CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: SMART CITIES AND SERVICE IMPROVEMENTS COMMITTEE

FROM: Jim Ortbal

SUBJECT: AUTONOMOUS VEHICLES

DATE: November 22, 2017

Approved [signature]

Date 27 Nov 2017

RECOMMENDATION

Accept this update report on Autonomous Vehicles.

BACKGROUND

Autonomous vehicles – vehicles that have the ability to automatically perform some or all of the tasks that have been traditionally performed by a human driver – are rapidly moving towards widespread testing and implementation. Ultimately, autonomous vehicles could have a tremendous impact on the safety, mobility, sustainability, and livability of our community, and therefore, staff is undertaking efforts to better understand and influence the development, testing, and deployment of autonomous vehicles.

On June 1, 2017, staff presented a first report on autonomous vehicles to the Smart Cities and Service Improvements Committee, providing an overview of autonomous vehicle (AV) technology, potential impacts of AVs, and guiding principles for testing and implementing AVs in San José. To review this information, refer to the Autonomous Vehicle Strategy Update report and associated materials from the June 1, 2017 Smart Cities and Service Improvements Committee meeting agenda.

The June 2017 report also included an update on the City's efforts to effectively advance the implementation of AVs, including actions to promote effective federal and state regulations, collaborate with other agencies and stakeholders, and issue a Request for Information (RFI) regarding the implementation of AV pilot projects in San José. This November 22, 2017 report provides an update on all those efforts with a focus on the status of the City's Autonomous Vehicle Pilot Project RFI.

ANALYSIS

Status of the Autonomous Vehicle Pilot Project Request for Information

On June 1, 2017, the City's Department of Transportation (DOT) and the Mayor's Office released a RFI that invited companies and other entities working in the AV industry to provide information about how they might perform an AV pilot, or demonstration project, in San José. To our knowledge, San José was the first city in the nation to make such a request.

The purpose of the RFI and any subsequent demonstration project is to test AVs so that the City can positively and effectively influence, promote, and incentivize the development and implementation of AVs in San José. Any demonstration projects resulting from the RFI would allow the City to understand how AVs might advance the following goals:

- Promote safety for all transportation system users
- Reduce the environmental impacts of total vehicle miles traveled
- Build a balanced transportation system
- Improve mobility for all
- Create livable communities
- Obtain data that is critical for the planning of our future transportation system

The City received a total of 31 responses to the RFI by the July 28, 2017 due date. A wide variety of responses were received, representing many different types of companies and different ideas about how each would implement or support the implementation of an AV demonstration project. The table below generally categorizes the responses:

Response Category	# in Category
AV deployment on City or other public roadways	13
AV and transportation data collection, management and analytics services	4
Roadway and infrastructure mapping services	2
Project management, technology and general business consulting services	6
Other services (e.g. communication networks, travel apps, AV certification)	6

During the months of August and September, a team of key internal and external stakeholders reviewed the information provided in each response. The team was led by DOT and included staff from the Mayor's Office, Prospect Silicon Valley, and VTA. In reviewing the responses, the team considered those that best aligned with the purpose, goals and parameters stated in the RFI, and that provided the most direct and achievable approach to implementing an AV

demonstration project. While nearly all responses were informative and well-prepared, the team identified four that were particularly promising and warranted additional consideration.

During the month of October, the team individually met with representatives from each of the four responders to further understand their concepts and define the scope and parameters of a possible demonstration project. The team is now working with representatives from two of the proposals to formally develop AV demonstration projects in San José. The following describes some of the key parameters of these potential demonstration projects:

Project 1: This project would potentially deploy a fleet of two AV minivan shuttles with Level 4 automation to provide first/last mile connections to the Tamien Station and/or Alum Rock VTA Transit Center where access to these facilities is limited with existing bus service and parking availability. This demonstration project would include a data analytics platform to evaluate the impact that this type of AV service would have on transit ridership. Future expansion of this demonstration could include testing over 4G/LTE and 5G broadband technology for advanced AV data and software management. AV service would begin in the summer of 2018.

Project 2: This project would potentially deploy three to ten luxury AV sedans with Level 4 automation to support existing transit operations along and around the San Carlos/Stevens Creek corridor and the Diridon Transit Station area. The complementary transit operations could possibly provide connections to key destinations in these areas. In addition, the demonstration project could include the use of a ride-hailing smartphone application that has the potential to be integrated with public transit mobile applications, including the regional fare payment system. AV service would begin in 2019.

Over the next month and into the first quarter of 2018, DOT will be leading work with the companies and partners associated with these projects to develop project work plans, establish demonstration agreements, define data sharing protocols, integrate information systems, identify and address infrastructure needs, and perform necessary outreach.

The remaining two projects identified require additional scoping, resources, and/or time to develop an implementation path. One includes the installation of communications infrastructure that would enable real-time communications among vehicles, infrastructure, smartphones, etc. for advanced vehicle sensing and control. The other would utilize AVs to collect high-definition spatial data on the City's street infrastructure for use as a tool to support future AV implementation. DOT is continuing to advance these concepts towards a possible demonstration project.

It is important to reiterate that many of the responses provided valuable information about testing and implementing AVs. While the ideas and solutions presented in these responses are not being immediately considered for demonstration, DOT will look for opportunities to do so in the future.

Federal Autonomous Vehicle Regulations

In September, the House passed HR 3388, the SELF DRIVE Act. The bill defines local, state and federal regulatory roles around AVs, including safety, data, and cybersecurity. The City of San José worked through Transportation for America, a national policy organization, on amendments to the bill, including ensuring that states and local jurisdictions get access to AV collision data and requiring AVs to follow local traffic laws. The House bill was not significantly amended before passing on a voice vote on the floor.

In October, the Senate Commerce, Science, and Transportation Committee held a markup of the Senate's automated vehicle legislation, the AV START Act (S. 1885). The Committee passed the legislation after adopting 26 amendments to the bill. One of the key amendments by Senator Nelson says that states and local governments cannot adopt or enforce any regulations around the performance of highly automated vehicles. "Performance" is not defined, and the National Association of City Transportation Officials (NACTO) has asked for clarification language to be inserted into the bill that states local jurisdictions still have the authority to set and enforce local traffic laws.

The City will work with other cities through NACTO and Transportation for America to weigh in on the Senate bill when it goes to a floor vote and then again during the conference committee process between the House and Senate.

State DMV Autonomous Vehicle Regulations

In October, the California DMV released a revised version of proposed regulations that establishes a path for testing and deployment of driverless AVs. The revised regulations will allow testing of AVs without a driver behind the steering wheel and public use of vehicles equipped with autonomous technology. The City collaborated with the California Big Cities Department of Transportation Coalition reiterating our previous comments addressing concerns about data sharing and law enforcement interaction plans. The City will continue to collaborate and provide comments to guide a state policy with a clear pathway to mutual success for both public and private entities in the realm of automation.

Collaboration with Other Agencies and Associations

San José continues to be an active participant with NACTO and the Smart Cities Collaborative sponsored by Transportation for America. Recent work includes representation at the Designing Cities Conference in Chicago, the Smart Cities Collaborative in Los Angeles, and working through these organizations for continued support and coordination of AV policy, testing, and implementation.

DOT has also established relationships and is engaged with several other agencies and stakeholders involved in AV policy and implementation, including the Insurance Institute for

Highway Safety, Telecommunications Industry Association, Society of Automotive Engineers, and the International Transportation Innovation Center Testbed Alliance.

COORDINATION

This memorandum was coordinated with the City Attorney's Office and Valley Transportation Authority.

/s/
JIM ORTBAL
Director of Transportation

For questions, contact Jill North, Innovation Program Manager at jill.north@sanjoseca.gov or (650) 451-8065.