

# State Capitol



**Building:**..... State Capitol  
**Project Type:**..... Lighting Retrofit  
**Stimulus Funds:** ...\$249,539  
**Savings/yr:** .....\$14,000

## State government’s quick action saves \$14,000 per year

State government is often seen as the great behemoth; certainly not noted for its nimbleness or quickness.

But then, Daniel Russell, the Legislative Administration’s Sustainability Coordinator, heard about a limited-time funding grant to replace outdated inefficient lighting fixtures that could significantly reduce the Capitol Building’s energy use and save taxpayers approximately \$14,000 a year. The behemoth moved—and moved quickly—to seize the opportunity.



Daniel Russell, sustainability coordinator with the State Capitol, left, shows Paul Egbert, Oregon Department of Energy project manager, the new energy-efficient lights.

The Oregon State Capitol building at 900 Court Street NE in Salem had older lights and fixtures, primarily 4-lamp T-12 fluorescents with magnetic ballasts. They used a lot of electricity and provided poor quality light.

But, with a looming budget crisis, the State had no plans to replace the old lights. That was until Russell heard about some energy project money provided through American Recovery and Reinvestment Act (stimulus) funds. The Oregon Department of Energy was accepting applications for lighting projects through the State Energy Plan during a short, five-day time period

The ground and first floor of the

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- Daniel Russell  
Oregon State Capitol

in March on a first-come, first-served basis.

“We limited applications to lighting-only projects that could be quickly implemented,” said Shellí Honeywell, Oregon Department of Energy Grants Manager. “The primary goal the federal government has for this Recovery money is to stimulate the economy with energy projects. We wanted to put electricians and lighting technicians to work immediately.”

The \$6.3 million set aside for the lighting-only projects was distributed statewide to 40 public entities, primarily school districts. The one caveat: the projects had to be completed quickly—within about three months.

The State Legislative Office received \$249,539 for its lighting proposal, but the short turnaround was a concern. Russell and staff had to order lamps and ballasts immediately, hoping they wouldn’t encounter any delays or back orders.

They also had to get quotes from contractors and select a contractor who could begin installation as soon as supplies arrived. They had to get approval from the State Historical Preservation Office for the project as the Capitol Building is on the National Register of Historic Places. The clock was ticking.

“Everyone working on the project, from Paul Egbert, project manager at the

Oregon Department of Energy, to the contractor’s electricians, had the same goal and we all knew the deadlines,” said Russell. “Dave Hartsfield, our supervising electrician, worked many nights until midnight side-by-side with the contract electricians to get all of the new fixtures installed in time.”

To minimize disruption to Capitol offices,



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most of the work was done from 3 p.m. and midnight. Electricians staged fixtures and began installation after employees had left for the day.

The Legislative Administration Office's



Chief of Staff for the State Treasurer Tom Rinehart saw a vast improvement with the new lighting in his Capitol building office.

proposal called for replacing 704 old fixtures with 619 more energy-efficient fixtures (T-8 fluorescents with electronic ballasts) in ground and first floor offices. This included approximately 50 rooms from the Secretary of State's office, to restrooms,

to leased space such as the Capitol Press Corps room.

Russell, Hartsfield and others had to hit the ground running, but there were obstacles along the way.

First, Legislative Administration met the state public contracting requirements by soliciting competitive quotes from suppliers for the materials and for contractors for the installation.

Once materials arrived and contractors were selected, the work could begin, but it wasn't all "smooth sailing."

"The electricians had to overcome quite a few challenges as they worked in some ceiling areas that had not been touched in many years. Duct work and existing pipes made parts of the process a struggle," Russell said. "It took some doing."

In some spaces, ventilation was ducted directly through the existing light fixtures. When the replacement lights were properly installed, new air supplies and returns were also added.

The result was not just improved lighting, but also quieter and more effective air flow.

Many of the old fixtures required careful handling. "They were so old, some crumbled to pieces as they were removed and carted away for recycling," Russell said.

The lighting upgrade project turned out to provide several unexpected benefits, too. For example, the Governor's staff office had a metal grate suspended over the receptionist's work area where 32 four-foot T-12 fixtures had long ago failed, but continued to consume energy.

The grate may have posed a significant hazard during an earthquake, and thanks to this effort, was replaced with only four two-lamp fixtures that will use dramatically less energy.

In addition, the installers discovered some of the old fixtures had heavy, non-tempered glass lenses that could have easily shattered into dangerous shards had they fallen. The facility staff was able to improve the Capitol's electrical infrastructure along the way. They replaced dangerous cloth-covered wire, traced circuits, and identified old pipes and ducts.

Chief of Staff for the Office of the State Treasurer Tom Rinehart saw the new lighting as a vast improvement over the old ones. "The old ones looked like they were from my old elementary school," Rinehart said. "The new ones don't flicker and are much better. A great improvement!"

"We've gotten a lot of positive feedback from employees," Russell said. "It's great to see that this project has helped improve many people's work environment."

"Employees were very accommodating as the schedule was adjusted almost every night," Russell explained. "We just had to keep going and get it done," he said. "The contractors worked from 3 p.m. to midnight, so employees weren't inconvenienced and all seemed pleased with the results."

Bergelectric Corp., a national electric contractor with an office in Portland, provided the electrician installers. The project paid for 14 workers including electricians and other contractors who worked about 864 hours during a 26-day period.

Many employees commented on the con-

trast between the hallway lighting, which were not included in the project, and the new office lights.

The hallway lights were not included, according to Russell, because they are historical in nature and would require a complete workup with the State Historical Preservation Office. They are also in hard plaster ceilings; not drop ceilings. There was no way to address these issues within the short project timeline.

“We also wanted to ensure that we first improved the lighting in the offices where folks are working and can benefit from the improvement,” Russell said.

The lighting upgrade project is expected to save 184,998 kWh of electricity per year, approximately the amount of electricity that 15 average Oregon homes use per year. This also equates to savings of approximately \$14,000 per year.

The entire project came in more than \$20,000 under budget, despite the unexpected obstacles the staff encountered.

“Dan (Russell) and Dave (Hartsfield) did a terrific job with this project,” said Paul Egbert, Project Manager with the Oregon Department of Energy. “Dan was extremely responsive to our guidance in order to comply with the many aspects of the Recovery Act.”

Project owners report their activity and progress and seek reimbursement with the Oregon Department of Energy on a Web-based database. They are required to file certified payroll records weekly that comply with the Davis-Bacon or Oregon Bureau of Labor and Industry wage requirements.

“This lighting project brought major improvements to the Capitol work environment, expanded the continuity between the 1938

lower electricity and maintenance costs for years to come, and provides a stepping stone for on-going efforts to make the Capitol Building a energy-efficient building,” said Russell.

Hartsfield and Russell are looking ahead at future opportunities to improve energy efficiency at the Capitol. Hartsfield plans to install occupancy sensors in many areas throughout the building as time and budget allow. Russell will continue working with the Capitol Sustainability Team to identify the best options to pursue; including occupancy sensing power strips for computers and additional lighting upgrades.

Russell wants to be ready to go—just in case another funding opportunity comes along and the behemoth has to move quickly.



Daniel Russell, left, Sustainability Coordinator with the Legislative Administration, Scott Burgess, center, Legislative Administrator, and Shellí Honeywell, right, Oregon Department of Energy ARRA manager, are pleased with the lighting project that came in \$20,000 under budget.



The Oregon Department of Energy (ODOE) awarded this energy project with American Recovery and Reinvestment Act (stimulus) funds through the State Energy Program. These funds are designated for energy efficiency and renewable energy projects. The U.S. Department of Energy administers the funds, approves the projects and reviews the state's progress. The Oregon Department of Energy has \$42.1 million in SEP funding. All projects must be completed by February 15, 2012.

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