



GOING for GOLD

December 2024

A Blueprint to Catalyze Medium and Heavy-Duty
Charging Infrastructure Investments in the Los Angeles
Region Preceding the 2028 Games

The Los Angeles Cleantech Incubator (LACI) embarked on one of the first external planning efforts with the 2028 Games, supporting LA28’s transportation planning by identifying how best to incorporate zero emission transportation solutions, building upon the momentum created by LACI’s public-private Transportation Electrification Partnership (TEP), for which LA28 serves as an external advisor.

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Background

As Los Angeles prepares to host the 2028 Olympic and Paralympic Games (the 2028 Games), the region has an opportunity to change transportation paradigms in Los Angeles County for the long term. Specifically, as the state, country and world move towards zero emission modes of transportation, the 2028 Games offer an opportunity to catalyze investment in zero emissions vehicles and infrastructure ahead of state or federally mandated schedules. Implementing these transportation initiatives can provide enduring improvements to benefit Angelenos while showcasing the region as a model for localities transitioning to zero emissions transportation.

Established in 2018, with a Leadership Group including Southern California Edison, Los Angeles Department of Water and Power, Los Angeles Metropolitan Transportation Authority and the City & County of Los Angeles to accelerate transportation electrification and zero emissions goods movement by the time the greater LA region welcomes the world to the 2028 Games, TEP has set an overarching goal to reduce greenhouse gas (GHG) emissions and air pollution by 25% beyond existing commitments, pursuing aggressive targets for medium- and heavy-duty (M/HD) transportation by 2028, including:

100%

of transit buses to be electric

60%

of medium-duty delivery vehicles to be electric

40%

of drayage trucks serving the Ports of Los Angeles and Long Beach to be zero emissions

95,000

chargers installed to support transit and goods movement across LA County

These regional targets set the stage for aggressive statewide vehicle and charging deployment goals announced by Governor Gavin Newsom in 2020 and, in the case of drayage trucks, established a pathway to a 2017 commitment by former Mayor of Los Angeles Eric Garcetti and former Mayor of Long Beach Robert Garcia for 100% of drayage trucks to be zero emission by 2035.

With an eye towards these targets, LACI collaborated with LA28—the nonprofit, privately funded organizing committee for the 2028 Games—to develop a Blueprint for integrating zero emissions M/HD transportation solutions into the 2028 Games.

The purpose of this Blueprint is to identify not only how battery electric vehicles can integrate into the transportation needs, but also how regional investment in medium and heavy-duty (MDHD) infrastructure can catalyze transformational deployments to benefit the region before, during and long after the summer of 2028. All charging infrastructure installed by transit agencies, school districts, or private operators in Los Angeles by 2028 could potentially support the 2028 Games; this Blueprint analyzes which deployments specifically could maximize the zero emission options for spectators, media, and athletes throughout the summer. Additionally, LACI analyzed how temporary infrastructure installations can accommodate the surge in transportation demand and LA28's unique needs; these investments can then spur lasting business models for the on-demand provisioning of energy, charging, and transportation.

In partnership with transit, utility and agency partners, LACI:

Analyzed

the transportation needs (for Athletes, Media, Priority Attendees, Spectators and Workforce) of the 2028 Games to determine which operations can be performed by battery-electric vehicles (BEV)

Mapped

the locations of existing transit agency and school bus depots where charging infrastructure installations could enable zero emission transportation for the 2028 Games while accelerating existing long-term zero emission plans

Assessed

opportunities to utilize innovative mobile or modular charging solutions to support M/HD vehicles during the 2028 Games with information gathered from a Request for Information (RFI), accounting for their long-term value for contributing to the region's electrification

Created

a set of recommendations for how LA28 can integrate zero emissions transportation in its operations, and how regional stakeholders can accelerate the deployment of the associated charging infrastructure will benefit Angelenos for the long-term

LACI leveraged its long-standing municipal, public agency, industry, and innovative startup networks to gauge capacity for stakeholders to invest in lasting infrastructure or business models that can serve our community mobility needs, achieve state goals for zero emission vehicle adoption and further California's reputation as a clean transportation leader in zero emission technology, and transform the region's transportation archetype long after the Olympic torch leaves Los Angeles.

Preliminary Needs Assessment

Though subject to change over the coming years, LACI received some preliminary transportation requirements for LA28 that informed our assessments (all numbers are approximate).

800 coach buses for the Athletes that could require up to 160 miles of range per day.

2,700 supplemental buses for the Spectators and Workforce (mostly transit, possibly some school) that could require up to 350 miles of range per day.

4,500 vehicles for the Media and Priority Attendees (a mix of MDHD and Light-Duty vehicles).

Based on existing plans for school and transit bus electrification, the region would need to catalyze over 2,500 additional charging ports to fully electrify LA28 operations.

If fully electric, the transportation energy requirements could total over 1 GWh per day.



From this analysis, LACI developed recommendations for how LA28 could achieve zero emissions solutions for the different transportation operations of the 2028 Games. Broadly, these recommendations fall into five buckets:

School bus depot electrification

Transit bus depot electrification

Energy and transportation hubs at municipal airports

Mobile energy and charging assets for last mile transportation

EV-integrated fleet management service

Additionally, there are key financing and policy initiatives needed to make these operational recommendations a reality. Below is a brief synopsis of these different categories of recommendations and suggested initiatives.



Recommendations

School Bus Depot Electrification

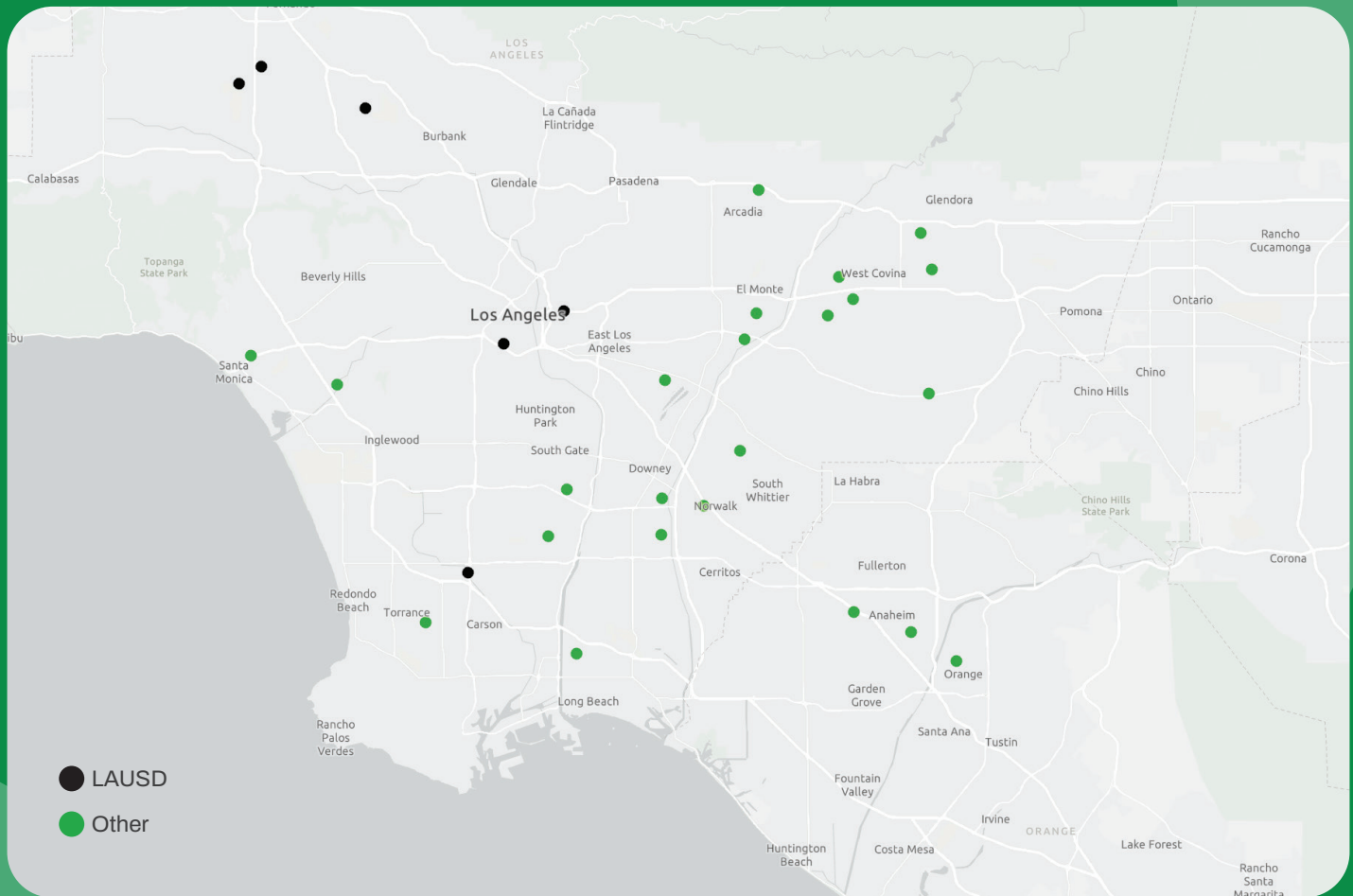
Maximizing the amount of electric medium-and-heavy duty transportation (buses, trucks, vans, and shuttles) at the 2028 Games will require leveraging available transit and school bus depots to the greatest extent possible. School districts and transit depots are planning to deploy charging infrastructure to support their pending fleet electrification; however, even counting the high end of these plans, the region's depots would need to catalyze over two thousand additional charger installations by 2028 in order to support the electrification of all of LA28's medium and heavy-duty transportation.



Investment in school bus depots presents a perfect opportunity to catalyze infrastructure development for public entities while maximizing flexibility for any electric transportation operations.

For instance, Los Angeles Unified School District (LAUSD) owns and operates three large bus depots (as well as other smaller depots) across LA County that could each support charging needs of multiple LA28 transportation operations. LAUSD will need to electrify its entire fleet over the course of the next twenty years; however, their plans as of today have them on track for the electrification of their Sun

Valley Bus Yard, but not the Gardena or San Julian Street Bus Yards; this is a perfect example of how the Olympics can catalyze investment in regional charging infrastructure today that can accelerate electrification timelines and provide immediate benefits to the community.



Given the size and centrality of these depots, whether supplemental transit and school buses for mobility hubs or trucks and vans for LA28’s internal operations. In addition to LAUSD, school districts from Santa Monica to Covina can provide mobility hub support to specific smaller venues as well as general operational support for any logistics vehicles. If infrastructure investment at school districts begins today, LA28 could partner for access to charging ports across the county to meet its needs, while laying the foundation for future school bus electrification.

School bus electrification has multiple benefits; most importantly, the emissions and air pollution reductions, not only for the community and region, but also for the students riding in the buses. Additionally, electric buses with bidirectional capabilities (a required feature on California school buses) can serve as a critical distributed energy resource for grid support, providing backup power or mobile

energy assets. Establishing these resources at focal points within communities can spur familiarity with and support for clean energy technologies, driving momentum for further accelerated electrification.

School districts in California have a requirement to purchase only zero emission buses starting in 2035; with this timeframe, a diesel bus purchased in 2028 could be on the road until 2050. Investment in school bus depot infrastructure today would position LA County school districts to begin 100% zero emission purchases by 2028, ahead of California’s requirements. Additionally, California and the federal government have committed unprecedented amounts of funding through 2026 for school bus electrification; it is important for the region to capitalize on this transformative funding while it is available by finalizing equipment needs and securing investment over the next two years to complete installations by 2028.

Transit Electrification

A focus of planning for LA28's spectator and workforce transportation is to maximize existing public transit (including rail line expansion with recent [federal funding](#) to support operation by 2028) to transport spectators to the 2028 Games without personal cars. Battery electric buses in the *supplemental bus fleet can cover the last mile, but it is important to ensure visitors experience electrified transportation across all legs of their journeys where possible.

With implementation of the California Air Resources Board's (CARB) Innovative Clean Transit rule, transit agencies across California will purchase only zero emission buses starting in 2029, making the 2028 Games a timely opportunity to catalyze investment in depot infrastructure.



LA Metro has already begun electrifying its two major Bus Rapid Transit lines. The G Line, which operates out of Division 8 (Chatsworth), has been electrified since October 2021. The J Line, which operates out of Divisions 9 (El Monte) and 18 (Carson), will be fully electrified in 2025. In addition, Metro will electrify Division 9 and the El Monte Transit Center by early 2026 and anticipates Divisions 18 and 7 (West Hollywood) will be electrified in 2028.

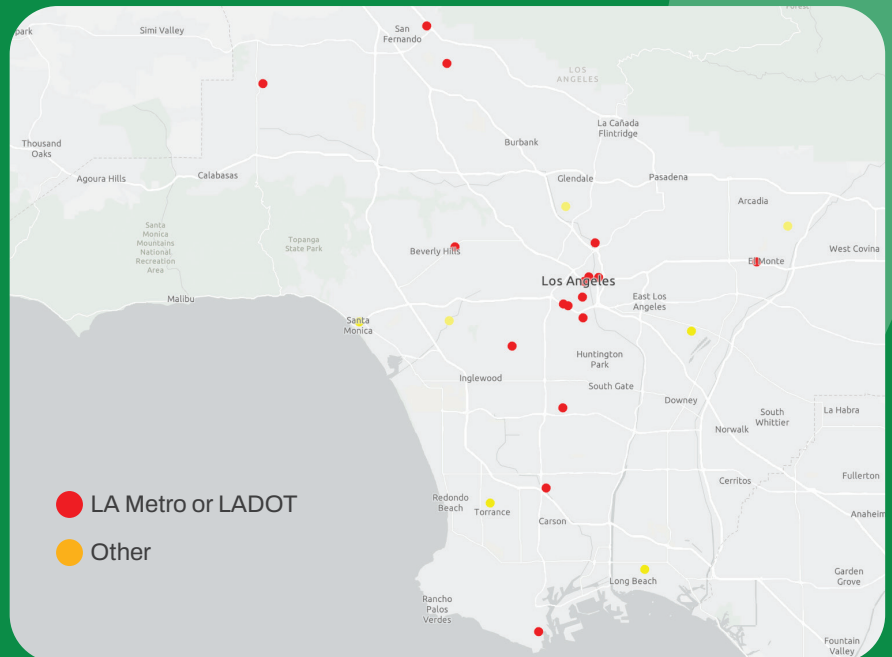
Prioritizing the electrification of three additional Divisions by 2028 can support electric bus service for a majority of the lines serving fixed routes to venues' mobility hubs.

In addition, Metro has and will continue to deploy targeted charging infrastructure at Divisions and transit centers throughout the County to support the rollout of new battery electric buses. This infrastructure should remain available to support electric service during the 2028 Games.

***Buses brought to Los Angeles to handle the expanded transportation requirements of the 2028 Games**

Electrification of these Divisions by 2028 can provide battery-electric bus service to the Downtown Sports Park, Hollywood Sports Park, and South Bay Sports Park, covering bus transit adjacent to a large portion of venues and events. Securing funding for the electrification for these Divisions and rapidly finalizing engineering and procurement decisions can maximize transit electrification for spectators and workforce. LA Metro's transition is uniquely complex, serving such a geographically large and dense county, but the need for immediate, no-regrets infrastructure upgrades would ease the transition and serve as a foundation for Metro's BEV operations.

Other transit agencies' electrification will contribute as well. Leading the drive to provide BEV transit for the 2028 Games is LADOT, already making great progress with multiple depots planned for full electric operation by 2028 to support 100% of its bus fleet. Existing bus transit routes supported by LADOT infrastructure run throughout Downtown LA and the USC campus and will do the same for spectators and workforce during the 2028 Games.



Other transit agencies' electrification will contribute as well. Leading the drive to provide BEV transit for the 2028 Games is LADOT, already making great progress with multiple depots planned for full electric operation by 2028 to support 100% of its bus fleet. Existing bus transit routes supported by LADOT infrastructure run throughout Downtown LA and the USC campus and will do the same for spectators and workforce during the 2028 Games.

Additionally, Culver CityBus, Santa Monica Big Blue Bus, Foothill Transit, and Long Beach Transit, among others, will operate adjacent to venues, and have already begun charging infrastructure investment (Culver City and City of Santa Monica are TEP members). With transit agencies that have already

operated their initial tranches of BEVs, it will be critical to embark on their next round of infrastructure investment to plan for an eventual 100% ZEV fleet. Continuing to roll out electric bus infrastructure will not only maximize current funding opportunities, but provide the greatest chance that visitors and spectators living in, commuting from, or traveling to these areas can do so on an electric bus.

An electric transit bus initiative would go hand-in-hand with maximizing throughput of the transit system, including rail. Maximizing the capacity of the network under the constraint of available equipment, with smart placement of mobility hubs for last mile shuttles, is the best framework for providing a seamless experience for visitors.

Energy and Transportation Hubs at Municipal Airports

Depots for staging vehicles, mobile battery energy storage systems (BESS) and associated charging can serve an important role in the 2028 Games' transportation electrification, and municipal airports provide an ideal footprint for this operation. Many of these charging and energy assets would be deployed on a temporary basis to support the supplemental vehicles, but permanent charging infrastructure would be helpful for recharging the depleted mobile BESS on-site.


This provides an opportunity to catalyze and leverage permanent charging infrastructure installations at municipal airports, infrastructure that will eventually be needed to charge electric ground support equipment and hybrid-electric aircraft.

An important piece of public infrastructure often overlooked in regional transportation and energy planning, municipal airports have the space to meet many of the operational needs for proposed energy hubs. In some cases, these airports are large enough to include parking and charging vehicles; at a minimum, they can house and dispatch mobile BESS units to smaller mobility hubs. Empty parking lots could meet these needs on a smaller scale, but larger installments will require acres of space to provide for the equipment's footprint and the logistics of the operation. Whether charging buses on-site or dispatching trailer-attached battery storage units to mobility hubs (or venues to serve as mobile power), operators will need the space provided by municipal airports for moving equipment around safely.

Los Angeles County has multiple airports (San Gabriel Valley, Compton/Woodley, Whiteman, Hawthorne, Brackett, among others) that will not

(and traditionally do not) anticipate much, if any, commercial passenger traffic. With non-essential aviation anticipated to be minimized during the 2028 Games for security purposes, the square footage of the airports can provide a platform for temporary BEV bus depots. Roughly, one acre of space can support twenty buses and accompanying off-grid BESS and chargers (assuming one charger per truck) and room for operations; as such, if Compton/Woodley Airport were to be dedicated completely to energy, charging and transportation operations, there are at least thirty acres of usable space that could potentially support six hundred buses.

Recharging BESS units will require on-site electrical capacity and energy infrastructure, the installation of which by 2028 can prepare airports to serve electric or hybrid-electric aviation, offered by companies such as Ampaire (a LACI alumni company) and Joby Aviation, as well as ground support equipment.

A large commercial airplane is parked on a tarmac. In the foreground, a white charging station is visible. The background shows a forested area and mountains under a clear sky. The text is overlaid on the left side of the image.

Investing in energy storage and charging infrastructure at municipal airports can be a transformative legacy for the 2028 Games by expanding the economic potential that hybrid aviation can provide to regional goods and people movement.

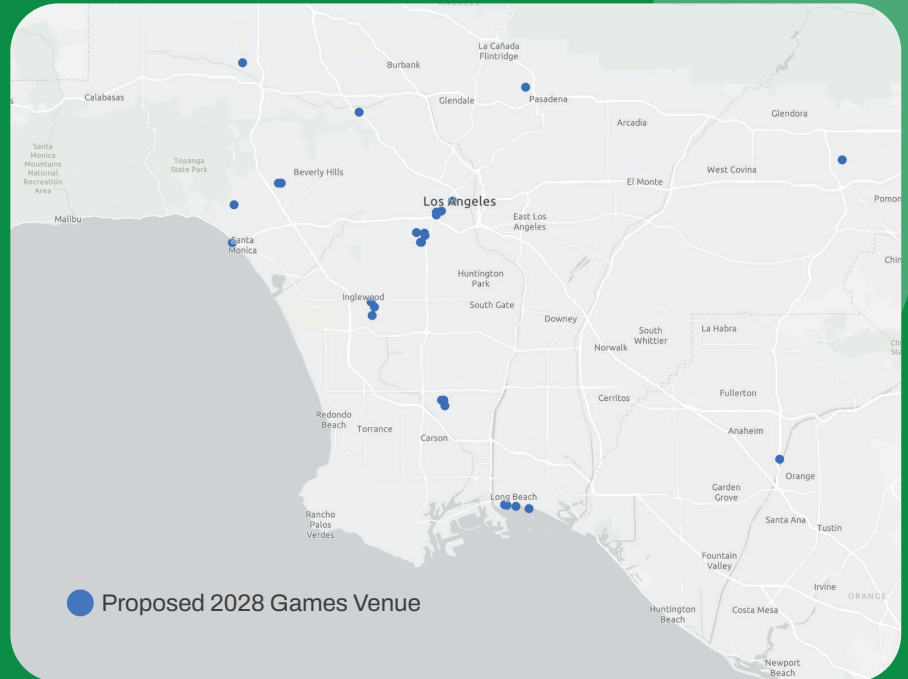
Additionally, in a zero emissions transportation and energy future, governments will have to learn strategies for deploying large amounts of BESS and chargers to support first responder and disaster relief efforts. Supporting and executing an effort by LA28 to coordinate the charging and deploying of energy assets at municipal airports makes this a worthwhile initiative for regional governments to endorse.



A key feature to spectator and workforce transportation will be ‘mobility hubs’ that serve as staging areas for last-mile travel to the venue. Locating these hubs, and the ability to which they can host energy and/or charging infrastructure will require consideration of a confluence of factors: space, nearby transit, accessibility, positioning vis-a-vis the venue for consistent and punctual shuttle schedules.

Mobility Hubs

For security and traffic congestion purposes, LA28 aims to eliminate individuals driving cars directly to venues and will instead set up high-volume shuttles (using public transit and/or school buses) to ferry spectators and workforce from the mobility hubs and/or proximate transit stops to the venues. LA28 will aim to locate these hubs in areas that have access to existing transit infrastructure and/or space for passenger car park-and-rides. In addition to transit infrastructure and passenger car parking, mobility hubs may also include rideshare drop-off/pick-up and micro-mobility infrastructure for those (e-) biking or scootering to the venues.




For the latter, LA28's initial research has identified an approximate radius within which they expect to station mobility hubs for each venue. With this information, LACI reviewed responses to the Blueprint RFI technology responses, many of which were mobile charging or energy storage systems. These technologies have become increasingly necessary to accommodate fleet power needs in the face of grid constraints or operational complexity. These solutions can also form the foundation of the off-grid depots that will be necessary to support any electric buses in LA28's supplemental fleet and mobility hub operations.

To understand exactly how permanent and temporary energy and charging infrastructure can support

LA28's mobility hubs, LACI developed hypothetical options that also considers what nearby bus staging and/or charging infrastructure (i.e. school bus depot) or off-grid energy depot (i.e. airport) could support electrification of that mobility hub. Some mobility hubs, with the right confluence of factors, could allow for the charging, the bus staging and the energy depot to all occur at the same location as passenger drop-off/parking. For each venue where LA28 anticipates requiring a mobility hub, LACI proposes (see **Duty Cycle Electrification Recommendations** in accompanying whitepaper) an ideal location for the mobility hub, as well as a corresponding location for the staging and charging of the supplemental bus fleet that would support the mobility hub.

EV-Integrated Fleet Management Service

Two of the duty cycles outlined in this report (Athletes and Media/Priority Attendees) will operate on a closed-loop system controlled by LA28, in partnership with corporate sponsors or other private sector providers. These vehicles will range widely in type, from coach buses for athletes, to transit or school (or coach) buses for some media members, to shuttles, vans or passenger cars for priority attendees. To manage the dispatch and routing of these vehicles, LA28 will likely seek a contract provider of Fleet Management Services.



Ideally, there would be energy and charging management integrated into the Fleet Management Services contract, providing the operator complete visibility into the state of charge of all vehicles and the occupancy of all chargers on its network or publicly available throughout LA County.

Using energy management solutions for any 'behind-the-fence' charging for an LA28 fleet can also greatly reduce the peak load required to charge the vehicles – **by our estimate, smart charging and energy management could reduce the peak load of a fully EV fleet by 45% without sacrificing operational integrity.** In combination, the charger visibility and energy management could ensure smooth operation of the fleet's BEVs. The operator could even prioritize which vehicles receive a faster charge when necessary to minimize that particular vehicle's downtime.

Energy management software providers submitted relevant responses to the LACI Going for Gold RFI, and LA28 can use this information when developing requirements for its contracted fleet manager. Additionally, respondents to the Blueprint RFI with LA28 included mobile charging providers that can dispatch directly to a vehicle identified through the Fleet Management Service as well as platforms for identifying the availability of public chargers, both of which could be useful for the Media/Priority Attendance fleet, which will have vehicles operating across the County without set routes or schedules, requiring a distributed, flexible charging system.

Funding and Policy Recommendations

Greater Los Angeles is a leader on transportation electrification policies, and the State of California is undoubtedly a national leader in policies and funding programs to advance transportation electrification. On the regulation and policy front, the previously mentioned Innovative Clean Transit rule for transit buses, the 100% sales mandates for school buses, the Advanced Clean Cars II regulation for passenger vehicles, and the Advanced Clean Truck and Fleet rule for medium and heavy-duty vehicles all compel increasingly stringent proportions of zero emission vehicles on the road. From a funding perspective, California has committed billions of dollars through CARB's Hybrid and Zero Emission Vehicle Incentive Program (HVIP), Clean Vehicle Rebate Program (CVRP), and Clean Cars for All (CC4A), the California Energy Commission (CEC)'s EnergIIZE program, and various block grants to subsidize the transition to zero emission vehicles of all weight classes.



However, there is more work to do on both the policy and funding front to ensure the momentum does not stall out and the state can capitalize on the complementary federal funding available over the next couple of years that can influence projects to be completed by 2028.

Pursuing Policies for Flexible Interconnection

Large deployments of DC Fast Charging (DCFC) at transit depots, M/HD hubs, or possibly school districts often can require upwards of 10 MW, if all chargers all pull the maximum power - these are LA Metro's plans across all of its divisions, at a minimum. In many cases, the utility distribution circuit supporting that location cannot provide all of that power at all times; instead, planned upgrades and power capacity increases over the following few years will be necessary to provision the full amount of power that all chargers operating at peak would require. However, with smart software systems and defined processes and agreements, **it is possible for operators to interconnect the entire system, but have the utility limit the amount of power available based on the needs of the grid.** This, and similar arrangements, are referred to as ***flexible interconnection**.

***Software communication between a controller at the site and the grid, with real-time and day-ahead signals communicating power availability, with energy management systems on the site then adjusting power dispensing per charger accordingly.**



The benefits to this arrangement are that operators can install and commission projects well before the utility can bring all of the needed power; anything that can get more chargers commissioned sooner can unlock more project construction and support more BEVs in the near term. The drawback is that flexible interconnection agreements will constrain available power at the site based on day-ahead projections of available power, thus potentially reducing the maximum amount of power any one charger can provide during a window with power constraints. These occurrences will depend on many factors, but for operations with enough

flexibility, this arrangement can commission projects that would otherwise have to wait years for interconnection. The degree to which different transit agencies can tolerate potential reductions in their available power will differ by fleet, but planning around the option of flexible interconnection can make more projects viable in the near term.

While the solution is a question of appropriate software communications, utilities understandably take a conservative approach to the implementation of any product whose impairment could cause grid imbalances with cascading effects.




Standardizing the process for when flexible interconnection can occur and providing a semblance of uniformity at the regional and state level can provide clarity for developers and utilities and set a model for other regions across the country.

When evaluating the ways to rapidly deploy permanent charging infrastructure across the Los Angeles region by 2028, feeding large quantities of power generation into the grid, and executing the transmission, subtransmission and distribution upgrades is an expensive and time-consuming endeavor. Solutions that maximize the available power today can help accelerate the infrastructure deployments that LA28 can leverage for its operations while moving up the timelines for the transit and freight electrification that the region needs for the long-term.

Expanding Bulk Battery-Electric Bus Procurement Opportunities

Central to LA28's potential for deploying battery-electric buses in its supplemental bus fleet is the ability to manage a large, coordinated procurement (through rental or loan) from public transit agencies across the country (though the more western the transit agency, the better for logistical purposes). Prior to deployment at transit agencies, LA28 could organize a loan agreement to use the buses during the 2028 Games, before delivering the buses to the public transit agencies. Separate from the question of vehicle specification alignment and loan agreement details between LA28 and the public transit agencies would be a financing mechanism for such a large purchase of buses. A likely player in such an arrangement would be the Federal Transit Administration (FTA).

Most transit agencies leverage FTA funding to purchase transit buses, either through the Low/No Emission Bus Program or the Buses and Bus Facilities competitive grant programs. The Investment in Infrastructure and Jobs Act (IIJA) committed \$5.5B over five years for these programs to spur adoption of the next generation of transit buses.



Unfortunately, only 40% of last year's funding went towards zero emissions buses. The remainder went to combustion technology.

Being conscious of the need for transit agencies across the country to remove old, polluting diesels, and understanding that battery-electric buses may not fit every transit agencies operations at this point, it is still crucial to increase the proportion of this funding to directly support zero emission options to ensure a timely transition to zero emission buses and eliminate the 15+ years of pollution that an internal combustion engine bus purchased today will still produce.

One positive example to follow from the federal government is the recent EPA Clean School Bus announcements, which funded zero emission vehicles with 95% of the money.

With more funding earmarked for zero emission options, manufacturers may respond with expanding production capacity for battery-electric buses; additionally, an industrial policy that grows the manufacturing base for battery-electric buses and subcomponents are needed to meet the upcoming demand for the domestically-manufactured buses that transit agencies require.



With more funding designated for zero emission solutions, **LA28 has the potential to aggregate orders from transit agencies across the country seeking a 2028 delivery and build its BEV supplementary bus fleet in this manner.** Though each individual transit agency would be responsible for submitting a separate application, references in each to a commitment to arranging for the buses' use at the 2028 Games can be an attractive narrative for the FTA to fund. Corraling the transit agencies, telegraphing this strategy to the FTA, and creating a loan program that addresses the operational and financial needs of all parties is the best opportunity LA28 has to maximize BEV buses in the supplemental fleet.

Maintaining Consistent State Funding Levels

Greater Los Angeles and California are, have been, and will be leaders in the US for ZEV deployments, having committed billions to zero emission vehicles and infrastructure, with further commitments for more. However, the State of California's volatile state budget, fluctuating between surpluses and deficits, can threaten the consistent funding streams that investors, manufacturers, and agencies need to plan their transitions. Particularly this current fiscal year, California saw a reduction of hundreds of millions of dollars for zero emission programs based on projected budget deficits. While stakeholders cannot expect bumper surplus every year to buoy these programs, there should be a concerted effort to ensure that an acceptable level of funding exists every year and is deployed with maximal effectiveness, even if that means baking flexibility into project and vehicle amounts on a year-to-year basis.

A great example for how to ensure consistent funding in California was the ten-year reauthorization of the CEC's Clean Transportation Program (CTP).



The CTP has been a transformative program, spurring zero emissions adoption across all geographies and vehicle sectors in California, providing a degree of certainty that has supported the long-term goals of California. Reauthorization of this program for \$173 million per year in October 2023 will reinforce the state's support for industry investment in zero emission infrastructure, especially across disadvantaged communities.

Additionally, there are recurring funding pots, mainly from the state Greenhouse Gas Reduction Fund generated by the Low Carbon Fuel Standard proceeds as well as transportation infrastructure funds from California SB 1 (the Road Repair and Accountability Act), administered by the California Transportation Commission, that can maximize the impact on zero emission vehicle solutions. This will require coordinated advocacy across all stakeholders to educate agencies and officials about the best paths to ensuring long-term success.

Quotes



Liane Randolph
Chair, California Air Resources Board

Los Angeles has an opportunity to display California's leadership in zero emission vehicle adoption to the US and the world in 2028. This Blueprint shows how we can reach the Transportation Electrification Partnership's vehicle deployment goals, improving air quality in the Greater Los Angeles region and advancing progress toward the region's and the state's zero emission vehicle future.



Matt Petersen
President & CEO, LACI

Going for Gold' lays out a detailed roadmap for accelerating transportation electrification by the time the world arrives in 2028 to reduce air pollution and advance equitable climate action during Games and long after for the benefit of all Angelenos. LACI will now work with our partners to pursue funding to invest in the key catalytic EV charging depots for transit and school buses as well as for cars at park and ride locations—as these projects come on line, we can better demonstrate LA's climate leadership to the world during the Games while moving at speed and scale to create green jobs, create economic opportunity, and reduce emissions for the region.



Sam Morrissey
VP of Transportation, LA28

By identifying the charging infrastructure that Los Angeles can prioritize, LACI and the Transportation Electrification Partnership's Going for Gold Blueprint has highlighted the zero emission possibilities for transit and transportation in 2028 and beyond. LA28 is committed to pursuing solutions that leave a lasting legacy for the residents and communities of Los Angeles, while creating an unforgettable experience for spectators from around the world who will visit Los Angeles for the LA28 Olympic and Paralympic Games.



Christos Chrysiliou
Chief Eco Sustainability Officer, LAUSD

The 2028 Olympic and Paralympic Games present an opportunity to leave a legacy of sustainable transportation and energy infrastructure across the region. LAUSD welcomes the chance to collaborate with regional players to ensure Los Angeles implements lasting projects that demonstrate leadership in transportation electrification and provides lasting benefits for our students and communities.



Michael A. Backstrom
VP of Regulatory Affairs, Southern California Edison

Southern California Edison is a leader in our region's transportation electrification efforts, powering electric transit buses, school buses, trucks and delivery vans which will support the Games' transportation and operational needs. This Blueprint will help regional leaders prioritize projects that can have the greatest lasting impacts for our communities while supporting the region's efforts to advance electric transportation during the Games and beyond.



Patty Monahan
Commissioner, California Energy Commission

California is committed to cleaning the air with zero emission transportation, and building out refueling infrastructure is key to meeting this goal. This Blueprint identifies the key infrastructure projects and partnerships that can maximize electric vehicle deployments for the 2028 Games and beyond. The California Energy Commission will continue to support these types of investments, and we look forward to showcasing Los Angeles' transition from smog capital to clean air capital of the world.



Lindsey P. Horvath

Los Angeles County Supervisor, Third District

The Going for Gold Blueprint provides a bold plan to prioritize zero emission transit solutions that can deliver electric transportation to LA County residents for years to come. Completing these projects in partnership with our diverse cities, transit agencies, and school districts will help meet the needs of the Olympic and Paralympic Games, but the real win is the long term investment. By working together to meet these goals, we will address the climate crisis, improve our County's air quality, and deliver a safe, reliable, and affordable transportation system for our ten million residents.



Nancy Sutley

Deputy Mayor for Energy and Sustainability

Los Angeles is excited to welcome the world for the Olympic and Paralympic Games in 2028. LACI's Going for Gold Blueprint charts the course for a more sustainable transportation system and healthier communities in Los Angeles, and by locking arms with our regional, state, federal and private sector partners, we are ensuring that Los Angeles will meet its zero emission goals for 2028.

Acknowledgements

LACI would like to thank the California Energy Commission for the grant award to pursue this project. Specifically, LACI would like to thank Commissioner Patty Monahan for her continued leadership in advancing zero emission infrastructure deployment; Michelle Vater, Freight and Transit Unit Supervisor in the Fuels & Transportation Division for her guidance; and Esther Odufuwa, Air Pollution Specialist in the Fuels and Transportation Division for her steady stewardship throughout the three years of implementing the project.

LACI also acknowledges LA28's contribution to the difficult task of assessing transportation needs while still developing the 2028 Games Plan, including venues and operational requirements. LA28 has been a supportive partner of LACI's research since the project inception, providing both specific details as needed and context as to how this effort fits within the broader sustainability plans of LA28 and the desire to see the 2028 Olympic and Paralympic Games as a catalytic force for investment in Southern California's transportation system. LACI would especially like to thank Michelle Schwartz, Sam Morrissey, Becky Dale, Benjamin Wanger, and Sunny Sohrabian. LACI appreciates the faith that this group has in LACI to develop recommendations that can improve the experience of the 2028 Games and leave a positive legacy for Southern California.

LACI thanks the transit agencies that have provided information on their electrification plans and insights into how the region can collaborate to accelerate these plans. Special thanks to LA Metro, which not only will operate the majority of public transit buses in the County throughout the Games, but also will play a key role in the region's broader transportation plans during the Games. Specifically, LACI would like to thank CEO Stephanie Wiggins for her leadership and partnership, and also Shaun Miller, Jesus Montes, and Quintin Sumabat for their input on Metro's electrification progress and efforts.

Additional thanks to Lauren Ballard of LADOT, Michael Samulon of Mayor Bass' Office of Sustainability, Diana Chang of Culver CityBus, and Getty Modica of Santa Monica Big Blue Bus.

LACI appreciates our growing relationship with LAUSD as well, led by their Eco-Sustainability team and Christos Chrysioliou. LACI and LAUSD understand the important impact that school bus electrification can have on the region and look to advance the Blueprint recommendations that can unlock electrification for LA28 and students in Los Angeles. LACI appreciates the input gained from conversations with other school districts in the development of this Blueprint, including Inglewood Unified, Baldwin Park Unified, Downey Unified, Arcadia Unified, Montebello Unified and Norwalk-La Mirada Unified.

Lastly, LACI is appreciative of the great work of Angela Amirhanian of Gladstein, Neandross and Associates (a TRC Company) in building and promoting our Going for Gold RFI, as well as collecting, reviewing, and analyzing responses that helped inform our recommendation.



CALIFORNIA
ENERGY COMMISSION



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