Overview of Sensys Networks Wireless Vehicle Detection System
Who is Sensys Networks?

- Leading provider of wireless traffic detection and integrated data systems.
- Our systems are the top technology choice for the world’s largest implementers of traffic data systems.
- In production since 2005
- Accelerating pace of deployments
  - Customers in 40 US States and 20 countries
- World Wide Distribution Network
- 5 Patents and 3 Patents Pending
Why Sensys Networks?

• Dependable Technology
• Flexible Installation
• Lowest Operating Cost
• Universal Platform
• No Maintenance (repeater battery)
Dependable sensors in ANY roadway

• Year in – year out 24/7 dependable detection

• Installations are quick and easy in any type or quality of roadway

• Damaged or broken pavements are no problem for Sensys sensors
Eliminate the mess of installing loops and improve installer safety
Beyond Ultra Low Power

10 Year Battery Life

- Patented NanoPower™ communications protocol
- Highly accurate 3-axis magnetometers (sample 128 times per Sec.)
- Operates in standby mode 99% of the time (communicates 8 times per Sec.)
- Designed to produce over 300 million vehicle detections (2000 vehicles per hour, 24/7/365 over 10 years)
- Unique 4 digit network address for each sensor
- Reusable and good for temporary sites
- Self-calibrating, self-tuning (multiple selectable settings)
You can’t manage what you don’t measure

Vehicle detection data for any application

- Volume
- Speed
- Occupancy
- Presence
- Gap/Headway
- Length classification
- Arterial Travel Time
- Queue Length
The Sensys System and Component Overview

The next generation of vehicle detection technology
Interfaces to Traffic Controllers

Operates with current roadside infrastructure

- Contact closure cards to roadside traffic controller
- 170/2070
- NEMA TS1 & TS2
- IP connectivity to ITS facilities
# Radio Ranges

<table>
<thead>
<tr>
<th>Height of Access Point Relative to Road Surface</th>
<th>Maximum Recommended Range to Sensor</th>
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<tbody>
<tr>
<td>8 - 12 feet (2.4 - 3.7 meters)</td>
<td>75 - 100 feet (22.9 - 30.5 meters)</td>
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<tr>
<td>16 feet (4.9 meters)</td>
<td>100 - 125 feet (30.5 - 38.1 meters)</td>
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<tr>
<td>20 feet (6.1 meters)</td>
<td>125 - 175 feet (38.1 - 53.3 meters)</td>
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Diagram showing the maximum recommended range to sensor based on access point height.
• A ‘plug and play’ network appliance to manage all of your Sensys installations.

• Pre-loaded with SNAPS Professional software and rack mountable

• Monitor, manage and configure ALL your intersections from your desk

• One appliance to give you:
  • Complete remote maintenance and monitoring
  • Diagnostic and health monitoring capabilities
  • Data collection and analysis
Applications

*Vehicle detection solutions for traffic monitoring & management*

- Freeway/arterial monitoring
- Freeway ramp management
- Traffic signal control (intersection management)
  - Stop bar detection
  - Advance detection/System detection (traffic calming; dilemma zone protection)
  - Adaptive traffic signal control
- Red Light Enforcement / Speed Enforcement
- Traveler information systems
- Highway count / speed stations
  (more accurate than radar / individual lane Data)
Semi-Actuation Delivers Improved Performance

Sensys Solutions Scalable from Semi – Actuation to Fully Actuated with Advanced Detection

- FHWA Tests show that using
- Semi Actuation:
  - Reduces delays by up to 38%
  - Reduces stops by up to 25%
  - Increases Driver Safety
  - Reduce Pollution & CO\textsubscript{2} Emissions by Proportional Amounts
Sensys Semi Actuation Solution

4 to 6 Hour Installation Time, $8,500 Component Cost, 5 Year Maintenance Cost = $0

Fits into existing traffic control cabinets. No need to add the expense of a new cabinet and infrastructure.
Semi and Full Actuation with Advance Detection

IDOT District 1 pricing for cut loops or cameras $55,000 quoted by Meade Electric. Plus yearly maintenance cost

Same intersection and same number of detection zones $31,000 using Sensys wireless sensors. Zero yearly maintenance cost
Proven Performance – Red Deer, Alberta
Caltrans Corridor Mobility Investment Account

- 5100 Sensys wireless sensors installed in over 800 detection stations
- 1,000 lane miles in 3 districts
- Majority deployed in less than 6 months
- Saved one of CalTrans districts $30,000,000 over competing technologies
Sensys Arterial Travel Time System

- Measures and reports REAL-TIME travel times along a city traffic corridor
- Patented infrastructure based solution:
  - Uses unique vehicle magnetic signatures
  - Re-identifies vehicles to provide accurate travel times and vehicle density
- Easily scalable from one intersection to an entire city
- Proposed Federal Rule 1201
Sensys Advantages

*The Sensys Wireless Vehicle Detection System is the **smart** choice*

- **Flexible technology** – one platform for all vehicle detection needs

- **High accuracy** – comparable to well-maintained inductive loops…

- **Superior reliability** – …does not have the problems of loops and cameras

- **Low life-cycle cost** – simple installation, low maintenance

- **We listen to your needs** – Your ideas and suggestions are tomorrows products
Questions?
Bill Baer, Regional Sales Manager
888-426-6116
bbaer@sensysnetworks.com