



# Case Study: Smart Region San Mateo County (Silicon Valley)

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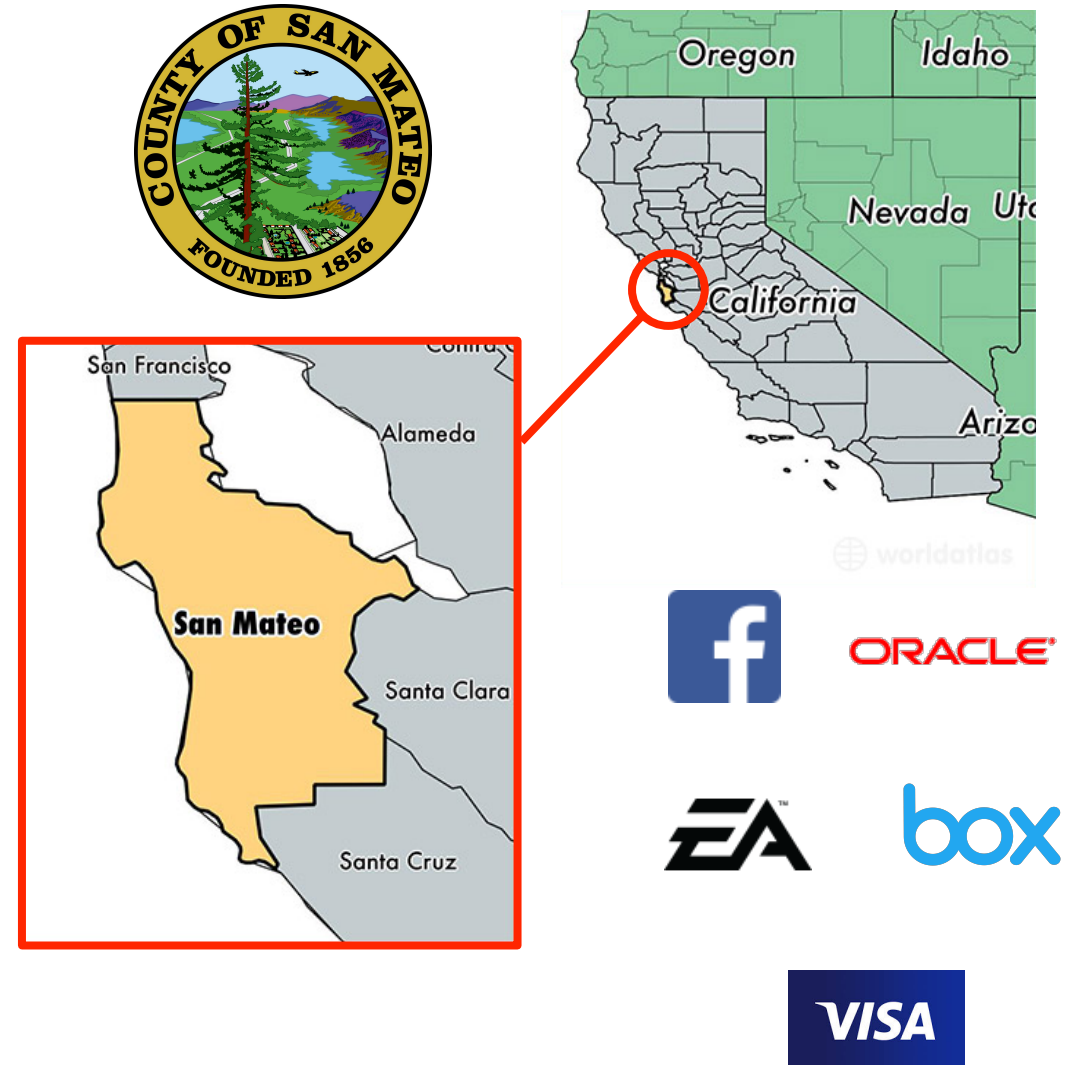
**STRATEGY OF THINGS**





# San Mateo County Overview

- Located between San Francisco and San Jose
- 455 square miles with dense core (bayside) and rural coastal region
- Diverse population of 756K
- \$2.75 billion operating budget (2018-19)
- 20 incorporated cities with no single “dominant” city
- 23 School Districts
- Median income - \$88,202
- Median home price - \$1.2M
- Diverse business base





# Challenges facing San Mateo County

**Bay Area's air quality near nation's worst, climate change to blame** Source: SFGate, 17 April 2018

**Horgan: A traffic apocalypse is brewing in San Mateo**

Source: Mercury News, 29 December 2017

**San Mateo County's Latino Digital Divide**

Source: San Mateo Daily Journal, 15 October 2016

**Building toward collapse in San Mateo County**

Source: San Mateo Daily Journal, 6 March 2018

**Many in San Mateo County priced, pushed out of affordable housing**

Source: Berkeley News, 16 May 2017

# Solving these challenges is outside the capabilities of any one city in San Mateo County



## City Centric

One City Focus

City Specific Problems

Limited Funds, Resources  
and Knowledge Base

Connectivity &  
Infrastructure Challenges

City centric experience  
for citizens

## Region Centric

Multi-city Regional Focus

Regional Problems

Shared Funds, Resources  
and Knowledge Base

Shared Connectivity &  
Infrastructure

Regional experience  
for citizens

# SMC Smart Region is built on an ecosystem framework



Parking  
Lighting  
Traffic

Streetlights  
Water mgmt  
Microgrids

Ridesharing  
Commuting  
Bike sharing

Airports  
Districts  
Office parks

Private  
Micro Services

CITIES

UTILITIES

CORPORATIONS

COMMUNITIES

CITIZENS

Innovation Enablement and Acceleration

Governance, Management and Operations

Policies, Processes, Public-Private Partnerships and Programs

Data "Marketplace" and Analytics

Connectivity, Accessibility and Security

Smart City Technology Infrastructure

## Outcomes

QUALITY OF LIFE  
GOVERNMENT EFFICIENCY  
HEALTH AND WELLNESS  
ECONOMIC DEVELOPMENT  
SUSTAINABILITY  
PUBLIC SAFETY  
MOBILITY

Source: [www.strategyofthings.io/smart-city-ecosystem](http://www.strategyofthings.io/smart-city-ecosystem)

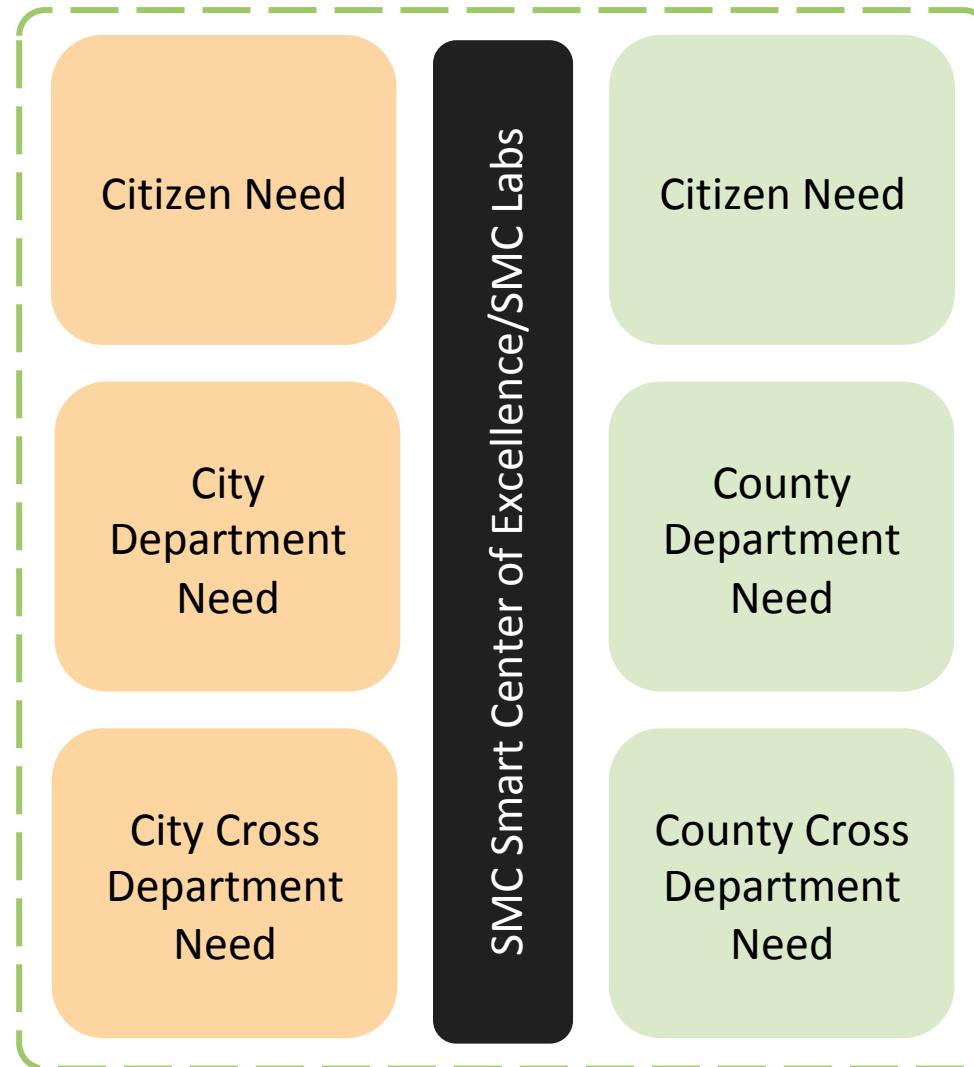
# We envision many constituents, many collaborators, one SMC



## 20 Cities in SMC



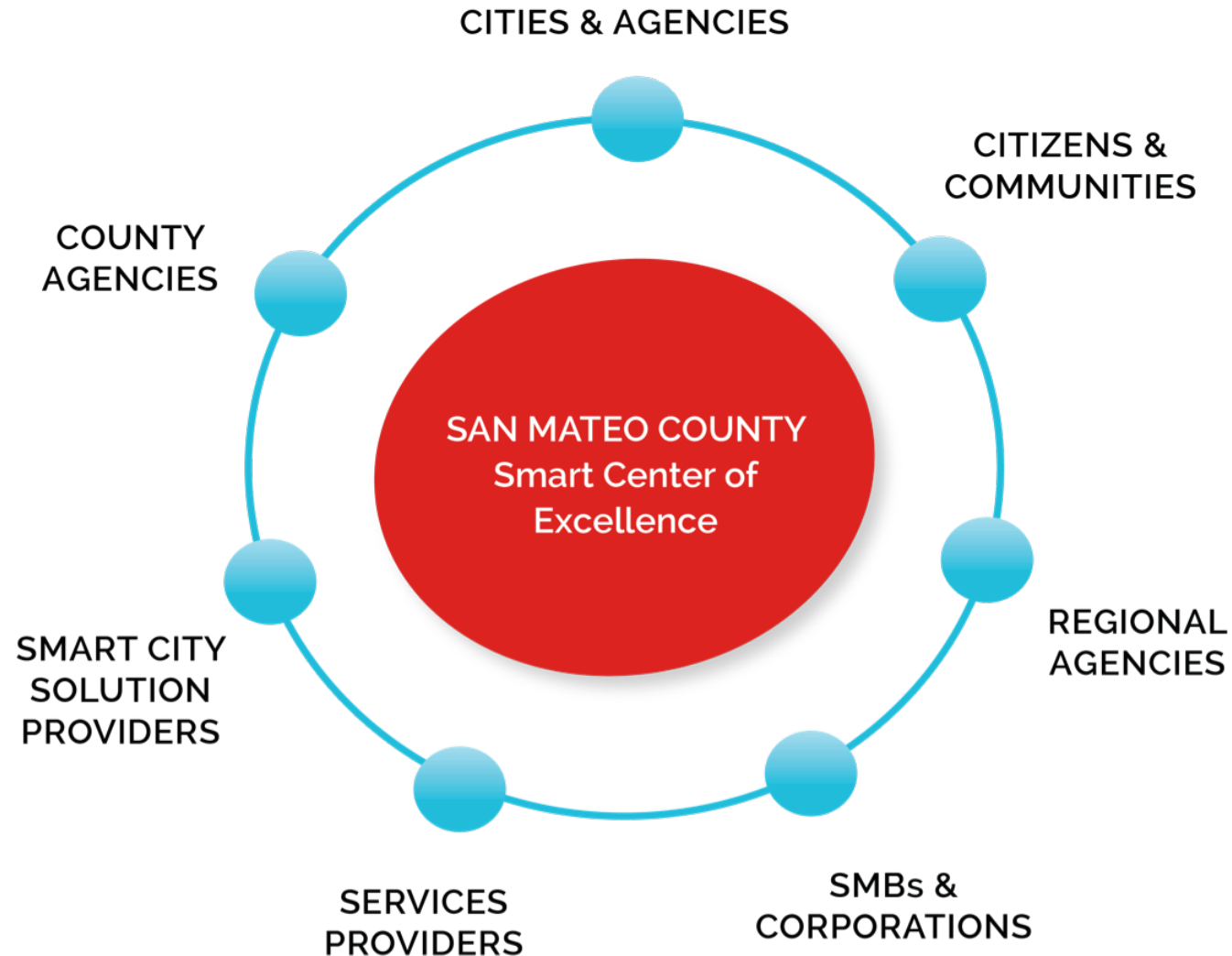
## City-County Collaboration Opportunities



## 29 SMC Agencies

Agriculture, Weights and Measures  
Assessor, County Clerk-Recorder & Chief  
Elections Officer  
Board of Supervisors  
Child Support Services  
Controller  
Coroner  
County Counsel  
County Managers Office/Clerk of the Board  
Court  
District Attorney  
Fire Protection Services  
Health System  
Housing (Department of Housing)  
Human Resources Department  
Human Services Agency  
Information Services Department  
Parks Department  
Planning and Building  
Private Defender Program  
Probation  
Project Development Unit  
Public Safety Communications  
Public Works  
SamCERA (Retirement)  
San Mateo County Library  
Sheriff's Office  
Sustainability Office  
Tax Collector / Treasurer / Revenue Services

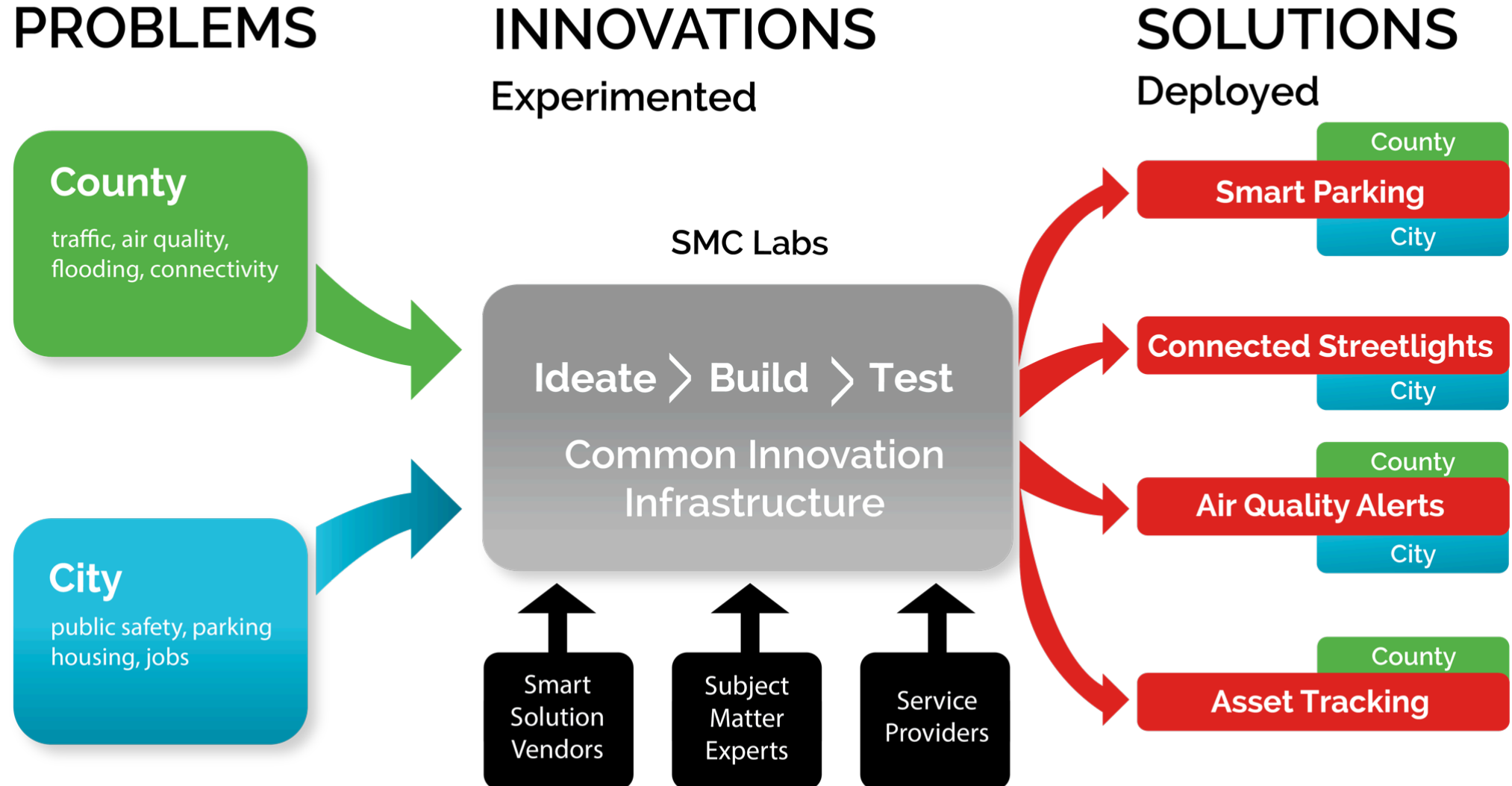
# SMC Smart Center of Excellence



- Specialized Team
- Shared Capabilities
- Digital Innovation Resources
- Innovation Lab and Zones (SMC Labs)



# SMC Labs provides the mechanism for solving problems



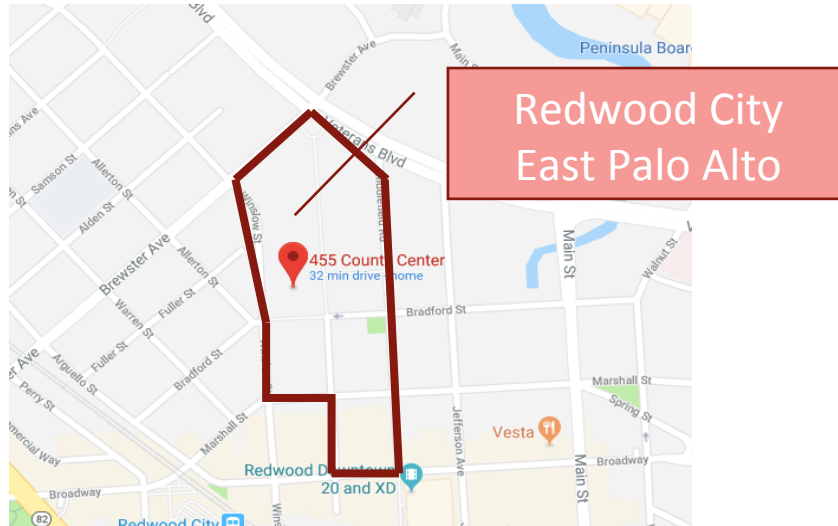
Learn more at [www.smclabs.io](http://www.smclabs.io)



# SMC Innovation Zones



## Local Innovation Zones



- A small area around 2 SMC owned buildings (2 cities) to set up gateways and deploy use cases
- Expedited access and setup
- First tests conducted in controlled environment

## Countywide Innovation Zone



- Countywide coverage enabled using carrier and service provider LPWAN
- Use cases that require county wide connectivity and operations, including mobile use cases

# Use Case Matrix



	Economic Development	Public Safety	Mobility	Health and Wellness	Government Efficiency	Sustainability	Quality of Life
What is the problem that needs to be solved?							
What agency or city is the owner responsible for solving this problem?							
How important is this problem to the owner or agency?							
What are the possible solutions/use cases to solve this problem?							
What is the maturity of the solution/use case? What needs to be tested?							
Do we build, buy or partner for this?							



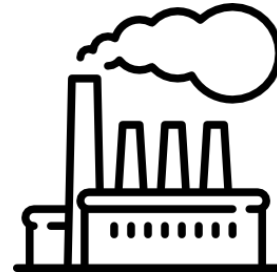
# Initial Use Cases

## Smart Parking



Inability to find EV and disabled parking spaces limit mobility of disabled citizens, as well as discourage drivers from using their EV vehicles. Goal is to ensure these special spaces are always available when needed.

## Air Quality



Monitor and measure air quality at a neighborhood level. Goal is to understand the causes of bad air quality, and notify residents when air quality levels reach unhealthy levels.

## Soil Moisture



Overwatering or underwatering of plants in parks, result in unhealthy plants and excessive water use. The goal is to give plants the exact amount of water needed throughout the year.

## Asset Tracking



Track equipment that moves from site to site. Goal is to know where assets are at any time so they can be deployed in an optimized manner



# Use Case Deep Dive: Smarter Parking

## Parking availability for electric vehicles and disabled citizens

### Problem #1:

Drivers with disabilities may voluntarily limit their mobility to certain areas because they are not sure if they can park their car nearby.

### Problem #2:

Drivers with electric vehicles may leave those cars at home and drive their gasoline powered vehicles because they don't know where the EV charging stations are, and whether it is available.

### Solution Pilot:

- 22 in ground sensors deployed in SMC garage
  - 6 public EV
  - 4 employee EV
  - 4 disabled public
  - 8 disabled employee
- Fybr smart city platform
- 2 FybrRadio gateways
- Alexa voice integration

### Learnings to date:

- Generally sufficient parking availability and turnover during core hours
- Must drive awareness of available parking to residents and downtown visitors during non-core hours
- Voice interface is a safe way to interact, but voice command needs maturing
- Coordinate sharing of parking information with Redwood City



# SMC Smart Region Guiding Principles



Multi-Connectivity



Engage Use Case  
Beneficiaries



Start Small  
and Learn



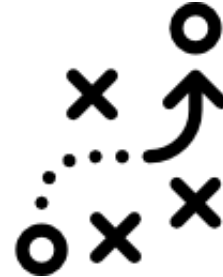
Focus on problems and  
outcomes, not technology



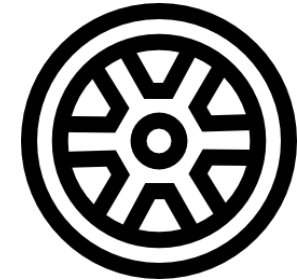
Small Investments  
spread around



Establish True  
Partnerships



Balance strategy  
with tactical



Don't reinvent  
the wheel



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