2021 Bus Electrification Testimony - LNS.pdf

Uploaded by: Achar, Carunya

Position: FAV

LABOR NETWORK FOR SUSTAINABILITY

A PROJECT OF VOICES FOR A SUSTAINABLE FUTURE, INC.

January 28, 2021

Testimony on SB 137 –
Zero-Emission Bus Transition Act

Position: Favorable

Dear Chairperson Pinsky and Members of the Committee:

Thank you for the opportunity to submit testimony in support of Senate Bill 137, the Zero-Emission Bus Transition Act. The Labor Network for Sustainability (LNS) supports this bill as a necessary step in the transition to a clean transportation system and one that strikes the right balance between fiscal responsibility and addressing the urgent climate and public health crises.

Emissions from transportation account for 40% of greenhouse gas emissions in the State and on-road vehicles are responsible for the greatest share of these emissions. Additionally, other toxic emissions from fossil fuel powered vehicles pollute our air and are associated with significant pulmonary and cardiovascular risk, including asthma. Preliminary research suggests that people living in communities with significant exposure to air pollutants have increased risk of hospitalization or even death if exposed to COVID-19. A Harvard study found that long-term exposure to an additional microgram per cubic meter of fine particulate matter was associated with an 8% increase in death rates from COVID. Transitioning to zero emissions buses is a public health imperative.

Senate Bill 137 would require that starting in 2023, MTA would be prohibited from entering into contracts for the procurement of buses that are not zero emissions. This allows MTA to transition away from diesel buses in a planned, orderly way. MTA would have ample time to invest in necessary charging infrastructure and to appropriately train bus operators and maintenance employees on the new technology. Zero emissions bus technology has already been shown to meet the demands of transit systems and is improving daily. By delaying the requirement to purchase zero emissions vehicles, MTA can take advantage of these improvements while planning for the transition.

We also applaud the bill's recognition that technological changes can negatively impact workers and the protections it incorporates to address potential disruptions. The bill ensures that workers will not suffer displacement or lose wages or benefits as a result of the transition. Again, by delaying the start of the procurement requirement to 2023, MTA can study and implement any necessary worker transition measures. That said, we support clarifying the "transition" plan language in the bill to ensure that it includes necessary retraining of workers who operate and maintain MTA buses. MTA can learn lessons from other jurisdictions who are already making the transition away from diesel buses about how best to train workers and avoid any potential problems.

Delaying the bill's start date to 2023 also delays the benefits associated with zero emissions vehicles, but it does address any immediate fiscal impact that such purchases may have. The purchase price of electric buses is currently greater than that of diesel buses but that cost differential is decreasing almost daily and at a faster rate than experts had projected. Moreover, savings from gasoline and maintenance make zero emissions buses cheaper over the vehicle life span. Based on the experience of other jurisdictions, MTA can recoup its initial investment in approximately 5 years. And, by delaying the start of procurement contracts until 2023, the State will have no immediate fiscal impact while we weather the economic consequences associated with COVID.

Finally, transitioning to zero emissions buses must be seen as part of the overall necessary transition to a clean renewable economy. Maryland must make that transition as quickly as possible to address public health and climate crises. But, Maryland should also see the transition as an economic opportunity. Cities like Los Angeles and Chicago have used transit procurement to secure new bus and rail manufacturing facilities that create new quality jobs. Maryland can and should do the same.

SB0137 - Balt Sustain Comm.pdf
Uploaded by: Avins, Miriam
Position: FAV

BALTIMORE COMMISSION ON SUSTAINABILITY

People ♦ Planet ♦ Prosperity

January 26, 2021

Senator and Committee Chair Pinsky
Members of the Senate Education, Health, and Environmental Affairs Committee
Sent by email

RE: Support for SB 0137, Maryland Transit Administration – Conversion to Zero-Emission Buses (Zero-Emission Bus Transition Act)

Dear Chair Pinsky and Members of the Senate Education, Health, and Environmental Affairs Committee,

We write in support of SB 0137, Maryland Transit Administration – Conversion to Zero-Emission Buses (Zero-Emission Bus Transition Act). This bill was introduced in the 2020 Regular Session as SB 0432 but did not have the opportunity to advance due to coronavirus disruption of the session.

The Baltimore Commission on Sustainability is a body appointed by the Mayor to oversee the creation and implementation of the Baltimore Sustainability Plan. The 2019 Baltimore Sustainability Plan addresses a wide range of social, economic and environmental goals for the City, and it does so through an equity lens.

The Baltimore Commission on Sustainability has a strong interest in the success of SB 0137 given our mandate to advance sustainability and equity to benefit all of the residents of Baltimore. First, reducing carbon dioxide emissions is a crucial priority for low-income communities, which are particularly vulnerable to the impacts of climate change. Second, MTA services are most concentrated in Baltimore City. As such, air pollutant emissions associated with conventionally fueled buses have a disproportionate health impact on Baltimore City residents. Residents of the City have elevated rates of asthma and chronic obstructive pulmonary disease (COPD), which is exacerbated by poor air quality. A switch to zero emissions buses will have air quality as well as carbon emission benefits that are critical to the well-being of disadvantaged communities in our City.

We urge the Committee to support SB 0137.

Sincerely,

Miriam Avins
Mia Blom
Co-chairs, Commission on Sustainability

Cc: Senator Zucker

BALTIMORE COMMISSION ON SUSTAINABILITY
417 E Fayette Street, 8th Floor
Baltimore MD 21202

2021 JCRC SB 137 MTA Conversion to Zero Emission B

Uploaded by: Bagwell, Ashlie

Position: FAV

JCRC
JEWISH COMMUNITY RELATIONS COUNCIL

Government Relations • Israel Advocacy
Inter-Group Relations • Social Justice
Maryland • Virginia • Washington, DC • Since 1938

Testimony in SUPPORT of *Senate Bill 137 – Maryland Transit Administration – Conversion to Zero–Emission Buses (Zero–Emission Bus Transition Act)*
Education, Health, and Environmental Affairs and Budget and Taxation
January 28, 2021

The Jewish Community Relations Council of Greater Washington (JCRC) serves as the public affairs and community relations arm of the Jewish community. We represent over 100 Jewish organizations and synagogues throughout Maryland, Virginia, and the District of Columbia. The JCRC is strongly committed to cultivating a society based on freedom, justice, and pluralism. We work tirelessly throughout the entire Greater Washington area to advocate for our agencies that serve the most vulnerable residents, support our Jewish day schools and community centers, and to campaign for important policy interests on behalf of the entire Jewish community.

In Genesis 2:15, G-d commands us to "till and tend" the earth, commonly interpreted as instruction to watch over and protect our environment. G-d has given us Earth and it is our responsibility to take care of it for the short time each of us is here. The JCRC has a long history of favoring policies which protect the environment and reverse climate change.

Senate Bill 137 prohibits the Maryland Transit Administration from entering into a contract to purchase buses for the Administration's State transit bus fleet that are not zero–emission buses beginning in fiscal year 2023. This bill aligns with the JCRC's belief that every person has the fundamental and inalienable right to a healthful environment, including the right to a stable climate, clean air, water and land, and the preservation, protection and enhancement of ecological, scenic and historic values of the environment.

The JCRC supports SB 137 in that it directly addresses our current climate crisis. Zero-emission buses will help improve air quality and reduce greenhouse gasses. For these reasons, we ask the committees to give a favorable report on SB 137.

SB0137-FAV-DTMG-1-28-21.pdf
Uploaded by: Bartlett, Olivia
Position: FAV

Olivia Bartlett, Co-Lead, DoTheMostGood Maryland Team

Committee: Education, Health, and Environmental Affairs

Testimony on: SB0137 - Maryland Transit Administration – Conversion to Zero–Emission Buses (Zero–Emission Bus Transition Act)

Position: Favorable

Hearing Date: January 28, 2021

Bill Contact: Senator Craig Zucker

DoTheMostGood (DTMG) is a progressive grass-roots organization with more than 2500 members who live in a wide range of communities in Montgomery and Frederick Counties, from Bethesda near the DC line north to Frederick and from Poolesville east to Silver Spring and Olney. DTMG supports legislation and activities that keep all the members of our communities healthy and safe in a clean environment. DTMG strongly supports SB0137 because it will help Maryland meet its greenhouse gas (GHG) reduction goals and address the existential threat of climate change.

GHG emissions are a driving factor in climate change due to global warming. Transportation is one of the largest contributors of GHG emissions in Maryland, with gasoline and diesel vehicles accounting for more than 36% of our total GHG emissions per year, according to the Maryland Greenhouse Gas Inventory. In order to reduce the impacts of climate change, Maryland must rapidly reduce its GHG emissions. Electrification of the transit bus fleet is an essential strategy in achieving the necessary GHG emission reduction.

Advances in electric bus technology and a rapid decline in battery costs over recent years have made electric buses an increasingly viable option for many transit agencies and school districts. To facilitate the rollout of electric buses and ensure that communities see the benefits of these vehicles, the US Public Interest Research Group (US PIRG) recommends that state and city officials commit to a full transition to electric buses on a specific timeline and create favorable utility rate structures for transit agencies that include reduced off-peak energy rates and limited demand charges.

SB0137 directly addresses the first PIRG recommendation. SB0137 will prohibit the Maryland Transit Administration (MTA) from entering into a contract to purchase buses that are not zero–emission buses for the State fleet beginning in fiscal year 2023. SB0137 will also require an annual report to include a schedule for converting the State transit fleet to exclusively zero–emission buses, an evaluation of necessary charging infrastructure, a plan for transitioning adversely affected State employees, an estimate of the potential emission reductions, and an analysis of projected costs.

The commitments in SB0137 will help grow the market, drive technological innovation, and enable transit agencies to gain the benefits of economies of scale in maintenance facilities, operational experience and electricity pricing.

Although purchasing zero emission buses is more expensive in the short-term, there are a number of longer-term benefits. Clean and reliable bus transit will have health and economic benefits, particularly for the residents of Baltimore. Nearly half the population of Baltimore lacks access to a car and the 80 bus lines serving Baltimore provide a critical means of transportation to work, school, grocery stores, and medical appointments. Transitioning from diesel to zero-emission buses will reduce air pollution and smog and result in health benefits for all Baltimore residents.

In addition, electric buses have reduced operation and maintenance requirements and therefore lower long-term overall costs. Several US cities have demonstrated the advantages of all-electric bus fleets: According to US PIRG, Seneca, SC became the first city in the world to launch an all-electric bus fleet in 2014. The buses have outperformed their previous diesel buses in fuel and maintenance costs, and exceeded expectations about charging time, range and battery life. The all-electric bus fleet in Chicago demonstrates that all-electric buses perform well in cold weather, and the fleet saves the Chicago Transit Authority more than $50,000 per year in fuel and maintenance costs. After a pilot test of electric buses, King County Washington committed to purchasing only zero-emission buses in 2020 and will transition to a fully zero-emission fleet by 2040.

These same benefits can accrue to bus riders and residents across Maryland if SB0137 is enacted. Conversion of the MTA transit bus fleet to electric buses will also improve reliability and reduce operation and maintenance costs over time.

Therefore, DTMG strongly supports and urges a **FAVORABLE** report on this SB0137.

Respectfully submitted,

Olivia Bartlett
Co-lead, DoTheMostGood Maryland Team
oliviabartlett@verizon.net
240-751-5599

czajka_sb0137_012621.pdf
Uploaded by: Czajka, Mark
Position: FAV

Subject: SUPPORT FOR SB 137

January 26, 2021

Education, Health, and Environmental Affairs Committee
2 West
Miller Senate Office Building
Annapolis, Maryland 21401

Dear Honorable Chair Paul G. Pinsky and Members of the Committee:

Thank you for considering Senate Bill 137 (Zero–Emission Bus Transition Act). We **SUPPORT** this bill because electric buses are successfully being used around the country and even in Washington, DC since May of 2018 (DC Circulator) and the benefits outweigh the risks.

The benefits[1] of DC's fleet of 14 Proterra electric buses is impressive, including:

- 100% battery electric propulsion
- Zero emissions
- Displaces 88.9K gallons of diesel annually
- Eliminates more than 244K lbs of CO2 emissions annually
- Provides fuel and maintenance cost savings of more than $6 million during a 12-year lifetime
- Reduces noise pollution throughout the District

Like the Biden administration's consideration of electric vehicles for the federal fleet, Maryland should be a leader in this area and start the transition of buses and other vehicles in the state fleet, where appropriate, to electric.

If you have any questions, please feel free to contact me via email or on my cell phone at 240-416-9001.

Sincerely,

Mark Czajka
Director
MD Volt Inc.
www.mdvolt.org
mark@mdvolt.org

[1] https://www.dccirculator.com/meet-the-fleet/

1.28.2021 SB137 MTA ConversionToZero-EmissionsBuse

Uploaded by: Ditzler, Barbara

Position: FAV

TESTIMONY TO THE SENATE EDUCATION, HEALTH, AND ENVIRONMENTAL AFFAIRS COMMITTEE

SB 137 Maryland Transit Administration – Conversion to Zero-Emissions Buses (Zero-Emissions Bus Transition Act)

POSITION: Support

BY: Lois Hybl and Richard Willson – Co-Presidents

Date: January 28, 2021

The League of Women Voters (LWV) supports legislation that promotes the control of climate change as well as encourages the use of renewable resources. Legislative mandates like purchasing zero-emissions buses to aid in the transition to an all zero-emissions bus fleet are a prime example as to how Maryland can promote good environmental policies in the transportation sector.

SB 137 incorporates the important aspect of evaluation of this new program into the bill. Maryland should be making decisions based on technological improvements in the transportation system with measurements. Changes may be made using new technologies in buses and the state should take advantage of these for good environmental stewardship so good decisions may be made based on facts.

The League of Women Voters of Maryland (LWVMD) has positions to encourage the abatement of emissions from mobile sources. These positions encourage the reduction of energy consumption and help to protect our natural resources.

LWVMD promotes the use of mass transit and alternative travel modes for a healthier environment. By incorporating new technology into mass transit as one would by increasing our zero-emission bus fleet, we see a win for Maryland's environment.

We urge a favorable report on SB 137.

121 Cathedral Street, Suite 2B, Annapolis, MD 21401
410-269-0232 * info@lwvmd.org * www.lwvmd.org

SB0137_Gallardo_Favorable.pdf
Uploaded by: Gallardo, Justin
Position: FAV

Justin Gallardo
SB0137
Favorable
January 28, 2021

Testimony on SB0137
Maryland Transit Administration - Zero-Emission Bus Transition Act
Senate Education, Health, and Environmental Affairs Committee

Mr. Chairman and Members of the Committee:

Thank you for receiving this testimony in support of SB0137, Zero-Emission Bus Transition Act. I am a former employee of Shuttle UM at the University of Maryland, College Park. Not only did I serve commuters who depended on public transit – I myself depended on it as I was attending school and even after graduation while working for the transportation department. I had little disposable income that preventing me from purchasing an automobile. I had other priorities like paying off student loans. Quality public transit is a cornerstone of having a functioning regional economy, ensuring clean air, reducing impact on public health, and reducing our impact on global climate change.

SB0137 is an incremental bill that would force MTA to purchase contracts with Zero-Emission buses starting FY 2023. This bill provides guidelines and will not interrupt or impede on services. Our tax dollars should go to toward economic efficiency and not adversely harming the residents of the region – this is a wonderful start!

As a former resident of Prince George's County and employee of UMD, I witnessed air pollution and its adverse harm during the summer months. This was associated with diesel emissions and the burning of fossil fuels. It made it harder to breathe while I was doing my job forcing me to wear a mask. Between the excessive heat and the air pollution – it was unbearable. Where there are major corridors, there is a major chance of being adversely impacted by pollution associated with the burning of fossil fuels for public transit services, ultimately disproportionally affecting low-income residents and people of color. It is evident along the US-1 corridor in Prince George's County as well as the Baltimore region. We can have a thriving economy with reasonable legislation to combat negative externalities – this bill would do such. Human health and economic productivity should not be mutually exclusive!

In my lifetime, I want a future with economic prosperity, good health to all Americans, and limited impact on our global climate; therefore, I urge a favorable report of SB0137.

Sincerely,
Justin Gallardo

SB 137 Maryland Transit Administration – Conversio

Uploaded by: Kerr, Cait

Position: FAV

The Nature Conservancy
Protecting nature. Preserving life.

The Nature Conservancy
Maryland/DC Chapter
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nature.org

Thursday January 28, 2021

TO: Paul Pinsky, Chair of Senate Education, Health and Environmental Affairs Committee and Committee Members
FROM: Caitlin Kerr, The Nature Conservancy, Conservation & Climate Policy Analyst
POSITION: Support SB 137 Maryland Transit Administration – Conversion to Zero-Emission Buses (Zero-Emission Bus Transition Act)

The Nature Conservancy (The Conservancy) supports SB 137 offered by Senator Zucker. SB 137 transitions the Maryland Transit Administration (MTA) bus fleet to zero-emissions buses over time starting with the next procurement cycle in 2023. Beginning in FY 23, the MTA would be prohibited from entering into new procurement contracts for purchasing buses that are not zero-emission. It will not disrupt any currently existing procurement contracts and will allow significant time in order for MTA to develop the necessary infrastructure for deploying the zero-emission buses without disruptions in current bus service. The bill also lays out some additional key measures to ensure a smooth transition, including a requirement for the MTA to develop a plan for transitioning any state workers that are adversely impacted by the bus fleet conversion to similar or other positions of employment within the MTA or Maryland Department of Transportation that have commensurate seniority, pay, and benefits. It also requires reporting an estimate of expected carbon dioxide emissions reductions annually during the transition process, which will ensure that the intentions of this bill are realized.

The transportation sector is the largest contributor to climate change in our country, our region, and in Maryland. It accounts for approximately 40% of greenhouse gas emissions statewide, predominately from on-road sources. Gas-powered vehicles also emit air pollutants like particulate matter that harm pulmonary and cardiovascular health. Of the particulate matter that diesel-powered vehicles emit, 80%-95% is 'ultrafine' size, which has the ability to penetrate deep into the lungs and enter the circulation system. Nitrogen oxides from fossil fuel combustion, including diesel exhaust, are the major precursors of ground level ozone, which triggers asthma attacks. These dangerous health risks disproportionately impact Black and brown communities and low-income neighborhoods. Eliminating diesel emissions from MTA buses traversing our neighborhoods and cities will protect public health by reducing the health risks from air pollution and will also significantly reduce households' healthcare costs.

Maryland has set ambitious goals to reduce greenhouse gas emissions and combat climate change. Addressing the contributions our state transit system is currently making to the climate crisis is an important step toward achieving those goals. According to a 2018 article in *Mass Transit Magazine* titled "How Electric Vehicles Will Reshape Mass Transit," a single zero-emission bus can eliminate 1,690 tons over carbon dioxide compared to a diesel-powered bus over a 12-year life span. We need to act now in order to meet our state climate goals and SB 137 moves us closer to reaching them.

We commend Senator Zucker on introducing this bill, which would improve environmental and public health in our state.

Therefore, we urge a favorable report on SB 137.

SB137_bus electrification_fav_MLC CJW_1.28.21.pdf
Uploaded by: McGilvray, Laurie
Position: FAV

Committee: **Education, Health, and Environmental Affairs**
Testimony on: **SB0137 - Maryland Transit Administration – Conversion to Zero–Emission Buses (Zero–Emission Bus Transition Act)**
Organization: **Climate Justice Wing of the Maryland Legislative Coalition**
Submitting: **Laurie McGilvray**
Position: **Favorable**
Hearing Date: **January 28, 2021**

Dear Mr. Chairman and Committee Members:

Thank you for allowing our testimony today in support of SB0137. The Maryland Legislative Coalition's Climate Justice Wing, a statewide coalition of over 50 grassroots and professional organizations, urges you to vote favorably on SB0137. The bill will prohibit the Maryland Transit Administration (MTA) from entering into a contract to purchase buses for the State fleet that are not zero–emission buses beginning in fiscal year 2023, and will require an annual report to include a schedule for converting the State transit fleet to exclusively zero–emission buses, an evaluation of necessary charging infrastructure, a plan for transitioning adversely affected State employees, an estimate of the potential emission reductions, and analysis of projected costs.

Transportation and Climate Change

Transportation is one of the largest contributors of greenhouse gas (GHG) emissions in Maryland. In order to reduce the impacts of climate change, Maryland must rapidly reduce its GHG emissions. Electrification of the transit bus fleet is an essential strategy in achieving necessary GHG emission reduction.

Benefits Outweigh Costs of Bus Electrification

Although purchasing zero-emission buses is more expensive in the short-term, there are a number of longer-term benefits. Clean and reliable bus transit will have health and economic benefits, particularly for the residents of Baltimore. Nearly half the population of Baltimore lacks access to a car and the 80 bus lines serving Baltimore provide a critical means of transportation to work, school, grocery stores, and medical appointments. The reduction in air pollution from buses will result in health benefits for Baltimore residents. In addition, electric buses have reduced operation and maintenance requirements and therefore lower costs. Conversion of the MTA transit bus fleet to electric buses will improve reliability and reduce O&M costs over time. Finally, these same benefits will accrue to bus riders and residents across Maryland since MTA buses serve many other counties in the state.

For these reasons we urge a favorable vote for SB0137.

SB137_bus electrification_fav_TPMEC_1.28.21.pdf
Uploaded by: McGilvray, Laurie
Position: FAV

TAKOMA PARK MOBILIZATION

Environment Committee

Committee:	**Education, Health, and Environmental Affairs**
Testimony on:	**SB0137 - Maryland Transit Administration – Conversion to Zero–Emission Buses (Zero–Emission Bus Transition Act)**
Organization:	**Takoma Park Mobilization Environment Committee**
Submitting:	**Laurie McGilvray**
Position:	**Favorable**
Hearing Date:	**January 28, 2021**

Dear Mr. Chairman and Committee Members:

Thank you for allowing our testimony today in support of SB0137. The Takoma Park Mobilization (TPM) is a grassroots organization based in Takoma Park, Montgomery County and focused on state and local climate change issues. The TPM Environment Committee urges you to vote favorably on SB0137. The bill will prohibit the Maryland Transit Administration (MTA) from entering into a contract to purchase buses for the State fleet that are not zero–emission buses beginning in fiscal year 2023, and will require an annual report to include a schedule for converting the State transit fleet to exclusively zero–emission buses, an evaluation of necessary charging infrastructure, a plan for transitioning adversely affected State employees, an estimate of the potential emission reductions, and analysis of projected costs.

Bus Transit and Greenhouse Gas Reduction Goals

Transportation comprises one of the largest sources of greenhouse gas (GHG) emissions (e.g., 42% in Montgomery County). Electrification of buses is a key strategy for Maryland to meet its GHG reduction goals and for Montgomery County to meet its even more ambitious goals of 80% GHG emission reduction by 2027 and 100% by 2035. While Montgomery County operates the local RideOn bus system, MTA operates commuter buses that run within the County. Conversion of the MTA commuter bus fleet to zero-emission buses would go a long way to helping the County and the State reduce GHG emissions.

Benefits Outweigh Costs of Bus Electrification

Although purchasing electric buses is more expensive in the short-term, there are a number of longer-term benefits. First, electric buses have lower operation and maintenance costs, thus compensating for the cost differential over time. Second, electrifying public buses would improve public health through reduced air pollution and increase jobs in the growing EV infrastructure sector.

For these reasons we urge a favorable vote for SB0137.

SB137_Maryland League of Conservation Voters_SUPPO
Uploaded by: Palencia-Calvo, Ramon
Position: FAV

MARYLAND LEAGUE
OF CONSERVATION VOTERS

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January 28, 2021

SUPPORT SB137: Zero-Emission Bus Transition Act

Dear Chairman Pinsky, Vice-Chair Kagan and members of the Committee:

Maryland League of Conservation Voters strongly urges your support of SB137 – the Zero-Emission Bus Transition Act – and we thank Senator Zucker for his leadership on this important issue. This bill is a priority for Maryland LCV and the Environmental Community. It is an important piece in Maryland's long-term transition toward clean transportation and fighting climate change. SB137 will provide significant benefits for the health of our communities, for our climate, and for taxpayers for the following three reasons:

ECONOMIC

Battery powered electric buses are a cost-effective alternative to diesel buses – The trend is clear. Transit agencies around the world are transitioning away from diesel buses to electric. There are currently more than 425,000 electric buses on the road worldwide. This trend is also occurring in the US. There are more than 2,000 electric buses circulating across the country.[1] In Maryland, both Frederick County and Howard County have electric buses. The initial cost of an electric bus is greater than a diesel bus; however, the long-term savings in fuel, operation, and maintenance costs make the electric bus a more cost-effective investment over its lifetime.

The U.S. Public Interest Group (US PIRG) determined that while electric buses initially cost around $200,000 more per bus than diesel buses, lifetime fuel and maintenance savings of electric buses are around $400,000.[2] These projected savings are being confirmed by transit systems around the country that have adopted electric buses.

Antelope Valley Transit Authority in Los Angeles County reported that electric buses save the county an average of $46,000 per bus per year over diesel.[3] The Chicago Transit Authority's (CTA) rollout of two electric buses in 2014 was one of the first major tests of electric bus technology in a cold winter climate.

[1] https://globaldrivetozero.org/publication/zeroing-in-on-zebs-the-advanced-technology-transit-bus-index-2019/
[2] US PIRG, *Paying for Electric Buses Financing Tools for Cities and Agencies to Ditch Diesel*, 30 October 2018
[3] Forbes, The U.S. just spent $84 million on electric buses; https://www.forbes.com/sites/sebastianblanco/2018/08/31/84-million-electric-buses/#50edccc65e40, 31 August 2018

The vehicles have performed well, even under extreme temperatures, while saving the CTA more than $24,000 each year in fuel costs and $30,000 each year in maintenance costs.[4] In Maryland, Frederick County has found similar results, with reported savings of more than $50,000 per year per bus over the diesel models.[5] By switching to electric buses, the Maryland Transit Administration (MTA) can recoup its initial investment in approximately 5 years and continue saving throughout the remaining years the buses will be in operation (buses usually run at least 12 years).

PUBLIC HEALTH

Diesel emissions are the most harmful type of transportation emissions – Diesel exhaust fumes have higher levels of health-harming substances, including particulate matter and nitrogen oxides, than other transportation fuels.[6] Between 80% and 95% of the particulate matter in diesel soot is of "ultrafine" size – the most harmful type of particles because their microscopic size allows them to enter deep into the lungs and actually penetrate cell walls to enter the circulation system. Particulate matter is strongly associated with pulmonary and cardiovascular risk, and long-term mortality. Nitrogen oxides from fossil fuel combustion, including diesel exhaust, are the major precursors of ground level ozone, which is an important trigger of asthma attacks.

Additionally, diesel exhaust contains over 40 toxic air contaminants, including benzene, formaldehyde, and heavy metals. These and other substances make diesel exhaust exposure a recognized cause of cancer risk; the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment found that "long-term exposure to diesel exhaust particles poses the highest cancer risk of any toxic air contaminant evaluated."[7] As a result of studies of the health effects of diesel exhaust, in 2012 the International Agency for Research on Cancer (a division of the World Health Organization) listed diesel engine exhaust as "carcinogenic to humans."

There is also strong evidence that exposure to transportation exhaust pollution causes long-term damage to lung development in children.[8] In the City of Baltimore the use of yellow school buses is very limited, and students usually take diesel fueled MTA buses to get to and from school. They are being directly exposed to diesel exhaust emissions while waiting at bus stops and riding these buses. The developing lungs of children make them especially sensitive to the harmful effects of diesel exhaust exposure.[9] The high prevalence of asthma in young children increases this susceptibility, and asthma attacks are major contributors to school absence and causes of medical care-seeking for school-age children.

By eliminating diesel emissions from buses in our neighborhoods and cities, we will improve our communities by reducing health risks from air pollution and significantly reducing health care costs. These savings have been quantified in cities such as New York and Chicago. The Chicago Transit Authority estimates that a single electric bus saves the city nearly $55,000 every year in avoided healthcare expenses resulting from cleaner air.[10] In New York, a study conducted by Columbia University for MTA-New York City Transit calculated that electric buses significantly reduce particulate matter

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[4] Chicago Transit Authority, *CTA Expands Electric Bus Fleet,* archived at https://www.transitchicago.com/cta-expands-electric-bus-fleet/, 12 June 2018

[5] Marshall, Ryan. "County Looks at Adding More Electric Buses to Fleet." Post, 16 April 2018, https://www.fredericknewspost.com/news/politics_and_government/levels_of_government/county/county-looks-at-adding-more-electric-buses-to-fleet/article_ec0cba88-7bc5-5aef-a514-83ede66266a9.html

[6] Union of Concerned Scientists, *Diesel Engines and Public Health*; https://www.ucsusa.org/clean-vehicles/vehicles-air-pollution-and-human-health/diesel-engines, 2019

[7] California Environmental Protection Agency, Office of Environmental Health Hazard Assessment and American Lung Association of California, *Health Effects of Diesel Exhaust,* 2001

[8] Gauderman, WJ, et al, Association of Improved Air Quality with Lung Development in Children; New England Journal of Medicine, vol.372, no.10, 5 March 2015

[9] Liu, NM and Grigg, J, *Diesel, Children, and Respiratory Disease*; British Medical Journal, 24 May 2018

[10] Chicago Transit Authority, *Electric Bus,* archived at https://web.archive.org/web/20180206213131/http://www.transitchicago.com/electricbus/

compared to diesel buses, and would produce approximately $150,000 in health care savings per bus per year.[11]

CLIMATE

Battery powered Electric Buses produce significantly lower greenhouse gas emissions than diesel buses – Transportation is the largest source of carbon pollution in Maryland, responsible for nearly half of statewide emissions.[12] The United Nations' Intergovernmental Panel on Climate Change (IPCC) has made it overwhelmingly clear that we have 10 years to reduce our climate-disrupting emissions to levels that will avoid the worst-impacts of a warming planet. In order to meet our pollution reduction goals and flourish in today's economy, Maryland must transform its transportation sector into a sustainable system.

In 2018, the Union of Concerned Scientists found that electric buses produce significantly lower greenhouse gas emissions than diesel, diesel-hybrid and natural gas buses over their entire life cycle. These benefits are found all over the country, even in places where the grid is carbon intensive. Over its entire lifecycle, an electric bus charged with the national electricity mix produces less than half of the carbon dioxide-equivalent (CO_2e) emissions per mile as are produced by natural gas or diesel-hybrid buses. A natural gas bus produces 2,364 grams carbon dioxide-equivalent (CO_2e) per mile and a diesel-hybrid 2,212 grams CO_2e per mile. An electric bus, charged with the national electricity mix, produces 1,078 grams CO_2e per mile.[13] Additionally, electric buses are getting cleaner as the grid gets cleaner.

The Zero-Emission Bus Transition Act is consistent with Governor Hogan's Greenhouse Gas Reduction Act plan, which includes a goal of 50% MTA electric buses by 2030. The Electric Bus Transition Act assumes a more aggressive timeline, but is one that is urgently needed to meet the climate crisis and Maryland's ambitious emissions reduction goals.

When you add the economic benefits of electric buses to the health and climate benefits from reducing particulate matter, CO_2 and NOx emissions, the case for the Zero-Emission Bus Transition Act is very clear. This bill has real benefits for our communities and the environment, and for these reasons Maryland League of Conservation Voters strongly urges a favorable report on this priority bill.

Thank you.

Maryland League of Conservation Voters

[11] Judah Aber, Columbia University, *Electric Bus Analysis for New York City Transit*, May 2016.
[12] U.S. Energy Information Administration, "Table 3. 2015 State energy-related carbon dioxide emissions by sector, "Energy-Related Carbon Dioxide Emissions by State, 2000-2015 www.eia.gov/environment/emissions/state/analysis/pdf/table3.pdf.
[13] Jimmy O'Dea, Union of Concerned Scientists, *Electric vs. Diesel vs. Natural Gas: Which Bus is Best for the Climate?*, archived at https://web.archive.org/web/20190920232331/https://blog.ucsusa.org/jimmy-odea/electric-vs-diesel-vs-natural-gas-which-bus-is-best-for-the-climate, 19 July 2018

SB137_Zero Emission Buses_SUPPORT_sign-onLetter_20
Uploaded by: Palencia-Calvo, Ramon
Position: FAV

January 26, 2021

Testimony in SUPPORT of Senate Bill 137: Maryland Transit Administration – Conversion to Zero-Emission Buses (Zero-Emission Bus Transition Act)

Senate Education, Health, and Environmental Affairs Committee

Dear Chairman Pinsky and Members of the Committee:

The undersigned organizations thank you for this opportunity to submit testimony in support of Senate Bill 137, the Zero-Emission Bus Transition Act. This bill is an important step in Maryland's transition toward clean transportation. Additionally, it will reduce greenhouse gas pollution, save taxpayers' dollars, and improve public health.

Senate Bill 137 would transition the Maryland Transit Administration's (MTA) bus fleet to Zero-Emission buses over time. Starting in FY 2023, the bill prohibits MTA from entering into new contracts to purchase buses that are not Zero-Emission. The bill specifies several important measures to implement this change-over, including a requirement for development of a plan for transitioning any state workers adversely affected by the change-over to similar roles with commensurate seniority, pay, and benefits. This bill will not disrupt any existing procurement contracts and will give MTA significant time to develop the infrastructure necessary to deploy Zero-Emission buses without disrupting existing service.

Greenhouse gas emissions from the transportation sector are the largest source of climate pollution in Maryland, accounting for approximately 40% of total greenhouse gas emissions in the state. And the vast majority of these emissions come from on-road sources. In order to meet our pollution reduction goals and flourish in today's economy, Maryland must transform its transportation sector into a sustainable system. Zero-Emission buses are an important step in this transformation. Every Zero-Emission bus can eliminate 1,690 tons of carbon dioxide over its 12-year plus lifespan. This is equivalent to taking 27 cars off the road.

Diesel emissions are the most harmful type of transportation emissions. Between 80% and 95% of the particulate matter in diesel soot is of "ultrafine" size, giving it the ability to penetrate deep into human lungs and enter the circulation system. Particulate matter is strongly associated with pulmonary and cardiovascular risk, and long-term mortality. Nitrogen oxides from fossil fuel combustion, including diesel exhaust, are the major precursors of ground level ozone, which is an important trigger of asthma attacks. By eliminating diesel emissions from buses in our neighborhoods and cities, we will benefit our communities by reducing health risks from air pollution and significantly reducing health care costs.

Zero-Emission buses can also deliver financial benefits over the life of a bus in fuel and maintenance savings. The Chicago Transit Authority's (CTA) rollout of two electric buses in 2014 was one of the first major tests of electric bus technology in a cold winter climate. The vehicles have performed well, even under extreme temperatures, while saving the CTA more than $24,000 each year in fuel costs and $30,000 each year in maintenance costs. In Maryland, Frederick County has found similar results, with reported savings of more than $50,000 per year per bus over the diesel models. By switching to electric buses, the Maryland Transit Administration (MTA) can recoup its initial investment in approximately 5 years and continue saving throughout the remaining years the buses will be in operation (buses usually run at least 12 years).

Lastly, there are two other important issues we want to highlight. First, protecting MTA's current workforce is an essential element of the change-over, as the bill recognizes. In developing the bill-mandated worker "transitioning" plan, MTA should, as needed, provide retraining to its workers. We believe that the term "transitioning" is broad enough to include retraining. However, if it would be helpful to spell this out, we would support an amendment to clarify this.

Second, in developing its bill-mandated "schedule for converting [MTA's] transit bus fleet to Zero-emission buses exclusively," MTA should not reduce its service levels based on the change-over. We think this is implicit in the bill, since it in no way authorizes MTA to reduce service levels specifically because of the change-over to Zero-emission buses. However, again, if it would be helpful to spell this out, we would support an amendment to clarify this.

Now is the time to start transitioning MTA's diesel bus transit fleet to Zero-Emission buses to meet our carbon emissions goals, save safe taxpayers' dollars, and improve public health. We strongly urge a favorable report on Senate Bill 137.

Annapolis Green
Elvia Thompson
President & Co-founder

Bikemore
Jed Weeks
Policy Director

Audubon Naturalis Society
Denisse Guitarra
Maryland Conservation Advocate

Blue Water Baltimore
Jenn Aiosa
Executive Director

Chesapeake Physicians for Social Responsibility
Nishanth Khanna
Physician Member

Climate Law & Policy Project
Donald M. Goldberg
Executive Director

Climate Parents of Prince George's
Joseph Jakuta
Lead Volunteer

Downtown Residents Advocacy Network
Paul Sturm
Chair

Dream Corps Green For All
Shannon Baker-Branstetter
Deputy Director of Policy

Echotopia LLC
Diane Wittner
Founder & Owner

Electric Vehicle Association of Greater DC
Elvia Thompson
Secretary

Environmental Justice Ministry Cedar Lane Unitarian Universalist Church
Nanci Wilkinson
Chair

Glen Echo Heights Mobilization
Doris Yen Nguyen
Founder

Greenbelt Climate Action Network
Lore Rosenthal
Program Coordinator

Howard County Climate Action
Liz Feighner
Steering and Advocacy Team

Interfaith Partners for the Chesapeake
Jodi Rose
Executive Director

Labor Network for Sustainability (LNS)
Elizabeth Bunn
Maryland State Director, LNS

Maryland Campaign for Environmental Human Rights
Nina Cardin
Director

Maryland Conservation Council
Paulette Hammond
President of the Board

Maryland League of Conservation Voters
Ramon Palencia-Calvo
Deputy Executive Director

Maryland Legislative Coalition-Climate Justice Wing
Diana Younts
Co-Chair

Maryland Sierra Club
Josh Tulkin
Director

MOM's Organic Market
Alexandra (Ali) DySard
Environmental & Partnership Manager

NARAL Pro-Choice Maryland
Diana Philip
Executive Director

Sunrise Movement Baltimore
Molly Sherman
Political Team Organizer

Takoma Park Mobilization Environment Committee
Diana Younts
Co-Facilitator

The Nature Conservancy Maryland/DC Chapter
Cait Kerr
Conservation & Climate Policy Analyst

Union of Concerned Scientists
Paulina Muratore
Senior Transportation Campaign Organizer

Unitarian Universalist Legislative Ministry of Maryland
Phil Webster
Chair, Climate Change Task Force

Voices Maryland
Sarahia Benn
Legislative Executive Director

WISE
Monica O'Connor
Legislative Liaison

TESTIMONY FOR SB0137 Maryland Transit Administrati

Uploaded by: Plante, Cecilia

Position: FAV

MARYLAND LEGISLATIVE COALITION

TESTIMONY FOR SB0137
MARYLAND TRANSIT ADMINISTRATION – CONVERSION TO ZERO-EMISSION BUSES (ZERO-EMISSION BUS TRANSITION ACT)

Bill Sponsor: Senator Zucker
Committee: Education, Health and Environmental Affairs
Organization Submitting: Maryland Legislative Coalition
Person Submitting: Cecilia Plante, co-chair
Position: FAVORABLE

I am submitting this testimony in favor of HB0023 on behalf of the Maryland Legislative Coalition. The Maryland Legislative Coalition is an association of activists - individuals and grassroots groups in every district in the state. We are unpaid citizen lobbyists and our Coalition supports well over 30,000 members.

Our Coalition members support transitioning the Maryland Transit Administration's (MTA) bus fleet to Zero-Emission buses. We understand that it cannot happen overnight, and we think that the plan proposed in the bill is reasonable. Starting in FY 2023, the bill prohibits MTA from entering into new contracts to purchase buses that are not Zero-Emission.

One of the other important measures in the bill is a requirement for development of a plan for transitioning any state workers adversely affected by the change-over to similar roles with commensurate seniority, pay, and benefits.

This bill will not disrupt any existing procurement contracts and will give MTA significant time to develop the infrastructure necessary to deploy Zero-Emission buses without disrupting existing service.

Given that the majority of the greenhouse gases produced in Maryland come from the transportation sector, this is a step forward towards meeting our greenhouse gas reduction targets and enjoying cleaner transportation.

We support this bill and recommend a **FAVORABLE** report in committee.

IPC Testimony 2021 - Senate 137.pdf
Uploaded by: Rose, Jodi
Position: FAV

Interfaith Partners for the CHESAPEAKE

Forming Faithful Stewards, Caring for Sacred Waters

PO Box 6791
Annapolis, MD 21401

TESTIMONY ON SB 137
Position: FAVORABLE
January 28, 2021
Education, Health, and Environmental Affairs Committee

Dear Chairman Pinsky and Members of the Committee:

We support the Zero-Emission Bus Transition Act (SB 137) which will transition Maryland to clean transportation.

Clean public transit is essential to reducing harmful greenhouse gasses and improving public health, particularly for those in urban settings where air emissions accumulate and cause asthma and other health impacts. We are facing significant threats to public health with global warming and increased air pollution, and we must do our part here in Maryland to create a culture of change.

Dirty air from dirty buses is an environmental injustice. To be a moral person demands that we treat others as we would want to be treated because, on a profound level, we rise or fall together. No other principle has ever been shown to result in greater potential for human flourishing. When making critical decisions that have environmental impacts, we must hold ourselves accountable for our choices, individually and collectively, personally and politically. **This call to morality demands that we transition to clean sources of energy in all that we do in order to restore balance to the Earth, not only for those most impacted in environmental justice communities, but also for the unborn generations that will follow in our footsteps.**

Air pollution also directly impacts our natural waterways. According to the Chesapeake Bay Foundation, Nitrogen pollution generated from the burning of fossil fuels in vehicles and power plants accounts for 19% of the nitrogen that leads into the waters of the Chesapeake Bay.

Senate Bill 137 makes common sense. We have reviewed the data indicating that not only do electric buses perform well in cold weather, but they save municipalities thousands of dollars annually, including right here in Frederick County[1]. As demonstrated in Frederick County, this surge in demand for clean energy can also help fuel new jobs, new manufacturing of the vehicles, putting more people to work and re-energizing communities struggling from the pandemic's crushing impact on jobs. While Build Your Dreams was the manufacturer of these buses for Frederick County (and is a California-based company), legislation like this would drive demand for the manufacture of this equipment right here in Maryland.

[1] Build Your Dreams press release, July 1, 2020. Online here.

It is time to make a change and propel Maryland forward with a transition to zero-emissions buses, for clean air, healthy communities, clean water, financial savings for the public transit agencies, and increased job opportunities.

We hope you will join us in supporting SB0137.

Sincerely,

Jodi Rose

Jodi Rose
Executive Director

1.28_SB137_Maryland PIRG_Electric Bus Transition (

Uploaded by: Scarr, Emily

Position: FAV

SB137: Maryland Transit Administration – Conversion to Zero-Emission Buses (Zero-Emission Bus Transition Act)
Senate Committee on Education, Health, and Environmental Affairs
Position: Favorable
January 26th, 2021

Maryland PIRG is a state based, citizen funded public interest advocacy organization with grassroots members across the state and a student funded, student directed chapter at the University of Maryland College Park. For forty years we've stood up to powerful interests whenever they threaten our health and safety, our financial security, or our right to fully participate in our democratic society.

Environment Maryland is a citizen-based environmental advocacy organization. We work to protect clean air, clean water, and open space.

Maryland PIRG and Environment Maryland support SB137 to transition the Maryland Transit Administration's (MTA) bus fleet to Zero-Emission buses. Starting in FY 2023, the bill prohibits MTA from entering into new contracts to purchase buses that are not Zero-Emission.

Buses play a key role in Maryland's transportation system, reducing traffic congestion and helping Marylanders get to work, school, and play. Yet, the vast majority of these buses remain dirty – burning fossil fuels like diesel that put the health of our children and communities at risk and contribute to global warming. Commuting to work or school shouldn't include a daily dose of toxic pollution, or increase the chances that people will get sick. And why would we continue to use dirty diesel buses if they are making the climate crisis worse?

Numerous studies have shown that inhaling diesel exhaust can cause respiratory diseases and worsen existing conditions like asthma. Diesel exhaust is internationally recognized as a cancer-causing agent and classified as a likely carcinogen by the U.S. Environmental

Emily Scarr, Maryland PIRG Director emily@marylandpirg.org
Kate Breimann, Environment Maryland Director kbreimann@envrionmentmaryland.org

Protection Agency.[1] In a study of 61 million people in 2015, researchers found that exposure to diesel soot and ground-level ozone created by diesel exhaust was linked to higher rates of mortality.[2] Diesel pollution is especially dangerous for children -- for children there is no established safe level of exposure to diesel exhaust pollutants.[3]

Each year, pollution from cars, trucks and other vehicles cuts short an estimated 58,000 lives in the United States, and increases the risk of lung cancer, stroke and heart disease. Transportation is also now Maryland's number one source of greenhouse gases, with emissions from cars, trucks, buses and other vehicles surpassing every other source.

The good news is that Maryland can clean up its buses by making them electric. All-electric buses are here, and they're cleaner, healthier and often cheaper for the state and bus contractors to run in the long-term. With no tailpipe emissions, electric buses can drastically reduce the pollution Maryland's children and families are exposed to.

Dramatic declines in battery costs and improvements in performance, including expanded driving range, have made electric buses a viable alternative to diesel-powered and other fossil fuel buses.[4] So while electric buses are essential to protect public health and the environment, they are also smart investments.

As we respond to the COVID-19 crisis, and work to safely reopen and recover, we must do so in a way that moves Maryland forward to improve our health, builds stronger communities, and creates accessible, safe ways to get around.

Marylanders deserve access to transportation and safe air to breathe. Thanks to pollution, they're not getting safe rides on diesel buses. It's time to switch to all-electric buses.

We respectfully request a favorable report.

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[1] International: World Health Organization, International Agency for Research on Cancer, "IARC: Diesel Engine Exhaust Carcinogenic" (press release), 12 June 2012, available at http://www.iarc.fr/en/media-centre/pr/2012/pdfs/pr213_E.pdf; U.S. Environmental Protection Agency, "IRIS Assessments: Diesel Engine Exhaust – CASRN NA," 28 February 2003, archived at https://web.archive.org/web/20180412031944/https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=642
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[2] Quian Di et al., "Air Pollution and Mortality in the Medicare Population," *The New England Journal of Medicine,* 376:2513-2522, DOI: 10.1056/NEJMoa1702747, 29 June 2017.

[3] Children are most vulnerable to the negative health effects caused by air pollution; their respiratory systems are still developing and they inhale more air per pound of body weight than adults. C. Li, Q. Nguyen, P. Ryan, G. LeMasters, H. Spitz, M. Lobaugh, S. Glover and S. Grinshpun, 2009, Journal of Environmental Monitoring, "School Bus Pollution And Changes in The Air Quality at Schools: A Case Study."

[4] Each electric school bus can save districts nearly $2,000 a year in fuel and $4,400 a year in reduced maintenance costs, saving tens of thousands of dollars over the lifetime of a bus. Clinton Global Initiative V2G EV School Bus Working Group, ZEV School Buses – They're Here and Possibly Free (presentation), 22 April 2016, available at https://green-technology.org/gcsummit16/images/35-ZEV-School-Buses.pdf.

SB137 - Conversion to Zero-Emission Buses–Zero–Emi

Uploaded by: Tulkin, Josh

Position: FAV

7338 Baltimore Ave
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Committee: Education, Health, and Environmental Affairs
Testimony on: SB137 "Conversion to Zero-Emission Buses – Zero–Emission Bus Transition Act"
Position: Support
Hearing Date: January 28, 2021

The Maryland Sierra Club strongly urges a favorable report on SB137. The bill would initiate a series of critically important steps to reduce the significant amount of climate pollution currently produced by our state's transportation sector.

Specifically, the bill would require a phase-in of electric buses for the Maryland Transit Administration's (MTA's) bus fleet by prohibiting MTA from purchasing any non-electric buses beginning in fiscal year 2023. The bill specifies several important measures to implement this change-over, including, notably, a requirement for development of a plan for transitioning any state workers adversely affected by the change-over to similar roles with commensurate seniority, pay, and benefits.

In addition, MTA would be required to annually report to the General Assembly an evaluation of the necessary charging infrastructure, an estimate of the reduction in CO2 emissions through the use of electric buses each year until the transit bus fleet is converted to all-electric, and a financial analysis of the projected costs of the conversion to battery-powered electric buses.

The transportation sector is Maryland's number one generator of climate-damaging greenhouse gas emissions. Furthermore, over 80% of Marylanders live in counties that do not meet federal clean air standards for ozone, due in significant part to tailpipe emissions. Diesel buses, as well as compressed natural gas (CNG) and hybrid electric buses, are significant sources of pollutants. Diesel exhaust contains more than 40 toxic air contaminants that in some cases can cause and/or worsen diseases such as asthma and cancer. Communities of color and low-income neighborhoods face higher health risks due to poor air quality, specifically related to particulate matter emissions. Each zero-emission bus, over a 12-year period, can eliminate 1,690 tons of carbon dioxide, ten tons of nitrogen oxides, and 350 pounds of diesel particulate matter, compared to conventional diesel buses.

Maryland has a goal of having 300,000 electric cars (including plug-ins) on the road by 2025, and 600,000 EVs on the road by 2030. The environmental advantages of having more electric passenger cars on the road fully extends to electrifying MTA's fleet of approximately 775 buses. Consequently, when it comes time each year for MTA to replace a portion of its transit bus fleet, it makes eminent sense to require that all new buses be battery powered electric buses.

There are several electric bus manufacturing plants in the U.S., and studies have shown electric buses are more cost-efficient in the long term than diesel buses because of their lower operational costs. Electricity that must be generated to charge electric bus batteries increasingly is coming from renewable wind and solar power sources, and the percent of clean, renewable

SIERRA CLUB

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energy generated will continue to increase over time.

New York City and California has committed to fully electrifying their bus fleets by 2040. The Central Maryland Regional Transit Plan currently calls for a 95% of buses in the region to be zero emission by 2045. This bill is consistent with the goals of this plan.

There are two other issues we wish to note. First, as this bill recognizes, protecting MTA's current workforce is an essential element of the change-over to electric buses. In developing the bill-mandated "plan for transitioning any state employees adversely affected by the transition," we believe that MTA should, as needed, provide retraining to its workers. Our understanding of the bill is the requirement for a transition plan may include retraining. To the extent it would be helpful to spell this out, we would support an amendment to clarify this.

Second, in developing its bill-mandated "schedule for converting [MTA's]] transit bus fleet to electric buses exclusively," MTA should not reduce its service levels based on the change-over. We think this is implicit in the bill. however, again, to the extent it would be helpful to spell this out, we would support an amendment to clarify this.

In summary, this bill would take a critically important step forward for our state in combating the climate crisis, and we urge the Committee to issue a favorable report.

Lindsey Mendelson
Transportation Representative
transportation@mdsierra.org

Josh Tulkin
Chapter Director
Josh.Tulkin@mdsierra.org

SB137_StrongFutureMaryland_FAV.pdf
Uploaded by: Wilkerson, Alice
Position: FAV

A sustainable, just, and prosperous economic future for all Marylanders

STRONG FUTURE MARYLAND

Testimony in Support of Senate Bill 137 (Senator Zucker)
Maryland Transit Administration – Conversion to Zero–Emission Buses
(Zero–Emission Bus Transition Act)

January 28, 2020

Dear Chairman Pinsky and Members of the Education, Health, and Environmental Affairs Committee:

On behalf of Strong Future Maryland, we write in strong support of Senate Bill 0137. Strong Future Maryland works to advance bold, progressive policy changes to address systemic inequality and promote a sustainable, just and prosperous economic future for all Marylanders. We implore you to support this legislation as part of the broader, audacious mandate for climate consideration and sustainable transit favored by the people of Maryland.

The support and eventual passage of SB137 into law would prohibit the Maryland Transit Administration (MTA) from using state funding to purchase buses that are not zero-emission vehicles by 2023. Currently, the fleet of over 800 buses services over 81 million Maryland residents yearly, as of 2015, with major routes linking Baltimore to Washington D.C. and surrounding counties. Maintaining and expanding our state's robust network of bus systems is a vital precursor to connecting communities to employment opportunities, especially in low-income areas, and broadens pathways for more equitable medical, educational and food/grocery access. Given the impact of Covid-19 on not only personal finances, but vulnerable small businesses, food providers, and retailers who have been forced to shutter their doors, we must continue to pursue a recovery that prioritizes equity, sustainability, and safety in transit.

The environmental impacts of longstanding mass transit systems cannot be ignored. The Union of Concerned Scientists found that while mass-transit vehicles only account for about 5% of all vehicles, they produce more than 25% of emissions and pollution that threaten communities disproportionately impacted by decades of environmental injustice from compromised air quality. These happen to be many of the same communities with COVID-19 inequities. **Study after study has concluded that the switch to electric buses will dramatically reduce carbon emission levels at a much more rapid pace than the more gradual transition individual households make to purchase electric vehicles.** Plus, the long-term costs of traditional diesel buses far exceeds those of purchasing and maintenance electric buses; this bill will save Marylanders tax dollars in the future.

As a member of the coalition of 15 bold states and the District of Columbia that have launched efforts to transition to state-funded zero-emission transit, SB137 will place Maryland at the forefront of the national movement towards clean energy and jumpstart critical post-Covid-

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19 economic revitalization through infrastructural investments. The early results of zero-emission busing have been promising -- an April 2020 evaluation of Long Beach, California's conversion to an electric bus fleet experienced a 19% decrease in maintenance costs, $0.18 saved per mile in fuel costs, and much more efficient fuel economies.

The road to cleaner energy, long term cost savings, and a more efficient transit system is paved in SB137. For all of these reasons, we urge a favorable report.

John B. King Jr.
Founder and Board Chair

Alice Wilkerson
Executive Director

SB 137 Zero Emission Bus Testimony.pdf
Uploaded by: Zucker, Senator Craig
Position: FAV

CRAIG J. ZUCKER
Legislative District 14
Montgomery County

Budget and Taxation Committee
Subcommittees
Vice Chair, Capital Budget
Chair, Education, Business and Administration

Chair, Senate Democratic Caucus

THE SENATE OF MARYLAND
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Testimony of Senator Craig J. Zucker
Senate Bill- 137 – Maryland Transit Administration – Conversion to Zero - Emissions Buses (Zero- Emissions Bus Transition Act)
Senate Education, Health and Environmental Affairs Committee
January 28th, 2021
11:00am
Position: SUPPORT

Good afternoon Chairman Pinsky, Vice Chairman Kagan, and distinguished members of the committee. It is my pleasure to testify today in **support** of **Senate Bill 137 – Conversion to Zero - Emissions Buses (Zero - Emissions Bus Transition Act)**

This legislation will transition the Maryland Transit Administration's (MTA) bus fleet to 100% electric over time. In Fiscal Year 2023, it will prohibit the Maryland Transit Administration (MTA), from entering into a contract to purchase buses for its transit bus fleet that are not zero-emission buses. Senate Bill 137 does not apply to any bus that is part of a locally operated transit system.

This bill will allow MTA to make the necessary but gradual switch over to clean electric energy without disrupting existing contracts. The Zero - Emissions Bus Transition Act will take hundreds of diesel buses off the road over the next several years and reduce emissions state-wide.

To ensure that MTA remains on schedule to implement the transition, MTA must submit an annual report to the Maryland General Assembly by January 1, 2022, and each January 1 thereafter, regarding the conversion of its bus fleet to zero-emission. The annual report includes the following:

- An evaluation of the charging infrastructure needed for MTA to create and maintain a State transit bus fleet of zero-emission buses exclusively;
- A plan for transitioning any State employees adversely affected by the conversion to a zero-emission State transit bus fleet to similar or other employment within MTA or the Maryland Department of Transportation (MDOT) that has commensurate seniority pay, and benefits;

- An estimate of the reduction in amount of carbon dioxide emissions, measured in pounds, that will be obtained through the use of zero-emission buses each year until the fleet is fully converted and;
- A financial analysis of the projected cost of implementing and maintaining charging infrastructure; and
- A comparison of the projected cost of the continuing to operate a diesel-powered transit State bus fleet to the projected cost of purchasing, maintaining, and providing charging infrastructure for the zero-emission State bus transit fleet.

For these reasons, I urge a favorable report on Senate Bill 137. Thank you for your kind consideration.

SB0137 - Zero–Emission Bus Transition Act- Testimo

Uploaded by: Jakuta, Joseph

Position: FWA

Committee: Education, Health, and Environmental Affairs Committee
Testimony on: SB0137 - "Zero–Emission Bus Transition Act"

Organization: Climate Parents of Prince George's
Person Submitting: Joseph Jakuta, Lead Volunteer
Position: Favorable, With Amendments
Hearing Date: January 28, 2021

Climate Parents of Prince George's supports SB 137, Zero–Emission Bus Transition Act, with amendment.

The need to transition to zero emission buses is vital for Maryland to meet its obligation to the current generation of young people and to future generations. We cannot become the zero emission society that we need to by 2050 if our public transit system continues to rely on dirty 20th century technologies. This legislation is needed to reduce our emissions, better Marylanders' health, and save taxpayers money.

While the health and climate reasons for this legislation are probably the most important impacts of this legislation, also being discussed this session is a bill to shore up the operating costs of MTA. While SB 137 is not a panacea for MTA's budget shortfalls, one of the main benefits of the transition to zero emissions buses is that the operating and maintenance costs of electric buses are much lower than those of traditional diesel buses. A recent paper[1] by researchers at the University of Texas and McMaster University in Ontario found the following comparison:

Type	*Purchase Price*	*Annual Fuel Expense*	*Annual Maintenance Cost*	*12-Year Life Cycle Cost*
Diesel	$300,000	$27,202	$34,328	$1,038,357
Battery Electric	$650,000	$8,226	$18,062	$965,450

These numbers show that even with the higher upfront costs of electric buses, which most definitely will come down over the next decade, MTA will still save on operating budgets for every bus that is electric.

Even based solely on the cold hard economic calculation, battery electric buses make sense and this doesn't consider all of the negative externalities associated with diesel buses that disappear (e.g., premature death and morbidities from air pollution, noise pollution, greenhouse gas emissions).

The one amendment we would like to see is a requirement that zero emissions buses be placed into service in historically disadvantaged communities first. Communities of color and other disadvantaged communities in Maryland and elsewhere bear higher levels of vehicular air pollution, in particular due to the placement of highways and other arterial roadways through their communities. Zero emission buses are not going to erase years of high levels of exposure to diesel particulate, oxides of nitrogen, and other harmful air pollution, but prioritizing deployment in the communities that face the highest air pollution will have the most benefit due to the negative health effects these communities experience.

We encourage a FAVORABLE report with the recommended AMENDMENT for this important legislation.

[1] Quarles, N.; Kockelman, K.M.; Mohamed, M. Costs and Benefits of Electrifying and Automating Bus Transit Fleets. *Sustainability* **2020**, *12*, 3977. https://doi.org/10.3390/su12103977

SB0137 (HB0334) - LOI.pdf
Uploaded by: Fahrig, Landon
Position: INFO

Maryland Energy Administration

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor
Mary Beth Tung, Director

TO: Members, Senate Education, Health, and Environmental Affairs Committee
FROM: Mary Beth Tung – Director, MEA
SUBJECT: SB0137 (HB0334) - Maryland transit Administration - Conversion to Zero-Emission Buses (Zero-Emission Bus Transition Act)
DATE: January 28, 2021

MEA POSITION: Letter of Information

The proposed legislation will restrict purchase options for the State transportation bus fleet to fuel cell electric and plug-in electric vehicles.

MEA advises that this limited approach may eliminate other viable alternatives. Though certain technologies may garner more public support or commonly be thought to be superior, the State should act on the best data available, to achieve the greatest reduction in greenhouse gas (GHG) emissions at the lowest possible price to taxpayers. The State should not be dissuaded from its energy and environmental goals based on misinformation no matter how passionately or frequently it is repeated.

MEA runs incentive programs that aim to reduce petroleum use in Maryland's transportation sector. The programs accomplished this goal by increasing the availability of alternative fuel refueling and electric charging infrastructure in the state. MEA's transportation sector programs include both the Electric Vehicle Supply Equipment (EVSE) Rebate program and the Alternative Fuel Infrastructure Program (AFIP). AFIP is a technology-neutral grant program intended to alleviate range anxiety concerns by increasing the number of alternative fuel refilling/charging stations across the state. AFIP projects receiving an award in FY20 are still in progress, but estimated project benefits for this single fiscal year include an estimated annual petroleum displacement of 1,843,094 gasoline gallons equivalent (GGE). Additionally, a recently released report on the use of compressed natural gas (CNG), when sourced from renewable sources, could actually result in *negative* GHG emissions for PM2.5 and NOx.

The transportation sector has surpassed energy generation as the #1 contributor to GHG emissions. MEA urges that both the State and local governments be allowed to remain flexible in selecting the option that matches their fleet duty cycles appropriately and produces the greatest GHG emission reductions with the limited resources available to them.

SB0137 - MTA - Conversion to Zero Emissions Buses

Uploaded by: Westervelt, Patricia

Position: INFO

January 28, 2021

The Honorable Paul Pinsky
Chair, Senate Education, Health, and Environmental Affairs Committee
2 West Miller Senate Office Building
Annapolis Maryland 21401

RE: Letter of Information – Senate Bill 137 – Maryland Transit Administration – Conversion to Zero Emission Buses (Zero Emission Bus Transition Act)

Dear Chairman Pinsky and Committee Members:

The Maryland Department of Transportation (MDOT) takes no position on Senate Bill 137 but offers the following information for the Committee's consideration.

Senate Bill 137 prohibits the MDOT Maryland Transit Administration (MDOT MTA) from entering into a contract to purchase buses for its transit bus fleet that are not zero emission buses, as of fiscal year 2023. The bill also requires MDOT MTA to submit a report by January 1, 2022, and each January 1 thereafter, regarding the conversion of its bus fleet to electric buses.

MDOT MTA appreciates the intent of this bill and remains committed to reducing vehicle emissions from transit vehicles. Zero emission buses are an emerging technology, with approximately 2,500 battery electric buses and 100 hydrogen fuel cell buses manufactured to date. Most deployments in North America are pilots, and the transit industry is testing performance in revenue service and impacts on agency workflows, efficiency, and cost. Zero emission bus technology available today reduces trip range between charges, and current range can support only about 50% of MDOT MTA service. Conversion to a fully zero emission fleet is highly dependent on continued advancement of technology. Furthermore, MDOT MTA buses are occasionally deployed statewide for emergency evacuation or special event needs. It is important to note that the range and fueling limitations of zero emission buses could make certain statewide deployments impossible.

MDOT MTA has two zero emission bus pilots underway and will have the first battery electric buses in revenue service in 2022. The performance of these pilots will indicate whether zero emission buses available for purchase are robust enough for heavy use on many of the state of Maryland's roadways. Based on prior experience with diesel buses, MDOT MTA remains concerned that significant and costly custom upgrades from the manufacturer may be needed. Zero emission bus conversion requires a heavy investment in charging and maintenance infrastructure. MDOT MTA estimates the annual expenses could exceed $25 million in addition to a one-time investment of $375 to $545 million for infrastructure upgrades to transition to a fully zero emission fleet.

MDOT MTA appreciates that the legislation attempts to exclude Mobility vehicles and locally operated transit vehicles from the zero emission requirements, as zero emission buses are not yet readily available from manufacturers for these vehicle types. In order to clarify and reduce any possible effects of the legislation, MDOT MTA suggests two clarifying amendments: on Page 2, Line 6, striking the word “OR” and replacing it with “AND”. This would remove the accidental negation of the intent to exclude vehicles that carry less than 10 passengers. An additional amendment would be, on Page 3, Line 4, strike “TO A SIGNIFICANT EXTENT” from the definition of a plug-in electric drive vehicle. This would alleviate any uncertainty about which vehicles can be considered plug-in electric drive vehicles.

The Maryland Department of Transportation respectfully requests that the Committee consider this information while deliberating Senate Bill 137.

Respectfully submitted,

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