



# THE NORTHWEST ELECTRIC SHOWCASE

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[www.forthmobility.org](http://www.forthmobility.org)

*Photo Credit @DylanVanWeelden*

THE NORTHWEST  
ELECTRIC SHOWCASE

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Go Forth.

# ACKNOWLEDGEMENTS

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Thank you to Portland General Electric (PGE) for allowing Forth to reside at the World Trade Center. Being able to house the Showcase next to Electric Avenue gave many efficiencies to teaching consumers about electric vehicle adoption.

Thank you to all the auto manufacturers, such as BMW, Toyota, and Honda for loaning electric vehicles to Forth to help diversify the access of different types of electric vehicles to the consumers.

Lastly, thank you to all the charging stations and Chargeway for supporting the project by displaying their technology inside the Showcase.

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# EXECUTIVE SUMMARY

Forth is a non-profit with the mission of advancing electric, smart and shared transportation in the Pacific Northwest and beyond, through industry development, policy advocacy, demonstration projects, and consumer engagement. The Northwest Electric Showcase Project, specifically aimed to develop and transform the market for electric vehicle (EV) adoption in the Pacific Northwest from early adoption to early mainstream and sought to put Oregon and Washington on a sustainable path to increasing electric vehicle sales more than tenfold, to at least 15% of all new cars sold by 2025. Forth (formerly DriveOregon) has lead this effort through the creation of a brand-neutral physical vehicle showcase, mobile “pop up” showcases, and a “virtual” showcase online, as well as targeted multimedia outreach campaigns. This project opened with a sustainable long-term consumer engagement model, to continue beyond the project period, and remains open with the help of additional funding.



*Photo Credit @DylanVanWeelden*

# INTRODUCTION

The key project objective was to double PEV (personal electric vehicle) adoption rates in the Pacific Northwest by 2019, which translates to annual sales of 9,000 PEVs per year in Washington and 5,500 per year in Oregon. This would equate to total PEV sales of 33,000 in the two states over the three-year grant performance period. PEV sales from January 2019 thru October 2019 in Oregon totaled 3,602 and 6,327 sold in Washington, falling just short of our goal (Atlas EV Hub.) However, total PEV sales for Oregon and

Washington for January 2017 thru October 2019 reached 39,614, exceeding our original goal. This data indicates that sales quarters did not necessarily follow a predictable increase, but rather large ups and downs. These ups and downs in market sales may have been influenced by factors such as the introduction of the Tesla Model 3, the phasing out of the Federal EV Tax Credit for Tesla and General Motors, and the rollout of different state EV initiatives.

## ELECTRONIC VEHICLE SALES

■ BEV ■ PHEV/EREV ■ % OF U.S. EV SALES

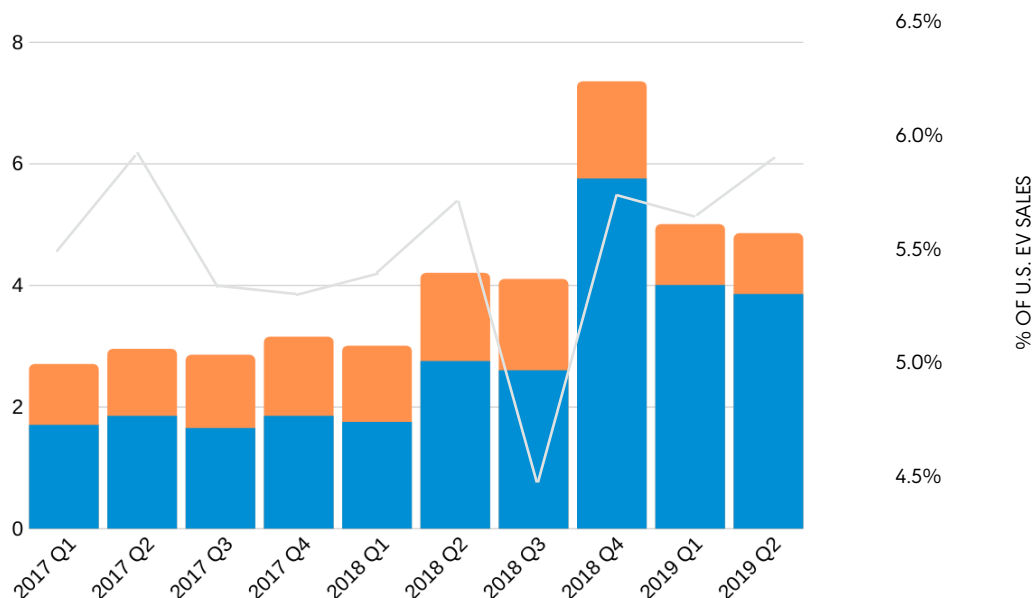


Figure 1: Oregon and Washington BEV and PHEV sales 1/17-10/19 via Atlas EV Hub



Secondary objectives included securing at least 5 million consumer impressions through direct interaction and marketing campaigns; potential PEV purchasers completing at least 5,000 test drives; at least 5,000 consumers subscribing to project emails; at least 12 new Northwest fleets taking the West Coast Electric Fleets pledge; and Forth securing at least \$750,000 in cash or in-kind contributions to the Showcase Project over the project period.

The Showcase Project deployed a number of innovative tactics to engage consumers and drive PEV adoption. These included development of an electric vehicle showroom; long-term test-drives facilitated through car sharing; mobile “pop-up” showcases; and focused programs and targeted campaigns aimed at low and moderate-income drivers. Forth developed a multimedia campaign in conjunction with Brink Communications that focused on well-defined market segments and used social media to generate traffic to the physical showcase.

A key project component was the coordination and staging of numerous ride and drive events throughout Oregon and Washington. Forth worked directly with a variety of community stakeholders, leveraging their relationships and expertise, to engage local consumers in cities around the Pacific Northwest. The region’s electric utilities have been especially receptive to collaboration, and the project has emphasized working with them to communicate the benefits of 5 PEVs to their customers. Other partners in the ride and drives include regional Clean Cities coalitions and electric vehicle owners’ groups. While some utilities have well-defined transportation electrification plans, many do not; Forth’s aim was to support any partner who is willing to participate, regardless of how new they are to these concepts.





# PROJECT DEVELOPMENT

AFTER BEING AWARDED FUNDING through the US Department of Energy (USDOE), Forth began the search for a suitable place to house the Showcase. Portland General Electric (PGE) is a large utility in the Portland metro area and has been a supporter and member of Forth's Board of Directors since inception. PGE occupies most of the real estate in the Portland World Trade Center group of buildings and had a vacant storefront space available.

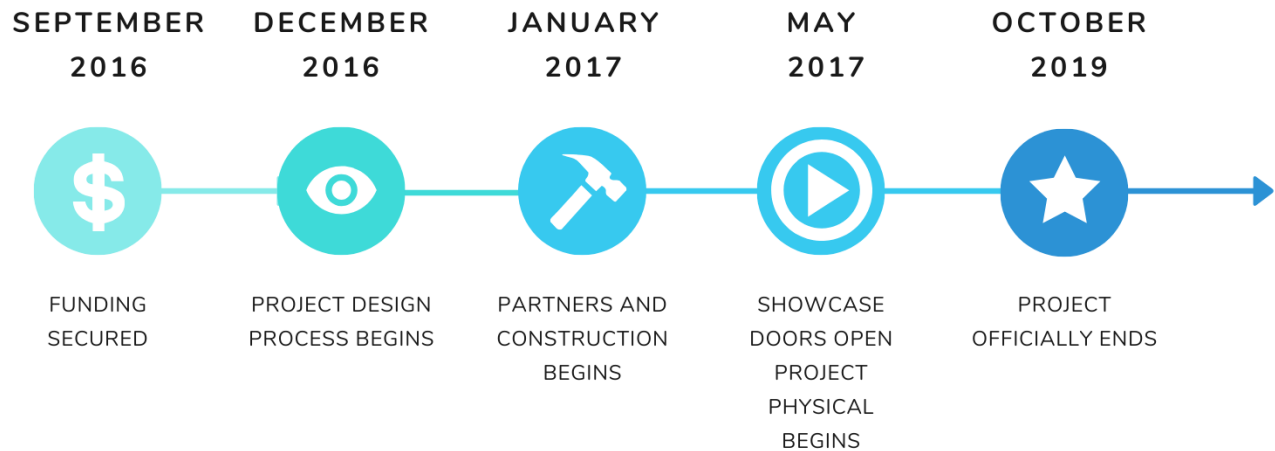
Located on 901 SW 1st Ave, in the heart of downtown Portland, the Showcase had a high density of neighboring business and high visibility. Through Forth's relationship with PGE, Forth was able to secure the location for a much-reduced rent. The proximity to PGE and their commitment to EVs has also resulted in their holding monthly tours of

the Showcase as part of their new employee onboarding process. The City of Portland also provided highly visible on-street parking for Showcase vehicles directly in front of the location as an in-kind contribution.



*Go Forth Electric Showcase | Portland, OR*





## DESIGN

Once the location was decided, Forth put out a Request for Proposals to design and build the Showcase. Several prospective designers were given tours of the space. Brink Communications has a strong relationship with Forth and we felt confident that they could communicate the message of the Showcase. In addition, VizWorks would tackle the technical design of the space. Together with Brink, the Forth program managers worked to design the Showcase in a way that would inform visitors who were completely new to EVs yet provide further information to visitors who may have already owned one. Exhibits, descriptions and interactive displays were designed to have a museum quality appearance with user-friendly hands-on operation. Definitions of the types of EVs are lettered in large script on the wall near the entrance, and a light-up display of an EV shows the inner workings of the battery and regenerative brakes.

UPON OPENING ITS DOORS, the Northwest Electric Showcase began with displays that were designed to help educate consumers on electric vehicle adoption. Charging methods, locations and options are unfortunately still a big confusing mystery for many potential EV owners. Improved ranges of 200 miles do a lot to assuage range anxiety fears, but the fact remains that charging a car is still a new and unfamiliar experience for most people, and it takes longer than filling up a gas car, so people are wary. To tackle this problem at the Showcase, Forth installed several different homecharging units for visitors to observe and try out. They can see the 4 dryer plug and handles that are easy to manipulate. Staff also explains the difference between 'smart' network-enabled units vs. a 'dummy' unit. In seeking EVSE unit displays for the Showcase, Forth leveraged our existing relationships with manufacturers and were successful in receiving more than enough units. Most visitors were also surprised and reassured, to learn that nearly 80% of charging happens at home.

The initial EVSE Charging vendors included:

- Blink Charging, Level 2
- Clipper Creek, Level 2
- Juice Box, Level 2
- Telefonix, Level 1
- Plug Share Interactive Screen

Throughout the duration of the Showcase, Forth managed to rotate vendors to help highlight the diverse selection of charging stations available. Other chargers subsequently introduced include:

- Delta Charger, Level 2
- Chargeway Beacon

One of the biggest additions to the display fleet at the Showcase was the Chargeway Beacon. Chargeway is a mobile app that helps a user find and understand the overcomplicated world of public charging through an easy to understand system of colors and numbers for plugs, so that users don't get confused by energy levels or types of connectors. The beacon has helped the Showcase maintain its brand-neutral approach by allowing users to select any make and model of car and finding the appropriate color-coded the plug.

The Showcase also provided a number of rotating displays of various forms of new electric mobility and tools for that mobility. Local bike stores loaned us a variety of ebikes, including a collapsible model, and we also had Zero brand electric motorcycles, which garnered a lot of attention from passersby. The electric Trikke was an interesting unit that mimicked skiing, and the Silver Eagle is a commercial ebike with a cargo carriage.

As an additional service to the community, Forth installed a real-time public transportation departure schedule display on a wall of the Showcase in Summer 2019. This screen is visible from the outdoor sidewalk at all times.

# ELECTRIC SCOOTERS



In the summer of 2018 electric scooters (escooters) made their debut on the streets of Portland. Several scooter companies received permits from the Portland Bureau of Transportation (PBOT) for a pilot program lasting seven months. Survey results from PBOT that were released the following indicated that 70% of the riders had never ridden a bicycle before - which is perhaps an indicator of why there were a large number of scooter accidents. When permits were renewed in 2019, scooter companies were required to provide some form of education for riders, and for this they turned to Forth. The Showcase has now had 5 scooter safety workshops paid for by various scooter companies. This service has now been requested by other cities through Forth's work with the American Cities Climate Challenge.

## STAFFING THE SHOWCASE

The Northwest Electric Showcase opened its doors in May 2017 with one full-time Program Manager and 2 part-time Program Associates. Using resources and allocations from other funding sources, Forth has been able to hire 11 additional full-time employees, and 3 part-time. Roughly half of these new hires regularly work at the Showcase, with other employees expected to do one shift there each quarter. The additional staff has allowed Forth to participate in more ride and drives and events at the Showcase.

# CAR FLEET

When the Northwest Electric Showcase opened its doors on May of 2017, there were three vehicles for visitors to test drive; a 2017 Chevy Bolt, a 2014 Nissan Leaf, and a 2017 Ford C-Max. A 2017 Chevy Volt was acquired a few months after opening. All four of these vehicles were purchased and financed by Forth. At that time, manufacturers were not yet willing to loan vehicles to the Showcase for use, but this quickly changed. The winter of 2017 Forth received an all-electric 2017 Honda Clarity, and soon after a 2018 BMW i3. In 2018 we acquired a 2019 Toyota Prius Prime and a 2019 Mitsubishi Outlander. All of these later acquisitions are loans from the respective manufacturers.

## TURO

To allow consumers who needed extra time in a car, Forth listed several of its fleet vehicles on the crowd-sourced car rental platform Turo. This peer-to-peer car share program allowed vehicles to be rented for up to three days at a time and allowed a consumer to make a road trip, and otherwise experience living with an EV. Many Showcase visitors expressed interest in this program and the potential to test a car on their own for an extended period. The Turo platform required no hardware to be installed, allowed the vehicle rental rate to be set by the car owner, and provides insurance for the vehicle in exchange for a portion of the rental revenue. High quality images were also provided courtesy of a Turo hired photographer.

One initial difficulty with Turo was that drivers wanted to pick up and drop off the vehicles at times when the Showcase was not open and no Forth employee was able to meet them. We were able to improve upon this issue in January of 2019 with the hiring of several additional Program Associates, two of whom were dedicated to Turo rentals. Since then there has been a large increase in the number of rentals. Several rentals led directly to EV purchases and a vast majority 10 of users expressed their appreciation and gratitude to Forth in public reviews on Turo for facilitating this experience.

The TURO logo is displayed in white text within a white-outlined arrow shape pointing to the right, set against a dark background.



# RIDE & DRIVES

AS PART OF THE NORTHWEST ELECTRIC SHOWCASE PROJECT, Forth participated in over 60 ride and drives throughout Oregon and Washington; 11 in 2017, 18 in 2018 and 32 in 2019. Ride and drives have typically relied on one or more community partners, often a utility, and whenever possible Forth has tried to engage nearby dealerships. The most successful events have encompassed multiple partners, a variety of dealerships, and the local city as well. The City of Seattle National Drive Electric Event is a good example of this where Forth collaborated with Western Washington Clean Cities, The City of Seattle, and the Seattle Electric Vehicle Owners Group to pull off an event that attracted more than 1000 consumers.

In addition, Forth also partnered with local organizations to host ride and drives for their employees and customers. We relied heavily on our utility partners to co-host existing local events that would attract foot traffic and maximize marketing dollars. The locations of the venues varied from public parks and farmer's markets to classic car shows.

Our team provided planning and onsite support staff and our fleet vehicles for test drives. There were some challenges in getting participation from local car dealerships to provide test drive vehicles as well as navigating service territories, so having our own vehicles available was extremely important. The attendees requested information regarding available models, charging options and available state and federal incentives. Most attendees were in the process or committed to buying an EV as their next car. Overall, our partners saw great value in hosting ride and drive events and were eager to participate in planning future events.

Funding from the USDOE enabled the Showcase to both purchase vehicles and foster relationships with manufacturers who subsequently loaned us vehicles, enabling Forth to gain 11 lucrative ride and drive contracts with PGE and Pacific Power. Proceeds from these contracts will help fund the Showcase in subsequent years.



# PROJECT OUTCOMES

(TEST DRIVES)

From the beginning, Forth has believed that direct consumer experience is key to significantly increasing EV sales. Economic and environmental cases can be made to consumers, but the experience of actually driving an EV goes far in convincing potential EV owners that driving electric is very feasible with their lifestyles.

The Northwest Electric Showcase project initially set a goal of giving 5,000 test-drives over the 3-year grant period. By the end of 2019, Forth had facilitated 1,746 test drives. Notably, the Showcase logged over 6,000 visitors in that same time period.

## JANUARY 2019 - DECEMBER 2019

2019	VISITORS	TEST DRIVES
JANUARY	197	17
FEBRUARY	133	19
MARCH	226	49
APRIL	200	96
MAY	211	65
JUNE	429	108
JULY	189	76
AUGUST	205	54
SEPTEMBER	280	104
OCTOBER	192	24
NOVEMBER	131	23
DECEMBER	89	12

## JANUARY 2018 - DECEMBER 2018

2018	VISITORS	TEST DRIVES
JANUARY	166	11
FEBRUARY	128	47
MARCH	203	8
APRIL	203	54
MAY	368	30
JUNE	300	137
JULY	172	148
AUGUST	150	32
SEPTEMBER	181	178
OCTOBER	177	15
NOVEMBER	98	8
DECEMBER	99	13

## MAY 2017 - DECEMBER 2017

2017	VISITORS	TEST DRIVES
MAY	210	13
JUNE	398	29
JULY	287	49
AUGUST	275	22
SEPTEMBER	260	68
OCTOBER	169	147
NOVEMBER	107	74
DECEMBER	152	16

# PROJECT INSIGHTS

## CHALLENGES & LESSONS LEARNED

There were several challenges that limited Forth to reach its test drive goal.

- **LOCATION:** The Showcase was located on a highly visible street corner in Downtown Portland. Most of the foot traffic, however, is from office workers during the week, without time to test drive. Initially, visitors to the Showcase were not sure of its purpose. Seeing the fleet vehicles with Forth branding, they often assumed we were a car sharing organization or travel agency thus involving some kind of payment. This situation was somewhat improved by putting lettering on our windows which read "Learn about electric & smart mobility here."
- **PARKING:** Downtown Portland is also notorious for having difficult parking with expensive, and often aggressive, parking enforcement. At times, Forth was able to offer parking garage vouchers to test drivers in offsetting the cost.
- **CONSTRUCTION AND TRAFFIC:** A month after opening the Showcase, construction began on an entire city block behind the Showcase. This particular construction has involved extensive demolition and street closures. Many Portlanders do not drive Downtown, or choose to use public transportation aside regardless of any construction, but this particular project, combined with large, newly available fleets of scooters and other micromobility unfortunately discouraged potential would-be test drivers. They did not want to focus on learning features of a vehicle while navigating other distractions.



# CONCLUSION

The Northwest Electric Showcase presented many key takeaways on engaging consumers and achieved its overall mission of providing a physical, brand-neutral Showcase. From May of 2017 to October of 2019, over 6,000 visitors came to learn about electric vehicles in a sales-free environment and an approximate of 1,687 test drives were conducted. In all, this project has been a huge staple to Forth's work and has opened up many doors of innovative work to our partners in electric transportation. Through Forth's adaptive management style, goals of the project were met, evolved, and exceeded.

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