File #: 23-0258, **Version:** 1

Recommendation to authorize City Manager or designee, to execute all documents necessary to amend Contract No. 36005 with Mercedes-Benz Research & Development North America, of Long Beach, CA, and Xtelligent, of Los Angeles, CA, to continue development and testing of a Connected and Automated Vehicles (CAV) and a Cooperative Intelligent Transportation System (C-ITS), at no cost to the City of Long Beach (City), and expand the pilot program to additional locations in the City and extend the term of the contract to April 1, 2024. (Citywide)

City Council approval is requested to amend Contract No. 36005 with Mercedes-Benz Research & Development North America (Mercedes-Benz) and Xtelligent, to continue the development and testing of intelligent transportation system technology with the City of Long Beach (City), for an additional period of 12 months, at no cost to the City. The project is an innovative public-private partnership between Mercedes-Benz, Xtelligent, and the City.

On September 15, 2020, City Council awarded a Contract to Mercedes-Benz and Xtelligent as part of its adoption of resolution RES-20-0118 to develop, deploy, and test Connected and Automated Vehicles (CAV) and a Cooperative Intelligent Transportation System (C-ITS), at no cost to the City, for a period of 10 months with a total period not to exceed 18 months.

Following the City Council's approval, all parties executed Contract No. 36005 on August 26, 2021, and began work on the project shortly thereafter. Since then, project team members have met bi-weekly to implement the connected vehicles and intelligent traffic system at select intersections on the Atlantic Avenue corridor in Long Beach. The contract expired in December of 2022. The project is now approaching the end of the initial 18-month term and has had many notable successes, including the following:

· In partnership with the City and Long Beach Unified School District, Mercedes-Benz hosted a community youth workshop for approximately 75 Long Beach Polytechnic High School STEM Auto Pathway students on December 8, 2022. At the workshop, students were exposed to careers in the automobile and engineering industry and learned about Mercedes-Benz's CAV fleet.

· Xtelligent's intelligent intersection control system has been deployed at select intersections in the City and has successfully met all specified safety standards.

· Xtelligent's intelligent intersection control system has successfully integrated with key data sources, including Mercedes-Benz's CAV fleet, City traffic detection sensors, and City induction loop inputs.

· The City has been able to understand how intelligent intersection control can enhance City Traffic operations, inform transportation policy, improve traffic engineering decisions, and build a more resilient traffic operations center that can adapt to unplanned events without having to make significant capital investments in sensing infrastructure or manual data counts.

· Xtelligent has developed a digital twin dashboard for the City to visualize transportation data which allows traffic engineering and planning teams to benefit from data that had been unavailable before. This will provide important transportation data to the City for planning and investment purposes as it is further developed.

· Partnership with University of California Riverside and the National Renewable Energy Laboratories for ongoing analysis of preliminary operational benefits and energy efficiency gains created by deployment of Xtelligent's system.

An amendment of the Contract with Mercedes-Benz and Xtelligent to extend the contract retroactively from December of 2022 until April 1, 2024 will provide the following project benefits:

· Continue developing and testing the intelligent intersection control system at select intersections to fully assess the operational benefits to the City, including metrics such as improved vehicle throughput, reduced end-to-end travel time, improved energy efficiency, and lowered greenhouse gas emissions.

· Publish a preliminary report on project metrics and recommendations for system improvements.

· Improve the precision of system data collection and collect additional data to test the efficacy and impact of the technology. Additional testing scenarios will account for seasonal and time-based traffic patterns.

· Explore deployment of the intelligent intersection control system at additional select intersections across the City to understand how this system may function in other locations.

As the mobility landscape continues to evolve, the City must be proactive in preparing for emerging technology so the City may leverage these technologies to benefit the community when they become industry-standard. An amendment of Contract No. 36005 with Mercedes-Benz and Xtelligent will allow the City to continue safely testing adaptive signal infrastructure while collecting data to support improved traffic flows and inform traffic engineering decisions. This project complements cutting-edge work previously directed by City leadership, such as the Long Beach Smart City Initiative, investments in the local technology ecosystem (Space Beach, Long Beach Accelerator), and the development of workforce development pathways for a skilled future-ready workforce that can adapt to new modes of transportation. This partnership with Mercedes-Benz and Xtelligent reflects our smart city vision to ensure that opportunities gained from emerging technologies are accessible to all.

Finally, this partnership continues to align with Citywide policy priorities. On August 16, 2022, the City Council approved both the 2030 Long Beach Strategic Vision, which affirms and reframes the City's commitment to supporting the diverse Long Beach community and the Long Beach Climate Action Plan, which will help reduce greenhouse gas emissions and prepare the community for the impacts of climate change. This partnership aligns with both policy documents. It will help achieve the City's sustainability goals by reducing vehicle-based emissions generated by traffic congestion and promoting convenient and climate-friendly transportation mode choices for all Long Beach residents.

This matter was reviewed by Deputy City Attorney Erin Weesner-McKinley on March 3, 2023, Purchasing Agent Michelle Wilson on February 27, 2023, and by Budget Operations and Development Officer, Rhutu Amin Gharib, on March 2, 2023.

City Council action to amend Contract No. 36005 is requested on March 21, 2023, to ensure that City staff may continue testing this emerging technology in a real-world environment in a timely manner to build on the work completed to-date and minimize disruption of ongoing project planning efforts.

There is no fiscal or local job impact associated with this recommendation. Mercedes-Benz Research and Development North America and Xtelligent will continue to provide their systems and services at no cost to the City for the twelve-month project period extension. At the conclusion of the program, City staff will evaluate the benefits and gaps of the program, and should the City determine there is value in continuing access to this technology, a regular procurement process will commence, and any potential program and/or costs will be brought back to the City Council at a later date. The recommendation has no staffing impact beyond the normal budgeted scope of duties and is consistent with existing City Council priorities

Approve recommendation.

LEA D. ERIKSEN
DIRECTOR OF TECHNOLOGY AND INNOVATION

ERIC LOPEZ
DIRECTOR OF PUBLIC WORKS

APPROVED:

THOMAS B. MODICA
CITY MANAGER