



GREEN PURCHASING CASE STUDIES: SOLAR-POWERED SMARTMETERS STREAMLINE PORTLAND'S PARKING

CITY OF PORTLAND, BUREAU OF PURCHASES
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PURCHASING GREEN



SmartMeters use solar panels specially designed to work in cloudy, rainy climates.

In 2002, the Portland Office of Transportation (PDOT) began replacing the city's 7,100 single-space parking meters with multi-space, solar-powered SmartMeters. SmartMeters are located in the middle of blocks, and each meter serves an average of six to seven parking spaces. The user can pay with coins, credit/debit cards, or prepaid Smart Cards. The meter prints a perforated receipt, which includes a sticker to display in the vehicle's curbside window as well as a time-stamped, take-away portion for the user. The city now has 1,363 SmartMeters – controlling about 95

percent of paid parking spaces in the downtown, south waterfront, and Oregon Health & Science University districts, as well as 60 percent of the Lloyd district. Portland was one of the first large cities in North America to switch the majority of its meters to this technology.

BENEFITS

Each six-foot SmartMeter features a 10 watt solar panel that recharges the meter's sealed lead acid batteries. This technology requires ambient light only, allowing meters to operate efficiently even on cloudy, rainy days.

Unlike traditional coin meters, whose 9 volt alkaline batteries need to be replaced every year, the batteries in SmartMeters are rechargeable and last five to seven years. PDOT recycles both kinds of batteries, but since SmartMeters' batteries last significantly longer and serve multiple spaces, using SmartMeters reduces the city's overall disposal costs and environmental impact.

The wireless technology employed by SmartMeters makes maintaining and operating the parking meters more efficient. The old meters filled up quickly and were constantly jamming. Often there was a long lag time between a meter being out-of-service and PDOT becoming aware of the situation. SmartMeters allow

AT A GLANCE

WHO

Portland Office of Transportation

WHAT

Solar-powered parking meters

COST

- 💰 Each meter costs about \$7,500
- 💰 Decreases maintenance costs
- 💰 FY2006 revenue 40% higher than FY2002

BENEFITS

- ✓ Solar powered
- ✓ Reduces waste from battery disposal
- ✓ Simplifies & reduces maintenance
- ✓ Reduces coin collections, saving gas

proactive rather than reactive maintenance, immediately notifying PDOT of technical problems. PDOT formerly had about four calls per space per year due to money jams; now they have less than one. Additionally, SmartMeters are easily upgradable and require limited tools when being serviced.

COST

As of September 2008, each SmartMeter costs \$7,500, compared to \$650 for a new single space meter. Although this may seem like a big price difference, the fact that SmartMeters serve several parking spaces, increase collection revenue, and reduce maintenance costs means that they are extremely cost competitive with a block of single space meters. For example, seven spaces served by traditional parking meters cost \$4,550.

“The City of Portland upgraded its meters in 2007-8 to meet new worldwide bankcard security standards. Payment Card Industry (PCI) compliance provides a higher level of security, which protects our customers’ bankcard information.”

Doug Siemens
Program Coordinator, Office of Transportation

Meter revenues have risen dramatically since the installation of the SmartMeters. In FY2006, the meters generated about \$12.7 million, a 40 percent increase in revenue when compared to 2002, the last year the city used the old meters exclusively. PDOT attributes this increase in part to SmartMeters’ ability to accommodate credit/debit cards. In fact, credit/debit cards account for 70 percent of transactions, which greatly reduces coin collections, saving gas.

PERFORMANCE

PDOT has experienced no major failures with the SmartMeters. Parkeon and Cale, the manufacturers of SmartMeters, have installed over 180,000 of these units worldwide. Besides Portland, other U.S. cities using similar technology include Chicago, IL; Denver, CO; Seattle, WA; and Washington, DC.

LESSONS LEARNED

PDOT devoted a lot of resources to employee and public education, an investment that led to a smooth transition to the new technology. Employees were trained in how to maintain and service the SmartMeters. To assist the public, PDOT distributed brochures and stationed “Meter Greeters” at new installation sites.

ABOUT THE PORTLAND OFFICE OF TRANSPORTATION

The Portland Office of Transportation (PDOT) is responsible for planning, building, managing, and maintaining Portland’s transportation system. Within PDOT, the Bureau of Transportation Systems Management (BTSM) operates and manages the city’s transportation, parking, and street lighting systems while the Bureau of Maintenance (BOM) inspects, cleans, maintains, and repairs all transportation and sewer-related infrastructure within the City of Portland.

FOR MORE INFORMATION

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