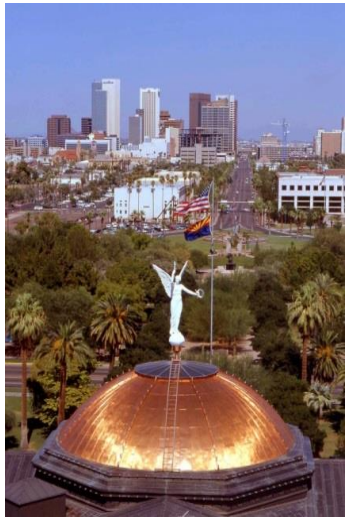
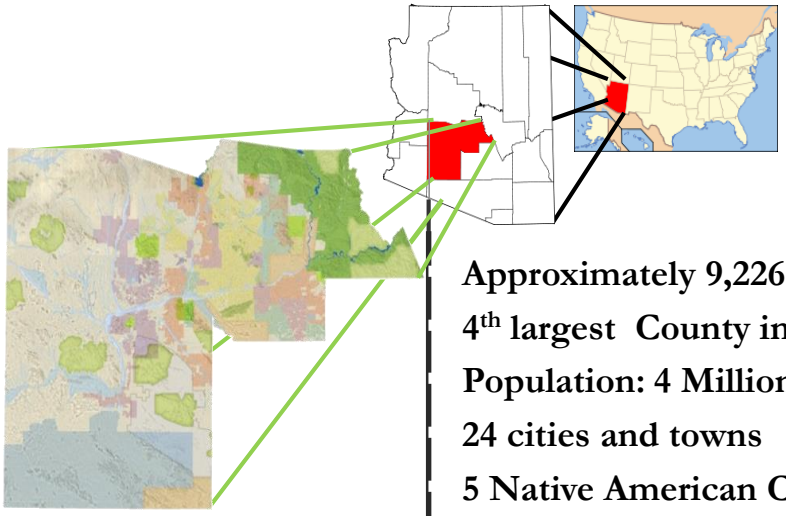
Redefining Mobility: Integrating Technology into Transportation System Design

Jennifer Toth
Director and County Engineer
Maricopa County Department of Transportation

Maricopa County, Arizona





Approximately 9,226 sq. miles

4th largest County in United States

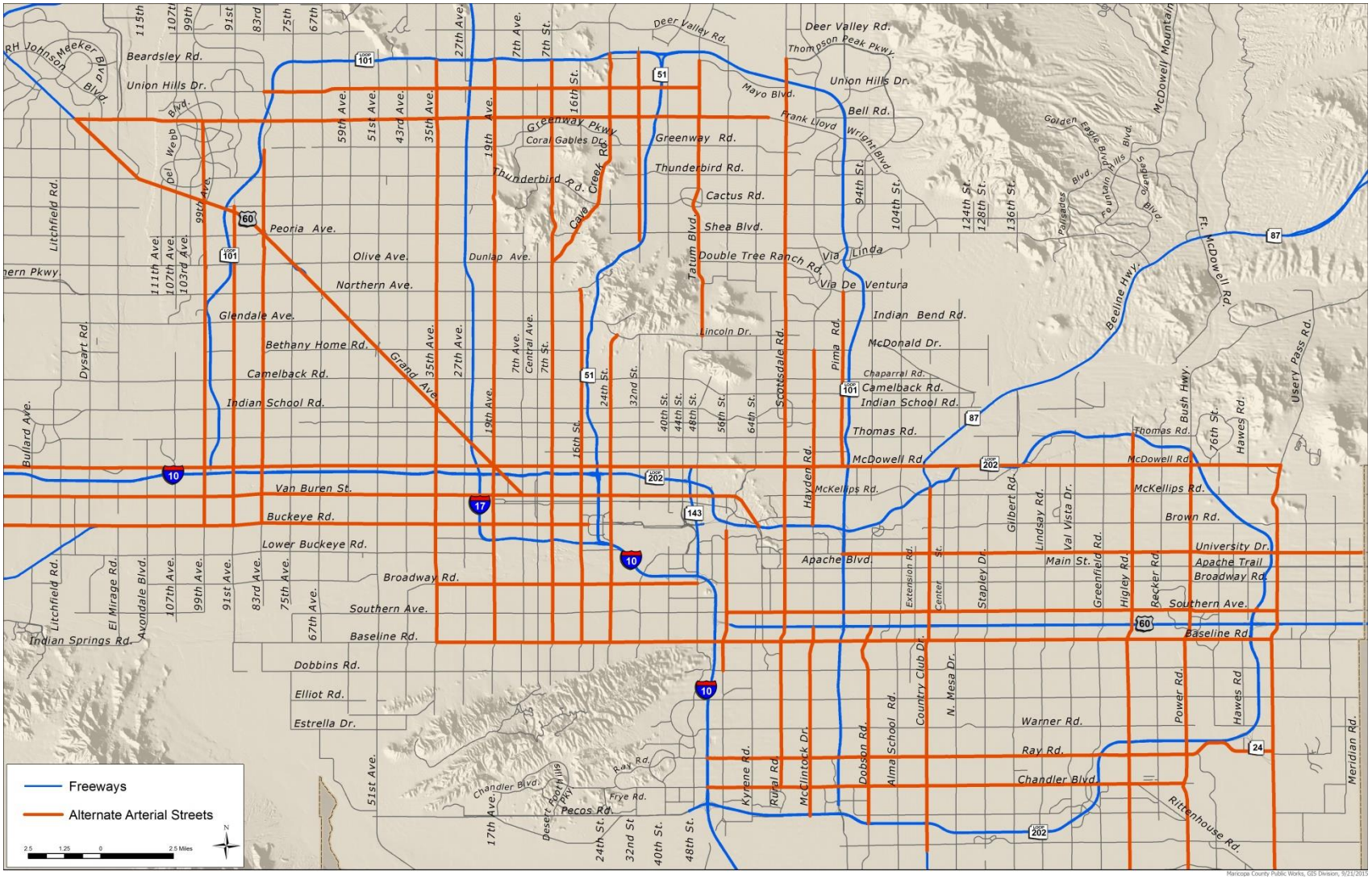
Population: 4 Million

24 cities and towns

5 Native American Communities

Palo Verde Nuclear Generating Station

Maricopa County Roadway System



ARIZONA CARDINALS

ASU

PHOENIX INTERNATIONAL RACEWAY

WM WASTE MANAGEMENT PHOENIX OPEN

Honeywell

Go Daddy®

Available at amazon

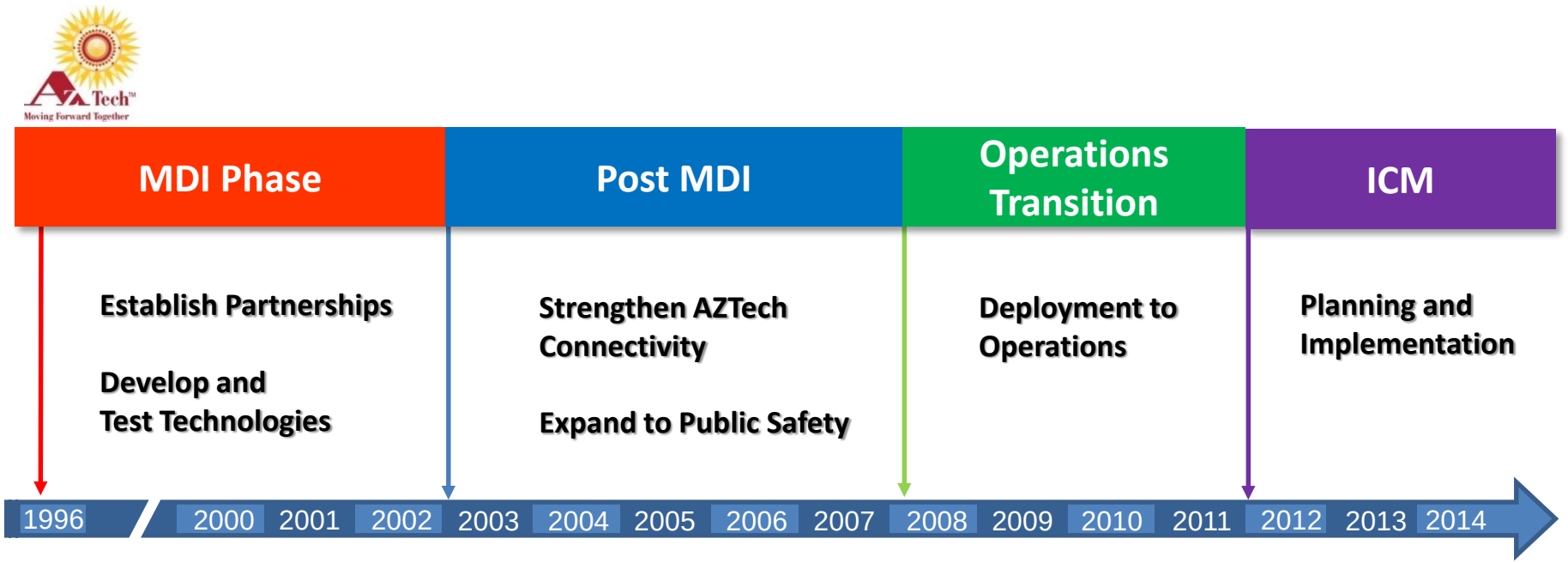
MICROCHIP

Raytheon

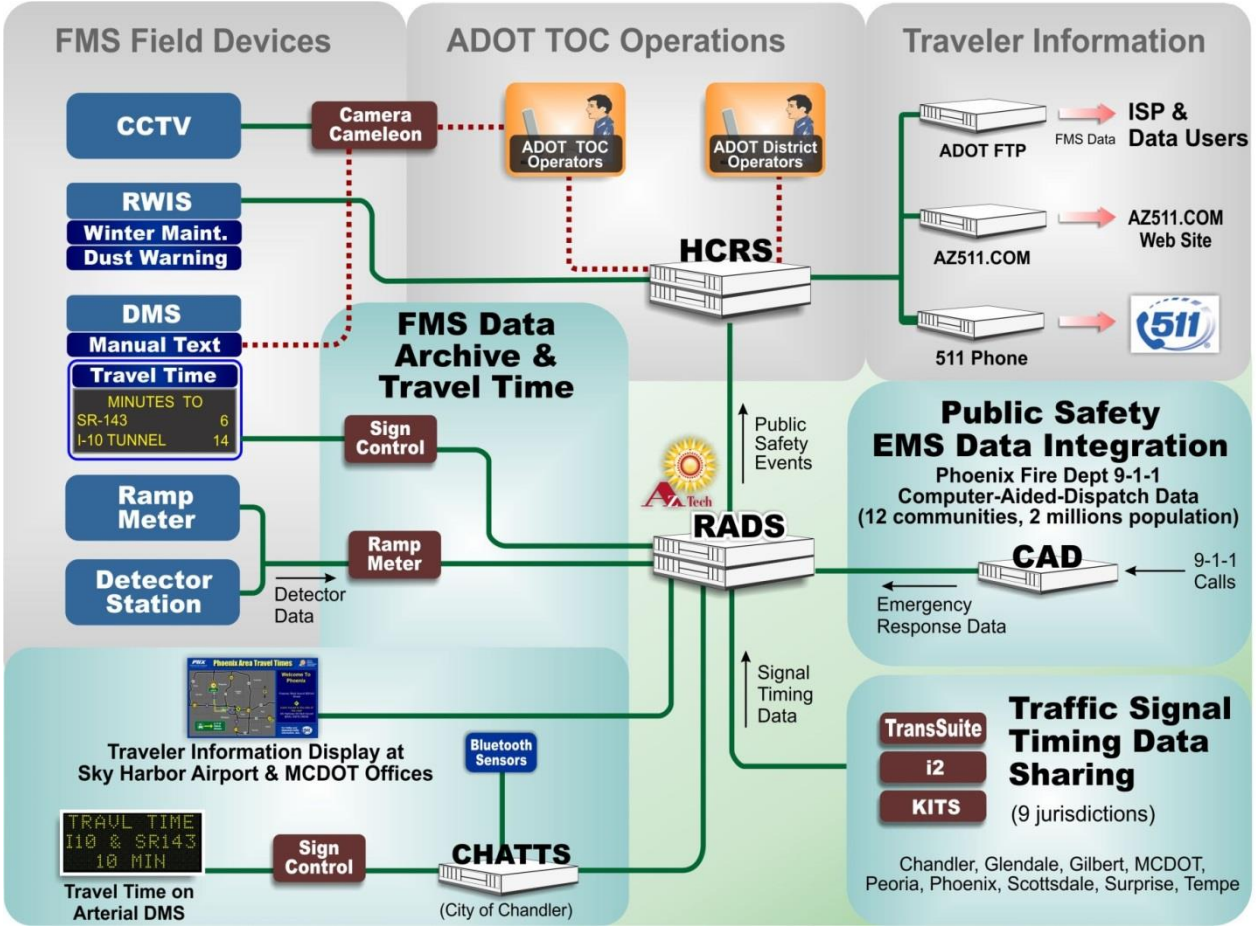
intel®

AZTech Partners

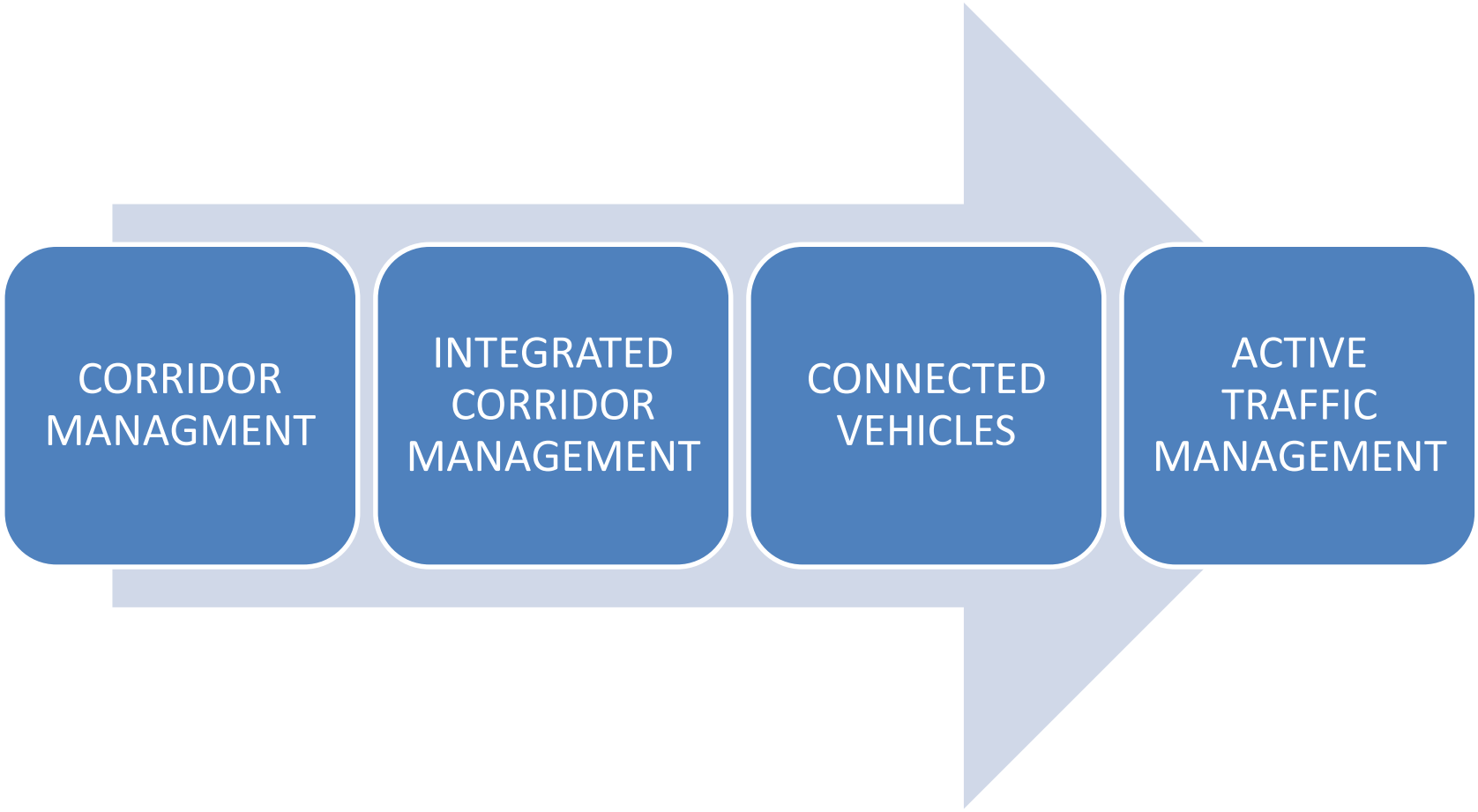
AZTech History At-a-glance



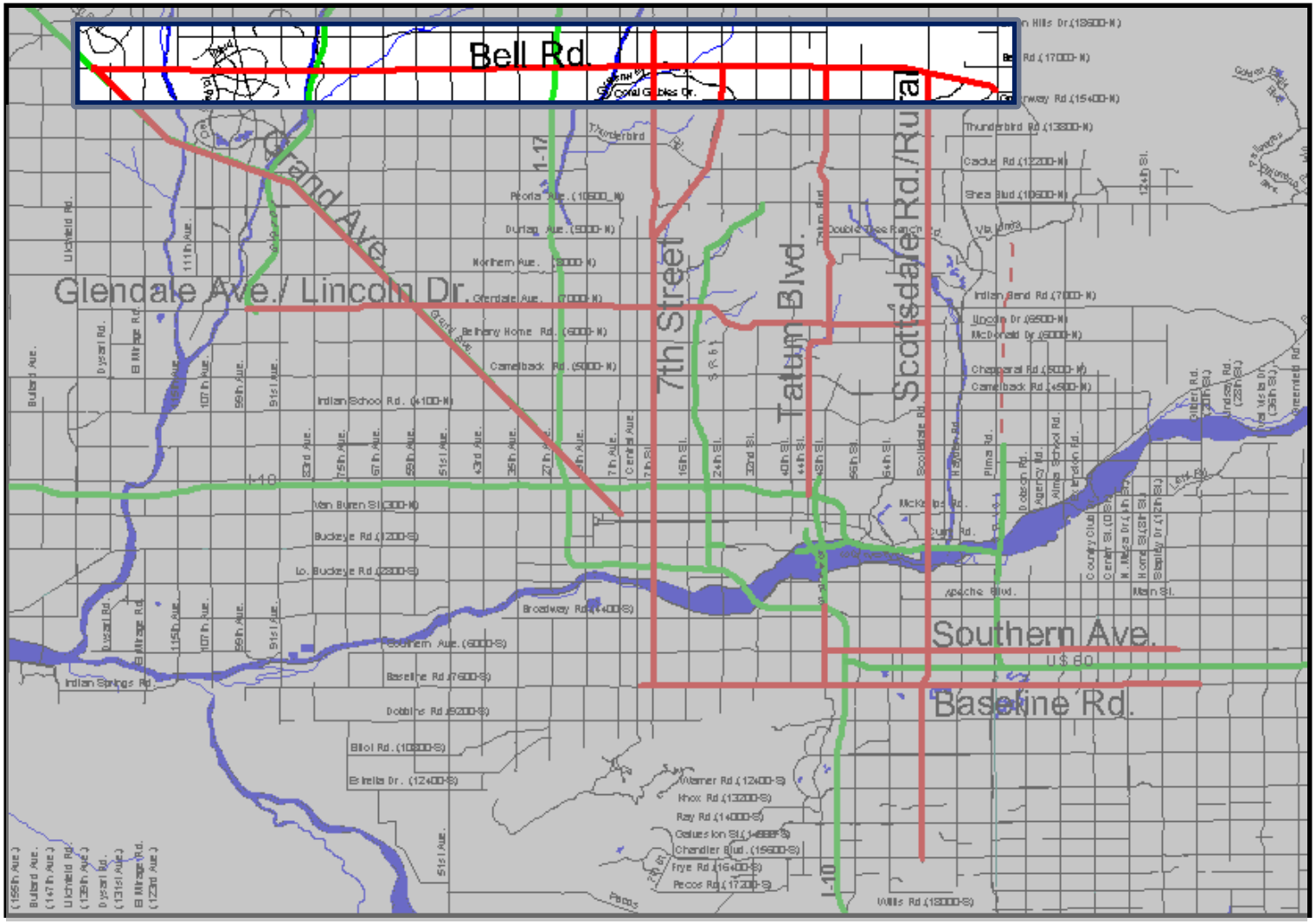
Data Backbone: Regional Archived Data System



System Management and Operations



Corridor Management - Bell Road

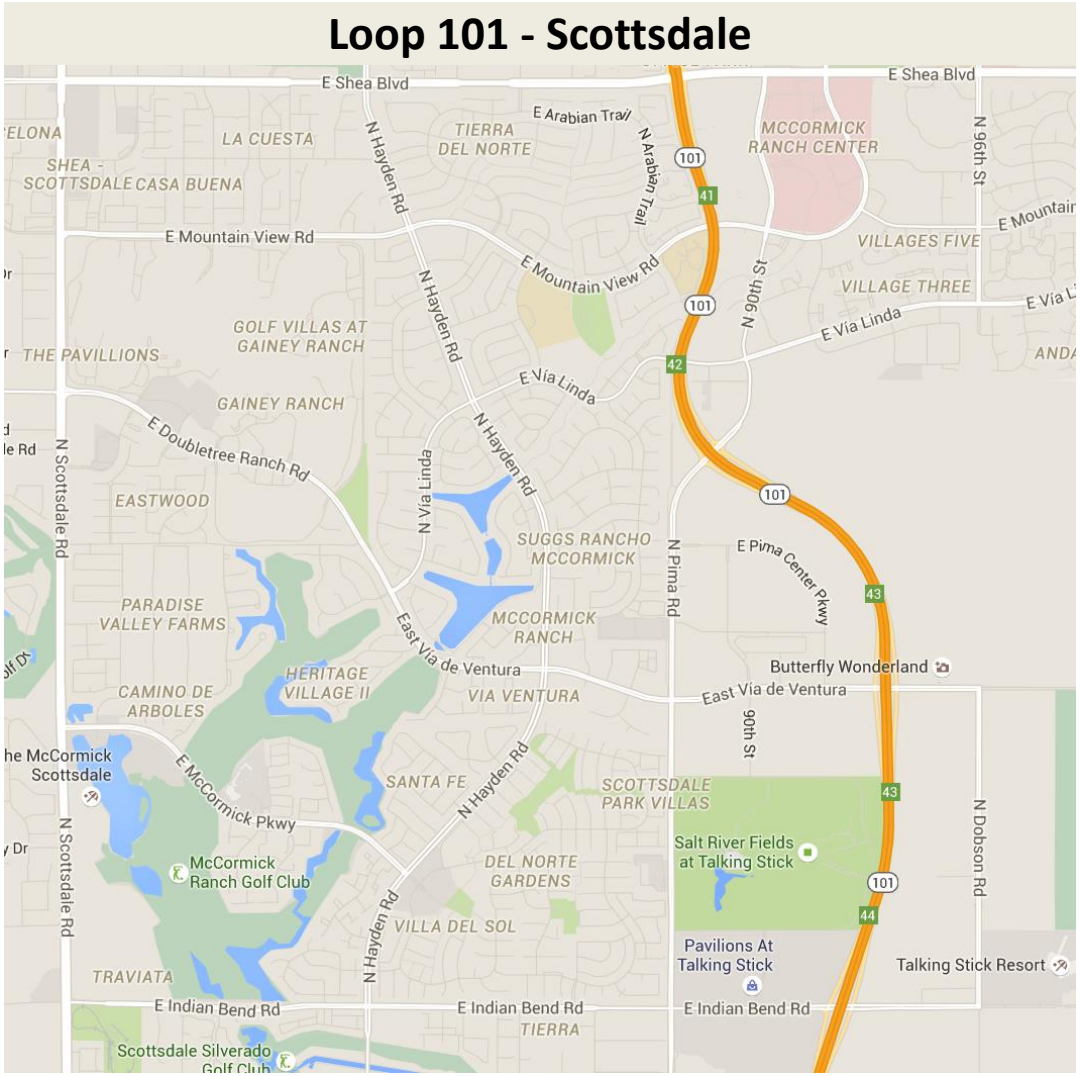


Corridor Management – Bell Road

Travel Time Performance Results

% TRAVEL TIME CHANGE							
PEAK HR – DIRECTION	2007	2008	2009	2010	2011	2012	2013
AM - East Bound		-7.3	0.0	-6.2	0.0	0.0	0.0
PM - West Bound		-3.5	0.0	-24.8	0.0	0.0	-9.7
Combined EB & WB		-5.0	0.0	-17.4	0.0	0.0	-5.3
Cumulative Change	0	-5.0	-5.0	-22.5	-22.5	-22.5	**-27.8**

Integrated Corridor Management



Integrated Corridor Management

MCDOT TMC	
Identification	Notify Scottsdale TMC if a freeway closure will occur Confirm with Scottsdale TMC that REACT assistance is needed
Dispatch	Dispatch REACT to scene if support is needed for freeway closure
Coordination	Confirm with Scottsdale TMC detour route picked Notify REACT of detour route picked
Implementation	-
Notification	Send email to distribution list alerting of closure and follow up emails for status
Contact Information	Scottsdale TMC: 480-312-7777
	REACT: 602-201-1452
	ADOT TOC: 602-257-1563

- Loop 101 closure zone—traffic interchange area including ramps OR freeway mainline between traffic interchanges
- Forced detour route in Scottsdale—Preferred
- Forced detour route in Scottsdale—Alternate
- Upstream detour route in Scottsdale—Preferred
- Upstream detour route in Scottsdale—Alternate
- Identification of detour route—Person, Truck, DMS
- Prioritized traffic signal timing plan movement
- Arterial road closure recommendation
- Freeway DMS location to support detour routing

Loop 101 ICM Plan

ARIZONA
CONNECTED VEHICLES
Maricopa County Deployment

Maricopa County
Department of Transportation

THE UNIVERSITY OF ARIZONA

ADOT

DEPARTMENT OF TRANSPORTATION
UNITED STATES OF AMERICA

Safety Applications

Connected Vehicle Pooled Fund

Illustration source: USDOT

Anthem, Arizona Test Bed

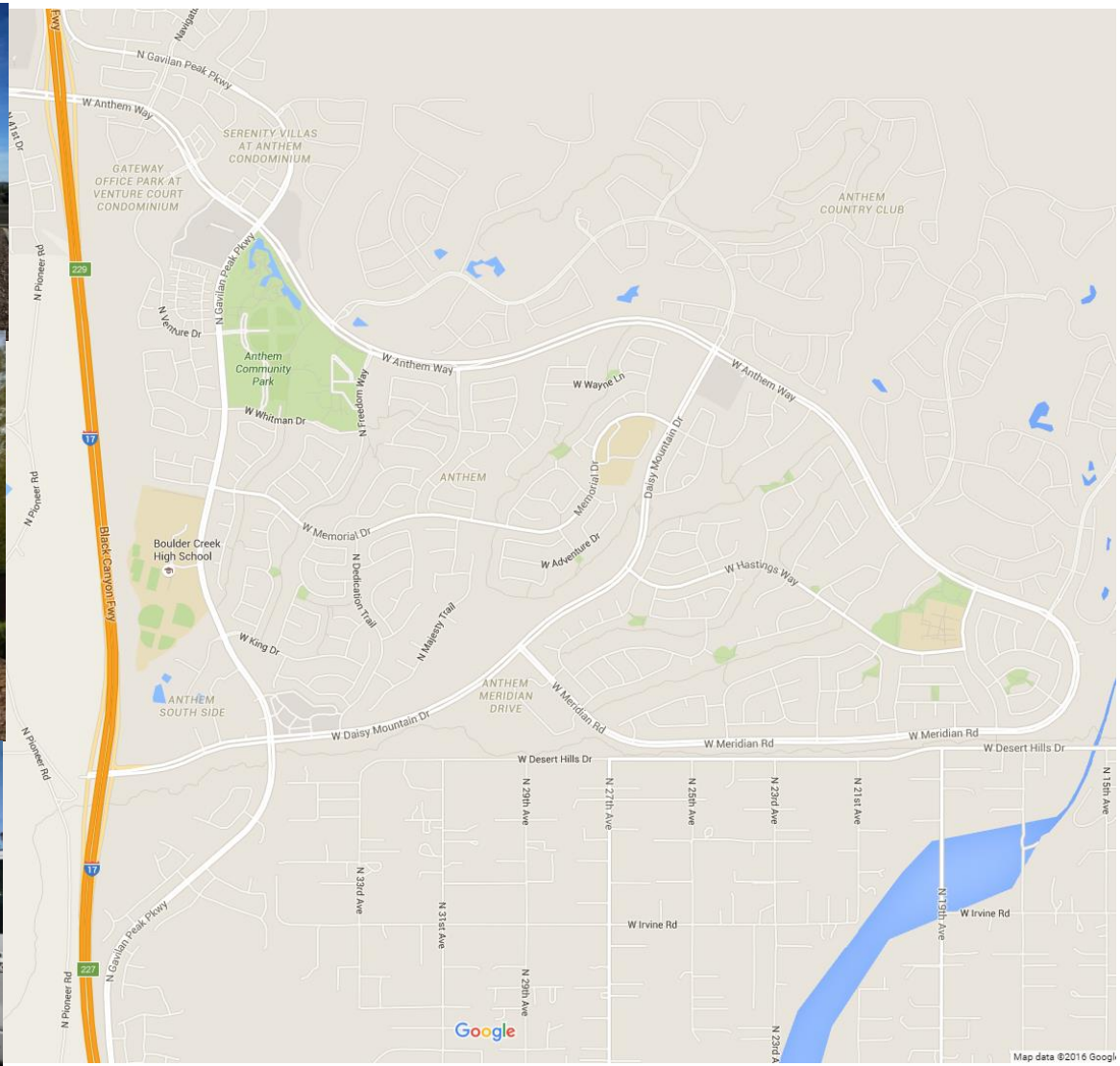


Illustration source: Google Maps

SMARTDrive Test Locations

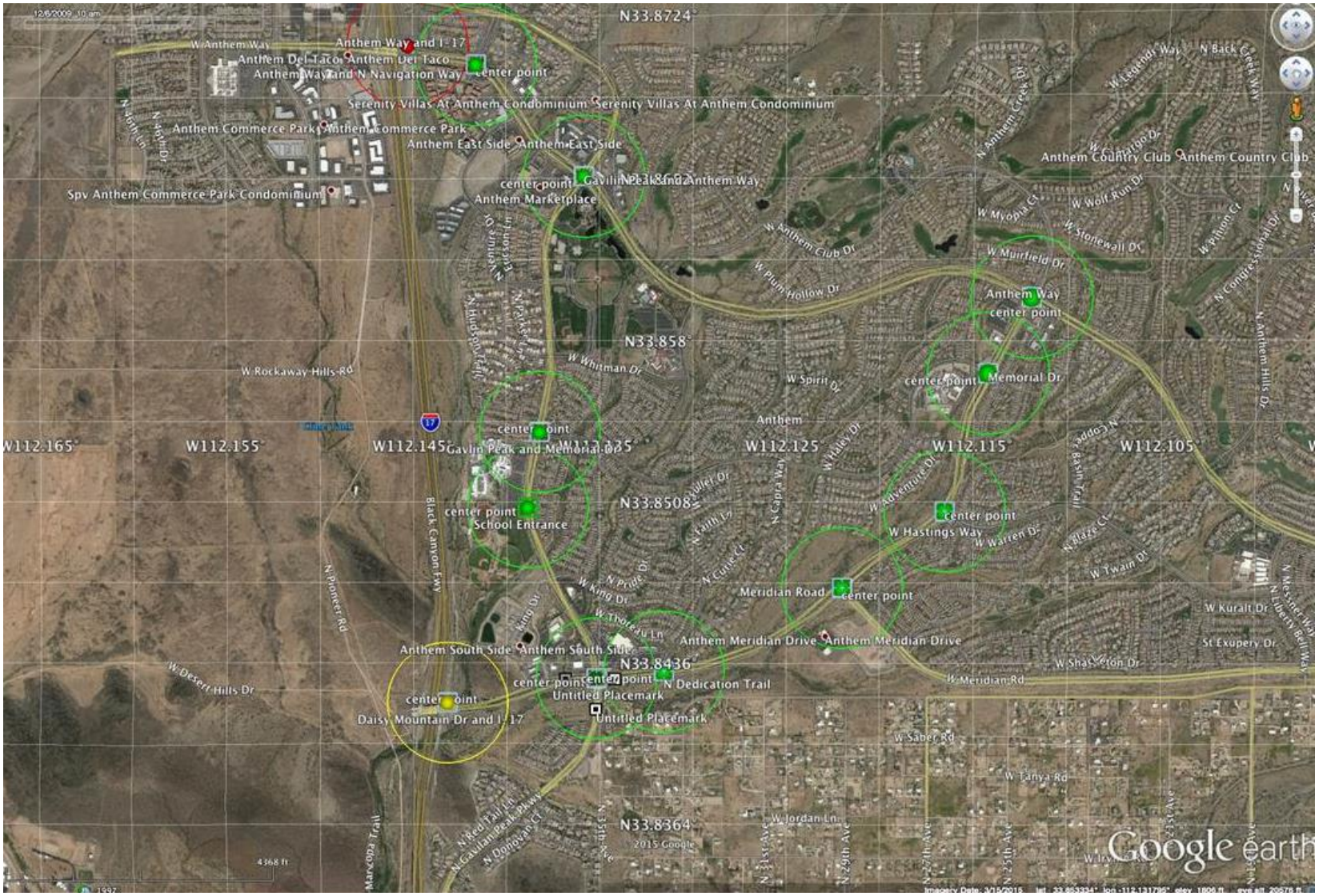


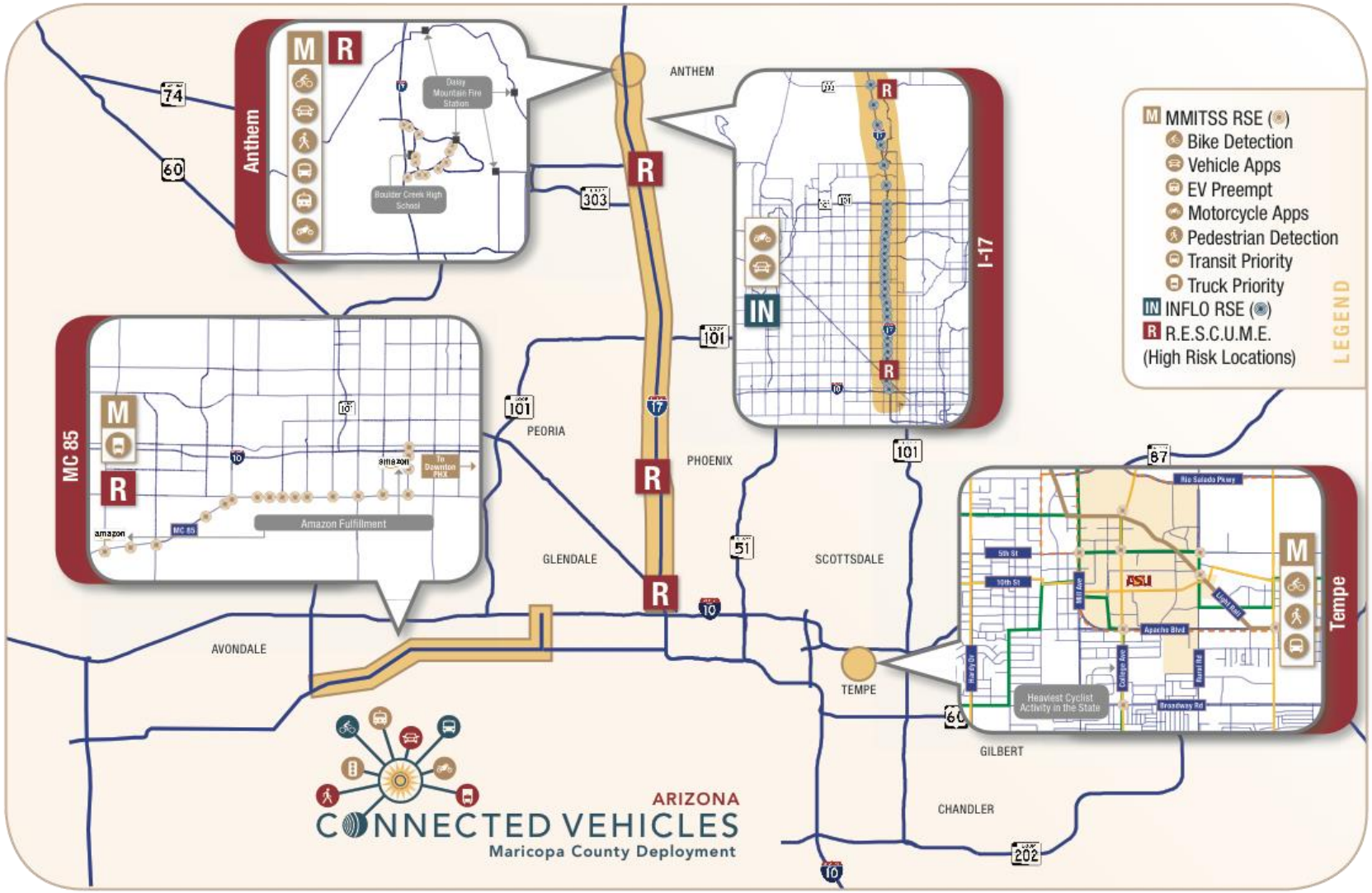
Illustration source: Google Earth

Public Transit Priority

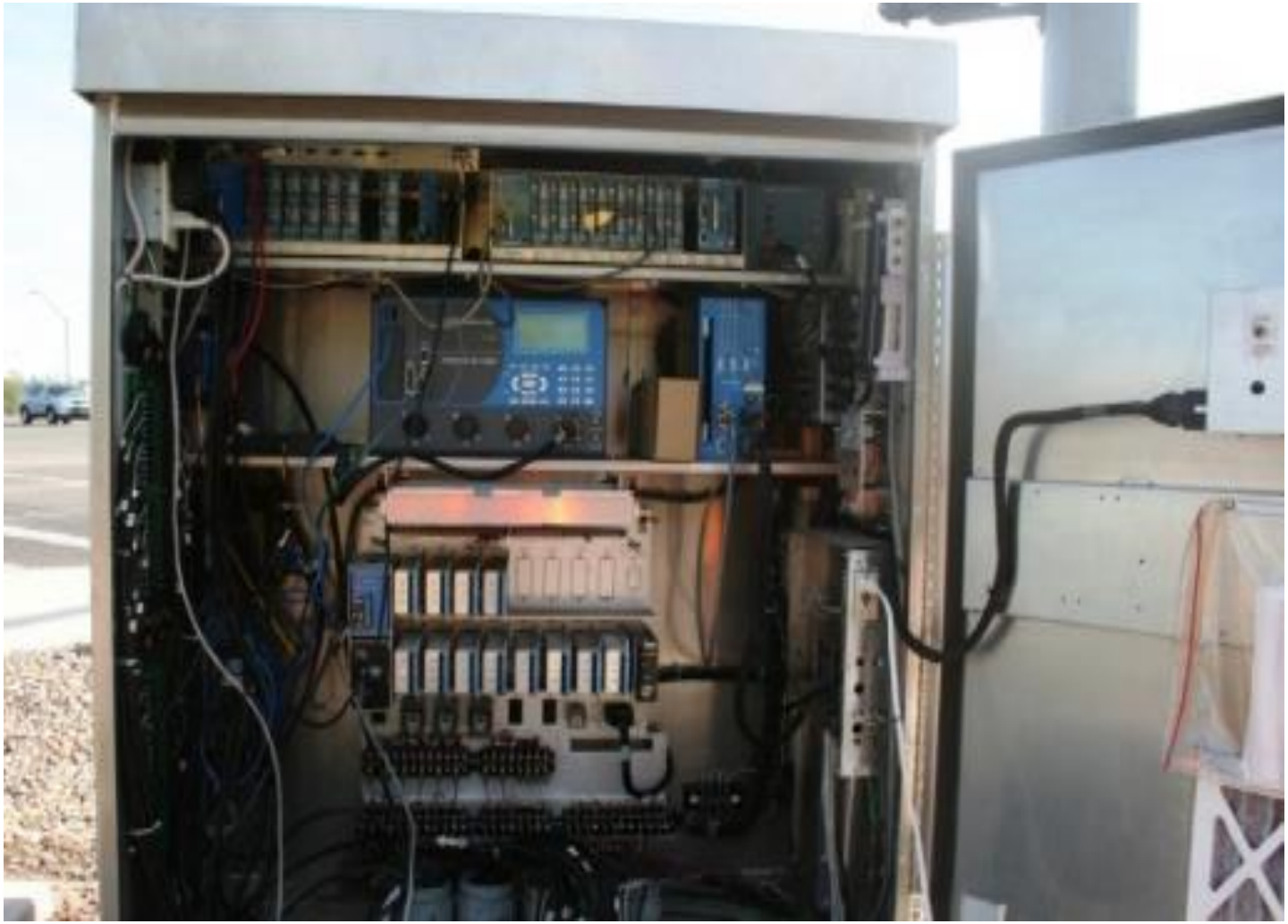
Illustration source: Valley Metro

Crosswalk Application

Possible Future Connected Vehicle Studies



Challenges – Skilled Labor



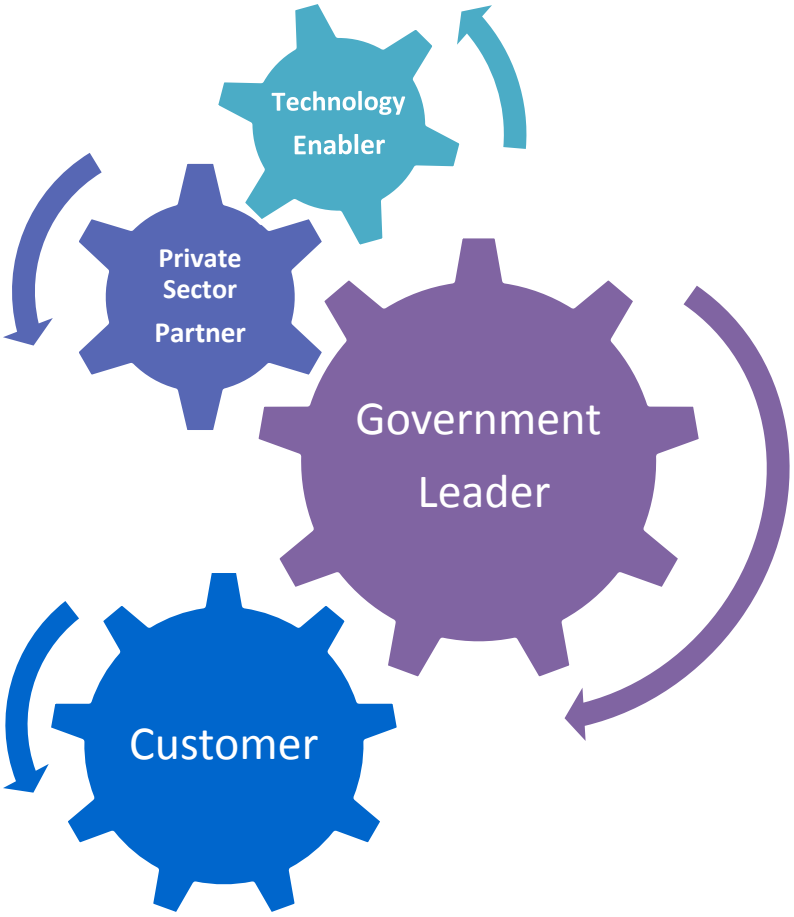
Challenges – Big Data

Illustration source: Digital Juice

Challenges – 5.9 GHz Spectrum

Illustration source: Digital Juice

It will take all of us



Unexpected Guests

Thank you!