

Smart Communities In Focus

Spotlight: Portland, OR



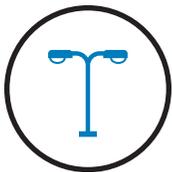
The city of Portland smart community effort is aided through its partnerships with Pacific Power, Portland General Electric (PGE), Portland State University, CIVIQ Smartscares, Forth Mobility, Hacienda CDC, Multnomah County, National Institute of Standards and Technology (NIST), Portland Bureau of Transportation, Schneider Electric, and Tri-County Metropolitan Transportation District of Oregon (TriMet).

Portland's Goals

- Transition to a carbon-free economy
- Collaborate to become a zero-emissions vehicle city
- Integrate smart grid technologies with renewable energy generation
- Leverage private-sector partnerships and autonomous, connected vehicle technologies to reduce congestion

Smart communities are built on smarter energy infrastructure and leverage the power of data and technology to improve sustainability, spur economic development, help drive efficiencies, and enhance the overall quality of life for their citizens. This summary focuses on specific opportunities where communities and electric companies can collaborate to make communities smarter, including projects that advance: Smart Street Lighting, Smart Transportation, Smart Buildings, Distributed Energy Resources, and Data Analytics and Intelligent Services.

What Makes Portland Smart?



Smart Street Lighting—Saves energy, improves safety, and reduces traffic congestion.

- Portland issued an \$18.5-million bond for an LED streetlight upgrade project, which is 85 percent complete. 48,500 street lights have been upgraded, and the city has saved \$300,000 per month in energy costs to date.

Smart Transportation—Improves safety and mobility, reduces carbon footprint, and provides greater access to services.



- Portland ranks fourth among U.S. cities in electric vehicle (EV) charging stations per million.
- PGE owns 10 DC fast chargers and 27 Level 2 chargers within city limits and the majority are publicly accessible.

- Through 2017, PGE's 100-percent renewable energy electric charge stations in downtown Portland powered more than 1 million miles of EV travel since their 2015 installation.
- TriMet is using a \$3.4M federal grant to purchase four battery-electric buses and to develop depot-based and on-route charging infrastructure. PGE has proposed to take on the cost of bus charging and transformer upgrades associated with this project, in the hopes of allowing TriMet to purchase an additional bus. The buses are expected to be operational in 2018.
- Pacific Power contributed to the installation of EV charging equipment to support a pilot EV car sharing program for low-income, underserved areas in Northeast Portland.



Distributed Energy Resources—*Improve sustainability, efficiency, and reliability.*

- Portland has engaged with Pacific Power, PGE, and Multnomah County and other local stakeholders in an effort to identify potential public sites for solar and storage projects that provide resiliency and emergency preparedness benefits.
- Pacific Power's voluntary green power program, Blue Sky, provided funding for the 63-kilowatt solar installation at the North Portland Police Precinct in 2016. Blue Sky funds also supported the installation of 2.2 megawatts of solar capacity at Portland Metro, Portland Public Schools, and the Port of Portland.



Data Analytics and Intelligent Services—*Increase efficiency, improve city services, and enhance quality of life.*

- Portland is partnering with CIVIQ Smartscares to deploy interactive kiosks around the city with information for wayfinding, multi-modal transit, free Wi-Fi, capability for emergency alerts, and 311 applications. System display will carry advertising to make it financially self-sufficient.
- Portland Bureau of Transportation, Portland State University, and NIST worked together to deploy and test nine air quality sensors at three intersections. Additionally, the city of Portland will install 200 pedestrian and vehicle traffic monitoring sensors.
- Pacific Power developed a software solution with Schneider Electric that allows commercial building owners to easily upload energy benchmarking data, as required by the city, into the Energy Star portfolio manager.

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