

# Cal-ITP/CARB Market Sounding

Accounts for Multimodal Trips

## **Issued by:**

**Caltrans, on behalf of the California Integrated Travel Project (CalSTA, Caltrans, CCJPA, regional and local partners) and the California Air Resources Board**

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# Cover Letter

California is among the world's leading economies, home to some of the largest and most complex public transportation systems and new mobility companies in the United States. However, the disparate and disconnected nature of transportation services in California leads to high costs for transportation providers, creates a poor customer experience for residents and visitors alike, and limits the equity and climate benefits that may be achieved from the use of public transit and shared-mobility services. As public and private transportation providers across the state confront the dire financial consequences of the COVID-19 pandemic, there is an urgent need for more equitable and seamless mobility solutions to drive a robust recovery.

To address these issues and identify opportunities to improve the state's overall mobility system, the California Air Resources Board (CARB) and California Integrated Travel Project (Cal-ITP) issue this Market Sounding. Its intent is to gather input from companies and other stakeholders in the transportation marketplace with respect to their capabilities and interest in supporting integrated systems to facilitate, leverage, complement, and measure links among public transit, transportation network companies (TNCs), and other mobility services.

We invite you to respond to this Market Sounding document. Your valuable contributions will help shape the future direction of this project, find solutions to improve California's mobility ecosystem, and drive desired economic, environmental, and equity outcomes.

Your responses must be received no later than 5pm (PST) on March 5, 2021.

If you have any questions, please feel free to contact us at [calitp@dot.ca.gov](mailto:calitp@dot.ca.gov).

Kind regards,

Chad Edison, Chief Deputy Secretary for Rail and Transit, California State Transportation Agency (CalSTA)

Lori Pepper, Deputy Secretary, Innovative Mobility Solutions, CalSTA

Jeanie Ward-Waller, Deputy Director, Planning & Modal Programs, California Department of Transportation (Caltrans)

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## Abbreviations

Abbreviation	Definition
CARB	California Air Resources Board
Caltrans	California Department of Transportation
Cal-ITP	California Integrated Travel Project
CalSTA	California State Transportation Agency
CMS	Clean Miles Standard
GTFS	General Transit Feed Specification
GHG	Greenhouse Gas
ICT	Innovative Clean Transit
OD	Origin-Destination
TNC	Transportation Network Company

# 1 Overview

## 1.1 Introduction

The past decade has seen an explosion of growth in transportation technologies, business models, and service providers across California. From transportation network company (TNC) platforms to micromobility services such as e-bikes and e-scooters, travellers today are presented with an increasingly complex and dynamic mobility ecosystem. People in California are increasingly able to choose between different modes of transportation and service providers, and even combine these options into multimodal linked trips. With more mobility service providers in the marketplace and more people able to choose how they wish to get around, the relationship between public- and private-sector mobility service providers and their customers has become more dynamic.

A seamless, multimodal transportation system grounded in public transit is critical to meeting California's climate, equity, and economic goals. As this trend towards a more complex, multimodal ecosystem continues, the California Air Resources Board (CARB) and the California Integrated Travel Project (Cal-ITP) seek to identify opportunities to integrate services and improve accessibility within the overall mobility system. By focusing on California's transportation and environmental goals, the state can develop public policies to incentivize sustainable transportation choices for all, especially those living in underserved communities.

This Market Sounding solicits information on how California should play a role in ensuring that accounts can be created to deliver benefits such as multimodal trip planning, simplified access to discounts and subsidies, and seamless payment. Such accounts may also provide opportunities to measure multimodal trips taken on both public and private mobility services and to incentivize the use of transit and zero-emission options in a way that achieves the state's transportation, environmental, and equity objectives.

This Market Sounding seeks to gain valuable insights from private companies, public agencies, and other stakeholders about:

- Products and services in the marketplace, either currently or imminently available
- Important network and community considerations to inform development of statewide policies and programs
- Observations and insights about modern business practices and processes
- Lessons learned from similar projects and applications in other jurisdictions

CARB and Cal-ITP plan to use the results of this Market Sounding to inform the development of policies and programs to facilitate, incentivize, and/or measure multimodal trips and broader multimodal options that include public transit and zero-emission travel.

## 1.2 Objectives of the California Integrated Travel Project

Cal-ITP is a statewide effort to facilitate easy and accessible travel planning and payment for all. With hundreds of public transit providers in California, the state lacks a standardized system for collecting fares, verifying eligibility for transit discounts, or providing up-to-date vehicle arrival information to riders. This lack of shared standards creates barriers for riders, complicates travel across different systems, and increases expenses for individual agencies as well as for vendors seeking to work with the sector. Cal-ITP is supported by the California State Transportation Agency (CalSTA) and the California Department of Transportation (Caltrans) through a grant from the California Transit and Intercity Rail Capital Program to help California deliver on the following goals:

- Improving the customer experience
- Increasing transit ridership
- Lowering transportation costs for transit providers and people riding transit

- Reaching environmental targets

To achieve the state's vision and make progress towards these goals, Cal-ITP is pursuing three initiatives identified in a 2019 Market Sounding:

1. Assisting transit providers produce reliable information about available transportation options and their prices (e.g., routes, schedules, vehicle arrival time, planned service changes, real-time information, crowding, etc.)
2. Reducing friction in payment, promoting contactless fare collection, and introducing open loop payments
3. Providing a seamless process for transit riders to verify eligibility for discounts (e.g., youth, older adults, commuters receiving employee benefits, veterans, persons with disabilities and low-income riders)

Across these areas, Cal-ITP leverages existing global standards for passenger information and payments. Working with transit industry partners, Cal-ITP is developing tools, resources, and technical assistance to allow rail and transit agencies to quickly deploy contactless payment options. The adoption of global trip planning and payment standards by public transit providers in California creates the potential to leverage mobility accounts to achieve California's climate, equity, and economic goals.

### **1.3 Objectives of the California Air Resources Board (CARB)**

CARB is the California agency responsible for carrying out programs to combat climate change and protect the public from the harmful effects of air pollution. In particular, with the enactment of SB 1014 (2018) – the Clean Miles Standard and Incentive Program (CMS) – CARB and the California Public Utilities Commission will develop and implement new requirements for TNCs on innovative ways to curb greenhouse gas (GHG) emissions. As part of this regulation, CARB will establish a baseline for emissions of GHGs for vehicles used by TNCs and adopt annual GHG reduction targets. The program will be designed to decrease GHG emissions and increase zero-emission miles, promote pooling, active transport, and transit, be forward-looking on automated vehicles, align with other state policies, and maximize transportation access equity. The draft CMS regulation includes optional credits for TNC trips connected to transit via an integrated fare system.

In 2018, CARB adopted the Innovative Clean Transit (ICT) regulation which requires the state's transit providers to gradually transition to a 100% zero-emission bus fleet by 2040 and encourages them to provide innovative first/last-mile connectivity and full origin-destination (OD) zero-emission transportation alternatives for transit riders as a compliance pathway. The regulation aims to reduce tailpipe and GHG emissions through enhanced transit services, improved mobility and connectivity with zero-emission transportation modes, and reduced growth in light-duty vehicle miles traveled.

To broaden the impact of these programs and create more flexible pathways for compliance, both CMS and ICT regulations include pathways for compliance that provide alternative means for TNCs and transit providers to meet their respective targets under these regulations. These pathways are designed to promote other equity and environmentally oriented mobility outcomes, such as incentivizing investments that lead to more walking, biking, and other zero-emission mobility modes, as well as incentivizing first/last-mile connections to transit. To track outcomes and evaluate lessons learned from these first/last-mile credit options, CARB would benefit from accurate and reliable data on trips.

## **2 Market Sounding**

### **2.1 Market understanding**

Transportation technology innovation, emerging business models, and increasing multimodal options give people more choices than ever before for how to get around (other critical barriers notwithstanding). As the

transportation ecosystem experiences new shifts, some of the traditional boundaries between public and private transportation services may change. New public-private partnership models have emerged among public transit providers, TNCs, trip planning companies, and payment providers, facilitated in part by the increasing prominence of customer accounts. The relationship between the customer and their mobility service provider for a trip is increasingly enabled by the account between them.

By transitioning toward contactless, open loop fare collection and real-time trip planning standards, California's public transit providers will unlock new opportunities to use customer accounts for mobility. Account features associated with mobility services could lead to more convenient and efficient fare payment and trip planning and have the potential to deliver enormous benefits for customers, public transit providers, private-sector mobility providers, and policymakers.

The integration of mobility features, such as discounts and travel incentives, into accounts and across modes of transportation could increase the use of more sustainable modes of transportation. Accounts that are integrated across public and private mobility service providers could also facilitate shared public and private account services, and, among many other reasons, is of great interest to CARB and Cal-ITP for the data, measurement, and reporting capabilities this multimodal connected system could offer, including making determinations of linked trips for regulation credit calculation purposes.

Segments of the mobility accounts marketplace include the following:

#### **Public transit providers**

California has over 300 public transit providers, mostly comprised of small bus operators, and is organized into various regional entities. Even prior to the COVID-19 pandemic, public transit ridership had been decreasing for most providers, while operating costs increased. Looking ahead, public transit could be more attractive to new and returning customers through accounts that allow riders to plan, book, and pay for trips with public and/or private mobility providers.

#### **Private-sector mobility service providers**

The market for shared mobility is rapidly evolving as companies determine the mix of vehicles, service models, and partnerships that are of interest to customers. Micromobility companies with shared bike and scooter fleets, TNCs, carpool services, and carshare providers all feature a customer account needed to access the mobility service.

#### **Service information and trip planning**

Some customer-facing companies focus on aggregating accurate mobility information and providing multimodal trip planning capabilities. These companies rely on data created and provided by public and private mobility service providers, sometimes through open application program interfaces or negotiated partnerships. In some cases, customers may have an account associated with a payment option that can be used to book and pay for a trip, while in others, customers receive information and trip planning, but must book and pay for the trip through an account with the mobility service provider.

#### **Payments for mobility services**

The ability to pay for a trip on a public- or private-sector mobility service involves either cash or digital payments. Retail payment service providers such as Square and PayPal, payment networks like Visa and Mastercard, and public transit-focused payment companies like Cubic, Bytemark, or Masabi offer another source for understanding accounts.

#### **Payments for road pricing**

Vehicle tolling operations such as FasTrak and E-ZPass are another important element of mobility payments and customer accounts. Existing and future vehicle tolling providers may play a key role in future state incentives to encourage clean transportation through pricing.

#### **Community Stakeholders**

Understanding the quality and availability of transportation services across communities in California is an integral part of addressing mobility needs. It is critical that communities are meaningfully engaged, and that

feedback is incorporated into transportation planning processes, particularly in underserved communities. Therefore, in addition to these segments of the marketplace, this effort will include important mobility stakeholders who are currently working with communities, including municipalities, advocates, research institutions, and others.

## 2.2 Framework for potential solutions

There is a range of possible scenarios to realize the implementation of an integrated account system to measure first/last-mile linked trips and the use of full OD zero-emission alternatives, and to provide associated equitable multimodal services. Potential solutions for facilitating and measuring linked trips could be developed as:

- (a) A set of data specifications and a reporting system used solely for a determination of linked trips on the back end
- (b) A set of data specifications and a reporting system used for a broader set of transportation planning purposes
- (c) A statewide “mobility account” through which users access multimodal options, including transit

Each option progressively involves a larger role for the State of California. All three solutions could be built and managed directly through a state governmental entity with participation from a third-party service provider.

For option (a), California would determine the data specifications and reporting standards by which transportation providers would provide information to CARB and/or other governmental regulatory agencies to determine that a linked trip occurred. To the greatest extent possible, the data would be anonymized and fit for that purpose only.

For option (b), California would similarly determine the data specifications and reporting standards for mobility providers but would use these for broader transportation planning purposes beyond the determination of linked trips. Under this solution, transportation providers would report more comprehensive trip data to CARB and/or other governmental regulatory agencies, such that the state could leverage these new data streams to craft and refine new clean transportation programs and incentives.

For option (c), California would create customer-facing “mobility accounts” which would either link with or be accepted by and integrated with various transportation providers. This would require that transit providers, TNCs, and other mobility companies accept or link with this new account so that an integrated mobility account system is developed. This approach may need to be supported by regulation requiring mobility service providers to accept and integrate with the solution in order to achieve scale.

## 2.3 Considerations

We seek approaches that align with the initial prerequisites identified in Cal-ITP’s first Marking Sounding:

- Leveraging (global) standards
- Improving transportation equity
- Promoting a statewide integrated system
- Demonstrating scalability
- Serving all customer groups and transit providers, large and small

Key components of possible solutions that would facilitate and measure first/last-mile linked transit trips across California include the following:

**Integrated payments:** Cal-ITP is establishing a collection of statewide leveraged procurement agreements to allow public transit providers to secure the components necessary to accept contactless payments from bank cards (credit, debit, and prepaid cards) and smart devices (equipped with mobile wallets such as Google Pay, Apple Pay and Samsung Pay). A significant increase in contactless payments for California

transit agencies would enable more readily available transit trip information to be measured and associated with multimodal trips.

**Trip planning information:** Cal-ITP is helping transit providers remove the guesswork for riders wondering when the next bus or train will arrive or if they will make their connection by using General Transit Feed Specification (GTFS)—the global standard for publishing transit information. Caltrans developed California Minimum GTFS Guidelines and is working to ensure statewide GTFS Static and GTFS Realtime coverage by the end of 2021. Widespread acceptance of GTFS Realtime statewide would vastly improve trip planning services, help to enable the inclusion of some shared-mobility modes in trip planners and further encourage multimodal travel. Standardized multimodal trip data is not only useful for customers, but also for operations planning, infrastructure investment, and compliance reporting.

**Discounts and incentives:** The potential to link public and private mobility services in customer accounts may allow people to receive discounts and incentives across mobility options. Such functionality could enable experimentation with the gamification of travel and creative credit programs to encourage more sustainable transportation choices. Cal-ITP is working with state agency partners to streamline the process for riders to instantly qualify for and receive transit discounts across California providers without having to prove eligibility to each transit provider. Mobility accounts could allow older adults, youth, lower-income riders, veterans, people with disabilities, and others to access free or reduced-price trips across all types of mobility providers without the hassle of additional paperwork or having to secure a bespoke transit fare card.

**Equitable access:** While most California households have access to some form of contactless payment (e.g., credit, debit or prepaid bank cards and their digital equivalents), approximately 5% of households do not. For these households, and for those without access to a smartphone, it can be difficult to derive the benefits that come with owning accounts for essential services, such as banking or transportation. It is critical that mobility accounts address this inequity and offer access to the same multimodal transportation benefits available to all.

**Customer data privacy protections:** One of the most complex elements of developing feasible and scalable solutions for mobility accounts involves the protection of personally identifiable information associated with trip information, and compliance with the California Consumer Privacy Act and other applicable privacy regulations today and in the future. Customer privacy must be protected, but there may be specific contexts and methods for data sharing that minimize risks. Innovative data privacy and cybersecurity approaches are needed to protect privacy and build trust with customers, public transit providers, and mobility service providers.

## 3 Procedure and timeline

### 3.1 Important dates and instructions

CARB and Cal-ITP will host a virtual Market Sounding Webinar/Q&A event on **Tuesday, February 16, 2021, at 10am PST**, which can be accessed on the Cal-ITP page at [Caltrans](#).

Questions regarding the Market Sounding can be sent to [calitp@dot.ca.gov](mailto:calitp@dot.ca.gov). We will collect questions and publish answers to them periodically on the Cal-ITP page at [Caltrans](#).

We ask interested parties to submit their Market Sounding responses in the response format outlined below in Appendix A by **Friday, March 5, 2021 at 5pm PST**. Email your response to [calitp@dot.ca.gov](mailto:calitp@dot.ca.gov).

It is the intention of CARB and Cal-ITP, at our sole discretion, to invite selected parties to discuss their submissions in more detail, if interested. In addition, CARB and Cal-ITP reserve the right to request further clarifications on submissions.

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Activity	Date
Market Sounding published	Friday, February 12, 2021
Webinar/Q&A event	Tuesday, February 16, 2021, 10am PST
Submissions due	Friday, March 5, 2021, 5pm PST

## 3.2 Market Sounding terms and conditions

### 3.2.1 Participation

Participation by parties in this Market Sounding process is strictly voluntary and is neither a prerequisite nor a prequalification requirement for participation in any future opportunities related to the services described herein. Information provided by any participant as part of this Market Sounding shall not be construed in any way as part of a competitive solicitation.

### 3.2.2 Rights of CARB and Caltrans

This Market Sounding is not an agreement to solicit or purchase goods or services. CARB and Caltrans are not bound to enter into a contract with any participant that submits a response to this Market Sounding. CARB and Caltrans shall be under no obligation to receive further information, whether written or oral, from any participant or provide any feedback.

CARB and Cal-ITP, at our sole discretion, will decide if procurement is warranted. In the event that CARB or Cal-ITP decides to proceed with procurement, it will be conducted through an open and public competitive procurement process in accordance with State of California procurement policies and procedures.

### 3.2.3 Submissions property of CARB and Cal-ITP Steering Committee

CARB and Cal-ITP will not return the submission or accompanying documentation submitted by the participant.

### 3.2.4 Participants bear their own costs

Neither CARB nor Caltrans nor Cal-ITP will be liable for any expenses incurred, including the expenses associated with the cost of preparing responses to this Market Sounding. Participants will bear their own costs associated with or incurred through this Market Sounding process, including any costs arising out of or incurred in (a) the preparation and issuance of this Market Sounding, (b) the preparation and making of a submission, or (c) any other activities related to this Market Sounding process.

### 3.2.5 Disclosure of information

The participants hereby agree that information provided in its submission may be disclosed by CARB and Caltrans where required by law, order of a court, or tribunal. CARB and Caltrans intend to publicize a relevant summary of the results of the Market Sounding. The participants are advised that CARB and Caltrans may be required to disclose all, part, or parts of a participant's submission pursuant to the California Public Records Act.

### **3.2.6 Confidentiality**

CARB and Caltrans may share summarized results of this Market Sounding with state, joint powers, and federal funding partners and may use the results to create a future Request for Proposals (RFP) to procure software, hardware, and/or services. We reserve the right to make public summarized versions of any information provided in response to this Market Sounding without identifying the respondent(s) involved.

# Appendix A: Response format

## A-1 Instructions

Please maintain question numbering as listed in this document, and limit your overall response to twenty (20) pages, excluding A-2 Background Information (no less than 11-point font). Please note that you are not required to answer all questions, and we ask you to give extended answers to those questions where you believe your expertise is most relevant.

CARB and Caltrans may use the information collected through this Market Sounding for the purposes of refining hypotheses and determining potential next steps. In making its submission, the respondent agrees to the use of the information provided as contemplated herein.

Respondents shall not provide a response that contains any confidential or proprietary information. Where responses are marked “Confidential” or “Proprietary” or include any confidentiality or proprietary notices, such markings or notices shall be disregarded and shall be of no force and effect. CARB and Caltrans shall not be restricted in any manner in the use, reproduction, or disclosure, in whole or part, of any responses.

## A-2 Background information

Provide the following details of your organization, limiting your answers to maximum one page and no less than 11-point font:

- Organization name or registered legal business name
- Brief overview of your organization
- Legal structure of your organization (e.g., corporation, partnership, joint venture, parent, subsidiary, affiliate, non-profit, academic, public agency, or other)
- Place and date of incorporation (if applicable)
- The contact person who is primarily responsible for this submission:
  - Name
  - Title
  - Email address
  - Telephone number

## A-3 Solutions

### PART 1 – CARB and Cal-ITP objective to measure linked trips

1. What solution(s) do you propose to meet the above-mentioned objective of measuring multimodal first/last-mile linked trips?
2. What solution(s) do you propose to meet the above-mentioned objective of measuring the use of full OD zero-emission mobility alternatives?
3. How would your organization’s solution(s) contribute to those objectives?
4. What conditions are needed for your organization’s solution(s) to be available and effective?
5. Do you see options for cash-based transit rides and flat fare trips where digital proof of the transit trip is not readily available? If so, what are they? If not, why?
6. How could equitable access to mobility options be advanced and measured?
7. How could customer accounts and eligibility verification be leveraged?

### PART 2 – Response to desired capabilities and solutions framework

8. Are there additional frameworks for solutions not identified by CARB and Cal-ITP in Section 2.2 that you would also recommend considering as part of this initiative?
9. What do you see as the primary obstacles to deploying your organization's solution, and what are some potential mitigants to address them? Provide a breakdown by category such as regulatory, technical, business interests, etc.
10. Which of the key components outlined in Section 2.3 above does your organization's solution(s) address and not address?
11. Does your organization's solution(s) provide any additional capabilities that are relevant to this context but not identified by CARB and Cal-ITP?
12. Do you recommend adding or removing key components from the list provided? If so, how would you prioritize these capabilities to best achieve CARB and Cal-ITP's stated objectives?

### **PART 3 – Products, services, and commercialization**

13. How are your organization's current or anticipated future products made available to transit and private mobility providers?
14. Does your organization offer accounts to your customers to manage payments, customer services, and/or other features?
15. How might your organization use data on linked multimodal trips to create value for your organization, customers, or society?
16. What barriers do you see in scaling your solution statewide, and what could California do to help you overcome those barriers?
17. If your organization is a shared-mobility provider, do your vehicles have open data feeds?

### **PART 4 – Other risks and challenges**

18. How does your organization protect data privacy and cybersecurity of user trip data?
19. How would your organization ensure that your proposed solution(s) promote positive outcomes regarding equity and the accessibility and affordability of transit and mobility?

### **PART 5 - Innovations and best practices**

20. Please describe any recent innovations you think California should be considering in realizing this system.
21. What are some of the best practices in developing a system of linked mobility accounts? In particular, we are interested in understanding the following:
  - a. Best practices in developing flexible systems
  - b. Strategies for integrating new technology with or alongside legacy systems
  - c. The evolving roles and competencies of the public and private sectors
  - d. Development of new business/revenue models
  - e. Development of new governance frameworks

### **PART 6 – Future procurement**

22. What are critical positive and negative factors that would influence your organization's decision to partake in a future competitive procurement for mobility account services?

### **PART 7 – Other comments**

23. If your organization is a municipal government, advocacy group, research institution, or another community stakeholder group that does not directly provide mobility services or products, we are interested in further understanding the following (to the extent not already addressed in your other responses):
- a. How you view your current and potential future role(s) in the mobility ecosystem
  - b. Whether potential partnerships exist between your organization and private-sector entities to deliver the desired capabilities and outcomes described in this Market Sounding
  - c. Any previous or current research or programs closely connected to the topic of multimodal transportation accounts that your organization is involved in
24. Please provide any other comments or feedback, positive or negative, you think may be helpful to CARB and Cal-ITP.