



TRANSPORTATION ELECTRIFICATION WORKFORCE MARKET STUDY



The Portland Metro Workforce Development Board

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EXECUTIVE SUMMARY

Skilled workers are needed to support the electrification of Oregon's transportation system. The Transportation Electrification (TE) Workforce Market Study asks the questions: What will the demand for skilled and diverse workers look like in five, ten, fifteen years? How can workforce and educational systems prepare to meet that demand so that local workers are able to take advantage of new opportunities? How do we ensure these economic opportunities substantively advance racial and gender equity?

TO BETTER UNDERSTAND THE WORKFORCE NEEDS, THIS REPORT EXPLORES THREE THINGS:

- The volume, rate of growth, and range of occupations critical to supporting growth of transportation electrification.
- The occupational needs of anchor institutions in Oregon's EV supply chain.
- Places in the workforce and educational system where meaningful investments in workforce development will lead to a diversified workforce prepared for living wage jobs.

An analysis of existing labor market data led to the identification of the industries, businesses, and occupations most relevant to TE. Using the North American Industry Classification System (NAICS), this study identified TE related businesses included in traditional motor vehicle manufacturing and manufacturing of additional EV—related components, such as battery manufacturing. We also included businesses associated with the electrification of the system, including utilities. TE related businesses exist across the entire span of electrification, from the planning and design of public spaces and private vehicles to the end-of-life recycling of electric batteries.

When possible, we interviewed representatives of Oregon TE anchor institutions about their current and future TE workforce needs. We asked questions including: How much TE work are they doing now? What are they expecting for the future? What occupations are they hiring for? Where do they look for

workers? What is important when hiring someone to work in this field? What type of education and certifications do workers need? Are the workers they need hard to find? What populations do they represent?

We provided interviewees with labor market data and compared the data with their experiences. The interviews informed our understanding of worker demand across the TE spectrum.

Through this analysis, we identified 21 target occupations in the TE industry, as defined as those which require less than four years of post-secondary education and pay an average wage of at least \$17/hr. Not all the workers in these occupations are working in transportation electrification but the workers have skills which can be applied to TE jobs.

PRELIMINARY FINDINGS FROM THIS STUDY INCLUDE:

- **TE will drive growth in existing occupations and refocus them on electric transportation.** Some new occupations may emerge, but most of the TE workforce will continue to be in existing occupations with expanded training and skill development specific to TE technologies.

TE WILL DRIVE GROWTH IN EXISTING OCCUPATIONS AND REFOCUS THEM ON ELECTRIC TRANSPORTATION. SOME NEW OCCUPATIONS MAY EMERGE, BUT MOST OF THE TE WORKFORCE WILL CONTINUE TO BE IN EXISTING OCCUPATIONS WITH EXPANDED TRAINING AND SKILL DEVELOPMENT SPECIFIC TO TE TECHNOLOGIES.

- **Lack of standardization will lead to duplication and siloed manufacturer trainings.** Until EVs and charging equipment are standardized, supplemental and product-specific OEM training may continue as the main avenue for ensuring the workforce has the qualifications necessary to serve the TE industry.

- **Job growth is likely to exceed expectations.** The combination of new policies and spending will accelerate growth beyond what is indicated from previous years' growth and the shift to EV from the private sector will increase the number of EVs on the road while reducing the availability of vehicles with internal combustion engines.

INVESTING IN TRAINING OPPORTUNITIES CAN LEAD TO INCREASED WORKFORCE DIVERSITY.

- **In Oregon, most TE workforce growth is in electrician-related positions.** Based on interviews, we found the most pressing hiring needs is for licensed electricians. The demand for electricians is primarily related to charging station installation and maintenance.
- **Investing in training opportunities can lead to increased workforce diversity.** The growth of TE in Oregon presents an incredible opportunity to advance equitable economic development and address clear wage and hiring disparities.

BASED ON THESE FINDINGS, THIS STUDY HAS A SET OF RECOMMENDATIONS TO GUIDE TE WORKFORCE DEVELOPMENT EFFORTS:

- **Expand existing training and education opportunities for TE target occupations.** Training and education programs are already available for many TE target occupations. Employers and the workforce system should invest in, and partner with, existing programs to prepare for increased worker demand.
- **Prioritize increasing diversity of the TE workforce.** Now is the time to explicitly include and support the participation of women and people of color in the design phase of potential workforce investments. Increasing diversity across target occupations is an opportunity to advance racial equity through equitable economic opportunity.

- **Embed workforce planning into the infrastructure needs for the industry to grow.** Workforce development is an essential piece of growing TE infrastructure. As these efforts continue to develop, our recommendation is for employers, the public workforce system, and the state to work closely to ensure the time horizon for growing a skilled workforce is accounted for in the state planning efforts.
- **Explore funding mechanisms¹², to effectively invest in the diverse workforce for the future.** Industry leaders, especially employers, should partner and plan for their future workforce needs.

INCREASING DIVERSITY ACROSS TARGET OCCUPATIONS IS AN OPPORTUNITY TO ADVANCE RACIAL EQUITY THROUGH EQUITABLE ECONOMIC OPPORTUNITY.

1 <https://www.oregonmetro.gov/public-projects/oregon-convention-center-hotel/jobs-and-job-training>
2 <https://www.multco.us/multnomah-county/news/county-capital-construction-projects-seeking-workers-striving-toward-workforce>