

**Bay Area Infrastructure Financing Authority  
BAIFA**

**February 22, 2022**

**Agenda Item 4b - 22-1337**

**I-680 Express Carpool Check Smartphone App Pilot**

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**Subject:**

Update on the status of the I-680 Contra Costa Express Lanes carpool verification smartphone app pilot, including outreach approach and equity considerations, and request for approval of Phase I of the pilot, which would allow carpooling participants enrolled in the pilot to use the I-680 Contra Costa Express Lanes with the app and a registered license plate in lieu of a FasTrak® account.

**Background:**

Since 2018, the Commission has encouraged staff to explore new technologies to improve compliance with occupancy requirements in express lanes. Better compliance with occupancy requirements results in better lane performance benefitting carpools, buses and those who choose to pay to drive in the lanes. Today, carpool drivers use a FasTrak Flex® toll tag to declare the number of people in their vehicles, which results in their accounts being tolled at full price or the carpool discount. Occupancy enforcement is done in the field by the California Highway Patrol (CHP), but is limited by CHP's other duties and inherent challenges associated with verifying occupancy manually. Looking ahead, MTC is evaluating the use of a smartphone app that allows users to self-verify their carpool status. The app uses smartphone optical sensors and machine learning to determine the number of real faces present at the beginning and end of each trip. Testing the technology in the field is a step in evaluating whether this technology may someday complement or replace toll tag technology to verify toll-free or discounted travel in express lanes.

A Request for Proposals (RFP) was issued in November 2019, and in May 2020 the MTC Operations Committee awarded a contract to RideFlag Technologies (Rideflag) to pilot its smartphone app. The pilot, called the Express Carpool Check Smartphone App Pilot, was delayed due to the pandemic but is now nearing readiness for deployment.

**Pilot Concept:**

Phase 1 of the pilot involves recruiting approximately 500 volunteers who carpool in the I-680 Express Lanes between Martinez and San Ramon (which was the only operating express lane run by the Bay Area Infrastructure Financing Authority (BAIFA) when the vendor procurement was issued). Participants will use RideFlag's smartphone app to report the number of people in their carpool. MTC will test two versions of the RideFlag app: the first only counts the number of real faces at the beginning and end of the trip but does not check if they are the same people. The second compares facial geometry/measurements taken at the beginning and end of the trip to determine if the people are likely the same. Facial geometry/measurements are deleted at the end of each trip. For both versions, the app stores similar information as the existing toll system. The app vendor and the toll system both store account information (e.g., name, email, phone number and license plate) and trip data (including entry and exit, trip date and time). However, the carpool app vendor stores the number of verified people and the realness and match probabilities while the toll system records the toll tag switch setting.

Phase 1 pilot objectives are to assess the functionality and accuracy of the technology, gauge user acceptance and ease of use, assess privacy concerns, inform full deployment potential, and assess future customization opportunities. The pilot will run for approximately three to six months, during which time participants will be incentivized to provide periodic feedback through an online survey. At the end of the pilot, volunteers may be asked if they would like to participate in focus group meetings, which may be compensated.

If the pilot is deemed successful by MTC, staff may propose a Phase 2 pilot that could include integration with the FasTrak® back office system and/or broader deployment on express lanes (in coordination with other express lane operators). MTC would continue to investigate the policy and technical requirements for fully deploying such a system within the context of state law.

**Equity Considerations:**

With the Executive Director's introduction of MTC's Equity Platform in October 2019, staff are already considering equity more purposefully in the context of this Phase 1 pilot. Staff selected a

consultant, Center for Neighborhood Technology (CNT), from MTC's equity bench to review and provide recommendations on pilot structure, technology usability, recruitment/outreach, and evaluation. On July 22, 2022, staff presented to MTC's Policy Advisory Council Equity & Access Subcommittee to provide an early look at pilot plans and will return to the Subcommittee or full Policy Advisory Council with pilot results, as requested. Following selection of the equity consultant and based on what we heard from the Equity & Access Subcommittee, staff are considering comments related to privacy, accessibility, reverification, and safety. Staff are also focusing on outreach and recruitment to Equity Priority communities, including low income, Black, Indigenous, people of color (BIPOC), and those who speak a language other than English, with the goal of expanding pilot participation and access to express lanes for those who are not currently FasTrak<sup>®</sup> account holders. Staff recommends allowing enrolled participants who are not currently FasTrak<sup>®</sup> account holders to use a smartphone app and a registered license plate in lieu of a FasTrak<sup>®</sup> account to help recruit and solicit feedback from historically marginalized communities for this pilot project. Participants who are FasTrak<sup>®</sup> account holders will be instructed to use both the smartphone app and their FasTrak Flex<sup>®</sup> toll tag while participating in the pilot.

**Pilot Approval:**

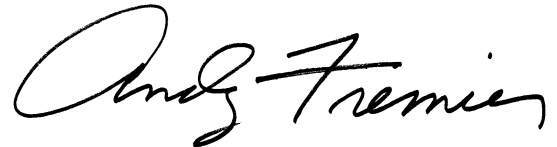
The BAIFA Toll Facility Ordinance, which specifies rules for using the lanes and penalties for violating these rules, requires all users to have a valid FasTrak<sup>®</sup> account. On June 22, 2022, BAIFA adopted an amendment to the Toll Facility Ordinance allowing BAIFA to carry out pilot projects to test alternative tolling and discount policies and new technologies for up to 36 months by board action. In accordance with the amended Toll Facility Ordinance, Section 4.2, staff seeks approval of this pilot to allow enrolled participants to use the I-680 Contra Costa Express Lanes with the app and a registered license plate in lieu of a FasTrak<sup>®</sup> account for a period not to exceed six months. Although the pilot is anticipated to last three months, six months will provide additional time in case further outreach or other minor adjustments to the pilot timeline are needed. The participants will use the lane while carpooling and thus will be eligible for toll free travel.

**Recommendations:**

Staff recommends that the Authority approve Phase I of the Express Carpool Check Smartphone App Pilot which would allow carpooling participants to use the I-680 Contra Costa Express Lanes with the Express Carpool Check Carpool Verification Smartphone App and a registered license plate in lieu of a FasTrak<sup>®</sup> account for a period not to exceed six months.

**Attachments:**

- Attachment A: PowerPoint

A handwritten signature in black ink that reads "Andrew B. Fremier". The signature is written in a cursive, flowing style.

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Andrew B. Fremier