

# A Healthy City

The City of Portland strives to be a leader in environmental sustainability.

**THE CITY IS ENGAGED** in a diverse range of environmental partnerships, programs, and policy initiatives in areas as varied as water quality, forestry, energy efficiency and climate change preparedness. Collectively, these efforts show the city's ongoing commitment to a more sustainable future. The environmental challenges facing Portland - from aging infrastructure to the water quality of Casco Bay and climate change - have local, regional, and even global implications that require both local action and regional coordination.

Portland's urban fabric will inform our approach to environmental resiliency. Portland's forestry resources are not only in its protected open spaces, but also along shorelines, within stream corridors and in city streets. Agriculture is thriving in the city's community gardens and in the expanding food economy located in East Bayside and beyond, which provides critical capacity for food manufacturing, production, and transport. Energy consumption will be reduced through innovations in building construction and new technologies, as well as through the energy efficiencies of multi-family buildings and the cumulative reduction in auto use enabled by a compact, multi-modal city.

Portland's built environment and natural environment are inseparable in any consideration of a sustainable quality of place. As Maine's largest city, Portland embodies core tenets of sustainable urbanism in its compact form and function, enabling efficiencies in resource consumption, waste reduction, and resiliency. Portland's diversity of housing types and increased densities, strong neighborhoods, proximity of residences to employment, and viability for multi-modal transportation offer a durable framework to build upon and enhance.



SNAPSHOT:  
**ENVIRONMENT**

**STATE GOALS**

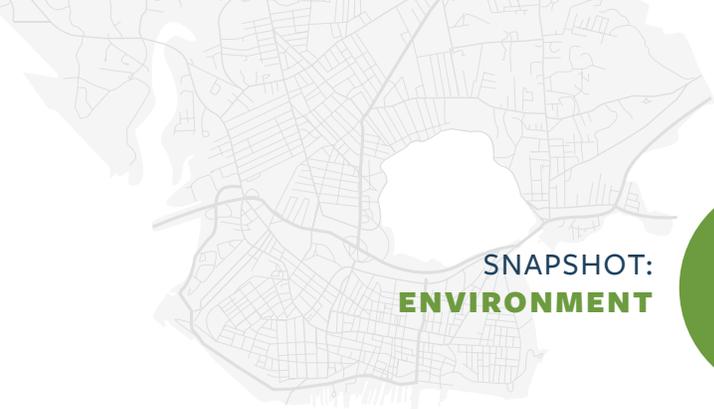
- To protect the quality and manage the quantity of the State’s water resources, including lakes, aquifers, great ponds, estuaries, rivers, and coastal areas.
- To protect the State’s other critical natural resources, including without limitation, wetlands, wildlife and fisheries habitat, sand dunes, shorelands, scenic vistas, and unique natural areas.
- To safeguard the State’s agricultural and forest resources from development which threatens those resources.

**LOCAL GOALS**

**WE WILL:**

- Identify and protect Portland’s critical natural resources.
- Restore impaired waterbodies through local efforts and in collaboration with regional partners.
- Support agricultural and forest resources appropriate to our urban context.
- Develop climate resilience through specific carbon reduction goals, comprehensive climate adaptation strategies, and protections for the city’s most vulnerable infrastructure.
- Make energy efficiency and renewable energy measures a city-wide priority.
- Adopt sustainable land use and transportation policies that support connectivity, walkable neighborhoods, and multi-modal transportation.
- Minimize the generation and environmental impacts of solid waste.

# FUTURE STRATEGIES



SNAPSHOT:  
ENVIRONMENT

## 1. ADOPT MEASURABLE OBJECTIVES

- Track performance on key environmental indicators.
- Develop reporting mechanisms to keep staff and leadership apprised of performance.
- Explore national best practices in developing metrics.

## 2. IMPROVE WATER QUALITY

- Collaborate with local non-profits, research organizations, developers, and surrounding communities to achieve cleaner waters.
- Minimize impacts to the city's waterways by reducing combined sewer overflows and implementing stormwater best management practices.
- Coordinate water and sewer infrastructure improvements with anticipated new growth areas.
- Incorporate additional Low Impact Development (LID) standards into city codes.
- Implement watershed management plans for impaired waterways.

## 3. PROTECT NATURAL RESOURCES

- Remain current with Maine DEP Shoreland Zoning direction for natural resource protection.
- Implement land use tools for increased protection of impaired streams.
- Recognize the particular needs of sensitive island ecologies by continuing to support land use policies that protect groundwater supplies;

preserving valuable environmental resources on each island, such as shoreline and water resources; promoting alternative and sustainable energy resources for the island communities; and implementing sustainable and low-impact measures for both maintenance and development on the islands, including stormwater management, infrastructure improvements, and management of invasive species.

## 4. SUPPORT AGRICULTURAL AND FOREST RESOURCES

- Increase the total number of and access to community garden plots to meet demand.
- Support programs that increase healthy food access for all, including students in the Portland Public Schools and other city-run institutions.
- Support a healthy, resilient, and sustainable food system by collaborating with local stakeholders.
- Support and recognize Portland's role as a thriving food economy in city codes and policies.
- Increase the urban tree canopy 15% above current canopy coverage.
- Model economically sound landscape management practices, such as planting for pollinators, planting native species, and limiting the use of pesticides and fertilizers.

## 5. DEVELOP CLIMATE RESILIENCE

- Evaluate the capacity of municipal infrastructure to meet or exceed needs associated with increased flooding impacts.

- Collaborate with surrounding municipalities to strengthen comprehensive climate change adaptation and mitigation planning.
- Continue to participate in the FEMA Community Rating System, which qualifies the city for discounts on flood insurance and certain emergency financial assistance.
- Pursue strategic study, investment, code changes and education where storm surge and sea level rise impacts are anticipated to be most severe, including the waterfront and Bayside, as well as others identified in the 2013 Sea Level Rise Vulnerability Assessment.

## 6. SUPPORT SUSTAINABLE ENERGY PRODUCTION AND CONSUMPTION

- Reduce city-wide non-renewable energy consumption through policies that support public and private investments in alternative energy sources.
- Explore possible adoption of an energy disclosure ordinance for larger commercial and multi-family buildings, in an effort to reduce Portland's greenhouse gas emissions and improve the energy performance of the city's building stock.
- Pursue strategic opportunities to site solar arrays on city property, including roof tops, landfills and suitable open spaces.
- Implement policies to support distributed energy generation technologies, such as combined heat and power systems, community solar farms, storage, and other emerging technologies that can increase resilience and reduce consumption of fossil fuels.



## LOW IMPACT DEVELOPMENT AND GREEN INFRASTRUCTURE

For years, stormwater in Portland, as in communities all over the country, has collected in the city's combined sewer system and from there traveled to the city's sewage treatment plant. In periods of heavy rain, the capacity of the system can be exceeded, resulting in combined sewer overflows (CSOs), where untreated wastewater flows directly into our streams, rivers, and ocean, often carrying pollutants with it. In the past several decades, the city has made efforts to separate municipal stormwater and sewer systems as a means of better managing periods of high runoff and avoiding CSOs, and the quantity of untreated discharge events has decreased dramatically. More recently, the city has also aggressively pursued Low Impact Development and Green Infrastructure strategies, which are designed to manage stormwater through natural (green) systems as opposed to engineered (and gray) ones. Through LID and green infrastructure, public and private property owners in Portland are collecting and treating more stormwater in ways that mimic the natural environment - through rain gardens, bioswales, wetland restoration, and green roofs that use the inherent properties of plants and soils to filter pollutants and reduce flooding. What's more, these green infrastructure solutions provide clear and dramatic side benefits by creating habitat, enhancing air quality, enhancing the landscape, and supporting climate resiliency.

## 7. SUPPORT SUSTAINABLE LAND USE AND TRANSPORTATION POLICIES

- Plan for the mitigation and redevelopment of brownfields to support productive uses and a healthier environment for residents.
- Coordinate future land use policy changes with long-range regional transportation planning, including planning for transit, pedestrian, and bicycle improvements, to reduce local and regional vehicle miles traveled.
- Continue to develop land use policies which support complete neighborhoods.
- Encourage landowners and developers to incorporate sustainable design, materials, and operational practices into policies.

## 8. MINIMIZE SOLID WASTE IMPACTS

- Modernize and improve the existing solid waste program through incorporation of a cart-based collection system, and through implementation of a city-wide program for collection of composting and organics.
- Increase efforts to promote waste reduction in city operations and in the community.

## RECENT & ONGOING INITIATIVES

The city's environmental initiatives originate in multiple departments, and include the input of many stakeholders and partnerships.

### **ENERGY & SUSTAINABILITY COMMITTEE INITIATIVES**

Portland has a dedicated Energy and Sustainability Committee to establish sustainability and energy conservation policy - regarding the design, construction, maintenance, and use (both by city agencies and non-city parties) of all facilities and infrastructure owned and/or controlled by the city. The committee also makes recommendations to the City Council concerning transportation-related policies, including vehicular, transit, bicycle, and pedestrian issues, as well as parking and traffic control. The city's Sustainability Coordinator works as staff to the committee. The committee has set priorities for the next 1-5 years and is presently mid-implementation on the following initiatives:

**LED Street Lighting** The city is pursuing conversion of all city street lights from metal halide or high pressure sodium to LED. As part of this initiative, the city will analyze each street and determine the financial return on investment of a conversion, identify and apply for rebates and

incentives, and manage the installation of LED luminaires.

**Solar Power** In September 2016, the City Council voted to authorize an agreement to build one of the state's largest municipal solar power arrays on its Ocean Avenue landfill. The project is anticipated to generate 1.1 million kilowatt hours of electricity each year, which is about 3.5% of the city's total consumption. The city is also supporting a community owned solar array on the Peaks Island landfill and considering a solar ordinance.

**Climate Adaptation** The city has contracted with the Environmental Finance Center (EFC) at the Muskie School to assist with a public stakeholder process to establish goals for climate adaptation in the Bayside neighborhood. This group will also assist in developing an RFP for an engineering review to assess flooding vulnerabilities and evaluate existing capacity of stormwater infrastructure.

**Solid Waste and Recycling** The committee is pursuing improvements to the solid waste program - procurement of recycling carts, more efficient and effective collection services, and better communication of sustainability issues and programs.



## SNAPSHOT: ENVIRONMENT

**Benchmarking City Buildings** The city is taking steps towards a system of consistent, streamlined monitoring of energy efficiency and consumption of city buildings.

**Pesticides** A Pesticide and Fertilizer Task Force is currently evaluating strategies for minimizing pesticide use and employing best practices for fertilizer use city-wide, both with implications for stormwater runoff and water quality.

### OTHER INITIATIVES

In addition to the work of the Energy and Sustainability Committee, the city is also engaged in other environmental initiatives:

**Planning** The 2009 Sustainable Portland report made extensive recommendations related to Pollution Prevention, Green Building, Transportation & Land Use, and Environmental Management. A multi-year effort with many stakeholders involved, the report remains a valuable policy guide.

**Water Quality Stakeholder Group** On a quarterly basis, the Department of Public Works convenes a Water Quality Stakeholder Group with representatives from area non-profits and the Department of Environmental Protection to insure communication and coordination in water quality efforts.

**Stormwater Service Charge** In 2016, a Stormwater Service Charge was implemented to help fund water quality initiatives, such as combined sewer overflow (CSO) separation, stormwater treatment, watershed

improvements, and the installation of low-impact development (LID) measures. The program, which assesses charges based on a property's total impervious area, includes incentives for reducing impervious surfaces and implementing green infrastructure.

**CSO Separation and Pollution Prevention** From 1993 to 2010, the city spent \$100 million to reduce annual sewer overflow volumes by 42 %, from 1993 levels of 720 million gallons to 420 million gallons. The city also adopted a plan to invest \$170 million to further reduce sewer overflow volumes to 87 million gallons annually. Investments include underground storage conduits installed under Baxter Boulevard, sewer lining installations to reduce infiltration, as well as a full maintenance program. Other pollution prevention programs include public information campaigns, Do not dump logos on catch basins, additional trash receptacles downtown, and an active street sweeping program.

**Impaired Waterway Planning** Studies and plans completed for impaired waterways in recent years include those for the Nasons Brook Watershed, the Presumpscot River, the Stroudwater River Watershed, the Capisic Brook Watershed, and Capisic Pond.

**Community Gardens** Food production initiatives include the city's community gardens, containing over 400 garden plots, run in partnership with Cultivating Community.

**Sustainable Food Systems Initiative** The city sponsored a sustainable food systems initiative with

the goals of promoting increased public engagement on food-related policies and programs, implementing positive changes in the community's food systems and policies, prioritizing and responding to city- and community-identified needs for food system change and improvement, and increasing access to healthy food.

**Sustainable Food Production Cluster Designation** Portland was recently designated by the federal government as a Sustainable Food Production Cluster, one of only twelve nation-wide. The designation will enhance and support the already substantial manufacturing of dairy, seafood, seaweed aquaculture, and value-added products that are an increasingly important part of the local economy.

**EPA Brownfields Grant** East Bayside was awarded a \$200,000 EPA Brownfields Grant, in conjunction with Greater Portland Council of Governments, to develop an area-wide plan that will assist in environmental remediation and increased potential for food production.

**Forest Resource Management Planning** The City of Portland has conducted forest management plans for 90% of our forested open spaces. Sustainable forest goals focus on natural resources, habitat, water quality and recreation. Forest management planning is in partnership with the Maine Forest Service and the US Forest Service Urban & Community Forestry programs. Active forest management projects have resulted in improved tree and forest health and reduction of invasive species, using the wood values to offset cost. Forest products ranging from saw logs, pulp, firewood and biomass add to the local economy.



## FOOD SECURITY AND THE LOCAL FOOD MOVEMENT

According to recent research by the Muskie School, a significant percent of Portland residents qualify as food insecure - they regularly can not access sufficient healthy food. The city supports a sophisticated network of non-profits and public sector advocates working to address this gap through effective and time-tested means: summer meal programs, a system of food banks, and other local programming. Recently, advocates have also expanded the strategy by creating better connections between the city's burgeoning local food movement, which capitalizes on a growing awareness of the economic, social, and environmental benefits of a locally sourced food system, and the schools and non-profits that have traditionally served as the primary point of contact on food security issues. While the local food movement supports successful bi-weekly farmers markets, a strong collection of Community-Supported Agriculture (CSA) options, and nine and counting community gardens that directly serve residents' food needs, the movement also drives Portland residents to support restaurants and grocers that, in turn, support local farmers and food entrepreneurs. As a result, the city is growing a more resilient food system that can offer more, and healthier food to everyone.



## SNAPSHOT: ENVIRONMENT

**Municipal Climate Action Plan** In 2008, the city completed a Municipal Climate Action Plan. The plan includes recommendations for public engagement, green building standards, procurement and purchasing, transportation and overall energy policy. It continues to serve as a valuable framework for prioritizing climate actions.

**Climate Change Planning** Two recent reports provided valuable data and recommendations regarding sea level rise vulnerability: Sustain Southern Maine: Sea Level Rise Vulnerability Assessment (2013), and a 2014 Urban Land Institute Report, Waterfronts of Portland and South Portland, Maine: Regional Strategies for Creating Resilient Waterfronts.

**Energy Policy** Two wind energy generation standards have been added to the land use code since 2009, allowing for temporary wind anemometer towers as conditional uses and the construction and operation of public or private wind energy generation.

**Energy Performance Standards** Portland has adopted energy performance standards for city and certain publicly funded buildings.

**Land Use Policy** Since 2014, the city has made a series of zoning changes in strategic areas to allow for greater densities and more effective infill development. These include amendments to the B1, B2 and R6 zones, greater height allowances in the downtown overlay for residential construction, as well as expanded accessory dwelling unit

provisions. These amendments have been made in coordination with existing and anticipated transit service expansions.

**Parking Policy** The city has reduced some parking requirements to help decrease parking-related costs and incentivize residential development. Developers in some zones also have the option of paying a fee in-lieu, with proceeds going to a Sustainable Transportation Fund to support the broad transportation needs of the city.

**Waste Reduction Task Force** Between 1998 and 2015, the city has reduced collected trash tonnage collected by over half, along with attendant, steady increases in recycling. A 2011 Solid Waste Task Force report outlined strategies that the city continues to pursue to further reduce Portland's solid waste stream.

**Food Waste Initiatives** The regional waste handling agency, ecomaine, recently began accepting source-separated food waste that will be used to produce electricity in an in-vessel digester. The city will be reviewing options for adding food scrap collection to the menu of solid waste collection services.

**Yard Waste Initiatives** The city will be exploring options for increasing the curbside collection of yard waste and leaves from residents in an effort to increase composting of these materials and to reduce illegal dumping of this material.