Selecting Locations for Hydrogen Infrastructure

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Hydrogen Infrastructure: Locations

- GM has extensive experience with siting, installing, and operating hydrogen stations with Project Driveway.

  Example: Clean Energy LAX.

- GM has been involved in each solicitation (ARB, CEC) for funding hydrogen stations since 2008.
  - OEMs & CaFCP have supported the evolution of the solicitation process.

    Example: Behind the fence "equipment" to retail like stations

    Example: Individual support letters to well coordinated reviews

- GM remains supportive of the existing process.
  - The evolution has been positive, beneficial, and necessary

Hydrogen Infrastructure: Locations

How do automakers see their role in the process?

- Prudent use of public funds is imperative for market success.
  - Ill-timed, poorly located, under-performing sites is a significant concern.

- To ensure further coordination, GM supports the locations defined through the CaFCP Road Map.
  - Road Map uses all best available tools to determine the general locations (from experience to academic models).
  - The Road Map was developed by a range of stakeholders (more than 30), including government agencies, automakers, energy companies, academia, infrastructure providers, NGOs

Hydrogen Infrastructure: Locations

How do automakers see their role in the process?

- Through normal planning efforts and the Road Map, OEMs work closely with CaFCP & UC Irvine to prioritize near-term locations.
  - This has been done ahead of each PON.
  - This has been done individually (and confidentially).
  - This has been done with feedback loops.
  - This is iterative and should occur routinely (i.e. for each round/effort)
    - "Prioritizing #1 to #68 is not recommended" to ensure process is flexible, adaptive
- GM's research, experience, and data are used to determine such priorities (e.g, siting experience, market data, preferences)
  - Reference Data has been provided directly to UC Irvine
- A "model" cannot pick the corner!
  - Detailed evaluation is critical – understand setting, anticipated customer acceptance, relationship with the next available hydrogen station, etc.

Hydrogen Infrastructure: Locations

How do automakers see their role in the process?

Recommendations

- Leverage the analysis and work competed in the Road Map
- OEMs/CaFCP should continue to support near-term priorities through third party evaluation, (for example: UC Irvine Experience + STREET)
  - Feedback loops and reconciling is expected (and necessary)
- OEMs/CaFCP should continue to support providers/decision makers with the "corner assessment" to ensure best chance at station success
  - Letters of support are one mechanism
  - Explore OEMs as "advisors" to CEC after proposals submitted mechanism to complete
- Ensure open dialogue between all parties
  - OEMs remain supportive of 1:1 meetings with providers, stakeholders
  - OEMs remain supportive of 1:1 meetings with CA agencies (i.e., CEC, CARB)
- <u>Location is not the only consideration when funding a hydrogen station</u>
  - Station access, performance are crucial and market-development must be incentivized.
  - These must be systematically reconciled against a particular location.

    Example – SAE A70 in clusters (with flexible requirements for non-cluster stations)