

KEY BENEFITS

Mobility:

StreetWAVE has been engineered from the ground up with a flexible hardware and software architecture for outdoor use.

- Multi-band, multiple radio support provides flexible deployment options.
- Fast handoff at speeds up to 100 miles per hour.
- Customizable roaming parameter maintains minimum bandwidth required for application performance.

Security:

Security is the primary concern for any wireless network. StreetWAVE incorporates advanced security methods at every level of the transmission.

- Enhanced security protects over-the-air transmission.
- Secure remote management and software updates ensure authorized access.

Easy of Deployment:

Ease of deployment and integration with the wired network are critical factors in a successful rollout.

- Standard management services via SNMP or http.
- Standard type-N connector and wide variety of external antennas to support up to 15dBi.
- Deployment tools, including antenna alignment and remote management and configuration eliminate the need for truck rolls.

StreetWAVE: Intelligent Transportation Applications for Greater Mobility and Safety

StreetWAVE is a fixed wireless gateway that can be mounted on a roadside traffic pole. Designed as a flexible platform for deploying Intelligent Transportation Systems (ITS) applications, the StreetWAVE unit provides improved mobility and safety on the roadways. It features a 500Mhz processor, 256MB of memory, 4GB of compact flash disk space, multiple radios (WiFi, DSRC) and an integrated GPS receiver and antenna. A sturdy NEMA 67 enclosure provides weather protection.

Leading-Edge Technology

- **Best-of-breed rugged outdoor quality wireless radios.** Choice of Access Radio Module (2.4Ghz), Backhaul Radio Module (5Ghz), Public Safety Radio Module (4.9Ghz), ITS Radio Module (5.9Ghz). All radios transmit at 600mw with transmit range over 50km (LOS) and -94dB receive sensitivity;
- **Variable channel widths.** Support for 5Mhz, 10Mhz, 20Mhz and 40Mhz channel widths enables customizing throughput vs. range for the application.
- **Security.** Advanced wireless security features including WPA2, WPA, WEP, MAC Authentication and Radius Server based authentication, plus IPSec and SSL for application level security.
- **GPS.** Integrated SiRF Star III USB GPS enables location-based applications for ease of mounting.
- **Flexible backhaul options.** Two RJ45 Ethernet ports to connect to two different networks or WiFi interface can be used in station mode to connect to a backhaul AP.
- **Web-based management.** Enables remote management and updates over the air (DSRC/WiFi/3G) or through Ethernet.
- **Wireless software stack.** IEEE 1609.3 and IEEE 1609.4 standards compliant WAVE protocol stack for rapid development and deployment of ITS applications. IEEE 802.11 a/b/g/n standards compliant AP and Client mode software enables out-of-the-box interoperability with various commercial WiFi APs and clients.
- **Easy-to-use, flexible SDK.** Feature-rich libraries and header files for WAVE, IP, Web, GPS, Bluetooth etc.
- **Interoperability.** Interoperates with Kapsch, TechnoCom MCNUs, Denso, WSUs, as well as Econolite, Siemens traffic controllers.
- **Sturdy mechanical design.** NEMA 67 water and dust-proof enclosure withstands immersion and extreme temperatures. Enclosure has 2 N-Type waterproof antenna connectors, 2 waterproof RJ45 connectors, 1 waterproof power connector and 1 waterproof console connector. Pole mounting kit is provided.

APPLICATIONS

E-payment

- Toll collection
- Open road tolling
- Gas payment
- Drive-through payment
- Parking lot payment

Outdoor Networks

- Public WiFi network connectivity
- Public safety first responder networks
- Transportation system monitoring
- Telemetry
- Mobile security and surveillance

Mobility

- Intelligent ramp metering
- Intelligent signal control
- Traffic congestion data collection
- Traffic signal priority for emergency and transit vehicles
- Crash data, amber alert dissemination
- Parking spot locator

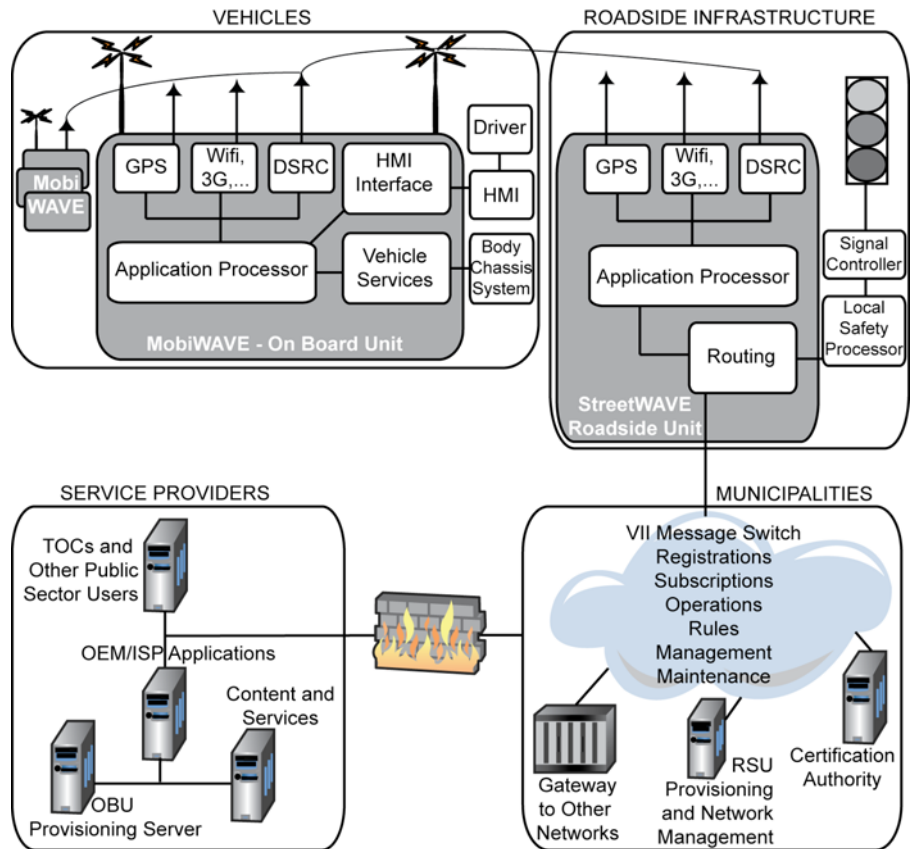
Safety

- Traffic signal violation warning
- Curve over-speed warning
- Left turn assistant
- Stop sign movement assistance
- Approaching emergency vehicle warning
- Pedestrian crossing warning

Product Specifications

Component	Description
Processor	500Mhz AMD Geode LX800
Memory	256MB DDR DRAM
Storage	4GB Compact Flash
DSRC Radio	IEEE 802.11a 5Ghz, 600mW 28dBm TX, -94dBm RX Sensitivity
WiFi Radio	IEEE 802.11b/g 2.4Ghz, 400mW 26dBm TX, -97dBm RX Sensitivity
Channel Width	5/10/20/40 Mhz
DSRC & WiFi Antenna Connectors	N-Type Male
Ethernet	Two (2) 10/100 (RJ-45) ports with Auto Uplink™
Console	RS-232C interface
Power Supply	15V, 1.2A DC jack or Power over Ethernet.
Temperature	-31C to +75C
Dimensions	8" (L) x 8 1/2" (H) x 2 3/4" (D)
GPS	SiRF STAR III e/LP, 20 channel, USB based. Accuracy : 5m 2D RMS w/ WAAS, 10m 2D RMS w/o WAAS
Standards Compliance	IEEE 802.11 a/b/g/n, IEEE 802.11p, IEEE 1609.X
Security	WPA2, WPA, AES-CCMP, TKIP, 64/128bit WEP, IEEE 802.1x, MAC, IPsec & SSL
Enclosure	NEMA 67 rating, pole mount.

System Architecture



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