GEORGIA DEPARTMENT OF TRANSPORTATION, USA

InfiNet wireless

Requirements

- Fast, reliable communications that contribute to better traffic flow

- High bandwidth networking that can transport data rapidly across city and county borders

- A system quick enough to synchronize signal timings across a vast metropolitan area

- A flexible system that can be adapted as the infrastructure changes

- A networking infrastructure that is cost effective to install, reliable and can be managed with maximum economy

- Performance, reliability, scalability

- A good local support team

Solution

- Installation of high capacity point-to-point wireless networking

- Specifically, InfiNet Wireless InfiMAN 2x2 R5000-Smc/54.300.2x63.2x21/4 licensed as a PTP, across 30+ locations in the region covered by the Georgia Department of Transport

Traffic flows improves with InfiNet Wireless

By improving the signal timing between traffic lights, Georgia's Regional Traffic Operations Program (RTOP) aims to improve traffic flow and cut vehicle emissions. To achieve this, it needs the fastest possible communications infrastructure.

InfiNet Wireless provided the best bandwidth and the most fluid, manageable infrastructure through a wireless broadband solution.

The Georgia Department of Transportation (GDOT) has fine-tuned traffic flow by dedicating signal timing experts to focus solely on Atlanta's busiest arterial roadways. These signal timing experts are assigned corridors that cross city and county boundaries. They work with each local jurisdiction to make signal timing seamless as motorists cross them.

Now, across the entire region, delays are down by 6% and subsequent fuel consumption has dropped by an estimated 700,000 gallons. Productivity is up, citizens are saving money and the environment is being spared.

As with any transport system, whether for data or vehicles, performance hinges on maintenance and rapid problem resolution. RTOP helps identify and repair problems that could affect signal operations, such as damaged vehicle and pedestrian detectors. To achieve this level of response, RTOP had to dramatically improve signal communications, across all the local jurisdictions that made up the regional area. This involved upgrading over 400 intersections to communicate over Ethernet.

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Customer Benefits

- Better traffic flow, less congestion
- Fewer carbon emissions, better air quality
- Greater flexibility
- Added robustness and reliability
- Better management with lower management costs
- Local support with rapid response and fault management
- Low entry costs
- Quick return on investment
- Citywide connectivity
- A system better suited to urban landscapes
- Improved the number of operational pedestrian pushbuttons from 83% to 98%
- Reduced the average number of times a vehicle had to stop by 5.9%
- Reduced the total time spent waiting at traffic signals by 1.4 million hours
- Reduced total delay time by 6.0%
- Saved 639,383 gallons of fuel
- Saved motorists over $19 million ($16.8 million in time, $2.3 million in fuel)
- Measured over a period where traffic volumes increase by an average of 4%

Sometimes existing cable infrastructure could be used but often the fibre in the ground was either damaged or non-existent. In which case, a wireless system – supplied and integrated by InfiNet Wireless partners Arcadis and Utilicom – proved invaluable. By using InfiNet Wireless InfiMAN equipment, to network 30 key locations, it managed to boost bandwidth and save the department time and installation costs.

RTOP is now able to monitor all corridors from GDOT's Transportation Management Center over Ethernet. This creates quicker response times to repair signal problems.

Meanwhile, incidents or events can be catered for, with multi-jurisdictional timing plans set up in response to or anticipation of special circumstances.

Georgia's road network can become as fast, fluid and responsive as an IT network. Having networked major arterial roads, new possibilities opened up. The fast communications that now ran on the North-South and East-West arterials, for example, were originally intended to bridge communication between traffic signal controllers.

However, one local agency, City of Roswell, realized it could use the extra capacity to transport and share its Digital Video Surveillance with GDOT over the wireless links.

The capability offered by InfiNet Wireless helped the City of Roswell to expand its 50Mbps and now the City and GDOT can share their video wirelessly. Even 8 to 15 separate MPEG-4 video feeds are achievable across one link.

The fluid infrastructure created by InfiNet Wireless will help the network to adapt and scale as requirements change. It offers the most adaptable, scalable and yet cost effective solution in an environment that is constantly moving.

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