time-consuming and expensive trips to the intersection can be averted entirely.

"Opticom® CMS is saving us money," said Whiteaker. "We can perform a lot of maintenance tasks, including firmware upgrades, from the TMC or from any remote centralized location. We're only sending technicians to intersections when absolutely necessary."

### Improvements expanded throughout region

More than 75 intersections have been outfitted with the new Opticom® equipment. Every year, up to 30 additional intersections will receive new equipment as part of the city's equipment replacement strategy. Each of those intersections will be connected directly to Opticom® CMS so real-time data can be used to improve emergency response service levels and reduce operating costs.

Bellevue won't be alone. City officials have spoken to representatives from neighboring communities about how Opticom® CMS has streamlined maintenance. Opticom® traffic signal priority control offers a seamless system that holds users accountable, simplifies maintenance and improves performance from one town to the next.

"Our primary goal is to use signal preemption to reach those in need faster," said Whiteaker. "Opticom® CMS allows us to do that more cost-effectively. It lets us be proactive to ensure more consistent performance."

As a burgeoning community, Bellevue continues to seek new innovations to minimize traffic disruptions without compromising resources. City officials plan to leverage Opticom® traffic signal priority control and CMS to introduce new strategies in the future. And, it will work with neighboring communities to improve emergency response services for the entire region.

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- Mike Whiteaker,

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