



**Chicago Metropolitan Agency for Planning**

# **Overview of Sensys Networks Wireless Vehicle Detection System**



# Who is Sensys Networks?

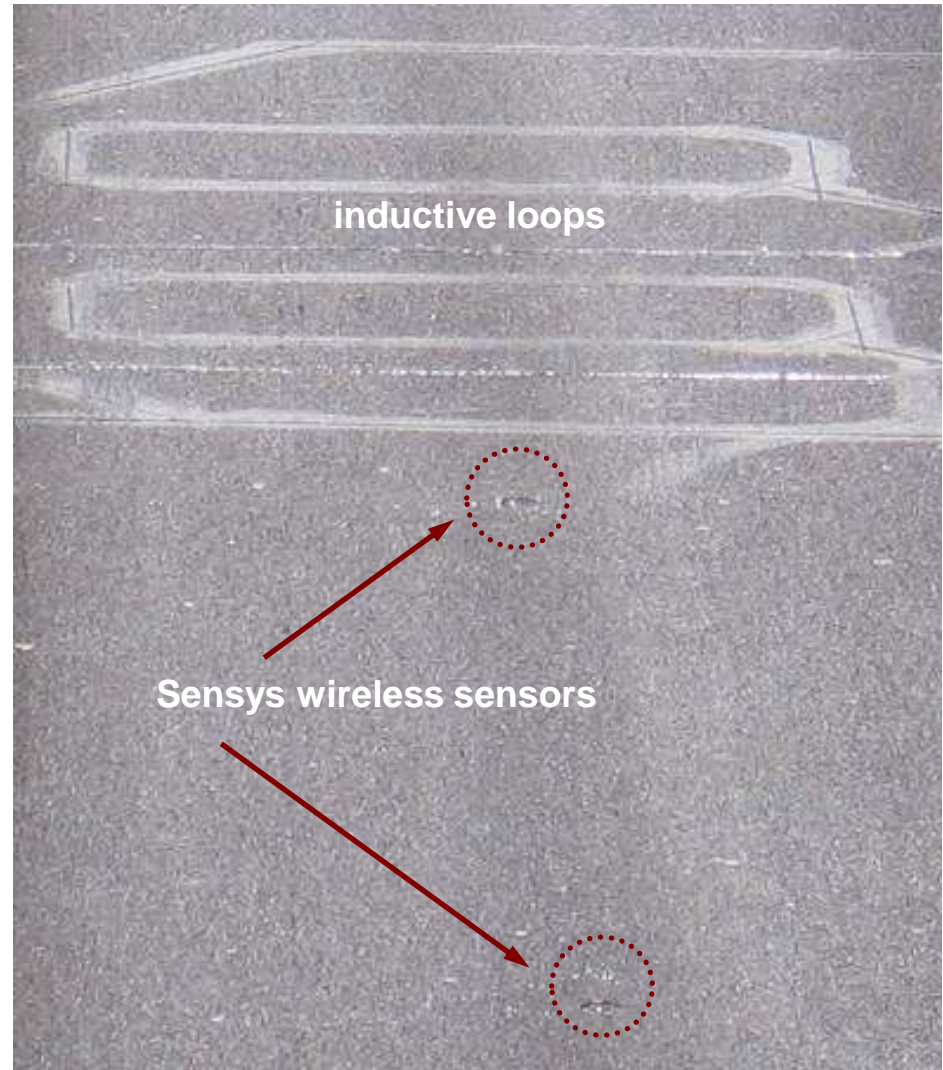


- **Leading provider of wireless traffic detection and integrated data systems.**
- **Our systems are the top technology choice for the world's largest implementers of traffic data systems.**
- **In production since 2005**
- **Accelerating pace of deployments**
  - Customers in 40 US States and 20 countries
- **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



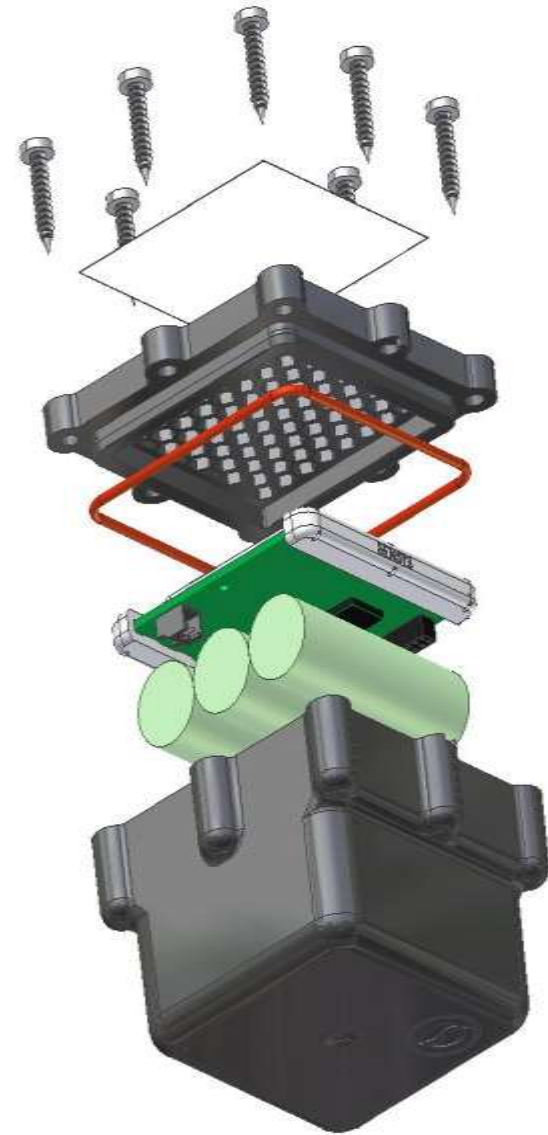
# Eliminate the mess of installing loops and improve installer safety



# Beyond Ultra Low Power

## *10 Year Battery Life*

- Patented NanoPower<sup>SM</sup> 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*



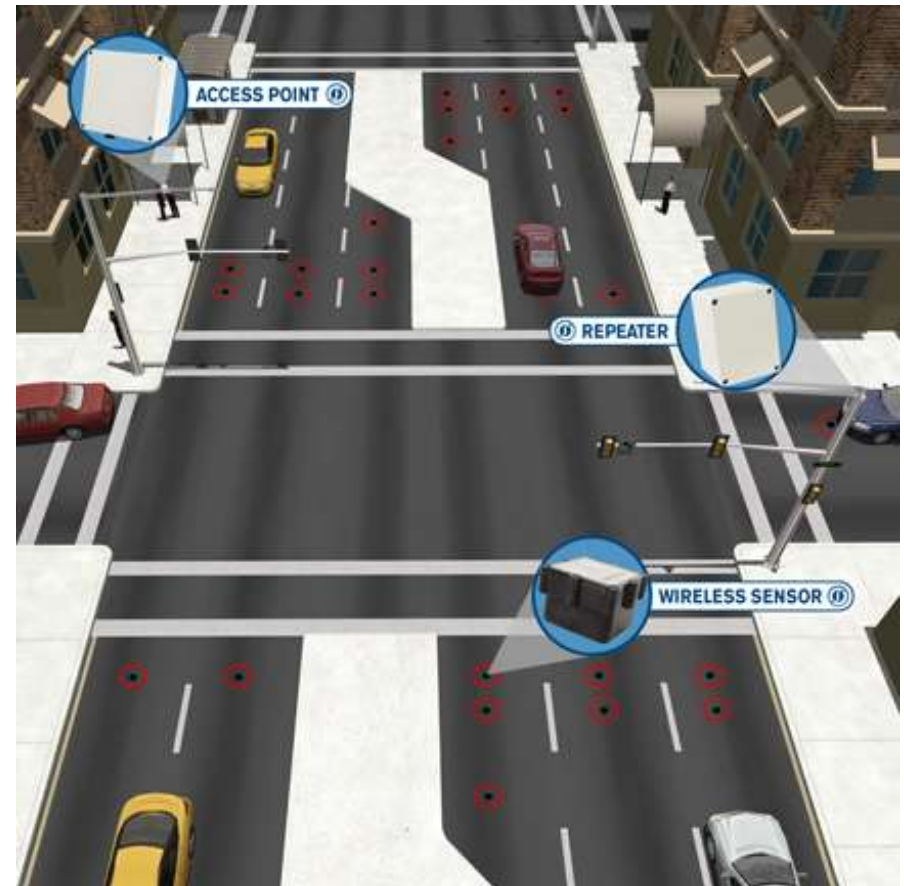
- Volume
- Speed
- Occupancy
- Presence
- Gap/Headway
- Length classification
- Arterial Travel Time
- Queue Length





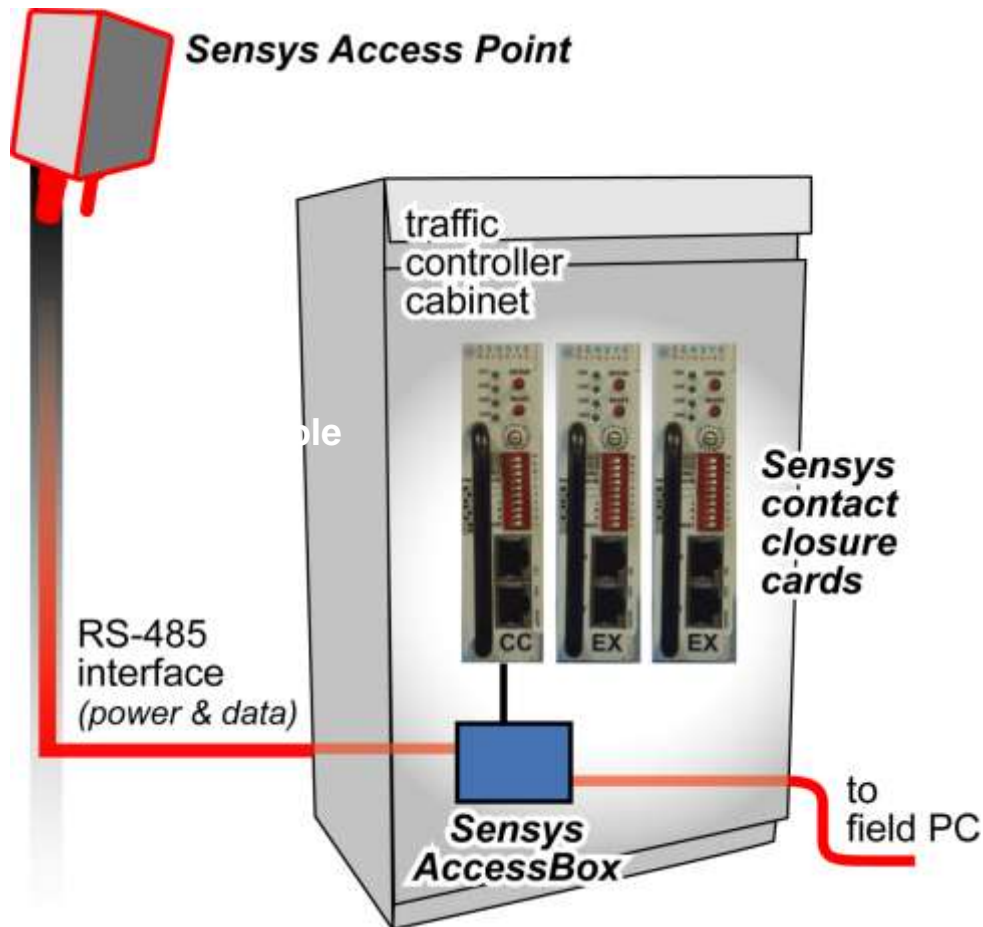
# The Sensys System and Component Overview

*The next generation of vehicle detection technology*



# Interfaces to Traffic Controllers

*Operates with current roadside infrastructure*

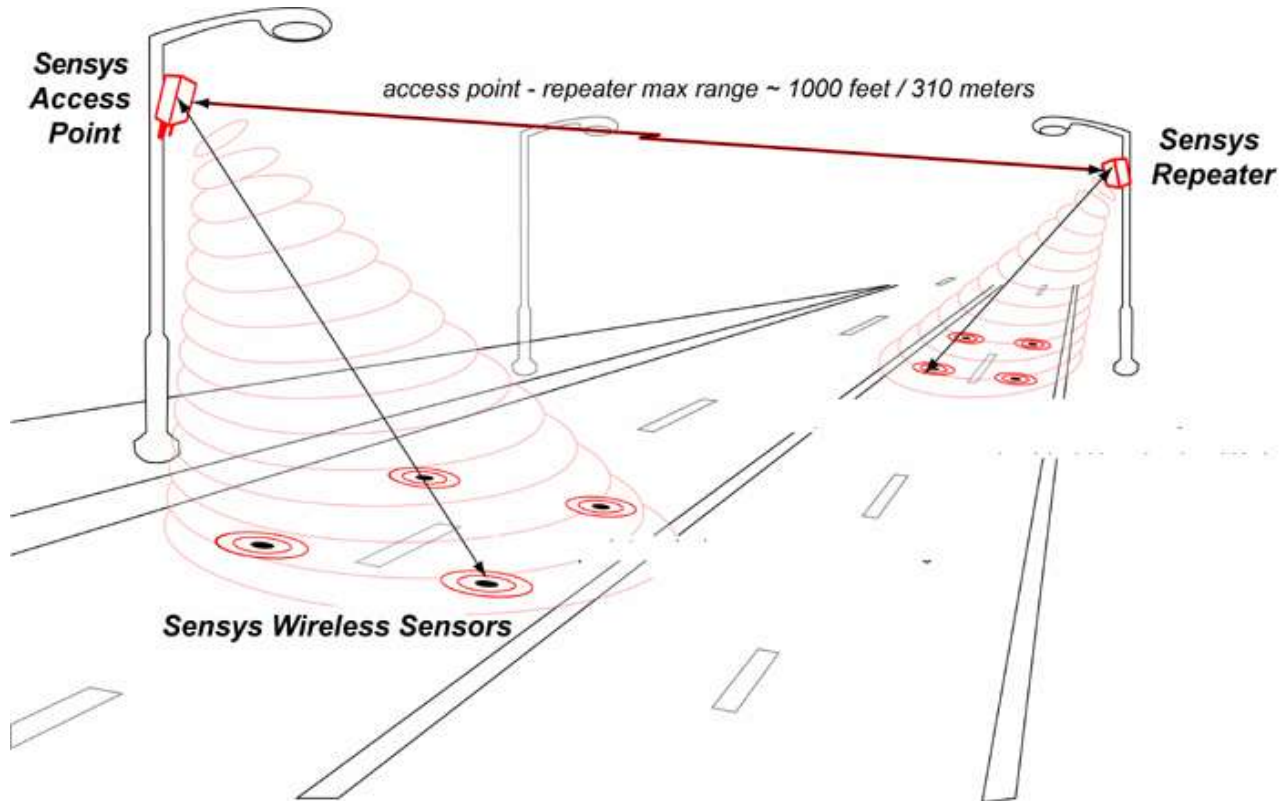


- Contact closure cards to roadside traffic controller
- 170/2070
- NEMA TS1 & TS2
- IP connectivity to ITS facilities



# Radio Ranges

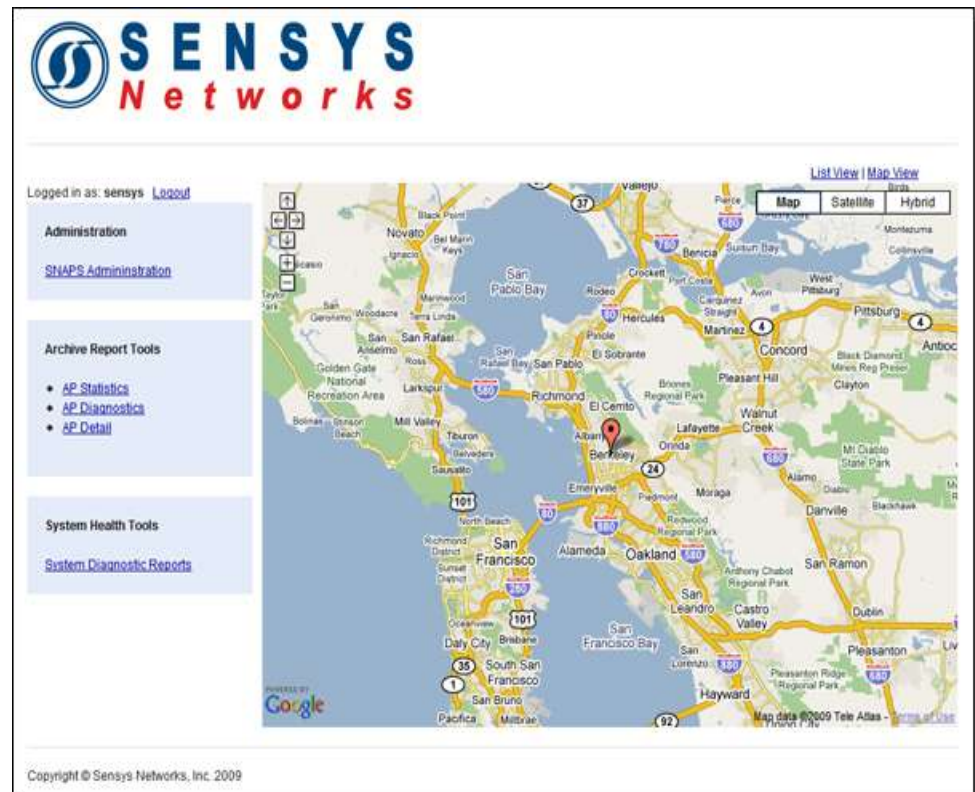
Height of Access Point Relative to Road Surface	Maximum Recommended Range to Sensor
8 - 12 feet (2.4 - 3.7 meters)	75 - 100 feet (22.9 - 30.5 meters)
16 feet (4.9 meters)	100 - 125 feet (30.5 - 38.1 meters)
20 feet (6.1 meters)	125 - 175 feet (38.1 - 53.3 meters)



# Sensys System Manager

*Manage all your intersections from your desktop*

- 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

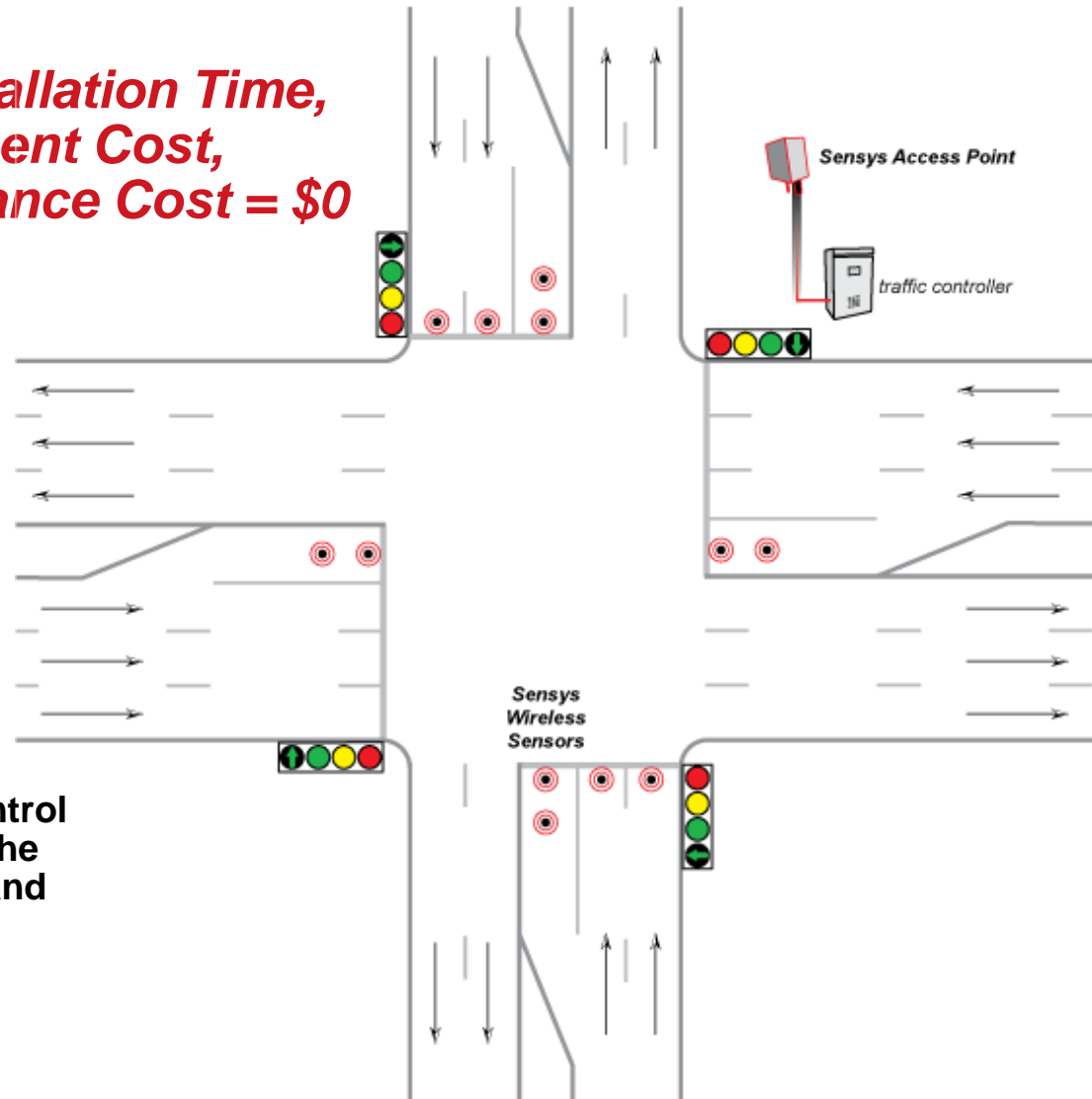
Sensys Solutions Scalable from Semi – Actuation to Fully Actuated with Advanced Detection

- **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<sub>2</sub> Emissions by Proportional Amounts



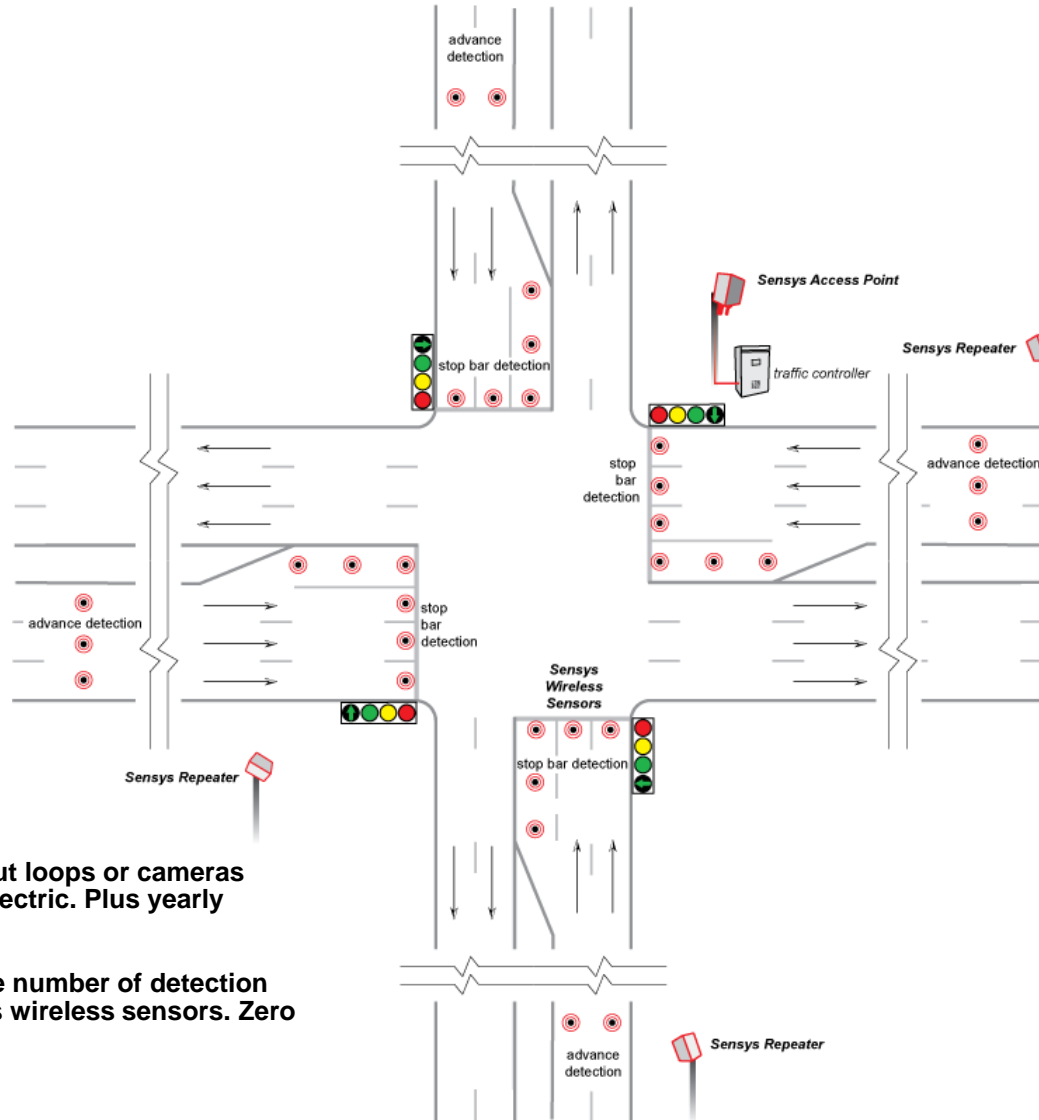
# Sensys Semi Actuation Solution

*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

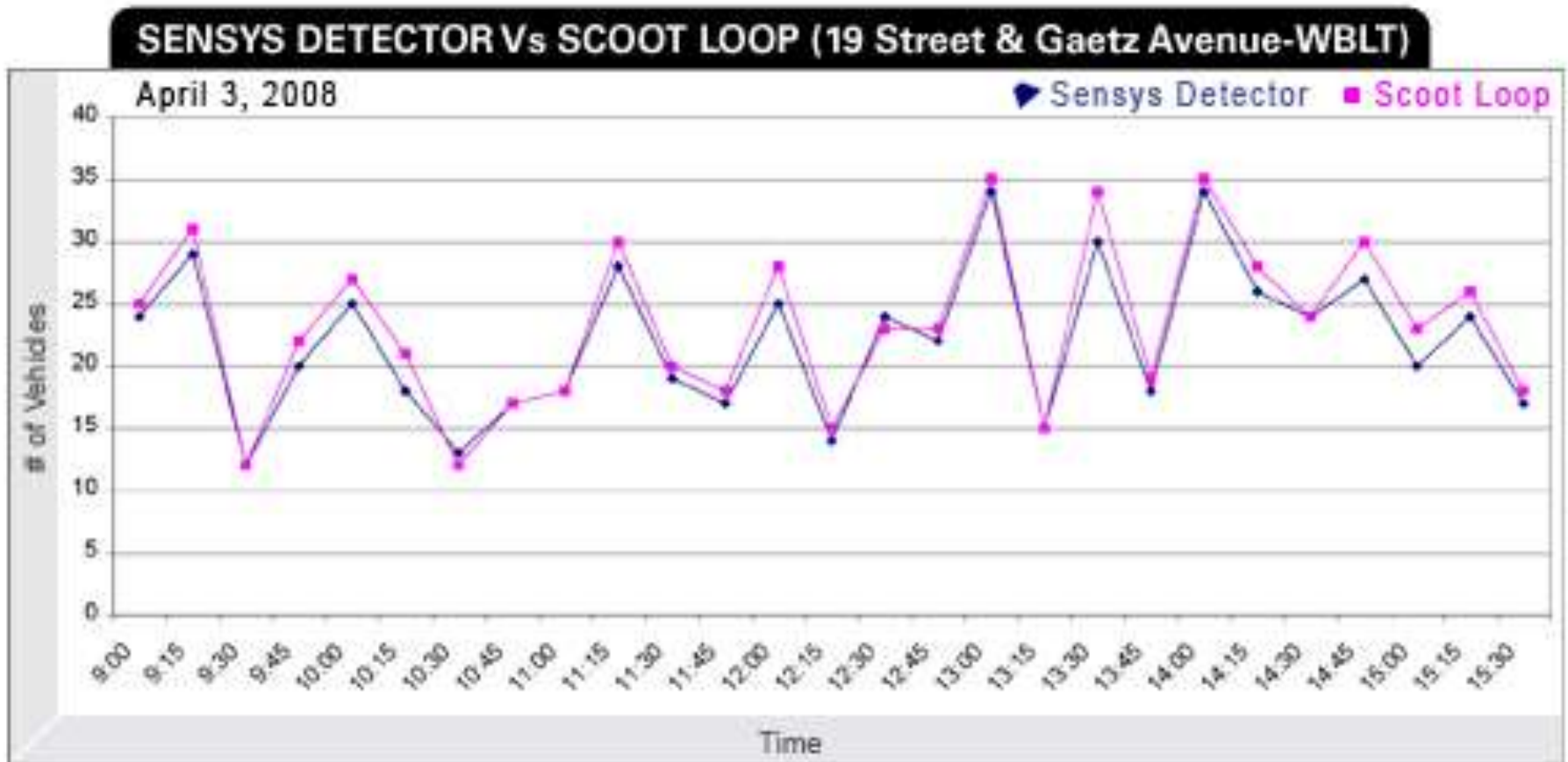


IDOT District 1 pricing for cut loops or cameras  
 \$55,000 quoted by Meade Electric. Plus yearly  
 maintenance cost

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 tomorrow's products



## Questions?

Bill Baer, Regional Sales Manager

888-426-6116

[bbaer@sensysnetworks.com](mailto:bbaer@sensysnetworks.com)

