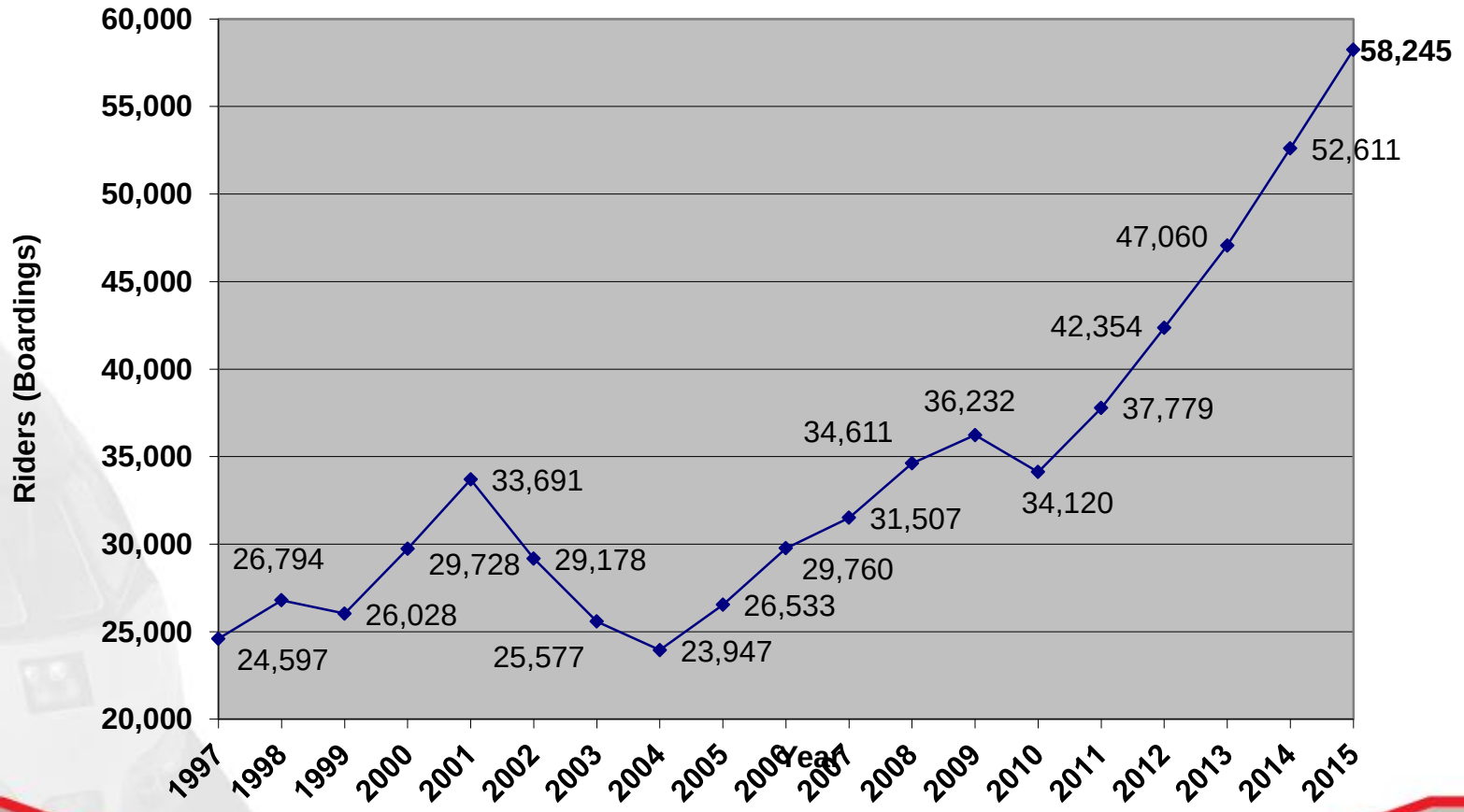
Caltrain Modernization
EMU Procurement
Boarding Height

SFCTA CAC
May 27, 2015

Context

Average Weekday Ridership

Since 2004 143% increase



Exceeding Capacity Today

Northbound		
Depart SJ	Percent of Seated Capacity (low season)	Percent of Seated Capacity (high season)
7:03 AM	135%	158%
7:45 AM	128%	150%
8:03 AM	127%	149%
5:23 PM	122%	143%
6:57 AM	122%	142%
7:50 AM	117%	137%
6:45 AM	108%	126%
6:50 AM	106%	124%
4:39 PM	106%	124%
7:55 AM	103%	121%
8:40 AM	102%	119%
4:23 PM	96%	113%

Regional Transportation Needs

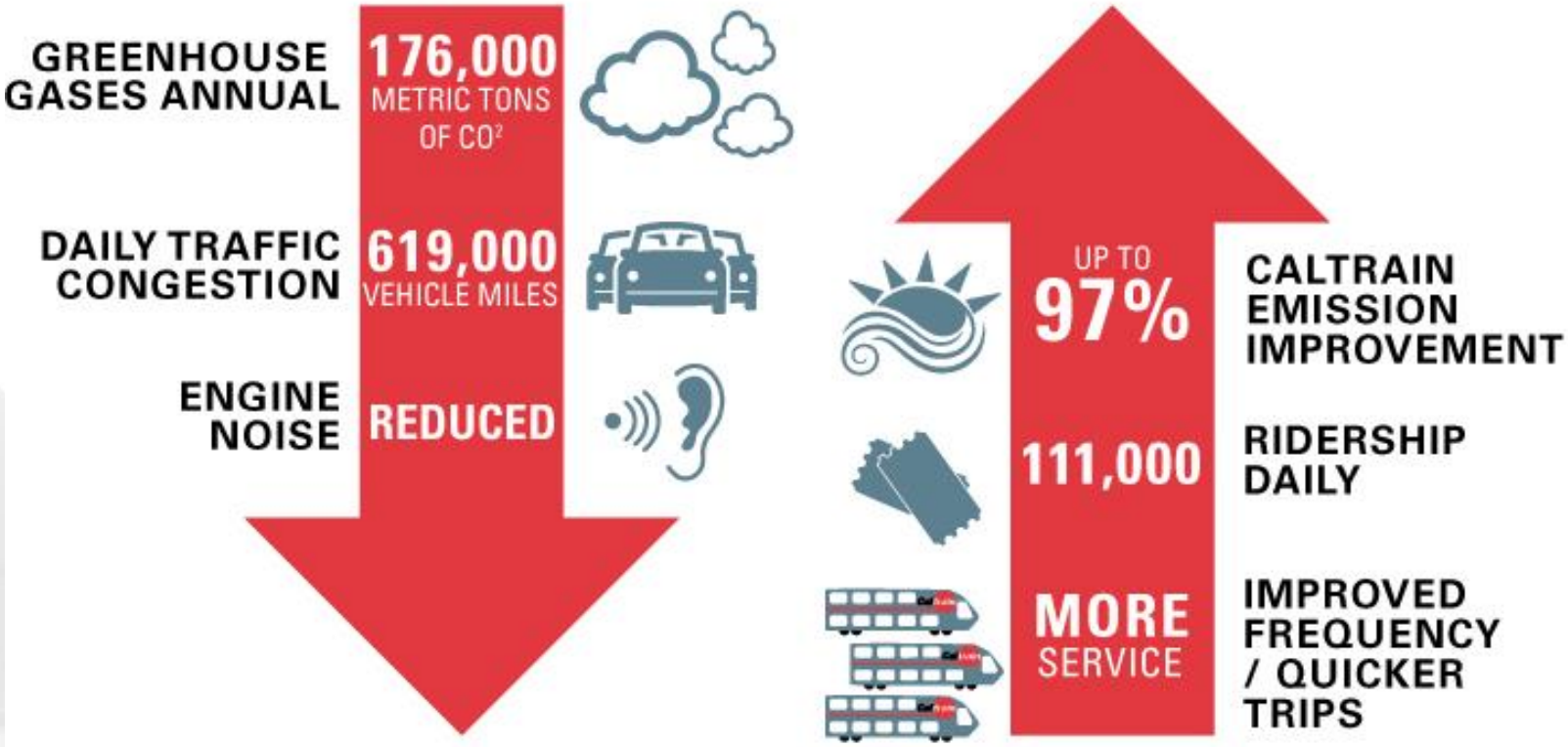
- US 101 and Interstate 280 Congested
- Corridor supports growing economy
  - 14% CA GDP; 52% CA patents; 25% CA tax revenue
- Caltrain Commuter Coalition (formed 2014)
  - 75% caltrain rider's commute to work; 60% choice riders

Need to Maximize Capacity

- Add Metrolink Cars to Diesel Trains (Now)
- Caltrain Electrification (2020)
  - More trains / serve more riders
  - Increase station stops and/or reduced travel times
- Level Boarding and Longer Trains (Future)

Caltrain Modernization

Key Regional Benefits

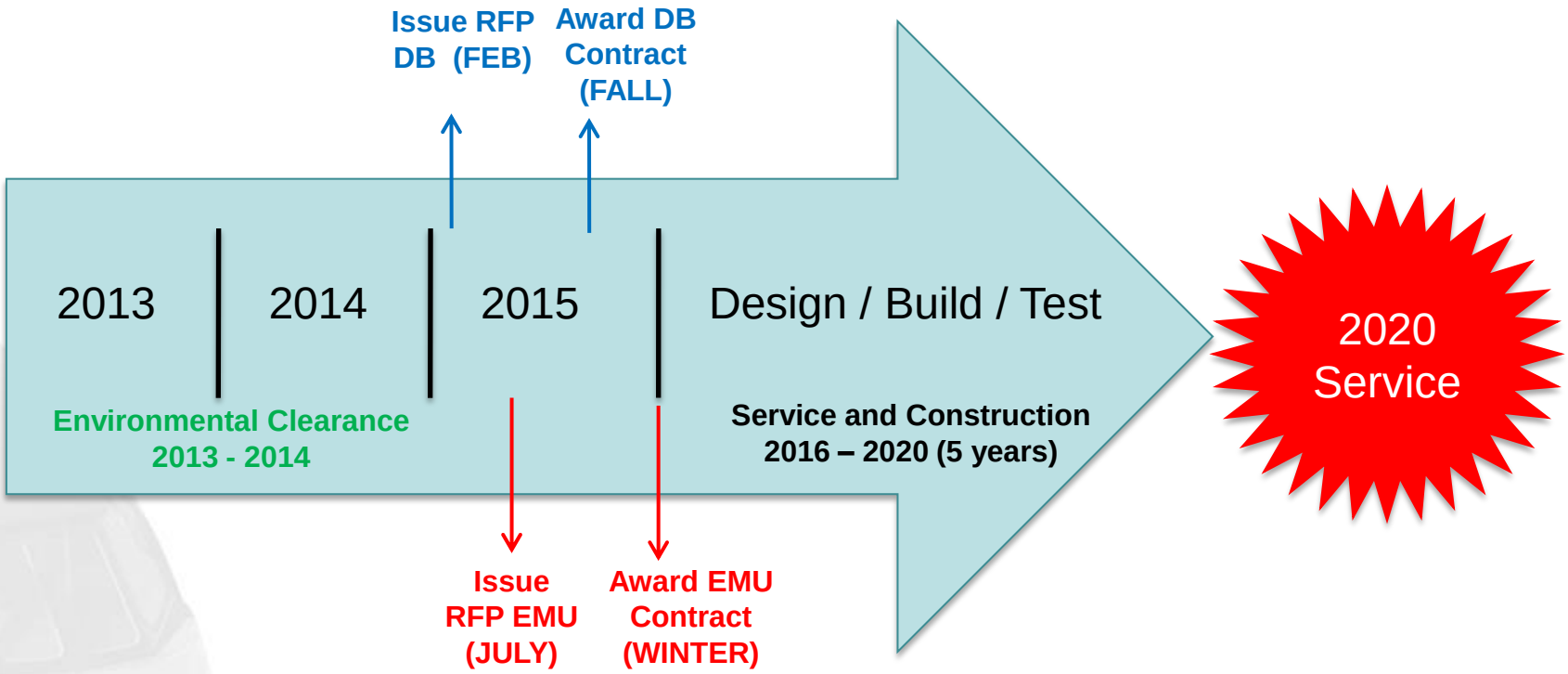


Note: 2013 BAC Report, generates $2.5B economic activity and 9,600 jobs

PCEP Service Benefits

Metric	Today	PCEP
Trains / peak hour / direction	5	6
Passengers / peak hour / direction	5,100	6,300
Example Baby Bullet Train		
Retain 5-6 stops	*60 minutes*	*45 minutes*
Retain SF to SJ 60 minutes	*6 stops*	*13 stops*
Example RWC Station		
Train stops / peak hour	*3*	*5*

2020 Revenue Service



Important milestones to meet 2020 service date

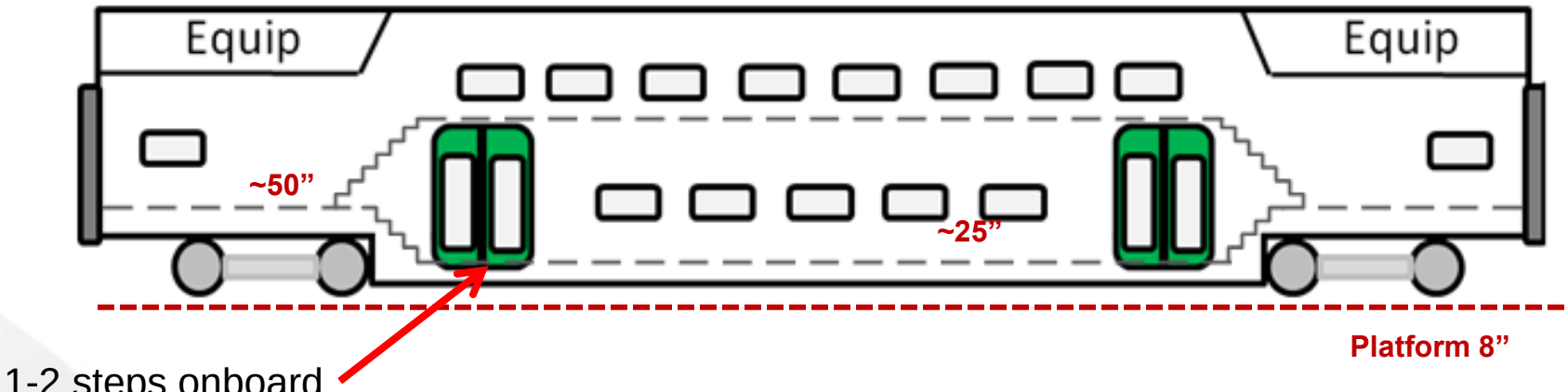
Request for Information

Summer 2014

Attributes	Industry Confirmation
Maximize Capacity	• Bi-level (versus single level)
Previously Made	• Service proven options • Saves costs / time
US Regulation Compliance	• ADA • Buy America • FRA Waiver / Alternative Compliant Vehicles Criteria • Meet Caltrain Technical / Quality Standards
Floor Threshold	• 2 double doors per car (low level boarding) • ~22” to ~25” most common

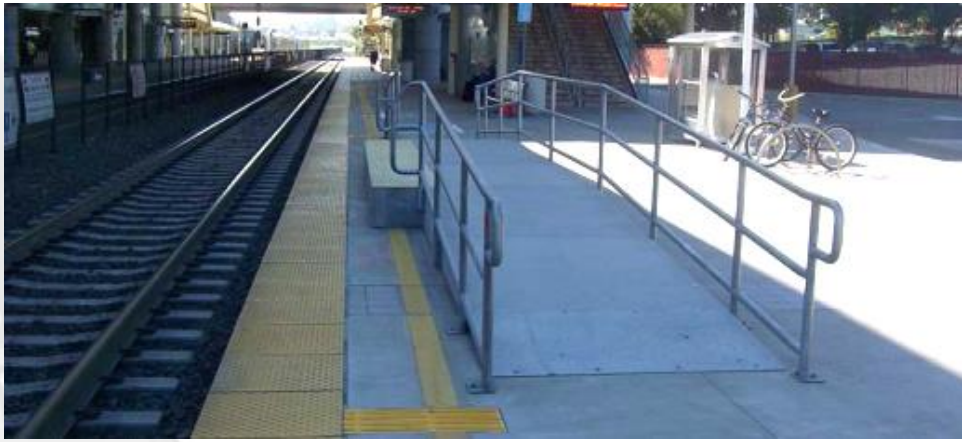
Note: Anticipate adequate competition for the RFP

Recommended EMU



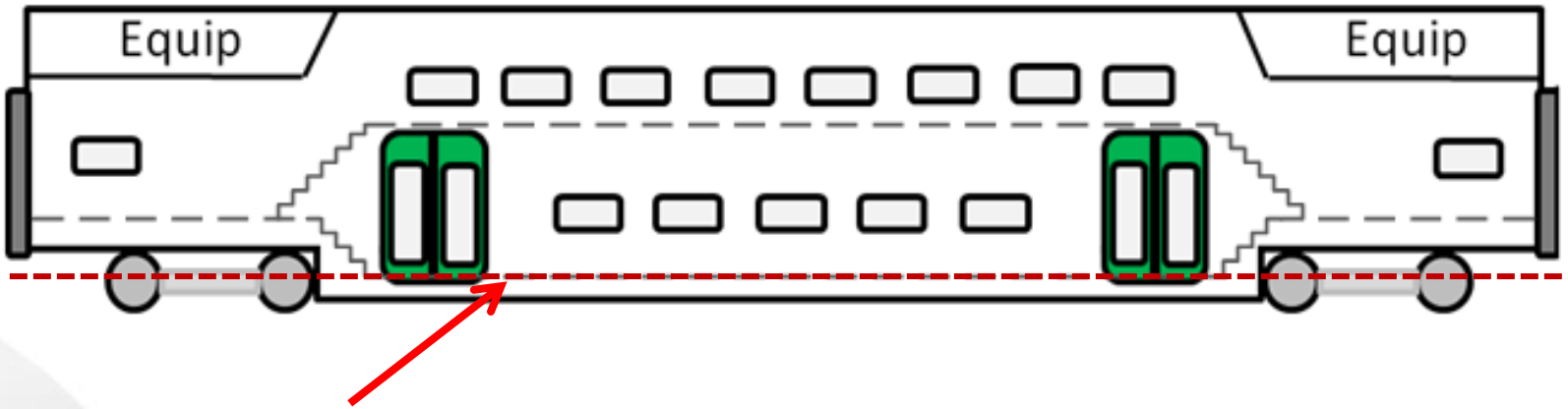
- Bi-level car
- 2 double doors (located: ~25” floor)
- Passengers step (1-2) from platform
- ADA passengers and bikes located ~25” level
- ADA use mini highs and wayside lifts

Similar to Today's Bombardier

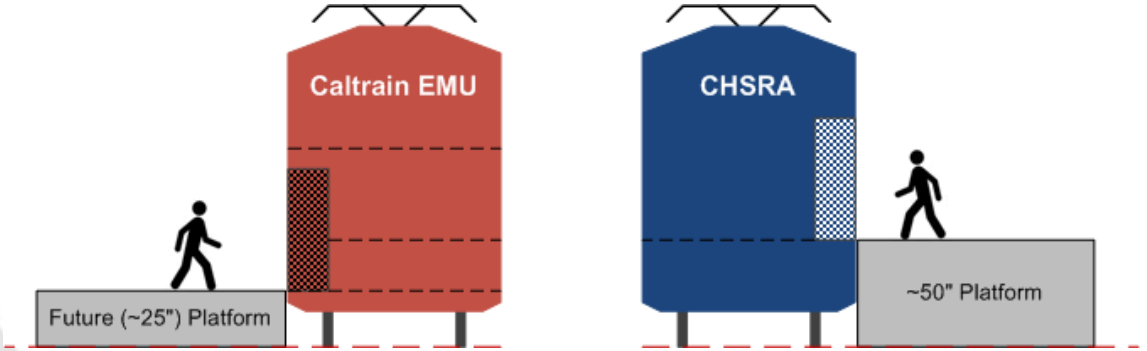


Future Level Boarding

(Beyond Electrification)



No steps, use at 27 stations

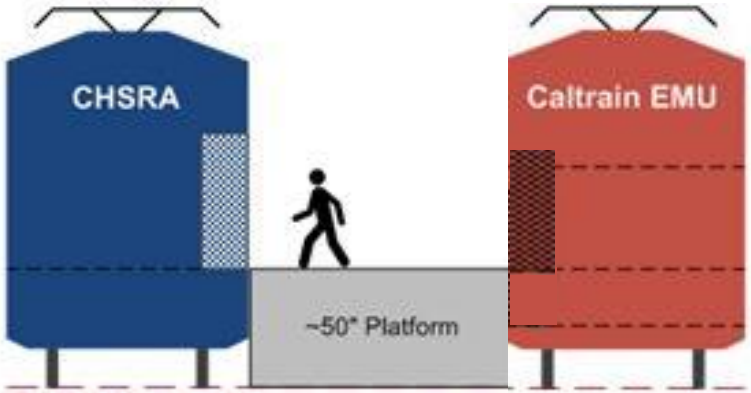


HSR / Caltrain Dedicated Platforms

Request for EMU Modification

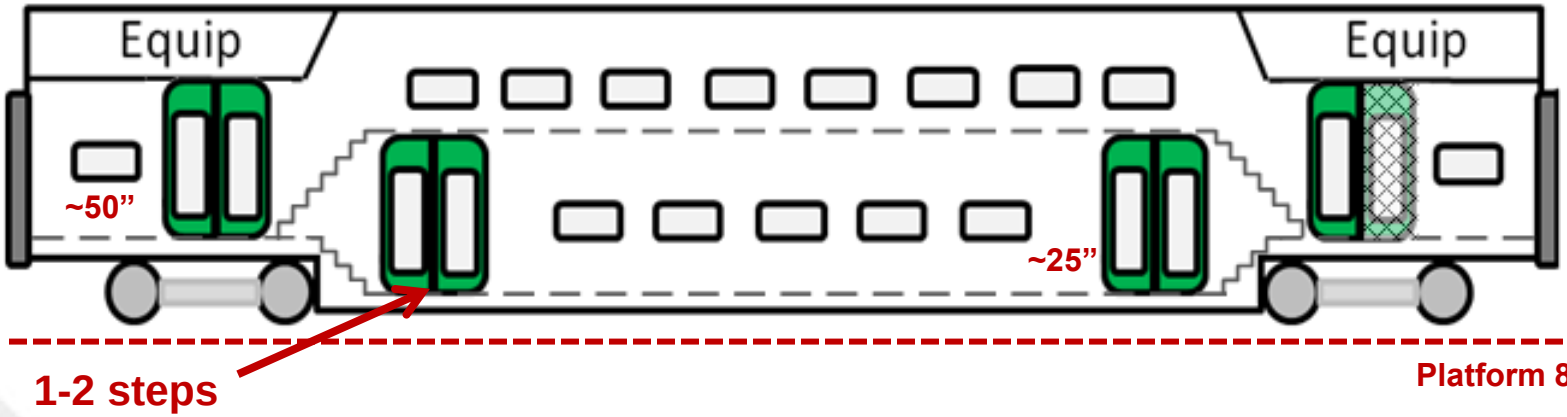
Request for EMU Modifications

- Stakeholder request for car modification
- Caltrain bi-level EMU ~25” boarding height
- HSR single level cars ~50” boarding height (different needs than Caltrain)
- Can Caltrain modify EMUs to not preclude ~50” boarding in the future?



Modification A (2020)

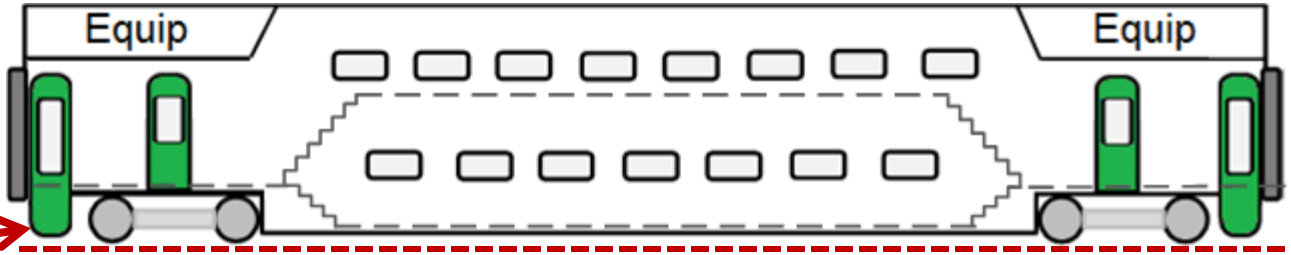
Cars with More Doors



Wayside Infrastructure for ADA

Modification B (2020)

Cars with Traps



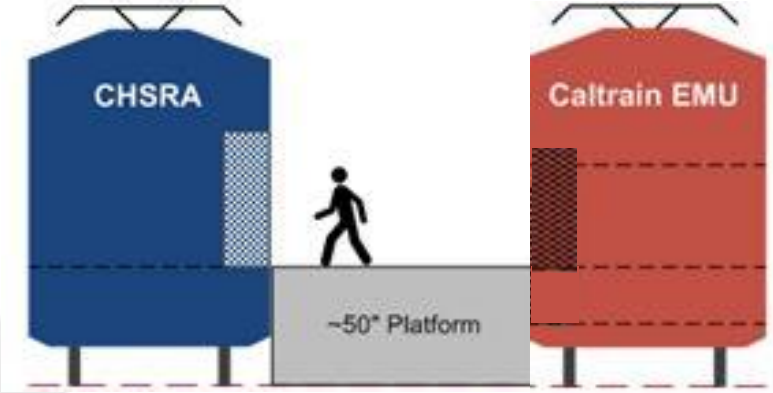
Open Trap

Close Trap

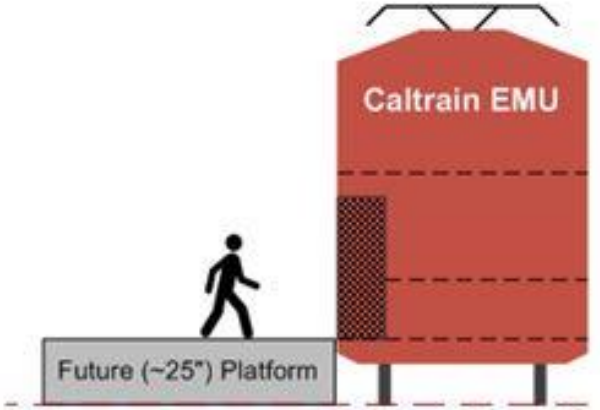
Single Door w/ Trap

Future Blended System Evaluation
Full Fleet EMU Service
(HSR and Modified Level Boarding Stations)

Scenario 1: Shared Platform at HSR Stations Only

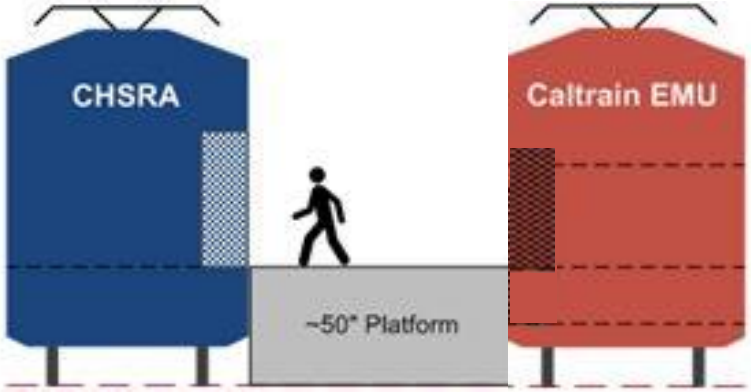


2-3 Stations: Caltrain / HSR Stations Common Platforms ~50”



25 Stations: Caltrain Level Boarding ~25”

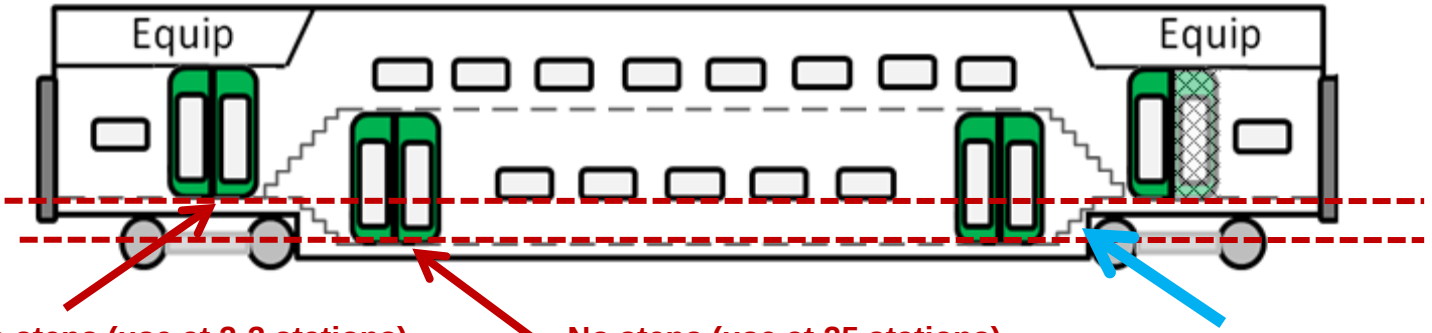
Scenario 2: Share Platforms at All Stations



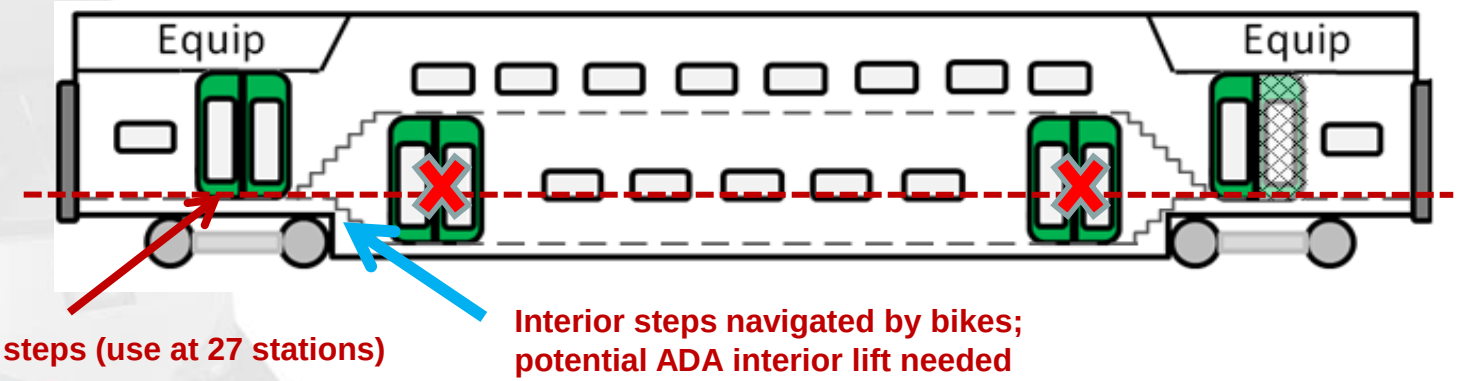
27 Stations: Caltrain / HSR Stations
Common Platforms ~50”

Modification A (Future)

Scenario 1 Shared at 2 – 3 (seat loss w/ both doors open)

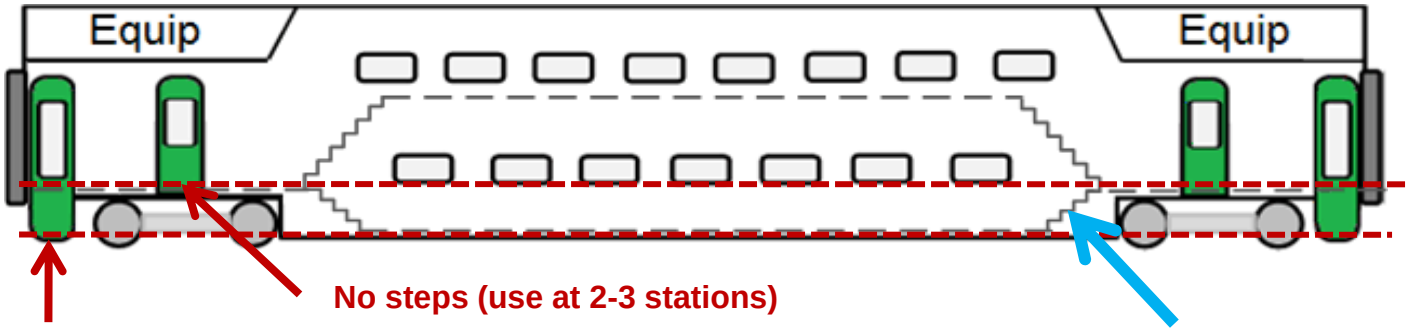


Scenario 2 Shared at All

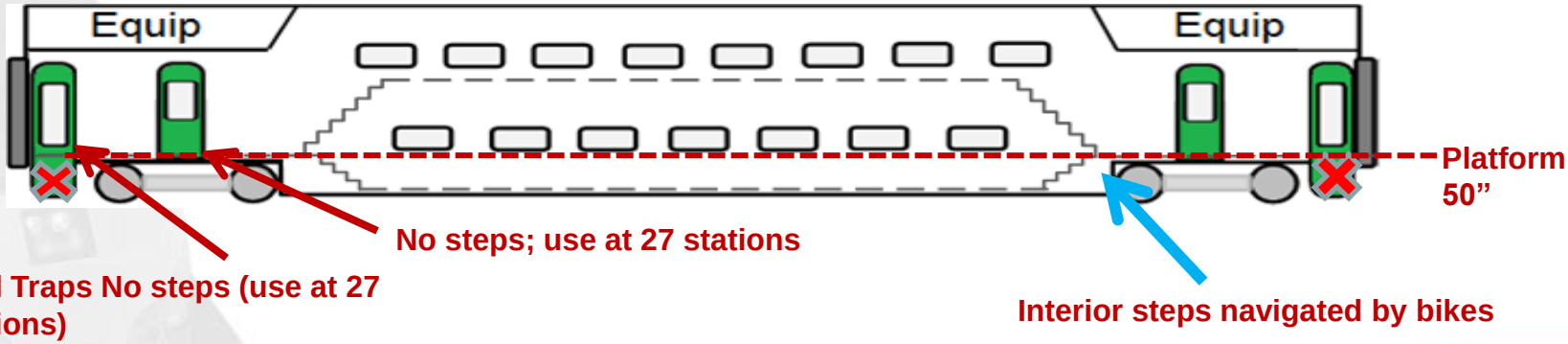


Modification B (Future)

Scenario1 Shared at 2 - 3



Scenario 2 Shared at All



Potential Path Forward

Framework

- HSR / Caltrain blended system partnership
- Blended system not yet defined
  - Community planning
  - Environmental evaluation
- Early investment program (defined / environmentally cleared)
  - CBOSS PTC (2015)
  - Electrification Project (2020)
- Need to make EMU design decision now to not preclude common platforms w/ HSR in future

Cars with More Doors Option

- Challenges Associated with More Doors
  - Seat loss
  - Passenger circulation inside car
- Short-Term Solution (2020)
  - Design car with 2 sets of doors
  - Keep high doors sealed / use low doors
  - Car configured similar to original EMUs (mitigate challenges)
  - Request HSR to fund modification costs
- Future Blended System (TBD)
  - Community planning / environmental review
  - Define blended service plan and capital improvements
  - Evaluate use of high doors / interior reconfiguration

Next Steps

May – July Activities

- Public Meetings
- Release Draft RFP to Car Builders
- June JPB
  - Update on proposed path forward
  - Seats/Standees/Bikes/Bathroom balance
- July JPB
  - Release EMU RFP
  - Regional funding plan update

Questions

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email: calmod@caltrain.com