

Zero-Emission Bus Rollout Plan

Section A: Transit Agency Information

Please provide the following information regarding your agency.

Santa Barbara Metropolitan Transit District (SBMTD)

SBMTD is part of the Santa Barbara County Air Pollution Control District and is within the South Central Air Basin.

Peak Vehicles (NTD, 2022): 80
Population (2020): 202,197

SBMTD is not part of a Joint Zero-Emission Bus Group.

Contact Information:

Jerry Estrada
General Manager
805.963.3364 x232
Jestrada@sbmtd.gov

SBMTD provides public transportation services to the residents of, and visitors to, the South Coast of Santa Barbara County. The District's boundaries correspond closely to the Santa Barbara urbanized area (UZA), including the cities of Santa Barbara, Carpinteria, and Goleta, and several unincorporated communities. The Santa Barbara UZA was historically a "small UZA" of fewer than 200,000 persons, and qualified as a small transit-intensive city (STIC), as defined by the Federal Transit Administration (FTA). However, the FTA now classifies the Santa Barbara UZA as a large UZA, due to the population exceeding 200,000 persons as of the 2020 Census. Due to this change in status, SBMTD will no longer be eligible for the additional FTA funding available through the STIC program.

SBMTD has a long and storied history of fleet electrification. In 1989, the City of Santa Barbara required an innovative downtown circulation system. In response, SBMTD designed and developed the 100% battery-electric Downtown Waterfront Electric Shuttle. The groundbreaking service spawned similar transit programs in Chattanooga, Tennessee and Miami Beach, Florida. The early adoption of battery-electric propulsion systems by SBMTD and other agencies accelerated the commercialization of electric drive and hybrid technology. Over time, SBMTD had one of the largest battery-electric bus fleets in the country, with 23 at its peak.

Today, SBMTD operates 14 battery-electric buses (BEBs), with nine more in production, and 14 battery-electric sedan service vehicles using 14 light-duty and 15 heavy-duty electric vehicle (EV) chargers (with 14 more heavy-duty chargers in progress). SBMTD has also recently procured three battery-electric vans for use in its upcoming microtransit service. SBMTD's commitment to electrification has led to projects supported by private industry, government entities, and the local electric utility, Southern California Edison (SCE).

In response to the State of California's mandate to adopt a fully zero-emission bus (ZEB) fleet by 2040, SBMTD has developed this ZEB rollout plan that is compliant with the State's Innovative Clean Transit (ICT) regulation.

As a community focused on continued investment in public transit and cleaner air, SBMTD:

- Has promulgated a unanimous Board of Directors goal in November 2018 to adopt a 100% ZEB fleet by the year 2030, a decision that was met with wide community support;
- Operates 14 30-ft BEBs from BYD in revenue service and 14 battery-electric Chevrolet Bolt non-revenue service vehicles;
- Purchased nine 40-ft BEBs from New Flyer of America for deployment in early 2023;
- Recently took possession of three Ford Transit passenger vans with Lightning eMotors electric propulsion systems for its soon-to-launch on-demand curb-to-curb microtransit service;
- Received funding from Cycle 5 of the California State Transportation Agency's (CalSTA's) Transit and Intercity Rail Capital Program (TIRCP) for the purchase of eight additional BEBs and three additional electric microtransit vans;
- Is drafting a plan to develop a microgrid at its Terminal 1 facility through a California Energy Commission Blueprint Grant;
- Intends to purchase only ZEBs going forward; and,
- Has developed this robust ZEB rollout plan in accordance with California state regulations that will lay the groundwork and chart a path toward the 100% ZEB goal.

Continuing to pursue a cleaner fleet, SBMTD has requested funding from various sources for BEBs and chargers to replace diesel buses that are beyond their useful life. SBMTD's Federal Transit Administration ZE Transition Plan, required for applications for zero-emission project funds from Section 5339(c) Low or No Emission Vehicle Program and Section 5339(b) Buses and Bus Facilities Program, captures the six elements that will guide SBMTD's transition to a greener fleet.



Section B: Rollout Plan General Information

1. *Does your transit agency's Rollout Plan have a goal of full transition to zero-emission technologies by 2040 that avoids early retirement of conventional transit buses?*
Yes, the goal is for a full transition without early retirement.
2. *The ICT regulation requires 100% ZEB purchases in 2029. Conventional transit buses that are purchased in 2028 could be delivered in or after 2029. Please explain how your transit agency plans to avoid potential early retirement of conventional buses in order to meet the 2040 goal.*
The Santa Barbara community is strongly committed to environmental sustainability, and SBMTD's Board of Directors established a goal of reaching 100% ZEB by 2030. A 2030 milestone would require early retirement of ten 40-ft diesel buses at 11 years of age. To avoid any early retirements, SBMTD's plan is to naturally replace buses as they reach ~14-years of age and therefore would achieve a 100% zero-emission fleet by 2035, only 5 years after the Board's stated goal of 2030.
3. *When did your transit agency's board or governing body approve the Rollout Plan?*
 - a. Approval date (04/18/2023)
 - b. Resolution number (2023-05)
 - c. *Is a copy of the board approved resolution attached to the Rollout Plan submitted to CARB? Yes (required)*
4. *Contact information for follow-up on details of the Rollout Plan (optional)*

- a. Jerry Estrada
 - b. General Manager
 - c. 805.963.3364 x232
 - d. jestrada@sbmtd.gov
5. *Who created the rollout plan?* A consultant
 - a. *If consultant, please identify the company name:* Stantec Consulting Services, Inc.
 6. *Cost for Rollout Plan creation (optional)*
 7. *How many person-hours did it take to create the Rollout Plan? (optional)*

Section C: Technology Portfolio

What type(s) of zero-emission bus technologies (e.g., battery electric and fuel cell electric buses) does your transit agency plan to deploy through 2040?

SBMTD plans to deploy battery electric buses (BEBs).

SBMTD is currently operating BEBs and has committed to purchase an additional 17 40-ft BEBs, as well as procuring additional electric vans for the Wave microtransit service and electric sedans for its non-revenue fleet.

Fuel cell electric buses (FCEBs) are a viable, albeit maturing, ZEB technology. However, when considering the trade-offs for SBMTD, at this juncture, hydrogen technology presents a less than compelling case.

First, SBMTD is already investing in electrical upgrades and infrastructure for BEBs. To deploy FCEBs, SBMTD would need to invest in hydrogen fueling equipment, which beyond representing a steep fixed cost, would also consume valuable real estate which is severely limited at SBMTD's two terminals. If FCEBs were to be pursued, SBMTD would have to explore off-site hydrogen fueling. Unfortunately, hydrogen fueling stations are rare in Santa Barbara County, and would not have enough capacity to fuel SBMTD's entire fleet¹. Furthermore, offsite fueling adds to deadheading and can increase labor costs, as maintenance staff who refuel vehicles would need to take vehicles offsite to fuel, and then return to the yard for further servicing and parking. Hydrogen fueling would also require significant mechanical system upgrades to all of SBMTD's maintenance, service, and storage buildings and structures where buses are present. Conversely, building modifications are not required for BEBs.

Transit agencies typically turn to FCEBs when their routes and operating profiles exceed the operating ranges of BEBs. From the modeling and analysis of SBMTD's operating profile, BEBs can generally replace SBMTD's diesel vehicles in a one-to-one manner. However, re-blocking will be needed to overcome particularly long blocks. Also, deadhead will be reduced because a portion of service will be deployed out of Terminal 2. SBMTD's operations do not generally require the extended ranges that FCEBs would provide. Moreover, FCEBs are currently nearly 30-50% more expensive than BEBs, a major drawback when considering the capital outlay.

¹ <https://www.h2stationmap.com/stationmap>

Taken together, when considering SBMTD’s current fleet, financial elements, and SBMTD’s operating profile, the zero-emission technology that best suits SBMTD is BEB technology.

This plan is intended to be a living document which is subject to change as zero emission bus technology and infrastructure mature. As such, SBMTD will continue to monitor technology maturation to understand future opportunities for ZEB technologies.

Section D: Current Bus Fleet Composition and Future Bus Purchases

Please complete Table 2 regarding expected future bus purchases, including the number of buses in total expected to be purchased or leased in the year of purchase. Identify the number and percentage of ZEBs of the total bus purchases each year, as well as bus types and fuel types. Identify the same type of information for purchases of conventional buses. Bus types include standard, articulated, over-the-road, double decker, and cutaway buses. For zero-emission technologies, identify the fuel type as diesel, CNG, LNG, diesel hybrid (dHEB), gasoline hybrid (gHEB), propane, or gasoline.

1. SBMTD currently has a fleet of 113 buses, including diesel, diesel hybrid electric, and BEBs (Table 1). SBMTD’s Transit Asset Management Plan calls for a total fleet size of 100 buses of various lengths to accommodate the different service profiles of SBMTD’s bus network; thus, SBMTD is planning to reduce its total fleet size from 113 buses to 100 buses.

Table 1: Individual Bus Information of Current Bus Fleet

Make	Year	Power	Length (feet)	Number in Fleet	Rider Seats	Age (years)
Nova Diesel	2015	Diesel	60	3	55	8
Gillig Diesel	2003	Diesel	40	17	36	20
Gillig Diesel	2004	Diesel	40	13	37	19
Gillig Diesel	2011	Diesel	40	7	38	12
Gillig Diesel	2013	Diesel	40	13	38	10
Gillig Diesel	2016	Diesel	40	5	38	7
Gillig Diesel	2017	Diesel	40	3	38	6
Gillig Diesel	2019	Diesel	40	10	38	4
Gillig Hybrid	2007	Hybrid	40	7	38	16
Gillig Hybrid	2011	Hybrid	40	7	38	12
Gillig Diesel	2004	Diesel	29	8	26	19
Gillig Diesel	2006	Diesel	29	3	28	17
Gillig Hybrid	2009	Hybrid	29	3	28	14
BYD Electric	2017	Electric	30	14	22	6
Total/Avg.				113	35	12.8



2. Table 2 represents the anticipated revenue service vehicles that will be purchased in the future. Years denote the year of purchase—delivery can be expected 18-24 months later.

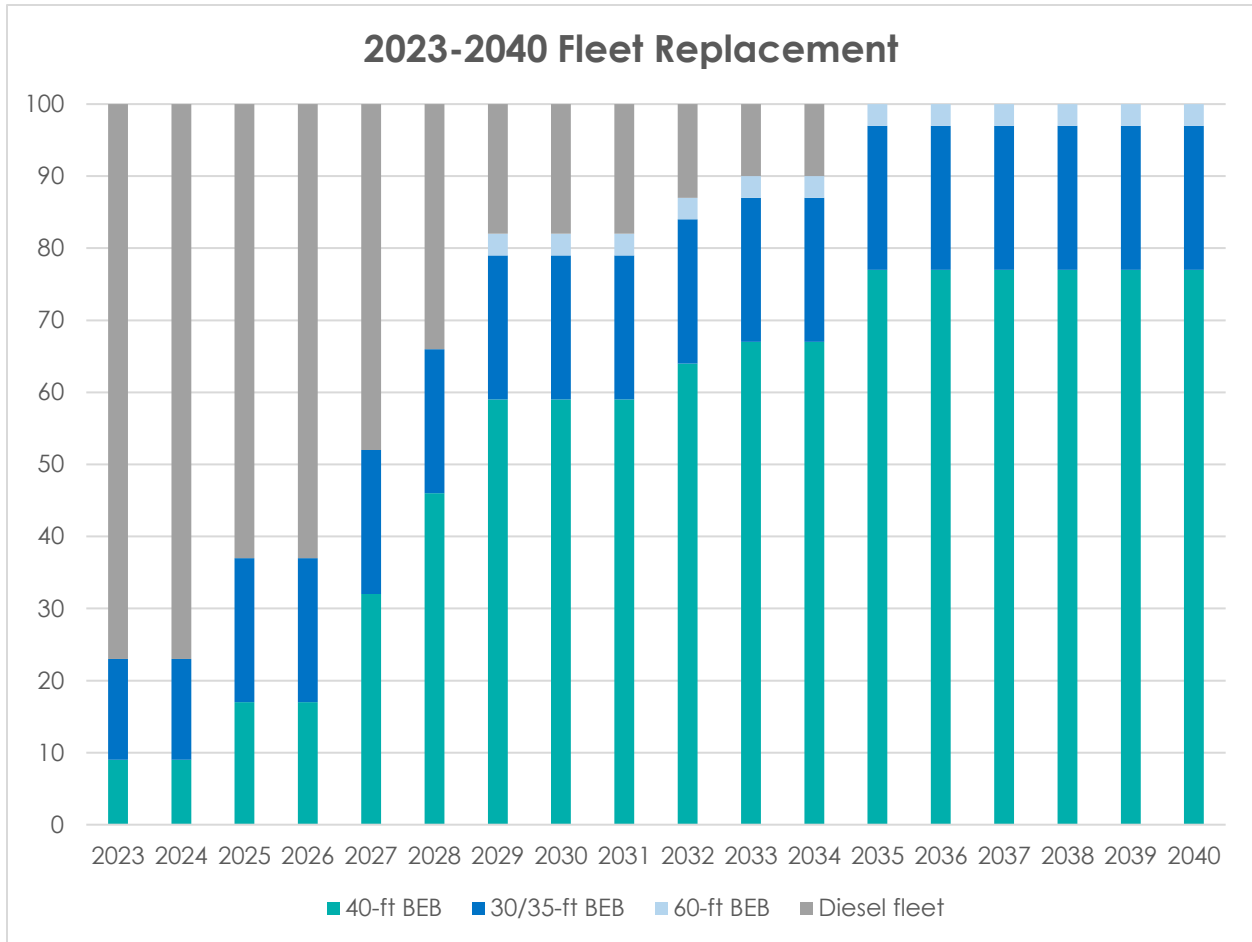
Table 2: Future Vehicle Purchases (Required) – Year of purchase

<u>Timeline (Year)</u>	<u>Total # of Buses to Purchase</u>	<u># of ZEB Purchases</u>	<u>% of Annual ZEB Purchases</u>	<u>ZEB Bus Type(s)</u>	<u>ZEB Fuel Type(s)</u>	<u># of Conv. Bus Purchases</u>	<u>% of Annual Conv. Bus Purchases</u>	<u>Type(s) of Conv. Buses</u>	<u>Fuel Type(s) of Conv. Buses</u>
2023	14	14	100%	8 40-ft. buses 6 30/35-ft. buses	Battery Electric	0	0%	N/A	N/A
2024	0	0	N/A	N/A	N/A	0	0%	N/A	N/A
2025	15	15	100%	15 40-ft. buses	Battery Electric	0	0%	N/A	N/A
2026	14	14	100%	14 40-ft. buses	N/A	0	0%	N/A	N/A
2027	16	16	100%	13 40-ft. buses 3 60-ft. buses	Battery Electric	0	0%	N/A	N/A
2028	14	14	100%	14 30/35-ft. buses	Battery Electric	0	0%	N/A	N/A
2029	0	0	100%	N/A	N/A	0	0%	N/A	N/A
2030	5	5	100%	5 40-ft. buses	Battery Electric	0	0%	N/A	N/A
2031	3	3	100%	3 40-ft. buses	Battery Electric	0	0%	N/A	N/A
2032	0	0	N/A	N/A	N/A	0	0%	N/A	N/A
2033	10	10	100%	10 40-ft. buses	Battery Electric	0	0%	N/A	N/A
2034	0	0	100%	N/A	N/A	0	0%	N/A	N/A
2035	6	6	100%	6 30/35-ft. buses	Battery Electric	0	0%	N/A	N/A
2036	9	9	100%	9 40-ft. buses	Battery Electric	0	0%	N/A	N/A
2037	8	8	100%	8 40-ft. buses	Battery Electric	0	0%	N/A	N/A
2038	15	15	100%	15 40-ft. buses	Battery Electric	0	0%	N/A	N/A

3. Table 3 – Range and estimated costs of Future ZEB purchases (optional)

<u>Timeline (Year)</u>	<u># of ZEB Purchases</u>	<u>ZEB Bus Type(s)</u>	<u>ZEB Fuel Type(s)</u>	<u>Required BEB Range</u>	<u>Estimated Cost of Each Bus</u>
2023	14	8 40-ft. buses 6 30/35-ft. buses	Battery Electric	150 miles and greater	\$800,000- \$1,200,000
2024	0	N/A	N/A	N/A	N/A
2025	15	15 40-ft. buses	Battery Electric	150 miles and greater	\$800,000- \$1,200,000
2026	14	14 40-ft. buses	Battery Electric	150 miles and greater	\$800,000- \$1,200,000
2027	16	13 40-ft. buses 3 60-ft. buses	Battery Electric	150 miles and greater	\$800,000- \$1,200,000
2028	14	14 30/35-ft. buses	Battery Electric	150 miles and greater	\$1,200,000+
2029	0	N/A	N/A	N/A	N/A
2030	5	5 40-ft. buses	Battery Electric	150 miles and greater	\$800,000- \$1,200,000
2031	3	3 40-ft. buses	Battery Electric	150 miles and greater	\$800,000- \$1,200,000
2032	0	N/A	N/A	N/A	N/A
2033	10	10 40-ft. buses	Battery Electric	150 miles and greater	\$800,000- \$1,200,000
2034	0	N/A	N/A	N/A	N/A
2035	6	6 30/35-ft. buses	Battery Electric	150 miles and greater	\$800,000- \$1,200,000
2036	9	9 40-ft. buses	Battery Electric	150 miles and greater	\$800,000- \$1,200,000
2037	8	8 40-ft. buses	Battery Electric	150 miles and greater	\$800,000- \$1,200,000
2038	15	15 40-ft. buses	Battery Electric	150 miles and greater	\$800,000- \$1,200,000

The chart below demonstrates graphically the proportion of conventional buses and ZEBs over the course of the plan horizon. The chart below shows the anticipated delivery/operational date, which is assumed to be 18-24 months after a bus purchase. As per the plan, by 2035, 100% of the fleet will be ZEBs, with 77 40-ft buses, 20 35/30-ft buses, and 3 60-ft buses. Microtransit vehicles are not shown here but will be ZE from the first procurement.



4. *Is your transit agency considering converting some of the conventional buses in service to zero-emission buses? SBMTD is not currently considering converting conventional buses to zero-emission buses.*

Section E: Facilities and Infrastructure Modifications

1. Please complete Table 5 with names, locations, and main functions of transit agency divisions or facilities that would be involved in deploying and maintaining zero-emission buses. Please limit the facilities to bus yards and facilities with maintenance, fueling, and charging functions, and exclude other operational functions like training centers, information and trip planning offices, and administrative buildings.

1. SBMTD is actively modifying its facilities, including reactivating a currently unused operations and maintenance facility to accommodate the transition to BEBs. Below is a table of facilities and infrastructure modifications.

Table 5: Facilities Information and Construction Timeline (Required)

<u>Division/ Facility Name</u>	<u>Address</u>	<u>Main Function(s)</u>	<u>Type(s) of Infrastructure</u>	<u>Service Capacity</u>	<u>Needs Upgrade ? (Yes/No)</u>	<u>Estimated Construction Timeline</u>
Terminal 1 Santa Barbara	550 Olive St, Santa Barbara, CA 93101	Administration, Operations, Maintenance, Training, Fueling	New charging equipment, electrical utility upgrades, site improvements (pavement repairs and safety upgrades), new overhead canopy structures for EV dispensing, flood plain mitigations	75 revenue vehicles	Yes	2022 – 2030
Terminal 2 Goleta	5353 Overpass Rd, Goleta, CA 93111	Operations, Maintenance, Fueling	New charging equipment, electrical utility upgrades, site improvements (pavement repairs and safety upgrades), overhead canopy structure replacement	25 revenue vehicles	Yes	2023 – 2030

Additional charging equipment and electrical service infrastructure will be required for the remainder of SBMTD’s fleet to ultimately be operated out of Terminal 1. Overhead canopies or support structures will be considered for charging equipment implementation due to space constraints as well as flood plain mitigation concerns and contaminated soils at this location. In addition, these structures will likely be planned for photovoltaic systems to aid in offsetting electrical utility demands.

Improvements to the maintenance, fuel, wash, and administration buildings are not currently planned but modifications to these buildings will likely be required to accommodate the evolving fleet. Onsite diesel fueling and maintenance fluids will eventually be decommissioned once the fleet fully transitions to BEBs in the future. Maintenance bays will be outfitted as necessary with diagnostic equipment for the servicing of the electric vehicle fleet.

Since no electric vehicle infrastructure currently exists at the Terminal 2 facility, extensive modifications will be required to provide sufficient power capacity to the facility and install charging equipment. Currently planned in Phase 2 of facility improvements is the replacement of existing canopies that cover the vehicle parking with new canopy structures that can support photovoltaic panels, charging equipment, and the necessary support infrastructure such as lighting, Wi-Fi, and security cameras. The current canopies are in poor condition and lack the structural capacity to support rooftop photovoltaic systems.

Phase 2 of work at this facility is also anticipated to include replacement of the existing maintenance building due to its current condition and limitations for renovation because of structural capacity issues. A new building will allow the facility to adequately service the evolving fleet of electric vehicles with appropriately designed maintenance bays and support spaces.

Questions 2 through 5 are optional.

6. *Please identify the electric utilities in your transit agency's service area.*

SBMTD is in Southern California Edison (SCE) territory, but the local utilities relevant for SBMTD are the community choice aggregators (CCAs): Santa Barbara Clean Energy in the City of Santa Barbara, and Central Coast Community Energy (3CE) in Goleta. While SCE provides energy, continuing to own and operate the electrical grid, CCAs set local rates for different energy portfolios. SBMTD and SCE have partnered in the past and are currently collaborating to deploy vehicle chargers and related infrastructure at Terminal 1 in Santa Barbara through SCE's Charge Ready Transport Program.

Santa Barbara Clean Energy offers customers access to a 100% renewable energy portfolio which customers are automatically enrolled in (opted-in). Santa Barbara Clean Energy's published rates are overall more expensive than SCE for the 100% renewable energy portfolio; Santa Barbara Clean Energy also offers time-of-use rates. Santa Barbara Clean Energy is unlikely to provide incentive programs (such as for vehicles and infrastructure) but has indicated a willingness to work with SBMTD regarding rates and rate structure.

3CE provides electrical service to SBMTD's Terminal 2 facility in Goleta, offering a 100% renewable energy option as well as a 30% renewable energy option. In addition to generally lower energy rates than SCE, 3CE is looking into the possibility of developing programs and incentives to support EV conversion and has engaged directly with SBMTD on this subject.

Section F: Providing Service in Disadvantaged Communities

The ICT utilizes information provided by CalEnviroScreen to identify disadvantaged communities. The ICT regulation defines CalEnviroScreen as a mapping tool that is developed by the Office of Environmental Health Hazard Assessment (OEHHA) at the request of the California Environmental Protection Agency (CalEPA) to identify California's most pollution-burdened and vulnerable communities based on geographic, socioeconomic, public health, and environmental hazard criteria.

CalEnviroScreen evaluates the burden of pollution from multiple sources in communities while accounting for potential vulnerability to the adverse effects of pollution to identify disadvantaged communities from a wide variety of factors to comprehensively assess the overall health of communities, down to the census tract level. Specifically, CalEnviroScreen identifies disadvantaged communities as census tracts that scored in the top 25% based on the factors used by CalEnviroScreen to assess pollution burden and vulnerability.

Within SBMTD's service area, there is one disadvantaged community as defined by CalEnviroScreen 4.0. This census tract is in Goleta, with Lines 6, 7, 11, 12x, and 24x traveling through it. The census tract has a CalEnviroScreen percentile score of 77%, with an overall pollution burden of 85% and 70% of residents living in the census tract identifying as non-White or of Hispanic origin. Terminal 2 is also located within this census tract.

Figure 1: CalEnviroScreen Disadvantaged Communities in the SBMTD service area

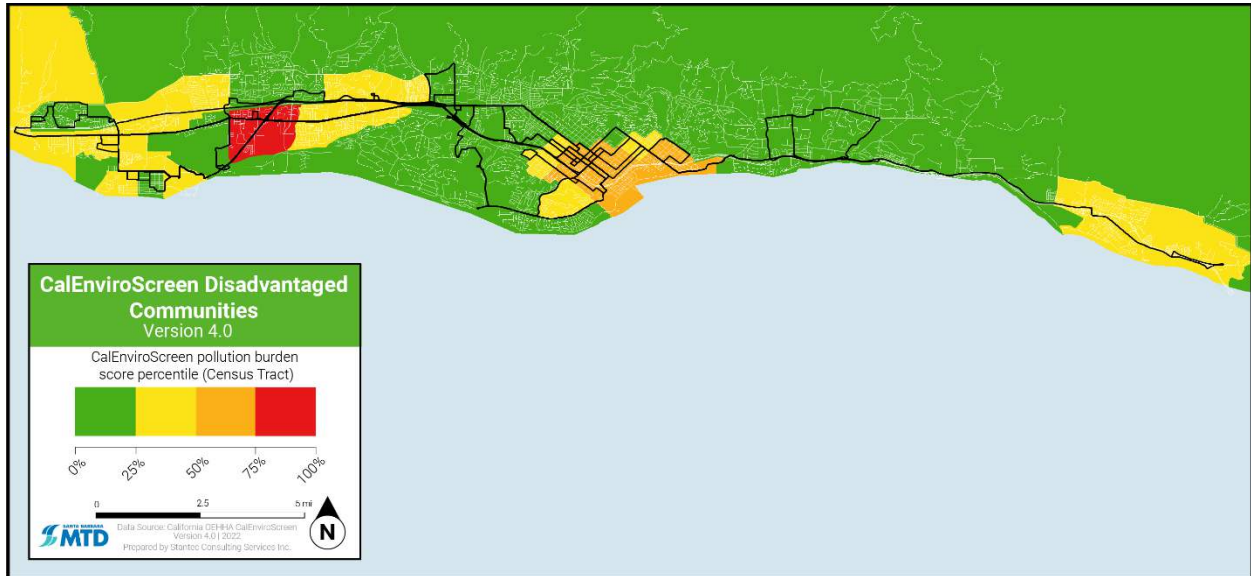


Table 7: Service in Disadvantaged Communities (Optional)

Census Tract ID	Community	Route(s)
6083003001	Goleta	6, 7, 11, 12x, 24x

Section G: Workforce Training

Describe your transit agency’s plan and schedule for the training of bus operators and maintenance and repair staff on zero-emission bus technologies. (Required)

With SBMTD’s goal to move to a 100% ZE fleet, there are additional skill sets required to assure that the staff is fully trained on the unique aspects of BEBs and associated charging equipment. For all staff, it will be critical to assure that this training includes safety protocols. Maintenance staff will need to be provided with all of the appropriate equipment including items such as fall protection when working at heights on roof-mounted equipment (e.g., batteries) and with overhead charging; SBMTD currently has one maintenance bay with fall protection.

As the fleet continues to transition to BEBs, SBMTD will need to:

- Enhance standard operating procedures/policies for training on BEBs and related equipment (including but not limited to chargers, tools, software, etc.) to fully document the current equipment and procedures; ensure that all staff have relevant manuals and other necessary documentation; and make procedure handbooks readily available;
- Confirm and document standard operating procedures/policies, as well as provide and mandate use of appropriate personal protection equipment associated both with an industrial work place and with handling high voltage components;

- Arrange for courses on basic electricity fundamentals for any non-BEB shop staff that may be in the work area; and
- Post illustrated warning signage at entrances to shop areas and enforce the safety policies on visitors. Warning signs include the federally or state mandated workplace requirements as well as anything related to high voltage electrical equipment; for instance, personal protective equipment must be worn when handling high voltage vehicle components.

The required overall skill sets/knowledge areas on BEBs include:

- **Maintenance Staff**
 - Safety protocols for high-voltage, batteries and chargers
 - Preventive maintenance – buses, vans, and sedans
 - Onboard diagnostic systems
 - Multiplexing
 - HVAC
 - Brake systems
 - Energy Storage System, lithium-ion battery and energy management hardware and software
 - Electric propulsion
 - Monitoring alerts and necessary updates to maintenance management software
 - Charging dispensers
 - Preventative maintenance
 - Charger diagnosis and repair
 - Smart Charger software
- **Bus Operators**
 - BEB driving techniques, including methods to maximize range and battery life
 - BEB vehicle and associated systems orientation including onboard diagnostics
 - Safety protocols
- **First Responders**
 - Training on layout, componentry, safety devices, and other BEB features
- **Planning/Scheduling/Dispatching Staff**
 - Training on BEB-specific features that impact operating parameters
- **Towing Staff/Contractors**
 - Schedule and test towing training with staff and any contractors who will tow the BEBs for each type of BEB

SBMTD intends to use the trainings that are offered by the bus manufactures and technology and infrastructure providers. Those trainings are aligned with the bus purchase and infrastructure upgrade schedules.

Table 8: Potential training methods (Optional)

Section H: Potential Funding Sources

Please identify all potential funding sources your transit agency expects to use to acquire zero-emission technologies (both vehicles and infrastructure).

SBMTD has been successful at competing for discretionary grants to begin deploying ZEBs and associated infrastructure, including:

- FTA Section 5339(b)
- TIRCP
- HVIP
- VW Mitigation
- SBCAPCD – Carl Moyer

The table below shows all potential funding sources SBMTD will explore to use to acquire zero-emission technologies.

Table 9: Potential Funding Sources (Optional)

Type	Agency	Fund/Grant/Program	Description	Applicability & Details
Federal	Federal Transit Administration (FTA)	Low or No Emission Program (Low-No Program) (5339(c))	<p>Low-No provides competitive funding for the procurement of low or no emission vehicles, including the leasing or purchasing of vehicles and related supporting infrastructure.</p> <p>This has been an annual program under the FAST Act since FY2016 and is a subprogram of the Section 5339 Grants for Buses and Bus Facilities.</p> <p>There is a stipulation for a 15% to 20% local match.</p>	<p>In FY2022 the FTA awarded \$1.6 billion to 150 projects for the Low-No program.² In FY2022, Gold Coast Transit District received \$12 million for the procurement of FCEBs, construction of a permanent hydrogen fueling station to support its electric bus operations, and completion of upgrades to its maintenance facility.³ \$1.7 billion has been announced for FY2023 projects.⁴</p>

² <https://www.transit.dot.gov/funding/grants/fy22-fta-bus-and-low-and-no-emission-grant-awards>

³ <https://www.transit.dot.gov/funding/grants/fy22-fta-bus-and-low-and-no-emission-grant-awards>

⁴ <https://www.transit.dot.gov/about/news/biden-harris-administration-announces-availability-nearly-17-billion-modernize-fleets>



Type	Agency	Fund/Grant/Program	Description	Applicability & Details
		Buses and Bus Facilities Program (5339(a) formula, 5339(b) competitive)	Grants applicable to rehab buses, purchase new buses, and invest and renovate related equipment and facilities for low or no emission vehicles or facilities. A 15% to 20% local match is required.	FY2022 5339 funding totaled \$372 million in grants. \$469.4 million has been announced for FY2023 grants. ⁵
		Urbanized Area Formula Grants (5307)	5307 grant funding makes federal resources available to urbanized areas for transit capital and operating assistance. Eligible activities include capital investments in buses and bus-related activities such as replacement, overhaul and rebuilding of buses. The federal share is not to exceed 80% to 85% of the net project cost for capital expenditures. The federal share may be 90% of the cost of vehicle-related equipment attributable to compliance with the Clean Air Act.	The “designated recipient” of FTA formula funds for the urbanized area allocates these funds to the appropriate agency. The agency can utilize these funds for the purchase of ZEBs.
	United States Department of Transportation (USDOT)	Rebuilding American Infrastructure with Sustainability and Equity (RAISE)	Previously known as BUILD and TIGER, RAISE is a discretionary grant program aimed to support investment in infrastructure. RAISE funding supports planning and capital investments in roads, bridges, transit, rail, ports, and intermodal transportation. A local match is required. ⁶	FY2022 provided \$2.2 billion in RAISE grants to 166 projects with a stipulation requiring 50% of funding for projects in rural areas. In FY2023, \$1.5 billion in funding was announced for the RAISE Grant Program. ⁷
State	California Air Resources Board (CARB)	Hybrid and Zero-Emission Truck and Bus Voucher Incentive Program (HVIP)	Voucher program created in 2009 aimed at reducing the purchase cost of zero-emission vehicles. A transit agency would decide on a vehicle, contact the vendor directly, and then the vendor would apply for the voucher.	\$65 million in transit funding for the FY22-23 year was announced in November 2022. ⁹ Hydrogen fuel cell vehicles are eligible for HVIP but must not have plug-in capacity. ¹⁰

⁵ <https://www.transit.dot.gov/bus-program>

⁶ <https://www.transportation.gov/RAISEgrants/about>

⁷ [RAISE Discretionary Grants | US Department of Transportation](https://www.transportation.gov/RAISEgrants/about)

⁹ <https://californiahvip.org/funding/>

¹⁰ <https://californiahvip.org/wp-content/uploads/2022/03/HVIP-FY21-22-Implementation-Manual-03.15.22.pdf>

Type	Agency	Fund/Grant/Program	Description	Applicability & Details
			Voucher rebates vary by vehicle type and model. ⁸	
		Carl Moyer Memorial Air Quality Standards Attainment Program	The Carl Moyer Program provides funding to help procure low-emission vehicles and equipment. It is implemented as a partnership between CARB and local air districts.	Transit buses are eligible for up to \$80,000 funding.
		Low Carbon Fuel Standard (LCFS) Program	LCFS credits are not necessarily funding to be applied for; rather, they are generated credits which can be sold on the LCFS market. The program is based upon carbon intensity standards set by CARB and the LCFS program which allows users who incur a deficit from polluting above the standard can purchase credits from those users operating below the standard.	Chargers or equipment for hydrogen production must be registered with the LCFS program to be eligible for credit generation. The CARB set price of \$221.76 per credit in 2021 has created a price ceiling with most credits trading around \$200 per credit. Both hydrogen and electricity used as fuels are eligible for LCFS credits.
		Volkswagen Environmental Mitigation Trust Funding	VW's settlement provides nearly \$130 million for zero-emission transit, school, and shuttle bus replacements.	Transit may be eligible for up to \$65 million. Applications are open for transit agencies and are processed on a first come, first served basis. Maximum: \$400,000 per FCEB and maximum of \$3,250,000 total funding per agency. ¹¹

⁸ <https://californiahvip.org/vehiclecatalog/>

¹¹ <http://vwbusmoney.valleyair.org/documents/FAQ.pdf>

Type	Agency	Fund/Grant/Program	Description	Applicability & Details
		Sustainable Transportation Equity Project (STEP)	STEP was a pilot that took a community-based approach to overcoming barriers to clean transportation. The future of STEP is currently being determined by CARB and stakeholder groups through the FY22-23 Funding Plan and Three-Year Plan for Clean Transportation Incentives. ¹²	There are two different grant types: Planning and Capacity Building Grants (up to \$1.75 million for multiple grantees) and Implementation Grants (up to \$17.75 million for between one and three grantees). Lead applicants must be a CBO, federally-recognized tribe, or local government representing a public transit agency. Award amounts ranged from \$184,000 to a maximum of over \$7 million. ¹³
	California Transportation Commission (CTC)	SB1 Local Partnership Program (LPP)	The Local Partnership Program provides funding to counties, cities, districts and regional transportation agencies to improve aging infrastructure, road conditions, active transportation, transit and rail, and health and safety benefits. Funds are distributed through competitive and formulaic components. ¹⁴	To be eligible, counties, cities, districts, and regional transportation agencies must have approved fees or taxes dedicated solely to transportation improvements. \$200 million is available annually. ¹⁵
		Solutions for Congested Corridors Program (SCCP)	The SCCP includes programs with both formula and competitive funds. Funding is available to projects that make specific performance improvements and are a part of a multimodal comprehensive corridor plan designed to reduce congestion in highly traveled corridors by providing more transportation choices for residents, commuters, and visitors.	Improvements to transit facilities are eligible projects. Cycle 2 funding of \$500 million covers two years (FY2022 and FY2023). To submit a SCCP application, the applicant needs to know exactly what sources will be funding the project and when the funds will be used, as well as which project phase they will be used for. Total estimated funding: \$500 million for FY22-23 ¹⁶
	California Department of Transportation (Caltrans)	SB1 State of Good Repair (SGR)	SGR funds are formula funds eligible for transit maintenance, rehabs, and capital programs. Agencies receive yearly SB1 SGR funding through their MPO, based on population and farebox revenues.	Agencies can decide to devote its portion of SB 1 funds to ZEB transition.

¹² <https://ww2.arb.ca.gov/lcti-step>

¹³ <https://ww2.arb.ca.gov/news/grant-awards-announced-new-195-million-pilot-funding-equitable-clean-transportation-options>

¹⁴ <https://catc.ca.gov/programs/sb1/local-partnership-program>

¹⁵ <https://www.vcstar.com/story/news/local/2021/10/22/group-proposing-transit-sales-tax-measure-countys-2022-ballot/5988391001/>

¹⁶ <https://www.grants.ca.gov/grants/solutions-for-congested-corridors-program/>



Type	Agency	Fund/Grant/Program	Description	Applicability & Details
		Low Carbon Transit Operations Program (LCTOP)	LCTOP provides operating and capital assistance to transit agencies in order to reduce greenhouse gas emissions and improve mobility. 5% of the annual Cap and Trade auction proceeds fund this program.	Many agencies are already recipients of these funds and can use these funds to purchase ZEBs and related equipment.
		Transit and Intercity Rail Capital Program (TIRCP)	TIRCP was created to fund capital improvements that reduce emissions of greenhouse gases, vehicle miles traveled, and congestion through modernization of California's rail, bus, and ferry transit systems. ¹⁷	The five cycles of TIRCP funding have awarded \$6.6 billion in funding to nearly 100 projects throughout California. In 2022, SBMTD received \$14.5 million to procure 8 battery electric buses and 3 electric micro transit vans as well as fund for general transit improvements and facility improvements at two terminals. ¹⁸
		State Transportation Improvement Program (STIP)	The STIP is a five-year plan for future allocations of certain state transportation funds including state highway, active transportation, intercity rail, and transit improvements. The STIP is updated biennially in even-numbered years. ¹⁹	ZEB procurement could compete for STIP funding. The 2022 STIP was adopted in March 2022 and included \$796 million in available funding. ²⁰ Funding is distributed via formula for a variety of projects.
		Transportation Development Act (Mills-Alquist-Deddeh Act (SB 325))	The TDA law provides funding to improve existing public transportation services and encourage regional transportation coordination. There are two funding sources: the Local Transportation Fund (LTF) and the State Transit Assistance (STA) fund. ²¹	Funding opportunities include transportation program activities, pedestrian and bike facilities, community transit services, public transportation, and bus and rail projects.

¹⁷ <https://calsta.ca.gov/subject-areas/transit-intercity-rail-capital-prog>

¹⁸ <https://calsta.ca.gov/-/media/calsta-media/documents/tircp--program-of-projects-as-of-july-2022---cycle-5-only-a11y.pdf>

¹⁹ <https://catc.ca.gov/programs/state-transportation-improvement-program>

²⁰ <https://catc.ca.gov/-/media/ctc-media/documents/programs/stip/2022-stip/2022-adopted-stip-32522.pdf>

²¹ <https://dot.ca.gov/programs/rail-and-mass-transportation/transportation-development-act>

Type	Agency	Fund/Grant/Program	Description	Applicability & Details
	California Energy Commission	Clean Transportation Program (Alternative and Renewable Fuel and Vehicle Technology Program)	The California Energy Commission's Clean Transportation Program provides funding to support innovation and acceleration of development and deployment of zero-emission fuel technologies. A local match is often required.	<p>The Clean Transportation Program provides up to \$100 million annually for a variety of renewable and alternative fuel transportation projects throughout the state, including specific projects for heavy-duty public transit buses.</p> <p>Current program funding is being allocated for FY22-23 and the first half of FY23-24.</p> <p>In 2021, between \$4 million and \$6 million were awarded to the following transit agencies to assist with zero-emission transit fleet infrastructure deployment: Anaheim Transportation Network (\$5 million), LADOT (\$6 million), Sunline Transit (\$5 million), and North County Transit District (\$4 million)</p>
	Department of Housing and Community Development	Affordable Housing and Sustainable Communities Program (AHSC)	The AHSC Program funds land use, housing, and transportation projects to support development that reduces GHG emissions. The program provides both grants and loans that reduce GHG emissions and benefit disadvantaged communities through increasing accessibility via low-carbon transportation. \$405 million in available funds was announced in 2021. ²² The maximum award amount is not to exceed \$30 million per project, with a minimum award of \$1 million. ²³	Sustainable transportation infrastructure projects, transportation-related amenities, and program costs (including transit ridership) are eligible activities. Agencies can use program funds for assistance in construction or modification of infrastructure for ZEB conversion as well as new vehicle purchases.
	California Climate Investments	Clean Mobility Options (CMO) Voucher Pilot Program	CMO awards up to \$1 million vouchers to develop and launch zero-emission mobility projects including the purchase of zero-emission vehicles, infrastructure, planning, outreach, and operations projects in low-income and disadvantaged communities. ²⁴ Funding is limited.	In 2020, the CMO Voucher Pilot Program awarded \$20 million in mobility project vouchers, with \$18 million going to eligible under-resourced communities. For example, the City of Chula Vista received funding to launch an on-demand community shuttle service in northwest Chula Vista using four electric vehicles. Also, Fresno County Rural Transit Agency is on a wait list to potentially receive \$36,885 in funding.
	California Pollution Control Financing Authority (CPCFA)	Medium-Heavy-Duty (MHD) Zero Emission Vehicle Financing Program	The CPCFA is developing a purchasing assistance program for MHD ZEV fleets. This will provide financial support and technical assistance to fleet managers	CPCFA will designate high priority fleets based on implications for climate change, pollution, environmental justice, and post-COVID economic recovery. A minimum of 75% of financing must be directed towards fleets that directly impact or operate in underserved communities.

²² https://www.hcd.ca.gov/grants-funding/active-funding/ahsc/docs/final_ahsc_nofa_round_6.pdf

²³ [https://www.hcd.ca.gov/affordable-housing-and-sustainable-communities#:~:text=Communities%20Program%20\(AHSC\)-,Affordable%20Housing%20and%20Sustainable%20Communities%20Program%20\(AHSC\),\(%22GHG%22\)%20emissions.](https://www.hcd.ca.gov/affordable-housing-and-sustainable-communities#:~:text=Communities%20Program%20(AHSC)-,Affordable%20Housing%20and%20Sustainable%20Communities%20Program%20(AHSC),(%22GHG%22)%20emissions.)

²⁴ <https://cleanmobilityoptions.org/about/#>



Type	Agency	Fund/Grant/Program	Description	Applicability & Details
			deploying ZEV fleets. The program will be established by January 1, 2023. ²⁵	
		Transportation Development Credits	Although they are not funds for projects, Transportation Development Credits, also called "Toll Credits", satisfy the federal government requirement to match federal funds. ²⁶	Toll credits provide a credit toward a project's local share for certain expenditures with toll revenues. FHWA oversees the toll credits within each state. ²⁷
	Southern California Edison (SCE)	Charge Ready Transport (CRT)	SCE provides utility distribution service upgrades to support the installation of charging equipment and provides rebates to participants for the purchase and installation of approved EV charging equipment.	SCE customers must lease or purchase a minimum of two EVs, purchase and install SCE-approved charging equipment, and maintain charging equipment for at least five to ten years. Data sharing requirement for five years as well as grant easements depending on the build option.
Tax	Santa Barbara County Association of Governments (SBCAG)	Santa Barbara County Measure A	Santa Barbara County Measure A – a 2008 measure to provide \$1 billion in estimated sales tax revenue for transportation projects in Santa Barbara County over 30 years.	Measure A funding can be used as local matches for infrastructure grant applications.

²⁵ <https://afdc.energy.gov/laws/12858>

²⁶ <https://dot.ca.gov/-/media/dot-media/programs/rail-mass-transportation/documents/f0010121-toll-credit-fact-sheet.pdf>

²⁷ <https://dot.ca.gov/-/media/dot-media/programs/rail-mass-transportation/documents/f0009899-2-toll-credits-fact-sheet-a11y.pdf>

Section I: Start-up and Scale-up Challenges

Prior to creation of this ICT-compliant ZEB Rollout Plan, the SBMTD Board of Directors adopted a goal for full transition to ZE technologies by 2030. While the 2030 goal would complete SBMTD's fleet transition to BEBs well in advance of the ICT mandate, early retirement of vehicles would be required to achieve that goal. In addition to the ICT stipulation to avoid retiring vehicles before the end of their useful lives, SBMTD would be required to reimburse the FTA portion of the capital cost of vehicles that are retired early. Taken together, based on natural attrition of diesel and hybrid buses and replacement with BEBs, SBMTD plans to achieve a 100% ZEB fleet by 2035.

Attachment

Board Resolution

RESOLUTION
of the
BOARD OF DIRECTORS
of the
SANTA BARBARA METROPOLITAN TRANSIT DISTRICT

IN THE MATTER OF APPROVAL OF THE
SANTA BARBARA METROPOLITAN TRANSIT
DISTRICT ZERO-EMISSION BUS ROLLOUT
PLAN COMPLIANT WITH THE INNOVATIVE
CLEAN TRANSIT REGULATION OF THE
CALIFORNIA AIR RESOURCES BOARD

RESOLUTION NO. 2023-05

WHEREAS, California Code of Regulations Title 13, Division 3, Chapter 1, Article 4.3, Part 2023.1(d) Zero Emissions Bus Rollout Plan Requirements requires that a transit agency Zero-Emission Bus Rollout Plan must be approved by its governing Board; and

WHEREAS, the Zero-Emission Bus Rollout Plan sets forth the Santa Barbara Metropolitan Transit District's (District's) plan which meets the following requirements:

- A goal of full transition to zero-emission buses by no later than 2040 with careful planning that avoids early retirement of conventional internal combustion engine buses;
- Identification of the types of zero-emission bus technologies District is planning to deploy;
- A schedule for zero-emission bus purchases;
- A schedule for construction of facilities and infrastructure modifications or upgrades, including charging, fueling, and maintenance facilities, to deploy and maintain zero-emission buses;
- Explanation of how District plans to deploy zero-emission buses in Disadvantaged Communities;
- A training plan for zero-emission bus operators and maintenance staff; and
- Identification of potential funding sources;

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Santa Barbara Metropolitan Transit District hereby approves the District's Zero-Emission Bus Rollout Plan as set forth in full; and

BE IT FURTHER RESOLVED that insofar as the provisions of any Ordinance, Resolution, document, or previous action of the Board and/or the General Manager, prior to the date of this Resolution, are inconsistent with the provisions of this Resolution or any policy adopted by this Resolution, this Resolution and the Board Policies adopted herein shall control.

PASSED AND ADOPTED by the Board of Directors of the Santa Barbara Metropolitan Transit District this 18th day of April, 2023 by the following vote:

AYES: 6
NAYS: 0
ABSENT: 1



Chair, Board of Directors

ATTEST:


Secretary, Board of Directors