



San Diego Needs Battery Electric Buses (BEB)



BEBs mean lower health costs

Heavy-duty vehicles, including trucks & buses are the single largest source of nitrogen oxides (NOx) in California (emitting 33 percent of the state's total). NOx produces Ozone, which can cause asthma, lung and heart disease.

BEBs Build Wealth

California is the electric bus capital of the USA. Jobs here are growing faster than in the rest of the USA. We can encourage business, build workforce and increase prosperity across socio-economic lines.

BEBs Meet a Majority of Today's Route Needs

- Current BEBs meet over half of bus routes, which are usually no more than 150 miles.
- Bus ranges increase every year.
- 350 miles buses are available and/or in-route charging supports longer-range needs.

Electricity Costs are Cheaper

- Electric power is already the cheapest bus fuel per mile.
- Charging can be done mostly when electricity rates are lowest.
- Utilities are proposing favorable new rate structures for transit electrification.

Maintenance Costs are Lower than Other Fuel-Type Buses

- Electric drive trains have fewer moving parts and require less maintenance, for example, oil changes are not required.
- Regenerative brakes extend brake service life, especially in high stop and go routes.
- Some buses come with 12-year warranties. Extended battery warranties & leasing opportunities are also available.

Bus Costs are Declining

- Improved battery technology, competition and economies of scale already dropped prices of buses 25% in the last five years. Studies show significant future cost reductions.
- King County Metro bus fleet, the west coast's 2nd largest and the US's 9th found it can achieve 100% electric, zero-emission bus fleet by 2034 with minimal expense increases.

BEBs are Affordable now

- The total cost of ownership for zero emission buses (ZEB) can be cost competitive or lower than compressed natural gas (CNG) buses.
- Even without looking at overall savings, ZEB's are forecast to cost only \$150,000 more than a CNG in 3-5 years and may approach cost parity with CNG buses within 8 years.
- Many transit agencies can offset upfront costs with fuel (electricity) and maintenance costs that are significantly lower than CNG buses.
- California's Low Carbon Fuel Standard Credits (LCFS) can cover a substantial portion of the annual cost of electricity for an electric bus.

Innovative Funding of One-Time Startup Infrastructure Costs

SDG&E is currently working on innovative funding approaches. They are considering installing the electrical cabling and charging equipment at little or no cost to MTS.

State Laws are Driving Requirements

- SB 32 requires reduction of greenhouse gases (GHG) by 40% compared with 1990 levels by 2030. Transportation now contributes 40% of state's GHG.
- SB350 requires utilities to promote the electrification of transportation.
- CARB is currently working on a regulation that will likely require MTS to have 100% ZEBs by 2040 or earlier. TAs need to begin purchasing ZEB's now to gain the experience necessary to manage this transition gradually.

Many Other Transit Agencies are Embracing ZEBs

- Right now, nearly 50% of California's 39 transit agencies with 50 or more buses either own zero emission buses or have them on order.
- In 2018, California will have two 100% electric buses fleets. Antelope Valley Transit Authority, an 85-bus agency will be the first in the state. University of Irvine Students voted in favor of a fee on themselves to pay for their fleet of 20 electric buses.

BEB's Advance Social Justice

Electric buses bring cleaner and healthier neighborhoods to disadvantaged communities, which make greater use of public transportation. Nearly two-thirds of those living near busiest roads—those carrying more than 200,000 vehicles on an average day—are people of color. The median household income in these areas is roughly 20 percent below the county average.

BEB's Bring Increased Enjoyment and Pride

Passengers and bus drivers enjoy quieter, smoother rides. Along bus routes, home dwellers, office workers, bystanders and commuters appreciate electric buses with no smell or pollution. No wonder other cities proudly display the stamp of clean energy on their buses.



It's time for San Diego MTS to get on board!