



**West Coast Collaborative Alternative Fuel Infrastructure Corridor Coalition
(WCC AFICC)
Medium and Heavy-Duty Alternative Fuel Infrastructure Strategic Development Plan
Washington Fact Sheet – May 2020**

Project Mission

In service of the WCC’s mission to reduce diesel emissions along the West Coast of North America, the mission of the AFICC project is to accelerate the modernization of transportation corridors by deploying alternative fuel infrastructure for medium and heavy-duty (MHD) vehicles and equipment in synergy with other investments. Public-private collaboration to plan projects, leverage funding, and construct modernized corridors with alternative fuel infrastructure will create jobs, increase domestic fuel supply diversity, reduce emissions, improve public health, and support more robust MHD fleet operations.

Project Summary

The WCC AFICC seeks stakeholder input on investment needs for plug-in electric (EV), hydrogen (H₂), propane (LPG), compressed natural gas and liquefied natural gas (CNG and LNG) fueling infrastructure for MHD vehicles and equipment operating on the West Coast of the United States (U.S.). The WCC AFICC commissioned CALSTART’s *Medium and Heavy-Duty Alternative Fuel Infrastructure Strategic Development Plan* to help identify infrastructure gaps, evaluate project implementation readiness, and highlight near-term investments needed to support MHD alternative fuel vehicle and equipment deployment. The AFICC planning process was informed by fleets, equipment users, fuel providers and other WCC Partners who participated in the AFICC’s 2016-2019 alternative fuel infrastructure needs assessment for MHD fleet operations in California, Oregon, and Washington. *Download the plan and related materials at <https://westcoastcollaborative.org/workgroup/wkgrp-fuels.htm>*

Key Washington Findings

- 1) **Proposed Stations** - This plan includes **23 proposed Washington stations** of various size, throughput, and level of construction for targeted MHD alternative fuel technologies.
- 2) **Development Cost** - CALSTART estimates a total capital expense (CAPEX) of approximately **\$58,400,000** to fund the development of the plan’s 23 proposed alternative fuel stations, assuming they all were newly constructed with average throughput and size levels, and capable of accommodating Class 5+ on-highway vehicles $\geq 16,001$ lbs (*see tables on page two*).
- 3) **Cost-Share Needs** - 77% of all proposals received by the WCC AFICC would be viable for development with external funding assistance up to 80% of project CAPEX.

Next Steps

The plan can be referenced by stakeholders to support participation in eligible funding opportunities. The WCC AFICC believes that the proposals listed in the plan cover a small percentage of the demand for MHD alternative fuel infrastructure on the West Coast, and it welcomes feedback on additional infrastructure needs not reflected in the plan document. The WCC intends to create an AFICC submission form to solicit additional MHD-accessible EV, H₂, LPG, CNG and/or LNG infrastructure project proposals (e.g., Class 5+ on-highway vehicles $\geq 16,001$ lbs, locomotives, marine vessels, and other heavy-duty nonroad equipment) from WCC Partners seeking funding assistance and partnerships to support implementation elsewhere in the WCC states and territories, including: Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon, Washington, Tribal Lands, and the U.S. Pacific Island Territories: American Samoa, Guam, and Northern Mariana Islands. *AFICC Project Submission Form to be announced via the WCC Communicator email newsletter – [click here to join](#).*

CALSTART Recommendations

- 1) **State Plans** - Take the learnings from the AFICC plan and develop targeted MHD alternative fuel infrastructure investment plans per state.
- 2) **Alternative Fuel Policy** – Further examine state-level policy barriers to alternative fuel infrastructure deployment and develop policies that support accelerated MHD infrastructure project implementation, such as developing a low carbon fuel program and focusing emission reduction efforts at the ports of Seattle and Tacoma.
- 3) **Communication and Outreach** - Share the AFICC plan findings throughout the WCC and with partners elsewhere in the U.S.
- 4) **Public Funding Assistance** - WCC partners are well positioned to both fundraise for MHD alternative fuel infrastructure development and to petition for increased public funding support.
- 5) **Implementation** - All parties interested in developing alternative fuel infrastructure are encouraged to leverage the information gathered through the AFICC process for purposes of implementing the projects listed within the plan.
- 6) **Workforce Development** - Consider workforce development opportunities that will arise from MHD alternative fuel infrastructure development on the West Coast.
- 7) **Environmental Justice** - MHD infrastructure development in environmental justice communities should be prioritized where there is synergy with alternative fuel demand.
- 8) **Sustained Partnership** - The partnerships formed between WCC AFICC partners should be sustained, and other geographic regions are encouraged to replicate the WCC AFICC through similar regional partnerships across the U.S.

Washington: Funding Needed to Build AFICC-Proposed MHD Alternative Fuel Stations¹

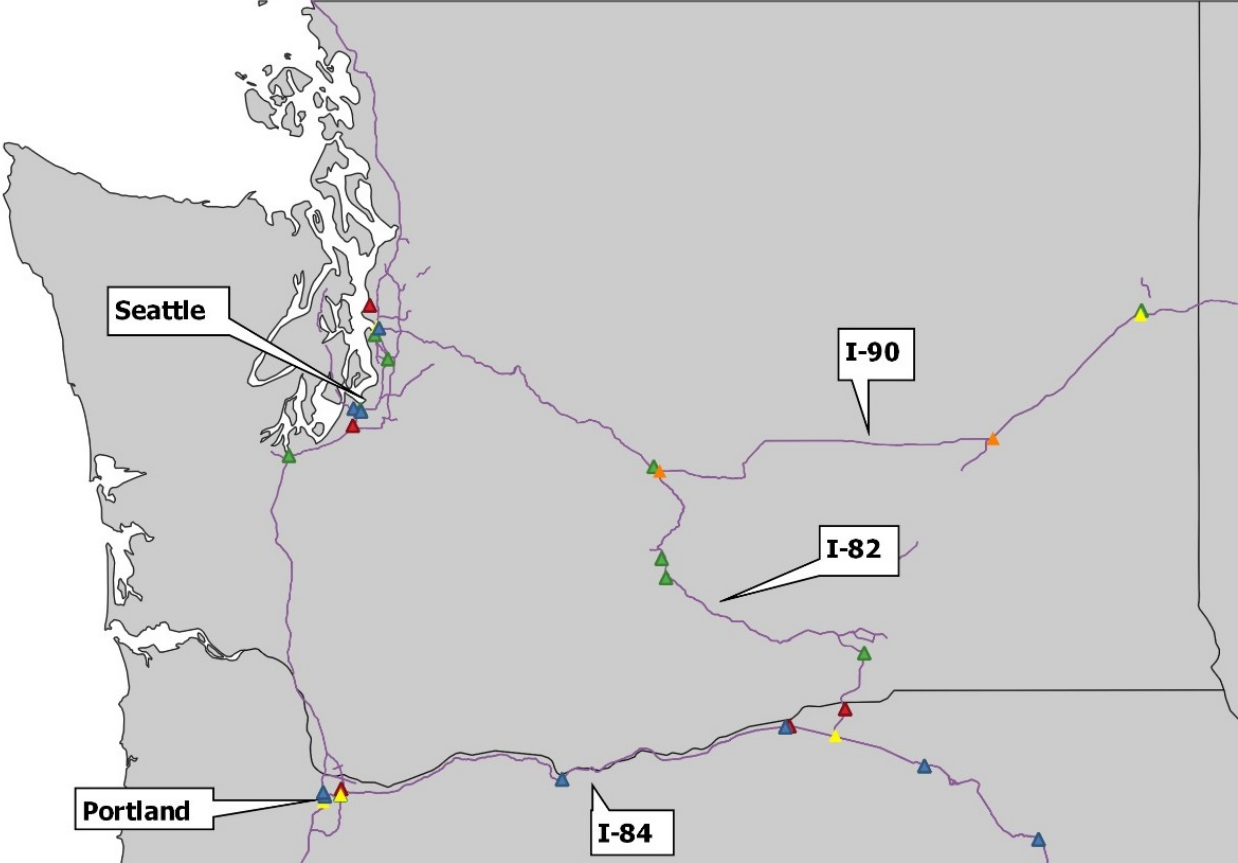
Fuel Type	Stations Proposed	Average Station Throughput	CAPEX Per Station (2019)	Total Cost
EV	13	750 kW-1 MW Peak Capacity	\$2,000,000	\$26,000,000
H2	3	1,000-4,800 kg/Day	\$6,000,000	\$18,000,000
LPG	2	1,000 gallons/Day	\$1,700,000	\$3,400,000
CNG	3	1,695-2,260 DGE/Day	\$2,000,000	\$6,000,000
LNG	2	1,695-2,260 DGE/Day	\$2,500,000	\$5,000,000
Total	23			\$58,400,000

¹ Estimate does not represent the total funding needed to deploy comprehensive MHD alternative fueling infrastructure in Washington; only includes proposals obtained through AFICC outreach as of December 2019.

Washington: AFICC-Proposed Station Locations by Readiness and Fuel Type

Fuel Type	Location	Readiness	Congressional District
EV	Bellevue: I-405 & I-5	Advanced	2
EV	Ellensburg: Main and Washington	Advanced	8
EV	Kennewick: I-82 & US-395	Advanced	4
EV	Olympia: Capital & Jefferson	Advanced	10
EV	Spokane: Division & Mission	Advanced	5
EV	Tacoma: Market & Pacific Avenue	Advanced	6
EV	Yakima: Nob Hill & 1st	Advanced	4
EV	Yakima: Yakima & 4th	Advanced	4
H2	Seattle: I-5 & I-90	Advanced	7, 9
H2	Tacoma: I-5 & WA-7	Advanced	10
H2	Tacoma	Advanced	6, 9
LPG	Ellensburg: I-90 & I-82	Advanced	8
LPG	Ritzville: I-90 & WA-261	Advanced	4
EV	Everett: Cedar and Pacific	Emerging	2
EV	Everett: Cedar and Pacific	Emerging	2
EV	Everett: Cedar and Wentworth	Emerging	2
EV	Seattle: Port of Seattle	Potential	7
EV	Tacoma	Potential	6, 9
LNG	Seattle	Potential	7, 9
LNG	Spokane	Potential	5
CNG	Clark County: I-5 Corridor	Unevaluated	3
CNG	Statewide: I-5 Corridor	Unevaluated	1, 2, 3, 6, 7, 8, 9, 10
CNG	Vancouver: I-5 Corridor	Unevaluated	3

Washington Map: AFICC-Proposed MHD Alternative Fuel Stations



- Sites**
- ▲ Proposed Sites, Electric
 - ▲ Proposed Sites, Hydrogen
 - ▲ Proposed Sites, CNG
 - ▲ Proposed Sites, LNG
 - ▲ Proposed Sites, LPG
- Basemap**
- Major US Highways
 - ▭ States Boundaries of the United States