

Federal Way and Auburn Partnership

Jurisdictions and Geography

This RCM Partnership consists of the cities of Federal Way and Auburn – the minimum number of agencies allowed by the Department of Commerce grant requirements. These cities are north of Tacoma in southern King County along the I-5 corridor. The partners – both Puget Sound Energy (PSE) customers – took advantage of the support offered by the PSE RCM program.

Partnership Details

The lead was the City of Federal Way and the lead contact was the financial services administrator. Although the cities did not have exactly the same number of facilities, square footage and utility expenditures, these were close enough so the partners felt comfortable splitting the RCM's time 50/50.

The RCM had office space at each city. It worked well for him to have fluidity between the cities and not a set time to be at each place. This worked because of good communication: the RCM was the main communicator between the cities, although the two facility managers who oversaw the program at each city talked when necessary.

The champion at Federal Way was the facilities manager, who was also responsible for overseeing the RCM and supervising the program.

Program Timeline

| Project Milestones | |
|---------------------------|--|
| 12/22/2009 | Phase 1 application received |
| 4/12/2010 | Inter-local agreement adopted |
| 4/1/2010 | Commerce contract signed |
| 5/24 to 6/4/2010 | RCM position posted and open |
| 6/16/2010 | Interviews held |
| 7/1/2010 | Deke Jones started work |
| 7/8/2010 | Kick-off meeting |
| 9/24/2010 | First site technical visit by WSU Energy Program staff |
| 4/30/2012 | Commerce contract end date |

Hiring Process

Five applicants were interviewed out of the 19 who submitted applications. Interviews were held on June 16, 2010 and the RCM began work on July 1, 2011, the earliest start date of all the Shared RCMs. This early start date may be a reflection of having only two agencies that needed to adopt an inter-local agreement. Partnerships with more members needed to go through four or five meetings with decision maker to complete the approval process for the inter-local agreement.

The complete WSU Energy Program report and descriptions of the other partnerships are available at:
<http://www.energy.wsu.edu/PublicFacilitiesSupport/ResourceConservation/SharedRCM.aspx>

Shared Resource Conservation Manager Program Report

Washington State University Energy Program, March 2013

The Shared RCM was hired as an employee of the City of Federal Way, within the Parks, Recreation and Cultural Services Department.

The RCM came from a private facilities management background, where he implemented operational efficiency measures. His experience includes data tracking and monitoring, project management, and leadership and collaborative skills. His degree is in environmental education.

The RCM is an especially friendly, low-key, self-effacing person who took time to develop relationships with staff for the partner cities. This relationship building was a key element of the RCM's success, especially because he encouraged the staff to teach him about their jobs. The RCM learned early on that working with public entities demands more persistence and patience than the private sector, and he adapted well to this.

RCM Accomplishments

Facility Assessments

There are 27 staffed facilities at both cities – 15 staffed facilities at Federal Way and 12 at Auburn – with a total area of over 400,000 square feet. Facility assessments, or walk-throughs, were completed for these facilities in July 2011.

Data Tracking

As a participant in PSE's RCM program, Utility Manager was provided as the resource accounting software. PSE chose this partnership to beta test the web-based Utility Manager called UMx. In January 2011, historical PSE utility data (electric and natural gas) for the previous 18 months was fully entered into the database. However, in February 2011, the RCM was informed that UMx was no longer supported by the parent company, and PSE was going to switch to Utility Manager Pro. This change was made in April 2011. This caused some delay in the resource accounting start-up for the RCM.

The RCM used a different Utility Manager database for each city, which was housed at that city. This is unlike the other RCMs, who kept all of the data for their agencies in one database.

Reports

Recommendations were completed for each facility, except the water and wastewater facilities. These reports are succinct, usually no more than six pages long. In addition to basic information such as contacts, meters and square footage, the reports include a summary of recommended measures, including behavioral changes, and photos.

Facilities and Parks staff and department directors have been given copies of the plans, but they have not been formally adopted.

I view the RCMP and Operating Standards as a guide and template for staff to make conservation-oriented operating decisions and I reference the documents specifically when making suggestions and recommendations.

Deke Jones, Shared RCM
Federal Way/Auburn Partnership

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Resource Conservation Projects

The RCM was able to identify opportunities and projects for the partners' facilities. He first identified quick and easy no-cost/low-cost measures and implemented them immediately. The opportunities and projects he identified were written down in a clear format so the facility staff knew what to do. The RCM also provided estimated savings so staff could see how their actions could make a difference.

Presenting simple monthly reports with notes to building operators created the opportunity to make major changes, such as installing condensing boilers and changing operating procedures.

Energy service companies (ESCOs) were starting new contracts at both cities when the RCM began this job. The RCM eventually became the point person for the ESCOs' communications with the cities. He prepared low-cost/no-cost recommendations for the facilities undergoing ESCO improvements.

Communication Activities

The RCM developed a presentation to educate Auburn employees on how they could help increase energy efficiency in their city buildings. He needed 12 sessions in order to reach all Auburn employees. The effects have endured, with employees turning off lights and being more aware in general of energy efficiency issues.

A similar presentation was made to a City of Auburn Business Energy workshop, sponsored by PSE, which is available on YouTube:

(http://www.auburnwa.gov/doing_business/economic_development/business_tools/video_library/energy_conservation.htm#4).

The Green City Federal Way website (<http://www.greencityfederalway.com/>) was available for the RCM to use to reach out to city staff.

Challenges

Organizational Changes

Changes in the partner organizations at times caused slowdowns and other challenges for the RCM. The lead of the Shared RCM program who was also the RCM's supervisor at the City of Federal Way left his position in February 2012. A replacement lead was not clearly identified.

The City of Auburn was restructured in February 2012; the RCM's office and reporting line at that city changed and then his office moved again in April. While his supervisor remained the same, the RCM reported through someone else, although it was someone who understood the program well.

The location of the RCM's desk influenced his success because it determined his ability to establish relationships and gain assistance from staff.

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Database Management

Challenges using Utility Manager, the resource accounting software provided by PSE, included delays in receiving data from PSE and the need to switch from the experimental beta UMx to regular Utility Manager Pro.

PSE did not upload historical data for pump and lift stations, so the RCM had to do this manually. Despite these setbacks, the RCM completed populating the database in January 2011.

The RCM also manually entered water use data. He started assessing water use by the end of the program, but was unable to implement changes that reduced water use before the program ended.

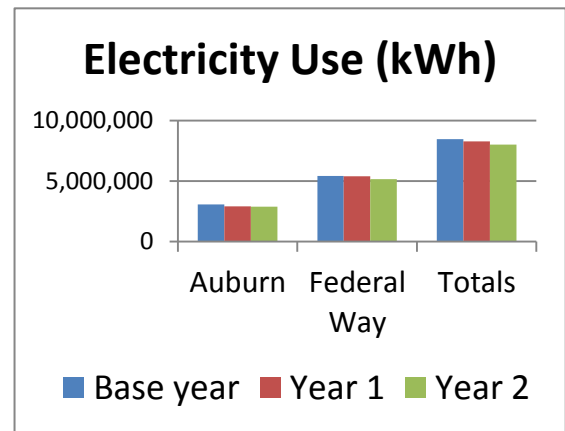
Communication

The RCM realized that culture and behavioral changes could not gain traction among city staff unless these efforts first gained the attention of management and decision makers. Successful programs included employee education and city/community outreach with the Auburn Solid Waste Program.

Results

The numbers in the table and chart below, from the Utility Manager database, compare the baseline year, 7/1/2009 through 6/30/2010, with the following two years. The difference in use of year one is compared to the baseline plus the difference in use of year two compared to the baseline. Facilities included are the primary non-water utility sites with complete data.

Significant savings were realized at the primary Federal Way and Auburn facilities. Implementation measures included lighting retrofits, installing occupancy sensors and learning how to program the controls for more efficiency.



WSU Energy Program engineering staff visited pump and lift stations in Auburn at the RCM's request. They provided a study to the Maintenance and Operations department outlining potential capital and operations savings.

Near the end of the program, the RCM was able to input city-wide water usage data for both cities into Utility Manager. He began to establish a metric for consumption in conjunction with cost at 13 lift/pump stations being monitored in Auburn.

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Washington State University Energy Program, March 2013

| Changes in Energy Consumption for the Federal Way Partnership | | | |
|---|-----------|-------------|-----------|
| | Auburn | Federal Way | Totals |
| Electricity Use (Kwh) | | | |
| Base year | 3,052,068 | 5,412,537 | 8,464,605 |
| Year 1 | 2,905,738 | 5,377,222 | 8,282,960 |
| Year 2 | 2,871,229 | 5,146,993 | 8,018,222 |
| <i>Cumulative change</i> | -327,169 | -300,859 | -628,028 |
| % Change Year 1 | -4.8% | -0.7% | -2.1% |
| % Change Year 2 | -5.9% | -4.9% | -5.3% |
| <i>Cumulative 2-yr % change</i> | -10.7% | -5.6% | -7.4% |
| Natural Gas Use (therms) | | | |
| Base year | 44,500 | 132,032 | 176,532 |
| Year 1 | 43,467 | 116,306 | 159,773 |
| Year 2 | 38,887 | 144,780 | 183,667 |
| <i>Cumulative change</i> | -6,646 | -2,978 | -9,624 |
| % Change Year 1 | -2.3% | -11.9% | -9.5% |
| % Change Year 2 | -12.6% | 9.7% | 4.0% |
| <i>Cumulative 2-yr % change</i> | -14.9% | -2.3% | -5.5% |
| Energy Use (Mbtu) | | | |
| Base year | 14,864 | 31,671 | 46,535 |
| Year 1 | 14,261 | 29,978 | 44,239 |
| Year 2 | 13,685 | 32,039 | 45,724 |
| <i>Cumulative change</i> | -1,782 | -1,325 | -3,107 |
| % Change Year 1 | -4.1% | -5.3% | -4.9% |
| % Change Year 2 | -7.9% | 1.2% | -1.7% |
| <i>Cumulative 2-yr % change</i> | -12.0% | -4.2% | -6.7% |

These numbers are from the Utility Manager database, comparing the baseline year, 7/1/2009 through 6/30/2010, with the following two years. The difference in use or cost of year one compared to the baseline plus the difference in use or cost of year two compared to the baseline. Facilities included are the primary non-water utility sites with complete data.

| Years that Savings were Counted | | | | | | |
|---------------------------------|--------------------|-------------------------------|----------------------|--------------------------------------|-----------------------|------------------|
| Year 1: July 2010 – June 2011 | | Year 2: July 2011 – June 2012 | | Baseline year: July 2009 – June 2010 | | |
| Partner Entity | Electricity | \$ Saved | Natural Gas | \$ Saved | Other | \$ Saved |
| Federal Way | 259,328 KWh | \$27,618 | 26,480 therms | \$29,368 | Federal Way Total | \$56,986 |
| Auburn | 506,028 KWh | \$49,642 | 7,748 therms | \$8,786 | Auburn Total | \$58,428 |
| Grand Totals | 765,356 KWh | \$77,260 | 34,228 therms | \$38,154 | Combined Total | \$115,414 |

Note: The last two months were estimated based on previous year.

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The chart below matches facilities with implementation measures. The RCM also worked in all of the partner facilities to establish occupant energy efficiency behavior changes.

| | Base year end 6/2010 | Year 1 end 6/2011 | Year 2 end 6/2012 | Change | Change | |
|-------------------------------|-------------------------|----------------------|----------------------|------------------------|-------------------------------|---|
| Site | Elec. (kWh) | Elec. (kWh) | Elec. (kWh) | Base Year to Year 1 | Change Year 1 to Year 2 | Implemented Measures |
| Auburn City Hall | 1,200,147 | 982,694 | 857,022 | -18.1% | -12.8% | Lighting retrofit, occupancy sensors, delamping, awareness, low-cost measures ongoing |
| Auburn Senior Center | 329,677 | 414,323 | 399,716 | 25.7% | -3.5% | Low-cost measures ongoing |
| Auburn Mountain View Cemetery | 52,201 | 64,676 | 41,678 | 23.9% | -35.6% | Lighting & controls retrofit completed March 2011 |
| Federal Way City Hall | 1,892,503 | 1,814,338 | 1,588,045 | -4.1% | -12.5% | HVAC retrofit, lighting retrofits, occupancy sensors, rooftop units and controls, staff awareness |

Anecdotes

- One facility manager will never buy another light bulb that is not an LED, thanks to the RCM.
- Facility managers now always pay attention to setpoints.
- Facility managers report having changed attitudes about energy efficiency, which they employ when making purchasing decisions.

Looking Ahead

The RCM continues to work part-time for both cities.

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