



# SEATTLE CLIMATE ACTION HIGHLIGHTS 2010





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JIM SIMANDL

## INTRODUCTION

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**This last February, Seattle's Climate Protection Initiative** turned six years old. As a participant in the Initiative from the beginning, I'm proud of the City's many efforts to reduce greenhouse gas emissions. During that time, Seattle City Light became the first major utility in the nation to achieve carbon neutrality. We now have a streetcar connecting South Lake Union to downtown, high-speed light rail linking downtown to the airport, and more than 200 miles of bike lanes throughout the city. We have also helped residents save energy by going door-to-door to provide energy-efficient light bulbs, and have made it easier for neighborhood businesses to make energy-efficiency upgrades that cut costs and emissions.

These efforts, and many others, have paid off. Seattle is on track to meet our near-term emissions reduction goal of seven percent below 1990 levels by 2012. But we know these reductions are only the first step of what will be required for Seattle to do its part to protect the climate. Last year, Seattle City Council challenged the City to think about what it would take for the community to become carbon neutral. And this year, the Seattle Office of Sus-

tainability & Environment will begin updating our Climate Action Plan to incorporate a new carbon neutrality goal.

Even though we're in the process of assessing and strengthening Seattle's climate goals, we have not stopped taking action. This Climate Action Highlights report presents a collection of case studies that spotlight just a few of the actions the City of Seattle has taken over the last year to reduce Seattle's greenhouse gas emissions. While these selected profiles by no means represent everything that the City is doing, each one showcases a new and innovative effort in each of our strategy areas. We hope this report will provide motivation and inspiration for all Seattleites and help guide our important Climate Action Plan update this year.

A handwritten signature in blue ink, appearing to read 'Jill Simmons'.

Jill Simmons, Director  
Office of Sustainability & Environment  
City of Seattle



## TRANSPORTATION CHOICES, COMPACT COMMUNITIES

*Building walkable communities with climate protection in mind*

If you have ever attempted to navigate Seattle’s roads at rush hour you will not be surprised that 40% of the city’s greenhouse gas emissions come from cars and trucks. These emissions continue to be Seattle’s biggest source of greenhouse gas emissions, and are one reason Mayor Mike McGinn launched the Walk Bike Ride Initiative in May 2010. Seattle’s efforts to provide dedicated bike lanes and sharrows—pavement markings that guide bicyclists on the best place to ride and remind drivers to share the road with cyclists—as well as to repair sidewalks, and add fast, reliable transit routes are working. Since 2000, the number of downtown bike commuters has doubled and average weekday bus ridership has increased by over 20% since 2005. In addition, over 15,000 people boarded the light rail every weekday in its first year of operation. Now, the Seattle Department of Transportation (SDOT) is tackling one of our biggest transportation challenges—improving safety and traffic flow for all users—by designing Complete Streets.

Through the City of Seattle’s Complete Streets pro-

gram, SDOT is able to create roads that work for all: cars, trucks, transit, pedestrians, and bicyclists. The Complete Streets Ordinance, passed in 2007, modernized how the City plans and designs Seattle’s streets, sidewalks, and crossings to encourage walking and bicycling. Complete Streets also aims to make transit a convenient choice, without causing more traffic delays or jamming freight corridors. In addition to improving traffic flow and safety, Complete Streets works to improve residents’ health, quality of life, and reduce greenhouse gas emissions from transportation. Applying Complete Streets principles in neighborhoods helps increase the use of walking, bicycling, and taking transit. In 2010, SDOT used the Complete Streets framework to guide important corridor improvements to Nickerson Street. The Nickerson improvements outlined below highlight how the program improves safety and transit choices, keeps freight moving, and furthers climate action goals.

### Nickerson Street: Looking at Safety and Flow

A well-traveled four-lane corridor in north Seattle, the City designed Nickerson Street to meet the needs of a wide variety of users. Nickerson is an important bike corridor listed in the Bike Master Plan and is also an important route used by manufacturing and freight industries. In addition, local businesses, adjacent apartment buildings and condos, and Seattle Public University’s 4,000 students create a constant flow of pedestrian traffic, both along and across Nickerson. Two necessary changes prompted a new look at Nickerson Street to assess opportunities for improved flow and safety. The first was the removal of three uncontrolled marked crosswalks that no longer meet SDOT’s guidelines; the city no longer recommends

crosswalks spanning busy four-lane roads without islands or signals to help pedestrians cross safely. Nickerson was also slated for repaving in 2010, providing a clean slate for striping and infrastructure changes in accordance with Complete Streets guiding principles.

Architect Christina Bollo, chair of the Pedestrian Advisory Committee, saw this as a chance to improve safety, especially for students walking to and from classes. “While it’s technically legal to cross at any street intersection, doing so when you cannot get and maintain eye contact with drivers can be treacherous. Our goal was not necessarily to slow down existing traffic, just make it safer by giving pedestrians more visibility.” Bollo says this distinguished Nickerson from some other re-channelization projects, which are commonly, although not always correctly, called



Seattle Pacific University students walk to class along Nickerson Street. Photo courtesy of Seattle Pacific University/Nick Onken

“road diets.” While bicyclists were also interested in improving safety at Nickerson, these users are more likely to move with the flow of traffic. The number and necessity of pedestrian crossings at Nickerson required special consideration.

After looking carefully at the data and examining similar thoroughfares like Stone Way where re-channelization was complete, the City determined they could improve the safety of pedestrian crossings, reduce vehicle speeds, add bicycle lanes, and widen travel lanes for both freight and transit. SDOT accomplished these changes by shifting from four lanes (two in each direction) to three lanes, one traveling in each direction with a center turn lane. The project added an uphill bicycle lane, installed shared lane markings in the downhill direction, and made significant pedestrian crossing improvements at 12th Avenue W, Cremona Street, and Dravus Street. Working to meet the needs of the industrial community, SDOT also increased lane widths to better accommodate freight and made changes to accommodate truck turns at an industrial location.

SDOT is currently conducting an ongoing study to evaluate how traffic is flowing along the corridor, with a

final analysis due in late 2011. Preliminary data indicate that the re-channelization effort is working: the same number of cars has been able to use the street, freight traffic has not been impacted, and traffic speed has slowed from 40-44 mph to 34-37 mph. As for Bollo, she doesn’t need a study to know the changes have helped. “I recently took the #17 bus to the area, got off on Nickerson, and crossed at Dravus Street. What used to be harrowing was a breeze

**“While it’s technically legal to cross at any street intersection, doing so when you cannot get and maintain eye contact with drivers can be treacherous.”**

—Christina Bollo, Pedestrian Advisory Committee chair

as I crossed on a pedestrian island and got across in one try. This is a wonderful example of how we’re making neighborhoods more livable and walkable across the city.” As the Nickerson project shows, Complete Streets makes it feasible for people to choose walking, biking, and transit options in their neighborhoods, promoting a healthier lifestyle and a reduced carbon footprint.



## CLEAN FUELS, CLEAN FLEETS

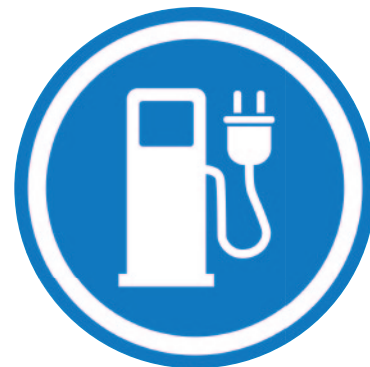
*Going green by plugging in*

As a national leader in transportation electrification, Seattle will soon be ready for people to plug in their cars, with infrastructure and policies that support electric vehicles (EVs). In addition to offering transportation choices for getting around the city, the City of Seattle also strives to increase vehicle efficiency and reduce the carbon footprint of cars on the road, recognizing that transit alone cannot accommodate all trips in the city. This is where plug-in electric vehicles represent a big step forward. Widespread use of EVs has the potential to reduce both greenhouse gas emissions and pollution, help Seattle move toward carbon neutrality, and even create jobs and foster economic growth. Recognizing that the future of EVs is now, in 2010 the Office of Sustainability & Environment (OSE) and the Plug-in Project interdepartmental team led the charge to get Seattle ready.

### Clean Electricity makes it Possible

Does it seem counterintuitive to advance climate action goals by using more electricity? While in some cases that might be true, Seattle City Light's (SCL) commitment to ecological stewardship provides our city with a clear

environmental incentive to make the switch to electric vehicles. While electric vehicles are only as clean as the electricity they rely on, Seattle is a recognized leader in clean electricity; SCL was the first large utility in the United States to achieve zero net greenhouse gas emissions. Most of SCL's electricity is supplied by renewable sources, like hydropower and wind, and the emissions from the remaining sources are offset by SCL's investment in carbon-reduction projects. In addition, SCL is committed to meet all new electric demand—including the increased demand from electric vehicles—with conservation and renewable sources.



### Leading by Example through Clean Fleets

Given Seattle's dependable supply of clean electric power, the greater the shift from combustion engines to electric vehicles the greater the reduction in greenhouse gas emissions. In fact, if 10% of Seattle's passenger cars were powered by Seattle City Light's clean electricity, the community would reduce an estimated 144,000 tons of greenhouse gas emissions annually, the equivalent of taking nearly 40,000 cars off the road for a year. Wanting to "walk the talk" in making the shift to EVs, the City of Seattle is purchasing 35 electric vehicles to replace

**"Electric vehicles are only as clean as the electricity they rely on. Seattle City Light's clean energy, based on renewable sources, gives the transition to electric vehicles its environmental edge."**

—Sandra Pinto de Bader, Environmental Sustainability Coordinator

aging fleet vehicles. As part of a Department of Energy award to the Puget Sound Clean Cities Coalition, the City of Seattle received funds to establish publicly available EV charging infrastructure. As part of the award, the City



ECOTALITY

The Nissan LEAF is an all-electric, five-passenger hatchback that came to the Seattle-area market in 2010. The LEAF can travel up to 100 miles on a single charge and will fully recharge the battery in four to eight hours using a Level II charger. This model will replace aging vehicles in Seattle's municipal fleet beginning in 2011.

will invest \$500,000 in the installation of EV charging infrastructure, including 36 charging stations to serve the City's fleet, 26 in the downtown Seattle Municipal Tower garage and 10 in priority field locations. In addition, the City will install close to 15 more stations in key publicly available locations like the Seattle Center garage and the Downtown Seattle Library garage. Pinto de Bader says the City is "able to make a large impact based on the sheer quantity of vehicles in the fleet. Using the City fleet as a pilot study allows us to test usage, infrastructure quality,



***Did you know?* OSE estimates it will cost about \$200 annually to drive an electric vehicle 10,000 miles, compared to \$1,200 to drive the same distance in an internal combustion engine car that gets 25 miles per gallon. (Based on \$3.00/gallon and 2010 Seattle City Light residential electricity rates.)**

and be prepared and receptive to citizen requests and needs as more vehicles are put in use in the private sector."

Ensuring that Seattle was "plug-in ready" when electric passenger vehicles hit the market required a collaborative effort. Coordinated by the Office of Sustainability & Environment, staff from Seattle City Light, Seattle Department of Transportation, Department of Planning and Development, Financial and Administrative Services, Seattle Parks and Recreation, and the Seattle Center all support the Plug-In Project interdepartmental team and its work.

### LOOKING TOWARD THE FUTURE

Downtown municipal charging stations should appear in the first quarter of 2011. Between 2010 and 2012, industry experts anticipate as many as 12 highway-capable electric vehicle models will come to market.

Seattle will implement EV charging bollards like this one in key locations. Photo courtesy Coulomb Technologies.



## CLEAN ENERGY, EFFICIENT BUILDINGS

*Creating jobs by saving energy*

Energy use in residences and buildings accounts for one-fifth of Seattle's carbon footprint, a share that the City is tackling by increasing the efficiency of existing buildings by 20% by 2020, and improving the energy performance of new buildings. After more than two years of work by the Green Building Task Force to identify options for increasing building energy efficiency in Seattle, the City launched Community Power Works (CPW), a cutting-edge program designed to help meet these goals while creating needed good-paying jobs. Launched in 2010, CPW uses a \$20 million federal grant to leverage additional investments, improving energy efficiency in thousands of buildings by 15 to 30% over the next three years.

Community Power Works spans six building sectors or types in a target district that includes parts of Seattle's downtown core, the Central District, and southeast neighborhoods. The first phase of projects will involve the hospital, large commercial, and municipal building sectors. Projects for the other three sectors—single-family homes, multifamily buildings, and small businesses—will be announced in early 2011. In all, CPW and its partners will direct around \$100 million over the next three years to energy-efficiency retrofit projects in both the commercial

and residential sectors, while creating and retaining up to 2,000 good-paying jobs. This innovative program also targets healthcare facilities aiming to catalyze broad-scale energy efficiency improvements. The City selected four Seattle-area hospitals to receive up to \$75,000 in one-to-one matching funds to produce strategic energy management plans (SEMPs) to guide efficiency projects, with additional funding available for implementation.

With job creation a top priority, the City of Seattle recognizes that the field of green energy can be a powerful generator of sustainable jobs and careers. Just as important is the challenge of connecting the green energy economy to those most in need of job training and sustainable career pathways, enhancing the local economy. CPW residential programs focus on low-income communities, helping citizens in the Central District and Southeast Seattle make changes that reduce their monthly utility bills, while helping train workers from within the community for careers in the new green economy. All in all, CPW is a powerful initiative that maximizes Seattle's American Reinvestment and Recovery Act stimulus funds, translating those dollars into good-paying jobs while saving an estimated 70,000 metric tons of greenhouse gases.

### Taking the High Road: The Community High Road Agreement

Recognizing that Seattle's most valuable resource is people, the City of Seattle looks for every opportunity to connect energy-savings work with those most in need of good-paying jobs and sustainable careers. Community Power Works collaborated with labor, contractors, training providers, and community groups to develop agreements that ensure that green jobs from residential retrofits meet certain quality and social standards.

Using federal stimulus dollars, the City of Seattle

developed a program for increasing the energy efficiency of the city's single family homes, including home energy performance assessments and a revolving loan program to finance improvements. Still unanswered at that time was a critical question asked by community advocates across the city. "How would these energy solutions work best for low-income people in the community, especially people of color," asked Michael Woo of Got Green, a community organization that works to identify opportunities for workers to enter the green economy, "when these are often the last people to be considered for green jobs?"

The City of Seattle rose to the challenge of connecting low-income communities with the benefits of green energy solutions.

In response, Mayor McGinn challenged a diverse group of stakeholders from across the city—including labor unions, community-based organizations, contractors, training providers, public agencies, and financial institutions—to ensure that CPW benefits were shared by all. This group worked with the Community Benefits

**"Seattle's is a bold and innovative approach in tackling climate change and unemployment."**

—Phaedra Ellis-Lamkins,  
CEO of Green For All

Law Center, Green for All, and City staff to envision and tailor standards to the needs of the potential workforce and employers involved in the upcoming energy-efficiency efforts. Together they forged the Community High-Road Agreement, a carefully crafted compromise that requires all contractors who perform work with CPW to comply with the agreed-upon training, compensation, and business requirements. This benefits all parties involved: Employers have access to well-trained workers via a simple and predictable program, Seattle's neediest populations are given training and an on-ramp into good-paying jobs, and under-represented and local businesses are made competitive in the energy-savings market.

Key provisions of the Community High-Road Agreement include:

- Reserving 33% of technical work hours for disadvantaged workers targeted for training
- Requiring 80-100% small business participation; at least 30% minority-owned and 10% women-owned business participation; and close to 100% local business participation
- Ensuring program jobs pay a family-supporting wage, at least \$21.50 per hour plus \$2.50 per hour in benefits or additional wages for most energy-efficiency work



KIP BEELMAN

### HARBORVIEW: ENERGY SAVINGS IMPROVE PATIENT CARE

Doing important work in providing patient care, healthcare facilities are also among the highest intensity energy users in the commercial sector, accounting for four percent of all energy consumed in the United States today. To help area hospitals reduce energy use and thereby their carbon footprint, the Community Power Works program is offering matching grants of up to \$75,000 for the creation of strategic energy management plans (SEMPs) at Virginia Mason Medical Center, Group Health Cooperative, Swedish Medical Center, and Harborview Medical Center. The program also offers \$2.1 million to participating hospitals to help fund energy efficiency projects that result from the plans, expected to result in energy savings from 15% to 45%. The first phase of the funding allocates \$250,000 to all four hospitals for early implementation of projects identified in their SEMPs. Harborview Medical Center is leading the charge, dedicating its \$250,000 allocation to leverage a \$2.5 million fan replacement project.

In July of 2010, City Council adopted the Seattle Community High-Road Agreement, in the process setting measureable goals and standards for all parties involved in energy-savings work.



## WASTE REDUCTION

*Lowering our climate impact by sending less to the landfill*

Already a national leader in composting and recycling programs, 2010 marked another pivotal year for the City of Seattle. Starting July 1, 2010, the City of Seattle required all take-out containers to be either 100% recyclable, or 100% compostable, and Styrofoam-free. Expanding on the previous year's ban on expanded polystyrene throw-away packaging (commonly known as Styrofoam), the City worked with restaurants and food-service businesses to test and find packaging alternatives that would avoid the landfill. As part of the change, the City helped businesses think through and implement clearly labeled discard bins to ensure take-away packaging found its way to the appropriate processing destination. For grocery stores and other similar businesses, it meant finding green alternatives to those ubiquitous Styrofoam trays. Now consumers looking to buy a cup of coffee, grab take-out for lunch, or even buy a chicken at the supermarket can feel better about their purchase.

Why the shift? The negative environmental impacts of throw-away plastics and Styrofoam are considerable;

both non-biodegradable and lightweight, Styrofoam lines the shores of our waterways and is considered the main component of marine debris. Additionally, since Seattle generates approximately 129,000 tons of greenhouse gas emissions each year from waste pickup, transfer to the landfill in Oregon, and from methane produced by decomposing trash, Seattle aims to reduce the amount of waste collected and transferred to the landfill by encouraging residents to compost as much food waste as possible. Compostable products encourage this practice by allowing Seattleites easy one-step disposal of their leftover kung pao and the box it came in. In implementing these changes, the City expects 6,000 tons of plastic and plastic-tainted waste will be diverted from the landfill annually, making strides toward Seattle's Zero Waste Strategy benchmarks of recycling 60% of all waste by 2012, and 70% by 2025. The changes made in 2010 also mean businesses could save 32% on composting rates over commercial garbage collection rates and score green points with their customers!

### Safeco Field: As American As (Composting) Apple Pie

For one beloved Seattle business, meeting the July deadline for recyclable or compostable carry-out containers was as easy as pie. In fact, Safeco Field got their program rolling with the first pitch of the season; beginning April 12, Opening Day, Safeco Field met and exceeded the new City rules. "It is our goal at Safeco to strive for zero waste," says Joe Myhra, Safeco's director of engineering and maintenance, "so we saw the new City guidelines as an opportunity. Not only could we further reduce what we were sending to the landfill, but help educate our vendors and our fans as well."

Anticipating the changes, Safeco got to work sourcing alternative containers and working with Cedar Grove

"We saw the new City guidelines as an opportunity. Not only could we reduce what we send to the landfill, but we could help educate our vendors and fans."

—Joe Myhra, Director of Engineering and Maintenance, Safeco Field

to help ensure compostable waste met their guidelines. Every cup, tray, knife, fork, even straws at Safeco can now be recycled or composted. "We learned through the process that we can't control 30,000 people, but if we make the change hopefully we will affect and educate the majority," says Myhra.

Fans would be hard pressed to avoid participating; there are only 17 garbage receptacles remaining in the



Even drinks come in compostable cups at Safeco Field. Photo by Gregory Luke Smith.

entire stadium. Instead, 2010 saw 70% of the waste generated at each and every baseball game recycled through the hundreds of recycling and composting receptacles, up from 37.9% in 2009. That means instead of the 691 tons of landfill-bound waste, Safeco cut that to only 280 tons. Not only is that good for the planet, it's good for the pocketbook. It costs Safeco about \$210 per ton to handle garbage, while fees for composting are less than half that, representing savings of about \$70,000 a year, all for doing the right thing.

### LOOKING TOWARD THE FUTURE

By requiring all single-family households to participate in a composting program, an additional 40,000 households joined Seattle's efforts in conservation. In light of this



COURTESY CEDAR GROVE

### COMPOST DAYS WITH CEDAR GROVE

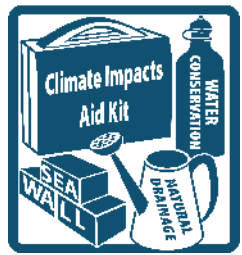
In appreciation of Seattle's eco-conscious residents, the City of Seattle partnered with Cedar Grove to host Compost Days, a celebration of keeping food and yard waste out of the landfill while enriching our local parks and gardens. In April and May of 2010, coupons were mailed to area residents good for two free bags of plant-friendly Cedar Grove compost as a thank you for Seattle's excellent efforts. In all, over 25,000 bags of compost were given away to residents. Good job, Seattle!

success, the City is expanding the program to apartments, townhomes, and other multi-family dwellings in 2011. Given how much waste is now happily ending up in compost or recycling facilities, the City will also pilot a reduction to biweekly garbage pickup in single-family zones. If implemented citywide, biweekly garbage collection could save the City \$6 million and reduce solid waste truck traffic by 20%.

**Did you know?** Food waste accounts for 30% of all material in landfills. The good news? The amount of food waste composted in Seattle quadrupled from 6,000 lbs in 2005 to 26,400 lbs in 2009.

### A BRIEF TIMELINE IN THE HISTORY OF FOOD WASTE

- 1988** No more yard waste allowed in garbage.
- 2005** Expanded service allows food waste to be added to yard waste carts.
- 2009** Meat is allowed in food waste and weekly pickup begins. All single-family households now required to participate in the recycling and composting program. Styrofoam use banned; restaurants and grocery stores allowed to use plastic as interim solution.
- 2010** Styrofoam ban final in all restaurants and grocery stores. Throw-away containers are required to be compostable or recyclable.



## ADAPTATION

*Using new technology to prepare for climate change*

In every person's life some rain must fall, and Seattleites accept those gray skies as a fact of life. Yet when extreme weather patterns develop, it is critical the City be able to respond nimbly and appropriately to help mitigate damage and promote public safety. Prompted by the historic storms of 2006 and 2007, the City set out to improve upon the existing weather forecasting system. In 2010, Seattle Public Utilities (SPU) partnered with the University of Washington to develop RainWatch, an exciting tool that uses advanced technology to predict and monitor rainfall with better accuracy and precision than ever before. "Before RainWatch we had a limited range of tools at our disposal for forecasting the weather," says James Rufo Hill of SPU. "RainWatch takes those tools further, to provide a more accurate analysis and better forecast." The cutting-edge technology allows Seattle to prepare for and respond to flooding and dispatch crews as needed to areas most in need of help and services.

The system works by combining National Weather

Service radar with more than a dozen rain gauges spread throughout Seattle's neighborhoods. An algorithm developed by Cliff Mass at the University of Washington then extrapolates finely-tuned, localized analysis of the data provided by both the radar system and the rain gauge measurements. The system was put to use in earnest for the 2010 storm season that commenced in September, allowing the City to monitor not only how much rain fell but in what neighborhoods, and enabling managers to better manipulate crews and resources. Rufo Hill says the City will continue to build up data over consecutive seasons, ultimately using the information holistically as a tool to prepare, or adapt, to climate change. Although changes in precipitation likely to occur from climate change in Seattle are uncertain, climate models point to an increase in frequency and intensity of precipitation events. As demonstrated by an extreme storm in December of 2010, the RainWatch tool helps the City respond to such events efficiently and effectively.

### Weathering the 2010 Storm Season

Some Seattleites may remember the "Pineapple Express" that hit the city in December of 2010, where a constant, warm deluge dropped 2½ to 4½ inches of rain over the city during a 24-hour period, with South Seattle in general bearing the brunt. During this time, the City and RainWatch were on the case. On the ground, RainWatch works by sending email alerts to a core group of about fifteen operators and emergency managers when thresholds are tipped, currently at ¼-inch per hour for a forecast alert, ¼-inch per hour for an accumulation alert, and one inch per six-hour accumulation. Each member of the group receives a summary and link to a map where they can monitor the situation as needed and direct crews to problem areas.

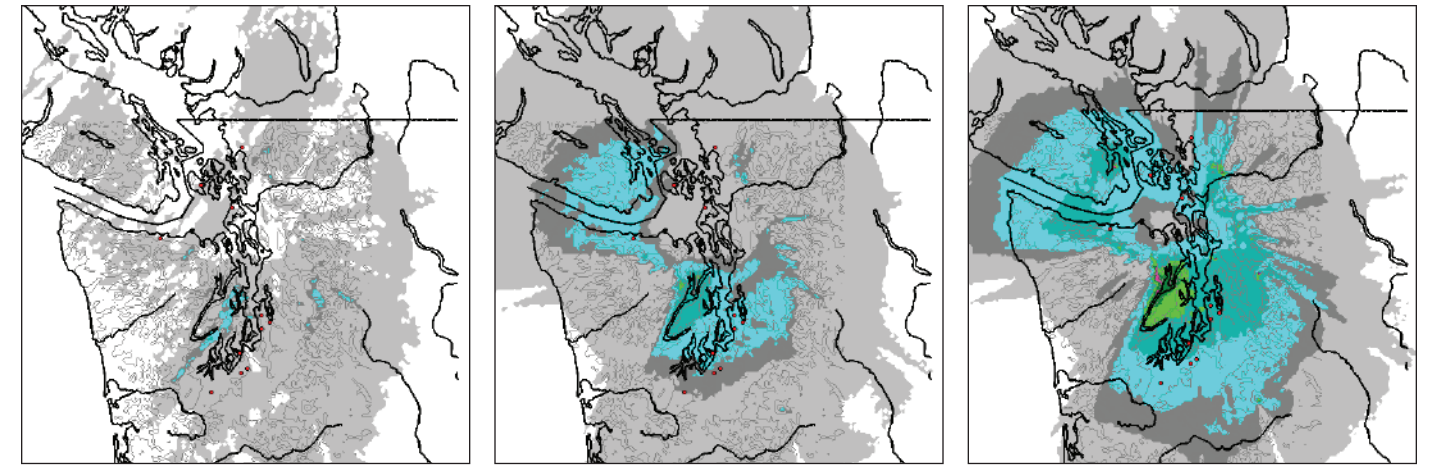
Though Seattle did not experience impacts as great as

in the recent past, the storm dropped enough precipitation to rank as one of the top ten 24-hour storms Seattle has seen in 30 years. Due to RainWatch's pinpoint accuracy,

**"With RainWatch, the possibilities are inspiring."**

—James Rufo Hill, Climate Adaptation Specialist, SPU

SPU was able to determine that in some areas—including West Seattle, Green Lake, and South Park—the amount of rain that fell during this time period was extraordinary, equal to that of a once-every-hundred-years' event. Contrary to forecasts, RainWatch found North Seattle got



A storm unfolds in real time on RainWatch

more rain than expected, while one location in West Seattle received over four inches. Both the in-depth analysis done after the fact, as well as real-time monitoring during the storm just weren't possible using the previous tools. "Without RainWatch, we wouldn't be able to see the totals add up as the event unfolded. Managers and crews are able to see that information while responding. The possibilities are inspiring," says Rufo Hill.

**RainWatch allows the City to better manage and allocate resources to where they are needed most.**

Directing services to where they are needed most allows the City to make smarter choices about how we manage rainfall and allocate assets, a distinct improvement from past models. As RainWatch allows SPU to learn more about how precipitation affects Seattle's system and drainage basins they may adjust the current thresholds for better performance. Turning such knowledge into an increased capacity to respond and manage is an excellent example of how the program extends to use in climate adaptation.

### LOOKING TOWARD THE FUTURE

In September 2011, the National Weather Service is scheduled to begin using a second Doppler radar near Gray's Harbor in Washington State, a development certain to



This above-ground stormwater holding area at 30th Ave E and E John Street operates as community open space when not in use. Photo by Benjamin Lukoff.

enhance the RainWatch system. Combined with the existing radar on Camano Island, the new unit will allow forecasters to better see weather developing upstream, with the second radar expected to improve RainWatch's accuracy and increase its forecast window by up to an hour. Stay tuned for future developments.

**Did you know? You can become an amateur meteorologist! Check Seattle rainfall and storm progress anytime by visiting the RainWatch website at <http://www.atmos.washington.edu/SPU/>.**





## COMMUNITY ENGAGEMENT

*Helping organizations go—and stay—green*

**Building on the success of 2009's Carbon Coach** program, which trained interested Seattle residents in how to be climate change leaders, the City launched the Climate COOLective program, offering a wide variety of community groups the tools to implement a climate-change engagement program tailored for their organization. In October 2010, six organized groups ranging from a Seattle moms group devoted to slowing climate change, to an environmentally active labor union, to a church began a 10-week facilitated training program. The bi-weekly sessions helped groups map out achievable projects, develop strategic campaigns around their goals, and provided tips and tools for getting buy-in from others in their organiza-

tion or group. The goals developed during the training were laudable, from educating community elders on composting and recycling to launching "no idling" campaigns curbside at area schools. Each group received \$3,000 in seed money to get their project off the ground. But the most thrilling part of Climate COOLective is the program's aims to create sustainable models within the organizations themselves, meaning these green efforts don't end with one project. "That capacity-building angle was key," says Sara Wysocki, program manager. "By providing training and supporting the group's own interests, we have helped spark change that is sustainable and built capacity in those organizations to keep it going."

### Labor and Transit Find Common Ground through Climate COOLective

When one thinks of environmental groups, labor unions are perhaps not the first organizations to leap to mind. Yet the AFL-CIO and the King County Labor Council have been working since 2004 to help the state reap the benefits of clean energy, reduce foreign energy dependence, and encourage green jobs. The labor groups are very interested in the significant transit investments the state will realize over the next 20 years, for many reasons. "For us, those investments are good for the environment, and also bring with them green jobs in construction and operation," says Patrick Neville of the King County Labor Council Worker Center. "When I heard about the Office of Sustainability & Environment's COOLective program I thought, here is a great way to engage union members around taking transit themselves. For the workers it would take less time, cost less money, and at the same time support union jobs in transit and even, somewhat indirectly, manufacturing." The Labor Council has over 150 affiliates representing over 75,000 workers in King County in the fields of construction,

manufacturing, services/health, and trade/transportation. The Worker Center found their constituents are in many ways indicative of the regional economy and workforce in general. What began as a small project suddenly had the capacity for big change.

#### **"We went beyond capacity building to community building."**

**—Patrick Neville, King County Labor Council Worker Center**

Inspired, Neville collaborated with other team members in the Worker Center to apply for project funding and take advantage of the targeted training provided by OSE. Neville says that in addition to being well-facilitated, dynamic, and interactive, "it was particularly great that you had to be part of a team in order to participate. We all have our own campaigns and areas and sometimes it's hard to see how all the programs work together. But then we came to see that through our program that transit work brought us together." More than just having their



One COOLective group will have labor workers try transit for their Friday commutes. Photo by Oran Viriyincy.

own team gel around their COOLective project, Neville was surprised to find connections with other organizations that don't operate in the same circles but are working toward similar goals. "We went beyond capacity building to community building. After the training I feel like I could contact anyone in Cool Mom, for example, if we needed to work together. They are parent advocates for climate change. That's a group I didn't know existed before now."

Through the training, the Worker Center developed "Try It on Fridays," a push to encourage union workers to take transit once a week for five weeks through two strategies. The first program strategy uses the \$3,000 seed money to purchase prepaid ORCA cards. Delivered to about 50 union workers who agree to use transit every Friday, the program also tracks workers to see if they refill the ORCA cards when the five weeks are through. "Hopefully they'll see how much time and money they save, getting to spend time with their families instead of waiting in traffic, while reducing their impact on the environment," says Neville. The second "Try It on Fridays" strategy aims to overcome barriers to public transit. One of the barriers the Worker Center found was the lack of bus shelters. Through research, the team found that only about 25% of bus stops in King County have shelters. As that was too large a problem to tackle, they narrowed it down to one

The Washington Physicians for Social Responsibility aim to reduce meat purchasing in one area hospital by 20% within one year, and encourage using the cost savings to buy more sustainable meat. These are the tenets of a national Balanced Menus challenge that has been taken up by 35 healthcare centers outside Washington State. How big of a difference could this make? A study that looked at four pilot California hospitals showed collective reduced greenhouse gas emissions of just over 1,000 tons per year, the equivalent of 100,000 gallons of gasoline.

shelter-less stop in Georgetown. The well-used stop is also currently inaccessible for wheelchairs and of critical importance to the South Seattle Community College students enrolled at the Georgetown campus, the site of career and technical training programs. The group hopes to mount a campaign for improvements and installation of a shelter, involving college students in the work.

### LOOKING TOWARD THE FUTURE

Having fine-tuned their budgets and proposals and finished their training, each COOLective group looks forward to implementation of their diverse projects in 2011. In addition to the AFL-CIO "Try It on Fridays" program, these are the exciting projects COOLective helped launch:

- The Phinney Neighborhood Association will help their staff and community reduce their drive-alone trips
- The local chapter of Cool Mom will launch their "No Idle" campaign at schools
- St. Andrews Church is working with at least 50 households to reduce their energy use
- The Washington Physicians for Social Responsibility are taking up the "Balanced Menus" challenge
- Inter\*Im Community Development Association is training and educating the International District's elder population about waste reduction, including recycling and composting
- Sustainable Belltown is taking on a water reclamation, conservation, and education project in the Belltown P-Patch



## MEASURING PROGRESS

*Reducing City emissions and leading by example*

As you might imagine, providing services to 600,000 Seattle residents leaves a pretty big carbon footprint. Significant greenhouse gas emissions stem from operation of Seattle’s municipal buildings and fleets, from commuting employees, as well as from electricity purchased through contracts to supplement the City’s clean hydropower. In an effort to reduce these emissions and “walk the talk,” the City has integrated carbon-cutting measures into many city policies and employee guidelines. These efforts range from using cement with a lower carbon content for transportation projects, upgrading to energy-efficient boilers and lighting systems, purchasing energy-efficient

fleet vehicles, and closely tracking energy and fuel use consumed by City facilities and vehicles.

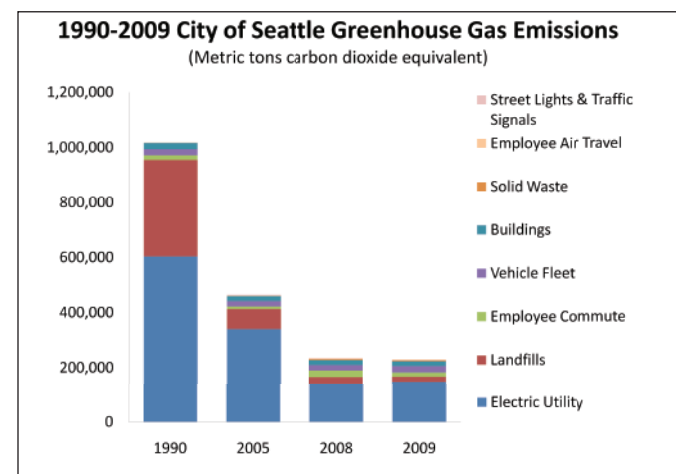
To identify major sources of emissions and areas where reductions are needed, the Office of Sustainability & Environment (OSE) began tracking emissions produced by City operations in 2005, and recently completed an updated inventory of 2008 and 2009 emissions. The inventory is a story from which we can learn, and an important part of the City’s effort to monitor long-term trends in greenhouse gas emissions, a guide for how to reduce those emissions, and a tool to evaluate the impact of climate action strategies.

### Getting a Handle on City Emissions

By examining its own carbon footprint, the City of Seattle looks for ways to reduce the impact of government operations and lead by example. The major sources of emissions for Seattle’s government operations summarized here are electricity generation, vehicles, closed landfills, buildings, employee commutes, and traffic signals and streetlights. **Electricity Generation:** While Seattle City Light (SCL) offsets their emissions, for the purposes of this inventory we considered these emissions before the offsets were applied. The lion’s share of the City emissions comes from SCL contracts for power needs beyond our own hydroelectric-generation capacity. Seattle City Light’s investments in energy conservation and electricity from renewable sources have helped the utility to move away from natural gas- and coal-derived electricity, further reducing the already low carbon intensity of Seattle’s electricity.

**Vehicle Fleet:** The City’s efforts to purchase high-efficiency vehicles are paying off. Since 2005, gasoline consumption by City departments declined by 264,000, a 16% decrease. This is due to increased use of gasoline-electric hybrid

### Emissions from City Operations 1990–2009

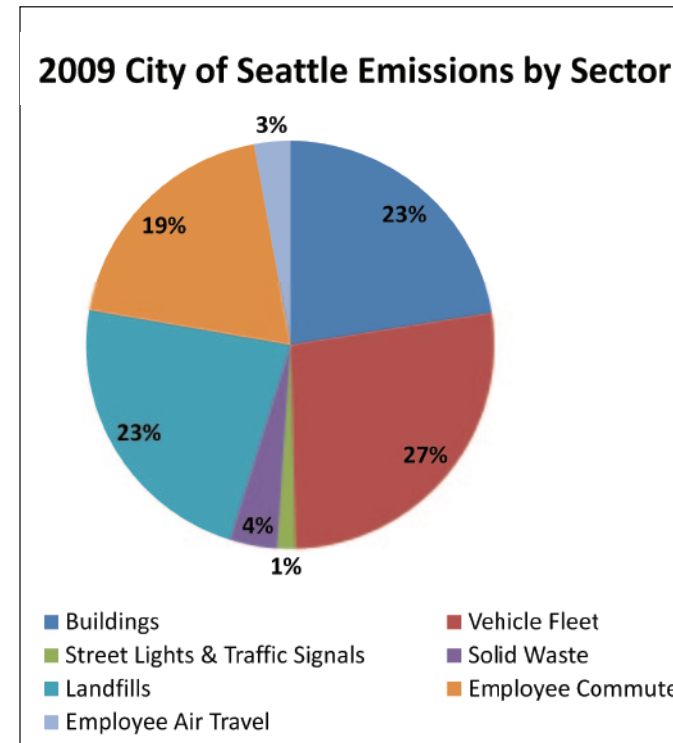


This chart shows the relative share for each of the major sources of our emissions. These “totals” are only a summation of the emissions for those sectors included in the inventory and not an all-inclusive total of emissions from Seattle operations. Best-available estimation methods were used.

vehicles, as well as efforts to carpool, to reduce unnecessary trips, and to use the most efficient vehicle possible.

**Closed Landfills:** Many people may be surprised to learn that one of the largest sources of emissions for the City of Seattle is methane released by decomposing waste in

### Percentage of 2009 Emissions from City Operations by Sector



This chart includes only the portion of electricity emissions that can be attributed to city operations, such as electricity used in buildings and street lights.

six now-closed Seattle landfills. The good news is since the landfills are no longer accepting waste, the emissions will continue to decline over time as materials in the landfill further degrade. Since 2005, the amount of methane released from closed landfills owned by the City has declined by 75%. However, this large emissions source is a good reminder to reduce, reuse, recycle, and compost to keep waste out of landfills.

**Buildings:** City buildings and facilities contribute to greenhouse gas emissions because of electricity and natural gas consumption for heating, cooling, and lighting. Since 2005, building emissions have increased by 18%, from 15,000 to 18,000 tons of CO<sub>2</sub>. When normalized for weather, natural gas consumption, which makes up close to 90% of building emissions, decreased slightly from 2005 to 2009. The City has taken considerable steps to reduce the carbon footprint of city-owned facilities and is in the process of identifying areas where energy efficiency can be improved. The City of Seattle has completed energy audits of 30 municipal

In 2005, Seattle City Light became the first large electric utility in the nation to offset its greenhouse gas emissions, and has continued to meet its net-zero greenhouse gas emissions goal each year since 2005. The impressive decline in electricity emissions from 1990 to 2005 is a result of SCL ending its partial ownership of the Centralia coal-fired power plant. The continued decline in large part is due to the end of a contract to purchase power from a plant powered by natural gas. SCL purchases greenhouse gas offsets equal to its emissions to reach net-zero. Seattle City Light has also made a commitment to meet all new demand primarily through conservation and renewable energy.

buildings. Using information from these audits, the City will retrofit 14 buildings by 2013.

**Employee Commute:** Employee commutes include the emissions from personal and vanpool vehicles. Drive-alone commute trips generate nearly 14,000 tons of carbon dioxide. Although the City of Seattle has an extensive drive-alone commute trip reduction program, the results from the inventory show that additional efforts are needed to encourage City employees to carpool, use transit, walk, or bike to work more, especially to work sites outside of downtown Seattle.

**Traffic Signals & Streetlights:** Since 2005, the amount of emissions produced by the City’s 84,000 streetlights and 1,000 traffic signals has decreased by close to 50%, from 2,300 tons to 1,200 tons of carbon dioxide, primarily due to lower emission electricity sources. The City is currently upgrading the high-pressure sodium streetlights to energy-efficient LED lights, which will result in continued reductions. In 2010, SCL replaced over 5,000 lights and will upgrade an additional 40,000 lights by 2014. These upgrades will reduce energy consumption by 40% compared to current lights.



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