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Chateau Development - 24-EVI-01 RFI Ideas and Considerations for CA Ports USDOT CFI

Additional submitted attachment is included below.

Chateau Development, LLC
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Request for Information

Considerations for the California Energy Commission Zero-Emission Medium- and Heavy-Duty Drayage Infrastructure Application for the U.S. Department of Transportation's Charging and Fueling Infrastructure Discretionary Grant Program

June 28, 2024

Docket #24-EVI-01

1. Please disclose your business type and vehicle class, if applicable. Are you a driver, fleet operator, truck stop operator, charging and/or hydrogen fueling provider, installer, manufacturer, utility, public agency, or other? Are you part of a small, veteran-owned, woman-owned, or minority-owned business?

   Chateau Development is a charging infrastructure developer delivering scalable charging capacity to priority logistics markets populated by fleets whose operations are compatible with battery-electric truck capabilities.

2. The purpose of this RFI is to help inform the CEC's application to the Federal Highway Administration (FHWA) for federal funding. If awarded, the CEC will release a competitive grant funding solicitation to provide funding to end recipients who would develop and construct the zero-emission MDHD infrastructure. Would you consider applying for CFI grant funding for site development if the CEC is awarded funding?

   If the CEC is awarded funding, Chateau Development will apply for CFI grant funding for site development.

3. Do you already operate or plan to use zero-emission MDHD vehicles in the next five years? Please use a 1-5 rating scale where 1= least likely and 5= most likely. Please add additional information regarding your (planned) use of zero-emission MDHD vehicles as desired.

   While Chateau Development does not directly use zero-emission MDHD vehicles, our partners include fleets, independent motor carriers, commercial vehicle OEMs, truck dealers, and Trucks-as-a-Service providers. Our project stakeholders currently operate or plan to operate hundreds of zero-emission MDHD vehicles in the next five years.

4. Not applicable.
5. For EV charging and hydrogen fueling providers, describe:
   a. Your organization's business model for public charging and/or hydrogen fueling offerings.

      Chateau Development builds, owns, and operates publicly accessible, high-capacity charging facilities. Drivers may access charging services using charger-integrated payment terminals on a cost-per-kilowatt-hour basis. Fleets and independent motor carriers may also access charging services through monthly contract terms that align with their duty cycles and downtime requirements.

   b. Mechanisms your organization might leverage to provide affordable charging and fueling services to drayage fleet operators.

Chateau Development is committed to providing drayage fleet operators access to the most reliable, cost-effective charging infrastructure available. Our team leverages several mechanisms to provide affordable charging services to drayage fleet operators, including:

1. Designing infrastructure to achieve the lowest cost of power.
2. Leveraging demand management and charge management technology to limit electricity costs.
3. Deploying distributed energy resources to balance on-site power consumption.
4. Scheduling charging sessions to maximize utilization.
5. Pursuing competitive grant programs and available federal, state, local, and utility incentives to augment project costs, and passing those savings onto the drayage fleet operators.

c. The scope of services, facilities and amenities provided at your recharging/refueling locations.

Chateau Development's recharging locations offer rapid recharging of battery-electric trucks at either bobtail or pull-through truck charging bays. While their vehicle is charging, drivers may access the on-site Professional Driver Lounge which houses restrooms, light food and beverage stations, Wi-Fi, and lounge-style furniture. Facilities provide 24/7 security and access control to ensure the safety of site staff, drivers, visitors, and vehicles.

d. The anticipated site size, parking configuration (e.g., pull-through), total number of charging stalls capable of simultaneous charging, and total number of truck parking spaces that are not dedicated to charging or refueling.

Chateau Development's anticipated site sizes vary, but are generally between 2 and 5 acres. Our flagship facility will host a total of 124 truck charging bays, 116 of which will be configured for bobtail charging and the remaining 8 will be pull-through stations. An additional 22 parking spots will be used as trailer drop spots or truck parking. All 124 charging bays will be capable of simultaneous charging.

e. How your organization approaches right-sizing infrastructure for near-term market demand and future-proofs infrastructure to be responsive to evolving needs.

Chateau Development's team has more than 50 years of experience in the electric utility infrastructure industry and more than 12 years of experience in the EV charging infrastructure industry. Future-proofing electrical infrastructure has been best practice in the electric utility industry for decades. Now in the EV charging infrastructure industry, those best practices

are enabling charging infrastructure developers, including Chateau Development, to deploy charging systems that can scale alongside customer demand.

Chateau Development equips our facilities with primary electric services, meaning that we take delivery of power at high voltages, usually 12 kilovolts (kV) or greater. This practice gives us the ability to gradually scale charging facilities by adding customer-owned infrastructure to our existing service. We avoid reengaging the utility, reducing the time it takes to energize additional chargers. Our facilities are designed to provide additional charging capacity to customers before their electric trucks are delivered.

Additionally, Chateau Development leverages equipment that is inherently scalable. EV charging infrastructure varies by manufacturer in its modularity and technical design capabilities. It is important to select EVSE specifically for the intended use-case.

For example, while pull-through truck charging bays are equipped with 350 kW chargers, each is capable of scaling to 1.0 MW. Similarly, bobtail truck charging bays are equipped with chargers with 350 kW capacity. However, additional dispensers will be added to expand the number of dispensers connected to that charger. Chateau Development dedicates significant time and resources to ensuring the quality, scalability, and serviceability of our equipment.

6. What distance should separate stations to support zero-emission drayage truck activities around California ports? Provide a description of a 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.

   Zero-emission drayage truck activities around California ports benefit from route characteristics and duty cycles that are compatible with existing zero-emission truck and recharging/refueling technologies. With that said and speaking directly to battery-electric truck operations, most fleets rely on overnight charging to supply the majority of their energy needs. In-route charging, while presently important for certain duty cycles and essential for the long-term viability of electric trucking, is not a practical primary charging solution for drayage service providers.

   With this underlying understanding, the question becomes where stations should be located, as opposed to how far apart. For example, it is no secret that the vast majority of Southern California's freight volume moves from the San Pedro Bay port complex to the Inland Empire warehouse district. Many of the drayage

providers' terminals are located in the South Bay or in the Inland Empire along the I-710 or the I-10.

The Electric Power Research Institute (EPRI), through its EVs2Scale2030 program, has been aggregating fleet registration and telematics data to project where, when, and how much EV charging load is likely to materialize on the U.S. electric grid by 2030. In the image below, it is clear that the Inland Empire will require a dense concentration of EV charging capacity.

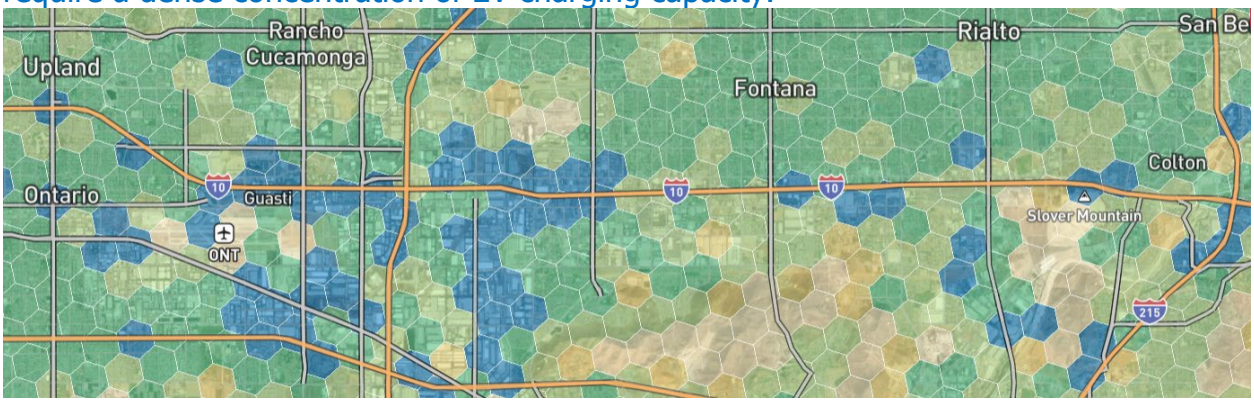


Figure 1 eRoadMAP: Inland Empire (https://eroadmap.epri.com/)

Each of the hexagons above represents .28 square miles. Blue hexagons represent locations where greater than 7.5 MWh/day of charging consumption will occur. Many of these blue hexagons project numbers like 20, 39, even 55 MWh/day of charging. In order to deliver this volume of electricity to vehicles, several high-capacity charging facilities will be needed.

Because the Inland Empire serves as both the origin and destination of drayage and short haul routes, hundreds of megawatts of charging capacity will be required to convert these vehicles to electric. The class 8 tractors that perform drayage services have batteries with more than 500 kWh of capacity, which requires high-output recharging stations.

7. If possible, provide any general cost estimates for MDHD charging and/or hydrogen fueling stations you have designed, built, or have experience with, including charger power levels and number of stations installed. Please provide a range of public cost-share as a percentage of the total project cost necessary to support more public charging stations to serve zero-emission trucks along drayage corridors. For example, should the publicly funded cost share be 50% CEC/federal and 50% private/other?

   The Chateau Development team has designed and built several hundred EV charging systems supporting medium- and heavy-duty vehicles. In our experience, high-capacity chargers (+180 kW) can range from $100,000 to $350,000 per charger installed. Today, our facilities benefit from economies of scale. Power infrastructure

becomes more efficient as the equipment used gets larger. For example, the marginal cost of a 2 MVA transformer and a 3 MVA transformer is relatively insignificant. However, the marginal charging capacity enabled by these two pieces of equipment is very significant.

8. Use the maps in the "**Corridor Segments**" section to identify areas where you expect to need zero-emission truck infrastructure in the next three years (2024-2027). These Corridors have been selected to align with the National Zero-Emission Freight Corridor Strategy, the California Transportation Commission's SB 671 Clean Freight Assessment and to complement California, Washington and Oregon's Tri-state application.
    a. You can pinpoint sites where you plan to build stations, or where you would like to see a station as a driver.

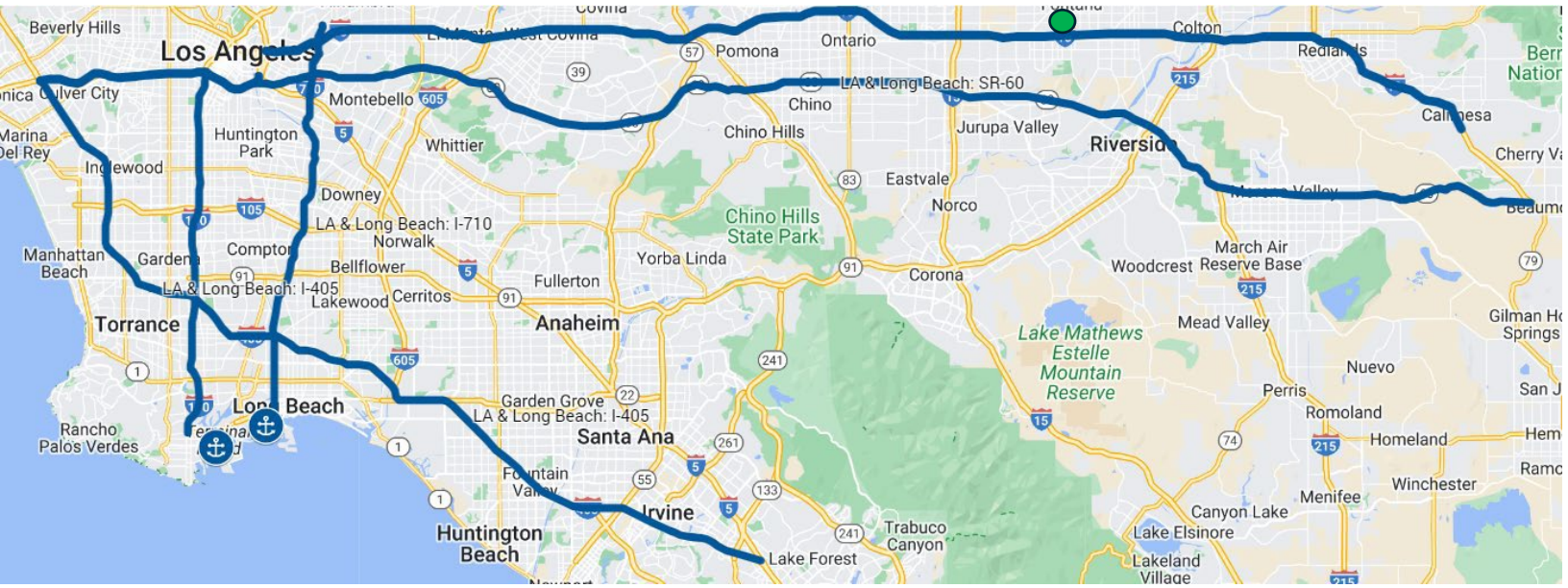
       See below.

    b. If possible, please provide specific details for each location, including the preferred location, the number of stations, the type of fuel (hydrogen or electric), power levels (if applicable), and vehicle class.

       Chateau Development intends to apply for CFI funding to support the development of a charging facility located in the Inland Empire with immediate access to the I-10 corridor. The facility will be outfitted with 120 charging stations with 360 kW capacity, and 8 charging stations with megawatt-level charging capacity. The site is designed to support the drayage, short, and regional hauls performed by medium- and heavy-duty vehicles in and around the Inland Empire.

    c. Identify any corridor segments you think should be considered that have not been included and how they align with the National Zero-Emission Freight Corridor Strategy.

9. Not applicable.



Chateau Development, LLC

June 28, 2024

The Honorable Pete Buttigieg

Secretary of the United States Department of Transportation

1200 New Jersey Avenue, SE

Washington, DC 20590

Subject: Letter of Commitment for the California Energy Commission's Medium- and Heavy-Duty Drayage Infrastructure Project under the Charging and Fueling Infrastructure Discretionary Grant Program Opportunity 693JJ324NF00017

Dear Secretary Buttigieg,

On behalf of Chateau Development, I am writing to express our commitment and support for the California Energy Commission's (CEC) proposed project to install charging and/or hydrogen fueling stations to support zero-emission medium- and heavy-duty (MDHD) drayage trucks at California ports.

Chateau Development is committed to contributing to the success of this initiative by providing confirmation that we would apply for the funding should the CEC be awarded. We believe our contribution will significantly enhance the project's impact and help to ensure the successful deployment and use of zero-emission MDHD vehicle charging and fueling infrastructure.

Our organization has secured potential sites that would be highly suitable for this infrastructure. These sites include locations near the San Pedro Bay port complex and in the Inland Empire, with immediate access to the I-10 corridor. We are confident that these locations will see significant usage and will be instrumental in supporting the drayage activity at the Ports of Los Angeles and Long Beach.

We support the CEC's vision for the FY 2024 Charging and Fueling Infrastructure (CFI) application and our organization is prepared to collaborate closely with the CEC and other stakeholders to achieve a publicly accessible network of MDHD hubs that reflects the National Zero-Emission Freight Corridor Strategy.

We appreciate the opportunity to provide our input and are eager to support the CEC's application for the FY 2024 CFI program. Please do not hesitate to contact us at Michael@ChateauDevelopment.com for further discussion on how we can contribute to the success of this critical initiative.

Sincerely,

Michael Bresnahan
Director, Development
Michael@ChateauDevelopment.com
Chateau Development, LLC