


Autonomous Vehicle Strategy Update

Smart Cities and Service Improvements Committee
December 6, 2018



Purpose of Update

Background

AV RFI Progress

Other AV Activities within San Jose

AV Activity in California

AV Activities across the U.S.

Next Steps for San Jose's AV Efforts



Background and Community Benefit (Impact)

- Definition of Autonomous Vehicles
- Impacts to our community include:
 - Safety
 - Mobility
 - Sustainability
 - Livability
- Staff efforts are focused on influencing the development, testing, and deployment of AV



San Jose AV RFI Progress

- **June 2017** Request for Information Issued
 - Received 31 responses; 13 involving an AV
 - 2 Concepts have developed into viable projects
- **May 2018** Signed MOU
 - MOU with Mercedes Benz/Bosch/Daimler
- **November 2018** Announcement
 - Coverage on 5 continents and over 30 national and local publications

San Jose launching self-driving car program

Mercedes-Benz and Bosch will run a ride-hailing service.

The Mercury News

 **USA TODAY**

Forbes



techwire

**SILICON VALLEY
BUSINESS JOURNAL**

Mashable

San Francisco Chronicle

San Carlos/Stevens Creek Corridor Project

Phase	#AV	AV Activity	Users	Time
1	2-3	Proof of technology and concept, point-to-point transit between Diridon and Santana Row	<ul style="list-style-type: none">• Community Leaders• Mercedes/Bosch/Daimler Staff• City Staff	Qtr. 3 2019
2	3-4	Expand to provide service to key destinations (e.g. Valley Medical Center, San Jose City College) and users	Adds: <ul style="list-style-type: none">• Valley Medical Center Staff• San Jose City College Staff	Qtr. 4 2019
3	4-10	Expand complimentary service to residents	Adds selected residents	2020

AV to Infrastructure Project

Components of Test	Communications Systems	Jurisdictions	Time
<ul style="list-style-type: none">• Multiple AVs• 3 different traffic signal controllers• Multi-edge compute device• Roadside Units	<ul style="list-style-type: none">• Dedicated Short Range Communication• LTE• 4G• 5G	<ul style="list-style-type: none">• North San Jose• Santa Clara• Santa Clara County	Early 2019

Additional AV Activity in San Jose

- Mayor's Office of Technology and Innovation secures \$1 million Knight Foundation Grant
- California Cities Coalition
 - Ramses Madou, Chair of Data Subcommittee
 - Jill North, Chair of AV Subcommittee
- Access and Mobility Plan
- 6 companies performing independent AV testing within San Jose



Mercedes-Benz



DELPHI

drive.ai



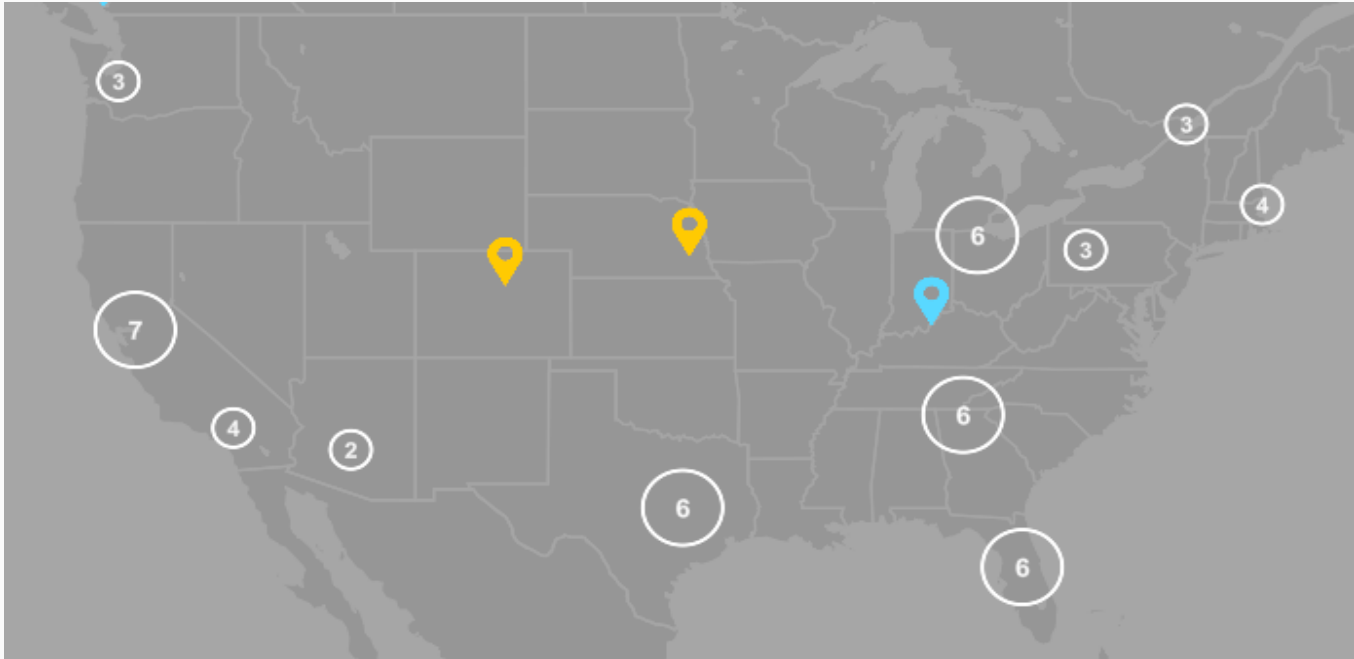
• **A P T I V** •

AV Activities in California (2017 data)

- **April 2018 CA DMV 4 Types of Permits**
 - AV Testing with Driver (60)
 - AV Testing with Driver Deployment (0)
 - AV Driverless Testing (1)
 - AV Driverless Deployment (0)
- **Only 12 companies with AV Testing with Driver permit operated in autonomous mode on public roadway**

Company	AV Miles Driven	# of AV operated on public roads
Valeo	471	1
NVIDIA	505	2
Mercedes Benz	1,087	3
Telenav	1,243	1
Bosch	1,305	3
Delphi Automotive (Aptiv)	1,810	1
Baidu	1,935	4
Zoox	2,307	11
Nissan	4,516	5
Drive.ai	6,015	7
GM Cruise	128,727	94
Waymo	294,929	72
Total	444,850	204

San Jose Leads the Nation in AV



City	Planning	Proving Site	Shuttles	Independent	Partnership	Funding
San Jose, CA	X			Delphi/Aptiv, Mercedes Benz, Bosch, NIO, Intel, Drive.ai	Mercedes Benz, Bosch, Intel	\$1 million
Boston, Cambridge, Weymouth, MA	X			nuTonomy, Optimus Ride, Delphi/Aptiv	nuTonomy, Optimus Ride, Delphi/Aptiv	
Greenville, SC	X		8-12			\$4 million
Arlington, TX; Austin, TX; Las Vegas, NV; Phoenix, AZ; San Francisco, CA; The Villages, FL, Washington D.C.	X		X	X		\$11.3 million (Total)
Atlanta, GA; Chandler, AZ; Frisco, TX; Miami, FL; Pittsburg, PA	X			X		\$6.1 million (Total)
Bryan, TX; Columbus, OH; Denver, CO; Detroit, MI; Gainesville, FL; Grand Rapids, MI; Jacksonville, FL; Reno, NV; Sacramento, CA; San Ramon, CA; Tampa, FL; Toledo, OH	X		X			\$20.55 million (Total)
Ann Arbor, MI; Concord, CA; Dublin, OH	X	X				\$51.3 million (Total)
Camblee, GA; Houston, TX; Knoxville, TN; Lincoln, NE; Los Angeles, CA; Louisville, KY; Nashville, TN; Orlando, FL; Peachtree Corners, GA; Portland, ME; Portland, OR; San Antonio, TX; San Diego, CA; Santa Monica, CA; SeaTac, WA; Seattle, WA	X					\$14.7 million (Total)

Next Steps for San Jose's AV Efforts

- Continue to develop, implement, and learn from AV RFI pilots
- Continue to lead on local, State, and National levels in AV policies, standards, and best practices
 - To drive a better quality of life through safety, mobility, sustainability and livability of our community
- Continue to monitor and learn from other AV efforts occurring across the country
- Continue to develop the City's Access and Mobility Plan

Next Steps for San Jose's AV Efforts

AV Strategic Approach	Milestones
Continuing Current Efforts	<ul style="list-style-type: none">• Develop, implement, and learn from AV RFI pilots• Lead on local, State, and National levels on AV policies, standards, and best practices• Monitor and learn from other AV efforts across the nation• Develop the City's Access and Mobility Plan
Future AV Opportunities 2019	<ul style="list-style-type: none">• Proactively identify and engage companies in the best position to benefit from a partnership with the City• Identify and leverage opportunities that furthers support AV testing• Explore opportunities to capitalize on the City's advanced traffic management system and our smart cities capabilities• Collaborate with other agencies to create cross jurisdictional testing and deployment opportunities