



# City of San Antonio

## Agenda Memorandum

**File Number:**18-6874

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**Agenda Item Number:** 2.

**Agenda Date:** 12/11/2018

**In Control:** Innovation and Technology Committee

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**DEPARTMENT:** Transportation & Capital Improvements

**DEPARTMENT HEAD:** Mike Frisbie, P.E.

**COUNCIL DISTRICTS IMPACTED:** Citywide

**SUBJECT:** Request for Information on Testing Autonomous Vehicles in San Antonio

### SUMMARY:

A briefing on the responses received to the Request for Information on testing autonomous vehicles in San Antonio.

### BACKGROUND:

During the City Council B Session on May 16, 2018, Transportation & Capital Improvements (TCI) provided a briefing on autonomous vehicles, including the current state of technology and difference between Federal and State responsibilities. In addition, TCI recommended issuing a Request for Information (RFI) to obtain information from the industry regarding the use of autonomous vehicles for specific use cases within the City of San Antonio (City).

The RFI was issued July 20, 2018 and responses were received September 4, 2018. TCI coordinated with the Office of Innovation (Innovation) and the Information Technology Services Technology Department (ITSD) on the development of the RFI. Potential use cases included in the RFI for consideration were the following:

- Innovation Zones - The City of San Antonio is developing Innovation Zones in several key areas of the city. The Innovation Zones will be used as proving grounds to test various types of smart city technology, including autonomous vehicles, smart streetlights, various sensors, and Wi-Fi connectivity. The following areas are two of the initial Innovation Zones to be considered for this RFI:
  - Brooks - Brooks is a 1,300 acre mixed use campus that includes various options to live, learn, work and play. This area has attracted over 3,000 jobs and includes facilities for institutions of higher learning, light manufacturing, retail, and residential living. The potential use case is the

transportation of employees, visitors, and residents in and around the campus. Consideration should be given on how to integrate the VIA Metropolitan Transit (VIA) Brooks Transit Center and VIA's new Primo operation on SW Military Drive in 2019.

- Medical Center - The South Texas Medical Center is a 900-acre campus which includes over 27,000 medical facility employees, over 29,000 employees at associated business, and over 300,000 vehicles daily. The potential use case is the first mile/last mile transportation of employees, visitors, and patients in and around the medical center. Consideration should be given on how to integrate the VIA Metropolitan Transit (VIA) Medical Center Transit Center and VIA's existing Primo operation on Fredericksburg Road.
- City Employee Shuttle (Point-to-Point) - The City of San Antonio has approximately 12,000 employees with approximately 2,000 located in various locations within downtown. The potential use case is the transportation of employees from one building location to another.
- City Fleet Integration - The City of San Antonio builds and maintains San Antonio's streets, storm water, and transportation infrastructure, as well as provides solid waste management services. The potential use case is incorporating autonomous vehicles into municipal fleets.
- Military Base Shuttle (Point-to-Point) - Joint Base San Antonio (JBSA) was created in 2005 and is the largest joint base in the United States Department of Defense. JBSA is comprised of three primary locations: Fort Sam Houston, Lackland, and Randolph, plus eight other operating locations. JBSA supports over 250,000 personnel with 80,000 of those enlisted within the military. The potential use case is the transportation of employees from one building location to another.
- USDOT Designated Proving Ground (Fredericksburg Road) - In November 2016, the United States Department of Transportation (USDOT) initiated a notice soliciting proposals for a pilot program to designate automated vehicle proving grounds. In January 2017, Fredericksburg Road, as part of the Texas Innovation Alliance state-wide partnership, was selected as one of 10 designees nationally.
  - As a test-bed site, Fredericksburg Road will offer the City and other transportation partners an ability to evaluate autonomous vehicle technology and its ability to reduce pedestrian and vehicle conflicts. In addition, this corridor from downtown to the Medical Center includes VIA Metropolitan Transit's Primo Bus Rapid Transit Route. The test-bed will explore possible technology to optimize bus interval spacing along this high frequency route, which could improve the consistency and efficiency of rider service.

Through review of the RFI responses, the City hopes to gain a better understanding of automated vehicle services currently in the marketplace and their functionality. Responses to the RFI may be used by the City to provide information that will assist the City to draft scopes of work, develop contract requirements, and maximize vendor participation to leverage competitive contract pricing.

## ISSUE:

The goal of the RFI was to gain a better understanding of services currently in the marketplace and their functionality. The responses received indicate that there is no turn-key solution ready for the potential use cases cited in the RFI. Valuable information was learned about the length of time needed to implement a pilot, different vehicle sizes and capacities, and vehicle operating duration and charging requirements. A brief summary for each use case is as follows:

- Innovation Zones - Several of the respondents described pilot opportunities in the Innovation Zones. The information obtained can be incorporated into future solicitations being considered by the Office of Innovation. The Office of Innovation is currently planning a Request for Proposals (RFP) to be released in early 2019 which will describe specific challenges faced in each of the three Innovation Zones and will solicit solutions to help solve them.

- City Employee Shuttle (Point-to-Point) - While information about a point-to-point shuttle was obtained, this use case is not recommended at this time due to the time it would take to implement, including solicitation timeframe, with the planned employee consolidations in the Frost Tower. The responses indicated that a pilot could take several months to implement depending on the complexity. It would likely be late 2019 or early 2020 before a pilot could be implemented.
- City Fleet Integration - The response from Royal Truck provided a potential use case for implementing autonomous attenuator trucks that could be used to follow City street sweepers. This potential pilot has been previously investigated by TCI and is something to consider in the future if the City desires to implement autonomous technology.
- Military Base Shuttle (Point-to-Point) - Similarly to the City Employee Shuttle use case, information was obtained describing a pilot project. This potential pilot is something to consider in the future if the City desires to implement autonomous technology and also demonstrate further partnerships with Joint Base San Antonio.
- USDOT Designated Proving Ground (Fredericksburg Road) - On October 4, 2018, the USDOT published *Preparing for the Future of Transportation: Automated Vehicles 3.0 (AV 3.0)* <<https://www.transportation.gov/av/3>>, which serves as the latest guidance for AV. Within AV 3.0, the USDOT stated that there is no longer a need to recognize the USDOT Designated Proving Grounds since there is already an abundance of testing across the country. Therefore, this use case is no longer applicable.

## **ALTERNATIVES:**

This briefing is for informational purposes only.

## **FISCAL IMPACT:**

This briefing is for informational purposes only.

## **RECOMMENDATION:**

This briefing is for informational purposes only.