

Tacoma Environmental Action Plan: Progress Report 2016

As residents of Tacoma, we all care about the place where we live. One thing that makes Tacoma special is its physical environment, from its tree-filled parks and public beaches to its views of Mt. Rainier, the Olympic Peninsula and Puget Sound.

Last year, community and City leaders came together to reaffirm our commitment to a clean, healthy environment where both our residents and our economy can thrive. As global climate change continues to affect the world around us, actions prioritized in this Plan aim to ensure that all Tacomans, regardless of socioeconomic status, have the same opportunities to access, participate in and enjoy an even more beautiful and livable city.

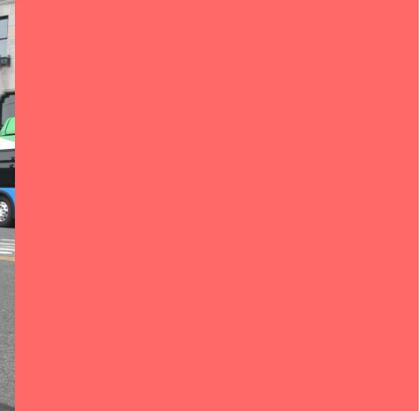
Tacoma's First Annual Environmental Action Plan Progress Report serves as our first check-in on how we, as a city, are doing and if we are on track to meet our five-year targets. Not only does the report summarize our successes, but it also holds us accountable to our stewardship responsibilities.

To learn more and join the effort, visit www.cityoftacoma.org/sustainability.

Sincerely,



Marilyn Strickland
Mayor





What is the Environmental Action Plan and Its Intent?

The Environmental Action Plan (EAP) is a list of meaningful, high-priority actions that the City of Tacoma and our community will take between 2016 and 2020 to meet the environmental goals outlined in the Tacoma 2025 Strategic Plan.

Replacing the 2008 Climate Action Plan and building on the 2016 Climate Change Risk Assessment, the EAP presents near-term sustainability targets and actions in each of the following categories: Buildings and Energy; Transportation; Materials Management; Natural Systems; Air and Local Food; and Climate Resiliency.

The EAP was developed over nine months in a collaborative process with staff from multiple city departments, representatives of partner organizations, and citizens of Tacoma.

Co-Benefits of Environmental Actions

During EAP development, co-benefits were considered in recognition of the reality that targeted investments in our environment often have significant economic and social benefits beyond the anticipated environmental ones. The six co-benefits are below.



2016 Progress Report

This report contains near-term **targets**, which track progress toward major goals, and **actions** designed to help accomplish these targets. A **progress rating** and **2016 status** is given for each action.

Look for **stories of success** throughout the report to see some of the exciting accomplishments made this year in each EAP category.





Buildings and Energy

TARGETS



Achieve all cost effective electricity conservation savings.

2017

239 mil kWh conserved

2016

222 mil kWh



2010-2015

196 mil kWh conserved

Reduce water use at City facilities by 10%.

2014

102,252 CCF

2016

99,810 CCF



2020

92,207 CCF

Increase water conservation.

2017

273 mil gal conserved

2011-2015

228 mil gal conserved



2016

171 mil gal conserved

Reduce energy use in City General Government buildings by 10%.

2015

151 million kBtu

2016

144 million kBtu



2020

136 million kBtu

Fund all cost-effective low income residential conservation spending.

2017

\$16.8 million

2016

\$14.6 million



2010-2015

\$13.4 million

Certify 20% more buildings as LEED.

2020

49 buildings certified

2016

44 buildings certified



2015

41 buildings certified

Reduce electricity use in City operations by 10%.

2015

91.7 kWh

2016

90.6 kWh



2020

82.5 kWh

Increase solar power by 26%.

2016

1,600 kW



2020

1,012 kW

2015

803 kW

Certify 100% more buildings as Energy Star.

2020

77 buildings certified

2016

14 buildings certified



2015

14 buildings certified



Action	Progress Rating (1-5)	2016 Status
B1 Meet I-937, the Washington State Energy Independence Act, energy conservation targets which require utilities to achieve all cost-effective energy conservation measures.	4	Tacoma Power acquired 25.95 million kWh of energy conservation savings. These savings provide enough power for heating and lighting 2,076 homes.
B2 Develop a pilot commercial program focused on reducing utility costs through improving building operations and maintenance.	3	Commercial program will launch in 2017. Six Strategic Energy Management projects were completed with large industrial energy users providing 3.7 million kWh in energy savings.
B3 Continue to develop water conservation incentives, rebates and education for residential, commercial and industrial customers.	3	Tacoma Water engaged in community outreach activities, workshops, fixture giveaways, and television appearances.
B4 Hire a green building advocate for the city's Permit Office to identify incentives, remove barriers, and encourage green building practices.	1	Need to develop implementation plan for green building advocacy and education.
B5 Retain funding for low income energy efficiency programs.	4	Tacoma Power provided low income assistance to 236 projects in 212 low-income homes/buildings saving 986,050 kWh at a cost of \$1.2 million.
B6 Support efforts at the state and local level to incentivize conservation in rental properties.	3	382 single family and multifamily projects completed using \$1.4 million in incentives, providing 2.1 million kWh in energy savings. Tacoma Water continues to offer efficient fixtures to rental customers.
B7 Work with regional partners to increase cost effective energy efficiency standards in the State Energy Code. Participate actively to revise the State Building Code to incorporate performance that targets net-zero energy by 2030.	4	TPU facilitated revision of, and PDS adopted 2015 State energy codes, increasing the energy efficiency standards for building construction, especially residential buildings.
B8 Develop community-owned solar projects and support distributed generation.	5	Tacoma Power built and fully subscribed four 75-kW projects. Slightly more than 1000 customers participate in the Program. Rooftop solar customers grew from 216 to 340 in 2016.
B9 Promote transparency, investment and competition of energy and water performance by requiring commercial benchmarking and disclosure through EPA's Energy Star utility tracking system. Increase awareness of the system and provide technical assistance to customers to better track and monitor building energy use.	2	Not anticipated to begin work on ordinance until 2018. Tacoma Power will be working with large customers on automated but voluntary reporting in 2017.

1: None 2: Little Progress 3: Some Progress 4: Good Progress 5: Completed



Action	Progress Rating (1-5)	2016 Status
B10 Upgrade all streetlights to LED where cost effective and use best practices when possible to reduce light pollution.	 3	Updated lighting engineering design and construction specifications to Dark Sky standards. General Government is teaming with Tacoma Power to upgrade approximately three-quarters of Public Works' streetlighting fixtures to LED.
B11 Track and report city buildings' utility performance and Energy Star scores. Develop a Resource Conservation Management (RCM) Plan.	 2	General government facilities set up to track energy use and costs. Energy Team formed, but without a Resource Conservation Manager, only incremental and opportunistic progress will be made.
B12 Meet federal Better Building Challenge goal (10% reduction in 5 years) by implementing energy efficiency in city buildings where cost effective.	 3	Established a baseline and energy tracking system for City buildings. PW Facilities implements cost effective energy efficiency projects as part of general maintenance. There are currently no capital projects budgeted in 2017-2018 geared directly towards energy efficiency. TPU will be installing in 2017 interval meters at the TPU Admin Complex to provide consumption data for the campus that will assist energy conservation efforts.
B13 Ensure all existing occupied LEED New Construction buildings comply with LEED Existing Building Operations and Maintenance guidelines.	 2	No progress on Solid Waste Admin or Transfer Center buildings yet. Police Dept. Headquarters conducted initial audit and potential challenges emerged. Next steps are to identify high priority action items from the audit in order to request funding for capital improvements if LEED EBOM is feasible for the facility. The Center for Urban Waters began the LEED EBOM process and will complete it in 2017.

1: None 2: Little Progress 3: Some Progress 4: Good Progress 5: Completed

Tacoma Public Utilities Community Solar Project

In the winter of 2016, Tacoma Power constructed its Community Solar Project, consisting of four 75-kilowatt solar projects on the warehouse roof. More than **1,000 customers** purchased solar units (up to 20 each) for \$100 per unit. Participants earn Washington State renewable energy production incentives and the value of solar electricity generated by the project – a total of \$1.12 per kilowatt hour. In its first full year, the project produced 15% more electricity than originally modeled.





Transportation

TARGETS



Decrease single occupancy vehicle trips by 7% of 2015 levels.

2016
84%

2015

77%

2020

70%



Reduce bicycle and pedestrian collisions in low income neighborhoods and communities of color by 50% of 2015 collisions.

2015

276 collisions

2016

163 collisions

2020

138 collisions



Decrease fossil fuel use by 15% of 2014 levels.

2016
1.99 mil gal

2014

1.96 mil gal

2020

1.67 mil gal



Decrease city employee single occupancy vehicle trips by 5% of 2015 levels.

2015

75%

2016
75%

2020

70%



Register 2,000 electric vehicles by 2020.

2020

2,000 registered

Data available July 2017

2015

383 registered



Increase pedestrian counts by 15% of 2015 counts (as measured during annual Bicycle/Pedestrian Count Week).

2020

4,188

2015

3,642

2016
2,510



Increase miles of bicycle infrastructure by 35% of 2015 miles.

2020

83 miles

2016

62.1 miles

2015

61 miles





Action	Progress Rating (1-5)	2016 Status
T1 Develop education programs and materials for the public on benefits and practicalities of electric vehicles.	2	Held two well attended electric vehicle workshops. Applied for grant, but was unsuccessful. Sustainability Office will work with Tacoma Power to jointly develop outreach campaign and materials.
T2 Establish dedicated and stable funding for active transportation education, encouragement, safety programs, and infrastructure improvements.	3	Through the Tacoma Streets Initiative, \$2.5 million/year is dedicated to active transportation.
T3 Synchronize and recalibrate the timing of traffic signals on all Tacoma arterials. Repair, improve, or upgrade infrastructure as needed to maximize signal efficiency.	2	Acquired grant funding to synchronize ~10% of the City's traffic signals. Have acquired no dedicated funding for infrastructure specific to traffic signal efficiency upgrades.
T4 Become a Bicycle Friendly Silver Community by implementing the next 5 prioritized Mobility Master Plan roadway projects and next 3 trail projects.	2	Grant funding received to implement several Mobility Master Plan projects in 2018.
T5 Support 4 multi-year Safe Routes to School Programs and infrastructure improvements.	3	Safe Routes to School Strategic Plan is underway, with expected completion in April 2017. Funding has been secured for improvements at two schools.
T6 Create a grant program that supports walking, biking, and transit projects in business districts and designated centers.	1	Innovative grants for business districts can no longer be used on projects in the right of way. No other grant program has been developed.
T7 Develop sidewalk, curb ramp and crosswalk inventories to prioritize future investments, as part of a Pedestrian Mobility Strategy.	2	Hired consultant to provide sidewalk inventory data, expect to have it completed by April 2017. Public Works partnered with UWT to develop an app allowing City inspectors to inventory and provide conditions on curb ramps. Over 20 locations were inventoried in the pilot program.
T8 Advocate at the state and national levels for policies and programs that provide incentives for Tacoma residents to use more fuel-efficient and alternative-fuel vehicles.	2	Electric vehicle support is in the City's Legislative Manual approved by the City Council.
T9 Advocate for strong Sound Transit and Pierce Transit policies and funding, including South corridor ST3 projects and Pierce Transit bus rapid transit on Route 1.	4	Tacoma City Council actively supported the ST3 ballot measure and staff will work with Pierce Transit on scoping and public engagement for the Pacific Avenue Route 1 Bus Rapid Transit corridor in 2017/2018.

1: None 2: Little Progress 3: Some Progress 4: Good Progress 5: Completed



Action	Progress Rating (1-5)	2016 Status
T10 Equip operationally appropriate city vehicles with petroleum fuel saving and/or anti-idling technology.	3	TPU Fleet Services will test Automatic Vehicle Location (AVL) data collection with the goal to implement idle-reduction technology on TPU fleet vehicles. TPU Fleet services purchased four more plug-in-electric vehicles. The Police Department tested in 2015 an anti-idle system on new SUVs, but found the technology has not reached a point where it is operationally feasible. A proven strategy to reduce fuel use is to replace aging vehicles with more fuel efficient models. The General Government fleet has over 400 vehicles past due for replacement, equating to over \$24M. The 2017-2018 budget includes \$5M to aid in this replacement effort.
T11 Convert solid waste trucks from diesel to renewable natural gas made from methane captured at the wastewater treatment plant.	3	20 Solid Waste trucks (~25%) were converted to Certified Natural Gas with more ordered for arrival. This contributed to a reduction of 25,000 gallons of diesel. Renewable natural gas from the treatment plan will be online in 2018.
T12 Develop, implement, and monitor a Fuel Reduction Policy and associated education and awareness campaigns for both employee commuting and city trips.	1	Without an internal focused Resource Conservation Manager, only incremental and opportunistic progress will be made, such as promoting Downtown on the Go and Pierce Trips programs to staff.
T13 Update the City's telecommuting policy and flexible work schedule to foster increased use when it meets city business needs.	1	Existing policies were written in 2002 and 2009. Implementation is inconsistent and not applied or promoted consistently.
T14 Join West Coast Electric Fleets at the Highway Lane Level in 2016.	1	TPU and General Government Fleet Managers are evaluating their fleet for EV opportunities and will be joining in 2017.
T15 Develop and incorporate contractor fuel emissions reduction standards into bids and contracts.	1	Without an internal focused Resource Conservation Manager, only incremental and opportunistic progress will be made on sustainable purchasing.

1: None 2: Little Progress 3: Some Progress 4: Good Progress 5: Completed

Funds Dedicated to Active Transportation

2016 was a regrouping year for Active Transportation at the City of Tacoma. A new Coordinator was hired and projects were prioritized for the local 2015 Streets Initiative Funding. Over **\$5 million in critical grant match** was secured to begin 5 projects in 2017. A total of \$20 million of Streets Initiative funding will be dedicated to active transportation projects over the next 10 years.





Materials Management

TARGETS

Decrease waste generation by 11% per capita per day. **2016** 4.8 lbs.

2014

4.4 lbs.

2020

3.9 lbs.



Increase multi-family recycling accounts.

2020

1,160 accounts

2015

1,105 accounts

2016

1,026 accounts



Double commercial composting accounts. **2016** 270 accounts

2020

220 accounts

2015

110 accounts



Increase amount of waste diverted from the landfill by 5%.

2020

60%

No new data in 2016

2015

55%



Bring Your Own Bag Ordinance

The Tacoma City Council passed the Bring Your Own Bag (BYOB) ordinance on July 12, 2016. The law goes into effect one year after passage, and helps address the litter and waste created by both disposable plastic and paper checkout bags. BYOB encourages shoppers to bring their own bag, as retailers will no longer be able to distribute disposable plastic bags. If shoppers forget their bags, they can pay \$0.05 (minimum) for a paper or other qualifying checkout bag. Tacoma is now one of 16 communities in Washington State that have taken similar action to keep our communities, land and waterways clean and healthy.





Materials Management

ACTIONS



Action	Progress Rating (1-5)	2016 Status
M1 Develop Construction and Demolition Diversion program that includes education, reporting, regulation and enforcement.		Solid Waste Dept. is evaluating options and will develop an Implementation Workplan in 2017.
M2 Support and advocate for strong product stewardship policies at the state and national levels, minimizing environmental impacts of product and packaging throughout all lifecycle stages, especially manufacturing.		Solid Waste Dept. provides funding for Northwest Product Stewardship Council and the sustainability office actively participates.
M3 Provide financial incentives to increase diversion of materials at the Tacoma Recovery and Transfer Center.		Research has started on market pricing for clean wood and related technologies for maximizing recovery efforts.
M4 Conduct and support education and outreach on waste prevention (including food) and toxic reduction, with focused outreach to communities of color.		A food waste prevention pilot launched including a webpage, resident Challenge, public outreach, workshops, and informational packet for commercial food waste donation. A general waste prevention webpage is in development. Two Healthy Homes, Healthy Neighborhoods campaigns shared food waste messaging (Hilltop and Lincoln Districts).
M5 Incentivize the use of sink food grinders as a strategy for beneficial use of food scraps. Food sent to the wastewater treatment plant is used as Tagro and can be turned into renewable natural gas.		The use of disposals is currently recommended when appropriate but no financial incentives are in place at this time.
M6 Provide recycling and composting education and outreach targeted at multifamily property managers and tenants.		Increase in overall commercial yard and food waste customers, but focused efforts on multi-family will begin in 2017.
M7 Require new buildings to provide adequate space and receptacles for recycling and organics storage and collection.		Solid Waste staff is currently reviewing building and site development plans for new construction project permits to ensure there is adequate space for garbage, recycling, and organics.
M8 Enhance opportunities to sort and drop-off reusable and recyclable materials at the Tacoma Recovery and Transfer Center through better signage, enhanced floor sorts, and drop-off area.		Some improved signage and re-organization of the material areas have been implemented. A contract with local reuse non-profits is in place.
M9 Reduce disposable bag use by shoppers.		Tacoma City Council adopted the Bring Your Own Bag Ordinance on July 12, 2016. It goes into effect on July 12, 2017.

1: None 2: Little Progress 3: Some Progress 4: Good Progress 5: Completed



Materials Management

ACTIONS



Action	Progress Rating (1-5)	2016 Status
M10 Ensure compliance with existing Sustainable Purchasing Policy, including increasing staff training.	1	Without an internal focused Resource Conservation Manager, only basic sustainable purchasing will occur. Procurement and Payables staff support Department purchasing contracts, but no additional monitoring or training has been conducted.
M11 Conduct waste characterization audits at 4 city facilities in order to develop better strategies for waste minimization and diversion.	2	TPU has been engaged with Solid Waste Dept. on this effort. The TPU administration complex has established measurement of seven different waste and recycling streams with a current recycling rate above 40%.
M12 Increase materials surplus recovery and sale of city-owned goods and building demolitions.	1	Without an internal focused Resource Conservation Manager, only opportunistic progress will be made.
M13 Use low-carbon concrete or asphalt made with a percentage of recycled asphalt and/or recycled asphalt shingles in city projects, including streets, where feasible and applicable.	2	The City's asphalt shingle recycling plant is not in operation, though a project was done to keep rainwater out of the manufacturing process when it begins, which may be in the summer of 2018.

1: None 2: Little Progress 3: Some Progress 4: Good Progress 5: Completed

Preventing Wasted Food

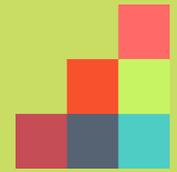
The Office of Environmental Policy and Sustainability launched a residentially focused Preventing Wasted Food program in an effort to reduce the amount of edible food sent to the landfill or composted. Wasting food wastes significant amounts of natural resources and contributes emissions to climate change. Based on a program developed by the Environmental Protection Agency, the program engages with residents at community events and through workshops with the goal of attaining participants in the Food: Too Good To Waste Challenge. In 2016, the 4-week at-home challenge resulted in an average 56% reduction in the amount of preventable wasted food being disposed of. The program will continue in 2017.





Natural Systems

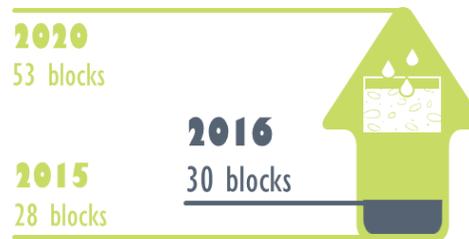
TARGETS



Increase acres managed by Green Stormwater Infrastructure.



Increase blocks of new permeable residential streets.



Increase volunteers engaged in stewardship activities and programs by 20%.



Increase acres of actively managed open space ecosystem habitat by 52%.



Increase tree canopies, focusing on low income neighborhoods and communities of color most susceptible to heat island effect.



Point Defiance Regional Stormwater Treatment Facility

In 2015, Metro Parks Tacoma and the City of Tacoma joined forces to create an innovative water treatment system designed to improve Puget Sound water quality. Using natural processes, without requiring energy or chemicals, runoff is intercepted, cleaned and sent on its way to Puget Sound. The 5,500-square-foot project is the largest of its kind in the world and features a series of six cascading pools that channels runoff from streets and properties as far south as North 30th Street. Before this facility was built, polluted stormwater flowed untreated before spilling into the Sound near Point Defiance Marina. The facility treats 480 acres.





Action	Progress Rating (1-5)	2016 Status
N1 Reduce stormwater quantity and/or increase quality in each of the city's watersheds by developing Management Plans that use best practices appropriate to each watershed's natural and built conditions.	3	Developed a preliminary GIS-based environmental evaluation strategy for Tacoma's nine watersheds. It will be used to develop Management Plans to prioritize areas for reducing stormwater quantity and/or increasing quality.
N2 Implement code that discourages development on lands where such development would endanger life, property or infrastructure, or important ecological functions.	1	Under consideration for the 2017-2018 Comprehensive Plan and Land Use Regulatory Amendment work program. The final scope of work and schedule for adoption will be completed in May.
N3 Develop Urban Forestry Implementation Strategy for strategic and equitable planting locations, incentives, public engagement, retention strategies and maintenance. Create stable funding for implementation.	2	The budget for the Urban Forest Management Plan has been allocated in the 2017/18 biennium, which will define the level of services for these EAP actions.
N4 Plan, create incentives for, and support green stormwater retrofit projects such as rain gardens and other low-impact designs.	4	A low impact development stormwater rate reduction was updated. Green Stormwater Infrastructure (GSI) guidelines, specifications, and drawings have been developed to assist in design and construction of those projects. The City participated in two Depave projects.
N5 Develop and manage an Open Space program based on watershed planning that seeks to own most valuable properties and effectively manages and restores habitat, using volunteers as appropriate.	3	Currently in the strategic planning process for OS to be completed in 2017. Will include a prioritization exercise. A volunteer program is also in the process of being developed and will be actively implemented in 2017.
N6 Improve regulations to encourage tree preservation and protection on private property and in the city right-of-way.	2	City Staff have developed recommendations for regulation changes for tree preservation and will begin the code update process in 2017.
N7 Create a public education campaign, targeted outreach effort or incentives to inform residents and/or plant sellers about the benefits of native and pollinator-friendly species and the hazards of invasive species.	1	A robust education and outreach campaign will be implemented during the development of the Urban Forest Management Plan.
N8 Adopt and implement Landscaping Manual and Integrated Pest Management Policy and Plan for all City facilities and train staff.	1	Environmental Services staff will develop a work plan for Integrated Pest Management in 2017.
N9 Retrofit one City facility with Green Stormwater Infrastructure.	3	Several facilities were evaluated to determine feasibility for GSI retrofitting. Field studies for infiltration are moving forward on appropriate sites.

1: None 2: Little Progress 3: Some Progress 4: Good Progress 5: Completed



Air and Local Food

TARGETS



Meet healthy fine particle pollution levels 365 days a year (in 2015, 9 days were above healthy particle levels).

2020
365 days

2015
356 days

2016
358 days



Increase number of low income neighborhoods and communities of color with community gardens by 14%.

2020
16 gardens

2015
14 gardens

2016
14 gardens



Wood Stove Removal Program

In October 2015, the Wood Stove Rule was passed making it illegal to own or operate an uncertified wood stove in the Smoke Reduction Zone. Air Safe Pierce County is helping residents who have old or uncertified wood stoves or fireplace inserts move on to better heat. With funding from the Department of Ecology and the Puget Sound Clean Air Agency, they were able to offer Wood Stove Buy Back and Wood Stove Replacement programs. In 2016, the programs **changed out or scrapped 884 uncertified woodstoves** and made great progress towards reducing fine particle pollution and cleaning up our air.



Eastside Farmers Market Opens

The Eastside Farmers Market sits in the heart of the Salishan. Located between two low-income senior living facilities the Eastside market provided access to fresh, healthy, local food to **250-300 qualifying seniors** each week who would have trouble accessing otherwise.

In addition, the Market ran a Fresh Bucks EBT (Food Stamps) matching program, worked with Tacoma Housing Authority Residents and WSU Extension to provide transportation and market navigation services at the market, and worked with the Salishan Community Health Advocates to provide translation services in Khmer, Vietnamese, Korean, Spanish, and Russian.





Action	Progress Rating (1-5)	2016 Status
A1 Continue to collaboratively seek federal and state funding for reducing wood smoke pollution.	4	The City continues to support the woodstove change out program administered by the Tacoma-Pierce County Health Department.
A2 Sustain and grow community garden program through enhanced garden support and education.	4	Additional funding was provided by the City to continue to support community gardens and their many social and environmental benefits.
A3 Create and fund a reporting system and feedback forum for the city to hear from those suffering from food insecurity.	2	Starting to work with the Puyallup Watershed Initiative's Just and Healthy Food System Community of Interest to support and listen to those suffering from food insecurity.
A4 Support gleaning (harvesting produce left over in fields and home and community gardens for donation) in Tacoma through funding and outreach.	1	City of Tacoma will begin support in 2017 for Pierce Conservation District's successful gleaning program.
A5 Support urban agriculture and clear legal hurdles so citizens can sell produce grown in the city.	1	Research and program development will begin in 2017.
A6 Support innovative projects to encourage more disadvantaged citizens to shop at farmer's markets.	3	The City has provided financial and support for the farmer's markets for many years, but plans to work with them more intentionally starting in 2017.
A7 Pilot 1 - 2 small-scale urban agriculture programs on public land.	1	Not anticipated to begin work until 2018.
A8 Implement community supported agriculture (CSA) pick-up at 4 city facilities for employees.	1	No existing staff resources available to develop program.

1: None 2: Little Progress 3: Some Progress 4: Good Progress 5: Completed



Climate Resiliency

TARGETS



Complete sea level and flooding studies.



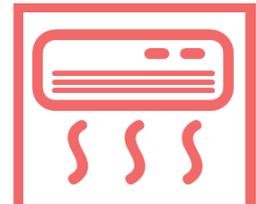
2020 = 2 studies

Incorporate climate risks into formal asset management, Capital Improvement Plans and implementation, and emergency management plans.



2020 = Planning and implementation

Have adequate and accessible cooling stations to address heat waves.



2020 = cooling stations

Use information from completed studies to modify development codes, ensuring safety and resiliency.



2020 = Improved safety and resiliency

Educate the public on risks of climate change and opportunities for climate resilience and adaptation.



2020 = Public education on climate

Identify which public infrastructures and facilities are at unacceptable risk from climate change; prioritize adaptations for these elements.



2020 = Assess infrastructure needs

Washington Coastal Resilience Grant

The Coastal Resilience Project is a three-year effort to rapidly increase the state's capacity to prepare for natural events that threaten the coast, such as coastal flooding, wave damage and shoreline erosion which will increase as climate change continues. The **City of Tacoma is acting as a case study** to help understand resilience issues at a local scale by lending its tideflats, steep slopes, restoration projects and Owen Beach to study. Grant partners include Washington Sea Grant and WA Department of Ecology as leads, and UW's Climate Impacts Group, U.S. Geological Survey, U.S. Department of Energy and others.





Action	Progress Rating (1-5)	2016 Status
C1 Incorporate climate resilience actions into equity initiatives and programs, and consider future climate risk in emergency planning and hazard mitigation plan updates.	1	No progress made.
C2 Preserve and expand urban forest canopies with climate resilient species based on heat island data analysis.	3	The City uses resilient trees species on capital improvement projects and published a list of urban resilient trees in the Urban Forest Manual. This list is updated periodically to accommodate new species.
C3 Prioritize the most vulnerable neighborhoods for capital improvement, development, and planning activities to ensure that these communities receive the services they need to build resilience to climate change and other stressors.	1	No progress made.
C4 Begin a conversation with the business community around climate impacts and resilience.	1	The WA Coastal Resilience Grant project will include a workshop on the impact of SLR on the tideflats, which will include members from businesses and The Port of Tacoma.
C5 Engage with and support community organizations that enhance community resilience.	1	No progress made.
C6 Ensure that near-term capital improvement projects consider climate change risks.	2	Consultant recommended changes to the City's design storms to handle changes in rainfall patterns. City stormwater conveyance capital projects are evaluated with more intense rainfall events than required by the design manual. Pipes are upsized for more intense storms, where appropriate.

1: None 2: Little Progress 3: Some Progress 4: Good Progress 5: Completed



Action	Progress Rating (1-5)	2016 Status
C7 Conduct additional studies (including data gathering, research, and mapping) to identify infrastructure that will be impacted by sea level rise and flooding.	2	The WA Coastal Resilience Grant will be complete in 2018, providing probabilistic sea level rise data for WA coastal areas.
C8 Inspect, maintain, and upgrade critical infrastructure.	3	As a requirement of our NPDES permit and as part of our Asset Mgmt Program, we inspect all facilities after any rainfall event that is greater than a 10 year event (3 inches in 24 hours).
C9 Preserve remaining natural areas, and provide more guidance and specifications on incorporating climate science in habitat restoration plans.	3	The City engages in passive open space restoration which contributes to ecosystem resiliency and adaptability.
C10 Evaluate the development code related to landslide and flooding hazards.	2	Consultant recommended changes to the City's design storms to handle changes in rainfall patterns. Evaluating what changes are needed to the City's Stormwater Management Manual. Under consideration for the 2017-2018 Comprehensive Plan and Land Use Regulatory Amendment work program.
C11 Integrate climate change considerations (e.g., increased sediment, increased flow, increased sea level) into current and near-term work for Puyallup River flood planning.	1	No progress made.

1: None 2: Little Progress 3: Some Progress 4: Good Progress 5: Completed