



Comments to Tri-Met Board of Directors
Regarding Non-Diesel Bus Strategy
September 26, 2018

Members of the Tri-Met board of directors, good morning. For the record, my name is Jeff Bissonnette and I am the Pacific Northwest Advocate for the Union of Concerned Scientists. On behalf of our 13,000 members in the Metro region (of which over 500 are part of our network of scientific and technical experts) I want to express our support for the electrification efforts that the Tri-Met board and staff are considering.

Specifically, the current proposal seeks to adopt a Non-Diesel Bus Strategy that would commit the agency to a pilot of 80 or so electric buses over the next five years. If that pilot goes well, the plan would expand to cease the purchase of diesel buses by 2023 and to fully convert the fleet to zero-emission vehicles by 2040.

This makes sense from many perspectives. From a life cycle perspective, electric buses on today's grid are cleaner than any other technology with lower greenhouse gas emissions than CNG buses and will be getting even better. In the electric system serving Tri-Met's service territory, Portland General Electric and Pacific Power – coal is due to be eliminated from the grid by 2030 and both utilities are bound by state law to have 50% of its resources be renewable by 2040. Furthermore, in a UCS analysis of electrical grid regions across the country, we found an electric bus operating in the Northwest has more than 70 percent lower life cycle global warming emissions compared to bused fueled with diesel or natural gas. In short, the future is looking very good for emissions from electric buses.

From a cost perspective, electric buses also make a lot of sense. Several total cost of ownership studies, including one commissioned by Tri-Met that used relatively conservative assumptions for bus prices, have shown battery electric buses are cost competitive if not cheaper than diesel or natural gas. Reducing operations and maintenance costs allows the agency to better determine investments in the future of its system that can better serve customers.

We know that this board has a goal of prioritizing communities that both depend on transit service and that have been marginalized previously. Electric buses play a part in cleaner air, better health and the lower operating costs mentioned previously can be used to support lower fares, youth fares or any number of investments that makes the Tri-Met system more accessible.

From the perspective of Tri-Met employees, electric buses are cleaner to operate and quieter. For Tri-Met drivers, a bus is their work environment and electric buses provide an improved work environment for the people who provide the backbone of the service you provide.

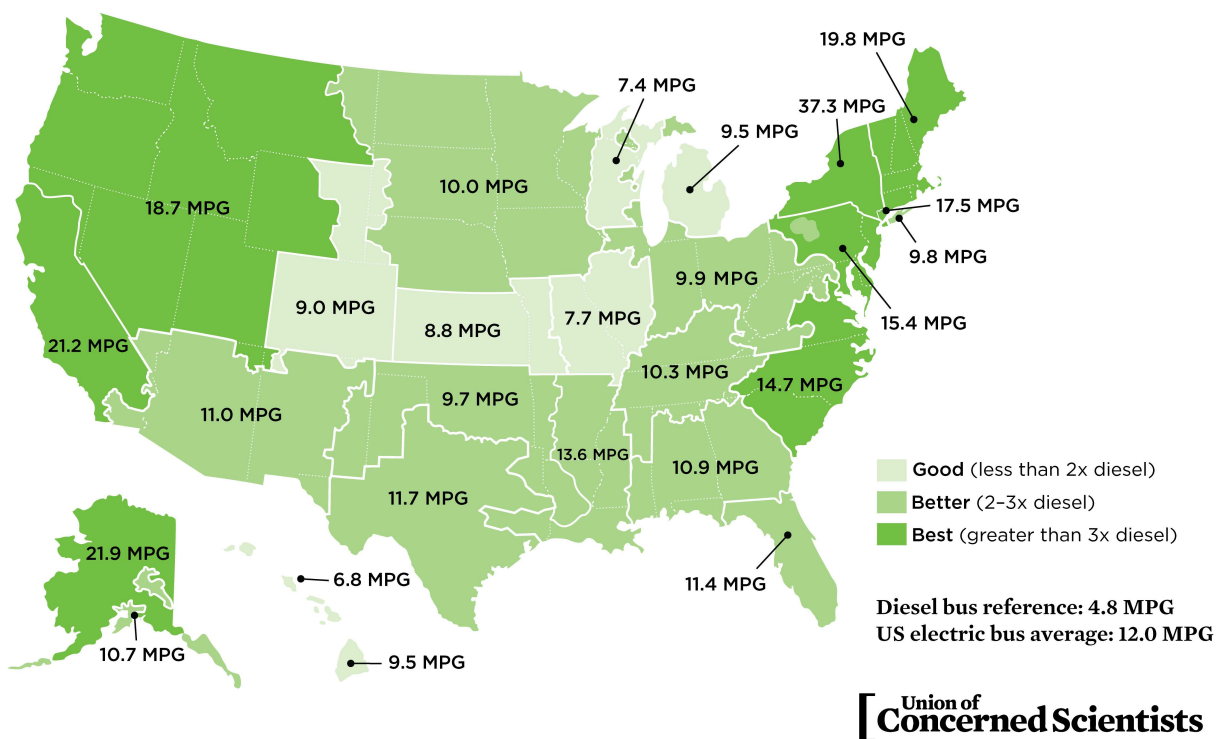
Battery and fuel cell electric buses are proven technologies that provide significant reductions in air pollution and global warming emissions compared to diesel and natural gas buses. Embracing this technology is critical, as heavy-duty vehicles are a significant contributor of harmful nitrogen oxides and particulate matter, both of which are associated with adverse effects on nearly every organ system in the

body. Many neighborhoods, especially with low-income residents and people of color disproportionately suffer from these consequences.

As a regular Tri-Met bus rider myself (and a devoted fan of the #16), I look forward to the day when I and my fellow passengers are welcomed aboard an electric Tri-Met bus.

Thank you for the opportunity to speak to you today. UCS is ready to work with you and your staff to support this needed transition to electric buses.

Battery electric buses have lower global warming emissions than diesel (and natural gas) buses everywhere in the country.



Note: The MPG (miles per gallon, diesel) value listed is the fuel efficiency a diesel bus would need to have the same life cycle global warming emissions as a battery electric bus in each region. Regional global warming emissions ratings are based on 2016 power plant data in the EPA's eGRID database (the most recent version). Argonne National Laboratory's GREET 2017 model was used to estimate emissions from diesel and electricity fuel production.