



Metro

Los Angeles County
Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

213.922.2000 Tel
metro.net

September 24, 2018

California Air Resources Board Members
1001 I Street
Sacramento, CA 95814

RE: Response to the Initial Statement of Reasons for the Proposed Innovative Clean Transit Regulation

Chair Nichols and Members of the California Air Resources Board:

On behalf of Metro, I submit the following comments in response to the Initial Statement of Reasons for the Proposed Innovative Clean Transit (ICT) Regulation. Metro provides service to Los Angeles County with a transit fleet comprised of 2,400 compressed natural gas 40', 45', and 60' heavy duty transit buses. Since 1993, when Metro's Board of Directors signed the landmark policy to only procure Alternative Fueled Vehicles, and in 2017 strengthened that commitment by directing staff to convert the entire fleet to zero emission operation by 2030, Metro has and continues to be at the forefront of reducing emissions and operating the cleanest transit fleet possible.

Metro appreciates the efforts that the ARB has put forth to work with Metro in attempting to better understand how our organization operates both on the road and with our procurement process. Even though the results of the ARB's efforts of working with Metro, along with other agencies in the California Transit Association (CTA), have been incorporated into the latest draft of the regulation we would also add our concurrence to the issues raised in CTA's comments on the regulation.

Metro's plan for zero emission conversion is more aggressive than the Proposed Innovative Clean Transit Regulation. We are deploying 105 electric buses over the next 2 years. This will be the largest deployment of electric buses at any North American Transit Agency. Additionally, in 2019, we are anticipating completing our Zero Emission Bus (ZEB) Master plan which will be our roadmap to deploy ZEBs effectively and efficiently with minimal impact to service. While we have adopted an aggressive program, our ability to accomplish that goal is challenged by issues originally detailed in our comment letter dated January 22, 2018. While many of those issues are addressed in ARB's new proposed rule we would urge you to consider the following overall concerns as you move forward with implementation of the ICT.

1. Charging infrastructure and power costs – Large scale ZEB charging systems have not been fully developed nor deployed in the US. We are working with our utility partners at the local level to address how to provide sufficient power at an affordable rate to make this conversion. While we have established strong working relationships with our utilities, we have not resolved the most challenging issues in this area. These issues include:

- Reliable and Resilient electrical service to ensure all-electric transit bus service operations are not impacted. For example, customers in LADWP territory lost power and were urged to turn off high demand electrical appliances on July 6, 2018. (<http://www.latimes.com/local/lanow/la-me-ln-ladwp-heat-outage-20180707-story.html>) Metro cannot adjust our service levels as a result of extreme temperatures or impacts to the grid.
 - Charging solutions for large scale, urban transit operations are not service-proven in North America. Our divisions do not have enough real estate to add plug-in chargers next to every transit bus. Furthermore, there could be delays to providing sufficient power to support our depots. Although we are encouraged by an overhead charging solution employed in the Netherlands, this has yet to be deployed in North America.
2. Vehicle capabilities – Performance of ZEB’s still does not match those of our existing buses. In order to implement ZEB vehicles into our operation we must identify specific routes suitable to their limited capabilities under all operating conditions to ensure reliable service. As noted during the Advanced Transit Vehicle Consortium (ATVC) Board meeting, March 2018, New Flyer presented how range is impacted by both battery age and ambient temperature conditions. Figure 1, below shows mileage for 40’ and 60’ buses under ideal test conditions; 225 and 200 miles, respectively. It also shows the range of the same buses, with aged batteries on a hot summer day in San Fernando (Figure 2), 135 and 96 miles, respectively; approximately a 50% decrease in range.

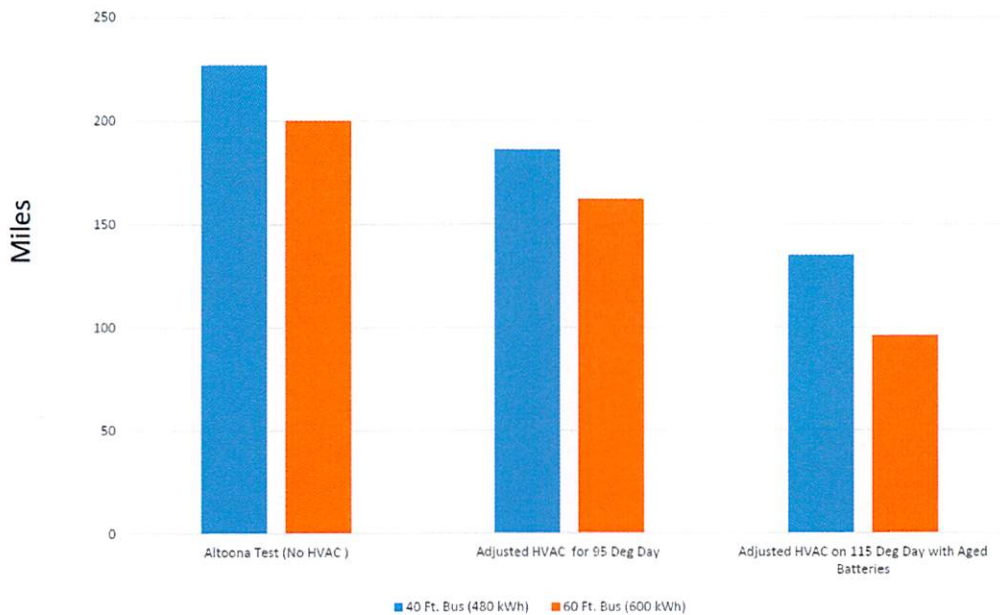


Figure 1. Range Effects based on Temperature and Aged Batteries.

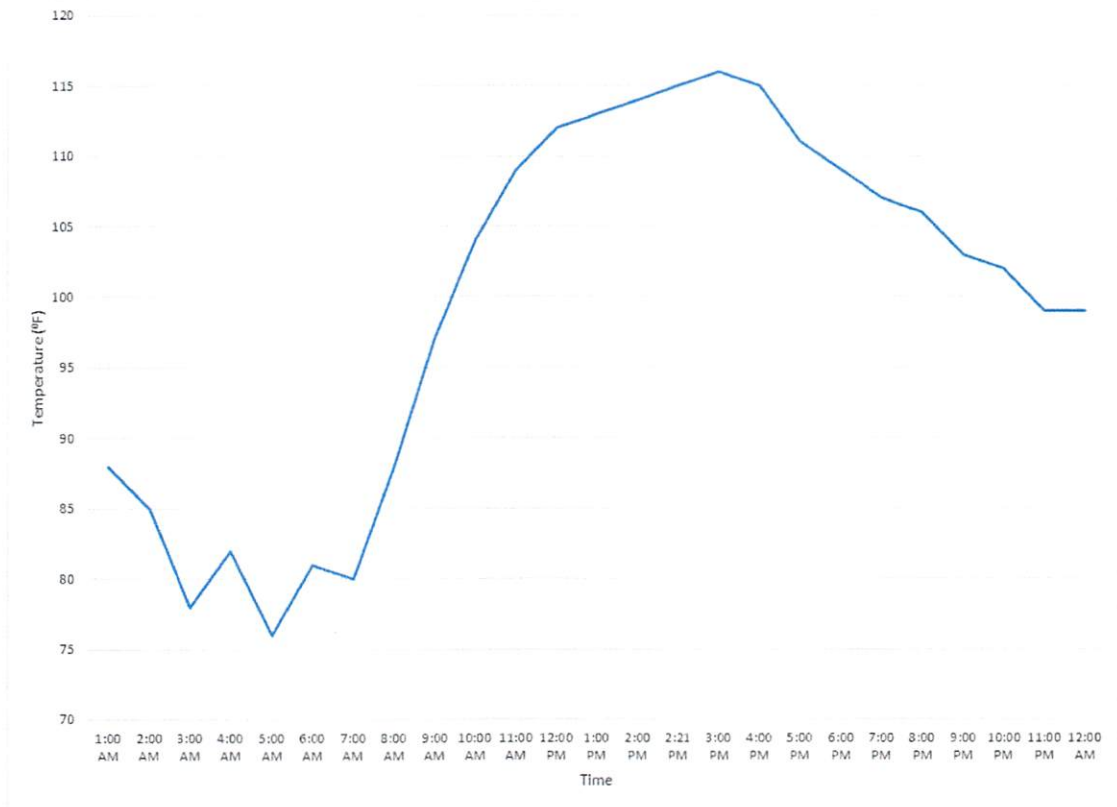


Figure 2. July 6, 2018 Temperature in San Fernando Valley

3. Need for continued financial assistance – The infrastructure and charging equipment required for full ZEB service, coupled with the higher initial vehicle purchase cost, point to the continued need for predictable and reliable additional funding as provided from current and as to be identified future funding sources. We would encourage ARB to continue to consider flexibility in its grant programs to allow for expanded funding for agencies working to convert their fleets to zero emission technologies.

Due to the concerns noted above, we believe it is important for the rule to incorporate Benchmarking and Regulatory Assessments. This provision would require the California Air Resources Board to conduct a regulatory assessment – *before* a ZEB purchase requirement goes into effect – that evaluates real-world ZEB cost and performance with benchmarks for ZEB cost and performance established at the time of rule adoption. This regulatory assessment should allow the Board to issue an across-the-board suspension of the ZEB purchase requirement; much like the original Transit Fleet Rule did, if real-world ZEB cost and performance is not yet at parity with the cost and performance of conventionally-fueled transit buses. This provision would have no impact on the ZEB purchase requirement if benchmarks for ZEB cost and performance are being met, as anticipated by ARB staff and interest groups.

We greatly appreciate your continued commitment to working with the transit agencies in California as well as all the other stakeholders in this process. Metro remains committed to working with ARB during the implementation of the rule.

Sincerely,



Jesus Montes
Sr. Executive Officer, Vehicle Engineering
& Acquisition
213-418-3277
MontesJe@metro.net

- c: Richard Corey, Executive Officer, California Air Resources Board
Steve Cliff, Deputy Executive Officer, California Air Resources Board
Jack Kitowski, Chief, Mobile Source Control Division, California Air Resources Board
Tony Brasil, Heavy Duty Diesel Implementation Branch, California Air Resources Board
Shirin Barfjani, Mobile Source Control Division, California Air Resources Board
Phillip A. Washington, Chief Executive Officer
Stephanie Wiggins, Deputy Chief Executive Officer
James T. Gallagher, Chief Operations Officer
Pauletta Tonilas, Chief Communications Officer
Michael Turner, DEO, Government Relations