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2019 CaFCP OEM Priority Hydrogen Station Location Recommendations

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Hydrogen Station Developers and Interested Stakeholders -

The California Air Resources Board requested CaFCP OEM members to provide a collective response to identify fuel cell electric vehicle (FCEV) customer market locations in support of future development of light-duty retail hydrogen stations. The following is a consolidated response made up of the participating OEMs. This response is limited in scope to light-duty station locations and supersedes any previously provided OEM priority list.

As in past requests, the OEMs individually developed lists of light-duty retail locations and submitted them in a blind process to CaFCP to assure anonymity. CaFCP aggregated individual responses to develop this list of priority target locations.

With a special emphasis on target station locations necessary to increase density and expand coverage of the network, OEMs made recommendations based on:

- Market critical locations selected, but not completed, in past Notice of Proposed Awards.
- Continued expansion within key existing market areas plus enabling NEW markets such as the San Diego area. Existing market expansion includes Sacramento, greater San Francisco Bay area, Los Angeles, Orange County, Inland Empire and adjacent market areas to support increasing FCEV sales volumes.
- Providing redundancy for the Central Valley US5 corridor and enabling greater confidence with round-trip travel to the Fresno/Visalia region (e.g., Arvin/Lebec area).
- Establishing additional early market and connector stations:
 - US101 Central Coast corridor to serve the San Luis Obispo region and support travel between the Santa Barbara and Monterey/San Francisco Bay areas.
 - Enable the US15 corridor coordinated with a Las Vegas station, as a destination to enable a future market.

The recommended station locations for the next phase of California's light-duty retail hydrogen fueling network development are consistent with the published documents "<u>A California Road</u> <u>Map: The Commercialization of Hydrogen Fuel Cell Vehicles</u>" (2012), "<u>Hydrogen Progress</u>, <u>Priorities and Opportunities</u>" (2014), and "<u>The California Fuel Cell Revolution</u>" (2018).

Station developers and interested stakeholders are encouraged to engage with the OEMs directly for more detailed information.

Participating CaFCP OEM members prioritized locations for future hydrogen station development in California, which are presented to guide development. City names are presented as representative of generalized target areas for transportation corridors and in some cases, specific intersections for reference. These locations are presented in two groups, Group 1 and Group 2.

Group 1 locations (Table 1) are first and highest priority, as their function is to further expand fuel cell vehicle markets. There are 56 Group 1 locations, which are listed in alphabetical order. Group 2 locations (Table 2) have secondary priority, relative to Group 1, as these will continue expansion within specific markets and provide additional interconnection between markets. There are 58 Group 2 locations which are segregated into three bins whereby their ranking (1 - 3) are based on aggregated OEM scoring.

In total, CaFCP is recommending 114 priority location target areas.

For further information regarding this letter, please contact:

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Table 1: Group I Priority Target Markets.	
Arvin / Lebec / (S Wheeler Ridge Rd / US5)	⁴ Orange / North Tustin (CA55)
Baldwin Park / West Covina (US10 / US605)	⁴ Pacific Palisades
¹ Barstow / Victorville / Apple Valley	Palm Springs / Thousand Palms
Brea / Fullerton (CA57)	Petaluma (CA1 / US101)
Cerritos / Artesia (CA91 / US605)	Rancho Santa Margarita (CA241)
Corona (US15 / CA91)	Redondo Beach (South) / Torrance
	(Hawthorne Blvd / Sepulveda Blvd)
⁴ Cupertino (CA85 / US280 / DeAnza)	Sacramento / Downtown (US5 / Bus80 / US80)
Davis (CA113 / US80)	Sacramento / Folsom (CA50)
Downey / Norwalk / Whittier (US5 / US605)	Sacramento / Roseville (US80)
Dublin / Pleasanton (US580 / US680)	³ San Diego / Airport / Downtown (US5)
El Monte (Greater Area)	^{3,4} San Diego / Carlsbad / Oceanside / Encinitas
(CA60 / US605 / CA19 / US10)	(US5)
Garden Grove / Anaheim / Santa Ana (CA22 / US5)	³ San Diego / La Jolla (US5 / US805)
Gilroy	³ San Diego / La Mesa (US8)
⁴ Huntington Beach / Seal Beach	³ San Diego / Rancho Bernardo (US15)
⁴ Irvine (North) (US5 / CA133 / Jamboree Rd)	San Jose 3 / Alamitos (CA85 / CA87)
Irvine (West) / Costa Mesa (CA73 / US405 / CA55)	San Luis Obispo (CA1 / US101)
⁴ Irvine (South) / Lake Forest (US5 / US405)	⁴ San Mateo / Foster City (CA1 / US101 / CA92)
⁴ Laguna Niguel / Aliso Viejo (Aliso Creek / Crown Valley / La Paz / Pacific Park)	San Rafael / Corte Madera (CA1 / US101)
Lake Tahoe, South Shore (CA50)	Santa Cruz (CA1 / CA17)
Los Angeles (US10, near Downtown, towards Santa Monica)	⁴ Santa Monica 2 (US10 / Lincoln Blvd)
Los Angeles (CA1 / US101, near Downtown)	⁴ Santa Rosa 1 (CA1 / US101)
Los Angeles (US110, near Downtown, at USC)	Simi Valley (CA118)
Malibu (CA1)	Temecula (US15)
⁴ Manhattan Beach / Redondo Beach (North)	Tustin (US5 / CA55)
Milpitas (US680)	Vallejo (US80 / CA29 / CA37)
Mission Viejo (US5)	Ventura (CA1 / US101)
Monterey	⁴ Walnut Creek (US680 / CA24)
Napa (CA29 / Trancas St.)	Walnut Creek 2 / Concord
² Newport Beach 2	Whittier (CA72 / US605)

 Table 1: Group 1 Priority Target Markets.

Notes:

¹ Barstow/Victorville – Due to the round-trip distance, development of a "connector" hydrogen station on the US15 corridor to enable travel to Las Vegas is contingent upon a coincident development of a "destination" hydrogen station in the Las Vegas area. This two-station approach substantially increases the potential for travel, and thereby improves the utilization and overall operational economics of both hydrogen stations compared to a connector only approach.

²Newport Beach 2 - A second Newport Beach hydrogen fueling station should be built after, or concurrent with, the anticipated upgrade of the currently existing Newport Beach hydrogen fueling station location.

³A minimum of three additional hydrogen refueling stations are necessary in the greater San Diego region to achieve sufficient coverage to enable FCEV sales planned for that market.

⁴*These target sites represent previously awarded locations that were either relocated or not completed.*

Table 2: Group 2 Priorit	Table 2: Group 2 Priority Target Markets.	
Group 2, Bin 1	Glendale (CA134)	
	Long Beach 2 (US405)	
	Los Gatos	
	Menlo Park	
	North Hollywood / Burbank	
	Pasadena (US210)	
	Sacramento / Elk Grove	
	Sacramento / Pocket Area (US5 / Pocket / Sutterville)	
	San Clemente (US5)	
	San Jose 4 (US280 / CA87 / CA1 / US101)	
	San Jose 5 (CA1 / US101 / US680)	
	San Leandro (US880)	
	Santa Barbara 2	
	Santa Clara (CA82)	
Group 2, Bin 2	Agoura Hills	
	Antioch / Brentwood	
	Burlingame	
	Daly City (US280 / Hickey Blvd / CA1)	
	Escondido	
	Fairfield (US80)	
	Fresno 1	
	Livermore	
	Los Alamitos / Rossmoor	
	Los Angeles - Century City (US5 / Santa Monica Blvd.)	
	Mountain View 2 / Los Altos	
	Northridge	
	Pacifica	
	Palm Desert / Rancho Mirage / Cathedral City	
	Pomona / Clairmont / San Dimas (US10 / US210 / CA57)	
	San Diego / Chula Vista	
	San Francisco (CA1)	
	Santa Rosa 2 / Rohnert Park (CA1 / US101)	
	Stockton 1 / Tracy	
	Torrance 3	

Table 2: Group 2 Priority Target Markets.

Group 2, Bin 3	Anaheim Hills / Yorba Linda (CA90 / CA91 / CA241)
* /	Buena Park / La Mirada (US5 / CA91 / CA39)
	Chino Hills (CA71 / CA142)
	Eastvale / Norco / Corona 2 (US15)
	Fresno 2
	Marina Del Rey
	Monrovia / Azusa (US210 / US605)
	Moorpark
	Murrieta (US15)
	Novato
	Oxnard
	Paso Robles (CA1 / US101)
	Pismo Beach
	Placerville
	Pleasanton 2 (US680)
	Rancho Cucamonga / Fontana (US10 / US15 / Foothill Blvd)
	Richmond (US80 / US580)
	San Bernardino
	San Marcos / Escondido 2
	Santa Maria
	Union City (US880)
	Vacaville

 Table 2: Group 2 Priority Target Markets (cont'd).