



JPB Board of Directors
Meeting of May 4, 2023

Supplemental File

<u>#</u>	<u>Subject</u>
1	Update on Stadler Contract Option and Rail Vehicle Acquisition Staff Report
2	Update on Caltrain Safety Performance

**Peninsula Corridor Joint Powers Board
Staff Report**

To: Board of Directors
Through: Michelle Bouchard, Executive Director
From: Kate Jordan Steiner, Chief Financial Officer
Subject: **Update on Stadler Contract Option and Rail Vehicle Acquisition**

<input checked="" type="checkbox"/> Finance Committee Recommendation	<input type="checkbox"/> Technology, Operations, Planning, and Safety Committee Recommendation	<input type="checkbox"/> Advocacy and Major Projects Committee Recommendation	<input checked="" type="checkbox"/> Staff Coordinating Council Reviewed	<input checked="" type="checkbox"/> Staff Coordinating Council Recommendation
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Action

Staff proposes the Committee recommend the Board:

1. Receive the attached Update on Stadler Contract Option and Rail Vehicle Acquisition

Significance

Caltrain must exercise its contract option with Stadler for electric multiple units (EMUs) by August 15, 2023. Doing so will allow the agency to reduce emissions, achieve operational efficiencies and significantly reduce the cost of procurement, saving Caltrain at least \$125 million.

Budget Impact

There is no budget impact associated with receiving this report. The budget impact of the exercise of the option depends on the number of vehicles and the circumstances of the contract that are yet to be determined. Though there is not a detailed impact analysis at this time, one will be included when the contract negotiation is brought back to the committee for adoption.

Background

In 2016, Caltrain entered the Caltrain CALMOD Electrification EMU Procurement (Contract #14-PCJPB-P-056) with Stadler for 16 electric multiple units (EMUs) to be delivered as part of the Peninsula Corridor Electrification Project. Under this contract, Caltrain reserved the right to exercise options to order up to 96 additional vehicles "Option Vehicles." The contract includes two option periods: Option Period 1 and Option Period 2. In 2018 under Option Period 1, which

is described as at any time during the manufacturing process (i.e. any time up to 18 months prior to the start of fabrication of the last new car shell), Caltrain exercised the contract option for 37 additional train cars which brought the total number of EMUs up from 16 to 19 and changed the original six car trainsets into seven car trainsets.

The Option 1 Period has now expired and Caltrain is now in the Option 2 Period, described as after the time period for Option 1 has expired, but at any time within seven years of the effective date of the contract. The deadline for the Option 2 Period is August 15, 2023. During this period, Caltrain may exercise an option(s) to purchase additional Option Vehicles such that the total amount of Option Vehicles purchased does not exceed 96. The JPB may order Option Vehicles of any configuration (i.e. coaches, cab cars, bicycle cars, etc.) and any quantity. Unit prices for the corresponding Option Vehicle type(s) ordered during the Option 2 period will be the unit price for Option Vehicles set forth in the "Option Cars" price form, subject to the adjustment set forth in Section 1.10.1.2 of the Special Provisions of the Caltrain CALMOD Electrification EMU Procurement (Contract #14-PCJPB-P-056).

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Update on Stadler Contract Option and Rail Vehicle Acquisition

Caltrain Finance Committee – April 24, 2023

Caltrain is working to achieve a zero emission corridor to benefit riders, communities, and the state's climate goals. Caltrain seeks to exercise its option with Stadler that expires August 15, 2023 in order to save over \$125 million in vehicle costs for the region.

Background

Current Fleet

Caltrain's current fleet is made up of 29 diesel locomotives circa 1985 to 2003 that run between San Francisco and Gilroy. The agency is deep into construction on the Peninsula Corridor Electrification Project (PCEP) which will transform the corridor from San Francisco to San Jose, replacing 20 of its diesel locomotive fleet with 19 zero-emissions electric multiple unit (EMU) trains, helping to achieve the state's transportation, safety, and climate goals. The difference in locomotives vs EMUs for replacement is due to the difference in number of railcars and the improved efficiency of the EMUs. Four of these EMU trainsets are already onsite. The manufacturer of the EMUs is Stadler. Caltrain plans to put the EMUs into revenue service in Fall of 2024. However, nine diesel locomotives will still remain in the fleet. Caltrain will have mixed service with both EMUs and diesel locomotives running on the corridor beginning in 2024.

To achieve a 100% zero emission railroad, Caltrain must add five EMUs, as well as six battery-equipped electric trains (BEMUs) that will run on the southern, non-electrified portion of the corridor owned by Union Pacific Railroad. If Caltrain can exercise its option with Stadler for four replacement EMUs, one additional EMU, and one pilot BEMU, **it will save the region at least \$125 million and potentially more than \$150 million**. The range of cost savings is dependent on specifics of the negotiation with Stadler, the inclusion of the BEMU pilot train, and other factors.

Option with Stadler Expiring August 2023

Caltrain has an option on its contract with Stadler that would allow the purchase of up to eight more electric trainsets (59 cars) at a lower price than what would be available in a new procurement. The option expires August 15, 2023.

Request to Metropolitan Transportation Commission (MTC) for Four Replacement EMUs Using Federal Transit Administration (FTA) Formula Funds

Caltrain is requesting the MTC program FTA formula funds for four EMUs to replace three diesel locomotives and one set of rail cars. This would allow for over 90% zero emission service on the corridor and greatly improve the efficiency and sustainability of Caltrain service. This would still leave five diesel locomotives in the fleet to run service to Gilroy. The FTA formula funding request from MTC is \$176 million over five fiscal years, representing an 80% federal share of the \$220 million total cost. The request for the first two fiscal years (FY 23 and FY 24) totaling \$30.4 million was approved by the Programming and Allocation Committee on April 12, 2023 and is anticipated to be on the agenda at the MTC April 26, 2023 meeting.

Stadler Option - 4 Replacement EMUs	Total	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
FTA Formula	\$176,000,000	\$12,800,000	\$17,600,000	\$63,200,000	\$61,600,000	\$20,800,000
Local	\$44,000,000	\$3,200,000	\$4,400,000	\$15,800,000	\$15,400,000	\$5,200,000
Total	\$220,000,000	\$16,000,000	\$22,000,000	\$79,000,000	\$77,000,000	\$26,000,000

Request to the FTA Rail Vehicle Replacement Grant Program

In addition to requesting FTA formula funds, Caltrain has applied to the FTA’s Rail Vehicle Replacement Program for three EMUs to replace three diesel trains in the amount of \$80.7M. The funding would cover 50% of the cost of the three EMU sets. The remaining 30% share of Federal funding for the three EMUs as well as the full 80% share of Federal funding for the fourth trainset would continue to be sought through FTA formula funding. Award information is expected as early as April 2023.

Avoided Costs with the Ability to Exercise the Option by August 2023

Caltrain and the Bay Area region would save a significant amount of funding if we are able to exercise our option with Stadler for four replacement EMUs. We estimate that procuring four replacement EMUs under the option would save approximately \$100 million to \$120 million in total costs (45% to 60% savings).

Vehicle Type	Cost per Trainset With Option	Cost per Trainset Without Option	Avoided Costs With Option	Trainsets Requested	Total Avoided Costs
EMU	\$50M - \$55M	~\$80M	\$25M - \$30M	4	\$100M - \$120M

Reasons for Increased Costs without the Option

There are a number of reasons for increased costs in procuring rail vehicles outside of the Stadler option which include, but are not limited to:

- Small size of trainset order
- Costs associated with a different car builder
- Lack of available production capacity
- Inflation in labor and materials
- Supply chain issues
- Manufacturers reluctant to enter into long-term fixed price agreements due to recent economic instability
- Cost escalation uncertainty going forward

The Portal/ Downtown Rail Extension

The Portal/Downtown Rail Extension (DTX) would require a fleet expansion to provide a service level of six trains per hour. Also, diesel trains cannot operate within the DTX tunnel or Salesforce Transit Center due to insufficient space for ventilation in the event of fire. Caltrain would need to acquire an additional EMU to expand service and is in discussion with the Transbay Joint Powers Authority to request that this additional EMU be included in the project costs for DTX.

Vehicle Type	Cost per Trainset With Option	Cost per Trainset Without Option	Avoided Costs With Option	Trainsets Requested	Total Avoided Costs
EMU	\$50M - \$55M	~\$80M	\$25M - \$30M	1	\$25M - \$30M

Battery Electric Multiple Units

Caltrain owns the right of way between the 4th and King Station in San Francisco to Tamien Station in San Jose. South of Tamien, Caltrain is a tenant on Union Pacific Railroad-owned tracks through to Gilroy. The California High Speed Rail Authority is planning to run from Gilroy on Caltrain overhead contact system (OCS) through to The Portal/Transbay Downtown Extension. However, it is uncertain when the stretch of track from Gilroy to Tamien will be electrified. In order to reach the goal of a zero emission corridor sooner, Caltrain is planning to acquire battery-equipped EMUs (BEMUs) which could charge on Caltrain’s OCS and run on battery power to Gilroy without the use of diesel locomotives. The Federal Rail Administration has not yet vetted BEMUs for passenger use in the United States and would need an opportunity to test, review, and approve these vehicles in order to allow them to be in service.

Pilot BEMU Demonstration Project

Caltrain is engaged in conversation with CalSTA and Caltrans on a potential pilot project that would involve procurement of one BEMU under the existing Stadler contract as a demonstration project that would allow for testing of the technology. The likely testing area would be Tamien to Gilroy and then Gilroy to Salinas for longer range demonstration.

This is a unique opportunity to work with CalSTA on a pilot project to modify one EMU train ordered under the options clause. Ordering one BEMU with the option will provide Caltrain with critical information from this pilot project to inform the future BEMU fleet order. The BEMU is not yet designed and a detailed estimate informing the project estimated maximum of \$80M will be prepared following technical meetings with Stadler, followed by negotiations. While there are no orders of single trains to compare to, the cost of the pilot BEMU is significantly mitigated by the cost savings from utilizing the EMU option, avoiding a new procurement, and using EMU coaches as part of the BEMU train. The BEMU demonstration train would be funded through the state of California.

Vehicle Type	Cost per Trainset With Option
Pilot BEMU	\$70M - \$80M

Total Avoided Costs if Caltrain Exercises Option for Six Vehicles

If Caltrain can exercise its option with Stadler for 4 replacement EMUs, 1 additional EMU, and 1 pilot BEMU, it **will save the region at least \$125M and potentially more than \$150M.**

Future Fleet Plans

By the end of 2024, Caltrain expects to have 19 EMUs and nine diesel locomotives. By 2030, Caltrain plans to have 24 EMUs (four replacement and one expansion), a pilot BEMU, and five diesel

locomotives. By 2035, Caltrain plans to have 24 EMUs and six BEMUs (five replacement and one pilot) for a total of 30 zero emission vehicles and no diesel locomotives. Having six BEMUs would include five round-trips per day to Gilroy plus one spare and allow for the completion of a zero emission corridor. These plans are dependent on funding and technology availability.

Funding Opportunities

FTA Formula Funds

Caltrain is requesting that MTC program replacement funds over a five-year period for four EMUs to replace diesel rail vehicles and railcars in a 1 to 1 seat replacement.

FTA Rail Vehicle Replacement Grant Program

Caltrain has applied to the FTA's Rail Vehicle Replacement Grant Program for three new, high-performance EMUs to replace diesel locomotive trains and enhance the safety and reliability of Caltrain in the San Francisco Bay Area. This would enable Caltrain to reduce emissions and noise pollution in equity priority communities along the corridor. This also builds on the Electrification Project and will advance the U.S. Department of Transportation goal of transitioning to a cleaner and more energy-efficient future. Caltrain has received support from Senator Feinstein and our federal House delegation, as well as our state delegation, local elected leaders, and community organizations, institutions, and businesses. This program covers 50% of the cost of the vehicles and Caltrain has applied for \$80M. Award announcements are expected in April.

CalSTA and Caltrans

Caltrain is working with CalSTA and Caltrans to pursue funding for a pilot BEMU that would enable testing and demonstration of this new rail technology which holds promise for getting Caltrain to a zero emission corridor future. Conversations are ongoing.

The Portal/ Downtown Rail Extension

Caltrain is working with the Transbay Joint Powers Authority to request inclusion of an EMU needed for service expansion to The Portal/DTX into the project cost.

Other Funding Sources for EMU and BEMU Replacements

- Solutions Congested Corridors Program
- Transit and Intercity Rail Capital Program
- Affordable Housing and Sustainable Communities Grant Program
- Local Partnership Program Competitive Grants
- FTA Future Formula Funds
- FTA Future Competitive Grant Programs
- Carl Moyer Memorial Air Quality Standards Attainment Program

**Peninsula Corridor Joint Powers Board
Staff Report**

To: Board of Directors
Through: Michelle Bouchard, Executive Director
From: Mike Meader, Caltrain Safety
Subject: Safety Performance Dashboard

<input type="checkbox"/> Finance Committee Recommendation	<input checked="" type="checkbox"/> Technology, Operations, Planning, and Safety Committee Recommendation	<input type="checkbox"/> Advocacy and Major Projects Committee Recommendation	<input checked="" type="checkbox"/> Staff Coordinating Council Reviewed	<input checked="" type="checkbox"/> Staff Coordinating Council Recommendation
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Action

This item is for information only.

Significance

This report and accompanying presentation are submitted to keep the Board advised as to the Safety Performance of Caltrain based upon measurement of Key Performance Indicators (KPIs or metrics). Caltrain is committed to providing a safe work environment for our employees and contractors, and safe and efficient train service for our customers. Caltrain is also committed to continuous improvement through the capture and analysis of KPIs. Regularly reviewing these metrics will enable staff to identify areas needing improvement and focus our activities to achieve improved safety performance.

Caltrain will provide quarterly safety reports to the board and will be sharing this same information with employees as we work to build a stronger Safety Culture consistent with our #1 Core Value – **Safety** – First and Always and our System Safety Program Plan (SSPP). These reports will include both lagging safety performance indicators reported to the Federal Railroad Administration (FRA) and leading safety performance indicators. While lagging indicators can alert you to a failure in your safety program or to the existence of a hazard, leading indicators allow an organization to take preventive action to address that failure or hazard before it turns into an incident. Future quarterly reports will include Hazard Reporting and Security performance information, as we develop reporting mechanisms in those areas as well.

Budget Impact

There is no impact on the budget associated with receiving this informational update. Caltrain's ability to further enhance its safety program is contingent on the availability of funding dedicated to that purpose.

Background

Caltrain had provided some safety and security performance reports prior to the pandemic. The launch of a Safety Performance Dashboard will mark a renewed commitment of reporting on these organizational focus areas. Caltrain will use improved data capture and analysis to identify safety gaps and be more proactive in closing those gaps prior to an incident occurring.

Prepared By: Mike Meader

Caltrain Safety Chief

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