



# Who We Are

## Contra Costa, California



- Public agency formed by voters in to manage county's transportation sales tax program and transportation planning efforts.
- Responsible for maintaining and improving the county's transportation system by delivering critical transportation infrastructure projects.
- Managing entity of autonomous vehicle (AV) testing site: GoMentum Station.

# What We Do



## PEDESTRIAN

Improvements to sidewalks, crosswalks, trails, and paths



## LOCAL STREETS

Smooth traffic flow on major roads and make surface improvements such as pothole repairs



## BUSES

Invest in a reliable, comfortable and convenient bus network



## SAFE ROUTES TO SCHOOLS

Focus on programs and projects aimed at bicycle and pedestrian safety for K-12 students



## FERRIES

Expand ferry system by looking to ferries as an alternate commute method between West County and San Francisco



## BICYCLE

Invest in safe routes and infrastructure improvements for bicyclists



## BART

Improve BART service and stations, extend routes and increase parking



## HIGHWAYS

Complete Contra Costa's highway system, and improve air quality and noise protection along corridors



## INNOVATIVE SOLUTIONS

Implement smart transportation infrastructure to reduce congestion and encourage greener travel



## PROGRAMS FOR SENIORS AND DISABLED

Enhance transit options to improve mobility for seniors and people with disabilities



# GoMentum Station

## LANE VARIETY



1. Two-into-one lane merge
2. One to three lane roads (10 to 30 ft wide)
3. Bi-directional and unidirectional lanes
4. Bike lanes

## ROADWAY INFRASTRUCTURE



5. Over-passes and railroad tracks
6. Grid system similar to city blocks
7. Two 600 ft. tunnels for sensor and communication testing
8. Parking lot doubles as a low speed vehicle dynamics area

## TRAFFIC CONTROL



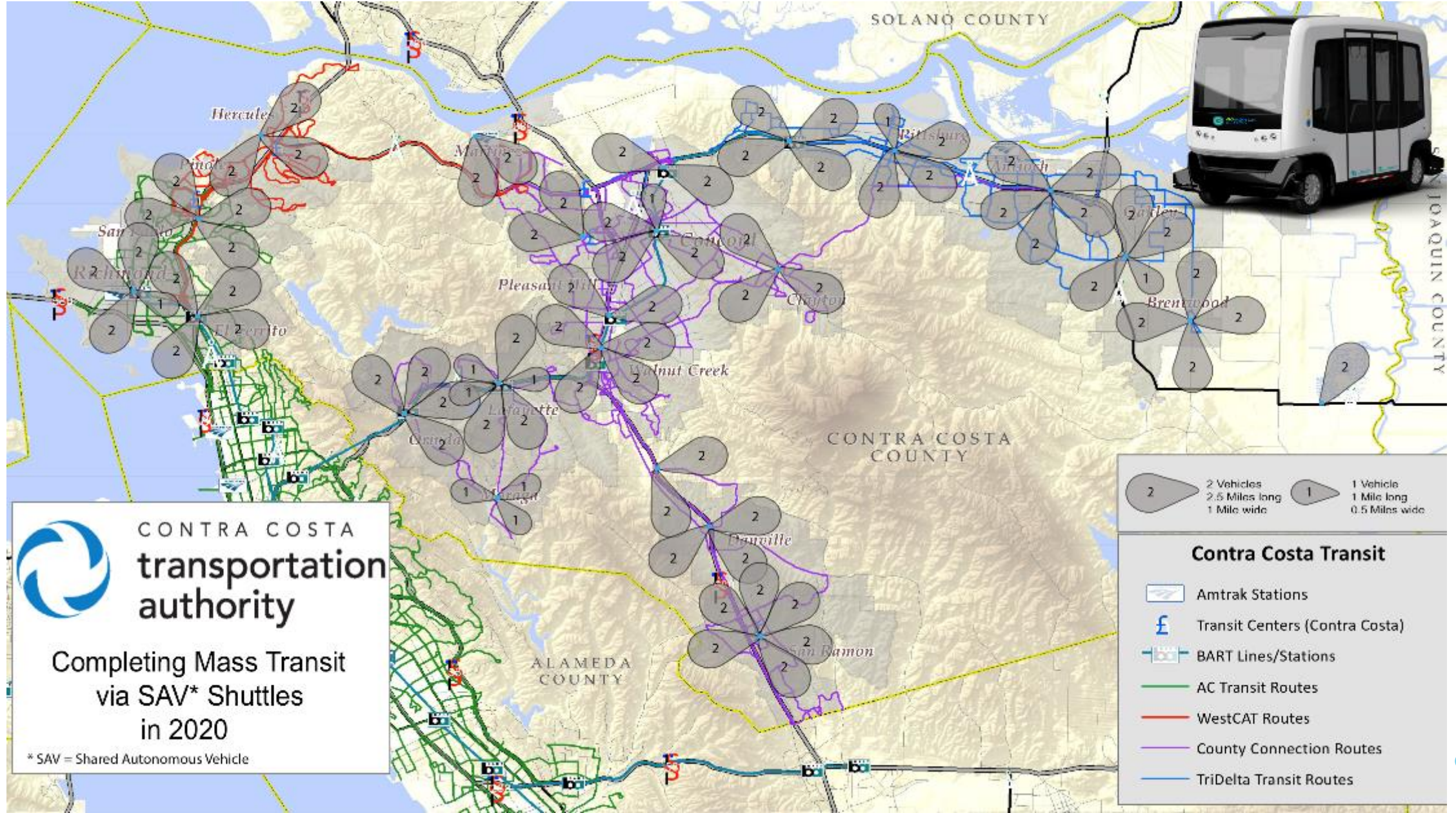
9. No left/right turn intersections
10. Residential traffic circle
11. Programmable traffic lights
12. Pedestrian crosswalks

# SAV Testing on Public and Private Roadways

First to test on public  
roadways in California



# Concept to Commercialization



# THE CONCEPT



# OPERATIONS CENTER

The operations center will provide centralized decision-making, operational control, data sharing, and performance monitoring. Provide proactive, responsive, and real-time monitoring, tracking, and reporting of operations and infrastructure. Integrate tele-operations of the vehicle for remote operators to navigate obstructions or unusual situations.

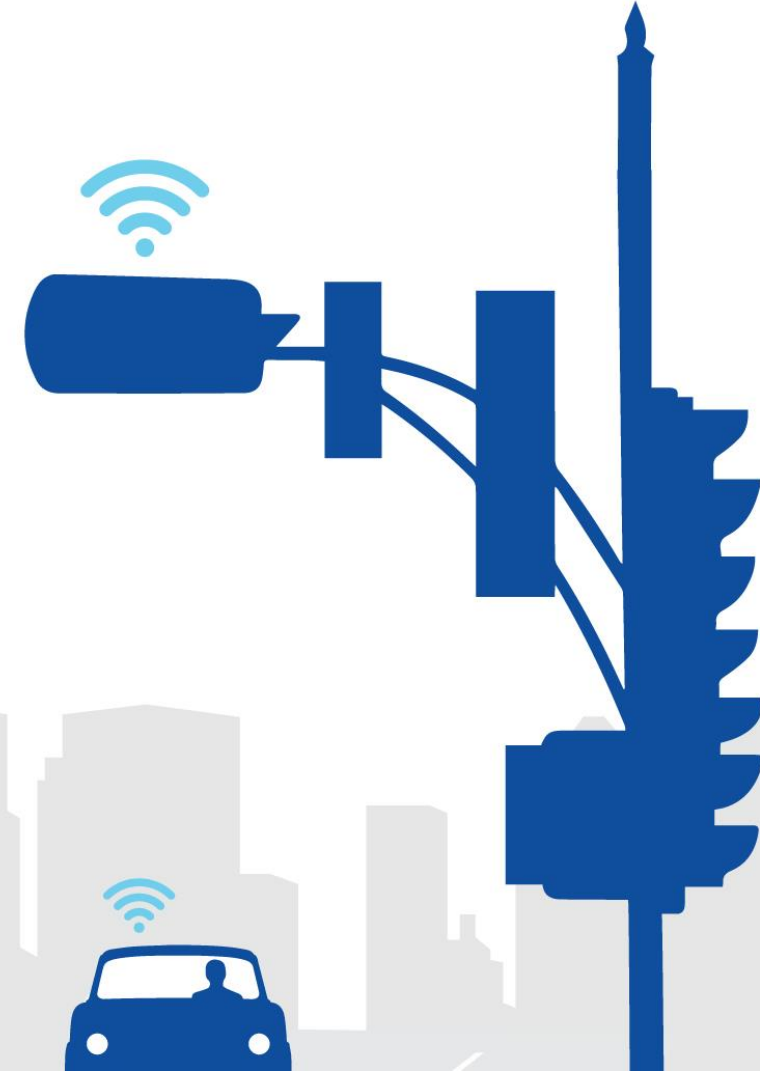
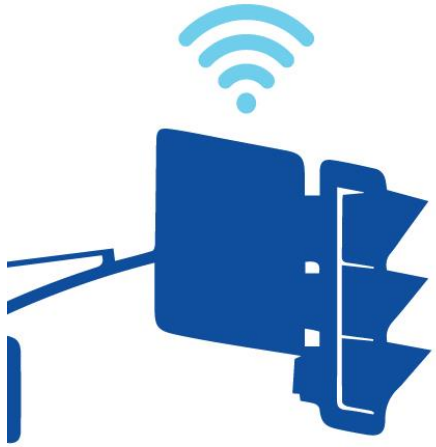






## TRAFFIC MANAGEMENT

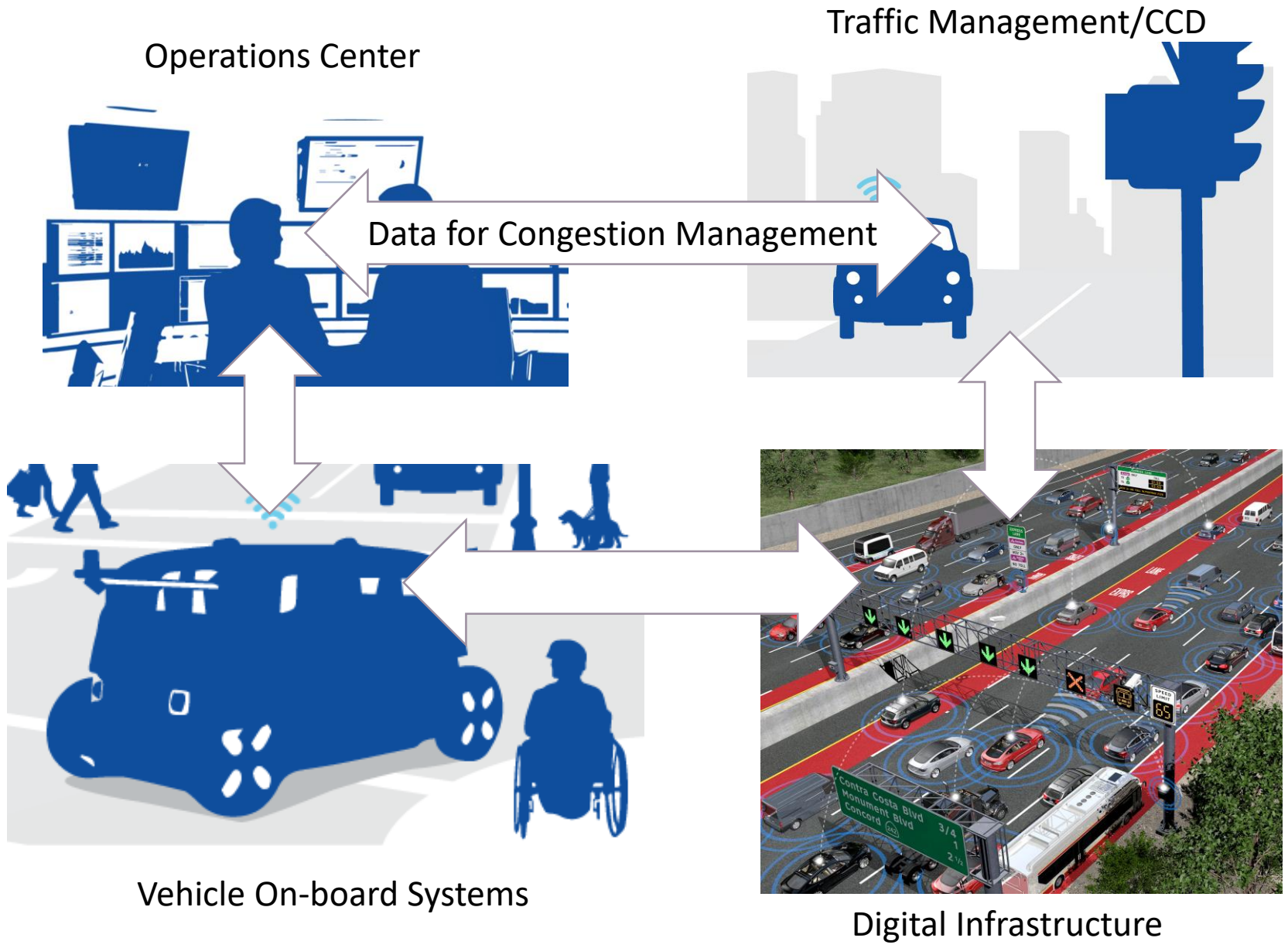
Cloud based AI coupled with on-device, roadside units, digital infrastructure leading to sensor fusion of the infrastructure to create a digital twin of the roadway. Understanding traffic and providing the digital infrastructure to communicate messages to vehicles.



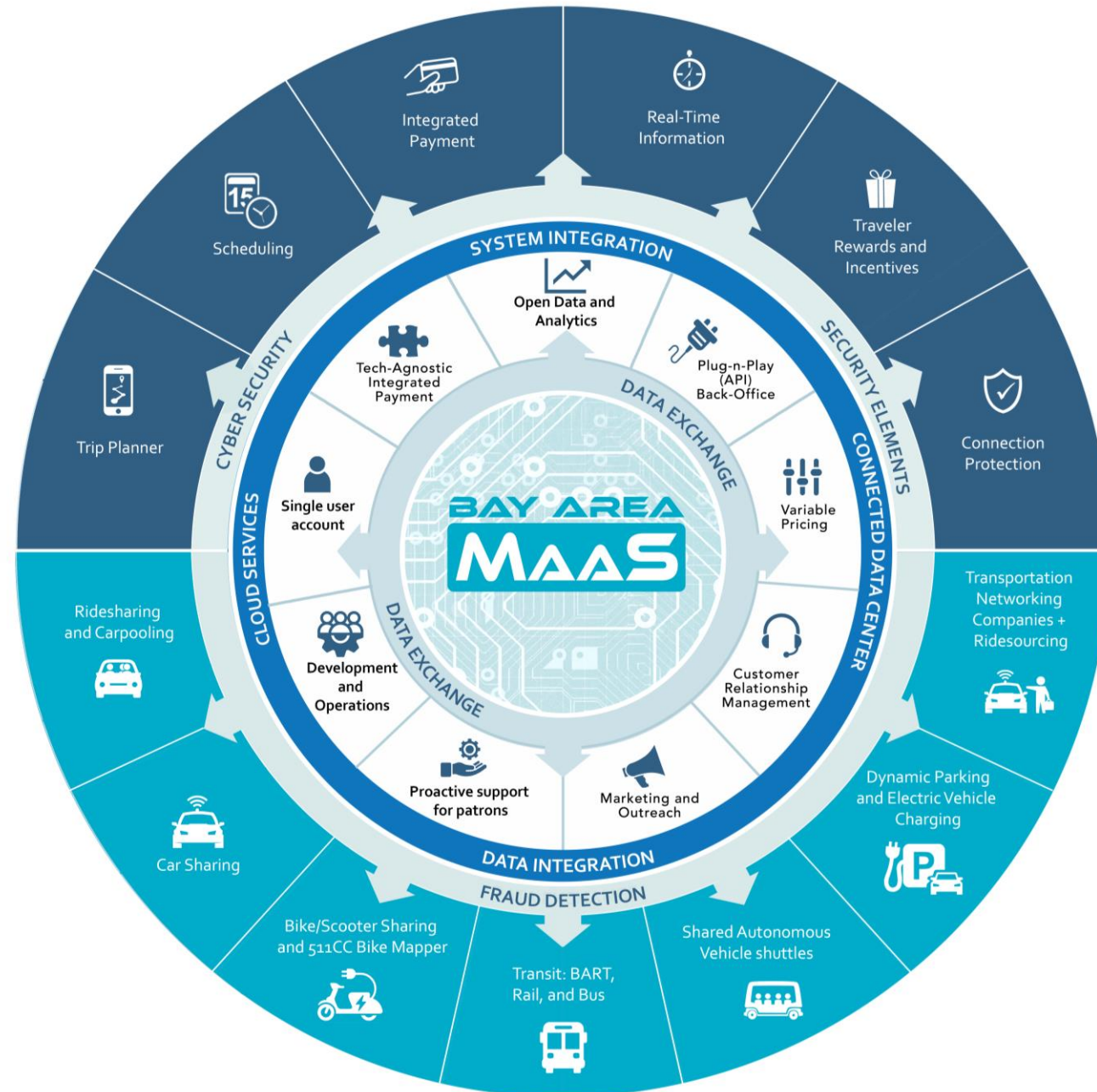
# COUNTYWIDE CONNECTED DATACENTER (CCD)

As the central data system for operations, the Countywide Connected Datacenter will require a constant feed of real-time data. The information gathered from this system will ultimately support the real-time operations.





# Enable Personalized Mobility





## **CUSTOMER EXPERIENCE**

Provide shared network communications to hail vehicle and navigate the journey. Validate user, vehicle, and ride. Enable safety protocols, alerts, and messages during the journey.



# Gaining Public Acceptance



# Automated Driving Systems

Continuing with our field operation testing



Bishop Ranch First/Last Mile Shared Autonomous Vehicles



Rossmoor First Mile/Last Mile Shared Autonomous Vehicles



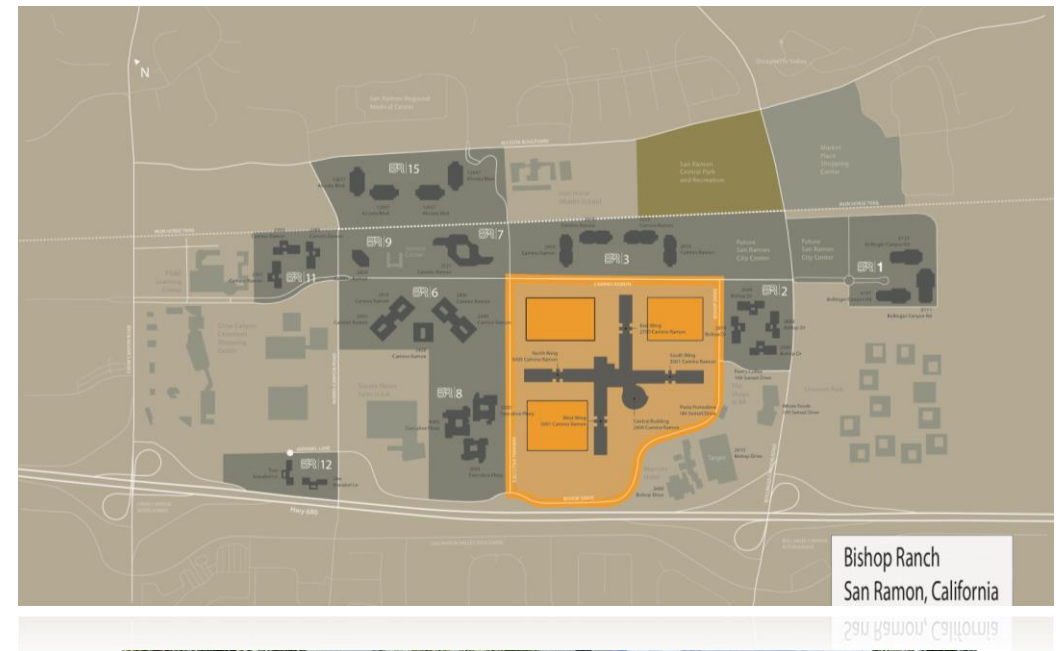
I-680 Personal Mobility



County Hospital Accessible Transportation

# Bishop Ranch First/Last Mile

- **Level 4 low-speed SAV shuttles**
- **Fixed route SAV service with multiple stop locations**
- **On-demand ride hail to desired stop**





# Rossmoor Senior Community First/Last Mile

- **Level 4 low-speed SAV shuttles**
- **Fixed route SAV service** with multiple stop locations
- **User interface able to identify desired stop** and **Q'STRAIT automated securement and restraint systems**





EXPRESS LANE  
TO [A] ONLY TOLL \$1.50  
TO [B] ONLY TOLL \$3.50  
HOV 2+ NO TOLL W/FASTLANE FLEX

EXPRESS LANE  
FASTLANE ONLY  
HOV 2+  
NO TOLL

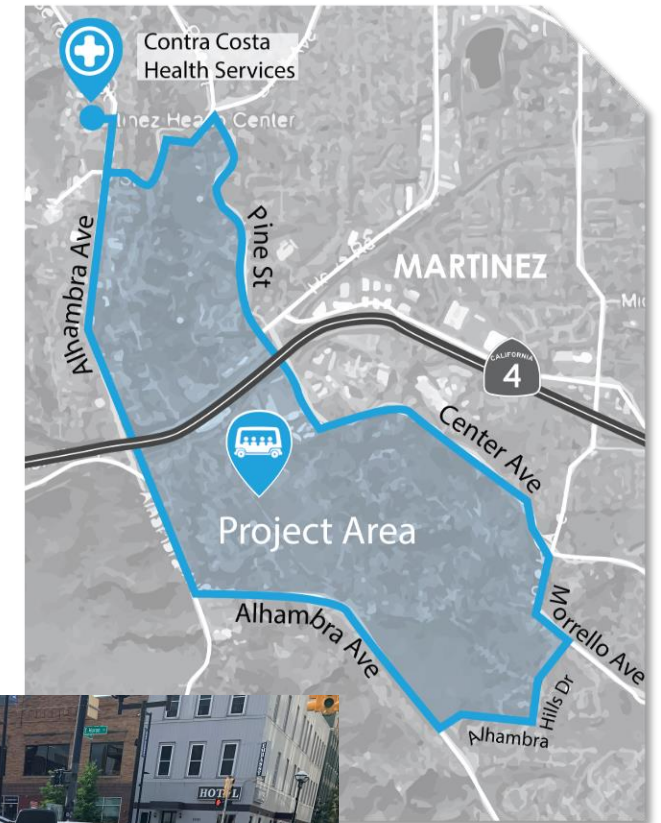
SPEED LIMIT  
65

SPEED LIMIT  
65

Contra Costa Blvd  
Monument Blvd  
Concord 242  
3/4  
1  
2 1/2

# County Hospital Accessible Transportation

- **Level 3 medium speed AV**
- **Smartphone app and dial-a-ride service**
- **Q'STRAIT automated securement and restraint systems**
- **Optional wearable device for seniors and minimally ambulatory individuals**



# Dynamic Personal Micro-transit

A new mobility option being explored at GoMentum Station.



# Thank You



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