Zero-Emission Bus Rollout Plan

CITY OF LAKEWOOD
CALIFORNIA

City of Lakewood
DASH
Transit

DASH History

The City of Lakewood implemented its DASH transportation program in 1977 for senior and disabled residents in response to a growing need for transportation for these specific populations. The program was intended as auxiliary transportation for Lakewood seniors (age 60 or older) with limited or no access to private transportation or disabled residents of any age who cannot board, ride or access regular transit bus service. DASH Transit has become an essential part of the quality of life in Lakewood and has become an essential link to the community for frail and recluse residents who might otherwise forego needed services.

In a continued effort to provide acceptable equal rights for all individuals, the Americans with Disabilities Act was passed by the legislature in 1991. This act requires providers of transportation programs to allow for an equal level of accessibility without discrimination.

As a result, many seniors and disabled residents have access to basic necessities such as nutritional programs and medical facilities.

DASH Transit Service Boundaries

The DASH program operates as a free advanced reservation, curb-to-curb, demand response transportation service, Monday thru Friday. DASH operates primarily within the City's boundaries for social, medical, shopping, and visiting. Trips outside Lakewood are for medical and therapy purposes only. The boundaries for these exceptions are:

- North – Rosecrans Avenue
- East – Bloomfield Avenue and the Orange County line
- South – Willow Street in Long Beach
- West – Long Beach Boulevard

DASH makes trips outside the boundaries for certain educational purposes to Long Beach City College and Cerritos College.

Section A: Transit Agency Information

City of Lakewood
DASH Transit
5050 Clark Avenue
Lakewood, CA 90713

Air District: South Coast Air Quality Management District

Total Number of Buses in Annual Maximum Service: 6

Population: 82,496

Contact Information:
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Lakewood DASH Transit is not part of a joint group.

Section B: Rollout Plan General Informaiton

The City of Lakewood has a goal to complete a full transition to zero-emission buses before the 2040 deadline. The City plans to purchase 100% battery-electric buses (BEB) between 2030 and 2032. The transition will not require the early retirement of any City vehicles.

The plan was prepared by City staff.

For any additional information regarding the Rollout Plan, please contact:
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Section C: Technology Portfolio

The City of Lakewood will purchase a total of six BEB cutaway buses to replace six existing gasoline cutaway buses. The City's Fleet Management Plan focuses on replacing its existing cutaways between 2027 and 2029. The City will also acquire six ChargePoint Express chargers (62.5 kWh) to charge the buses overnight and during midday.

Section D: Current Bus Fleet Composition and Future Purchases

Table 1: Individual Bus Information of Current Bus Fleet

Number of Buses	Engine Model Year	Bus Model Year	Fuel Type	Bus Type
2	2017	2017	Gasoline	Cutaway
2	2018	2018	Gasoline	Cutaway
2	2019	2019	Gasoline	Cutaway

Table 2: Future Bus Purchases (by Delivery Date)

Timeline	Total Number of Buses to Purchase	Number of ZEB Purchases	Percentage of Annual ZEB Purchase	ZEB Bus Type	ZEB Fuel Type	Charging Technology	Number of Conventional Bus Purchase	Percentage of Annual Conventional Bus Purchases	Type(s) of Conventional Buses	Fuel Type(s) of Conventional Buses
2027	2	2	100%	Cutaway	EV	Plug-In Charging	N/A	N/A	N/A	N/A
2028	2	2	100%	Cutaway	EV	Plug-In Charging	N/A	N/A	N/A	N/A
2029	2	2	100%	Cutaway	EV	Plug-In Charging	N/A	N/A	N/A	N/A

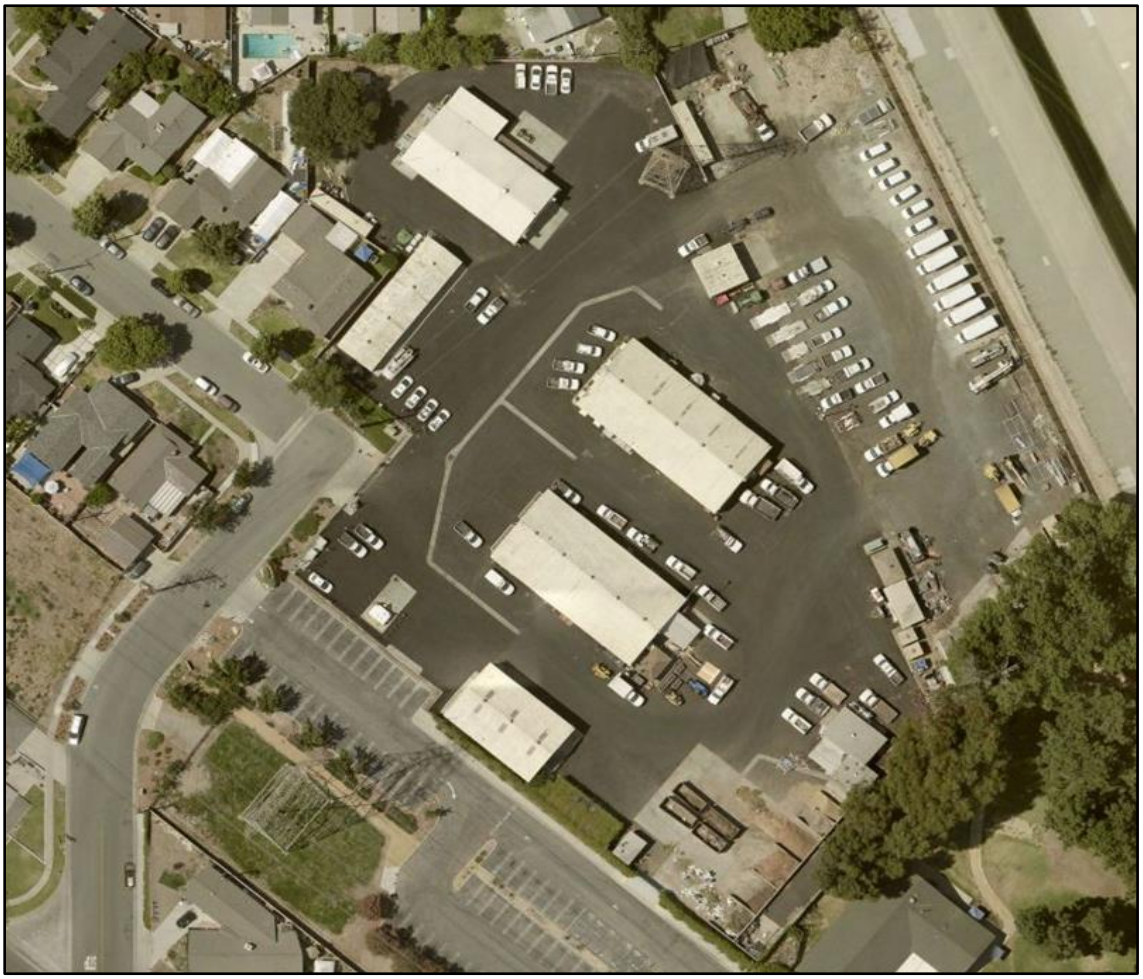
Table 3: Range and Estimated Costs of Future ZEB Purchases (by Delivery Date)

Timeline	Number of ZEBS	Bus Type(s)	Advertised BEB Range (Miles)	Estimated Cost of Each Bus
2027	2	Cutaway	135	$500,000
2028	2	Cutaway	135	$500,000
2029	2	Cutaway	135	$500,000

Section E: Facilities and Infrastructure Modifications

The City of Lakewood currently has one Maintenance Yard, which houses the City's six (6) vans and six (6) cutaway buses. The facility is at 6929 Nixon St, Lakewood, CA 90713. The City is currently in design of a strategic redevelopment plan for our maintenance yard that will include an EV charging area for future EV fleet needs. SCE has indicated that power availability to the region is limited.

Facility Name	Address	Main Function	Type of Infrastructure	Service Capacity	Needs Upgrade	Estimated Construction Timeline	Electric Utility Company
Lakewood Maintenace Yard	6929 Nixon Street Lakewood, CA, 90713	Maintenance Yard & Fleet Storage	Six plug-in depot chargers will be installed	Six buses after the installation of charging stations	Yes	2027	Southern California Edison



Section F: Service in Disadvantaged Communities

According to the California Office of Environmental Health Hazard Assessment (OEHHA), disadvantaged communities are defined as the top 25% in terms of scoring in the CalEnviroScreen. CalEnviroScreen is a tool that identifies communities that are most vulnerable to pollution by using environmental, health, and socioeconomic data to produce a score for every census tract within the state of California.

Based on the cities listed in the latest version of CALEnviroScreen, DASH Transit currently services two disadvantaged communities and will continue for the foreseeable future. DASH Transit buses service all areas of Lakewood, and as they are replaced, they will service disadvantaged communities providing cleaner, quieter service to the local ridership.

Section G: Workforce Training

OEM Training

The City of Lakewood plans to take advantage of training from the bus manufacturers and station suppliers, including maintenance and operations training, station operations and fueling safety, first responder training, and other trainings that the technology providers may offer. OEM training provides critical information on operations and maintenance aspects specific to the equipment model procured. Additionally, many procurement contracts include train-the-trainer courses through which small numbers of agency staff are trained and subsequently train agency colleagues. This method provides a cost-efficient opportunity to provide widespread agency training on new equipment and technologies.

Section H: Existing Funding Sources

Los Angeles County Local Transportation Sales Taxes

Los Angeles County has four sales taxes devoted to transportation. Part of each sales tax has a "local return" portion distributed to each City based on statute and population. The City plans to use these funds for the transit fleet's capital and operations.

AB2766 Air Quality Improvement Funds

The City of Lakewood receives a per capita allocation of vehicle license fees collected by the South Coast Air Quality Management District (AQMD). These funds are reserved for transportation projects and programs that reduce criteria air pollutants. The City intends to use these funds for the purchase of ZEBs as well as charging infrastructure.

California Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP)

The HVIP supports the deployment of zero-emission and near-zero-emission technologies by facilitating point-of-purchase price reductions. CALSTART administers the program on behalf of the California Air Resources Board (CARB).

Potential Funding Opportunities

- California Air Resources Board
    - Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project
    - State Volkswagen Settlement Mitigation
    - Carl Moyer Memorial Air Quality Standards Attainment Program
    - Cap-and-Trade Funding
    - Low Carbon Fuel Standard
- California Transportation Commission
    - Solution for Congested Corridor Programs
- California Department of Transportation
    - Low Carbon Transit Operations Program
    - Transportation Development Act
    - Transit and Intercity Rail Capital Program
    - Transportation Development Credits
    - Southern California Edison Ready Charge Program
- California Energy Commission

Section I: Start-Up and Scale-Up Challenges

The financial requirements are the most significant challenge facing transit agencies through the start-up and scale-up phases of the zero-emission transition. BEBs are more expensive to procure, and new infrastructure is required to operate and maintain the vehicles. Financial support from the federal, state, and local governments will be necessary to achieve the Innovative Clean Transit regulation targets.

Procurement volumes impact the per-vehicle cost of buses, with each agency placing orders individually over the next few years, increasing the pressure on our budget. It may be possible to reduce the per-vehicle cost through a state-led bulk procurement of BEBs that could incorporate demand from many agencies. Funding should also be made available for workforce training. To ensure a successful transition, agencies must prepare staff for the correct operation and maintenance of BEBs. While BEBs require less maintenance than conventional buses because they include fewer moving parts, they require new protocols and procedures to ensure safe and successful operation. The use of regenerative braking also alters ideal driving characteristics. Drivers must be adequately trained to ensure vehicles are operating at optimal performance.

A challenge facing long-term transition planning is the uncertainty around the performance and availability of zero-emission paratransit and over-the-road vehicles. It is imperative that the CARB provide funding to transit agencies across the state to support the transition to zero-emission vehicles. As fleets are transitioned, agency capital and operating budgets will increase, and funding will be required to maintain the level of service provided to residents. In addition to funding support for bus and infrastructure purchases, CARB should support training/educational programs and the deployment of new bus platforms like paratransit and over-the-road vehicles.