

BOARD OF DIRECTORS 2023

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Agenda

Board of Directors Special Meeting / Finance Workshop

March 17, 2023, 9:00 am – 1:30 pm

San Mateo County Transit District

The Governor has announced that the State of Emergency due to COVID-19 will be lifted on February 28, 2023. Accordingly, this Board Meeting will be held in-person at:

Mavericks Event Center 107 Broadway Avenue Half Moon Bay, CA

Members of the public may attend in-person or participate remotely via Zoom at: https://us06web.zoom.us/j/88301462846?pwd=Q0lEV2hwQmJ0SFpoOHpZVIdFT2NIQT09 or by entering Webinar ID: **883 0146 2846**, Passcode: **355739** in the Zoom app for audio/visual capability or by calling 1-669-900-9128 (enter webinar ID and press # when prompted for participant ID) for audio only.

Please Note the following COVID-19 Protocols for in-person attendance:

- 1. Visitors experiencing the following symptoms of COVID-19 may not enter the building:
 - Cough

Chills

Sore Throat

- Shortness of Breath
- Muscle Pain
- Loss of Taste or Smell

- Fever
- Visitors must show proof of COVID-19 vaccination or a negative COVID-19 PCR test (with results obtained within last 7 days). Masks will be required for visitors who do not show proof of full vaccination (defined as two weeks after the second dose in a two-dose series, such as for the Pfizer-BioNTech and Moderna vaccines, or two weeks after a single dose of the J&J/Janssen vaccine).

Public Comments: Public comments may be submitted to publiccomment@samtrans.com prior to the meeting's call to order so that they can be sent to the Board as soon as possible, while those received during or after an agenda item is heard will be included into the Board's weekly correspondence and posted online at: https://www.samtrans.com/meetings.

Oral public comments will also be accepted during the meeting in person and through Zoom* or the teleconference number listed above. Public comments on individual agenda items are limited to one per person PER AGENDA ITEM. Participants using Zoom over the Internet should use the Raise Hand feature to request to speak. For participants calling in, dial *67 if you do not want your telephone number to appear on the live broadcast. Callers may dial *9 to use the Raise Hand feature for public comment. Each commenter will be recognized to speak and callers should dial *6 to unmute themselves when recognized to speak.

Each public comment is limited to two minutes or less. The Board and Committee Chairs have the discretion to manage the Public Comment process in a manner that achieves the purpose of public communication and assures the orderly conduct of the meeting.

The video live stream will be available after the meeting at https://www.samtrans.com/about-samtrans/video-board-directors-cac-and-measure-w-coc.

Friday, March 17, 2023

9:00 am - 1:30 pm

1. Call to Order/Roll Call

Note: All items appearing on the agenda are subject to action by the Board. Staff recommendations are subject to change by the Board.

2. Public Comment

Comments by each individual speaker shall be limited to two (2) minutes. Items raised that require a response will be deferred for staff reply.

3. Innovative Clean Transit (ICT) – Emission Zero Program

Informational

4. Multi-year Financial Outlook

Informational

5. Adjourn

The Mavericks Event Center is accessible by SamTrans Routes 17 and 294. Additional transit information can be obtained by visiting www.samtrans.com/schedulesmaps or by calling 1-800-660-4287 or 511.

Information for the Public

If you have questions on the agenda, please contact the District Secretary at 650-508-6242. Agendas are available on the SamTrans website at: https://www.samtrans.com/meetings. Communications to the Board of Directors can be emailed to board@samtrans.com.

Free translation is available; Para traducción llama al 1.800.660.4287; 如需翻译 请电1.800.660.4287

Date and Time of Board and Citizens Advisory Committee Meetings

San Mateo County Transit District Committees and Board: First Wednesday of the month, 2:00 pm; SamTrans Citizens Advisory Committee (CAC): Last Wednesday of the month, 6:30 pm. Date, time and location of meetings may be changed as necessary. Meeting schedules for the Board and CAC are available on the website.

Location of Meeting

This meeting will be held in-person at: Mavericks Event Center, 107 Broadway Avenue, Half Moon Bay, CA. Members of the public may attend in-person or participate remotely via Zoom as per the information provided at the top of the agenda.

*Should Zoom not be operational, please check online at: https://www.samtrans.com/meetings for any updates or further instruction.

Public Comment

Members of the public may participate remotely or in person. Public comments may be submitted by comment card in person and given to the District Secretary. Prior to the meeting's call to order, public comments may be submitted to publiccomment@samtrans.com prior to the meeting's call to order so that they can be sent to the Board as soon as possible, while those received during or after an agenda item is heard will be included into the Board's weekly correspondence and posted online at: https://www.samtrans.com/meetings.

Public comments will also be accepted during the meeting through Zoom or the teleconference number listed above. Public comments on individual agenda items are limited to two minutes and one per person PER AGENDA ITEM. Each online commenter will be automatically notified when they are unmuted to speak. The Board Chair shall have the discretion to manage the Public Comment process in a manner that achieves the purpose of public communication and assures the orderly conduct of the meeting.

Accessible Public Meetings/Translation

Upon request, SamTrans will provide for written agenda materials in appropriate alternative formats, or disability-related modification or accommodation, including auxiliary aids or services, to enable individuals with disabilities to participate in and provide comments at/related to public meetings. Please submit a request, including your name, phone number and/or email address, and a description of the modification, accommodation, auxiliary aid, service or alternative format requested at least 72 hours in advance of the meeting or hearing. Please direct requests for disability-related modification and/or interpreter services to the Title VI Administrator at San Mateo County Transit District, 1250 San Carlos Avenue, San Carlos, CA 94070-1306; or email titlevi@samtrans.com; or request by phone at 650-622-7864 or TTY 650-508-6448.

Availability of Public Records

All public records relating to an open session item on this agenda that are not exempt from disclosure pursuant to the California Public Records Act and that are distributed to a majority of the legislative body will be available for public inspection at 1250 San Carlos Avenue, San Carlos, CA 94070 at the same time that the public records are distributed or made available to the legislative body.



SamTrans Board of Directors Special Meeting / Finance Workshop

March 17, 2023

Topics

- Program Scope



• BEBs vs. FCEBs



- Other Transit Agencies in CA
- Recommendation
- Progress & Timeline
- Funding
- Next Steps



Program Scope

- California Air Resources Board Mandate
- Vehicle Replacement
- New Infrastructure
- Facility Modifications
- Work Force Training



Vehicle Replacement

- 319 Fixed-Route Vehicles
 - 40' Buses
 - 60' Buses
- 70 Paratransit Vehicles

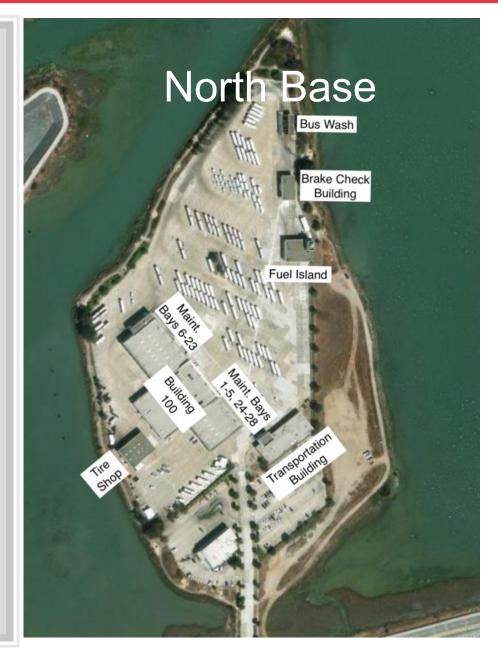






New Infrastructure



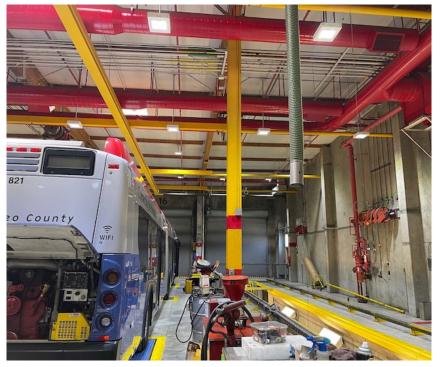




Facility Modifications

- Electric System Upgrades
- Maintenance Facility Modifications







Work Force Training







BEBs vs. FCEBs

- Vehicle Performance
- Infrastructure
- Life Cycle Costs
- Emissions
- Resilience







Vehicle Performance

Criteria	BEBs	FCEBs
Range	180 - 200 miles	260 - 300 miles
Charging/Fueling Time	4 to 6 hours	6 to 20 minutes

North Base Fleet: Range Requirements

BEBs 👼

Range: up to 200 miles

Buses		Number of Miles Traveled per Day	
Type	Number	Less than 200 miles	Greater than 200 miles
40'	114	97 buses	17 Buses
60'	21	15 buses	6 Buses

Options to maintain the same service level for buses that travel more than 200 miles per day:

- Purchase 17 additional 40' BEBs and 6 additional 60' BEBs
- Charge buses along the routes



North Base Fleet: Range Requirements

FCEBs 🔙

Range: up to 300 miles

Buses		Number of Miles Traveled per Day	
Type	Number	Less than 300 miles	
40'	114	114 Buses	
60'	21	21 Buses	

No need to purchase additional buses to maintain the same service level.

BEB Infrastructure

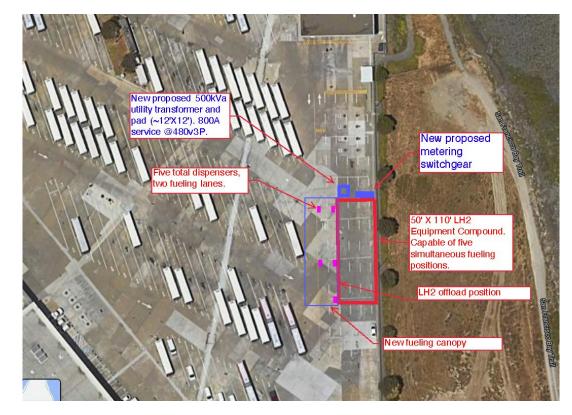






FCEB Infrastructure

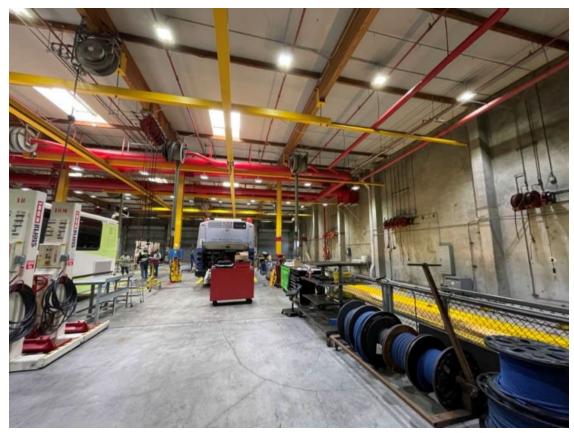






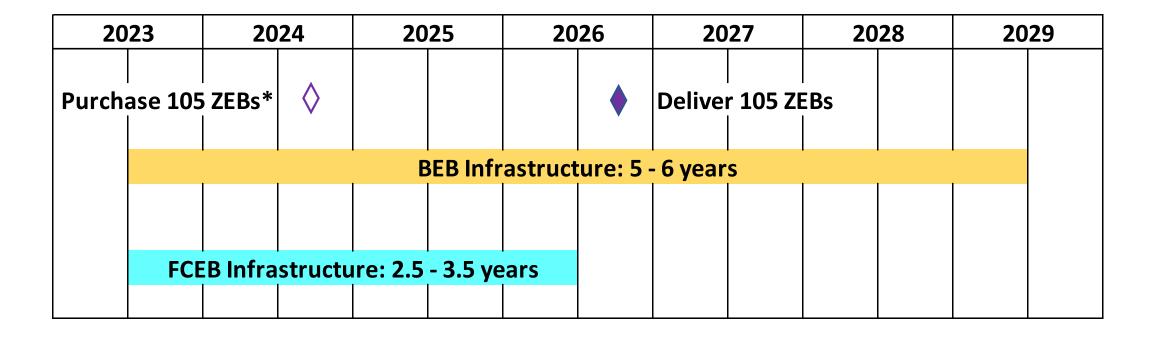
Facility Modifications for FCEBs







Infrastructure Schedule





^{*105} buses have reached their useful life

Infrastructure for North Base

Criteria	BEBs	FCEBs
Design & Construction Schedule	5 – 6 years	2.5 – 3.5 years
Footprint	Spread out (> 100k sq. ft.) (impacts traffic flow & parking capacity)	Consolidated (6k sq. ft.) (minimal impact to traffic flow & parking capacity)
Maintenance	In-house with one FTE plus support staff	Outsource until in-house expertise is developed
Facility Modifications	Additional tooling	Modifications to FCEB maintenance bays

Life Cycle Costs: BEBs vs. FCEBs

- Assumptions
- Buses
- Infrastructure
- Maintenance: Vehicle & Infrastructure
- Energy: Electricity/Hydrogen
- Total

Life Cycle Costs: Assumptions

- Revenue Fleet at North Base (NB)
- 12 Year Life Cycle
- Reimagine SamTrans Service Level
- Costs in Year of Expenditure Dollars



Life Cycle Costs: Cost per Bus

	BEB (2023\$)	FCEB (2023\$)	Variance
40' Bus	\$1,094,939	\$1,285,144	(\$190,205)
60' Bus	\$1,716,175	\$1,777,290	(\$61,115)

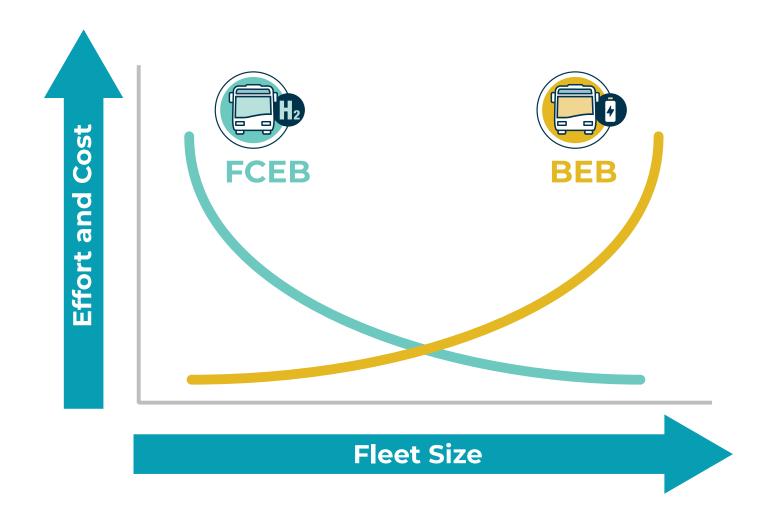
Life Cycle Costs: Total Cost of Buses (NB)

	BEB		FC	FCEB	
	Number*	Cost	Number	Cost	
40' Bus	148	\$169,542,050	131	\$175,120,390	
60' Bus	37	\$82,851,107	31	\$71,887,784	
Total	185	\$252,393,157	162	\$247,008,174	\$5,384,983



^{*} Additional BEBs are required for routes that exceed the 200 mile range of BEBs

Infrastructure Costs: BEB vs. FCEB



Life Cycle Costs: Infrastructure (NB)

	BEB	FCEB	Variance
New Infrastructure	\$134,950,000	\$24,280,000	
PG&E Upgrades*	\$10,000,000	Not needed	
Facility Modifications	Not needed	\$11,870,000	
Total	\$144,950,000	\$36,150,000	\$108,800,000



^{*} PG&E could cover upgrade costs through EV Fleet Program

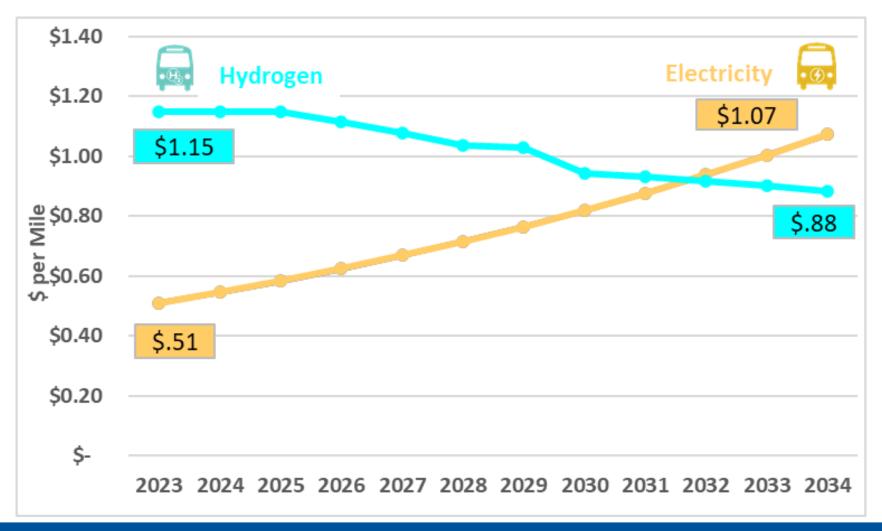
Life Cycle Costs: Maintenance (NB)

	BEB	FCEB	Variance
Fleet Maintenance	\$0.73/mile	\$0.84/mile	(\$0.11/mile)
No. of miles (12 Years)	50,127,241	50,127,241	
Total	\$36,592,886	\$42,106,882	(\$5,513,996)
Infrastructure Maintenance	\$325,000/year	\$715,000/year	(\$390,000/year)
Total (12 years)	\$3,900,000	\$8,580,000	(\$4,680,000)

Life Cycle Costs: 12-Year Total (NB)

	BEB	FCEB	Variance
Buses	\$252,393,157	\$247,008,174	\$5,384,983
Infrastructure	\$144,950,000	\$36,150,000	\$108,800,000
Vehicle Maintenance	\$36,592,886	\$42,106,882	(\$5,513,996)
Infrastructure Maintenance	\$3,900,000	\$8,580,000	(\$4,680,000)
Total	\$437,836,043	\$333,845,057	\$103,990,987

Energy Costs: Electricity vs. Hydrogen



Life Cycle Costs: Energy (NB)

	BEB (Electricity)	FCEB (Hydrogen)	Variance
Average Cost per mile	\$0.76*	\$1.02	(\$0.26)
No. of miles (12 Years)	50,127,241	50,127,241	
Sub-Total	\$38,096,703	\$51,129,786	
Energy Management Software	\$3,000,000	N/A	
Total	\$41,096,703	\$51,129,786	(\$10,033,083)

^{*} Assumes off-peak charging rates

Life Cycle Costs: 12-Year Total + Energy (NB)

	BEB	FCEB	Variance
Buses	\$252,393,157	\$247,008,174	\$5,384,983
Infrastructure	\$144,950,000	\$36,150,000	\$108,800,000
Vehicle Maintenance	\$36,592,886	\$42,106,882	(\$5,513,996)
Infrastructure Maintenance	\$3,900,000	\$8,580,000	(\$4,680,000)
Total	\$437,836,043	\$333,845,057	\$103,990,987
Energy (electricity & H2)	\$41,096,703	\$51,129,786	(\$10,033,083)
Total + Energy	\$478,932,746	\$384,974,842	\$93,957,904

Emissions (Tail Pipe)

	BEBs	FCEBs
Tail Pipe Emissions	Zero	Zero

Green House Gas (GHG) Reduction

Diesel	BEBs	FCEBs
0%	77% - 100%*	60%



^{*} Depends on electricity source

Resilience

	BEBs	FCEBs
Energy Source	Single Source – Electric Grid	Multiple Sources
Infrastructure	Fixed	Can be relocated

Criteria	BEBs	FCEBs
Range		
Fueling Time		
Infrastructure		
Maintenance		
Energy Costs		
GHG Reduction		
Resilience		

Other Transit Agencies in CA

- Bay Area Transit Agencies
 - BEBs: SF MTA
 - BEBs & FCEBs/FCEB Plans: AC Transit, VTA, Golden Gate
- At least 19 Agencies have FCEBs/ FCEB Plans
 - AC Transit: 70% FCEBs 30% BEBs
 - Foothill Transit: 1 Facility for FCEBs, 1 Facility for BEBs
 - FCEBs: 157 by 2023; 1500 by 2031
 - H2 Stations: 12 by 2023; 34 by 2031



Recommendation: North Base

- ➤ Replace North Base Diesel Fleet with FCEBs
 - Operational Flexibility: Range & Fueling Time
 - Infrastructure Cost & Schedule
 - Resilience
 - Experience of other transit agencies



Recommendation: South Base

- ➤ Decide in 2024 on type of zero emission bus for the rest of the South Base Fleet based on the following:
 - Actual experience with BEBs and FCEBs
 - Actual Costs of Electricity and Hydrogen
 - Actual Infrastructure Costs & Schedule
 - Additional Experience of Other Transit Agencies



Progress: Vehicle Replacement

Procurement	BEBs	FCEBs	Delivery
June 2021	1		Nov 22
June 2021	6		Jul 23 – Sep 23
March 2022	10		Jul 23 – Sep 23
June 2022	20		Sep 24 – Dec 24
June 2022		10	Dec 23 – Jan 24
Total	37	10	



Progress: BEB Infrastructure

- North Base: 10 Interim
 Chargers by Spring 2023
- South Base: 10 Interim Chargers by Fall 2024
- South Base: 37 Permanent Chargers by Summer 2026





Progress: FCEB Infrastructure – North Base

- Completed Feasibility Studies
- Temporary Hydrogen Fueling Station by Winter 2023*
- Facility Modifications for 10
 FCEBs by Spring 2024*



^{*} Requires SamTrans capital budget amendment at May 2023 Board meeting

Vehicle Procurement Timeline









BEB



Vehicle Procurement Timeline



BEB Infrastructure Timeline

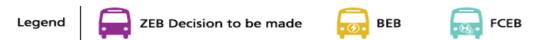




Vehicle Procurement Timeline



BEB Infrastructure Timeline





FCEB Infrastructure Timeline



Funding

- FTA Formula Funds for Fleet
- Hybrid & Zero-Emission Bus Voucher Incentive Project
- Potential Funding: Competitive Grants
 - FTA Low-No Emission & Bus & Bus Facilities
 - Department of Energy's Federal Hydrogen Hub
 - CTC Local Partnership Program (LPP)





Next Steps

- Seek outside funding for zero emission vehicles & infrastructure
- Procure 105 FCEBs for North Base (NB)
- Design & Construct Permanent Hydrogen Fueling Station at NB
- Design & Construct Facility Modifications at NB
- Decide in 2024 on ZEB for Rest of SB Fleet



Questions?



Multi-year Financial Outlook



SamTrans Board of Directors Special Meeting / Finance Workshop

March 17, 2023



Topics

- Operating revenue and expenditure projections
- Future capital projects
- Grant funding & capital assumptions
- Projected deficits with capital
- Interplay between Operating and Capital
- Summary



10 Year Base Operating Revenue Projections (in millions)

	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33
Fares	\$12	\$12	\$13	\$13	\$13	\$14	\$14	\$15	\$15	\$16
TDA/STA, Other Op Income	77	77	69	70	71	73	74	75	77	78
District Sales Tax	116	118	120	122	125	127	130	132	135	138
Measure W	58	59	60	61	62	64	65	66	68	69
Other Income	62	63	63	63	62	62	62	62	62	62
Total	\$325	\$329	\$324	\$329	\$334	\$340	\$345	\$351	\$356	\$362

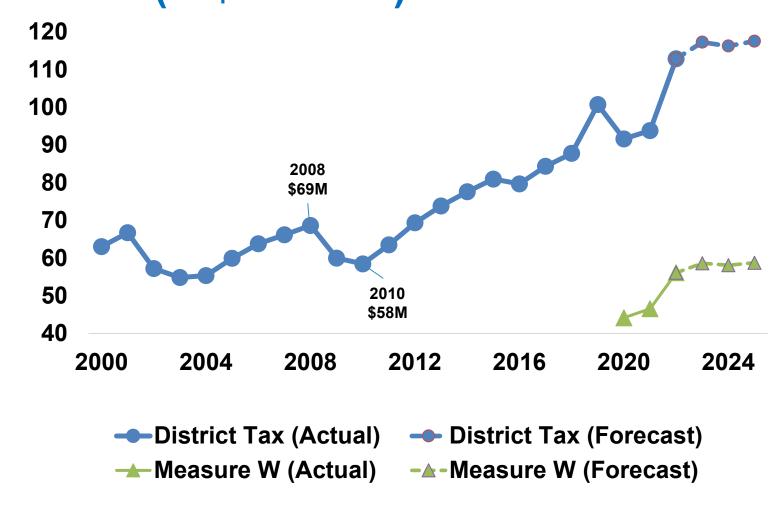
Assumptions:

- Fares: 7%-10% annual growth in FY24-25; 3% annual growth beyond FY25. No fare increases
- TDA/STA: 1%-2% annual growth after FY26
- Sales Tax/Measure W: 2% annual growth
- Other Income: Interest Income peak in FY25 and slight declines thereafter.
- Exclude Low Carbon Fuel Standard (LCFS) credits (a carbon fuel credit program to incentivize reducing emissions in the transportation sector)



District and Measure W Sales Tax (in \$ millions)

- SamTrans is highly dependent on sales tax for funding
- Sales tax is highly cyclical
- A 2007 recession would decrease sales tax by 10%-15%





10 Year Base Operating Expenditures Assumptions

- Motor Bus:
 - About 4% annual growth for years beyond FY27, based on historical trends.
 - Full implementation of Reimagine SamTrans starts in FY24
 - No increases assumed for CUB in FY25 as its contract will expire in 2024; will revisit once new contract is in place in early 2024
 - Microtransit thru FY26 (based on 3.5 years contract)
- Paratransit: 4% annual growth for years beyond FY25
- Reserves: fulfill reserve target each year:
 - Operating Expense Reserve: 25% of annual Operating Expense
 - Sales Tax Reserve: 35% of annual Sales Tax revenue
- Pension/UAL (Unfunded Accrued Liabilities): \$5M/year pension pay down beyond FY25 and regular UAL payments
- Existing debt and Measure A expire in FY34



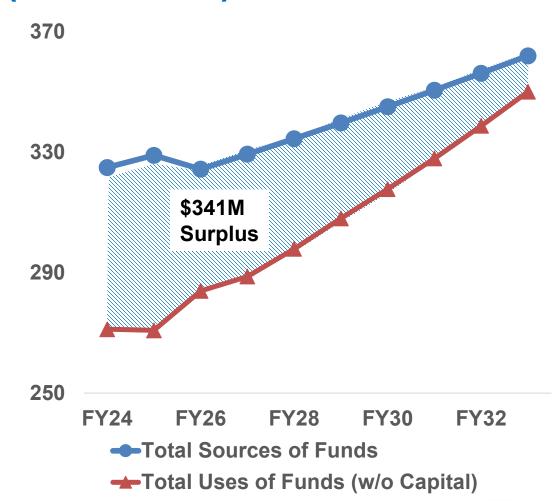
10 Year Base Operating Expenditures (in millions)

	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33
Motor Bus	\$169	\$168	\$174	\$179	\$186	\$194	\$202	\$211	\$221	\$230
Paratransit	21	22	23	23	24	25	26	27	29	30
Debt/Other Expenses	73	73	73	73	73	73	73	73	73	74
Reserves for Operating/Sales Tax	0	0	1	1	3	4	4	4	4	4
Pension/UAL	5	5	9	9	8	9	9	9	9	9
OPEB	4	4	4	4	4	4	4	4	4	4
Total	\$271	\$271	\$284	\$289	\$298	\$308	\$318	\$328	\$339	\$350



10 Year Base Projections w/o Capital (in \$ millions)

- Without including future capital projections, 10 year cumulative surplus is \$341M
- Expenditure growth outpaces revenue growth
- This is not a complete picture without including significant capital costs





Future Capital Projects

SamTrans has significant near-term capital projects:

- ZEB Vehicles replacement of existing fleet with Hydrogen Fuel Cell Electric (FCEB) and Battery Electric (BEB)
- ZEB Infrastructure North and South Base fueling and charging stations
- Infrastructure, Technology, Maintenance, & Other Projects North Base Building 200 replacement, North Base sea level rise mitigation, headquarters improvements and/or replacement, technology modernization, regular facilities and State of Good Repair (SOGR) maintenance, ongoing planning and development



ZEB Grant Assumptions

Vehicle Funding

- FTA formula funding typically covers 70%-80% of vehicle replacement costs
- Other funding sources may be available-state and regional sources such as SB1, cap & trade, etc.
- Remaining 20%-30% of costs funded by SamTrans sales tax.
 - Projections assume 30% of vehicle costs are funded by sales tax

Infrastructure funding

- Few external fund sources currently available
- Opportunities are over-subscribed and awards will be limited given all transit agencies in California are seeking the same funding at similar times
 - Projections assume 100% of infrastructure costs are funded by sales tax after FY26



ZEB Capital Assumptions

The following assumptions were made to project capital costs:

- Phased purchasing of vehicles over 10 years
- ZEB vehicles-total of 162 Fuel Cell Electric Buses (Hydrogen) and 110 Battery Electric Buses are purchased
- ZEB infrastructure- Fuel Cell Electric Buses for North Base and Battery Electric Buses for South Base

Projections also include additional annual costs of \$10M for operating and maintenance, as well as energy (electricity and hydrogen fuel).



Other Major Capital Assumptions

No updated capital improvement plan (CIP), however there are other significant capital projects in the next ten years. Below are high-level estimates:

- Digital Enhancements-Enterprise resource planning replacement, data center and application modernization, cyber security program, Disaster Recovery: Total cost \$90M to \$110M
- Central building improvements/replacement: Cost TBD
- Customer enhancements, routine maintenance and SOGR, ongoing planning and development

FY24 and FY25 use preliminary budget thereafter assumes \$25M/year of capital costs funded by sales tax.



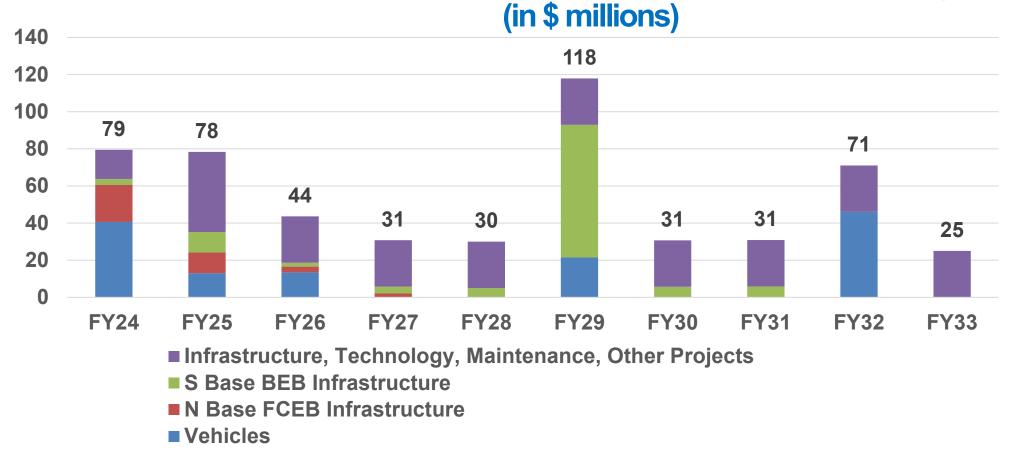
District Funded Capital Projections (in \$ millions)

	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	Total
Vehicles	\$41	\$13	\$13	\$0	\$0	\$21	\$0	\$0	\$46	\$0	\$135
N Base FCEB Infrastructure	20	11	3	2	0	0	0	0	0	0	36
S Base BEB Infrastructure Infrastructure, Technology, Maintenance, Other	3	11	2	4	5	71	6	6	0	0	108
Projects	16	43	25	25	25	25	25	25	25	25	259
Total	\$79	\$78	\$44	\$31	\$30	\$118	\$31	\$31	\$71	\$25	\$538

- Costs are shown in year of expenditure dollars
- Cost of Vehicles assume 30% of the cost is paid by sales tax
- Starting FY26, \$25M/year assumed for ongoing regular maintenance and special projects



10 Year District Funded Capital Projections

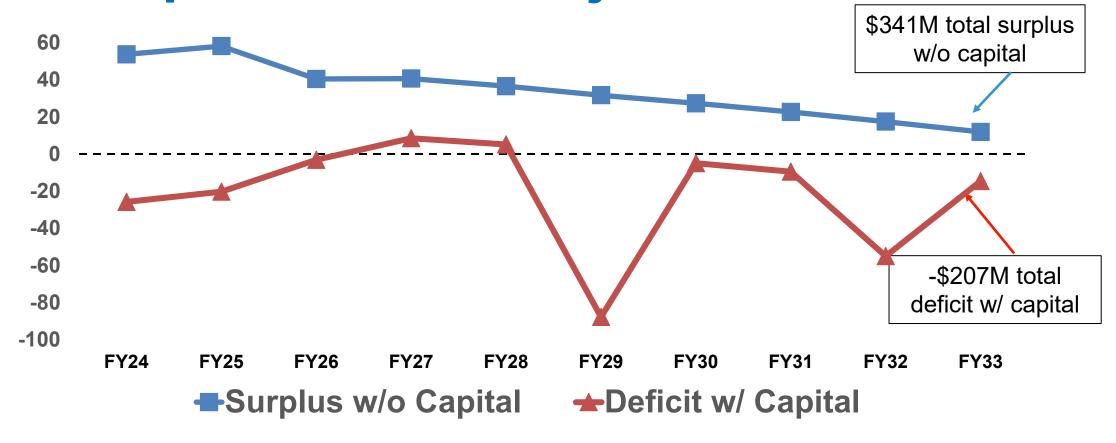


Total 10 years cost of \$538M

^{*}Assumes \$25M/year FY26-33 for regular maintenance and special projects



Surplus/Deficits Projections (in \$ millions)



Without additional outside funding, a cumulative -\$207M deficit is projected

^{*}Deficits include \$538M of capital cost +\$10M for additional O&M and energy



Financing Not Included in Capital Costs

- Sufficient funds may not be available in the year needed and financing may be required. Debt assumptions:
 - 12 year debt term for vehicles, 20 year for infrastructure
 - 5% interest on financing
 - Debt structure not optimized
- 10 year total ZEB capital cost \$279M. Full financing estimated cost \$407M, with \$129M of interest



Interplay Between Operating and Capital



- Without additional outside funding, SamTrans will need to divert sales tax revenue from operations to fund capital projects
- Due to timing of available funding, it is likely that debt will be needed to fund these projects
- We are aggressively pursuing outside funding options



Summary

- Revenue growth is assumed to be stable
 - If there is a significant economic downturn, the amount of revenues to address capital needs will be significantly reduced
- Service assumes at full Reimagine SamTrans level (starting FY24)
- Inflationary pressure on many cost drivers
- Most facility projects (including HQ) are not competitive for discretionary grants.
- SamTrans faces financial challenges without additional external funding for ZEB infrastructure:
 - California transit agencies will be in a similar position with the mandate to move from diesel by 2040
 - Currently, there's concerted regional effort to advocate for more financial support



Questions?