



Piloting open payments on passenger rail

Focusing on the customer—and workforce—experience



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Getting started: Tapping State partners

CCJPA is the fiscal sponsor of Caltrans' California Integrated Travel Project (Cal-ITP), a statewide initiative designed to support public transit with:

- *A common payment system:* debit/credit cards—just like passengers pay for a cup of coffee.
- *Real-time transit data standard:* live train and bus locations on standard mobile phone journey-planning apps, such as Apple Maps and Google Maps.
- *Seamless verification of eligibility for transit discounts,* such as older adults, veterans, students.



calitp.org

hello@calitp.org



Joining the open-loop fare payment ecosystem—with State of California contracts



Payment acceptance devices ('POS' hardware)

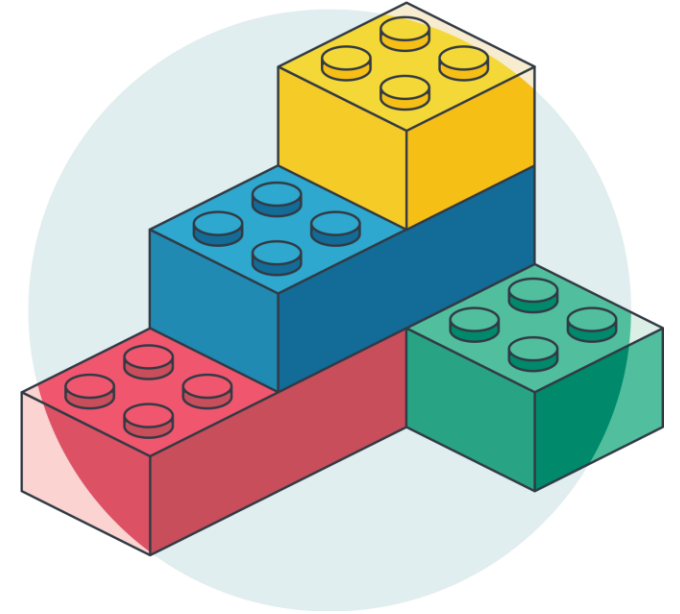
- 4 payment readers per double-decker train car (CCJPA doesn't own its stations).

Transit processor (fare calculation software)

- Uses reader's location & train number to assess Tap On / Tap Off distance-based fare, pay-as-you-go fare caps (5th ride free), penalty if no Tap Off.

Electronic payment (EPAY) acceptance processor (acquirer)

- Moves fare money from each rider's account to CCJPA's merchant account.



California's competitively awarded contracts are available to all public transportation providers across the United States:

camobilitymarketplace.org/contracts



Piloting Tap2Ride—1st on passenger rail line in U.S.

- **Registration** allows CCJPA to **control** the number of Tap2Riders, **connect** with them for feedback, and **generate** a *federally mandated manifest list*.
- Pilot allows learning the necessary internal processes to **operate a revenue collection system**—previously, Amtrak was solely in charge of ticketing / fare collection—in a low-risk environment (limited group of users).
- **Minimal disruption** to Amtrak, both corporate and conductors—**done in parallel to existing processes** on trains.
- **Learn behaviors** (of passengers, conductors, devices!), **iteratively massaging comms** and **tuning processes**.
- **Study travel patterns** and **pay-as-you-go fare pricing**.



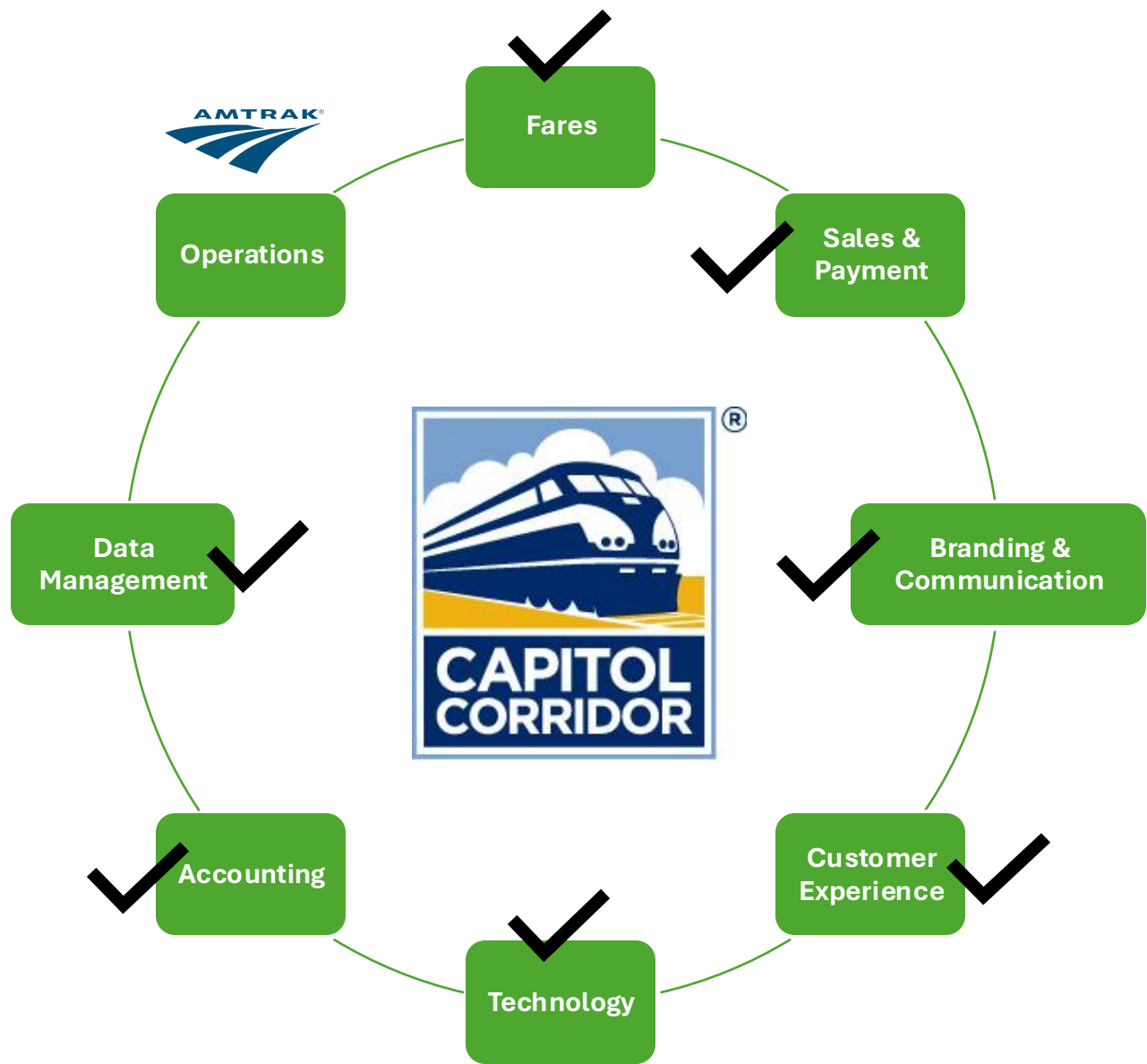
CA Secretary of Transportation Toms Omishakin taps to ride aboard Capitol Corridor.



Growing from a pilot → Organizational change



• Today's Duties (Amtrak ticketing)



• Tomorrow's Tap2Ride Duties for CCJPA

The Customer Experience

- Initially, ~330 pilot participants were recruited via:
 - on-train messaging** (with a QR code + registration URL next to each payment reader)
 - on-platform digital signage**
 - social media, press release** on news blog, **newsletter**
- Mix of commuters + weekend riders**, all with **contactless debit or credit cards** (just Visa + Mastercard at first; Discover + American Express just completed L3 certification).
- Easy **one-time registration** with name + email address (for manifest list + ease of contacting if they forget to Tap Off).
- An emailed **Welcome Letter**, addressing FAQs + acting as 'proof of registration' in event of reader or card failure.
- Each reader has **universal symbol for tap to pay**, and pilot participants **Tap On** when boarding, **Tap Off** when their station name is visible on on reader screen.



The Customer Experience

- **Want to see our Tap2Ride fares + see how to earn free rides with fare capping?** Just visit our Tap2Ride page.
- **Need a receipt?** Transit processor Littlepay provides a website for tracking fare payments.
- **Need a fare adjustment—**because you **forget to Tap Off?** or a **train goes out of service?** Our website has a form for requesting—and we monitor and proactively reach out to adjust down penalty fares during the Pilot.

Trips Per 30 Days

One Way

Round Trip

5

Origin

Davis


Destination


Oakland Jack London

Total Fare \$100.00

Savings \$35.00

Tap2Ride pilot program fares are \$2 off the full single ride fares between the same origin and destination stations. With “fare capping”, Tap2Ride participants also receive one (1) free ride after completing four (4) one-way trips between the same origin and destination stations for any given 30 day period.





Customer transactions inquiry page

MY TRANSACTIONS

17 Jan 2023 17:29:58

441617*****5380

\$20.00

Fairfield-Vacaville

17 Jan 2023 17:29:58

Outbound

NONE

\$20.00

NONE

\$20.00

Incomplete Max fare applied

17 Jan 2023 17:22:08

441617*****5380

\$10.50

Berkeley

17 Jan 2023 16:24:33

Outbound

NONE

\$10.50

NONE

\$10.50

Suisun-Fairfield

17 Jan 2023 17:22:08

Refunds

TRANSACTION DATE

26/01/2023

SETTLEMENT DATE

26 Jan 2023 13:14:06

REFUND AMOUNT

-\$10.50

REFUND STATUS

SETTLED

17 Jan 2023 06:15:44

441617*****5380

\$0.00

CCJPA

17 Jan 2023 05:34:30

Outbound

NONE

\$0.00

NONE

\$0.00

Martinez

17 Jan 2023 06:15:44

Displaying 1 to 3 of 3 results

Print Statement



Experience



- During their routine Seat Check, **Amtrak conductors verify that Pilot Participants have Tapped On** (and not Off again) with a **fare inspection app**.

- Currently must use a Wi-Fi-enabled **Android phone** to verify Tap2Ride transactions via phone's NFC (near-field communication) reader.

- **Conductors also carry an e-ticketing mobile device (EMD)—an iPhone**—to scan traditional Amtrak tickets.

- **Apple** just began allowing developers to access the **NFC reader for an iOS app**, so we're working on one with our technical & payment partners + Amtrak.



Built on Wi-Fi on Train System vs. At Stations

--NERD ALERT--

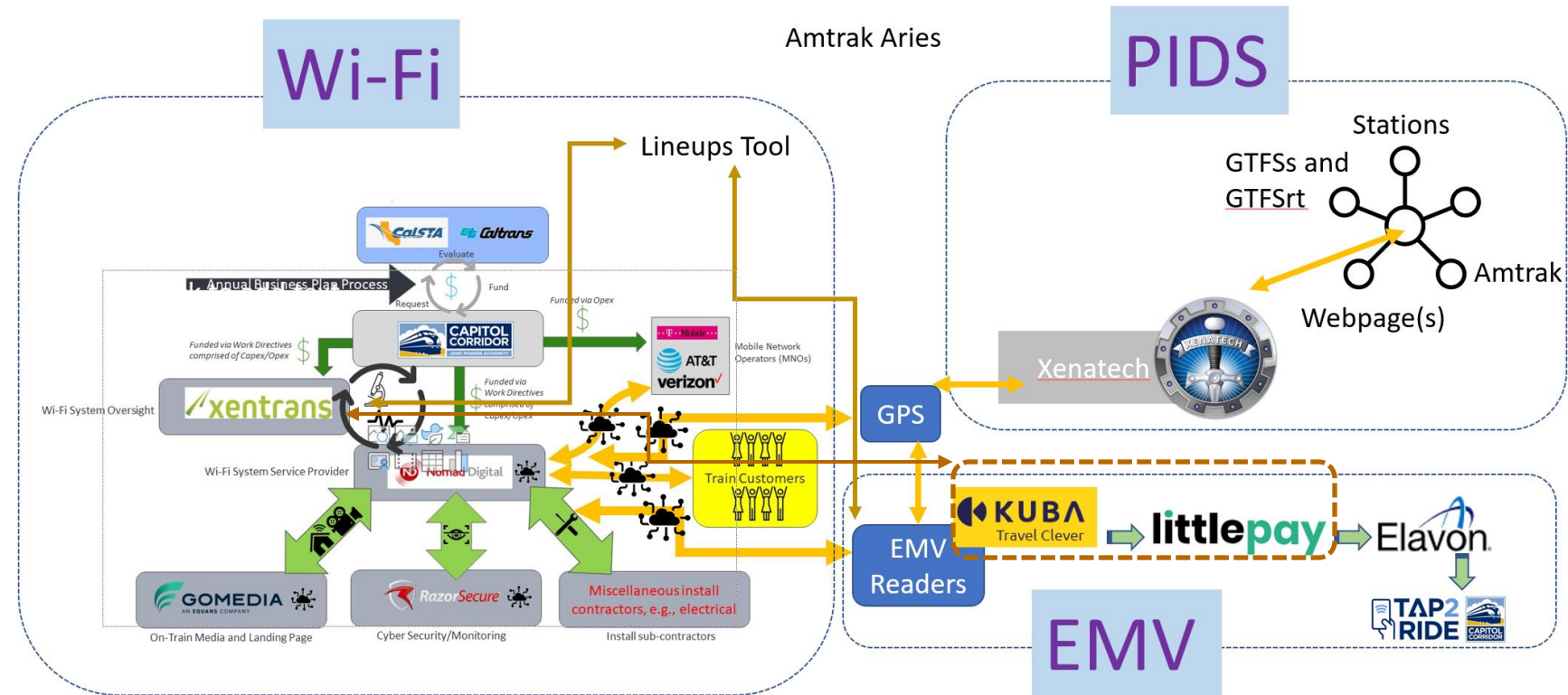
- CCJPA **does not own stations.**

- **18x Civil Works Projects – NO THANKS;** Recipe for project delays and delivery nightmare (months and years of project delivery).

- **Wi-Fi System** – A robust oversight & maintenance system watching a connected on-train network **on-train IP-based hardware** (and public Wi-Fi).

- Tap In data, then conductor inspects data of tapping in, then passenger taps out, which calculates the fare for the transit payment processor

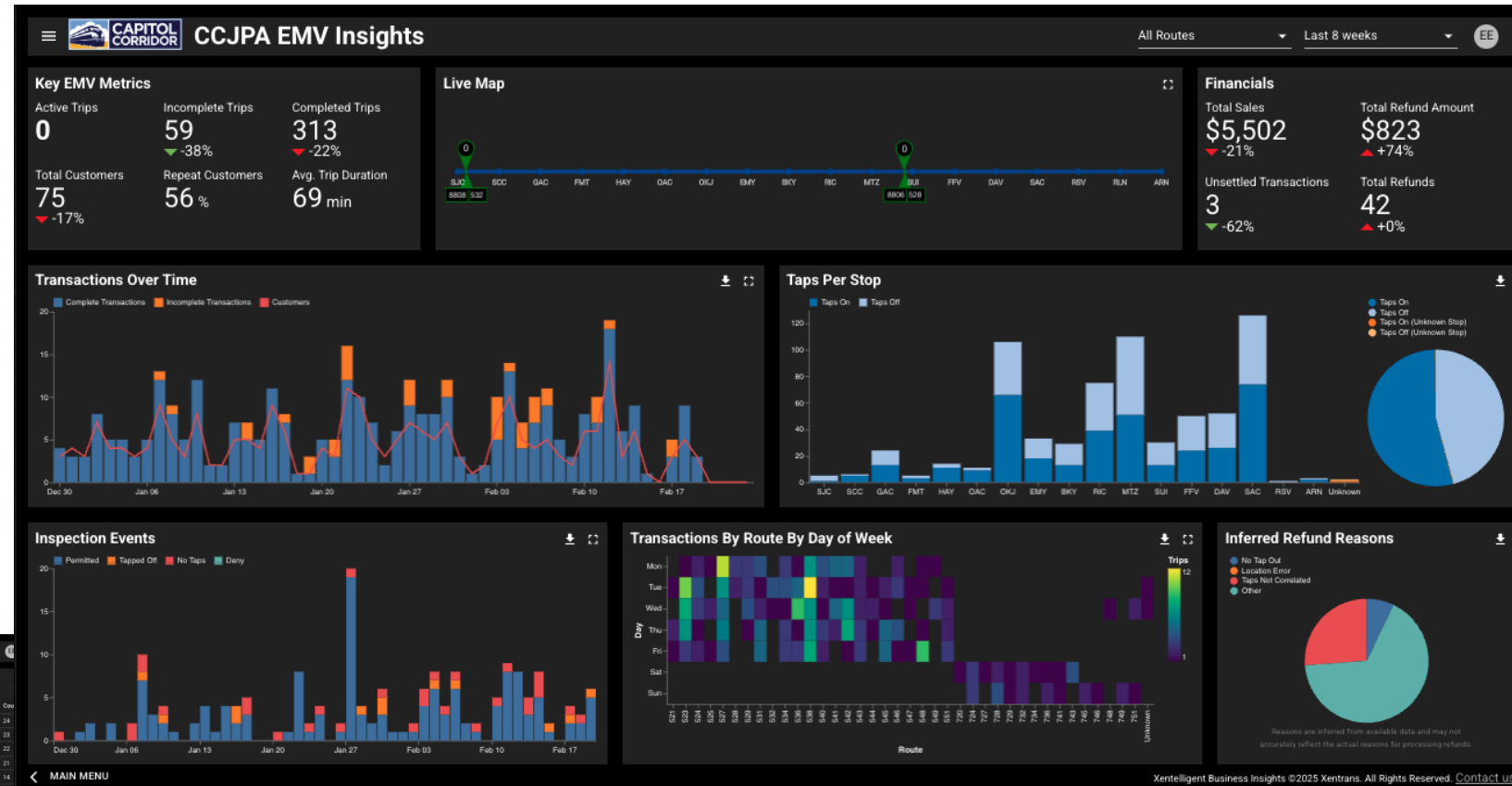
- Backend system addresses fare capping (5th ride free)



Lessons Learned—Technical Systems

With any new system, **monitoring is needed**—we visualize data in one dashboard by pulling in APIs from:

- Payment readers:
 - Taps On / Off
 - Device health
 - Train location
- Train equipment health + route #
- Wi-Fi status
- Fare calculation software
 - Bank card insufficient funds ("Deny List")
 - Fare adjustments



Customized Xentelligent Insights Dashboard by **xentrans**



Lessons Learned—Workforce

With any new system, **staff needs time to adapt**—and **easy tools to help with doing their job**:

- **Amtrak**
 - **Conductors**
 - New way to pay / verify payment
- **CCJPA**
 - **Marketing**
 - New way to pay
 - Pilot recruitment
 - **Customer Care**
 - Bank card not working / replaced
 - No Tap Out vs. Train Equipment Issue
 - Fare adjustment request
 - **Finance Team**
 - New revenue source to manage
 - Fare adjustments
 - **Ops / Planning**
 - Fare products
 - **Technical Partners**
 - Tracking / maintaining new devices



Customized Xentelligent Insights
Dashboard by

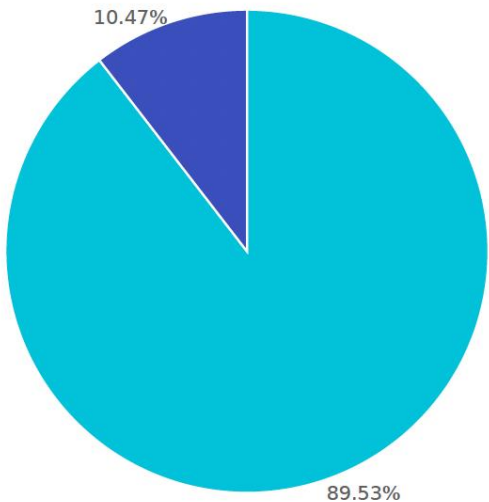


Lessons Learned—Pilot Participant Feedback

We surveyed our pilot participants—86 responded, and here are some stats that stand out:

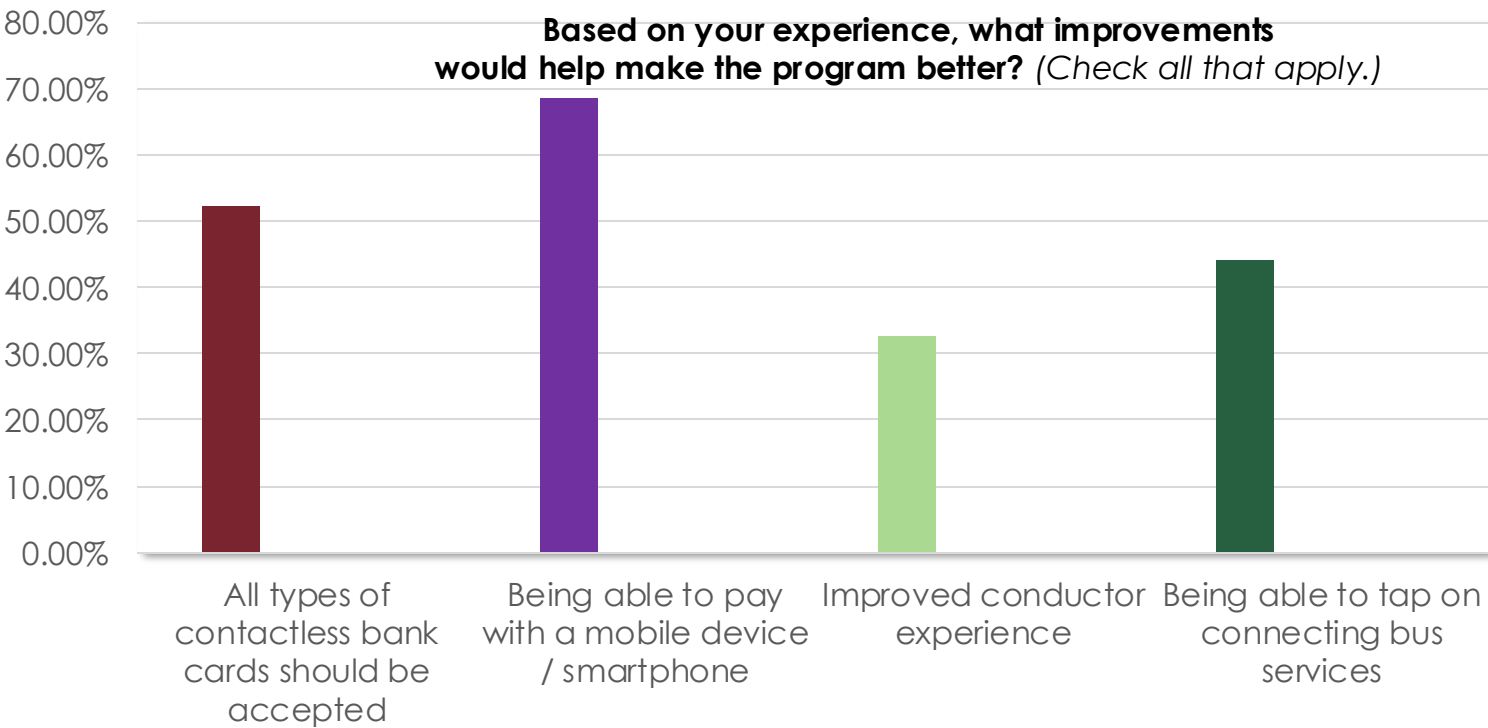
Would you recommend the Tap2Ride Pilot to a friend?

Answered: 86 Skipped: 0



● Yes

● No



Lessons Learned—Pilot Participant Feedback



Commuter between multiple stations:

The benefit for me using Tap2Ride is that while I frequently use Capitol Corridor, I am often not going to the same destinations. The 10-ride ticket is limiting as I really need to solidify being between two cities in a more commuter-oriented approach. For example, my commuting standard would be Richmond to Sacramento, but I sometimes head to Davis or Martinez. **Tap2Ride has allowed me to maximize the use of Capitol Corridor** without wasting my 10-ride ticket.



Ditching the car to run errands:

Biking to the train station and hopping on board the next Capitol Corridor has become second nature to me thanks to tapping. I check the schedule and to see which train is going to work best, then pedal over to grocery shop, run errands, and meet friends and family all over the East Bay.

It really is astonishing how easy the whole experience is and how quick and hassle-free it is compared to driving.



Cycling between transit and train:

As a semi-frequent rider of Capitol Corridor, I want to voice my support for Tap2Ride. This pilot has been a very cool way to experience Capitol Corridor and **adds flexibility to where I want to get off**—which is important for me, as I'm often transferring to other transit services.

The easiest example of this is the BART transfer at Richmond, which on weekends is very difficult to time to where you're not spending 20 to 30 minutes waiting for the next BART out. Since I bring my bike, I can also choose to get off at the Emeryville station and connect to West Oakland BART if I'm going to San Francisco, or Jack London to Lake Merritt if I'm going to South East Bay. Tap2Ride gives me the ability to make this decision last second.



Typically a solo rider:

We have taken the train once as a family and I was reminded of the **extreme convenience of tapping compared to my wife's ticketing ordeal**: having to go online and buy a ticket, get an email, find her ticket on her phone, call it up, etc.



Next Steps: 2025 Priorities

July/August 2025

- Add Tap2Ride readers to **Amtrak Thruway / Connections Bus** that runs a timed transfer between downtown San Francisco and Emeryville station.



Now through Fall

- Develop and deploy **Apple EMD inspection app** for Conductors.
- Deploy **Fare Adjustment Tool** and iterate on it.
- Work with **Conductors** to provide a consistent customer experience during seat check / fare inspection.

Fall to Year-End

- Work toward **growing Tap2Ride pilot to 1K** or more participants—as all Technical, Conductor, and Customer Care tools allow for CCJPA (and Amtrak) to technically handle any number of participants.



Next Steps: Longer-Term Priorities

- Add Tap2Ride readers to **more Amtrak bus connections**.
- Build up **CRM system to support and expand Tap2Ride**
- Work on **seamless transfers with other transit agencies** that have implemented Tap2Ride.
- Enable **family and small-group Tap2Ride** via Conductors' Apple EMD devices.
- Offer **automated discounted-fare eligibility verification**—for Seniors, Veterans, Lower-Income Californians—
via Cal-ITP Benefits Tap2Ride web tool: benefits.calitp.org.

