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Interagency Electric Vehicle Coordinating Council (IEVCC)
Washington State Departments of Commerce and Transportation
Olympia, WA 98504

Dear IEVCC Co-Chairs:

NAFA, the Fleet Management Association, welcomes the opportunity to share our views regarding Washington State's Transportation Electrification Strategy (TES). NAFA has more than 3,000 individual fleet manager members from corporations, universities, government agencies (federal, state, and local), utilities, and other entities that use vehicles in their operations. NAFA members routinely purchase vehicles for their fleets, control more than 4.6 million vehicles, and manage assets in excess of $92 billion. Collectively, these vehicles travel more than 84-billion miles each year.

NAFA members provide the critical and essential services Washington State's citizens rely upon every single day. Their work ensures that fire, police, and ambulances are ready to respond, that children travel safely to and from school, that trash is collected, that utility repair crews are on the road when power goes out, that store shelves are stocked, and that the packages you are expecting arrive at your door. NAFA is also supported by more than 1,000 associate members who represent companies that support fleet managers in their profession including vehicle manufacturers, leasing companies, aftermarket equipment suppliers, telematics firms, service providers, and many others.

NAFA members in Washington manage public fleets operating across the state including the counties of Clark, King, and Pierce, the cities of Bellevue, Everett, Federal Way, Issaquah, Seattle, Spokane, Tacoma, Vancouver, the ports of Seattle and Tacoma, the Washington State Department of Transportation, and the University of Washington, as well as several private fleets including Dycom Industries, Fortive Corporation, and Potelco.

NAFA supports the vision of a transition to near-zero and zero emission vehicles (ZEVs). We believe a transition will only succeed if the strategies and plans as well as the legislation and regulations take a full and accurate account of the critical factors facing such an ambitious transition. From our perspective, the TES is overly optimistic and raises many operational and cost concerns from the perspective of a large, complex fleet.

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We also believe that any proposed plans and rulemakings around electrification must specifically and thoroughly assess infrastructure availability, commercial availability of vehicles and their operational suitability, and continuity of operations. In addition, such efforts must consider proven technology that is both comparable in range and duty cycle, as well as job performance before mandating either their manufacture or adoption.

Realistically, policymakers cannot mandate prescribed innovations in technology by manufacturers. This can effectually compromise the ability of fleet managers to deploy a mix of vehicles designed to deliver required or adequate services to their respective communities at this time. These challenges impact the ability of NAFA's fleet managers to meet Washington State's electrification goals.

Infrastructure Availability

Insufficient infrastructure to support fleet electrification is a main area of concern. In order to install and operate compliant charging infrastructure, fleets must have access to power in a timely manner. Fleet managers report that their local utility providers do not currently have sufficient grid capacity to provide adequate power to their main depot locations. Solutions like installing new power substations require adequate advance planning. In some instances, it has been reported that ongoing infrastructure electrification projects supersede such plans. A concerted coordination of industry knowledge is necessary to ensure the timely deployment of electrical upgrades that will be required to allow fleets to electrify.

Cost

Washington State government projections say at least 3 million charging stations (public and private) will be needed by 2035. Currently, there are 4,500 charging stations (public and private) in the state. Of these, it is estimated that less than 1,000 are Level 3, or fast charging units. Level 3 chargers can return full power to an electric vehicle (EV) in about 30-40 minutes, Level 2 chargers take anywhere from four to ten hours, and Level 1 (which many EV owners have in their homes) use the 'trickle' effect and usually require an overnight plug in.

Based on these government projections, Washington State will have to build over 2.9 million charging stations which is an average of 250,000 each year just to meet the total stations needed by 2035. The Washington State Department of Transportation figures show the cost of a Level 3 fast charging station can run as high as $172.000. The total cost when multiplied by 2.9 million stations is estimated at $498 billion dollars without accounting for inflation.

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Additionally, this figure does not include the cost of required facility improvements or the cost for the utility to supply sufficient power to the sites. When we include site costs, Level 3 chargers for medium- and heavy-duty vehicles, and the equipment required to track electricity consumption and meters for EVs, the cost estimate multiplies to five times the original $498 billion dollar estimate. In addition, electric vehicle supply equipment (EVSE) manufacturers report a useful life for charging equipment at approximately 10 years. This also means charging infrastructure will be an ongoing expense.

Power Availability

Across Washington State, NAFA fleet managers serve many rural areas that do not currently have access to sufficient grid capacity. This is especially true for DCL3 fast chargers or high capacity ACL2 charging for multiple units.

Reliability

Networked charging equipment has proven itself to be extremely unreliable. Connectivity issues at any point in a network will cause charging equipment to fail. Any charging challenge of any duration can significantly impact a fleet's ability to respond to the needs of their community and provide services. While non-networked equipment is more stable, it does not allow for energy tracking, meter reads, or payment capabilities.

<u>Commercial Availability of Vehicles</u>

Light Duty ZEVs

Electric light-duty vehicle availability has been adversely and dramatically impacted over the last several years due to COVID and manufacturing-related supply chain disruptions including the recent UAW strikes. These disruptions have put many fleets behind in their ability to replace aging vehicles with ZEVs. For many of these vehicles, the manufacturing backlog is not anticipated to improve for at least a year if not longer.

Partly because of the microchip shortage, and partly due to slower than anticipated advancements in technology, many of the cost-effective light-duty ZEVs that were expected to be available by now are still many years from production. Examples of these include specialty police vehicles, affordable compact AWD sedans, small AWD passenger and cargo vans, as well as pickup trucks. Vehicles in these categories make up a significant part of many fleets.

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Medium- and Heavy-Duty ZEVs

One of the most significant obstacles to transitioning a fleet is the lack of availability of suitable medium- and heavy-duty ZEVs. For example, manufacturers have failed to produce an electric chassis for Class 7 and 8 (GVWRs over 26,001 and 33,001 lbs.) vocational applications. Vocational applications include large dump trucks, cement trucks, tow trucks, hook lift trucks, catch basin cleaner trucks, and fluid tankers, etc. Another example of the unavailability of vehicles required by electric utility fleets are Class 7-8 tandem axle trucks with electric power take-off for a large aerial unit capable of pulling a trailer. The only Class 8 application that manufacturers are focusing on at the moment is on-highway freight applications. This leaves public fleets, construction contractors, utilities, and many others behind and forces them to comply by modifying vehicles and equipment not intended for the work they must do.

Even though manufacturers are beginning to build an electric medium- or heavy-duty chassis, there are concerns that the resulting vehicles that are available fall short of meeting many operational and emergency use requirements of fleets in several important ways:

Costs

ZEV cost is also a significant issue for fleets, particularly public fleets. Medium- and heavy-duty ZEVs can cost 40 to 100 percent more than a comparable diesel engine model. An over-the-road all electric Class 8 truck will cost nearly a million dollars. New diesel-powered trucks can be purchased for half that price.

Range and Capacity

Many NAFA member fleets are conducting trials related to the viability of EVs which are highlighting vehicle range and capacity challenges. For example, in a weeklong trial of an electric refuse truck in ideal weather conditions, it was noted that the vehicle's range only allowed it to complete 60 percent of a standard route. This truck also had a smaller payload requiring more frequent dumps, compounding the range limitation. Using this scenario, a public fleet would need to purchase nearly twice as many refuse vehicles to complete its daily refuse collection requirement. Research into other equipment vehicles such as street sweepers and dump trucks show similar results.

Battery electric Class 8 trucks also cannot haul the same amount of goods in an on-highway application as their internal combustion engine (ICE) counterparts. The average GVWR for a battery powered tractor is 80,000 pounds. A diesel equivalent can achieve up to 105,500

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pounds GVWR. Battery powered tractors are, then, less productive as more trips and/or trucks or tractors are then needed to do the same amount of work as the ICE counterpart. Battery electric Class 8 trucks also cannot travel as long or as far as their diesel engine equivalents and require extensive charging downtimes that translate into fewer potential trips. A significant investment in more high-powered electric charging stations is necessary to provide equivalent utility.

Battery Degradation

A further concern is battery degradation over time. With current technology, both light- and heavy-duty vehicle manufacturers expect battery capacity to incrementally diminish over time. Some heavy-duty chassis manufacturers only warranty batteries above 80 percent capacity within two years of purchase. Not only are these batteries very expensive to replace, but a battery electric vehicle that meets the minimum range requirement when new may fall below operational minimums early in its lifecycle making the unit unusable for its intended task. In addition, cold weather operation may reduce battery efficiency by as much as 40 percent creating a situation where a vehicle is only usable for part of the year.

Specialty Configurations

Much of any municipal fleet is made up of specialty equipment like hydro excavators, asphalt patchers, pavers, grinders, road graders, dozers, generators, welders, snowplows, compressors, etc. Depending on the circumstances, this equipment can routinely be expected to operate up to 24 hours per day during snow removal events or emergency situations and may be required to park at job sites where charging is not available. These are among the most energy intensive units in a city fleet but are unlikely to have viable ZEV replacements any time in the near future.

<u>Continuity of Operations</u>

One of a municipality's primary responsibilities is to provide critical services during emergencies, natural disasters, or periods of inclement weather. During these events, units that are not typically considered emergency vehicles must act in an emergency capacity. Each situation may be different, but vehicles such as snowplows, loaders, dump trucks, water trucks, and other specialty equipment are routinely called upon to clear roads, manage traffic, repair slides, support firefighting efforts, etc. It is therefore essential that these pieces of equipment remain fully operational and available for extended periods of time at a moment's notice. These types of emergencies and natural disasters are pre-disposed to potential disruptions of

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any given electrical grid. An event such as this might effectively cripple any emergency response if the vehicles in these fleets are solely dependent upon a failed power grid.

These perspectives on the challenges to fleet compliance with the regulation are provided to inform Washington State's TES. Further, we encourage the IEVCC to ensure that the TES allows fleets to have access to the vehicles they require to perform the many complex public and private sector services that Washington State citizens require.

Thank you for providing NAFA with the opportunity to comment on the draft TES. We hope our examples and illustrations will prove helpful as Washington State crafts effective and feasible plans and regulations to navigate this transition to a zero emissions future. We look forward to any opportunity to meet with the IEVCC to discuss our perspective in greater detail.

Sincerely,

Bill Schankel

Bill Schankel, CAE CEO
NAFA Fleet Management Association