



JPB Board of Directors
Meeting of August 3, 2023

Correspondence as of July 21, 2023

| <u>#</u> | <u>Subject</u> |
|----------|--|
| 1 | RE_ Business case for Battery-Electric Locomotives |
| 2 | (BEL) BATAc MTC Bikeshare 7-20-23 |
| 3 | Advertising CalTrain to SFTC |

- engaged in Stadler BEMU prototyping
- Evaluation of BELs for the rescue of stranded EMU trainsets
- **potential \$1/2B saving** (6 x BEMU @ \$85M each = \$510M)

Respectfully presented for your consideration

Roland Lebrun

CC

California Air Resources Board
Caltrain Board
SFCTA Commissioners
TJPA Board of Directors
TAMC Rail Policy Committee
Caltrain CAC
TJPA CAC
SFCTA CAC
Caltrain BAC

From: Roland Lebrun

Sent: Monday, July 10, 2023 4:06 PM

To: Caltrain Board <board@caltrain.com>

Cc: SFCTA Board Secretary <clerk@sfcta.org>; Transbay Info <info@tjpa.org>; CHSRA Board <boardmembers@hsr.ca.gov>; Caltrain CAC Secretary <cacsecretary@caltrain.com>; TJPA CAC <CAC@TJPA.org>; SFCTA CAC <cac@sfcta.org>; Caltrain BAC <bac@caltrain.com>

Subject: Business case for 4-car Caltrain EMU trainsets

Dear Chair Zmuda,

The intent of the attached letter is to substantiate and elaborate on multiple recommendations by members of the public to reconfigure the entire EMU fleet from 7-car to 4-car trainsets to achieve the following:

Compliance with FFGA requirement for 4,112 seats/hour/direction during peak

30% reduction in O&M (**\$25M in FY25**)

30% reduction in power consumption (**\$6M in FY25**)

30% Battery-electric locomotive range extension sufficient to reach Salinas (**\$1/2B saving**)

The letter concludes with a specific trainset reconfiguration proposal for referral to the Caltrain CAC and Finance Committee July meetings followed by a recommendation to the

August full Board meeting.

Respectfully presented for your consideration

Roland Lebrun

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SFCTA CAC

Caltrain BAC

Dear Chair Zmuda,

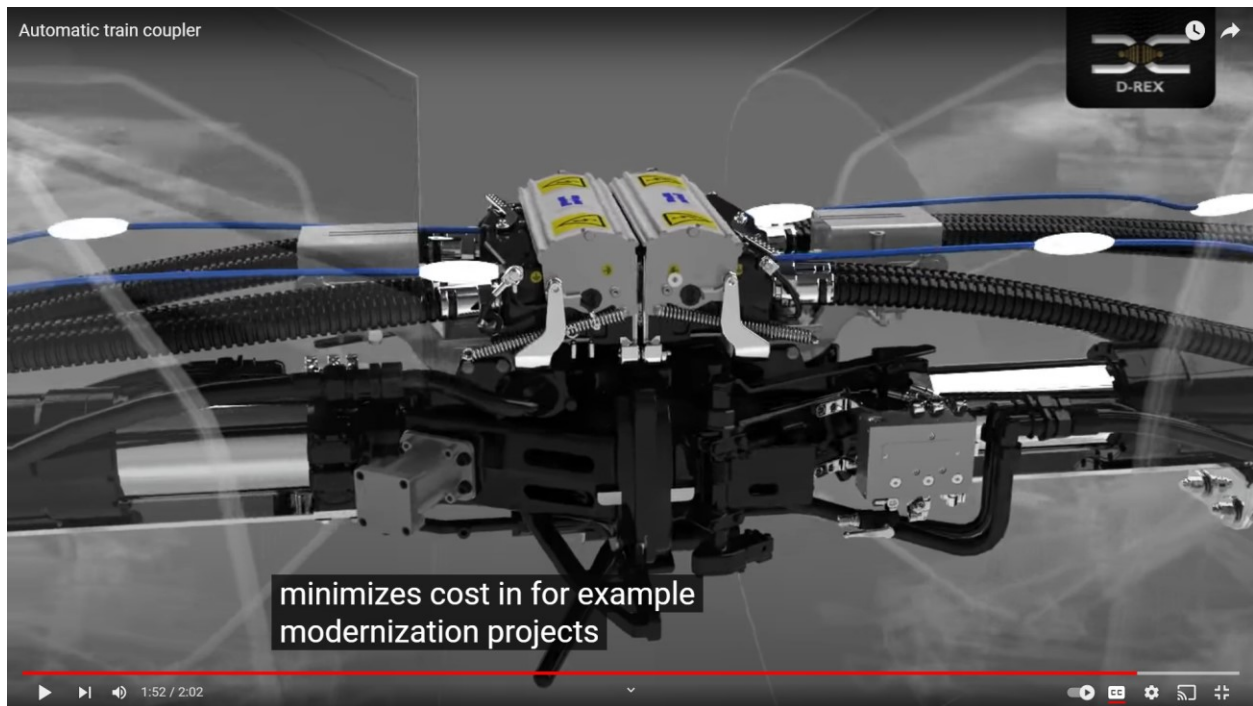
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The letter concludes with a specific trainset reconfiguration proposal for referral to the Caltrain CAC and Finance Committee July meetings followed by a recommendation to the August full Board meeting.

Key Enabling technology

Unlike Caltrain's existing fleet, Stadler Cab ("A" & "B") cars are equipped with automatic couplers capable of connecting trainsets anywhere at a stop on the line in seconds.

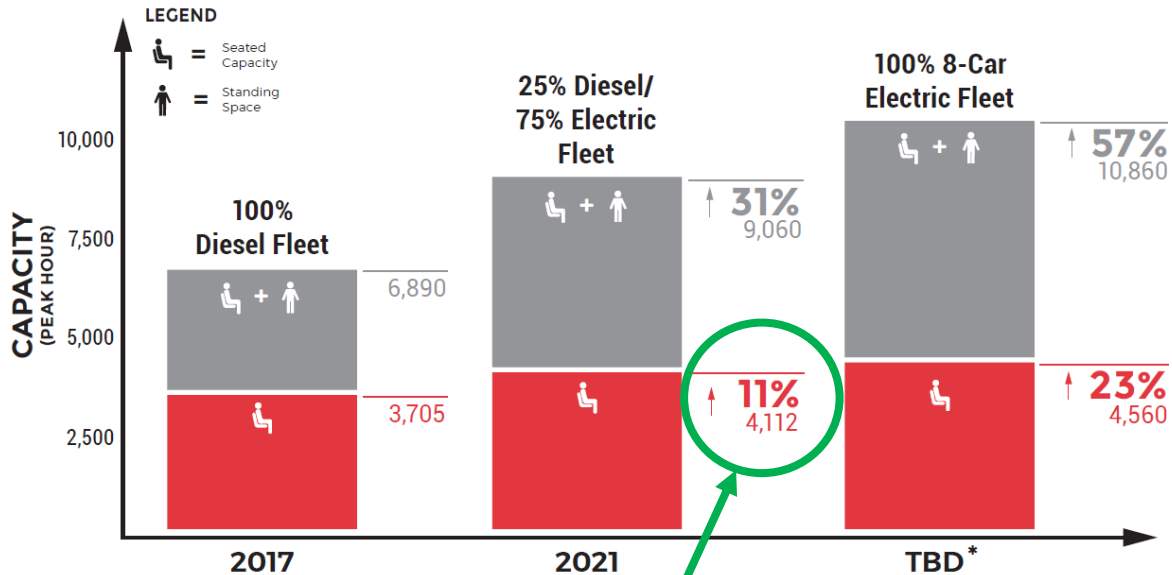


Compliance with FFGA requirement for 4,112 seats/hour/direction during peak

Please refer to the last paragraph in the attached May 9 2017 Seamus Murphy PCEP capacity email which reads as follows:

"The attached chart demonstrates that with the addition of the Metrolink cars increased current capacity from 3,403 to 3,705 seats/hour and increased post-project capacity from 3,768 to 4,112 seats/hour."
These capacity numbers exceed the program's minimum 10 percent increase requirement."




CAPACITY INCREASE



**The CalMod program lays the foundation for continued capacity growth on the corridor. Unlike diesel trains, electric trains can maintain performance while expanding to 8-cars. Eight car expansion is dependent on additional funding.
 Figures and percentages subject to changes as EMU design elements and new service schedules are finalized.*

Please refer to the EMU seating capacity chart on the next page and consider the following challenges & opportunities:

- **Staff's current proposal to operate six 656-seat 7-car EMUs during peak cannot possibly meet the requirements of the FFGA (6x656= 3,936).**
- **Current ridership (and associated farebox recovery) cannot possibly sustain the permanent operation of 7-car trainsets.**
- 4-car trainsets can be coupled into 8-car consists during peak and special events.
- **4-car trainsets open an opportunity to negotiate a single conductor per trainset with the unions** (one conductor for a 4-car consist, two conductors for an 8-car consist).
- **Flexible 4-car/8-car operations based on demand can potentially yield:**
 - **a 30% annual saving in O&M** (\$25M in FY25).
 - **a 30% reduction in power consumption** (\$6M in FY25).

| | Car B | Car C | Car D | Car E | Car F | Car A | Total | Ratio |
|--|------------|------------|---|------------|---|------------|---|-------|
| Fixed Seats | 84 | 69 | 76 | 84 | 76 | 84 | 473 | 6.57 |
| Folding Seats | 18 | 16 | 13 | 16 | 13 | 18 | 94 | |
| Total Seats | 102 | 85 | 89 | 100 | 89 | 102 | 567 | |
| | | | | | | | | |
| Folding Seats - all passenger side doors operational | 8 | 6 | 3 | 6 | 3 | 8 | 34 | |
| Total Seats - all passenger side doors operational | 92 | 75 | 79 | 90 | 79 | 92 | 507 | |
| | | | | | | | | |
| Countable Folding Seats - for the core number | 16 | 13 | 12 | 14 | 12 | 16 | 83 | |
| Total countable Seats (core number) | 100 | 82 | 88 | 98 | 88 | 100 | 556 | |
| | | | | | | | | |
| Standeers 4 P / m ² - without Stairwells / Wheelchairs | 138 | 143 | 150 | 141 | 150 | 138 | 860 | |
| Standeers 6 P / m ² - without Stairwells / Wheelchairs | 207 | 214 | 225 | 212 | 225 | 207 | 1290 | |
| Max Capacity 4 P / m² - without Stairwells / Wheelchairs | 240 | 228 | 239 | 241 | 239 | 240 | 1427 | |
| Max Capacity 6 P / m² - without Stairwells / Wheelchairs | 309 | 299 | 314 | 312 | 314 | 309 | 1857 | |
| | | | | | | | | |
| Wheelchairs | 2 | 2 | 2 | 2 | 2 | 2 | 12 | |
| Max Bikes (4 per stand) | | | 36  | | 36  | | 72  | |

4-car EMU configuration proposal

- CAR "A" (100 seats + 2 wheelchairs) CAB car
- CAR "C" (82 seats + 2 wheelchairs + 1 bathroom)
- CAR "D" (88 seats + 2 wheelchairs + 36 bikes)
- CAR "B" (100 seats + 2 wheelchairs) CAB car

Total seating capacities

- 4-car consist: 370 seats + 1 bathroom + 36 bikes
- 8-car consist: 740 seats + 2 bathrooms + 72 bikes
- **Six 8-car consists: 4,440 seats (exceeds FFGA seating requirement of 4,112 seats)**

Respectfully presented for your consideration

Roland Lebrun

CC:

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TJPA Board of Directors
CHSRA Board of Directors
Caltrain CAC
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Attachments:

May 9, 2017 Seamus Murphy PCEP capacity memo
CAR "A" (100 seats + 2 wheelchairs) CAB car diagram
CAR "C" (82 seats + 2 wheelchairs + 1 bathroom) diagram
CAR "D" (88 seats + 2 wheelchairs + 36 bikes) diagram
CAR "B" (100 seats + 2 wheelchairs) CAB car diagram

Martinez, Martha

From: Martinez, Martha
Sent: Tuesday, May 9, 2017 5:01 PM
Cc: Martinez, Martha; Murphy, Seamus; Hartnett, Jim; McKenna, Nancy
Subject: PCEP Capacity
Attachments: EMU Capacity Graphic PDF.pdf

JPB Board Members,

Attached please find a chart with the capacity numbers we discussed during the Executive Director’s report at the last meeting. You’ll recall that some members of the public identified that the numbers in the PCEP FFGA application do not reflect the recent addition of the Metrolink railcars to the system.

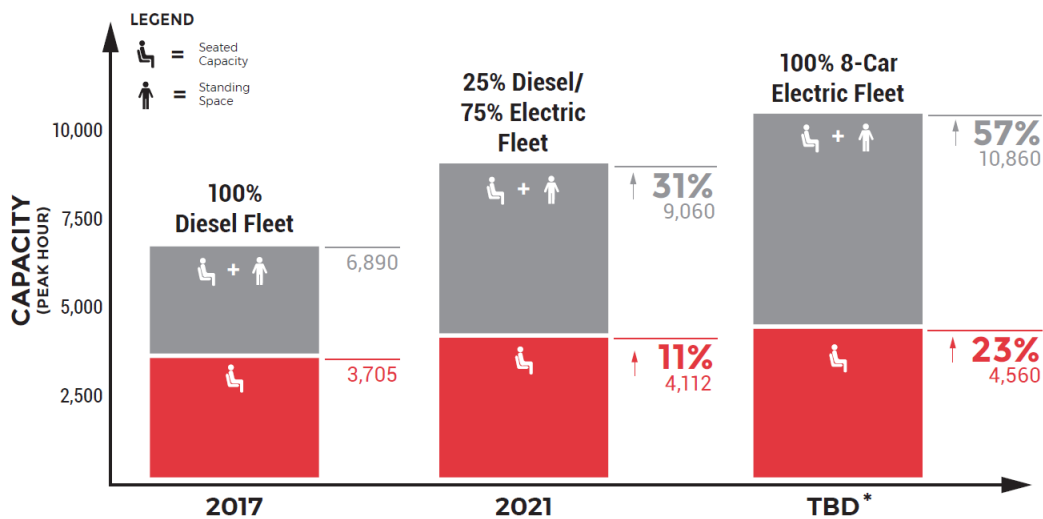
To be eligible for Core Capacity funds a project must achieve at least a 10 percent seated capacity increase. The Caltrain application identified a 10.7 percent increase in peak hour service, from 3,403 seats/hour to 3,768 seats/hour.

As you know, the Metrolink cars were added after the application was filed to address continuing increases in ridership demand. As represented in the attached chart, the Metrolink cars add capacity to the current service and also add capacity to the post-project capacity when Caltrain will be operating a mixed fleet (EMUs and diesel).

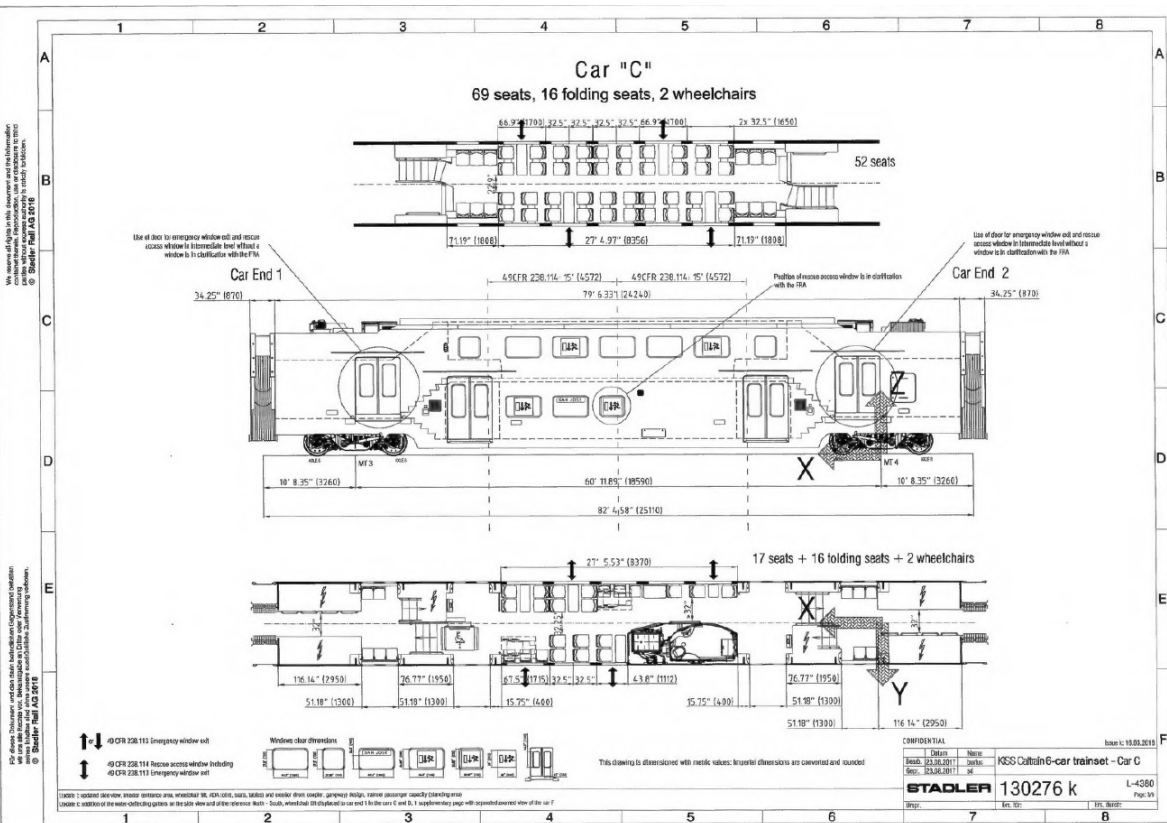
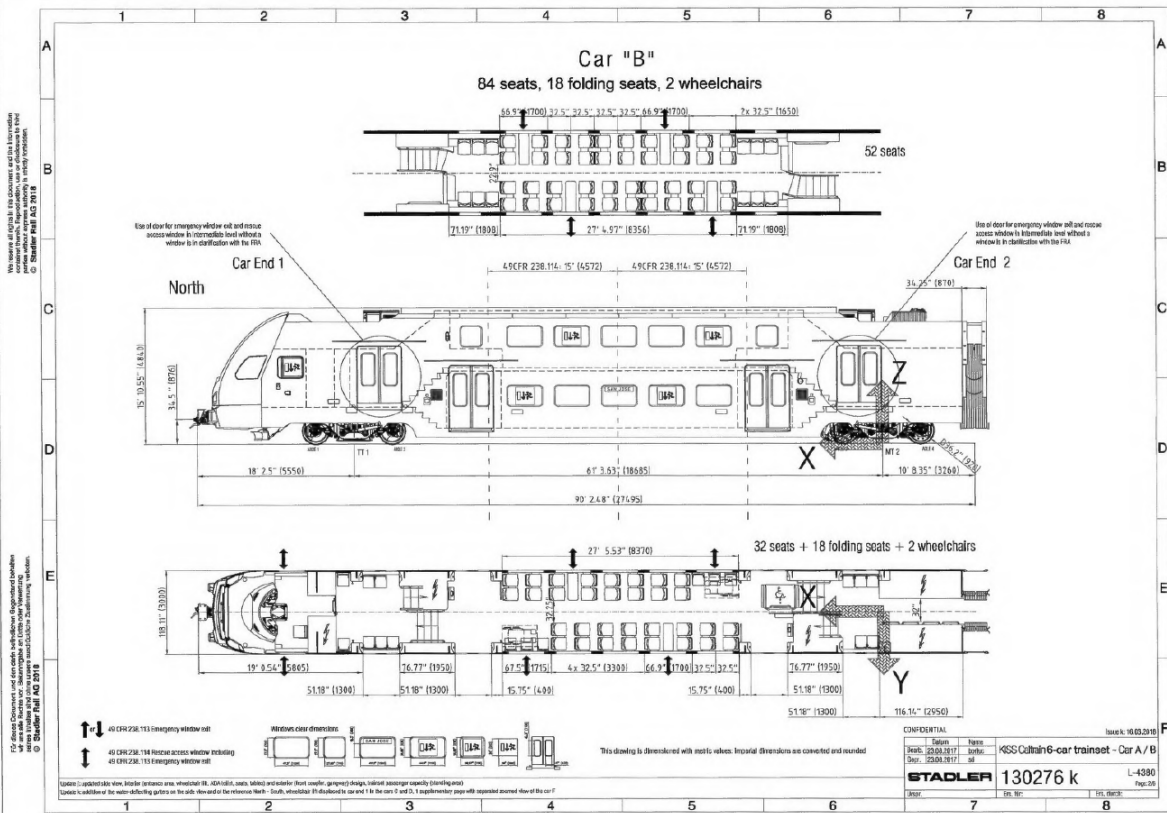
The attached chart demonstrates that with the addition of the Metrolink cars increased current capacity from 3,403 to 3,705 seats/hour and increased post-project capacity from 3,768 to 4,112 seats/per hour. These capacity numbers exceed the program’s minimum 10 percent increase requirement.

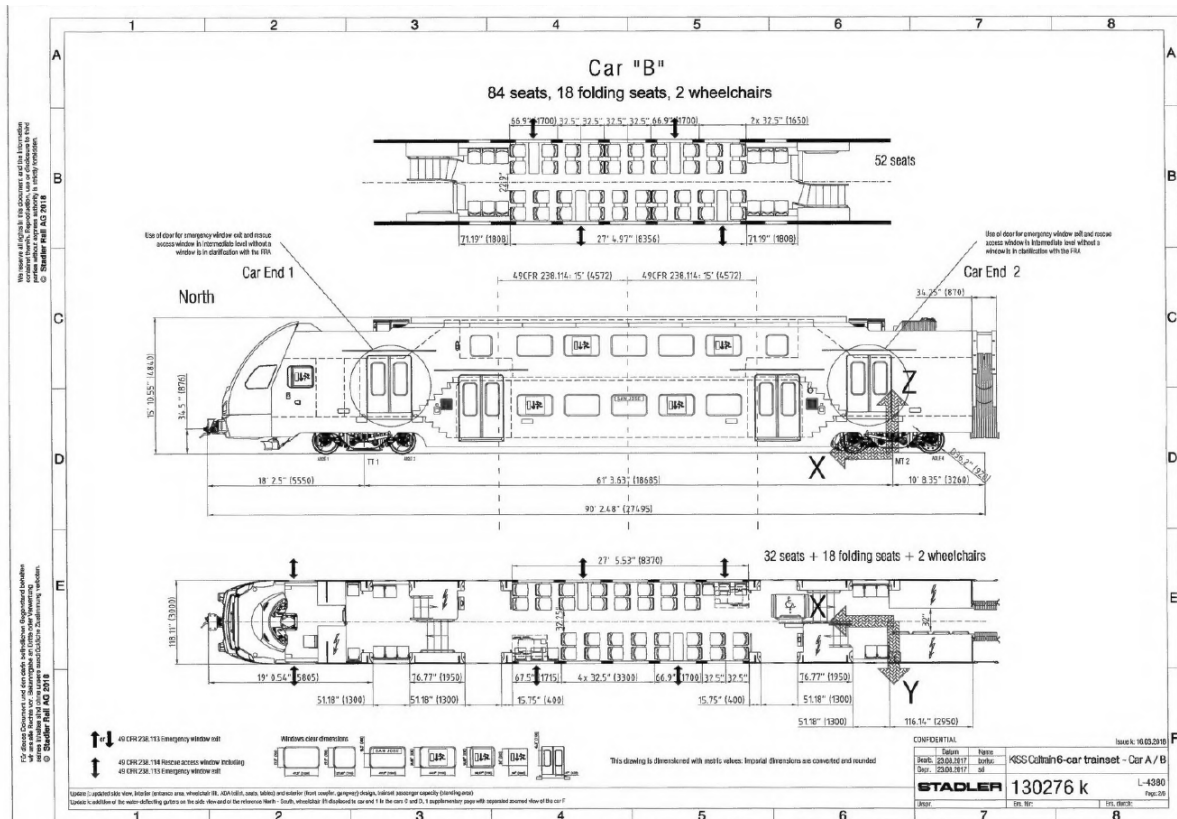
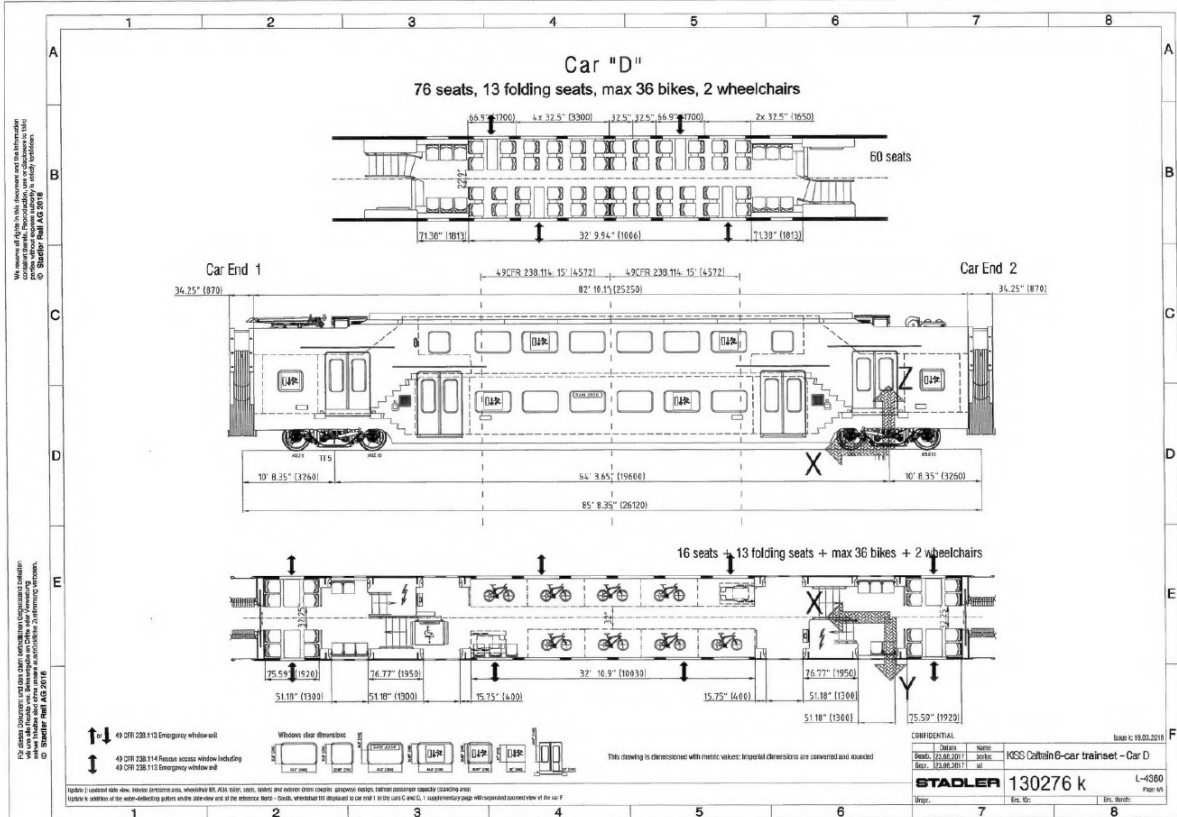
Seamus P. Murphy | Caltrain, SamTrans, SMCTA
Chief Communications Officer
1250 San Carlos Avenue | San Carlos, CA 94070
650.508.6388 | murphys@samtrans.com

CAPACITY INCREASE



**The CalMod program lays the foundation for continued capacity growth on the corridor. Unlike diesel trains, electric trains can maintain performance while expanding to 8-cars. Eight car expansion is dependent on additional funding.
Figures and percentages subject to changes as EMU design elements and new service schedules are finalized.*





Dear Chair Zmuda,

Further to my earlier recommendation to convert the entire Caltrain EMU fleet to 4-car trainsets and the subsequent **\$85M award for a 7-car BEMU** in the state budget signed by Governor Newsom, please consider directing staff as follows at the July 24 Finance Committee:

- 1) Return to the Finance Committee with a reduced estimate for a **4-car** BEMU prototype
- 2) Redirect \$35-\$40M residual funds from the CalSTA BEMU grant to the **competitive** procurement of Battery-Electric Locomotives (BELs) **currently available from Wabtec & Progress Rail for \$5M/locomotive** to replace the **entire** Caltrain diesel fleet **by 2025 at a saving of \$1/2B**

Background

Caltrain have demonstrated that 7-car EMUs can be propelled by locomotives

- Between Salt Lake City and the Pueblo testing facility (650 miles each way)
- Between Salt Lake City and San Jose (770 miles)
- **Between San Jose and San Francisco** (50 miles each way)

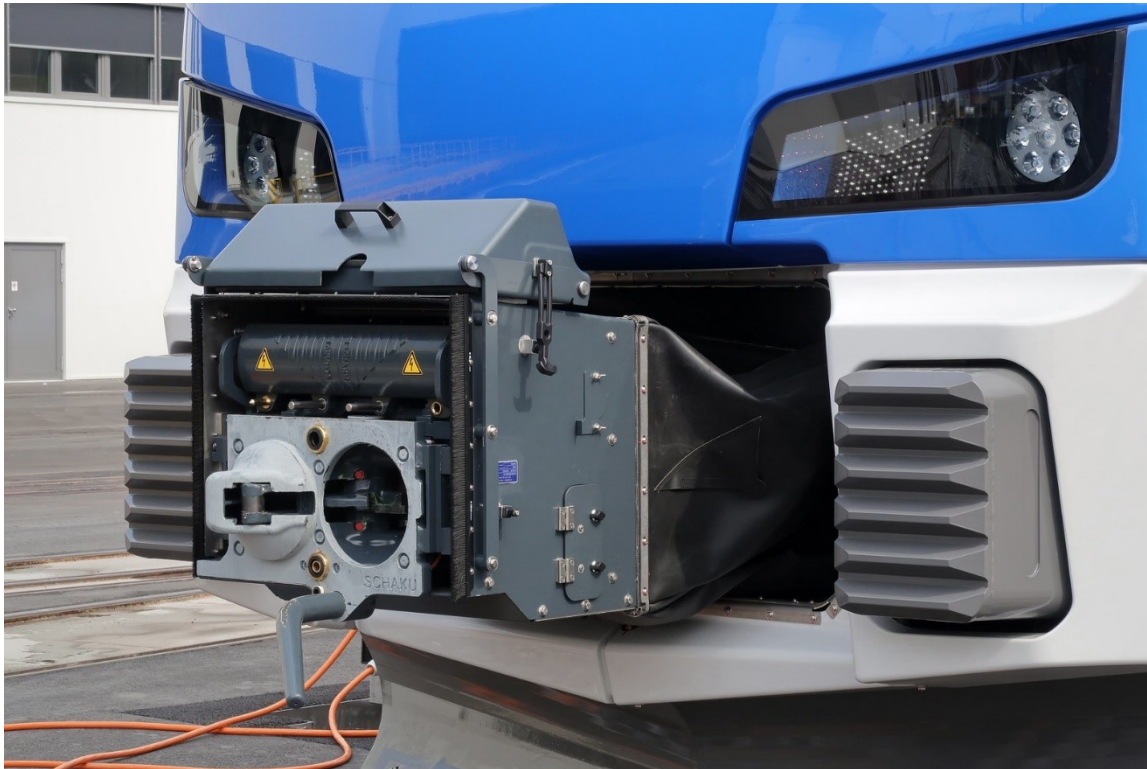
Key enabling technology for passenger service

“The [Schwab coupler](#) [nl], made by [Schwab Verkehrstechnik AG](#), Schaffhausen, is used on [Stadler Kiss](#)”

“The Schwab coupler is superior in many ways to many other automatic couplers because it makes the pneumatic and electrical connections automatically and is capable of automatic uncoupling. ^[55]

“As of 2020 Wabtec is working on an automatic coupler based on Schwab”

https://en.wikipedia.org/wiki/Railway_coupling#Schwab_coupler



Potential operating scenarios south of Diridon

1) Southbound

- 8-car EMU consists could decouple at Diridon.
- The southern-most 4-car EMU would continue to Tamien at which point it would couple to a BEL.
- The 4-car EMU + 1 BEL consist would continue to Gilroy (and potentially to Salinas) on a single charge.
- BELs would recharge upon arrival in Gilroy (up to 4 consists) or Salinas (up to 2 additional consists)

2) Northbound

- Upon arrival at Tamien, the BEL would decouple from the EMU consist and recharge while awaiting the next southbound EMU trainset.
- The 4-car EMU would continue northbound under its own power
- The 4-car EMU could couple to another 4-car EMU at Diridon (to form an 8-car consist) or continue north as a 4-car EMU, potentially all the way up to San Francisco.

Testing Regime

The BEL RFP should specify that the selection of the eventual winner of the BEL procurement will be informed by the results of **rigorous testing of the above scenarios at the Pueblo Testing Facility, NOT by SamTrans consultants engaged in Stadler BEMU testing**, including recommendations on sequencing of coupling/decoupling and door opening/closing during passenger service.

“Joining portions of a passenger train can be done at very low speed (less than 2 mph or 3.2 km/h in the final approach), so that the passengers are not jostled about”

https://en.wikipedia.org/wiki/Railway_coupling#Scharfenberg_coupler

Testing should also include the evaluation of BEL potentially superior suitability for the rescue of 4 and 8-car stranded Stadler consists: <https://youtu.be/WzRUVyDVf0s?t=465>

Additional funding for BELs and charging infrastructure

[Incentives for Locomotives | California Air Resources Board](#)

Respectfully presented for your consideration

Roland Lebrun

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Caltrain CAC

SFCTA CAC

TJPA CAC

July 20, 2023

Peninsula Corridor Joint Powers Board
Caltrain Citizens Advisory Committee
1250 San Carlos Ave.
San Carlos, CA 94070

Re: MTC Exploration of Bikeshare as Part of Plan Bay Area 2050 and Regional Funding Measure

Dear Peninsula Corridor Joint Powers Board and Caltrain Citizens Advisory Committee,

The Caltrain Bicycle and Active Transportation Advisory Committee (BATAC), a committee of Caltrain riders representing the interests of passengers who access the train by bicycle and other forms of active transportation, encourages MTC to plan for a true regional shared micromobility system for incorporation in a possible 2026 transit funding measure and as a strategy for reaching transportation and sustainability goals in Plan Bay Area 2050.

In order for Caltrain to meet long term ridership projections and equity goals after electrified service begins it's crucial that more options be made available for passengers to reach the train. Towards this, Caltrain has made huge strides in increasing the availability of secure bike parking at stations in recent years, expanding access for people riding a bike (or other device) to get to or from the train.

As most local jurisdictions in San Mateo and Santa Clara Counties are not a part of the existing regional Baywheels system, Caltrain staff have engaged meaningfully with partners along the corridor to support the efforts of jurisdictions in establishing and expanding bikeshare and other shared micromobility systems. While this has been a strong step in the right direction it's clear that most local jurisdictions in the Bay Area would benefit from a broader regional approach including funding, coordination, planning, and local legislative support that Caltrain may not be able to offer on their own. Establishing a regionally integrated and coordinated system would make it easier for Caltrain riders to access transit with convenient first- and last- mile connections. Relying on primarily profit-driven shared micromobility systems also leads to higher usage fees, hindering Caltrain's goal of diversifying ridership.

The Caltrain BATAC thus encourages MTC to raise the necessary funds to expand bikeshare across the Bay Area in an accessible and equitable manner. Ideally such a system will be seamlessly integrated with our existing transit network (including Caltrain), providing sustainable transportation options for first- and last-mile access to public transportation.

Sincerely,

The Caltrain Bicycle and Active Transportation Advisory Committee

Cc:

MTC Commissioners

Toshi Shepard-Ohta, tshepard-ohta@bayareametro.gov

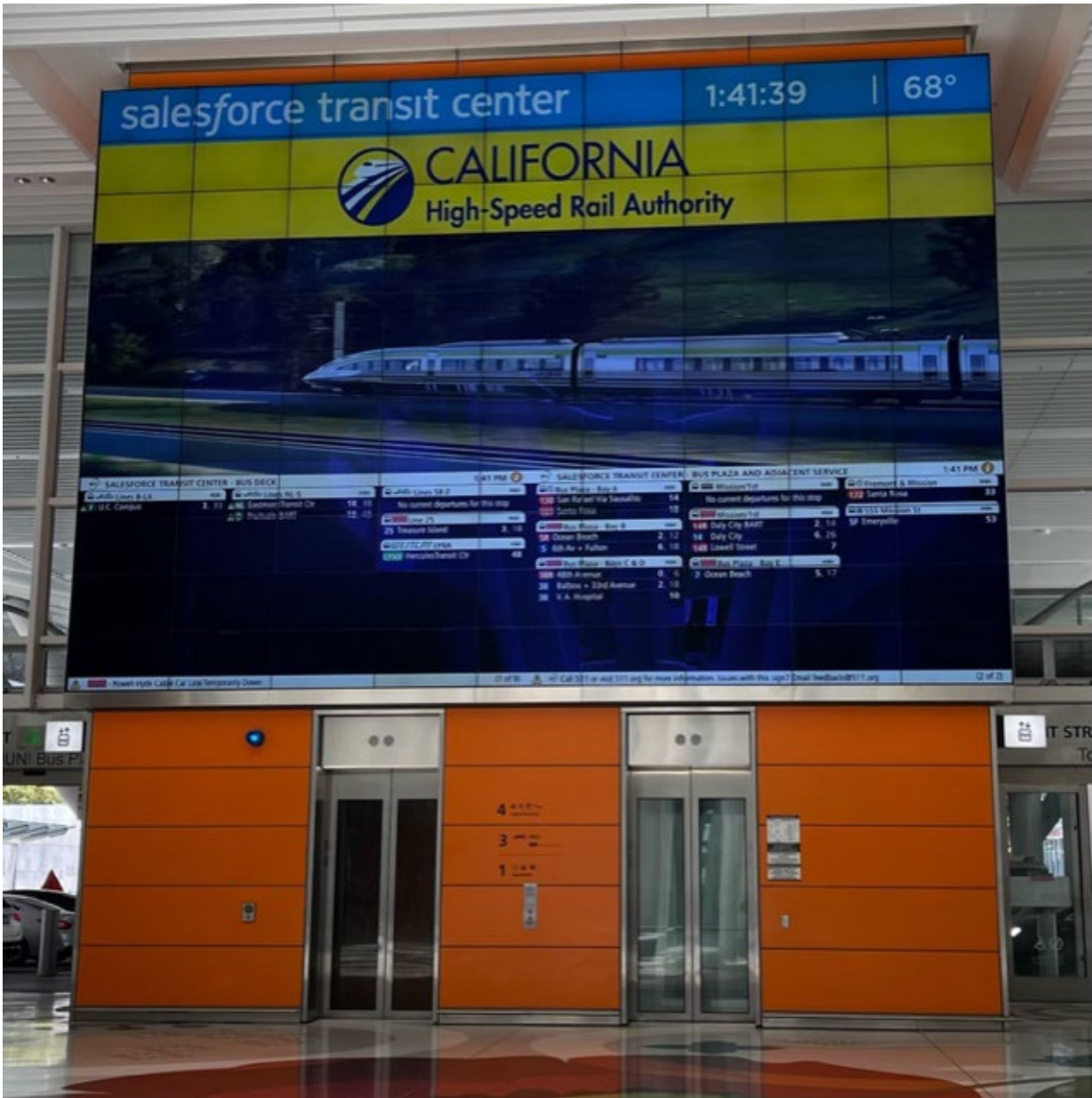
Dave Vautin, DVautin@bayareametro.gov

From: Dan Bell
To: Board (@caltrain.com)
Subject: Advertising CalTrain to SFTC
Date: Friday, July 21, 2023 2:31:29 PM

[You don't often get email from dan.martin.bell@gmail.com. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification>]

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders.

The changeable message sign at SFTC advertises future CHSR at SFTC, CalTrain should do the same.



Sent from my iPhone

salesforce transit center

1:41:46

68°

COMING TO

TJPA'S SALESFORCE TRANSIT CENTER



| SALESFORCE TRANSIT CENTER - BUS DECK | | | | SALESFORCE TRANSIT CENTER - BUS PLAZA AND ADJACENT SERVICE | | | |
|--------------------------------------|-------------|--------|----------|--|-------------|--------|----------|
| 4000 | Golden Gate | Bus 37 | 10:15 AM | 4000 | Golden Gate | Bus 37 | 10:15 AM |
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To MUNI Bus Pl

STREET
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