



CONTRA COSTA
transportation
authority

GoMentum 2.0: Investing in California Innovation



Why GoMentum?

Creating GoMentum Station has given CCTA the ability to partner with the private sector and have a **front row seat to the future.**

ECONOMIC GROWTH
& JOB CREATION

EFFICIENT MOBILITY

ENHANCED SAFETY

HEALTHIER ENVIRONMENTS

Goals and Objectives

- Seeing tomorrow's technology being tested today
- Helps us plan for the future
- Helps us understand if this technology will work for our residents
- Helps identify regulatory reforms needed for an integrated, zero emission, and more accessible countywide transportation system

Our Partnership

- Unique public / private partnership between CCTA, AAA, City of Concord, EBRPD, Contra Costa County and the US Navy
- AAA Northern California, Nevada & Utah is a mission driven Member-based, not for profit.
- Focused on roadway safety for 100+ years
- AAA is a neutral third party
- Why AAA is important for this structure
 - Enable private investment for public benefit
 - Provide a buffer between public and private entities

Global Test Centers




GoMentum Station is an International Entity

A Visit by a “Senior” Transportation Official





LEGEND

 Testing Area Boundary	 Kinne Blvd. Staging Areas	 Bunker B Office
 Bunker City	 Lookout Loop	 Bunker C Office
 Downtown	 Tunnels	 Bunker D Office
 Tunnel Road	 Firehouse Office	 12th St. Office
 Kinne Blvd.	 Bunker A Office	 Kinne Office

RULES:

- Stay on approved testing roads at all times
- Obey posted speed limits and traffic patterns
- Kinne Boulevard is a shared use road - please be aware of other vehicles
- If you have not reserved a particular testing zone, do not enter that testing zone
- Use of drones is prohibited
- No smoking
- Weapons are prohibited

For emergencies, call:
925-246-3911
(do not call 911)

For gate access, call:
925-705-5707

GoMentum Operations
Staff: 844-702-6248



GoMentum Station Improvements & Offerings

LANE VARIETY



ROADWAY INFRASTRUCTURE



TRAFFIC CONTROL



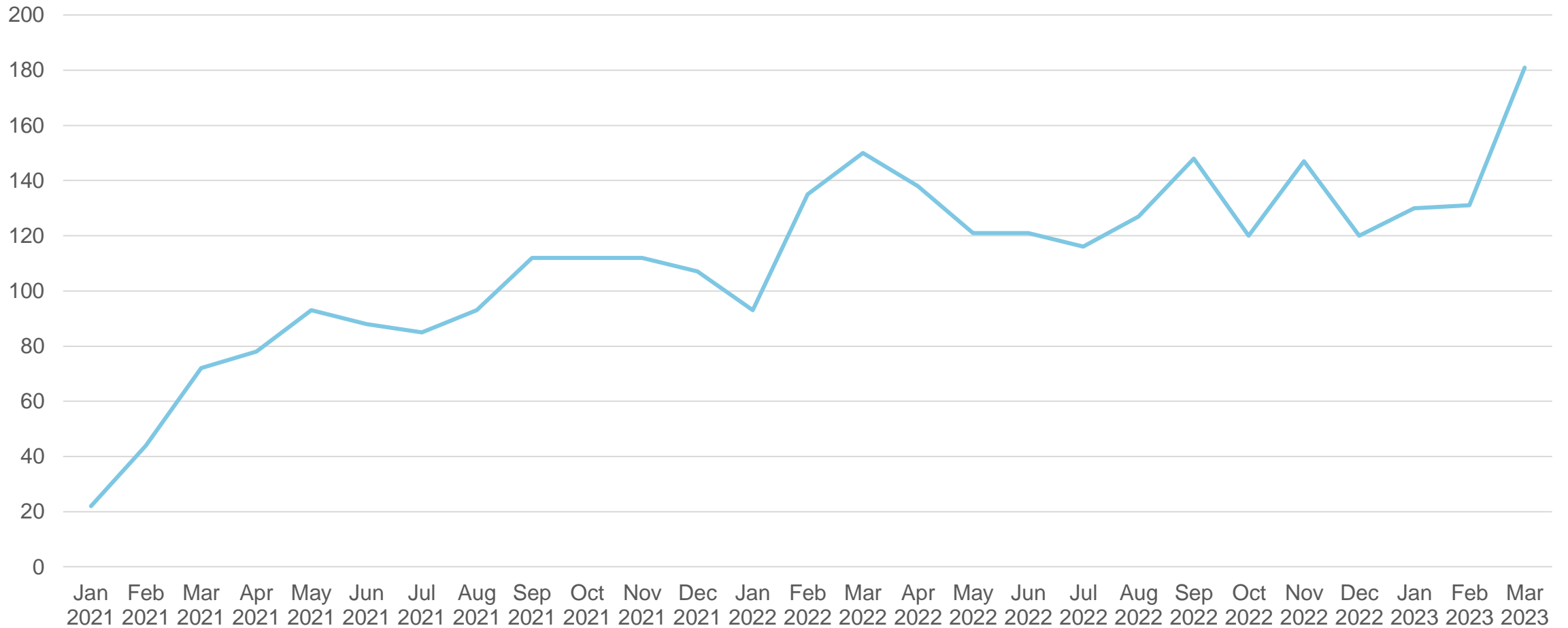
What companies are testing?

GoMentum Station provides customers a proving ground to test not only futuristic technologies, but those that are available in vehicles today.

Technologies being tested

- Fully autonomous passenger vehicles
- Commercial autonomous trucking
- Short distance logistics (e.g. pizza delivery)
- Testing on commercially available ADAS Systems
- Components (LIDAR & Camera) testing
- Advanced testing equipment and technologies
- EV & ICE powered vehicles
- University-based research studies
- Looking forward to next phase of GoMentum

GoMentum Utilization



GoMentum 2.0 Vision

GoMentum 2.0 Vision

1. Support California, Contra Costa, and the Bay Area Megaregion's economic competitiveness and job growth;
2. Partner with our communities to improve safety, mobility, and the environment;
3. Create a world-class test bed with active industry and government participation; and
4. Utilize the outcome to address our transportation challenges in real-world environments in Contra Costa County, California, and beyond.
5. Prioritize education and outreach to inform future riders of these advancements in mobility.
6. Develop next generation workforce development programs and education

What is a Proving Ground?



DEVELOPMENT LED BY VEHICLE FUNCTIONALITIES

MAIN VEHICLE FUNCTIONALITIES



PASSIVE SAFETY · ACTIVE SAFETY · NVH · POWERTRAIN · COMFORT · RELIABILITY

BODY + CLOSURES + TRIMS + CHASSIS + POWERTRAIN + ELECTRONICS



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GoMentum 2.0 Conceptual Plan



Initial Pre-Feasibility Study

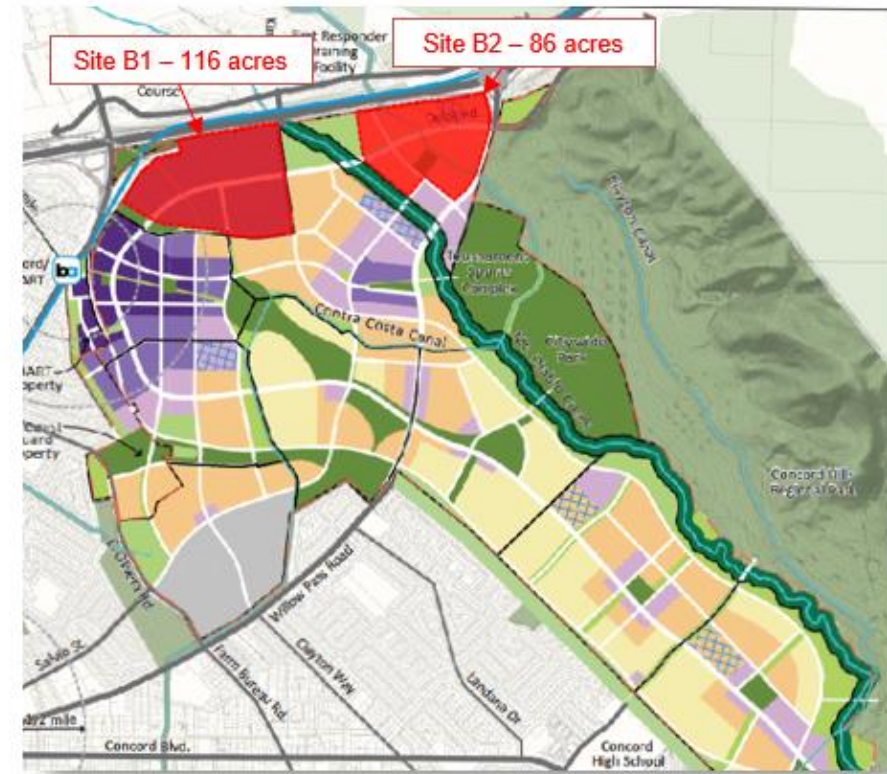
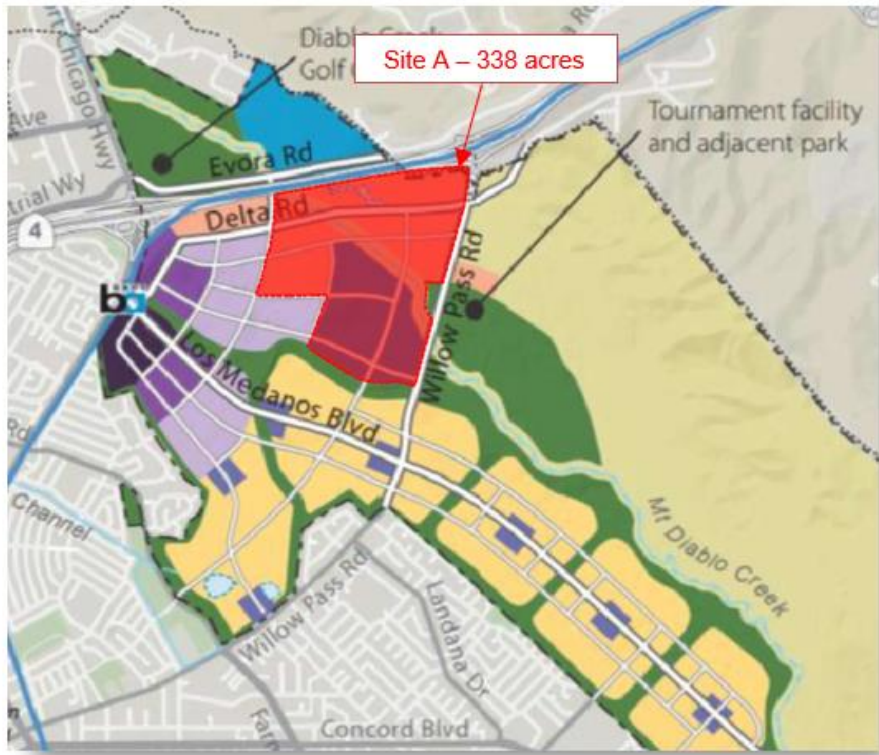
Objectives

- Develop Strategies for Improvements at GoMentum Site
- Preliminary Site Plans
- Construction and Operating Cost Estimates
- Assumptions for Initial Facility Usage and Growth Estimates

GoMentum Expansion Pre-Feasibility Study

Two different potential sites available for the project (within the same zone)

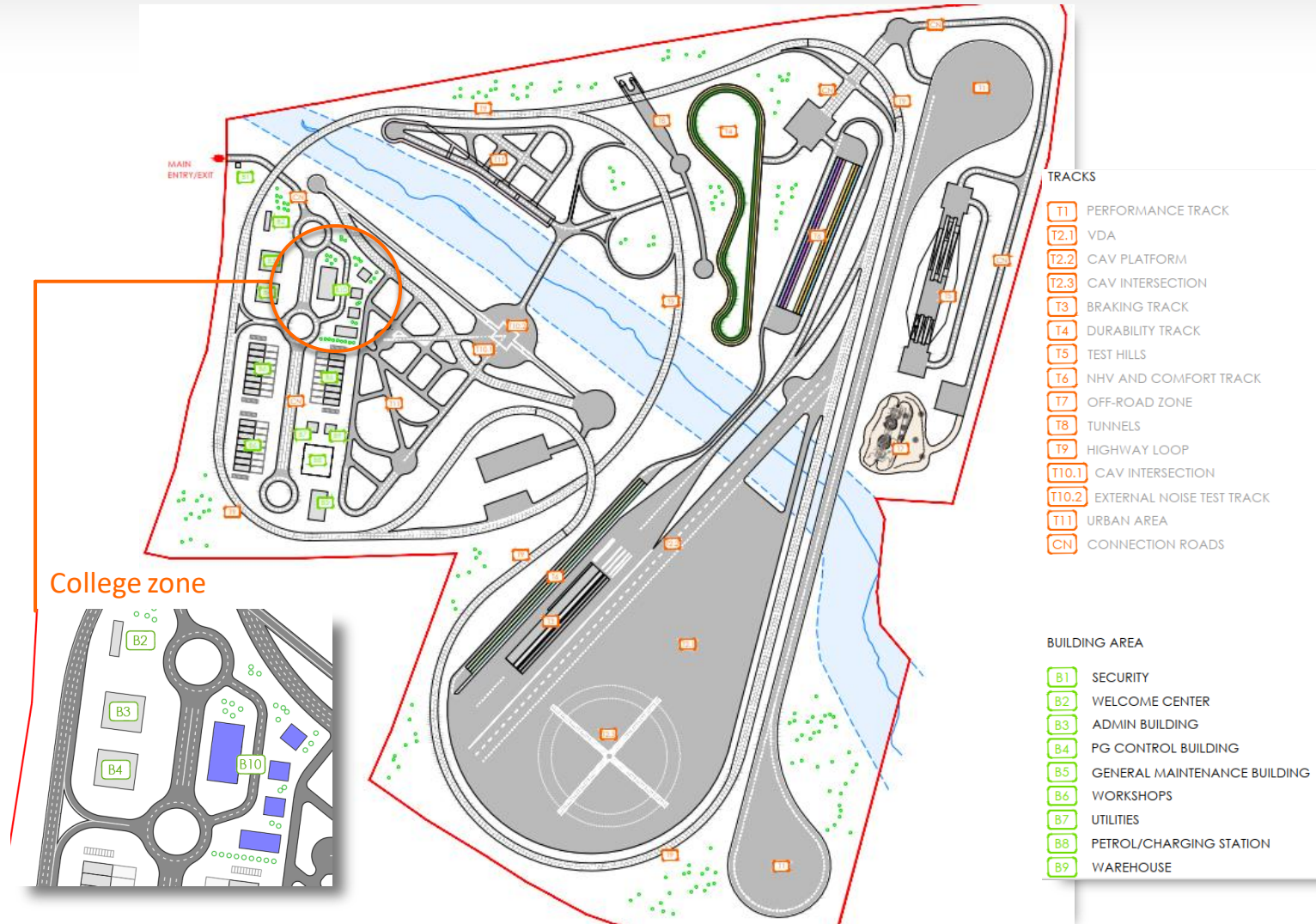
- Site A: 338 acres
- Site B: composed by two independent sites (B1: 116 acres and B2: 86 acres)



Master Plan Site

Masterplan 2 (Site A Proposal 2)

- CAV and ADAS dedicated tracks
 - CAV platform and intersection
 - Urban area
 - Highway loop (two variants up to 3,1 miles)
 - Obstacles Track
- Traditional testing tracks based on market needs
- Track footprint optimization (eg: max acceleration lane to VDA/Braking from highway loop)
- Existing tunnels maintained for testing purposes but also providing access to northern site
- Auxiliary buildings and facilities
- Unique access from public road
- College



Master Plan Site

Masterplan 3 (Site B)

- CAV and ADAS dedicated tracks (mainly on site B2)
 - CAV platform and intersection
 - Urban area
 - Highway loop
 - Obstacles track
- Traditional tracks based on market needs (tracks size adjusted to plot limits and shape)
- Existing tunnels maintained for testing purposes but also providing access to northern site
- Auxiliary buildings and facilities
- Unique access from public road for each site
- College (site B1)

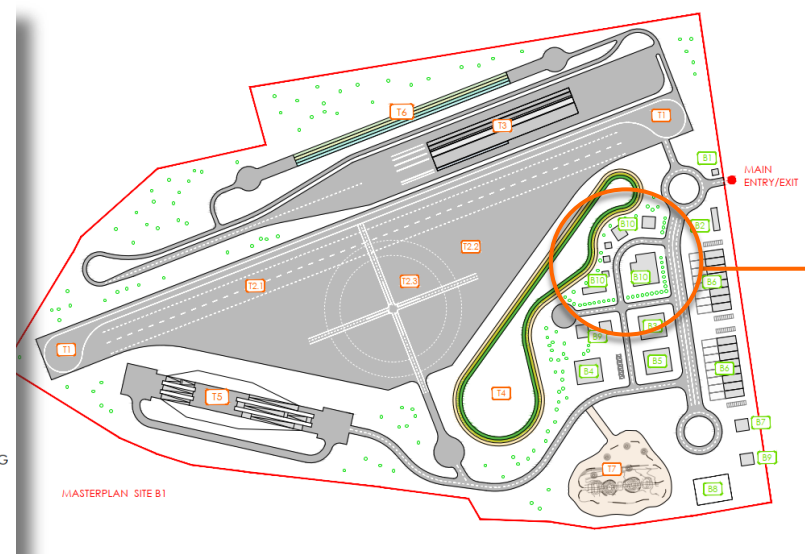
MASTERPLAN SITE B1

TRACKS

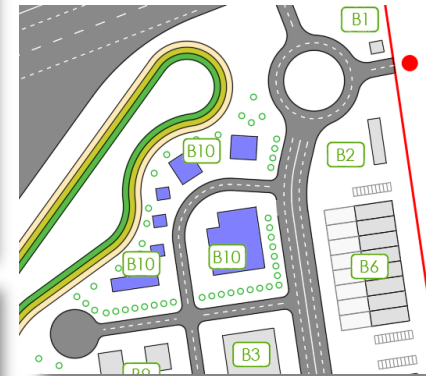
- T1 PERFORMANCE TRACK
- T2.1 VDA
- T2.2 CAV PLATFORM
- T2.3 CAV INTERSECTION
- T3 BRAKING TRACK
- T4 DURABILITY TRACK
- T5 TEST HILLS
- T6 NHV AND COMFORT TRACK
- T7 OFF-ROAD ZONE
- CH CONNECTION ROADS

BUILDING AREA

- B1 SECURITY
- B2 WELCOME CENTER
- B3 ADMIN BUILDING
- B4 PG CONTROL BUILDING
- B5 GENERAL MAINTENANCE BUILDING
- B6 WORKSHOPS
- B7 UTILITIES
- B8 PETROL/CHARGING STATION
- B9 WAREHOUSE
- B10 COLLEGE



College zone



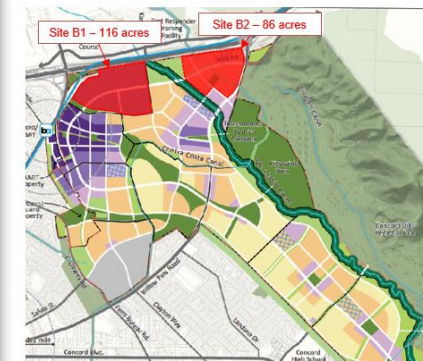
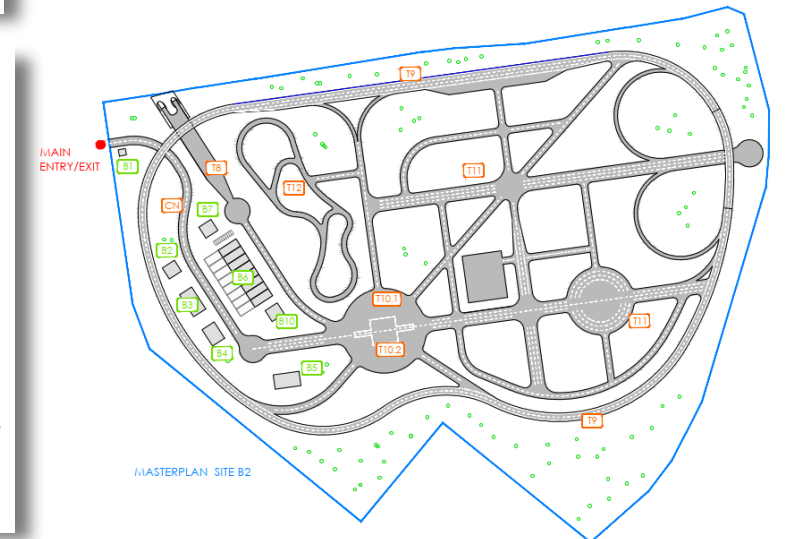
MASTERPLAN SITE B2

TRACKS

- T8 TUNNELS
- T9 HIGHWAY LOOP
- T10.1 CAV INTERSECTION
- T10.2 EXTERNAL NOISE TEST TRACK
- T11 URBAN AREA
- T12 OBSTACLES TRACK
- CH CONNECTION ROADS




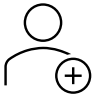



BUILDING AREA

- B1 SECURITY
- B2 WELCOME CENTER
- B3 ADMIN BUILDING
- B4 PG CONTROL BUILDING
- B5 GENERAL MAINTENANCE BUILDING
- B6 WORKSHOPS
- B7 UTILITIES
- B9 WAREHOUSE

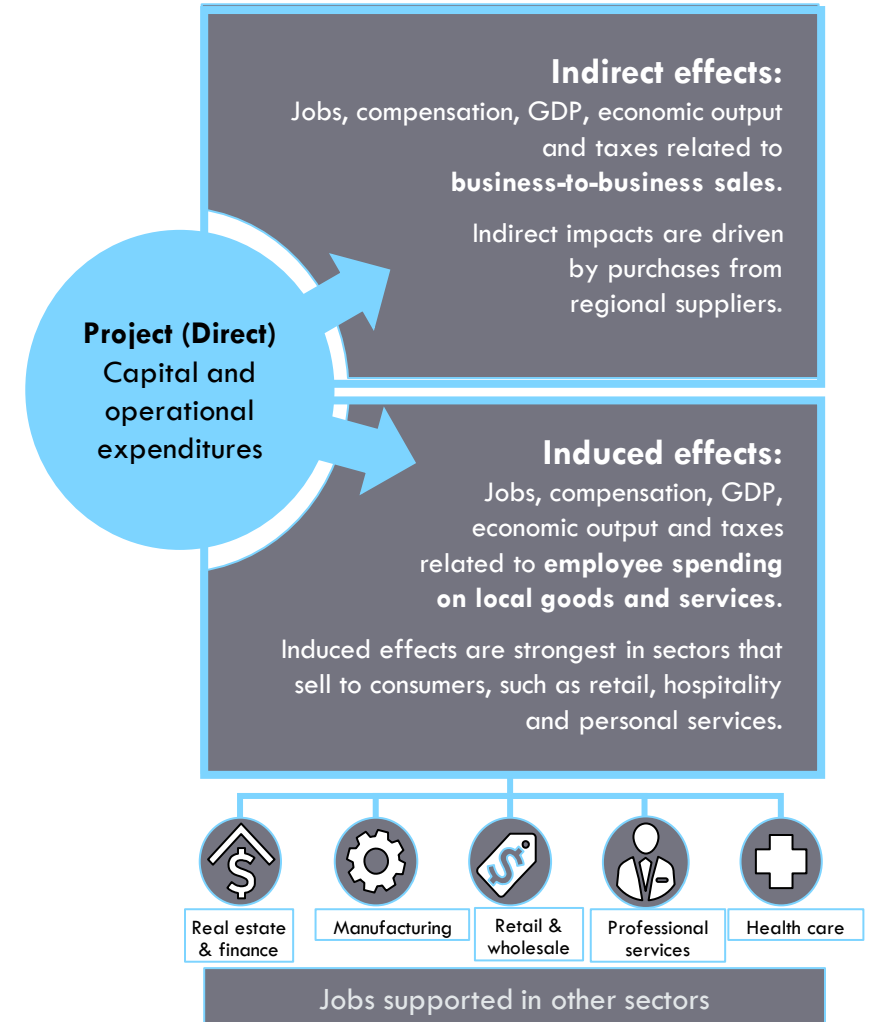


Economic impact metrics and types of impacts

Types of metrics

	Jobs	Full- and part-time jobs. During investment periods, jobs are worker years
	Labor Income	Labor income includes total employee compensation (value of wages and benefits for both part and full-time employees) and proprietor income
	Economic Output	The broadest measure of economic activity and includes Gross Domestic Product and intermediate input purchases
	GDP	GDP, or value added, is a component of economic output and includes labor income, payments to capital, and indirect taxes
	Taxes	Estimated tax impacts include individual and corporate income taxes, sales and excise taxes, and local property taxes
	Employment Multiplier	Ratio of total jobs per direct job
	Return on Investment (ROI)	Personal income or GDP generated by the project divided by public sector funding during a period of time

Level of impacts



Economic Benefits During Construction (2026-2027)

	Direct	Indirect & Induced	Total
One-year jobs	850	304	1,155
Average annual number of workers	425	152	577
Labor income	\$84.0	\$23.3	\$107.3
Value added (GDP)	\$95.3	\$41.4	\$136.6
Economic output	\$154.7	\$69.8	\$224.5

Note: Dollars are in millions (\$ x million)

Annual Economic Benefits of GoMentum Station

		Year 3			Year 15		
		Direct	Indirect & Induced	Total	Direct	Indirect & Induced	Total
GoMentum Station Operations	Employment	25	31	56	81	101	182
	Labor income	\$5.0	\$2.4	\$7.4	\$16.2	\$7.8	\$24.0
	Value added (GDP)	\$5.6	\$3.7	\$9.2	\$18.0	\$11.9	\$29.9
	Economic output	\$11.2	\$5.9	\$17.1	\$36.2	\$19.0	\$55.3
Out of Area Clients	Employment	60	15	76	98	25	123
	Labor income	\$2.2	\$1.2	\$3.4	\$3.5	\$2.0	\$5.5
	Value added (GDP)	\$3.6	\$2.0	\$5.5	\$5.8	\$3.2	\$9.0
	Economic output	\$6.3	\$3.2	\$9.5	\$10.2	\$5.2	\$15.4
Permanent Clients	Employment	0	0	0	297	175	472
	Labor income	\$0.0	\$0.0	\$0.0	\$32.7	\$13.2	\$45.9
	Value added (GDP)	\$0.0	\$0.0	\$0.0	\$35.5	\$20.5	\$56.0
	Economic output	\$0.0	\$0.0	\$0.0	\$55.2	\$32.6	\$87.8
Total Impact	Employment	85	46	132	476	301	777
	Labor income	\$7.2	\$3.7	\$10.8	\$52.4	\$23.1	\$75.5
	Value added (GDP)	\$9.1	\$5.6	\$14.8	\$59.4	\$35.6	\$95.0
	Economic output	\$17.4	\$9.1	\$26.5	\$101.5	\$56.9	\$158.4

Note: Dollars are in millions (\$ x million)

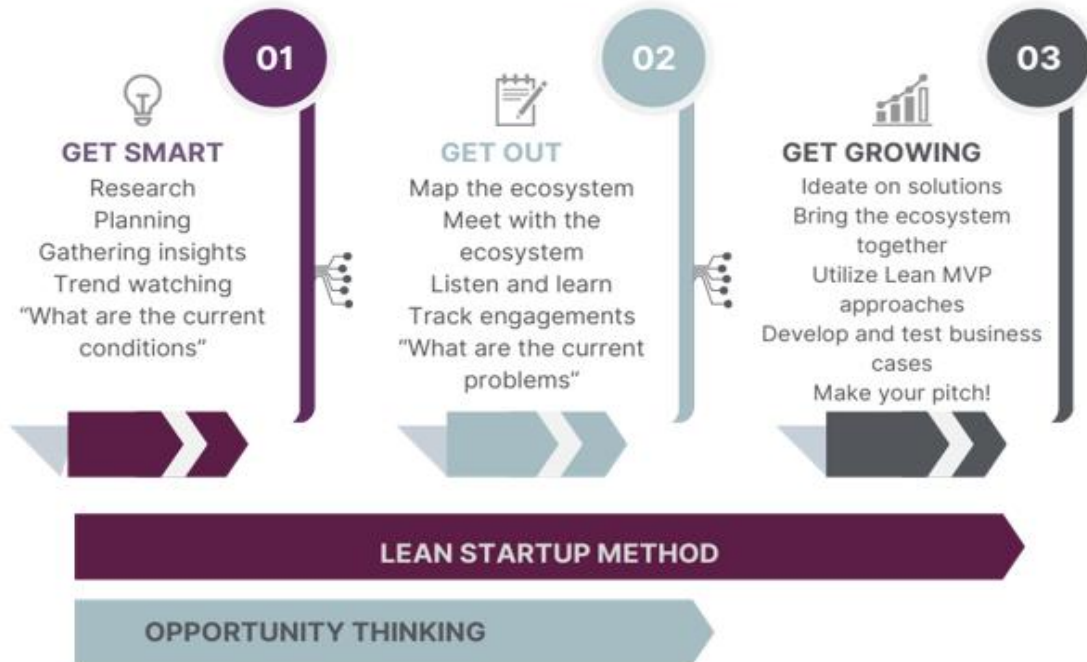
GoMentum Station 2.0

Workforce Development Strategy



G.R.O.W. process

Generate Revolutionary Opportunities Worldwide



01. Get Smart - Discovery and relevance

- Exploration of previous efforts and best practices
- GoMentum peer overviews and Workforce Development efforts
- Research current and potential future partnerships
- Ecosystem Mapping Trends, Insights, Dimensions, Ecosystem (TIDE) introduction
- Partners & Ecosystem overviews

02. Get Out - Meetings with ecosystem

- Interview and meet with ecosystem
- Identify and document partner activities
- Draft possible alignment strategies, partnership programs, and coalitions

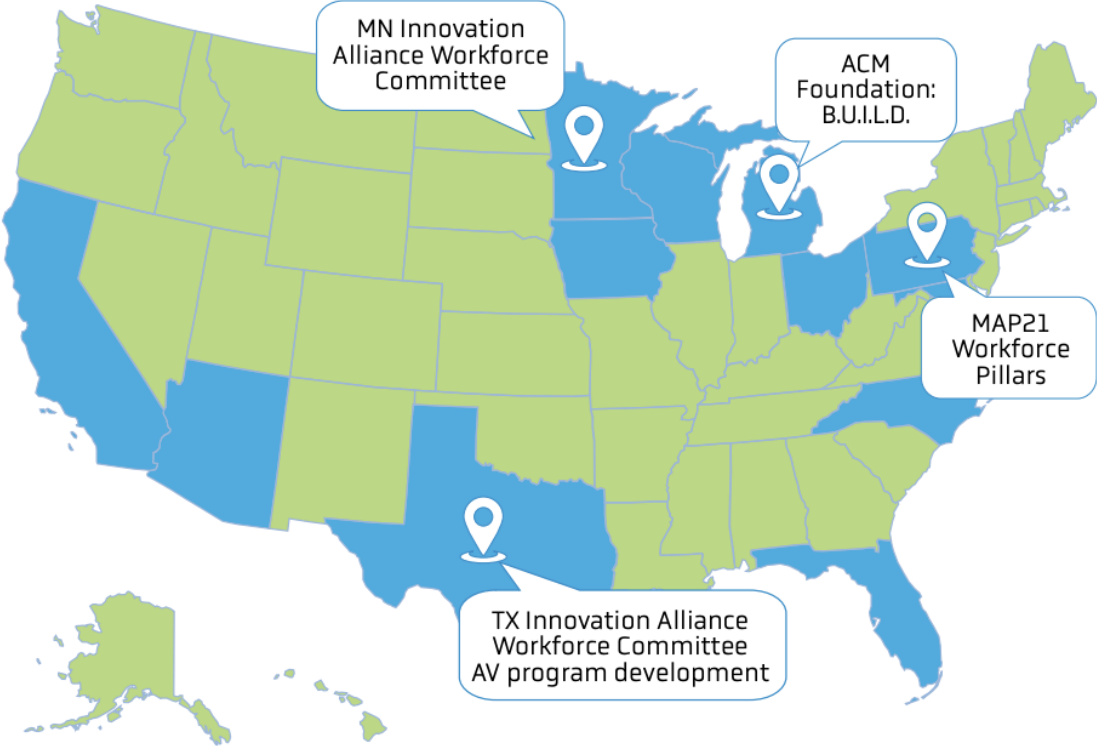
03. Get Growing - Designing strategies & activation

- Create solutions and strategic pillars of workforce development activities
- Bring ecosystem partner agreements into strategies including coalition building
- Create 1-, 3-, and 5-year program planning
- Identify funding sources
- Build shovel ready programming
- Apply for strategic funding sources as released

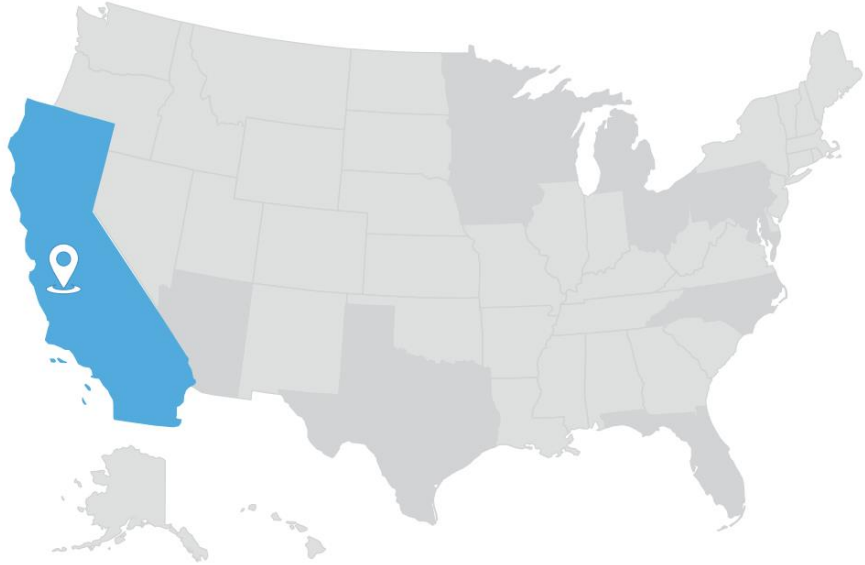


As a part of GoMentum 2.0, CCTA is currently in phase 1 of a workforce development strategy (G.R.O.W.) project including discovery, partnerships, and strategic activation over the next 12-24 months

Building a world class Workforce Development program



 "Best class" workforce development programs
Key differentiators



Next steps for Gomentum to create a best-in-class workforce development center

1. Build a regional Innovation Alliance
2. Create the Gomentum career pathway and programming
3. Research the highest demand middle-skills workforce needs

Example upskilling and reskilling programs: existing private sector certifications and programming



ZO
OX



cruise



nuro

CAREER PATHWAY AND PROGRAM DEVELOPMENT



COLLEGE, APPRENTICESHIP OR CAREER



STEP 4

EVOLVE

By going together, WE can go further

UPSKILLING, RESKILLING & MICRO-CREDENTIALING

- Micro-credentialing
- Customized training programs
- Shared-collaborative programming

STEP 3

EXCEL

We unleash endless possibilities

HIGH SCHOOL AND POST GRAD STUDENT ACTIVITIES

- Real world experiences
- Teacher externships
- Industry certifications



STEP 2

EXPERIENCE

We provide relevant experiences and intentional opportunities for students to imagine a future version of themselves in high demand careers

HIGH SCHOOL STUDENT ACTIVITIES

- Allow students to visit with partners
- School projects with partners
- Job shadowing



STEP 1

EXPLORE

We inspire hope and curiosity

K-12 STUDENT ACTIVITIES

- Summer camps
- Field trips
- Student Competitions



THE PLUM CATALYST

STEP 1

EXPLORE

We inspire hope and curiosity

K-12 STUDENT ACTIVITIES:

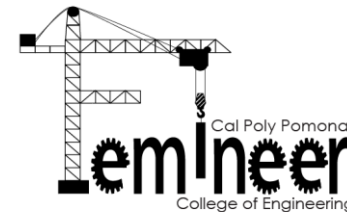
- Summer camps
- Field Trips
- Student Competitions



EXPLORE

The Gomentum Innovation Alliance will collaborate with regional K-12 schools and Bay Area LEEDS to create and host an expanded selection of:

- Summer camps
- Field trips
- Student competitions



Some of these collaborations have already started with the CCTA hosted Femineers camps and Girls Lead the Way STEM Summit in partnership Bay Area LEEDS

STEP 2

EXPERIENCE

We provide relevant experiences and intentional opportunities for students to imagine a future version of themselves in high demand careers

HIGH SCHOOL STUDENT ACTIVITIES:

- Allow Students to visit with partners
- School Projects with partners
- Job Shadowing



EXPERIENCE

The Gomentum Innovation Alliance will collaborate with regional high schools and colleges to create and host an expanded selection of Student Experience Opportunities including:

- Gomentum tech partner visits and
- Project job shadow days
- “Hired” student experience projects



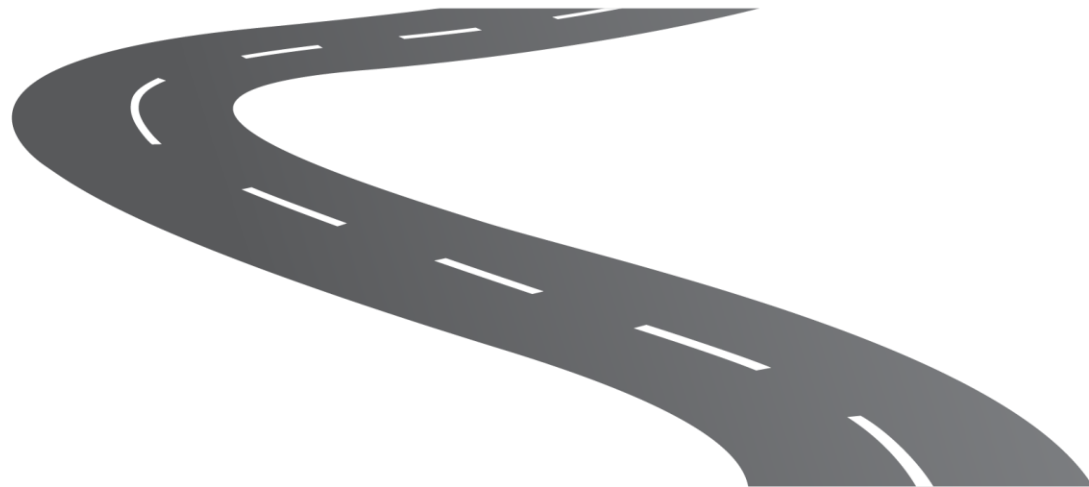
STEP 3

EXCEL

We unleash endless possibilities

HIGH SCHOOL & POST GRAD STUDENT ACTIVITIES:

- Real world experiences
- Teacher externships
- Industry certifications



EXCEL

The Gomentum Innovation Alliance will collaborate with regional high schools and colleges to create and host real world experiences for students & teachers through:

- Teacher externships
- Industry and private sector certifications



Working with the Innovation Alliance partners, Gomentum will create opportunities for teacher externships and provide projects and locations for industry and private sector certifications

STEP 4

EVOLVE

By going together, WE can go further

UPSKILLING, RESKILLING & MICRO-CREDENTIALING:

- Micro-credentialing
- Customized training programs
- Shared-collaborative programming



EVOLVE

The Gomentum Innovation Alliance will collaborate and research with industry partners to better understand the highest demand industry workforce gaps and future needs in order to create a data driven approach to the prioritization of future program development

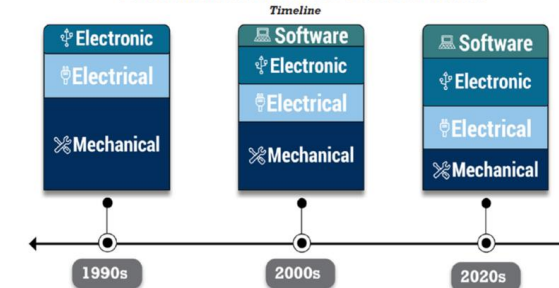
See an example workforce research report from the Michigan Economic Growth Institute "Understanding the Middle-Skill Workforce in the Connected & Automated Vehicle Sector"



CAV Middle Skill Jobs

Technicians comprise the majority Research results...

Technician Workforce General Skills



Why GoMentum

Building on GoMentum Success

Improve Safety, Mobility, and the Environment

Stimulate Economic Growth at Local, Regional and State Levels

Create Sustainable, High Paying Jobs

Create Model Program for Workforce Development

Address the Requests from Current Users for Expanded Facilities

Maintain Position as Leading Test Facility in Country

Maintain Bay Area and State as Innovation Leader

- Expand to Accommodate Growing Need for AV Testing
- Establish GoMentum as World Class Test Facility
- Maintain State of the Art Facility in Bay Area/State
- Keep High Paying Jobs and Innovation Advancements in California



INVEST IN SAFETY

42,795

fatalities in motor vehicle traffic crashes in 2022

10%

in California

94%

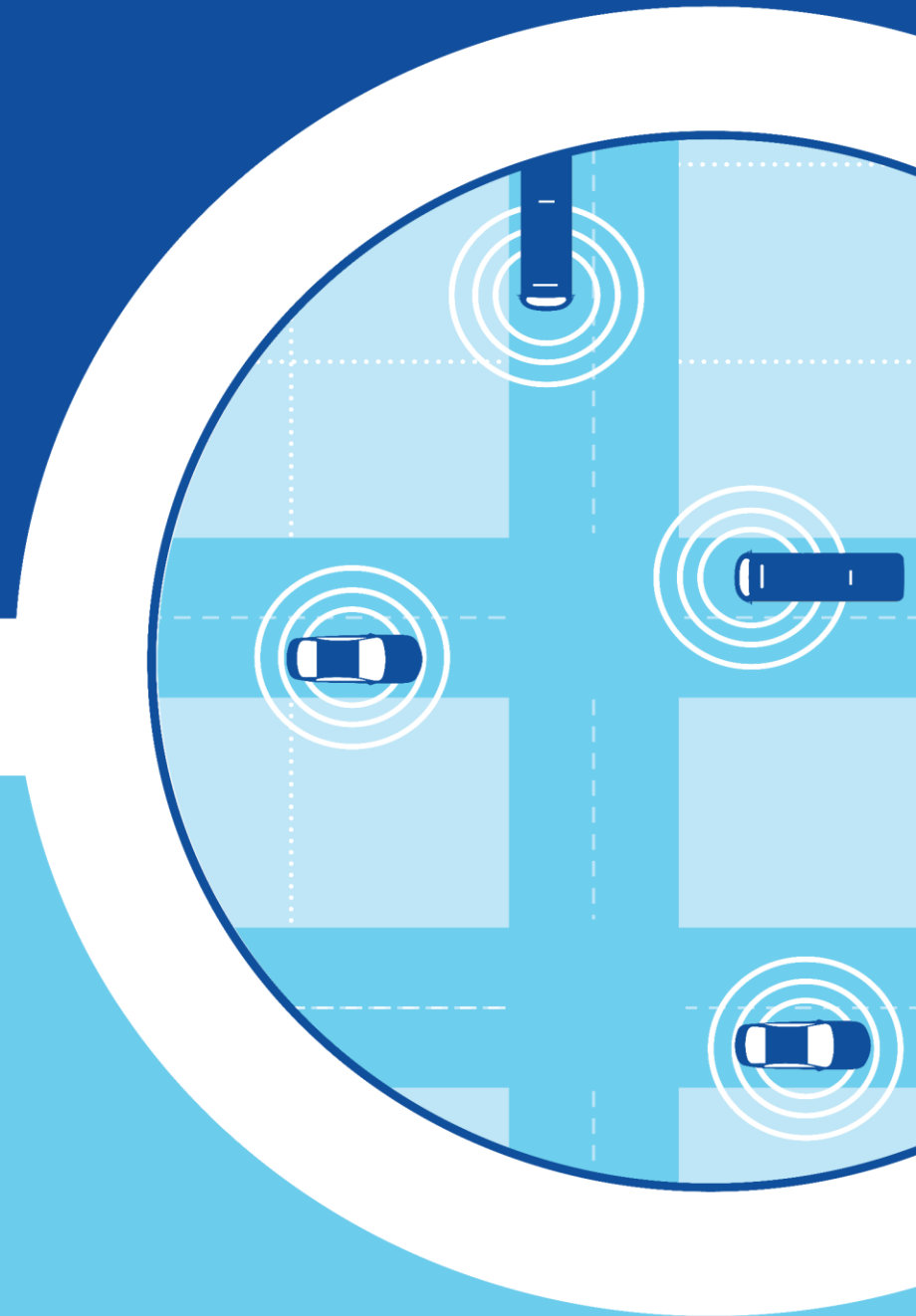
caused by human error

People-Centered Mobility

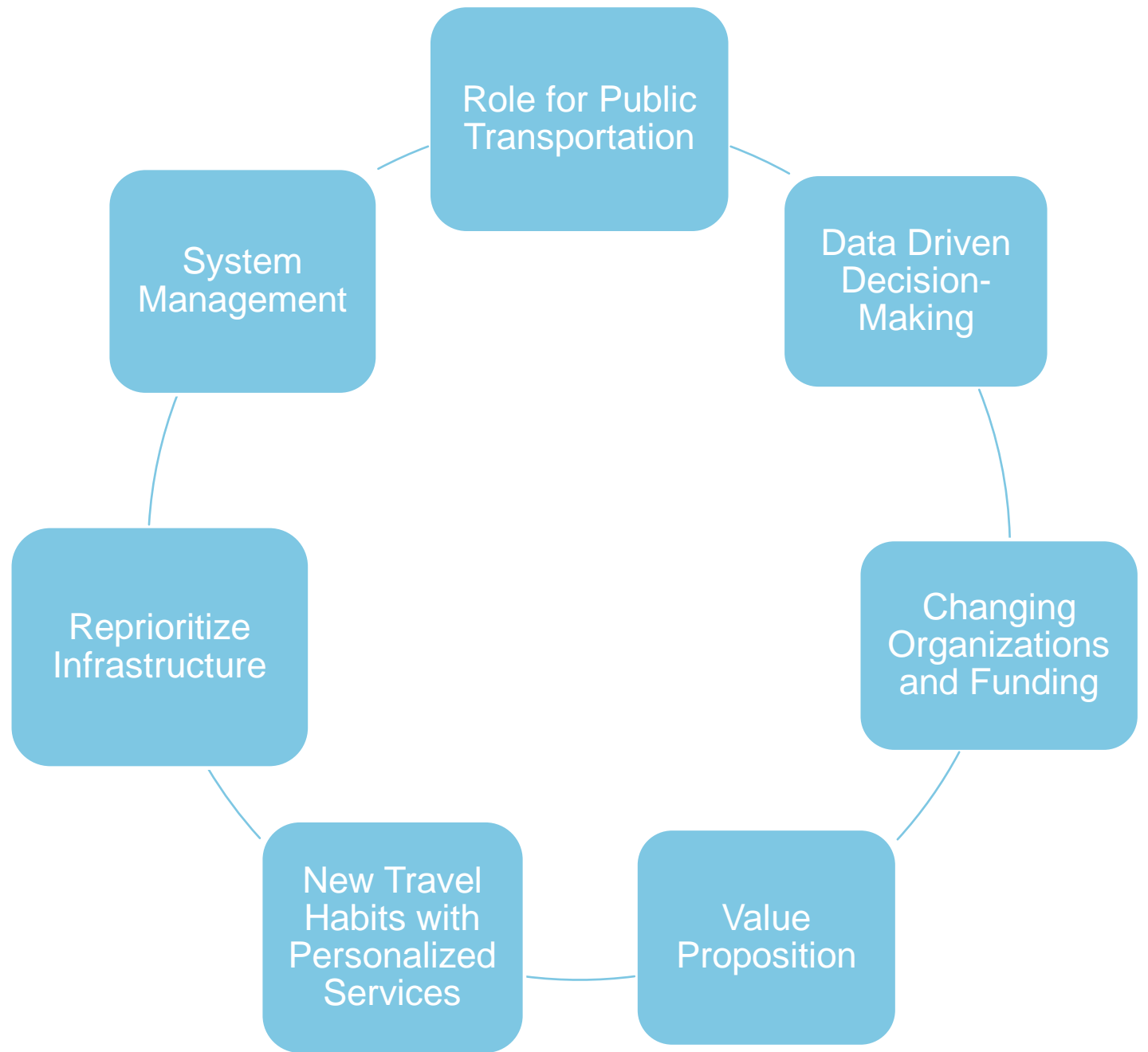
Timothy Haile
Executive Director



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Supporting a New Future



THE CONCEPT



Digital Road Manager

Moving toward digital infrastructure in an evolutionary process

Principles

Using data and information for safe, smooth, and sustainable mobility for all road users. Covering investments, maintenance and operation of the road network.

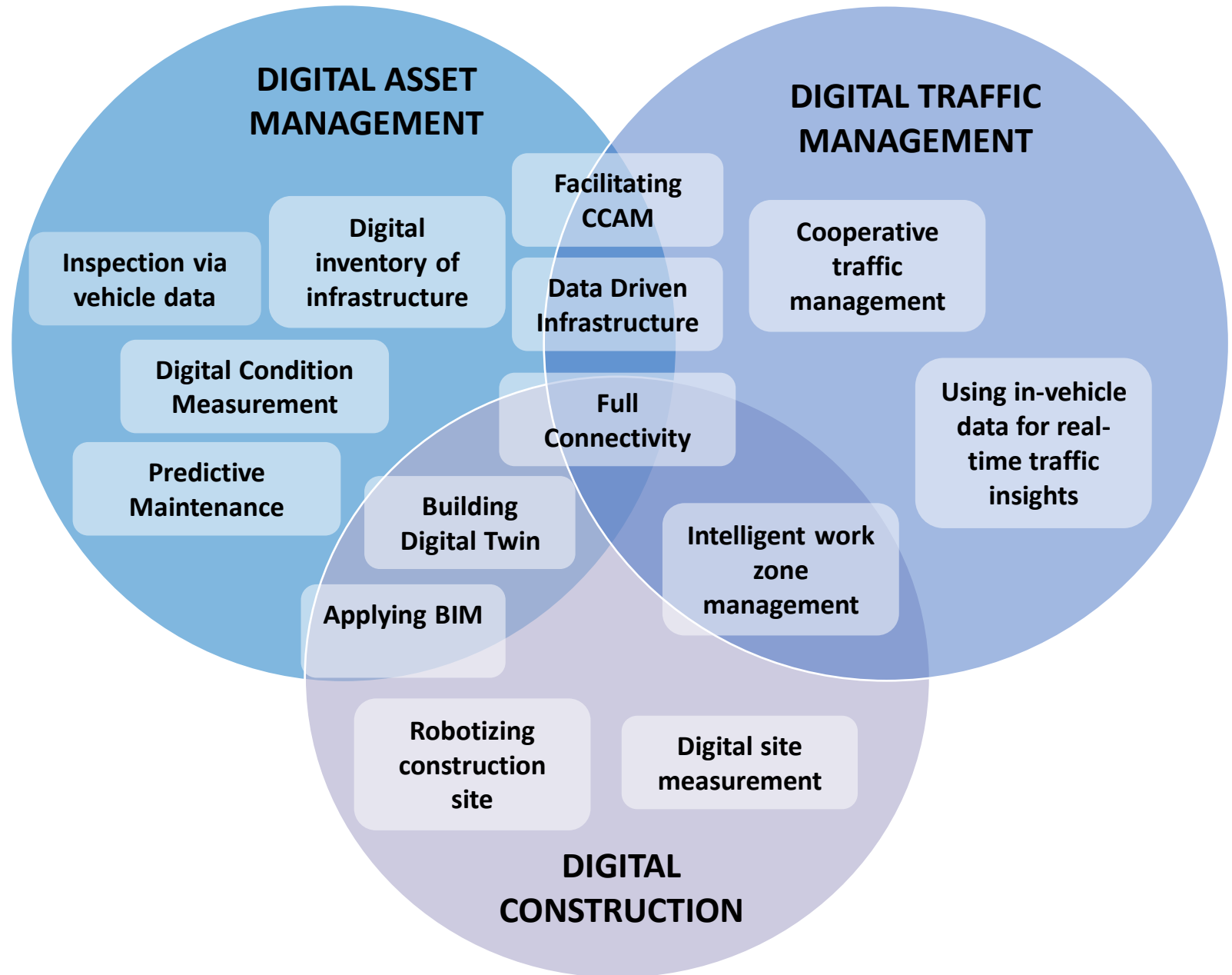
MORE EFFICIENT

ANTICIPATING SOCIETAL + TECHNOLOGICAL TRENDS

RENEW CCTA ROLE + OFFERED SERVICES



Three Main Domains



Digital Road Manager

Vision

Develop a vision and strategy focusing on customer experience supported by **performance and data driven approach**.

Services

Establish and define multimodal services to serve stakeholders and customers to provide a **personalized mobility experience delivered through partnerships**.

Organization

Robust communication and coordination to achieve the vision and strategy branch out from a **central location** to the various departments and stakeholders.

Processes

Overarching **'data & analytics' core process** around the use and management of data to strengthen existing core operational processes and measure performance.

Data

Initiate a step-by-step and use case driven **integration of potential data sources** to continuously scale value creation from data.

Technology

From a vision for a **central and modular architecture**, build the necessary technological capabilities.



digitalMOTIONS

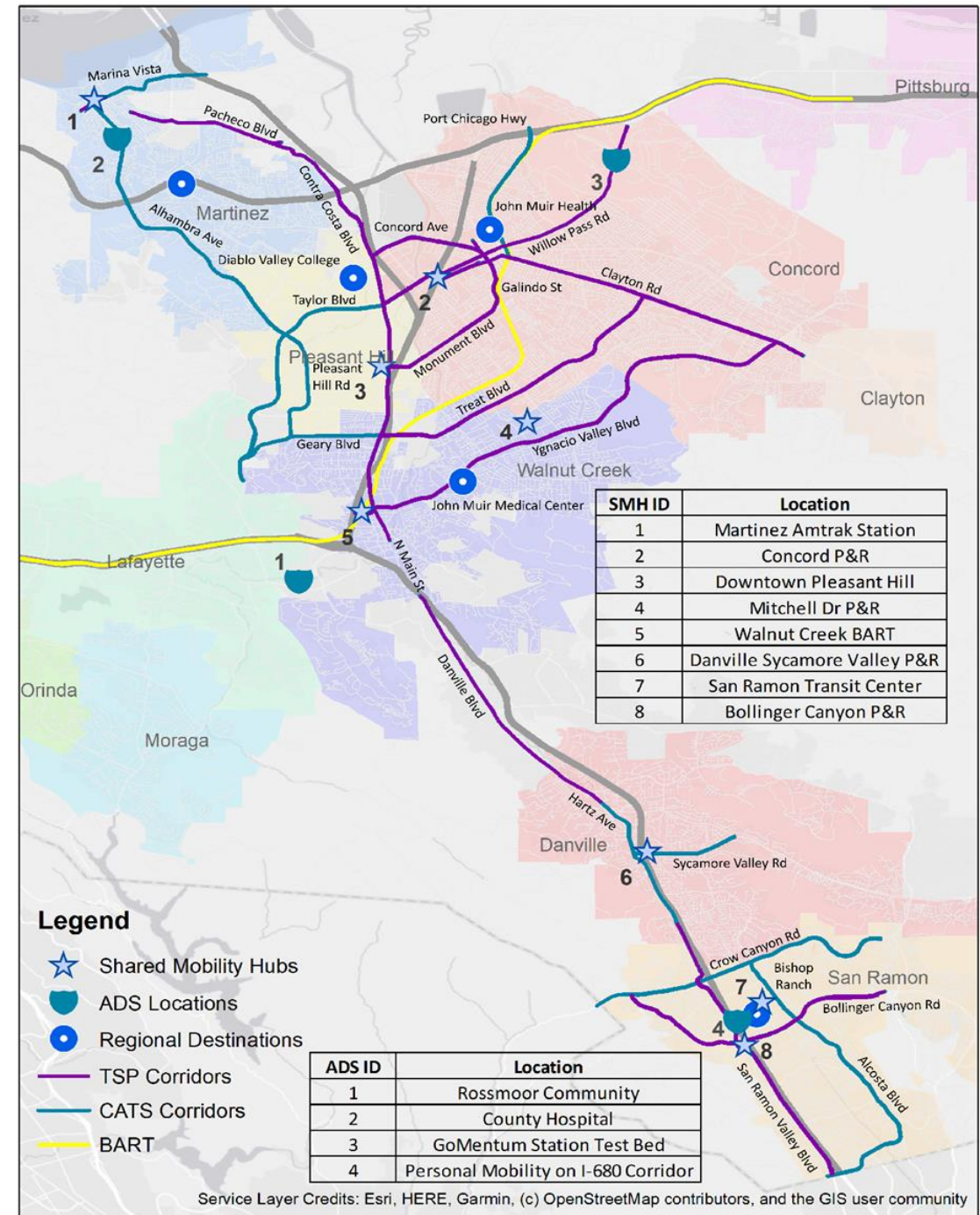
Digital Management of
Traffic Infrastructure
Optimizing Network
Systems Demonstration



TSP Corridors

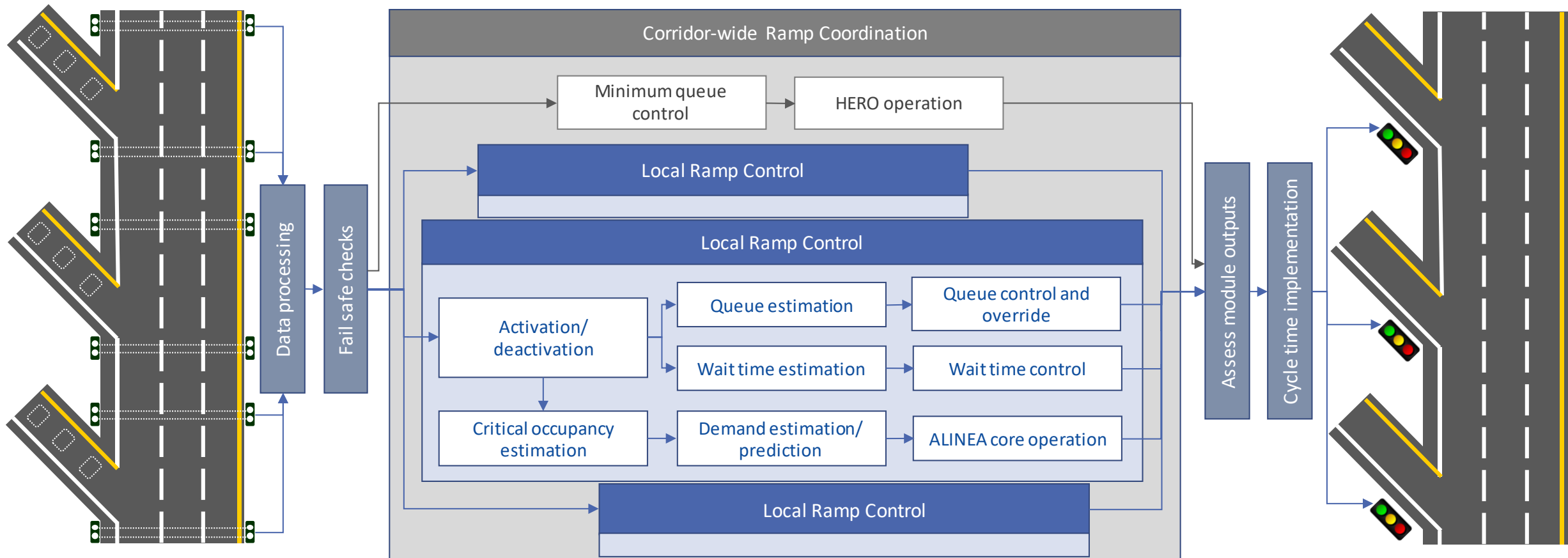
(shown in purple)

CATS Corridor	Jurisdiction(s)
Alcosta Blvd	San Ramon, Caltrans
Alhambra Ave/Pleasant Hill Rd	Martinez, Pleasant Hill
Bollinger Canyon Rd	San Ramon
Clayton Rd	Concord
Concord Ave/Galindo St/Monument Blvd	Concord, Pleasant Hill, Caltrans
Crow Canyon Rd	San Ramon, Caltrans
Geary Rd	Walnut Creek
Marina Vista Ave/Escobar St/Waterfront Rd	Martinez, Caltrans
Pacheco Blvd/Contra Costa Blvd/N Main St	County, Caltrans, Pleasant Hill, Walnut Creek
Port Chicago Hwy	Concord
SRVB/Hartz Ave/Danville Blvd	Danville, San Ramon, County, Caltrans
Sycamore Valley Rd	Danville, Caltrans
Taylor Blvd/Sunvalley Blvd	Concord, Pleasant Hill
Treat Blvd	Concord, Walnut Creek, County, Caltrans
Willow Pass Rd	Concord, Caltrans
Ygnacio Valley Rd	Concord, Walnut Creek, Caltrans



Coordinated Adaptive Ramp Metering

CARM for managed freeways **utilizes multiple control algorithms** to find the best solution for the entire corridor



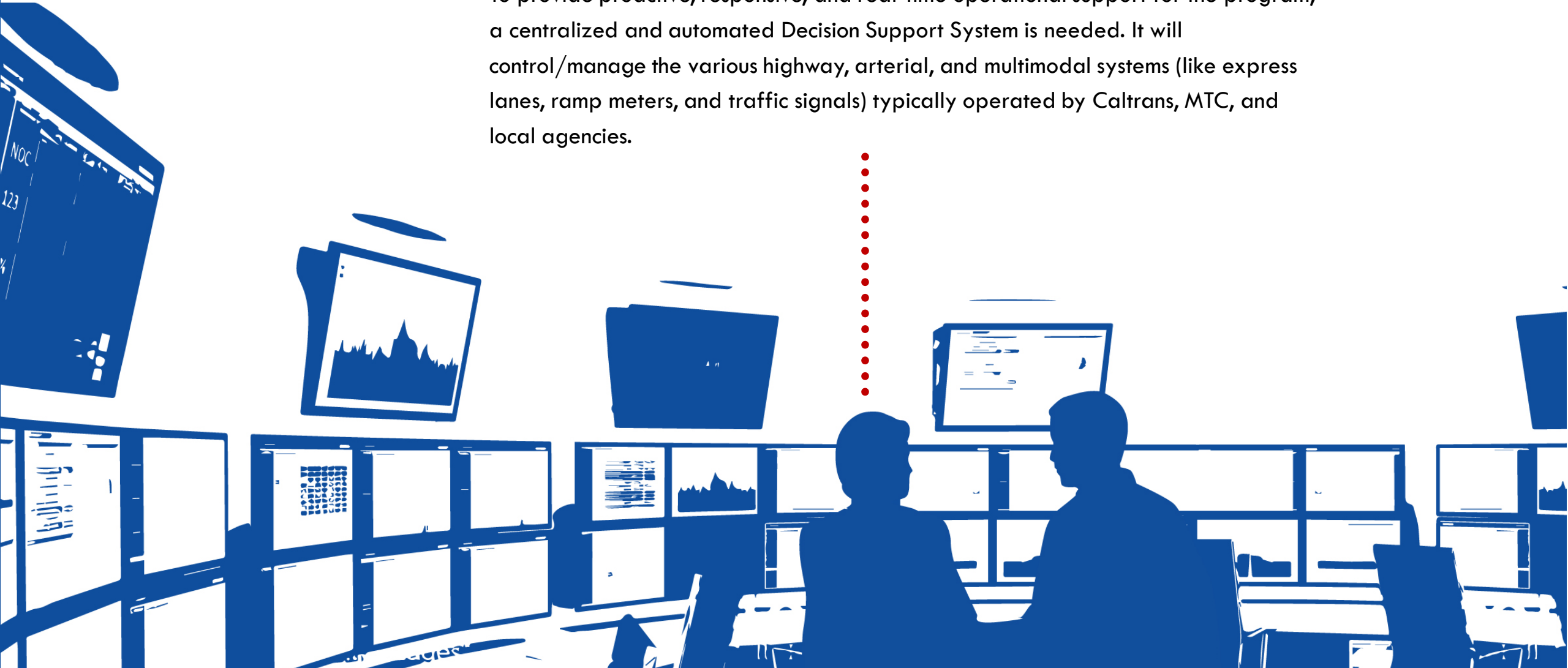
COUNTYWIDE CONNECTED DATACENTER (CCD)

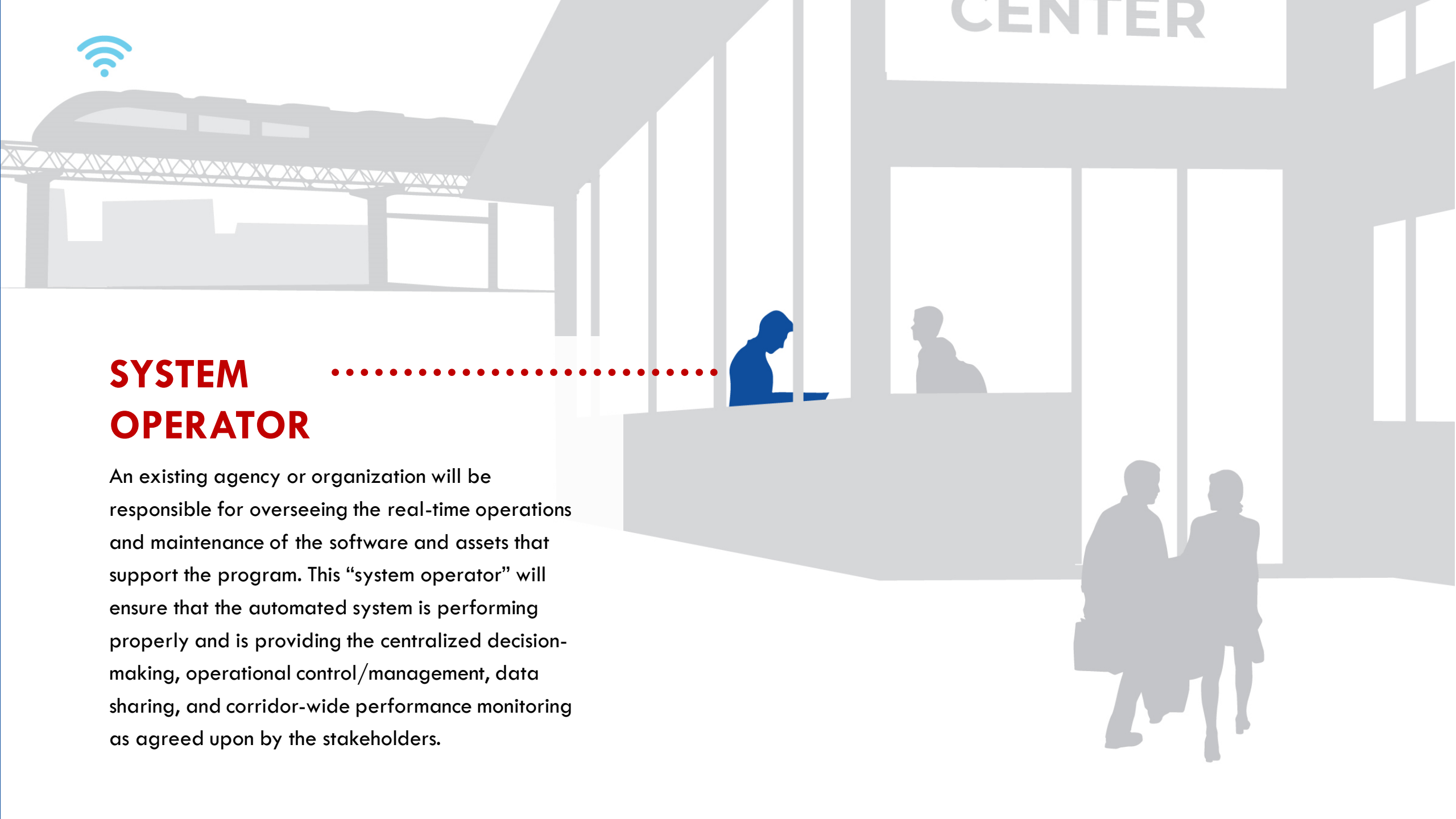
As the central data system for corridor operations, the Countywide Connected Datacenter will require a constant feed of real-time data from Caltrans, MTC, transit providers, local agencies, and other external systems. The information gathered from this system will ultimately support the real-time operations of the Decision Support System (DSS).



DECISION SUPPORT SYSTEM (DSS)

To provide proactive, responsive, and real-time operational support for the program, a centralized and automated Decision Support System is needed. It will control/manage the various highway, arterial, and multimodal systems (like express lanes, ramp meters, and traffic signals) typically operated by Caltrans, MTC, and local agencies.





SYSTEM OPERATOR

An existing agency or organization will be responsible for overseeing the real-time operations and maintenance of the software and assets that support the program. This “system operator” will ensure that the automated system is performing properly and is providing the centralized decision-making, operational control/management, data sharing, and corridor-wide performance monitoring as agreed upon by the stakeholders.

I-680 Northbound Express Lanes



REALIGN SOUTHBOUND I-680

Southbound I-680 shifted to the west to make room for a northbound express lane.



BRAIDED RAMPS

Braided Ramps between Lawrence Way on ramp and Treat Blvd off ramp to reduce weaving movements



LANE ADDITION

Northbound I-680 would be widening or re-striped to construct new express lane.



GENERAL PURPOSE (GP) LANE CONVERSION

Convert existing GP lane to an express lane



HIGH OCCUPANCY VEHICLE (HOV) LANE CONVERSION

Convert existing high occupancy vehicle (HOV) lane to an express lane.

LEGEND	
Existing express lane	Braided ramp construction
HOV to express lane conversion	Lane realignment area
Lane addition or GP lane conversion	Lane addition area
Potential express lane gap	GP lane conversion
Freeway exit	HOV lane conversion
BART	





TRANSIT FIRST

Leading an effort to building a better transportation system

- Optimize existing transit network
- Identify strategies and infrastructure
- Development of transit and mobility hubs
- Creating first and last mile connections
- Moving to zero emissions
- Addressing equity priority communities
- Overcoming institutional challenges
- Identify local and regional service funding

Shared Mobility Hubs



TRANSIT

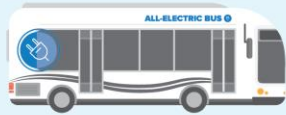
1. Covered bus stop
2. Real-time transit information
3. Fare vending machine
4. Microtransit/autonomous shuttles
5. Transit signal priority
6. Dedicated transit lane

ALTERNATIVE 2

Bus Rapid Transit in Median from the Future Innovation Center @ Brentwood to Antioch

Build new bus-only lanes in the State Route 4 (SR-4) median from the future Innovation Center @ Brentwood Station to the existing Antioch Station.

Overview



- Bus rapid transit using no-emission, hydrogen electric* buses traveling in bus-only lanes within the freeway median, and with direct access to the Antioch Station.
- Avoids traffic near State Route 160 (SR-160), because the buses will be in median bus-only lanes. The emergency lane (shoulder) and right-of-way would be preserved.
- May require widening of freeway bridges to maintain number of existing lanes.

Details

- Station platform in the median of SR-4 at the future Innovation Center @ Brentwood provides equal access to communities to the east and west of SR-4 via future Mokelumne Trail Bicycle / Pedestrian Overcrossing.
- Barrier separation between bus and auto lanes where feasible between Sand Creek Road and SR-160 preserves space for future BART rail extension, if needed.
- Potentially high construction cost to bring buses into and out of the median for direct access to the BART Antioch Station. This would require construction of a new flyover bridge or tunnel west of the SR-160 interchange.
- Transit trips to central Contra Costa County and/or the Bay Area require transfers to BART at the Antioch and Pittsburg / Bay Point stations.

Potential Benefits ■ Potential Impacts ■



Transit Only Spaces



Shorter Travel Time



Rail Supportive



More Transfers



High Cost Solution

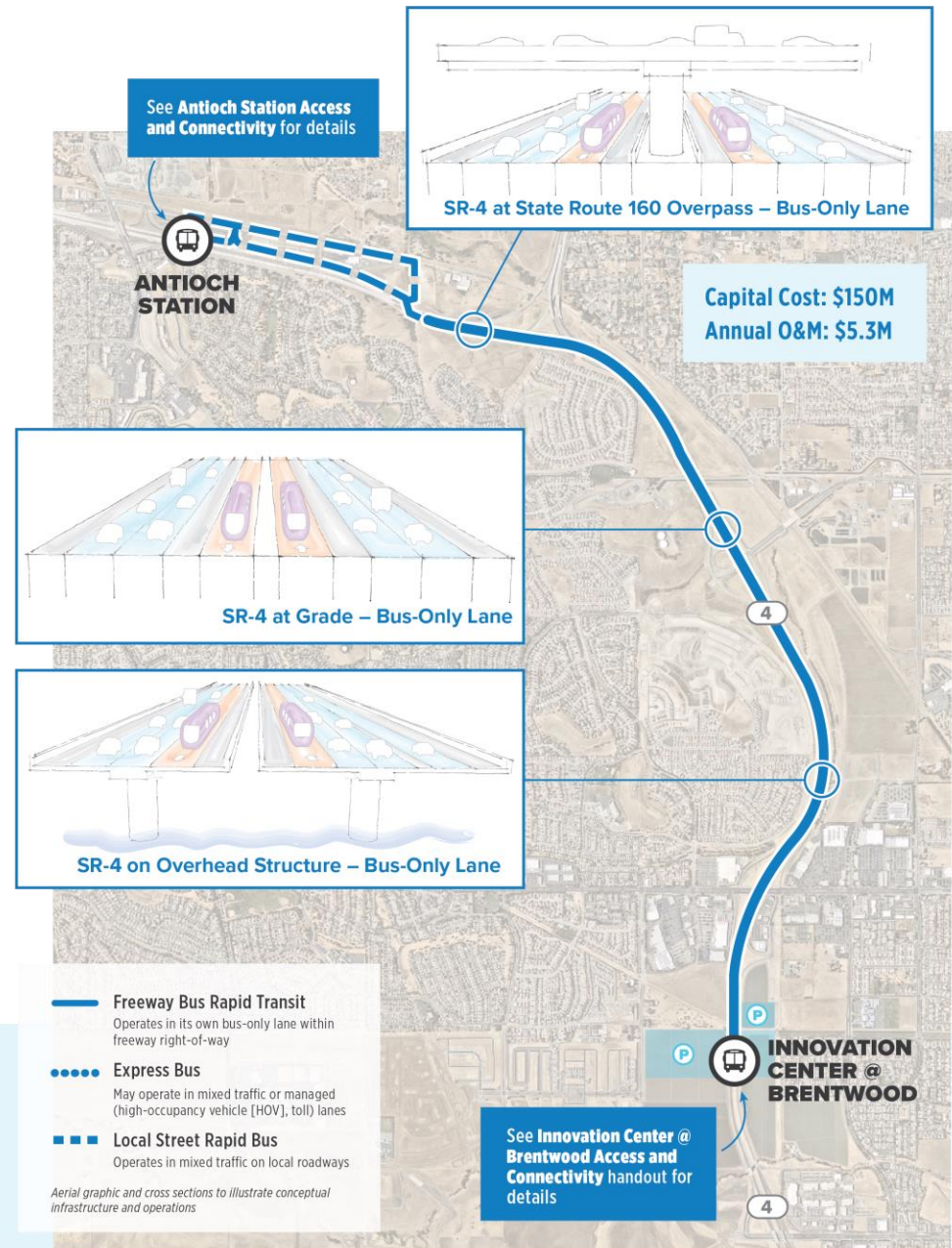
Growth in East County by 2050



Population will increase by 36%



Jobs are expected to grow 43%



- Freeway Bus Rapid Transit**
Operates in its own bus-only lane within freeway right-of-way
- Express Bus**
May operate in mixed traffic or managed (high-occupancy vehicle [HOV], toll) lanes
- - - Local Street Rapid Bus**
Operates in mixed traffic on local roadways

Aerial graphic and cross sections to illustrate conceptual infrastructure and operations

To learn more about this and all other alternatives, visit eastcountytransit.com.

*This study is funded by a grant from Caltrans, which requires all alternatives to use zero-emission/electric transit vehicles.

San Pablo Avenue Multimodal Corridor

Center-Running Bus Lanes



Image Source: SFMTA

Side-Running Bus Lanes

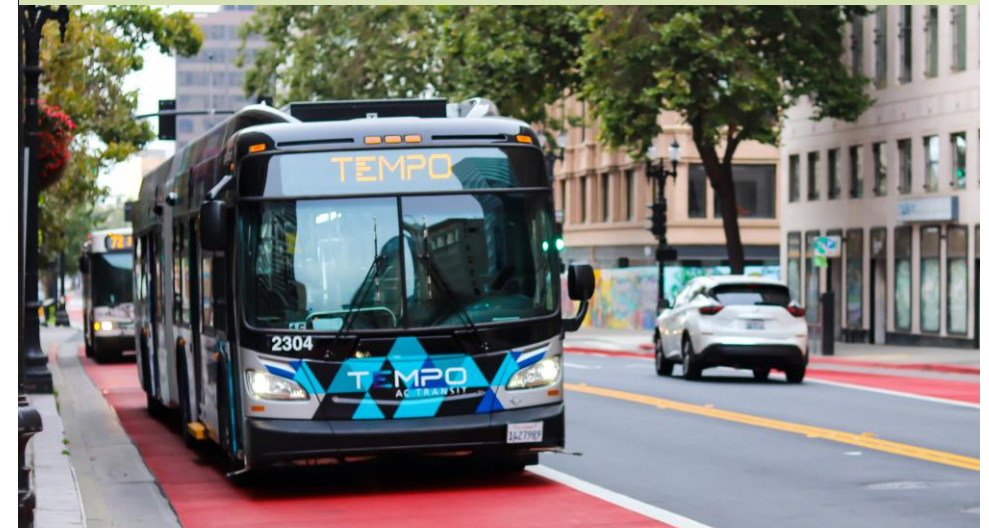
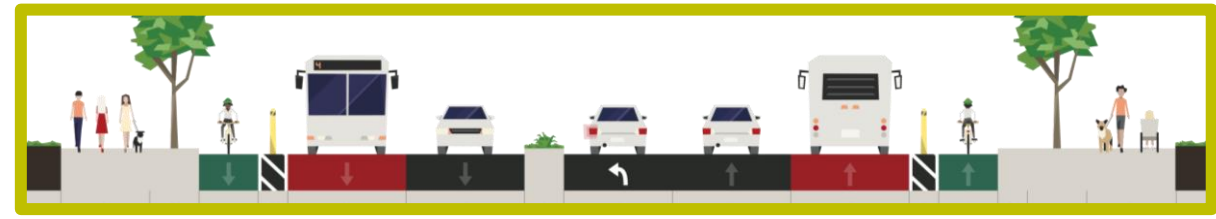
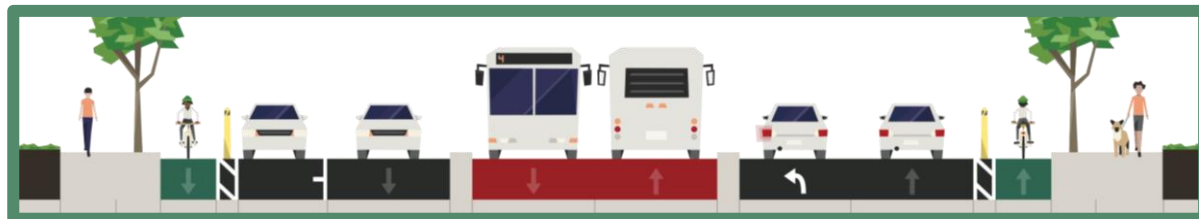


Image Source: Kimley-Horn





PRESTO

It's go time.

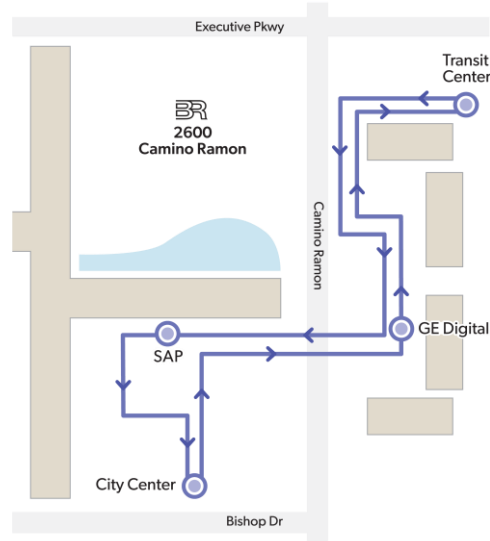
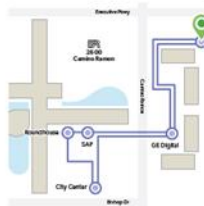


PRESTO

Transit Center

Autonomous Shuttle Stop

Monday – Friday
9:00 am – 5:00 pm



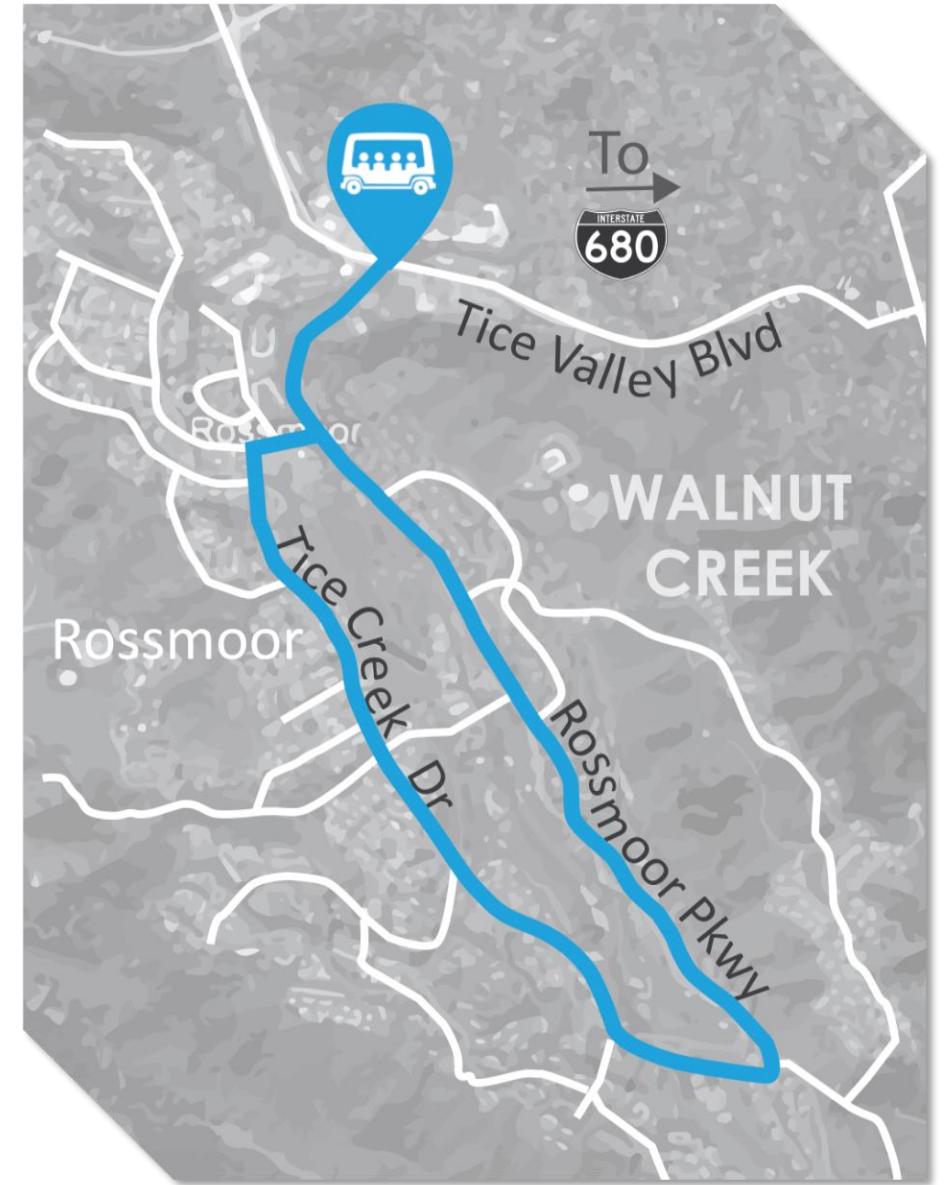
BR beep

ridepresto.com

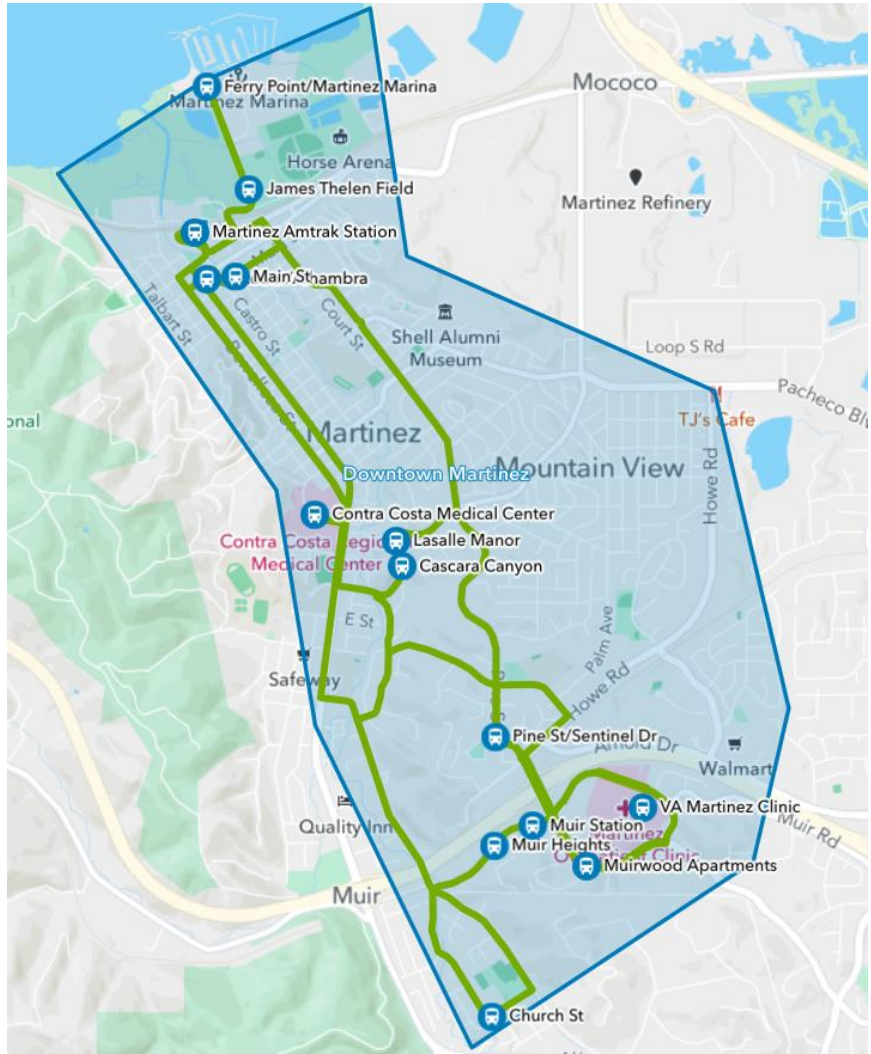


Rossmoor Senior Community First/Last Mile

- **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**

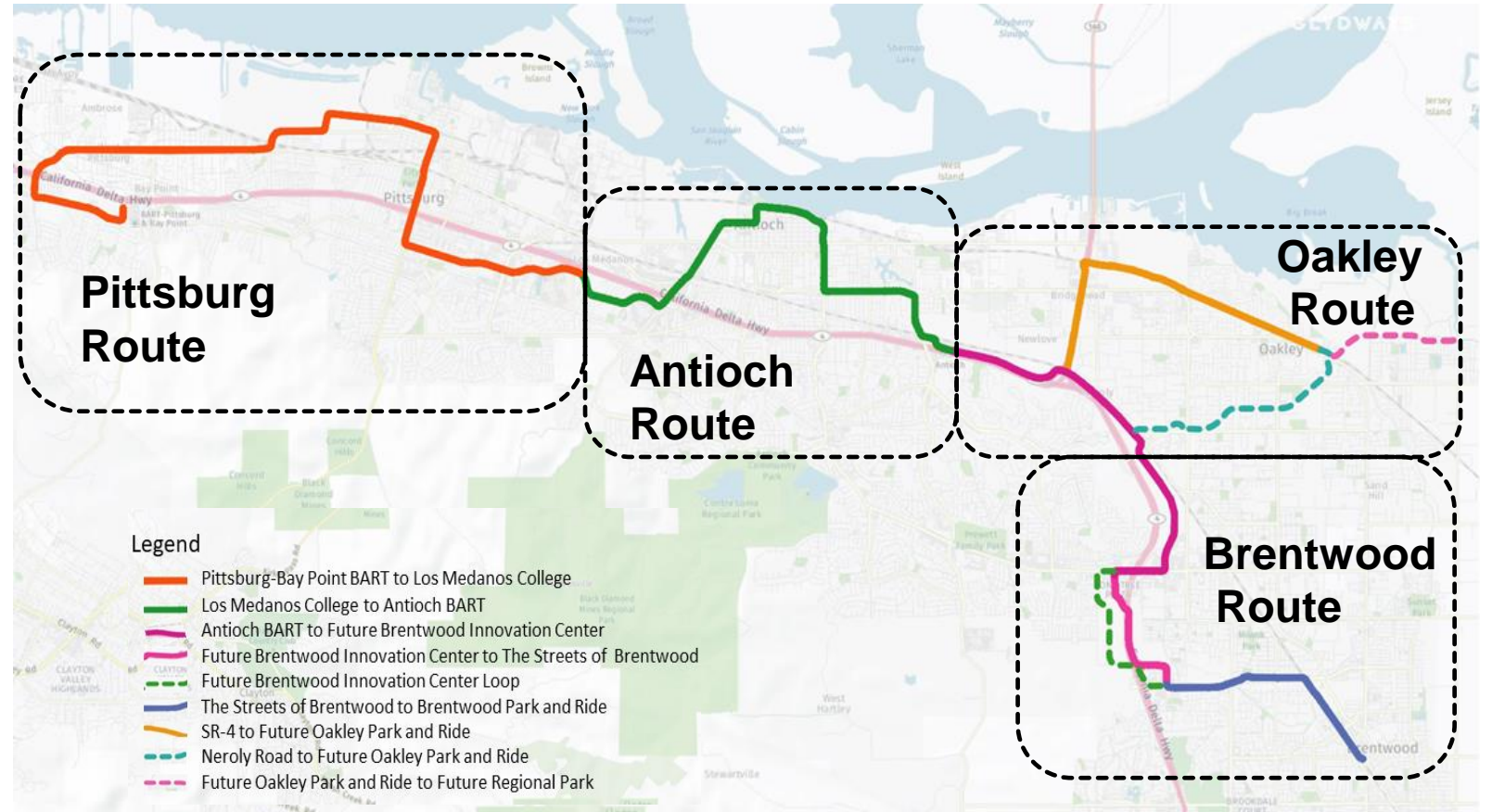


County Hospital Accessible Transportation



Dynamic Personal Micro-transit

A new mobility option being
explored at GoMentum
Station.



Building a Transportation Plan from the Ground Up

CCTA's Process

- Updated Every 4-5 Years
- Documents the Authority's Goals, Vision, and Strategies
- Action Plans are Developed by the Regional Committees
- Includes 10- and 20-Year Financially Constrained Project Lists



RTPC = Regional Transportation Planning Committee

We have a
podcast!

Learn more about CCTA



Upcoming Opportunities

- Environmental and Engineering Services for Shared Mobility Hubs (Stephanie)
- Program Management Oversight (Project Management, Innovation) (Hisham)
- Program Management Oversight (Construction) (Ivan)
- I-680/SR-4 Phase 1, 2a, 4 Construction Management (Ivan)
- Quality Assurance Program (QAP) Consultants (Stephanie)
- Engineering and Environmental On-Call (Stephanie)
- San Pablo Avenue Bus Rapid Transit
- Brentwood Bus Rapid Transit
- Countywide Transportation Plan (John)



Meet the Primes and DBE Outreach

Wednesday, February 14

2:00-3:30 pm

CCTA Offices

2999 Oak Road, Walnut Creek

**Register to
attend today!**



<https://bit.ly/3Hxh63k>



Thank you!



Timothy Haile
Executive Director
thaile@ccta.net

