



**West Coast Collaborative Alternative Fuel Infrastructure Corridor Coalition  
(WCC AFICC)  
Medium and Heavy-Duty Alternative Fuel Infrastructure Strategic Development Plan  
Oregon 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 (H<sub>2</sub>), 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 Oregon Findings**

- 1) **Proposed Stations** - This plan includes **56 proposed Oregon 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 **\$169,000,000** to fund the development of the plan's 56 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, H<sub>2</sub>, 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 facilitating the development of renewable natural gas supply and expanding EV infrastructure development programs.
- 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.

## Oregon: Funding Needed to Build AFICC-Proposed MHD Alternative Fuel Stations<sup>1,2</sup>

Fuel Type	Stations Proposed	Average Station Throughput	CAPEX Per Station (2019)	Total Cost
EV	15	750 kW-1 MW Peak Capacity	\$2,000,000	\$30,000,000
H2	14	1,000-4,800 kg/Day	\$6,000,000	\$84,000,000
LPG	5	1,000 gallons/Day	\$1,700,000	\$8,500,000
CNG	17	1,695-2,260 DGE/Day	\$2,000,000	\$34,000,000
LNG	5	1,695-2,260 DGE/Day	\$2,500,000	\$12,500,000
<b>Total</b>	<b>56</b>			<b>\$169,000,000</b>

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

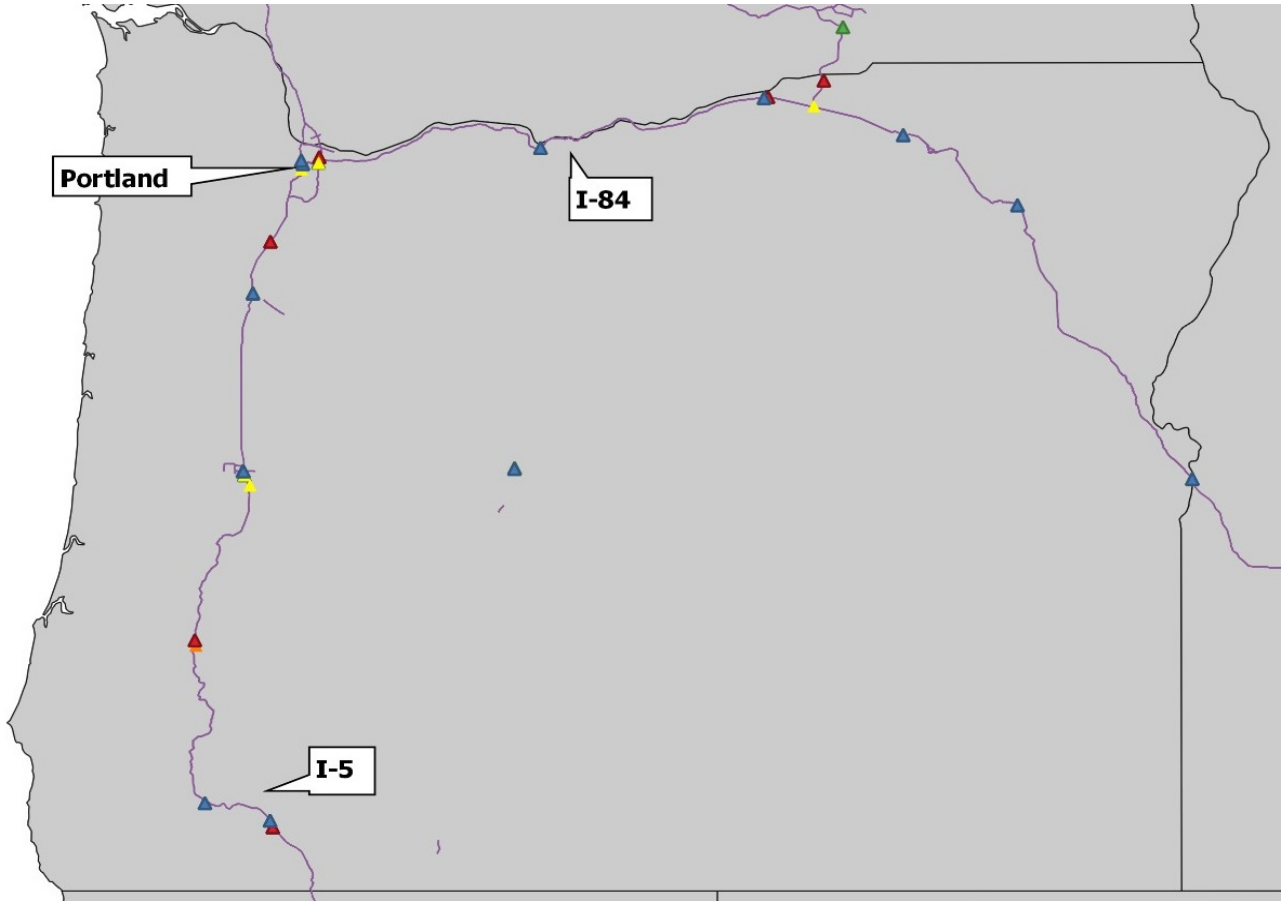
<sup>2</sup> Table omits one liquid biofuel project proposal as this technology was outside the AFICC planning scope.

## Oregon: AFICC-Proposed Station Locations by Readiness and Fuel Type

<b>Fuel Type</b>	<b>Location</b>	<b>Readiness</b>	<b>Congressional District</b>
EV	Bend: US-20 & US-97	Advanced	2
EV	Bend: US-97 & US-20	Advanced	2
EV	Boardman: I-84 & South Main Street	Advanced	2
EV	Eugene: I-5 & OR-126	Advanced	4
EV	La Grande: I-84 & OR-82	Advanced	2
EV	Medford: I-5 & OR-62	Advanced	2
EV	Ontario: I-84 & US-30	Advanced	2
EV	Pendleton: I-84 & US-395	Advanced	2
EV	Portland: I-5 & I-405	Advanced	3
EV	Portland: I-84 & I-205	Advanced	3
EV	Salem: I-5 & OR-22	Advanced	5
EV	The Dalles: I-84 & US-197	Advanced	2
H2	Eugene: I-5 & I-105	Advanced	4
H2	Grants Pass: I-5 & CA-99	Advanced	2
H2	Portland: I-5 & I-84	Advanced	3
LPG	Boardman: I-84 & South Main Street	Advanced	2
LPG	Ontario: I-84 & US-30	Advanced	2
LPG	Pendleton: I-84 & US-395	Advanced	2
LPG	Roseburg: I-5 & SE Oak Avenue	Advanced	4
LPG	The Dalles: I-84 & US-197	Advanced	2
CNG	Bend: US-97 & US-20	Advanced	2
CNG	Boardman: I-84 & South Main Street	Advanced	2
CNG	La Grande: I-84 & OR-82	Advanced	2
CNG	Ontario: I-84 & US-30	Advanced	2
CNG	Pendleton: I-84 & US-395	Advanced	2
CNG	Portland: I-205 & Sandy Boulevard	Advanced	3
CNG	The Dalles: I-84 & US-197	Advanced	2
CNG	Umatilla: I-82 & US-730	Advanced	2
CNG	Woodburn: OR-214 & I-5	Advanced	5
LNG	Eugene: I-5 & OR-58	Advanced	4
LNG	Portland: I-205 & I-84	Advanced	3
LNG	Portland	Advanced	1, 3
H2	Bend: US-97 & US-20	Emerging	2
H2	Boardman: I-84 & South Main Street	Emerging	2
H2	Eugene: I-5 & OR-126	Emerging	4
H2	La Grande: I-84 & OR-82	Emerging	2
H2	Medford: I-5 & OR-62	Emerging	2
H2	Ontario: I-84 & US-30	Emerging	2
H2	Pendleton: I-84 & US-395	Emerging	2
H2	Portland: I-5 & I-405	Emerging	3
H2	Salem: I-5 & OR-22	Emerging	5
H2	The Dalles: I-84 & US-197	Emerging	2
CNG	Baker City	Emerging	2
CNG	Portland: I-5 & I-405	Emerging	3
CNG	Salem: I-5 & OR-22	Emerging	5

<b>Fuel Type</b>	<b>Location</b>	<b>Readiness</b>	<b>Congressional District</b>
LNG	Hermiston: I-82 & I-84	Emerging	2
CNG	Medford	Potential	2
EV	Eugene: 3500 E 17th Avenue	Unevaluated	4
EV	Hood River County	Unevaluated	2
EV	Josephine County	Unevaluated	2, 4
H2	Portland	Unevaluated	1, 3
CNG	Eugene/Portland: I-5 Corridor	Unevaluated	3, 4, 5
CNG	Eugene: 3500 E 17th Avenue	Unevaluated	4
CNG	Portland	Unevaluated	1, 3
CNG	SE Portland: I-5 Corridor	Unevaluated	3
LNG	Eugene: 3500 E 17th Avenue	Unevaluated	4

## Oregon 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