**Cal-ITP/CARB Market Sounding**

Integrated Systems for Multimodal Transportation

**Issued by:**

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

**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 disaggregation of transportation services in California leads to high costs for transportation providers and a poor customer experience for residents and visitors alike. Furthermore, disaggregated mobility services limit the climate benefits that may be achieved from the use of 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 seamless mobility solutions to drive a robust recovery.

To address these issues and identify opportunities to improve the 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 in the transportation marketplace with respect to their capabilities and interest in supporting integrated systems to both facilitate and measure connections among public transit, transportation network companies (TNCs, like Uber and Lyft), 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 February 26, 2021.

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

Kind regards,

Chad Edison, Deputy Secretary for Transportation, California State Transportation Agency (CalSTA)

Lori Pepper, Deputy Secretary, Innovative Mobility Solutions, CalSTA

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# Overview

## Introduction

The past decade has seen an explosion of growth in shared-mobility vehicles, business models, and services across California. From transportation network company (TNC) platforms (like Uber and Lyft) to micromobility services (including bike and scooter share companies) to microtransit (EXAMPLE), customers today face an increasingly complex and curated mobility ecosystem. As the future of mobility rapidly evolves, the relationship between service providers and customers becomes paramount for ensuring equitable and affordable access to mobility.

A seamless, multimodal transportation system grounded in public transit is critical to meeting California’s climate, equity, and economic goals. This Market Sounding is an opportunity for the State of California to identify solutions, approaches, and techniques available for a statewide, integrated, multimodal system. We seek to learn from companies and other stakeholders in the broader mobility ecosystem about:

* Products and services in the marketplace, either currently or imminently available
* Important network and stakeholder considerations
* Lessons learned from similar projects and applications in other jurisdictions

The collaboration between the California Air Resources Board (CARB) and the California Integrated Travel Project (Cal-ITP) ensures the state’s transportation and environmental goals are fully aligned and that public policy and payment systems are developed to incentivize more sustainable transportation choices. This Market Sounding will provide valuable insights into opportunities for California to incentivize the use of transit and zero-emission modes in a way that achieves the state's transportation, environmental, and equity objectives.

Although the primary purpose of this collaboration is specifically around the measurement of first/last-mile trips linked to mass transit, we are excited to explore how an integrated multimodal fare payment system might deliver other benefits to riders, such as improved trip planning, simplified discount eligibility verification, streamlined customer service, and new business models around mobility services.

## Objectives of the California Integrated Travel Project

The California Integrated Travel Project (Cal-ITP) is a statewide effort to facilitate easy and accessible travel planning and payments. In August 2019, Cal-ITP published its first Market Sounding report. This document highlighted the primary barriers to integrated trip planning and fare payment, then identified solutions to align transit providers with existing global standards for mobility information and payment. Specifically, it called for General Transit Feed Specification Realtime (GTFS-RT) for trip planning information and the Europay, Mastercard, and Visa (EMV) standard for fare payment.

After evaluating the economic and financial benefits of statewide initiatives to organize transit providers around these same standards, Cal-ITP is moving forward with efforts to help agencies comply with GTFS guidelines and deploy new fare payment validators capable of processing contactless payments on the EMV standard. In connection with the standardization of fare payment, Cal-ITP is also engaged in developing an intergovernmental technological solution to simplify the eligibility verification process for older adults, people with disabilities, veterans, students, and other groups receiving transit discounts.

The adoption of global payment standards by California transit providers will allow statewide interoperability among transit systems without the need to deploy a statewide payment system and helps ensure the same convenient payment experience on transit as travelers have come to expect from retail transactions. However, for the unbanked population and the even larger underbanked population in California, both of which are disproportionately represented in the lower-income communities most dependent on transit services, Cal-ITP is working to identify additional contactless payment solutions.

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

CARB is the state agency responsible for carrying out programs to combat climate change and protect the public from the harmful effects of air pollution.

In particular, CARB is in charge of developing and enforcing the rules of the Clean Miles Standard (CMS) and the Innovative Clean Transit (ICT) regulations in accordance with the statutes passed by the State Legislature. The CMS seeks to regulate the greenhouse gas emissions (GHG) emitted by TNCs by establishing a baseline allowance for GHG emissions and setting gradual targets for reductions that TNCs will be required to meet. The ICT governs the state’s transit providers, requiring them to gradually transition to a 100% zero-emission bus (ZEB) fleet by 2040. To broaden the impact of these programs and create more flexible paths for compliance, both regulations include credit programs that provide alternative ways for TNCs and transit providers to meet their respective targets under the legislation. The credit programs are designed to promote other environmentally oriented mobility outcomes not directly targeted by the legislation, 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 mass transit.

In order to effectively develop and implement credit schemes for the CMS and ICT based on first/last-mile connections, CARB must have information on such trips, rather than relying on inaccurate estimation techniques.

## 1.4 Assumptions

This Market Sounding will inform the approach of CARB and Cal-ITP for facilitating and measuring first/last-mile connections to public transportation with TNCs and other shared-mobility providers. We are seeking approaches that align with the initial prerequisites identified in Cal-ITP’s first Marking Sounding, which include the following:

* Leveraging global standards
* Improving transportation equity and accessibility
* Promoting a statewide integrated system
* Demonstrating scalability
* Serving all customer groups and transit providers, both large and small:
  + Given the scale of the current challenges facing transit, especially the small and rural transit providers offering essential services to communities across the state, solutions must not require significant capital outlays , complex procurements, or burdensome reporting requirements for providers.

Through initial research and analysis, Cal-ITP and CARB have developed early assumptions and hypotheses about the components needed for facilitating and measuring first/last-mile linked transit trips across the State of California. This Market Sounding process is an important opportunity to test the validity of these ideas with industry stakeholders, and the results will be used to refine and adjust our approach moving forward. The key assumptions and capabilities include the following:

**Accurate information**

* The CMS and ICT programs require transit agencies, zero-emission mobility providers, and TNCs to report accurate data so that applicable credits can be determined reliably. The CMS prescribes that TNCs are eligible for credits if they can report on individual journeys that link trips to transit, including a TNC ride, while the ICT requires that transit agencies wishing to use the zero-emission mobility option track and record the passenger miles traveled (PMT) on zero-emission mobility services operated by the transit provider or its contractors.
* The “account level” is where the necessary data would exist to make determinations of linked trips and PMT on the back end without active engagement and reporting from riders and transit providers.

**Integrated payments**

* Widespread transition by transit providers onto the global EMV standard will unlock new opportunities to introduce account-based features to transit riders.
* Cal-ITP is establishing a procurement mechanism for transit providers to secure the components necessary to enable EMV contactless payment acceptance through state-leveraged procurement agreements.
* The ability to seamlessly pay for transit, TNC rides, and other mobility services through the same payment method—which could include either contactless open payments using a bank card or smartphone or closed-loop payments through an EMV card or mobile app—is of interest to CARB and Cal-ITP for the benefits it can deliver California’s transit providers and riders. The fare payment method would ideally be integrated through linked accounts, capturing all necessary rider information to automatically determine and measure connected trips on the back end. The determination of connected trips could be used by regulators for the calculation of credits or other enforcement purposes, while allowing service providers to offer special discounts and incentives to promote such trips.

**Trip planning information**

* The transition of all agencies onto the GTFS-RT standard will enable improved trip planning services across modes, further encouraging multimodal travel. At the same time, similar (proprietary) protocols exist that enable consumer apps to show available TNC rides, while data standards like GTFS and MDS enable the inclusion of some shared-mobility modes in trip planners.

**Eligibility verification**

* The potential to link public transit accounts with both TNC and mobility service provider accounts may also streamline the process of verifying eligibility for transit discounts.

**Customer service**

* A connected account system may create new opportunities and business models for the provision of customer service across mobility modes. Such integration could pave the way for shared services and economies of scale that could be leveraged by transit agencies, TNCs, and mobility providers alike.

**Customer data privacy protections**

* One of the most challenging elements of developing feasible and scalable solutions for measuring first/last-mile connected trips involves the protection of personally identifiable information (PII) associated with trip information.
* Cal-ITP and CARB are seeking innovative approaches from private-sector companies well versed in the complexities of data privacy and cybersecurity to implement frameworks and solutions that comply with all applicable privacy regulations and build trust with riders and transit and mobility providers.

# Market Sounding

## Market understanding

Cal-ITP and CARB seek feedback and input from a diverse array of companies and stakeholders in the mobility sector. Some of the groups of companies mentioned here already offer customer accounts, while others do not but could foreseeably play a role. Cal-ITP seeks respondents from any and all of the following groups, in addition to gathering input from municipalities, community groups, advocates, research institutions, and other key stakeholder cohorts.

**Public transit in California**

California has over 300 public transit providers, mostly comprised of small bus operators and 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. Transit providers could make public transit more attractive to new and returning riders through by managing multimodal accounts for their customers and setting standards for customers to plan, book, and pay for trips on private providers.

**Private-sector mobility providers**

The market for shared mobility is rapidly evolving and includes companies of expanding capabilities and specializations. For instance, TNCs such as Uber, Lyft, and Via focus on providing mobility services, primarily ride hailing as well as other mobility options through subsidiary companies and secondary offerings. Micromobility providers have also emerged, offering shared bike and scooter fleets, while companies such as Zipcar or Car2Go provide flexible car rental options.

**Mobility information and trip planning companies**

Some customer-facing companies focus on real-time mobility information and trip planning capabilities by providing GPS, payment acceptance hardware, and software services. Major technology companies such as Google, Apple, and Facebook all offer products focused on convenient mobility. Travel companies such as Airbnb, Expedia, and Booking.com also have an important stake in mobility outcomes and services.

**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 mobility-focused payment companies like Bytemark or Masabi offer another method for understanding multimodal linked trips.

**Payments for road pricing**

Although not privately owned, there are also vehicle tolling operations such as FasTrak and E-ZPass that must be taken into account as an important element of mobility payment. Existing and future vehicle tolling providers may play a key role in future state incentives to encourage clean transportation.

## Framework for potential solutions

To deliver the desired capabilities described, Cal-ITP and CARB envision a range of possible scenarios to realize the implementation of a system to measure first/last-mile linked trips and provide associated 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, or (c) a government “mobility account” through which users access multimodal options, including transit.

For option (a), the state 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), the state would similarly determine the data specifications and reporting standards for mobility providers but 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), the state would create customer-facing “mobility accounts,” which would be accepted by and integrated with various transportation providers. This would require that transit providers, TNCs, and other mobility companies accept the new central account such that an integrated mobility account is developed. This approach may need to be supported by regulation requiring TNCs and transportation providers to accept and integrate with the new solution in order to achieve full scalability.

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

## Procedure and timeline

Cal-ITP and CARB will host a virtual Market Sounding Webinar/Q&A event on February 9, 2021, at 10:30am PST. Parties who want to join the event are requested to register before February 5 and can do so by clicking here. Questions regarding the Market Sounding can be sent to [CALITPMarketSounding@dot.ca.gov](mailto:CALITPMarketSounding@dot.ca.gov) no later than February 18 at 5pm PST. We will collect all written questions received and publish answers to them. Every question and answer will be distributed directly to all respondents via email and will be posted on the [Caltrans website](https://dot.ca.gov/cal-itp-market-sounding).

We ask interested parties to submit their answers in a predetermined response format (Appendix A) before 5pm PST on Friday, February 26, 2021. Email your response to [CALITPMarketSounding@dot.ca.gov](mailto:CALITPMarketSounding@dot.ca.gov).

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

## Important dates

|  |  |
| --- | --- |
| **Activity** | **Date** |
| Market Sounding published | Friday, January 29, 2021 |
| Event registration closes | Friday, February 5, 2021 |
| Webinar/Q&A event | Tuesday, February 9, 2021 |
| Deadline for questions | Friday, February 12, 2021 |
| Submission of information | Friday, February 26, 2021 |

## Market Sounding terms and conditions

## 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.

## Rights of CARB and Caltrans

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

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

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

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

## Participants shall bear their own costs

Neither Caltrans nor Cal-ITP nor CARB 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.

## Disclosure of information

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

## Confidentiality

Caltrans and CARB 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

1. Maintain question numbering and limit your overall response to twenty (20) pages (no less than 11-point font), excluding A-2 Background Information. 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.

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

3. Respondents shall not provide any responses that contain 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. Caltrans and CARB 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:

**Background Information**

* Registered legal business name
* Brief overview of the organization
* Legal structure of the organization (e.g., incorporated, partnership, joint venture, parent, subsidiary, affiliate, or other)
* Place and date of incorporation
* 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 public transportation linked trips**

1. What solution(s) do you propose to meet the above-mentioned objective of measuring multimodal first/last-mile linked trips?
2. How would your organization’s solution(s) contribute to those objectives?
3. What conditions are needed for your organization’s solution(s) to be available and effective?
4. Do you see options for cash-based transit rides and flat fare trips where digital proof of the transit trip is not readily available?

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

1. Which of the desired capabilities outlined in Section 1.4 above does your organization’s solution(s) address and not address?
2. Does your organization’s solution(s) provide any additional capabilities that are relevant to this context but not identified by Cal-ITP and CARB?
3. Do you recommend adding or removing capabilities from the list provided? If so, how would you prioritize these capabilities to best achieve Cal-ITP and CARB’s stated objectives?
4. Are there additional frameworks for solutions not identified by Cal-ITP and CARB that you would also recommend considering as part of this initiative?
5. What do you see as the primary obstacles to deploying your organization’s solution, and what are some potential mitigants to address those obstacles?

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

1. How are your organization’s current or anticipated future products made available to transit and private mobility providers?
2. Does your organization offer accounts to your customers to manage payments, customer services, and/or other features?
3. How might your organization utilize data on linked multimodal trips to create value for your organization, customers, or society?
4. What barriers do you see in scaling your solution statewide, and what can the state do to help you overcome those barriers?
5. If your organization is a shared-mobility provider, do your vehicles have open data feeds?

**PART 4 – Other risks and challenges**

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

**PART 5 - Innovations and best practices**

1. Please describe any recent innovations you think California should be considering in realizing this system.
2. What are some of the best practices in developing a system of linked mobility accounts? In particular, we are interested in understanding best practices in developing flexible, adaptable systems and integrating legacy systems, the roles of the public and private sectors, business/revenue models, and governance models.

**PART 6 – Future procurement**

1. What are the key positive and negative factors that would influence your organization’s decision to partake in a competitive procurement?

**PART 7 – Other comments**

1. Please provide any other comments or feedback you think maybe helpful to CARB and Cal-ITP.