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Request for Information for California, Oregon, and Washingtonâ€™s Medium- and Heavy-Duty Joint Application for the USDOT CFI

Comments included in the document attached.

Additional submitted attachment is included below.

SANDAG

June 10, 2024

The San Diego Association of Governments (SANDAG) appreciates the opportunity to comment on the Project Proposal Ideas and Considerations for California, Oregon, and Washington's Medium- and Heavy-Duty Joint Application for the U.S. Department of Transportation's Charging and Fueling Infrastructure Discretionary Grant Program (Docket #24-EVI-01). Please note that we only provided information to answer certain relevant questions.

1. Are you a driver, fleet operator, truck stop operator, installer, manufacturer, utility, public agency, or other? Are you part of a small, veteran-owned, woman-owned, or minority-owned business?

Public agency

4. What type of MDHD ZEV public charging do you anticipate being most important in the next three years (2024-2027) – en route or overnight charging? For what purposes do you anticipate needing public charging infrastructure – drayage, last-mile, delivery, long-haul freight, other?

As stated in SANDAG's Regional Medium & Heavy Duty Zero Emission Vehicle Blueprint - Needs Assessment Report, early adoption of EVs for MD/HD vehicles will most likely be in the short-haul and drayage sectors.

> "Transit buses are farther along in the market followed closely by drayage, shuttle buses and delivery trucks. However, the technology is still under development for long-haul tractors. Due to shorter trip distance, and more predictable routes, transit buses, refuse trucks, and to some extent drayage trucks are suitable candidates for early deployment electric vehicles."

5. From 2024-2027, what is your first priority for power level and number of charging ports for public en route charging at a station? For public overnight charging? Do you have a second or third configuration preference?

From the Medium- and Heavy-Duty ZEV Technology & Siting Criteria report:

> "One approach to sizing these facilities is by evaluating the expected number of vehicles in need of charging based on the percentage of vehicles that cannot reach their destination without an interim charge. For example, if the vehicle volume through an area is 1000 vehicles per day, it may be that 10% of these vehicles (e.g., 100 vehicles) may need to stop in the area to charge. Knowing the temporal distribution of these traffic volumes one could determine the peak charging demand at that location. If the peak demand is 10 vehicles, then that location might be suitable for a small charging facility. Here, a small charging facility could be a rest stop which has 10 dual port chargers, with enough power to support ≤2-hour charge times per vehicle. A small facility configured with this charging capacity would adequately support the 100 vehicles needing a charge, and up to 240 vehicles per day (each port can support 12 vehicles). In other cases, where the vehicle volume and the percentage of vehicles in need of a charging station exceed 240 vehicles per day, "medium" and "large" facilities with incrementally scaled infrastructure can be recommended"

As stated in SANDAG's Regional Medium & Heavy Duty Zero Emission Vehicle Blueprint - Needs Assessment Report: "While 150 kW is adequate for certain passenger vehicle applications, 350 kW chargers can charge an electric truck in around 0.5 hours, and would be ideal for efficient charging times".

6. Please identify the percentage of pull-in or pull through parking preferred and other desired station configurations at a given site. Describe the vehicle class and vocation considered when making this recommendation if it differs from the information provided in question 1.
From the Medium- and Heavy-Duty ZEV Technology & Siting Criteria report:

- "The recommended square footage per vehicle at MD-HD vehicle rest stops can vary depending on the specific needs and requirements of vehicles and operators; criteria that may serve as a starting point for property size include:
- Parking Space: A standard parking space for a heavy-duty vehicle is typically 40 to 80 feet in length, and 8 to 10 feet in width, which equates to 320 to 800 square feet per vehicle.
- Charging Space: For electric vehicles, an additional space of up to 100 square feet per vehicle might be considered for the charging equipment. However, fitting charging equipment around parking spaces in general requires some pre-planning, as some parking space configurations/geometries afford more flexibility than others.
- Maintenance Space: A truck or bus may require additional space for maintenance activities. A recommended minimum of 300 square feet per vehicle may be considered. Accordingly, an MD-HD vehicle rest stop may require 720 to 1,100 sq. ft. solely per parking spot. In addition to this, land must be allocated for clearance, and maneuvering."

7. What distance should separate charging stations to support zero-emission trucks along the I-5 corridor? Provide description of typical route or use-case considered when making this recommendation. Describe the vehicle class and vocation if it differs from the information provided in question 1.
From the Medium- and Heavy-Duty ZEV Technology & Siting Criteria:

- "The NEVI program suggests that new EV charging infrastructure locations should be spaced a maximum distance of 50 miles apart along designated corridors (including planned stations and existing stations). Considering that today most MD-HD BEVs have similar electric ranges as light duty EVs (~100 – 300 miles), the same criteria could be used for MD-HD charging infrastructure deployment."
- SANDAG recommends a maximum distance of 50 miles apart for MD-HD electric charging infrastructure because most MD-HD battery electric vehicles (BEVs) today have similar ranges to light-duty EVs, between 100 and 300 miles. Considering MD-HD hydrogen fuel cell electric vehicles are likely going to have higher ranges compared to BEVs, (between 300 to 500 miles of range), a starting point for recommended distance between refueling stations may be 20% of this range, or 60 to 100 miles between refueling stations. This is assuming the following assumptions for the allocation of ZE vehicles by type in the San Diego region:
    - Interstate Trucks: Model Year (MY) 2024 and beyond: 50% BEV, 50 FCEV
    - Intrastate Trucks: MY 2024-2026: 90% BEV, 10% FCEV
    - Intrastate Trucks: MY 2027 and beyond: 75% BEV, 25% FCEV

- Drayage Trucks: MY 2024-2026: 90% BEV, 10% FCEV
- Drayage Trucks: MY 2027 and beyond: 75% BEV, 25% FCEV
- All Other Vehicles: MY 2027 and beyond: 90% BEV, 10% FCEV
- Class 2b-3 Vehicles: MY 2024 and beyond: 100% BEV, 0% FCEV

More information on the fleet characteristics is available in the Regional Medium & Heavy Duty Zero Emission Vehicle Blueprint - Needs Assessment Report.

10. Use the maps under the "Corridor Segments" section below to identify locations within the National Zero-Emission Freight Corridor Strategy hubs along I-5 (identified in the map segments 4 below) you anticipate needing EV charging in the next three years (2024-2027)8. You may identify sites where you plan to or would be interested in building charging stations or where you would like to see charging as a consumer. Please detail preferred locations across California, Oregon, and Washington. For each location, please provide desired site characteristics including number of chargers, power levels, type of charging desired (overnight or en route), and vehicle class and vocation if the information differs across locations or differs from the information provided in the questions above.

The California – Baja California border region is essential for California's trade economy and is heavily impacted by poor air quality. Some of the largest supply chains in the nation are connected through this border region, primarily using trucks. Zero Emission Vehicle infrastructure for the Southern California border region is critical to address freight needs along critical truck routes connecting the region's commercial land Ports of Entry and marine ports. The recently completed National Zero-Emission Freight Corridor Strategy, developed by the Joint Office of Energy and Transportation with the U.S. Department of Energy, the Department of Transportation, and the Environmental Protection Agency, focuses on providing zero-emission infrastructure across the NHFN while overlooking the unique truck patterns and air quality concerns in the international border regions. Because of this omission, it fails to prioritize border regions for near-term zero-emission infrastructure development despite their critical role in the national economy and potential to reduce emissions and promote environmental justice. As such, the San Diego border region should be considered a priority corridor for EV charging and should be included as a priority hub in the National Zero-Emission Freight Corridor Strategy

The National Zero-Emission Freight Corridor Strategy recommends building charging and fueling infrastructure in phases, with phase 1 deployments in areas that bear disproportionate environmental and air quality burden from MD/HD vehicle emissions. San Diego County is a Federal Nonattainment area for ozone (8-hour standard) and State Nonattainment area for Ozone (8-hour and 1-hour standards), PM10, and PM2.5 (Attainment Status (sdapcd.org)). According to the San Diego County Air Pollution Control District, medium and heavy-duty trucks alone make up only 1% of all vehicles in San Diego County but emit 13% of all diesel particulate matter (DPM), a major component of fine particulate matter (PM) in the region, which contributes to lung cancer and aggravates asthma. Moreover, medium and heavy-duty trucks emit 15% of all oxides of nitrogen (NOx), which is a precursor to regional ozone and particulate pollution and contributes to respiratory and other illnesses (ISR Framework-English (sdapcd.org)). The border region is also home to two Assembly Bill 617 communities, designated by the California Air Resource Board as disadvantaged communities facing disproportionate air pollution exposure, including from

medium- and heavy-duty vehicles. These communities are adjacent to freight facilities and would benefit from an accelerated transition to zero-emission fuels facilitated by programs such as CFI.
CTC Efforts: SANDAG encourages the inclusion and consideration of Senate Bill 671, the Clean Freight Corridor Efficiency Assessment bill. This initiative aimed at evaluating and enhancing the efficiency of freight corridors while prioritizing environmental sustainability. The bill mandates a comprehensive assessment of existing freight transportation networks, focusing on reducing emissions, improving traffic flow, and promoting cleaner technologies, and was developed by the California Transportation Commission (CTC). The CTC identified these clean freight corridors by considering factors such as traffic volume, emissions data, infrastructure conditions, and environmental impact assessments. Through collaboration between government agencies, transportation experts, and environmental organizations, specific corridors were evaluated based on their potential for improving efficiency and reducing environmental impact. SANDAG suggests these previously identified Clean Freight Corridors be considered for current efforts to align with CTC analysis and data (Zero Emission Freight Transition at the Border).

The National Zero-Emission Freight Corridor Strategy does not recognize land ports of entry as freight hubs, including Commercial Land Ports of Entry (POE), despite their consideration under the Clean Freight Corridor Efficiency Assessment. The California – Baja California border region connects some of the largest supply chains in the nation. The region's land POEs handled $71.8 billion worth of goods in 2021, with the existing Otay Mesa POE being the second-highest in truck traffic, and third-highest in value of goods transported by truck for any POE on the U.S.-Mexico border (TransBorder Freight Data (bts.gov). This annual two-way trade has more than tripled in value since reaching a low in 2009. The new Otay Mesa East/SR 11 project is a joint venture between SANDAG and Caltrans, being delivered in collaboration with state and federal agency partners from the United States (U.S.) and Mexico. This Project will deliver a 21st-century border crossing for the San Diego-Baja California border region, enhancing regional mobility, increasing border security, fueling economic growth, and bolstering binational trade. By incorporating advanced technologies and alternative fuels, the project can improve regional air quality, enhance public health, and address environmental challenges associated with transportation emissions. Otay Mesa East POE would serve as an ideal location for the study and implementation of ZEV infrastructure, given its economic importance and flexibility as a facility designed to incorporate many new sustainable technologies.