Why MBTA Should Recharge its Fleet Electrification Efforts

SIERRA CLUB

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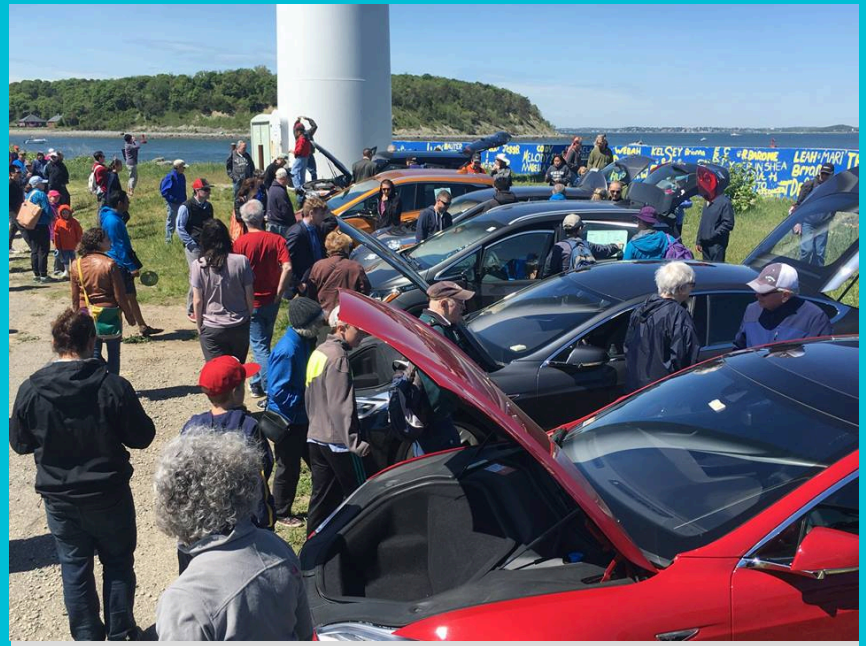

Founded by John Muir in 1892

Largest, most influential grassroots environmental organization in the country, 63 Chapters

130,000 members and supporters across the Commonwealth

Sierra Club

Areas of Action

Organizing Climate Action

Protecting water, air, land and wildlife

Acting for social justice

Connecting people to the natural world

Climate Emergency and Local Impacts

45%

We need to reduce carbon emissions by 45% by 2030 to avoid mass extinctions, famines, displacement, and diseases

7.4 ft

Boston is likely to experience 3.2 to 7.4 feet of relative sea level rise in the next 80 years because of climate change impacts

>40%

Transportation is the largest source of emission in MA impacting climate change

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Emission Reduction Strategies

- Stronger fuel efficiency and emission reduction standards
- Access to equitable transit options
- Safer bikeable and walkable communities
- **Transition to electric vehicles**

"Achieving the Commonwealth's 2050 GWSA mandate will require the near-complete transition of our vehicle fleet to electric vehicles or other zero-emission vehicle (ZEV) technology. The Governor should establish a goal that by 2030, all cars, light duty trucks, and buses purchased with state resources will be ZEVs."

- Governor's Commission on the Future of Transportation, 2018

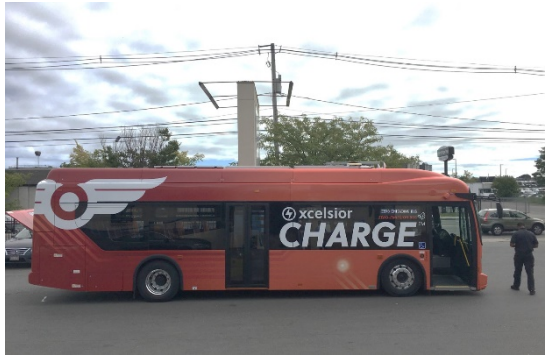
Public Health Impact

Inequitable
exposure to vehicle pollution

- 34% - African Americans
- 26% - Latinos
- 36% - Asian Americans

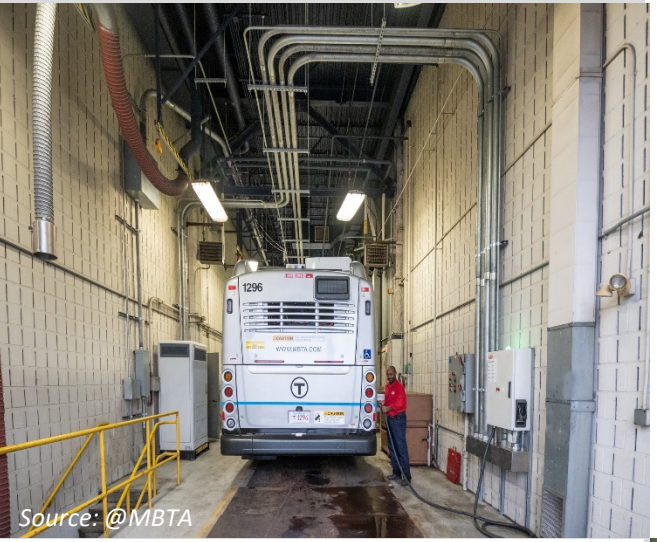
Significant
Health costs

- 109,000 asthma attacks
- 220,000 lost work days
- 2500 premature deaths



Potential to save $2.7 billion in public health

By transitioning all vehicle fleets to be powered by electricity Massachusetts will save almost $2.7 billion in public health by 2050.



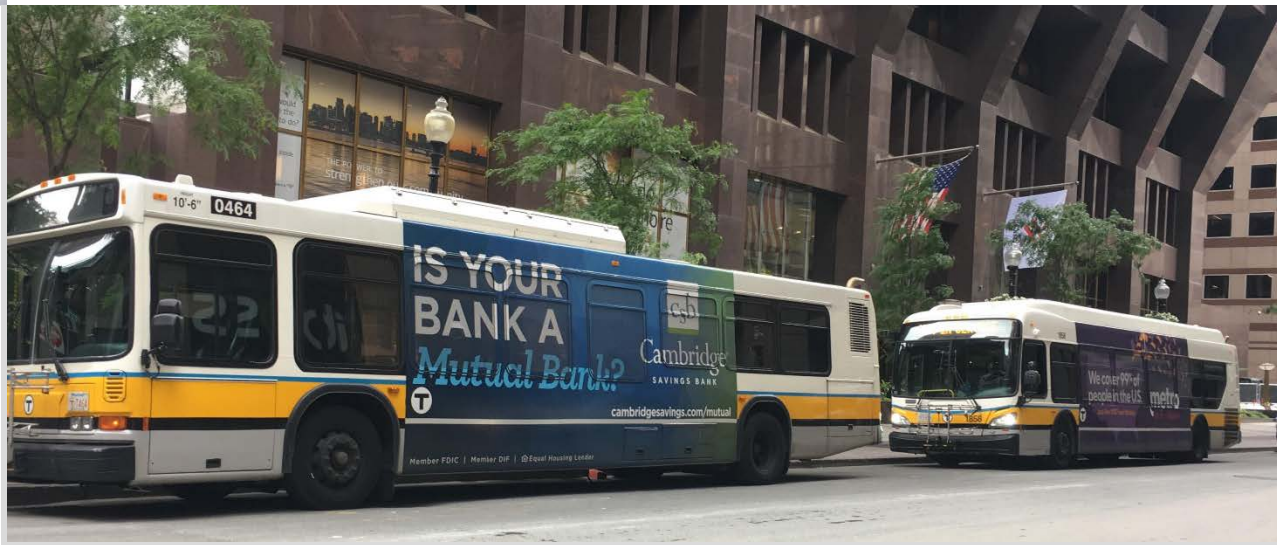
Source: @MBTA

Economically Attractive

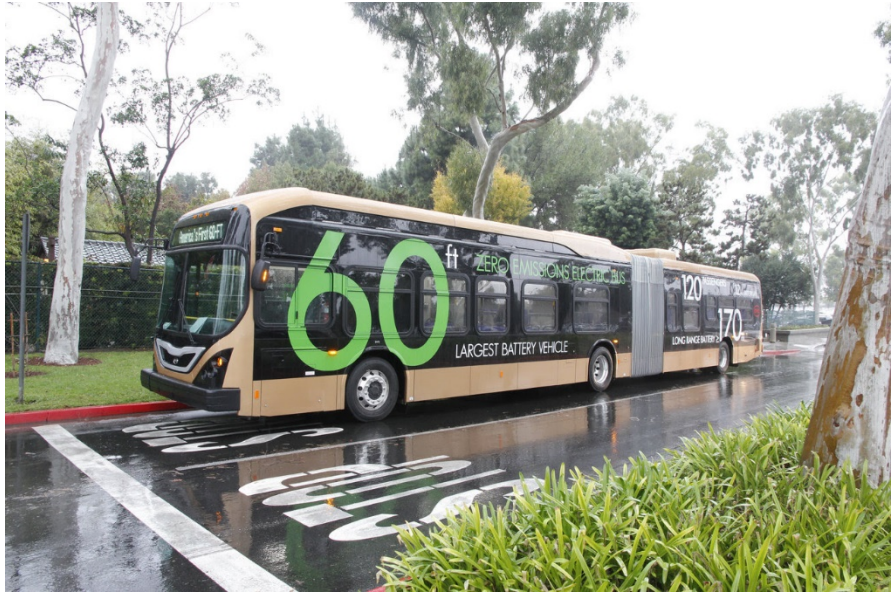
- Saves ~$400,000 in lifetime fuel and maintenance costs
- Battery costs expected to account for 8% of bus price by 2030, down from around 26% in 2016
- Has four times the fuel efficiency
- Runs 250-300 miles on a single charge

Environment Friendly

- Eliminate 1,690 tons of carbon dioxide, 350 lbs of particulate matter, 10 tons of nitrogen oxides
- MBTA can avert ~55,000 tons of carbon emissions annually



MBTA Bus Procurements



Five 60 ft electric buses enter service on the Silverline

Electric bus feasibility report

Purchased 575 fossil fuel buses in the last 4 years, >50% of their fleet

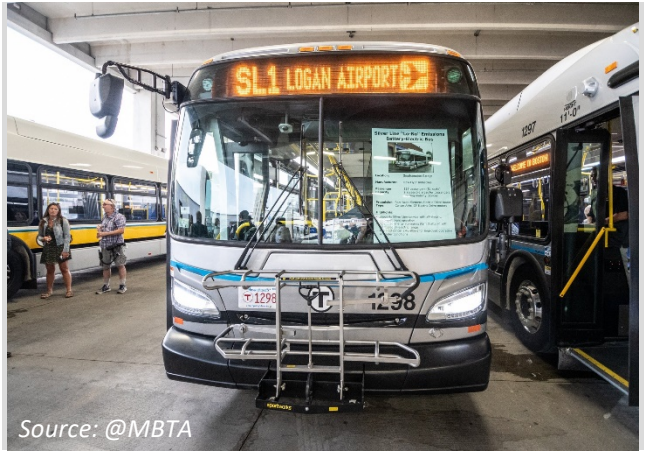
Plans to purchase over 700 buses in the next 5 years, only 35 electric

“We can wait for others and follow – at the expense of residents’ health – or lead and innovate, and reduce emissions as quickly as possible. I’d much rather do the latter.”

- Los Angeles Mayor Eric Garcetti

MBTA Should Be A Leader

Several cities including Los Angeles, New York, Seattle, and Martha's Vineyard have committed to going 100% electric. And Denver, Philadelphia, Chicago and many others are adding more electric buses to their fleet.



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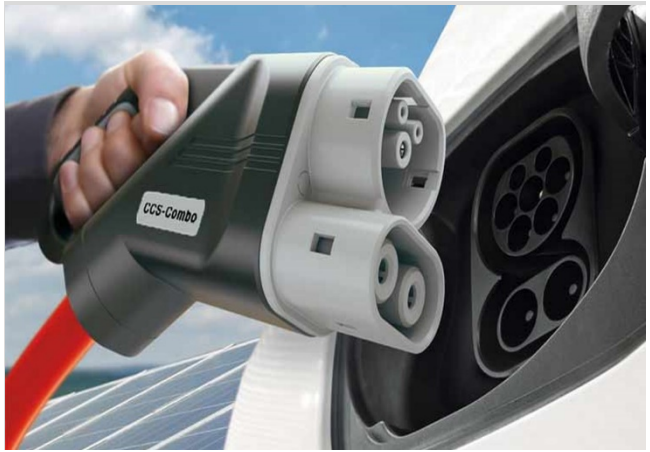

- Commit to all electric bus purchases by 2030
- Lay out a clear pathway for a phased transition to 100% electric
- Equip garages for the next generation of bus technologies
- Have at least one garage fully operational for an electric bus fleet by 2020

Veena Dharmaraj

Conservation and Development Program Manager

Sierra Club, Massachusetts Chapter

veena.dharmaraj@sierraclub.org