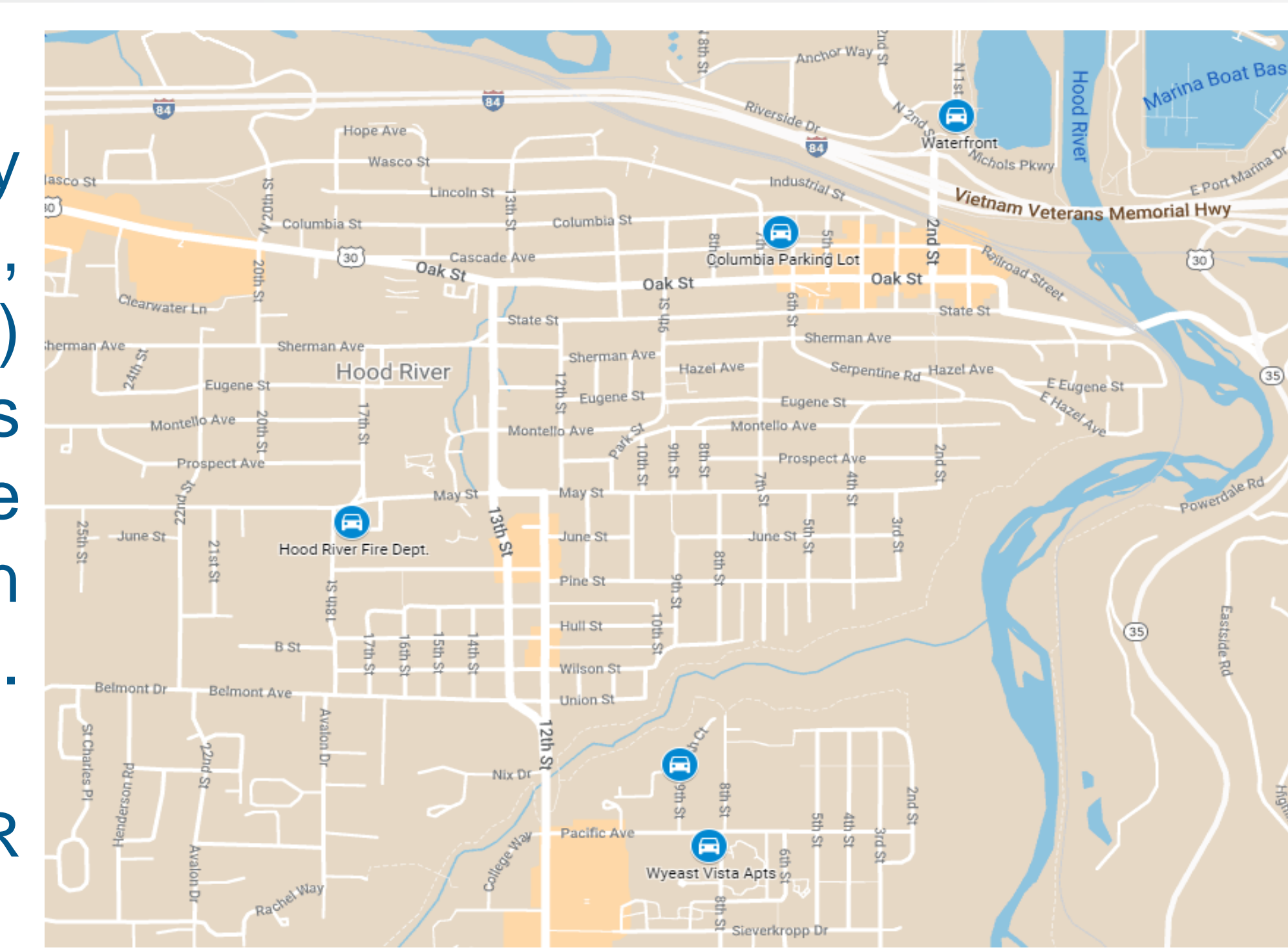


CRuSE

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The Clean Rural Shared Electric Mobility (CRuSE) Project in Hood River, Oregon, one of the first electric vehicle (EV) carshare projects in the United States, was funded by the U.S. DOE's Vehicle Technologies Office to address inequity in rural transportation options.

EV Carshare Locations in Hood River, OR



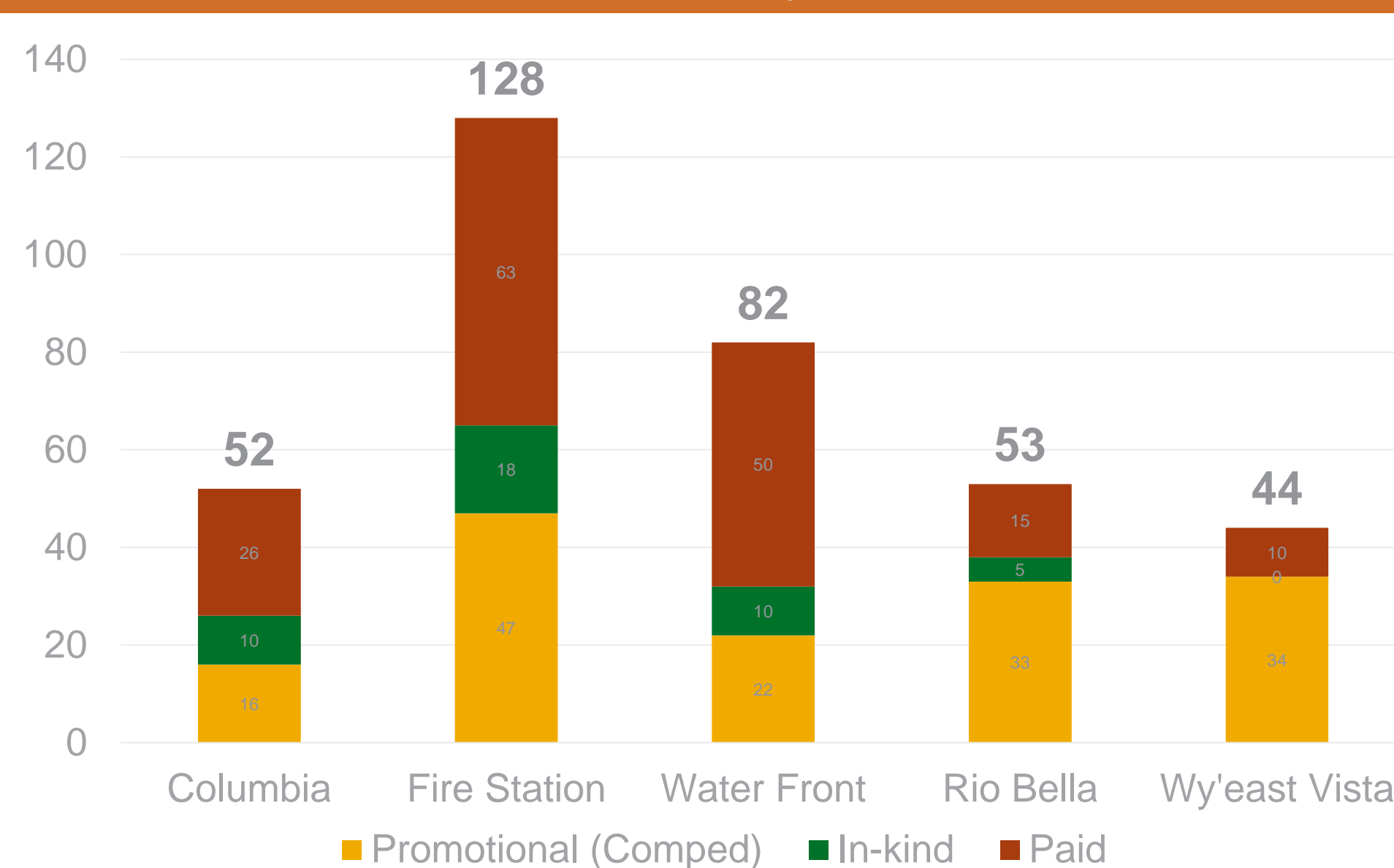
Lower rates of transportation access limits access to economic, social, and educational opportunities. EV carshare may help address transportation accessibility while improving environmental justice through reductions in emissions. Adoption of new technologies like EVs often happen through 'word-of-mouth' and peer-influence, EVs are mostly unaffordable by low-income residents, eliminating important peer-group learnings. Generally, rural and low-income communities experience lower awareness of EV benefits, along with lower rates of EV charging infrastructure development. CRuSE aimed to bring awareness to EV carshare through promotional activities such as free promotional rides and reduce barriers to participation with bilingual app capabilities.

Correlations between specific promotional activities and technology adoption could not be determined from the data, general positive trends in both frequency and duration of trips over time were observed. The apartment complexes had above average ridership when the rides were promotional, but below average ridership when the program was commercialized, indicating a willingness to participate, but cost prohibitive.

The CRuSE project was able to reduce CO2 emissions by 3.5 tons.

A key take-away was the need for post-use surveys to better understand why consumers use the EVs and willingness to pay for EV carshare.

Total Number and Type of Sessions



Project Overview: Six collaborators brought the first EV carshare project to rural OR; examining booking and charging data for 5 locations: 3 public sites and 2 private sites at low-income apartment complexes.

Forth project manager responsible for partner communications, program refinement, and external project marketing and communications.

OpConnect installed the EV charging stations as well as the platform to track and report energy consumption by station location.

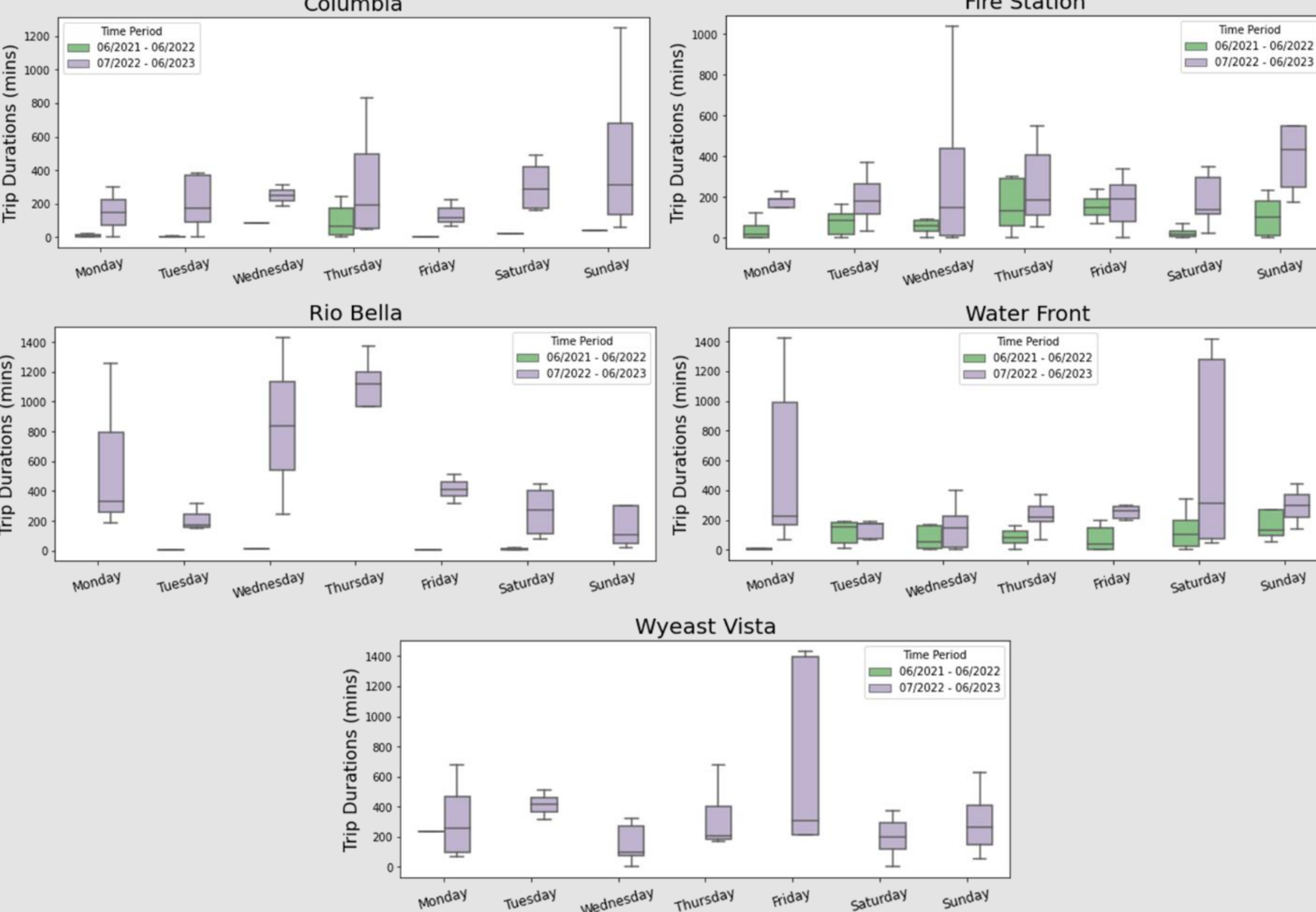
Envoy software platform provider including maintenance, technology upgrades, and data warehousing; managed EV cleaning services.

Pacific Northwest National Laboratory collected and analyzed data, tracked greenhouse gas emissions reductions, and EV utilization rates.

Columbia Willamette Clean Cities Coalition assisted with promotion and awareness by hosting webinars and workshops.

Pacific Power provided technical support and \$100,000 in funding through their Oregon Clean Fuels Program.

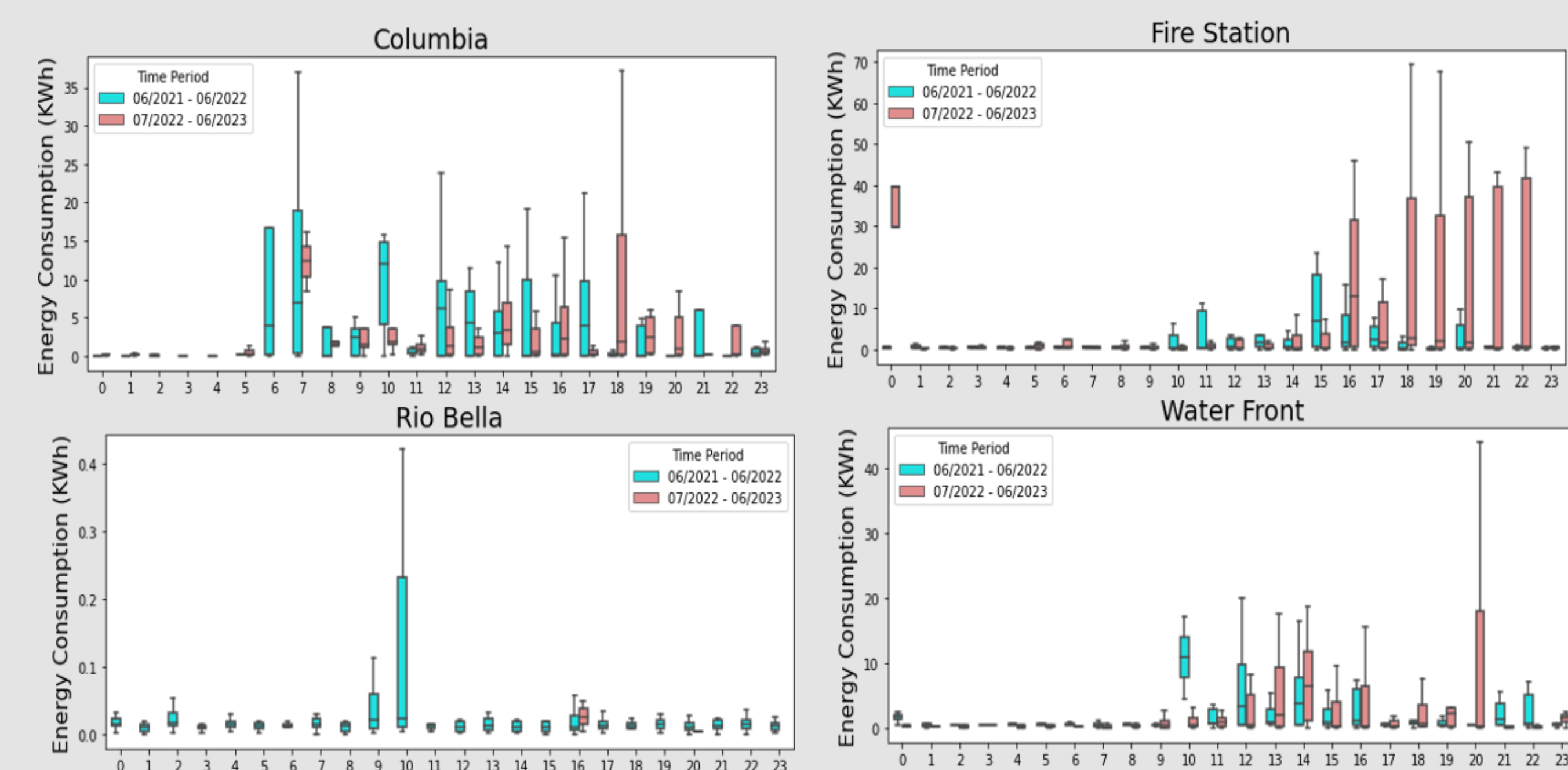
Trip Durations by Day and Location by Year



User Retention

Station	% of Promo Users Who Became Paid Users	% of New Paid Users
Columbia	40%	60%
Fire Station	50%	50%
Waterfront	11%	89%
Rio Bella	40%	60%
Wy'east	33%	67%

Charging kWh by Hours of the Day for Select Locations



Repeat Customers by Location

Station	Unique Promotional Users (Total promotional rides)	Ratio of unique to total promotional rides	Unique paid users (Total paid rides)	Ratio of unique to total paid rides
Columbia	9 (11)	82%	5 (19)	26%
Fire Station	17 (24)	71%	14 (38)	37%
Waterfront	6 (8)	75%	9 (34)	26%
Rio Bella	4 (51)	8%	5 (33)	15%
Wy'east	6 (20)	30%	4 (5)	80%

Program Start Dates by Location

Station	Promotion Start	Commercial Start	Months of Promotion	Months Fully Commercial
Columbia	Jun-21	Apr-22	10	15
Fire Station	Jun-21	Apr-22	10	15
Waterfront	Jun-21	May-22	11	14
Rio Bella	May-22	Jan-23	8	6
Wy'east	Sep-22	Jan-23	4	6

Average Rides Per Month

Station	Promotional Rides	Commercialized Rides
Columbia	1.0	1.7
Fire Station	3.1	4.2
Waterfront	1.6	3.6
Rio Bella	5.5	2.5
Wy'east	5.7	1.7

Some Observations:

- Total ride time increased over time for all locations
- Lower unique ridership for apartment customers could potentially imply a potentially risk aversion, however, apartment customers are drawn from a much smaller population than the public locations
- Higher promotional versus paid activities for apartment customers potentially speaks to need to reexamine rate structures
- Highest charging activity between 10am and 10pm; with public sites more active in the evening coincident with typical 'duck' curve
- Additional customer follow-up is needed