San Francisco
County Transportation
Authority

1455 Market Street, 22ND Floor, San Francisco, California 94103 415-522-4800 info@sfcta.org www.sfcta.org

AGENDA

San Francisco County Transportation Authority
Meeting Notice

Date:	Tuesday, February 25, 2020; 10:00 a.m.
Location:	Legislative Chamber, Room 250, City Hall
Commissioners:	Peskin (Chair), Mandelman (Vice Chair), Fewer, Haney, Mar, Preston, Ronen, Safai, Stefani, Walton and Yee
Clerk:	Alberto Quintanilla

Transportation for Receipt of State and Federal Funds for the Yerba Buena Island Westside Bridges Seismic Retrofit Project – **ACTION*** 59

11. **[Final Approval]** Authorize the Executive Director to Execute Amendment No. 5 to the Memorandum of Agreement with the Treasure Island Development Authority for Yerba Buena Island Vista Point Operation Services to Increase the Amount by $400,000, to a Total Amount Not to Exceed $1,995,000, and Extend the Agreement Through June 30, 2022 for Operations and Maintenance Services for the New Vista Point at Pier E2 – **ACTION*** 73

End of Consent Agenda

12. Update on the San Francisco Municipal Transportation Agency's Siemens Light-Rail Vehicle Procurement – **INFORMATION*** 79

13. Independent Management and Oversight Report on the San Francisco Municipal Transportation Agency's Siemens Light-Rail Vehicle Procurement – **INFORMATION*** 99

14. San Francisco Muni Reliability Working Group Update – **INFORMATION*** 141

15. Information on Findings of the Clean Miles Standard – **INFORMATION*** 163

Other Items

16. Introduction of New Items – **INFORMATION**

During this segment of the meeting, Commissioners may make comments on items not specifically listed above, or introduce or request items for future consideration.

17. Public Comment

18. Adjournment

*Additional Materials

Items considered for final approval by the Board shall be noticed as such with **[Final Approval]** preceding the item title.

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DRAFT MINUTES

San Francisco County Transportation Authority

Tuesday, February 11, 2020

1. Roll Call

Chair Peskin called the meeting to order at 10:02 a.m.

Present at Roll Call: Commissioners Fewer, Haney, Mandelman, Mar, Preston, Peskin, Stefani and Walton (8)

Absent at Roll Call: Commissioners Yee (entered during Item 2), Ronen (entered during Item 5) and Safai (entered during Item 5) (3)

2. Citizens Advisory Committee Report – INFORMATION

John Larson, Chair of the Citizens Advisory Committee (CAC), reported that the CAC welcomed two new CAC members, representing districts 5 and 9, in January, bringing the CAC to full membership.

He addressed the 2020 State and Federal Legislative Program item, with CAC members discussion of the vetoed legislation for Lombard Street wherein CAC members noted that the time, resources, and funds being allocated towards Lombard Street might have a limited impact on overall congestion and could possibly be better used in neighborhoods of concern. The CAC suggested exploring another way to pay for a reservation system, specifically using a specific tax assessment for the area around the affected part of Lombard Street. Chair Larson reported that the CAC also discussed Senate Bill 50 (Wiener), with one member expressing concern that efforts for needed additional housing should not be slowed or scuttled because of complex issues about transportation not being decided.

Chair Larson addressed the Prop K allocation item on the Board agenda, stated that the CAC focused on the Islais Creek Bridge Catenary Reconstruction project. He said the CAC suggested that closure of the bridge or any detours be timed to avoid sporting and concert events in the area, while also being sensitive to local needs. Further, the CAC urged San Francisco Municipal Transportation Agency (SFMTA) planners to keep the bike routes open as much as possible during the time of the project.

Chair Larson said the CAC shared positive comments about the Pier E2 memorandum of agreement item and expressed excitement about the design and rollout of Pier E2 and future development of the adjacent torpedo building.

Chair Larson reported that a great deal of discussion was generated by a presentation on the public information and outreach campaign for Caltrans U.S. 101 deck replacement project. The CAC asked Caltrans to prioritize public transit in the corridor during the traffic diversions, such as implementing a bus-only lane and adding traffic control for the outer BART stations; conduct preferential hiring among the local community; and use paid internet search results to keep the public updated with the

latest information on the project. Lastly, he reported that the CAC requested SFMTA's new Executive Director, Jeffrey Tumlin, appear at a future CAC meeting.

There was no public comment.

3. Approve the Minutes of the January 28, 2020 Meeting – ACTION

There was no public comment.

Commissioner Preston moved to approve the item, seconded by Commissioner Walton.

The item was approved without objection by the following vote:

Ayes: Fewer, Haney, Mandelman, Mar, Preston, Peskin, Stefani, Walton and Yee (9)

Absent: Commissioners Ronen and Safai (2)

4. Appoint One Member to the Citizens Advisory Committee – ACTION

Aprile Smith, Senior Transportation Planner, presented the item per the staff memorandum.

Peter Tannen spoke to his interest and qualifications in being reappointed to the CAC.

Commissioner Mandelman stated that his office interviewed several qualified applicants for the position and was making a motion to reappoint Peter Tannen. He said Mr. Tannen was the longest-serving member of the CAC and was active and engaged.

Commissioner Mandelman moved to reappoint Peter Tannen to the CAC, seconded by Commissioner Yee.

The motion to reappoint Peter Tannen was approved without objection by the following vote:

Ayes: Fewer, Haney, Mandelman, Mar, Preston, Peskin, Stefani, Walton and Yee (9)

Absent: Commissioners Ronen and Safai (2)

5. State and Federal Legislation Update – ACTION

Mark Watts, State Legislative Advocate, and Maria Lombardo, Chief Deputy Director, presented the item per the staff memorandum.

Commissioner Ronen commented on a poll that showed two-thirds support for a one-cent sales increase for a combined housing/transportation measure in the nine Bay Area counties. She said she had pressed for clarification of the survey questions used to poll voters, expressing skepticism about the results based on the language used. She opined that the polls presented a false picture of a very regressive tax and asked that the Board remain extremely skeptical.

Chair Peskin asked if the entire document was a public record.

Commissioner Ronen said she was not given the entire poll, only pieces of it.

Ms. Lombardo said she believed it was a privately funded poll and would follow up to see if it had been released to the public.

During public comment Ian Griffith, Co-Founder and Director of Seamless Bay Area, said Seamless Bay Area was a non-profit group that wanted to see a more rider-friendly system that would make it more human-centered. He said the Bay Area had a 12% transit mode share regionally and needed the help of San Francisco in combination with regional and transit agencies to improve it. Mr. Griffith said he looked forward to coming back to the Board in the coming months with a resolution supporting the policy direction of the Seamless transit principles.

Francisco Da Costa said there was not enough focus on the regional transportation needs of the elder population. He said strong local representation in Sacramento was needed in order to understand the issues impacting riders on a regional basis.

Commissioner Mar moved to approve the item, seconded by Commissioner Mandelman.

The item was approved without objection by the following vote:

Ayes: Commissioners Fewer, Haney, Mandelman, Mar, Preston, Peskin, Ronen, Safai, Stefani, Walton and Yee (11)

6. Approve the 2020 State and Federal Legislative Program – ACTION

Amber Crabbe, Public Policy Manager, presented the item per the staff memorandum.

Commissioner Preston asked if staff knew who would be authoring legislation around speed limits and, if approved, whether it would take effect next January or if it would become an urgency bill to take effect sooner.

Ms. Crabbe said the Zero Traffic Fatalities Task Force report just came out last week and staff was not aware if a bill would be moving forward or who would be authoring the legislation. She said there was interest by many jurisdictions across the state regarding the topic of speed limits. Ms. Crabbe added that staff would bring any introduced legislation to the Board as soon as they had more details, noting that it was something SFMTA and other city agencies had interest in, consistent with the city's Vision Zero goals.

Commissioner Preston asked if there was opposition from other jurisdictions.

Ms. Crabbe said the taskforce was convened to get some resolution and agreement among various stakeholder groups on effective strategies to address traffic fatalities and noted that she had not specifically heard of opposition. She said the inclusion of speed limit strategies in the task force's report, which included parties who opposed it in the past, was a positive sign.

There was no public comment.

Commissioner Mandelman moved to approve the item, seconded by Commissioner Yee.

The item was approved without objection by the following vote:

Ayes: Fewer, Haney, Mar, Mandelman, Preston, Peskin, Ronen, Safai, Stefani and Yee (10)

Absent: Commissioner Walton (1)

7. Allocate $5,832,072, with Conditions, in Prop K Sales Tax Funds Seven Requests –

ACTION

Kaley Lyons, Transportation Planner, presented the item per the staff memorandum.

In regard to the traffic signal hardware visibility upgrades and traffic signal upgrades, Commissioner Haney said he was surprised that there were not many intersections in the Tenderloin. He asked if someone from the SFMTA could speak to that given the level of need and number of collisions across the entire neighborhood.

Geraldine De Leon, Project Manager at the SFMTA, said there were some locations identified in the Tenderloin as part of the traffic signal visibility upgrade request, and added that other projects for signal upgrades were being considered in the area.

Commissioner Haney asked which of the listed signal upgrades would be in the Tenderloin.

Ms. De Leon referenced page 64 on the item enclosure for traffic signal visibility upgrades and said there was a list of over 48 intersections that the SFMTA was considering for the upgrade project. She said the allocation request was for the current year and would be selecting about 15 intersections from the list. Ms. De Leon said the locations were selected based on collision history and a pattern of right-angle collisions. She said the selected locations had not been finalized, but could include locations from the Tenderloin.

Commissioner Fewer said there were very few District 1 traffic upgrades on the list and asked if it would be helpful if her office worked with the SFMTA to identify intersections that needed upgrades.

Ms. De Leon said the SFMTA could work with her office and noted that there were other projects under design and further along in the process in terms of implementation.

Commissioner Fewer said it would be helpful for the SFMTA to coordinate the timing of those projects with District 1 traffic calming meetings being organized by her office.

During public comment Francisco Da Costa asked that the SFMTA revisit the traffic lights on San Bruno Avenue and see whether they are functional.

Jody Medeiros, Executive Director at Walk San Francisco, spoke in support of the SFMTA's traffic signal upgrades and echoed Commissioner Haney's comments regarding neighborhoods like the Tenderloin which are part of the Vision Zero High Injury Network. She noted that some traffic signals were so old that they could perform certain functions like enabling pedestrian scrambles. She asked that the Board prioritize neighborhoods that had gone 40-50 years without traffic signal investments. As a partner in the Safe Routes to School program, she said she supported the $1 million investment and asked the Board if the investment was enough.

Commissioner Mandelman moved to approve the item, seconded by Commissioner Preston.

The item was approved without objection by the following vote:

Ayes: Commissioners Fewer, Haney, Mandelman, Mar, Preston, Peskin, Ronen, Safai, Stefani, Walton and Yee (11)

8. Adopt Fiscal Year 2020/21 Transportation Fund for Clean Air Local Expenditure Criteria – ACTION

Mike Pickford, Senior Transportation Planner, presented the item per the staff memorandum.

Commissioner Walton asked what types of projects fell under alternative-fuel vehicles and infrastructure priorities.

Mr. Pickford said the program funded direct purchase of vehicles, like the SFMTA's hybrid sedans used for paratransit, and incentives for taxis owners to encourage them to buy hybrid or electric vehicles. He added that the program had funded electric vehicle chargers.

Commissioner Walton asked if different types of electrical vehicles had different types of chargers and if so, how the program determined which chargers would be purchased.

Mr. Pickford said his understanding was that the chargers funded by the program were industry standard and could charge different brands of car. He added that the program had not funded chargers that were specific to a certain type of vehicle.

There was no public comment.

Commissioner Yee moved to approve the item, seconded by Commissioner Ronen.

The item was approved without objection by the following vote:

Ayes: Commissioners Fewer, Haney, Mandelman, Mar, Preston, Peskin, Ronen, Safai, Stefani, Walton and Yee (11)

Chair Peskin called Item 9 and Item 10 together.

9. Authorize the Executive Director to Execute Eight Project Delivery Agreements and Any Amendments Thereto with the California Department of Transportation for Receipt of State and Federal Funds for the Yerba Buena Island Westside Bridges Seismic Retrofit Project – ACTION

10. Authorize the Executive Director to Execute Amendment No. 5 to the Memorandum of Agreement with the Treasure Island Development Authority for Yerba Buena Island Vista Point Operation Services to Increase the Amount by $400,000, to a Total Amount Not to Exceed $1,995,000, and Extend the Agreement Through June 30, 2022 for Operations and Maintenance Services for the New Vista Point at Pier E2 – ACTION

Eric Cordoba, Deputy Director for Capital Projects, presented the items per the staff memorandum.

There was no public comment.

Commissioner Haney moved to approve the items, seconded by Commissioner Yee.

The items were approved without objection by the following vote:

Ayes: Commissioners Fewer, Haney, Mandelman, Mar, Preston, Peskin, Ronen, Safai, Stefani, Walton and Yee (11)

11. Internal Accounting Report, Investment Report, and Debt Expenditure Report for the

Six Months Ending December 31, 2019 – INFORMATION

Cynthia Fong, Deputy Director for Finance and Administration, presented the item per the staff memorandum.

There was no public comment.

Other Items

12. Introduction of New Items – INFORMATION

There were no new items introduced.

13. Public Comment

There was no public comment.

14. Adjournment

The meeting was adjourned at 11:08 a.m.

San Francisco
County Transportation
Authority

BD021120 RESOLUTION NO. 20-30

RESOLUTION APPOINTING PETER TANNEN TO THE CITIZENS ADVISORY COMMITTEE OF THE SAN FRANCISCO COUNTY TRANSPORTATION AUTHORITY

WHEREAS, Section 131265(d) of the California Public Utilities Code, as implemented by Section 5.2(a) of the Administrative Code of the San Francisco County Transportation Authority, requires the appointment of a Citizens Advisory Committee (CAC) consisting of eleven members; and

WHEREAS, There is one open seat on the CAC resulting from the term expiration of a member who is seeking reappointment; and

WHEREAS, At its February 11, 2020 meeting, the Board reviewed and considered all applicants' qualifications and experience and recommended appointment of Peter Tannen to serve on the CAC for a period of two years; now therefore, be it

RESOLVED, That the Board hereby appoints Peter Tannen to serve on the CAC of the San Francisco County Transportation Authority for a two-year term; and be it further

RESOLVED, That the Executive Director is authorized to communicate this information to all interested parties.

San Francisco
County Transportation
Authority

1455 Market Street, 22ND Floor, San Francisco, California 94103 415-522-4800 info@sfcta.org www.sfcta.org

Memorandum

AGENDA ITEM 5

DATE: February 3, 2020

TO: Transportation Authority Board

FROM: Maria Lombardo – Chief Deputy Director

SUBJECT: 2/11/20 Board Meeting: Appointment of One Member to the Citizens Advisory Committee

RECOMMENDATION ☐ **Information** ☒ **Action**	☐ Fund Allocation
Neither staff nor CAC members make recommendations regarding CAC appointments.	☐ Fund Programming
SUMMARY	☐ Policy/Legislation
There is one open seat on the CAC requiring Board action. The vacancy is the result of the term expiration of Peter Tannen (District 8 resident), who is seeking reappointment. There is currently 36 applicants to consider for the open seat.	☐ Plan/Study
	☐ Capital Project Oversight/Delivery
	☐ Budget/Finance
	☐ Contract/Agreement
	☒ Other: CAC Appointment

DISCUSSION

BACKGROUND.

The Transportation Authority has an eleven-member CAC and members serve two-year terms. Per the Transportation Authority's Administrative Code, the Board appoints individuals to fill open CAC seats. Neither staff nor the CAC make recommendations on CAC appointments, but we maintain a database of applications for CAC membership. Attachment 1 is a tabular summary of the current CAC composition, showing ethnicity, gender, neighborhood of residence, and affiliation. Attachment 2 provides similar information on current applicants, sorted by last name.

PROCEDURES.

The selection of each member is approved at-large by the Board; however traditionally the Board has had a practice of ensuring that there is one resident of each supervisorial district on the CAC. Per Section 5.2(a) of the Administrative Code, the CAC:

> "…shall include representatives from various segments of the community, such as public policy organizations, labor, business, senior citizens, the disabled, environmentalists, and the neighborhoods; and reflect broad transportation interests."

An applicant must be a San Francisco resident to be considered eligible for appointment. Applicants are asked to provide residential location and areas of interest but provide ethnicity and gender information on a voluntary basis. CAC applications are distributed and accepted on a continuous basis. CAC applications were solicited through the Transportation Authority's website, Commissioners' offices, and email blasts to community-based organizations, advocacy groups, business organizations, as well as at public meetings attended by Transportation Authority staff or hosted by the Transportation Authority. Applications can be submitted through the Transportation Authority's website at www.sfcta.org/cac.

All applicants have been advised that they need to appear in person before the Board in order to be appointed, unless they have previously appeared. If a candidate is unable to appear before the Board on the first appearance, they may appear at the following Board meeting in order to be eligible for appointment. An asterisk following the candidate's name in Attachment 2 indicates that the applicant has not previously appeared before the Committee.

FINANCIAL IMPACT

The requested action would not have an impact on the adopted Fiscal Year 2019/20 budget.

CAC POSITION

None. The CAC does not make recommendations on the appointment of CAC members.

SUPPLEMENTAL MATERIALS

- Attachment 1 – Matrix of CAC Members
- Attachment 2 – Matrix of CAC Applicants
- Enclosure 1 – CAC Applications

Attachment 1 (Updated 1.29.20)

CITIZENS ADVISORY COMMITTEE [1]

Name	Gender	Ethnicity	District	Neighborhood	Affiliation	First Appointed	Term Expiration
Peter Tannen	M	C	8	Inner Mission	Environmental, Neighborhood, Public Policy	Feb 08	Feb 20
John Larson, Chair	M	NP	7	Miraloma Park	Environment, Neighborhood, Public Policy	Mar 14	Mar 20
Rachel Zack	F	C	3	Union Square/Nob Hill	Environmental, Labor, Neighborhood, Public Policy	June 18	June 20
Robert Gower	M	C	11	Mission Terrace	Disabled, Environment, Neighborhood, Public Policy, Senior Citizen	Sept 18	Sept 20
David Klein, Vice-Chair	M	C	1	Outer Richmond	Environment, Labor, Neighborhood, Public Policy, Senior Citizens	Sept 18	Sept 20
Jerry Levine	M	C	2	Cow Hollow	Business, Neighborhood, Public Policy	Nov 18	Nov 20
Sophia Tupuola	F	NH	10	Bayview Hunters Point	Business, Disabled, Environment, Labor, Neighborhood, Public Policy, Senior Citizen	Mar 19	Mar 21
Ranyee Chiang	F	A	4	Central Sunset	Environment, Neighborhood, Public Policy	Mar 19	Mar 21
Danielle Thoe	F	C	6	Tenderloin	Disabled, Environment, Neighborhood, Public Policy, Senior Citizen	Oct 19	Oct 21
Kevin Ortiz	M	H/L	9	Mission	Neighborhood, Public Policy	Dec 19	Dec 21
Stephanie Liu	F	A	5	Western Addition	Environment, Neighborhood, Public Policy	Dec 19	Dec 21

A – Asian AA – African American AI – American Indian or Alaska Native C – Caucasian H/L – Hispanic or Latino

NH – Native Hawaiian or Other Pacific Islander NP – Not Provided (Voluntary Information)

[1] Shading denotes open seats on the CAC.

Attachment 2 (Updated 1.29.20)

APPLICANTS

	Name	Gender	Ethnicity	District	Neighborhood	Affiliation/Interest
1	Nancy Arms Simon*	NP	NP	10	Bayview	Disabled, Environmental, Labor, Neighborhood, Public Policy, Senior Citizen
2	Philip Bailey*	M	C	5	Cole Valley	Business, Disabled, Environment, Labor, Neighborhood, Public Policy, Senior Citizen
3	Leticia Contreras*	F	H/L	4	Sunset District	Disabled, Environment, Labor, Neighborhood, Public Policy, Senior Citizen
4	Gordon Crespo*	M	NP	7	Midtown Terrace	Environment, Public Policy
5	Harold Flowers*	NP	NP	9	Sunset District	Business, Disabled, Environment, Labor, Neighborhood, Public Policy, Senior Citizen
6	Jane Ginsburg*	F	C	5	Lower Haight/Duboce Park	Environment, Neighborhood, Public Policy, Senior Citizen
7	Jack Harman*	NP	NP	6	Rincon Hill	Environment, Neighborhood, Public Policy
8	Calvin Ho*	M	A	4	Outer Sunset/Parkside	Business, Disabled, Environment, Labor, Neighborhood, Public Policy, Senior Citizen
9	Amanda Jimenez*	F	H/L	4	Outer Sunset	Disabled, Environment, Neighborhood, Public Policy
10	Robin Kutner*	F	NP	8	Buena Vista	Environment, Neighborhood
11	Matthew Laroche*	M	C	4	Outer Sunset	NP
12	John Lisovsky*	M	C	5	Panhandle	Environment, Labor, Neighborhood, Public Policy
13	Patrick Maley*	M	NP	1	Richmond	Environment, Labor, Neighborhood, Public Policy
14	Trey Matkin*	M	C	5	Hayes Valley	Business, Disabled, Environment, Labor, Neighborhood, Public Policy
15	Kary McElroy*	F	C	5	Alamo Square	Business, Disabled, Environment, Neighborhood, Public Policy, Senior Citizen
16	Marlo McGriff*	M	AA	8	Mission/Dolores	Environment, Labor, Neighborhood, Public Policy, Senior Citizen

	Name	Gender	Ethnicity	District	Neighborhood	Affiliation/Interest
17	Meaghan Mitchell*	F	AA	10	Bayview	Business, Labor, Neighborhood, Public Policy
18	Antoinette Mobley*	NP	AA	10	Bayview	Business, Environment, Neighborhood
19	Tyler Morris*	M	C	9	Bernal Heights	Business, Disabled, Environment, Neighborhood, Public Policy
20	Wayne Norton*	M	AA	10	Bayview/Hunter's Point	Business, Environment, Neighborhood, Public Policy
21	Edward Parillon*	M	AA	8	Mission	Business, Environment, Labor, Neighborhood, Public Policy
22	Ian Poirier*	M	NP	10	Dogpatch	Business, Disabled, Environment, Labor, Neighborhood, Public Policy, Senior Citizen
23	John Powell*	M	H/L	1	Outer Richmond	Disabled, Environment, Labor, Neighborhood, Public Policy, Senior Citizen
24	Sarah Rogers*	F	C	9	Bernal Heights	Environment, Neighborhood, Public Policy
25	Jacqualine Sachs	F	C	2	Western Addition	Disabled, Neighborhood
26	Ramy Shweiky*	M	NP	10	Bayview	Business, Environment, Labor, Neighborhood, Public Policy
27	Gregory Smith*	M	C	1	Mid Richmond	Environment, Labor, Senior Citizens
28	Adrianne Steichen*	F	C	5	Lower Haight	Environment, Neighborhood, Public Policy
29	Peter Tannen	M	C	8	Inner Mission	Environmental, Neighborhood, Public Policy
30	Emily Sun*	F	NP	5	Hayes Valley	Environment, Neighborhood, Public Policy
31	Eric Tucker*	M	C	10	Visitacion Valley	Business, Environment, Neighborhood, Public Policy
32	Peter Wilson*	M	C	5	Alamo Square	Environment, Labor, Neighborhood
33	Brian Wong*	NP	NP	5	Divisadero/NOPA	Business, Environment, Neighborhood, Public Policy
34	Stephen Woods*	M	C	4	Sunset	Environment, Labor, Neighborhood, Public Policy

	Name	Gender	Ethnicity	District	Neighborhood	Affiliation/Interest
35	David Young*	NP	NP	6	SOMA	Business, Environment, Neighborhood, Public Policy
36	Bozhao Yu	M	A	1	Lone Mountain	Business, Environment, Neighborhood, Public Policy

A – Asian AA – African American AI – American Indian or Alaska Native C – Caucasian H/L – Hispanic or Latino

NH – Native Hawaiian or Other Pacific Islander NP – Not Provided (Voluntary Information)

*Applicant has not appeared before the Board.

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San Francisco
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BD021120 RESOLUTION NO. 20-31

RESOLUTION ADOPTING AN OPPOSE POSITION ON ASSEMBLY BILL (AB) 1848 (LACKEY) AND AN OPPOSE UNLESS AMENDED POSITION ON AB 1964 (FRAZIER)

WHEREAS, The Transportation Authority approves a set of legislative principles to guide transportation policy advocacy in the sessions of the Federal and State Legislatures; and

WHEREAS, With the assistance of the Transportation Authority's legislative advocate in Sacramento, staff has reviewed pending legislation for the current Legislative Session and analyzed it for consistency with the Transportation Authority's adopted legislative principles and for impacts on transportation funding and program implementation in San Francisco and recommended adopting a new oppose position on AB 1848 (Lackey) and a new oppose unless amended position on AB 1964 (Frazier) as shown in Attachment 1; and

WHEREAS, At its February 11, 2019 meeting, the Board reviewed and discussed AB 1848 (Lackey) and AB 1964 (Frazier); now, therefore, be it

RESOLVED, That the Transportation Authority hereby adopts an oppose position on AB 1848 (Lackey) and an oppose unless amended position on AB 1964 (Frazier); and be it further

RESOLVED, That the Executive Director is directed to communicate this position to all relevant parties.

Attachment:
1. State Legislation – February 2020

State Legislation – February 2020
(Updated February 4, 2020)
To view documents associated with the bill, click the bill number link.

February 21 is the last day to submit new bills this session so we expect an uptick in legislative activity over the next several weeks.

Staff is recommending a new oppose position on Assembly Bill (AB) 1848 (Lackey), a new oppose unless amended position on AB 1964 (Frazier), and new watch positions on AB 1350 (Gonzalez), AB 2012 (Chu), and AB 2057 (Chiu) as show in **Table 1.**

Table 2 provides updates on AB 40 (Ting), Senate Bill (SB) 50 (Wiener), and SB 278 (Beall), on which the Transportation Authority has previously taken positions this session.

Table 3 shows the status of active bills as of the beginning of 2020 on which the Board has already taken a position.

Table 1. New Recommended Positions

Recommended Positions	Bill # Author	Title and Update
Watch	AB 1350 Gonzalez D	**Free youth transit passes: eligibility for state funding.** This bill would require transit agencies to offer free youth transit passes to persons 18 years of age and under in order to be eligible for state funding under the Mills-Deddeh Transit Development Act, the State Transit Assistance Program, or the Low Carbon Transit Operations Program. The bill would also require a free youth transit pass to count as a full price fare for purposes of calculating the ratio of fare revenues to operating costs, which serves as the basis for these sources' formula distribution to operators. The San Francisco Municipal Transportation Agency (SFMTA) already has a Free Muni for Youth program for low- and moderate- income students, and a $40 transit pass discount for all youth. We do not have a cost estimate of what it would take to extend the program to all students but are concerned that the bill does not currently identify funding that would offset lost fare revenue.
Oppose	AB 1848 Lackey R	**High-speed rail: Metrolink commuter rail system.** In 2008, voters approved a $10 billion general obligation bond to develop and implement a high-speed rail system in the state. This bill would appropriate $4 billion of remaining high-speed rail bond revenues to the Southern California Regional Rail Authority to fund improvements to the Metrolink commuter rail system. The project's current business plan would have directed most of this funding to a segment connecting San Francisco to the Central Valley segment that is currently under construction. We are recommending an oppose position to maintain the funding for the Northern California project segment, which includes the Peninsula and extension of high-speed rail to the Salesforce Transit Center in downtown San Francisco.
Oppose Unless Amended	AB 1964 Frazier D	**Autonomous vehicles.** Existing law authorizes the operation of an autonomous vehicle on public roads for testing purposes by a driver who possesses the proper class of license for the type of vehicle being operated if specified requirements are met. Existing law defines an "autonomous vehicle" for this purpose as any vehicle equipped with autonomous technology that has been integrated into the vehicle. This bill would

		expand the definition of the term "autonomous vehicle" to also include a remotely operated vehicle, defined as a specified type of vehicle that is capable of being operated by a driver or operator that is not inside of the vehicle. This bill would effectively authorize the testing of remote-controlled vehicles on public roads, similar to what autonomous vehicles have today. We are seeking amendments requiring that prior to on-road testing there is consultation with local agencies about public safety measures (e.g. how the vehicle should respond to a collision, how it should navigate bike lanes and curb access, how it responds to law enforcement). Amendments should also require reporting to local agencies about any on-road incidents or operational failures during testing. We have reached out to SFMTA staff for input on this bill when they are able to review it.
Watch	AB 2012 Chu D	**Free senior transit passes: eligibility for state funding.** Similar to AB 1035 (Gonzalez) above, this bill would require transit agencies to offer free senior transit passes to persons over 65 years of age in order to be eligible for state funding under the Mills-Deddeh Transit Development Act, the State Transit Assistance Program, and the Low Carbon Transit Operations Program. The bill would require those free senior transit passes to count as full price fares for purposes of calculating the ratio of fare revenues to operating costs, which serves as the basis for these sources' formula distribution to operators. The San Francisco Municipal Transportation Agency (SFMTA) already provides free transit passes for low- and moderate- income seniors, and seniors of all incomes are eligible to receive a $40 discount on a monthly pass. We do not have a cost estimate of what it would take to extend the free program to all students but are concerned that the bill does not currently identify funding that would offset lost fare revenue.
Watch	AB 2057 Chiu D	**San Francisco Bay Area: public transportation.** This is currently a spot bill, which specifies the author's intent to put in place reforms to make the region's transit system easier to use with a more seamless experience for transit riders. Assemblymember Chiu is working with Seamless Bay Area, a nonprofit sponsor of the legislation, as well as with public agencies and other stakeholders on substantive language for the bill which will be introduced at a later date. Based on our conversations with the author and Seamless Bay Area, we expect that this bill will establish a commission to study the region's existing transit system and transportation governance, with an eye toward recommending institutional reforms. This may include establishing a Transportation Network Manager or Planner similar to what is being contemplated as part of SB 278 (Beall), which would coordinate transit operations and expansion across the region. We support the goal of improving the transit experience in the Bay Area, and will work with the author and Seamless Bay Area to help create a commission that appropriately represents urban core communities and the largest transit operators (e.g. Muni and BART alone carry over 70% of the region's transit trips), and low-income, disabled, and otherwise disadvantaged communities. Seamless Bay Area has asked the Board to adopt a set of seamless transit principles, which are intended to help the region pursue a seamlessly integrated, world-class transit system. We are working with our partners to review the

		principles and anticipate bringing a recommendation to the CAC on the Seamless Bay Area principles later this month and to the Board for action in March.

Table 2. Notable Updates on Bills in the 2019-2020 Session

Adopted Positions	Bill # Author	Title and Update
Support	AB 40 Ting D	**Air Quality Improvement Program: Clean Vehicle Rebate Project (CVRP).** This legislation as initially proposed would have required the California Air Resources Board (ARB) to develop a comprehensive strategy by January 1, 2021 to ensure that all new vehicles are zero-emission by 2040. Late last year, it was amended to instead 1) declare the state policy of placing at least 5 million zero-emission vehicles on state roads by 2030 and 10 million by 2035 and 2) limit eligibility for the CVRP to only those vehicles manufactured by companies that have entered into a specified agreement with ARB to maintain and increase reductions in greenhouse gas emissions. In response to the Trump Administration's July 2019 withdraw of California's authority to set its own stricter vehicle emission standards, a consortium of automakers and California agreed on a voluntary framework to reduce emissions, including Ford, Honda, BMW, and Volkswagen. This bill would have made CVRP rebates available only to purchasers of vehicles manufactured by automakers that agreed to that framework, meaning purchasers of ZEVs from other carmakers would not be eligible for the state's rebate program. The bill did not meet the Jan 31 statutory deadline and is therefore dead, however the Governor is expected to take this up again this year. Other public bodies throughout the state are considering similar restrictions on fleet purchases and pass-through incentive programs. In January, the Bay Area Air Quality Management District directed staff to develop such a policy and will consider adopting it in March.
Oppose Unless Amended	SB 50 Wiener D	**Planning and zoning: housing development: streamlined approval: incentives.** At its December 10, 2019 meeting, the Board adopted an oppose unless amended position on SB 50, a bill that would, among other things, establish by-right housing height and density standards near high-quality transit. The Board directed staff to seek either amendments to SB 50 or a companion bill that would provide funding for increased transportation capacity, infrastructure projects, and planning support in order to accommodate the increased transit demand induced by new development. However, the bill did not meet the January 31 statutory deadline for two-year bills to leave their house of origin and is therefore dead. The State Legislature and the Governor's Office have indicated their intent to continue to focus this year on addressing the housing and homelessness crisis. We anticipate another attempt to pass these types of reforms before the end of the legislative session.
Watch	SB 278 Beall D	**Metropolitan Transportation Commission.** This bill is currently a placeholder, which the author intends to amend at a later date to establish a regional transportation measure for the nine county Bay Area.

		We are working with San Francisco agencies and other stakeholders to ensure the bill's policies and expenditure plan will promote the use of regional mass transit and the continued development of an integrated, reliable, regional public transportation system. In particular, we are advocating for the measure to support San Francisco's priorities such as a regional means-based fare program, BART and Muni core capacity programs, transit operations, as well as other key projects such as the Downtown Extension and US 101/I-280 Express Lanes with Bus Service. A number of advocacy coalitions, including FASTER Bay Area and Voices for Public Transportation, support including transit governance and planning reforms in SB 278. Similar to AB 2057 (Chiu), the intent is to ensure that the revenues are used to help create a more seamless and equitable network as well as to create a Transit Network Planner role to establish coordination leadership between existing transit agencies. The region is currently discussing both this potential regional transportation revenue measure and a potential housing revenue measure (as authorized last year through AB 1487 (Chiu)) for the ballot in November 2020. Recent polling has shown that two revenue measures on the ballot simultaneously would struggle to reach the required two-thirds voter support threshold, but a single measure with an expenditure plan that included both transportation and housing would come within the margin of error of achieving two-thirds. At their January 30th and 31st workshops, the MTC Commission and ABAG Executive Board were interested in exploring the possibility of a single revenue measure, to be authorized by SB 278, and dividing the anticipated revenues between transportation and housing projects. The FASTER Bay Area proponents and housing advocates are meeting to discuss this possibility, and what the details of a joint measure could look like, including proportionate shares, administrative body, and the structure of the expenditure plan. We will continue to engage with our partner agencies and local and regional stakeholders to provide our feedback on all aspects of this bill. The timeline to get measures on the November 2020 ballot is tight and a big lift for a revenue measure. Recognizing this, the MTC/ABAG representatives at last week's workshop supporting continued development of a housing-only measure (likely a general obligation bond) in case SB 278 does not advance. Similarly, we are also working with Caltrain, the City/SFMTA, and the two other Caltrain member counties (San Mateo and Santa Clara), on a possible 1/8-cent sales tax on the November 2020 ballot, if another regional transportation measure (FASTER) doesn't seek the same ballot. The sales tax authority was provided by SB 797 (Hill), approved in 2017.

Table 3. Bill Status for Active Positions Taken in the 2019-2020 Session

Adopted Positions	Bill # Author	Bill Title	Update to Bill Status[1] (as of 2/3/2020)
Support	AB 40 Ting D	Air Quality Improvement Program: Clean Vehicle Rebate Project	Dead (amended then held in Assembly Transportation)
	AB 659 Mullin D	Transportation: emerging transportation technologies: California Smart City Challenge Grant Program.	Dead (held in Assembly Appropriations)
	AB 1286 Muratsuchi D	Shared mobility devices: agreements.	Senate Judiciary Committee
Oppose Unless Amended	AB 326 Muratsuchi D	Vehicles: motorized carrying devices.	Passed from Assembly to Senate Rules
	AB 1112 Friedman D	Shared mobility devices: local regulation.	Senate Transportation
	SB 50 Wiener D	Planning and zoning: housing development: streamlined approval: incentives.	Dead (amended then failed in Senate)
Oppose	AB 553 Melendez R	High-speed rail bonds: housing.	Dead (held in Assembly Transportation)
	AB 1167 Mathis R	Greenhouse Gas Reduction Fund: high-speed rail: forestry and fire protection.	Dead (held in Assembly Transportation)

[1]Under this column, "Chaptered" means the bill is now law, "Dead" means the bill is no longer viable this session, and "Enrolled" means it has passed both Houses of the Legislature. "Two-year" bills have not met the required legislative deadlines and will not be moving forward this session but can be reconsidered in the second year of the session which begins in December 2019. Bill status at a House's "Desk" means it is pending referral to a Committee.

San Francisco
County Transportation
Authority

BD021120 RESOLUTION NO. 20-32

RESOLUTION APPROVING THE 2020 STATE AND FEDERAL LEGISLATION PROGRAM

WHEREAS, The Transportation Authority routinely monitors pending legislation that may affect the Transportation Authority and San Francisco's transportation program; and

WHEREAS, Each year the Transportation Authority adopts a set of legislative principles to guide its transportation policy and funding advocacy in the sessions of the State and Federal Legislatures; and

WHEREAS, The attached 2020 State and Federal Legislative Program reflects key principles gathered from common positions with other local sales tax transportation authorities, County Transportation Agencies, and the Metropolitan Transportation Commission; the Transportation Authority's understanding of the most pressing issues facing the San Francisco Municipal Transportation Agency, regional transit providers serving the City of San Francisco, and other City agencies charged with delivering transportation projects; and are consistent with the advocacy approaches of the Mayor's Office; and

WHEREAS, At its January 22, 2020 meeting, the Citizens Advisory Committee was briefed on the proposed 2020 State and Federal Legislative Program and unanimously adopted a motion of support for its adoption; now, therefore be it

RESOLVED, That the Transportation Authority does hereby adopt the attached 2020 State and Federal Legislative Program; and be it further

RESOLVED, That the Executive Director is authorized to communicate this program to the appropriate parties.

Attachment:
1. 2020 State and Federal Legislative Program

Attachment 1

San Francisco County Transportation Authority

Draft 2020 State and Federal Legislative Program

STATE		
Area	**Goal**	**Strategy**
1. Funding	a. Protect transportation funding	• Advocate that funds dedicated to transportation not be eliminated or diverted to other purposes. • Educate public about transportation projects funded by state programs and their associated benefits.
	b. Enact new revenue and financing measures for transportation	• Support efforts to raise additional dedicated transportation revenue to address ongoing funding shortfalls for both capital projects and operations. • Support efforts to establish new transportation revenue mechanisms that local and regional entities can choose to implement to fund capital projects and operations. This includes amendments to existing statutes that may make existing revenue options more feasible. • Partner with local agencies and other stakeholders to advance San Francisco's priorities in the development and implementation of potential regional transportation funding measures. • Continue to monitor and, as appropriate, provide input into the next phase of the California Road Charge Pilot Program.
	c. Secure cap-and-trade revenues for transportation	• Maintain funding for current transportation and affordable housing programs and seek opportunities to direct additional cap-and-trade funds to them. • Advocate for the dedication of a significant portion of future cap-and-trade expenditure plans to transportation and to San Francisco's investment priorities (e.g. transit expansion, transit operations, electric vehicle (EV) infrastructure).

STATE		
Area	Goal	Strategy
	d. Modify allocation formulas for state transportation funds	• Advocate for using factors that better tie transportation funding to the true demands placed on the system, such as daytime population or transit usage. • Advocate to either broaden the state definition of disadvantaged communities to better align with San Francisco's communities of concern or allow use of alternative definitions (e.g. a regional transportation planning agency's (e.g. MTC's)) instead.
	e. Improve implementation of state grant programs (e.g. cap-and-trade, Active Transportation Program, Senate Bill 1 program)	• Advocate for grant application and allocation processes that are clear, streamlined, and flexible. • Advocate for a stronger role for regional and local governments in prioritizing local and regional projects for funding.
	f. Lower the 2/3 supermajority voter approval requirement for transportation taxes	• Support a constitutional amendment to lower the voter approval requirement for special taxes dedicated to local transportation projects from 66.67% to 55% or a simple majority.
2. Policy Initiatives	a. Advance San Francisco's Vision Zero goals, improving safety for all users	• Work with local partners to identify and secure state and federal funding for Vision Zero projects. • Support efforts to improve safety for all road users, including supporting bills that advance complete streets, provide municipalities the flexibility to reduce speed limits, and authorize automated speed enforcement.
	b. Support the Treasure Island Mobility Management Agency's (TIMMA) work for sustainable mobility on Treasure Island	• Support funding and authorization, as needed, for study, piloting, and implementation of innovative mobility management such as tolling infrastructure, transportation and housing affordability programs, bike and car share initiatives, and additional autonomous shuttle pilot.

Attachment 1
San Francisco County Transportation Authority
Draft 2020 State and Federal Legislative Program

STATE		
Area	Goal	Strategy
	c. Improve effectiveness of managed lanes and other transportation demand management (TDM) strategies	• Support new legislation that promotes innovative TDM strategies such as authorizing area-wide congestion pricing pilot programs. • Seek state authorization for a reservation system on the crooked portion of Lombard Street. • Support MTC's efforts to strengthen enforcement of High Occupancy Vehicle lanes.
	d. Ensure the implementation of emerging mobility innovations (e.g. Transportation Network Companies (TNCs), scooters, autonomous vehicles) is consistent with other city priorities	• Ensure they are regulated and deployed in a way that balances their benefits and impacts and ensures safety, equity, and accessibility. • Seek authorization for local regulation of certain aspects of emerging mobility, where appropriate (e.g. operational standards, local mitigation fees). • Advocate to require access to critical data for local and regional governments (e.g. open Application Programming Interfaces) for planning purposes. • Continue to support efforts to develop and implement requirements for TNCs' greenhouse gas emissions and accessibility (e.g. The California Air Resources Board's Clean Mile Standard and the California Public Utilities Commission's TNC Access for All initiatives).
	e. Advance the adoption and integration of EVs in a manner consistent with other city priorities	• Advocate for EV legislation to be equitable and consistent with San Francisco's other mobility policies (e.g. transit-first, emerging mobility). • Support funding opportunities for EV infrastructure planning, promotion, and deployment. • Support financial incentives for replacing combustion engine vehicles with EVs or non-auto modes, especially for low income individuals.

STATE		
Area	Goal	Strategy
	f. Advance measures to increase production of affordable housing as well as supportive planning, infrastructure, and services	• Support efforts to revive the authority of local governments to use tax-increment financing for affordable housing and related improvements including transportation. • Support efforts to establish new, dedicated state and regional funding for affordable housing. • Support legislative efforts to incentivize and reduce barriers to the construction of new housing, in particular affordable and moderate rate housing, that are consistent with San Francisco's growth strategy and provides necessary support for related infrastructure and transit service needs.
	g. Advance legislative actions in support of other city policy goals	• Support efforts to advance a more seamless, integrated public transit system in the Bay Area with integrated transit fares to benefit both low-income transit riders and attract new riders to the system. • Support Bay Area transit operators in securing authorization to prevent fraud-related fare revenue loss by allowing ZIP code authentication at Clipper vending machines. • Support state efforts to limit near-term impacts of the federal Safer Affordable Fuel Efficient (SAFE) Vehicles Rule until the state's pending federal lawsuits are resolved. This could include extending the state requirement that regions adopt new Transportation Improvement Programs so as not to stall thousands of federally funded transportation projects across the state. • With other County Transportation Agencies (CTAs), engage in efforts to modernize Congestion Management Program regulations to support key policies and reinforce CTAs' role in state, regional, and local transportation planning and funding.

Attachment 1

San Francisco County Transportation Authority

Draft 2020 State and Federal Legislative Program

STATE		
Area	**Goal**	**Strategy**
3. High-Speed Rail (HSR)	Strengthen state commitment to a blended HSR and electrified Caltrain system from San Francisco to San Jose	• Work with partner agencies to advocate that the HSR early investment projects are implemented in a manner consistent with the northern California Memorandum of Understanding to develop a blended system, including achieving level boarding at all shared Caltrain/High Speed Rail facilities. • Advocate for funding of the Caltrain Downtown Extension, and advance the Caltrain Modernization Program.

FEDERAL		
Area	**Goal**	**Strategy**
1. Transportation Funding	a. Sustain or increase federal transportation funding	• Ensure Congress appropriates funding consistent with the amounts authorized in the Fixing America's Surface Transportation (FAST) Act. • Advocate for San Francisco priorities in the reauthorization of the federal surface transportation bill, which expires in September 2020. • Retain a strong multi-modal focus for federal grant programs and ensure funding is spread equitably among rural and urban jurisdictions. • Advocate for increasing the federal gasoline tax, and for indexing it to inflation to help close the Highway Trust Fund funding deficit. • Support study and piloting of innovative approaches to transportation challenges such as road usage charges, technology demonstration, and alternative project delivery methods.

FEDERAL		
Area	**Goal**	**Strategy**
	b. Secure federal appropriations for San Francisco's Core Capacity and New and Small Starts priorities	• Advocate that Congress approves annual Core Capacity appropriations consistent with the Full Funding Grant Agreement for the Caltrain Modernization project. • Seek entry of Geary Boulevard Bus Rapid Transit project into the Federal Transit Administration Capital Investment Grant Program. • Work with local and regional partners to position San Francisco's priority projects for other competitive federal funding programs, including the BART and Muni Core Capacity Programs and the Caltrain Downtown Extension.
2. Transportation Policy Initiatives	a. Advance autonomous vehicle regulations that advance safety and facilitate local evaluation of their performance	• Participate in efforts to develop a policy framework for their testing, deployment, and regulation. • Partner with state and local governments to advocate for evidence-based regulations that preserve the ability of jurisdictions to appropriately oversee their safe operation and ensure the availability of collected data.
	b. Address the impacts of shared mobility services (e.g. TNCs, private transit shuttles, scooters) and ensure their safety, equity and accessibility	• Contribute to the development of legislation and funding programs that balances their benefits and impacts, provides for state and local regulation, and secures access to critical data. • Support federal funding of pilot projects that include a robust analysis of outcomes to inform future investment and regulation.
	c. Preserve and expand pre-tax commuter benefits on par with parking benefits	• Defend the pre-tax commuter and employer benefit for transit and bicycling. • Advocate to expand pre-tax benefits for other non-single occupancy vehicle modes such as bikeshare and private transit services.

Attachment 1
San Francisco County Transportation Authority
Draft 2020 State and Federal Legislative Program

FEDERAL		
Area	**Goal**	**Strategy**
	d. Advance regulatory actions in support of other city policy goals	• Support state agencies' advocacy efforts to reinstate California's ability to set the state's own vehicle fuel efficiency standards, independent of federal standards. • Monitor other potential regulation activities (e.g. mobile applications, privacy protection) that would impact San Francisco's range of transportation services.

STATE AND FEDERAL (Project Delivery and Administration)		
Area	**Goal**	**Strategy**
1. Project Delivery	a. Expand use of innovative project delivery strategies for transportation infrastructure	• Advocate for additional opportunities to use alternative delivery methods to manage risk and increase local control for transportation infrastructure projects. • Advocate for retention and expansion of financing programs such as Transportation Infrastructure Finance and Innovation Act (TIFIA).
	b. Seek integrated state and federal environmental impact studies and streamlined permitting	• Advocate for more efficient environmental processes (both CEQA and NEPA) to reduce administrative inefficiencies, expedite project delivery, and reduce costs. • Support efforts to increase the efficiency of Caltrans in reviewing and approving documents and permits.
2. General Administration	Ensure efficient and effective Transportation Authority operations	• Advocate for the streamlining of administrative requirements when multiple fund sources are used on a single project. • Oppose legislation and regulations that constrain our ability to efficiently and effectively contract for goods and services, conduct business. Support legislation and regulations that positively affect our effectiveness and limit or transfer our risk of liability.

San Francisco
County Transportation
Authority

1455 Market Street, 22ND Floor, San Francisco, California 94103 415-522-4800 info@sfcta.org www.sfcta.org

Memorandum

AGENDA ITEM 7

DATE: February 3, 2020

TO: Transportation Authority Board

FROM: Maria Lombardo – Chief Deputy Director

SUBJECT: 2/11/20 Board Meeting: Approval of the 2020 State and Federal Legislative Program

RECOMMENDATION ☐ **Information** ☒ **Action**	☐ Fund Allocation
Approve the 2020 State and Federal Legislative Program	☐ Fund Programming
SUMMARY	☒ Policy/Legislation
Every year the Transportation Authority adopts high level goals and strategies to guide legislative strategy and advocacy while still providing the necessary flexibility to respond to specific bills and policies over the course of the legislative sessions. The 2020 State and Federal Legislative Program (Attachment 1) was developed in coordination with local, regional, and statewide partners and focuses on advancing San Francisco's priority projects, protecting existing transportation funds, authorizing new revenues, engaging in the regulation of new transportation technologies, expanding the use of pricing and other innovative project delivery and financing approaches, and advancing the City's Vision Zero goals.	☐ Plan/Study ☐ Capital Project Oversight/Delivery ☐ Budget/Finance ☐ Contract/Agreement ☐ Other: _____

DISCUSSION

Background.

The State and Federal Legislative Program, adopted annually by the Board, establishes a general framework to guide our legislative and funding advocacy efforts at the state and federal levels. Transportation Authority staff and our legislative advocacy consultant in Sacramento will use this program to plan strategy and communicate positions to the City's legislative delegations in Sacramento and Washington D.C. and other transportation agencies and advocates.

The proposed 2020 State and Federal Legislative Program reflects key principles gathered from our common positions with the San Francisco Municipal Transportation Agency (SFMTA), the Mayor's Office, city agencies, transit operators serving San Francisco, other local transportation sales tax authorities around the state, and the Metropolitan Transportation Commission (MTC), as well as our understanding of the most pressing issues facing the city, the region, and our partner agencies. It is presented in the form of principles rather than specific bills or legislative initiatives, in order to allow staff the necessary flexibility to respond to legislative proposals and policy concerns that may arise over the course of the session. Throughout the year we will be reporting on the status of bills that are of significance to the Transportation Authority and developing recommendations for positions as appropriate.

Our 2020 State and Federal Legislative Program continues many of the themes from the previous year and builds on them to address new opportunities and legislation currently being discussed at the federal, state, and regional level. Highlights are below.

State Advocacy.

State Transportation Funding. Similar to 2019, we do not anticipate proposals for any significant new state transportation funding measures this year given the passage of SB 1 in 2017, which provided significant new annual revenues for transportation capital projects and operations. We will continue looking for ways to better align existing state funding programs with San Francisco's priorities. This includes supporting the SFMTA's and other transit operators' effort to expand or broaden eligibility of existing state funds to help convert bus fleets, consistent with the state's Innovative Clean Transit rule that requires public transit bus fleets to be 100% zero-emission by 2040.

Climate Goals. In October 2019, Governor Newsom issued an executive order calling for transportation funding to align with state goals on climate and the environment, specifically to help reduce driving. Whether he means to introduce new funding opportunities and/or realign current programs with his new vision, we will be an active participant in the development of any new policy.

Vision Zero. This year we will continue to work with the SFMTA and other city agencies to advance San Francisco toward Vision Zero goals. In January, the California State Transportation Agency released its report of findings from the Zero Traffic Fatalities Task Force, which includes recommendations to develop a different approach to setting speed limits, to improve the process for approving complete street design and construction, and to consider authorizing automated speed enforcement as a supplement to existing law enforcement. We will track bills introduced that support the findings of this report.

Emerging Mobility and Innovative Strategies. With respect to new transportation technology and innovative strategies, we expect that the rise of emerging mobility services will continue to produce legislation. The State Legislature is currently holding joint hearings and has sought testimony from local governments and industry representatives about regulations and

data privacy considerations with regard to new mobility. The bills from last year (e.g. AB 1112 (Friedman)) are likely to return, and we will stay engaged as new ones emerge. We will advocate for policies that balance their benefits and impacts; ensure safety, equity, and accessibility; ensure local access to data to support local planning and regulation of local requirements, where appropriate. We will also support a potential renewal of Assemblymember Bloom's effort to establish a congestion pricing pilot program and work to educate Legislators about our own Downtown Congestion Pricing Study.

Lombard Crooked Street Reservation Program. At the end of the 2019 legislative session, the Governor vetoed AB 1605 (Ting), which would have authorized the San Francisco Board of Supervisors to implement a pilot paid reservation system on the Lombard Crooked Street. Our 2018 study demonstrated that a paid reservation system would be most effective at managing traffic on the street and would have generated revenues to cover the program costs. We are working with Supervisor Stefani's office, Assemblymember Ting's office, and the Governor's office to consider legislation authorizing a pilot no-fee reservation system.

Fuel Efficiency Standards. In 2019, the Trump Administration imposed the federal Safer Affordable Fuel Efficient (SAFE) Vehicles Rule which lowered federal emission goals for new automobiles and eliminated California's ability to set its own regulations. This weakened a key California greenhouse gas reduction strategy and also, in the short- to medium-term, froze the Federal Highway Administration's ability to approve new funding or environmental documents for projects that have air-quality impacts (typically large capital projects such as rail extensions and the express lanes). We will support state efforts to limit impacts of the Rule, which could include state legislation to extend the state requirement that regions adopt new Transportation Improvement Programs every two years. Without such legislation, thousands of federally funded transportation projects across the state, hundreds in the Bay Area alone, would not be able to move forward.

Housing. The State Legislature and the Governor's Office have indicated their intent to continue to focus this year on addressing the housing and homelessness crisis. We expect to see renewals of 2019's efforts to increase revenues, streamline environmental review and permitting processes for housing, enact zoning standards near transit, and establish new redevelopment-like tools to help accelerate the production of moderate and affordable housing. See related state and federal legislative item on this same agenda for an update on SB 50 (Wiener), a bill that would, among other things, establish by-right housing height and density standards near high-quality transit. The bill failed to get out of Senate committee last Friday and is no longer active this session.

Bay Area Legislation – Regional Transportation Revenue Measure, Transit Coordination. With respect to state legislation focused on the Bay Area specifically, we will actively participate in the development of SB 278 (Beall) which is intended to establish a regional transportation measure for the nine county Bay Area. We are working with San Francisco agencies and other stakeholders to ensure the bill's policies and expenditure plan will

promote the use of regional mass transit and the continued development of an integrated, reliable, regional public transportation system. In particular, we are advocating for the measure to support San Francisco's priorities such as a regional means-based fare program, BART and Muni Core Capacity Programs, transit operations, as well as other key projects such as the Downtown Extension and US 101/I-280 Express Lanes with Bus Service. Relatedly, we are also working with Caltrain, the City/SFMTA, and the two other Caltrain member counties (San Mateo and Santa Clara), on a possible 1/8-cent sales tax on the November 2020 ballot, if another regional transportation measure (e.g. FASTER) doesn't seek the same ballot. The sales tax authority was provided by SB 797 (Hill), approved in 2017.

Seamless Bay Area is a non-profit organization whose mission is to transform the Bay Area's public transit system into a more widely used system through policy reforms. The group is sponsoring AB 2057 (Chiu), currently a spot bill, with the intent to establish a state-sanctioned commission to study the Bay Area's 27 transit systems, establish policy direction, set goals to help create a more seamless and equitable network, and create a Transit Network Manager role to establish leadership to coordinate between the existing transit agencies. We will continue to engage with our partner agencies and local and regional stakeholders to provide our feedback on Seamless Bay Area's legislative proposal.

Federal Advocacy.

Transportation Appropriations. At the federal level, we will work to ensure that Congress appropriates funding consistent with the amounts authorized in the current federal transportation bill, known as the Fixing America's Surface Transportation (FAST) Act. Our advocacy will include ensuring the outstanding commitments to the Caltrain Modernization project are met, seeking additional funding to pilot innovative transportation approaches such as the Federal Transportation Administration's Mobility on Demand Sandbox Program, and position priority projects for federal funding, such as Geary Bus Rapid Transit, Muni and BART Core Capacity Programs, and the Caltrain Downtown Extension.

Reauthorization of the Federal Transportation Bill. Since the FAST Act expires on October 1, 2020, a primary focus will be to advocate for San Francisco's priorities in the new federal transportation bill. We are currently coordinating priorities with the SFMTA, MTC, ITS America, and others. Primary objectives include:

- Increase funding for formula programs (e.g. transit state of good repair, Surface Transportation Program) and capital investment grant programs (e.g. the transit Capital Investment Grant program);
- Provide new funding for demonstration programs that pilot new technology or new approaches to improving mobility such as congestion pricing;
- Identify new, sustainable, user-based revenues, such as an increase in the federal gas tax; and

- Seek new policies and programs consistent with the city's Vision Zero goals;
- Ensure new and existing programs take into consideration climate change impacts.

Emerging Mobility and Technology. We anticipate the federal government will continue to establish its role in regulating and funding emerging mobility and technologies, including autonomous vehicles and shared mobility services (e.g. TNCs, private transit shuttles, and shared scooter and bike services). In 2019 Executive Director Chang was appointed as co-chair of the ITS America Smart Infrastructure Task Force, which provides an opportunity for her to lead national conversations on issues such as the introduction of autonomous vehicles and implementation of mobility on demand guidelines and funding programs. Our focus will be on advocating that the implementation of such programs first set clear goals, perform data-driven research to evaluate the public benefits and impacts of these emerging mobility services, maintain local and state regulatory roles, and mandate access to critical data for local and regional governments to ensure their safety, equity, and accessibility.

Vision Zero. In October 2019, House Representative Earl Blumenauer introduced the Vision Zero Act of 2019 that would allow federal transportation funding to be made available for communities to design and implement Vision Zero programs. We will monitor this legislation and will partner with the SFMTA to advocate at the state and federal level for policies consistent with San Francisco's Vision Zero efforts.

FINANCIAL IMPACT

The recommended action does not have an impact on the Fiscal Year 2019/20 budget.

CAC POSITION

The CAC was briefed on this item at its January 22, 2020 meeting and unanimously adopted a motion of support for the staff recommendation.

SUPPLEMENTAL MATERIALS

Attachment 1 – Draft 2020 State and Federal Legislative Program

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San Francisco
County Transportation
Authority

BD021120 RESOLUTION NO. 20-33

RESOLUTION ALLOCATING $5,832,072, WITH CONDITIONS, IN PROP K SALES TAX FUNDS FOR SEVEN REQUESTS

WHEREAS, The Transportation Authority received seven requests for a total of $5,832,072 in Prop K local transportation sales tax funds, as summarized in Attachments 1 and 2 and detailed in the enclosed allocation request forms; and

WHEREAS, The requests seek funds from the following Prop K Expenditure Plan categories: Guideways - Muni, Advanced Technology and Information Systems (SFgo), Signals and Signs and Traffic Calming; and

WHEREAS, As required by the voter-approved Expenditure Plans, the Transportation Authority Board has adopted a Prop K 5-Year Prioritization Program (5YPP) for each of the aforementioned Expenditure Plan programmatic categories; and

WHEREAS, All seven of the requests are consistent with the Prop K Strategic Plan and the 5YPPs for their respective categories; and

WHEREAS, After reviewing the requests, Transportation Authority staff recommended allocating a total of $5,832,072 in Prop K funds, with conditions, for seven projects, as described in Attachment 3 and detailed in the enclosed allocation request forms, which include staff recommendations for Prop K allocation amounts, required deliverables, timely use of funds requirements, special conditions, and Fiscal Year Cash Flow Distribution Schedules; and

WHEREAS, There are sufficient funds in the Fiscal Year 2019/20 budget to accommodate the recommended actions; and

WHEREAS, At its January 22, 2020 meeting, the Citizens Advisory Committee was briefed on the subject requests and unanimously adopted a motion of support for the staff recommendation; and

RESOLVED, That the Transportation Authority hereby allocates $5,832,072 in Prop K Sales Tax Funds for seven requests, with conditions, as summarized in Attachment 3 and detailed in the enclosed allocation request forms; and be it further

RESOLVED, That the Transportation Authority finds the allocation of these funds to be

San Francisco
County Transportation
Authority

in conformance with the priorities, policies, funding levels, and prioritization methodologies established in the Prop K Expenditure Plan, the Prop K Strategic Plan and the relevant 5YPPs; and be it further

RESOLVED, That the Transportation Authority hereby authorizes the actual expenditure (cash reimbursement) of funds for these activities to take place subject to the Fiscal Year Cash Flow Distribution Schedules detailed in the enclosed allocation request forms; and be it further

RESOLVED, That the Capital Expenditures line item for subsequent fiscal year annual budgets shall reflect the maximum reimbursement schedule amounts adopted and the Transportation Authority does not guarantee reimbursement levels higher than those adopted; and be it further

RESOLVED, That as a condition of this authorization for expenditure, the Executive Director shall impose such terms and conditions as are necessary for the project sponsors to comply with applicable law and adopted Transportation Authority policies and execute Standard Grant Agreements to that effect; and be it further

RESOLVED, That as a condition of this authorization for expenditure, the project sponsors shall provide the Transportation Authority with any other information it may request regarding the use of the funds hereby authorized; and be it further

RESOLVED, That the Capital Improvement Program of the Congestion Management Program, the Prop K Strategic Plan and the relevant 5YPPs are hereby amended, as appropriate.

Attachments:
1. Summary of Requests Received
2. Brief Project Descriptions
3. Staff Recommendations
4. Prop K Allocation Summary - FY 2019/20

Enclosure:

Prop K/Prop AA Allocation Request Forms (7)

Attachment 1: Summary of Requests Received

						Leveraging			
Source	**EP Line No./ Category [1]**	**Project Sponsor [2]**	**Project Name**	**Current Prop K Request**	**Total Cost for Requested Phase(s)**	**Expected Leveraging by EP Line [3]**	**Actual Leveraging by Project Phase(s)[4]**	**Phase(s) Requested**	**District(s)**
Prop K	22M	SFMTA	Islais Creek Bridge Catenary Reconstruction	$ 1,032,072	$ 5,560,000	78%	81%	Construction	10
Prop K	32	SFMTA	Transit Signal Priority	$ 2,320,000	$ 35,456,204	80%	93%	Construction	1, 2, 5, 6, 8, 9
Prop K	33	SFMTA	Traffic Sign Upgrades FY20	$ 220,000	$ 220,000	41%	0%	Construction	Citywide
Prop K	33	SFMTA	Traffic Signal Hardware FY20	$ 330,000	$ 330,000	41%	0%	Construction	3, 5, 6, 7, 11
Prop K	33	SFMTA	Traffic Signal Visibility Upgrades FY20	$ 330,000	$ 330,000	41%	0%	Construction	1, 2, 3, 4, 6, 7, 9, 10
Prop K	33	SFMTA	Traffic Signal Upgrade Contract 36	$ 600,000	$ 600,000	41%	0%	Design	1, 2, 3, 5, 6, 7, 8, 9, 10
Prop K	38	SFMTA	Schools Engineering Program FY20	$ 1,000,000	$ 1,000,000	51%	0%	Planning, Design, Construction	Citywide
			TOTAL	**$ 5,832,072**	**$ 43,496,204**	**78%**	**87%**		

Footnotes

[1] "EP Line No./Category" is either the Prop K Expenditure Plan line number referenced in the 2019 Prop K Strategic Plan or the Prop AA Expenditure Plan category referenced in the 2017 Prop AA Strategic Plan, including: Street Repair and Reconstruction (Street), Pedestrian Safety (Ped), and Transit Reliability and Mobility Improvements (Transit).

[2] Acronym: SFMTA (San Francisco Municipal Transportation Agency)

[3] "Expected Leveraging By EP Line" is calculated by dividing the total non-Prop K funds expected to be available for a given Prop K Expenditure Plan line item (e.g. Pedestrian Circulation and Safety) by the total expected funding for that Prop K Expenditure Plan line item over the 30-year Expenditure Plan period. For example, expected leveraging of 90% indicates that on average non-Prop K funds should cover 90% of the total costs for all projects in that category, and Prop K should cover only 10%.

[4] "Actual Leveraging by Project Phase" is calculated by dividing the total non-Prop K or non-Prop AA funds in the funding plan by the total cost for the requested phase or phases. If the percentage in the "Actual Leveraging" column is lower than in the "Expected Leveraging" column, the request (indicated by yellow highlighting) is leveraging fewer non-Prop K dollars than assumed in the Expenditure Plan. A project that is well leveraged overall may have lower-than-expected leveraging for an individual or partial phase.

Attachment 2: Brief Project Descriptions [1]

EP Line No./ Category	Project Sponsor	Project Name	Prop K Funds Requested	Project Description
22M	SFMTA	Islais Creek Bridge Catenary Reconstruction	$1,032,072	The Third Street Bridge over Islais Creek, a moveable bridge (a.k.a. "bastule" bridge or "drawbridge"), is undergoing a $25 million rehabilitation effort led by Public Works. In a separate but related project the SFMTA will construct necessary specialized upgrades to the overhead catenary system (OCS) that supplies traction power to the T-Third light rail line as it crosses the bridge. The work will include replacement of trolley wires, reconstructing and upgrading other OCS components, and modifying and reconstructing structural support frames. The project will increase reliability and reduce maintenance costs. Public Works and the SFMTA will conduct outreach (e.g. community meetings, mailings, project website) during construction to notify the public about the necessary 2-3 month bridge shutdown and plan for alternative bus service during the shutdown. The project will be open for use by June 2023.
32	SFMTA	Transit Signal Priority	$2,320,000	Repair, replace, or install bus transit signal priority (TSP) devices and communications equipment on buses and at between 40 and 200 signalized intersections along bus routes citywide. Using Prop K funds, SFMTA expects to upgrade TSP equipment along the 7 Haight line, on 16th Street from Church to Mission, and along 4th Street, Geneva Avenue, Park Presidio, and Lombard Street. New TSP installations will be done on a route basis at intersections that were under construction at the time TSP equipment was first installed for the corridor. The project will improve vehicle management and travel time reliability, improve communication among traffic signals, update signal timing to the latest standards, and enable remote monitoring of the effectiveness of the TSP network to facilitate adjustments and repairs. All improvements funded by the subject request will be in service by March 2023.
33	SFMTA	Traffic Sign Upgrades FY20	$220,000	Requested funds would replace street name signs, fluorescent yellow-green Pedestrian Crossing Ahead signs, and fluorescent yellow-green School Ahead crossing signs that are reaching the end of their useful lives. Upgrades will bring approximately 757 signs at 521 intersections up to current retroreflective standards, improving safety and visibility. See page 30 of the enclosure for candidate locations. SFMTA will prioritize locations in need of urgent replacement as determined through field reviews. All signs will be installed by December 2020.

Attachment 2: Brief Project Descriptions [1]

EP Line No./ Category	Project Sponsor	Project Name	Prop K Funds Requested	Project Description
33	SFMTA	Traffic Signal Hardware FY20	$330,000	Requested funds would replace accessible pedestrian signals (APS) and controller cabinets that are nearing the end of their useful lives at eight intersections throughout San Francisco. Replacing traffic signal hardware will help to maintain SFMTA's traffic signal assets in a state of good repair which is critical to ensuring a safe and reliable transportation system. See pages 53 and 54 of the enclosure for candiate locations. All improvements will be open for use by December 2020.
33	SFMTA	Traffic Signal Visibility Upgrades FY20	$330,000	Requested funds would upgrade 8-inch signal heads to 12-inch signal heads at about 15 intersections throughout the city. Locations will be on multi-lane arterials with speed limits 30 MPH or higher where signal visibility could be improved using existing signal poles and/or where there is a history of right-angle collisions correctable by signal visibility improvements. See page 64 of the enclosure for the list of potential locations. All improvements will be open for use by December 2020.
33	SFMTA	Traffic Signal Upgrade Contract 36	$600,000	Requested funds would support the design phase of traffic signal related upgrades at 19 locations across the City. Upgrades will include new pedestrian signals, accessible pedestrian signals, higher-visibility traffic signals, new curb ramps where currently missing, and replacement of old signal infrastructure. Fifteen of the intersections are located on the Vision Zero High Injury Network. These signal upgrades will improve accessibility and safety for all road users. See page 73 of the enclosure for the list of potential locations. Design will be done by June 2021, with all improvements anticipated to be open for use by June 2023.

Attachment 2: Brief Project Descriptions [1]

EP Line No./ Category	Project Sponsor	Project Name	Prop K Funds Requested	Project Description
38	SFMTA	Schools Engineering Program FY20	$1,000,000	Funds will support the SFMTA's school engineering program within San Francisco's Safe Routes to School program. The three focus areas of work include: (1) Traffic Operations Program for new and upgraded signage and pavement/curb markings at up to 35 school sites citywide with approximately 100 measures constructed; (2) School Loading Zone Traffic Calming Program to evaluate up to 15 school sites with approximately 30 traffic calming measures constructed (two per school site) on residential streets where school loading zones are present; and, (3) School Walk Audit Program to identify safety improvements at up to five schools through a collaborative planning process and to implement about 30 lower-cost and quick to implement recommendations. In general, SFMTA will install the following measures through this project: speed humps, raised crosswalks, signal modifications, and paint and sign upgrades. See page 88 of the enclosure for the list of locations funded through the FY19 Prop K grant. The full scope of the FY20 project is anticipated to be open for use by September 2021.
		TOTAL	**$5,832,072**	

[1] See Attachment 1 for footnotes.

Attachment 3: Staff Recommendations [1]

EP Line No./ Category	Project Sponsor	Project Name	Prop K Funds Recommended	Recommendations
22M	SFMTA	Islais Creek Bridge Catenary Reconstruction	$ 1,032,072	**Deliverable:** Prior to the start of construction (i.e. by September 2020) SFMTA will provide a detailed work plan and budget for alternative bus service during bridge shutdowns due to construction work.
32	SFMTA	Transit Signal Priority	$ 2,320,000	**Deliverable**: A before/after study evaluating the effectivess of the TSP improvements funded by this project.
33	SFMTA	Traffic Sign Upgrades FY20	$ 220,000	
33	SFMTA	Traffic Signal Hardware FY20	$ 330,000	
33	SFMTA	Traffic Signal Visibility Upgrades FY20	$ 330,000	
33	SFMTA	Traffic Signal Upgrade Contract 36	$ 600,000	
38	SFMTA	Schools Engineering Program FY20	$ 1,000,000	**Multi-phase Allocation:** We are recommending a multi-phase allocation given the overlapping schedule of the planning, design and construction phases at different school locations.
		TOTAL	**$5,832,072**	

Attachment 3: Staff Recommendations [1]

EP Line No./ Category	Project Sponsor	Project Name	Prop K Funds Recommended	Recommendations

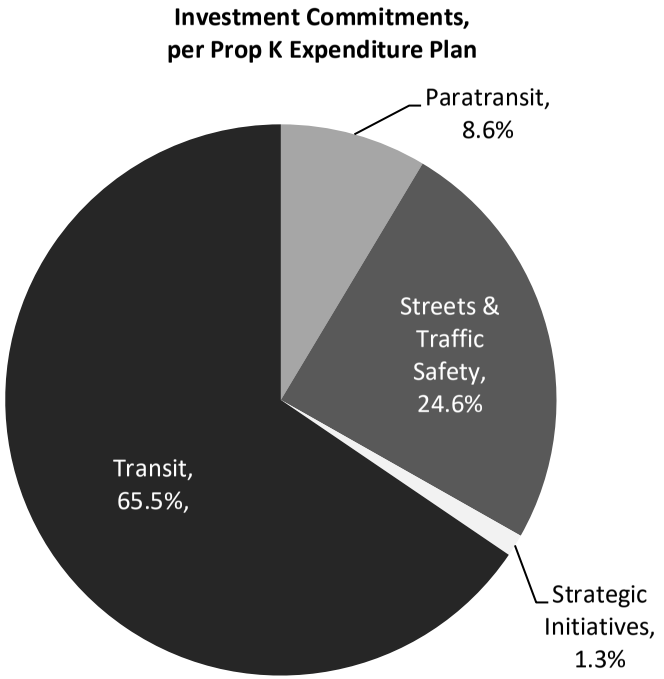
[1] See Attachment 1 for footnotes.

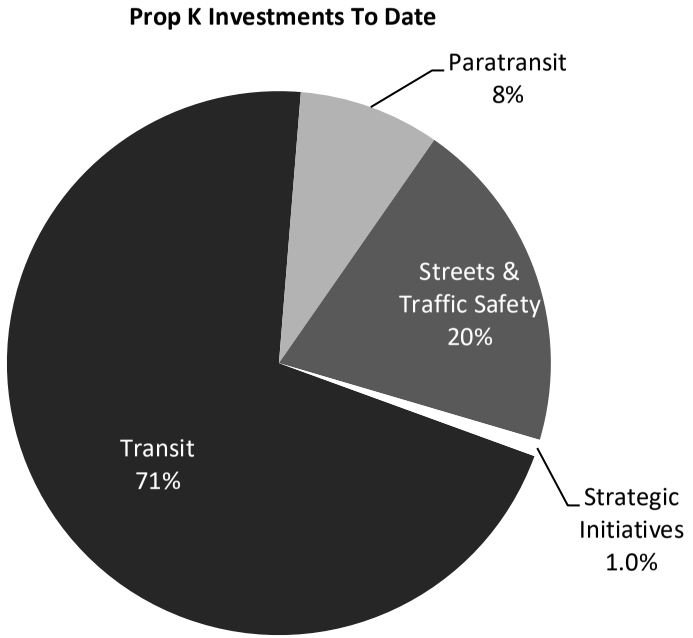
Attachment 4.
Prop K and Prop AA Allocation Summaries - FY 2019/20

PROP K SALES TAX

	Total	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Prior Allocations	$ 67,456,736	$ 22,481,940	$ 30,132,456	$ 6,052,974	$ 2,690,622	$ 2,690,622	$ 2,690,622	$ 717,500
Current Request(s)	$ 5,832,072	$ 403,475	$ 3,086,525	$ 1,678,072	$ 664,000	$ -	$ -	$ -
New Total Allocations	$ 73,288,808	$ 22,885,415	$ 33,218,981	$ 7,731,046	$ 3,354,622	$ 2,690,622	$ 2,690,622	$ 717,500

The above table shows maximum annual cash flow for all FY 2019/20 allocations and appropriations approved to date, along with the current recommended allocation(s).





San Francisco
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1455 Market Street, 22ND Floor, San Francisco, California 94103 415-522-4800 info@sfcta.org www.sfcta.org

Memorandum

AGENDA ITEM 8

DATE: January 16, 2020

TO: Transportation Authority Board

FROM: Anna LaForte – Deputy Director for Policy and Programming

SUBJECT: 2/11/2020 Board Meeting: Allocate $5,832,072, with conditions, in Prop K Sales Tax Funds for Seven Requests

RECOMMENDATION ☐ **Information** ☒ **Action**	☒ Fund Allocation
Allocate $5,832,072 in Prop K funds to the San Francisco Municipal Transportation Agency (SFMTA) for:	☐ Fund Programming
1. Islais Creek Bridge Catenary Reconstruction ($1,032,072) 2. Transit Signal Priority ($2,320,000) 3. Traffic Sign Upgrades FY20 ($220,000) 4. Traffic Signal Hardware FY20 ($330,000) 5. Traffic Signal Visibility Upgrades FY20 ($330,000) 6. Traffic Signal Upgrade Contract 36 ($600,000) 7. Schools Engineering Program FY20 ($1,000,000)	☐ Policy/Legislation ☐ Plan/Study ☐ Capital Project Oversight/Delivery ☐ Budget/Finance ☐ Contract/Agreement ☐ Other: _____
SUMMARY Attachment 1 lists the requests, including requested phase(s) and supervisorial district(s) for each project. Attachment 2 provides a brief description of each project. Attachment 3 contains the staff recommendations.	

DISCUSSION

Attachment 1 summarizes the subject allocation requests, including information on proposed leveraging (i.e. stretching Prop K sales tax dollars further by matching them with other fund sources) compared with the leveraging assumptions in the Prop K Expenditure Plan. Attachment 2 includes a brief description of each project. Attachment 3 summarizes the staff recommendations for the requests, highlighting special conditions and other items of interest. An Allocation Request Form for each project is enclosed, with more detailed information on scope, schedule, budget, funding, deliverables and special conditions.

FINANCIAL IMPACT

The recommended action would allocate $5,832,072 in Prop K funds. The allocations would be subject to the Fiscal Year Cash Flow Distribution Schedules contained in the enclosed Allocation Request Forms.

Attachment 4 shows the approved Fiscal Year 2019/20 allocations and appropriations to date, with associated annual cash flow commitments as well as the recommended allocations, appropriations, and cash flow amounts that are the subject of this memorandum.

Sufficient funds are included in the Fiscal Year 2019/20 budget to accommodate the recommended actions. Furthermore, sufficient funds will be included in future budgets to cover the recommended cash flow distribution for those respective fiscal years.

CAC POSITION

The CAC was briefed on this item at its January 22, 2020 meeting and unanimously adopted a motion of support for the staff recommendation.

SUPPLEMENTAL MATERIALS

- Attachment 1 – Summary of Requests Received
- Attachment 2 – Project Descriptions
- Attachment 3 – Staff Recommendations
- Attachment 4 – Prop K Allocation Summary – FY 2019/20
- Enclosure – Allocation Request Forms (7)

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San Francisco
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BD021120 RESOLUTION NO. 20-34

RESOLUTION ADOPTING THE FISCAL YEAR 2020/21 TRANSPORTATION FUND FOR CLEAN AIR LOCAL EXPENDITURE CRITERIA

WHEREAS, The Transportation Fund for Clean Air (TFCA) Program is funded by a $4 vehicle registration fee collected by the California Department of Motor Vehicles in the nine-county Bay Area and forty percent of the revenues collected are available to each county on a return-to-source basis to implement strategies to improve air quality by reducing motor vehicle emissions; and

WHEREAS, The Transportation Authority is the designated Program Manager for the Transportation Fund for Clean Air Program; and

WHEREAS, The passage of Assembly Bill 434 required that the designated Program Manager annually adopt criteria establishing a set of priorities for expenditure of funds for certain types of projects; and

WHEREAS, Drawing on the agency's past experience as the Program Manager for TFCA and after seeking input from the agency's technical working group, Transportation Authority staff developed the attached draft Fiscal Year 2020/21 TFCA Local Expenditure Criteria; and

WHEREAS, At its January 22, 2020 meeting, the Citizens Advisory Committee considered the staff recommendation and unanimously adopted a motion of support for its adoption; now, therefore, be it

RESOLVED, That the Transportation Authority hereby adopts the attached Fiscal Year 2020/21 TFCA Local Expenditure Criteria; and be it further

RESOLVED, That the Executive Director is hereby authorized to communicate this information to all relevant agencies and interested parties.

San Francisco
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Authority

Attachment:

FY 2020/21 TFCA Local Expenditure Criteria

Enclosure:

County Program Manager Fund Expenditure Plan Guidance for Fiscal Year Ending 2021

Attachment 1

Fiscal Year 2020/21 Transportation Fund for Clean Air (TFCA)

DRAFT LOCAL EXPENDITURE CRITERIA

The following are the Fiscal Year 2020/21 Local Expenditure Criteria for San Francisco's TFCA County Program Manager Funds.

ELIGIBILITY SCREENING

In order for projects to be considered for funding, they must meet the eligibility requirements established by the Air District's TFCA County Program Manager Fund Policies for Fiscal Year Ending 2021. Consistent with the policies, a key factor in determining eligibility is a project's cost effectiveness (CE) ratio. The TFCA CE ratio is designed to measure the cost effectiveness of a project in reducing motor vehicle air pollutant emissions and to encourage projects that contribute funding from non-TFCA sources. TFCA funds budgeted for the project are divided by the project's estimated emissions reduction. The estimated reduction is the weighted sum of reactive organic gases (ROG), oxides of nitrogen (NOx), and particulate matter (PM) emissions that will be reduced over the effective life of the project, as defined by the Air District's guidelines.

TFCA CE is calculated by inputting information provided by the applicant into the Air District's CE worksheets. Transportation Authority staff will be available to assist project sponsors with these calculations and will work with Air District staff and the project sponsors as needed to verify reasonableness of input variables. The worksheets also calculate reductions in carbon dioxide (CO_2) emissions, which are not included in the Air District's official CE calculations, but which the Transportation Authority considers in its project prioritization process.

Consistent with the Air District's Guidelines, in order to be eligible for Fiscal Year 2020/21 TFCA funds, a project must meet the CE ratio for emissions (i.e., ROG, NOx, and PM) reductions as specified in the guidelines for each project type. Projects that do not meet the appropriate CE threshold cannot be considered for funding.

PROJECT PRIORITIZATION

Candidate projects that meet the cost effectiveness thresholds will be prioritized for funding based on the two-step process described below:

Step 1 – TFCA funds are programmed to eligible projects, as prioritized using the Transportation Authority Board-adopted Local Priorities (see next page).

Step 2 – If there are TFCA funds left unprogrammed after Step 1, the Transportation Authority will work with project sponsors to develop additional TFCA candidate projects. This may include refinement of projects that were submitted for Step 1, but were not deemed eligible, as well as new projects. This approach is in response to an Air District policy that does not allow County Program Managers to rollover any unprogrammed funds to the next year's funding cycle. If Fiscal Year 2020/21 funds are not programmed within 6 months of the Air District's approval of San Francisco's funding allocation, expected in May 2020, funds can be redirected (potentially to non-San Francisco projects) at the Air District's discretion. New candidate projects must meet all TFCA eligibility requirements and will be prioritized based on the Transportation Authority Board's adopted Local Priorities.

Local Priorities

The Transportation Authority's Local Priorities for prioritizing TFCA funds include the following factors:

1. Project Type – In order of priority:

1) Zero emissions non-vehicle projects including, but not limited to, bicycle and pedestrian facility improvements, transit priority projects, traffic calming projects, and transportation demand management projects;
2) Shuttle services that reduce vehicle miles traveled (VMT);
3) Alternative fuel vehicles and alternative fuel infrastructure; and
4) Any other eligible project.

2. Cost Effectiveness of Emissions Reduced– Priority will be given to projects that achieve high CE (i.e. a low cost per ton of emissions reduced) compared to other applicant projects. The Air District's CE worksheet predicts the amount of reductions each project will achieve in ROG, NOx, PM, and CO_2 emissions. However, the Air District's calculation only includes the reductions in ROG, NOx, and PM per TFCA dollar spent on the project. The Transportation Authority will also give priority to projects that achieve high CE for CO_2 emission reductions based on data available from the Air District's CE worksheets. The reduction of transportation-related CO_2 emissions is consistent with the City and County of San Francisco's 2013 *Climate Action Strategy*.

3. Project Readiness – Priority will be given to projects that are ready to proceed and have a realistic implementation schedule, budget, and funding package. Projects that cannot realistically commence in calendar year 2021 or earlier (e.g. to order or accept delivery of vehicles or equipment, begin delivery of service, award a construction contract, start the first TFCA-funded phase of the project) and be completed within a two-year period will have lower priority. Project sponsors may be advised to resubmit these projects for a future TFCA programming cycle.

4. Community Support – Priority will be given to projects with demonstrated community support (e.g. recommended in a community-based transportation plan, outreach conducted to identify locations and/or interested neighborhoods, or a letter of recommendation provided by the district Supervisor).

5. Benefits Communities of Concern – Priority will be given to projects that directly benefit Communities of Concern, whether the project is directly located in a Community of Concern (see map) or can demonstrate benefits to disadvantaged populations.

6. Investment from Non-Public Project Sponsors or Partners – Non-public entities may apply for and directly receive TFCA grants for alternative-fuel vehicle and infrastructure projects and may partner with public agency applicants for any other project type. For projects where a non-public entity is the applicant or partner, priority will be given to projects that include an investment from the non-public entity that is commensurate with the TFCA funds requested.

7. Project Delivery Track Record – Projects that are ranked high in accordance with the above local expenditure criteria may be lowered in priority or restricted from receiving TFCA funds if either of the following conditions applies or has applied during the previous two fiscal years:

- **Monitoring and Reporting** – Project sponsor has failed to fulfill monitoring and reporting requirements for any previously funded TFCA project.
- **Implementation of Prior Project(s)** – Project sponsor has a signed Funding Agreement for a TFCA project that has not shown sufficient progress; the project sponsor has not implemented the project by the project completion date without formally receiving a time extension from the Transportation Authority; or the project sponsor has violated the terms of the funding agreement.

8. Program Diversity – Promotion of innovative TFCA projects in San Francisco has resulted in increased visibility for the program and offered a good testing ground for new approaches to reducing motor vehicle emissions. Using the project type criteria established above, the Transportation Authority will continue to develop an annual program that contains a diversity of project types and approaches and serves multiple constituencies. The Transportation Authority believes that this diversity contributes significantly to public acceptance of and support for the TFCA program.

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1455 Market Street, 22ND Floor, San Francisco, California 94103 415-522-4800 info@sfcta.org www.sfcta.org

Memorandum

AGENDA ITEM 9

DATE: January 15, 2020

TO: Transportation Authority Board

FROM: Anna LaForte – Deputy Director for Policy and Programming

SUBJECT: 2/11/2020 Board Meeting: Adopt Fiscal Year 2020/21 Transportation Fund for Clean Air Local Expenditure Criteria

RECOMMENDATION ☐ Information ☒ Action

Adopt the Fiscal Year (FY) 2020/21 Transportation Fund for Clean Air (TFCA) Local Expenditure Criteria

SUMMARY

The TFCA program is funded by a $4 vehicle registration fee collected by the California Department of Motor Vehicles in the nine-county Bay Area. The Bay Area Air Quality Management District (Air District) makes 40 percent of the TFCA program revenues available to each county on a return-to-source basis to implement strategies to improve air quality by reducing motor vehicle emissions, in accordance with the Air District's Clean Air Plan. As the County Program Manager for San Francisco, the Transportation Authority is required annually to adopt Local Expenditure Criteria to guide how projects will be prioritized for San Francisco's share of TFCA funds. Our proposed FY 2020/21 Local Expenditure Criteria (Attachment 1) do not include any changes from last year and are consistent with the Air District's TFCA policies for FY 2020/21. The criteria establish a prioritization methodology for applicant projects, including ranked project types, emission reduction benefits, program diversity, project readiness, and sponsor's project delivery track record. Last year, the Board approved three new criteria to give higher priority to projects that benefit communities of concern, demonstrate community support, and, for projects with non-public entity applicants or partners, include commensurate non-public investments. Following Board approval of the criteria, we will issue the FY 2020/21 call for projects for approximately $730,000.

☐ Fund Allocation
☒ Fund Programming
☐ Policy/Legislation
☐ Plan/Study
☐ Capital Project Oversight/Delivery
☐ Budget/Finance
☐ Contract/Agreement
☐ Other: _____

DISCUSSION

Background.

In 1991, the California Legislature authorized the Air District to impose a $4 vehicle registration surcharge to provide grant funding to projects that address on-road motor vehicle emissions, helping the Bay Area meet state and federal air quality standards and

greenhouse gas emission reduction goals. The Air District awards sixty percent of the TFCA funds through the TFCA Regional Fund, a suite of competitive grant programs for projects that reduce emissions from on-road motor vehicles. The Air District holds calls for projects for each of the project categories available (i.e. bikeways, electric vehicle charging stations, zero-emission and partial-zero-emission vehicles, and shuttle and ridesharing projects).

The Air District transfers the remaining forty percent of the TFCA funds to designated County Program Managers, such as the Transportation Authority, in each of the nine Bay Area counties to be awarded to TFCA-eligible projects. Each year the Air District adopts the County Program Manager Fund Expenditure Plan Guidance, which includes the list of eligible projects and defines policies for the expenditure of the County Program Manager Fund. The latest guidance document (Enclosure) includes policies changes that we have advocated for, such as modifying the cost-effectiveness eligibility limit (e.g. making it easier to qualify) for electric vehicle charging stations in multi-dwelling unit buildings, transit stations, and park-and-ride facilities to incentivize these projects and allowing the replacement of heavy-duty vehicles with light-duty vehicles, where such vehicles would be more appropriate.

As in past years, any public agency may be a project sponsor for a TFCA-funded project. Private entities may sponsor vehicles projects such as alternative-fuel vehicles and infrastructure projects, or partner with public agencies for all other project types.

Local Expenditure Criteria.

Our experience with previous application cycles shows that the projected TFCA revenues generally are sufficient to fund most, if not all, of the projects that satisfy TFCA eligibility requirements established by the Air District, including a requirement that each project must achieve a cost effectiveness ratio as established in the adopted TFCA County Program Manager Fund Guidance. Thus, while some counties have established a complex point system for rating potential TFCA projects across multiple local jurisdictions and project sponsors, our assessment is that over time San Francisco has been better served by not assigning a point system to evaluate applications.

Upon application, projects first undergo an eligibility screening. As in prior years, only projects that meet all of the Air District's TFCA eligibility requirements will be prioritized for funding using the Transportation Authority's Local Expenditure Criteria. The prioritization criteria include consideration of the following factors:

- Project type (e.g. highest priority to zero-emissions non-vehicle projects like bike projects)
- Cost effectiveness
- Project readiness (e.g. ability to meet TFCA timely-use-of-funds guidelines)
- Program diversity
- Community Support
- Benefits Communities of Concern
- Investment from Non-Public Project Sponsors or Partners

- Other factors (e.g., the project sponsor's recent delivery track-record for TFCA projects).

We continue to work with the Air District and other County Program Managers to improve the TFCA program's effectiveness at achieving air quality benefits, decrease its administrative burden, and allow the County Program Manager's more flexibility to address each county's unique air quality challenges and preferred methods of mitigating mobile source emissions.

Next Steps.

Following Board approval of the Local Expenditure Criteria, we will release the TFCA call for projects, anticipated by March 6, 2020. After reviewing and evaluating project applications, we anticipate presenting a recommended TFCA FY 2020/21 program of projects to the Citizens Advisory Committee in May and the Board in June 2020 for approval. Attachment 2 details the proposed schedule for the FY 2020/21 TFCA call for projects.

FINANCIAL IMPACT

There are no impacts to the Transportation Authority's adopted FY 2019/20 budget associated with the recommended action. Approval of the Local Expenditure Criteria will allow the Transportation Authority to program approximately $730,000 in local TFCA funds to eligible San Francisco projects and to receive about $50,000 for ongoing administration of the TFCA program. These funds will be incorporated into the FY 2020/21 budget and subsequent year budgets to reflect anticipated TFCA project cash reimbursement needs.

CAC POSITION

The CAC considered this item at its January 22, 2020 meeting and unanimously adopted a motion of support for the staff recommendation.

SUPPLEMENTAL MATERIALS

- Attachment 1 – Draft FY 2020/21 TFCA Local Expenditure Criteria
- Attachment 2 – Draft Schedule for FY 2020/21 TFCA Call for Projects
- Enclosure – County Program Manager Fund Expenditure Plan Guidance for Fiscal Year Ending 2021

Attachment 2
San Francisco County Transportation Authority
Fiscal Year 2020/21 Transportation Fund for Clean Air

Draft Schedule for Fiscal Year 2020/21 TFCA Call for Projects*

Thursday, January 16, 2020	Technical Working Group – DISCUSSION Local Expenditure Criteria
Wednesday, January 22, 2020	Citizens Advisory Committee Meeting – ACTION Local Expenditure Criteria
Tuesday, February 11, 2020	Transportation Authority Board Meeting – PRELIMINARY ACTION Local Expenditure Criteria
Tuesday, February 25, 2020	Transportation Authority Board Meeting – FINAL ACTION Local Expenditure Criteria
By Friday, March 6, 2020	Transportation Authority Issues TFCA Call for Projects
Friday, April 24, 2020	TFCA Applications Due to the Transportation Authority
Wednesday, May 27, 2020	Citizens Advisory Committee Meeting – ACTION TFCA staff recommendations
Tuesday, June 9, 2020	Transportation Authority Board Meeting - PRELIMINARY ACTION TFCA staff recommendations
Tuesday, June 23, 2020	Transportation Authority Board Meeting – FINAL ACTION TFCA staff recommendations
Sept 2020 (estimated)	Funds expected to be available to project sponsors

* Meeting dates are subject to change. Please check the Transportation Authority's website for the most up-to-date schedule (www.sfcta.org/agendas).

San Francisco
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BD021120 RESOLUTION NO. 20-35

RESOLUTION AUTHORIZING THE EXECUTIVE DIRECTOR TO EXECUTE EIGHT PROJECT DELIVERY AGREEMENTS AND ANY AMENDMENTS THERETO WITH THE CALIFORNIA DEPARTMENT OF TRANSPORTATION FOR RECEIPT OF STATE AND FEDERAL FUNDS FOR THE YERBA BUENA ISLAND WESTSIDE BRIDGES SEISMIC RETROFIT PROJECT

WHEREAS, In September 2019, the California Transportation Commission (CTC) adopted the Proposition 1B Local Bridge Seismic Retrofit Account Guidelines which require agencies with projects funded by Proposition 1B funds that have not advanced to the construction phase by December 31, 2019 to execute a Project Delivery Agreement (PDA) with the California Department of Transportation (Caltrans) by March 31, 2020; and

WHEREAS, The Local Bridge Seismic Retrofit Program (LBSRP) is administered by the CTC which proposed the revised guidelines in order to promote the completion of projects, and the PDA represents a commitment by the sponsor agency as to the scope, cost and delivery schedule for the project; and

WHEREAS, Agencies that do not comply with the guideline requirements will be restricted from seeking new obligations in the Caltrans Highway Bridge Program; and

WHEREAS, The Transportation Authority's Yerba Buena Island Westside Bridges Seismic Retrofit Project (Project) was listed as one of the projects requiring a PDA, and the Project requires eight separate PDAs as it was originally setup in the LBSRP as eight separate bridge projects; and

WHEREAS, The Project will demolish eight bridge structures and reconstruct a realigned roadway, six retaining walls, and a new undercrossing structure, as well as seismically retrofitting one structure and relocating a column; and

WHEREAS, Construction of roadway projects on Yerba Buena Island is very complex, requiring significant coordination among a number of entities and projects, including the

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Authority

United States Coast Guard, which is part of the Department of Homeland Security and is located on Yerba Buena Island; and

WHEREAS, The Project is one of several roadway construction projects on Yerba Buena Island, all of which need to be essentially completed before construction of the Project can start; and therefore, the Project is now scheduled with a conservative construction start date of September 2022 and end date of April 2026; and

WHEREAS, The Project will be delivered using the Construction Manager/General Contractor Project Delivery Method, approved through Resolution 18-42; and

WHEREAS, The Project is funded with Caltrans Highway Bridge Program funds, with matching funds provided from the state Proposition 1B and the Treasure Island Development Authority; and

WHEREAS, The PDAs will not have an impact on the adopted Fiscal Year 2019/20 budget and will provide compliance with the CTC Proposition 1B Local Bridge Seismic Retrofit Account Guidelines to ensure the Project will receive the Highway Bridge Program and Proposition 1B funding; and

WHEREAS, At its January 22, 2020 meeting, the Citizens Advisory Committee was briefed on the subject request and unanimously adopted a motion of support for the staff recommendation; now, therefore, be it

RESOLVED, That the Transportation Authority hereby authorizes the Executive Director to execute eight PDAs and any amendments thereto with Caltrans for receipt of state and federal funds for the Project.

Attachment:

1. Project Delivery Agreements (8)

Attachment 1
Local Bridge Seismic Retrofit Program
Project Delivery Agreement

Agency Information

Agency Name:	San Francisco County Transportation Authority
Contact Name:	Eric Cordoba, Deputy Director of Capital Projects
Phone:	(415) 522-4512
Email:	Eric.cordoba@sfcta.org

Project Information

Bridge No.	**01CA0001**
District:	04
Fed. Aid Project Number	STPLZ-6272(046)
Project Title & Description:	I-80 Westside Bridges Project - Retrofit Bridge 01CA0001 as part of one larger construction contract that includes: Retrofit 1 Bridge and Replace 7 Bridges with Retaining Walls and Roadway Box Culvert Structure, and Roadway Realignment. Bridges included in the overall Project are: 01CA0001, 01CA0002, 01CA0003, 01CA0004, 01CA0006, 01CA0007A, 01CA0007B, and 01CA0008
Project Benefit:	Sesimic Retrofit

County Name	**City**	**Zip Code**	**Congressional District**	**Assembly Dist**	**Senate Dist**
San Francisco	San Francisco	94103	12	17	11

Project Delivery Milestone	**Current Project Delivery Date**	**Baseline Agreement Date (OLD)**
Begin Design Date	8/10	8/10
NEPA Completion Date	10/17	10/17
Begin Right of Way Date	4/13	4/13
Right of Way Certification Date	10/21	10/20
100% PS&E Date	10/21	10/20
Construction RFA Date	9/22	10/20
End Construction Date	4/26	4/24
Closeout Date	10/26	4/25

Proposed Project Cost: $ 1,112,744

Highway Bridge Program Funds	18/19	19/20	20/21	21/22	22/23	23/24
Right of Way						
Construction				985,112		
LBSRA/State Match						
Right of Way						
Construction				127,632		

District: 4 **Bridge No:** 01CA0001
Project Title: I-80 Westside Bridges Project

We acknowledge the scope, cost, and delivery schedule as identified above constitute the Project Delivery Dates, as agreed on _____, by both Department of Transportation and the local agency. This project is being monitored by the California Transportation Commission and the Department of Transportation for conformance with these dates in accordance with Local Bridge Seismic Retrofit Account Guidelines and Highway Bridge Program Advisory Committee procedures and policies. We certify that funding sources cited are expected to be available in the delivery year listed. The estimated costs represent funding components for the right of way and construction phases only. If any phase of this seismic retrofit project is not delivered in the year that has been agreed upon in this agreement, HBP funds could be withdrawn as outlined in the Proposition 1B Local Bridge Seismic Retrofit Account Guidelines.

_____ Date

Tilly Chang, Executive Director
San Francisco County Transportation Authority

_____ Date

RIHUI ZHANG
Chief
Division of Local Assistance
Department of Transportation

Local Bridge Seismic Retrofit Program

Project Delivery Agreement

Agency Information

Agency Name:	San Francisco County Transportation Authority
Contact Name:	Eric Cordoba, Deputy Director of Capital Projects
Phone:	(415) 522-4512
Email:	Eric.cordoba@sfcta.org

Project Information

Bridge No.	**01CA0002**
District:	04
Fed. Aid Project Number	STPLZ-6272(046)
Project Title & Description:	I-80 Westside Bridges Project - Demolish Bridge 01CA0002 and construct replacement facilities as part of one larger construction contract that includes: Retrofit 1 Bridge and Replace 7 Bridges with Retaining Walls and Roadway Box Culvert Structure, and Roadway Realignment. Bridges included in the overall Project are: 01CA0001, 01CA0002, 01CA0003, 01CA0004, 01CA0006, 01CA0007A, 01CA0007B, and 01CA0008
Project Benefit:	Sesimic Retrofit

County Name	**City**	**Zip Code**	**Congressional District**	**Assembly Dist**	**Senate Dist**
San Francisco	San Francisco	94103	12	17	11

Project Delivery Milestone	**Current Project Delivery Date**	**Baseline Agreement Date (OLD)**
Begin Design Date	8/10	8/10
NEPA Completion Date	10/17	10/17
Begin Right of Way Date	4/13	4/13
Right of Way Certification Date	10/21	10/20
100% PS&E Date	10/21	10/20
Construction RFA Date	9/22	10/20
End Construction Date	4/26	4/24
Closeout Date	10/26	4/25

Proposed Project Cost: $ 57,597,492

Highway Bridge Program Funds	18/19	19/20	20/21	21/22	22/23	23/24
Right of Way				148,867		
Construction				50,842,193		
LBSRA/State Match						
Right of Way				19,287		
Construction				6,587,145		

District: 4 **Bridge No:** 01CA0002

Project Title: I-80 Westside Bridges Project

We acknowledge the scope, cost, and delivery schedule as identified above constitute the Project Delivery Dates, as agreed on _____, by both Department of Transportation and the local agency. This project is being monitored by the California Transportation Commission and the Department of Transportation for conformance with these dates in accordance with Local Bridge Seismic Retrofit Account Guidelines and Highway Bridge Program Advisory Committee procedures and policies. We certify that funding sources cited are expected to be available in the delivery year listed. The estimated costs represent funding components for the right of way and construction phases only. If any phase of this seismic retrofit project is not delivered in the year that has been agreed upon in this agreement, HBP funds could be withdrawn as outlined in the Proposition 1B Local Bridge Seismic Retrofit Account Guidelines.

_____ Date

Tilly Chang, Executive Director
San Francisco County Transportation Authority

_____ Date

RIHUI ZHANG
Chief
Division of Local Assistance
Department of Transportation

Local Bridge Seismic Retrofit Program

Project Delivery Agreement

Agency Information

Agency Name:	San Francisco County Transportation Authority
Contact Name:	Eric Cordoba, Deputy Director of Capital Projects
Phone:	(415) 522-4512
Email:	Eric.cordoba@sfcta.org

Project Information

Bridge No.	**01CA0003**
District:	04
Fed. Aid Project Number	STPLZ-6272(046)
Project Title & Description:	I-80 Westside Bridges Project - Demolish Bridge 01CA0003 and construct replacement facilities as part of one larger construction contract that includes: Retrofit 1 Bridge and Replace 7 Bridges with Retaining Walls and Roadway Box Culvert Structure, and Roadway Realignment. Bridges included in the overall Project are: 01CA0001, 01CA0002, 01CA0003, 01CA0004, 01CA0006, 01CA0007A, 01CA0007B, and 01CA0008
Project Benefit:	Sesimic Retrofit

County Name	**City**	**Zip Code**	**Congressional District**	**Assembly Dist**	**Senate Dist**
San Francisco	San Francisco	94103	12	17	11

Project Delivery Milestone	**Current Project Delivery Date**	**Baseline Agreement Date (OLD)**
Begin Design Date	8/10	8/10
NEPA Completion Date	10/17	10/17
Begin Right of Way Date	4/13	4/13
Right of Way Certification Date	10/21	10/20
100% PS&E Date	10/21	10/20
Construction RFA Date	9/22	10/20
End Construction Date	4/26	4/24
Closeout Date	10/26	4/25

Proposed Project Cost: $ 25,682,538

Highway Bridge Program Funds	18/19	19/20	20/21	21/22	22/23	23/24
Right of Way				189,318		
Construction				22,547,433		
LBSRA/State Match						
Right of Way				24,528		
Construction				2,921,259		

District: 4 **Bridge No:** 01CA0003

Project Title: I-80 Westside Bridges Project

We acknowledge the scope, cost, and delivery schedule as identified above constitute the Project Delivery Dates, as agreed on _____, by both Department of Transportation and the local agency. This project is being monitored by the California Transportation Commission and the Department of Transportation for conformance with these dates in accordance with Local Bridge Seismic Retrofit Account Guidelines and Highway Bridge Program Advisory Committee procedures and policies. We certify that funding sources cited are expected to be available in the delivery year listed. The estimated costs represent funding components for the right of way and construction phases only. If any phase of this seismic retrofit project is not delivered in the year that has been agreed upon in this agreement, HBP funds could be withdrawn as outlined in the Proposition 1B Local Bridge Seismic Retrofit Account Guidelines.

_____ _____

Date

Tilly Chang, Executive Director
San Francisco County Transportation Authority

_____ _____

Date

RIHUI ZHANG
Chief
Division of Local Assistance
Department of Transportation

Local Bridge Seismic Retrofit Program

Project Delivery Agreement

Agency Information

Agency Name:	San Francisco County Transportation Authority
Contact Name:	Eric Cordoba, Deputy Director of Capital Projects
Phone:	(415) 522-4512
Email:	Eric.cordoba@sfcta.org

Project Information

Bridge No.	**01CA0004**
District:	04
Fed. Aid Project Number	STPLZ-6272(046)
Project Title & Description:	I-80 Westside Bridges Project - Demolish Bridge 01CA0004 and construct replacement facilities as part of one larger construction contract that includes: Retrofit 1 Bridge and Replace 7 Bridges with Retaining Walls and Roadway Box Culvert Structure, and Roadway Realignment. Bridges included in the overall Project are: 01CA0001, 01CA0002, 01CA0003, 01CA0004, 01CA0006, 01CA0007A, 01CA0007B, and 01CA0008
Project Benefit:	Sesimic Retrofit

County Name	**City**	**Zip Code**	**Congressional District**	**Assembly Dist**	**Senate Dist**
San Francisco	San Francisco	94103	12	17	11

Project Delivery Milestone	**Current Project Delivery Date**	**Baseline Agreement Date (OLD)**
Begin Design Date	8/10	8/10
NEPA Completion Date	10/17	10/17
Begin Right of Way Date	4/13	4/13
Right of Way Certification Date	10/21	10/20
100% PS&E Date	10/21	10/20
Construction RFA Date	9/22	10/20
End Construction Date	4/26	4/24
Closeout Date	10/26	4/25

Proposed Project Cost: $ 5,192,814

Highway Bridge Program Funds	18/19	19/20	20/21	21/22	22/23	23/24
Right of Way						
Construction				4,597,198		
LBSRA/State Match						
Right of Way						
Construction				595,616		

District: 4 **Bridge No:** 01CA0004

Project Title: I-80 Westside Bridges Project

We acknowledge the scope, cost, and delivery schedule as identified above constitute the Project Delivery Dates, as agreed on _____, by both Department of Transportation and the local agency. This project is being monitored by the California Transportation Commission and the Department of Transportation for conformance with these dates in accordance with Local Bridge Seismic Retrofit Account Guidelines and Highway Bridge Program Advisory Committee procedures and policies. We certify that funding sources cited are expected to be available in the delivery year listed. The estimated costs represent funding components for the right of way and construction phases only. If any phase of this seismic retrofit project is not delivered in the year that has been agreed upon in this agreement, HBP funds could be withdrawn as outlined in the Proposition 1B Local Bridge Seismic Retrofit Account Guidelines.

_____ _____

Date

Tilly Chang, Executive Director
San Francisco County Transportation Authority

_____ _____

Date

RIHUI ZHANG
Chief
Division of Local Assistance
Department of Transportation

Local Bridge Seismic Retrofit Program

Project Delivery Agreement

Agency Information

Agency Name:	San Francisco County Transportation Authority
Contact Name:	Eric Cordoba, Deputy Director of Capital Projects
Phone:	(415) 522-4512
Email:	Eric.cordoba@sfcta.org

Project Information

Bridge No.	**01CA0006**
District:	04
Fed. Aid Project Number	STPLZ-6272(046)
Project Title & Description:	I-80 Westside Bridges Project - Demolish Bridge 01CA0006 and construct replacement facilities as part of one larger construction contract that includes: Retrofit 1 Bridge and Replace 7 Bridges with Retaining Walls and Roadway Box Culvert Structure, and Roadway Realignment. Bridges included in the overall Project are: 01CA0001, 01CA0002, 01CA0003, 01CA0004, 01CA0006, 01CA0007A, 01CA0007B, and 01CA0008
Project Benefit:	Sesimic Retrofit

County Name	**City**	**Zip Code**	**Congressional District**	**Assembly Dist**	**Senate Dist**
San Francisco	San Francisco	94103	12	17	11

Project Delivery Milestone	**Current Project Delivery Date**	**Baseline Agreement Date (OLD)**
Begin Design Date	8/10	8/10
NEPA Completion Date	10/17	10/17
Begin Right of Way Date	4/13	4/13
Right of Way Certification Date	10/21	10/20
100% PS&E Date	10/21	10/20
Construction RFA Date	9/22	10/20
End Construction Date	4/26	4/24
Closeout Date	10/26	4/25

Proposed Project Cost: $ 6,149,765

Highway Bridge Program Funds	18/19	19/20	20/21	21/22	22/23	23/24
Right of Way						
Construction				5,444,387		
LBSRA/State Match						
Right of Way						
Construction				705,378		

District: 4 **Bridge No:** 01CA0006

Project Title: I-80 Westside Bridges Project

We acknowledge the scope, cost, and delivery schedule as identified above constitute the Project Delivery Dates, as agreed on _____, by both Department of Transportation and the local agency. This project is being monitored by the California Transportation Commission and the Department of Transportation for conformance with these dates in accordance with Local Bridge Seismic Retrofit Account Guidelines and Highway Bridge Program Advisory Committee procedures and policies. We certify that funding sources cited are expected to be available in the delivery year listed. The estimated costs represent funding components for the right of way and construction phases only. If any phase of this seismic retrofit project is not delivered in the year that has been agreed upon in this agreement, HBP funds could be withdrawn as outlined in the Proposition 1B Local Bridge Seismic Retrofit Account Guidelines.

_____ Date

Tilly Chang, Executive Director
San Francisco County Transportation Authority

_____ Date

RIHUI ZHANG
Chief
Division of Local Assistance
Department of Transportation

Local Bridge Seismic Retrofit Program

Project Delivery Agreement

Agency Information

Agency Name:	San Francisco County Transportation Authority
Contact Name:	Eric Cordoba, Deputy Director of Capital Projects
Phone:	(415) 522-4512
Email:	Eric.cordoba@sfcta.org

Project Information

Bridge No.	**01CA0007A**
District:	04
Fed. Aid Project Number	STPLZ-6272(046)
Project Title & Description:	I-80 Westside Bridges Project - Demolish Bridge 01CA0007A and construct replacement facilities as part of one larger construction contract that includes: Retrofit 1 Bridge and Replace 7 Bridges with Retaining Walls and Roadway Box Culvert Structure, and Roadway Realignment. Bridges included in the overall Project are: 01CA0001, 01CA0002, 01CA0003, 01CA0004, 01CA0006, 01CA0007A, 01CA0007B, and 01CA0008
Project Benefit:	Sesimic Retrofit

County Name	**City**	**Zip Code**	**Congressional District**	**Assembly Dist**	**Senate Dist**
San Francisco	San Francisco	94103	12	17	11

Project Delivery Milestone	**Current Project Delivery Date**	**Baseline Agreement Date (OLD)**
Begin Design Date	8/10	8/10
NEPA Completion Date	10/17	10/17
Begin Right of Way Date	4/13	4/13
Right of Way Certification Date	10/21	10/20
100% PS&E Date	10/21	10/20
Construction RFA Date	9/22	10/20
End Construction Date	4/26	4/24
Closeout Date	10/26	4/25

Proposed Project Cost: $ 816,005

Highway Bridge Program Funds	18/19	19/20	20/21	21/22	22/23	23/24
Right of Way						
Construction				722,409		
LBSRA/State Match						
Right of Way						
Construction				93,596		

District: 4 **Bridge No:** 01CA0007A

Project Title: I-80 Westside Bridges Project

We acknowledge the scope, cost, and delivery schedule as identified above constitute the Project Delivery Dates, as agreed on _____, by both Department of Transportation and the local agency. This project is being monitored by the California Transportation Commission and the Department of Transportation for conformance with these dates in accordance with Local Bridge Seismic Retrofit Account Guidelines and Highway Bridge Program Advisory Committee procedures and policies. We certify that funding sources cited are expected to be available in the delivery year listed. The estimated costs represent funding components for the right of way and construction phases only. If any phase of this seismic retrofit project is not delivered in the year that has been agreed upon in this agreement, HBP funds could be withdrawn as outlined in the Proposition 1B Local Bridge Seismic Retrofit Account Guidelines.

_____ Date

Tilly Chang, Executive Director
San Francisco County Transportation Authority

_____ Date

RIHUI ZHANG
Chief
Division of Local Assistance
Department of Transportation

Local Bridge Seismic Retrofit Program

Project Delivery Agreement

Agency Information

Agency Name:	San Francisco County Transportation Authority
Contact Name:	Eric Cordoba, Deputy Director of Capital Projects
Phone:	(415) 522-4512
Email:	Eric.cordoba@sfcta.org

Project Information

Bridge No.	**01CA0007B**
District:	04
Fed. Aid Project Number	STPLZ-6272(046)
Project Title & Description:	I-80 Westside Bridges Project - Demolish Bridge 01CA0007B and construct replacement facilities as part of one larger construction contract that includes: Retrofit 1 Bridge and Replace 7 Bridges with Retaining Walls and Roadway Box Culvert Structure, and Roadway Realignment. Bridges included in the overall Project are: 01CA0001, 01CA0002, 01CA0003, 01CA0004, 01CA0006, 01CA0007A, 01CA0007B, and 01CA0008
Project Benefit:	Sesimic Retrofit

County Name	**City**	**Zip Code**	**Congressional District**	**Assembly Dist**	**Senate Dist**
San Francisco	San Francisco	94103	12	17	11

Project Delivery Milestone	**Current Project Delivery Date**		**Baseline Agreement Date (OLD)**	
Begin Design Date	8/10		8/10	
NEPA Completion Date	10/17		10/17	
Begin Right of Way Date	4/13		4/13	
Right of Way Certification Date	10/21		10/20	
100% PS&E Date	10/21		10/20	
Construction RFA Date	9/22		10/20	
End Construction Date	4/26		4/24	
Closeout Date	10/26		4/25	

Proposed Project Cost: $ 1,075,661

Highway Bridge Program Funds	18/19	19/20	20/21	21/22	22/23	23/24
Right of Way						
Construction				952,283		
LBSRA/State Match						
Right of Way						
Construction				123,378		

District: 4 **Bridge No:** 01CA0007B

Project Title: I-80 Westside Bridges Project

We acknowledge the scope, cost, and delivery schedule as identified above constitute the Project Delivery Dates, as agreed on _____, by both Department of Transportation and the local agency. This project is being monitored by the California Transportation Commission and the Department of Transportation for conformance with these dates in accordance with Local Bridge Seismic Retrofit Account Guidelines and Highway Bridge Program Advisory Committee procedures and policies. We certify that funding sources cited are expected to be available in the delivery year listed. The estimated costs represent funding components for the right of way and construction phases only. If any phase of this seismic retrofit project is not delivered in the year that has been agreed upon in this agreement, HBP funds could be withdrawn as outlined in the Proposition 1B Local Bridge Seismic Retrofit Account Guidelines.

_____ _____

Date

Tilly Chang, Executive Director
San Francisco County Transportation Authority

_____ _____

Date

RIHUI ZHANG
Chief
Division of Local Assistance
Department of Transportation

Local Bridge Seismic Retrofit Program

Project Delivery Agreement

Agency Information

Agency Name:	San Francisco County Transportation Authority
Contact Name:	Eric Cordoba, Deputy Director of Capital Projects
Phone:	(415) 522-4512
Email:	Eric.cordoba@sfcta.org

Project Information

Bridge No.	**01CA0008**
District:	04
Fed. Aid Project Number	STPLZ-6272(046)
Project Title & Description:	I-80 Westside Bridges Project - Demolish Bridge 01CA0008 and construct replacement facilities as part of one larger construction contract that includes: Retrofit 1 Bridge and Replace 7 Bridges with Retaining Walls and Roadway Box Culvert Structure, and Roadway Realignment. Bridges included in the overall Project are: 01CA0001, 01CA0002, 01CA0003, 01CA0004, 01CA0006, 01CA0007A, 01CA0007B, and 01CA0008
Project Benefit:	Sesimic Retrofit

County Name	City	Zip Code	Congressional District	Assembly Dist	Senate Dist
San Francisco	San Francisco	94103	12	17	11

Project Delivery Milestone	Current Project Delivery Date		Baseline Agreement Date (OLD)	
Begin Design Date	8/10		8/10	
NEPA Completion Date	10/17		10/17	
Begin Right of Way Date	4/13		4/13	
Right of Way Certification Date	10/21		10/20	
100% PS&E Date	10/21		10/20	
Construction RFA Date	9/22		10/20	
End Construction Date	4/26		4/24	
Closeout Date	10/26		4/25	

Proposed Project Cost: $ 1,520,758

Highway Bridge Program Funds	18/19	19/20	20/21	21/22	22/23	23/24
Right of Way						
Construction				1,346,327		
LBSRA/State Match						
Right of Way						
Construction				174,431		

District: 4 **Bridge No:** 01CA0008

Project Title: I-80 Westside Bridges Project

We acknowledge the scope, cost, and delivery schedule as identified above constitute the Project Delivery Dates, as agreed on _____, by both Department of Transportation and the local agency. This project is being monitored by the California Transportation Commission and the Department of Transportation for conformance with these dates in accordance with Local Bridge Seismic Retrofit Account Guidelines and Highway Bridge Program Advisory Committee procedures and policies. We certify that funding sources cited are expected to be available in the delivery year listed. The estimated costs represent funding components for the right of way and construction phases only. If any phase of this seismic retrofit project is not delivered in the year that has been agreed upon in this agreement, HBP funds could be withdrawn as outlined in the Proposition 1B Local Bridge Seismic Retrofit Account Guidelines.

_____ Date

Tilly Chang, Executive Director
San Francisco County Transportation Authority

_____ Date

RIHUI ZHANG
Chief
Division of Local Assistance
Department of Transportation

San Francisco
County Transportation
Authority

1455 Market Street, 22ND Floor, San Francisco, California 94103 415-522-4800 info@sfcta.org www.sfcta.org

Memorandum

AGENDA ITEM 10

DATE: January 15, 2020

TO: Transportation Authority Board

FROM: Eric Cordoba – Deputy Director for Capital Projects

SUBJECT: 02/11/2020 Board Meeting: Authorize the Executive Director to Execute Eight Project Delivery Agreements and Any Amendments Thereto with the California Department of Transportation for Receipt of State and Federal Funds for the Yerba Buena Island Westside Bridges Seismic Retrofit Project

RECOMMENDATION ☐ Information ☒ Action

Authorize the Executive Director to Execute Eight Project Delivery Agreements (PDAs) and Any Amendments Thereto with the California Department of Transportation (Caltrans) for Receipt of State and Federal Funds for the Yerba Buena Island (YBI) Westside Bridges Seismic Retrofit Project

SUMMARY

We are seeking authorization to execute eight PDAs between our agency and Caltrans for receipt of state and federal funds for the YBI Westside Bridges Seismic Retrofit Project. Guidelines recently adopted by the California Transportation Commission (CTC) require agencies with projects funded by Proposition 1B Local Bridge Seismic Retrofit Program funds that have not advanced to construction by the end of 2019 to execute a PDA for the project by March 31, 2020. Agencies which do not comply with the guideline requirements will be restricted from seeking new obligations in Caltrans Highway Bridge Program. The PDAs represent a commitment by the project sponsor (our agency for the YBI Westside Bridge project) as to the scope, cost and delivery schedule.

☐ Fund Allocation
☐ Fund Programming
☐ Policy/Legislation
☐ Plan/Study
☐ Capital Project Oversight/Delivery
☐ Budget/Finance
☒ Contract/Agreement
☐ Other: _____

DISCUSSION

Background.

In September 2019, the CTC adopted the Proposition 1B Local Bridge Seismic Retrofit Account Guidelines which require agencies with projects funded by Proposition 1B funds that have not advanced to the construction phase by December 31, 2019 to execute a PDA with Caltrans by March 31, 2020. This Agreement represents a commitment by the agency as to the scope, cost and delivery schedule for the project. The Local Bridge Seismic Retrofit Program (LBSRP) is administered by the CTC which proposed the revised guidelines in order to promote the completion of projects. Our YBI Westside Bridges Seismic Retrofit Project (Project) was listed as one of the projects requiring a PDA. The Project requires eight separate PDAs as it was originally setup in the LBSRP as eight separate bridge projects. However, the bridges have recently been consolidated into one project under the Federal Highway Administration program.

The scope of the I-80/YBI Interchange Improvement Project includes two major components: the I-80/YBI Ramps Improvement Project and the YBI Westside Bridges Seismic Retrofit Project. The subject of this request is the YBI Westside Bridges Seismic Retrofit Project.

Project Background/Status.

The YBI Westside Bridges Seismic Retrofit Project will demolish eight bridge structures and reconstruct a realigned roadway, six retaining walls, and a new undercrossing structure. Additionally, one structure will be seismically retrofitted and includes a column relocation. This project will be challenging to implement, given its unique location along the western edge of YBI along steep terrain on the hillside overlooking the San Francisco Bay. In addition to the challenging location, the project presents numerous complex structural (bridge/retaining wall foundations) and geotechnical challenges (unstable soils), as well as difficult construction access (very steep terrain) and environmental constraints (construction adjacent to and above the San Francisco Bay).

Construction of roadway projects on YBI is very complex, requiring significant coordination among a number of entities and projects. One complicating factor is that the United States Coast Guard (USCG) station, which is part of the Department of Homeland Security, is located on YBI. In constructing and reconstructing roadways on YBI, the projects need to be well coordinated to ensure there are sufficient roadways available to provide adequate traffic circulation for the USCG, Caltrans, the Treasure Island Development Authority, Treasure Island Community Development (TICD), and the residents of Treasure Island.

The YBI Westside Bridges Seismic Retrofit Project is one of several roadway construction projects on YBI. The other major roadway construction projects include the Macalla Road Reconstruction Project, the Forest Road Detour Project, and the I-80/YBI Ramps Improvement Project, Phase 1 (Westbound Ramps Project - completed) and Phase 2 (Southgate Road Project –advertised for construction). TICD is the lead for the Macalla Road Reconstruction

Project and the Forest Road Detour Project, while we are the lead for the Westbound Ramps Project and the Southgate Road Realignment Project. All four of these projects need to be essentially completed before construction of the Westside Bridges Project can start (with a seven-month overlap of the Southgate Road Project). As such, the Westside Bridges Project is now scheduled with a conservative start date of September 2022. However, we will be monitoring the progress of the other projects, with a goal of advancing the start of construction of the Westside Bridges project, if at all possible.

In March 2018, through Resolution 18-42, the Board approved the Construction Manager/General Contractor (CM/GC) Project Delivery Method for this project. In October 2018, through Resolution 19-17, the Board awarded a professional services contract to Golden State Bridge/Obayashi Joint Venture for CM/GC preconstruction services and a contract amendment to WMH Corporation to complete design services. Construction of the project is scheduled to begin in fall 2022 and be completed by April 2026.

Schedule.

The planned project schedule is shown below.

Project Delivery Milestone	Completion Date
NEPA Completion Date	October 2017
Right of Way	October 2021
100% PS&E Date (Design)	October 2021
Construction Request for Authorization Date	September 2022
End Construction Date	April 2026
Closeout Date	April 2027

Funding/Cost.

The project is funded with Caltrans Highway Bridge Program (HBP) funds, with matching funds provided from the state Proposition 1B and the Treasure Island Development Authority.

Planned Project Funding/Cost			
Project Phase	**LBSRP/Local Match Funding (11.47%)**	**Federal Funding (HBP) (88.53%)**	**Total Funding/ Cost per Phase**
Preliminary Engineering	$918,403	$7,088,597	$8,007,000
Right of Way	$43,815	$338,185	$382,000
Construction	$11,328,435	$87,437,342	$98,765,777
Total	**$12,290,653**	**$94,864,124**	**$107,154,777**

Next Steps.

Following Board approval, we will forward the PDAs to Caltrans for signature and submit them to the CTC by the March 31, 2020 deadline.

FINANCIAL IMPACT

The recommended action would not have an impact on the adopted Fiscal Year 2019/20 budget. Approval of the recommended action would provide compliance with the CTC Proposition 1B Local Bridge Seismic Retrofit Account Guidelines to ensure we will receive the HBP and Proposition 1B funding.

CAC POSITION

The CAC was briefed on this item at its January 22, 2020 meeting and unanimously adopted a motion of support for the staff recommendation.

SUPPLEMENTAL MATERIALS

- Attachment 1 – Project Delivery Agreements (8)

San Francisco
County Transportation
Authority

BD021120 RESOLUTION NO. 20-36

RESOLUTION EXECUTING AMENDMENT NO. 5 TO THE MEMORANDUM OF AGREEMENT WITH THE TREASURE ISLAND DEVELOPMENT AUTHORITY FOR YERBA BUENA ISLAND VISTA POINT OPERATION SERVICES TO INCREASE THE AMOUNT BY $400,000 TO A TOTAL AMOUNT NOT TO EXCEED $1,995,000, AND TO EXTEND THE AGREEMENT THROUGH JUNE 30, 2022, AND AUTHORIZING THE EXECUTIVE DIRECTOR TO MODIFY NON-MATERIAL AMENDMENT TERMS AND CONDITIONS, FOR OPERATIONS AND MAINTENANCE SERVICES FOR THE NEW VISTA POINT AT PIER E2

WHEREAS, As part of the San Francisco-Oakland Bay Bridge Eastern Span bicycle/pedestrian path extension from Oakland to Yerba Buena Island (YBI) in fall 2016, the Transportation Authority determined collectively with the Treasure Island Development Authority (TIDA), the California Department of Transportation (Caltrans), the Bay Area Toll Authority (BATA), and the United States Coast Guard (USCG) that it would be advantageous to provide a trail landing at the Quarters 9 Vista Point improvements on YBI to improve safety for pedestrians and bicyclists; and

WHEREAS, These improvements were opened to the public in early May 2017 and provide a larger, more amenable Vista Point type setting, including but not limited to a hydration station, portable restrooms, bike racks, shuttle to/from Treasure Island and pedestrian crosswalk; and

WHEREAS, With the Vista Point improvements opened to the public, ongoing maintenance, security and operational activities are required; and

WHEREAS, In October 2016, through Resolution 17-08, the Transportation Authority approved a Memorandum of Agreement (MOA) with TIDA for it to utilize its existing resources to provide janitorial, landscape maintenance, security, transportation shuttle, and other services for the Vista Point area; and

WHEREAS, In October 2019, through Resolution 20-13, the Transportation Authority

approved Amendment No. 4 to the MOA to increase the total agreement amount to $1,595,000 and extend the termination date to June 30, 2021 for continued operation services at the Quarters 9 Vista Point; and

WHEREAS, As part of the Bay Bridge East Span Seismic Safety Replacement Project and to prevent additional implosions of a remaining old bridge foundation near Pier E2, Caltrans incorporated the foundation into a New Vista Point at Pier E2 for public access, anticipated to open in spring 2020; and

WHEREAS, While Caltrans owns Pier E2, BATA and Caltrans have sought other stakeholders and partners for the successful long-term operations and maintenance of the Vista Point; and

WHEREAS, BATA is requesting that the Transportation Authority maintain and operate the New Vista Point at Pier E2 until the rehabilitation of the historic Torpedo building adjacent to the site is completed as part of the Southgate Road Realignment Project, which is expected by the end of 2021; and

WHEREAS, The services requested include maintenance of public furnishings including a communal table and seating, recycled old Bay Bridge handrails, landscaping and a signature tree, stormwater treatment facilities, a portable restroom, a site security gate to be opened and closed daily, daily security checks and response to incidents, trash and litter removal, and graffiti removal; and

WHEREAS, When the area is clear of construction activities, TIDA will assume operations and maintenance for the New Vista Point at Pier E2 with BATA funding reimbursement; and

WHEREAS, The proposed request will increase the total agreement amount by $400,000 to a total amount not to exceed $1,995,000 and extend the termination date to

June 30, 2022; and

WHEREAS, BATA has continued its commitment to support Vista Point operations and maintenance through a funding agreement for the Southgate Road Realignment Project, which was approved by BATA on December 11, 2019; and

WHEREAS, Remaining activities for Fiscal Year 2019/20 will be included in the Transportation Authority's mid-year budget amendment and sufficient funds will be included in future fiscal year budgets to cover the cost of the MOA; and

WHEREAS, At its January 22, 2020 meeting, the Citizens Advisory Committee considered the subject request and unanimously adopted a motion of support for the staff recommendation; now, therefore, be it

RESOLVED, That the Transportation Authority hereby authorizes the Executive Director to execute Amendment No. 5 to the MOA with TIDA for YBI Vista Point operation services to increase the amount by $400,000 to a total amount not to exceed $1,995,000 and to extend the agreement through June 30, 2022, for operations and maintenance services for the New Vista Point at Pier E2; and be it further

RESOLVED, That the Executive Director is authorized to modify non-material amendment terms and conditions; and be it further

RESOLVED, That for the purposes of this resolution, "non-material" shall mean agreement terms and conditions other than provisions related to the overall agreement amount, terms of payment, and general scope of services; and be it further

RESOLVED, That notwithstanding the foregoing and any rule or policy of the Transportation Authority to the contrary, the Executive Director is expressly authorized to execute agreements and amendments to agreements that do not cause the total agreement value, as approved herein, to be exceeded and that do not expand the general scope of services.

San Francisco
County Transportation
Authority

1455 Market Street, 22ND Floor, San Francisco, California 94103 415-522-4800 info@sfcta.org www.sfcta.org

Memorandum

AGENDA ITEM 11

DATE: January 15, 2020

TO: Transportation Authority Board

FROM: Eric Cordoba – Deputy Director for Capital Projects

SUBJECT: 02/11/2020 Board Meeting: Execution of Amendment No. 5 to the Memorandum of Agreement with the Treasure Island Development Authority for Yerba Buena Island Vista Point Operation Services to Increase the Amount by $400,000, to a Total Amount Not to Exceed $1,995,000, and Extend the Agreement Through June 30, 2022 for Operations and Maintenance Services for the New Vista Point at Pier E2

RECOMMENDATION ☐ Information ☒ Action

- Execute Amendment No. 5 to the Memorandum of Agreement (MOA) with the Treasure Island Development Authority (TIDA) for the Yerba Buena Island (YBI) Vista Point Operation Services to increase the amount by $400,000, to a total amount not to exceed $1,995,000, and extend the agreement through June 30, 2022 for Operations and Maintenance Services for the New Vista Point at Pier E2
- Authorize the Executive Director to modify non-material amendment terms and conditions

☐ Fund Allocation
☐ Fund Programming
☐ Policy/Legislation
☐ Plan/Study
☐ Capital Project Oversight/Delivery
☐ Budget/Finance
☒ Contract/Agreement
☐ Other: _____

SUMMARY

We have been working in collaboration with TIDA to operate and maintain the YBI Quarters 9 Vista Point since November 2016. At the October 22, 2019 meeting, the Board approved Amendment No. 4 to the MOA to increase the total agreement amount to $1,595,000 and extend the termination date to June 30, 2021. The Bay Area Toll Authority (BATA) has subsequently requested that we provide similar operations and maintenances services on their new Vista Point at Pier E2 on YBI, anticipated to open in spring 2020.

DISCUSSION

Background.

As part of the new Bay Bridge Eastern Span bicycle/pedestrian path extension from Oakland to YBI in fall of 2016, we determined collectively with TIDA, Caltrans, BATA, and the United States Coast Guard that it would be advantageous to provide a trail landing at the Quarters 9 Vista Point improvements on YBI to improve safety for pedestrians and bicyclists. We designed and administered the construction of these improvements, which were opened to the public in early May 2017. These improvements provide a larger, more amenable vista point type setting including but not limited to a hydration station, portable restrooms, bike racks, shuttle from Treasure Island and pedestrian crosswalk. The opening of Vista Point coincided with Caltrans' expansion of the hours of the bicycle/pedestrian path to weekdays as well as weekends. The Quarters 9 Vista Point is open the same hours as the bicycle/pedestrian path. With the Quarters 9 Vista Point improvements opened to the public, ongoing maintenance, security and operational activities are required.

As part of the Bay Bridge East Span Seismic Safety Replacement Project and to prevent additional implosions of a remaining old bridge foundation near Pier E2, Caltrans incorporated the foundation into a New Vista Point at Pier E2 for public access. While Caltrans owns Pier E2, BATA and Caltrans have sought other stakeholders and partners for the successful long-term operations and maintenance of the Vista Point, including us and TIDA. Initially, BATA had negotiated for TIDA to operate and maintain the site as the public access and pier since it would be consistent with TIDA's long-range plans to develop recreational opportunities in the area. However, over the next several years, we will be partly rehabilitating the historic Torpedo building adjacent to the site as part of environmental mitigation for the Southgate Road Realignment Project. All parties believe it would be best for our agency to maintain and operate the New Vista Point at Pier E2 until building rehabilitation is complete, which is expected by the end of 2021. Ultimately, when the area is clear of construction activities, TIDA will assume operations and maintenance for the New Vista Point at Pier E2 with BATA funding reimbursement.

Memorandum of Agreement.

In October 2016, through Resolution 17-08, our agency approved a MOA with TIDA for the YBI Vista Point Operation Services in an amount not to exceed $500,000 through June 30, 2017. Under the terms of the MOA, TIDA utilizes its existing resources to provide janitorial, landscape maintenance, security, transportation shuttle, and other services for the Vista Point area. The MOA was amended as of July 1, 2017 to increase the not to exceed amount to $600,000; amended again as of July 1, 2018 to increase the not to exceed amount of $955,000; amended again as of July 1, 2019 to extend the term of the MOA to October 31, 2019; and amended a fourth time as of November 1, 2019 to increase the not to exceed amount of $1,595,000 and extend the term of the MOA to June 30, 2021. The services provided under the MOA have been fully funded by BATA's Seismic Retrofit funds programmed to the I-80 Westbound Ramps Project.

BATA is requesting that we provide Vista Point operations and maintenance at Pier E2 in accordance with environmental permit requirements from the San Francisco-Oakland Bay

Bridge East Span Seismic Safety Replacement Project. This includes maintenance of public furnishings including a communal table and seating, recycled old Bay Bridge handrails, landscaping and a signature tree, stormwater treatment facilities, a portable restroom, a site security gate to be opened and closed daily, daily security checks and response to incidents, trash and litter removal, and graffiti removal. Shuttle services to/from the site will be provided but are not initially funded as BATA desires to see the ridership levels before committing funding. These items are important to achieve the public use vision intended by Caltrans, BATA and TIDA. TIDA will continue to contract with Toolworks, Inc. and Rubicon Landscape, two vendors who participate in the One Treasure Island jobs program, which provides job opportunities for Treasure Island and San Francisco residents.

The proposed request will increase the total agreement amount by $400,000 to a total amount not to exceed $1,995,000 and extend the termination date to June 30, 2022. BATA has continued its commitment to support Vista Point operations and maintenance through our funding agreement for the Southgate Road Realignment Project. The funding agreement was approved by BATA on December 11, 2019.

FINANCIAL IMPACT

The operations and maintenance services for the New Vista Point at Pier E2, up to $400,000, will be funded by BATA funds programmed to the Southgate Road Realignment Project. Remaining activities for Fiscal Year 2019/20 will be included in our mid-year budget amendment. Sufficient funds will be included in future fiscal year budgets to cover the cost of the MOA.

CAC POSITION

The CAC was briefed on this item at its January 22, 2020 meeting and unanimously adopted a motion of support for the staff recommendation.

SUPPLEMENTAL MATERIALS

None

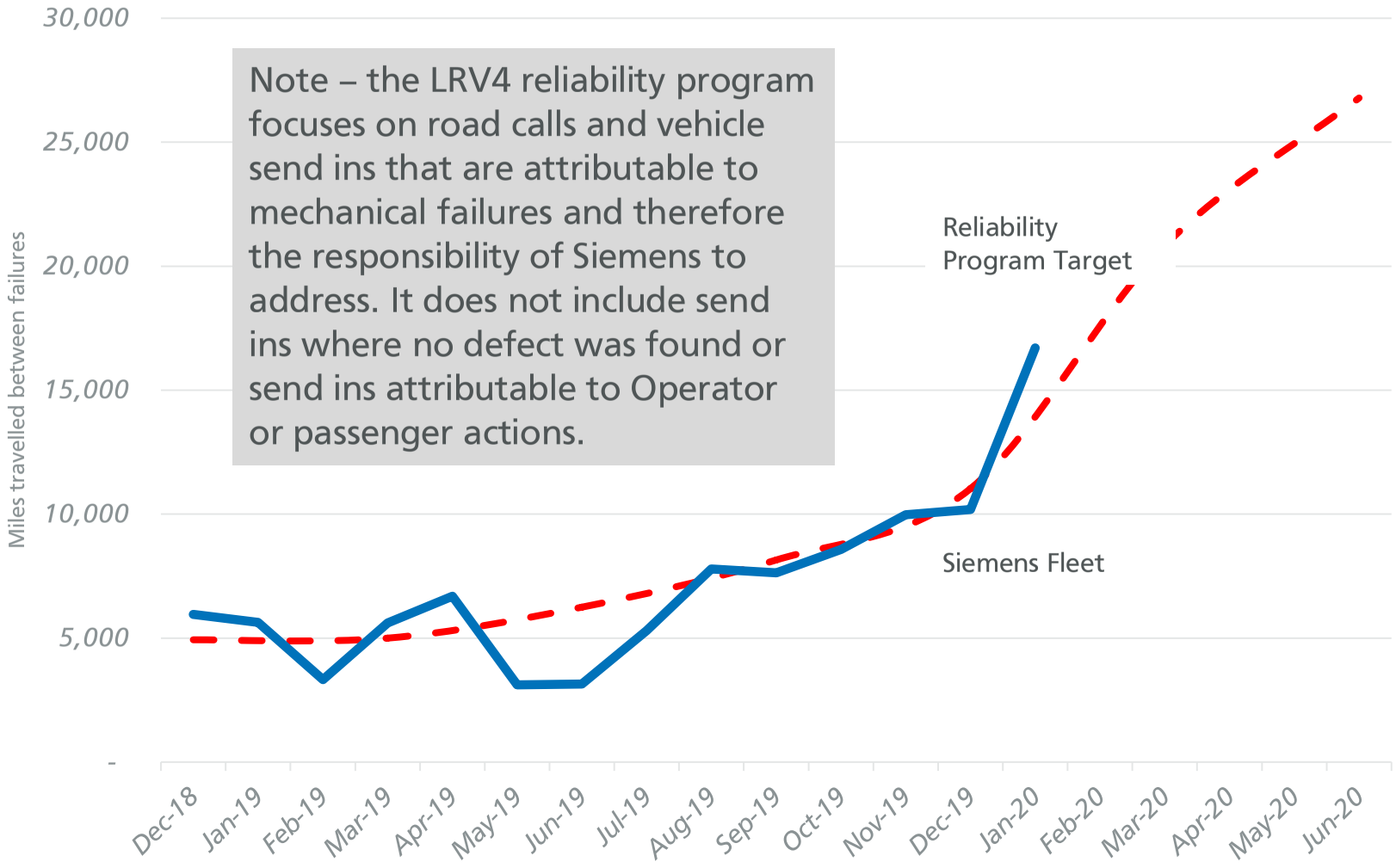
SFMTA

LRV4 Project Update

SFCTA Board Meeting

February 25, 2020

LRV4 Reliability Program



January figures are preliminary and subject to change

In Service Breakdowns - Warranty Items

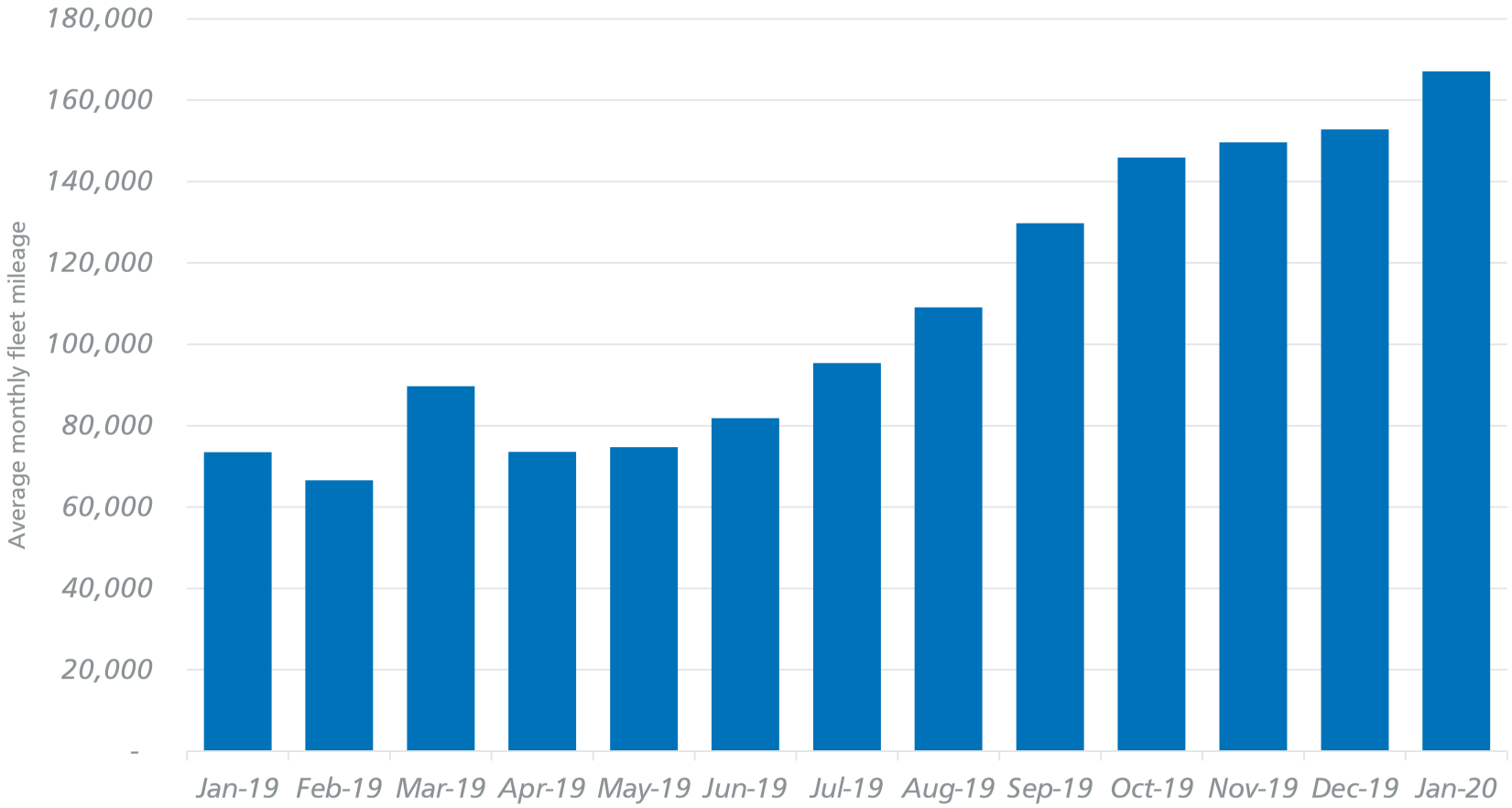
Issue	Count	Status	Comment
Hydraulic Power Unit Failure (brake system)	59	✓	All revenue cars modified
CCTV Failure	16		Software upgrade under evaluation
Loose Wire Termination	15	✓	Known issues fixed
Cameras (water intrusion)	14	✓	Cameras on all cars modified
Step Extension/ Gap Filler	10	✓	Adjustments complete
Misaligned doors	9		Door adjustment demo in process
Propulsion	9	✓	Addressed with latest software
Auxiliary Power Supply (APS) Reliability	8	✓	Modification complete
Pantograph	7	✓	Inaccurate fault warning - software fix
Brake Control Unit	5		Evaluation underway to determine if individual incidents are related

Note: other key issues addressed under warranty include installation of additional door sensitive edges and redesigned coupler end stop.

LRV4 Monthly Mileage

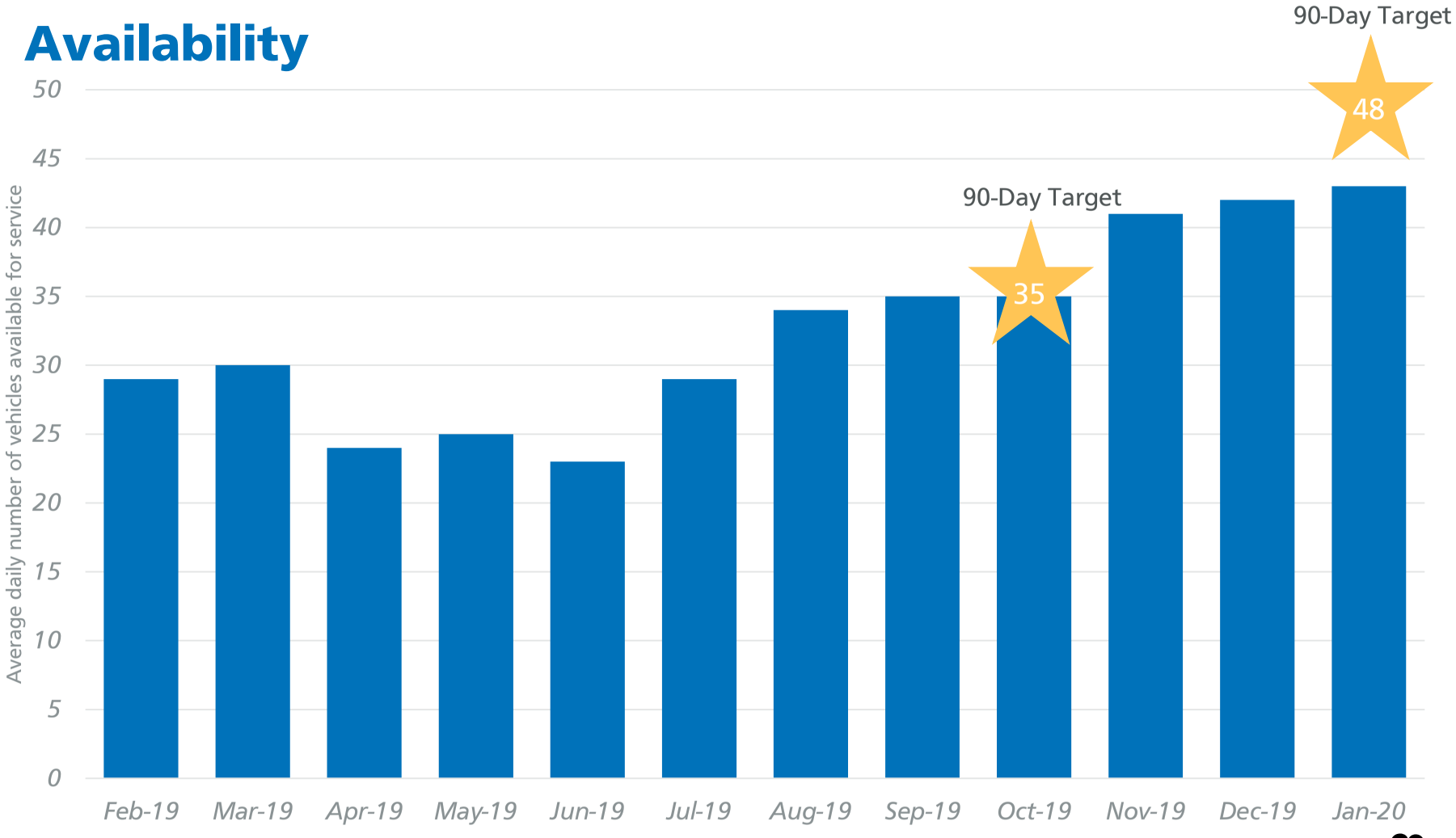
Improved vehicle availability enabled LRV4 service to **double** in 2019

Mileage



LRV4 Fleet Availability

Availability



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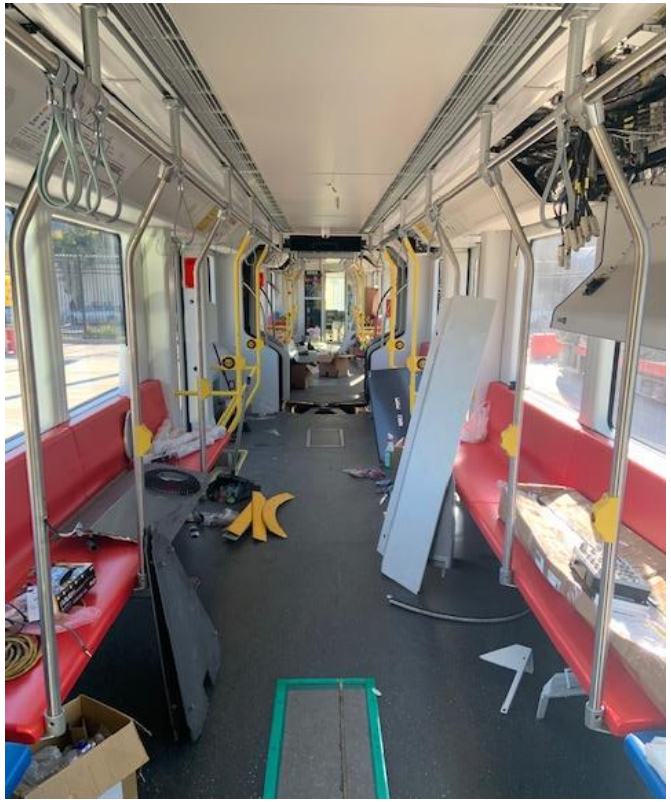
Next steps for availability

- Purchase remaining 3 cars:
  - Original test cars (2001, 2003) getting latest configuration (spring)
  - Car 2033 on property, but heavily borrowed from to keep other vehicles in service (summer)
- Replace minimum diameter wheels on 6 trains (at least 1 per month)
- Eliminate flat wheels - 51 Vehicles have had additional track brakes installed, expected completion in March

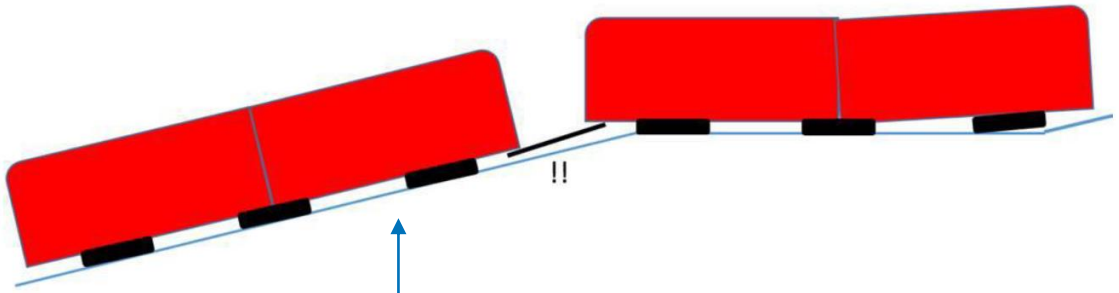


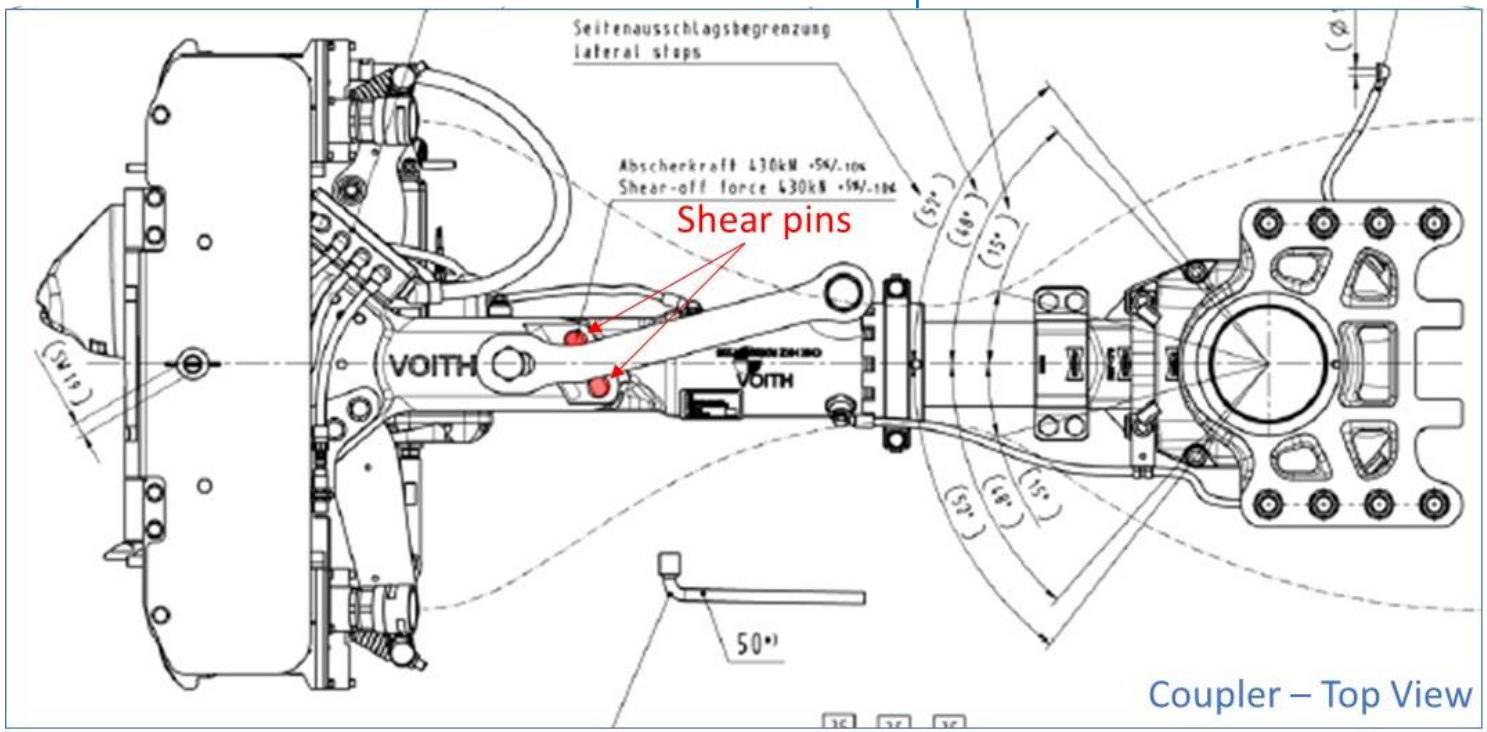
Train 2033 has not been purchased but is at SFMTA; parts have been borrowed from this train to keep others in service - all parts will be restored this Summer

Shear pin update

- Dec 11: Shear pins failed in service, two-car operations was restricted
- Dec 23: All shear pins replaced, two-car operations resumes without restrictions (pins will continue to be replaced every 90 days)
- Jan 2020: Data gathering completed, primary cause is sudden change of gradient at intersections
- Feb 2020: Full evaluation of data and redesign to address issue underway
- All costs covered by Siemens under warranty

Shear pin diagram





Seat modification design underway

FLEET	INTERIOR DESIGN MODIFICATION
50 replacement	Convert half of longitudinal seats to single transverse
101 replacement	Convert half of longitudinal seats to double transverse
68 expansion	Retrofit bench seating style to individual seats, convert half of longitudinal seats to single transverse

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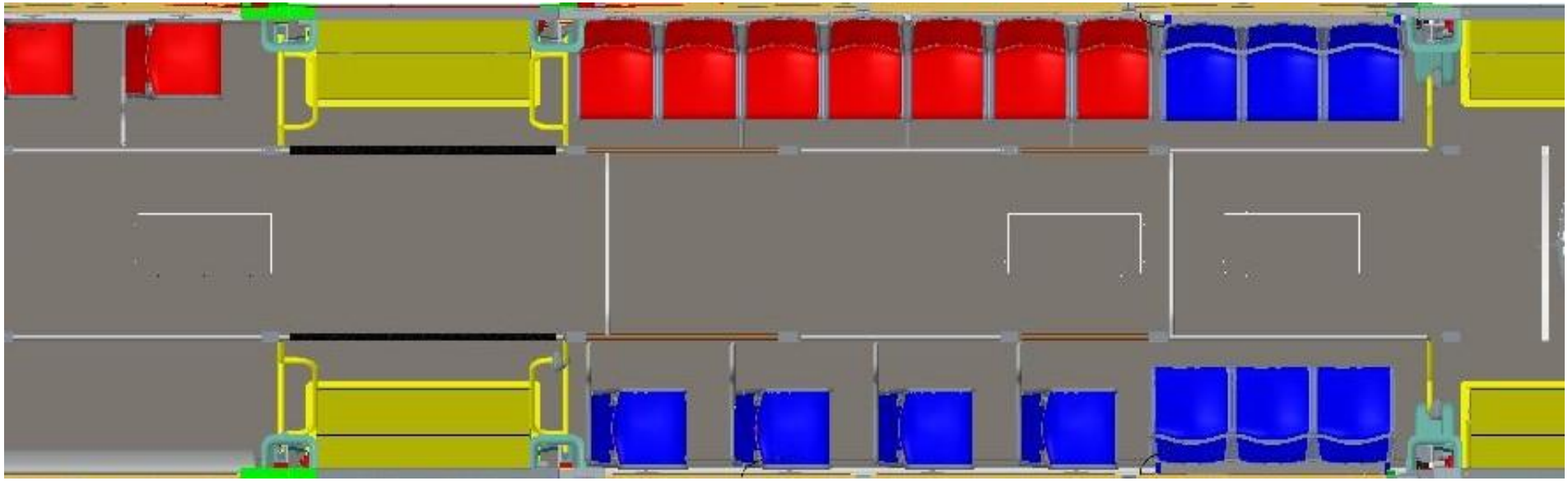
Seating Arrangement – Single

More blue seats will be added based on customer feedback

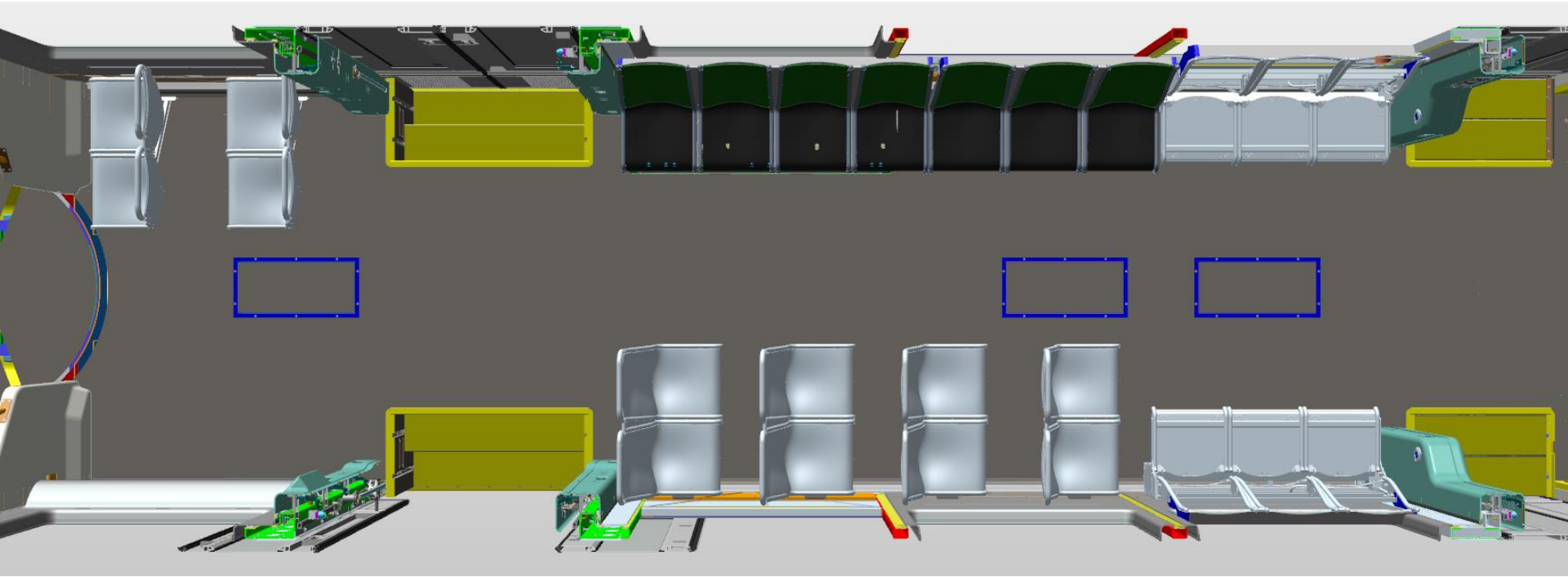
Seating Arrangement - Plan view, single seats



Seating Arrangement - Double

More blue seats will be added based on customer feedback

Seating Arrangement - Plan view, double seats



Next Steps

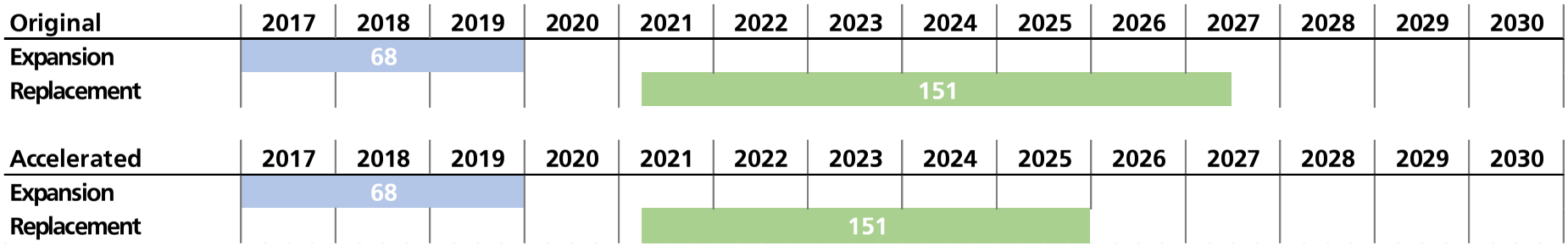
- Request Prop K sales tax funding from SFCTA Board
- Initiate Contract Mod 7 for Phase 2 Breda replacement
- Re-design coupler to address shear pin issue
- Complete track brake installation end of March
- Accept remaining 3 cars and replace minimum diameter wheels on 6 cars
- Work with Operators to upgrade monitors

Track brake highlighted in purple. Additional track brakes are being installed on the front and back of the train to reduce flat wheels and improve vehicle availability

Mod 6 and 7 Overview

Phase 1 lessons learned, including feedback from customers, operators and mechanics will be incorporated into Phase 2

- Breda early retirement (offsite car shell production) $25M
- Seating changes (Phase 1, 2) $18M
- Track brakes (Phase 1, 2) $5M
- Additional Phase 2 changes $5M



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Contract Mod. 7 Items

Update	Description	Team
Track Brakes Installation, Phase 2	Adding track brakes to all 151 Phase 2 vehicles to alleviate flat wheels.	Maintenance
Implementation of Interior Seating – Phase 1 Single Transverse	Seat changes, retrofits 68 Phase 1 vehicles with single transverse seating and related reconfigurations.	Passenger
Implementation of Interior Seating – Phase 2 Single Transverse	Seat changes, production of first 50 Phase 2 vehicles with single transverse seating and related reconfigurations.	Passenger
Implementation of Interior Seating – Phase 2 Double Transverse	Seat changes, production for 101 Phase 2 vehicles with double transverse seating and related reconfigurations.	Passenger
Lockable Convenience Outlet	A lockable cover will be added to the convenience outlet for all 219 Vehicles.	Operations/ Maintenance

Contract Mod. 7 Items (cont'd.)

Update	Description	Team
Televic Passenger Information System change items	Multiple Passenger Information System (PIS) enhancements to update the technology consistent with evolving needs and expectations.	Passenger
TDR6 HDD Unmounted	The TOD will display a message when the TDR6 HDD is unmounted to assist maintenance, troubleshooting, and verifying readiness for service for all 219 Vehicles .	Operations/ Maintenance
Corner Hatch additional retention clips	The Corner Hatch will be modified to prevent it from quickly opening when unlocked for all 219 Vehicles.	Operations/ Maintenance
Replace door touch strips with passenger door open PBs	On 151 Phase 2 vehicles only, each doorway shall have 'keep door open' push buttons instead of the touch strips	Passenger

Contract Mod. 7 Items (cont'd.)

Update	Description	Team
Push to Close locking feature addition to exterior EDR door	The Exterior Manual Emergency Door Release access panel when include a locking feature when pushed closed for all 219 Vehicles.	Operations/ Maintenance
Pre Wiring for Additional Clipper card readers	Wiring for additional Clipper card readers will be included on 151 Phase 2 Vehicles.	Passenger/ Operations
Provisions for ease of tire replacement	Wheel hubs specified in this change will be designed with a hole pattern for easier tire replacement and use with shop equipment on 151 Phase 2 Vehicles.	Maintenance
PIS 40 A pattern change	The Passenger Information System will be modified to allow remote and manual changes to information displays at any time.	Passenger/ Maintenance

LRV4 Funding plan

Funding Source		Amount
Prop K Sales Tax	$	191,885,171
Revenue Bond	$	145,050,650
CCSF - Education Revenue Augmentation Fund (ERAF)	$	19,247,904
Regional Measure 3	$	7,122,556
Central Subway	$	16,800,000
SFMTA Operating	$	8,000,000
Federal Transit Administration (FTA)	$	526,875,814
Bridge Tolls (Metropolitan Transportation Commission)	$	79,838,236
Transit and Intercity Rail Capital Program (TIRCP)	$	113,140,000
ERAF or SFMTA Fund Balance	$	19,000,000
Total	**$**	**1,126,960,331**

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1455 Market Street, 22ND Floor, San Francisco, California 94103 415-522-4800 info@sfcta.org www.sfcta.org

Memorandum

AGENDA ITEM 13

DATE: February 21, 2020

TO: Transportation Authority Board

FROM: Eric Cordoba– Deputy Director for Capital Projects

SUBJECT: 2/25/20 Board Meeting: Independent Management and Oversight Report on the San Francisco Municipal Transportation Agency's Siemens Light Rail Vehicle Procurement

RECOMMENDATION ☒ Information ☐ Action

This is an information item.

SUMMARY

On April 23, 2019 the Board continued consideration of the San Francisco Municipal Transportation Agency's (SFMTA's) request for $62.7 million in Prop K funds for the Siemens Light Rail Vehicle Procurement in light of safety and reliability issues with the vehicle's doors, brakes, and shear pins, among others. The Board directed staff to conduct independent oversight to identify the root cause of problems, effective fixes, as well as determine whether the cost of the solutions are covered under warranty or at the SFMTA's expense. We secured the services of T.Y. Lin International to conduct an in-depth review of the issues raised. At the February 25 Board meeting, Robert Sergeant, Director of Rail and Transit for T.Y. Lin will present their findings and recommendations, which are summarized in the slide deck and detailed in the final report (Attachments 1 and 2). Overall, the findings note that good progress is being made with repairs completed, increased availability of vehicles, and significantly improved reliability. There are a number of recommendations reflecting lessons learned and the need for continued oversight through attainment of the Mean Distance Between Failures (MDBF) reliability requirement and Phase 1 warranty repairs. We are working on a revised Prop K allocation request that incorporates the recommendations included in this report.

- ☐ Fund Allocation
- ☐ Fund Programming
- ☐ Policy/Legislation
- ☐ Plan/Study
- ☒ Capital Project Oversight/Delivery
- ☐ Budget/Finance
- ☐ Contract/Agreement
- ☐ Other

DISCUSSION

Background.

In 2014, the SFMTA contracted with Siemens Industry Inc. for the procurement of fourth-generation light rail vehicles (LRV4). This included a Phase 1 order of 24 LRVs (subsequently expanded to 68) for fleet expansion, a Phase 2 order of 151 vehicles to replace the existing Breda fleet which is reaching the end of its useful life, and options for an additional 41 LRVs for a total potential order of up to 260 light rail vehicles with a not to exceed price of $1,192,651,577. The Transportation Authority has thus far contributed $131 million in Prop K funds for this procurement. As of December 2019, 65 LRV4s are commissioned and available for service. The remaining three LRVs in the Phase 1 procurement have been assembled but not commissioned.

The T.Y. Lin International staff reviewed a substantial amount of available background material including contract documents, root cause analyses, testing and commissioning plans and reports and documentation regarding repair progress. They conducted a multi-day investigation of the current state of repairs during September 2019 in conjunction with SFMTA. T.Y. Lin staff also participated in weekly commissioning team meetings and met with operators and union representatives to gain insight on their perspective.

Findings and Recommendations.

T.Y. Lin provides an oversight report describing the status and recommendations for a range of LRV issues (Attachment 1). They concluded that many issues have been resolved (including all safety issues), and those that remain are performance-related and being addressed, but warrant continued oversight and monitoring.

Issues that have been resolved and are under warranty include:

Issues	Repair Solutions
Door Safeguards	Additional sensitive edges added to doors.
Pantographs	Electrical shunts added and nuts/bolts replaced
Aux. Power Supply	Brackets modified
Hydraulic Power Unit	Motor-driver boards, wiring and control valves have been re-engineered

In Attachment 2: Program Management Oversight Presentation on SFMTA LRV Procurement, slide 5 provides a summary of issues In-Progress, cost/responsibility (e.g. warranty repair or SFMTA cost), and the anticipated timeline for completion.

Issues	Repair Solution	Cost/Responsibility	Timeline
Wheel Flats	Phase 1 LRV4s being retrofitted with additional set of track brakes	$1.75 M at SFMTA cost	March 2020
Couplers	Temporary fix (shear pin replacements) in place Second round of investigation and testing is underway.	Warranty repair	Testing and analysis to be completed in February, with repairs starting in June
Cameras	SFMTA evaluating camera and monitor size and type	$1.6M at SFMTA cost for upgrade (estimate)	Timing for upgrade to be determined
Seating	Revised seating style and height have been identified	$20.2 M at SFMTA cost for upgrade (estimate)	To be determined (Mod 7)
CCTV	Modify software to improve integration	Warranty repair	To be determined
Door Adjustment	Adjustments have been made and testing is in progress	Warranty repair	To be determined
Brake Control Unit	Analysis of brake lock-ups is on-going	Warranty repair	To be determined

Attachment 2 - Slide 6 contains a similar table focused on reliability issues. Of particular note, the MDBF has improved from 4,000 miles in July to about 17,000 miles in January, but is still below the 25,000 miles (average for 6 months) contract goal. SFMTA staff projects Siemens (the LRV manufacturer) will achieve this goal in June 2020.

Issue	Repair Solution	Cost/ Responsibility	Timeline
LRV Availability	65 of 68 LRV4s commissioned. Daily availability of LRV4s in January was 43. Improving due to warranty repairs	Siemens	Commissioning of final 3 LRV4s scheduled for Spring/Summer
Mean Distance Between Failure (MDBF)	Improved from 4,000 miles in July to approximately 17,000 miles in January	Siemens	SFMTA projects 25,000 miles to be achieved in June 2020
Spare Parts	Improved estimates of spare parts inventory need SFMTA and Siemens to prepare Spare Parts Plan	SFMTA/Siemens	September

Based on their review, T.Y. Lin's recommendations include:

- Ensure resolution of remaining Phase 1 repair strategies
- Take stock of lessons learned to apply to the Phase 2 procurement
- Conduct design reviews prior to issuing the Notice to Proceed for Phase 2
- Clarify the MDBF contractual requirements and consequences of not meeting contract specification (SFCTA funding condition)
- Revise spare parts requirements

- Continue SFCTA monitoring and oversight through Phase 1 LRV attainment of MDBF and delivery of Phase 1 warranty repairs.

The recommendations are summarized on Attachment 2 - slide 8 and found on page 27 of the report.

FINANCIAL IMPACT

None. This is an information item.

CAC POSITION

None. This is an information item. The CAC will be briefed on this item at its February 26 meeting in advance of considering acting on the updated Prop K allocation request for the LRV procurement.

SUPPLEMENTAL MATERIALS

- Attachment 1 – Program Management Oversight Report for SFMTA Light Rail Vehicles Procurement
- Attachment 2 - Presentation slides

Attachment 1

PROGRAM MANAGEMENT OVERSIGHT REPORT

FOR

SFMTA LIGHT RAIL VEHICLE PROCUREMENT

Prepared for:

San Francisco County Transportation Authority
1455 Market Street, 22nd Floor
San Francisco, CA 94103

Prepared by:

T. Y. Lin International
345 California Street, 23rd Floor
San Francisco, CA 95104

February 20, 2020

Section 1. Executive Summary

The San Francisco Municipal Transportation Agency (SFMTA or MUNI) contracted with Siemens Industry Inc for the procurement of Light Rail Vehicles (LRV4) in 2014. This included a Phase 1 order of 24 LRVs that has been expanded to 68, including 4 additional cars procured separately for the opening of the Chase Center, a Phase 2 order of an additional 151 vehicles to replace the existing Breda fleet and options for an additional 45 LRVs for a total potential order of up to 264 light rail vehicles with a not to exceed price of $1,192,651,577. A portion of the budget for this procurement is coming from the San Francisco County Transportation Authority (SFCTA). This report represents a portion of SFCTA's fiscal oversight associated with the procurement funding. The focus of this oversight is safety and performance, as well as to clarify financial responsibility (change orders vs warranty items)

The initial LRV4 was delivered, tested, commissioned and placed into service in November 2017. As of December 2019, 65 LRV4s are commissioned and available for service. The remaining three LRVs in the phase 1 procurement have been assembled but not commissioned. Two vehicles are at the Muni Maintenance facility and one remains at Siemens plant in Sacramento. Since the initial roll out of the Siemens LRV4s a number of safety and operational issues have developed. This report summarizes the major items, describing the issue, root cause (if known), proposed solution and the status of repairs and modifications through January 2020.

Many of the identified issues are covered under the contractual warranty and have been successfully addressed. They include:

- Auxiliary Power Supply (APS), where a water intrusion issue was corrected under warranty
- Pantographs, where electrical faulting that impacted service in the tunnel was corrected under warranty
- Doors, which have failed by not retracting at times when something is in the way, have been corrected under warranty.
- Hydraulic Power Units (HPU), which control the braking, have been retrofitted with updated driver boards and wiring revisions under warranty.

The remaining major warranty repair item is the coupler between trains where the shear pins failed due to metal fatigue much earlier than allowed. A warranty fix was put in place during Spring 2019, but a new failure occurred in December. A temporary measure is in place and Siemens and the coupler supplier are initiating additional testing to validate a proposed redesign. If the testing planned for early 2020 validates the redesign proposal, warranty repairs will commence in June 2020.

SFMTA has also initiated upgrades to improve operations and maintenance and address rider comfort. Since these are modifications to the contract requirements and specifications, SFMTA is responsible for any cost differences to implement the modifications.

- Additional track brakes are being installed ($1.75 million for phase 1) to reduce wheel flattening and the associate cost of wheel truing and reduced vehicle availability. The funding is within the existing budget due to reduced escalation costs
- Revised seat designs ($20.2 million for phase 1 and 2 LRV4s) to accommodate rider comfort with funding coming from the existing budget due to reduced escalation costs.
- Modifications to the exterior cameras and cab monitors to address operator visibility concerns at a cost to SFMTA to be determined

The overall success of the LRV4 procurement is measured by the Mean Distance Between Failures (MDBF). Contractually, Siemens is required to demonstrate the vehicles will achieve an overall MDBF of 25,000 miles. SFMTA is targeting this to be achieved by the middle of 2020. The MDBF started at about 6,000 miles in December 2018 dropping to 4,000 in June 2019 as a result of a series of component failures. As a result of the completed and on-going warranty repairs the MDBF improved to approximately 17,000 miles in January exceeding SFMTA's projection. The daily availability of LRV4s for revenue service has also been steadily rising at a rate that is matching or exceeding SFMTA's projections. This growth is shown graphically in Exhibit 23.

To put the MDBF into perspective other transit properties in the west have been surveyed about their MDBF requirements or achievement. The MDBF varies between 9,000 and 43,000 miles which may be a result of differing definitions of chargeable failure and actual operating environments. The contractual requirement of 25,000 miles is aggressive but is based strictly on mechanical failures that are under Siemens purview. If it is not achieved, SFMTA will have increased maintenance costs and reduced number of LRVs in revenue service, thus impacting riders. The contract with Siemens does not have specific damages for not achieving the MDBF requirement but SFMTA is holding up to $12.9 million in contract retention under the current $344 million phase 1 contract authorization through contract modification 6, until the LRV4s meet reliability (MDBF) requirement. This retention represents 3.75 percent of the phase 1 contract value.

Key issues that need to be resolved to allow achievement of the reliability goals will be track brakes (representing a potentially significant reduction in maintenance time) and the renewed failure of the couplers that have caused early metal fatigue and failure of the shear pins. The installation of additional track brakes is well underway and should be completed in March. The couplers and shear pin issue is being analyze and temporary warranty fixes are in place allowing two-car trains to operate a final solution has not been validated and early estimates to start repairs are June 2020.

The availability of spare parts has become a growing issue. The number and type of spare parts required in the contract was developed by SFMTA and included in the procurement documents. This part listing, however, was fairly general and was developed without experience with the Siemens vehicles. The requirement should be revisited based on the current experience of SFMTA. The intent is to develop a more specific spare parts plan, listing what is needed to avoid ordering too many spare parts or large assemblies when only specific parts may be needed on a routine basis.

The contract with Siemens calls for them to make warranty repairs at their expense including providing parts. Parts for warranty repairs are to be available at a Siemens' facility in San Francisco. In practice however it appears that warranty repair parts were taken from the assembly line in Sacramento if not otherwise available. This worked well during the early stages of assembly when parts were available but as the assembly process came to an end parts were not readily available. Siemens then utilized a practice of borrowing parts from an LRV that has not been commissioned to make warranty repairs. This practice is common in the transit industry where parts are taken from a vehicle under repair to keep other vehicles in service, it is however not common for parts to be taken from vehicles that are essentially complete and awaiting final commissioning. We are recommending this practice be changed for subsequent phases of work and dedicated warranty parts be warehoused in San Francisco.

SFMTA is eager to continue the fleet replacement program with the issuance of a Notice to Proceed (NTP) for the Phase 2 LRVs in March or April. Care should be taken that the NTP addresses all the retrofits made to the Phase 1 LRVs and incorporates planned upgrades and lessons learned from the Phase 1 procurement. Most important is the resolution of the coupler problem and assuring commercial terms are modified for Phase 2 to better assure vehicle performance and availability.

These issues are summarized in the following table.

Issue	Repair Solution	Cost/Responsibility	Timeline
1-LRV Availability	65 of 68 LRV4s commissioned. Daily availability of LRV4s in January was 43	Siemens	Commissioning of final 3 LRV4s scheduled for Spring/Summer
2-Mean Distance Between Failure (MDBF)	The aggressive 25,000 mile requirement has not been met but is increasing from 4,000 miles in July to 17,000 miles in January	Siemens	SFMTA projects 25,000 miles to be achieved in June 2020
3-Wheel Flats	Phase 1 LRV4s being retrofitted with additional set of track brakes	$1.75 M at SFMTA cost	March 2020
4-Door Safeguards	Additional sensitive edges added to doors.	Warranty repair	Complete
5-Couplers	Second round of investigation and testing is underway. Temporary fix (shear pin replacements) in place	Warranty repair	Testing and analysis to be completed in February, with repairs starting in June
6-Pantographs	Electrical shunts added and nuts/bolts replaced	Warranty repair	Complete
7- Aux. Power Supply	Brackets modified	Warranty repair	Complete
8-Cameras	SFMTA evaluating camera and monitor size and type	$1.6M at SFMTA cost for upgrade (estimate)	Study underway. Timing for upgrade to be determined
9-Spare Parts	Improved estimates of spare parts inventory. SFMTA and Siemens to prepare updated spare parts plan	SFMTA/Siemens	September
10-Hydraulic Power Unit	Motor-driver boards, wiring and control valves have been reengineered	Warranty repair	Complete
11-Seating	Revised seating style and height have been identified and change orders have and are being issued	$20.2 M at SFMTA cost for upgrade (estimate)	To be determined

Section 1. Introduction

SFCTA retained T. Y. Lin International in August 2019 to conduct program management oversight for the San Francisco Municipal Transportation Agency's (SFMTA's) Siemens Light Rail Vehicle (LRV) repairs. The oversight was intended to consider potential causes and mitigations to the range of issues including coupler shear pin failures, door opening and closing issues, and wheel flats identified during the Summer of 2019.

The T.Y. Lin International staff reviewed a substantial amount of available background material including contract documents, root cause analyses, testing and commissioning plans and reports and documentation regarding repair progress. They conducted a multi-day investigation of the current state of repairs during September 2019 in conjunction with SFMTA. A report was issued in October summarizing the issues being addressed by SFMTA and Siemens, the root cause analysis that had been previously performed for the failures and the status of repairs/modifications. Root cause analysis is an integral part of the quality process. It is a structured approach to identify the cause for a failure by looking at a range of potential causes, evaluating if they are causes or symptoms. Only when the primary cause is determined are potential fixes evaluated and implemented. The process then evaluates and monitors the fix to validate the recommended modification truly addresses the failure.

This report updates and expands on the October report giving the status of what issues have been addressed, the status of repairs at the end of January 2020 and whether the issue and repair are considered a warranty item with Siemens responsible for the cost or if the repair is considered a change or upgrade to the contract requirements with SFMTA responsible for the cost. This report also addresses additional items including spare parts availability and planned upgrades to the seating and camera/monitors. The impact of the ongoing repairs is then presented in terms of vehicle availability and Mean Distance Between Failures. Finally, recommendations are made to modify the Phase 2 procurement to incorporate the lessons learned during the start-up of the Phase 1 program.

Section 2. Auxiliary Power Supply

Description

The Auxiliary Power Supply (APS) line choke compartment is located on the roof of the car and is simply a covered box within which the APS unit resides [*Exhibit 1*]. The compartment is not intended to be waterproof but is drained so as to not hold rainwater.

During the rainy season, there were a number of failures attributed to water being captured in the compartment and not draining. Water is permitted by design to enter this compartment, however without adequate drainage localized arcing occurred in the APS unit.

This impacts auxiliary power which does not directly impact safety but causes LRVs to be taken out of service thus impacting service for riders, increasing maintenance costs and impacting the MDBF.

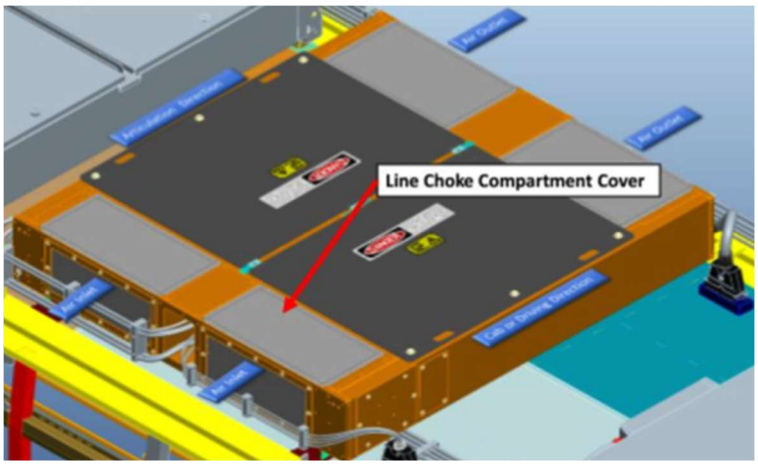


Exhibit 1 - Schematic of Car Roof

Root Cause

The root cause was determined to be the mounting of the APS unit. The APS unit brackets placed the bottom of the APS unit at approximately the same plane as the bottom of the compartment [*Exhibit 2*]. Therefore, water would accumulate in the compartment and not be able to get under/past the APS unit to the drain, splash into the APS and arcing would occur. The water volume, although minimal, was enough that during car movements the water would splash into the APS unit and the APS unit would fail. Note that the APS unit requires air circulation for cooling and is therefore not sealed from water.

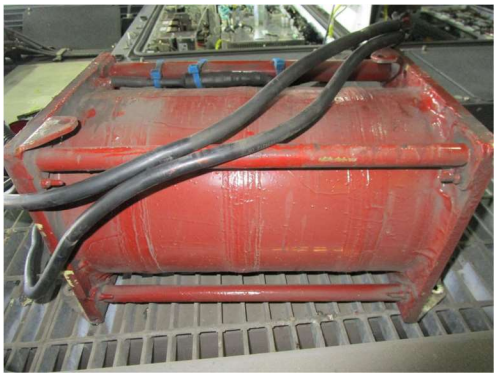


Exhibit 2 - Old Design – Brackets at same plane as bottom of APS

Exhibit 3 – New Design – Brackets extend below bottom of APS for drainage clearance

Solution

In order to provide clearance for water to be drained underneath the APS, the mounting ears that were integral to the APS frame were removed and new brackets were designed and attached to the APS frame that slightly raised the APS off the floor of the APS line choke compartment [*Exhibits 3 and 4*]. The compartment provides for the additional APS height and the cover and car clearance are not impacted.

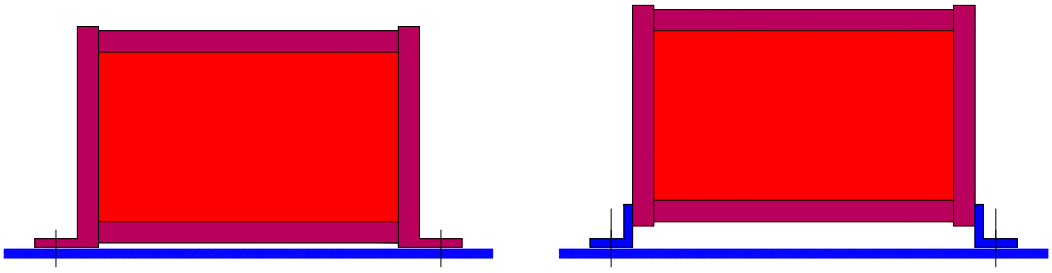


Exhibit 4 – Old design on the left with ears integral to the frame. New design with mounting brackets separate from the frame raising the APS unit above the compartment floor for drainage clearance

Status

Once the root cause had been identified, washers were placed between the APS mounting frame ears and the compartment floors as a temporary fix to provide clearance for drainage on 100% of the cars. The permanent solution, which has been installed on all phase 1 LRV4s, is the new raised mounting brackets.

New APS units with brackets were provided and installed by Siemens under warranty at no cost to SFMTA. Exhibit 5 shows Siemens installing a new APS unit on one of the LRV4s.

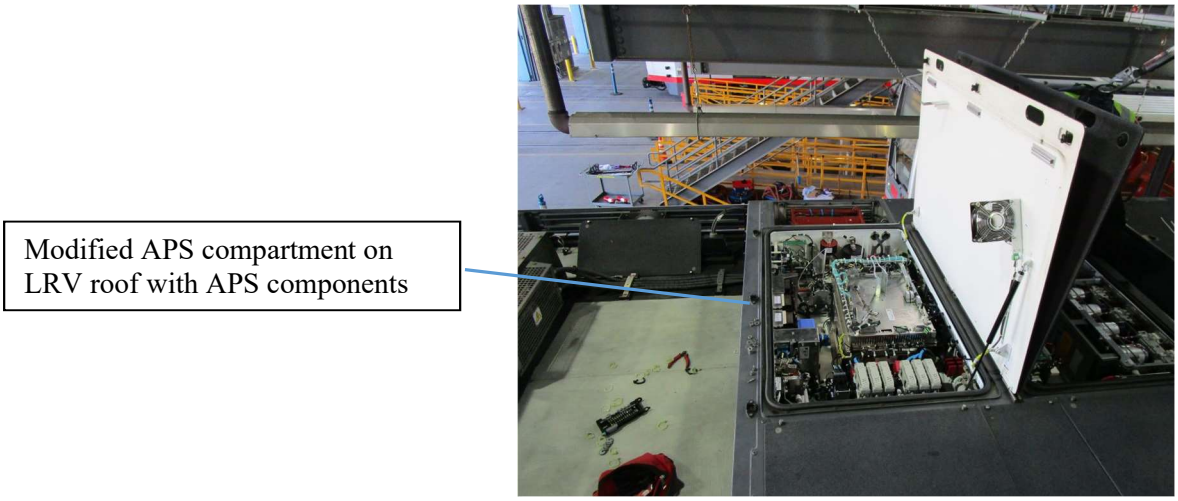


Exhibit 5 – Installation of new APS unit in process

Section 3. Pantograph

Description
The pantograph is located on the top of the car and collects power from the catenary and transmits the energy to the car and the traction motors. The design of the pantograph is such that the entire assembly is energized. Insulators or isolators between the pantograph and car roof protect the car from being energized.

A pantograph has a graphite contact shoe or slide plate in the collector or pan head that contacts the catenary current wire. The graphite conducts the power and serves as a lubricant to the catenary. It is also brittle and is the wear piece on the pantograph.

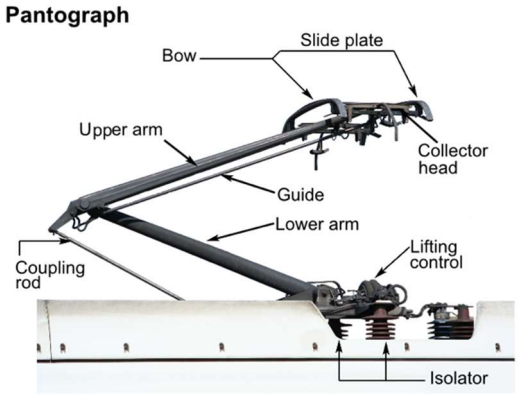


Exhibit 6 – ICE Train Pantograph [note LRV4 cars use two double slide plates]

The failure occurred when energy moved through the slide plate mounting bolts that were installed using Nylock nuts. The nylon on the nuts failed because they overheated from the current, which resulted in a slide plate partially separating from the pantograph frame. Because the car was in a tunnel and the pantograph collector head was only two feet above the car roof, the slide plate touched the roof of the car causing a fault.

This could impact safety and maintenance costs by potentially damaging the LRV and overhead catenary. When a failure occurs the LRV must be taken out of service thus impacting service to riders, increasing maintenance costs and impacting vehicle availability and MDBF.

Root Cause
There were two root causes for this fault. First, hardware such as the Nylock nuts should not have been used in this application because the pantograph is fully charged. Second, in this application, the current should not be going through hardware but through shunts. Shunts are devices such as cables that provide a low resistance path for electric current.

Exhibit 7 – Nylock Nuts shown on left, Nordlock Washers shown on right

Solution
Although there was only one such failure in the system, because of the severity of the failure and the potential to damage not only a car but also the catenary, all Nylock nuts on the pantographs were replaced with metal Nordlock washers and standard nuts. Also, eight (8) shunts were installed on each pair of collector heads to direct the path of the current from the graphite collectors and blocks through the shunts to the pantograph arms, thereby moving the current around the mounting hardware.

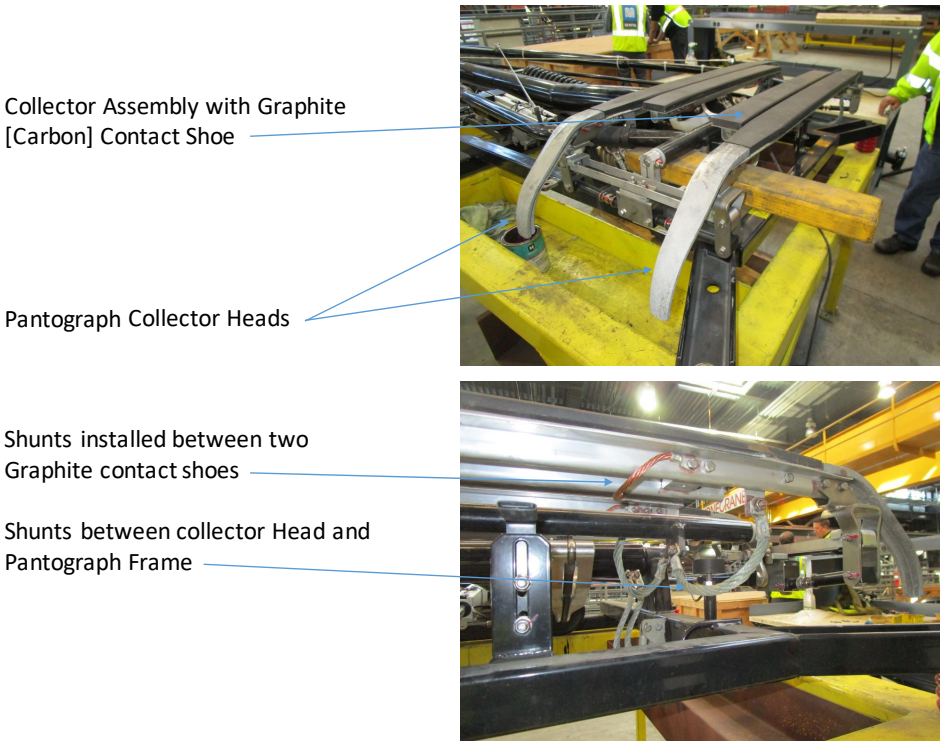


Exhibit 8 – Collector Assembly with Shunts and Nordlock Washers installed

Status
The solution has been tested and approved by the Safety and Security Subcommittee including CPUC. All pantographs have since been modified, as a Siemens warranty repair, and the issue is closed.

Section 4. Door Sensitive Edges

Description
The passenger front and rear doors on the LRV4s are single leaf and plug type. They open by first moving straight out, away from the car body, and then slide open to the side of the door frame on the outside of the car body. They close in reverse to how they open.

In the original design there was one sensitive edge strip installed on the door frame that is attached to the car body [*Exhibit 11*]. The strip was the full height of the door. When touched by an object or person when the door is closing, the pressure on the strip signals to door to stop and reverse back to the open position.

Multiple events have been recorded where the end doors failed to retract when encountering something in the doorway. No pressure had apparently been detected by the sensitive edge strip to reverse the operation of the door. This can pose a safety issue and potential delays during service when an operator must manually clear an obstruction and close the affected door. During the repair period rear doors were locked closed thus delaying the boarding process and potentially impacting the ability to maintain schedules.

Root Cause
The door design with only one sensitive edge strip left a gap at the interlock point when the door closes where an object or hand could be pinched. [*Exhibits 9 & 11*].

Exhibit 9 – Fingers shown on door pinch point

Solution
It was determined that if additional sensitive edge strips were incorporated both in the gap where the pinch point existed and on the edge of the door [*Exhibits 10 & 12*], any object in the path of a closing door would be detected and reverse the door's operation.

The driver's control panel on the LRV4s shows the specific door that is being obstructed and the car's cameras allow the driver to see the obstruction. If the driver cannot see an obstruction via the cameras, as part of the existing procedure the driver will go to the door to see if an object is triggering the sensitive edge strips to reverse the door. If there is no obstruction and the door continues to reverse each time it closes, the driver will place the door out of service and continue on the route. The door would be checked at the end of the day during inspection at the MUNI Maintenance East facility (MME).

Note that sensitive edge strips by design have a flexible surface to allow any pressure on the surface to trigger contact between the conductive ribbons inside the strip. The strips that were specified for the LRV4s proved to be robust for the service during testing. Only one strip failed after it was purposely hit with a metal object.

Exhibit 10 – Detail of Sensitive Edge Modification

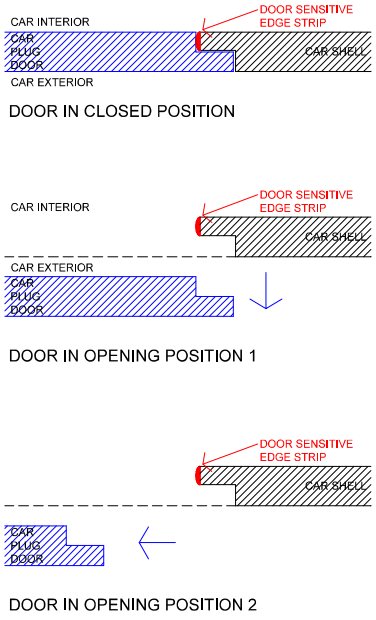


Exhibit 11 – Sketch of Original Door Design

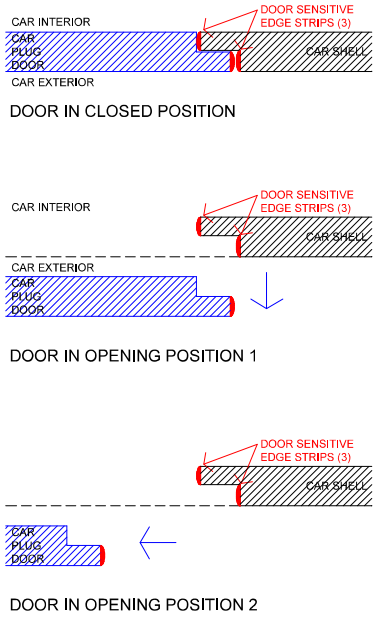


Exhibit 12 – Sketch of Modified Door Design

Status

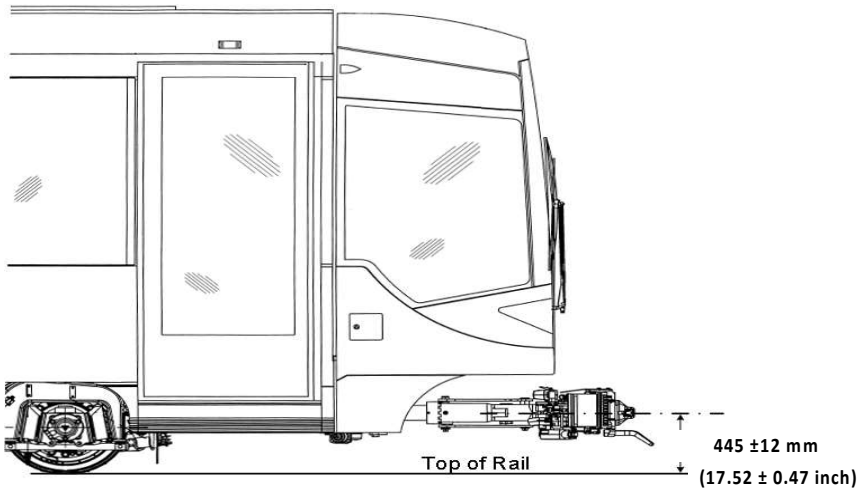
All cars have now been modified with the three-strip approach as a Siemens warranty item. The fix was monitored and approved by the SFMTA Safety and Security Committee. This committee has been directly involved with overseeing the vehicle commissioning process and includes representatives from multiple SFMTA departments. The California Public Utilities Commission (CPUC) also participates in these committee meetings where the fixes are reviewed and approved through the safety certification process. The issue is now closed.

Section 5. Coupler

Description
The coupler assembly is designed such that the coupler face is always at the same height on the carshell. Coupler height adjustments are not required. When wheels are trued [cut] the coupler center will be lower than the required ~17.5 inches above Top of Rail. This is corrected when the wheels are reattached to the bogies and then to the carbody by means of a shimming system between the carbody and the bogie, not by adjusting the coupler. Shimming is done due to changes in wheel height to meet the required 17.5-inch clearance. Further adjustments over time due to wheel wear are accomplished with an adjusting screw (see exhibit 15). Note that this shimming also corrects the height of the car floor and steps so that the steps and door match the required heights at the platforms.

There are adjustment bolts for the coupler inclination. The coupler must be level to the track to perform properly. Exhibit 13 shows the maintenance instruction for adjusting the couplers.

2.5 Coupler Adjustments



		A-Cab	B-Cab
Note:	Use VOITH *User Manual- Scharfenberg Coupler 330.470_Draft.pdf.*		
Action:	Perform section 5.12 Checking and adjusting the projection of the electric heads.		
Result:	Electric heads are properly adjusted per section 5.12.	_____	_____
Action:	Perform section 5.13 Adjusting the inclination of the coupler (Vertical).		
Result:	Coupler vertical adjustment performed per section 5.13 and graphic above.		
	Height is 445 ± 12 mm (17.52 ± 0.47 inch) above top of rail. RAV	_____	_____
	Coupler vertical height is parallel to top of rail with the smallest inclination angle of -0.5 degrees and the largest inclination angle of 0 degrees.	_____	_____
Note:	Account for wheel wear when measuring vertical height.		
Action:	Perform section 5.14 Centering of the coupler (Horizontal).		
	Coupler horizontal adjustment performed per section 5.14.	_____	_____

Exhibit 13 – SII-MTA-1021A SMI-OSAT-SFMTA Mechanical Adjustment Rev 1_3, Pg. 9

This is a safety issue that could in an extreme event could allow 2-car trains to separate, although should this rare event occur, other parts would immediately stop each car. During the interim fix only single car trains were operated thus reducing capacity for riders in addition to impacting maintenance cost and indirectly MDBF by reducing the number of miles traveled by each car.

When a two car consist was going through the Judah/La Playa/Ocean Beach turnaround in April 2019, the shear pin on the paired couplers broke. The shear pins (two per coupler) are designed to break when forces exceeding allowable limits occur, such as in a collision, and are intended to be a

sacrificial element to both protect the rest of the car and allow the couplers to fold into the car thereby placing the anti-climbers, located on the face of the car above the couplers, in a position to stop the obstruction the car hit from climbing up and into the car driver/passenger compartment.

Root Cause

A root cause analysis of the failure was performed by Siemens and SFMTA when the issue surfaced. Several parts were damaged as a result of this incident, but because the cars had not hit any obstruction, the root cause could not be determined without further evaluation of all components within the assembly that were damaged as well as revisiting the assembly design and design parameters. Therefore, the shear pins, bearing housing, lateral stops, support springs, bearing brackets and other components were all inspected and tested including metallurgical testing of the shear pins. The track alignment design parameters were also all checked to determine if the coupler assembly design for maximum coupler horizontal swing angle had been exceeded. The testing and studies determined that all components performed as designed and that the maximum horizontal swing angle of the coupler could not be exceeded on the SFMTA track alignment including at all turnarounds. This indicated the shear pins should not have failed, due to sharp curves, within the SFMTA operating parameters.

The only unusual variable that appeared in the inspections is that the lateral stop bracket, which limits the coupler horizontal swing during maintenance had been damaged and partially detached [*Exh. 14*]

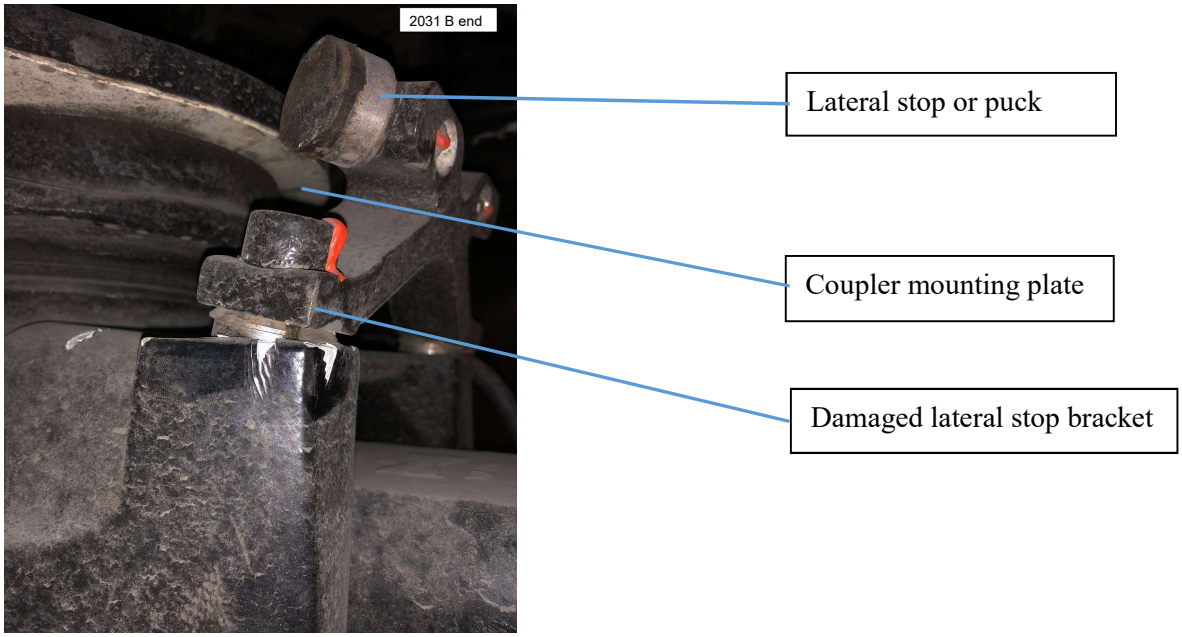


Exhibit 14 – Lateral Stop and Upper Clam Shell Damage

Exhibit 14 also shows that the rubber piece on the stop, which is called a puck, is larger than the lateral stop bracket and is at the height of the coupler mounting plate. Note also that the coupler mounting plate, which is part of the car not the coupler, extends beyond the coupler assembly, which mounts to the plate.

Testing revealed that when a coupler assembly with an undamaged lateral stop bracket is pushed to the maximum horizontal limit, the stop engages the clamshell and swings approximately 2 mm under

the coupler mounting plate as designed. Testing also revealed that if the lateral stop bracket puck hit the coupler mounting plate, it would do so within the maximum horizontal swing limits of the coupler. Therefore, it was determined that the cause for the shear bolts to break was the coupler swing was impeded by the stop bracket puck hitting the coupler mounting plate.

Further investigation into the engineering of the stop bracket mounting determined that the mounting bolt for the lateral stop bracket and the adjusting bolts for the coupler inclination occupied the same hole. If the coupler adjustment bolt was over tightened, compressing the rubber vertical support, the bolt would push the mounting bolt for the stop bracket out. With only 2mm clearance available between the puck and the coupler mounting plate, this was determined to be the root cause for the failure of the coupler.

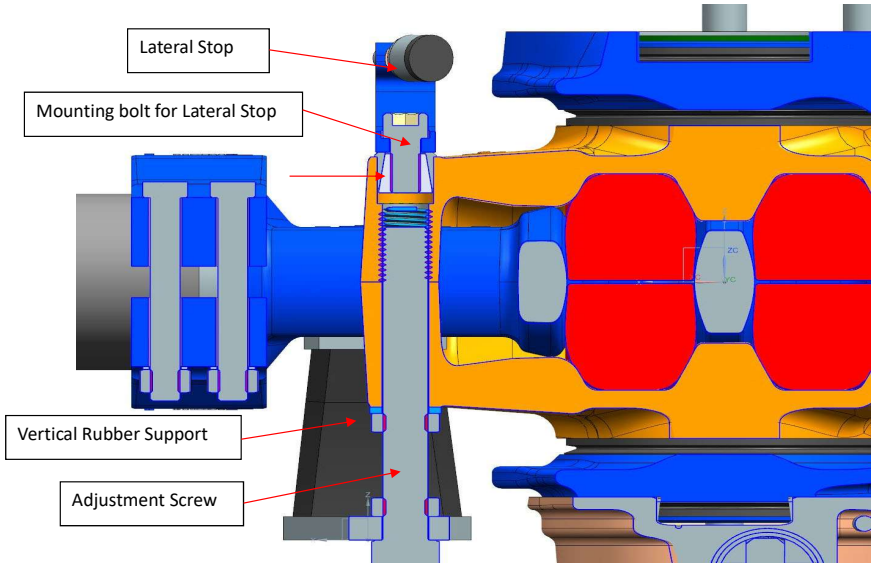


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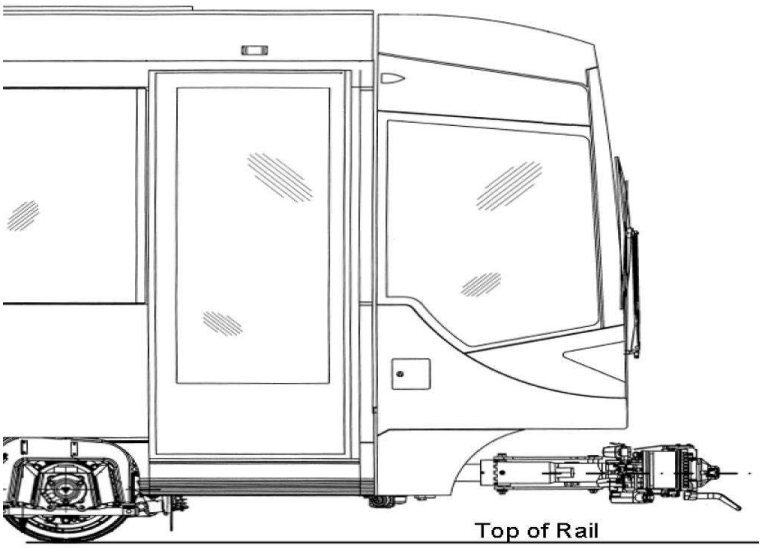
Exhibit 15 – Cross Section through Coupler Bearing Housing



		A-Cab	B-Cab
Note:	Use VOITH *User Manual- Scharfenberg Coupler 330.470V1.pdf.*		
Action:	Perform section 5.12 Checking and adjusting the projection of the electric heads.		
Result:	Electric heads are properly adjusted per section 5.12.	_____	_____
Action:	Perform section 5.13 Adjusting the inclination of the coupler (Vertical).		
Result:	Coupler is parallel to the track with the smallest inclination angle of -0.5 degrees and the largest inclination angle of 0 degrees.	_____	_____
Action:	Perform section 5.14 Centering of the coupler (Horizontal).		
Result:	Coupler horizontal adjustment performed per section 5.14.	_____	_____

Exhibit 16 - SII-MTA-1090A SMI-OSAT-SFMTA Mechanical Adjustment Rev 1_6, Pg 9

Solution

First it was determined that the maintenance instruction suggested that the height on the coupler needed to be adjusted. The only method available to the maintenance worker to adjust the coupler height was the adjustment screw for coupler inclination. Unfortunately, the screw was being over tightened. This necessitated a revision to the maintenance instructions [*Exhibit 16*] where the instructions did not require the coupler height to be adjusted or provide a coupler height requirement and reference instructions to adjust the coupler height.

Second, the 2mm clearance between the lateral stop bracket puck and the coupler mounting plate was deemed insufficient. Therefore, because the stop bracket is only a bump stop to keep the coupler from damaging car underframe parts when a maintenance worker swings the coupler out of the way for servicing the car, a smaller diameter replacement puck that would not extend beyond the height of the lateral stop bracket would be adequate [*Exhibit 17*]. This would increase the clearance between the puck and the mounting plate to 7mm.

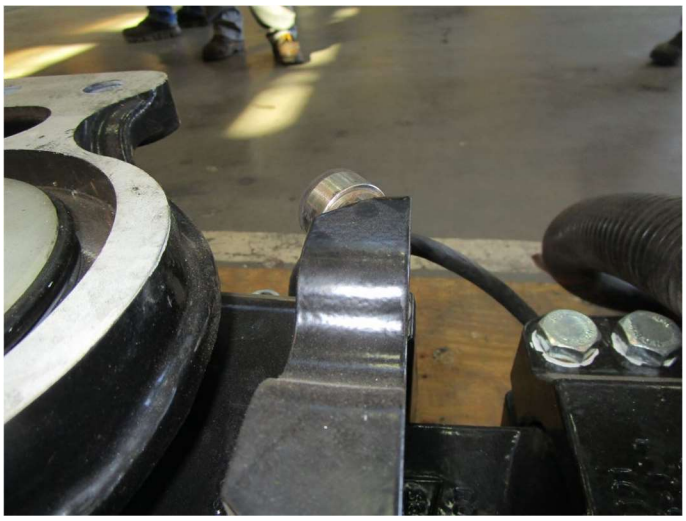


Exhibit 17 – Lateral Stop Bracket Puck Extends 5MM above Bracket

Third, in order to prevent the adjustment screw from being over tightened due to, for example, not coupler height but wear of the rubber support, a sleeve spacer was installed on the Adjustment Screw to prevent the Adjustment Screw from being tightened such that it engages and pushes the mounting bolt for the lateral stop out of the clamshell [*Exhibit 18*].

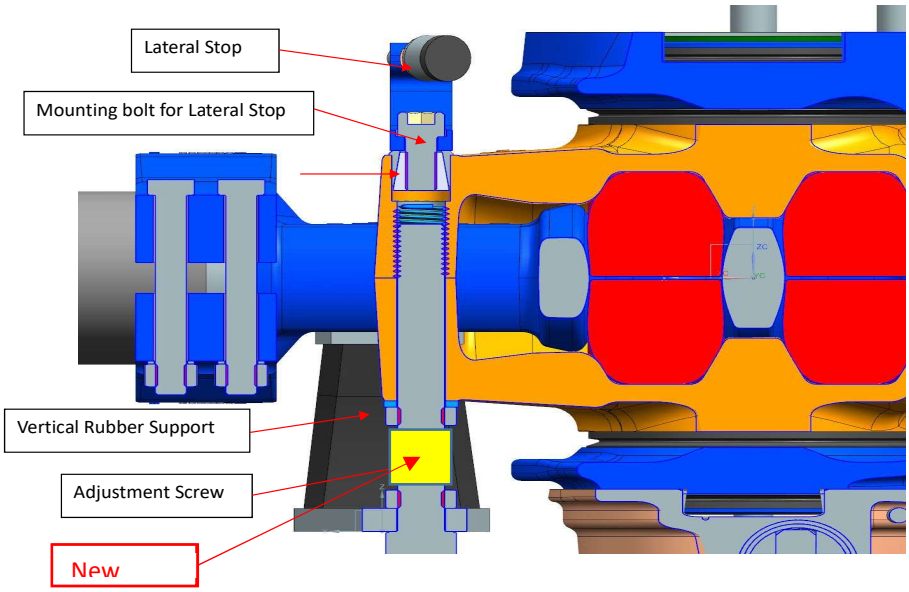


Exhibit 18 – Cross Section through Coupler Bearing Housing with Proposed Sleeve

Status

Although there was only one failure, a total of 31 of 116 couplers showed signs of contact at the lateral stop and damage to the upper clam shell. All coupler assemblies have now been inspected and damaged parts replaced. And all shear pins and support springs have been replaced. A new smaller puck design and sleeve was installed and tested on a LRV4 and a Field Modification Instruction

(FMI) was developed, and a field modification on all LRV4s was initiated This work was completed as a warranty repair by Siemens and was expected to fully address the coupler issue.

In December 2019 the coupler issue reoccurred. An operator noticed an unusual circumstance similar to being rear-ended. The passengers were off-loaded, and the two-car train was taken out of service and thoroughly inspected in the yard. Inspection revealed broken shear pins in both cars and Siemens was notified immediately. The Siemens' project team elevated the issue within their organization and to the CEO level of the coupler supplier, Voith Turbo Inc. One-car trains were then run until shear pins could be replaced.

Siemens and Voith have identified some potential causes of the new failure and potential design solutions to the unusual metal fatigue issue. They have fully instrumented LRV4s to validate their assumptions and tested the train on multiple locations within the SFMTA system. A formal report including recommended corrective actions is expected to be available by the end of February. Voith committed to recommending a corrective design ready for validation by March 12, 2020. Assuming successful validation materials they committed to having parts shipped and ready for installation on the entire LRV4 fleet by June 12, 2020.

Based on the current circumstances both a short term and long-term validation are being recommended. The long-term validation will include regular shear pin condition assessments over at least a 12-month period. During the interim Siemens has issued a letter to SFMTA indicating the new shear pins (same design as originally provided) can operate in coupled cars for at least 90 days. Siemens and Voith have agreed to provide all additional shear pins as required as a warranty item at no cost to SFMTA.

SFCTA staff and consultants will participate in reviews of the design alternatives, validation of data and proposed retrofits. Additionally, the SFMTA Safety Committee including a CPUC representative will need to approve the changes as part of an updated Safety Certification. Analysis and repairs are being completed as a warranty item with Siemens and its supplier responsible for all costs

Section 6. Wheel Flat Spots

Description
Flat spotting of wheels occurs when the wheels lock or stop rotating and are dragged during braking until the car stops. This can be the result of either emergency braking or a slippery track. The friction between the rail and wheels while the wheels are locked creates localized heating, which changes the alloy structure of the wheels and results in premature wear. Flat spots can be removed by wheel truing. This places additional stress on the cutters of the wheel truing machine and the cutters typically need to be replaced after cutting a single flat spot wheel. Cutting carbide tips typically last through numerous cutting operations on non-flat spot wheels. Note that flat spots in extreme cases, left untreated can damage rails and cause a derailment.

The old Breda cars and the new Siemens LRV4 cars have similarly positioned braking controls although the effects of the controls are slightly different. The 'T' handle controller on both cars accelerates and stops the cars [*Exhibit 19*]. For an emergency stop the Breda 'T' handle is pulled straight back and twisted 90 degrees. The Siemens 'T' handle is just pulled straight back but not twisted.

Exhibit 19 – LRV4 'T' Handle in 90 Degree Off Position

Exhibit 20 – LRV4 Emergency Red Stop Button

The emergency stop button (referred to as the "mushroom") on both cars is in the same position and when hit, puts the car into emergency stop mode [*Exhibit 20*]

Wheel flats are not a safety issue, but increase maintenance costs and reduce vehicle availability. The braking system on the LRV4s includes three components: dynamic brakes, friction brakes and track brakes. The vehicles were thoroughly tested under varying load, alignment and weather conditions in San Francisco with the originally specified brake configuration prior to final safety certification and commissioning. The additional track brakes are not required to meet the contractual braking requirements but will reduce maintenance costs and improve vehicle availability.

Root Cause

The first difference between the two designs has to do with reaction time of the driver. It's simply faster to hit the emergency stop button on the Breda car than pull back and twist the 'T' handle. In the LRV4 design the time to pull the 'T' handle back or hit the emergency stop button is understood to be the same.

The second difference between the two designs is the braking. In emergency braking on the Breda cars, the wheels do not lock up. In emergency braking on the LRV4 cars using the 'T' handle, the wheels also do not lock up. But, in emergency braking on the LRV4 cars using the emergency stop button, the wheels do lock up causing flat wheels.

Because of an incident several years ago in a Breda car that resulted in a fatality, the drivers have all been trained when in an emergency to always hit the emergency button. Unfortunately, in the SFMTA's operating environment, with substantial in-street running, emergency stops are a regular, sometimes daily event. Hitting the stop button has become part of the driver's muscle memory.

In order to not flat spot the wheels on the LRV4 cars, it has been suggested to retrain the drivers to use the 'T' stick in emergency situations. Because drivers may operate either the Breda cars or LRV4 cars, changing the muscle memory of the drivers for the LRV4 cars is not recommended. If an emergency situation were to present itself in a Breda car where the driver's muscle memory is attuned to the LRV4 cars, another unfortunate incident may occur.

Simply, although the cost of flat spot wheels to SFMTA is substantial, another fatality would be unacceptable.

Solution
The LRV4 cars are equipped with both hydraulic friction brake systems on the wheels and with electro-magnetic track brakes on the center bogie. The track brakes engage the track to stop the car.

Exhibit 21 – LRV4 Single Car at MME

The combination of the wheel brakes and track brakes stops an LRV4 within the required distances and speeds without damage to the LRV or track structure. This requires that additional pressure be applied by the wheel's brakes and therein we get wheel lock. It was determined that if less pressure were applied to the wheel's brakes, such that they would not lock up, and more pressure were applied by track brakes, such that the car would still stop within the required distances, additional track brakes would need to be installed on the end bogies. This would not damage either the LRV or track structure.

An LRV4 car has been equipped with the additional track brakes and tested on the SFMTA alignment. There were 500 emergency stops using the emergency stop button performed during the test resulting in flat spot wheels in only two stops. This compares to almost 100% of the wheels being flat spotted with the present single bogie track brakes when the emergency stop button is applied.

The total time and labor to true a single car is approximately 2.5 days. Because many of the cars operate in two car consists, when an LRV4 emergency stop button is applied, all 24 wheels are impacted, doubling the maintenance effort and cost to get the cars back in service. Note that labor costs greatly outweigh the other costs. After wheels have been trued a number of times the wheels become too small and must be replaced entirely. This process can take up to a month to complete.

Status
Installation is in progress (51 vehicles have been completed) and will be completed in March 2020. Funding for this upgrade is SFMTA's responsibility and was included in contract modifications 5 and 6, which were approved by the SFMTA Board in October and November. Funding for the modification was obtained due to cost savings within the existing not-to-exceed budget. The funding availability resulted from a lower cost escalation rate than was assumed in the original contract.

The overall cost including proposed contract modification 7 (to the SFMTA Board in February/March) is estimated to be $4.7 million which includes $1.75 million for phase 1, which was approved in contract modifications 5 and 6. The cost justification appears clear. When a car flat spots the wheels, all 12 wheels need to be trued, the car needs to be shimmed and the coupler inclination adjusted. The wheel life is reduced and the cutters on the wheel lathe will need to be replaced after each set of flat spot wheels are trued. Because the wheel lathe is presently in constant use due to flat spot wheels, this also impacts the machine's maintenance requirements and life cycle.

Section 7. Hydraulic Power Unit

Description
The Hydraulic Power Unit assembly supports the hydraulic friction brakes on the car wheels. HPU failures are a major service availability issue as they fail in a safe mode keeping the brakes applied. The criticality of correcting this issue was significant. The high failure rate also contributed to a reduction in MDBF and vehicle availability.

Root Cause
Three potential root causes were identified; the motor driver board, the wiring harness and the brake control valve. Further investigation led to determining all three were part of the cause with the motor driver board being the primary factor

Solution
Siemens reengineered the motor driver boards, wiring harness, control valve and issued a Field Modification Instruction.

Status
All LRV4s have been retrofitted with the new motor driver boards, wiring harnesses and control valves. All work is covered by the Siemens warranty.

Section 8. Cameras and Monitors

Description
LRV4s are equipped with cameras mounted on the outside of the vehicles that transmit video to a monitor in the cab car along with a video recorder. This is different from the existing Breda fleet which utilizes outside mirrors. Both systems are used by transit properties across the country using both exclusive and non-exclusive right of way. The dynamic envelope of the LRV4s combined with the geometrics of the track and the proximity of physical obstructions adjacent to the trackway preclude retrofitting the LRV4s with outside mirrors. The cameras also provide views from the front and rear of the train, which will be more important as SFMTA introduces longer 3-car trains.

After the approval by the SFMTA Safety and Security Committee and the CPUC, SFMTA operators expressed concerns related to being able to see if pedestrians are too close to the cars or on the yellow safety markers adjacent to the car boarding position. Concern was also expressed regarding the size of the monitor in the cab and the quality of the image, particularly when the LRV travels between light and dark areas such as when an LRV enters or exits a tunnel. The current camera system was reviewed by operators, SFMTA Safety and Training, Training Department, and CPUC staff and determined to provide acceptable views for the length of a two-car consist. The system has now been approved by the SFMTA Safety and Security Committee and the CPUC. It is therefore not considered a safety issue at this time and does not impact vehicle availability or MDBF. A demonstration program later this year is proposed for three-car consists, which will be reviewed and approved by the SFMTA Safety Committee prior to being put into service.

SFMTA staff is concerned about the issues raised by the train operators and is considering potential modification to the cameras and monitors. Staff, including operators and union representatives, is working with Siemens to evaluate potential modifications including larger cameras to expand the views and larger or multiple monitors on each side of the cab.

Status
This is currently a work in progress. Staff has recently visited the Siemens plant in Sacramento where they were able to observe cameras and monitors on LRVs being used by other transit properties. They have also uncovered previously unknown issues, such as an operator not being able to see objects in a proposed monitor replacement due to the polarization on their sunglasses. Staff is working towards identifying appropriate modifications during the first half of 2020, to allow incorporation into the phase 2 vehicles and retrofit of the phase 1 vehicles. Alternative monitor concepts were viewed in the SFMTA yard by a committee of program management staff, operators and union representatives in late January. A concept was agreed to and Siemens is developing a prototype that can be mounted on an LRV4 for testing later this Spring.

It is anticipated that these potential changes from the contract specifications and safety certified conditions will be an upgrade with SFMTA bearing the cost responsibility.

Section 9. Seats

Description
The LRV4s are equipped with flat seats as opposed to the current Breda seats that have individual indentations. The longitudinal flat seats allow riders to slide when the LRVs start-up or stop. The seat height is also higher than the Breda cars. MUNI riders have requested, as a matter of comfort, that all LRV4 seats be replaced with seats with design and height similar to those in the Breda

vehicles. This is not considered a safety issue and does not directly impact vehicle availability or MDBF.

Status
This change is being considered and funding ($1.57 million) was provided in contract modification 6 to initiate the design process to add depressions to the seats and adjust height. An estimated additional $18.6 million is being contemplated in future contract modification 7 to cover the cost of revised seats for both the phase 2 vehicles and retrofit of phase 1 vehicles. It is anticipated that this potential change will be an upgrade with SFMTA bearing the cost responsibility.

Section 10. Other Items

Description
During the course of our oversight, several other items have been identified that may impact the availability or reliability of the LRV4 fleet. These items have not risen to the same level as the previously discussed issues. These items are being addressed by SFMTA and Siemens on an on-going basis. The items are noted below along with their status and an informational item.

- CCTV Failure – The CCTV have intermittently failed to record data. This appears to be a software integration problem. Siemens is currently testing a software modification to resolve the issue of communication between the vehicle and the SFMTA specified camera system.
- Door Adjustments – Siemens has adjusted the doors on five test vehicles to reduce opening/closing issues. These are currently being tested and no issues have been observed. If the testing is completed without issues the remaining LRV4 fleet will have their doors adjusted and the SFMTA mechanics will be trained not to make additional adjustments as they are required to do on the existing Breda fleet.
- Brake Control Unit – Several LRV4s have experience brake locking that may be caused by the brake control unit. SFMTA and Siemens are currently evaluating these incidents to determine if they are unique events or a potential fleet failure issue. This analysis and any required repairs will be completed as warranty items by Siemens.

Section 11. Mean Distance Between Failures

Description
The Mean Distance Between Failures (MDBF) is a means to evaluate the effectiveness of a transit property's maintenance practices over time. With new vehicles it can also be a means of tracking manufacturing quality.

The MDBF calculations depend on two factors, mileage traveled and recorded failures. Siemens is contractually required to provide an MDBF of 25,000 miles. And yet, the MDBF for the LRV4s at the start of service was approximately 5,000 miles. By January 2020 the MDBF had improved to approximately 17,000 miles [*Exhibit 22*]. By comparison, the current Breda fleet had an MDBF of 3,300 in FY 2003, which dropped to under 2,000 miles in FY 2005. Ultimately the MDBF increased to a high of 5,500 miles in FY 2006. The calculation of MDBF for the existing Breda fleet is based on a different assumption regarding chargeable failures. The Breda calculation includes many non-mechanical failures including (train control, operator caused, customer caused) that are beyond the control of Siemens and therefore not included in the LRV4 MDBF calculation requirements.

The MDBF trend for the LRV4s is calculated on a monthly basis by Siemens and reviewed by SFMTA staff and their Failure Management Board. This information is reviewed to identify trends and any particular causes for changes. For example, the MDBF was positive at the end of 2018, but in February of 2019 then took a negative hit for the APS faults. It was the rainy season and a number of APS units failed from excess water in the APS Line Choke Compartment. This also impacted availability and mileage as all car APS units needed to be modified with the temporary solution. Once corrected the trend was again positive. In May the MDBF took another negative hit for both the couplers and the doors. And even though there was only one recorded failure for each, the repairs were required on all cars, which impacted availability and mileage. The continued flat spotting of the wheels is not considered a failure, but it does impact MDBF in that it impacts the availability and mileage put on the LRV4 cars.

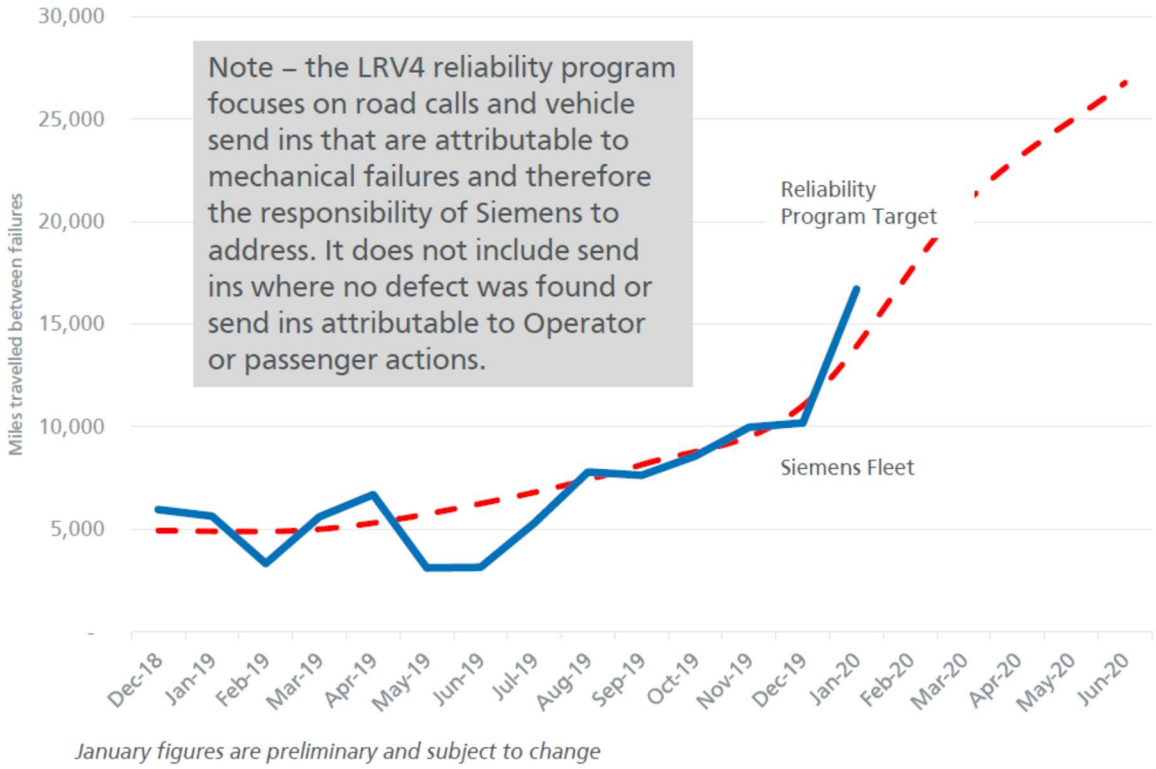


Exhibit 22 - LRV4 Projected MDBTF

The MDBF improvement also contributes to the increased availability of LRV4s for revenue service. Exhibit 23 shows the daily availability of LRV4s over time. This accounts for delivery of vehicles and availability due to planned and unplanned maintenance activities.

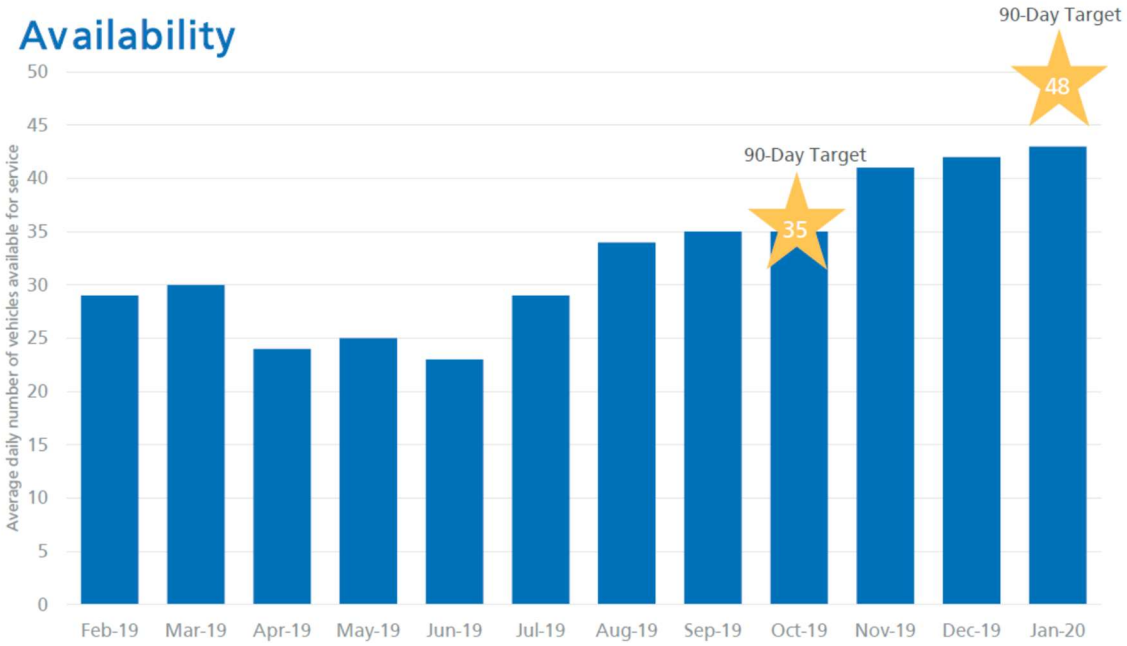


Exhibit 23 – LRV4 Daily Availability

The contract with Siemens specifies the allowable mean distance or times between failures by system type and then summarizes this by requiring Siemens to demonstrate the combination of all systems failure modes to result in Mean Distance Between Train Delays of 25,000 miles (contract volume 2, section 2.8.1)

This is clearly a contractual requirement, however, some people have expressed concerns that it may not be achievable. While each transit property collects data differently and operates under different operational conditions it is useful to see what other transit properties use to benchmark their systems.

The following table notes the MDBF, either actual or planned for various light rail systems.

Transit Property	MDBF	Actual or Planned	Source
Sound Transit, Seattle WA	20,000	Planned	Design Criteria Manual, Rev 5, 2018
TriMet, Portland OR	12,000	Actual	2018 quarterly performance report
Santa Clara VTA	25,000 43,951	Planned 2019 Actual	FY 20/21 Adopted Biennial Budget
Los Angeles Metro	20,000	Operational Target	Personal communication
San Diego MTS	9,239	2018 Actual	FY 2016-2018 Triennial Performance Audit of MTS
Houston Metro	20,027	FY 2018 Actual	2018 Monthly performance report

The above table represents a range of transit environments and importantly different definitions of chargeable incidents. The Siemens contract requirement of 25,000 miles is based strictly on mechanical failures and not other types of failures (train control system, operator caused, customer caused) that SFMTA includes in their own MDBF calculations for the existing Breda fleet.

The contract with Siemens identifies the MDBF requirement, as a means of determining expected quality. There, however, does not appear to be any time frame for achieving this. The monetary incentive for Siemens is the contract closeout when SFMTA releases the final contract payment including up to $12.9 million in contract retention. If the MDBF requirement is not met, SFMTA will be performing more frequent maintenance resulting in higher labor and parts costs than if the LRV4s met the 25,000-mile MDBF specification. Failing to meet the MDBF requirement may also reduce the vehicle availability potentially impacting ridership. SFMTA should consider tightening this requirement as they move forward with the phase 2 vehicle order to add specific time frames for achieving the requirement and penalty if it is not achieved. Penalties could include retaining a greater amount of phase 2 payments if not achieved by a certain time. Alternatively, SFCTA would withhold all or a portion of the phase 2 funding until the requirement is met.

Section 12. Spare Parts

Description
The LRV4s have experienced a notable shortage of spare parts. During the initial phases of vehicle delivery, Siemens appeared to provide warranty parts taken directly from their assembly lines. This did not pose substantive problems until the production was reaching a close and parts from the assembly line were no longer readily available.

When parts were not readily available, Siemens utilized a common practice with transit agencies of borrowing parts from one or more vehicles that were not in service to keep more vehicles in service. This practice is similar to what is labeled “Hangar Queens” in the aircraft industry. This practice while common in the transit industry is typically found in mature fleets where parts may be borrowed from other vehicles under repair and not otherwise available for revenue service as opposed to new vehicles that are awaiting commissioning and final payment.

The contract includes a specific spare parts list. The list however was developed during the procurement period and according to SFMTA staff was very generalized since SFMTA had no experience with the Siemens vehicles and did not want to order parts that would not be needed for years causing storage problems at the Muni maintenance facility and adding to the overall program cost.

Status
Siemens has borrowed parts from an LRV4 that was essentially complete but had not been commissioned and was still under Siemens ownership. Over the past year as the LRV4s are being rolled out into revenue service, SFMTA is gaining a better understanding of what and how many spare parts are required to keep the entire fleet available for revenue service.

Our review of the contractual requirements suggests some refinements to the contractual approach may be appropriate to maintain an appropriately sized parts inventory and to obtain reasonably priced parts. Specifically:

1. The contract calls for large assemblies when specific parts may be more appropriate. Our experience is other transit properties have more extensive and specific spare parts

requirements in their procurement documents. Having SFMTA maintenance staff work with Siemens and their parts catalog, using the lessons learned from phase 1, to develop a more refined list of needed parts and the number of those parts to be included with the phase 2 vehicle acquisition could provide a more efficient and cost-effective process.

2. It is not clear how SFMTA plans to repair and overhaul components. Many transit properties use unit exchange (UTEX) or Repair and Return (R&R) processes with rebuild or maintenance repair kits in some areas and UTEX/R&R on other components. Maintenance, rebuild and repair kits are far cheaper than buying complete assemblies that may either sit on the shelf for years or be cannibalized for parts.

3. SFMTA has approved major suppliers for the LRV4s. Siemens is a builder not an operator/maintainer and it is a lot easier for them to sell complete assemblies whenever available instead of piece parts. SFMTA should consider working with the major suppliers to obtain specific parts to speed delivery and reduce markups. This requires a mature maintenance organization such as SFMTA, but it allows procurement of individual parts or larger assemblies that are closer attuned to SFMTA maintenance capabilities.

4. A year of operations has provided some experience to draw from to refine the spare parts requirements. As more experience is gained SFMTA should provide opportunities to modify the spare parts list at various times during the Phase 2 procurement. SFMTA should also monitor the warranty parts inventory so it is available throughout the production and warranty period and does not specifically rely on parts from the assembly line.

Section 13. Contract Modifications

Description
The SFMTA Board has approved six contract modifications to date incorporating multiple changes to the contract both in terms of numbers of vehicles provided and changes to the vehicle itself. The changes to the vehicles can generally be classified as follows:

- Operations improvements are intended for the driver or operator of the car
- Maintenance improvements are for maintainability, accessibility and availability. The goal is reduced dwell times and unscheduled maintenance that will be captured in improved MDBF
- Passenger improvements are primarily for comfort and visual controls
- Safety improvements, and there is only one, for a dead man switch

A summary of the key components of each contract modification is as follows:

Modification	Date	Scope	Value
Initial NTP	9/30/14	Initial order for 24 LRVs plus associated spare parts and training	$146 M
Mod 1	3/15/15	increase the number of Phase 1 vehicles from the initial 24 to a total of 64 plus added spare parts.	$147 M
Mod 2	10/30/15	Approved the list of major suppliers, clarified the purpose for the contract Allowance and modified the payment structure	$0
Mod 3	8/16/16	Approved an updated list of major suppliers, modified the radio/CAD/AVL systems on the vehicles and modified the vehicle and documentation delivery schedules	$20 M
Mod 4	7/11/17	Added 4 additional LRV4s increasing the total to 68.	$16 M
Mod 5	10/22/19	Approved partial funding for additional track brakes.	$0.5 M
Mod 6	11/5/19	Approved additional funding for track brakes, initial funding to initiate the redesign of the seating and other minor modifications to the LRV4s. This also includes a provision to plan for the acceleration of the delivery schedule for the phase 2 (replacement) vehicles by 14 to 16 months at an initial cost of $5.6 M	$10 M

The source of funding for each modification was not included in the modification discussion but according to SFMTA staff the total amount of the contract including expansion vehicles and option vehicles is still within the not-to-exceed contract amount due to the lower than expected rate of escalation. The escalation cost savings have thus become a de facto contingency fund.

A proposed contract modification 7 is in process. The major items planned for this modification include fully funding the track brakes and seating modifications for both phase 1 and 2 vehicles, modification to the cameras/monitors (potentially deferred pending results of testing), providing additional training and other minor vehicle modifications. For an estimated amount of $30 M. Additionally, Mod 7 also completes the funding for accelerating vehicle production at an additional cost of $21 M bringing the total acceleration cost to $26.7 M. The acceleration will be accomplished by adding a second production line to be used. This will allow the existing Breda fleet to be replace 14 to 16 months earlier than planned.

The original schedule was based on SFMTA's anticipated time to commission vehicles. They have found they are able to commission more vehicles concurrently allowing for the faster vehicle production.

SFMTA has a continuing concern regarding the viability and maintainability of the current Breda fleet. The Breda vehicles are at the end of their useful life, requires substantial maintenance to keep them in service and importantly SFMTA is finding it more and more difficult to obtain parts. Some of the suppliers have gone out of business which is further exacerbating the maintenance issues

Recommendations

SFMTA's acquisition of a new LRV fleet from Siemens Industry is an important step to improving transit reliability in San Francisco. The project has benefited from the very competitive pricing received in the 2014 bids, the relatively flat rise in inflation which has saved in the price escalation clauses in the contract and the location of the manufacturing facility located 2-hours from the City which has allowed ready access to the plant and Siemens staff.

The overall process, however, has not been without its difficulties. There have been some notable vehicle failures discussed above. The LRV4s are different from the existing Breda fleet, which poses transitional issues for LRV operators, particularly those that operate in a Breda car one day and a Siemens car the next day. Spare parts have not been readily available towards the end of the procurement leading to delays the delivery of the final two vehicles.

As SFMTA moves towards issuing a Notice to Proceed for the Phase 2, 151-vehicle replacement fleet we recommend:

1. All issues with the phase 1 LRVs be resolved with repair strategies in place and repairs completed on a sufficient number of vehicles to determine the issue is satisfactorily addressed.

2. Lessons learned from the phase 1 procurement be gathered from all parties involved with the new vehicles including SFMTA program staff, Siemens and their key suppliers, funding partners, operators, maintainers and riders. These lessons can then be used to modify the procurement documents for the phase 2 LRVs

3. SFMTA schedule a Design Review of the Phase 2 LRV4s prior to issuing a planned Notice to Proceed (NTP) for the phase 2 LRV4s to verify that the improvements and warranty fixes are captured in the remaining vehicle order.

4. The contract be amended to clarify MDBF attainment and clarify consequences of non or delayed attainment (retention, partial hold on SFCTA funding) of the contractual requirement.

5. The spare parts requirements be revised based on the experience gained over the past year with the new LRV4 vehicles. This should include a specific spare parts plan including a listing of spare parts that Siemens shall maintain in San Francisco for warranty repairs (section 1.2.2.2 of exhibit 5 to the contract). The requirement for a separate warranty replacement stock should be enforced as opposed to allowing warranty parts to come from the assembly line stock.

6. SFCTA should continue monitoring repair solutions and any new issues that may arise during the production and roll-out of the phase 2 LRV4s. The monitoring should include a checklist of issues and their resolution that can be addressed on a regular basis with SFMTA program staff and as appropriate with labor representatives.

Attachment 2

PROGRAM MANAGEMENT OVERSIGHT FOR SFMTA LIGHT RAIL VEHICLE PROCUREMENT

Prepared For

San Francisco County Transportation Authority

Prepared By

TY·LIN INTERNATIONAL
engineers | planners | scientists

February 25, 2020

PMOC Role

Conduct program management oversight for the San Francisco Municipal Transportation Agency's (SFMTA's) Siemens Light Rail Vehicle (LRV) repairs.

- Consider potential causes and mitigations to the current range of issues including coupler bolt failures, door opening and closing issues, wheel flats and reliability.
- Make recommendations to SFMTA and SFCTA regarding vehicle performance and accountability.

August 2019 through February 2020

Actions

- Document Review
- 3-Day Deep Dive
- Weekly Commissioning Team Meetings
- Meeting with Operators and Union Representatives
- Safety Protocol monitoring
- On-Site Observations
- Summary Issues Reports;
  - Executive Summary
  - Issues Discussions
  - Recommendations

Warranty Issues Resolved

Issues	Repair Solutions	Cost/ Responsibility	Timeline
Door Safeguards	Additional sensitive edges added to doors.	Warranty repair	Complete
Pantographs	Electrical shunts added and nuts/bolts replaced	Warranty repair	Complete
Aux. Power Supply	Brackets modified	Warranty repair	Complete
Hydraulic Power Unit	Motor-driver boards, wiring and control valves have been reengineered	Warranty repair	Complete

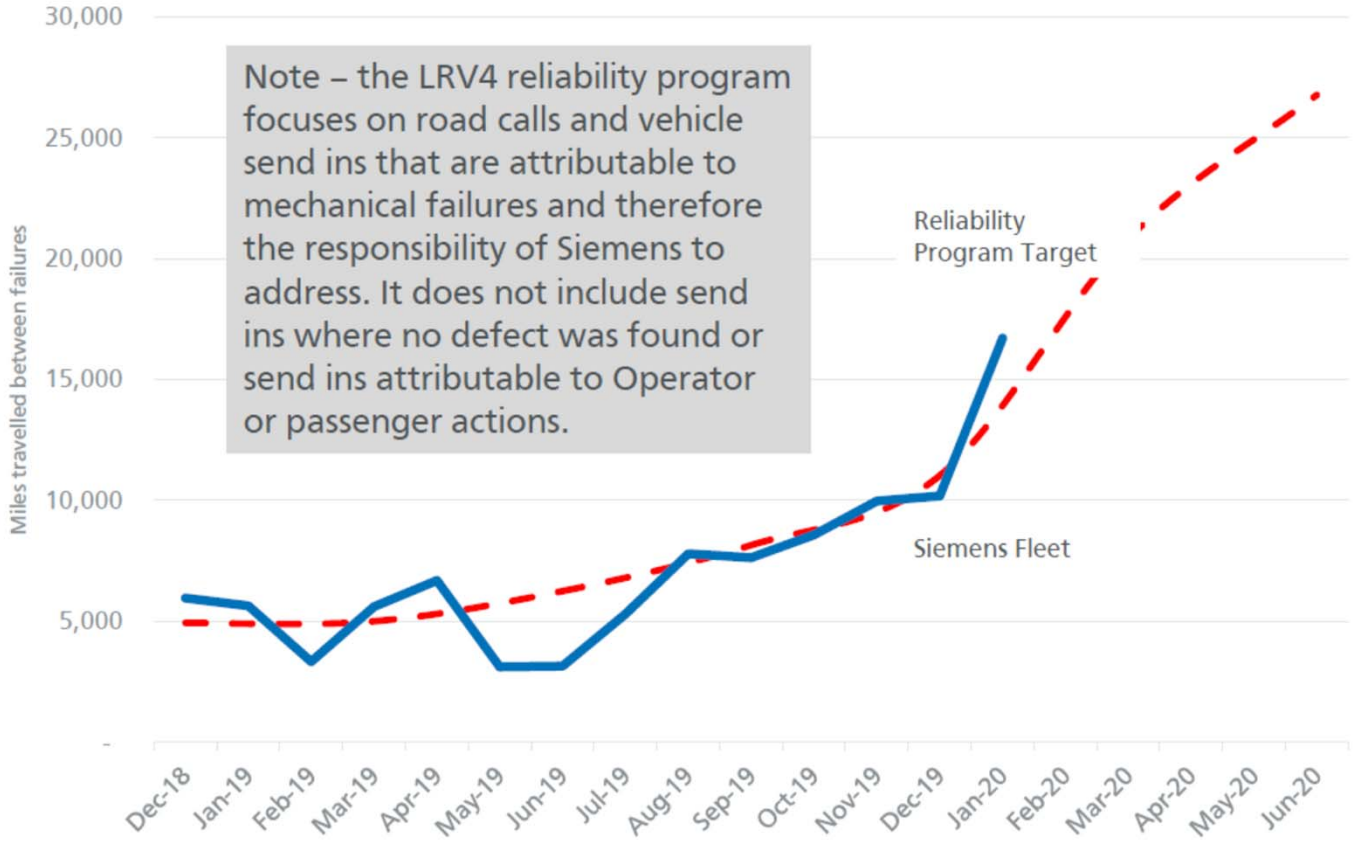
Issues In-Progress

Issues	Repair Solution	Cost/Responsibility	Timeline
Wheel Flats	Phase 1 LRV4s being retrofitted with additional set of track brakes	$1.75 M at SFMTA cost	March 2020
Couplers	Temporary fix (shear pin replacements) in place Second round of investigation and testing is underway.	Warranty repair	Testing and analysis to be completed in February, with repairs starting in June
Cameras	SFMTA evaluating camera and monitor size and type	$1.6M at SFMTA cost for upgrade (estimate)	Timing for upgrade to be determined
Seating	Revised seating style and height have been identified	$20.2 M at SFMTA cost for upgrade (estimate)	To be determined (Mod 7)
CCTV	Modify software to improve integration	Warranty repair	To be determined
Door Adjustment	Adjustments have been made and testing is in progress	Warranty repair	To be determined
Brake Control Unit	Analysis of brake lock-ups is on-going	Warranty repair	To be determined

Reliability

Issue	Repair Solution	Cost/ Responsibility	Timeline
LRV Availability	65 of 68 LRV4s commissioned. Daily availability of LRV4s in January was 43. Improving due to warranty repairs	Siemens	Commissioning of final 3 LRV4s scheduled for Spring/Summer
Mean Distance Between Failure (MDBF)	Improved from 4,000 miles in July to approximately 17,000 miles in January	Siemens	SFMTA projects 25,000 miles to be achieved in June 2020
Spare Parts	Improved estimates of spare parts inventory need SFMTA and Siemens to prepare Spare Parts Plan	SFMTA/Siemens	September

LRV4 Reliability Program



January figures are preliminary and subject to change

Findings and Recommendations

- Good Progress – repairs being completed, increased availability, improved MDBF
- Resolve Phase 1 repair strategies (e.g. shear pins)
- Hold Lessons Learned workshop including SFMTA program management, operators, mechanics, SFCTA before Phase 2 NTP
  - Spare parts, revise based on Phase 1 experience, assure availability
  - Additional vehicle modifications
  - Delivery/Commissioning timing
- Design reviews prior to approval to proceed with Phase 2 (Mod 7)
  - Assure warranty repairs and requirements of Mods 1-7 are included
- MDBF attainment
  - Clarify timing to meet requirement, consequences of non or delayed attainment (retention, SFCTA partial funding hold)
- Continue SFCTA oversight/monitoring at least through attainment of MDBF requirement and Phase 1 warranty repairs

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San Francisco
Muni Reliability Working Group

SFCTA Board
February 25, 2020

CITY & COUNTY OF SAN FRANCISCO

Working Group Goals

The people of San Francisco believe in a transit first policy for the City and rely heavily on Muni to provide that transit service. They have been generous in supporting proposals to fund Muni. In return they want and deserve a well-functioning, reliable system.

Muni does some things very well and is the envy of other transit agencies for its public support, service levels and system and route distribution. At the same time, Muni must and can do better.

With that in mind, the Muni Reliability Working Group was formed to meet the following goals:

- Review Muni transit operations current improvement efforts and plans
- Reach a shared understanding of where Muni needs support
- Recommend priority actions for policymakers and new Director over 18-24 months period

Working Group Participants

Sponsors: Mayor London Breed, Supervisor Rafael Mandelman & Supervisor Aaron Peskin

Committee Co-Chair	**Affiliation**
Gwyneth Borden	Vice Chair, SFMTA Board of Directors
Ed Harrington	General Manager of SFPUC (former) & Controller (former)
Committee Member	
Cat Carter	San Francisco Transit Riders
Queena Chen	Chinatown Transportation Research and Improvement Project
James Gallagher	LA Metro
Terrence Hall	TWU Local 250A
Mike Hursh	AC Transit (SFMTA formerly)
Alicia John-Baptiste	SPUR
Kathleen Kelly	Transportation expert (SFMTA formerly)
Roger Marenco	TWU Local 250A
Beverly Scott	Transportation expert

Additional Interagency Support

Working Group Formation and Process

- The working group was convened in June 2019 with sponsorship from the Mayor and Board of Supervisors' Members Aaron Peskin and Rafael Mandelman.
- Co-chairs were San Francisco Municipal Transportation Agency (SFMTA) Board Vice Chair Gwyneth Borden and former Public Utilities Commission General Manager and Controller Ed Harrington.
- Local and national transit experts, San Francisco advocacy organizations and labor leaders served on the working group, participated in subcommittee work, and made site visits to provide technical advice and expertise to SFMTA.
- The group as a whole met five times between July and December. Four subcommittees were formed and met frequently during the period. These were: Technical and Operations, Workforce and Hiring, Context and Regional, Governance and Organizational.
- Research, analysis and other support was provided by SFMTA and by the Controller's City Performance group.
- The San Francisco County Transportation Authority (SFCTA) and the City's Human Resources Department participated in subcommittee work and provided significant technical support to the working group.

Questions Considered by the Working Group

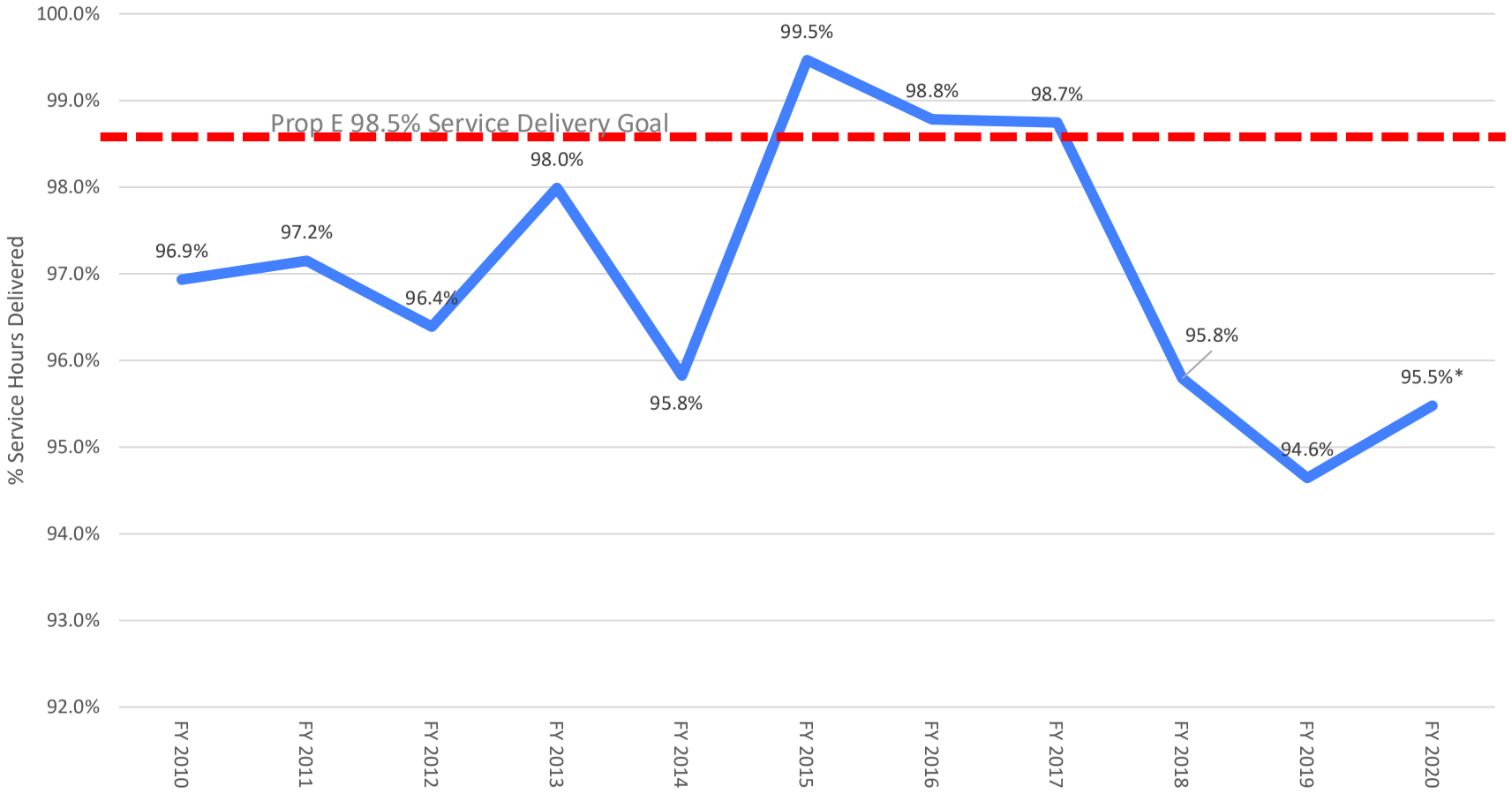
The summary charge to the group was to review SFMTA's transit operations and the Agency's current improvement efforts, reach a shared understanding of where Muni needs support, and recommend priority actions for policymakers, SFMTA and a new SFMTA Director over the next 18-24 month period. The group developed the questions below to unify its work across the different committees.

- What resources and broader support are needed to:
  - Meet reliability and performance mandates
  - Meet customer expectations
  - Serve equity needs
  - Serve projected growth
- How can we improve subway performance?
- How can we optimize bus system performance?
- What can we do to address congestion?
- How can we most improve customer experience?

Workforce and Hiring Committee Findings

- The Transit Operator shortage has the single most critical effect on Muni reliability, the SFMTA, with support from other City agencies and leadership, must execute every element of the plan to hire, train and fill positions to close this gap
- Given the high percentage of Operators with less than five years of driving experience, increased and sustained investment is needed in training and mentoring of current staff
- Transit Supervisor and related classifications in the SFMTA have a current vacancy rates of up to 17% and existing positions are insufficient to address increasing system complexity and to deliver the full potential of service management technology
- Maintenance classifications in the SFMTA have vacancy rates between 20% and 45% and the SFMTA has insufficient recruitment, apprenticeship and training programs
- Skilled trade and engineering workers are in short supply throughout the Bay Area with many employers competing for a limited pool; larger solutions are needed
- Security challenges impact safety and reliability throughout the system and affect the experience of Muni riders and staff

Service Impacted by Operator Shortage



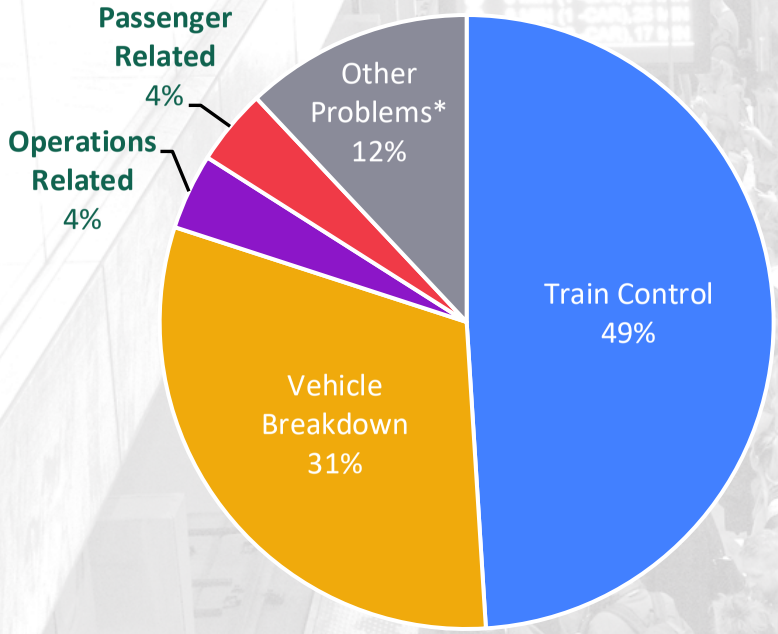
* FY 20 Complete fiscal year not included. Service delivery calculated between 7/1/2019 and 10/15/2019

Technical and Operations Committee Findings

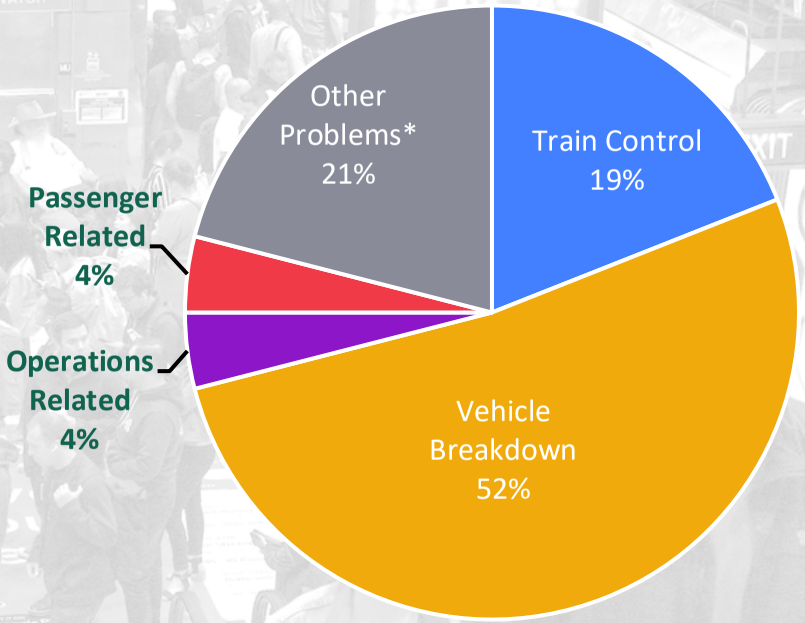
- Addressing operator hiring and other work force issues will have the single biggest impact on overall Muni service performance. Hiring should be complemented by investing in staff training and enhanced service design.
- Local and national trends such as the rise of Transportation Network Companies, new mobility methods, and historically low unemployment increasing demand all impact the SFMTA's ability to deliver reliable service
- Muni service faces structural system challenges, especially in the subway; lack of bypass tracks and other design features limit the volume of trains and passengers that can be served by the rail system
- Subway reliability is impacted by an aging train-control system and frequent vehicle breakdowns; daily subway service is also congested as a result of scheduling more trains than the system can support
- SFMTA has taken effective steps to address bus reliability through fleet replacement, an increased focus on preventive maintenance, staff training and a full midlife overhaul program
- Investments in delay reduction, captured by the Muni Forward program, have had a positive impact on the system but remain insufficient to address the dramatic increase in congestion over the past decade

Sources of Acute Subway Delays

Delays by Quantity



Delays by Impact (minutes)



Source: Muni Central Control Log
January to December 2018

*Other problems include wayside infrastructure failures plus delays that were uncategorized in the control log. These figures do not include delay due to congestion, only the acute delay associated with each incident.

Context and Regional Committee Findings

- Muni operates in a mixed street environment with transit, cars, pedestrians and other users competing for limited roadway space
- Over the past 10 years increasing congestion has caused transit speed and reliability to drop; SFMTA investments and strategies have proven benefits but remain insufficient to address increases in demand
- Investments in delay reduction, including 30 miles of Muni Forward transit priority streets (with 20 more miles legislated), have had a positive impact on the system.
- Proactive policy, regulatory and engineering campaigns are urgently needed to reduce trip time, increase reliability and meet City “Transit-First” and related climate change goals
- SFMTA should have a sustainable model for service expansion to meet demand and goals for mode share, equity and growth
- The City should develop long term capital plans and funding strategies for major subway redesign
- The City should provide a consistent voice and regional leadership for integration and excellence in transit and mobility systems regionally and locally

Increasing Downtown Congestion

2009

2017

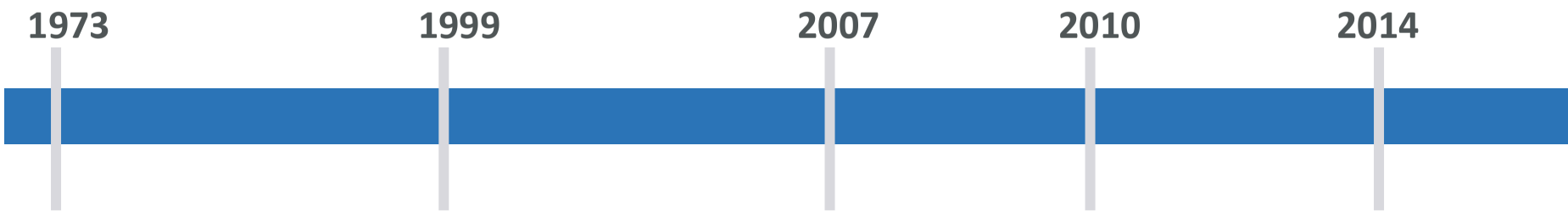
Average Auto Speed (mph)

5.0 — 55.0

Governance and Organizational Comm. Findings

- Overall, the governance and organizational structure of the SFMTA is appropriate and efficient; the Agency is well set up to manage service, financial, planning and regulatory functions with an integrated approach
- Functional consolidation at the SFMTA of transit operations, parking control, and right-of-way design and engineering is unique and benefits Muni service reliability
- The SFMTA has a somewhat lower level of autonomy over budgets, fares and service changes than many peer transit agencies which are typically stand-alone, regional governments serving multiple cities or counties
- The SFMTA needs to improve its ability to design for, respond to and communicate with users and customers. New user-centered design concepts and a broader customer service orientation need to be integrated into the organization

Transit First City – History of Past Initiatives



Transit First | **SFMTA Created** | **Reforms** | **Labor** | **Funding**


154
1725

Staffing

- Accelerate operator hiring and training – stabilize by Summer 2021; with attrition and training Muni must graduate approximately 525 new Transit Operators by that date
- Create an SFMTA and citywide effort by June to organize and right- size the transit supervision workforce
- Create an SFMTA and citywide program by June to reduce the significant vacancy rates in maintenance, crafts & engineering
- Explore developing regional and industry coordination efforts for training, certification, apprenticeship and career ladders in the skilled trades that are needed by the SFMTA

Reliability Recommendations Continued

Systems and Vehicles

- Improve long-term subway performance by replacing the system's train control system (5-7 years)
- Finalize a package of interim subway service solutions by June to improve subway performance over the next two years
- Develop a comprehensive approach to accelerate replacement of the Breda fleet, optimize use of the Siemens fleet, and ensure fleet can meet subway performance requirements
- Support and accelerate planned redesign of streets, proactive street management and congestion management strategies to improve transit system performance

Safety and Security Recommendations

- Engage with leadership and stakeholders to affirm and act on Transit First, Muni Forward and Vision Zero as the City's primary mandates in the street environment
- Make investments to improve safety for riders and employees and security for its facilities and fleet

Future Service Recommendations

- After current service is stabilized, develop and fund Muni plans for growth to address equity gaps, crowding and population in San Francisco and regionally
- Improve coordination and increase capacity between specific functional areas and divisions including street management and parking control, and capital planning and transit

Context & Regional Recommendations

- Develop the City's ability to speak with one voice on regional issues and funding priorities
- The Bay Area must work together to develop and take new proactive measures to grow local and regional capacity for planning, funding, building and integrating major transit projects and systems; San Francisco should be a leader in this effort

Communications Recommendations

- Explore new concepts, organizational structures and practices to grow and improve the Agency's customer experience and communications functions
- Improve Operator communications and feedback loops related to service conditions


TEST
TRAIN
TEST
TRAIN
sfmta.com
DO NOT PASS

Next Steps Implementation

SFMTA & Controller's Office

San Francisco
County Transportation
Authority

1455 Market Street, 22ND Floor, San Francisco, California 94103 415-522-4800 info@sfcta.org www.sfcta.org

Memorandum

AGENDA ITEM 15

DATE: February 20, 2020

TO: Transportation Authority Board

FROM: Joe Castiglione – Deputy Director for Technology, Data & Analysis

SUBJECT: 02/25/20 Board Meeting: Information on Findings of the Clean Miles Standard

RECOMMENDATION ☒ **Information** ☐ **Action** None. This is an information item. **SUMMARY** This item presents findings from the California Air Resources Board's (CARB's) Clean Miles Standard 2018 Base Year Emissions Inventory Report, which estimates CO2 emissions per-passenger-mile for TNCs pursuant to Senate Bill (SB) 1014. The Emissions Inventory found that TNCs emit 50% more CO2 per-passenger-mile than the statewide passenger vehicle fleet in California, indicating that TNCs are challenging our ability to meet climate goals. The Transportation Authority will continue to advise CARB as it sets emissions reductions targets for the TNC industry.	☐ Fund Allocation ☐ Fund Programming ☒ Policy/Legislation ☐ Plan/Study ☐ Capital Project Oversight/Delivery ☐ Budget/Finance ☐ Contract/Agreement ☐ Other: _____

BACKGROUND

In 2018, Senate Bill (SB) 1014 (Skinner) directed CARB to develop an inventory of CO2 emissions per-passenger-mile of transportation network companies (TNCs) and adopt annual emissions reduction goals and targets for TNCs. SB 1014 directs the California Public Utilities Commission (CPUC) to implement the annual goals and targets. In September 2019, CARB held a workshop where they shared and sought feedback on their draft emissions inventory methodology and findings. Staff from the Transportation Authority and San Francisco Municipal Transportation Agency (SFMTA) attended the workshop and worked with CARB over the following months to provide guidance and feedback.

In December 2019, CARB released the Clean Miles Standard 2018 Base-year Emissions Inventory. This is the first step in a process that will guide the regulation of emissions in the rapidly evolving TNC sector. It is also our first window into the emissions of TNCs, based on

comprehensive data directly from TNC companies. In 2021, CARB will adopt annual goals and targets. In 2023, CPUC will begin implementing annual goals and targets.

DISCUSSION

In September 2019, CARB held a workshop where they shared and sought feedback on their draft emissions inventory methodology and findings. Based on the draft findings, staff from both the Transportation Authority and SFMTA provided detailed feedback to CARB on evaluating baseline emissions, setting goals and targets, and monitoring performance. These comments largely supported CARB's draft methodology and findings, while noting that regulating emissions per-passenger-mile may not be sufficient to reduce total emissions, due to the sector's rapid growth and competition with lower emitting modes such as transit. The full set of comments we and SFMTA provided may be found in Attachment A. This engagement is critical to ensure that CARB's methodology is sound, and that goals and targets are set appropriately to meet California's and San Francisco's climate goals.

Findings.

The 2018 Base Year Emissions Inventory produced key findings, including:

- TNCs emit 50% more CO^2/PMT than the California light-duty vehicle fleet, emitting approximately 301 gCO^2/PMT, compared to 203 gCO^2/PMT.[1]
- Although TNC vehicles are cleaner on average, 38.5% of miles driven by TNCs are without a passenger, a finding that is supported by other studies.[2,3]

Methodology.

CARB staff collected TNC travel records, [4] vehicle characteristics, [5] fuel economy and emissions data,[6] and passenger occupancy data from several sources to estimate CO^2 emissions per-passenger-mile.[7] These sources include data provided by TNC companies, through publicly available sources, and collected by CARB.

Some TNC drivers will drive using multiple TNC platforms at once. To account for this, CARB built complete travel records for each vehicle, using VIN and license plate data to match vehicles. Next, they estimated vehicle occupancy for pooled and non-pooled service from

1 Transportation Authority previously reported 75% from CARB's draft analysis, which was recently adjusted to 50% in their final inventory (CARB Presentation to the Public Workshop for the Clean Miles Standard. September 2019. https://ww2.arb.ca.gov/sites/default/files/2019-09/Clean_Miles_Standard_Workshop_Slides.pdf).
2 Erhardt et. al. Do Transportation Network Companies Decrease or Increase Congestion? Science Advances, Vol. 5 No. 5, May 8, 2019.
3 Fehr & Peers. Estimated TNC share of VMT in six US metropolitan regions. (2019).
4 Detailed trip records of TNC activity, provided by TNC companies, describing their activity while waiting for a trip request (period 1), routing to a pickup location (period 2), and driving passengers to their destination (period 3), including detailed time and location data and the vehicle identification number (VIN)
5 Vehicle characteristics by VIN from the California Department of Motor Vehicles, IHS Markit's VINtelligence
6 Fuel economy data from the U.S. EPA, emissions data from CARB's Vehicle Emissions Database System and the CARB Data Logger Study
7 Occupancy data from the CARB Data Logger Study

data collected through the CARB Data Logger study, applying this data to the appropriate trip types. Finally, they estimated emissions for each trip using vehicle-specific fuel economy and a CO^2 emissions conversion factor, accounting for hybrid electric vehicles that can operate with or without a combustion engine.

Significance of Clean Miles Standard Base Year Emissions Inventory

The 2018 Base Year Emissions Inventory findings demonstrate the value of requiring TNC data in developing statewide policy.

Before now, various parties have tried to estimate the emissions impact of TNCs at a large scale (nationally or statewide). This validates the importance of the Transportation Authority's and SFMTA's advocacy to the CPUC's rulemaking on TNC data, urging that TNC reports are made publicly available. Using TNC-provided data, the Emissions Inventory provides valuable evidence of the performance of the TNC sector in the area of air quality. Clearly, TNC data can also support analyses in other public policy areas of importance as well.

Next Steps.

Now that CARB has completed its 2018 Base Year Emissions Inventory, they will begin developing annual emissions goals and targets for TNCs. Staff from the Transportation Authority and SFMTA will continue to engage with CARB to assist with Clean Miles Standard Implementation.

FINANCIAL IMPACT

None. This is an information item.

CAC POSITION

None. This is an information item.

SUPPLEMENTAL MATERIALS

- Attachment 1 – SFCTA and SFMTA Comments to CARB on the Clean Miles Standard Implementation

Attachment 1

SFCTA and SFMTA Comments to CARB on the Clean Miles Standard Implementation

The following contains comments delivered by San Francisco County Transportation Authority (SFCTA) and San Francisco Municipal Transportation Agency (SFMTA) staff to California Air Resources Board (CARB) staff concerning CARB's Clean Miles Standard draft base year emissions inventory methodology and results.

COMMENTS ON CLEAN MILES STANDARD IMPLEMENTATION

CARB Should Establish a Net Impact Metric

SB 1014 calls for CARB to establish a metric which measures the GHG effects of TNCs on a per-unit basis; this is what we would call an efficiency metric. This can be distinguished from a net impact metric, which measures a total effect. It is possible for an efficiency metric to reflect reduced GHG while net GHG remains static or even increases. As an example, a TNC could double its average occupancy rate and thus drastically cut its emissions per PMT. However, if that TNC triples its operations in that same period, total emissions may increase. The same logic can be applied to other components of the Clean Miles Standard analysis, such as the proportion of drivers with zero-emission vehicles; the proportion of VMT completed by zero-emission vehicles; and gram-per-mile GHG emissions rates.

Research has demonstrated that TNCs reduce transit ridership. By shifting people from low or no emissions modes like walking, biking, and transit, TNCs may generate more total GHG while decreasing GHG per passenger mile. A net impact metric is the most appropriate methodology by which CARB could consider the interactions of TNCs with active and transit modes, and the impact of those interactions. This metric would also reflect growth in the volume of TNC trips statewide and other potential factors, so research should be designed to distinguish these contributing effects.

Recommendation: As part of its "next steps", following the establishment of the required 2018 TNC baseline emissions profile, we urge CARB to also develop not only net impact targets for TNCs reductions in GHG per passenger mile also for the reduction of total TNC net impacts on GHGs.

Active Transportation Assumptions

In the Preliminary 2018 Base Year Emissions Inventory, CARB proposed that grams of CO2 per passenger mile be calculated with the equation below, assuming active and transit PMT to be zero (0):

(Vehicle Miles Traveled (VMT) x Real World Fuel Consumption x Conversion Factor) / ((Passenger Miles Traveled (PMT) x Occupancy) + Active PMT + Transit PMT)

We agree with the assumption of zero active and transit PMT, both now and in any future calculation of this metric. Because of the importance of transit and active transportation trips in reducing GHG emissions it is critical to not misattribute the efficiency of these modes to

TNCs. By assuming active and transit PMT to be zero, the metric will be a true efficiency metric which can be used to compare the efficiency of TNCs to the efficiency of transit, active transportation, or other modes.

We understand that it has been proposed that TNCs are credited for miles taken by walking, biking, transit, or zero-emission modes that precede or follow a TNC trip. For example, if someone takes a TNC to a commuter rail station, and then takes the train, then all miles traveled by train would be included in the denominator of the calculation. This is problematic because:

1. The metric could no longer be used to evaluate the relative efficiency of alternative modes because it would no longer describe the miles taken by a single mode.
2. The metric would misattribute efficiency of other modes to TNCs. Consider a trip from Sacramento to Oakland, during which someone takes a three-mile TNC trip to Amtrak followed by the Capitol Corridor train 80 miles to Oakland. This would result in 3 vehicle miles and 83 passenger miles, but the efficiency is derived entirely from the train segment.
3. The outcomes are not consistent with the spirit of SB 1014 and CARB's mandate. SB 1014 aims to decrease greenhouse gas emissions by requiring TNCs to become more efficient. But allowing them "credit" for miles taken on other modes ignores the complex interactions between these modes, and the net effect of those interactions. Finally, as noted previously, research has established that TNCs reduce total transit ridership, a very worrisome impact, even if some trips connect to transit.

Additionally, we are concerned that active transportation miles generated by TNC owned bikeshare and scooter programs may be incorporated as credits toward their companies' emissions profile. This should not be included, because it does not describe TNC activity or associated emissions. Furthermore, it could allow a TNC company to meet its targets by acquiring an existing bikeshare or scooter share company but making no changes to its TNC operations. Any accounting of bikeshare and scooter share performance should be a separate metric. Additionally, bikeshare and scooter share programs generate non-revenue VMT due to the use of vehicles in maintenance and rebalancing efforts, which would need to be included in any such calculations. Rebalancing means the manual redistribution of devices (i.e. bikes and scooters) to different areas to meet expected demand. As an example, one of the scooter share companies tracked through San Francisco's permit system generated an average of 10,528 VMT per month in the past year of operation. This

demonstrates the need to ensure that the emissions calculations associated with active transportation trips do not frustrate the intent of SB 1014.

Recommendation: For the reasons stated above, we support CARB's current proposal to assume miles taken by transit and active transportation be represented as zero in the calculation of grams of greenhouse gas emissions per passenger mile for TNCs.

Vehicle Occupancy

CARB and/or the CPUC should require TNCs to collect and report actual vehicle occupancy and passenger miles traveled (PMT). For pooled rides, occupancy is already collected by TNC companies, but not reported to the CPUC. TNC companies should be required to collect and report to the CPUC occupancy for both pooled and non-pooled rides. Occupancy data can be collected and reported without use of any personally identifiable information and thus raises no personal privacy concerns. This is the best way to reliably collect comprehensive PMT data.

Recommendation: Require TNCs to collect and report occupancy data for all trips.

Regional Targets

The SFCTA's TNCs Today and TNCs and Congestion reports showed that TNC activity is highly concentrated within San Francisco. We can also see from the TNCs Today report that there is significant variance in activity by location. It is certain that the concentration of activity and impacts throughout California is similarly variable. For this reason, CARB should consider setting targets, monitoring results and enforcing targets by region and/or place-type. It is critical to understand not only statewide efficiency, but which regions are bearing impacts and which regions are leading in efficiency. We believe a statewide emissions standard with no regional enforcement would obscure these differences and potentially lead to unintended consequences as TNCs adapt their business models to the new regulations.

For example: TNCs might rebalance their operations by pulling out of or reducing operations in less dense markets and further concentrating their operations in more dense markets, which would help them to reach statewide PMT emissions targets. The negative impacts of this scenario are twofold: Less dense communities which are already heavily reliant upon automobiles would lose access to one of their few transportation options, and more dense communities like San Francisco would be affected by the negative impacts of increased TNC activity such as congestion and shifting of transit ridership to vehicle travel. Within the framework of a statewide emissions standard, the only sure way to prevent this would be to set a standard that is achievable in TNCs lowest performing markets – and would

likely be well below the threshold of relevance for their very dense markets like San Francisco and Los Angeles.

We understand CARB's hesitation to advance geographically constrained regulations which the agency or the CPUC may be challenged to enforce. We would point towards the ongoing TNC Access For All rulemaking process – which is considering collecting and disbursing money as well as setting accessibility targets at a county-level – as an example of the sort of geography-based regulation we propose.

Recommendation: We suggest that CARB establish the baseline, and then set and enforce targets at the county level. We recommend further engagement with local and regional transportation agencies to support this approach.

Data Validation and Verification

As evidenced by the recent vehicle emissions scandal, transportation companies have shown a willingness to oppose and circumvent local and statewide policies and regulations in order to maintain or expand their business interests and operations. We strongly encourage CARB to validate and verify the data they receive from TNCs as thoroughly as possible. One method of doing this would be cross-referencing it with aggregate data collected separately by the California Public Utilities Commissions (CPUC) to highlight any potential discrepancies. We also recommend CARB utilize its audit and enforcement powers to ensure compliance with the intent of SB 1014. See links cited below for more information.

Recommendation: We recommend that CARB audit the baseline and other compliance related data against TNC business records maintained for other purposes to ensure that they are authentic and to validate and verify all data associated with SB 1014.

Driverless TNCs

Autonomous vehicle technology is being used daily on California streets and many TNC companies are currently testing this technology. It is estimated that AVs generated two million vehicle miles traveled in California during 2018. We recognize that most of these miles were not generated by TNCs but nonetheless note the likely need to consider the role of AV technology in the Clean Miles Standard program in the future.