Los Angeles County
Metropolitan Transportation
Authority
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Los Angeles, CA

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OPERATIONS, SAFETY AND CUSTOMER EXPERIENCE COMMITTEE
OCTOBER 19, 2023

SUBJECT: BUS LANE ENFORCEMENT PILOT PROGRAM

ACTION: APPROVE RECOMMENDATIONS

RECOMMENDATION

CONSIDER:

A. APPROVING implementation of a Bus Lane Enforcement Pilot Program on NextGen Tier One Network in partnership with the City of Los Angeles;

B. APPROVING the Life of Project (LOP) capital budget of $11,000,000 for the Bus Lane Improvement Pilot Project;

C. AUTHORIZING the Chief Executive Officer (CEO) to award a 63-month firm fixed unit price Contract No. OP48185000 to Hayden AI Technologies, Inc. for the purchase of equipment and implementation of a Bus Lane Enforcement System on NextGen Tier One Network in the City of Los Angeles in an amount not-to-exceed $7,079,570 for the 39-month base term, and $1,710,000 for the first one-year option and $1,710,000 for the second one-year option, for a total not-to-exceed Contract Value of $10,499,570, effective December 1, 2023, subject to resolution of properly submitted protest(s), if any; and

D. AUTHORIZING the CEO to execute a Memorandum of Understanding (MOU) with the City of Los Angeles on a project partnership of the Bus Lane Enforcement System Pilot Program.

ISSUE

As part of the NextGen Bus Speed Engineering Working Group, the City of Los Angeles and Metro partnered to create the Transit Speed & Reliability Program, which has delivered over 40 miles of Bus Priority Lanes throughout the City of Los Angeles that were designed to increase the transit speed and reliability of Metro's bus service to NextGen Tier 1 lines, or the busiest corridors in the system. These Bus Priority Lanes are often misused by other vehicles, aside from buses, and this has negatively impacted the effectiveness of the joint investment between Metro and the City of Los Angeles Department of Transportation (LADOT). Unauthorized vehicles dwelling in Bus Priority Lanes for deliveries and passenger loading, parking, and general use by non-Metro vehicles hinder

Metro's ability to provide the reliable service it strives for as a result of other vehicles utilizing this lane, as buses encounter delays with merging in and out of general purpose lanes. Post-implementation surveys with bus passengers also reveal bus lane violations as a top issue they experience. Improving compliance of Bus Priority Lanes has therefore become a necessity to ensure compliance with the posted signage, lane markings, and regulations.

In partnership with the City of Los Angeles, Metro is pursuing a pilot program, Bus Lane Enforcement System (BLES), in an initial partnership with LADOT to collaboratively enforce bus-only lanes and bus stop zones in accordance with the legislature AB917 model. Metro's vision is a regional BLES implementation of an automated camera-based bus lane enforcement system that gathers evidence of vehicles obstructing bus-only lanes and bus zones. The evidence gathered is shared with and enforced by jurisdictions throughout Los Angeles County. The BLES is anticipated to go into effect in the Spring of 2024.

BACKGROUND

Metro Bus Priority Lanes

Metro has a bus fleet of nearly 2,000 buses operating over 100 routes, primarily along public arterials that share the roadway with other users; the NextGen Transit Speed & Reliability Program has repurposed the right-most curbside lane along key corridors with over 40 lane miles of Bus Priority Lanes across multiple jurisdictions, the majority of which lie in the City of Los Angeles. Metro is also currently embarking on an expansion of dedicated right-of-way lanes, similar to the Metro G Line (Orange) Busway, through Measure M projects for dedicated Bus Rapid Transit (such as NoHo to Pasadena BRT, North San Fernando Valley Corridor, and Vermont Corridor).

Bus Priority Lanes and future BRT projects provide transit buses with an opportunity to bypass traffic congestion, but only if other roadway users comply with the regulations and are not obstructed by misuse. Bus operators face the challenge of navigating in and out of the bus lane due to parked cars. Some operators remain in the bus lane behind the stopped vehicle, while others avoid using the bus lane in high-conflict areas. Motorist parking violations on Bus Priority lanes are detrimental to bus speeds, safety, reliability, local congestion, and the bus operator and customer experience.

A 2017 Before and After Report on the Wilshire Bus Rapid Transit (BRT) Project found numerous conflicts in the peak period bus lane throughout the corridor. Field observations confirmed the presence of vehicles violating the right-turn restrictions on the bus lane, causing congestion. The report articulated a need for enforcement across the corridor. Focus group findings from another 2017 study on BRT in Los Angeles articulated frustrations from riders that the Metro Rapid Line 720 bus service on Wilshire fell short of expectations for reliability and speed since cars abuse the bus lane and there is no enforcement.

Furthermore, a post-implementation survey comprised of over 200 bus riders in February 2023 revealed that 93% of respondents indicated private vehicles were parked or driving in the recently completed Alvarado Street Bus Priority Lanes at least half of the time. As a result, Metro has

partnered with LADOT to increase parking enforcement efforts along the Alvarado St corridor and other bus lane corridors. However, these efforts are resource intensive and do not effectively address repeat offenders, who often sit in their vehicles until chased away by a parking enforcement vehicle, without resulting in a citation.

Unsolicited Proposal and Results of Proof of Concept

Concurrent with the 2021 legislative proceedings, the Office of Strategic Innovation (OSI) received an Unsolicited Proposal from Conduent (UP-2021-03) proposing a 30-day Proof of Concept of their end-to-end system, which uses a Hayden AI camera system. With support from ITS, Service Planning & Development, Maintenance, and Vehicle Engineering, OSI ran the Proof of Concept from November 22, 2021, through December 22, 2021. The Proof of Concept installed on-board camera systems on two Metro buses, one on a bus for Line 720 (Wilshire Rapid) and one on a bus for the J Line (Silver) 910.

Results from the Proof of Concept were as follows:

- 823 bus lane obstructions detected. Of the 823 obstructions detected, 709 were on Line 720 and 114 were on the J Line. The project team believes that the difference in volume is likely due to the type of bus-only lanes; Line 720 operates only in curbside Bus Priority Lanes and the J Line operates in both mixed-use and dedicated ExpressLanes, which already include Fastrak photo enforcement and law enforcement through the California Highway Patrol.
- 97.5% License Plate Reader accuracy. The automated License Plate Reader (LPR) successfully read 802 of the license plate images captured.
- 92% Violation Detection accuracy. Of the 823 bus lane obstructions detected, 756 were determined to be valid bus lane parking violations.
- 81% Event Detection rate. Limited sampling revealed that the system captured 81% of actual bus lane parking obstructions.

Recent State Legislation Authorizing Use

In recognition of the need for automated bus lane enforcement, in 2021, the California State Assembly passed AB917 (Bloom), which revised California Vehicle Code (CVC) §40240, §40240.5, and §40241 to authorize transit agencies to install cameras on buses to capture digital evidence of vehicles parked in bus-only lanes for the purpose of sharing it with parking enforcement agencies to issue citations; authorization remains in effect until January 1, 2027, and is repealed as of that date. California Vehicle Code can be found here: <https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=VEH&division=17.&title=&part=&chapter=1.&article=3.5>.

DISCUSSION

Following the early successes in automated license plate reader (ALPR) camera enforcement programs to enforce bus lanes in other major cities, including San Francisco, Oakland, New York

City, Washington DC, and Philadelphia, Metro began working with LADOT to pursue a similar strategy to improve bus lane compliance. Metro staff worked closely with representatives from LADOT throughout the competitive solicitation and proposal evaluation processes. This also includes the development of a Memorandum of Understanding (MOU) that details the partnership of this pilot program between Metro and LADOT, whereby Metro's role is to: a) Install ALPR-capable cameras to capture evidence of vehicles blocking bus-only lanes and bus zones, and; b) Prepare and share all collected evidence of vehicles obstructing bus-only lanes and bus zones with the City of Los Angeles. The City of Los Angeles' role is to: a) Make the determination of parking violation, and; b) Issue and adjudicate, if needed, parking citations. As Metro's primary objective is to improve bus lane compliance to deliver faster and safer transit service to riders, Metro only intends to recover a cost-neutral portion of potential citation revenue, with the City of Los Angeles receiving the remainder of potential revenue, pursuant to their existing bylaws. This joint MOU is currently being drafted and intended to be finalized in early 2024 with the Pilot program beginning shortly afterwards, anticipated in Spring 2024.

The scope of this Pilot program includes an end-to-end standalone solution for an automated, camera-based enforcement system capable of detecting non-moving violations in Bus Priority Lanes and bus stop zones. The end-to-end solution includes the purchase of 100 Onboard Camera System (OCS) units with forward-facing cameras, associated software, licensing, and maintenance, as well as back-end review and data processing services. The scope also includes support to develop a technical evaluation of the pilot program results as called for in the legislative authorization Award of Contract No. OP48185000 will allow for the initial installation of cameras to begin on December 1, 2023. on each bus type by the awarded vendor. Metro personnel will install remaining cameras and supporting onboard equipment. Any maintenance would remain under the contractor's responsibility as this camera system would remain within the warranty period. The pilot project is for 39 months until January 1, 2027, when the legislative authorization under CVC §40240 expires. There are two, 1-year options included in this proposal which would allow this program to continue uninterrupted should the legislative authorization be extended or made permanent.

Automated Bus Lane Enforcement Programs in Other Cities

Automated, camera-based enforcement does not eliminate the need to commit frontline personnel resources to enforcement, but it largely pivots the effort to a more efficient back-office operation through a more data-driven approach. The National Capital Region Transportation Board conducted a study in 2017 in coordination with WMATA and found that "compared to active police enforcement, automated enforcement can have significant fiscal and enforcement benefits" and that cameras mounted to the front of buses are the most effective tool. Results from automated bus lane enforcement programs in San Francisco and New York City support these findings, where cameras have been successful in deterring misuse of bus only lanes for their transit service.

Cities that have already implemented a bus lane enforcement program have seen increases in bus speeds of up to 31% (NYC MTA), an increase in ridership of up to 20% (NYC MTA)[1], increases in reliability and on-time performance (AC Transit), and reductions in total travel time of 14% and travel time variability of 27% (SFMTA).

Community Outreach Plan

Metro Community Relations will coordinate outreach along these two bus line corridors to key stakeholders including elected officials, agencies, business groups, major employers, community-based organizations, and the public. Informational materials will be created to support outreach activities and educate the public on the goals and implementation of this program. Activities will include briefings, presentations, virtual community meetings, and participation in local community events. Education and outreach will focus on Equity Focused Communities (EFCs) as well as low-income residential areas adjacent to or near the proposed pilot bus lines. A program-specific webpage will be created, and information in multiple languages will also be distributed via e-blasts, targeted social media campaigns, and posts on The Source/El Pasajero. These outreach efforts will begin 60-days in advance to ensure ample lead time and will advance with increasing visibility as we approach implementation.

DETERMINATION OF SAFETY IMPACT

Board approval of these recommendations will improve the speed and reliability of Metro bus service on high-frequency corridors, which would potentially improve the safety of overall bus operations in the Los Angeles basin.

FINANCIAL IMPACT

Capital Project 290006 has been established for this action. The total LOP funding for the project is $11,000,000. $2,085,000 Capital will be included in Cost Center 3151- Service Planning & Scheduling. After completing the capital project, staff currently estimates annual operating costs of $2,200,000. This amount will fluctuate as implementation and BLE operation progresses.

Implementation of the capital project will be completed in FY24. Operations will be responsible for program and budget operating funding in future years until the pilot program is completed, or legislative authorization under CVC §40240 extends this temporary legislature beyond January 1, 2027.

Impact to budget

The current sources of funds for this action are Federal, State, and Local. This funding is eligible for Capital and Operating Projects.

EQUITY PLATFORM

While specific routes for this program will be selected in the future, there are significant anticipated equity benefits to implementing this pilot program, as the majority of Metro bus riders are low-income, Black, Indigenous, or other People of Color (BIPOC). For example, 94% of Alvarado bus lane riders do NOT own a car and therefore rely on the Alvarado bus service to access opportunities. Nearly 9 in 10 Alvarado bus riders are BIPOC and 6 in 10 are below the poverty line. These demographics are largely consistent on other recently completed Bus Priority Lane corridors, which means that these investments provide equitable mobility improvements. Therefore, single-occupant vehicles blocking bus lanes and bus stops have a disproportionate impact on bus riders, resulting in bus

delays and disruptions, oftentimes with 50 or more passengers per bus; this means a single motorist can have an outsized burden on the dozens of riders onboard each bus, resulting in missed transfers and late arrivals. Further, blocking bus stop zones can create accessibility issues for passengers with disabilities, who rely on level boarding between the bus stop curbside and boarding the bus.

According to a previously calculated Benefit Cost Analysis of the NextGen Speed & Reliability Program with three capital improvements (i.e., bus priority lanes, transit signal priorities, and All Door Boarding), the Project can achieve 8.76 million person hours traveled savings in the period of 20 years. However, this can only be achieved if the implemented bus lanes are clear for buses to use them.

There are no additional impacts expected for parking users, as this program would operate within the existing bus lane hours and does not expand the hours of posted parking restrictions. This program shifts the source of citation from a Parking Enforcement Officer to a camera-based system that is then reviewed by City personnel on the backend, which can improve overall safety by reducing the amount of personnel in the roadway as well as in-person confrontations. Therefore, BLES can improve bus speed, reliability, and safety. These improvements are anticipated to benefit mobility in Equity Focus Communities by providing faster and more reliable bus service and would ultimately increase the competitiveness, and attractiveness of the bus system for new customers.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

This Pilot Program provides data through automated bus lane enforcement, which in turn can enable people to spend less time traveling and deliver an outstanding trip experience for all users of the transportation system. This Pilot will improve the speed and reliability of Metro's Tier One bus service that runs through the heart of some of the most congested areas in Los Angeles County with some of the most equity focused communities.

ALTERNATIVES CONSIDERED

The alternative to the proposed staff recommendations is to not procure and implement the BLES. However, this is not recommended since a delay to purchase and install BLES will significantly shorten the time available for the Pilot Program that is enabled by the temporary legislative authorization under CVC §40240 until January 1, 2027. Without the installation of BLES, bus operators would not be able to avoid delays caused by traffic congestion on bus-only lanes without competing with other vehicles, customers would not benefit from shorter travel and wait times, and Metro would not be able to transit speed and reliability as quickly, without additional resources.

NEXT STEPS

Upon Board approval, staff will execute Contract No. OP48185000 with Hayden AI Technologies, Inc. for the implementation of the BLES pilot program, effective December 1, 2023.

A performance measurement matrix will be developed for monitoring the effectiveness of BLES to

deter drivers from parking in bus-only lanes and bus zones. Metro also needs to prepare a report to the California Legislature by January 1, 2025, required by CVC §40240.5.

In partnership with LADOT, Metro will finalize the MOU on this Pilot Program and cost-sharing.

At the conclusion of the Pilot, staff will assess the overall performance of the BLES and provide recommendations to the Board for a path forward.

ATTACHMENTS

Attachment A - Procurement Summary
Attachment B - DEOD Summary

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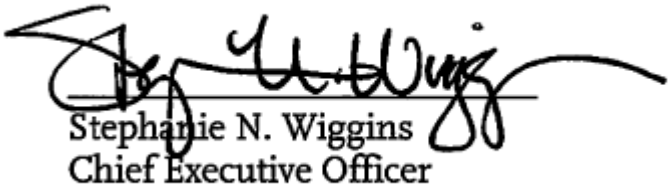

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