



CalMod Program EMU Procurement Update

TJPA Board
May 14, 2015



Key Discussion Items

- Original Plan
- Alternative Plan
- Two Timeframes
 - 2020 electrified service
 - Future blended service (with level boarding)

Note: Board Workshop May 20 Discussion



Original Plan

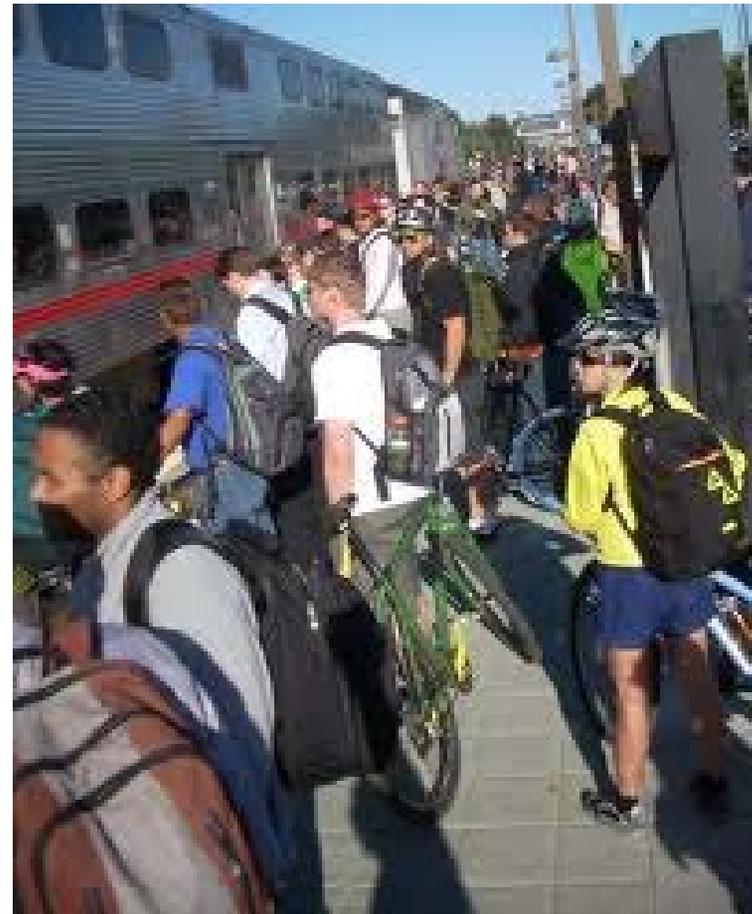


Goal: Maximize Caltrain Capacity

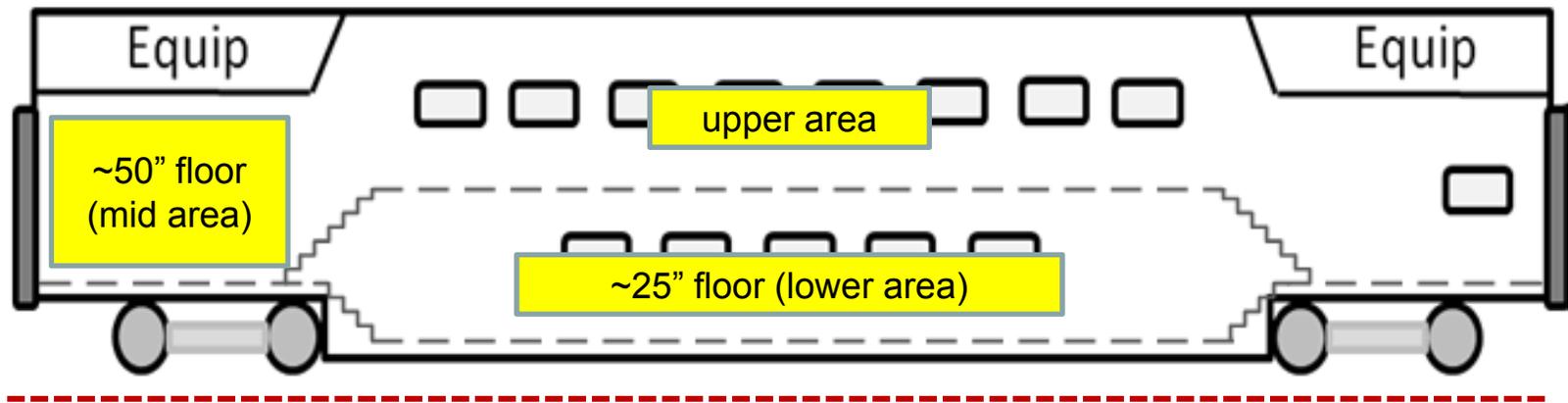
- Growing Demand
 - Weekday ridership today: 60,000+
 - Weekday ridership future: 110,000+
- Today
 - 20+ mile trips
 - 95%-125% peak weekday capacity
 - 11% bikes on-board
- Future
 - Share train slots (6 Caltrain / 4 HSR) per hour / direction



Exceeding Capacity Today



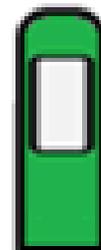
Terminology



Platform 8" Above Top of Rail (ATOR)



Double Door



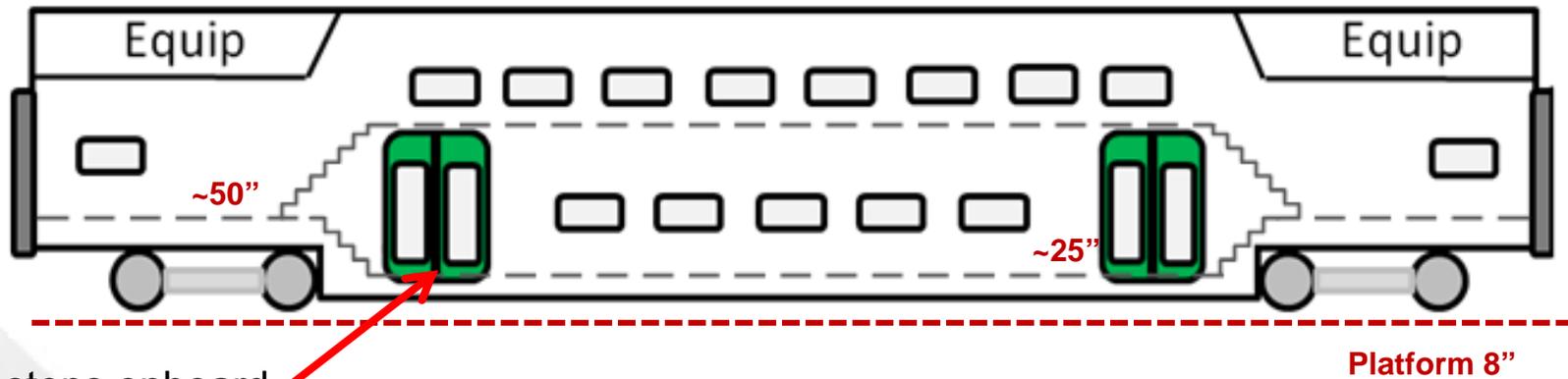
Single Door

- Caltrain EMU Floor ATOR: 22" - 25" (for this presentation ~25")
- HSR Train Floor ATOR: 48" - 51" (for this presentation ~50")



Original Plan

Timeframe: 2020 Electrified Service



1-2 steps onboard

- 2 double doors (located: ~25" floor)
- Passengers step (1-2) from platform
- ADA passengers and bikes located ~25" level
- ADA use mini highs and wayside lifts



Similar to Today's Bombardier





Request for Information

Summer 2014

Attributes	Industry Confirmation
Maximize Capacity	<ul style="list-style-type: none">• Bi-level (versus single level)
Previously Made	<ul style="list-style-type: none">• Service proven options• Saves costs / time
US Regulation Compliance	<ul style="list-style-type: none">• ADA• Buy America• FRA Waiver / Alternative Compliant Vehicles Criteria• Meet Caltrain Technical / Quality Standards
Floor Threshold	<ul style="list-style-type: none">• 2 double doors per car (low level boarding)• ~22" to ~25" most common

Note: Anticipate adequate competition for the RFP



Original Plan

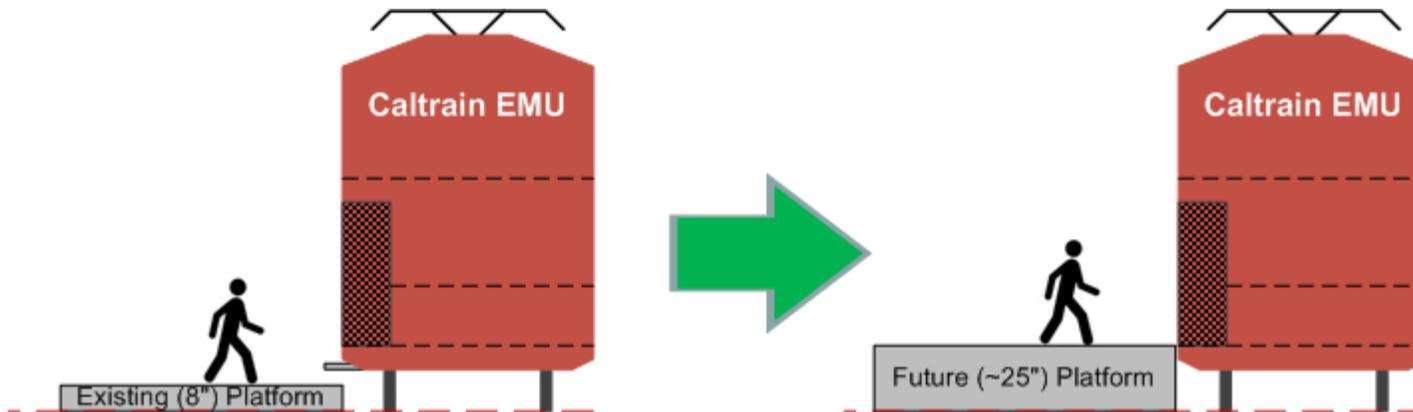
Timeframe: Future Blended (with level boarding)

- 2 – 3 HSR/Caltrain Stations w/ New Platforms
 - Transbay Transit Center, Millbrae, San Jose Diridon
 - HSR at ~50"
 - Caltrain at ~25"
- 27 Caltrain Stations with Modified Platforms
 - Level boarding at ~25"
 - Remove / fill-in steps in cars
 - Longer EMU trains and extend platforms

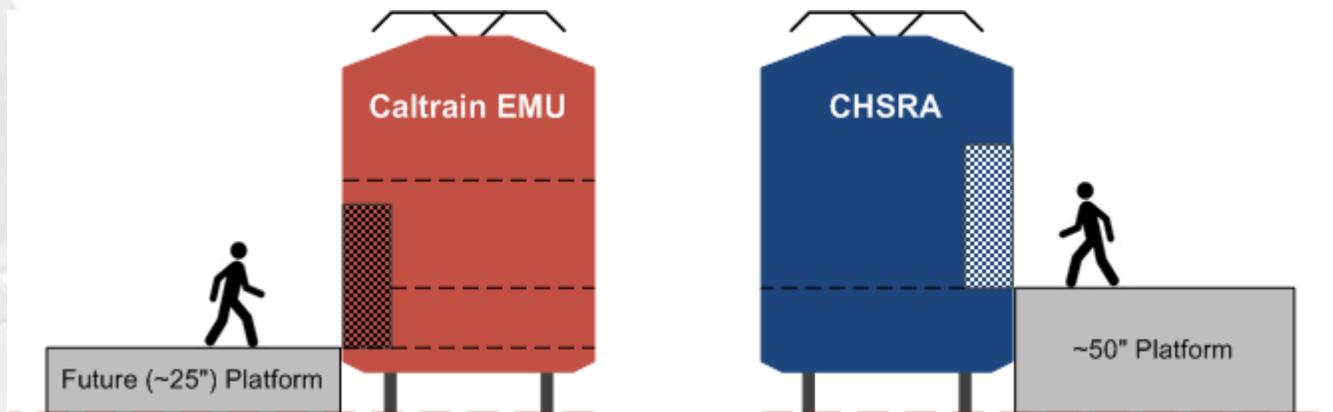




Original Plan: Level Boarding Assumption



Transition level boarding (~25") 27 Caltrain stations



New platforms 2-3 HSR / Caltrain stations



Stakeholder Request for EMU Modification

Request for Vehicle Modification

- HSR vehicles high-door boarding (~50")
- Can Caltrain EMUs be modified to support high door boarding?
- Enables common platforms in future
 - Caltrain & HSR access to all platforms
- Provides system operational flexibility
 - Regular incident recovery
 - Emergency / disaster recovery



Analysis Process

- December 2014 to May 2015
 - Carbuilder interviews w/ HSR
 - Technical analysis w/ HSR
 - Caltrain operational assessment
- May 2015 – July 2015
 - Policy discussion / decisions
 - Boards
 - Stakeholders

Car Builder Interviews

- Seven car builders participated
- Proposed modification solutions
 - 1. Cars with more doors**
 - 2 ~25" double doors and 2 ~50" single/double doors
 - Seat loss: 60-100 potential range per 6-car train
 - 2. Cars with traps**
 - 2 single ~50" doors w/ traps and 2 single ~50" doors
 - no seat loss
- Positive
 - Redesign existing vehicles (not starting from scratch)
 - Vehicle delivery (2020 revenue service)
 - Competition adequate

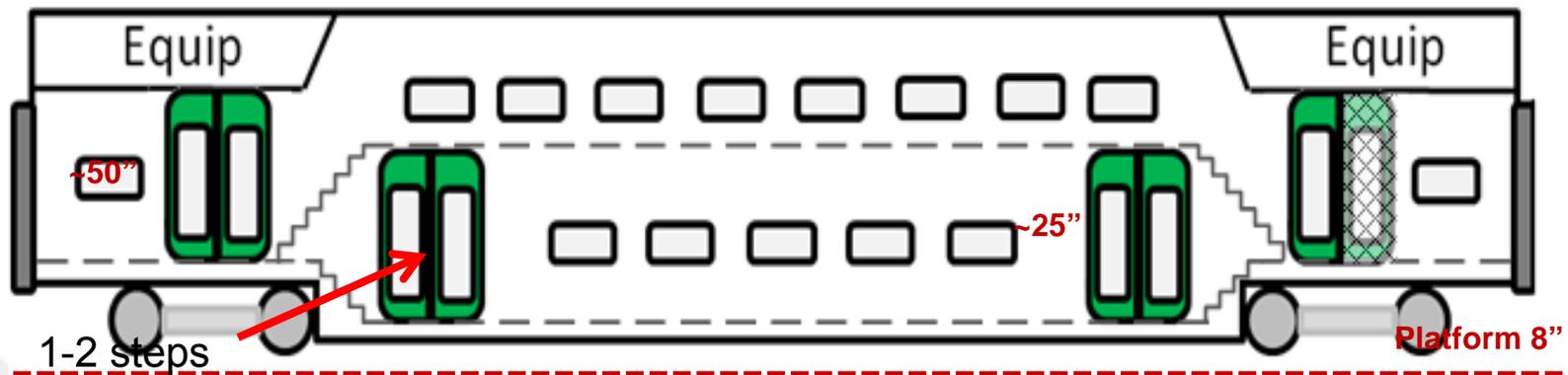


Alternative Plan Caltrain Operations Assessment

Timeframe: 2020 Electrified Service

Alternative Plan A

Cars with More Doors (2020)



- 4 double doors (located: ~25" & ~50"*)
- Passengers / bikes use ~25" doors (1-2 steps)
- ADA location TBD
 - Located at ~50" (use high doors: need high blocks / wayside lift)
 - Located at ~25" (use low doors: need mini high / wayside lift)

*Double ~50" doors may not be feasible

Alternative Plan A

Cars with More Doors (2020)



High Block



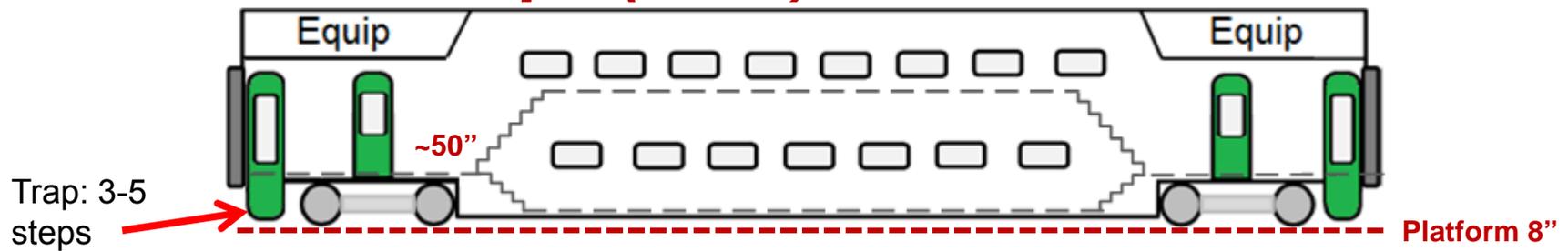
Mini-High



Wayside lift

Alternative Plan B

Cars with Traps (2020)



Open Trap



Close Trap



Single Door w/
Trap

Alternative Plan B

Cars with Traps (2020)

- 2 single doors w/ traps, 2 single doors no trap
 - All doors to ~50" floor
- Single door access (longer dwell)
- Passengers/bikes use 2 single doors w/ traps (3-5 steps)
 - Taller first step or step stool needed
 - Bikes located ~25" level (use additional internal steps down)
- ADA location ~50" level
 - At stations high blocks / wayside lifts
- Automatic / manual traps



Alternative Plan Caltrain Operations Assessment

Timeframe: Future Blended (with level boarding)



Future Scenario 1

Share Platform 2-3 HSR/Caltrain Stations

- Caltrain/ HSR stations level boarding ~50"
- Caltrain stations level boarding ~25"
 - Existing station footprint and visual impact
- Alternative Plan A **cars with more doors**
 - Continue using both doors
 - Seats cannot be restored
 - Interior lift needed if ADA ~25" level
 - Potential mitigation by car reconfiguration
- Alternative Plan B **cars with traps**
 - Continue using traps



Future Scenario 2

Shared Platforms All 27 Stations

- Level boarding ~50"
 - Existing station footprint and visual impact
- For Caltrain **cars with more doors**
 - Seal low doors and use high doors only
 - Interior reconfiguration / restore seats
 - Bike circulation and storage challenge
 - Interior lift needed if ADA ~25" level
 - Potential mitigation by car reconfiguration
- For Caltrain **cars with traps**
 - Seal traps
 - Bike circulation and storage challenge





Next Steps

- JPB May 20 Workshop
 - Compatible boarding height discussion
 - Seats/Bikes/Bathroom balance
- JPB July Board Action
 - Release EMU RFP
 - Updated Funding Plan / HSR Additional Funding Commitment



Questions

For more information and project updates

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