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2019 CaFCP OEM Priority Hydrogen Station Location Recommendations

February 11, 2019

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:
 - o US101 Central Coast corridor to serve the San Luis Obispo region and support travel between the Santa Barbara and Monterey/San Francisco Bay areas.
 - o 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 Map</u>: The Commercialization of Hydrogen Fuel Cell Vehicles" (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:

David Park Infrastructure Development Coordinator California Fuel Cell Partnership dpark@cafcp.org Table 1: Group 1 Priority Target Markets.

Table 1: Group 1 Friority 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	³ San Diego / La Jolla (US5 / US805)	
(CA22 / US5)	30 B: (1 M (100)	
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	San Luis Obispo (CA1 / US101)	
(CA73 / US405 / CA55)	4C M-t / Et Citr. (CA1 / HS101 / CA02)	
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	San Rafael / Corte Madera (CA1 / US101)	
Park)		
Lake Tahoe, South Shore (CA50)	Santa Cruz (CA1 / CA17)	
Los Angeles	⁴ Santa Monica 2 (US10 / Lincoln Blvd)	
(US10, near Downtown, towards Santa Monica)	, ,	
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)	

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.

 $^{^{2}}$ Newport 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.

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

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 (cont'd).

Blvd)
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