

Date: May 17, 2021

To: Thomas B. Modica, City Manager 

From: John Gross, Interim Director of Financial Management 

For: Mayor and Members of the City Council

Subject: **New CARB Regulations Providing for a Zero-Emissions Truck Fleet**

In June 2020, the California Air Resources Board (CARB) adopted the Advanced Clean Trucks (ACT) rule, a first-of-its-kind regulation requiring truck and van manufacturers to transition their production to zero-emission electric trucks. In addition, CARB has proposed, and is currently reviewing, the Advanced Clean Fleets (ACF) rule, also a first-of-its-kind regulation requiring California public fleets to purchase 100 percent zero-emission trucks by the year 2027. CARB's new regulations are the most significant vehicle legislation in years and are likely to be simultaneously transformative, tremendously expensive, and potentially disruptive. The ACT and ACF will most likely have substantial fiscal impacts on the City of Long Beach (City). The purpose of this memorandum is to provide the City Council with more information related to the ACT and ACF rules, its impact to the City, and next steps.

City's Green Fleet Efforts

Thanks to the consistent support of the City Council, the City has been a green fleet leader, with an emphasis on the leveraged use of grant funding. The City has a long history of prioritizing sustainability and being early adopters of new technology. For example, the City was an early adopter of Compressed Natural Gas (CNG) vehicles in the 1970s and operated some of the first CNG tow trucks in the country. The City is now incorporating hybrid police cars into regular service. The focus on Zero Emission Vehicles (ZEVs) has seen 76 electric vehicles join the City fleet, with many more on the way. The Fleet Services Bureau has also been recognized nationally for its sustainability initiatives and aggressive adoption of alternative fuels. Over 50 percent of the fuel consumed by City vehicles is based on renewable sources, and 48 percent of fleet vehicles run on alternative fuels such as renewable natural gas and renewable diesel fuel.

While the City's fleet of trucks primarily runs on renewable CNG or renewable diesel fuel, there has not been a viable opportunity to convert these to ZEVs as the technology was still developing. These trucks, especially medium-duty (MD) and heavy-duty (HD), are only now starting to have wider market availability. That availability will be accelerated as the State is set to catalyze the move to zero emissions through new legislation requiring all manufacturers selling MD and HD trucks in the State to produce them in a ZEV configuration. This will make it possible for fleets such as ours to start purchasing them in 2024 or potentially even sooner.

New Regulations

The ACT regulation is part of a holistic approach by the State to accelerate a large-scale transition to zero-emission medium-and heavy-duty vehicles. The ACT became effective March 15, 2021. Beginning in 2024, CARB will require manufacturers' new truck sales in California to be comprised of a certain percentage of zero-emission vehicles (ZEVs). By 2045, every new truck sold in California must be a ZEV. CARB is taking this action to address and help meet the state's long-term air quality and climate protection targets. These technologies are part of a comprehensive strategy to reduce emissions from the transportation sector.

The ACF regulation would transition all purchases of trucks to be ZEVs through a phased approach. Starting in 2024, ACF would require half of all new fleet truck purchases at or above a gross vehicle weight of 8,500 pounds to be ZEVs. This is roughly the equivalent weight of a Ford F-250. "Zero emission" includes both electric and hydrogen fuel cell vehicles. By 2027, all new truck purchases meeting the weight threshold would need to be ZEVs. This rule is specific to government fleets. This proposed ACF regulation, although not yet approved, will go to the CARB for consideration by the end of 2021. It should be noted, plug-in hybrids count the same as ZEVs until 2035. There are some exceptions, including emergency vehicles.

Cautious Approach

While we embrace the State's aggressive approach to reach zero emissions, Staff remains cautious because of the significant investment of resources that will be required while the level of grant or other financial support is unclear. Without dedicated grant funding, these regulations may significantly impact funding available for other City priorities. The City has 410 trucks that would be impacted by these rules. The Water and Harbor Departments will also be impacted, but those trucks are not managed by the City's Fleet Services Bureau.

Zero-emission trucks have a higher upfront cost (currently \$70k to \$200k incrementally above base truck price), especially when you consider the cost of additional required ZEV charging infrastructure. On the other hand, these vehicles seem likely to have lower operating costs than conventional trucks. In passing ACT, CARB states that the costs to local agencies as a result of ACT are not reimbursable because the costs associated with the proposed regulation apply generally to all entities. CARB argues that while ACT would create costs to agencies, it would also generate cost savings. The State indicated there would be an increase in the amount of utility user tax revenue collected by the City. In addition, as battery prices fall and technology continues to improve, the total cost of ownership is expected to become more favorable. At this point, it is not clear how City fleet operations will be impacted by the new vehicles. For example, any differences in new vehicle performance, recharge time, and driving range could adversely impact operations.

There will be challenges to implementation that include:

- Aggressive implementation timeline dictated by the regulations.
- Extensive planning and resources required to comply with the regulations.
- Limited availability of adequate and suitable ZEV trucks on the market.
- Large investment in time and money required to implement ZEV charging infrastructure.
- Large investment in fleet shop modifications required to maintain and support ZEV trucks.
- Significant investment in specialized technician training for supporting ZEV trucks.

Fiscal Impact

There are significant financial concerns as a result of the new CARB regulations. The availability of funding is not yet known, as is the type and amount of assistance that will be available from State and federal sources. It is likely that the General Fund will be impacted. The financial impact to City departments with equipment-centric operations such as Public Works and Energy Resources could be significant, with financial impacts affecting service levels, rates, or both.

In addition to ZEV vehicles, the City will need a new electric vehicle charging network. This is the most challenging aspect of the switch to electric vehicles, as the charging infrastructure requires chargers, transformers, switching equipment, and lines (all on the Southern California Edison (SCE) side) that can take years to plan and install and be very costly. SCE has excellent programs to fund their side of the infrastructure, and we have had great success having them fund the light-duty chargers now in use in the City fleet. We hope for equal success with these larger, more costly chargers and infrastructure that will be needed, starting in 2024, to deploy the ZEV trucks in this program. The City's current chargers are insufficient for the ZEV trucks that we will be adding, so we will not be able to leverage our current electric vehicle charging infrastructure.

Based on a preliminary estimate, the impact of the regulations, not including potential grant funding, are as follows:

- Approximately \$1.5 million a year to City fleet costs beginning in FY 24, of which approximately 34 percent, or \$500,000 a year, would be General Fund. This is an unfunded cost to replace the required trucks.
- Approximately \$10 million in one-time costs for heavy-duty charging stations, of which \$5 million would be General Fund. These are very preliminary ballpark numbers. It is unknown how much of those costs could be grant-funded; hopefully, grant funding will be significant.

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Next Steps

The City has an active Battery Electric Vehicle Task Force that includes both Fleet and Public Works. The Task Force lead the adoption of zero-emission cars in the City fleet and is well-positioned to manage this effort in the future, assuming necessary funding is secured. Once the new ACF regulations on truck fleet conversion to zero-emissions are finalized and more clarity is gained on funding requirements and sources, we will update the City Council, particularly on the impacts on FY 24 and later budgets.

If you have any questions, please contact me or Dan Berlenbach, Fleet Services Bureau Manager, at (562) 570-5401 or dan.berlenbach@longbeach.gov.

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