

Tropos – Helping Communities Modernize Traffic Infrastructures

Improving Traffic Flow, Reducing Emissions

GREENER, SAFER, SMARTER

Rebuilding this nation's crumbling infrastructure is one of the key initiatives of the American Recovery and Reinvestment Act of 2009 – this includes our country's transportation infrastructure. Beyond improving roadways, there is a need to modernize how we manage and control our country's transportation systems, improving efficiencies and contributing towards green initiatives.

Intelligent transportation systems (ITS) encompass a wide range of applications that improve city and county transportation infrastructures, optimizing traffic flow and reducing greenhouse emissions. An essential element for most ITS applications is a high-speed, two-way communication infrastructure that enables centralized monitoring, management and control of hundreds or even thousands of individual endpoint traffic appliances and applications.

ITS APPLICATION AND BENEFIT EXAMPLES

- ❖ Intelligent Traffic Signal Management
 - Reduces traffic delays 13-44%
 - Reduces travel time 7-22%
- ❖ Transit Signal Priority for Public Transit
 - Up to 25% reduction in bus travel times
 - Reduces runtime by average of 15%
 - Reduces number of public transit vehicles required to meet same schedule,
- ❖ Emergency Vehicle Preemption
 - Reduces emergency vehicle travel time by 14-23%
 - Reduces emergency vehicle accident rates by 71%
- ❖ Automated Vehicle Location (AVL)
 - Enables real-time alerts in emergencies
 - Reduces necessary fleet size by 2-5%
- ❖ Additional ITS applications:
 - Variable Message Signs (VMS)
 - Video Cameras - Red Light Enforcement, Traffic Monitoring, Surveillance
 - Automated Parking Meters

About Tropos

Tropos is the market leader in wireless IP broadband mesh networks used by cities to create greener, safer, smarter communities. Our solution provides a single, secure network infrastructure upon which to run hundreds of municipal services and applications that increase efficiencies while reducing costs. The network is controlled by a single, carrier-class management system and can scale to cover from tens to hundreds of square miles. Tropos has more than 38,000 routers installed today at 500 customer locations in over 30 countries, and holds 14 patents with an additional 50 pending.



Examples of Cities Using a Tropos Infrastructure for ITS and Other Municipal Services

❖ Tucson, Arizona

- Traffic Signal Management - +400 signals connected; \$1M savings over 5-years vs phone lines. Reduced operating costs and response time – vs dispatching workers into the field.
- Video Cameras - Provides public safety officers and news stations visibility into traffic flow and potential problems. Video was not feasible over leased lines (low speed).
- Additional municipal departments using Tropos network: police, fire, emergency services, water department, other mobile city workers.

❖ Oklahoma City, Oklahoma - World's largest metro-scale wireless broadband mesh network covering 555-square miles

- Traffic Signal Management - +700 intersections connected enabling central management and operational cost savings. Flexibility to easily change signal light patterns for different time-of-day and special events. Reduces congestion - cuts average commuter travel time by 5%; reduces stops by 8%; reduces emissions.
- Additional municipal departments using Tropos network: police and fire; building inspectors, public works.



Why should I consider a wireless mesh when...

...I have invested in a fiber network already?

A wireless mesh network can complement a fiber infrastructure, using it for backhaul to connect to the Internet. Typically a fiber connection is not available at every traffic signal, bus stop, etc., due to cost. A wireless mesh can be used to fill-in where fiber isn't available, providing a cost effective solution that leverages the city's current investment while expanding reach of the city's network. In addition, a wireless mesh network enables mobile applications not possible with a fixed network; examples are video surveillance on public transit vehicles; real-time tracking of transit vehicle location.

...I could use cellular?

The answer is cost and flexibility. With cellular, monthly operating costs increase linearly with the number of end-devices making it costly to add users. By owning your own network, additional end-devices can be added for no incremental cost. A single network can be utilized by all city departments, creating a secure virtual private network for each. By owning your own wireless communication infrastructure, a city can ensure service availability where and when needed. Should additional network capacity be needed, nodes are easily and affordably added. A single centralized management system reduces operational costs and simplifies management.

...I could use a lease line?

A lease line comes with high recurring monthly fees and delivers low bandwidth compared to a wireless broadband network. In addition, a high-speed lease line such as T1, while costly, also does not have the bandwidth to support many ITS applications – its just too slow.

What additional benefits can a Tropos wireless broadband mesh network provide?

- ❖ Single standards-based IP-based wireless broadband infrastructure securely leveraged for use by all city departments reducing capital and operational costs
- ❖ Scalable as a community evolves and needs change
- ❖ One central carrier-class management and monitoring system
- ❖ Enables delivery of improved services and new applications increasing quality of municipal services provided to the community
- ❖ Proven ROI, proven solution for modernizing the communication infrastructure of cities across America

CONTACT US TODAY TO FIND OUT ABOUT MODERNIZING YOUR TRAFFIC INFRASTRUCTURE AND CREATING A GREENER, SAFER, SMARTER COMMUNITY



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