

Portland's Plan  
**2030**

Date of City Council  
Adoption: June 5, 2017

# Acknowledgements



The creation of Portland's Plan was a City-wide effort. Under the oversight of the Planning Board, the Comprehensive Planning process benefited from collaboration across all City of Portland departments, in consultation with City boards and committees, and with the support of the City Council. Greater Portland Council of Governments served as consultants on the plan's appendices and added value to the entire plan. We also received careful review and thoughtful feedback from community partners - dozens of community organizations, neighborhood associations, and local non-profits. Finally, Portland's Plan is a product of community engagement, and the thousands who completed the survey, attended community forums, invited City staff to stakeholder meetings, opened their classrooms, emailed comments, spoke up at Planning Board workshops, put marker to the table, and wrote the headlines of 2026 helped bring this effort to fruition.

## **PLANNING BOARD**

Elizabeth Boepple, Chair  
Sean Dundon, Vice Chair (Community Engagement Liaison)  
David Eaton  
Brandon Mazer  
Carol Morrissette  
Maggie Stanley  
Lisa Whited (Community Engagement Liaison)

## **CITY COUNCIL**

Ethan K. Strimling, Mayor  
Nicholas M. Mavodones, Jr., At Large  
Jill C. Duson, At Large  
Pious Ali, At Large  
Belinda S. Ray, District 1  
Spencer Thibodeau, District 2  
Brian E. Batson, District 3  
Justin Costa, District 4  
David Brenerman, District 5

## **OFFICE OF THE CITY MANAGER**

Jon Jennings, City Manager  
Anita LaChance, Deputy City Manager  
Julie Sullivan, Senior Advisor to the City Manager



## ACKNOWLEDGEMENTS

### **PROJECT TEAM**

Christine Grimando, Senior Planner (Project Manager)

Nell Donaldson, Senior Planner

Jeff Levine, Director, Planning & Urban Development

Tuck O'Brien, City Planning Director

*With assistance from:*

### **PLANNING & URBAN DEVELOPMENT**

Deb Andrews, Historic Preservation Program Manager

Barbara Barhydt, Development Review Manager

Caitlin Cameron, Urban Designer

James Dealaman, Administrative Officer

Phil DiPierro, Development Review Coordinator/Site Inspector

Jean Fraser, Planner

Matthew Grooms, Planner

Desiree Kelly, Principal Administrative Officer

Jennifer Munson, Office Manager

Rob Weiner, Preservation Compliance Coordinator

Shukria Wiar, Planner

Bruce Hyman, Transportation Program Manager

Mary Davis, Housing Division Director

Tyler Norod, Housing Planner

### **ECONOMIC DEVELOPMENT**

#### **FIRE**

#### **FINANCE**

#### **HEALTH & HUMAN SERVICES**

#### **JETPORT**

#### **PARKING**

#### **PARKS, RECREATION & FACILITIES**

#### **POLICE**

#### **PORTLAND PUBLIC SCHOOLS**

#### **PUBLIC WORKS**

#### **SUSTAINABILITY OFFICE**



## **CONTRIBUTING STAKEHOLDERS**

Bicycle Coalition of Maine  
Bicycle & Pedestrian Advisory Committee  
Calendar Islands Maine Lobster Company  
Casco Bay High School  
Creative Portland  
Cumberland County Community Development Office  
Cumberland County Food Security Council  
Friends of Casco Bay  
Greater Portland Convention + Visitors Bureau  
Greater Portland Landmarks  
GrowSmart Maine  
Gulf of Maine Research Institute  
Homeless Voices for Justice  
King Middle School  
Maine Center for Entrepreneurial Development  
Maine Port Authority  
METRO  
Pedestrian & Bicycle Committee  
Portland Buy Local  
Portland Downtown  
Portland Global Shapers Hub  
Portland High School  
Portland Housing Authority  
Portland Regional Chamber of Commerce  
Portland Society for Architecture  
Portland Trails  
South Sudanese Community Association of Maine  
Think Tank Coworking  
University of Southern Maine Muskie School of Public Service  
Venture Hall  
Waterfront Alliance

## **PORTLAND'S NEIGHBORHOOD ASSOCIATIONS**

*with particular thanks for input from:*

Back Cove Neighborhood Association



Deering Highlands Neighborhood Association  
East Bayside Neighborhood Organization  
East Deering Neighborhood Association  
India Street Neighborhood Association  
Munjoy Hill Neighborhood Organization  
Parkside Neighborhood Association  
Peaks Island Council  
Stroudwater Village Association  
West End Neighborhood Association  
Western Promenade Neighborhood Association

**PROJECT CONSULTANTS TO APPENDICES**

Greater Portland Council of Governments

**SURVEY ANALYSIS**

Andrew Clark

**MOBILE TABLE DESIGN & CONSTRUCTION**

Open Bench Project ([obportland.org](http://obportland.org))

**DOCUMENT LAYOUT AND DESIGN**

Portland Design Co. ([portlanddesignco.com](http://portlanddesignco.com))

**PHOTO CREDITS**

Robert Benson	Bruce Hyman
Jessa Berna	Bill Needleman
Jim Brady	Tuck O'Brien
Kevin Bunker/Developers Collaborative	Ethan Owens
Jonathan Culley/Redfern Properties	Patrick Roche/Think Tank Coworking
Cultivating Community	Jake Ryan
Joe Dumais	Jeff Tarling
Greater Portland Landmarks	Corey Templeton
Greater Portland METRO	Scott Simons Architects
Tim Greenway	Kara Wooldrik/Portland Trails
Christine Grimando	Max Yeston
Ethan Hipple	Greta Rybus/Cultivating Community

# Table of Contents



Executive Summary	1-5
<u>Vision</u>	5-6
Community Engagement	7-10
Putting Portland's Plan To Work	11-15
Policy Guides	
Environment	16-22
Historic Resources	23-29
Waterfront	30-38
Economy	39-46
Housing	47-53
Recreation and Open Space	54-61
Facilities & Services	62-69
Transportation	70-77
Future Land Use	78-86
Regional Coordination	87-89
Implementation	90-92
Appendices	
Population and Demographics	93-110
Natural and Water Resources	111-131
Forestry, Agriculture, and Aquaculture Resources	132-138
Historic and Archaeological Resources	139-157
Waterfront	158-180
Economy	181-199
Housing	200-213
Recreation, Parks, and Open Space	214-222
Public Facilities and Services	223-233
Fiscal Capacity	234-238
Transportation	239-273
Existing Land Use	274-293
Implementation Matrix	294-317

# Executive Summary



**THIS IS PORTLAND'S PLAN**, a comprehensive plan to guide decision making in our community for the next 10 years. Portland's Plan continues the City's long history of comprehensive and long-range planning. The last plan was implemented in 2002, updated in 2005, and regularly appended over the last decade. Much of that prior long range planning work is still valuable today, and this new plan stresses continuity with that work while identifying new trends and challenges for growth and change in the 21st century. This plan serves as a guide and resource in multiple ways: fundamentally, it articulates a vision of Portland's values today and for the future; it provides valuable information about the state of the City today; it establishes a to-do list for implementation; it identifies how other planning efforts, past and future, relate to each other; and it forms a framework for decision making. From the launch of the creation of this new plan, City staff sought diverse public input, and strove to ultimately create a succinct and accessible document for the entire community.

People normally experience our City at the ground level: walking down the street, outside a favorite restaurant, in a park, or at each intersection, sidewalk, or bus stop. The goal of Portland's Plan is to elevate the conversation to look at our entire City as an integrated whole from a bird's eye view, from the West End to Riverton and from Cliff Island to Stroudwater. The plan is a statement of community values and a framework to advance those values. The plan is not intended to describe the planning initiatives of the coming years in granular detail – its role is not to create parks, specify sidewalk width, or dictate the design of new buildings, but to look at the community in its entirety and define a set of values, goals, and strategies for the next decade. More specific initiatives, whether studies, zoning, plans, or guidelines, will be the work of implementation of this plan.

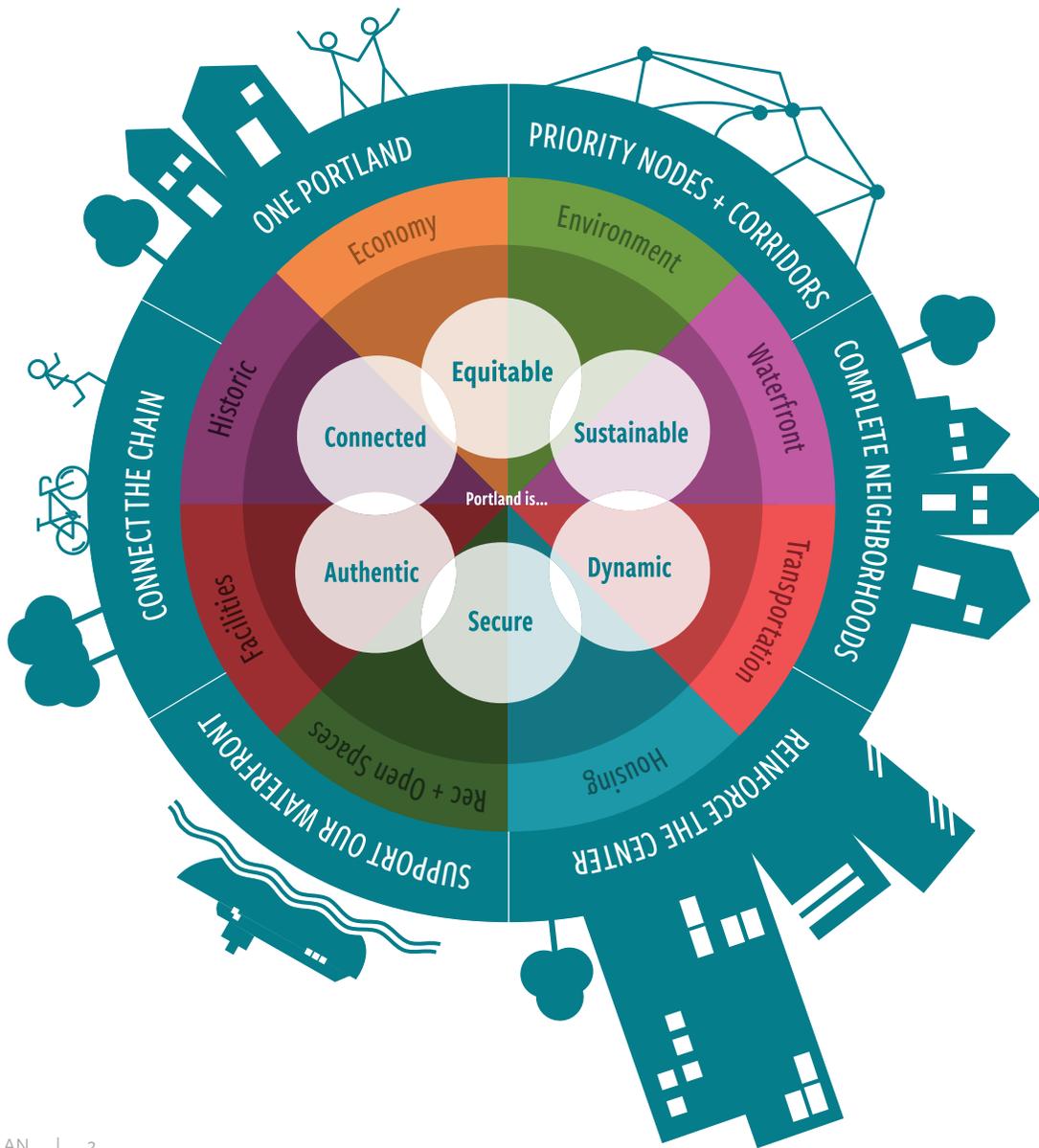
The **Vision Statement** guides all the subsequent elements of the plan. It defines the key concepts of who we are as a community and sets the standards by which future planning and policy efforts will be measured. The vision recognizes that the solutions to almost every issue we face today, from housing to infrastructure resiliency to economic development, must be examined through the vision's interconnected concepts. The vision statement should be viewed as a unified whole and its interlocking circles are intended to reinforce this notion that sustainability is not possible absent equality and authenticity requires connection, etc. Each of the elements of the vision require the other elements and together they define what Portland is today and what will shape our future. Accordingly, the values are mutually dependent and should be advanced



in balance. It represents the input of over 3,000 different Portland residents and business owners distilled into the most fundamental themes for the future of our community. The vision statement represents what Portland values most today and for its future.

Portland's Plan looks at Portland as one community and establishes the vision as a starting point for future planning and policy work. In that way, this document is a beginning, and seeks to reframe a community conversation about where we collectively want to go as we move into the 21st century.

## Plan Structure



As further described in **Relationship to Other City Plans**, however, Portland’s Plan also builds off decades of previous efforts to shape and plan our community. This plan is unabashedly informed by those efforts, and incorporates many of their key elements.



The **Policy Guides** translate the vision into concrete policy objectives relating to core subject areas such as housing, transportation, historic resources, waterfront, and the economy. The focus on interconnection at the core of the vision statement is present in the policy guides as well. The reader will find concepts restated and reinforced across subject areas. Our economy, housing, historic resources, transportation system, open space, environment, waterfront, and municipal facilities and services are all dependent on each other and inextricably linked. This interconnection is a foundational concept which shaped the structure of this document. The goals and strategies articulated in these chapters will guide

additional work over the next decade and should assist the City Council and City Manager in shaping annual work plans.

**Future Land Use** adopts a focused approach to growth in targeted areas across the City. The Future Land Use section is organized around five key principles:

- **One Portland**, spreading the benefits and challenges of sustainable growth fairly across the community;
- **Complete Neighborhoods**, improving livability while retaining the key characteristics that make neighborhoods unique;
- **Reinforce the Center**, recognizing that downtown Portland remains a predominant locus of arts and culture, economic, and civic health;
- **Connect the Chain**, connecting and strengthening our open space and transportation networks;
- **Support our Waterfront**, identifying the waterfront as a resource central to the identity, economy, ecology, and recreational life of Portland.

Land use planning will guide new growth to downtown, key nodes, and corridors. Areas outside of these identified nodes and corridors are not immune from change now or in the future, but it is expected that they will largely maintain their predominant land use patterns. A successful Portland is a key component to the vibrancy of southern Maine and the entire state.

**Regional Coordination** discusses how we will strengthen regional collaboration and engage in joint problem-solving to address shared issues,



such as housing, water quality and transportation, and maximize our key strengths of quality of life, quality of place, and innovation.

**Implementation** establishes a framework for advancing the vision and goals of Portland’s Plan over the course of the next decade. This document is intended to serve as a guide for the Council as it develops annual work plans, for the Planning Board as it updates the land use code, and for other City departments as they plan and prioritize their respective work. Successful implementation of Portland’s Plan will require a commitment to ongoing and meaningful engagement by City staff, elected leaders, community groups, and residents. Successful

implementation will also benefit from feedback loops where decisions are made and then measured for success in achieving the plan’s vision.

The Plan’s **Appendices** contain a compendium of data support the Policy Guides. This information serves as a foundation for the Plan’s goals and strategies and a resource on Portland.

Finally, Portland’s Plan conforms to the requirements of the State of Maine’s Growth Management Act for comprehensive plans. As required by the Growth Management Act, Portland’s Plan will serve as the basis for the City’s zoning and land use regulations.

# Vision Statement



**AT THE HEART OF PORTLAND'S PLAN** are six interconnected themes which together constitute a vision statement for the City. The themes emerged out of over four dozen stakeholder meetings, five City-wide community forums, and a survey effort which resulted in over 2,000 responses. They were influenced by new residents as well as those with Portland roots that stretch back centuries, business and neighborhood interests, emerging and traditional industries, grandparents and students, renters and homeowners, shapers and makers.

The vision should provide the foundation for focusing City policies and priorities and for gauging our success. The goals and implementation strategies in Portland's Plan support the vision statement. Whether discussing the economy, recreation, or the waterfront, these topics are not addressed in isolation: the linked structure of the vision statement conveys the connectedness of the themes, and the subjects that comprise the Policy Guides.





## Equitable

- We will remain an open and inclusive City, celebrating diversity and providing a welcoming and safe place for residents and visitors alike.
- We will be a state and national leader in achieving a more equitable city.
- The benefits and costs of our City will be born fairly across the entire City.
- Our government will continue to be transparent and its policies fair and uniformly enforced.
- We will incorporate the needs of all our residents in planning for our future.

## Sustainable

- Portland has been built and rebuilt to endure; we will balance our historic fabric, sound infrastructure, and the best of new technology and design for the future.
- We will use sound fiscal decision making as an essential element of our City's future health.
- Recognizing our responsibility as a global citizen, and concerned that climate change will have significant impacts on our City, we will prioritize a transition to a low-carbon economy, and adapt to those climate changes we can no longer mitigate.
- Portland will grow in order to sustain our community, infrastructure, and economy.
- Growth should respect and seek to preserve our spectacular natural resources.

## Dynamic

- Vibrant arts and cultural life will be central to our identity.
- We will embrace innovation in order for our community to thrive.
- We will welcome new residents into our community because they enrich and sustain our City.
- We will support healthy schools as essential to maintaining a dynamic community.
- We will encourage an active and informed citizenry and facilitate civil discourse.
- Portland will plan for a built environment that encourages an active citizenry.

## Secure

- We will use compassion in our decision making and in our approach to public safety.
- We will be committed to accessible housing and healthy food for all our residents.
- We will prepare for emergencies and ready for a changing climate.
- We will strive to create a resilient economy through innovation, investment, and commitment to diversity.
- We believe a key component of security is a transparent and accessible government.

## Authentic

- We will celebrate our City's incredible history.
- The uniqueness and integrity of our neighborhoods will be maintained and enhanced.
- We will support our working waterfront as a commitment to maintaining a vibrant maritime economy in the 21st Century.
- We will invest in and support our local economy.
- We will maintain our character through preservation, innovation, and excellence in design for the built environment.

## Connected

- Our success will be tied to our connections to each other, our state, and our region.
- A 21st century Portland will continue to rely on integrated transportation infrastructure.
- Diverse forums for community engagement will remain essential to a strong civil society.
- We will foster accessible linkages between where we live, work, shop, and play.
- We will enable meaningful access to the natural world and recreational opportunities as a central component of community health.

# Community Engagement

**CONTINUOUS, MULTI-FACETED COMMUNITY ENGAGEMENT** was central to the process of developing Portland's Plan. The process aspired to give as many people in the community an opportunity to participate as possible. This objective manifested not only in the quantity of public involvement opportunities, but in the diversity of ways the community was asked to engage in the development of this plan. City staff, in partnership with the Planning Board, invited the community in, but also went out to the community, attending farmers' markets, fairs, high school forums, neighborhood association meetings, and other events to talk with and listen to the residents of Portland. In all, staff attended over 50 events, engaging over 400 people as well as countless others who invested their time in talking about the plan and what they hope to see occur in the coming decade. In addition to community forums, school outreach, stakeholder meetings, and mobile engagement activities, the City conducted a survey effort in late 2015-early 2016, engaging over 2,000 respondents. Whether youth, new immigrants, or the previously uninvolved, the approach to engagement for this plan strove to include diverse populations often underrepresented in the planning process. The following is an overview of various events and activities that provided crucial feedback in the formation of Portland's Plan.

## 1. STAKEHOLDER MEETINGS

Stakeholder meetings involved neighborhood associations, local organizations, and any group of residents interested in the development of Portland's Plan. Beginning in September 2015 and continuing on a rolling basis throughout the process, City staff attended over three dozen such meetings with

Bicycle Coalition of Maine, Portland Regional Chamber of Commerce, Homeless Voices for Justice, Creative Portland, Greater Portland Landmarks, Portland Downtown, the Waterfront Alliance, the South Sudanese Community Association, and many others. Stakeholders offered feedback on drafts of the plan throughout.



## 2. OPEN HOUSES

The City held two open houses on September 17th and 24th 2015, at Deering High School and City Hall, to kick off Portland's Plan. These events summarized recent and ongoing City projects and policy initiatives, and provided an opportunity for the public to engage with staff on the plan scope and process.

## 3. SURVEY

The City conducted an online survey from November 23, 2015 through January 22, 2016, and publicized the survey through press releases, on the City's website, in an article in the Portland Press Herald, via flyers in the computer carrels at the downtown branch of Portland Public



Library, on the Time and Temperature building, through CTN’s City Desk, and on social media. A total of 2,105 responses were received. The survey solicited input on satisfaction with City services, streets most in need of bicycle and pedestrian improvements, support for retaining a working waterfront, levels of concern for climate change impacts, housing affordability, and the things people most value about where they live. City staff incorporated survey results into numerous presentations made on Portland’s Plan, and the results informed many of the plan’s recommendations.

Portland campus and the Portland Public Library’s Rines Auditorium. Both forums included a presentation, public involvements in the plan, including the survey, progress on the plan, as well as two interactive activities for attendees:

- A small group visioning exercise to imagine a newspaper headline for Portland in 2026 that captures aspirations for the City’s future.
- An exercise designed to solicit feedback on the emerging vision for the plan.

The November 12, 2016 community forum, held in the Portland Public Library’s Rines Auditorium, unrolled the plan’s Policy Guides, and asked groups sorted by topic area to read and reflect on the first full drafts. Following this forum, the draft Policy Guides were posted on portlandmaine.gov for approximately six weeks to provide further opportunities for comment.

The March 16, 2017 community forum, held at King Middle School, allowed for comment on the full draft of the Plan prior to the Planning Board Public Hearing.



#### 4. COMMUNITY FORUMS

City staff held four City-wide community forums to provide opportunities for interested residents to hear about progress on Portland’s Plan and to discuss their concerns and priorities for Portland’s future. In an effort to maximize participation, the forums were planned for on and off peninsula locations, at different times of day, on weekdays and weekends, and all included food. Two of the four forums offered childcare.

Community forums were held on June 29th and 30th 2016, at the University of New England’s

#### 5. MOBILE ENGAGEMENT

In an effort to reach a broad spectrum of the population, City staff engaged in a variety of public involvement activities designed to take the plan to the community. Staff accepted all invitations to speak on any aspect of Portland’s Plan and also actively pursued opportunities to participate in events with other groups, such as school events. Staff made a portable and interactive table in the shape of Portland and used this table to gather valuable input at events throughout the summer of 2016. Bringing this table to people where they generally congregate,



at First Friday Art Walks, National Night Out, Farmers' Markets, and school orientations, allowed residents to incidentally engage with the planning process, to mark up the table with color and small building pieces, and to converse with staff and Planning Board members about outcomes of the plan.

## 6. SOCIAL MEDIA

Use of social media and social media platforms served multiple functions in developing Portland's Plan. First, the City used email, the City's website, Twitter, and Facebook to disseminate information about events, availability of drafts of the plan, and the opening of the survey. Beyond disseminating information, City staff use these platforms, and others such as Periscope and Instagram, to keep the project and the process visually dynamic and accessible. Following events, results of community planning exercises were posted to #portlandplanning through 2016.



## 7. YOUTH ENGAGEMENT

Recognizing that Portland's young people are often underrepresented in the planning process, Portland's Plan involved a concerted effort to engage school-age youth. City staff visited Portland High School to make presentations twice early in the start of the 2016-2017 academic year, and facilitated dedicated planning workshops with King Middle School, Portland High School, and Casco Bay High School. Through these workshops, staff asked students to envision the headlines that would capture their ideal City in 10-20 years.

## 8. PLANNING BOARD AND COUNCIL WORKSHOPS

The Planning Board has held numerous workshops on the Comprehensive Plan. Early workshops were focused on process, progress, and work plans, and later workshops focused on the emerging substance and format of the plan. Two Planning Board members served as dedicated liaisons devoted to the development of the plan, and were central to the community engagement process. Planning staff also presented to the City Council on the plan's progress.

## 9. RELATED EVENTS

Over the course of 2016, there were numerous additional events, which enriched the development of Portland's Plan. The City's Housing Committee ran a series of community discussions and a forum on housing issues that strongly informed the substance of the



plan. Portland Society for Architecture, in collaboration with the University of Southern Maine and the Portland Regional Chamber of Commerce, initiated their own, independent charrettes to envision growth, which have resulted in community presentations and a white paper. And GrowSmart Maine held an event, *A Panorama on Portland's growth: Can Process Bridge the Gap*, that included, among other speakers and components, a presentation on the comprehensive plan process.

### WHAT WE HEARD

Community engagement was integral to the development of Portland's Plan. City staff heard about concerns, hopes, and aspirations from hundreds of people that may not normally participate in planning activities, and they made this a richer, more robust plan for the entire community. The thousands of pieces of feedback we received informed the substance of the plan. Survey results, for instance, identified specific nodes and corridors of concern that fed into Future Land Use and transportation goals and strategies. Strong support for transit-oriented development and retaining a working waterfront, as well as concern about climate change and housing affordability, helped guide the formation of the plan's vision. By offering everything from line edits of early versions of the Community

Policy Guides to policy proposals, the public shaped the content of this plan. We also heard community concerns on many topics not addressed by state requirements, such as public health, aging in place, and climate change, each of which were eventually woven through the various elements of this plan.

Because there is no one technique that engages all schedules, strengths, interests or needs, continued engagement, varied in methods and venues, that seeks to include as diverse a cross section of the community as possible, is essential to carry out the vision of this plan. Robust community engagement with neighborhood organizations, stakeholder groups, and the entire community is integral to implementation of the plan.



# Putting Portland's Plan to Work



**PORTLAND'S PLAN** is an integral guide for policy decisions for the next 10+ years. It is a resource for elected and appointed officials, City staff, residents, property owners, and business owners. The Plan provides a framework for consistent land use decision making, informed capital investments, interdepartmental coordination, and long range planning initiatives. The plan also outlines the City's values and overall desired outcomes to the private sector, and is a general resource for those seeking information about the City of Portland.

Policy makers have to balance myriad factors in making decisions. Portland's Plan will be actively used to guide how priorities are established and decisions are made, while recognizing that setting policy direction, implementing regulatory changes, or investing in infrastructure requires the balancing of myriad factors and policy objectives. For example, when considering a zoning text or map amendment, the Planning Board and City Council would evaluate whether the proposed change would advance a Plan goal or strategy, as well as appraise the proposal for compatibility with the six elements of the Vision statement. A proposal in direct contradiction to Portland's Plan would need to be modified to generally conform with the plan, or discarded. In the event of significant changes in City needs, or shifting conditions, the City could pursue a change to the plan, which would include public process and deliberation.

## **RELATIONSHIP TO CITY PLANS**

Portland has a tradition of robust long-range planning efforts. For decades, City staff, residents, City Councilors, the state, and other stakeholders

have worked together to develop common visions for the future of Portland. These plans have contributed to making Portland a livable city. Portland's Plan builds on the foundation of data and value that these plans provide.

Planning efforts generally fit into three categories:

- Comprehensive plans
- Neighborhood or specific area plans
- Subject area plans

Each plan serves a specific purpose, and aims to be fully compatible with past plans. Over time there have been updates or amendments to the City's adopted documents. However, it has not always been clear how the different plans relate to one another or to implementation. This section sets forth a paradigm for how past and future plans will relate to one another and the Portland's Plan.

The previous comprehensive plan was a compilation of adopted plans that address broad functional areas, such as transportation and housing, and specific strategic or geographic plans, and was appended over time as new plans and studies were completed. This plan is a stand alone document structured around an organizing vision statement and policy guides to advance that vision across various sectors. This new paradigm for the comprehensive plan will provide a framework for policy making that will guide and inform subsequent planning efforts and provide a new lens for examining previous efforts.

## **PORTLAND'S PLAN: ONE PORTLAND, THROUGH A CONCISE AND ACCESSIBLE PLAN**

Anyone who is interested should be able to read Portland's Plan in a short period of time and readily



# Portland's Plan In Action





understand it. For this reason, the plan focuses on broad themes rather than technical specifics. Rather than a thousand pages of policy details that few people will fully read and few can understand, this comprehensive plan is designed to be useful and accessible to a broad cross-section of people. For example, a copy of this plan left in a public place, a waiting room or a reception area, should be something that anyone could pick up while they waited, as they would a magazine, and read and digest in a brief period of time.

This goal means that the plan should be concise, readable, and visually attractive. It should be a City-wide policy vision to serve Portland's planning efforts over the coming decade. If there were to be a significant, broad shift in policy direction in the coming years that is contrary to the content of this plan, that could warrant an amendment to the document. However, the structure of the plan will remain based on a concise set of policy goals.

### **NEIGHBORHOOD PLANS: APPLYING THE COMPREHENSIVE PLAN LOCALLY**

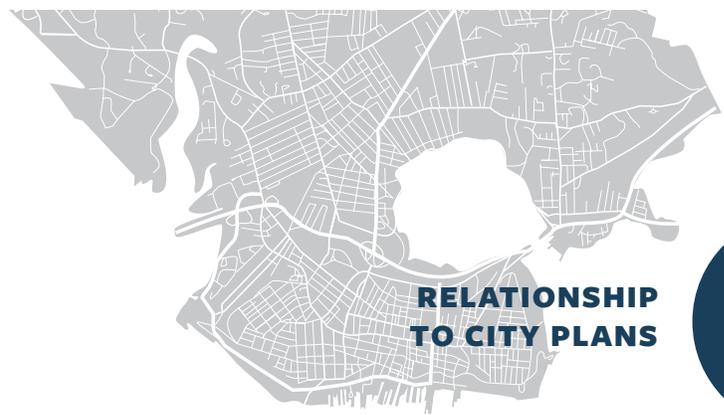
Neighborhood plans refer to documents that make recommendations for specific areas across a host of issues important to a neighborhood's future development, which may include some combination of design, zoning, historic preservation, environmental, transit, or economic development recommendations, for example. Plans for specific neighborhoods or parts of the City are an important way to provide a roadmap toward implementation of Portland's Plan. They allow for detailed analysis and should be designed to interpret and implement City-wide policies.

Neighborhood plans are important and warrant their own status. Future neighborhood plans will be adopted as freestanding City policy documents rather than incorporated into Portland's Plan. As development and public improvements take place in specific areas of Portland, the applicable neighborhood plan should be consulted as well as Portland's Plan. New neighborhood plans should seek to advance the goals of Portland's Plan as specifically tailored to the context and unique qualities of the neighborhood they pertain to. The City will continue to engage in neighborhood planning and communication, as well as develop additional resources, tools and processes to enable citizen planners, neighborhood organizations, and coalitions to contribute to or develop appropriate plans.

### **SUBJECT AREA PLANS: EXPANSION OF POLICY GUIDES**

The City also develops specific plans for certain subject areas. These are detailed implementation documents that follow from goals and strategies established in this plan. For example, the City may develop a plan for parks and open space, or for pavement management, or for sidewalks, or City partners may work with the City on an economic development plan or a regional transit plan.

These subject area plans are also important documents that similarly deserve their own status. They should be adopted on their own and utilized to help implement the broad vision of Portland's Plan.



## RELATIONSHIP TO CITY PLANS

### HYBRID PLANS

There may also be some plans that are geographically and topically specific. For example, the City may develop plans focused on concepts such as local food production, parking, watershed management or Complete Streets, within specific areas of the City. These plans would follow the model of neighborhood and subject plans, be adopted on their own, and help guide implementation of the overall comprehensive plan.

### EXISTING PLANS

There are a number of neighborhood, area, subject, and hybrid plans that have been adopted over time as elements of the previous comprehensive plan. Some are quite recent, some decades old, some may be partially implemented and some may not be entirely current, but they each have continuing those previously adopted plans. They remain adopted policy and continue to be valid guidance for the City. In addition to continuing to provide policy guidance, the City's existing site plan, master development plan, and proposed institutional overlay ordinances require consideration of adopted plans as part of development review. Existing plans should always be considered in the context of their date of adoption and their anticipated role in guiding City planning and policies but will continue to inform policy making even though they are not incorporated into the comprehensive plan. Portland's Plan is the prevailing policy document and shall provide guidance as to how to resolve any inconsistencies that may arise between these various plans.

### STUDIES

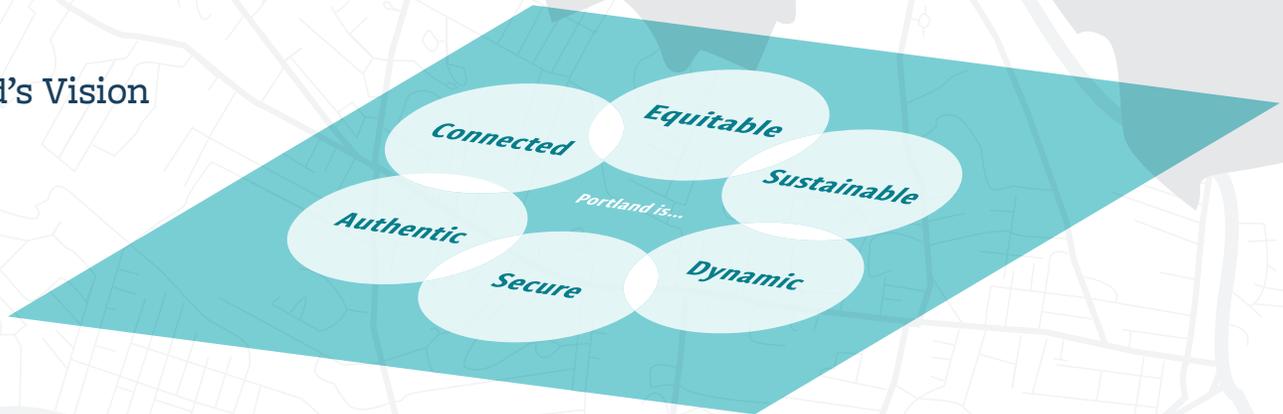
The City has also conducted a number of valuable studies on land use and other planning issues in the past. These studies serve as useful input into decision making. However, as studies, they need to be viewed in the larger context of adopted plans. These studies should not be viewed as definitive policy statements, but rather as tools to assist in policy implementation.



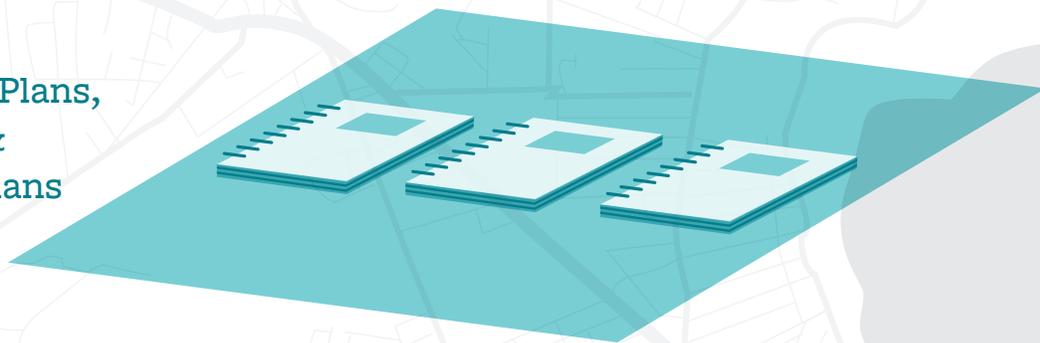
# Relationship of City Plans

---

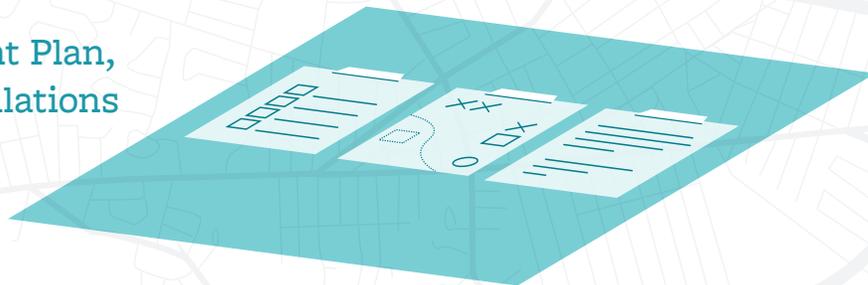
Portland's Vision



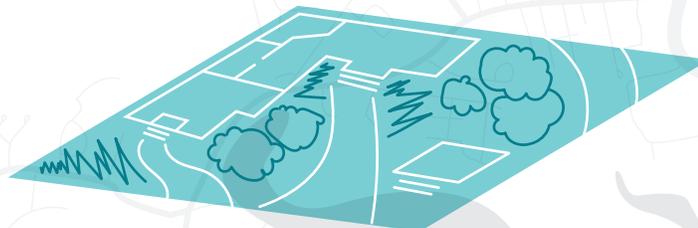
Neighborhood Plans,  
Hybrid Plans &  
Subject Area Plans



Capital Improvement Plan,  
City Code, and Regulations



Public Investments &  
Development Review



# A Healthy City

## **THE ENVIRONMENTAL CHALLENGES FACING PORTLAND**

- from aging infrastructure to the water quality of Casco Bay to climate change - have local, regional, and even global implications that require both local action and regional coordination. 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.

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 in East Bayside and beyond, which provides critical capacity for food manufacturing, production, and transport. Energy consumption

is being 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 sustainable quality of place. Casco Bay has always been inseparable from Portland's existence and remains key to the City's and the region's identity, economy, and ecology. 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.



## RECENT & ONGOING INITIATIVES

The City of Portland's environmental initiatives originate in multiple departments, and include the input of many stakeholders and partners. Much of today's work stems from the City's early efforts in planning for sustainability. These included the 2007 *Sustainable Portland* report, which established a broad framework for incorporating sustainability into City decision making and made a number of recommendations to encourage sustainability City-wide, and the 2008 *Municipal Climate Action Plan*, which developed a series of strategies to reduce emissions associated with municipal operations.

Against the backdrop of these planning initiatives, the City has completed numerous studies focused on specific aspects of sustainability. These include studies for impaired waterways, including the Nasons Brook Watershed, the Presumpscot River, the Stroudwater River Watershed,

the Capisic Brook Watershed, and Capisic Pond.

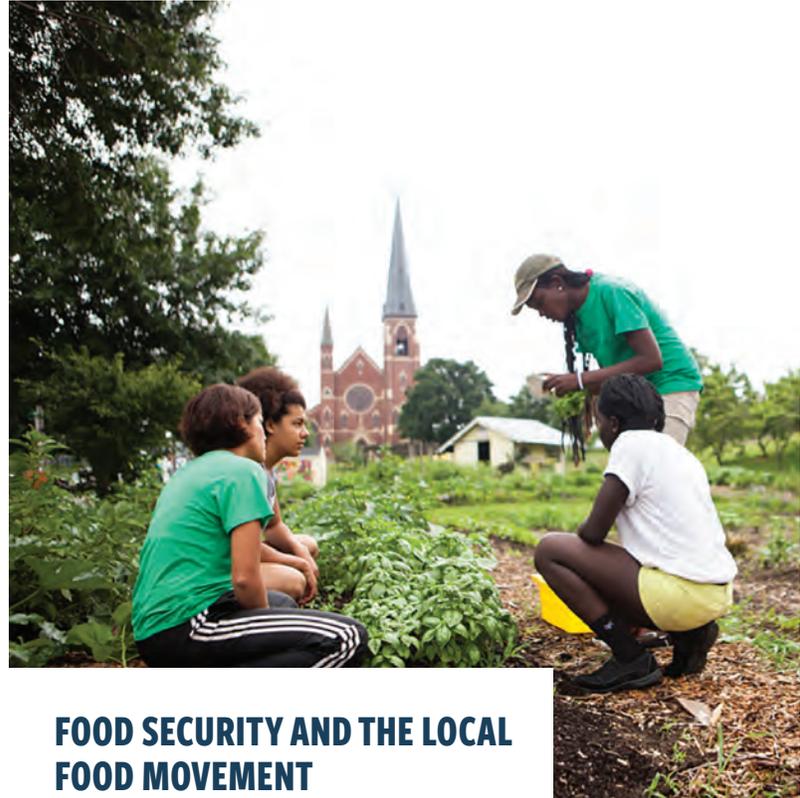
In partnership with the Maine Forest Service and the U.S. Forest Service Urban & Community Forestry programs, the City has conducted forest management plans for 90% of our forested open spaces, focusing on natural resources, habitat, water quality, and recreation and resulting in improved tree and forest health. Recent initiatives have resulted in recommendations regarding sea level rise vulnerability, through *Sustain Southern Maine: Sea Level Rise Vulnerability Assessment* and a 2014 Urban Land Institute Report, *Waterfronts of Portland and South Portland, Maine: Regional Strategies for Creating Resilient Waterfronts*. And in 2015, the City began work on an EPA Brownfields Grant, in conjunction with Greater Portland Council of Governments, to develop an area-wide plan for East Bayside that will assist in environmental remediation and increase the potential for food production.



## POLICY GUIDE: ENVIRONMENT

Over the past decade, the City has also made a concerted effort to adapt policy to reflect a 21st century approach to sustainability. Since 2014, the City has made a series of zoning changes to promote greater residential density and infill development, coordinate this development with existing and anticipated transit service expansions, reduce parking requirements, and support alternative transportation options. Portland recently adopted energy performance standards for City and certain publicly-funded buildings, added two wind energy generation standards to the land use code, adopted a benchmarking ordinance for qualifying buildings, introduced a plastic bag fee, and banned polystyrene packaging. In 2016, the City implemented a stormwater service charge to incentivize green infrastructure and help fund water quality initiatives.

The City has continued its efforts to separate its combined sewer overflow (CSO) systems, including the installation of underground storage conduits, separated stormwater lines, and sewer linings, which have helped to significantly reduce annual sewer overflow volumes. The Waste Reduction Task Force has instituted improvements to increase recycling, reduce collected trash tonnage, and enhance the curbside collection of yard waste. In addition, the City's Council has recently set priorities for the next five years, including initiatives such as the conversion of all public street lights to LED, the construction of one of the state's largest municipal solar power arrays on the Ocean Avenue landfill, and additional improvements to the City's solid waste program.



### FOOD SECURITY AND THE LOCAL FOOD MOVEMENT

According to recent research by the Muskie School, approximately 14.2 percent of Cumberland County residents qualify as food insecure - they regularly can not access sufficient healthy food. The City supports a network of non-profits and public sector advocates working to address this gap locally through summer meal programs and a system of food banks. Recently, advocates have worked to create better connections between the city's burgeoning local food movement, which capitalizes on an increasing 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 ten 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.



## 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, forest, and scenic 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

### 1. ADOPT MEASURABLE OBJECTIVES

- Track performance on key environmental indicators.
- Generate reports to keep staff, City leadership, and the public apprised of performance.
- Explore national best practices in developing metrics.

### 2. IMPROVE WATER QUALITY

- Collaborate with local non-profits, research organizations, private property owners, 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 prioritized impaired waterways.
- Support reduction in impervious surfaces and implementation of green infrastructure in local codes, through incentives, and in infrastructure investments where appropriate.
- Support best practices for Integrated Pest Management.

### 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 supporting 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 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

- Explore opportunities to develop and expand local food systems, including community gardens and urban farms.
- Increase the total number of community garden plots to provide equitable access and 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 and regional stakeholders.
- Support and recognize Portland's role as a thriving food economy in City codes and policies.
- Increase the urban tree canopy by 15% above current canopy coverage to benefit air quality, local climate, CO<sub>2</sub> absorption, and aesthetics.
- Model environmentally-sound landscape management practices, such as planting for pollinators, planting native species, and limiting the use of pesticides and fertilizers.



## POLICY GUIDE: ENVIRONMENT

### 5. DEVELOP CLIMATE RESILIENCE

- Collaborate with surrounding municipalities to strengthen comprehensive climate change adaptation and mitigation planning.
- Evaluate the capacity of municipal infrastructure to meet or exceed needs associated with increased flooding impacts.
- 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 adoption of an energy disclosure ordinance for larger commercial and multi-family buildings 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 rooftops, 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. Even more, these green infrastructure solutions provide clear and dramatic side benefits by creating habitat, enhancing air quality, improving the landscape, and supporting climate resiliency.



## SNAPSHOT: ENVIRONMENT

- Advocate for state adoption of up-to-date building codes, and consider adoption of supplemental provisions to ensure high-performance buildings.
- Strive to be a state-wide leader in creating high performance buildings in order to decrease carbon emissions in the building sector.
- Eliminate, by 2040, net CO<sub>2</sub> emissions from City operations through means such as improved efficiency of lighting and heating, installation of solar arrays, purchase of renewable electric power and conversation of vehicles to electric propulsion.
- Encourage City residents to invest in renewable energy for heating and transport.
- Encourage commercial entities to reduce fossil fuel use through expanded benchmarking, incentives for improved lighting and heating efficiencies and purchase of electric vehicles.
- Encourage fossil fuel-free transport through support for electric vehicles, electric public transit, dedicated bicycle lanes and vehicle exclusion zones.
- Ensure that all municipal decisions take into account the necessity of essentially eliminating carbon dioxide emissions within 30 years.

### 7. SUPPORT SUSTAINABLE LAND USE & 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 practices in rehabilitation of historic resources and in new construction.

### 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.

### 9. MINIMIZE LIGHT & NOISE POLLUTION

- Promote the use of energy-efficient lighting that minimizes glare and light pollution while providing adequate lighting for safety.
- Maintain and enforce applicable standards that mitigate noise impacts.

### 10. INCREASE EDUCATION OPPORTUNITIES

- Foster education and provide easily accessible information for residents and visitors on climate change impacts, waste management, environmental resources, and steps for local action.

# An Enduring City

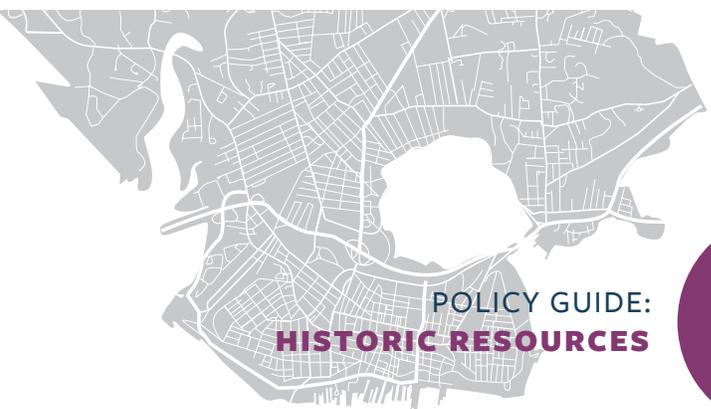
**PORTLAND HAS AN EXTRAORDINARILY RICH HISTORY.** The historic buildings, streetscapes, neighborhoods, and parks we experience today are the most tangible links to that history and are valuable because they tell Portland's unique story.

Thanks to a combination of luck, vocal advocacy, and adopted public policy, many of Portland's historic assets have remained vital parts of the urban fabric as the City has continued to grow and evolve.

In 1990, the Portland City Council established a preservation program within the Department of Planning and Urban Development to ensure that stewardship of Portland's historic, cultural and architectural assets is an integral part of the City's urban planning strategy. Portland's preservation program seeks to identify and document historic resources throughout the City and educate the public about their significance and ongoing contribution to present-day Portland. The program also includes a regulatory tool to effectively preserve and enhance these historic resources over time. Today, Portland's historic preservation ordinance protects more than 2,000 properties, in areas as diverse as the Old Port, Stroudwater, Congress Street, the West End, India Street, and Fort McKinley on Great Diamond Island. The intent of the ordinance is not to prevent change, but to thoughtfully manage it, so that

the unique character of historic buildings, parks, commercial districts, and neighborhoods is retained. Designated properties are protected from demolition and proposed alterations or additions are reviewed to ensure compatibility with a property's original design. New construction within designated historic districts is also reviewed to ensure a respectful relationship between new and old.

Although many of Portland's historic structures and neighborhoods have been documented and afforded protection, particularly on the peninsula, other lesser-known areas and structures remain to be studied and considered for preservation. Survey, documentation and, where appropriate, designation will be an ongoing priority of Portland's preservation program. Only with a fuller understanding of Portland's existing building fabric will the potential impacts and consequences of proposed development be appropriately evaluated. Ongoing education will also be key to the success of Portland's preservation efforts. If current and future residents appreciate why these places matter, Portland will be able to retain its historic assets over time. Under the regulatory arm of the program, the City must continue to seek a balance between preservation of its historic fabric and meeting new or changing demands, such as building code and accessibility requirements and evolving building technologies.



**POLICY GUIDE:  
HISTORIC RESOURCES**

Embracing and encouraging quality contemporary architecture will be important as well if we are to contribute elements of our own time to Portland's continuing story.

Today, the impact of the Historic Preservation program in Portland is clear: identifying and preserving historic resources stabilizes neighborhoods makes economic sense, and contributes to a distinct sense of place that helps make Portland such a desirable place in which to live, to visit, and to invest. A walk or drive through any of Portland's historic districts reveals exciting changes, as more and more old buildings are carefully rehabilitated according to historic preservation standards while compatible new buildings are absorbed into the mix. In addition to the economic benefits of preservation, the sustainability implications of our historic legacy are increasingly recognized. As the City grows, preservation of its historic resources remains an integral part of Portland's future.



**INDIA STREET  
HISTORIC DISTRICT**

The designation of the India Street Historic District in 2015 was one of the major outcomes of a 2 ½-year neighborhood planning effort aimed at identifying the area's assets, needs, and aspirations. Historical research and a detailed architectural survey revealed that not only was India Street the site of the first European settlement on Portland's peninsula, the neighborhood also served as home to a long succession of immigrant groups arriving in Portland throughout the 19th and early 20th centuries. The cultural and economic impact of each of these immigrant communities on the India Street neighborhood can be found today in the variety of religious buildings that are the area's key landmarks and in the many family businesses established in the neighborhood, some that continue to the present day.

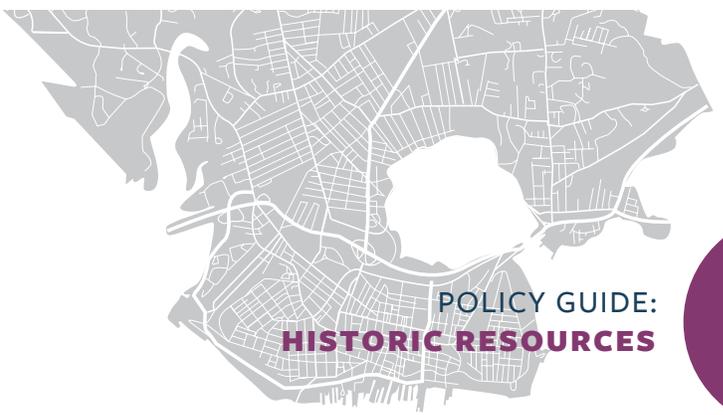


## RECENT & ONGOING INITIATIVES

Since the establishment of the City's Historic Preservation Program in 1990, the City has assumed responsibility for the identification, designation, and ongoing stewardship of Portland's historic resources, which include individual landmarks, residential and commercial historic districts, historic landscape districts, and historic cemeteries. To date, the City of Portland has designated 73 individual landmarks, 11 historic districts, five historic landscape districts, and three historic cemeteries. As with its designation function, the development review aspect of Portland's preservation program is generally well known - each year, the City's Historic Preservation Board and staff review more than 300 applications.

However, the City's Historic Preservation program entails many other ongoing responsibilities and

initiatives that are key to Portland's overall health and well-being. The Historic Preservation program conducts historic resource surveys to identify and document historic resources warranting potential designation and protection under Portland's historic preservation ordinance. The program provides critical design consultation and technical assistance to public, private, and non-profit entities engaged in projects with historic resource implications and develops design guidelines and master plans for historic districts and landscapes. Last, the program actively engages in efforts to secure funding for local preservation initiatives, support public education around the City's history, and build partnerships with non-profits doing preservation-related work - Greater Portland Landmarks, Committee to Restore the Abyssinian, Maine Charitable Mechanics Association,



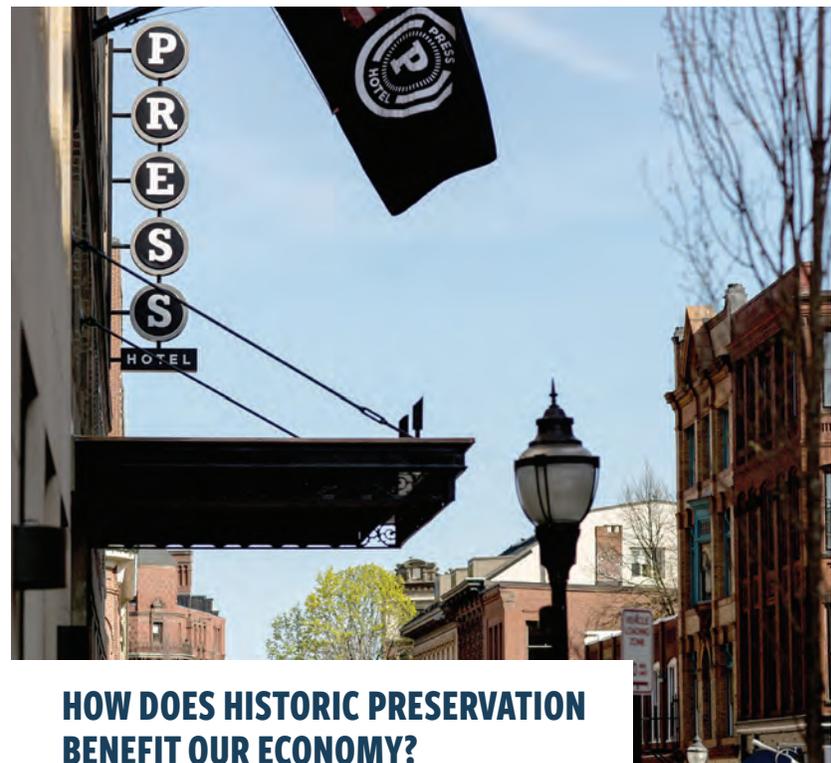
## POLICY GUIDE: HISTORIC RESOURCES

In the past decade, the City has made great progress in protecting and enhancing Portland's historic architecture and landscapes. The City has conducted five historic resource surveys, including a recent survey on Forest Avenue and Stevens Avenue in collaboration with Greater Portland Landmarks. The program has designated four new historic districts in recent years - from Congress Street in 2009 to House Island, India Street, and most recently, the Portland Company complex - and three individual landmarks - the Nathan Clifford School, the Ann Freeman House on Munjoy Hill, and the Abraham Levey Block on Middle Street. The program has also developed plans for important historic resources - Fort Allen Park, Lincoln Park, and Fort Gorges. Each of these efforts has helped not only to preserve critical elements of the City's past, but, as a whole, to spur additional public and private investment in the City.

The program has also engaged in active efforts to advance public education and fund local preservation efforts. In 2013, over 30,000 century-old photographs of Portland properties were made available on-line through partnership between the City, the Maine Historical Society, and the Portland Public Library. And since 2010, the Historic Preservation office has collaborated with the Economic Development Department to provide technical assistance and design consultation to building and business owners revitalizing storefronts along traditional commercial corridors, such as Congress Street, and more recently, India Street.

Over the coming decade, the Historic Preservation program will continue to play multiple roles as an

advocate for preservation and a facilitator of compatible change. In order to achieve the vision of Portland's Plan, the City must continue to work to carefully manage these two roles, and to celebrate those fundamental elements of the City that are central to its history in order to ensure that its future is as successful as its past.



### HOW DOES HISTORIC PRESERVATION BENEFIT OUR ECONOMY?

While being part of a historic district can involve an additional layer of review for maintenance and renovations, the benefits to property owners and to the community are extensive. Enacting historic preservation standards has consistently shown to stimulate private investment and increase property values. Preservation efforts also capitalize on existing infrastructure and services, offer spaces conducive to small businesses, diversify housing options, and can be a catalyst for downtown revitalization. Investing in historic resources makes good economic sense.



POLICY GUIDE:  
**HISTORIC RESOURCES**

## STATE GOALS

To preserve the State's historic and archaeological resources.

## LOCAL GOALS

### WE WILL:

Identify, document, designate, and preserve Portland's historic resources, including individual structures, neighborhoods, parks, cemeteries, and archaeological resources.

Educate and engage residents and visitors in appreciation of Portland's unique heritage.

Promote historic preservation as a key economic, sustainability and community development strategy.

Stabilize and enhance historic areas of the City by ensuring quality investment in existing structures and compatible infill development.

Ensure an appropriate balance of continuity and change as Portland grows and evolves.



## FUTURE STRATEGIES

### 1. SURVEY, DOCUMENT, AND DESIGNATE HISTORIC RESOURCES

- Continue to conduct architectural surveys, particularly in off-peninsula neighborhoods.
- Undertake a City-wide archaeological survey to identify potentially significant resources associated with Portland's agricultural, residential, and industrial heritage.
- Based on survey findings and input from applicable stakeholders, document and designate resources of historic, architectural and/or cultural significance to encourage thoughtful building rehabilitation, deter demolition, and support neighborhood revitalization.

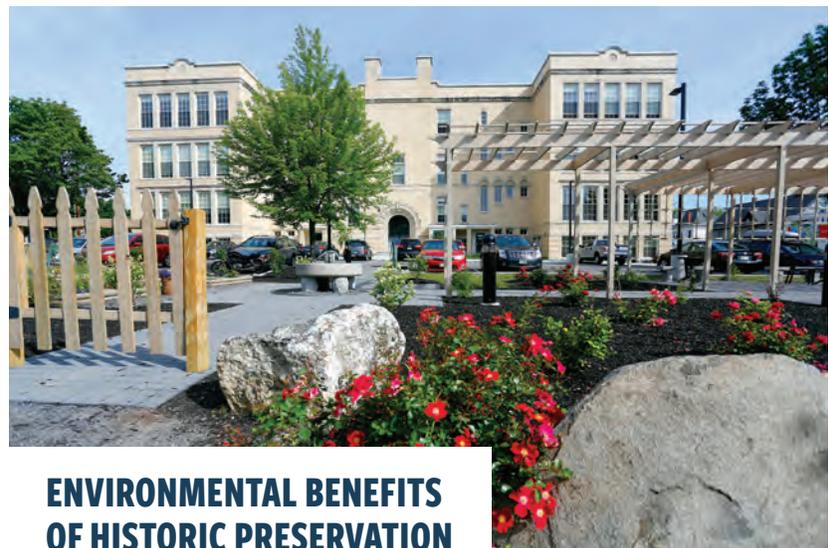
### 2. ADOPT MEASURABLE OBJECTIVES

- Prepare annual reports on preservation activities and projects reviewed under the Historic Preservation ordinance for distribution to City leadership, staff, and the public.
- Track performance on key preservation objectives.
- Consider national best practices in developing metrics.

### 3. ENCOURAGE INVESTMENTS IN HISTORIC STRUCTURES

- Disseminate information about existing federal and state historic tax credit programs available for the rehabilitation of income-producing historic properties.
- Pursue grant and low-interest loan programs, potentially in collaboration with local non-profits, to assist eligible building owners with the cost of historic rehabilitation.

- Consider a Transfer of Development Rights (TDR) program to allow for the permanent transfer or sale of unused development potential of historic landmarks or districts to areas considered more appropriate for intensive growth, allowing direct revenue from the transfers to be applied toward prescribed preservation initiatives.
- Explore a Tax Abatement Program for owners of historic properties to allow a period for recouping investment.



### ENVIRONMENTAL BENEFITS OF HISTORIC PRESERVATION

Recent research by the National Trust for Historic Preservation found that the reuse or rehabilitation of existing buildings offers significant environmental benefits over new construction. According to their report, *The Greenest Building*, each year approximately 1 billion SF of buildings are demolished and replaced nationwide, resulting in significant environmental impacts associated with demolition and waste disposal, the production of new raw materials, and new construction. The study found that reusing an existing building can result in between 4 and 46% less environmental impact than new construction, depending on the type of building, location, and level of energy efficiency. Even when new construction is designed for optimal energy efficiency, it can take 10 to 80 years for a new building to offset the negative environmental implications of its construction.



## POLICY GUIDE: HISTORIC RESOURCES

### 4. ENHANCE PUBLIC AWARENESS

- Expand the Historic Preservation Program website to include detailed information about the history and architecture of each historic district, comprehensive building inventories, and areas that have been researched or surveyed but not designated.
- Initiate a street sign program to identify and highlight historic districts.
- Expand interpretive signage programs for historic parks and selected sites.
- Collaborate with non-profit organizations, such as Greater Portland Landmarks, on the development of interpretive mobile applications.
- Collaborate with Portland Schools in educating younger generations about Portland's History and architectural legacy.

### 5. ENSURE UNDERSTANDING OF PRESERVATION REQUIREMENTS

- Expand the Historic Preservation program website to include an explanation of review standards, illustrated design guidelines, examples of model projects, and answers to frequently asked questions.
- Provide adequate staffing to ensure effective public outreach, efficient and timely permitting, follow-up on approved projects, and enforcement of ordinance requirements.

### 6. FOSTER PARTNERSHIPS

- Collaborate with non-profits, private organizations, neighborhood associations, businesses, property owners, and affinity groups to pursue and expand support for preservation initiatives, including the implementation of adopted master plans for historic structures, parks, and cemeteries.
- Identify and secure available grants and public funding to leverage private support for preservation projects.

### 7. BALANCE MULTIPLE OBJECTIVES

- Accommodate multiple objectives, such as improved accessibility, improved energy efficiency, or climate change adaption, in alterations to historic structures while adhering to preservation objectives.
- Assess new construction techniques, products and materials for compatibility with historic structures, and develop policies and guidelines for their use in historic rehabilitation projects.

### 8. LEAD BY EXAMPLE

- Maintain City-owned historic resources to high preservation standards.
- Continue to implement improvements recommended in adopted master plans for historic parks and cemeteries.
- Ensure that public infrastructure projects in residential and commercial historic districts reinforce and enhance the distinct streetscape character of the district.

# A Port City

**WITH OVER 350 YEARS** as a center for shipping, fishing, commerce, travel, and tourism, the Portland waterfront offers a unique mix of heritage, ecology, and innovation. Combining private and public piers in support of a full range of commercial marine activities, Portland's harbor boasts a working waterfront in the heart of Maine's largest city. The waterfront also provides public access and invites tourism with dockside restaurants, historic architecture, harbor tours, and local and international ferry service.

This largely successful balance of disparate uses, coexisting next to and sometimes overlapping each other, is the product of decades of policy work on the part of residents, business leaders, marine industry, and local officials. Portland's waterfront policies seek to preserve marine uses, but also provide for a balance of non-marine uses which allow the waterfront to adapt to changing economic trends and evolving infrastructure needs, as well as to spur needed investment. This has proved an iterative process, one necessary for Portland's waterfront to remain responsive and relevant to evolving and cyclical conditions. As of 2016, Portland's is a vibrant port for international trade, lobstering, fish processing, aquaculture, vessel

services, passenger transportation, and recreational boating. Today, amidst flux and challenges, the City's working waterfront is expanding.

Portland's interwoven and adjacent marine-related and compatible non-marine uses provide a unique bridge between the City's maritime activity and the commercial, tourist, and recreational city. Even so, finding a balance between these sometimes competing, sometimes mutually beneficial, always shifting waterfront environments is an ongoing challenge. The waterfront simultaneously faces issues associated with aging infrastructure, public access, development impacts, and climate change. It is clear that investing in initiatives that both directly and indirectly support the City's historic, marine-related industries while allowing the waterfront to adapt to new and emerging marine-related industries and emerging water-dependent uses is the path toward a sustainable, healthy waterfront in the future.



91% of survey respondents support continued protections for Portland's working waterfront.



## RECENT & ONGOING INITIATIVES

The foundational document informing current waterfront land use policy in the City of Portland, the 1992 *Waterfront Alliance Report*, established the framework that has underpinned Portland's waterfront resurgence. Though Portland's waterfront and supporting policies continue to evolve, the 1992 report, based on extensive stakeholder engagement, provides a resilient structure for waterfront land use in the City. That structure, at its core, established a priority hierarchy of uses, from water dependent to marine-related and compatible non-marine, and identified primary purposes, uses, and activities best suited for the Eastern, Central, and Western Waterfronts.

There have been subsequent studies, planning, and policy work since the *Waterfront Alliance Report*, such as the 1998 *Port of Portland Cargo and Passenger Study* and the 2000 *Investing in Our Waterfront* report. The City undertook an extensive, multi-year master planning effort for the Eastern Waterfront in early 2000 which resulted in a vision for redevelopment of this area, including policy goals, design guidelines, and a height



study. In 2010, the City completed a comprehensive inventory, policy study, and zoning rewrite for the Waterfront Central Zone with the aim of calibrating the zone to allow for a balance of private investment in pier and wharf infrastructure, as well as continued support for commercial vessel berthing and support activities. And in June 2015, the City rezoned the easternmost portion of the waterfront to the Eastern Waterfront Port zone and B-6 Mixed-Use Zone, including modifications to the permitted heights and building envelopes. As a common thread throughout, the City reaffirmed its commitment



POLICY GUIDE:  
**WATERFRONT**

to policies that ensure continued opportunities and functional autonomy for marine economic activity.

In addition to this planning and policy work, there have been a number of waterfront initiatives in the past decade with major impacts on the form and function of the waterfront. Since 2006, the waterfront has seen a resurgence in international passenger ferry service, with the construction of the Ocean Gateway Marine Passenger Terminal and the reinstatement of ferry service to Yarmouth, Nova Scotia in 2014. In 2016, the Maine Port Authority was awarded a \$7.5 million grant for improvements to the International Marine Terminal (IMT), which will build on prior phases of investment in the IMT that connected the terminal to the national rail system for the first time in decades and vastly expanded the terminal's freight handling capacity.

Plans for future improvements are currently underway. The City is in the process of planning a road and utility extension along the Thames Street right-of-way, in keeping with the *Eastern Waterfront Master Plan*, to facilitate future development in the Eastern Waterfront. Plans to design and construct facilities on West Commercial Street, in keeping with the 2016 *West Commercial Street Multi-Modal Corridor Study*, have just begun. And the City is developing plans for enhanced recreational waterfront access at two locations: the East End Beach and ramp, through the East End Waterfront Access Project, and the Amethyst Lot, which has been slated for transformation into a newly designed and reimagined signature open space for recreation and active water use on the Eastern Waterfront.

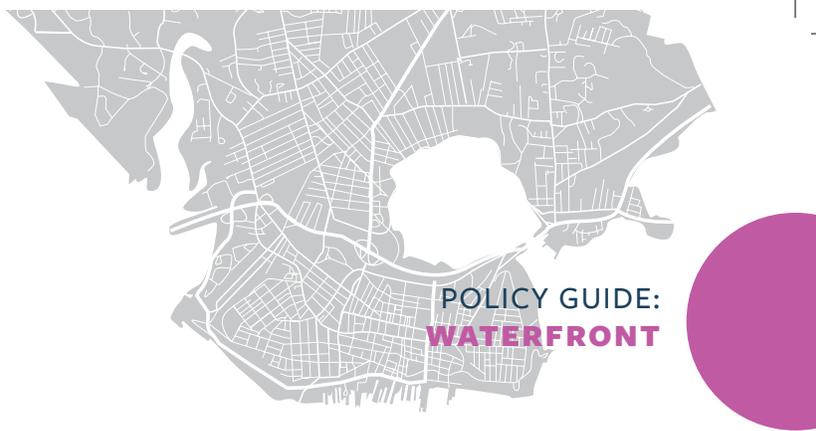


**THE EVOLVING WATERFRONT  
ECONOMY: AQUACULTURE**

During the early 1990s, when modern working waterfront preservation policies were developed, Portland's waterfront was highly dependent on ground fishing as a foundational industry. Following the 1990s, the dominance of ground fishing declined dramatically, with the resulting void largely, but not entirely, filled by lobster harvesting, distribution, and support industries. The Portland waterfront is now heavily dependent on the lobster industry.

While we celebrate our success as a lobster port and service center, history cautions against overreliance on a single fishery as the foundation of a community asset as important as the Portland waterfront. Fortunately, aquaculture, the farming of marine animals and plants for human consumption and utilization, provides tremendous opportunities for the marine economy and the future of our working waterfront. Currently, there are fewer than ten aquaculture businesses operating on the Portland waterfront, but significant growth is on the horizon. The State of Maine is investing in the industry with over \$20 million in research and development grants. The number of aquaculture leases is expanding, as are the number of species being farmed. The growing US market acceptance of seaweed as food, as nutritional supplement, and as a component of biotechnology dramatically increases the potential for aquaculture to transform the local marine economy.

All growing industries need space to evolve, experiment, and innovate. To foster this evolution, Portland needs to preserve the capacity within its waterfront to allow newly emerging Marine sectors, such as aquaculture and its support industries, to expand. By doing so, we create new sources of high quality seafood, and secure our place as a working harbor into the next generation.



## STATE GOALS

To protect the State’s marine resources industry, ports and harbors from incompatible development and to promote access to the shore for commercial fishermen and the public.

Coastal communities include the additional required goals:

To promote the maintenance, development, and revitalization of the State’s ports and harbors for fishing, transportation and recreation;

To manage the marine environment and its related resources to preserve and improve the ecological integrity and diversity of marine communities and habitats, to expand our understanding of the productivity of the Gulf of Maine and coastal waters and to enhance the economic value of the State’s renewable marine resources;

To support shoreline management that gives preference to water-dependent uses over other uses, that promotes public access to the shoreline and that considers the cumulative effects of development on coastal resources;

To discourage growth and new development in coastal areas where, because of coastal storms, flooding, landslides or sea-level rise, it is hazardous to human health and safety;

To encourage and support cooperative state and municipal management of coastal resources;

To protect and manage critical habitat and natural areas of state and national significance and maintain the scenic beauty and character of the coast even in areas where development occurs;

To expand the opportunities for outdoor recreation and to encourage appropriate coastal tourist activities and development;

To restore and maintain the quality of our fresh, marine and estuarine waters to allow for the broadest possible diversity of public and private uses, and;

To restore and maintain coastal air quality to protect the health of citizens and visitors and to protect enjoyment of the natural beauty and maritime characteristics of the Maine coast.



## LOCAL GOALS

**In order to support a healthy, diverse, and dynamic waterfront environment,**

### WE WILL:

\_\_\_\_\_

Prioritize and promote Portland's unique mix of water-dependent, marine-related uses and compatible non-marine uses.

\_\_\_\_\_

Recognize and reinforce the respective roles of the Eastern, Central, and Western Waterfronts.

\_\_\_\_\_

Celebrate, promote, and protect Portland's lobster and fishing industry as a foundation of the region's economy and a feature of civic pride.

\_\_\_\_\_

Maintain and modernize infrastructure to support the working waterfront and port capabilities.

\_\_\_\_\_

Ensure the future of the marine economy through support for emerging marine industries and mitigation of market trends that could compromise the

balance between marine industries and competing development.

\_\_\_\_\_

Recognize and reinforce waterborne transport of goods and people as foundational to our community.

\_\_\_\_\_

Promote passive and active recreational access to the waterfront.

\_\_\_\_\_

Create a resilient waterfront in the face of sea level rise, including increased storm frequency and intensity trends.

\_\_\_\_\_

Develop effective public and private partnerships to promote the Port of Portland as an economic engine for the State of Maine.



## FUTURE STRATEGIES

### 1. ADOPT MEASURABLE OBJECTIVES

- Identify metrics, collect data, and adapt existing waterfront policies.
- Routinely evaluate the capacity of existing waterfront zoning and technical standards to address changing economic drivers that result in new marine uses, dimensional requirements, and infrastructure needs.
- Inventory marine and non-marine use and occupancy in the Central Waterfront to inform evaluation of future opportunities for marine use expansion potential.

### 2. INVEST IN INFRASTRUCTURE

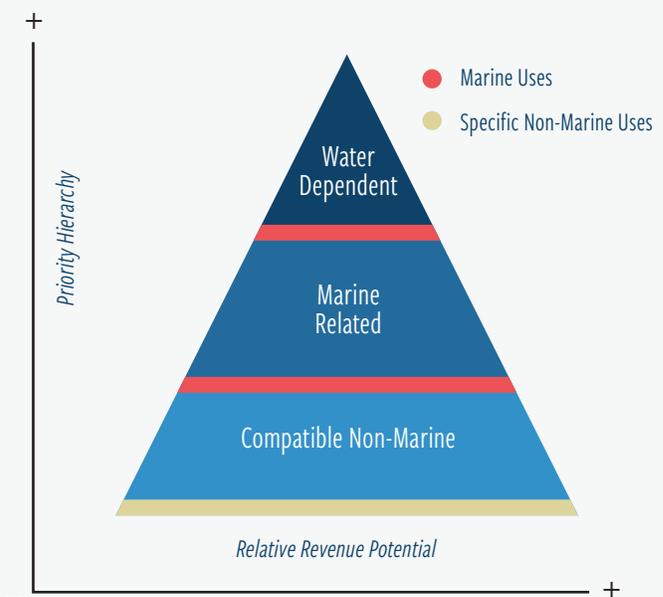
- Seek funds and create incentives to improve facilities for marine industries, including the maintenance and expansion of public and private berthing, dredging, and land-side infrastructure.
- Develop a capital improvement plan for the Eastern Waterfront for public and private investment in public facilities, including road and utility extensions, to facilitate planned and future development consistent with the *Eastern Waterfront Master Plan*.
- Continue to explore funding for pier maintenance in the Central Waterfront.
- Support private, federal, and state investment in the Western Waterfront.

### 3. EXPAND WATERFRONT ACCESS

- Expand waterfront access for the public where possible and appropriate.
- Program, design, and transform the Amethyst Lot into a signature waterfront open space for community boating, recreation, and active marine use.

- Implement improvements to the East End Beach to expand facilities for non-motorized recreational boating.
- Explore the potential for greater recreational access to and along the Fore River.
- Protect and promote access to the waterfront and Portland islands for commercial and marine activity, including berthing.

Waterfront Use Hierarchy



### 4. IMPROVE FREIGHT FACILITIES

- Coordinate with Casco Bay Island Transit District for improvements to vehicle and pedestrian circulation on Maine State Pier for improved site layout and freight handling.
- Facilitate the development of logistics and storage infrastructure that supports the economic viability of the port while prioritizing the functional needs of marine transport.



## 5. VISUALIZE WATERFRONT POLICIES

- Produce illustrated design guidelines for marine and non-marine pier compatibility to serve as accessible, visual guidance for marine protective performance standards.

## 6. PLAN FOR CHANGING CLIMATE

- Develop policies to support both mitigation of and adaptation to rising sea levels, changing water chemistry, increased water temperatures, and escalation of storm frequency and intensity, particularly as they impact piers, wharves, and low-lying infrastructure.
- Study the economic risk of increased storm frequency and sea level rise for all City-owned or managed infrastructure assets.
- Help property owners assess risk to waterfront and near waterfront assets and direct risk assessments to investments in more resilient infrastructure.
- Integrate best practices for adaptive waterfront strategies, including adaptive construction techniques, stormwater infrastructure and utilities, site protection, floodproofing, and risk avoidance, into the City's technical standards and land use code.
- Consider land use tools to incentivize exemplary construction practices for climate resilience.
- Capitalize on emerging trade, fisheries and transportation patterns to the Arctic, Northern Europe, and beyond.



## WATERFRONT CHALLENGES

- Buildings, piers, and infrastructure require maintenance and investment over time, including private investment in waterfront property and businesses.
- Retaining public access in the context of a working port, through facilities like the Eastern Promenade, East End Beach, the existing trail network, the Amethyst Lot, and piers that can be accessed by foot or by water, requires active management on the part of the City.
- As the City's waterfront changes, maintaining neighborhood integrity while respecting the needs of a working port must be addressed through quality of design, traffic mitigation, street improvements, and other performance standards.
- Change to water depths due to natural and human-influenced sedimentation requires dredging and responsible disposal of dredged sediments.
- Marine industries require new development forms and transportation systems as they change, with implications for both zoning and public infrastructure.
- Stormwater impacts that degrade harbor ecology and increase sedimentation necessitate robust stormwater runoff mitigation as redevelopment and infrastructure improvements occur.
- As climate change impacts are felt in rising sea levels and increased storm frequencies, Portland's waterfront faces new challenges to its infrastructure and economy that will require new tools and responses.



## 7. DREDGE RESPONSIBLY

- Coordinate with the Harbor Commission, South Portland, and other appropriate stakeholders to find a financial mechanism to dredge public and private piers and to achieve a Contained Aquatic Disposal (CAD) site for the responsible disposal of sediments.

## 8. PLAN FOR CITY TERMINALS

- Develop a plan for re-use of the Portland Ocean Terminal property, including evaluation of supporting infrastructure to attract increased and diversified commercial and marine tenants.
- Implement a plan for reconfiguration of the queuing area at Ocean Gateway to allow for more diversified marine activity, such as support for reuse of the Portland Ocean Terminal.
- Explore the feasibility of a new pier between Ocean Gateway and Maine State Pier to support increased commercial use of the waterfront and support for the marine passenger industry.
- Plan for growth of cruise ship visits while continuing to evaluate impacts on other marine industries and the downtown.

## 9. BALANCE TRANSPORTATION NEEDS

- Address transportation and congestion issues on Commercial Street to balance the mobility needs of marine industrial uses with bicycle and pedestrian safety improvements.
- Maintain Commercial Street, as the sole point of access for most of Portland's water-dependent uses, for truck access, loading, and staging.
- Continue to support local ferry service.



## CONSIDERATIONS FOR THE CENTRAL WATERFRONT

The central waterfront is located along the south side of Commercial Street from Maine Wharf to the east to Deake's Wharf in the west, and is characterized by privately held commercial piers running roughly perpendicular to Commercial Street into Portland Harbor and the Fore River. It represents the single largest resource of commercial vessel berthing in Portland Harbor and is an irreplaceable resource of state-wide significance. In addition to private commercial marine holdings, the zone is home to the Portland Fish Pier, the Gulf of Maine Research Institute, berthing for the United States Coast Guard, residential condominiums, retail and restaurant uses, two private marinas, and offices serving marine and non-marine interests. The goal for the central waterfront is to achieve a balance where non-marine economic development benefits the piers, Commercial Street, waterfront uses, and the City by sustaining marine infrastructure, protecting opportunity for commercial marine activity, and promoting appropriate access by the public to views and activities in Portland Harbor.

Since the 1990s, the ground fishing industry has undergone significant contraction - an over 50% loss of ground fishing vessels and an over 2/3 reduction in landings at the Portland Fish Exchange. The area has seen substantial privately-funded economic development, but waterfront infrastructure repairs and maintenance remain costly and necessary. The area has also experienced decreasing water depth at the piers due to natural deposition of sediments exacerbated by storm water overflows into the harbor. Maintenance dredging will be needed to ensure quality commercial berthing opportunities for public and private piers. It is unlikely that berthing revenues alone will support these costs.



- Evaluate and balance the potentially competing needs of cruise ship visits with international ferry service.

**10. SUPPORT TRADITIONAL AND EMERGING MARINE INDUSTRIES**

- Collaborate with private pier and waterfront property owners to implement waterfront policies that promote and protect the marine economy.
- Continue to support the Portland Fish Pier and Fish Exchange as regional anchors of the seafood economy.
- Promote development of cold storage warehousing to support a competitive Port of Portland by improving capacity to serve the cargo needs of the seafood, agriculture, food manufacturing, and beverage industries of Northern New England.

# A Vibrant City

## **GREATER PORTLAND REPRESENTS**

approximately half the State of Maine's economic output, and at the heart of the region, Portland provides a welcoming environment for current and future employers and entrepreneurs both large and small. The City's historic industries, such as manufacturing, fishing, shipping, and tourism are still relevant and evolving, even as Portland's 21st century economy is increasingly diverse. Portland simultaneously hosts a financial and services center, a growing biotech presence, a thriving local food cluster, a port of international trade, a regional healthcare hub, and a flourishing center of arts and culture.

The City's exceptional urban form is integral to the health of its economy - its compact, walkable downtown and neighborhood centers, strong transit connections, and spectacular setting on Casco Bay all contribute to Portland's distinct advantages. The combination of a vibrant City with an exquisite coast and proximity to lakes, rivers, and mountains remains central to attracting tourists, full time residents, and the businesses that serve them.

The geography of the City's commercial activity is shifting, dynamic, and multi-nodal. In addition to

areas such as the Old Port and the Arts District, which continue to be a magnet for new business and tourism, in recent years new clusters of economic activity have emerged outside of downtown. East Bayside is a locus of local food and artisan entrepreneurial activity; Thompson's Point is re-purposing existing historic industrial structures into innovative additions to Portland's arts and food scene; new businesses and housing are appearing on inner Washington Avenue; the International Marine Terminal is expanding; and the Eastern Waterfront is poised to achieve the vision set out for it over a decade ago. Recent planning initiatives, such as the rezoning of Forest Avenue, streetscape investments in Woodfords Corner, and the enactment of the India Street form-based code and historic district have created policy frameworks to help direct change in these areas.

The impact of Portland's economy is felt beyond its physical limits - its food culture is a catalyst for renewed agricultural growth in rural Maine, it is home to one of the state's three key ports and its largest airport, and its creative class has begun to spillover its own borders, helping to revitalize many other cities and towns all across the state. Portland is also increasingly a center for global industry, as well as an international travel destination.



The City's international shipping capacity is growing to respond to the needs of a 21st century marketplace. The number of regional businesses with international influence is expanding and more employers are making Portland their global and U.S. headquarters for such industries as healthcare, technology, electronic payments, and insurance.

Portland's entrepreneurial environment has received national and global recognition. Our food and maker economies continue to thrive and we continue to explore ways to grow our value-added industries, such as brewing and distilling, seafood processing, farm-to-table restaurants, and other food producers who build on the high quality raw materials of local agricultural and natural resources. Remote workers also represent a growing sector of the City's economy, drawn here for Portland's distinct quality of place, and enabled by sound transit and communications systems. Creative and collaborative workspaces are flourishing in the City, providing opportunities to meet the changing needs of the 21st century workforce.

There are many challenges for Portland's economy, including a scarcity of office, industrial, and commercial space to meet current demand; an aging workforce; the need to cultivate and attract a workforce with the skills needed in today's economy; low population growth; low household income relative to the region and the country; rising housing costs and insufficient housing supply. These challenges are critical to address if Portland is to thrive in the years ahead.

Portland is poised for growth in population, jobs and greater diversity in the coming decade. However, sustaining a robust economy calls for Portland to welcome innovation and respond to shifting economic trends. Perhaps the most critical element for the City's economic future is tapping the nascent energy of current and future entrepreneurs and the many individuals, of all skill levels, that contribute to the businesses and organizations that will drive Portland's economic future.



## RECENT & ONGOING INITIATIVES

In 2011, the City developed an *Economic Development Vision + Plan*, as part of a collaboration with the Portland Community Chamber of Commerce, Creative Portland, the Portland Development Corporation, the Convention and Visitors Bureau, and Portland Downtown. This plan established three core economic development focus areas for the City – growing the economy, enriching the creative economy, and supporting business – and laid the foundation for the City-led economic development initiatives and programs of the following years.

The City's economic development work in the wake of the 2011 plan has focused squarely on these focus areas. At a broad level, the City has engaged in a public process to assess the potential for improvements to basic services central to the health

of the economy, such as broadband internet, and invested in efforts to streamline its development regulatory process. Simultaneously, the City has embarked on a re-branding effort designed in part to highlight the elements of Portland that make it unique and attractive to business, and invested in marketing Portland's economic development programs through the City's website and print media. All the while, the City has continued to participate in the Greater Portland Economic Development Corporation (GPEDC), which involves municipalities through the region and local educational institutions to recruit out-of-state businesses, market, and stimulate economic growth. And, beginning in 2016, the City engaged in an initiative led by the Portland Regional Chamber of Commerce to generate an annual economic scorecard to measure Portland's economic performance.



The City continues to focus on business-based strategies which include site location assistance, direct commercial lending, job creation, facade improvement grant programs, technical assistance through partnerships with the Small Business Development Center, SCORE, and Coastal Enterprises, Inc., and the provision of financial incentives. The City also has made place-based efforts, establishing area-wide TIF districts to support transit and public infrastructure as a means of promoting economic development, and actively marketing City-owned real estate at the Portland Technology Park, Bayside, and Riverside Street to attract private investment.

This work is supplemented and enriched by the activities and partnerships of local organizations, such as Creative Portland, Portland Downtown, and Greater Portland Council of Governments, for instance, which have supported the City's efforts to identify and capitalize on areas of potential growth. As a product of these collaborations, Portland was recently designated by the federal government as a Sustainable Food Production Cluster, one of twelve nation-wide. The designation will enhance and support the already substantial manufacturing of dairy, seafood, aquaculture, and value-added products that are an increasingly important part of the local economy.



## STATE GOALS

Promote an economic climate that increases job opportunities and overall economic well-being.

## LOCAL GOALS

### WE WILL:

\_\_\_\_\_

Create economic prosperity by growing Portland's tax and employment base.

\_\_\_\_\_

Value innovation and creativity as cornerstones of the local economy, and central to Portland's uniqueness and diversity.

\_\_\_\_\_

Reinforce the waterfront as a key component of Portland's economic health, balancing traditional and emerging industries with tourism and recreation.

\_\_\_\_\_

Support sustainable growth in our educational, medical, and cultural institutions.

\_\_\_\_\_

Invest in, attract, and retain human capital to support a growing economy.

\_\_\_\_\_

Respect that our unique quality of place is key to our current and future economic success.

\_\_\_\_\_

Value and nurture Portland-based businesses.



## FUTURE STRATEGIES

### 1. ADOPT MEASURABLE OBJECTIVES

- Track economic indicators and periodically issue performance reports to keep the staff, City leadership, and the public apprised of performance.
- Consider regional and national best practices in developing metrics.

### 2. SUPPORT LOCAL BUSINESS RETENTION & RECRUITMENT

- Pursue policies that create, nurture, and retain local businesses.
- Support job creation and business growth through public initiatives, and private, institutional, and regional partnerships.
- Strengthen City programs and services that support business development.
- Develop programs that support industries with high growth/high value potential such as life sciences, food production, information technology, and marine and marine-related industries.

### 3. INVEST IN INFRASTRUCTURE

- Make physical improvements and expansions to below- and above-grade infrastructure, including utilities, stormwater, transit, parking, and streets, to maintain and accommodate new growth.
- Coordinate interdepartmental planning and investment strategies, which may involve strategic public investment, private investment, or public/private partnerships.
- Examine ways that the sharing economy can be leveraged to serve Portland residents in effective and innovative ways.

- Encourage investment in mobile technology infrastructure for all residents.

### 4. INVEST IN PEOPLE

- Prepare our current and future residents to compete in an increasingly knowledge-based economy.
- Invest in educational institutions and training as a means of attracting, developing, and retaining an educated workforce.
- Establish a new City office to address issues of economic opportunity and workforce integration.
- Identify and invest in current and future entrepreneurs to anchor startups.

### 5. TARGET AREAS FOR JOB GROWTH

- Ensure that new employment can be accommodated in priority growth areas across the City.
- Evaluate zoning and the condition of existing infrastructure in priority areas - downtown, in identified neighborhood nodes, and along transit corridors - to ensure that employment and housing growth can be supported.
- Expand possibilities for live/work spaces - residential living space with integrated creative work space.
- Modify ordinances and make strategic investments to better promote business development and job creation in priority areas.



## 6. PLAN FOR INSTITUTIONAL GROWTH

- Promote the orderly expansion of institutional uses, such as educational, cultural and hospital campuses, which are central to workforce development, employment, and the health of the local and regional economies.
- Ensure that the growth of Portland's educational, medical, and cultural institutions is integrated into Portland's urban fabric through the use of high quality design, management of impacts, community partnerships, and innovative planning.
- Sustain and strengthen relationships between local organizations and our anchor institutions to capitalize on their unique value to the well-being and future success of Portland and the region.

## 7. ENCOURAGE INNOVATION AND ENRICH THE CREATIVE ECONOMY

- Capitalize on the potential of temporary measures, activities, and uses to support and test new projects in the City, and explore models for incorporating changes in policy in an incremental and scalable way.
- Continue marketing and branding programs and refine recruitment strategies.
- Support policies that foster innovation, entrepreneurship, and the creative economy.
- Capitalize on emerging open data trends to encourage transparency, test ideas, and develop solutions for urban issues.



## BUY LOCAL

Portland Buy Local is a campaign of the Portland Independent Business & Community Alliance with over 450 members. Their mission is to support locally owned, independent businesses in Portland, maintain the City's unique community character, provide continuing opportunities for entrepreneurs, build community economic strength, and prevent the displacement of community-based businesses by national and global chains.

Portland Buy Local was borne out of research that consistently demonstrates the positive impacts of locally owned businesses, which tend to keep a greater share of money circulating in the local economy than their large national counterparts, and are relatively resilient in the midst of macroeconomic fluctuations. For example, recent research by the Maine Center for Economic Policy found that, in general, money spent at local businesses generates as much as a 76% greater return to the local economy than money spent at national chains. Research has identified other benefits of buying local as well - creating local jobs, reducing environmental impacts, promoting entrepreneurship, and fostering community among them.



## POLICY GUIDE: ECONOMY

### 8. EMPHASIZE ARTS AND CULTURE

- Leverage arts and culture as a central element of Portland's distinct quality of place.
- Support our cultural institutions and spaces for the arts.
- Support access to arts and culture for all residents.

### 9. INVEST IN TRANSPORTATION

- Recognize the role of the transportation system in the current and future economic health of the City.
- Maintain and invest in our multi-modal transportation system - the International Jetport, Ocean Gateway, passenger rail service, the International Marine Terminal, METRO, CBITD, the Portland Transportation Center and our bicycle and pedestrian infrastructure - as a foundation for local, regional, and international economic growth and as a bridge to future economic opportunities.
- Enhance connectivity between transportation modes by expanding intermodal passenger service at the Portland Transportation Center, and between transportation hubs such as the Jetport, Casco Bay Island Ferry Service, Portland Transportation Center, and downtown.

### 10. SUPPORT THE WATERFRONT

- Recognize the waterfront as a major economic driver through policies and infrastructure that support a resilient and modern working port.
- Leverage the economic potential of Portland's marine sector as an innovator in climate change adaptation.

### 11. IMPROVE CONNECTIVITY

- Invest in broadband to support a 21st century workforce, including telecommuters and entrepreneurs, improve connectivity for the entire community.



### WHAT IS THE CREATIVE ECONOMY?

Defined loosely, the creative economy is economic activity generated from creative pursuits, whether in association with the arts, culture, technology, or other creative sectors. The creative economy has been widely credited with leading economic growth in the last decade, and communities across the country continue to explore ways to foster it. The expansion of the creative economy has clear planning implications: it has already reshaped the way people work and where people work, allowing for major shifts in patterns of land use and transportation.

One manifestation of the strength of the creative economy in Portland is Maine Startup & Create Week, launched in 2013, which brings people from around the country to Portland every June to learn, connect, and celebrate innovation and high-impact entrepreneurship. Hosted at Maine College of Art, thousands of attendees have come from more than 30 states to attend events, collaborate, and hear speakers from founders of companies as diverse as Portland startups, Amazon, WEX, Google, and IDEXX.

# A Livable City

**WHILE PORTLAND HAS WELCOMED** much needed new housing construction in recent years, both the lack of sufficient housing supply and the affordability of that housing for a healthy socio-economic cross-section of the population remain urgent challenges. This phenomenon is not unique to Portland - cities across the nation have recently experienced renewed investment and shifting demographics as the preference for living in close proximity to urban centers, transportation hubs, and walkable neighborhoods continues to grow. Stories of displacement and household instability have become more common as residents struggle to find decent, safe, and affordable housing.

The City of Portland is actively engaged in efforts to encourage housing preservation and creation for all income levels and household sizes City-wide, both through policy initiatives and through public/non-profit partnerships with agencies such as Portland Housing Authority, Community Housing of Maine, Avesta Housing, Preble Street, Shalom House, and the Maine Affordable Housing Coalition.

The City has a suite of existing tools and policies that remain important in supporting a more equitable and diverse housing supply. To supplement ongoing efforts in this area, the City Council's Housing Committee recommends new housing

policies, promotes balanced development, and makes recommendations regarding available development tools, such as tax increment finance zones, the Affordable Housing Revolving Loan Fund, Community Development Block Grants, HOME Program, and zoning and policy changes. The committee engaged in a robust public process throughout the spring and summer of 2016 not only to identify housing issues, but develop creative solutions. The Committee identified two main, interrelated themes: housing insecurity and lack of sufficient and suitable housing supply.

Today, Portland's population is well below its mid-20th century peak, but after decades of decline, Portland is growing, presenting the City with new opportunities and new challenges. The City will continue to examine and approve substantive policy changes to accommodate those seeking the benefits of city life, and recognize that the City's vitality rests on the availability of diverse, secure housing options for existing residents, new arrivals, and all stages of life.



## RECENT & ONGOING INITIATIVES

The City of Portland works to ensure decent and safe housing is available to a wide range of households. On a daily and ongoing basis, the City operates a range of essential housing programs that are central to the health and welfare of City residents. These programs vary from rental assistance and home rehab programs to affordable housing development subsidies and the operation of two homeless shelters, all designed to ensure that all residents of the City of Portland have access to a diverse range of safe and adequate housing.

This fundamentally important work is completed against the backdrop of the City's housing planning efforts. In 2002, Portland adopted *Housing: Sustaining Portland's Future*, a seminal housing plan which established policy goals to ensure an adequate supply of housing to meet the needs, preferences, and financial capabilities of all Portland households. It remains a valuable policy document, and since its adoption, Portland has actively undertaken additional initiatives to address the

City's changing housing needs, examining housing conditions through efforts like the 2015 *Portland 2030 Workforce Housing Demand Study*, assembled through a partnership with the Greater Portland Council of Governments (GPCOG).

This planning work has led to policy, like that considered in the 2015 Encourage and Ensure housing policy package and the 2016 Council Housing Committee deliberations, focused broadly on increasing the overall supply and diversity of the housing stock. Over the past several years, the City has amended its zoning ordinance to allow greater residential density in various zones, expand the applicability of an existing 25% density bonus, increase allowable heights in some parts of downtown, reduce parking requirements to eliminate barriers to development, and incentivize residential and mixed-use development on India Street through a form-based code. Other recent changes to the code have spoken directly to affordability – mandating the inclusion of affordable



workforce housing within all residential development projects of ten or more units, reducing fees for affordable housing development, and facilitating the creation of accessory dwelling units for income qualified households. These changes supplement existing policies meant to preserve Portland's housing stock, such as the City's Housing Replacement Ordinance, the Condominium Conversion Ordinance, and an ongoing effort to encourage income-restricted affordable housing development.

In addition to setting policy related to housing, the City of Portland has made a concerted effort to develop and implement tools to foster the creation of housing, many of them financial. For example, the City receives an annual allocation of funds from the federal HOME in part to help support the development and preservation of affordable housing. Since 2000, \$7.1 million in HOME funds have contributed to the development of approximately 813 units of housing. Similarly, since 2000, the City's Community Development Block Grant (CDBG) program has helped fund the development of approximately 103 units of housing and the City has used approximately \$1.4 million in Housing Development Fund resources to help subsidize the creation of approximately 224 housing units. In recent years, the City has also worked to develop alternative mechanisms for financing affordable housing development. The recently-established Affordable Housing Revolving Loan Fund, which works in conjunction with Affordable Housing Tax Increment Financing projects, is designed to capture a portion of the increased property values to be used in support of future affordable housing goals. The City has also released an RFP to incentivize the development of supportive housing for populations at risk of homelessness and has made City-owned land, like that at the Nathan Clifford school, available for housing development.



## DENSITY BY DESIGN

Density is a numerical measure of the number of people or buildings per acre of land. Because it is so often used to illustrate levels of crowding, density has often acquired a negative connotation. However, this connotation fails to take into account the positive contribution that well-designed, dense developments can make to quality of life. Density can provide numerous advantages over low density alternatives - it can be more environmentally friendly, it can promote transit use, and it can benefit the health of a community by providing customers for local businesses and opportunities for social interaction.

Portland has a number of neighborhoods that offer traditional urban densities - Munjoy Hill, the West End, Parkside, Deering Center, for example - and, these neighborhoods are largely successful. Residents can access stores, schools, dining, and entertainment within walking distance of their homes. By foot or bike, they can easily reach transit, trails, and recreational opportunities. These characteristics are largely possible because of their density. Well designed density is integral to healthy, walkable city neighborhoods.



## STATE GOALS

To encourage and promote affordable decent, housing opportunities for all Maine citizens

## LOCAL GOALS

### WE WILL:

---

Increase, preserve, and modify the overall supply of housing City-wide to meet the needs, preferences and financial capabilities of all Portland households.

---

Encourage additional contextually-appropriate housing density in and proximate to neighborhood centers, concentrations of services, and transit nodes and corridors as a means of supporting complete neighborhoods.

---

Pursue policies to enable people who work in Portland to have the option to live in Portland.

---

Collaborate with surrounding communities on regional housing solutions.

---

Encourage quality, sustainable design in new housing development.



## FUTURE STRATEGIES

### 1. BUILD ON EXISTING PROGRAMS

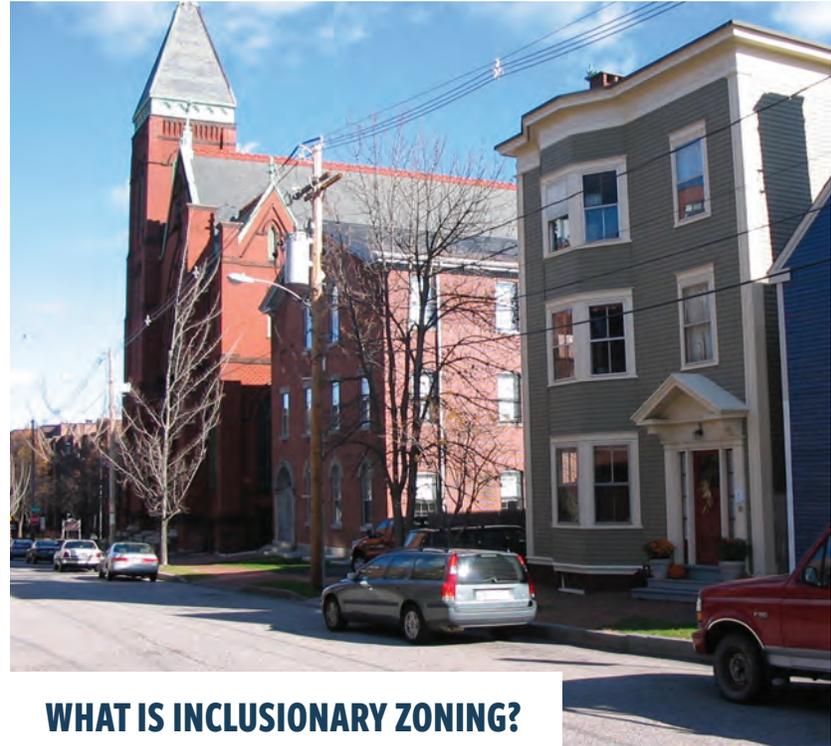
- Reinforce existing housing tools, policies, and programs while continuing to explore emerging best practices.
- Continue to implement best practices in workforce and affordable housing development such as the Housing Trust Fund, inclusionary zoning, and other tools.

### 2. ADOPT MEASURABLE OBJECTIVES

- Track performance on key housing objectives.
- Generate reports to keep staff, City leadership, and the public apprised of performance.
- Consider national best practices in developing metrics.

### 3. REMOVE HOUSING BARRIERS

- Evaluate whether current zoning allows for new development consistent with historic patterns of form, density and/or use, as well as whether it allows for priority growth areas.
- Assess the impact of current parking requirements on housing development, and evaluate the suitability of fee-in-lieu programs for some neighborhoods.
- Identify priority growth areas.
- Coordinate linkages between accessible transportation and housing affordability.
- Allow for a range of housing models in City codes, whether small units, co-housing, or others that may suit changing needs and demographics.



## WHAT IS INCLUSIONARY ZONING?

Inclusionary Zoning (IZ) requires that residential development projects of a certain size provide a portion of their units as affordable to income qualified households. Portland's IZ ordinance requires that all new projects of ten or more units reserve 10% of the units as "workforce" housing for households earning at or below 100% -120% of the Area Median Income (AMI). Developers are given the flexibility to provide units on-site, in another building nearby, or pay a substantial fee in lieu of each required unit. Any funds received through the fee in lieu option are deposited in the City's Housing Trust Fund to be used to maintain or create additional affordable units throughout the City.



## POLICY GUIDE: HOUSING

### 4. PROMOTE SUSTAINABILITY

- Encourage energy efficiency in new construction and rehabilitation of our housing stock.
- Encourage housing that is resilient in the face of climate change, severe weather events, and storm surges, especially in vulnerable low lying areas.
- Encourage rehabilitation of existing historic buildings and materials.

### 5. LEVERAGE UNDERUSED PROPERTIES

- Consider the sale of City-owned land that may be appropriate for housing development.
- Consider incentivizing affordability restrictions as part of City-owned property transactions, as well as the potential to return improved properties to the City's tax rolls.

### 6. EXPLORE NEW TOOLS

- Explore tools that support innovative frameworks for housing creation, stability, and affordability, such as but not limited to community land trusts and a Transfer of Development Rights program to encourage preservation of highly valued open spaces, natural resources, or historic resources while allowing development potential to be transferred to areas considered appropriate for more intensive growth.
- Develop additional resources for neighborhood associations and citizen planners, such as neighborhood planning toolkits and processes to enhance communication between neighborhood groups and City staff, to enrich community input.

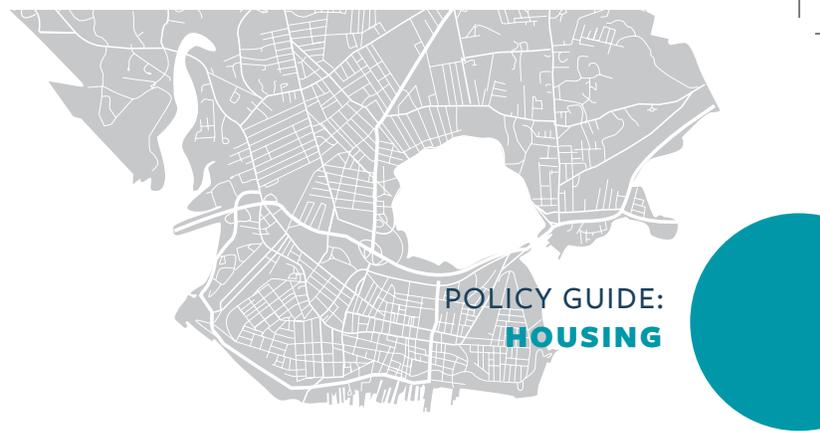
### 7. PLAN FOR SHELTER

- Ensure that the land use code aligns with City Council policy direction on homeless shelter placement and contemporary facility requirements.



### POPULATION GOAL IN CONTEXT

Portland's population hit a high of 77,634 in the mid-20th century, significantly more than its current total of 66,681 (US Census Resident Population Estimate for 2015). This plan supports the principle that all who work in Portland should have the option of living in Portland. The next decade can accommodate a sustainable growth target of 75% of the current workforce. With a total daytime population of approximately 96,000, this plan sets a 10 year population goal of 75% of this total, or approximately 72,000 people by 2027. The number of new households this implies could vary, but based on a current household size of 2.08, this would result in a total of 2,557 new housing units in the next 10 years. This growth will not occur at a constant annual rate. More growth may occur in some years and less growth other years, based on factors such as the economy, the housing market, and interest rates.



## 8. SUPPORT AGE-FRIENDLY HOUSING OPTIONS

- Support programs and tools that facilitate aging safely in place.
- Create, promote, and facilitate safe, affordable, and practical housing solutions that will meet the evolving needs of Portland residents as they age.

## 9. ADAPT AFFORDABLE HOUSING

- Assess the capacity of existing affordable housing developments, many of which were built over four decades ago, to adapt to current best practices, by improving energy efficiency and physical and social connections to surrounding neighborhoods.
- Pursue new opportunities for increased energy efficiency, increased densities, mixed incomes, and greater connectivity to surrounding neighborhoods.

## 10. SUPPORT ISLAND COMMUNITIES

- Support land use tools that encourage year-round residences in existing and new housing on Portland's islands, while maintaining their unique character and environment.

# An Active City

**PORTLAND'S OPEN SPACES** vary in size, purpose, and setting, and include parks, playgrounds, active playing fields, community gardens, plazas and squares, trails, natural areas, golf courses, cemeteries, and public school grounds. These spaces are the cumulative result of centuries of planning that dates back to the City's first permanent settlement and represent the forethought of residents, mayors, engineers, and world-renowned landscape architects. Today, the City hosts 63 parks encompassing 721 acres of land, 65 miles of trails, playgrounds and playing fields, a swimming pool, and a golf course, combining for a unique and multi-functional combination of urban and wild. Our open spaces include areas as diverse as the Eastern Promenade, Peppermint Park, Baxter Woods and Dougherty Field. The functions they serve are equally diverse, providing public access to Casco Bay and the City's waterways, forests, and play spaces, as well as supporting transportation, food production, public health, cultural events, plant and animal habitat, and valuable stormwater infrastructure.

Today, Portland has an open space or trail within a half mile of every residence, a remarkable achievement for any city. Challenges remain, not in total quantity of open space, but in funding and maintenance, in developing linkages between open spaces, and in programming to meet shifting demands, whether for increased recreational access to Casco Bay, improved distribution of community gardens, or proximity to neighborhood playgrounds. Continuing to preserve and develop open spaces, and improve connections between them, is integral to the health and well-being of Portland's residents, visitors, and ecology. The City's public spaces are central to its ability to foster neighborhood vitality, sense of community, recreational opportunities, environmental health, arts and cultural programming, economic development, and local mobility. A strong, walkable, bikeable, and accessible network of open spaces is an invaluable and necessary element of an equitable, healthy, and vibrant future.



## RECENT & ONGOING INITIATIVES

The City of Portland manages a parks and open space system that includes over 60 parks and playgrounds, 7.5 miles of multi-use trails, 10 community gardens, two stadiums, cemeteries, dozens of athletic fields and courts, all spread across 721 acres of land. The City also stewards an urban forest of 20,000 inventoried trees, maintains flowerbeds, meadows, and natural open spaces throughout the City, and provides a variety of recreation programming.

Over the last decade, Portland has made efforts to address the needs of its parks and park users, focusing broadly on open space amenities and programming. Some of these efforts have been coordinated with community partners and citizen advocacy groups, such as Breakwater School, Friends of Congress Square Park, Friends of Deering Oaks, Friends of the Eastern Promenade, Friends of Evergreen Cemetery, Friends of Heseltine Park, Friends of Lincoln Park, and Friends

of Riverton Trolley Park. These park advocates are a powerful asset to the City and help to raise awareness of individual park needs, fundraise for park amenities, and coordinate park programming, among other functions.

In 2006, the City updated its foundational open space and recreation plan, *Green Spaces, Blue Edges*, which still offers invaluable history on the evolution of Portland's open space system and natural environment. A decade later, Portland completed a long-range planning initiative to inform a new era of park and open space programming and maintenance. The City, working with Portland Trails, engaged the public in a series of community conversations as a means of identifying the City's recreation and open space needs and opportunities. Partnering with the Trust for Public Land, this work was leveraged into the 2016 *Portland Open Space Vision and Implementation Plan*. The tools developed and transferred to the City as a part of this effort,



## POLICY GUIDE: RECREATION & OPEN SPACE

including maps and data, the rapid park assessment tool, and the articulation of system-wide monitoring parameters, are designed to assist in realizing the plan's vision and goals. And in the wake of the plan, the City has invested in a series of planning efforts focused on enhancing and developing individual recreation and open space assets – the Lyman Moore Middle School athletic fields, Lincoln Park, the Hall School playground, Fort Gorges, Congress Square Park, and the Amethyst Lot among them.

Even while this planning work has occurred, the City has made lasting investments in its recreation and open space infrastructure. The City has conducted major renovations at Capisic Pond, Deering Oaks Pond, and in Baxter Woods to address drainage infrastructure and water quality. The City has developed a new playground at Ocean Avenue Elementary School, a skate park at Dougherty Field, and the existing field and track were replaced at Fitzpatrick Stadium. In addition, the City has made major investments in Fort Allen Park, the Eastern Promenade community garden, the Western Promenade walkways, and Evergreen Cemetery. All of this work, in its totality, has served to clarify the City's vision, provide a guide for future decision-making, and improve the City's immensely valuable park and open space assets.



### WHAT IS CREATIVE PLACE MAKING?

Creative placemaking is a cooperative, community-based process using arts and cultural expression to make or rejuvenate public spaces, thus deepening a sense of place and inspiring community pride. The Trust for Public Land identifies five principal components of creative placemaking:

**Arts and Culture:** Artists and local cultural organizations strengthen community identity and reinforce neighborhood pride. When incorporated into parks and open spaces, vibrant, authentic art engages and inspires the community.

**Community Engagement:** Creative placemaking begins with intensive participatory design. Neighbors and stakeholders learn from each other and collaborate to identify opportunities, address challenges, and create open space plans that resonate with and serve the needs of the community.

**Partnerships:** A network of thoughtful partners ensures that new and rejuvenated open spaces are woven carefully into their neighborhoods. Partners include local governments, educational institutions, arts groups, community organizations, and not-for-profit social service providers.

**Stewardship:** Parks and open spaces are living things that flourish when neighbors invest time and attention in ongoing operations.

**Equity:** Resources are best focused where new or improved open spaces are most needed to improve health, connect children with nature, support recreation, and help nurture neighborhood identity and stability.



**POLICY GUIDE:  
RECREATION & OPEN SPACE**

**STATE GOALS**

To promote and protect the availability of outdoor recreation opportunities for all Maine citizens, including access to surface waters.

**LOCAL GOALS**

**Portland commits to sustain and build our system of parks, trails, and open spaces to enhance our quality of life, protect our environment, and promote the economic well-being of our remarkable city by the sea.**

**WE WILL:**

Provide high quality, well-designed, well-maintained, safe and integrated parks, trails, public open spaces, and recreational opportunities accessible to all residents.

Strengthen connections between open spaces.

Ensure sound capital planning, adequate funding, and staffing for recreation and open space.

Promote engaged citizen stewardship.

Preserve the intrinsic values of the park and open space system, including historic resources, vistas, healthy ecosystem functions, and biological diversity.

Meaningfully program our public spaces.

## FUTURE STRATEGIES

### 1. ADOPT MEASURABLE OBJECTIVES

- Employ measurable objectives that collectively provide a desired level of service for Portland's open space system.
- Develop specific metrics for levels of maintenance, accessibility, funding health, programming, ecological health, connectivity, safety, and citizen stewardship through the use of rapid park quality assessments and maintenance plans.
- Consistently monitor the quality and condition of park and open space facilities.

### 2. MAINTAIN EXISTING FACILITIES

- Add amenities, such as cigarette receptacles, trash cans, bike racks, dog waste bags, and water fountains, where appropriate.
- Maintain trails, sports fields, courts, and playgrounds, and other amenities such as seating and landscaping, in good condition.

### 3. APPROACH FUNDING STRATEGICALLY

- Consider state, federal, and non-profit grant sources, public/private partnerships, and fundraising of private dollars to supplement the local budgeting process.
- Establish a clear protocol for involving commissions and the general public in the annual funding decision-making process so that the process is optimally transparent, collaborative, predictable, and incorporates the concerns and expertise of all stakeholders.

- Explore the potential for development-related impact fees that can be applied to funding open space planning, maintenance, programming and acquisition.



### REDESIGNING CONGRESS SQUARE

Congress Square is a central public open space located in a mixed-use neighborhood of retail establishments, arts and educational organizations, and affordable and market-rate housing. As the City grows, Portland residents are craving social connection and demanding public gathering spaces that are inspiring and interactive. The Congress Square Redesign and Public Art Commission is a design project, three years in the making, to fulfill that need in the heart of the City's Arts District. Creative placemaking is at the core of Congress Square's transformation from a neglected, inaccessible, car-dominated space into a vibrant gathering and arts place. Building on a two-year partnership with Friends of Congress Square Park, the Portland Public Art Committee is seizing on the unique opportunity to develop a collaborative, integrated urban design and public art proposal for Congress Square to better serve neighborhood residents, visitors, and arts organizations to meet the community vision of the square as a high quality, distinctive urban space that is accessible and inviting to all.



**POLICY GUIDE:  
RECREATION & OPEN SPACE**

- Adopt project selection criteria for prioritizing open space and recreation projects for capital and operating funding that foster objective and strategic decision-making.

**4. ENSURE EQUITY**

- Pursue opportunities, in collaboration with partners, to create new open spaces in areas that are currently underserved.
- Pursue opportunities for new and enhanced walking and biking trails as a means of filling existing gaps, and investigate paper streets, vacant land, medians, and other often overlooked areas for the potential for park linkages, trails, and other improvements to the urban landscape.
- Distribute community gardens, playgrounds, fields, public art, historic resources, and other program elements where the demand and need are greatest, and periodically assess demands and needs.
- Promote citizen stewardship in open space maintenance and programming.

**5. DEVELOP UNIQUENESS**

- Incorporate creative design, public art, and placemaking wherever possible to enhance aesthetic value.
- Engage the community in bringing arts and culture to the open space network.

**6. IMPROVE SAFETY, VISIBILITY & ACCESSIBILITY**

- Employ consistent signage to reflect distinct identities of elements of the open space system, as well as aid in wayfinding, while respecting

historic district and neighborhood branding initiatives.

- Expand safe, well lit walking and cycling routes to open spaces, including crosswalks, sidewalks, and bike lanes.
- Improve ADA accessibility in and to public open spaces.



**COMMUNITY GARDENS**

The City of Portland currently hosts ten community gardens in neighborhoods across the City. Managed in collaboration with Cultivating Community, an organization that advocates for a sustainable local food system through education on urban food production, nutrition, and refugee and immigrant farmer-training, these gardens provide valuable community space with clear public health, education, social, and environmental benefits. For example, Boyd Street Community Garden, created in 2009, was built in partnership between the City of Portland, Kennedy Parks Tenants' Council, and Cultivating Community. Previously a contaminated site that required City soil remediation efforts, the garden now has an orchard of 25 fruit trees, raspberry and blackberry bushes, honey bees, and a separate youth garden run by high school students to grow food for Cultivating Community's Elder Share CSA Program.



**POLICY GUIDE:  
RECREATION & OPEN SPACE**

**7. INCORPORATE MULTIPLE FUNCTIONS**

- Improve the utility of existing spaces by developing and programming parks and open spaces for diverse, simultaneous, complementary uses.

**8. INCREASE ECOLOGICAL HEALTH**

- Develop and implement forest management plans for wooded parcels, and improve the health and quantity of trees and natural areas in parks where forest management plans are not appropriate.
- Model ecologically sound landscape management practices in open spaces, such as planting native species, planning for potential wildlife corridors, planning for pollinators, and limiting the use of pesticides and fertilizers.

**9. INTEGRATE RESILIENCY**

- Pursue opportunities for optimizing green infrastructure and enhancing the existing stormwater management and flood storage functions of the City's open spaces where appropriate and practicable.

**10. CONNECT TO THE WATERFRONT**

- Encourage physical and visual access to Portland's waterfront - Casco Bay, Back Cove, and the Stroudwater, Presumpscot, and Fore Rivers - as a "blueway" network and an extension of public space for local and regional recreation and transportation needs.



**TOWARD AN INTEGRATED TRAIL NETWORK**

The City of Portland, in partnership with Portland Trails, hosts a world-class network of trails, accessible within a half mile of every household, which offers Portland residents and visitors opportunities to bike to work, walk to school, and access parks, businesses, and arts and entertainment. Just as importantly, the City's trails allow residents to take a hike, run, bike, experience wildlife, and enjoy the bay, our rivers, and our woodlands.

In recent years, the City has prioritized the completion of key linkages in the trail system which would allow for more widespread use. For example, the City is currently working on the connection between the Martin's Point Bridge and the Back Cove Trail, the extension of the Bayside Trail through Parkside and Libbytown, and the completion of the West Commercial Street Trail. With the completion of these connections, the City will have finished a Peninsula Loop, and will offer residents a safer opportunity to circle the entire peninsula by bicycle.



**POLICY GUIDE:  
RECREATION & OPEN SPACE**

**11. SUPPORT COLLABORATIONS**

- Continue partnerships with local and regional land trusts and conservation organizations, such as Portland Trails, Maine Audubon, and other non-profit organizations in open space creation, stewardship, and programming.
- Capitalize on the potential of temporary measures, activities, and uses to support and develop active public spaces through participatory design that incorporates robust stakeholder input.

**12. CONNECT THE CHAIN**

- Prioritize open space aquisition and programming toward creating linkages where there are gaps in the network, particularly between Stroudwater and the Fore River, Evergreen Cemetery and the Presumpscot River, Portland Transportation Center and Bayside, Martin’s Point and the Back Cove, and the western waterfront and the Fore River.



**PUBLIC ART**

Public Art has the goal of promoting the educational, cultural, economic and general welfare of the City of Portland. The public art program seeks to enhance and enrich the lives of the city’s residents, visitors, and employees by incorporating the visual arts into public spaces. Not only does public art play a role in providing high quality, well-designed public spaces, it also has the potential to increase access to works of art for all, celebrate the multi-cultural and diverse character of Portland’s communities, and contribute to the city’s civic pride and sense of identity. The public art program is administered by the Public Art Committee which is tasked with maintaining the public art collection and acquiring and siting new artworks throughout the city. Portland financially supports public art through the Capital Improvement Program which gives a half of a percent of the annual budget for acquisitions and maintenance of the City’s public art collection.

# A Full Service City

**THE CITY OF PORTLAND** provides a full range of public services consistent with other cities its size: fire and police coverage; solid waste management; public schools; public libraries; public water (through the Portland Water District); public health and elder services; public sewer; parks and recreational facilities and programs; street maintenance, sweeping, and plowing; and traffic operations. In addition, the City provides other services and facilities that make it unique - a municipal airport, a nursing and rehabilitation facility, a fish pier, marine passenger terminals, and two homeless shelters. The City, through various departments, manages public buildings, spaces, and infrastructure to support these services. Through private partners, the City also offers telecommunications services and energy infrastructure and supports other public needs. These facilities and services are vital to the health of the City's population and to the ability of the City to grow in the future.

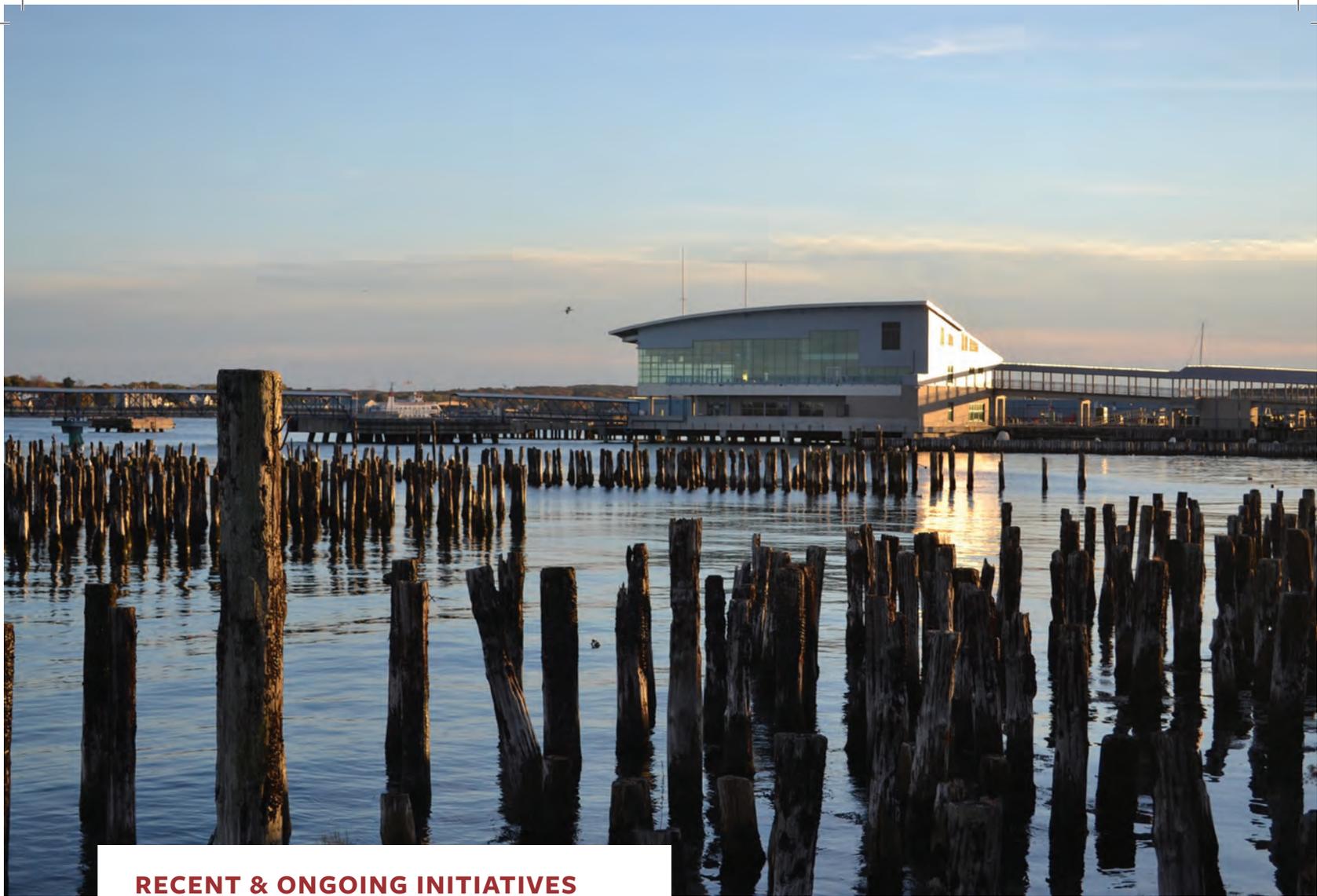
Funding improvements to facilities and services always presents challenges, yet resident satisfaction with these services is generally high. However,

quality, cost-effectiveness, and sustainability are ongoing concerns, as evidenced in recent initiatives to improve the City's solid waste management services, address existing deficiencies in public school buildings and sidewalks, and make needed investments in major stormwater separation projects.

Portland recognizes the importance of the community services it offers, from stormwater education for the public to community policing, addiction recovery advocacy, and youth outreach. Public facilities and services touch each corner of the City and are integral to its physical, fiscal, social, and environmental health. In order to support a high quality of life for current and future generations of Portland residents, the City must continue to invest in these fundamental facilities and services that lay the groundwork for Portland's overall well-being, security, economic development, and future growth.



Over 90% of respondents reported overall satisfaction with current City services.



## RECENT & ONGOING INITIATIVES

Over the past decade, the City has taken a proactive approach to long-range planning for facilities and services. In 2012, the City developed a *Strategic Plan to Prevent and End Homelessness* in Portland, which identified a series of programmatic and bricks-and-mortar action items intended to address issues of homelessness. In 2013, the City took a comprehensive look at its aging schools, resulting in a series of recommendations for renovation and reconstruction of elementary schools known as the *Buildings for Our Future* report. In 2016, the City completed a *Sustainable Airport Master Plan* for the Portland Jetport, which recommends improvements needed to enhance the airport's safety, efficiency, and sustainability. The City is currently undertaking an effort to assess the

capacity of existing fire stations, with an eye toward potential capital needs in these facilities, as well.

These planning efforts have resulted in significant improvements to the City's facilities and services. The City opened the doors of a new Ocean Avenue Elementary School in 2011, and a new Hall Elementary School is currently in final stages of design. In recent years the City has invested funds into a terminal expansion, runway improvements, and parking garage at the Jetport. The Department of Public Works has moved to a new base of operations on Canco Road, the Burbank Branch Library received a major renovation, and the City has facilitated the development of three new supportive housing facilities.



## STATE GOALS

To plan for, finance and develop an efficient system of public facilities and services to accommodate anticipated growth and economic development.

## LOCAL GOALS

### WE WILL:

Use planning and fiscal management to sustainably maintain a high level of service for existing infrastructure and programs.

Coordinate infrastructure planning and investments with areas of greatest anticipated growth.

Maintain and support a quality educational system, responsive to the educational needs of our community.

Strive to be an environmental leader in municipal sustainability programs and investments.

Provide public safety, emergency response, and emergency management facilities and services that can effectively meet the needs of all residents.



## FUTURE STRATEGIES

### 1. DEVELOP MEASURABLE OBJECTIVES

- Track performance on key indicators.
- Generate reports to keep staff, City leadership, and the public apprised of performance.
- Explore national best practices in developing metrics.

### 2. PROVIDE SERVICES TO ALL RESIDENTS

- Ensure transparency and access to City services and facilities for all residents.
- Operate City facilities and services in an efficient and effective manner that is responsive to all segments of the community.
- Explore efficient ways of delivering services to the homeless by investigating a wide variety of service models, evaluating the local potential of these models, and developing plans for implementation.
- Provide services that integrate new residents into civic and community life.
- Strengthen protocols for translation and interpretation services.

### 3. PROVIDE EXCELLENT EDUCATIONAL OPPORTUNITIES

- Make strategic investments in school facilities to modernize and update buildings and grounds, ensure student safety, and preserve and enhance neighborhood connections.
- Ensure that future land use policy is compatible with school plans by identifying growth areas, evaluating school capacity, and developing plans to address future service gaps.



## COMMUNITY POLICING

Since the mid-1990s, the City of Portland Police Department has placed community policing at the heart of its law enforcement strategy. Community policing, which is now widely adopted across the country, emphasizes close relationships between law enforcement and neighborhoods as a means of proactively identifying and resolving issues of public safety. Recent research on community policing suggests that the approach is associated with positive outcomes in terms of perceptions of disorder, police legitimacy, and resident satisfaction.

In addition, the Portland Police have taken a progressive approach to issues of mental health, instituting a behavioral health response program, in collaboration with community partners, that employs mental health professionals to provide direct service in the field, trains all officers in crisis intervention, and facilitates access to a network of community mental health service providers for purposes of support. The program has earned the department national recognition and is a critical component of the effectiveness of the force.



- Leverage state, local, and private funding to allow a comprehensive approach to sustain excellence in the school system.
- Continue to provide continuing education and job training for adults and new residents.

#### **4. ENSURE ADEQUATE EMERGENCY PREPAREDNESS**

- Update the City's *Emergency Action Plan* to ensure adequate integration of emergency responders.
- Leverage community partnerships to plan and implement steps to improve emergency preparedness.
- Evaluate Fire Department facilities and vehicles, looking at the adequacy of buildings and equipment for 21st century life safety needs, as well as the location of facilities in relation to changing growth patterns.

#### **5. MAINTAIN EFFECTIVE COMMUNITY POLICING**

- Continue to combine cutting edge law enforcement technologies with compassionate police engagement.
- Work with community partners to maintain and strengthen police-community relationships.
- Continue to develop partnerships to explore all available avenues to address the region's substance abuse and addiction issues.

#### **6. DEVELOP ASSET MANAGEMENT PLANS**

- Develop long-range asset management plans for public facilities in order to ensure that our limited public funds are maintained and invested in strategically.
- Engage in needs assessment and cost-benefit analysis for proposed public facilities.

#### **7. ADDRESS HOMELESSNESS**

- Align the City's land use code with City Council policy direction on shelter placement, shelter models, and facility requirements.
- Continue to embrace innovation and best practices towards eliminating homelessness.

#### **8. PLAN FOR FISCAL STABILITY**

- Keep tax rate increases manageable, and provide predictability and stability in tax rate increases while supporting City services and a stable labor force.
- Make fiscal stability a factor in land use planning by considering both public investments and potential gains in the City's tax base when planning for a sustainable future for the City, while recognizing that not all land use decisions will be driven by the fiscal impacts of the development produced.
- Ensure that the assessed values of property generally reflect their market value.



## 9. EXPLORE IMPACT FEES

- Investigate the potential of a more robust framework for assessing development-related impacts to generate additional funding, while also adding clarity and predictability to existing procedures.

## 10. PURSUE PUBLIC - PRIVATE PARTNERSHIPS

- Pursue public-private partnerships to fund needed projects and services.
- Frame City funding for major projects as seed money for potential projects, rather than the sole funding source.
- Look to examples of successful public-private trade-offs in other communities where public funding for capital projects is constrained.



## CITY BUDGET

The City has a robust and inclusive budgeting process that incorporates residents' interests and allows the City's elected officials to make informed decisions. The City has adopted policies that govern the way in which its two primary tools, the annual budget and the Capital Improvement Plan (CIP), and the financial transactions associated with them, are employed. These fiscal policies and budgeting processes have provided a successful framework for funding City services, as demonstrated by the recent upgrading of the City's Standard & Poor bond rating.

Like all municipalities, each year the City Council adopts an annual budget, including a multi-year Capital Improvement Plan (CIP). The CIP is designed to program for larger, durable items, such as buildings, fire trucks, or roadway improvements that will last for several years.

The City's budget must be self-contained, in that everything in it must be paid for. The City relies on a number of outside funding sources in its budget:

- State aid for education and general operations.
- Federal grants such as the Community Development Block Grant and HOME programs, which can be particularly helpful for planning objectives.
- Private donations, such as a recent major contribution to the library system for improvements to the Peaks Island branch.
- Grants from foundations to run pilot projects, operate special programs, or for other specific purposes.

As part of the budgeting process, the City identifies items that have outside funding, and then determines a property tax rate that pays for the balance. That rate is determined by the assessed value of each property in the City and the overall amount that needs to be raised. Portland's Plan is a policy guide, with goals that are, in total, beyond the scope of the budget process alone – fulfillment of this plan will be a community effort, achieved through cooperation with individuals, groups, and organizations, in addition to municipal action.



**POLICY GUIDE:  
FACILITIES & SERVICES**

**11. ADJUST CIP CALENDAR**

- Modify the City’s budgeting process to allow City staff, the public, and the City Council to focus on the annual budget each spring and then the CIP in the fall.

**12. CAPITALIZE ON EXISTING ASSETS**

- Explore ways to capitalize on existing, underused assets as a means of subsidizing programs and facilities with broad public support.
- Pursue disposition of properties that are no longer in active use, such as former schools, and invest the resulting resources to meet public goals.
- Prioritize returning income from land disposition to the City’s capital or long-term needs.

**13. MAINTAIN REGIONAL PARTNERSHIPS**

- Continue to work in partnership with regional and state agencies, neighboring communities, non-profit organizations, and private property owners in support of efficient, sustainable City services.

**14. ENHANCE RESILIENCY**

- Consider climate change and associated patterns of sea level rise, storm frequencies, and storm surges, which will impact City infrastructure in previously unanticipated ways, when planning for investments.
- Establish carbon reduction goals for City operations and evaluate energy efficiency of City buildings to prioritize energy saving investments.
- Develop increased programmatic and budgetary resiliency to ensure continuity in provision of vital services.



**PORTLAND PUBLIC LIBRARY**

Since the mid 1800s, the Portland Public Library has served as one of the City’s major cultural centers. Today, the library hosts 675,000 visitors annually and is the most visited cultural institution in the state. The library supports its mission, to build a city of readers, by offering a large print collection, as well as music and film resources, free internet access, lectures, classes, community discussions, and programming for all ages.



**POLICY GUIDE:  
FACILITIES & SERVICES**

**15. MODERNIZE WASTE COLLECTION**

- Explore ways to modernize the collection process, alternatives to the current public operation, and strategies to support the City’s growth.
- Implement strategies outlined by the *Solid Waste Task Force* in 2011, including the adoption of the Maine State Waste Management Hierarchy, the promotion of durable, recyclable products and materials, and the creation of opportunities to turn discarded resources into new products and new jobs.

**16. INCREASE COLLABORATION WITH LOCAL & REGIONAL PARTNERS**

- Seek to identify regional solutions for issues such as housing, homelessness, transportation, and water quality.
- Seek to strengthen community partnerships, increase diversity of partnerships to ensure robust input from residents on City services.

# An Accessible City

**HOW PEOPLE AND GOODS** arrive in and move through Portland is essential to the City's economy, sustainability, and quality of life. The City benefits from a dense development pattern which, when coupled with changing demographics and evolving market trends toward more urban living, allows for a high level of reliance on active transportation – bicycling, walking, and transit use – to meet growing transportation demand. Portland is well-positioned to support a robust bicycle, pedestrian, and transit networks that effectively links jobs, housing, and services. As a regional center for commerce, culture, and tourism the City is served by auto, air, rail, bus, and ferry, and functions as a freight hub served by marine, truck, rail and air cargo.

Portland employs a holistic framework for the planning, design, construction, operation, maintenance, and funding of the City's transportation system. The City is invested in addressing 'fix it first'

fundamentals such as the backlog of street pavement preservation, traffic signal replacement and reduction, and sidewalk rehabilitation needs. However, the transportation strategy for Portland also seeks to leverage opportunities and diverse funding sources to implement transformational projects and programs. By managing growth in automobile traffic demand, Portland will enable more transportation choices, such as public transit, bicycling, and walking. Our transportation investments and policy choices strive to preserve vehicular capacity and regional mobility while enhancing the diverse functions of our streets for all users and multiple modes.

### **Accessibility v. Mobility: What is the difference?**

Mobility - the movement of goods and people

Accessibility - the ability to reach desired goods, services, and destinations



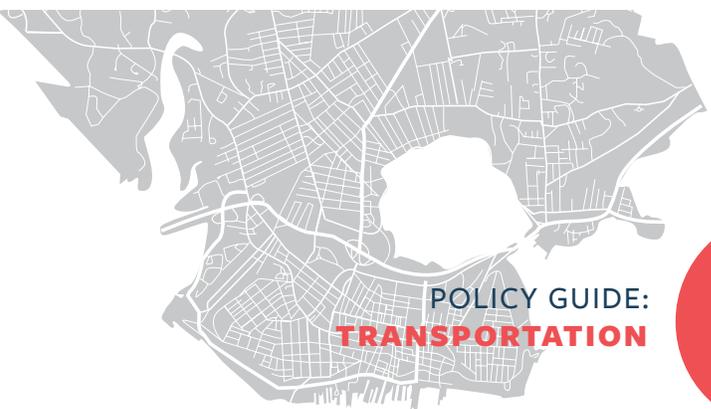
## RECENT & ONGOING INITIATIVES

In order to support a robust multi-modal transportation system, the City of Portland continuously engages in policy and planning level transportation work, but also devotes significant resources to capital and maintenance projects related to transportation infrastructure. This is most often in partnership with the region's major transportation partners - PACTS, METRO, the Casco Bay Island Transit District, and MDOT. The last decade has seen well over a dozen studies, plans, and initiatives designed to address transportation service and infrastructure needs, as well as significant change at the policy level.

Over the past ten years, the City's long-range transportation planning has focused largely on developing a more integrated and multi-modal transportation network through public transit enhancements, sidewalk and streetscape improvements, and bikeway network planning, as well as work to the underlying street network. For example, in 2009, the City approved the *Peninsula Transit Study*, with the expressed goals of reducing the number of single occupancy vehicle trips to and from the Portland peninsula and

improving the City's livability. This plan laid the foundation for further studies, including but not limited to the *Spring Street/Free Street Area Master Plan*, the *State and High Streets Two-way Conversion Study*, the *Franklin Street Feasibility Study*, the *Libbytown Traffic Circulation & Streetscape Study*, and most recently, the *Bayside Transportation Master Plan*, all of which have moved the City toward this goal by encouraging more inviting, connected, and human-scaled streets; integrating transit, bicycle, and pedestrian networks; and reconnecting the street grid.

The City's transportation planning has expanded beyond the peninsula as well, though. In 2012, the City adopted *Transforming Forest Avenue*, a plan designed to modernize this important transportation and retail-commercial corridor via place-based, multi-modal investments. In 2016, the City developed a plan to more effectively link its major transportation centers and downtown with express bus service through the *Hub Link Transit Study*. And throughout, the City has been actively engaged in multi-modal infrastructure planning through efforts like the *West Commercial Multi-Modal Corridor Study*



POLICY GUIDE:  
**TRANSPORTATION**

and the bicycle network studies, which, when implemented, will help to connect all City neighborhoods with pedestrian and bicycle infrastructure.

Meanwhile, the City has adopted and modified policy in an effort to build a more holistic framework for the planning, design, construction, operation, maintenance, and funding of Portland's transportation system. In 2012, the City adopted a Complete Streets policy, and more recently, the City has begun to pilot multi-modal level of service as a measure of performance in its long-range planning efforts. In the past decade, the City has modified the land use code to provide more flexibility in parking standards, reduce parking requirements in some zones to facilitate high density residential development, require transportation demand management plans for commercial and institutional development projects that meet certain size thresholds, and better integrate land use and transportation to ensure that density is aligned with transit and bicycle infrastructure. The City has also begun to diversify its sources of transportation financing, particularly for transit, instituting two Transit Oriented Development Tax Increment Financing districts: the Downtown Transit TIF and the Thompson's Point Transit TIF.

Complementing this planning and policy environment, the City has also made significant investments in infrastructure over the course of the past decade. These investments have come in the form of repaving, traffic signal coordination, and pavement marking projects. With METRO, the City has

constructed bus shelters, improved real-time traveler information, and expanded service hours and service area. The City has developed additional bicycle parking, bike lanes, shared use pathways, and neighborhood byways throughout City neighborhoods. For pedestrians, the City has invested in new and rehabilitated sidewalks, accessibility upgrades, and crosswalk improvements. Other investments in our port and Jetport have continued to position these key economic drivers of Portland and the region for future growth.



### **INNOVATION FOR ENHANCED TRANSIT**

Portland has long used Tax Increment Financing (TIFs) to help spur economic development. Once associated with individual development projects, TIFs are now being applied on a district-wide basis and targeted directly toward transit investments. Using two Transit TIFs – the Thompson's Point TIF and the Downtown TIF – the City retains a portion of increased property tax revenue within the districts to fund capital and operating expenses for transit service and active transportation investments within those districts. In this way, TIFs provide the funding and policy to implement transit service specifically designed to capitalize on the land use policies and regulations already in place.



**POLICY GUIDE:  
TRANSPORTATION**

## STATE GOALS

To plan for, finance and develop an efficient system of public facilities and services to accommodate anticipated growth and economic development.

## LOCAL GOALS

### WE WILL:

---

Promote multi-modal accessibility, enabling residents and visitors of all ages and abilities to participate fully in the social and economic life of the community.

---

Support livability by improving the quality of life in neighborhoods and improving the public health of residents.

---

Support sustainability by reducing energy consumption, greenhouse gas emissions, and stormwater impacts.

---

Support economic vitality by ensuring the efficient movement of goods, services, and people.



**POLICY GUIDE:  
TRANSPORTATION**

## **FUTURE STRATEGIES**

### **1. FIX IT FIRST**

- Maintain existing infrastructure as the City's priority transportation objective, capitalizing on opportunities to incorporate modernization of existing infrastructure in the course of maintenance when possible.
- Keep the City's streets in a state of good repair, upgrade and coordinate traffic signal systems, maintain effective pavement markings, rehabilitate the sidewalk network, and replace the public transit fleet in a timely fashion.

### **2. ADOPT MEASURABLE OBJECTIVES**

- Monitor indicators such as mode share, multi-modal levels of service, and levels of active transportation, particularly on key transportation corridors.
- Explore adoption of multi-modal level of service as a performance standard for new development review.
- Benchmark existing conditions and set targets for specific future years.

### **3. INVEST IN SAFETY AND ACCESSIBILITY**

- Make improvements to the transportation system to improve equity, sustainability, and accessibility for all ages and abilities.
- Address existing High Crash Locations, improve ADA accessibility, ensure pedestrian access to transit stops, and along safe routes to school routes.

### **4. DIVERSIFY FUNDING SOURCES**

- Explore new funding sources as a way to lessen the burden of transportation projects on the traditional funding mechanisms, such as the local annual operating budget and Capital Improvement Program (CIP).
- Partner with funding agencies such as PACTS and the MaineDOT to leverage additional outside funding.
- Consider creative funding mechanisms, such as Transit Tax Increment Finance (TIF) districts, Transit TIF districts, the Sustainable Transportation Fund, and public-private partnerships.

### **5. MODERNIZE STREET DESIGN**

- Make strategic investments in streets and street design to create Complete Streets and provide mobility, safety, and accessibility to all users.
- Invest in traffic signal modernization, street design safety modifications, and reconfigurations of existing streets to reinforce safer urban traffic speeds.
- Implement wayfinding, place-making, and street lighting programs to unify the City's streetscape.
- Support the vision of large, transformative projects, such as the redesign of Franklin Street, the transformation of Forest Avenue, and others, as well as future studies, through strategic, cost effective, and incremental actions.
- Minimize impacts of highway infrastructure, such as ramps and overpasses, on City streets and neighborhoods.



## 6. MANAGE PARKING STRATEGICALLY

- Identify, plan, and zone for parking needs, particularly downtown, on the waterfront, and in conjunction with large institutions.
- Develop robust, integrated parking management strategies to reduce parking demand.

## 7. ENHANCE THE PEDESTRIAN REALM

- Invest in a walkable City through sidewalk maintenance, accessibility improvements, trail and path connections, snow clearance, lighting, landscaping, traffic calming, enhanced street crossings, strong urban design, artistic elements, and wayfinding.

## 8. EXPAND BICYCLE FACILITIES

- Complete and maintain the City's system of shared use pathways, neighborhood byways, and protected/enhanced bike lanes in a legible and continuous network, and develop the complementary infrastructure, such as bicycle parking and wayfinding, to support it.
- Explore potential locations for separated bike infrastructure.
- Support the development of a bikeshare program.



## WHAT ARE COMPLETE STREETS?

In late 2012, the City of Portland passed a Complete Streets policy, representing a new and progressive approach to transportation planning in the City. The Complete Streets policy, like the movement that generated it, is founded on the principle that streets should work for all users and all modes, from the baby in the stroller to the bicycle commuter to the grandfather on the bus. As the policy states, “the goal is to create a connected network of facilities accommodating each mode of travel that is consistent with and supportive of the local community, recognizing that all streets are different and that the needs of various users will need to be balanced in a flexible manner.” In adopting the policy, the City has recognized that Complete Streets contribute to many of the City's most basic objectives - to create a comprehensive, equitable, and fully accessible transportation network; enhance public safety and public health; complement land use patterns and economic development; and achieve energy and environmental sustainability.



POLICY GUIDE:  
**TRANSPORTATION**

**9. MANAGE TRANSPORTATION DEMAND**

- Explore the technical and financial feasibility of a Transportation Management Association (TMA) as a means of improving access to, and mobility around, downtown, and the waterfront.
- Expand Transportation Demand Management (TDM) initiatives for large development sites and institutions, building upon the recent implementation of TDM plans for individual employers and sites.

**10. INVEST IN PUBLIC TRANSIT**

- Support initiatives to strategically increase the frequency and span of service, on-time reliability, and geographic scope of transit service.
- Deploy information technology and quality of service improvements, such as traffic signal priority, real-time transit information, fare integration, and Bus Rapid Transit service.
- Develop transit centers, enhance bus stops, and improve transit stop and transit corridor operations and accessibility.
- Create incentives to spur transit-oriented, mixed use development along corridors and in areas that can support high quality transit service.
- Plan for multi-modal trip connections, whether bike storage, timetable coordination, or other measures that facilitate ease of transitions between modes of travel.
- Make bus and other transit options legible and easy to use for tourists and new riders through flexible payment options, marketing, improved technology, and readably accessible route schedule and payment information.

- Recognize seasonal impacts on transit accessibility, particularly snow and ice near and approaching bus stops.
- Support transit serving the regional labor market area.



**TRANSPORTATION & PUBLIC HEALTH**

The connections between transportation systems and public health are widely documented, perhaps most plainly in the safety of users of the system itself. But our transportation system also affects our health in other, more indirect ways. For instance, studies have found that residents of ‘walkable’ neighborhoods - neighborhoods with sidewalks, crosswalks, and design and land use characteristics that make them conducive to walking - engage in approximately 35-45 more minutes of moderate intensity physical activity per week than their counterparts in less walkable neighborhoods. Further, these residents are significantly less likely to suffer from obesity.

Just as importantly, our transportation behaviors have profound effects on our air quality, and thus the incidence of pollution-related disease. Research has shown that just a 5% increase in walkability correlated with fewer vehicle miles traveled per capita and, as a result, correspondingly lower rates of air pollutants. Likewise, local and regional transit services contribute measurably to reduced auto emissions, energy consumption, and roadway consumption.



## POLICY GUIDE: TRANSPORTATION

### 11. LEVERAGE OUR WATERFRONT

- Support the waterfront as a signature transportation resource.
- Make investments and adopt policies to promote the International Marine Terminal, the Ocean Gateway cruise ship terminal, the Portland Ocean Terminal, the Casco Bay Island Ferry Terminal, and other parts of the waterfront that serve Portland and connect it to the world.

### 12. BROADEN CONNECTIONS

- Support the success of the Portland International Jetport as a key transportation connection to worldwide economic and tourist centers.
- Work with the Northern New England Passenger Rail Authority and other regional partners to ensure the success of the Downeaster's trunk route from Portland to Boston, while allowing for strategic expansion of the route.
- Support the Portland Transportation Center, especially commuter and visitor connections to other Maine cities and Boston.
- Support regional and international freight and ferry service.
- Enhance regional trail connections.

### 13. SUPPORT AGE-FRIENDLY INITIATIVES

- Consider specific measures to promote awareness and usability of our transportation system for the elderly.
- Ensure that seniors are aware of transit options, reduced fares, and specialized transit services.
- Maintain a City-wide ADA compatibility assessment.
- Consider senior transportation needs in areas of concentrated senior housing, including but not limited to new developments. .
- Expand volunteer networks such as the Volunteer Snow Shoveling for Seniors Program, and prioritize snow and ice clearance from public sidewalks in areas with concentrations of seniors.

### 14. ENHANCE ISLAND CONNECTIONS

- Ensure sufficient ferry and freight service to support island communities and economies.

# Future Land Use



## STATE GOAL

To encourage orderly growth and development in appropriate areas of each community, while protecting the state's rural character, making efficient use of public services, and preventing development sprawl.

**PORTLAND, AND THE BROADER REGION,** are poised for growth. After years of population decline, the City has seen modest population gain over the past several decades, reflecting a nation-wide movement back toward urban living. New residents, young and old and from all over the world, attracted by the City's highly regarded quality of life and services, are choosing to call Portland home. Over the past four years, the City has approved over 1,800 new housing units, with more currently under review. The City's food economy is burgeoning, the port has seen recent investments designed to better position the City for international trade, the creative economy is flourishing, and local institutions are expanding, all harbingers of what promises to be a robust decade ahead.

Decisions about how, to what extent, and where we grow will influence how well the City captures the opportunities before it. These decisions have implications for all aspects of the City, and consequences for the health of the region and the state. Strategically planned growth will help Portland to expand economic opportunity, increase our environmental health, and strengthen neighborhoods.

The Future Land Use framework builds on our most successful existing patterns and guides future changes. It supports diverse housing, concentration of jobs, pedestrian and transit accessibility, and the provision of infrastructure and services to support a growing city. It is not intended to substitute for detailed regulatory prescriptions, but rather identify broad land use concepts and priority focus areas for the coming decade.





Portland's plan for Future Land Use places emphasis on areas most important to its growth over the next ten years. It includes three maps: a map depicting current dominant land use patterns, a map showing a connected network of trails and open spaces, and a map of corridors and nodes that are poised to accommodate additional growth. These maps are best understood in the context of the plan's principles for future growth.

### **PRINCIPLES OF FUTURE LAND USE**

#### **One Portland**

Portland's Plan is a vision for One Portland, where the form and characteristics of neighborhoods vary, but the City functions as a cohesive whole. No one area of the City carries all the expectations for accommodating development and all areas can expect appropriate City services and amenities.

#### **Complete Neighborhoods**

Portland's Plan recognizes that strong, complete neighborhoods are fundamental to the City's overall health. Portland's intent for its predominantly residential neighborhoods is one where all residents regardless of age, ability, or income have access to the basic necessities of daily life - high quality and affordable housing, schools and other civic functions, food, open space, other amenities and services - within a walkable, bikeable distance. The City already has examples of these neighborhoods, each with its own social networks, physical form and scale, and distinct sense of identity.



Neighborhoods such as Munjoy Hill and Deering Center, with their schools, expansive open spaces, small groceries, and restaurants, provide precedents for Complete Neighborhoods that can inform the evolution of other areas in the City. The strength and diversity of these neighborhoods is fundamental to the growth of a diverse City - where residents can choose between housing types, businesses, schools, and recreational opportunities. While the City's neighborhoods should collectively support residents with a complete range of services, and all are expected to accommodate a share of Portland's growth and development, policies should encourage the distinct qualities of each. This does not imply freezing neighborhoods as they are, but allowing change that is compatible with current development patterns.



## **FUTURE LAND USE**

### **Reinforce the Center**

Though Portland's commercial and entrepreneurial activity takes place throughout the City, downtown Portland remains at the center of the region's arts and cultural, economic, and civic health, and Portland's Plan embraces the principle that downtown should continue to be a predominant locus of activity for the broader region.

### **Support Our Waterfront**

The City's waterfront is central to its past, present, and future. Portland was built as a port town, and its future is inextricably linked with this identity. Supporting an active port that is responsive to the economic and environmental demands of the 21st century, while enhancing public access to the water, remain priorities for Portland's future.

### **Connect the Chain**

Portland's Plan recognizes that physically integrated transportation systems, utilities, and open spaces provide the structure for the City's growth, and that a more connected system is more efficient and more resilient. An integrated transportation system allows residents to access jobs, food, healthcare, and recreation from their homes, while planning for an unbroken network of open space connects neighborhoods and improves access to the outdoors.

### **LAND USE CONTEXT**

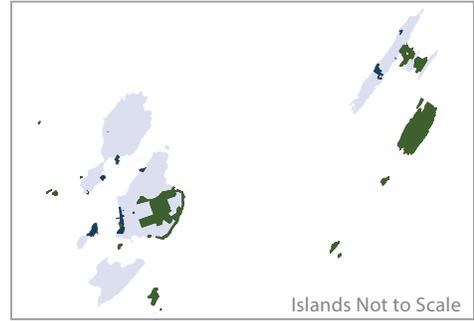
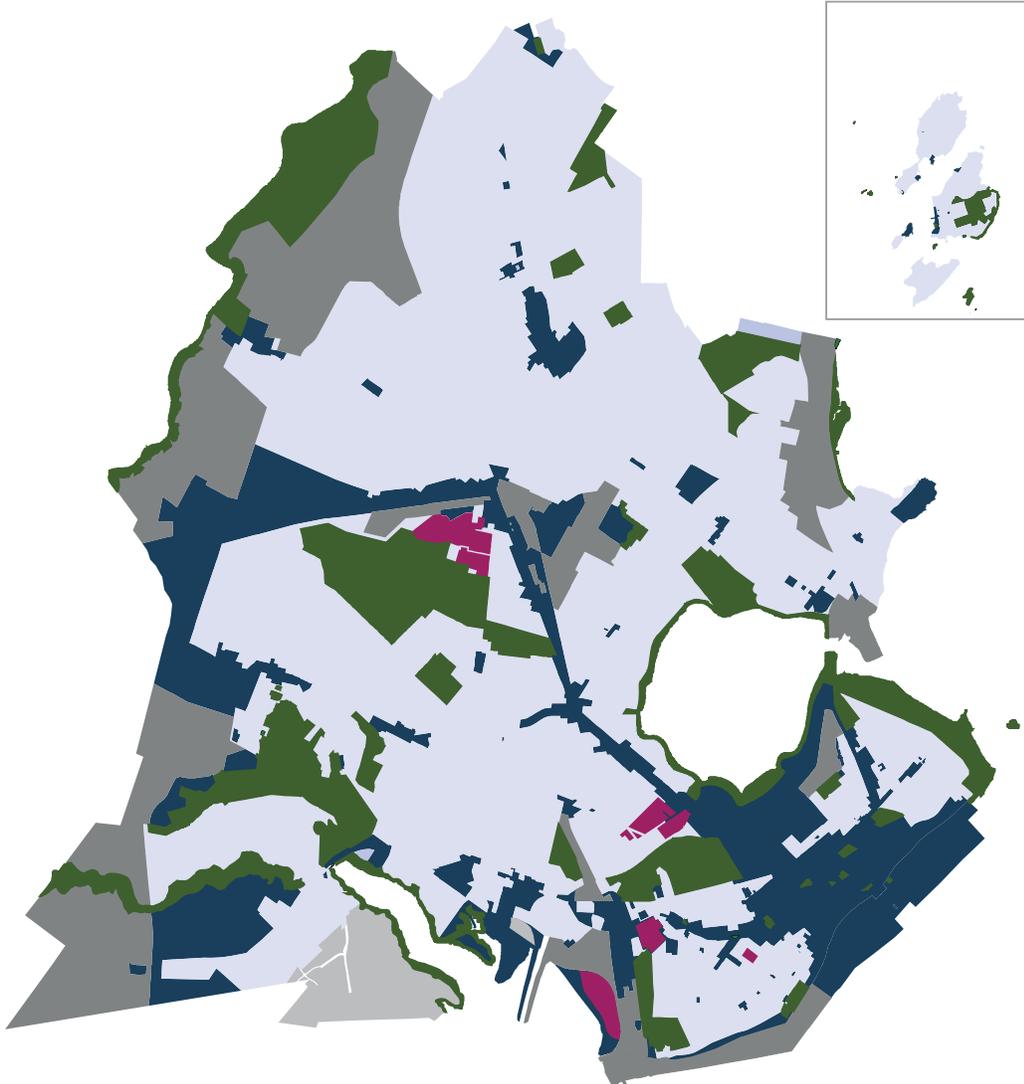
The City's historic land use patterns are still very much in evidence today, traversing a spectrum from a relatively high density historic center to the rural character of Portland's islands. Its historic core is its mixed-use downtown and its active waterfront, where the City began and where employment,

government, services, and goods converge to this day. Downtown is surrounded by higher density, inner ring neighborhoods - India Street, the West End, Deering Center - each with its own residential base and neighborhood-scale goods and services. These neighborhoods, with their traditional, walkable patterns of development, strong nodal centers, and high degrees of accessibility, have seen new development in recent years. Beyond the inner ring, the City transitions to relatively lower density residential patterns characteristic of the later part of the 20th century. These outer residential neighborhoods have seen population growth in the past decade, but recent development has been relatively minor. Portland has also seen mixed-use growth on corridors and in neighborhoods outside of its historic core - Washington Avenue is seeing new housing and commercial tenants, East Bayside has burgeoned with a new wave of light industry and entrepreneurs, and Thompson's Point is reinventing itself as a lively mixed-use area.

Portland's Plan anticipates that predominantly residential, industrial, institutional, mixed use, and open space areas will remain largely consistent with existing patterns. The plan also anticipates that the regulations governing development will not be static, but will adjust and adapt to changing needs and policy direction. Zoning boundaries and specific use, dimensional, and performance standards, will be modified over time as ordinances are revised and updated. Future land use modifications will be informed by a combination of the vision, goals, and strategies of this plan, best planning practices, and neighborhood and City-wide engagement.



Land Use Context



Shaded areas are characterized as predominantly:

- Open Space
- Industrial
- Institutional
- Transportation
- Residential
- Mixed-Use/Commercial/Office



### **OPEN SPACE CONNECTIONS**

Portland's open spaces are integral to its character, serving diverse ecological, public health, and transportation purposes. They simultaneously provide opportunities for water access, recreation, cultural and community connections, and food production. Portland's Plan highlights the need for high quality connections between existing open spaces and open spaces that are responsive to the programmatic needs of the community. The plan supports the protection and improvement of environmentally sensitive areas, such as shoreland and floodplain zones. Key gaps in the open space network are identified for study and potential connections in the coming years.

### **PRIORITY NODES & CORRIDORS**

Future land use focuses on those areas to be prioritized for change or evaluation over the coming decade. It does not, however, precisely delimit parcels of land, or exhaustively catalog areas that may undergo change in the coming years. Development may still occur elsewhere in the City, including incremental change and infill in residential neighborhoods, redevelopment of obsolete commercial areas, thoughtful expansion or investment in institutional and industrial sites, and modernization of existing affordable housing sites. Priority nodes and corridors indicate areas that would be appropriate for new development to provide needed housing, businesses, and services proximate to transit, or areas that otherwise warrant some examination of potential for positive change in form and/or function.

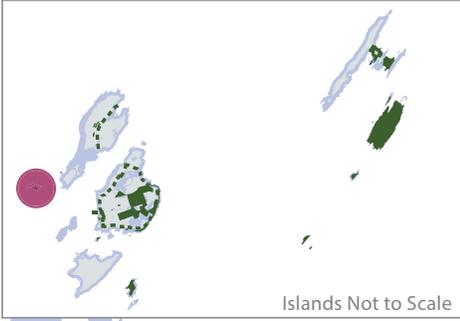
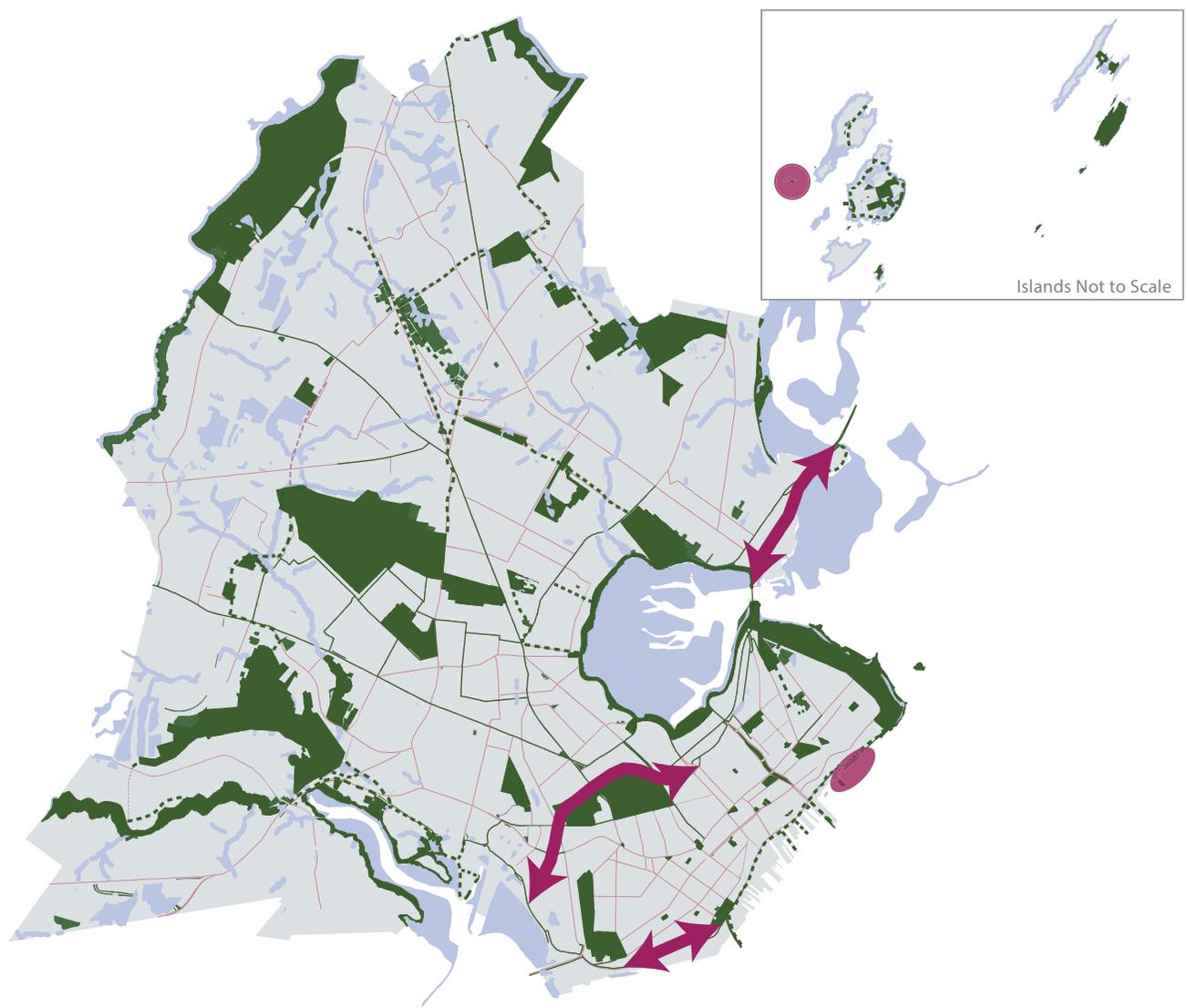


### **URBAN DESIGN**

Portland's physical character is defined by a distinctive relationship between its topography, building character and fabric, and the natural landscape. The authentic, scenic, and historic nature of the built and natural environment provides the context for the city's current success and attractiveness as a city. The city building taking place in this current period of change will be the legacy of this generation to the future Portland. The critical question is not "if" but "how" we should grow to maintain that authentic character while allowing our city to flourish. It is incumbent on city builders to provide excellence in architectural quality and urban design commensurate with the image of Portland in history and today. Thoughtful and good quality design is achieved through attention to quality of space and placemaking, the relationship of buildings to the streets and built context, durability and integrity of materials, and a pleasing and timeless quality of architecture - these must be held to the highest possible standards. Practicing and incentivizing contextual principles of urban design are central to the health and well-being of the City of Portland.



**Open Space Connections**



- |                            |                              |                       |                                   |                       |                        |
|----------------------------|------------------------------|-----------------------|-----------------------------------|-----------------------|------------------------|
| Existing (to be conserved) |                              |                       | Proposed Improvements/Connections |                       |                        |
| Public Open Space          | Waterways/Wetlands/Shoreland | Bicycle/Trail Network | Public Open Space                 | Bicycle/Trail Network | Shared Pathway Project |



Priority growth areas include the following elements:

### 1. Priority nodes

Nodes are areas with concentrated mixed-use activity, which can occur at varying scales and serve varying catchment areas - Portland's downtown supports a large successful node, for example, but nodes can also be found at smaller convergences and intersections throughout the City. As mapped, nodes are not meant to sharply delineate boundaries, but to indicate general areas in need of further planning or investment. The nodes identified by the map may have seen disinvestment, grown in sprawling patterns, or simply have the potential to serve as focal points for change in density or, height, streetscape, or uses to better serve neighborhood needs. These nodes are placed into three broad categories that correspond with their respective stage of planning or investigation at the present time.

- **Evaluate:** Areas as diverse as East Bayside and Allen's Corner, where the City recognizes the need to review existing conditions and develop a strategy for future change. These nodes should be assessed for their ability to address neighborhood needs and serve as centers for complete neighborhoods;
- **Transform:** Areas such as Morrill's Corner, which have been previously recognized as areas of significant potential transformation, but which need comprehensive revisioning; and
- **Enhance:** Areas such as Woodford's Corner, or the Eastern, Central and Western Waterfronts, which have been studied and are awaiting or in the midst of plan implementation.

### 2. Priority corridors

The Priority Nodes & Corridors Map identifies key corridors - those that connect major nodes and neighborhoods and therefore serve as major commuter routes - as areas for additional planning and investment. Priority corridors are major arterials that often see heavy vehicular traffic, but also have the capacity to improve mobility by capitalizing on their potential for increased walking, bicycling, and transit use. Priority corridors can also serve as areas of additional mixed-use, higher density growth to take advantage of the transit benefits and services that well-designed, diverse corridors can offer.





### 3. Waterfront

Portland's Plan recognizes the crucial and singular role of the waterfront in Portland's past, present, and future. The plan anticipates that change will occur in our waterfront over the next decade, consistent with existing waterfront land use policies that seek to preserve marine-dependent uses, provide investment opportunities, and offer public and recreational access to the water where possible. The waterfront is classified much like the nodes:

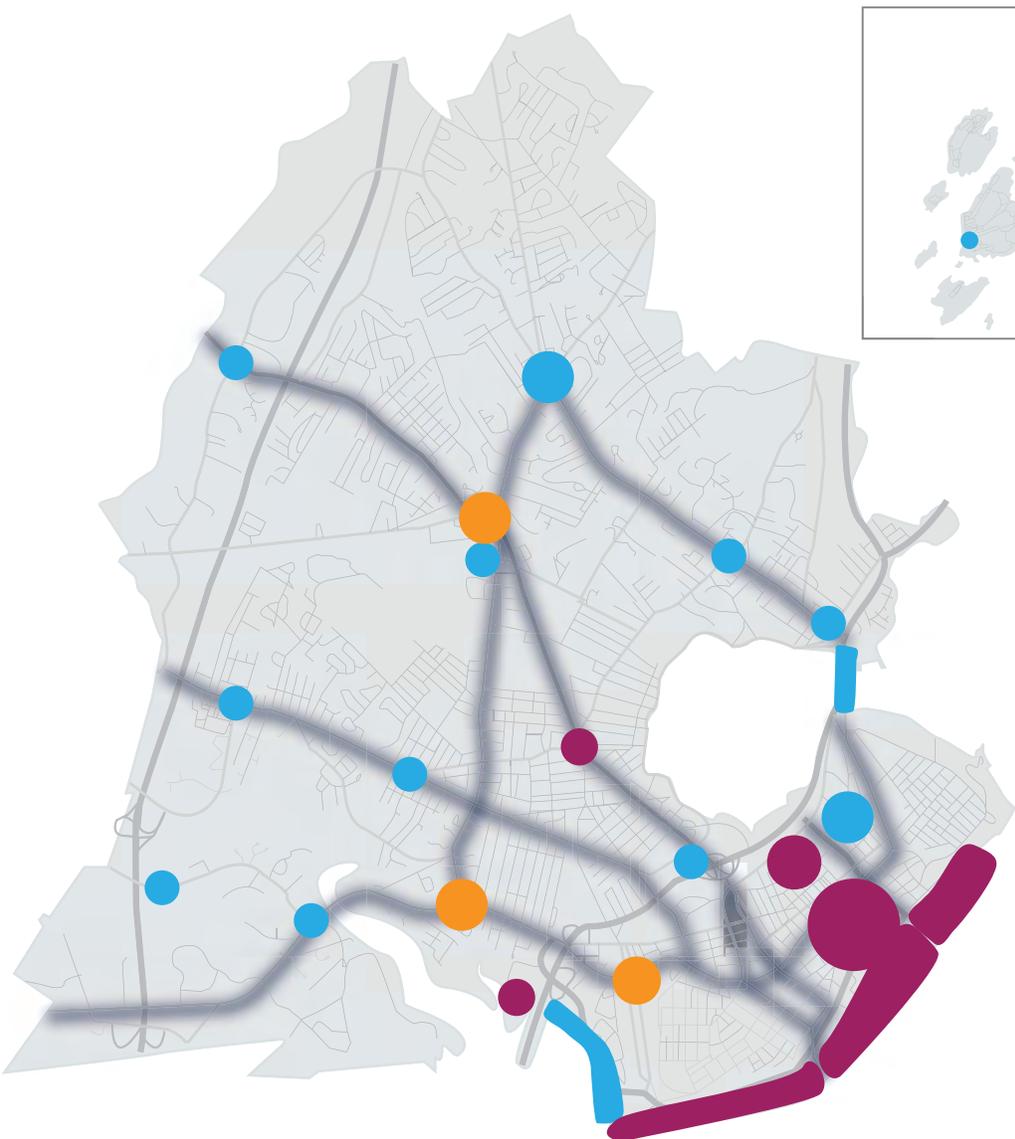
- **Evaluate:** Areas of the waterfront that should be assessed for their potential to serve future growth or for potential improvements.
- **Enhance:** Areas of the waterfront that have seen extensive planning and require investment or further implementation to realize change.



**FUTURE  
LAND USE**



**Priority Nodes & Corridors**



**Legend**

- Evaluate
- Transform
- Enhance
- Priority Corridors

# Regional Coordination



**THE CITY OF PORTLAND IS THE HUB OF ITS METROPOLITAN AREA**, as well as an economic, transit, and cultural center for the state and for Northern New England. Many of the goals and strategies in this plan have implications beyond Portland's borders and necessitate a regional lens and a cooperative approach. The regional implications of comprehensive planning and policies are reinforced throughout this document, as is the importance of collaborations with regional partners. Much of the data and analysis that form the basis for the plan place Portland in its regional context, establishing Portland in relation to wider demographic, economic, and housing trends. Existing partnerships with area non-profits, surrounding communities, and other government agencies are acknowledged throughout the plan. Portland's Plan identifies partners and supports the continuation of partnerships as a vital component of implementation. The following highlights some key collaborative partnerships, as well as ways in which regional coordination efforts are incorporated into this plan.

## **PARTNERSHIPS**

The need for coordination of our transportation systems is of critical importance to the success of the region. Portland is a member of Greater Portland Council of Governments (GPCOG) and the Portland Area Comprehensive Transportation System (PACTS) and regularly participates in planning efforts, regional studies, and collaborative initiatives with these organizations. One example is the *Portland-South Portland Multi-Modal High Priority Corridors and Centers Plan*. The study is intended to plan for the creation of a high quality multi-modal transportation corridor to directly

support job growth and economic development within Portland and South Portland. The project is designed to improve safety, accessibility, and mobility for all users and modes, through support of land use and urban design improvements from Morrill's Corner to the area near Bug Light Park.

The City of Portland is integral to regional transit initiatives, such as efforts between METRO (Greater Portland Transit District) and South Portland's City Bus to better integrate services, as well as initiatives with greater geographic scope, such as METRO's efforts to enhance and expand service to Falmouth, Yarmouth, Freeport, Biddeford, Gorham, Saco, and Old Orchard Beach, and to create direct connections between higher education institutions in the region. The City of Portland is working closely with METRO and other stakeholders to improve connections around Portland's major transit hubs, which bring so many non-local travelers to the City, including enhanced connections between primary train, air, ferry, and bus hubs.

Water quality is another area that requires active and frequent collaboration. Portland, as a port city, governs its harbor collaboratively – the Board of Harbor Commissioners is governed by Portland and South Portland for the necessary shared management of trade, navigation, harbor dredging, and water quality. The City also participates in the Interlocal Stormwater Working Group, a coalition of 14 municipalities in the region that work together to implement their respective Clean Water Act permits. This group works to increase public education and public participation, and eliminate illicit discharges, and promote other methods of



pollution prevention. The Department of Public Works regularly convenes non-municipal regional stakeholders to address shared water quality issues as well. Other issues related to public education and pollution prevention, such as pesticide and fertilizer reduction, plastic bag fees, and stormwater impact reductions, benefit from the collaboration and input of regional organizations such as Casco Bay Estuary Project, Friends of Casco Bay, and area land trusts.

## **SUMMARY OF REGIONAL COORDINATION GOALS, AND STRATEGIES**

### **1. Environment**

- Restore impaired waterbodies through local efforts and in collaboration with regional partners.
- Support a healthy, resilient and sustainable food system by collaborating with local and regional stakeholders.
- 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.
- Collaborate with local non-profits, research organizations, property owners, and surrounding communities to achieve cleaner waters.
- Collaborate with surrounding municipalities to strengthen comprehensive climate change adaptation and mitigation planning.

### **2. Historic Resources**

- Collaborate with non-profits, private organizations, neighborhood associations, businesses, property owners, and affinity groups to pursue and expand support for preservation initiatives, including the implementation of adopted master plans for historic structures, parks and cemeteries.

### **3. Waterfront**

- Develop effective public and private partnerships to promote the Port of Portland as an economic engine for the State of Maine.
- Continue to support the Portland Fish Pier and Fish Exchange as regional anchors of the seafood economy.
- Promote development of cold storage warehousing to support a competitive Port of Portland by improving Capacity to serve the cargo needs of the seafood, agriculture, food manufacturing and beverage industries for Northern New England.
- Capitalize on emerging trade, fisheries and transportation patterns to the Arctic, Northern Europe, and beyond.

### **4. Economy**

- Promote the orderly expansion of institutional uses, such as educational, cultural, and hospital campuses, which are central to workforce development, employment, and the health of the local and regional economies.
- Recognize the role of the transportation system in the current and future economic health of the City.
- Maintain and invest in our multi-modal transportation system - the International Jetport, Ocean Gateway, passenger rail service, the International Marine Terminal, METRO, and the Portland Transportation Center - as a foundation for local, regional, and international economic growth and as a bridge to future economic opportunities.
- Enhance connectivity between transportation modes by expanding intermodal passenger service at the Portland Transportation Center, and between transportation hubs such as the Jetport, Casco Bay Island Ferry Service, Portland Transportation Center, and downtown.



### 5. Housing

- Collaborate with surrounding communities on regional housing solutions.

### 6. Recreation and Open Space

- Encourage physical and visual access to Portland’s waterfront - Casco Bay, Back Cove, and the Stroudwater, Presumpscot, and Fore Rivers - as a “blueway” network and an extension of public space for local and regional recreation and transportation needs.
- Continue partnerships with local and regional land trusts and conservation organizations, such as Portland Trails, Maine Audubon, and other non-profit organizations in open space creation, stewardship and programming.

### 7. Facilities & Services

- Continue to work in partnership with regional and state agencies, neighboring communities, non-profit organizations, and private property owners in support of efficient, sustainable City services.
- Seek to identify regional solutions for issues such as housing, homelessness, transportation, and water quality.

### 8. Transportation

- Support the success of the Portland International Jetport as a key transportation connection to worldwide economic and tourist centers.
- Work with the Northern New England Passenger Rail Authority and other regional partners to ensure the success of the Downeaster’s trunk route from Portland to Boston, while allowing for strategic expansion of the route.
- Support the Portland Transportation Center, especially commuter and visitor connections to other Maine cities and Boston.
- Support regional and international freight and ferry service.

# Implementation



**THERE ARE A VARIETY OF STRATEGIES IN THIS PLAN**, ranging from the broad and ongoing to the specific and finite. How the City moves forward with implementation of these strategies will depend on a number of factors, including staff capacity, Council priorities, and the specific challenges and opportunities that face Portland in the next 10 years.

The appendices include a matrix listing each strategy in this plan, an estimated timeframe for implementation, and the group or person who are primarily responsible. The matrix comprises an informed guess at the time of plan approval, and implementation timelines will inevitably vary from the matrix over the years. Often opportunities arise, resources change, and external factors emerge. However, it serves as a guide to current thinking on implementation.

Some key short-term implementation steps are as follows:

## CODES

- **Create a New Unified Development Code:** Pilot projects have been completed to explore ways to modernize and update Portland's land use code. The Planning & Urban Development Department will take what has been learned in these pilots and initiate the creation of a new Unified Development Code that incorporates zoning, the historic preservation ordinance, housing policies, and other aspects of the development review process into a more readable and useful document. A new Unified Development Code offers the opportunity to emphasize urban form and performance

standards over regulations dominated by categories of land use. A modern code will support the growth framework of nodes and corridors, the concepts of complete neighborhoods, and greater connectivity.

- **Explore Impact Fees:** The City will conduct an impact fee study, to begin in FY2018.
- **Develop Incentive Programs for Historic Preservation:** A proposed Unified Development Code effort will include exploration of incentive programs for historic preservation.
- **Explore Transfer of Development Rights (TDR):** A proposed Unified Development Code effort will include exploration of a TDR program.

## SUSTAINABILITY

- **Support Sustainable Energy Development and Consumption:** The City is actively pursuing a solar farm on the Ocean Avenue landfill site.
- **Support Sustainable Land Use and Transportation Policies:** Efforts to update the City's land use code will advance sustainable, integrated land use and transportation strategies.
- **Develop Climate Resilience:** The *Bayside Adapts* study now under way will inform the City's approach to climate resilience.

## PEOPLE

- **Invest in People:** The proposed Office of Economic Opportunity will make investing in people a priority.
- **Emphasize Arts and Culture:** The City's ongoing support of Creative Portland and the Public Art program show its commitment to arts and culture.



- **Plan for Shelters:** The Health and Human Services Department is actively pursuing plans for a better shelter system in Portland.
- **Support Island Communities:** Ongoing investments in the islands, such as the Peaks Island Library improvements under way, will continue support for these communities.
- **Build on Existing Housing Programs:** The City Council has passed many new housing programs in the past few years, including creation of the Housing Safety Office, adoption of an inclusionary zoning ordinance, and new tenant protections. In addition, the Housing Trust and the City's federally funded housing programs have been in place for many years. Additional efforts, such as the Housing Committee's work on short term rentals, continue to build on these programs.
- **Support an Accessible City for All Ages and Abilities:** The City is beginning an assessment of all City facilities to determine what improvements need to be made to better comply with the Americans with Disabilities Act.

## INFRASTRUCTURE

- **Fix It First/Maintaining Existing Recreational Facilities:** The City will continue to focus on maintenance and upkeep on existing facilities, while also looking at cost-effective opportunities to make missing connections.
- **Invest in Public Transit:** The City has been actively working with METRO to enhance public transit in the region by expanding the service to new client bases to utilize the service, including the public schools and the University of Southern Maine.
- **Invest in the Waterfront:** The City is currently evaluating whether zoning changes are required to meet the established policy goals for the western waterfront, and concurrently making strategic investments in the eastern waterfront. Both initiatives are outgrowths of long established planning efforts, designed to spur investment and support a viable balance of marine-dependent and compatible non-marine uses..

## OPEN GOVERNMENT

- **Adopt Measurable Objectives:** Throughout the plan there is a focus on data collection and analysis in decision making and more consistent use of SMART (specific, measurable, achievable, realistic and timely) principles in City government. Portland's Plan calls for the adoption of measurable objectives in all areas of City governance, to chart performance, establish consistent data sources, and to create information with and for public engagement. Adoption of measurable objectives is one component of successful feedback loops in implementation of the plan, where decisions are made, measured for success, and adjusted when necessary. In a significant step toward



this objective, the City is beginning implementation of a new public administration software platform, with staff training, which will improve its ability to gather and analyze data.

- **Ensure Transparency:** The plan calls for accessible City services and facilities for all residents, as well as for ongoing and varied community engagement that seeks to include as diverse a cross section of the community as possible.

As with the full slate of recommended strategies, these steps will have to respond to available data, resources and changes in external conditions. However, they are indicative of an immediate intent to move Portland's Plan from concept to reality.



# Appendices

# Population & Demographics



The most important resource available to a community is its people. While the City is often thought of as a single entity, it is a dynamic network of established and new neighborhoods, employment centers, commercial areas, and school districts that are fundamentally affected by population and demographic changes.

## EXISTING CONDITIONS AND TRENDS

### Population

Population change is the result of two factors: natural increase (the difference between births and deaths) and net migration (the change in people moving to/from the community). Most local population growth typically occurs from individuals and families moving to a community, usually for economic opportunity or quality of life reasons.

The City's population has undergone several phases throughout its history. The City experienced steady – and in some decades dramatic – growth through the 19th and early 20th centuries, reaching its peak population of 77,634 residents in 1950. The subsequent three decades were marked by a sharp decline in population. This decline is consistent with several national trends that destabilized many U.S. cities. These include a rapid post-World War II housing boom and suburbanization of outlying, formerly rural communities as well as large-scale urban renewal projects that reconfigured and sometimes removed existing urban neighborhoods. In the past three decades, however, the City's population has stabilized and appears to be entering a new phase of renewed growth.

---

## DEMOGRAPHIC HIGHLIGHTS

- Portland is the largest city in Maine, with a 2010 population of 66,194 and a 2015 estimate by the US Census Bureau of 66,681 (nearly double that of Lewiston, the state's second largest City).
- Between 2000 and 2010, Portland's population increased by 1,945 residents (a growth rate of 3%).
- Portland's current population is roughly 11,000 residents shy of the City's record high of 77,634 residents in 1950.
- As the region's major employment center, Portland's daytime population is estimated to exceed 96,000 people.
- Millennials (20-29) and Gen Xers (30-39) comprise the largest share of Portland's population, while Baby Boomers (50-69) are the fastest growing age group.
- Portland's population is diversifying. Since 2000, the number of foreign born residents has nearly doubled (from 4,895 in 2000 to a current estimate of 8,767). An estimated 11% of Portland residents are now foreign born.
- Portland's population is increasingly well educated. When compared to Cumberland County and the State, a higher proportion of Portland's residents have obtained advanced degrees (45% of Portland residents over 25 years have bachelor or graduate degrees).



**APPENDIX:  
POPULATION &  
DEMOGRAPHICS**

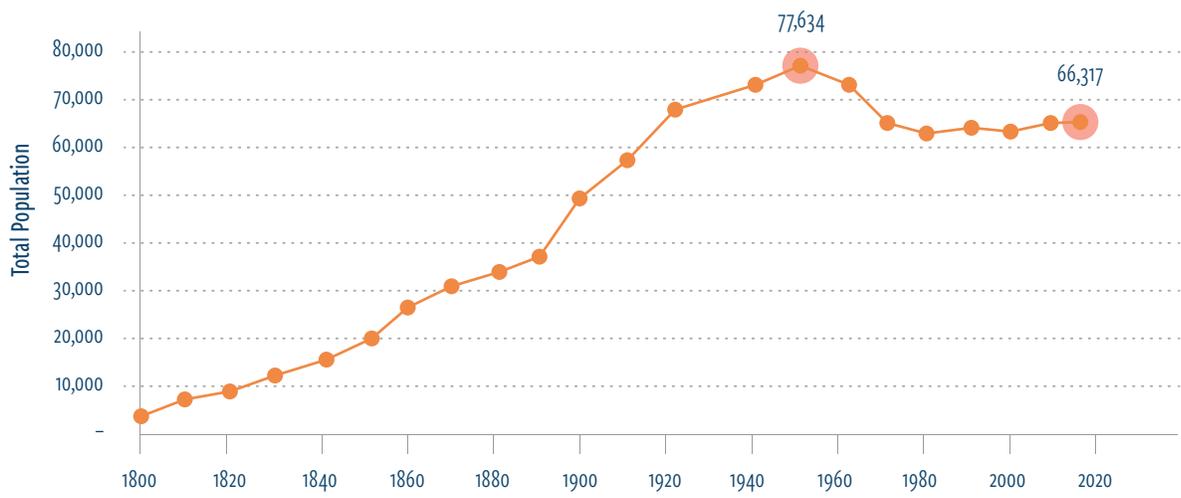


**City Snapshot (2000-2010)**

	2000	2010	% Change
<b>Total Population</b>	<b>64,249</b>	<b>66,194</b>	<b>3%</b>
Female Population	33,496	33,888	1%
Male Population	30,753	32,306	5%
<b>Median Age</b>	<b>35.7</b>	<b>36.7</b>	<b>3%</b>
Total Housing Units	31,862	33,836	6%
Owner-occupied	12,617	13,124	4%
Renter occupied	17,097	17,601	3%
Vacant	2,148	3,111	45%
<b>Total Households</b>	<b>29,714</b>	<b>30,725</b>	<b>3%</b>
Family Households	13,547	13,324	-2%
Non-Family Households	16,167	17,401	8%
Average Household Size	2.08	2.07	0%
Average Family Size	2.89	2.88	0%
Median Household Income	\$35,650	\$45,865	2%*

\*Adjusted for Inflation

**Historic Population Growth (1800-2014)**



\*2010-2014 ACS 5-year estimate

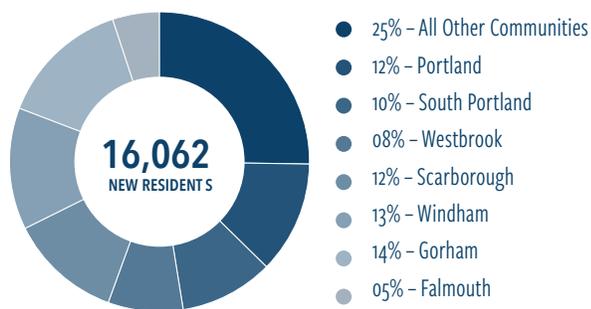


**APPENDIX:  
POPULATION &  
DEMOGRAPHICS**

**Regional Population Trends**

Much of the region’s growth since 1950 has occurred in the suburban and rural communities of Cumberland County. Between 2000 and 2010, for example, Cumberland County grew by a total of 16,062 residents. Of this growth, Portland captured 12%, or 1,945 new residents.

**Percent Share of Cumberland County Growth (2000-2010)**



While growth in the City is an encouraging trend, Portland’s recent growth has generally been slow. In the period from 2000-2010, outlying neighbors, several of which are three to four times smaller, captured a disproportionately larger share of the County’s growth. In fact, the three fastest growing communities in Maine, in terms of net population growth, were Windham, Gorham, and Scarborough. Each community added roughly 2,000 residents from 2000 to 2010.

When compared to County and State trends, Portland’s population growth generally lags behind. Portland’s 0% and 3% growth rates over the past two decades trailed behind both the County’s (9% and 6%) and State’s (4% and 5%) for the same time periods.

**Population Growth Comparison: Portland, Neighboring Communities, Cumberland County, and Maine (1980-2014)**

	1980	1990	2000	2010	2014*	% Increase (1990-2000)	% Increase (2000-2010)
Portland	61,572	64,358	64,249	66,194	66,317	0%	3%
South Portland	22,712	23,163	23,376	25,002	25,154	1%	7%
Westbrook	14,976	16,121	16,142	17,494	17,662	0%	8%
Scarborough	11,347	12,518	16,970	18,919	19,209	36%	11%
Windham	11,282	13,020	14,904	17,001	17,300	14%	14%
Gorham	10,101	11,856	14,141	16,381	16,677	19%	16%
Cumberland County	215,789	243,135	265,612	281,674	284,351	9%	6%
Maine	1,119,971	1,222,000	1,266,848	1,328,361	1,328,535	4%	5%

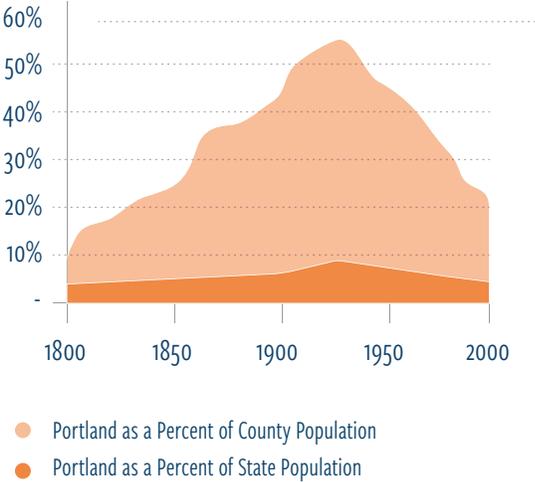
*2010-2014 ACS 5-year estimate*



**APPENDIX:  
POPULATION &  
DEMOGRAPHICS**

In the 1920s, Portland’s population comprised more than half (56%) of Cumberland County’s population, and 9% of Maine’s population. Today, these figures are considerably smaller. As of the 2014 ACS 5-Year Estimate, Portland’s population represented 23% of the County’s population, and 5% of the State’s population.

**City of Portland’s Population as a Percent of County/State Population (1800-2000)**



Despite the City’s modest growth over the past few decades, a number of signs point to a possible resurgence in population now and in the years to come. Many of the urban areas in the greater Portland region have stopped losing population and are now beginning to grow again; in addition to Portland, the cities of Westbrook, South Portland, Biddeford, and Saco all benefited from renewed growth during the 2000s, despite tepid growth during the 1990s.

It seems possible the region’s urban areas are on the cusp of an emerging trend back towards city life. This trend, which has been observed in urban areas throughout the country, is widely attributed to the convergence of two distinct generations: the “Millennials” and the “Baby Boomers.” It is thought the Millennials are moving to cities for job opportunities, increased social interaction, and the convenience of not having to own an automobile, while Baby Boomers are gravitating towards cities for many of the same reasons, as well as the desire to downsize housing or retire in a more walkable neighborhood closer to amenities.



**APPENDIX:**  
POPULATION &  
DEMOGRAPHICS

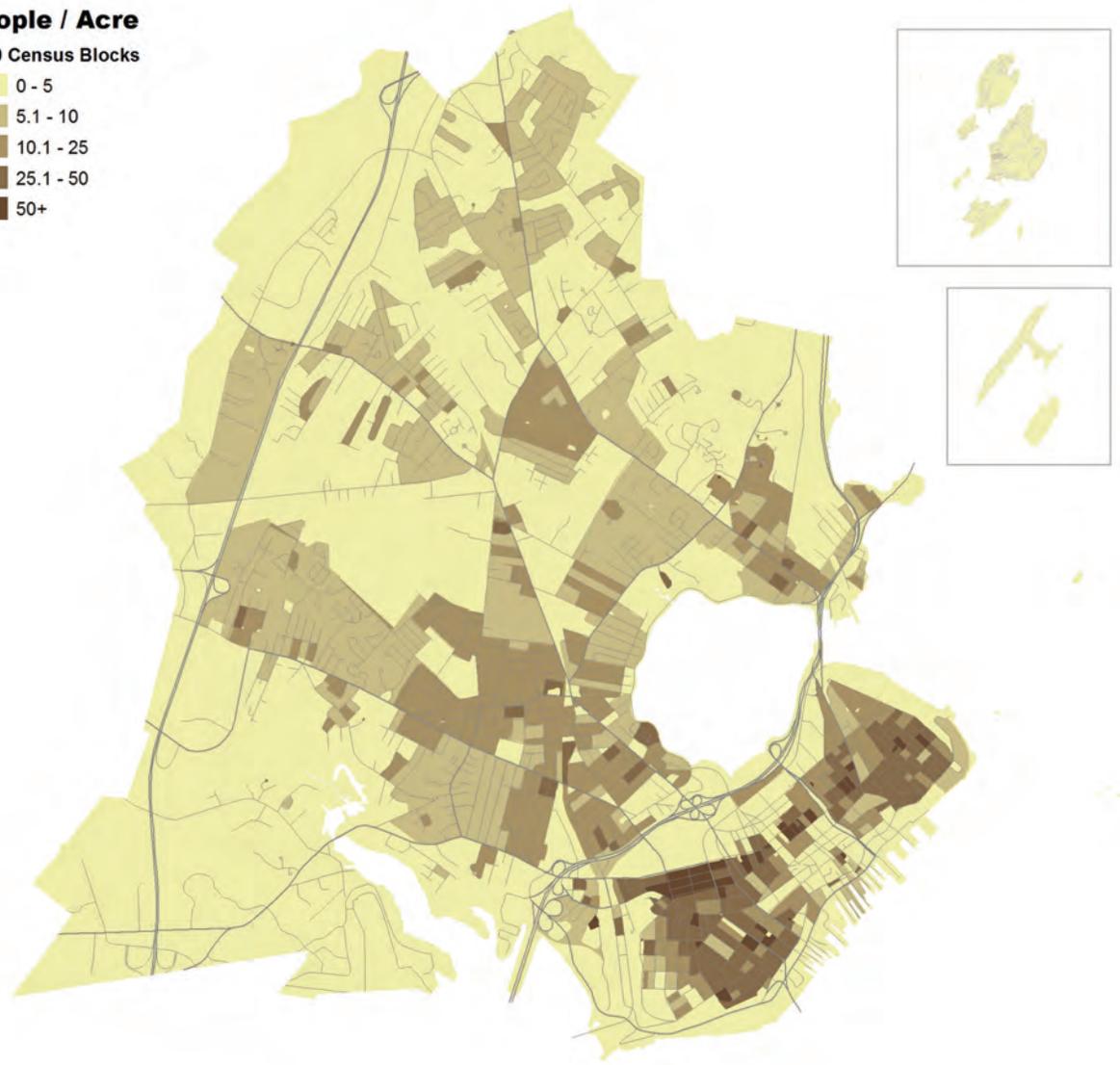


**Population Density**

In the City, density rates range from 400+ people per acre in a few select locations (i.e., assisted living facility, homeless shelter, etc.) to 0-5 people per acre in outlying census blocks. As might be expected, Portland's peninsula, overall, has the highest rates of people per acre. Additionally, many of the census blocks in neighborhoods adjacent to major corridors (Route 25, Route 302, and Route 26/100) also have higher population densities.

**Portland's Population Density (2010)**

- People / Acre**  
**2010 Census Blocks**
- 0 - 5
  - 5.1 - 10
  - 10.1 - 25
  - 25.1 - 50
  - 50+



### Population Change

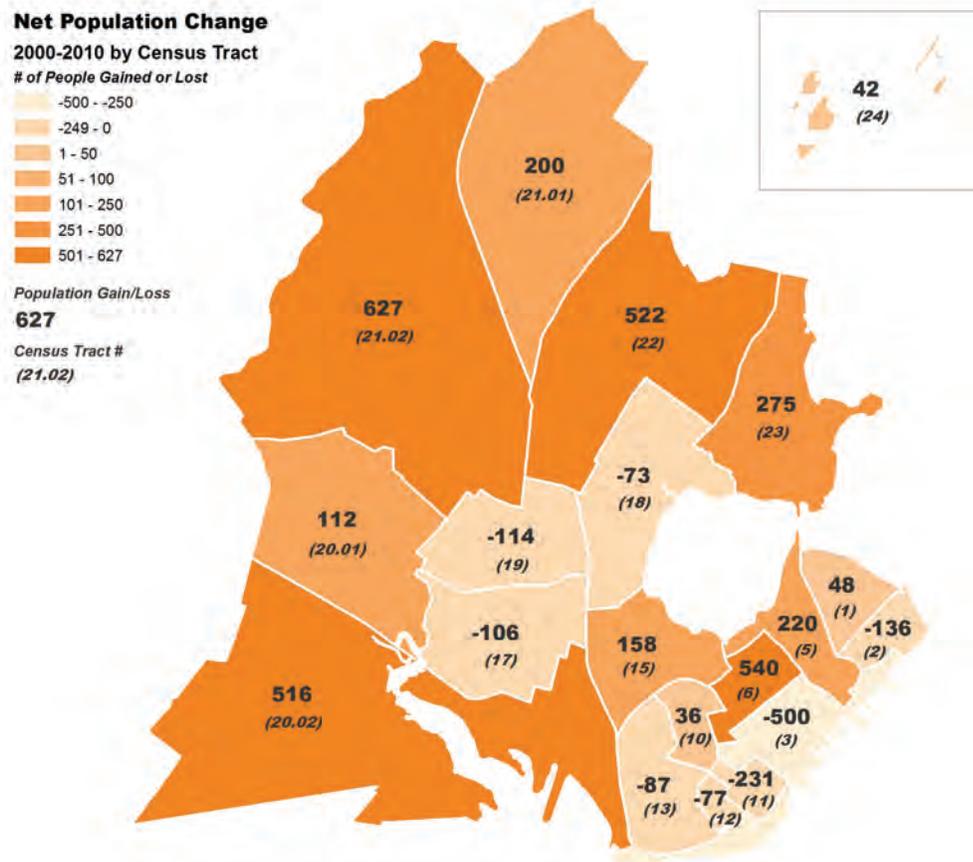
Census tracts are larger than census blocks and are the approximate size of neighborhoods. Since census tract boundaries in Portland changed only slightly from 2000 to 2010, it is possible to see which neighborhood areas gained or lost populations over the decade. The census tracts that experienced the most growth between 2000 and 2010 were:

- Census tracts 21.01 & 22 (North Deering), which gained 200 and 522 people respectively;
- Census tract 21.02 (Riverside), which gained 627 people;
- Census tract 20.02 (Stroudwater/Libbytown), which gained 516 people; and
- Census tract 6 (Parkside), which gained 540 people.

The census tracts that experienced the sharpest declines in population were:

- Census tract 3 (Downtown), which lost 500 people; and
- Census Tract 11 (West End), which lost 231 people.

### Portland's Population Change (2000-2010\*)



\*This map shows census tracts only and is not a depiction of definitive neighborhood boundaries.



**APPENDIX:  
POPULATION &  
DEMOGRAPHICS**

On the peninsula, the majority of new growth occurred in the vicinity of the Parkside, East Bayside, and India Street neighborhoods, while the eastern side of the peninsula, including downtown, the West End, and a portion of the East End, generally lost population.

Off the peninsula, most population growth occurred in the outlying census tracts, in the vicinity of North Deering, Riverside, and Stroudwater/Libbytown. The census tracts that lost population, including Deering Center, Rosemont, and Back Cove, were more centrally located. Losses were relatively modest.

### **Daytime & Seasonal Population Change**

As the State's largest city and urban center for Cumberland County, Portland is home to a large number of employers and jobs. The daily influx of workers means the City's daytime population is often substantially higher than its nighttime population, comprised mainly of residents. In fact, the American Community Survey's estimates that the City's population swells to over 96,000 people during daytime hours – an increase in population of over 40 percent.

In addition to the influx of daily commuters, Portland is an increasingly popular destination for tourists from all over the world, particularly in the summer months. According to the Maine Office of Tourism, in 2014 the Greater Portland/Casco Bay region was the primary region of visitation for 14% of the State's 37.9 million overnight and day visitors, or an estimated 5.3 million people. As the country transitions out of the Great Recession, tourism is on the rise. In fact, traffic volumes along the Maine Turnpike broke records in 2015, exceeding 79.5 million transactions – more than in any year in its 69-year history.

While many New England-based tourists arrive in Portland by car, the City also welcomes tourists via the Portland International Jetport, the AMTRAK Downeaster, the Concord Trailways/Greyhound bus stations, or by cruise ship or ferry at the Portland Ocean Gateway/Nova Star terminals adjacent to the Maine State Pier. The cruise ships, in particular, increase the day and nighttime population of the downtown area considerably. A large cruise ship can bring an additional 3,000-5,000 visitors to Portland for several days at a time. In 2016 the City received 76 cruise ships carrying over 100,000 passengers and 40,000 crew members.

### **Population Projections**

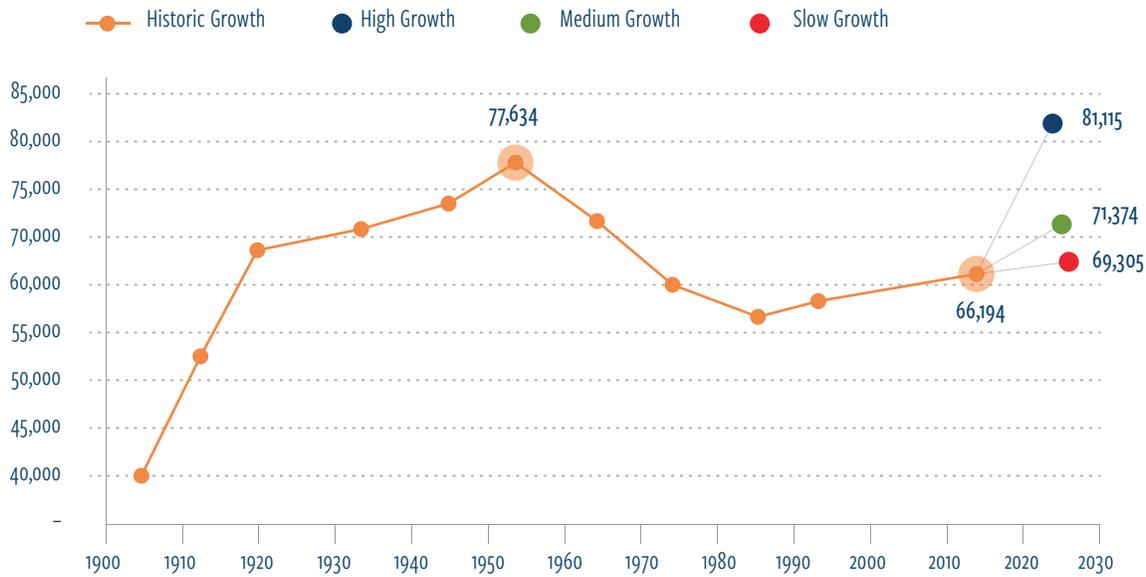
Anticipating population growth is an integral part of any long-term planning effort. Population projections depend on a solid understanding of historic growth trends in the community, region, and nation. As mentioned previously, Portland's share of growth in Cumberland County has steadily declined, from a high of 56% in the 1920s to its present day share of 23%. However, countervailing forces, such as a renewed interest in urban living among both the young and old, as well as an influx of new immigrants, may bring about more accelerated growth in the years to come.

The University of Southern Maine's Center for Business and Economic Research has developed population projections for Cumberland County through 2030. A range of factors to reflect differing growth scenarios, from a continuation of the slow, steady growth of the past few decades to a more dramatic increase in population, can be applied to estimate a projected population for the City:



- **Low Growth:** Portland’s share of the county’s growth is the average of the 1980s, 1990s, and 2000s (7.3%).
- **Medium Growth:** Portland’s share of the county’s growth will be more like the 2000s (12.1%).
- **High Growth:** Portland will sustain a 25% share of the county’s total population.

**Scenario-Based Population Projections for Portland**



As a matter of principle, this plan supports the concept that those who work in Portland should be able to live here, and that, over the next decade, the City should aspire to accommodate 75% of the current daytime population of 96,000, or approximately 72,000 people. This figure falls squarely between the medium and high growth scenarios developed based on USM’s county growth model.

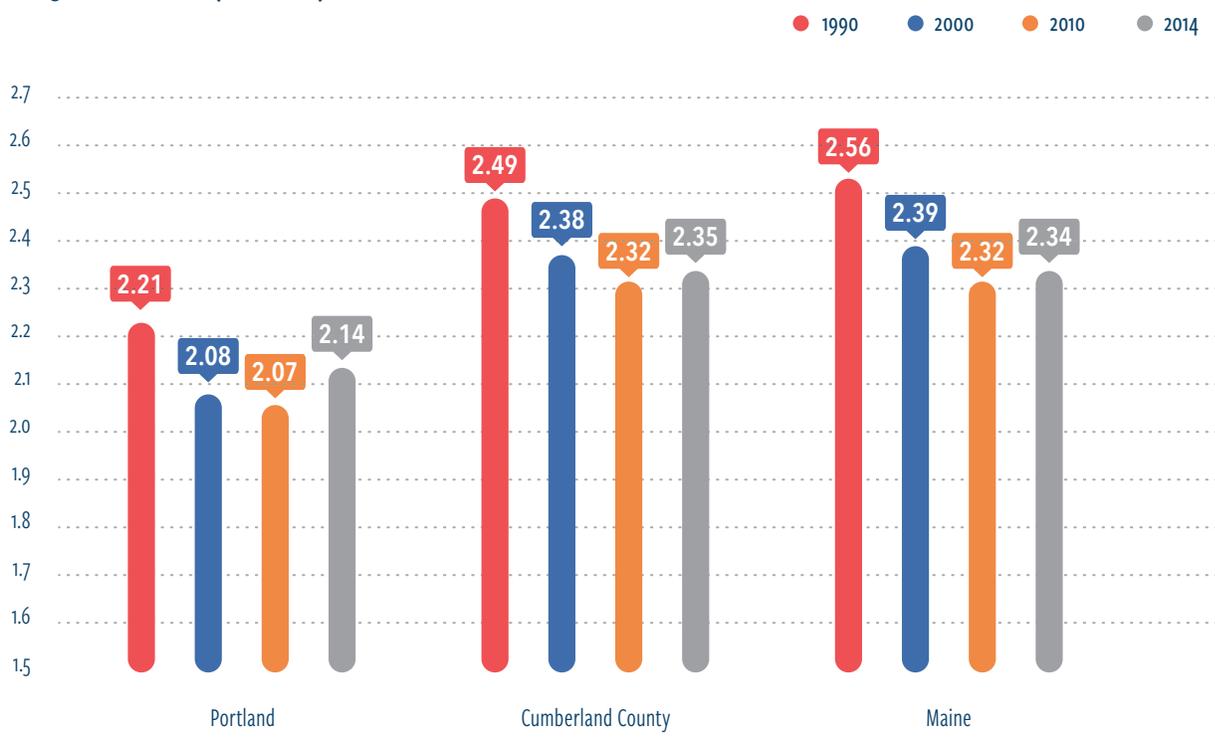


### Household Characteristics

Household size has dropped considerably in Portland over the course of the last few decades. This trend has been observed in communities all over the State, and is often attributed to an increase in single-person households, a tendency toward small households among Baby-Boomers, the increased longevity and independence of seniors living alone, and higher divorce rates.

However, the most recent American Community Survey data suggests this trend might be stabilizing, or possibly reversing itself slightly, during this decade. The most recent 2010-2014 ACS 5-Year Estimate shows a slight uptick in average household size across the board for Portland, Cumberland County, and Maine.

### Average Household Size (1990-2014\*)



\*2010-2014 ACS 5-year estimate

There continues to be a sharp contrast between Portland's average household size and that of Cumberland County and the State of Maine. Portland's average household size is consistently smaller. Typically, smaller household size means more and different housing units are needed to accommodate the unique needs of non-family households.



**APPENDIX:  
POPULATION &  
DEMOGRAPHICS**



Household size varies throughout the City. As might be expected, households are generally smaller on the peninsula, where there are a higher percentage of non-family households, renters, young professionals, and retirees. The areas with the higher household sizes are generally the outlying neighborhoods.

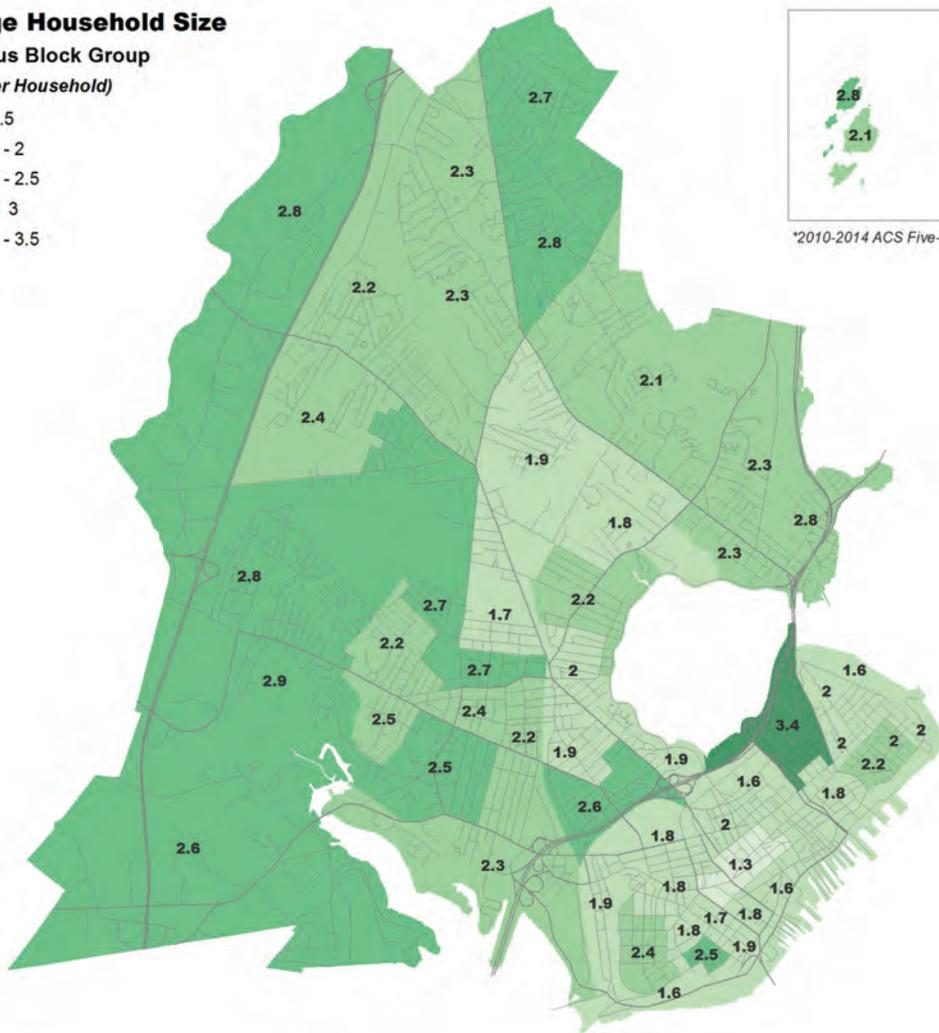
**Portland's Average Household Size\***

**Average Household Size**

By Census Block Group

(People per Household)

- 1 - 1.5
- 1.51 - 2
- 2.01 - 2.5
- 2.51 - 3
- 3.01 - 3.5



\*2010-2014 ACS Five-Year Estimate

\*2010-2014 ACS Five-Year Estimate

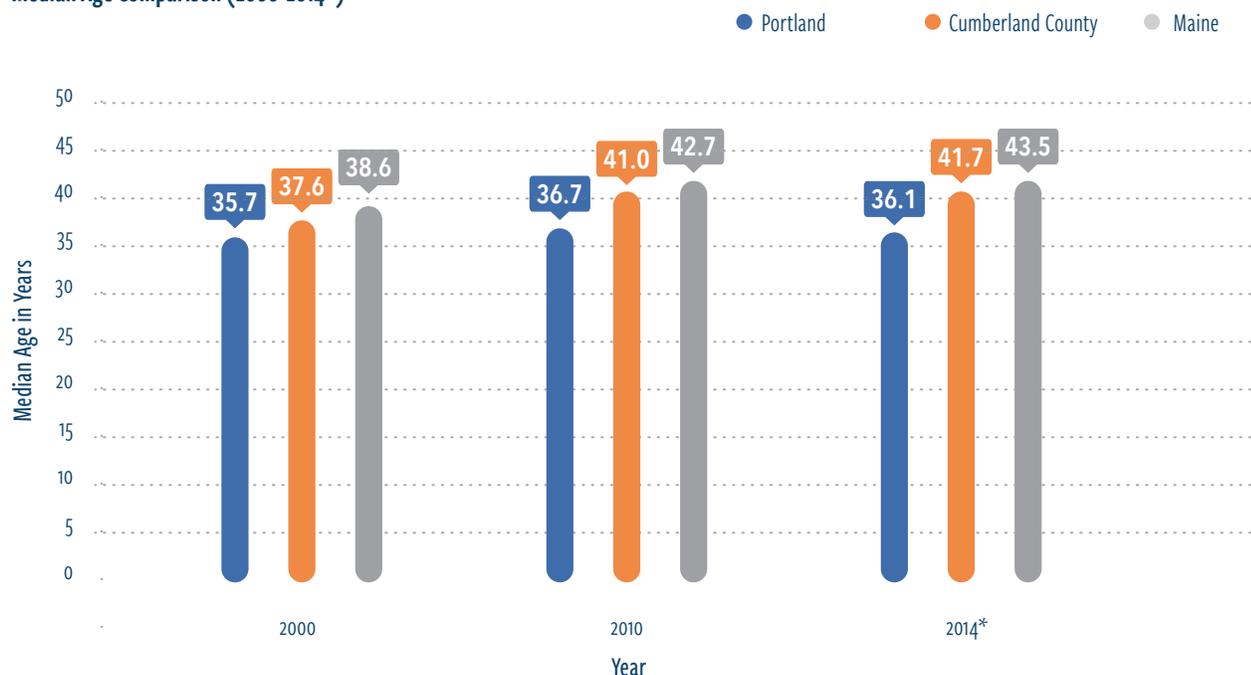


### Age Characteristics

Maine has the distinction of being the oldest state in the country. While the median age in the U.S. in 2010 was 37.2 years, in Maine it was 42.7 years, the highest in the nation. While being “old” is characteristic of all northern New England States, Maine routinely tops the list and current trends indicate that the State’s population is growing ever older.

Portland’s population, however, has thus far buffered this trend and remained comparatively young. While the median age for the County and State has increased more rapidly since 2000, Portland’s median age has remained relatively stable between 35-37 years.

### Median Age Comparison (2000-2014\*)



\*2010-2014 ACS 5-year estimate

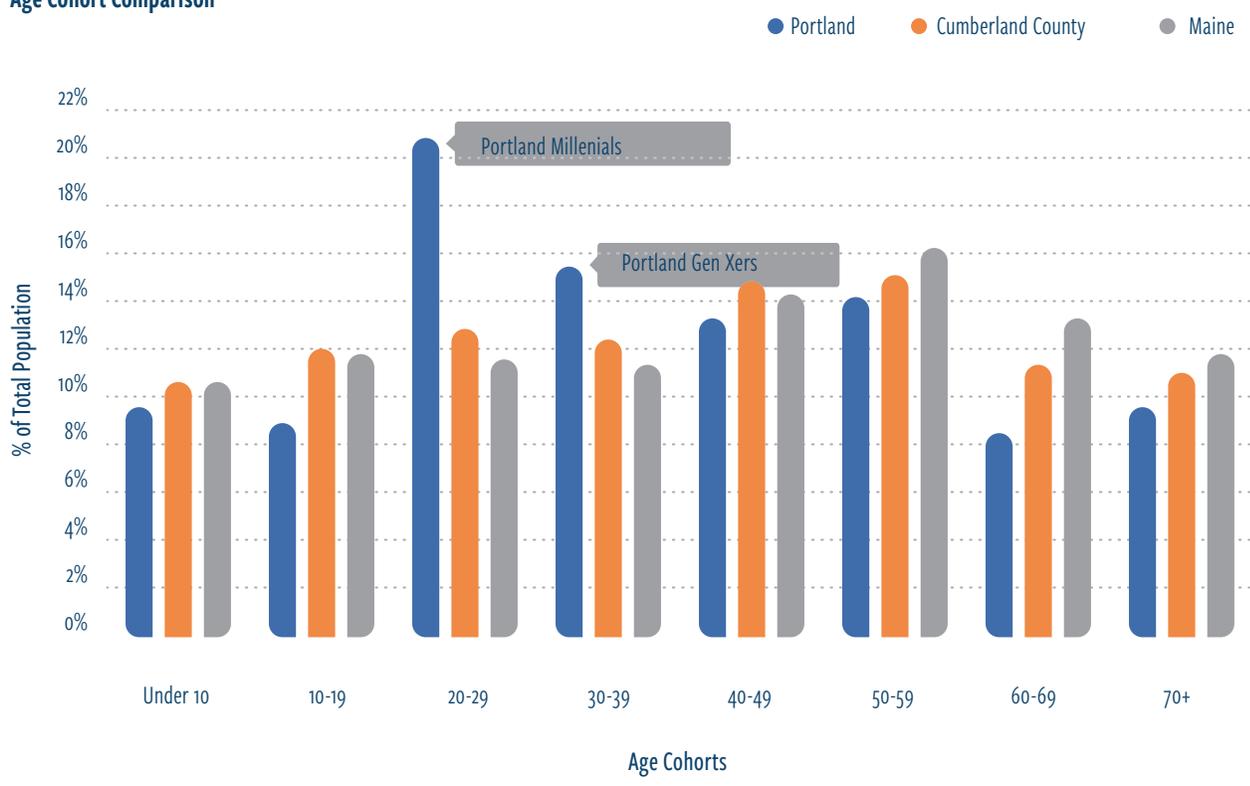


**APPENDIX:**  
POPULATION &  
DEMOGRAPHICS



When broken down by age cohorts and compared to the County and State, it is apparent that Portland attracts much higher shares of young people in the 20-29 and 30-39 age groups – loosely categorized as Gen Xers (born between the early 1960s and early 1980s) and Millennials (born between the early 1980s and early 2000s).

**Age Cohort Comparison\***



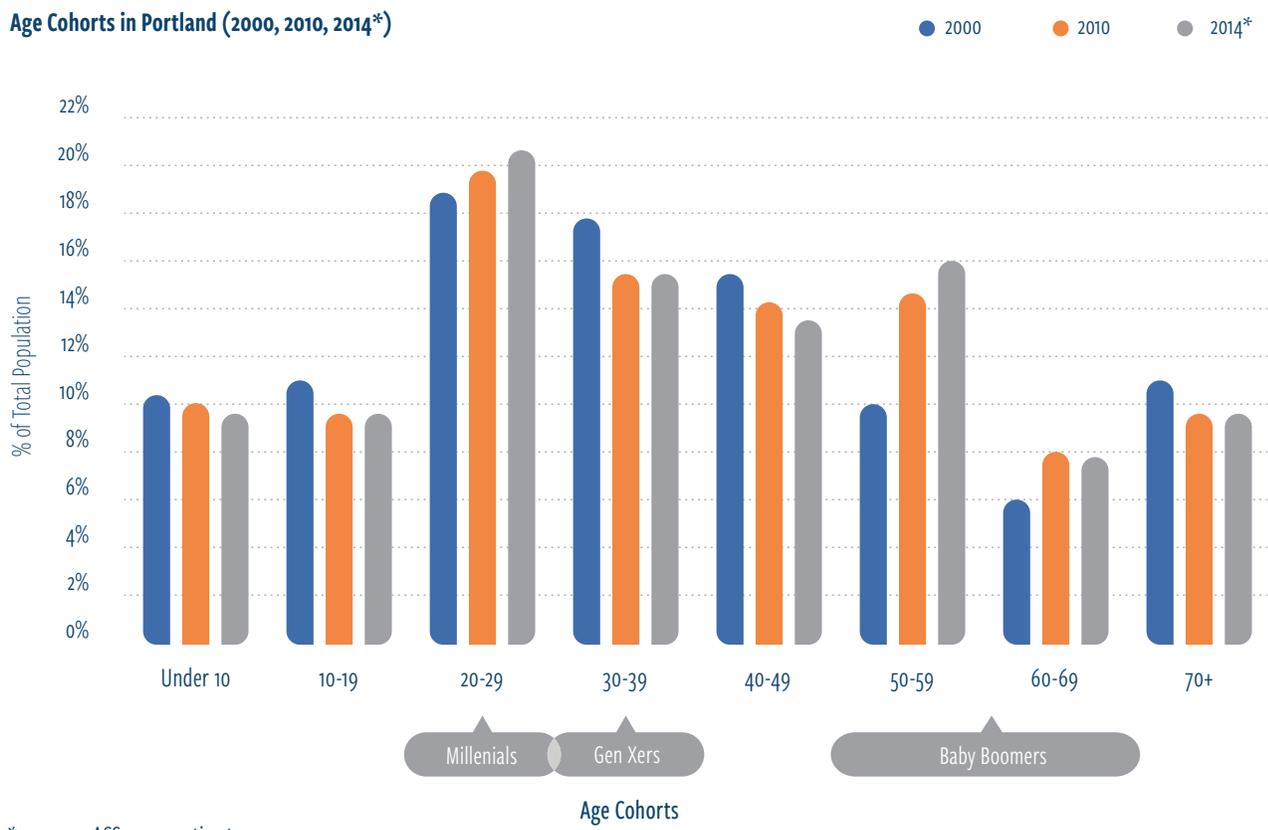
\*2010-2014 ACS 5-year estimate



**APPENDIX:  
POPULATION &  
DEMOGRAPHICS**

However, in Portland the Baby Boom generation (those in the 50-59 and 60-69 age groups) is also growing. In fact, since 2000 the population of Baby Boomers in the City grew at a faster rate than any other age group. Also noteworthy, while Millennials in the 20-29 age group grew in size, the number of Gen Xers in the 30-39 age group declined, suggesting some young families with school-age children may be moving to neighboring suburbs, or to other regions altogether.

**Age Cohorts in Portland (2000, 2010, 2014\*)**



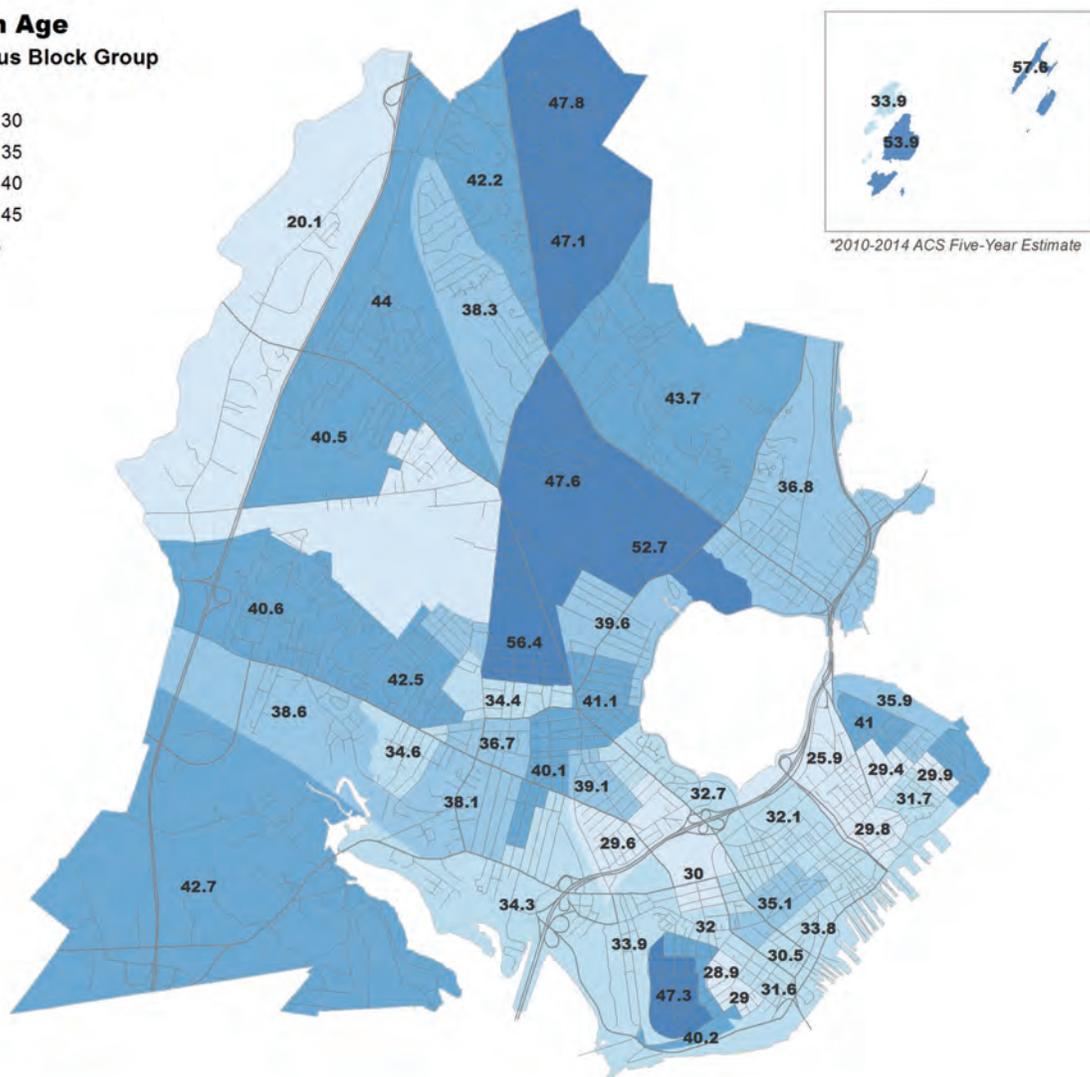
\*2010-2014 ACS 5-year estimate

While most areas on the peninsula remain relatively young, with the exception of portions of the East and West End, the outlying neighborhoods, in particular North Deering and the Island communities, have considerably higher median ages.

**Portland's Median Age\***

**Median Age**  
By Census Block Group  
(In years)

- 20 - 30
- 31 - 35
- 36 - 40
- 41 - 45
- > 45



\*2010-2014 ACS Five-Year Estimate



**APPENDIX:  
POPULATION &  
DEMOGRAPHICS**

**Employment and Income Characteristics**

Portland’s median household income is considerably less than that of Cumberland County and on par with the State – though slightly less by a few thousand dollars in both 2000 and 2014. Portland’s lower household income reflects its status as an urban employment and housing center, home to a range of population groups from the highly affluent to those just starting out in the workforce.

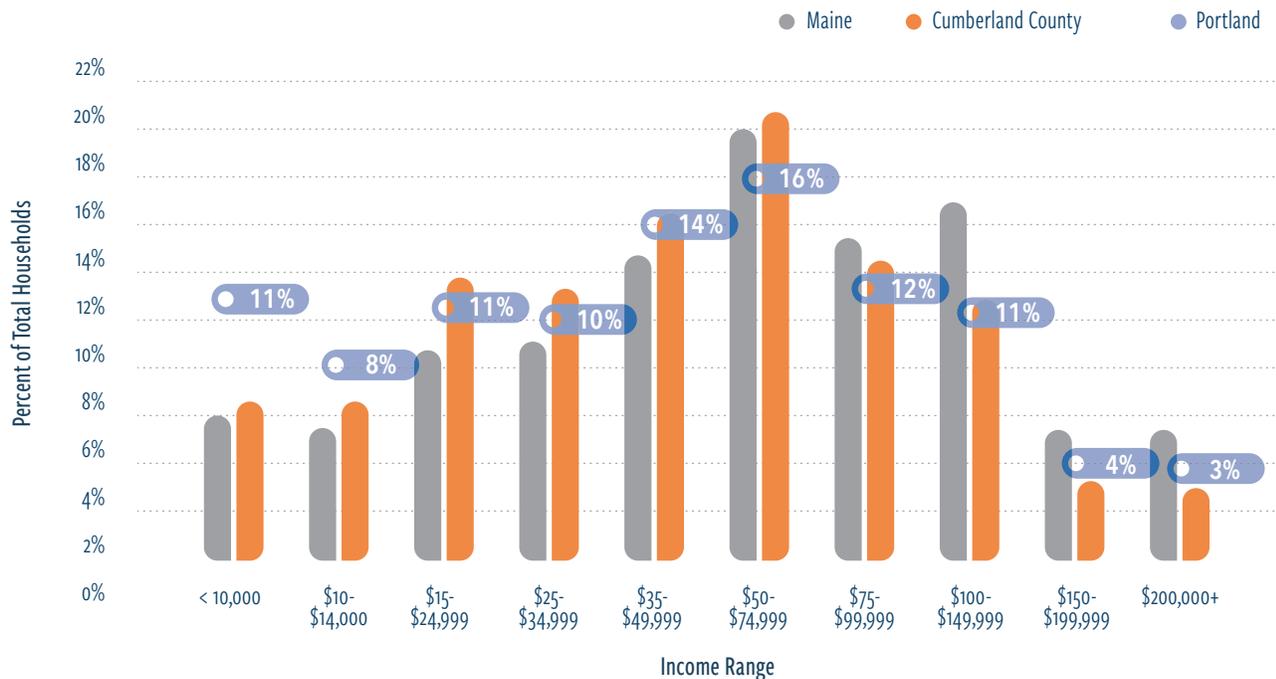
**Median Household Income Comparison (2000-2014\*)**

Projection	2000	2014*	% Change
Portland	\$35,650	\$45,865	28.7%
Cumberland County	\$44,048	\$59,560	35.2%
Maine	\$37,240	\$48,804	31.1%

\*2010-2014 ACS 5-year Estimate

When compared to the County and State, it is clear that Portland has a much higher proportion of households in the lower income brackets, and generally fewer households in the upper-middle income brackets.

**Household Income in Portland, Cumberland County, Maine\***



\*2010-2014 ACS 5-year Estimate



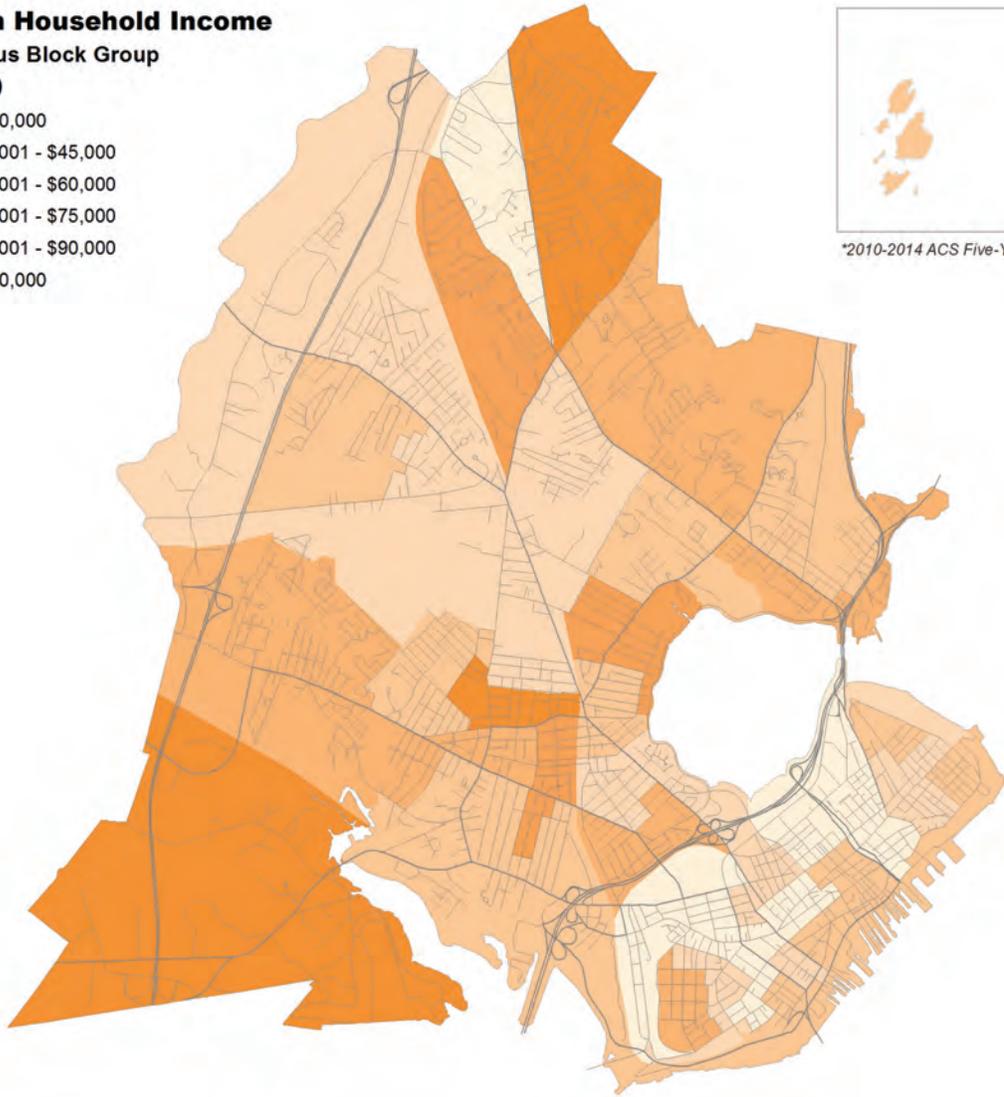
**APPENDIX:  
POPULATION &  
DEMOGRAPHICS**



American Community Survey data shows that census block groups near the City's periphery generally have a higher median household income. Census block groups with the lowest median household income are found in the Bayside, Parkside, and St. John Valley neighborhoods.

**Median Household Income  
By Census Block Group  
(In dollars)**

-  < \$30,000
-  \$30,001 - \$45,000
-  \$45,001 - \$60,000
-  \$60,001 - \$75,000
-  \$75,001 - \$90,000
-  > \$90,000



*\*2010-2014 ACS Five-Year Estimate*

*\*2010-2014 ACS Five-Year Estimate*

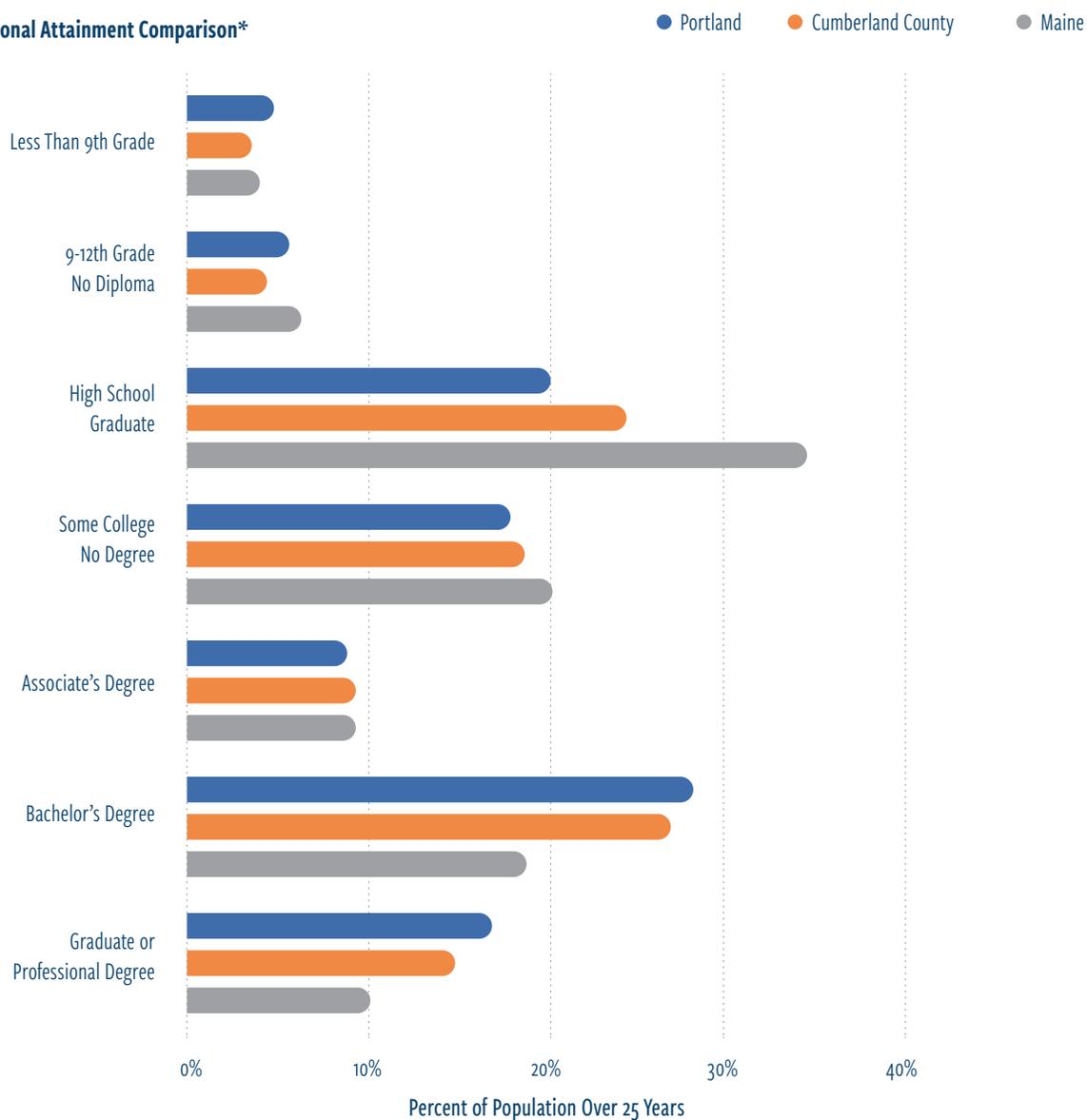


**APPENDIX:  
POPULATION &  
DEMOGRAPHICS**

**Educational Attainment**

Despite reporting slightly lower income levels when compared to the County and State, Portland's population is increasingly well educated. When compared to Cumberland County and the State, a higher proportion of Portland's residents have obtained advanced degrees. On the other end of the spectrum, the percent of Portland residents who are high school graduates only is considerably less than the statewide average, and slightly less than that of Cumberland County.

**Educational Attainment Comparison\***





**APPENDIX:  
POPULATION &  
DEMOGRAPHICS**



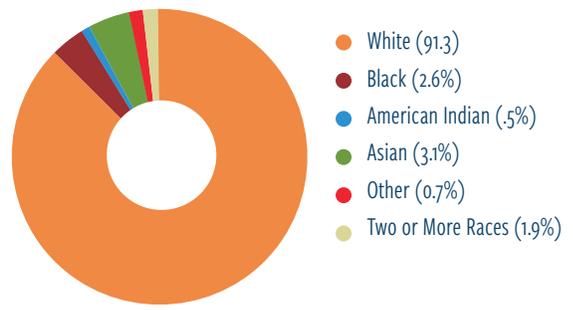
*\*2010-2014 ACS Five-Year Estimate*

**Race & Ethnicity**

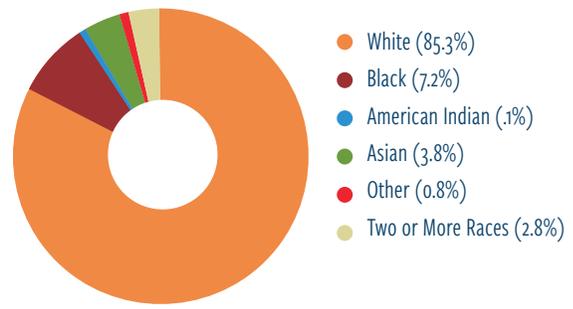
The key driver of population change at the local level is individuals and families moving from or to the community. Portland benefits from an influx of new people, and retaining them, whether millennials, young families, or retirees. Immigration is of crucial importance to the long-term sustainability of the City. While Maine routinely carries the distinction of being the among the 1 east diverse states in the nation, in the past decade it has experienced a dramatic rise in new immigration, especially in the metropolitan areas of Lewiston and Portland.

In the past decade, Portland’s foreign born population has nearly doubled, from roughly 4,895 residents in 2000 (7.6% of City’s total population) to a current estimate of 8,767 (13.2% of the population). By contrast, the foreign-born population currently represents just 3.5% of the State’s population. Partly as a product of this immigration, in the past decade Portland has become considerably more diverse in comparison to itself in 2006, and in comparison to the State overall.

**Portland Population by Race (2000)**



**Portland Population by Race (2010-2014\*)**



*ACS-Yr Estimate*

# Natural and Water Resources



APPENDIX:  
NATURAL AND  
WATER RESOURCES

The City of Portland has an extensive inventory of natural resources. The City's geographic diversity as a coastal community with rivers, estuaries, streams, islands, and hills is highly valued by citizens, and is frequently cited as a leading contributor to its quality of life.

Understanding the City's natural environment is essential to encouraging both environmentally and economically sustainable decisions that insure the enjoyment and protection of these resources for future generations.

## EXISTING CONDITIONS AND TRENDS

### Topography

Portland is the first step of a gradual rise in the land's contour that culminates in the White Mountains, approximately 50 miles to the northwest. The City, with its islands, extends 12 miles north to south, and 15 miles west to east. Portland's total city limits encompass approximately 46,100 acres (72 square miles); however, the land area is only 14,100 acres (22 square miles) and the remainder is water, primarily Casco Bay and Back Cove. The mainland portion of the City extends almost five miles north to south, and stretches over six miles east to west, encompassing approximately 11,150 acres. The 17 islands or parts of islands within Portland's city limits add approximately another 2,950 acres of land area.

Portland's peninsula is dominated by a one-mile by three-mile southwest-northeast oriented double-topped ridge. At the eastern end of the peninsula is Munjoy Hill, with an elevation of 161 feet; on the west is the 175-foot Bramhall Hill that ends abruptly in a vegetated sharp-faced cliff. The remainder of the mainland is relatively level, with an average elevation of 100 feet, except for a few low hills and ridges. These highpoints include Summit Hill, Rocky Hill, outer Washington Avenue, Graves Hill, and Deering Highlands. Several of the City's islands, most notably Cliff, Cushing, Great Diamond, and Little Diamond, exhibit hills and rises as well, with elevations as high as 80 feet. Another significant aspect of Portland's topography is the tendency toward steep slopes along some of the City's shores and inland waterways. This is particularly evident along the Fore River west of Thompson's Point, the Stroudwater River west of UNUM, the Presumpscot River, and Nason's Brook. Cliff Island derives its name from the cliff found on that island. The 80-foot whitehead cliffs on Cushing Island and the lower steep slopes on Great Diamond and Little Diamond Islands are other notable examples of the precipitous edges where land meets water.

### Soils

The Cumberland County Soil Survey divides soils in Portland into two general classes or associations. The peninsula and areas near to and south of Brighton Avenue are generally classified in the Hollis-Windsor-Au Gres association. The off-peninsula areas and areas north of Brighton Avenue are generally classified in the Suffield-Buxton-Hollis association.

These associations frequently overlap and elements of each association are found throughout the City. Although the characteristics of these soils vary, they generally exhibit high water tables. They also tend to be highly subject to erosion, particularly along slopes, and exhibit relatively low water absorbency, primarily because of the presence of marine clays and the shallow depth to bedrock.



**APPENDIX:  
NATURAL AND  
WATER RESOURCES**

The peninsula has been subject to extensive filling. A swath of filled land up to 200 feet in width exists along the harbor, supporting the entire length of Commercial Street. Similarly, the existing northern bank of the Fore River, from the Casco Bay Bridge to Thompson's Point, was created with fill. Much of what we know as Bayside today was previously part of Back Cove. The east-west diameter of Back Cove was approximately 1.5 miles in the early 19th century; the present east-west diameter is approximately 0.8 miles. The perimeter of the Back Cove area was filled with soil and demolition debris, including debris from the Great Portland Fire of 1866, from the 18th to the 20th centuries. The filling of the southeastern bank facilitated the construction of Marginal Way and I-295. Because of the variability of material used for fill, it is not possible to characterize the soil and its limitations without on-site investigation.

### **Water Resources**

#### **Casco Bay Watershed**

Casco Bay covers 229 square miles, from Two Lights in Cape Elizabeth to Cape Small in Phippsburg, with more than 200 islands. The bay has 578 miles of irregular shoreline with an 18-mile wide entrance and an average width of 12 miles. Portland Harbor, the westernmost portion of Casco Bay, is a deep-water, year-round, sheltered harbor, only 3 ½ miles from open ocean. Its main channel entrance is 1,100 feet wide with a depth of 45 feet at mean low tide. Within the inner harbor, the channel is 35 feet deep.

Portland occupies a prominent location within the Casco Bay watershed. The watershed includes four major rivers: the Fore, Stroudwater, Royal, and Presumpscot Rivers. All of these rivers, except the Royal, pass through or about Portland and empty into Casco Bay. The watershed, covering 985 square miles, extends approximately 60 miles to the north, reaching its terminus in Bethel at the Crooked River's northernmost extent. The watershed includes forty municipalities, and several major water bodies, including Sebago, Little Sebago, Long, and Highland Lakes. Sebago is Maine's second largest lake and serves as the principal water supply for Portland. Due to the hydrological relationship within this watershed, activities such as industry, agriculture, development, and wastewater treatment in communities as far away as Bethel can impact the quality and character of resources in Portland and Casco Bay.

Back Cove is a semi-enclosed tidal cove covering approximately 660 acres. Back Cove's narrow, bottleneck opening empties into Portland Harbor. Today its use is primarily recreational, such as kayaking, and its shoreline is ringed with a walking/jogging/biking path.

The Fore River serves as the inner portion of Portland Harbor, running from the Stroudwater River into Casco Bay. While the Fore River has an important water transportation function, it is also a highly productive estuary with associated tidal marshes. West of Thompson's Point, there is an extensive area of salt marsh cord grass and salt marsh hay, including the Fore River Sanctuary, which contributes to the productivity of the estuary. In 2000 and 2001, the Resource Protection Zone for the Fore River Estuary was enlarged to incorporate and protect over 112 acres of additional land held by Maine Audubon Society, Portland Trails, the City of Portland, and Union Water and Power Company.



**APPENDIX:**  
NATURAL AND  
WATER RESOURCES

The Stroudwater River empties into the Fore River in the Stroudwater neighborhood of Portland. This river's watershed includes sections of seven communities: Buxton, Cape Elizabeth, Gorham, Portland, Scarborough, South Portland, and Westbrook.

The Presumpscot River is the longest river traversing Portland and has the largest watershed. The watershed comprises the northern reaches of the Casco Bay watershed, beginning with the Crooked River in Bethel, through Standish, Windham, Gorham, Westbrook, Falmouth, and Portland. The river is also an estuary at its outlet in Falmouth. In 2003, the Smelt Hill Dam was removed from the lower reaches of the Presumpscot River in Falmouth. The removal of the dam resulted in a significant environmental shift for the river, resulting in the restoration of cold water fisheries and the return of anadromous fish, including alewives and shad, to the river above the dam, including Mill Brook, Highland Lake, and the newly installed fish ladder at Cumberland Mills in Westbrook.

Most of the Presumpscot River watershed drains to the north and west of Portland, but the Presumpscot River drains a huge amount of land in the Casco Bay Watershed and has a huge influence on the water quality of Casco Bay. A portion of the Lower Presumpscot River watershed does fall within the jurisdiction of Portland, and this part of the Lower Presumpscot watershed contains the Dole Brook watershed. Dole Brook runs in a south-north orientation through Riverside Golf course, emptying into the Presumpscot River.

#### Casco Bay Sub-Watersheds in Portland

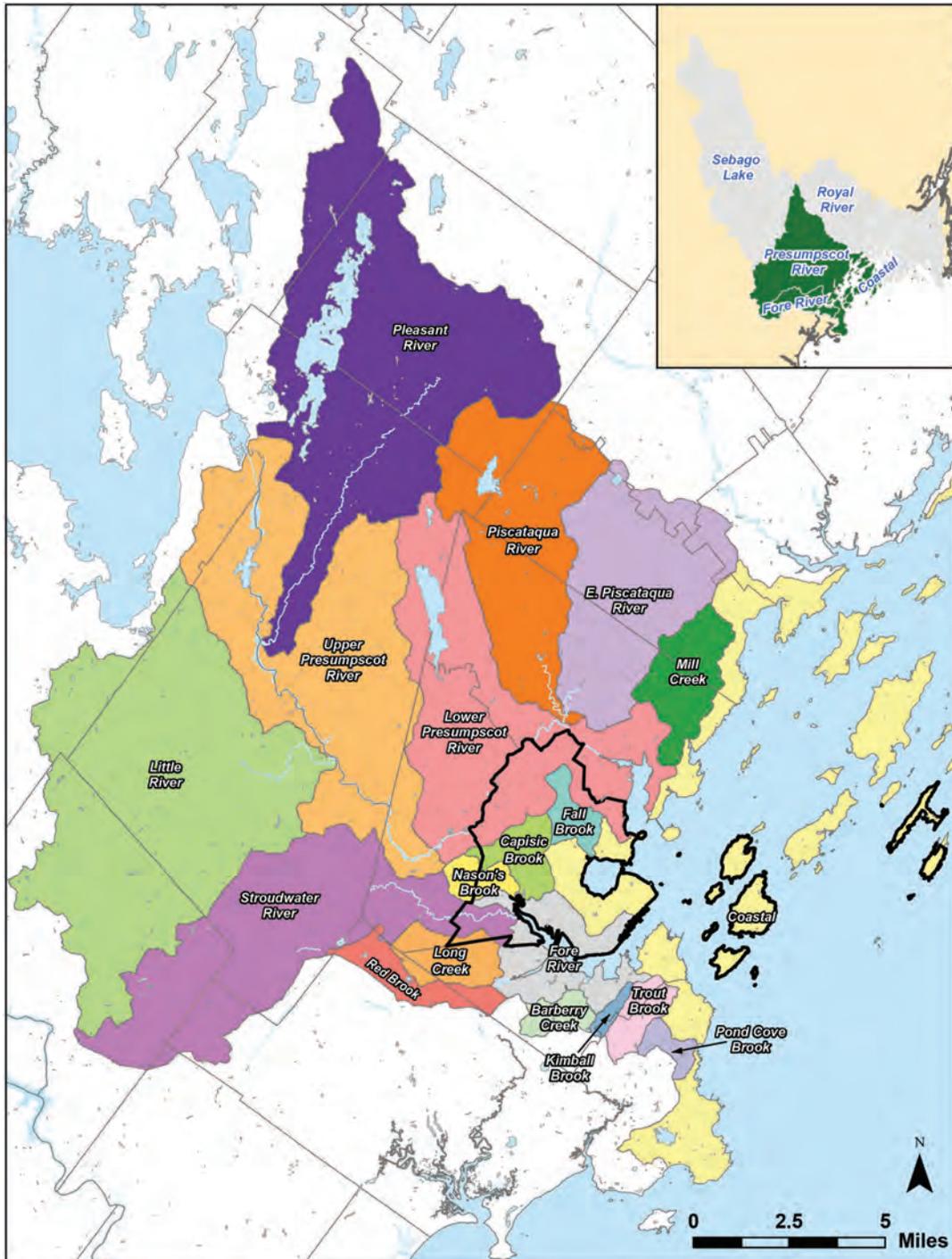
Within the Fore River watershed are a number of smaller sub-watersheds, the most significant of which for Portland are the Fall Brook watershed, the Capisic Brook watershed, the Nasons Brook watershed, the Stroudwater River watershed, and a sliver of the northeastern corner of the Long Creek watershed.

Fall Brook starts in North Deering near Lyseth Elementary and Lyman Moore Middle School and runs parallel to Washington Avenue. It passes under Washington Avenue near Andover College and flows in a southerly direction, emptying into Back Cove. A portion of the brook between Allen and Maine Avenues flows within an underground culvert.

Capisic Brook begins with two branches. One originates north of Morrill's Corner and runs west just north of Evergreen Cemetery. The second branch begins near the Westbrook/Portland border, just north of Exit 8 of the Maine Turnpike, and runs under the Turnpike to connect with the other branch just north of the Hall School. From there, it flows south, crossing Brighton Avenue to Capisic Pond, then under Capisic Street into the Fore River Sanctuary, and empties into the Fore River.

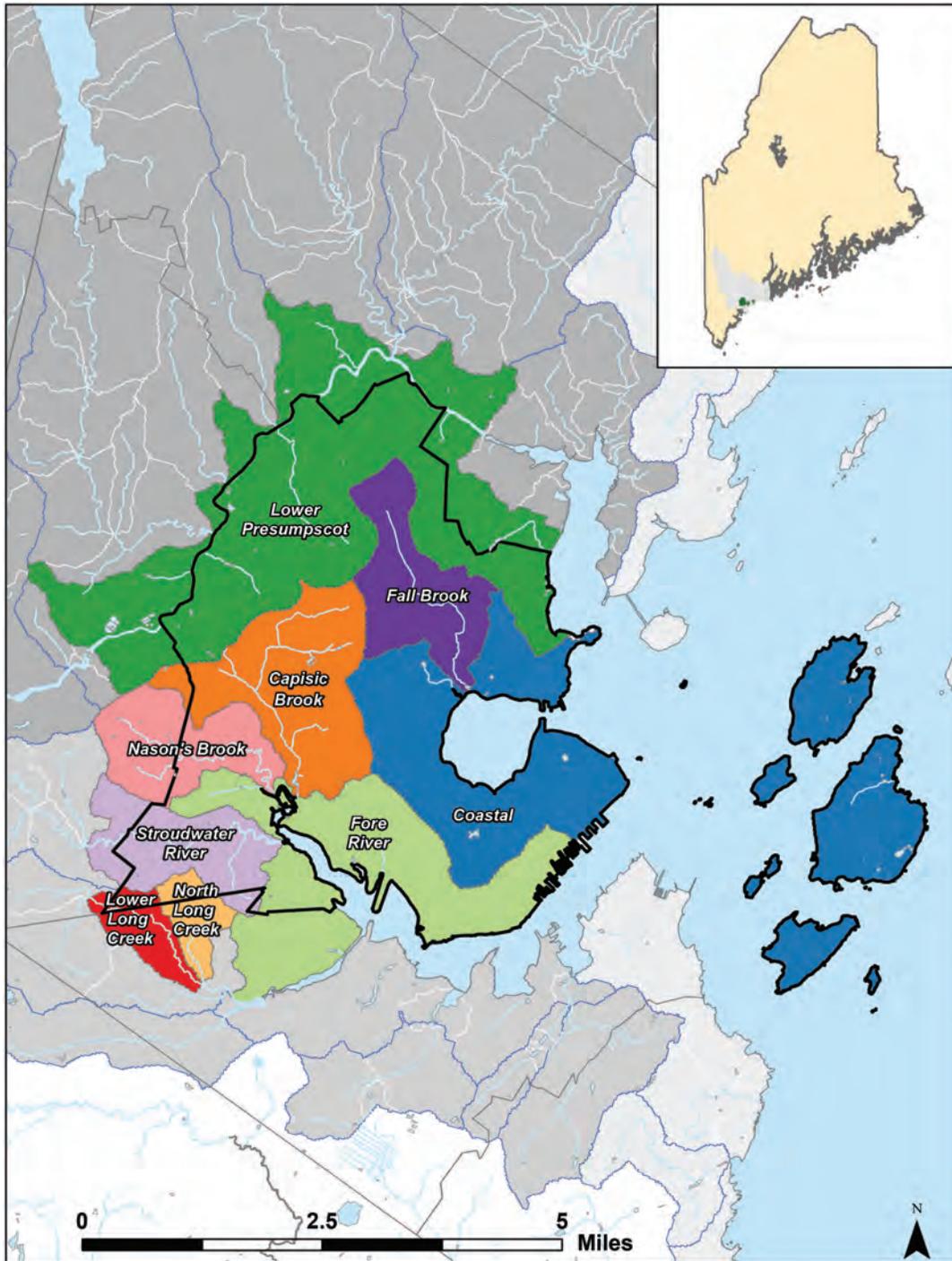
Nasons Brook begins in Westbrook, runs under the Maine Turnpike near the Pine Tree Industrial Park, under Rowe and Rand Avenues, and flows over Jewell Falls. It also enters the Fore River Sanctuary and empties into the Fore River. Jewell Falls was recently rezoned to Resource Protection Zone (RPZ) as part of the environmental conservation efforts for the Fore River Estuary.

Sub-Watersheds of the Three Major Watersheds That Surround Portland

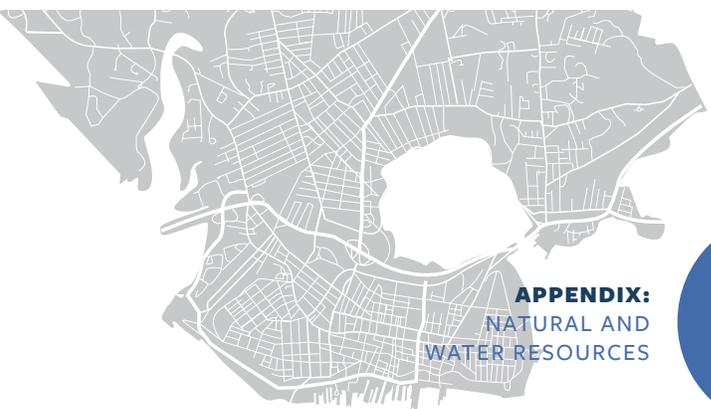


Courtesy: Environmental Protection Agency, 2012

**Catchments in Portland**



*Courtesy: Environmental Protection Agency, 2012*



**APPENDIX:  
NATURAL AND  
WATER RESOURCES**

**Groundwater Resources**

Drinking water for Portland’s mainland is piped from Sebago Lake by the Portland Water District, which serves eleven communities in the Greater Portland region. The islands are served by a combination of well water and Sebago Lake water piped from the mainland. Cliff Island is totally dependent on well water. Great Diamond and Little Diamond have public water, but some of the lines are seasonal. Peaks Island has year-round and seasonal water lines and there are also a number of private wells.

Groundwater on the islands and the mainland originates from rain and snow that falls on the land surface. The water then filters into the underground aquifers through aquifer recharge zones. On the mainland, the two principal aquifer recharge zones are located in fairly broad swaths along the Presumpscot River, roughly from Rankin Street to the Maine Turnpike, and along St. John Street, roughly from Danforth Street to Congress Street.

**Wetlands**

In addition to the saltwater wetlands associated with the Fore River estuary, there are a number of freshwater wetlands scattered on the mainland. Most of Portland’s freshwater wetlands have been altered and encroached upon by development, but many small pockets still exist. Typically, they are found in low-lying areas of the city that are frequently inundated with water or in areas that have remained vacant because of poor soils or other factors. There is only one freshwater wetland on the mainland of Portland of sufficient size to be designated for protection under Shoreland Zoning, on Allen Avenue near Northfield Green. There also are several wetlands on Peaks Island that are afforded this protected status.

**Floodplains**

A floodplain area is defined as a region periodically inundated with floodwaters during the largest flood event that can be expected within a span of 100 years. Flooding during this type of storm swells the banks of these waterways as well as the lower elevation of surrounding areas. Floodplain areas help store excess water during major floods so that other areas are not inundated with water.

The Federal Emergency Management Agency (FEMA) develops flood zone maps for Portland. In 2013, FEMA released new flood zone maps for York and Cumberland Counties. The 2013 flood zone maps were a revision of the preliminary maps that were released in 2009 but not adopted due to concerns about their accuracy. The new maps expand flood zones farther inland to account for the effects from sea level rise and more frequent and intense storms, and also include special hazard zones. Although the updated flood maps are available as a preliminary product, the updated flood maps for Cumberland County have not been officially adopted by FEMA as the effective flood maps.

**Sea Level Rise**

Portland’s vulnerability to coastal flooding and sea level rise has been well studied, particularly in the Back Cove area. The Casco Bay Estuary Partnership (CBEP) and the Coastal Hazard Resiliency Tools (CHRT) project completed sea level rise assessments funded through NOAA and managed by the Maine Coastal Program. The CHRT project focused on a number of different sea level rise and



**APPENDIX:**  
NATURAL AND  
WATER RESOURCES

flooding scenarios, and included a public outreach component. The CBEP assessment addressed the issue of marsh migration and sea level rise, but did not include public involvement. The New England Environmental Finance Center (NEEFC), in conjunction with the Maine Geological Survey (MGS) and the City of Portland, facilitated a public discussion of flooding in the Back Cove area at the University of Southern Maine in 2012. The public process discussed flood effects for different sea level rise and storm surge scenarios, and focused specifically on the impacts to private property. In concert with this public process, MGS made a presentation to the Portland City Council that was built on the methodology used in the CHRT assessment. In 2013, Sustain Southern Maine (SSM) also completed a regional sea level rise analysis that built on the previous analysis done in the Portland region and provided a more uniform assessment of sea level rise and coastal flooding impacts, under a variety of different scenarios, across the SSM region, with a specific focus on impacts to public infrastructure.

In general, Portland faces coastal flood issues of the backwater, low velocity type. Portland's islands, while exposed to the open ocean and its wave effects, have ledges or bluffs that are more resistant to flood effects, and likely will continue to be so even as sea level rise occurs. However, these studies have found a large amount of vulnerable public facilities and infrastructure in the city. The vulnerable public facilities include wastewater treatment infrastructure, road and rail systems, a nursing facility, the ferry terminal, and the several wharves along Commercial Street.

One measure of impacted public infrastructure used in the SSM report was the number of road segments (defined as lengths of road between intersections with other road segments) that may be flooded by different sea level rise and flooding scenarios. Portland had 58 road segments that may be impacted by a 2 ft. flood event, 116 road segments that may be impacted by a 3 ft. flood event, and 224 road segments that may be impacted by a 6 ft. flood event. A large number of the impacted road segments are found on the filled areas along the Commercial Street waterfront and along the Back Cove's Bayside, East Bayside, and Oakdale neighborhoods. Other vulnerable areas include the neighborhoods along the Presumpscot and Fore Rivers.

Portland also has one wastewater facility that may be vulnerable under a 2 ft. flooding scenario, two wastewater facilities that may be vulnerable under a 3 ft. flooding scenario, and five wastewater facilities that may be vulnerable under a 6 ft. flooding scenario. The definition of wastewater facility used in the SSM report includes public water treatment plants and privately owned pre-treatment plants that are used to treat industrial waste before it is discharged into public sewers. Vulnerable public wastewater infrastructure includes the pumping station on India Street, and given extreme flood events, possibly even the main treatment plant on the East End.

The MGS analysis also considered effects on public facilities and private real estate by using a LiDAR-based analysis of building footprint inundations by different heights of storm surge and/or sea level rise. Under the highest annual tide (HAT) + 1.8 meter scenario, large areas of real estate and infrastructure in Bayside and the Old Port could be affected. Along the waterfront on Commercial Street, some impacts to wharves were found to be at risk at 1 foot. At 3 feet nearly every wharf was vulnerable to inundation.

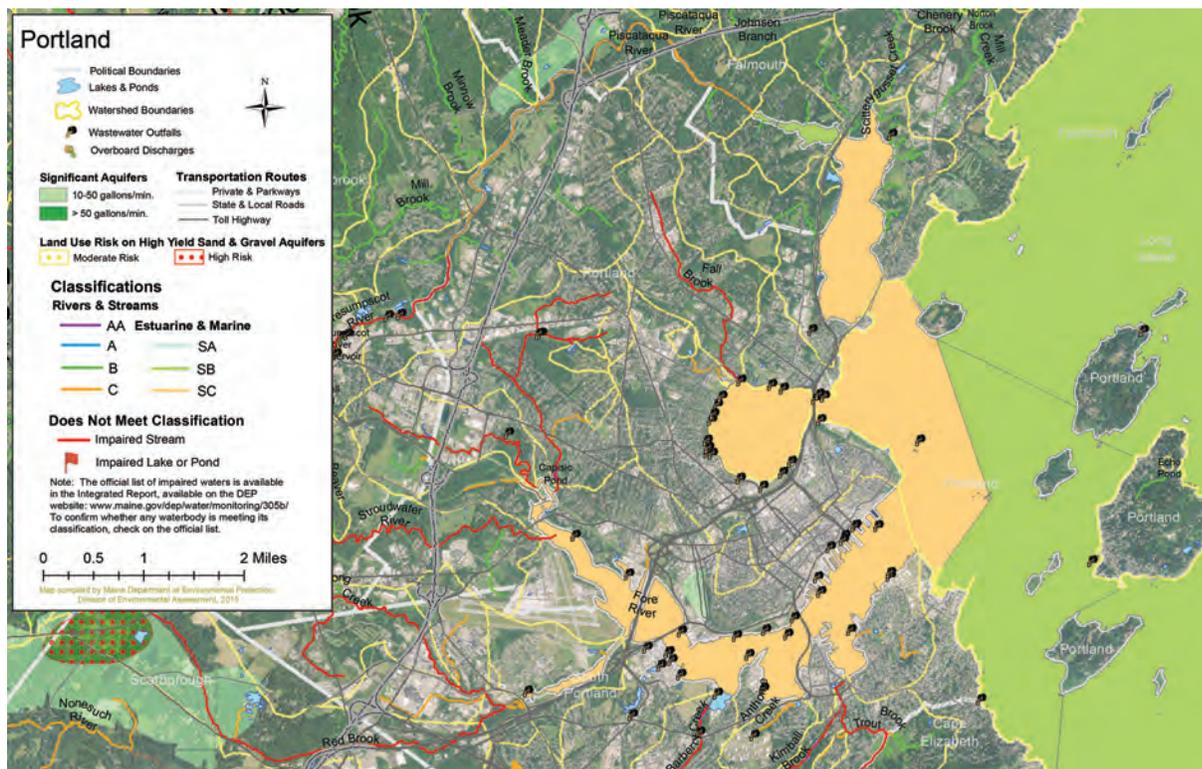
The CBEP assessment of marsh migration (using 1 ft. and 3 ft. for sea level rise scenarios) identified four key at-risk areas: the Upper Fore River, the Back Cove, Commercial Street, and East Deering. When not constrained by development, steep slopes, or other factors, models showed that marshlands would migrate to adjacent upland areas. Some areas of “high marsh” are prone to conversion to “low marsh”, and some areas of low marsh are prone to conversion to open water.

The analysis showed that all of the conversions would have significant ecological effects, which may affect economically important species such as shellfish. In both the Fore River and Back Cove areas, 1 foot of sea level rise would cause some conflicts between marsh migration and development and 3 feet of sea level rise would result in much more. East Deering was not found to have significant marsh migration issues until sea level rise approaches 3 feet.

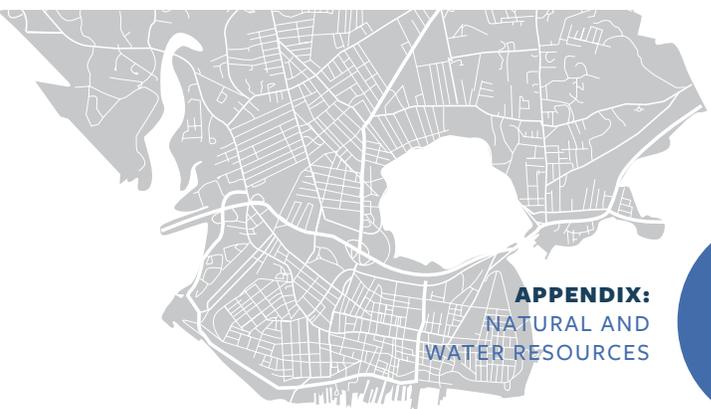
### Water Quality and Protection

As a result of the Clean Water Act, the last three decades have led to dramatic improvements to water quality in our nation’s and Maine’s waters. Development of water quality standards, construction of secondary, and in some cases, advanced wastewater treatment facilities, management of wastewater sludge, and investment in wastewater conveyance systems have helped restore many of the beneficial uses of our water resources.

### Portland Watersheds and Surface Water Quality (2015)



Source: Maine DEP



### Point Pollutant Sources

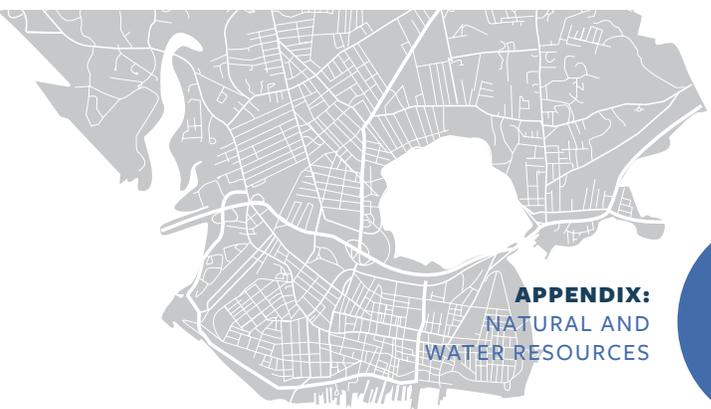
When sanitary sewers were first built in Portland, sewers and storm drains were connected, meaning that rain storms would flush sewage into the bay. When the Portland Wastewater Treatment Facility was built in the 1970s, the flow from the storm sewers was treated during dry weather, but storm events could still overload the system and discharge untreated waste into the bay in what are technically termed Combined Sewer Overflows (CSOs). These CSOs are the single largest source of point source pollution in Portland today. CSOs degrade the quality of the riverine and coastal waters by carrying pathogens, bacteria, sanitary sewage debris, and elevated nutrient levels (phosphorous and nitrogen) that contaminate and limit use of the receiving waters.

CSOs are permitted by the State of Maine under the National Pollutant Discharge Elimination System (NPDES). Portland operates and maintains the combined sewer collections system, while the Portland Water District is responsible for the combined sewer interceptors and the Wastewater Treatment Facility. In 1991, the City and the Portland Water District (PWD) entered into an Administrative Consent Agreement with the State of Maine Department of Environmental Protection (DEP). This agreement required the City and PWD to begin a prioritized, long-term program to abate combined sewer overflows. PWD implemented the first system-wide improvements in 1995 by increasing the treatment and pumping capacity of the Wastewater Treatment Facility, the Northeast Pump Station, and the India Street Pump Station.

The Portland sewerage system consists of over 200 miles of sewer, pump stations, and the Portland Wastewater Treatment Facility. As a result of the City's efforts to eliminate CSOs, the original 42 CSOs identified in the City were reduced to 34 CSOs by 2003. In 2013 the City completed the Baxter Boulevard CSO separation project. Two 1 million gallon underground storage conduits were installed under Baxter Boulevard, near Payson Park, to hold combined stormwater and wastewater so they can be pumped to the sewage treatment plant and treated.

As of 2014, there are still 31 active CSOs in Portland, with 75 overflow events spilling 414.42 million gallons of sewer overflow into Casco Bay. As a result of the City's CSO separation efforts, the remaining CSOs now discharge 7.9 million gallons of untreated wastewater per inch of rainfall, which is a decrease of 68% from the 24.9 million gallons of untreated waste per inch of rainfall that was discharged in 2000. In order to address the 31 remaining CSOs, the City has started a 15-year, \$170 million program to separate the remaining CSOs. Half of the revenue from Portland's new stormwater service charge will be used to fund CSO separation.

Portland has achieved these results through a series of sewer separation projects, removal of catch basin connections, installation of hydrobrakes in catch basins to allow first flush to be treated with the remainder separated from the system, and sewer lining installations to reduce infiltration. Portland conducts a thorough maintenance program, which includes frequent catch basin, sewer, and pump station cleaning. Other pollution prevention programs include public information campaigns, do not dump logos on catch basins, additional trash receptacles in the downtown, an active street sweeping program, and instituting a recycling and trash bag program that has reduced curbside litter.



**APPENDIX:  
NATURAL AND  
WATER RESOURCES**

**Non-Point Source Pollution**

According to the Casco Bay Estuary Partnership, with just 3% of Maine’s land but 18% of Maine’s population, the Casco Bay watershed is one of the most densely developed watersheds in Maine. Urban growth and suburban sprawl create one of the most significant sources of non-point source pollution - impervious surface area, or areas which are paved, compacted, or otherwise modified by development. Stormwater runoff from impervious surfaces can wash herbicides, pesticides, fertilizers, soils, trash, gas, oil, and other automotive chemicals from impervious surfaces into surface waters. Managing and treating stormwater runoff from existing impervious surface area and limiting the growth of new impervious surfaces is the best way to prevent these contaminants from entering Casco Bay.

Numerous scientific studies have found that watersheds with impervious surface area greater than 10% may exhibit water quality impacts, while watersheds with impervious surface area greater than 30% may have degraded water quality. More recent studies have seen significant declines in water quality, as measured by the presence of indicator species, such as macroinvertebrates, periphyton, or fish, in watersheds with impervious surface area as low as 5%.

According to Portland’s 2004 impervious surface inventory data, impervious surface area has grown slowly in Portland since 2004, with most of the growth occurring on the fringe of the city. All but two of the watersheds in Portland have exceeded the 30% threshold for impervious surface area, with some of the highest levels of impervious found in the commercial areas in the Long Creek and Fore River watersheds.

**Impervious Surface Area by Catchment in Portland (2004)**

<b>Catchment</b>	<b>% Impervious Surface Area</b>
Stroudwater River	18.0%
Lower Presumpscot	22.7%
Coastal	32.7%
Capisc Brook	33.1%
Fall Brook	33.9%
Lower Long Creek	38.9%
Nason’s Brook	40.1%
Fore River	42.0%
North Long Creek	42.6%

*Source: Maine Office of GIS*

In order to ultimately improve water quality in Maine, The Maine Department of Environmental Protection classifies surface water bodies under State law to establish water quality goals for the State. The Department collaborates with local, state and federal agencies to plan and implement strategies to protect Maine’s water quality. Several of the City’s water resources currently receive regular monitoring.



**APPENDIX:  
NATURAL AND  
WATER RESOURCES**

### **Capisic Brook Watershed**

Capisic Brook is an Urban Impaired Stream that flows from Evergreen Cemetery about 2.5 miles downstream, where it discharges into the Fore River. The watershed covers about 1,400 acres and is 31% impervious. Maine DEP has given the watershed a statutory Class C designation, but the lower reach of the brook is not in attainment of water quality standards for a Class C river. The upper portion of Capisic Brook, near Evergreen Cemetery, has high water quality due to the abundant forest cover in the upper watershed, but the poorer water quality in the lower portion, above Capisic Pond, is due to two CSOs and the higher proportion of impervious surface area. There is currently no Total Maximum Daily Load (TMDL) for pollutants in the river, but the City has been working to develop and implement a watershed management plan for the Capisic Brook Watershed.

### **Fall Brook Watershed**

Fall Brook is an Urban Impaired Stream that flows from Lyman Moore Middle School in North Deering, parallel to Auburn Street and Washington Avenue, finally flowing into Back Cove under Baxter Boulevard. As part of the ongoing CSO separation project, the City has completed a multiphase project of stormwater upgrades in the Fall Brook watershed, including replacing existing culverts with larger culverts, improving the drainage way, and widening the floodplain to accommodate additional flow of runoff in the brook. Milliken Brook, which flows from Morrill's Corner to the First Baptist Church on Canco Road, was re-connected to Fall Brook after more than 40 years of flowing into the City's sewer system.

### **Nason's Brook Watershed**

Nasons Brook is a 2.8 mile stream, spanning 723 acres within the Cities of Portland and Westbrook. It is a tributary to the Fore River, beginning in a man-made stormwater detention pond north of the Westbrook Arterial, passing along several heavily developed areas including the Maine Turnpike and under Rowe Avenue, and finally meeting the Fore River in Portland. 29% of its watershed is impervious. The Brook was assessed by MaineDEP in 2010 as a Class C impaired water body in Portland. DEP's assessment also notes that the brook does not meet water quality standards for dissolved oxygen and aquatic life use. The Clean Water Act requires impaired waters undergo a TMDL assessment that describes the impairments and establishes a target to guide the measures needed to restore water quality. The City has developed a TDML report for Nasons Brook.

### **Presumpscot Watershed**

The Presumpscot River originates at the outlet of Sebago Lake in Windham and winds in a southeasterly direction through Standish, Windham, Gorham, Westbrook, Portland, and Falmouth, where it finally enters Casco Bay. While the Presumpscot River is one of the most important rivers in the Greater Portland region and the Casco Bay watershed, the majority of the land that drains into the Presumpscot River is located to the north and west of Portland. Therefore, although the Presumpscot River does provide many recreational and natural benefits to Portland residents, most of the management and conservation activities required to keep the river clean fall under the jurisdiction of other towns and partners.



**APPENDIX:  
NATURAL AND  
WATER RESOURCES**

The Maine DEP classifies eight sections of stream or river habitat in the Presumpscot watershed as impaired as of 2010. The Presumpscot River starts at Sebago Lake with a Class A designation. The classification drops to Class B between the confluence of the Pleasant River and Sacarappa Falls. From the Falls, the classification drops further to Class C, the lowest classification. The river carries this classification through Westbrook and into Portland to tidewater.

The Friends of Presumpscot River is a nonprofit organization founded in 1922 and dedicated to protecting the river and improving its water quality. The Friends of the Presumpscot filed in 1999 for “intervenor status” with the Federal Energy Regulatory Commission FERC to be a community voice for the river. Currently the organization’s goals are focused on restoring the river’s fisheries and increasing public awareness around the river’s continuing environmental challenges. Some of their

activities include re-introducing historic migratory sea-run fish to the habitat above Saccarappa Falls, conducting a watershed survey, and assisting Maine DEP with sampling.

#### **Dole Brook**

The Dole Brook is a 1.6 mile tributary that begins in a wooded area behind Casco Bay High School, west of Washington Avenue, and discharges into the Presumpscot River. The stream flows north through a large commercial development off of Riverside Industrial Parkway and then under the Maine Turnpike south of Exit 52. The entire watershed encompasses 896 acres, or 1.4 square miles, 25% of which is impervious. The Maine DEP classifies Dole Brook as a Class B stream. MaineDEP has developed a TMDL Assessment and has determined that stormwater runoff is the most significant source of pollution to the Brook.

#### **Stroudwater River**

The Stroudwater River is 15.2 miles long and is identified as Class B. The river starts at Duck Pond in Buxton and empties into the Fore River in the historic Stroudwater Village in Portland. A dam at the mouth of the river near Westbrook Street prevents tidal waters from the Fore River from flowing up the river’s channel. The river’s watershed is 27.8 square miles and spans the towns of Buxton, Gorham, Scarborough, Westbrook, and Portland.

The Maine Integrated Water Quality Assessment, completed in 2010 by Maine DEP, requested a TMDL be completed for the Portland/South Portland segment of the Stroudwater River. In 2012, it was prioritized for sampling to further evaluate the need for the report, and the TDML was not undertaken until 2016. The river is currently listed on the 303d list, which identifies Maine’s impaired waters. In 2014, Cumberland County Soil and Water Conservation District drafted the Stroudwater River Watershed Survey Report with a grant from Maine DEP. The purpose of this project was to identify potential pollution sources, and offer recommendations to reduce or eliminate these threats.

## Casco Bay

Portland Harbor is divided into two classification zones. The outer portion of the harbor, outside the waters of Cushing, Peaks, Little Diamond, and Great Diamond Islands, is classified as SA, the highest quality rating for marine waters. The inner harbor area is classified SC, a lower classification. This area includes the waters near the islands mentioned above, westward to the mainland and the Fore River.

The Friends of Casco Bay, a volunteer organization that has been working to protect the environmental quality of Casco Bay since 1989, uses the Casco Bay Health Index (CBHI) to measure the health of the bay. The CBHI is a standardized index of water clarity, dissolved oxygen, and pH, based on water quality monitoring data collected biweekly by volunteer monitors during the spring and summer months over the past 25 years. As of 2014, the CBHI shows that more than 20% of the monitoring sites in Casco Bay have poor water quality, while over 40% of sites have good water quality.

Although the majority of monitoring sites in Portland rank from fair to good, one of the monitoring sites with the worst water quality in Casco Bay is on the Upper Fore River in Portland. This monitoring site is downstream from the Rosemont, Libbytown, and outer Congress Street neighborhoods of Portland, and it is likely that the poor water quality at this site is caused from runoff from roads, fertilizers from lawns, sewer pipe overflows, and from naturally occurring nutrient sources in the salt marsh. Nasons Brook and Capisic Brook both drain into the Fore River upstream of this site, and the city is currently in the process of implementing watershed management plans to address these problems.

### Casco Bay Health Index at Monitoring Sites in and Around Portland



Friends of Casco Bay



**APPENDIX:**  
NATURAL AND  
WATER RESOURCES

The water quality monitoring data collected by Friends of Casco Bay has revealed two concerning trends over the past decade. First, pH has been decreasing in bottom water samples, which means the waters of Casco Bay are becoming more acidic. This is most likely caused by the addition of carbon dioxide to ocean water. While many coastal systems exhibit some variability in pH from one season to the next, or even between day and night, the data for Casco Bay show a statistically significant trend in decreasing pH (or increasing acidity) over the past decade. In addition to that long-term trend, some monitoring sites show dramatic variability in pH levels from one day to the next (0.3 pH units vs. the average of 0.1 pH units).

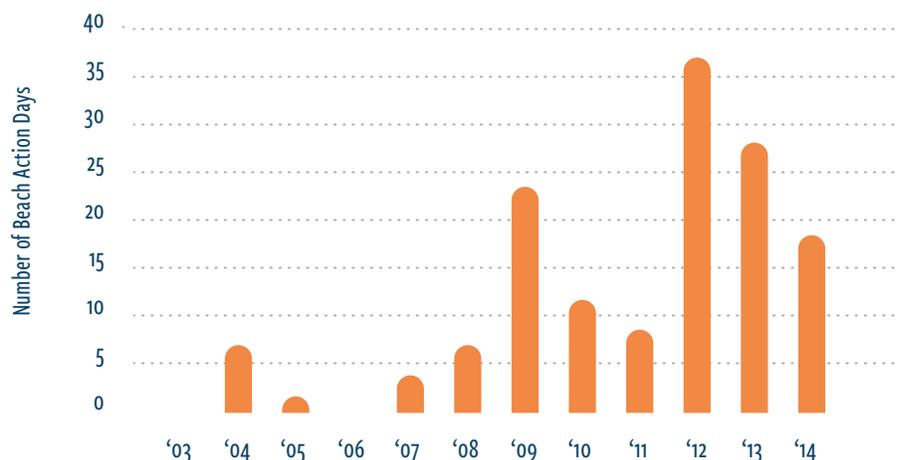
The second concerning trend is that water quality data show nitrogen concentrations have been increasing in nearshore sites relative to offshore sites. These higher nitrogen concentrations may be due to fertilizers from lawns and agricultural fields being washed into the bay in stormwater runoff. Together, these two trends appear to indicate that nearshore areas are becoming eutrophic, or have excessive levels of nutrients, which could lead to algae blooms, which will result in lower dissolved oxygen levels, higher levels of carbon dioxide, higher acidity, and ultimately could result in fish and shellfish die-offs.

Recent reports show nuisance algae blooms are taking over Back Cove and Mill Cove in Portland. This is caused by drought conditions, excessive heat, and excess fertilizer from cultivated lands and lawns washing into Casco Bay.

**East End Beach**

It is important to monitor swimming beaches to protect vulnerable populations from contamination from leaking septic tanks, boat discharges, and stormwater runoff. The East End beach is monitored three times a week by the Maine DEP and the University of Maine Cooperative Extension under the Maine Healthy Beaches program. Beach advisories can be issued based on high bacteria counts or if heavy rainfall events are expected to raise bacteria counts.

**Beach Action Days for East End Beach 2003 - 2014**



Source: Casco Bay Estuary Partnership, 2015



**APPENDIX:**  
NATURAL AND  
WATER RESOURCES

There has been a noticeable increase in “beach action days” over the past several years. This increase is in part influenced by precipitation during the summer, which can vary considerably from one season to the next, but it also reflects new monitoring standards that were implemented in 2012. These new standards place more weight on weather events, such as heavy rains, that are strongly correlated with higher bacteria counts and lower water quality. As a result of the higher standards, there have been more beach closings in recent years, but this reflects an enhanced ability to protect vulnerable populations from potentially hazardous beach conditions, which would not have been identified under the previous monitoring procedure. It is expected that beach action days will decline as Portland continues to separate CSOs and implement other stormwater best management practices.

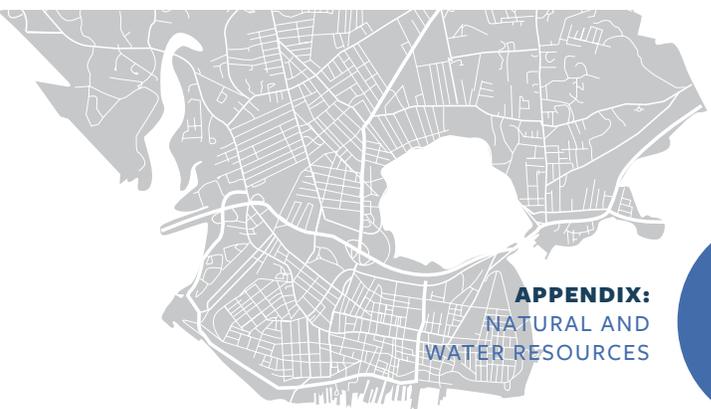
### **Policy and Practices**

Portland’s regulatory framework is an important tool used to support its commitment to the protection of its natural and water resources. The City has a number of regulatory requirements within its land use ordinance, including stormwater regulations, shoreland zoning, and floodplain regulations. In addition to these standards, the City’s Technical Manual outlines standards for street and parking lot design, landscaping installation and preservation, stormwater management, erosion and sedimentation control, and development adjacent to wetlands.

### **Shoreland Zoning**

The City originally adopted shoreland zoning in the 1970s, and since then, these provisions have been updated several times to insure consistency with State law and address changes in Portland’s economy and natural environment. The Shoreland Zone is designated in the zoning ordinance as areas 250 feet inland from the normal high water line of rivers, the upland edge of a coastal and freshwater wetlands, and 75 feet of a stream. It also applies to any structure built on, over or abutting a dock, wharf or pier, or other structure extending beyond the normal high water line of a water body or within a wetland. Although land development activity is not prohibited within the entirety of the shoreland zone, stricter development standards must be met. For example, all new structures must be setback a minimum 75 feet from the high-water line; piers and docks are regulated, and tree clearance is limited.

Portland’s Shoreland Zoning includes both a Stream Protection and the Resource Protection Zones. In 1991, the State rules required that the Resource Protection Zone (RPZ) be expanded to incorporate the 100 year floodplain along rivers and saltwater. To comply with the 1991 regulations, Portland rezoned the floodplains to RPZ along the Presumpscot, Stroudwater and Fore Rivers, except those areas that are intensely developed, such as the working waterfront, or are protected under the Recreation and Open Space zone, such as the Riverside Golf Course. In 2000 and 2001, the City rezoned over 100 acres of property to RPZ allowing only low impact uses, as recommended in an adopted neighborhood plan. This rezoning encompassed all of the Fore River Estuary, Jewell Falls, and adjoining wildlife corridors. Maine Audubon Society, Portland Trails, City of Portland, Union Water Power, and CMP own the rezoned property.



**APPENDIX:  
NATURAL AND  
WATER RESOURCES**

Under the state shoreland zoning program, only non-forested freshwater wetlands of 10 acres or greater in size are protected. Few wetlands in Portland meet these criteria. Only a wetland located off Allen Avenue near Northfield Green is designated for shoreland zoning protection on the mainland. On Peaks Island, there are two wetlands that require protection under the law. One is located near the intersection of Brackett Avenue and Whaleback Road and the second one is in the Trout Pond area. In addition, five smaller wetlands on Peaks Island have been afforded shoreland zoning protection exceeding the state’s minimum protection requirements.

**Stormwater Service Charge and Manual**

In 2015, the Portland City Council approved a stormwater service charge to support stormwater and sewer improvements. The program applies a charge to landholders based on their total impervious area and focuses on reducing the impact of development on the stormwater drainage system through two categories of control: water quality controls and flood controls. A stormwater credit is a conditional reduction in the amount of the stormwater service charge, and is granted by the Department of Public Works. The credit is applied only to the portion of a site’s impervious area treated. A Stormwater Credit Manual was drafted by the City in 2015 and outlines the requirements of the program.

**MS4 General Permit Requirements**

The General Permit for Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems was issued by the Maine Department of Environmental Protection in 2008. The General Permit authorizes the direct discharge of stormwater from or associated with a regulated small municipal separated storm sewer system (“MS4”) to an MS4 or waters of the State other than groundwater. Discharges must meet the requirements of the General Permit and applicable provisions of Maine’s waste discharge and water classification statutes and rules.

In 2008, as required under its inclusion in the MS4 Program, the City completed its *Stormwater Program Management Plan*. The *Stormwater Program Management Plan* was developed in accordance with the requirements of the General Permit, identifies the six implementation control measures set forth in Section H of its MS4 General Permit, and how it intends to implement these measures within its urbanized area. In addition to addressing priority watersheds, the permit also requires the City to fulfill requirements for public education and outreach through participation in and partial funding of the Interlocal Stormwater Working Group (ISWG). The goals of the group include raising awareness around polluted stormwater, and encouraging Best Management Practices (BMPs) to reduce stormwater runoff.

**Wildlife and Critical Resource Elements**

Portland is part of a larger regional coastal habitat. Many of the shoreland resources on the mainland and the islands are significant components of this larger coastal habitat, extending from Cape Elizabeth to Harpswell.

The abundance and quality of the intertidal habitat make the marine and estuarine environment of this region important. The presence of many large shallow bays with inter-tidal flats, mussel reefs,



**APPENDIX:  
NATURAL AND  
WATER RESOURCES**

and eelgrass beds provide large acreages of habitat for many species. Similarly, the occurrence of many near shore islands provides additional intertidal areas, as well as habitats for nesting water-birds and rocky ledges for seals.

#### **Beginning with Habitat (BwH) Inventory**

In 2001, a cooperative effort of environmental organizations and government agencies introduced a program call “Beginning with Habitat, An Approach to Conserving Open Space.” Today, BwH still provides periodically updated maps and data identifying valued habitats and rare species locations to municipalities.

#### **Maine Natural Areas Program**

According to the Maine Natural Areas Program (MNAP), Portland does have two plant species of special concern: hollow Joe-pye weed and wild leek. There are also two endangered animal species found in Portland: the New England cottontail and the peregrine falcon, as well as one threatened species: the spotted turtle, which can be found along Portland’s northern boundary with Falmouth in the vicinity of the Presumpscot River. Any landowner proposing development near endangered or threatened species habitat must first consult with a biologist from the Maine Department of Inland Fisheries and Wildlife to ensure the development will not impact the species.

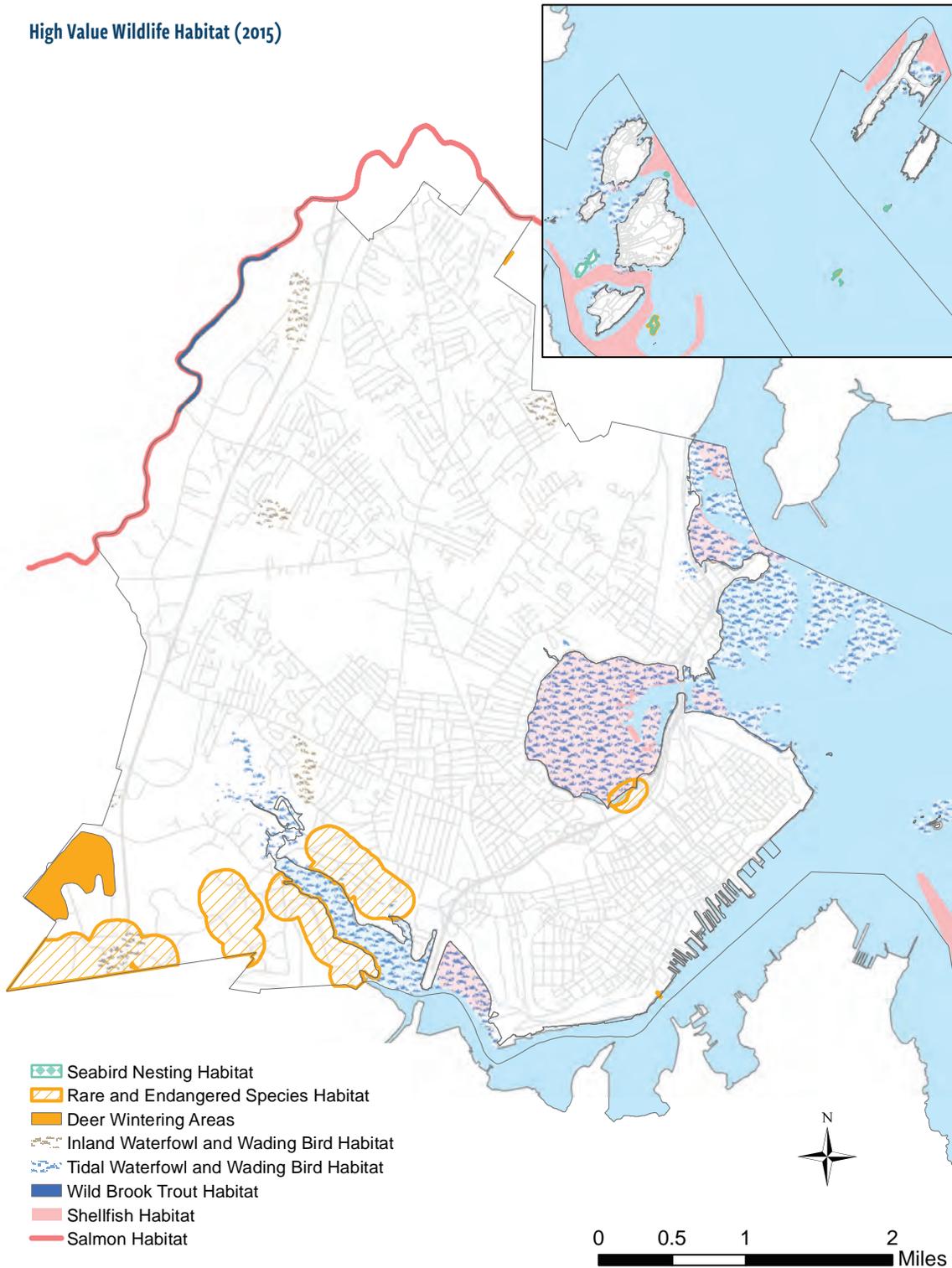
#### **MDIFW Mapped Habitats and Confirmed Species Locations**

Maine’s Endangered Species Act protects essential wildlife habitats, which are areas currently or historically providing physical or biological features essential to the conservation of an endangered or threatened species and which may require special management. Maine’s Natural Resources Protection Act (NRPA), which became effective in 1988, was intended to prevent further degradation or destruction of certain natural resources of state significance. Within the act are certain provisions for protecting significant wildlife habitats.

The essential wildlife habitats in Portland are as follows:

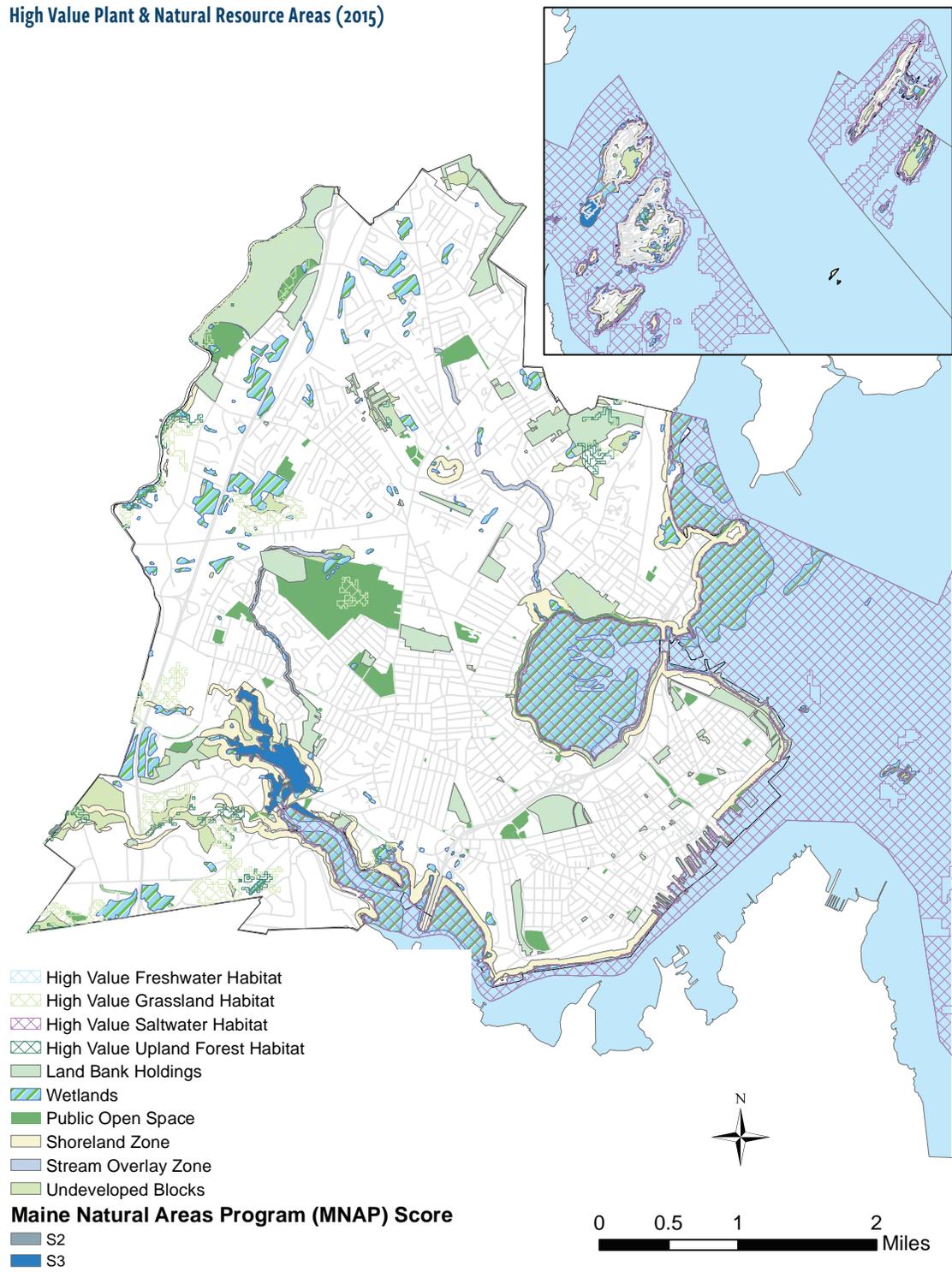
- **Deer Wintering Area:** There is a deer wintering area west of the Maine Turnpike on both sides of the Stroudwater River. This area extends into Westbrook.
- **Inland Waterfowl and Wading Bird Habitat:** There are inland waterfowl and wading bird habitats found around Capisic Pond, in northeast Deering, near Pine Grove Park, and on the southern end of Peaks Island, near Hadlock Cove.
- **Seabird Nesting Islands:** There are three islands in Portland identified as seabird nesting sites: House Island, Ram Island, and Outer Green Island. The latter two islands are conserved under state ownership.
- **Shorebird Habitat:** Shorebird habitat can be found along the Fore River west of the Casco Bay Bridge, in Back Cove, within the Presumpscot Estuary east of I-295, in several small locations along the Eastern Promenade, and on Ram Island, which is conserved under state ownership.

**High Value Wildlife Habitat (2015)**



Source: *Maine Department of Inland Fisheries & Wildlife*

**High Value Plant & Natural Resource Areas (2015)**



Source: *Maine Department of Inland Fisheries & Wildlife*



**APPENDIX:  
NATURAL AND  
WATER RESOURCES**

- **Tidal Waterfowl/Wading Bird Habitat:** Tidal waterfowl and wading bird habitats are found around each of the islands, at several points off the Eastern Promenade, within the Fore River and its estuary starting at the westerly tip of the peninsula, in Back Cove, and in the Presumpscot Estuary including shore frontage between the B&M Baked Beans factory and Martin's Point.
- **Significant Vernal Pool:** The one significant vernal pool habitat that has been identified in Portland is on the northern tip of Peaks Island, near Wharf Cove.

**U.S. Fish and Wildlife Service – High Value Habitat**

Trust species of the U.S. Fish and Wildlife Service (USFWS) include all migratory birds, anadromous/catadromous and certain coastal fishes, and federally-listed endangered and threatened species. The USFWS identifies important habitat for 64 trust species that regularly occur in the Gulf of Maine watershed and are considered a priority for protection because they are listed as federally endangered or threatened, are exhibiting significant declining population trends nationwide, and/or have been identified as endangered or threatened by two or more of the three states in the Gulf of Maine Watershed.

- **Grass, shrub, and bare ground:** On the mainland, areas of this habitat are found along the Stroudwater River, within Evergreen Cemetery and Payson Park, along the Presumpscot River, within the Riverside Golf Course, and in two undeveloped locations in the vicinity of the Maine Turnpike.
- **Forest (Includes Forested Wetlands):** There are only two identified high value forested areas in Portland. One is off Ocean Avenue near the Falmouth line and the other is on Peaks Island.
- **Marine/Estuarine Intertidal Wetland:** The high value marine/estuarine intertidal wetlands are identified along the Fore River, Back Cove, Portland Harbor, Presumpscot Estuary, and surrounding all of the islands. In 2001, the Resource Protection Zone (RPZ) for the Fore River Sanctuary was expanded to encompass a much larger land area in order to conserve this resource and the adjoining wildlife corridors.
- **Freshwater Wetlands (non-forested) and Lakes and Rivers:** There are no freshwater wetlands exceeding five acres in Portland. Portland has the following freshwater rivers and streams: Fore River, Stroudwater River, Presumpscot River, Fall Brook, Capisic Brook and Capisic Pond, Nason's Brook, and a fourth unnamed brook.

**Un-fragmented Habitats**

Contiguous unbroken habitat blocks are essential to fostering healthy wildlife habitats. Wildlife generally requires blocks ranging from 50 acres (for some grassland birds) up to 5,000 acres (black bears), depending on the species, and City's the only significant unfragmented block is a 130+ acre area around the headwaters of the Fore River.



**APPENDIX:**  
NATURAL AND  
WATER RESOURCES

**Scenic Resources**

Being virtually encircled by water, Portland owes much of its beauty to the surrounding water bodies, including freshwater rivers, the ocean, a working harbor and an enclosed cove. Portland's waters were recognized early in the City's history as scenic resources. The Eastern Promenade and the Western Promenade were acquired in the 19th century to provide open space on these promontories and to protect majestic views. Baxter Boulevard was planned as a parkway because of the unique view of Back Cove. Evergreen Cemetery, Baxter Woods, and the Fore River Sanctuary are prime examples of individual open spaces that have outstanding visual attributes. Portland has addressed scenic resources in multiple ways, including in its site plan standards, its historic preservation ordinance, the protection of archeological resources in the Shoreland zone.

# Forestry, Agriculture, and Aquaculture Resources

APPENDIX:  
FORESTRY, AGRICULTURE  
& AQUACULTURE RESOURCES

Portland is the State's largest urban center and, as such, exhibits characteristically urban land use patterns, including areas of dense residential, commercial, institutional, and industrial development. Even within this context, however, Portland has rich forestry and agricultural resources, shaped not only by the City's history, but also by the contemporary urban landscape which surrounds these resources.

## EXISTING CONDITIONS AND TRENDS

### Forestry Resources

The City's native old growth tree stands included red and white oak, beech, hickory, hemlock, spruce, pine fir, and American chestnut. In fact, lumber was an early export product that helped establish Portland as a major trading area in the 1700s. Portland's native forest was largely intact until the early 1800s, when settlers cleared the land for farming and pasture purposes. Deering Oaks and Baxter Woods represent the best examples of Portland's original forest. The City purchased Deering Woods, now known as Deering Oaks, in 1879 as a park with the "crowning glory" of its ecologically significant stand of white oaks. Baxter Woods was purchased by then Governor Percival Baxter and given to the City as a nature preserve in 1946.

A variety of trees may also be found along the Presumpscot and Stroudwater Rivers in Portland, including red oak, red maple, white pine, black willow, alders, shadblow or amelanchier. Vegetation along stream corridors includes large black willows, which help slow floodwaters and minimize erosion. The islands are more rural and have more substantial tree cover than the mainland. In Peaks Island's Pond Cove Cemetery, remnants of the original forest persist. Little Diamond has a 350 to 400-year-old stand of hickory, maple, and oak trees.

Portland's park spaces preserve important forestry resources:

- **Deering Oaks** – Deering Oaks houses 1,000 trees, including old growth white and red oaks. Deering Oaks is a designated Historic Landscape District.
- **Evergreen Cemetery** – Evergreen Cemetery features the largest stand of sugar maples in greater Portland, with ages of approximately 100 to 150 years. The cemetery has over 1,000 trees.
- **Baxter Pines** – Baxter Pines is a small wooded park of about 4.2 acres, consisting primarily of pine trees, located behind the Deering High School ballfields.
- **Baxter Woods** – At 32 acres, Baxter Woods is the largest undisturbed forest in the City and contains valuable stands of white oak and groves of hemlock. An important section of this "old growth" forest is on land owned by the Sisters of Mercy and the Deering Pavilion. This part of the forest was likely cut at one point over 150 years ago. Governor Baxter planted a plantation of red pines in Baxter Woods in 1947.
- **Baxter Boulevard** – Baxter Boulevard was planned as a landscaped arborway by the Olmsted brothers in the 1905 plan for Portland's park system. They proposed a tree-lined green belt,



**APPENDIX:**  
**FORESTRY, AGRICULTURE  
& AQUACULTURE RESOURCES**

connecting the Eastern Promenade with Deering Oaks and the Western Promenade. In 1921, the boulevard was planted with 400 linden trees that were dedicated as a memorial to World War I veterans. They remain an essential element of one of Portland's most enduring designed landscapes. Baxter Boulevard is a designated Historic Landscape District.

- **Riverton Park** – Riverton Park contains mature stands of white pine, red maple, oak, and beech. The stand has been colonized by invasive Norway maples once planted near View Street, which have now become the dominant tree in some areas.
- **Capisic Pond Park** – Capisic Pond Park includes fields and some woods with alders, elms, and white pines.
- **Pine Grove Park** – Located between Ray and Virginia Streets near Allen Avenue, this 6.5-acre park contains a mature stand of white pine. Set aside in 1926, Pine Grove Park also contains related natural ground cover of woodland wildflowers.
- **Fore River Sanctuary** – Located in the Stroudwater area, this 85 acre preserve owned by Portland Trails contains stands of mature white pine and hemlock.
- **Oatnuts Park** – Located on Summit Street in North Deering, this area connects to the Presumpscot Preserve and contains stands of red maple, beech, red oak, white pine, and hemlock.
- **Presumpscot Preserve** – Portland, Portland Trails, and Land for Maine's Future purchased this tract, located along the Presumpscot River at the end of Overset and Cutis Roads, in 2001. The 50-acre preserve contains stands of primary white pine, hemlock, red maple, along with more rare shagbark hickory and moose maple.
- **Cushing Island** – The area conserved by the Cushing Island Conservation Corporation has white spruce trees and native shoreland vegetation, including large specimens of American mountain ash.
- **Peaks Island** – The forested areas owned by the State of Maine near Brackett Avenue, along with Peaks Island Land Trust property, contain mature red oak and shagbark hickory.

#### **Forest Management**

The Forestry Division of Parks & Recreation was formed in 1889 to care for municipal street and park trees. Portland became a Tree City USA in 1978 and has continued to meet or exceed standards set forth by the Arbor Day Foundation. The City of Portland has over 19,000 street trees, along with 5,000 park and public grounds trees. In addition to trees on the City's mainland, the Forestry Division also cares for municipal trees on Peaks, Little Diamond, Great Diamond, and Cliff Islands.

The first documented tree planting in the City took place in 1793 on Washington Avenue. More substantive tree planting was initiated on the peninsula as early as the 1850s and expanded to off-peninsula neighborhoods in the 1900s.



**APPENDIX:**  
**FORESTRY, AGRICULTURE  
& AQUACULTURE RESOURCES**

Dutch elm disease devastated Portland, like the rest of the Northeast, in the 1960s, and 20,000 elm trees were lost on the peninsula. During the 1970s, a massive tree-planting program was initiated to diversify the tree stock by using a mix of species. Portland officials are now planting about 20 blight-resistant elm trees in the City each year, and in 2013, 40 new elm trees were planted on the Eastern Promenade alone. In 2013, Portland officials also planted two experimental blight-resistant strains of chestnut trees in Baxter Woods.

In 2014, Portland established the Mt. Joy Orchard on City-owned land behind the East End Community School. The orchard, which includes approximately 40 apple trees, as well as pear and peach trees, is being managed by the Portland-based nonprofit, The Resilience Hub.

Today, there are an estimated 19,000 street trees in the City. However, recent data from the USDA Forest Service shows there is now nearly as much impervious surface area in Portland (33% of land area) as there is forest canopy cover (34% of land area). There are a number of programs being undertaken by both the public and private sectors in Portland to expand forested areas throughout the City. In 1993 the Forestry Division, along with Oakhurst Dairy, developed a strong public/private partnership to plant trees in our gateways, parks, and public grounds known as the “Oakhurst Tree Challenge.” This program continued through 2000, and resulted in more than 1,000 trees planted in Portland. This public / private partnership continues under the name Portland Tree Trust, which continues to raise funds from the private sector for tree planting that are matched by City funds. In addition, Portland has several more tree planting programs:

- **Co-Op Tree Program** – The Co-op Program is the City’s most popular tree program. In this program, Portland residents can purchase a tree at one of co-op’s nurseries, and the forestry crew will pick up and properly plant the tree following program guidelines.
- **Tree Replacement Program** – The Forestry Division reviews requests and plants trees as funding allows. The number of requests for City-funded trees exceeds the number of trees that the City is able to plant. Priority is given to residential areas that have the greatest need and replacement trees. Written requests and multiple requests from neighborhoods or groups of residents are welcome and encouraged. This program is City-funded.
- **HCD Residential Tree Program** – Portland’s Housing and Community Development (HCD) Program funds tree planting in HCD-eligible residential neighborhoods. Present HCD neighborhoods include Bayside, Kennedy Park, Munjoy Hill, Tyng/Tate, West End, and Parkside. Tree planting sites are determined by neighborhood requests and tree survey of need. Trees are planted in early May.
- **Capital Improvement Program / Street Reconstruction Project Planting** – Working together with the Department of Public Works, major construction projects often include replacement tree programs. Prior to construction, existing trees are evaluated and open spaces reviewed for tree planting. Tree replacement planting follows in the spring or early summer after project completion.



- **Memorial Tree & Gift Tree Program** – Trees may be planted in memory or as gifts in Portland’s Parks, Evergreen Cemetery, and along our public ways. Trees are planted between May and the end of June. Plaques, markers, or signs are not allowed to dedicate tree planting sites.

### **City-Owned Woodlots**

There are four City-owned properties that are actively managed as woodlots: Pine Grove Park, the Mayor Baxter Woods, Baxter Pines, and the Evergreen Cemetery Woodlands. For the past 75 to 100 years these lands have not been managed and have grown to mature forests, with some diseased or declining trees and deadwood. Now the City is working with a consulting forester to manage these properties as woodlots while balancing a number of different uses, including serving as a reminder of Portland’s agricultural past, providing educational and recreational opportunities, supporting wildlife habitat, and maintaining open space.

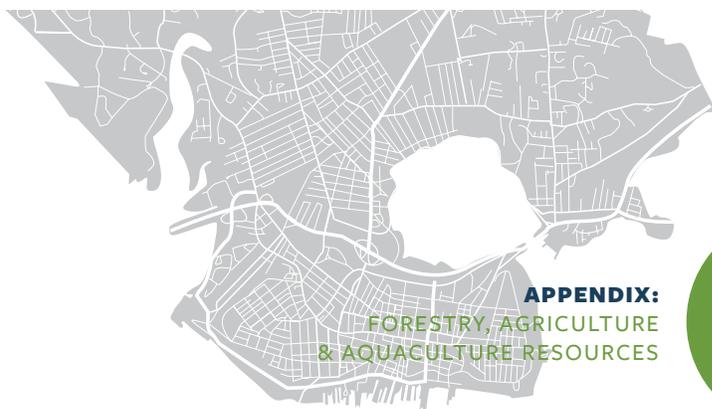
Most of these woodlots were in agricultural use up until the early 20th century, when they were abandoned and allowed to return to their natural, vegetative state. Legend has it that Baxter Pines was used as a victory garden during WWII, and Mayor Baxter and volunteers planted pine trees on the property after the war. Evergreen Cemetery Woods was used as a quarry in the 19th century, and this past use is still evident in the form of stone walls, wire fence, old foundations, and old roads. Before Baxter Woods was purchased by Governor Baxter in 1878, it was the site of a lavish estate, owned by the Maine Congressman, Francis Smith. When Baxter purchased the land he had Smith’s mansion torn down and he donated much of the land to the City of Portland for use as a bird sanctuary. Today, all four properties have a well-established network of recreational trails, and Baxter Woods, Baxter Pines, and Evergreen Cemetery Woods are frequently used as outdoor classrooms by neighboring schools.

There are no rare or threatened species on these woodlots, but there are several invasive species that need to be managed, including bittersweet, Japanese knotweed, Norway maple, barberry, and Japanese honeysuckle. Generally, these invasive species are a problem at the edges of the existing forest, but the Baxter Pines property has invasive bittersweet present throughout the property.

Currently, the only timber harvesting in Portland is taking place on Cliff Island, on one of the two properties listed under the Maine Tree Growth Law for managed wood lots. The 31-acre parcel on Cliff Island contains mostly spruce and 55 acres near the Stroudwater River has seen forestry-related activity in the past five years.

### **Agriculture**

Agriculture had a significant presence in Portland up until the first half of the 20th century, and the islands were used extensively for grazing. The 1914 Richards Atlas indicated vast tracts of open land in North Deering, Riverton, and Stroudwater that presumably were used for farming. As late as 1921, there were 80 registered dairy farms in the City. However, with the off-peninsula housing boom after World War II, the few remaining farms gradually disappeared and the last farm closed in the 1980s. While there are no working farms in Portland, approximately 265 acres of land are listed under Maine’s Farm and Open Space Law taxation program.



**APPENDIX:**  
**FORESTRY, AGRICULTURE  
& AQUACULTURE RESOURCES**

Even though there are no active farms in Portland, Maine is seeing a resurgence in farming and is one of the only states in the nation that have seen an increase in young farmers. According to the 2012 USDA farming census, farmers aged 25 to 34 in Maine increased by 40% between 2007 and 2012, compared to a 1.5% increase in the number of young farmers for the US as a whole. Over the same time period, the amount of land in farming has increased by 8% and the value of agricultural products in Maine has increased by 24%. This trend benefits the Portland economy through an increase in local foods sold to Portland restaurants, processing plants, and at the Farmer’s Market held twice a week.

**Agricultural Soils**

Although the USDA soils data show the majority of Portland is covered by significant or prime farmland soils, the best agricultural lands in the City were developed long ago. The significant and prime farm soils that remain are either heavily fragmented by development, or contain City parks, such as Evergreen Cemetery, Baxter Woods, and Payson Park. Many of these City-owned properties contain woodlots that are actively managed by the City and are protected from development. The fragmented pattern of the remaining undeveloped agricultural soils in Portland are not conducive to any new large scale commercial farming activity, but they may allow for continued expansion of small scale hobby and community gardens.



**APPENDIX:**  
**FORESTRY, AGRICULTURE  
& AQUACULTURE RESOURCES**

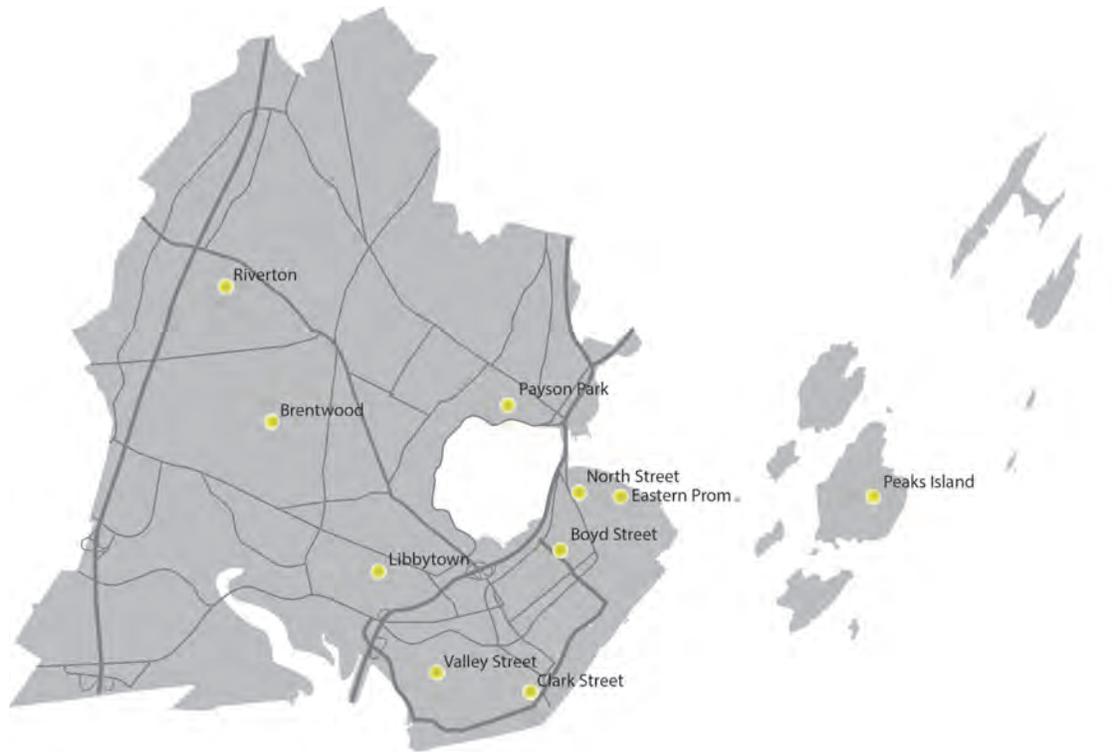


**Community Gardens**

The main growth in agriculture in Portland in the recent decades has been in community gardens, which have been growing steadily since the first community garden was established in the City in 1994. Cultivating Community, a local non-profit, works with the City and community organizations to establish community gardens in Portland. There are currently ten community garden sites and a total of 400 community garden plots in the City. These plots are in high demand, and there is a waiting list. Most plots are rented by individuals, but some plots are managed by Cultivating Community to provide food for elderly and low-income Portland residents.

The Boyd Street Urban Farm, located in East Bayside, adjacent to Franklin Arterial, is unique among all of the community gardens in Portland because it is used to train youth in Cultivating Community's education and leadership programs. Construction of the Boyd Street Farm began in 2004, when spinach was planted to remediate the lead contamination of the soils on the property. Cultivating Community then established community garden plots and an urban orchard, including berries, and with the assistance of the City of Portland and other partners, built sheds, a pergola, a compost system, a rainwater collection system, and water access. In 2014, Cultivating Community established a beehive for honey production. Boyd Street Urban Farm now produces 2,000 pounds of vegetables, berries, and fruit annually, which are donated to the elderly, low-income families, and youth growers.

**Community Gardens in Portland**





**APPENDIX:**  
**FORESTRY, AGRICULTURE  
 & AQUACULTURE RESOURCES**

**Community Gardens**

Name	Year Built	# of Plots	Neighborhood
Valley Street Community Garden	1995	42	St. John Valley
Clark Street Community Garden	1998	8	West End
North Street Community Garden	1998	52	East End
Payson Park Community Garden	2000	33	East Deering
Riverton Community Garden	2009	28	Riverton
Brentwood Farms Community Garden	2010	85	Deering
Boyd Street Urban Farm	2004	48	East Bayside
Eastern Promenade Community Garden 1	2015	60	East End
Peaks Island Community Garden	2009	20	Peaks Island
Libbytown Community Garden 2	2016	24	Libbytown
Total Number of Plots		400	

**Ocean Resources**

**Shellfish Harvesting**

The total economic impact of the shellfish industry in Maine was \$56 million in 2006, and the economic value of the shellfish harvest in Casco Bay alone has been estimated at between \$11.6 and \$15.7 million annually. The state classifies shellfish beds in terms of several risk factors, including presence of fecal bacteria, proximity to sewage treatment outfalls, and heavy rainfall event of wastewater treatment plant malfunction. Due to issues with CSOs, stormwater runoff, sewage, toxic sediments, and other pollutants, the shellfish harvesting beds around Portland are generally prohibited for harvesting.

**Kelp Aquaculture**

A new agricultural industry is forming around kelp farming in Casco Bay. Worldwide, kelp is a \$5 billion industry annually, with the largest market for kelp being Asia, where it is a dietary staple. Portland-based Ocean Approved is the first company to grow kelp in the US, and their sales have increased by 400 percent between 2012 and 2014. In addition to growing kelp, Ocean Approved also processes and markets products to wholesale retailers, institutions, and restaurants. Ocean Approved’s customers include Mercy Hospital, Portland Public Schools, Bowdoin College, the University of Maine, and the University of New Hampshire.

Since the growing season for kelp is in the winter and early spring, this is an industry that could supplement the income of fishermen in the off-season. There are also environmental benefits to kelp farming since kelp feeds on excess pollutants in the ocean, such as nitrogen, phosphorus, and carbon dioxide, thereby helping to address problems such as ocean acidification and eutrophication in Casco Bay while also growing a nutritious “super food” containing high levels of calcium, iodine, magnesium, and iron. The kelp industry has significant potential for Maine, with markets all over the US and the world, and there are many opportunities for sales and value added production in Portland’s local food economy.

# Historic and Archaeological Resources

The City of Portland has a long and complex history, dating back approximately 5,000 years. This history is one of the City's greatest resources, and its preservation and celebration are fundamental components of the City's function.

## A BRIEF HISTORY OF PORTLAND

### Early Settlement Patterns

Evidence of human settlement in Portland dates back about 5,000 years. Before the first Europeans arrived, Portland was settled by Abenaki Native Americans and known as Machigonne. The first European settlers, attracted by access to fishing and lumber, arrived in 1623. Although this first attempt at settlement failed, another attempt over a decade later succeeded, and the village of "Casco" was ultimately claimed by the Massachusetts Bay Colony in 1658. Later renamed Falmouth, this settlement was comprised of what we now know of as Portland, South Portland, Cape Elizabeth, Westbrook, and Falmouth.

Although this original settlement was wiped out repeatedly, the area was resettled in 1716, and by the early 18th century the area had grown into a prosperous port with the core centered along four principal streets now known as India, Fore, Middle, and Congress. In 1727, Colonel Thomas Westbrook, a mast agent for King George II, established another settlement inland at the confluence of the Stroudwater and Fore Rivers. Eventually, mills were constructed for processing lumber and other goods, developing along Capisic Brook and the lower falls of the Presumpscot River.

During the Revolutionary War, the British bombarded the areas along Fore, Middle, and Back (now Congress) Streets, leaving 80% of the village burned. Its ships were left in ruins. However, after the war the port regained its position and was incorporated in 1786.

### 19th Century Expansion

By 1806, Portland was the 6th largest port in the country, exporting lumber and importing sugar and molasses from the Caribbean. Statehood was granted to Maine in 1820 and Portland served as its first capital from 1820 to 1832. Throughout most of the mid-nineteenth century, Portland experienced significant expansion. The City eventually stretched into a portion of Westbrook, and annexed Crotch Island (now Cliff Island) from Cumberland. The Cumberland and Oxford Canal was constructed connecting Portland Harbor to Sebago Lake in 1832, increasing the movement of lumber products to the port in Portland. The mid-1800s also saw the expansion of Portland's rail network, with new connections to Boston, Augusta, and Montreal. The burgeoning rail industry spurred the development of the Portland Company, whose first locomotive rolled off the assembly line in 1848. The Portland Company grew to become the largest employer in the city in the nineteenth century and served as the state's largest foundry. In 1853, the City's waterfront was expanded, requiring extensive filling for the creation of Commercial Street and leading to the construction of many new wharfs. Development continued westward with the construction of new roads, such as Danforth, High, Park, and Spring Streets, as well as continued expansion off the peninsula. By the mid-nineteenth century, Portland had become an important shipbuilding center, ranked 7th in tons of ships constructed in America.



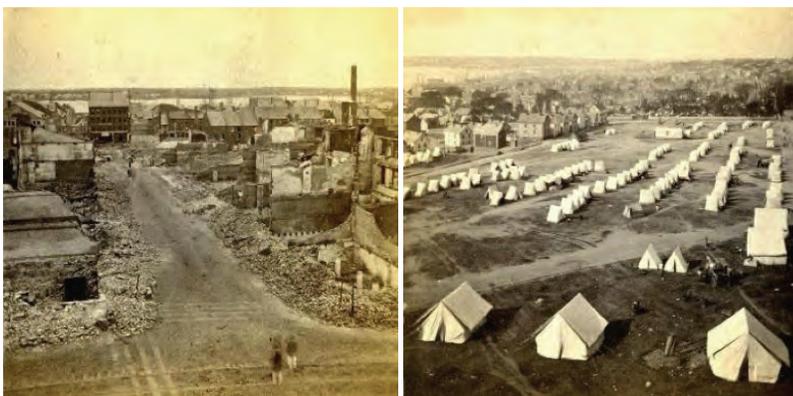
Growth in this era was propelled by new street car service initiated by the Portland Railroad Company in 1863, and included a significant expansion of the manufacturing sector as evidenced by the founding of defining businesses, such as the Portland Packing Company (1863) and the Portland Glass Company (1864). The end of the 19th century was marked by the extension of trolley lines along major roads, promoting the residential expansion of “streetcar suburbs.”

The Casco Bay islands also experienced significant growth at this time, with the federal government purchasing 70 acres of Great Diamond Island for military fortification, constructing 125 buildings, including massive batteries, housing for 700 personnel, a power plant, hospital, school, recreation building, and other services. Cushing and Little Diamond also began to see summer residents. Frequent ferry service from three steamship companies made Peaks Island attractive for more homes, hotels, and boarding houses.

Portland expanded its boundaries once more during the 19th century. The city of Deering, originally considered part of neighboring Westbrook, was incorporated as its own city in 1891 and annexed by Portland nine years later. Portland’s municipal boundaries have remained relatively the same since, except for the cessation of Long Island in 1992 and the annexation of 38 acres of Falmouth in 2002.

### **The Great Fire**

On Independence Day in 1866, the City’s growth and prosperity came to an abrupt halt. A fire ignited during the festivities destroyed more than a third of the City’s buildings and left 10,000 homeless. It spread through the waterfront to Back Cove and Munjoy Hill. Under the direction of Mayor August Stevens, a tent city was created on Munjoy Hill for the homeless, and rebuilding of the City began immediately. The area was rebuilt with brick Victorian structures and wider streets. Lincoln Park was constructed as the City’s first park and was designed to serve as a firebreak. The downtown was rebuilt as a strictly commercial area with residential construction relegated to outside areas, such as Parkside, Munjoy Hill, the West End, and the Western Promenade. East Deering and Deering Center also began to experience growth, as more residents began to desire housing off the peninsula. The Great Fire emphasized the need for an adequate water supply, eventually leading to a contract in 1868 to pipe Sebago Lake water to Portland.





### **Early 20th Century**

The turn of the century gave way to massive immigration into the United States and as many as 1,000 immigrants a day began entering through Portland. The Custom House could no longer handle all the processing, and eventually House Island served as the immigration station for 17 years. This influx of population prompted a wave of construction throughout the city. Residential development began in North Deering between Washington Avenue and Virginia Street. Large tracts of land were also subdivided in the Riverton neighborhood, including Avalon Highlands, Woodfords Gardens, and Forest Avenue Terrace. Many new immigrants settled in the Parkside and Munjoy Hill neighborhoods.

The early 20th century saw Portland grow into an industrial, business, and financial center with the financial and commercial district shifting from the waterfront to Congress Street. Several notable properties were constructed along this corridor that still stand today. Porteous, Mitchell & Braun Company opened their first department store (1904), and Fidelity Trust Company, built on Monument Square, was the city's first sky scraper (1910). The Chapman Building (also known as the Time & Temperature Building) was constructed (1924) and the Eastland Park Hotel was built (1927). In the 1920s, Forest Avenue in the Oakdale neighborhood also saw significant expansion and became known as Auto Row, since the thoroughfare was lined with automobile showrooms and suppliers. It was also home to Oakhurst Dairy, which began milk delivery in 1921.

In the 1930s, the Depression-era economy and competition for freight from Nova Scotia left Portland's economy struggling. However, Roosevelt's New Deal policies soon provided funding for many new infrastructure and civic projects throughout the City, putting many residents back to work. The economic rebound continued as World War II brought an expansion of Portland's harbor defenses with the establishment of a naval destroyer base in 1941, and the creation of a huge shipyard in neighboring South Portland for the construction of Liberty ships.

### **Post-War Portland**

Post-World War II brought significant suburban housing growth to the outlying areas of Portland, and numerous urban renewal projects to the peninsula. The pace of residential development increased further in the 1950s with large tracts of land subdivided for housing. In 1955, the Minat Corporation announced its plans for Longfellow Woods, the largest single-family housing development built in Portland, with 110 acres of land located between Brighton Avenue and the Evergreen Cemetery. Subdivisions were also built in the Nasons Corner and Ocean Avenue neighborhoods. Complementing these developments were the establishment of several new parks, including Baxter Woods (1946) and Capisic Pond Park (1948).

The development of an interstate system brought further changes to Portland's development patterns. The Maine Turnpike was constructed in the 1950s and Pine Tree Shopping Center, the City's first shopping plaza development, was built near the Turnpike's Exit 8. The construction of I-295 through the Bayside neighborhood of Portland in 1974 required filling a portion of Back Cove and separated the neighborhood from the waterfront. The automobile culture had arrived in



**APPENDIX:  
HISTORIC  
RESOURCES**

Portland, and as in the rest of the country, the lure of suburban living led to a decline of the City center and its business districts. Urban renewal initiatives led to the demolition of several significant landmarks, including Union Station (1961) and Grand Trunk Station (1966), and the razing of several neighborhoods to construct Franklin Arterial (1967), and marked the beginning of a period of decline for the City. One response to the demolition of significant buildings and traditional neighborhoods during Portland's post-war years was the beginning of Portland's historic preservation movement. Land conservation efforts were also increased in these decades with organizations such as the Casco Bay Island Development Association, which preserved 100 acres of natural area on Peak's Island.

Several Urban Renewal housing developments were constructed throughout the next two decades, including Kennedy Park (1964), Franklin Towers (1969), Two Canal Plaza (1972), the 10-story One Canal Plaza (1973), and the Cumberland County Civic Center (1977), now Cross Insurance Arena. The Holiday Inn by the Bay, the first major hotel constructed in decades, rose along Spring Street (1973), and the East End Wastewater Treatment facility was constructed (1979) to curb pollution in Casco Bay and support new development. Off-peninsula saw the development of 141 apartment units at the newly created Riverton Park (1971).

Portland's business community also grew during the post-war era. Diversified Communications was established (1949) and would go on to expand from radio and launch WABI-TV (the first television station in Maine) in 1953. WCSH would closely follow and began telecasting out of the Congress Square Hotel (1953). Barber Beef (now Barber Foods) established a production facility on Commercial Street in 1955.

The City's civic and cultural offerings would also be expanded with the founding of Profile Theater (1974, now Portland Stage Company), and the moving and expansion of the Portland Public Library to Monument Square (1979).

### **Late 20th Century to Present**

The City experienced revitalization of some neighborhoods and significant loss in others throughout the 1980s and 1990s. While new investment was focused downtown, there was also movement outward by some businesses. UNUM established its corporate headquarters in an office park off outer Congress Street, with several other businesses following suit. Efforts to rebuild the downtown/Old Port business district were successful, with the rehabilitations and conversion of blocks of vacant 19th century brick buildings into shops, offices, and residences. This redevelopment was complemented by the construction of several large downtown office buildings, including Canal Plaza and One City Center in the late 1980s. Conversely, the traditional retail development along Congress Street experienced a decline with the closing of the Porteous Department Store in 1983. Porteous had anchored businesses along Congress for 80 years; its closing triggered the loss of many other retail businesses in the area. However, the 1990s saw the purchase and redevelopment of the former Porteous building by the Maine College of Art (1993), eventually transforming the area into a thriving arts district.



**APPENDIX:  
HISTORIC  
RESOURCES**

In the 1980s, residential development continued to favor more suburban areas. The extension of sewer lines spurred significant residential development in North Deering as well as other outlying areas, such as the Riverton neighborhood. Migration of retail uses from the downtown followed into these neighborhoods. Mirroring national trends, subdivision designs changed to curvilinear streets with larger lots and condominium developments. Cul-de-sac residential development became desirable among families wishing to reside away from high traffic areas.

Not all residential development gravitated to suburban areas, however. The 1970s saw the beginning of a return to Portland's historic peninsula neighborhoods. This trend has accelerated since that time. Today, Portland's peninsula neighborhoods are among the most sought after in the city.

Today, Portland remains Maine's largest city, with more than 20% of the state's population residing in the greater metropolitan area. Portland is Maine's undisputed center for business, retail, and arts and culture, and maintains much of its historic architecture. The waterfront remains a bustling working port with one of the largest commercial fishing operations on the East Coast, and sometimes exceeds Boston for cargo imports/exports. More recently, a nationally-renowned dining scene has led Portland into the 21st century, as it continues to attract tourists and permanent residents alike to the area.

## **POLICY AND RESOURCES**

### **Historic Preservation Program**

Demolition of several prominent historic structures during the development boom of the 1980s led to the creation of a comprehensive historic preservation program within the City of Portland's Planning Department in 1990. The centerpiece of the program is the historic preservation ordinance, which establishes a historic preservation board; a process for identifying, documenting and designating historic structures and districts; and a regulatory framework and standards under which alterations, additions, demolitions, and new construction affecting designated historic resources are reviewed for compatibility. Approximately 2,000 historic buildings, landscapes and sites in the City are currently protected under Portland's historic preservation program.

The Historic Preservation Board and city staff oversee the preservation program. The board is composed of seven members appointed by the Portland City Council. All members are required to have expertise or experience in fields related to architecture and/or historic preservation. The board and staff are responsible for the on-going survey of significant areas, sites, structures and objects; recommendations regarding protection under the ordinance; maintaining an inventory of designated landmarks and districts; interpretive signage; outreach and education; assisting with nominations to the National Register of Historic Places; design guidelines; review of proposed projects; and recommendations to the Planning Board for projects located within 100 feet of a designated landmark or historic district boundary.



**APPENDIX:  
HISTORIC  
RESOURCES**



Staff members provide technical assistance to the board, conduct minor development reviews, and provide technical assistance and resources to the public. The historic preservation program staff are also involved in the planning of all capital improvement or HCD-funded projects that will impact an historic resource or district.

The *Historic Resources Design Manual* was adopted in 1990 as a companion to the ordinance itself to serve as a reference for both affected property owners and members of the Historic Preservation Board and Planning Board in interpreting the ordinance. The manual includes a list of individual landmarks and an illustrated designation report on each of the City's historic districts and historic landscape districts that outlines the historical and architectural significance and visual characteristics of these areas. The manual also includes design guidelines that elaborate on the intent and application of the ordinance's review standards, which apply to the review of exterior alterations, new construction, relocation, signage, and streetscape and pedestrian improvements. Through the use of photographs and text, these guidelines illustrate how the review standards are applied in a variety of circumstances. These guidelines are specifically cited in the historic preservation ordinance and are a formal component of the preservation regulatory program.

To further assist property owners, City staff have published illustrated guidelines for common alterations or improvements affecting historic structures, including: *Guidelines for Porch Repairs and Replacement*, *Signage Design Guidelines*, and *Policy and Guidelines for the Replacement of Wood Clapboards in Portland's Historic Districts*. Planning is underway for guidelines addressing other common rehabilitation activities.

Additional municipal regulations contain a reference to historic preservation as well. They include Portland's shoreland regulations, which set forth a use standard to protect archaeological and historic resources. The standard requires proposed land use activities on, adjacent to sites listed in, or eligible to be listed on the National Register of Historic Places be submitted to the Maine Historic Preservation Commission for review and comment prior to approval. Plans for proposals must reflect that the proposed activities will protect archaeological and historic resources. The City's subdivision regulations require a description of any archaeological sites located on or near the proposed project site and a description of methods to be used to protect the sites. Additionally, the City's site plan design standards require developers to inform the City and State about archaeological resources, and require documentation, and protection of the resources.

The Historic Preservation Division of the Planning and Urban Development Department maintains a Historic Resources Inventory, which contains information on every designated historic property protected under the ordinance. Documentation includes a detailed architectural description, historical information if known, a copy of the 1924 tax photo of the building where available, a 1990 photo of the building (the year the ordinance went into effect), as well as a circa 2012 photo. In addition, information is available on many other historic structures and neighborhoods gathered as part of an ongoing architectural survey. Areas surveyed but not yet designated include the Coyle Park and Fessenden Park neighborhoods and portions of Forest Avenue and Stevens Avenue.



**APPENDIX:  
HISTORIC  
RESOURCES**

**Historic Resources**

Areas, sites, structures and objects of historic, cultural and/or architectural significance in Portland have been formally recognized at both the local and federal level. Since 1966, a total of 74 individual structures, eight historic districts, and five historic landscape districts in Portland have been listed in the National Register of Historic Places. Additionally, seven of the city’s most significant structures (e.g. the Wadsworth Longfellow House, Victoria Mansion, and Portland Observatory) have qualified for National Historic Landmark status.

At the local level, the City of Portland has designated 11 historic districts, six historic landscape districts, and 92 individual structures or sites to date. Unlike National Register listing, which provides protection only when federal funding or licensing is involved, local designation affords a much higher level of protection. Any proposal for demolition, exterior alteration, addition, site alteration, and/or new construction within a locally-designated historic district or affecting a locally-designated landmark is subject to review under Portland’s historic preservation ordinance.

With the adoption of Portland’s historic preservation ordinance in 1990, all of the National Register-listed historic districts were adopted as local historic districts as well. In 1997, following a review of existing historic district boundaries, several local historic districts were expanded and/or consolidated. The City has sought National Park Service certification for three local districts created since the adoption of the City’s local preservation ordinance. National Park Service certification or National Register listing is required in order for property owners to take advantage of federal or state historic tax credits.

**City of Portland Historic Districts**

	National Register Listed	Local Designation	Local Expansion	National Park Service Certified
Congress Street Historic District	n/a	4/16/09		5/25/10
Deering Street Historic District	1/27/83	8/1/90	4/23/97	
Fort McKinley Historic District	3/21/85	8/1/90		
House Island Historic District	n/a	2015		
How Houses Historic District	1/20/80	8/1/90		
India Street Historic District	n/a	11/2/15	6/20/16	1/7/17
Portland Company Historic District	n/a	2/16/16		
Spring Street Historic District*	4/3/70	8/1/90		
Stroudwater Historic District	2/16/73	8/1/90	4/23/97	
Portland Waterfront Historic District	5/24/74	8/1/90	4/23/97	
West End Historic District*	n/a	4/23/97		
Western Promenade Historic District*	2/16/84	8/1/90		
Westbrook College Historic District	9/15/77	8/1/90		

\*In 1997, the Spring Street and Western Promenade Historic Districts were consolidated and expanded to become the West End Historic District. The West End Historic District is a local district.



**APPENDIX:  
HISTORIC  
RESOURCES**

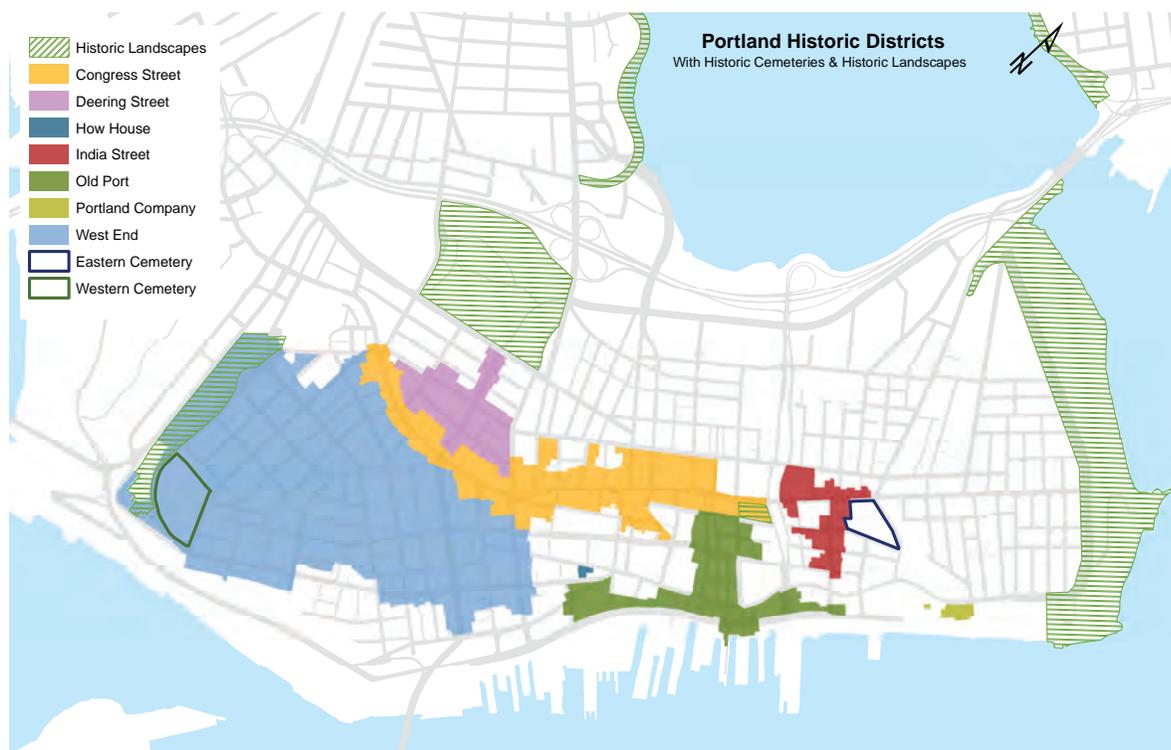


**City of Portland Historic Cemeteries and Landscape Districts**

	<b>National Register Listed</b>	<b>Local Designation</b>
Baxter Boulevard	10/16/89	8/1/90
Deering Oaks Park	10/16/89	8/1/90
Eastern Cemetery	12/12/73	8/1/90
Eastern Promenade	10/16/89	8/1/90
Evergreen Cemetery*	10/16/89	8/1/90
Lincoln Park	10/16/89	8/1/90
Stroudwater Burying Ground	2/16/73	8/1/90
Western Cemetery	-	4/23/97
Western Promenade	10/16/89	8/1/90

\*Evergreen Cemetery is designated as both a historic cemetery and a historic landscape district.

**Portland's Peninsula Historic Cemeteries Districts (2016)**



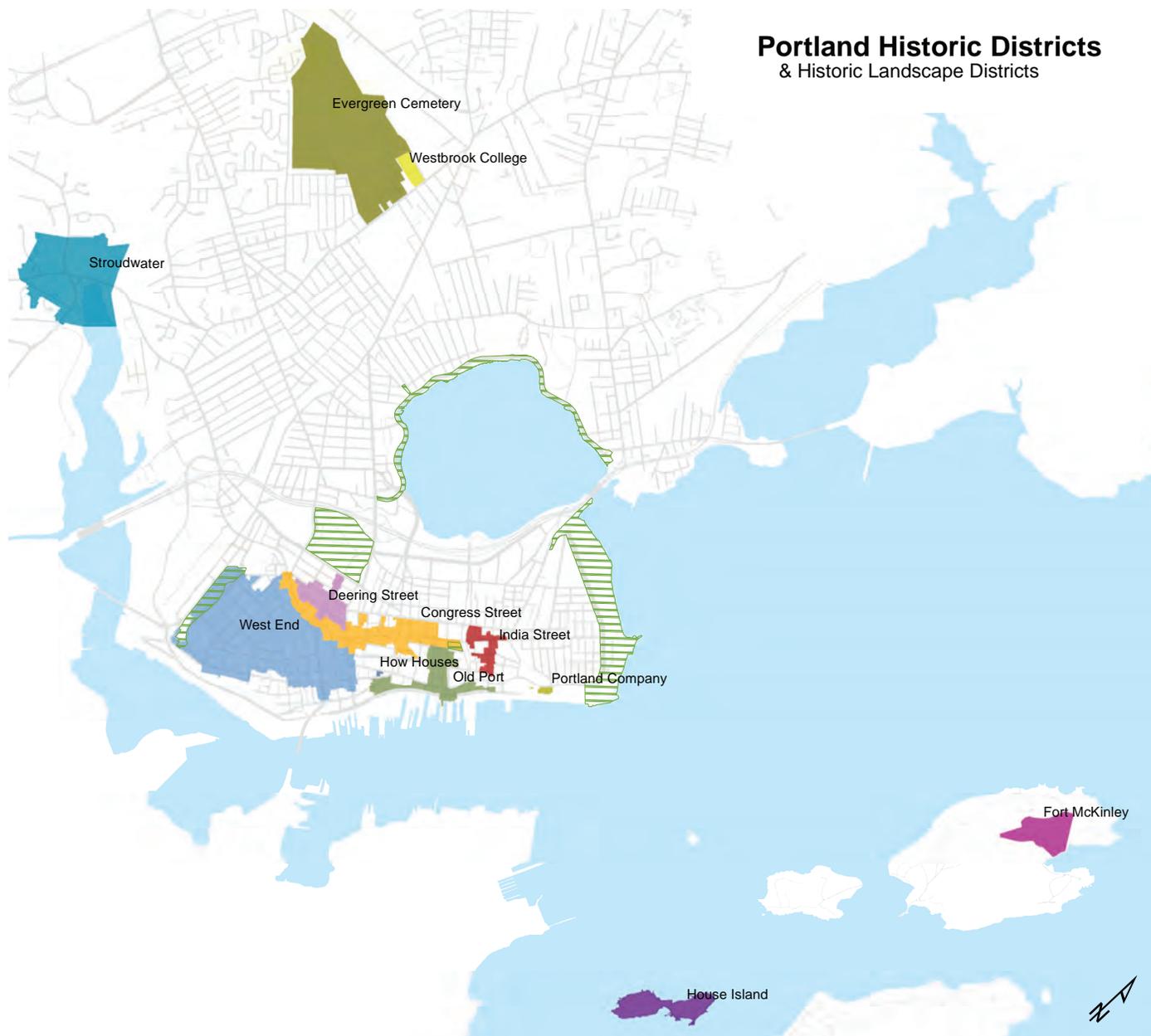
**Individual Landmarks**

Landmark properties are those which are individually designated. Although landmark designation is reserved for properties that exhibit the highest degree of historical, cultural, and/or architectural significance (e.g. the Wadsworth Longfellow House, Victoria Mansion, and Portland City Hall), this



**APPENDIX:**  
**HISTORIC**  
**RESOURCES**

designation may also be applied to properties that are significant within their specific geographical, historical, and/or architectural context and are located in an area not otherwise eligible for historic district designation. Most but not all of Portland's locally-designated landmarks are also individually listed in the National Register of Historic Places. Similarly, a few properties listed in the National Register have not yet been designated as local landmarks. Some landmarks properties are located within the boundaries of a larger historic district; others are not.



**Portland Historic Districts**  
& Historic Landscape Districts



**APPENDIX:  
HISTORIC  
RESOURCES**



**Individual Landmarks – Local and National Register**

Address	Name	NR Listing <small>(Some included in National Register Districts)</small>	Local Designation
17 Arbor St.	Engine Company Number Nine Firehouse	10/28/2010	n/a
35 Arlington	Sparrow House	10/29/82	8/1/90
14 Bowdoin	James Olcott Brown House		8/1/90
52 Bowdoin	John Calvin Stevens House	7/16/73	8/1/90
1145 Brighton Ave	Portland City Hospital	3/21/85	8/1/90
90 Capisic	Leonard Bond Chapman House	4/23/80	8/1/90
14-20 Carroll	McLellan School		8/1/90
33 Carroll	Frederick A. Tompson House		8/1/90
11-17 Chestnut	Chestnut Street Methodist Church	10/20/77	8/1/90
102-132 Commercial	Elias Thomas Block		8/1/90
269-273 Commercial	Richardson Wharf Company Building		8/1/90
7 Congress Square	Portland Museum of Art Payson Wing		4/16/09
76 Congress	St. Lawrence Church & Parish Hall (church demolished 2008 due to structural failure)	3/2/2006	2006
138 Congress	Portland Observatory*	4/24/73	8/1/90
147 Congress	Ann Freeman House	n/a	10/6/14
267 Congress	Etz Chaim Synagogue		11/2/15
279 Congress	St. Paul's Rectory & Church	12/22/78	8/1/90
284 Congress	North School	4/12/82	8/1/90
289 Congress	Cathedral of Immaculate Conception & Bishop's House	6/20/85	11/2/19
380 Congress	Central Fire Station		4/16/09
389 Congress	Portland City Hall	5/7/73	8/1/90
415 Congress	Masonic Temple	2/11/82	8/1/90
425 Congress	First Parish Church	1/12/73	8/1/90
474 Congress	Lancaster Block	9/29/82	8/1/90
485 Congress	Maine Historical Society	11/17/80	8/1/90
487 Congress	Wadsworth-Longfellow House*	10/15/66	8/1/90
519 Congress	Mechanics Hall	10/3/73	8/1/90
522-528 Congress	Porteous Mitchell & Braun Department Store	9/27/96	8/1/90
523-543 Congress	J.B. Brown Memorial Block	5/23/78	8/1/90
594 Congress	H.H. Hay Building	4/03/70	3/27/97
619-621 Congress	Baxter Library	4/03/70	3/27/97
655 Congress	Trelawney Building		4/16/09
660-662 Congress	George S. Hunt Block		4/16/09
714 Congress	Gen. Neal Dow House*	4/11/73	8/1/90
794-800 Congress	Maine Eye and Ear Infirmary	9/25/86	8/1/90
Congress & Federal	Portland Soldiers & Sailors Mon.	4/1/98	8/1/90
Congress & Mountfort	Eastern Cemetery	12/12/73	8/1/90
284 Cumberland Ave.	Portland High School	11/23/84	8/1/90
109 Danforth	Morse-Libby Mansion*	5/19/70	8/1/90
188-194 Danforth	Hamblen Block	7/21/83	8/1/90
300 Danforth	Samuel E. Spring House		8/1/90
308 Danforth	Andrew Spring House		8/1/90
389 Danforth	William Vaughan House		8/1/90



**APPENDIX:  
HISTORIC  
RESOURCES**



Address	Name	NR Listing	Local Designation
394 Danforth	Edward A. Noyes House		8/1/90
395 Danforth	Charles A. Alexander House		8/1/90
400 Danforth	Harrison B. Brown House	6/23/80	8/1/90
2-4 Deering	Immanuel Baptist Church		8/1/90
30-32 Deering	Thomas Brackett Reed House*	5/7/73	8/1/90
57 Exchange	First National Bank Block		8/1/90
180 Falmouth	Nathan Clifford School	12/18/13	9/16/13
68-76 Federal	St. Peters Church		11/2/15
142 Federal	Cumberland County Courthouse		8/1/90
156 Federal	United States Courthouse	2/12/74	8/1/90
312 Fore	United States Custom House	5/17/73	8/1/90
366-376 Fore	Mariner's Church	4/23/73	8/1/90
384-392 Fore	Thomas Chadwick and William Duran Block		8/1/90
428-430 Fore	Nathan and John T. Wood Block		8/1/90
507 Fore	Tracy-Causser Building	3/17/94	3/27/97
Florida Ave, Peaks I	Battery Steele	10/20/05	n/a
25 Forest Ave.	Portland Stage Company	4/03/70	3/27/97
125 Forest	U.S. Post Office Building	5/9/86	8/1/90
Hog Island Ledge	Fort Gorges	1/28/73	8/1/90
Free & Middle St.	Byron Greenough Block	3/10/77	8/1/90
111 High St.	McLellan-Sweat Mansion*	3/5/70	8/1/90
157 High St.	Eastland Hotel	4/03/70	3/27/97
200 High	Griffin House	7/19/84	8/1/90
1 India	Grand Trunk Railroad Office Building	5/25/10	3/27/97
97 India	India Street Fire Station		11/2/15
Longfellow Square	Longfellow Monument	4/5/90	8/1/90
Maine State Pier	Bagheera (schooner)	11/4/09	8/1/90
54-56 Maple	Residential duplex	n/a	3/27/97
78-88 Middle	Abraham Levey Block	n/a	11/2/15
117-125 Middle	Thompson Block	2/28/73	8/1/90
129-131 Middle	Rackleff Building	5/9/73	8/1/90
133-141 Middle	Woodman Building	2/23/72	8/1/90
142-150 Middle	Storer Brother's Block		8/1/90
20 Milk	State of Maine Armory		8/1/90
75 Newbury	Abyssinian Meeting House	3/3/06	8/1/90
47-55 Oak	Everett Chambers	5/19/06	4/15/09
238 Ocean Ave.	John B. Russworm House	7/21/83	8/1/90
45 Park	William Minott House	7/10/79	8/1/90
88-114 Park Street	Park Street Row	2/23/72	8/1/90
94 Pine	Francis Hl. Fassett House		8/1/90
117-119 Pine	Francis Hl. Fassett House		8/1/90
161 Pine	Elizabeth M. McDonald House		8/1/90
68 Pleasant	William Nutter House	n/a	3/27/97
117 Preble	Schlotterbeck & Foss Building	exp. 2017	n/a
Seashore Ave, Peaks I.	Fifth Maine Regiment	1/5/78	8/1/90



**APPENDIX:  
HISTORIC  
RESOURCES**



Address	Name	NR Listing	Local Designation
46 Sheridan	Green Memorial A.M.E. Zion Church	1/17/73	8/1/90
Cor. Sheridan/Walnut	Portland Water Station	n/a	12/18/06
97 Spring	Charles Q. Clapp House	2/23/72	8/1/90
387 Spring	Gothic House	12/31/74	8/1/90
3 St. John	Maine Publicity Bureau Building	1/26/90	1997
222-224 St. John	Maine Central Railroad Office Bldg.	1/7/88	8/1/90
716 Stevens Ave.	Universalist Church		8/1/90
51 State	Joseph Holt Ingraham House	7/16/73	8/1/90
156 State	Portland Club	1/25/73	8/1/90
605 Stevens	St. Joseph's Academy & Convent	exp. 2017	
Stevens (Evergreen)	F.O.J. Smith Tomb	12/31/74	8/1/90
32 Thomas	Williston West Church & Parish Hse.	6/22/80	8/1/90
75 Vaughan	William A. Goodwin House		8/1/90
331 Veranda	Marine Hospital	8/21/74	8/1/90
4 Walker	A.B. Butler House	5/08/74	8/1/90
1270 Westbrook	Tate House *	1/12/70	8/1/90
181 Western Prom.	George F. West House		8/1/90
261 Western Prom.	Adam P. Leighton House	9/29/82	8/1/90
14-26 York	Portland Packing Co.	6/7/96	8/1/90
168 York	Nathaniel Dyer House	4/15/87	8/1/90
Maine Archaeological Site No. 9-16		5/7/79	8/1/90
8th Maine Ave.	Eighth Maine Regiment Memorial		10/4/06

*\*designated National Historic Landmark*



**APPENDIX:  
HISTORIC  
RESOURCES**

To date, a total of 63 properties have been designated as local landmarks under the criteria of its historic preservation ordinance. A total of 73 individual properties, objects or sites have been listed in the National Register of Historic Places. Local landmark designation is planned for several of the National Register-listed properties, including the Schlotterbeck and Foss building at 117 Preble and St. Joseph's Academy & Convent at 605 Stevens Avenue.

Currently, 46 additional properties have been identified by the Maine Historic Preservation Commission as eligible for listing in the National Register of Historic Places. Seven of these properties are locally designated as contributing structures within a larger historic district.



**APPENDIX:  
HISTORIC  
RESOURCES**

**Properties Eligible for National Register**

The following is a list of additional properties identified by the Maine Historic Preservation Commission as of January 2017 as eligible for the National Register. Properties that were previously identified as NR eligible and that have subsequently been designated as local landmarks are not included.

Address	Name
300 Allen Ave.	
431 Brighton Ave	
331 Cumberland Ave.	Preble Chapel
536 Deering Ave	Woodfords Fire Station
540 Deering Ave	
309 Forest	William C. Rowell Building
330 Forest	Miles B. Mank Motor Car Company
331 Forest	Hinds Building
355 Forest	Gilson Auto Co.
364 Forest	Oakhurst Dairy
369 Forest	State Motor Car
525 Forest	Goff Chevrolet
533 Forest	Studebaker Showroom
617-619 Forest	
643-651 Forest	Odd Fellows Block
648 Forest	Chapman Block
660 Forest	Valles
1190 Forest	
1241 Forest	
1837 Forest	Friends Meeting House
26 Homestead Ave/19 Libby	Thomas B. Reed School
94 Park Ave	Burnham Parkside
370 Stevens Ave	Deering High School
411 Stevens Ave	
432 Stevens	Longfellow Elementary School
466 Stevens Ave	Central Square Baptist Church
489-491 Stevens Ave	
522 Stevens Ave	Lincoln Middle School
Stevens	Organizational Maintenance Shop #1 Portland
772 Stevens	Portland Armory
302 Stevens	Swedenborgian Church
26 Walton	
68 Walton	
76 Walton	
94 Walton	
108 Walton	
116 Walton	
124 Walton	



**APPENDIX:  
HISTORIC  
RESOURCES**

### **Archaeological Resources**

The City's archaeological resources include both prehistoric and historic sites. Prehistoric archaeological sites are Native American sites that predate the arrival of European settlers. These may include campsite or village locations, rock quarries and workshops for making stone tools, and petroglyphs or rock carvings. Historic archaeological sites are those of European settlers dating from 1600 after the keeping of written records began. These may include cellar holes and other foundations, mills, wharves and boatyards, and near shore shipwrecks.

#### **Prehistoric Archaeological Sites**

The Maine Historic Preservation Commission, the state's central repository for archaeological information, has documented 25 prehistoric archaeological sites within Portland. Sites are identified and documented through field notes, photographic archives, map sets, reports, and other forms of print and electronic data. Almost all of the prehistoric archaeological sites in the City are shell middens (a shell refuse pile) found on the islands of Casco Bay. Of these sites only one, near the south end of Great Diamond Island, is listed on the National Register of Historic Places.

#### **Historic Archaeological Sites**

To date, the Maine Historic Preservation Commission has identified 134 archaeological sites within the City.



**APPENDIX:  
HISTORIC  
RESOURCES**



**Archaeological Sites**

Site Name	Site Number	Site Type	Periods of Significance
Abyssinian Meeting House	ME 357-131	—	1826-1915 Meeting House, 1923-1990 Apartments
Acacia	ME 357-117	wreck, yacht	September 6, 1940
Ada Barker	ME 357-042	wreck, schooner	January 11, 1891
Addison Gilbert	ME 357-070	wreck, vessel	January 1873
Alfred Stevens	ME 357-102	domestic	1806-1908
Andrew J. Ward	ME 357-089	wreck, oil screw	1910-1963
Anna C.	ME 357-090	wreck, oil screw	1926-1964
Annie J. Russell	ME 357-025	wreck, schooner	June 25, 1890
Back Cove Potteries	ME 357-023	industrial, pottery	c. 1840-1930s
BC 2598	ME 357-091	wreck, barge	1943-1971
Behemoth	ME 357-108	wreck, dredge	September 8, 1869
Blackhawk	ME 357-118	wreck, gas screw	September 7, 2028
Boadicea	ME 357-075	wreck, bark	February 1861
Bourne	ME 357-026	wreck, barge	March 13, 1934
Bradley A.	ME 357-119	wreck, gas screw	August 1, 2026
Brooklyn	ME 357-051	wreck, steamer	April 6, 1883
Chase/Samuel Butts House	ME 357-037	domestic	18th to early 19th century
Butts Fish House	ME 357-035	fish house	—
C. and R. Tarbox	ME 357-092	wreck, gas screw	1855-1918
Caleb Cushing	ME 357-120	wreck, schooner	June 27, 1863
California	ME 357-030	wreck, screw ocean liner	February 25, 1900
Canada	ME 357-109	wreck, ship	Broken up at Portland, Maine, in 1926
Carrie C. Miles	ME 357-029	wreck, vessel	1898
Clapp House Rear Yard	ME 357-019	domestic	c. 1820 on
Cullen	ME 357-107	wreck, barge	1940
Cyclone	ME 357-088	wreck, dredge	1939-1940
D. W. Hammond	ME 357-031	wreck, schooner	November 30, 1887
David Nicholas	ME 357-052	wreck, schooner	March 1853
Diligent	ME 357-053	wreck, warship	1779
Dirigo	ME 357-121	wreck, steam screw	August 8, 1875
Edward B.	ME 357-076	wreck, gas screw	1920 to 1944
Edward J. Lawrence	ME 357-015	wreck, vessel	December 27, 2025
Eliza Crowell	ME 357-079	wreck, coaster	December 20, 1870



**APPENDIX:  
HISTORIC  
RESOURCES**



Site Name	Site Number	Site Type	Periods of Significance
Elna	ME 357-122	wreck, unidentified	1884
Empire	ME 357-055	wreck, schooner	December 25/26, 1885
Falmouth	ME 357-114	wreck, steam ship	April 29, 1884
Falmouth Settlement	ME 357-001	settlement	1632-1676, 1680-1690
Federal House	ME 357-024	domestic	1820s?
Few-Follet "Few-Follet"	ME 357-093	wreck, yacht, yawl	1909-1925
Fort Allen	ME 357-006	military, fort	c. 1776, 1814
Fort Burrows	ME 357-007	military blockhouse	1813
Fort Gorges	ME 357-128	military, fort	1858 +
Fort Lawrence	ME 357-022	military, fort	1814
Fort Loyall	ME 357-002	military, fort	1680-1690
Fort McKinley	ME 357-033	military, fort	1903-1910
Fort Scammel	ME 357-130	military, blockhouse	Blockhouse surveyed 1844
Frank G. Stevens	ME 357-101	domestic	1850-1900
George W. Pierce	ME 357-115	wreck, schooner	December 27, 1888
Gertrude	ME 357-027	wreck, schooner	May 9, 1890
Golden Rule	ME 357-056	wreck, schooner	September 8, 1807
Gordon	ME 357-123	wreck, steam screw	1881
Gov. Douglas	ME 357-094	wreck, oil screw	1900-1935
Grenville M. Stevens	ME 357-100	domestic	1850-1900
Griffin	ME 357-036	unidentified	-
Hazard	ME 357-054	wreck, warship	1779
Helen Eliza	ME 357-021	wreck, vessel	September 8, 1869
Henri Coipel	ME 357-110	wreck, brigantine	Wrecked off Cushing's (Cushings) Island January 26, 1870
Hockman	ME 357-057	wreck, coaster	December 20, 1870
Hockomoc	ME 357-058	wreck, schooner	May 1866
House	ME 357-012	domestic	c.1700 - c.1850?
House	ME 357-013	domestic	c.1800 - c.1900
House	ME 357-014	domestic	c.1800 - c.1900
Jewell Island Defenses	ME 357-032	military, battery	1933-1945
Jewell's Island Fort	ME 357-084	military, fort	17th-century
Josephine	ME 357-069	wreck, vessel	May 1872
Joyce Marie	ME 357-095	wreck, oil screw	1930-1967
Kendrick Fish	ME 357-071	wreck, vessel	March 7, 1899
Kennedy Park Dump	ME 357-010	dump	c.1850 to modern times
L.A. Johnson	ME 357-082	wreck, schooner	February 16, 1877
Leona	ME 357-073	wreck, vessel	January 12, 2005



**APPENDIX:  
HISTORIC  
RESOURCES**



Site Name	Site Number	Site Type	Periods of Significance
Levett's House	ME 357-004	trading post	1620-1675 (1623-1624)
Lillian	ME 357-043	wreck, schooner	April 1, 2026
Lizzie Lane	ME 357-072	wreck, vessel	July 27, 2011
Lohocla	ME 357-113	wreck, schooner	November 8, 2019
Long Island House	ME 357-008	domestic	-
Maggie	ME 357-105	wreck, schooner	1887-1909
Manhattan	ME 357-044	wreck, steam screw	March 7, 2010
Maple Street Cellar	ME 357-011	domestic	c. 1850 to present
Maple Street Cellar	ME 357-017	domestic	c. 1880 on
#49 + 51 Maple St. Cellars	ME 357-018	domestic	c. 1820 on
Marilyn	ME 357-096	wreck, gas yacht	1928
Maude M. Morey	ME 357-124	wreck, schooner	March 1, 1942
Munjoy House	ME 357-003	domestic	Before 1670
Mussey Mansion/ Children's Hospital	ME 357-132	domestic, mansion	1801-1963
Nancy	ME 357-116	wreck, ship	1789
Newcomb	ME 357-125	wreck, schooner	1885
Odell	ME 357-045	wreck, schooner	July 9, 2021
Oliver Buckley	ME 357-103	domestic	1807 purchased land
Robert Pagan House and Warehouse	ME 357-085	dom. & storehouse	1768-1775 and later in the 19th century.
Phoenix	ME 357-039	wreck, merchantman	sank 1758
Pipe Bowls Findspot	ME 357-034	artifact find, clay pipes	19th C.
Polly	ME 357-040	wreck, brig	March 1804
Portland	ME 357-111	wreck, schooner	Registry closed November 12, 1888
Portland Brick Co.	ME 357-038	brickyard	by 1871
Portland Glass Company	ME 357-133	-	-
Privy	ME 357-129	privy	1852 to 4th quarter 19th c.
Probable Trash Pit	ME 357-098	dump	Probable late 18th-mid 19th c.
Race Horse "Racehorse"	ME 357-046	wreck, schooner	Sept. 27, 1908
Ram Island	ME 357-009	domestic	-
Rambler	ME 357-067	wreck, vessel	September 1869
S Hammond	ME 357-047	wreck, schooner	October 1, 1889
Sallie l'On	ME 357-028	wreck, schooner	June 30, 2012
Sally B.	ME 357-048	wreck, vessel	April 10, 2006
Samuel	ME 357-077	wreck, brig	June 19, 1835
Samuel B. Stevens	ME 357-099	domestic	1800-1920's



**APPENDIX:  
HISTORIC  
RESOURCES**

Site Name	Site Number	Site Type	Periods of Significance
Samuel Hart	ME 357-049	wreck, schooner	November 9, 2022
Francis O.J. Smith Mansion	ME 357-134	mansion house	Constructed 1836 and demolished 1887
Splendid	ME 357-106	wreck, schooner	1869
St. Paul	ME 357-097	wreck, gas screw	1898-1909
Stag	ME 357-059	wreck, sardiner	August 8, 1939
Steven's Tavern	ME 357-087	tavern	1767-1830's, 1830-domestic
Stroudwater Mill	ME 357-005	mill	19th Century
Susan B. [P.] Thurlow	ME 357-078	wreck, schooner	December 11, 1897 (December 14?)
Swordfish	ME 357-104	wreck, schooner	Lost near portland in 1863
T.B. Harris	ME 357-050	wreck, schooner	October 7, 1890
Tate House	ME 357-016	domestic, mansion	1755 on
Three Friends	ME 357-041	wreck, ship	Sank October 1711
Tiger	ME 357-080	wreck, coaster	December 20, 1870
Tivano	ME 357-068	wreck, vessel	July 1872
Tizar	ME 357-020	wreck, vessel	unknown
Tyrannicide	ME 357-060	wreck, warship	1779
unnamed brig	ME 357-064	wreck, brig	September 8, 1869
unnamed schooner	ME 357-061	wreck, schooner	September 8, 1869
unnamed schooner	ME 357-063	wreck, schooner	September 8, 1869
unnamed trawler	ME 357-065	wreck, tawler	December 3, 1902 (?)
unnamed vessel	ME 357-062	wreck, vessel	September 8, 1869
unnamed vessel	ME 357-066	wreck, coaster	January 12, 1905 (?)
unnamed vessel	ME 357-083	wreck, schooner	January 26, 1882 (December 6, 1882)
Victoria	ME 357-112	wreck schooner	Went ashore at Peaks Island on October 7, 1885
Victoria Mansion	ME 357-086	domestic, mansion	ca. 1780-1870
W.C. Wellington	ME 357-081	wreck, vessel	November 12, 1872
Wiwurna	ME 357-074	wreck, steamer	c. 1926
Zebedee E. Cliff	ME 357-126	wreck, schooner	March 1, 1942
Zonda	ME 357-127	wreck, gas screw	October 15, 1936

# Waterfront



For more than 150 years, Portland’s identity has been defined by its working waterfront. Today, its deep water access and ice-free harbor still support a vibrant center for commercial activity. As many other cities have watched their waterfront succumb to development pressures from non-marine uses, Portland’s waterfront has managed to achieve a balance by allowing limited mixed-use development and a variety of marine-supportive uses. In addition to protecting its working waterfront, the City has cultivated a unique regulatory approach designed to help modernize the City’s aging marine infrastructure, and insure these facilities for the future.

## HISTORY

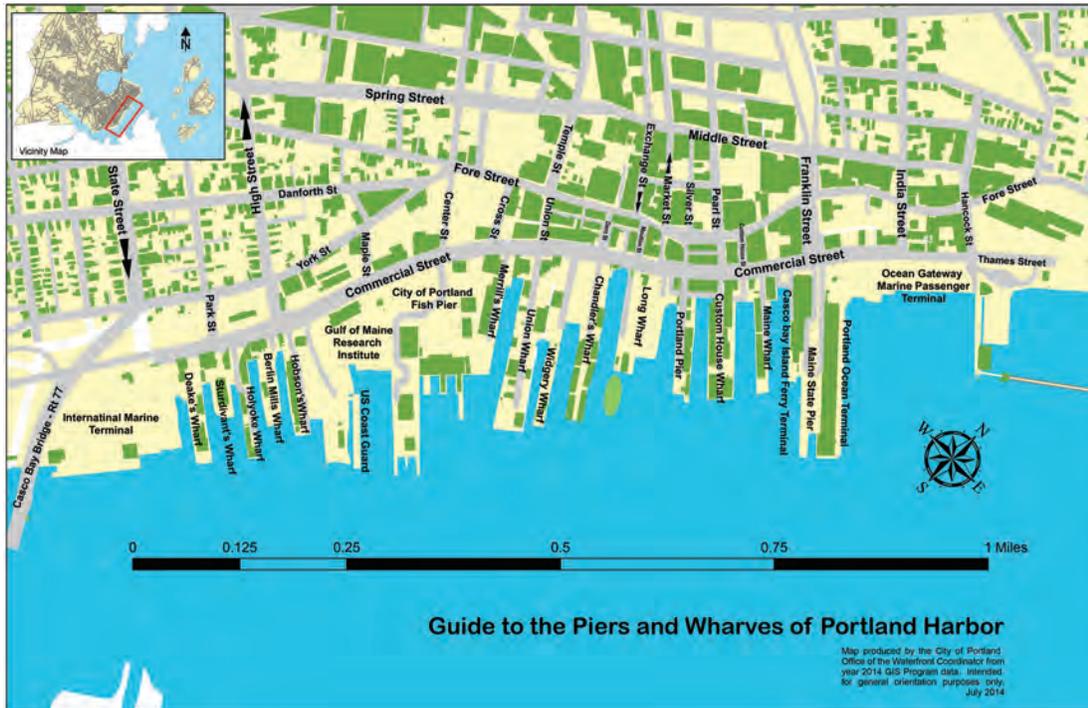
Most people associate Portland’s “working waterfront” with its fishing industry. Before the Civil War, Portland and Maine’s coastal communities supplied 50% of the nation’s groundfish. However, Portland’s waterfront is more than a fishing port. Historically, it has always supported a diverse marine-based economy, from fishing and seafood processing to cargo and freight transport facilities.

By the mid-19th century, Commercial Street was constructed on filled land in the Fore River to connect rail lines to the north, the Grand Trunk Railroad, and to the south, the Maine Central Railroad. With established rail and sea connections, the port began to see significant growth. Improved connections to both Boston and Montreal markets expanded the City’s manufacturing base, and established Portland as a significant international port for freight and passengers.

Portland served as Canada’s winter port, warehousing grain shipped via rail from Western Canada for export to Europe. By the early 20th century, with massive piers supporting a vast inventory of industrial buildings, including canneries, mills, and warehouses, Portland was one of the largest ports on the East Coast. Commercial Street supported a manufacturing and transportation center complementing the port facilities. During World War II, Portland served as the headquarters for the North Atlantic fleet, staging armed forces bound for fronts in Europe and North Africa. In addition, 30,000 local residents were employed in building the nation’s liberty ships at yards in South Portland, temporarily boosting the City’s population to 100,000 people.

Following the war, the Port of Portland experienced economic decline. New access from the west to Europe provided by the Panama Canal and the St Lawrence Seaway created more competition for the port, and container technology, although launched in Boston in the 1960s, did not reach Portland until 1980. This lag resulted in a loss of most routes to Europe. By the 1990s, due to the depletion of fish stocks and resulting federal regulation, Portland’s fisheries were also struggling.

The second half of the 20th century also brought concern for the waterfront, as Portland dumped millions of gallons of raw sewage into the harbor on a daily basis. Maintenance dredging of both the federal channel and berthing lagged behind siltation, a condition that led to navigational constraints, degraded berthing options, and accumulated pollutants in harbor bottom sediments. By 1978, the federal government described Portland’s waterfront as the “most dilapidated” on the East Coast.



In the 1980s, Portland, like many coastal communities saw, significant pressure to convert working piers into condominiums and other non-marine development. Relaxed zoning and a robust real estate market led to a series of high profile displacements of traditional commercial marine properties by residential developments.

The City and State of Maine, recognizing the loss of working properties, developed the Portland Fish Pier complex to be an anchor for the state’s groundfish industry. While successful at creating a home for one component of the marine economy, the Fish Pier did not halt the displacement of traditional uses on other private piers.

Distressed by the displacement of traditional waterfront uses by residential projects, a grassroots coalition of marine interests and Portland residents campaigned to “keep the port in Portland” through a citizen’s referendum. In 1987, following a divisive campaign, Portland residents voted overwhelmingly to enact a five-year moratorium on all new non-marine uses and development along the waterfront. The moratorium allowed time to find a more effective policy strategy for preserving the working waterfront, while also allowing for limited economic development. In 1992, with the expiration of the non-marine development moratorium, the Waterfront Alliance published a report describing principles and policies that promoted preservation of commercial marine piers and wharves while allowing limited and thoughtful compatible non-marine development. That report remains the foundation of waterfront preservation and land use policy today.



**APPENDIX:  
WATERFRONT**

**CONTEXT**

While marine related industry remains robust, Portland’s waterfront is hardly frozen in time. The vitality of Portland’s waterfront still has a major impact on both the regional and state economies. In 2004, a study conducted by Maine Working Waterfront Coalition and the Muskie School at University of Southern Maine stated that of Maine’s 3,500 miles of shoreline, only 25 miles was attributed to working waterfront uses, and these uses contributed anywhere from \$15 to \$168 million more per year to the State’s gross state product than coastal residential construction. The report encouraged regulatory protections and public investments in these waterfronts. Of the 25 miles of working waterfront remaining in Maine, over 2.5 miles are located along Commercial Street and West Commercial Street in Portland.

Over the last several decades, one of the City’s greatest challenges has been preserving and encouraging a vibrant working waterfront in the face of changing economies and aging infrastructure. The ground fishing industry has undergone significant contraction over the last several decades, with an over 50% reduction of ground fishing vessels, and drastic reductions in landings at the Portland Fish Exchange since the 1990s. (Landings peaked in the late 1990s at over 29 million lbs per year. The 2015/16 fiscal year saw 3.8 million lbs of ground fish moving through the Exchange.) With the loss of traditional uses, many pier buildings have become largely underused, as indicated by high vacancy rates, aging infrastructure, and an antiquated building stock which have become barriers to attracting new marine businesses.

With much of the marine infrastructure privately owned, especially in the Central Waterfront, many owners have worried that investment in pier maintenance and upgrades would not yield a significant return based on marine industry alone. In 2009, a zoning process began to allow expanded mixed use development in the Central Waterfront area to promote investment in the piers. These changes were approved in 2010 by the City Council and Maine DEP. The 2010 Waterfront Central Zone amendments greatly expanded opportunities for office, restaurant, and retail development, but preserved a majority of ground floor and exterior space for marine uses. Importantly, the vast majority of the Portland Waterfront’s pier edge is preserved for commercial berthing as the foundational resource defining a working port.

Also in 2010, the State of Maine and the Maine Port Authority won a TIGER grant to rebuild Portland’s International Marine Terminal (IMT), an investment that attracted Eimskip, a logistics container freight company from Iceland. Not only did Eimskip re-establish marine container service to Europe, it made Portland its U.S. headquarters. To date, the State has invested upwards of \$20 million to expand the IMT, connect it with the National Rail System, and attract a developer for a cold storage warehouse for imports/exports. Continued investment in the IMT is anticipated, with recent federal awards to the Maine DOT for expanded rail infrastructure, pier improvements, and an additional mobile harbor crane.



**APPENDIX:**  
**WATERFRONT**

### Waterfront Sub-Districts

During the planning effort that led to the 1992 Waterfront Alliance report, it was recognized that the waterfront was composed of several distinct areas with unique identities based on characteristics such as water depths, existing uses, public/private ownership, open space and access, and existing infrastructure. Ultimately, through an extensive public planning process, the waterfront was characterized into four unique “zones” based on the berthing and land use needs in each area. The Central, Eastern, Special Use, and East Port Development Zones identified in the 1992 plan were later further simplified into three sub-districts: the Western Waterfront, Central Waterfront, and Eastern Waterfront. Today, this basic structure remains the foundation for the City’s waterfront land use policy.



### Eastern Waterfront

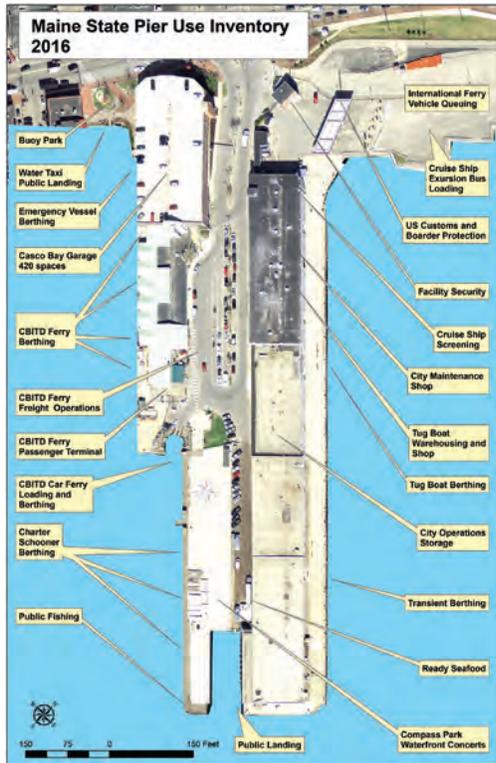
The Eastern Waterfront is the oldest developed area of the City and includes a diverse mix of land uses. Providing opportunity for deep-water berthing, it is home to Portland’s passenger port, offering Casco Bay Island ferry service, international ferry service, and cruise ship facilities. Recently, the activity associated with these uses has also attracted a significant amount of development and interest in the adjacent historic India Street neighborhood and the former Portland Company complex.

The marine infrastructure of the Eastern Waterfront is dominated by a City-owned deep-water terminal complex located near the intersection of Commercial Street and Franklin Street. City holdings include the Maine State Pier and Ocean Gateway Marine Passenger Terminal. The Maine State Pier is a 1922 structure, constructed of concrete with wood pilings, with a length of 1,000 ft and occupying over seven acres. The Maine State Pier is home to the CBITD Casco Bay Lines Ferry terminal, the Portland Ocean Terminal (POT), Compass Park, windjammer marine charters, tug boat berthing, and a public landing. The POT includes a 1,000 foot deep-water transient berth that has become a primary cruise ship landing for large ship port-of-call and small ship home port activity. The POT includes a +/-120,000 sq ft “transit shed” structure. The re-use and occupancy of vacant portions the POT building has been, and will likely continue to be a challenge for the City. Current uses of the POT building include tug boat support, cruise ship support, storage of City marine equipment, and private lobster wholesale and distribution.

Casco Bay Ferry Lines operates along the western side of the Maine State Pier, providing ferry service to the Casco Bay Islands. The facility provides berthing and loading for passenger ferries, including the only car ferry in the bay, serving Peaks Island. Additionally, the complex includes a passenger terminal, a small freight facility, and a parking structure jointly held between the City and a private parking supplier. The City’s fire boat and two other marine emergency vessels share the west side of the Maine State Pier with Casco Bay Lines. A small public open space, Bell Buoy Park, is



**APPENDIX:  
WATERFRONT**



located to the west of the Maine State Pier along Commercial Street. The park contains a City boat landing that serves water taxi services and the public for pickup and drop off.

Ocean Gateway, completed in 2005, features 1,800 linear feet of deep water berthing and a 21,000 square foot terminal that can accommodate the largest cruise ships afloat. It is designed for both international ferry and cruise passengers, and has full screening capabilities for homeport and port-of-call operations. Non-marine events use the upper floors of the Ocean Gateway terminal building during the off season and when not in conflict with marine operations. A large paved area located between the POT and the Ocean Gateway terminal provides support for marine operations, including vehicle queuing for international ferry, excursion bus circulation for cruise ship visits, and US Customs inspections. Both the POT and Ocean Gateway are secure transportation facilities subject to federally approved security plans.

**Central Waterfront**

The Central Waterfront zone is located west of the Maine State Pier and east of the International Marine Terminal (IMT). It is home to 16 piers, has 16,000 feet of commercial berthing, and is the largest resource for commercial berthing in Portland Harbor. It hosts dozens of businesses, both marine and non-marine, and is the heart of the region’s fishing economy. The Central Waterfront has significant areas of un-built land that are largely dedicated to parking, serving both marine and non-marine businesses on and near the water. It is characterized by a nineteenth century development form of privately held commercial piers running roughly perpendicular to Commercial Street into Portland Harbor and the Fore River. In addition to private commercial marine holdings, the zone is home to the Portland Fish Pier, the Gulf of Maine Research Institute, berthing for the United States Coast Guard, residential condominiums, retail and restaurant uses, two private marinas, and offices.

Moving west to east, the Central Waterfront includes Deakes’ Wharf, Sturdivant’s Wharf, Holyoke Wharf, Berlin Mills Wharf, Hobson’s Pier, Gulf of Maine Research Institute/US Coast Guard, Portland Fish Pier, Merrill’s Wharf, Union Wharf, Widgery’s Wharf, Chandler’s Wharf Condos/Fisherman’s Wharf, Long Wharf/Dimillo’s, Portland Pier, Custom House Wharf, and the Maine Wharf. The Portland Fish Pier is an anchor of the ground fish and fish processing industry in Maine. There are approximately 2,500 feet of berthing space provided for home port berthing as well as transient vessel berthing, repair space, vending for fuel and ice, and a net repair/gear yard.



Approximately 300 commercial fishing vessels regularly use services provided at the pier. 150 of these call Portland their home port.

Marine industries occupying the Fish Pier include five fish processing/wholesale facilities, a lobster bait distributor, an ice/fuel vendor, a metal fabricator, and the Portland Fish Exchange, a landing facility and live auction. The Portland Fish Pier is owned and managed by the City of Portland and governed by the Portland Fish Pier Authority. Fish processing and wholesaling on the pier takes place in several private businesses located on leasehold lots. There are currently two vacant lots on the Fish Pier with the potential to site new or expanded seafood processing/distribution businesses.

The Central Waterfront is home to several 1980s era residential developments, many restaurants, and growing tourism-related retail and tour businesses. Located adjacent to the historic Old Port retail district, the Central Waterfront has become a marquee destination for tourism in Portland.

#### **Western Waterfront**

The Western Waterfront is dedicated to freight and industrial uses that need access to the deep water of the harbor's maintained dredged channel, with a mean low water depth of 35 ft. The Western Waterfront serves as the transition between the federally maintained 35 foot dredged channel of the Fore River, the national rail system as connected to the PanAm central line, and the interstate highway system at Route I-295.

The recently expanded International Marine Terminal (IMT) anchors the Western Waterfront and contains over 28 acres of land with a 700-foot pier that can accommodate vessels up to 710 feet in length. The IMT is an integrated multi-modal marine terminal concentrating in refrigerated and dry containerized freight. The IMT utilizes a 100 ton mobile harbor crane, and has recently been improved to incorporate rail, truck, and marine operations into a single facility. The IMT is operated by the Maine Port Authority.

Further up the Fore River is the Merrill Marine Terminal, a privately-owned facility with 1,050 feet of berthing space with a 35 foot depth and  $\frac{3}{4}$  acres of wharf space to handle heavy cargo. The terminal provides a complete line of cargo services including stevedoring, stockpiling, accumulation, distribution, warehousing, transfer lashing, re-stowing services, planning, and monitoring. The Merrill Marine Terminal is operated by Sprague Energy and concentrates on forest product break bulk freight and bulk coal.

Between the two freight terminals, the New Yard at Canal Landing is a new full service boat yard under development by Portland Yacht Services, and Ricker's Wharf is a marine construction facility owned and operated by the Cianbro Corporation.

#### **POLICY**

The City began to recognize the vulnerability of its working waterfront status as early as the 1980s. In 1982, a plan titled *Strategies for the Development and Revitalization of the Portland Waterfront* was released. The document spurred the creation of a new, mixed use, W-1 zone to include four piers, and a W-2, or "working waterfront zone" for the area between Long and Deake's Wharf and



**APPENDIX:**  
**WATERFRONT**

east of the Maine State Pier. While intended to balance marine industry and mixed-use developments, the W-1 zone permitted residential development, leading to displacement of traditional uses and the 1987 non-marine use moratorium. Over the next two decades, additional planning and infrastructure changes would continue to evolve zoning along the waterfront.

The 1992 Waterfront Alliance report not only recognized that diversity and the maintenance and growth of waterfront infrastructure were the keys to the long-term stability of the waterfront. It also identified Portland's waterfront as a significant regional and state economic force, and stressed the need to protect the waterfront from further development pressure from non-marine uses with a thoughtful balanced approach. The following general goals were identified in the 1992 plan:

- Preserve the entire perimeter of the harbor from Tukey's Bridge to the Veterans Memorial Bridge for berthing.
- Recognize that property with direct water access is limited and should be reserved exclusively for marine use.
- Allow marine compatible use of other property that does not interfere in any way with the activities of water-dependent users.
- Divide the waterfront into four zones that reflect the type of berthing or land use that each zone can accommodate.
- The alliance believes that the City should renew its commitment to promoting public access to the port for the benefit and enjoyment of its citizens and continue to insure ecological safety through the promotion of environmentally sound practices.
- In addition to economic assistance and public/private partnerships, the report stated that zoning policies would serve as an essential tool to achieve long-term goals.

Currently, there are three waterfront zones within the City's zoning ordinance: The Eastern Waterfront Port Zone, Waterfront Central Zone, and the Waterfront Development Port Zone. All three expressly prohibit uses that have an adverse impact on existing and future marine development activities, identify permitted and conditional uses, and include performance standards consistent with the goals outlined in 1992 plan.

### **Waterfront Port Development Zone**

The Waterfront Port Development Zone (WPDZ), which corresponds roughly with the Western Waterfront, exists to ensure the continued viability of the Port of Portland. In the WPDZ, waterfront land with direct deep water access is restricted to uses which contribute to port activity. Uses in the port development zone, while governed by the same performance standards as other industrial zones, are limited to those uses which are dependent upon deep water and which contribute to port activity. Non-marine industrial activity is conditionally allowed in the WPDZ to the extent that it will not preclude or impede existing or future water-dependent development.



## APPENDIX: WATERFRONT

### **Waterfront Central Zone**

The goal for the Central Waterfront is to achieve a balance where non-marine economic development benefits the piers, Commercial Street, the waterfront, and the City by sustaining marine infrastructure, protecting opportunity for commercial marine activity, and promoting appropriate access by the public to views and activities in Portland Harbor. The Waterfront Central Zone (WCZ) is designed first to protect and nurture existing and potential water-dependent uses, and secondly to encourage other marine-related uses. Compatible non-marine uses are encouraged in the zone, and considered beneficial to the overall waterfront economy, provided they do not interfere with water-dependent and marine-related uses. New residential development is not permitted.

### **Eastern Waterfront Port Zone**

The Eastern Waterfront Port Zone's (EWPZ) intent is to nurture deepwater dependent activity within the context of downtown and surrounding, established neighborhoods. The EWPZ provides for Portland's marine passenger industry and supporting infrastructure, such as piers and circulation areas, and supporting services that enable safe, convenient travel experiences for users of marine passenger facilities. In addition to its emphasis on marine-passenger services, it allows marine commercial uses such as marinas and marine-related storage; seafood processing, wholesaling, and shipping; and ship repair and fabrication. Permitted non-marine uses that complement the marine passenger industry, that are compatible with existing and future water-dependent uses, and that provide opportunities for residents and visitors to enjoy the Eastern Waterfront are also permitted. The EWPZ contains standards to prevent any use from being permitted that would have an adverse impact on marine uses. Shallow draft areas and areas not suited for deepwater marine passenger use should promote smaller craft berthing and public access to the water.

### **B-6, Eastern Waterfront Mixed Zone**

The B-6 zone, running from Hancock Street eastward to encompass the Portland Company site along Fore Street, is the zoning district for the upland portion of the Eastern Waterfront area. The B-6 zone encourages this district to acquire a distinctly urban form through development that emphasizes a quality pedestrian experience, and promotes public transit, neighborhood connectivity, and excellent urban design. The zone promotes a range of uses to achieve urban vitality and shared use of parking infrastructure as recommended in the *Eastern Waterfront Master Plan* for redevelopment adjacent to the EWPZ. In addition to residential, retail and office uses, and a host of other activities to be expected in an urban, mixed-use zone, marine-related uses such as wholesaling and retailing of marine products, harbor and marine supplies and services, chandlery and ship supply, and underground marine fuel storage are permitted.

## **RECENT PLANNING INITIATIVES**

### **Eastern Waterfront**

The *Master Plan for Redevelopment of the Eastern Waterfront* was originally drafted in 2002, adopted into the City's Comprehensive Plan in 2004, and amended to include a policy statement for the Maine State Pier in 2006. It was informed by an extensive public process, seeks to integrate



**APPENDIX:  
WATERFRONT**

the Ocean Gateway Passenger Terminal with the surrounding area, and includes design guidelines, a building height study, and a buildout scenario. It lays a framework for improving pedestrian safety, traffic management, and open space, as well as calls for zoning that facilitates growth and prosperity, with the areas along the water prioritizing marine uses and areas away from the water allowing mixed-uses. It identifies five adjacent “impact areas,” including Munjoy Hill, India Street, the Old Port, Commercial Street, and the islands. It also includes a statement of principles and objectives that promote the development of land use policies pertaining to the character and impacts of development, the creation of a mixed-use urban area, maritime uses, and economically responsible development.

Building on this effort, in 2016 the City’s Economic Development Department headed the creation of an *Eastern Waterfront Integrated Work Plan*. The plan identifies existing and future planning and development projects that implement the goals of the 2002 plan, including the Portland Company integration, Amethyst Lot open space and railway design, Maine State Pier circulation and CBITD integration, Portland Ocean Terminal building reuse, Ocean Gateway queuing lines, and the construction of a new pier.

**Central Waterfront**

In 2009, twelve Central Waterfront commercial pier owners submitted a zoning amendment application for consideration by the Planning Board. In the amendment, the pier owners requested that the City consider relaxing some of the current zoning protections to allow more diverse uses and thus increased that economic activity and revenue. An extensive public process resulted in an updated set of comprehensive plan policies intended to reaffirm the harbor’s historic role as an economic center and stabilize the zone’s infrastructure for continued commercial marine activity. Zoning changes reflecting these updates were approved by the City Council in 2010 and the Maine DEP in 2011. Prior to the 2010 changes, zoning limited new development almost entirely to marine uses with non-marine uses restricted to certain existing buildings and concentrated on upper floors and buildings located near Commercial Street. The 2010 zoning revisions broadened the amount and types of non-marine uses allowed in new or existing space on the piers of Portland Harbor. The amendments intend to allow pier owners to generate more revenue, which supports repair and improvements to pier infrastructure. The amendments created a Non-Marine Use Overlay Zone (NMUOZ) for new non-marine developments within 150 feet of Commercial Street. It expanded permitted uses to include restaurants and retail stores. However, residences remain prohibited. Outside of the overlay zone, pier owners are now able to lease up to 45 percent of their first-floor space to certain non-marine uses, but only after marketing that space to marine uses in targeted maritime media.

When passing the 2010 zoning, the City Council required that the City conduct a periodic inventory of uses to understand the new regulation’s impacts on marine industry and investment on the piers. In June 2011, the Portland Planning staff submitted the baseline inventory report as a communication to the City Council. It reflects a total of building footprints of 371,000 square feet of leasable space. This number includes the removal of un-leasable space such as hallways, trash



**APPENDIX:  
WATERFRONT**

and mechanical areas, and common spaces such as lobbies, and shows that approximately 75% of all the zone's ground floor space is available to marine uses, and 10% of this is actually vacant. The 25% remaining that is considered non-marine ground floor space is mostly the result of the large footprint of the Chandler's Wharf condominium complex. There is 966,000 square feet of open space (22 acres) located outside of the NMUOZ after subtracting driveways and building footprints. 9% of this space is vacant, mostly comprised of the open space on the Gulf of Maine site. 84% of open space is available to marine uses.

The demands of the Central Waterfront, and the pressures of adjacent uses, are varied, from east to west through this zone. The area has seen substantial privately-funded economic development, with much of the zone's land and pier area poised for additional development, but waterfront infrastructure repairs and maintenance remains costly and necessary. At the same time, decreasing water depth at the piers due to continual natural deposition of sediments is exacerbated by storm water overflows into the harbor. Maintenance dredging will be needed to ensure quality commercial berthing opportunities for public and private piers and it is unlikely that berthing revenues alone will support these costs. There will also be a need to continually evaluate the balance and viability of the unique mix of uses in the zone.

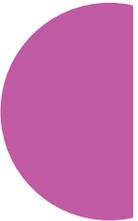
**Western Waterfront**

The Western Waterfront is slated for new investment and expansion. The *West Commercial Street Multi-Modal Corridor Study*, intended to design multi-modal improvements to safely accommodate all modes of transportation while sustaining marine-industrial uses and promoting mixed-use development along Portland's Western Waterfront, was completed in 2016, and strove to balance sometimes competing right-of-way needs of this unique area. Also in 2016, the Maine Port Authority was awarded a \$7.5 million grant for improvements to the International Marine terminal, which will assist in doubling the cargo freight capacity of the terminal.

**Dredging Initiative**

Natural and human influenced sediment build up is a significant issue in Portland Harbor, as decreased depth in channels and berthing areas limits the capacity of the port and degrades access to berthing resources. While the federal channel is dredged regularly by the U.S. Army Corp of Engineers, pier and anchorage owners are responsible for maintaining berths and access areas. Complicating the issue, human influenced sedimentation, including urban stormwater, combined sewer overflows, and legacy industries, often leave sediments with contaminants. Perceived and known contamination of harbor bottom sediments is a dominant barrier to dredging the piers and berthing areas in Portland Harbor.

As a means to address both the pollution and the loss of berthing, the State of Maine DOT has funded a City-managed study to site, design, and permit a Contained Aquatic Disposal (CAD) cell in Portland Harbor. A CAD, an excavated and capped depression in deep harbor bottom sediments, is seen as the most effective and cost effective method to responsibly dispose of polluted material in need of dredging. The City's efforts are tightly coordinated with the Harbor Commission's Brownfield Assessment project. The planning for a Portland Harbor CAD cell is supported by pier



**APPENDIX:  
WATERFRONT**

owners, the Maine DOT, Maine Port Authority, the Portland Harbor Commission, the Casco Bay Estuary Partnership, and the City of South Portland. The process additionally benefits from the active participation of state and federal regulators, the Friends of Casco Bay, the Maine DMR Lobster Commission, and the Maine Lobsterman’s Union.

**EXISTING CONDITIONS AND TRENDS**

**Port Cargo Operations**

The Port has a main channel mean-low-water depth (MLW) of 35 feet, and a collection of terminals capable of accepting all forms of cargo, including project, containerized, bulk & break bulk, and petroleum. There are approximately 20 wharfs, piers, and docks on the Portland side of the port, with almost as many on the South Portland side of the Fore River. South Portland focuses primarily on petroleum, with seven terminals and a total storage capacity of 8.6 million barrels. It is also the Atlantic terminus pipeline for shipments of crude oil to Montreal and Ontario. Portland accommodates a diverse variety of uses such as cargo, passenger and ferry, and commercial fishing operations. According to the Maine Port Authority, the Port of Portland accounts for 3,700 jobs and generates more than \$101 million in annual income.

**Top 10 Countries for Exports From Portland, Maine (Port) - 2015**

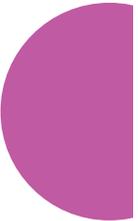
Rank		% of Total
1	Netherlands	27.6%
2	Iceland	17.2%
3	Canada	14.4%
4	Philippines	6.1%
5	Australia	5.5%
6	China	4.3%
7	Turkey	3.6%
8	Israel	3.4%
9	Singapore	3.3%
10	United Kingdom	2.4%

*Top 10 Countries Total* 87.7%

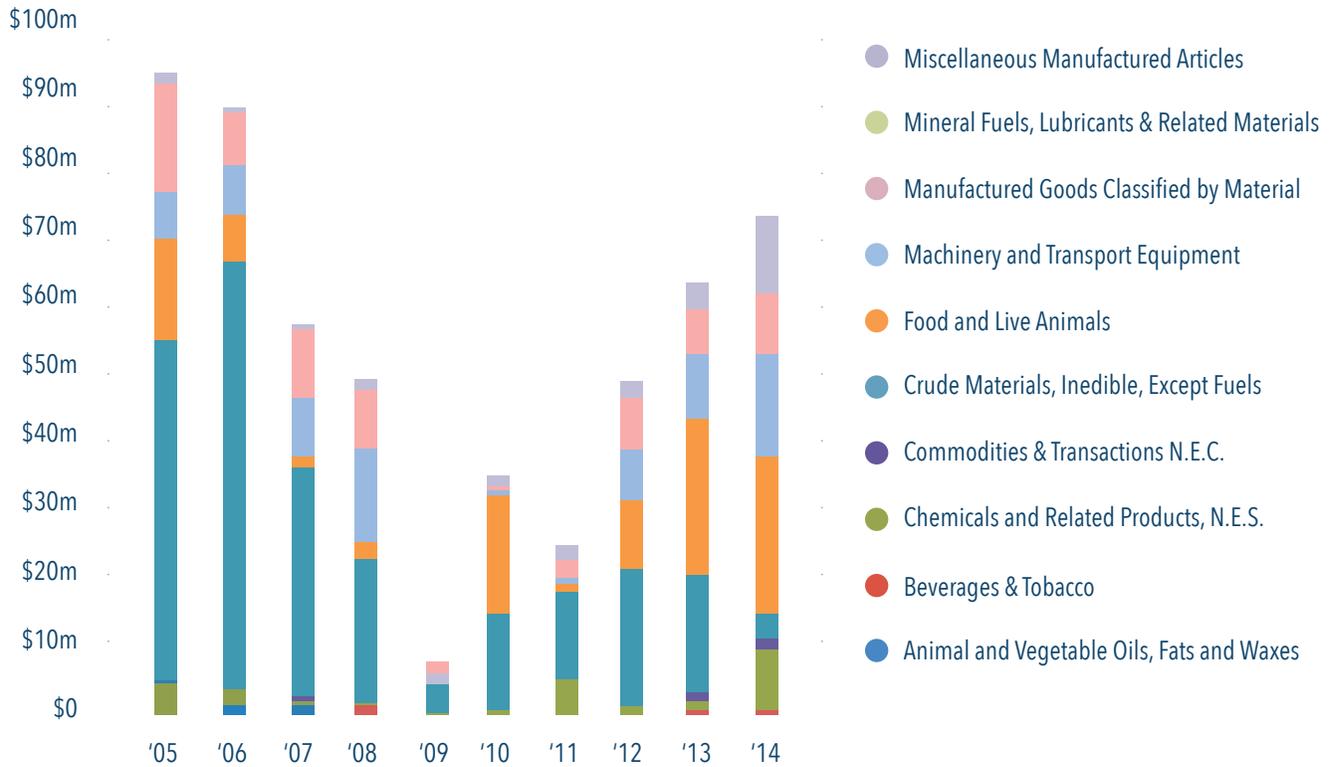
*World Total* 100%

*Source: U.S. Census Bureau, USA Trade Online*

In 2016, the state’s economist presented data representing the value of various marine exports generated from the Port of Portland between 2005 and 2014. Food and crude materials rank consistently as the two highest value marine exports from Portland. In 2009, there was a sharp decline in exports, about 26% between 2008 and 2009. Undoubtedly, this decline was related to a significant decline in food exports during the 2008 recession. However, the food export industry rebounded promptly in 2010 and has been growing ever since. Investment in the port, and particularly the arrival of Eimskip at the IMT, has played a significant role in this growth.



**Shipping Value of Marine Exports, Portland**



Source: U.S. Census Bureau, USA Trade Online

There are two terminals in Portland that move significant volumes of freight: the Merrill Marine Terminal and the International Marine Terminal (IMT). Merrill is located alongside the Veterans Memorial Bridge, and IMT is adjacent to the Casco Bay Bridge. Both have direct rail connections on site. Merrill moves mostly bulk and break bulk cargo, while IMT focuses on container freight. Between 2011 and 2015, the port, including South Portland and Portland terminals, experienced sharp growth in both break bulk and containerized categories, while petroleum and liquid bulk fell significantly. Containerized shipping has seen the most significant gain.



**APPENDIX:  
WATERFRONT**

**Port of Portland – Cargo by Type (Short Tons)**

Year	Containerized	Break-bulk (b) Bulk	Liquid Bulk	Petroleum
2011	8,296	409,457	723,418	95,969,339
2012	5,523	428,627	658,165	91,390,918
2013	102,132	318,716	658,443	86,279,965
2014	161,385	538,404	345,433	59,602,708
2015	177,548	621,966	351,275	55,816,842

**Port of Portland – Containers by Type (Short TEUs\*/Boxes)**

Year	Inbound Loaded	Outboard Loaded	Empties	Totals
2011	345/257	337/169	200/100	882/526
2012	191/160	82/41	56/28	329/229
2013	3286/1716	1683/902	1803/943	6772/3561
2014	5513/2961	3175/1728	2823/1560	11,511/8,011
2015	6242/3399	3535/1591	2978/1649	12,755/6,639

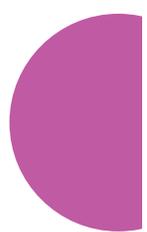
*\*Note: “TEU” is a “Twenty-foot Equivalent Unit.” Shipping containers are typically either 20 or 40 feet long with a single 40-foot box totaling two TEUs. The majority of containers moved by Eimskip are 40 units.*

*\*Source: Maine Port Authority*

Eimskip, the IMT’s newest tenant, primarily ships frozen and chilled fish to the United States from Newfoundland, Iceland, and northern Europe, as well as food products, including frozen lobster, from Maine to Europe. After beginning service in 2013, Portland is now Eimskip’s only U.S. port-of-call. Prior to Eimskip’s arrival, Portland had been without a container service for nearly a year, and it had been nearly 33 years since containers had been shipped to Europe from the port.

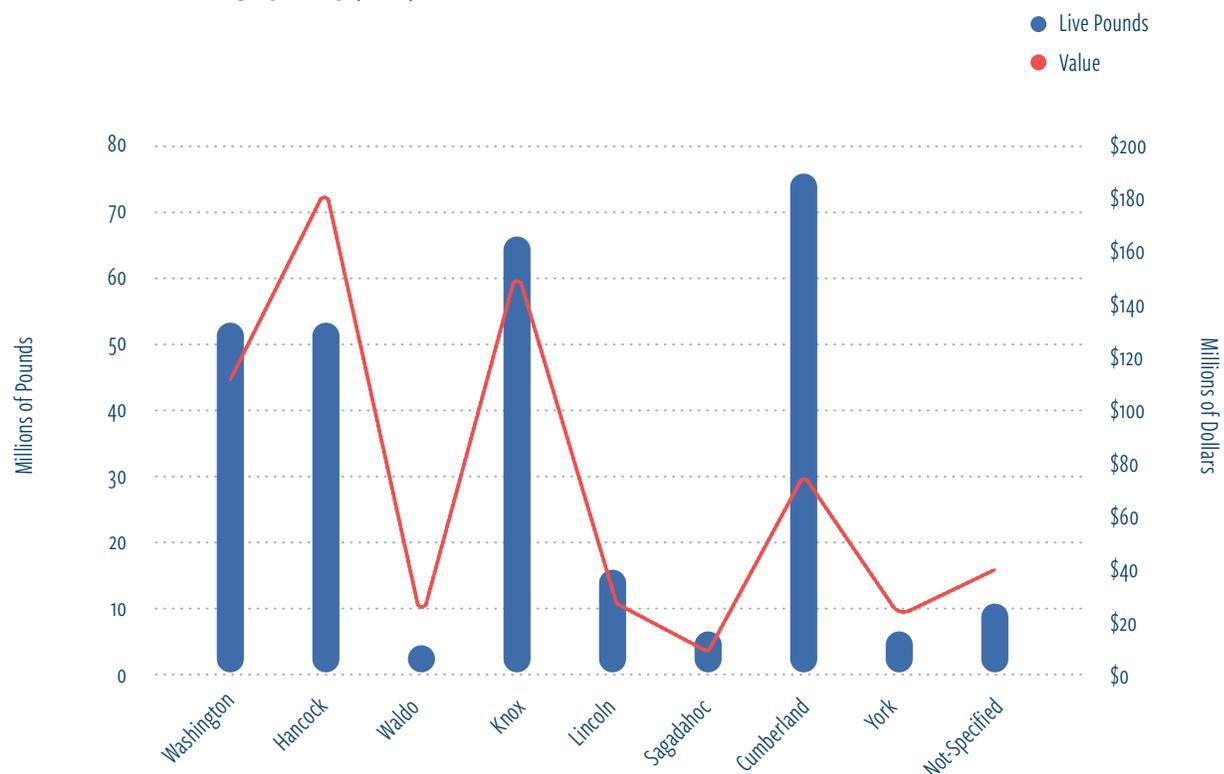
**Seafood Industry**

Portland’s waterfront supports a significant fishing industry, with both public and private docking and mooring facilities, and direct sales to dealers, processors, and local retailers. According to the annual National Marine Fisheries Service (NMFS) yearbook of fishery statistics for the United States for 2014, Portland landings were about 62 million lbs., with a value of \$32 million in 2013. In 2014, the volume fell slightly to 57 million lbs. but the value remained constant. Over the past five years, Portland has consistently ranked 2nd or 3rd in the state in total ex-vessel value, behind only



the state’s leading lobster fishing ports. Statewide, lobstering is at historic levels for landings and value, while general trends in groundfish have been down significantly, and herring and other species landed in Portland have been stable with increasing values. The once lucrative winter shrimp fishery has been all but eliminated by shifting stocks and responding federal regulations.

**Maine Commercial Landings by County (2015\*)**



\*Updated 2/19/16 – 2015 data are preliminary  
 Source: *Maine Dept. of Marine Resources*

**Groundfish Industry**

The fishing industry is complex and unpredictable. Regulation, weather, and the larger economy can have a major impact from year to year, making it a challenging way to make a living. In Maine, the last 30 years have brought significant change to the industry. Due to international boundary changes that made the northeast corner of Georges Bank off limits for Maine fisherman, the southern Gulf of Maine has become more popular. Proximity to these productive fishing grounds, and accessibility to distribution and processing, has made Portland more attractive to fishermen than other ports throughout Maine. However, aging infrastructure and an unpredictable regulatory environment continues to be a challenge to the long term stability of the industry in Maine.

The Portland Fish Pier is the center of Portland’s commercial fishing activity, and is operated by the Fish Pier Authority (FPA) under a 60-year lease with the City of Portland. The pier was constructed on 15 acres of City-owned land in 1983. The pier’s terminal has approximately 2,500 feet of berthing



### Total Weight of Fish Sold at Portland Fish Exchange (Thousands)

Total for 2015: 2,966,796



Source: Portland Fish Exchange

space that is provided on an annual lease basis and can accommodate vessels up to 80 feet in length. Currently, the Portland Fish Pier is the home of four fish processing facilities, including the Portland Fish Exchange. The Exchange holds year-round daily auctions of fresh fish and seafood, services approximately 300 vessels, and provides a complete line of services. Recognized throughout the fish and seafood industry as a leader in innovation, quality and integrity, the Portland Fish Exchange plays an important role in supporting the commercial fishing industry and handles roughly 90 percent of the groundfish that passes through the port. The auctions are the only public fish and seafood auctions in New England. However, the Portland Fish Exchange is a critical part of the industry's infrastructure. \$1 million in critical upgrades were made to the facility last year with funding from a \$100 million transportation bond approved by Maine voters in 2013.

As of 2014, five million pounds of fish move through the facility annually, down from approximately 30 million in the early 1990s, reflecting a decline in the Maine groundfish industry over the past decade, with the state's cod catch declining from nearly 2.4 million pounds in 2004 to 286,299 pounds in 2013, and haddock falling from more than 2.2 million pounds to 132,030 pounds in that same period.



**APPENDIX:  
WATERFRONT**

**2011-2015\* Top Ten Ports By Ex-Vessel Value (Millions of Dollars)**

2011		2012		2013		2014		2015*	
Stonington	47.82	Stonington	47.20	Stonington	48.94	Stonington	60.31	Stonington	63.80
Portland	27.92	Portland	35.15	Portland	31.79	Vinalhaven	35.67	Vinalhaven	39.57
Rockland	23.50	Vinalhaven	28.25	Vinalhaven	30.69	Portland	31.42	Portland	34.03
Vinalhaven	17.30	Rockland	14.72	Beals	15.15	Beals	22.12	Friendship	21.39
Friendship	15.15	Friendship	14.17	Friendship	14.93	Rockland	19.10	Beals	20.69
Jonesport	12.83	Jonesport	12.74	Rockland	14.89	Friendship	17.98	Rockland	17.37
Beals	11.74	Beals	11.46	Jonesport	11.38	Spruce Head	14.68	Spruce Head	15.71
Spruce Head	11.02	Port Clyde	9.62	Spruce Head	11.37	Jonesport	14.09	Jonesport	13.41
Milbridge	9.08	Spruce Head	9.56	Port Clyde	9.22	Sthwst Harbor	10.84	Swans Island	11.15
Port Clyde	8.25	Milbridge	8.75	Cutler	9.04	Milbridge	10.38	Milbridge	11.12

*\*2015 data and preliminary updated 2/19/16  
Ex-Vessel Value is value of catch at time of landing.*

**Shellfish and Aquaculture**

Due to water quality issues and regulations, shellfish harvesting has not been an active industry in Portland Harbor for several decades. The state’s Department of Marine Resources has restricted shellfish harvesting in “Area 13,” which encompasses Cape Elizabeth to Falmouth, including Portland waters. Given the DMR restrictions, Portland has not adopted shellfish harvesting rules. Should areas within Portland open to harvesting in the future, the City would need to adopt and enforce a shellfish ordinance consistent with state and federal regulation.

Although shellfish harvesting and farming is not allowed in Portland waters, commercial aquaculture is beginning to take hold within southern Casco Bay. Aquaculture is the farming of aquatic organisms such as fish, shellfish, and plants such as kelp and other seaweeds. The term aquaculture refers to the cultivation of both marine and freshwater species and can range from land-based to open-ocean production. Kelp aquaculture has gained press recently in Maine. It is a billion dollar a year industry worldwide, and is considered sustainable, requiring no fresh water, fertilizer, or arable land. Although several leases are pending for such activity in Casco Bay, the proposed farming sites are not within Portland City limits. However, it is likely the industry will access Portland marine infrastructure and related industries. Currently, several aquaculture operations use the private piers in Portland harbor as a base for vessel berthing, processing, gear storage, product storage, and wholesaling. With challenges to groundfish and shrimp harvesting, aquaculture provides an important hedge against future reductions in wild species harvesting.



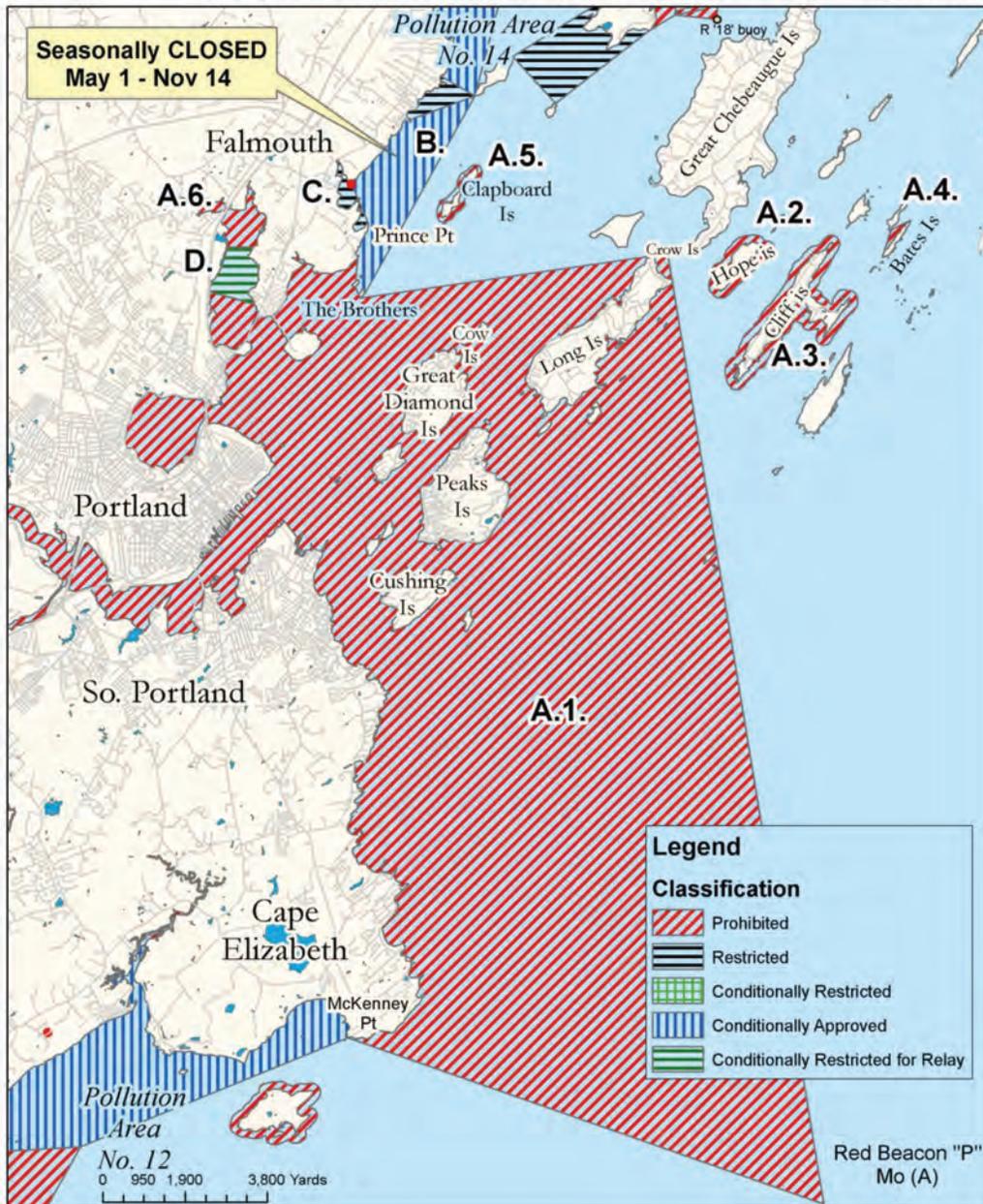
## Maine Department of Marine Resources

### Pollution Area No. 13

Western Casco Bay and Islands (Cape Elizabeth to Falmouth)



August 8, 2014



OFFICES AT 2 BEECH ST., BAKER BUILDING, HALLOWELL, MAINE

<http://www.Maine.gov/dmr>

PHONE: (207) 624-6550

FAX: (207) 624-6024



**APPENDIX:  
WATERFRONT**

### Lobster Industry

The lobster industry, much like the fishing industry, is cyclical. Typically, increasing lobster supply lowers prices. Lobster supply can vary sharply depending on weather patterns, and this variability may worsen with climate change in the Gulf of Maine. In general, Maine’s industry is stronger than in southern New England because warming water temperatures are causing lobsters to migrate north, increasing supply, especially Downeast. The reduction of the southern New England market has increased the value of lobsters in Maine. Although statewide catch numbers are steady around 120 million lbs. over the last few years, values are rising and fuel prices have fallen, creating a welcome boon for lobstermen.

From the Port of Portland, lobsters are shipped to Canada for processing and throughout Europe and Asia. According to the Department of Marine Resources, commercial lobster landings for 2015 in Cumberland County were almost 12 million lbs., or \$51,542,318 in value, representing about 10% of the state total. Harpswell, located at the northerly end of Casco Bay, generates a significant percentage of the Cumberland County landings.

In 2010, 100 lobster boats berthed at piers within the Central Waterfront. Each lobster boat is a marine business generating employment and economic activity. While the level of lobster harvesting in Portland is important locally, the waterfront is equally or more important as a regional service center for the industry. Lobster support businesses occupy a significant portion of the Portland waterfront. The lobster industry has become the foundation of fishing activity in Portland Harbor, including lobster buyers, lobster pounds, bait services, trucking, gear sales, and vessel repair.

### Cumberland County Lobster Landings

 <b>Pounds</b>	2013	12,193,758	 <b>Value</b>	2013	\$39,113,119
	2014	11,870,269		2014	\$46,778,963
	2015	11,927,893		2015	\$51,542,318

### Ferry And Cruise Ship Operations

Portland’s waterfront is a transportation hub, providing both local and international ferry connections, charters and recreational boating access, and linking passengers and commuters to METRO bus service that connects to the Downeaster and the airport. Portland is also emerging as a major stop for cruise ship traffic, bringing an infusion of tourist spending and foot traffic throughout the City. Cruise ship companies and passengers spent more than \$46.1 million in Maine in 2013, up by \$1 million from 2012. The industry is also generating new jobs, with 747 new jobs (\$25 million of cumulative income) generated in 2013.

Marine passenger service is likewise important for local communities, including Portland’s islands. Local ferry service to the Casco Bay Islands provides a critical link to year-round and summer communities on seven islands within three municipalities. The Casco Bay Island Transit District



**APPENDIX:  
WATERFRONT**

(CBITD) provides vast majority of local ferry service in Casco Bay with stops within the City of Portland (Peaks, Little Diamond, Great Diamond, and Cliff Islands) and at the towns of Long Island and Chebeague Island. A small private ferry serves the residents of the summer community at Cushing Island.

**International Ferry**

A Canadian subsidized private international ferry ran between Yarmouth, Nova Scotia and Portland from the late 1960s until 2009. Service was suspended in 2009. Recognizing the need to support tourism in southern Nova Scotia, a new contract was signed with NovaStar Cruise Lines in 2014. However, the Nova Star service was closed in 2015. Following a public procurement process by the Province of Nova Scotia, a new ferry operator was selected to pick up the route for 2016 and beyond. As of June 15, 2016, a new high speed ferry, the Cat, began the daily 212 mile trip as operated by Bay Ferries, a Canadian company. The “CAT” service has a 800 passenger capacity, and holds up to 280 cars. The Nova Scotia government will provide a subsidy of just under \$33 million (Canadian) over two years, according to a 10-year agreement. The ferry is 349 feet long; considerable smaller than the previous ferry. Its maximum speed is 40 mph. Bay Ferries projects ridership within the first two seasons at +/-60,000 passengers per year, but ridership will likely be modest as the service regains its market share.

International ferry shares the Ocean Gateway complex with cruise ship and event operations. As a car ferry operation, the Ocean Gateway terminal needs significant paved areas to support on-site vehicle queuing and US Customs inspections.

**Cruise Ships**

In 2005, a study was conducted on the cruise ship industry in Portland and Bar Harbor. The study stated that Portland hosted over 40,000 cruise ship passengers in 2001 and 2002, up from about 14,000 passengers in 1999. Portland welcomed 45,225 cruise ship passengers in 2005. According to the Maine Port Authority, in 2011 that number nearly doubled to 83,779, and although passenger figures dipped during the Great Recession, they have rebounded in recent years.

<b>Year</b>	<b>Cruise Ships</b>	<b>Cruise Passengers</b>	<b>Total Vessel Traffic</b>
2011	62	83,779	461
2012	85	70,828	381
2013	58	73,861	445
2014	65	79,541	616
2015	84	94,191	572
2016	76	102,004	-

Cruise ship operations take place at both the Ocean Gateway terminal and the POT. During any significant visit, not only are the streets around the waterfront busy with tourists, the streets and paved areas around the Eastern Waterfront fill with excursion buses, taxis, and service vehicles



**APPENDIX:**  
**WATERFRONT**

needed for cruise ship operations. Cruise ships are large ocean going commercial vessels that have become a welcome component of the Portland working waterfront. Support industries benefiting from the cruise industry include stevedores, ships agents, chandleries, fuel sales, and excursion tour services. The port sees greater ancillary economic benefit from home port cruise operations (ships that originate and terminate in Portland) than port-of-call visits (ships stopping for the day.) The City has established goals to increase the span of the cruise season, which now concentrates in September and October, into the late spring and early summer months and increase home port operations.

**Casco Bay Island Transit District**

The Casco Bay Island Transit District (CBITD) is a quasi-municipal, non-profit corporation established in 1981. The service provides year-round passenger, freight, postal, and vehicle service to several islands in Casco Bay. CBITD's 2016 operating budget was over \$6.8 million, which includes a small amount of financial support from the Federal Transit Association and the State.

The existing CBITD terminal was built in 1988 on Maine State Pier. It was intended to serve year round and summer residents, and a substantially smaller number of vacationing day trip passengers. By 2011, the ferry service provided over a million trips annually, nearly double the number the terminal was designed for in 1980s. In August 2014, Phase 1 of the new terminal renovation and expansion was completed, with additional money received for Phase 2 of the project in 2015 from USDOT. The facility is located on the western edge of the Maine State Pier.

**Transient And Recreational Berthing**

There are several marinas along the Portland waterfront and on the islands that welcome transient vessels. Most marinas provide seasonal and transient dockage, moorings, and some also provide fuel, pump outs, and other facilities such as cable hook ups.

Portland Yacht Services offers 18 moorings and dock space for transient customers. The floats, with water and pump-outs, can accommodate vessels to 120 feet with depths to 20 feet. PYS handles major restoration and repair projects to wood and glass boats, including hull, engine, outboard, rigging, and electrical work, and they have an extensive engine parts department. Berthing is located on the Eastern Waterfront associated with the Portland Company development and the marina is anticipated to expand significantly in the near future.

The Portland Fish Exchange manages a 175 foot transient service slip at the DiMillo's Old Port Marina, which has gas, diesel, water, pump-outs, ice, cable television hookups, and electricity to 50 amps. Piling breakwaters protect 125 slips with room for 8-21 transients. The marina can accommodate vessels to 200 feet on the faces of their outer floats. The marina sells fuel and necessities at a marine store, and has showers and laundry facilities. DiMillo's is a Coast Guard-approved 105 secure facility capable of receiving ocean going vessels from international waters. Jones Landing Marina on Peak's Island offers restaurant parking only and no transient parking. Peaks Island Marina has room for more than fifty boats with depths from 35 feet at the outside to 10 feet closer inshore. Gas is available at the floats, but not water.



Diamond Cove Marina offers slips with water, electricity, and pump-outs available.

Chandler's Wharf Private Marina provides private berthing to +/-75 slip owners at the Chandler's Wharf condominium complex in the Central Waterfront.

## **Recreational And Public Access**

### **Public Landing Facilities**

Landings provide public access at several locations along the Portland waterfront and islands:

- On Maine State Pier, the City manages 135 feet of two-hour tie up public floats as well as a pickup and drop off only float at Buoy Park. The Buoy Park landing is used heavily for water taxi service.
- Public floats are found on all of the developed City of Portland islands, with the exception of Cushing and House Islands.
- The City's only mainland public trailered boat ramp is located at the East End Beach, accessed off Cutter Street. Short term-attended tie up is also available on the floats at the public boat ramp located at the East End Beach, and the Portland Harbor Master manages a 145 mooring berthing anchorage there. These moorings are available to any member of the public with reduced fees for City of Portland residents. There is a waiting list for mooring permits. Lastly, kayaks, paddle boards, and small hand-carried craft have multiple launch and haul options from and around the East End Beach. This area is scheduled for 2017 public access improvements

### **Charters, Water Taxis, and Tours**

Multiple commercial operators along the Portland waterfront provide access to bay and islands for paying customers through a variety of charter and water taxi services.

Two "windjammer" charter companies operate larger sailing vessels from the Maine State Pier. Long Wharf is the home berth for several operators conducting harbor tours, lobster boat tours, deep sea fishing, and private charters. Water taxis, smaller sailing tours, and boat rentals concentrate on Maine Wharf. Multiple other operators, including fishing tours, "Duck" (amphibious vehicle) tours, kayak rentals, and private charters are available on both sides of the Fore River. Water taxi service has become an increasingly popular service for access to the islands, and recently, between Portland and South Portland. The increase in taxi service has intensified use of the City's public landings, Bell Buoy Park in particular.

### **Community Boating**

A number of non-profit entities provide access to the water for youth and the public under a loose association of community boating interests. Significant among these, SailMaine supports community sailing in Maine, offering adult, junior, and special needs programs, including high school competitive sailboat racing. They are located on City land in the Eastern Waterfront and currently gain access to the water through the Portland Company complex. Other community boating partners include Maine Island Trail Association and Tall Ships Portland.



**APPENDIX:  
WATERFRONT**

The East End Waterfront Access Project (EEWAP), currently underway, is looking at facility improvements in at the East End Beach and boat ramp area to expand human-powered boating access. This process is funded by the Maine Coastal Program with contributions from the Friends of Eastern Promenade.

In addition to the EEWAP, the City is looking at a City parcel, the Amethyst Lot, in the Eastern Waterfront, as a potential site to expand the community's options for accessing the ocean. Amethyst Lot planning will take place in 2016/2017.

## **PARTNERSHIPS**

### **Waterfront Alliance**

Formed in the 1980s, the Waterfront Alliance of Portland Harbor promotes education and mutual learning between waterfront interests on both the Portland and South Portland sides of the Fore River. Pivotal in the drafting of current City policies for working waterfront preservation, the Waterfront Alliance continues to provide a forum for marine industries, science, advocates, property owners, and historians to share ideas with each other and the public on the full range of waterfront issues.

### **Maine Port Authority**

The Maine Port Authority oversees the operations and development of transportation infrastructure and multimodal capacity along Maine's 3,500 miles of coastline to insure the success of the state's commercial marine economy.

### **Portland Harbor Commission**

The Harbor Master and Board of Harbor Commissioners are tasked with the management of the waterfronts of Portland and South Portland. They oversee mooring permits, harbor regulations, Maine Boating laws, marine construction, harbor pilotage, and other marine resources.

### **Casco Bay Estuary Partnership**

In 1990, Casco Bay was designated an "estuary of national significance" and included in the U.S. Environmental Protection Agency's National Estuary Program, which was established in 1987 under the Clean Water Act to protect nationally significant estuaries threatened by pollution, development or overuse. The Casco Bay Estuary Partnership's central mission, in partnership with government organizations, non-profits, local businesses, citizens, and universities, is to protect and restore the Bay. They focus on restoring the water quality and fish and wildlife habitat of the Casco Bay ecosystem, and promoting a balance with compatible human uses.

### **Gulf of Maine Research Institute**

The Gulf of Maine Research Institute (GMRI) is located on the Portland waterfront, and works with fishermen and scientists throughout the Gulf of Maine region to provide data and advance collaborative research related to marine ecosystems in the Gulf of Maine. The organization's focus includes science education, fishing industry innovation, and sustainable seafood projects, and GMRI has also taken on a role as fisheries convener, bringing together fishermen, managers, and scientists to find solutions to some of the industry challenges.



### **Friends of Casco Bay**

The organization works to improve and protect the environmental health of Casco Bay. Their work involves education, advocacy, water quality monitoring programs, and collaborative partnerships. Staff members and volunteers have regularly collected water quality data since 1992 along the coast of Casco Bay.

# Economic Resources

Portland is the central city of the most diverse regional economy in Maine, and one of the most diverse in northern New England. The City has the largest population in the state, and with a metropolitan population of over 500,000, the greater Portland region comprises more than one-third of the state's total population. Portland is at once a manufacturing center, a distribution center, a financial center, and a services center. It is a center for each of these not merely in the sense that it has an important firm or two in each given sector; rather, it has achieved a level of specialization that in each case commands a disproportionate share of employment compared with the state as a whole. As such, Portland exerts an extraordinary influence over Maine's economy, out of proportion with its actual size.

Historically, Portland's economy has focused on its waterfront – a center for fishing, shipping, and tourism. In the late 18th century, the port experienced its first wave of significant growth, and the City expanded geographically as well. Portland emerged as a Victorian city after the Great Fire of 1866, and its economy became more diverse as its population began to rise. With WWII, the City refocused on its waterfront resources, becoming a major shipbuilding center, and strategic military post for several more decades. After the war, the popularity of the suburbs and the automobile led to a major shift in Portland's economy, with many people, businesses, and jobs moving to the neighboring communities where land was more affordable and parking more plentiful.

In the aftermath of the great recession, Portland is once again emerging as a magnet for jobs and economic activity. This past year, Portland's job growth kept pace with the nation, and exceeded that of both the region and the state. In the last three years alone, the City has reaped the benefits of \$400 million in combined public and private investment, and has been the focus of \$140 million in planning funds.

## **EXISTING PLANS AND PROGRAMS**

The City is involved in both local and regional economic development efforts. It has an active Economic Development Department (EDD), led by a full time director with three staff. The Department focuses on maintaining and growing a diversified tax base which supports employment opportunities, while positioning Portland to compete in the global marketplace. Through a variety of programs, the Economic Development Department provides assistance to businesses at every stage of development and growth, whether just starting up, expanding, or relocating to the City. In addition to its programming, the City's Economic Development Department is active in planning initiatives with an economic development focus.

The City of Portland also participates in regional economic initiatives. The City is a member of the Greater Portland Council of Governments (GPCOG) Economic Development District, which is responsible for implementing the region's Comprehensive Economic Development Strategy (CEDS) and provides economic planning assistance and funding for individual towns in the Greater Portland region.

In 2014, the U.S. Department of Commerce awarded the Greater Portland region with an Investing in Manufacturing Communities Partnership (IMCP) designation to support infrastructure, enhance workforce development, and provide a more stable market for local food by connecting farmers and

fishermen in Cumberland County with more institutional buyers. The designation provides for preferential consideration among participating federal agencies for grant applications from IMCP designated regions. In this region it will be used to grow the Greater Portland Sustainable Food Production cluster, which has the potential impact of 2,500 jobs and \$400 million in economic benefits for the region.

Another key regional economic development focus is on workforce development and expanding access to the economy. One major initiative spearheaded by Growing Portland in 2014 is to expand access to the economy by identifying key social service agencies and funding sources that can be used to connect unemployed people with jobs.

### **PARTNERSHIPS**

The following groups and organizations play active roles in Portland's economic development initiatives.

- **Portland Regional Chamber of Commerce:** Supports individual, community, and business growth through advocacy, educational opportunities, and professional networking.
- **The Greater Portland Convention and Visitors Bureau:** Promotes tourism and trade shows in the Greater Portland Region.
- **Portland Downtown:** Leads Downtown economic development efforts to support a vibrant and attractive downtown.
- **The Creative Portland Corporation:** Oversees Portland's creative economy efforts, including developing a cohesive marketing strategy and communicating the benefits of the creative economy to the public.
- **The Growing Portland Collaborative:** A joint effort of the City of Portland and the Portland Regional Chamber of Commerce to grow the local economy with initiatives that create jobs, generate investments, and attract young people.
- **The Portland Development Corporation:** Institutes economic development programs in Portland and provides financial assistance to local businesses and industry.
- **The Greater Portland Economic Development Corporation (GPEDC):** A private-public partnership among the Portland Regional Chamber of Commerce, the Greater Portland Educational Alliance, and the communities of Portland, South Portland, Westbrook, Scarborough, Falmouth and Cape Elizabeth, focused upon regional business retention, expansion, and recruitment.
- **GPCOG Economic Development District:** A federally-designated Economic Development District (EDD) that provides economic development planning services and funding for infrastructure projects in 26 communities in Cumberland County.
- **Portland Buy Local:** Supports locally-owned, independent businesses in Portland.
- **Portland Economic Development Plan Implementation Stakeholder Group:** Implements and measures success of the 2011 *Economic Development Plan*.



## **EXISTING CONDITIONS AND TRENDS**

### **Job Profile**

The number of jobs in the City of Portland now outstrips population, making Portland the engine of the largest labor market in Northern New England. For 2014, the most recent year in which data is available, the U.S. Census Bureau estimated a total of 67,648 jobs in Portland, 174,888 jobs in Cumberland County, and 570,417 in the State of Maine. Using these figures, Portland’s job market represents 39% of all jobs in Cumberland County, and 12% of all jobs statewide.

### **Major Local Employers**

According to statistics from the Maine Department of Labor, the top employer within the City in 2015 was Maine Medical Center – the only employer that falls in the 5,000-9,999 employee size category – followed by the City of Portland, UNUM, and the U.S. Post Office, each with between 1,000-4,999 employees. Other major employers, including Advance Pierre Foods, Martins Point Healthcare, and the Portland International Jetport, have between 500-999 employees.

### **Major Employers in the City of Portland**

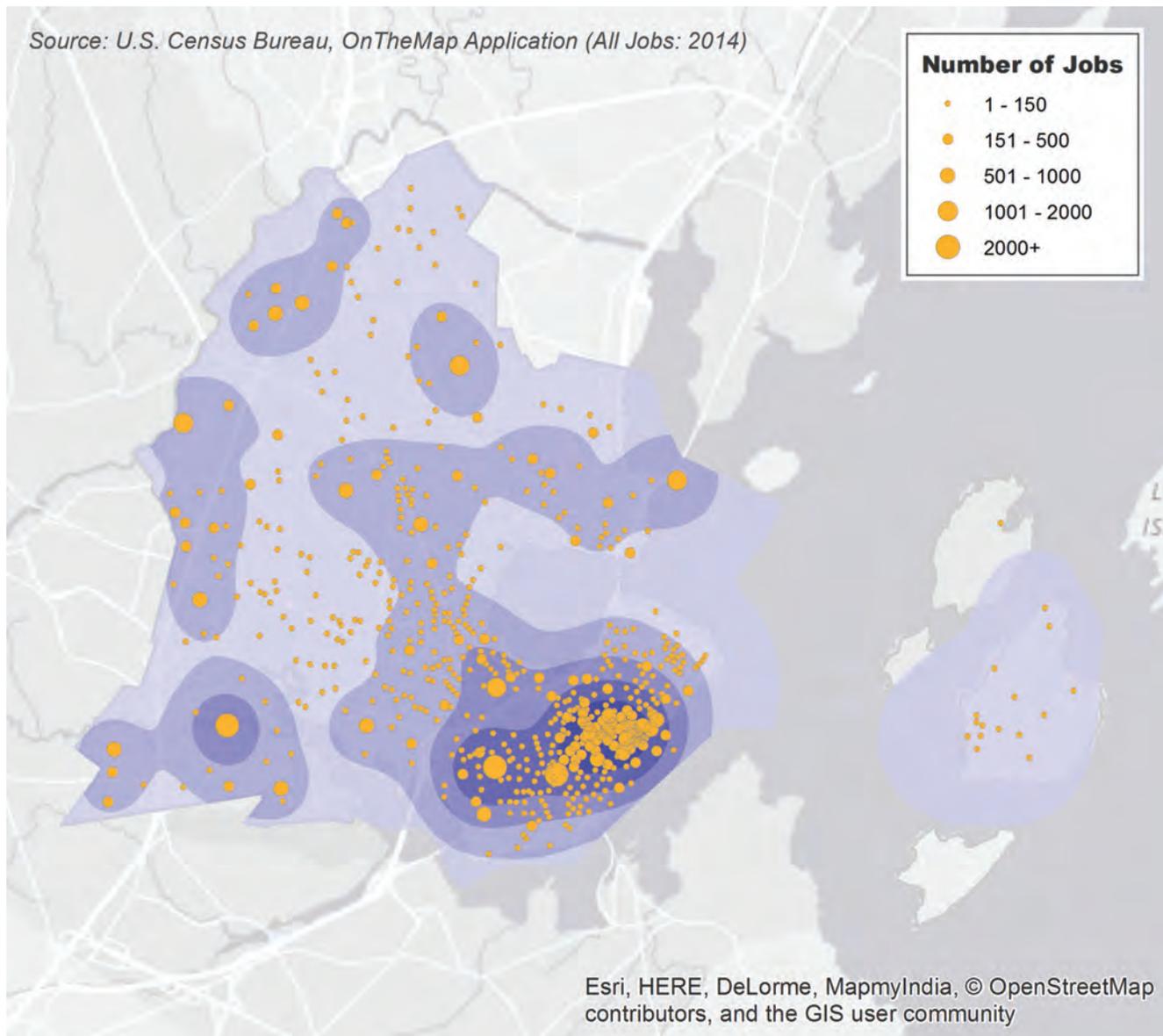
<b>Employer</b>	<b>Employee Size</b>	<b>Employer</b>	<b>Employee Size</b>
Maine Medical Center	5,000-9,999	Blethen Maine Newspapers Inc	500-999
City of Portland	1,000-4,999	CIEE	500-999
UNUM	1,000-4,999	Martins Point Healthcare	500-999
U.S. Post Office	1,000-4,999	Portland International Jetport	500-999
Advance Pierre Foods	500-999	Spurwink Service	500-999

*Source: Maine Department of Labor*

### Major Employment Centers

The vast majority of jobs in Portland are centralized in or near the downtown area, where both major and small employers cluster. Off the peninsula, the next major concentration of jobs occurs in industrial areas accessed by major arterials, such as Outer Congress Street, outer Forest Avenue, and outer Washington Avenue.

### Employment Centers (2014)



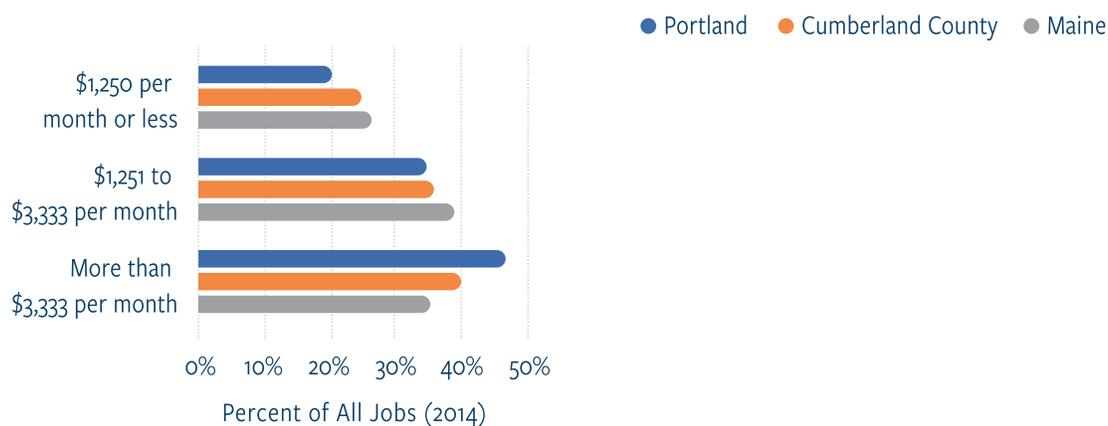
Source: U.S. Census Bureau, OnTheMap Application (All Jobs: 2014)



### Jobs by Earnings

On the whole, Portland tends to have higher paying jobs than the county and the state. This is evidenced by the fact that 46% of jobs in Portland earn more than \$3,333 per month, considerably more than those of the county (40%) and state (35%).

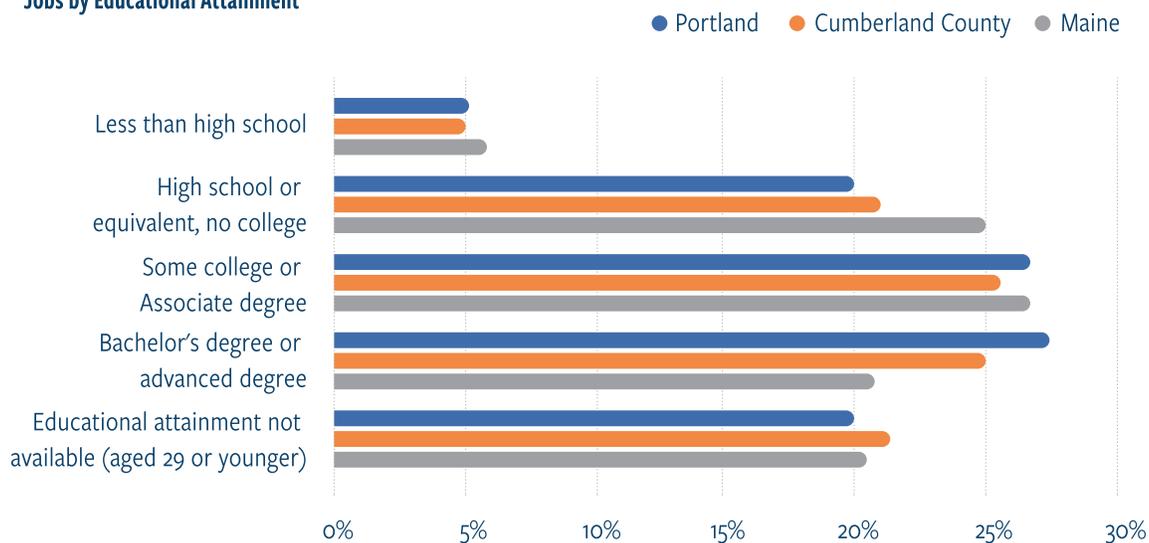
#### Jobs By Earnings



### Jobs by Educational Attainment

Of those who have jobs in Portland, 53% have at least some college experience, an associate, bachelor's, or advanced degree. This figure is again higher than the proportion of college-educated workers in the county (51%) and the state (48%).

#### Jobs by Educational Attainment

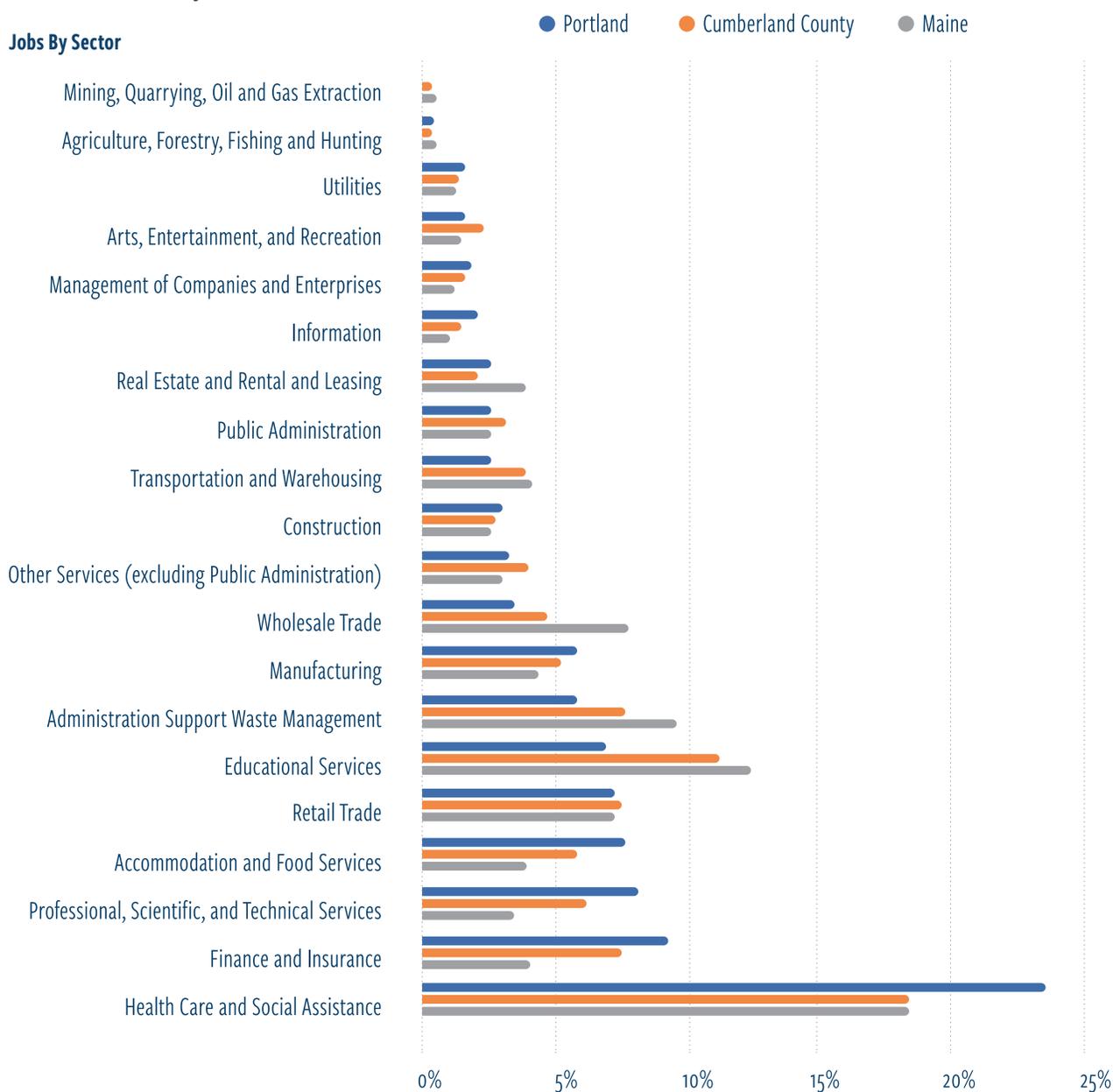




### Jobs by Industry Sector

When broken down by industry, the largest share of jobs in Portland are in the health care and social assistance, finance and insurance, and professional, scientific, and technical services sectors. These sectors have disproportionately higher shares of jobs compared to that of Cumberland County and the state.

#### Jobs By Sector





### Labor Force

The U.S. Census defines labor force as all people classified in the civilian labor force, or “employed” and “unemployed” people, plus members of the U.S. Armed Forces. Thus, labor force statistics refer to the number of residents in a community who are working in any municipality or are not at work at the time of the census, but actively looking for work or available to start a job. The figures do not refer to the number of jobs within the City.

According to the American Community Survey’s 2009-2013 5-year estimate, of the 56,262 people that comprised Portland’s working age population (defined as 16 years and over), 38,812 (69%) were estimated to be in the labor force, while 17,450 (31%) were not in the labor force. Those who are not in the labor force have no job and are not looking for one. Individuals in this category may be in school, retired, or have pressing family responsibilities, among other possible reasons. In total, Portland’s labor force represents about 25% of Cumberland County’s labor force, and roughly 6% of Maine’s labor force. Portland’s labor force participation rate of 69% is similar to the county’s participation rate of 68%, and exceeds the state participation rate of 64%.

### Labor Force Analysis

	Portland	Cumberland County	Maine
<b>Population 16 Yrs and Over</b>	56,262	233,898	1,095,764
<b>In Labor Force</b>	38,812	159,561	700,115
<b>Employed</b>	35,395	149,061	644,764
<b>Unemployed</b>	3,309	10,095	53,864
<b>Unemployed Rate</b>	8.5%	6.3%	7.7%
<b>Armed Forces</b>	108	405	1487
<b>Not in Labor Force</b>	17,450	74,337	395,649
<b>Labor Force Participation Rate</b>	69.0%	68.2%	63.9%

Source: ACS 5-year estimate

### Changes in Labor Force

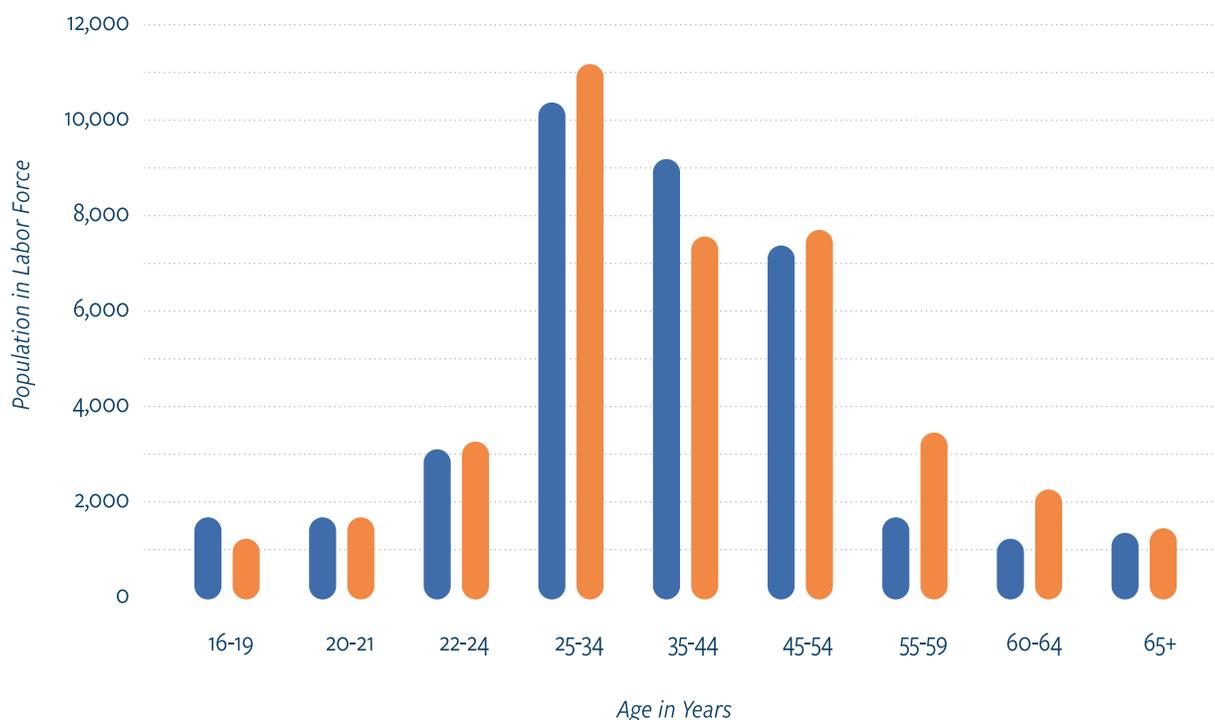
Portland’s workforce continues to age. According to the US Census Bureau, the most significant increases in the working age population since 2000 are among the 45 to 54, 55 to 59, and 60 to 64 age cohorts, accompanied by a decline in the working age population among the 16 to 19 and 35 to 44 age cohorts.

Counter to previous trends, data shows that the working age population aged 25 to 34 has increased since 2000, which may reflect the in-migration of working-age professionals in this age cohort during the first decade of the 2000s.



### Labor Force Participation by Age Group (2000-2013)

● 2000 | Total = 37,003  
● 2013 | Total = 38,812



Source: U.S. Census Bureau

#### Labor Force Commuting Patterns

Data from the US Census Bureau shows that, since the early 2000s, the majority of Portland's labor force has worked in Portland, South Portland, or Westbrook. Over the past decade, the proportion of Portland residents that commute within Portland or to South Portland has decreased while the proportion that commutes to Westbrook has increased. There has also been a gradual increase in Portland residents commuting to jobs in inner ring suburbs, like Falmouth and Scarborough, while the proportion commuting to more distant urban centers and service center communities has remained fairly stable or declined.



**Portland Labor Force Commuting Patterns (2002-2014)**

Live in Portland Work in...	2002		2008		2014	
	Number of Employees	% of Portland Labor Force	Number of Employees	% of Portland Labor Force	Number of Employees	% of Portland Labor Force
Portland	18,672	52.8%	18,051	50.8%	17,122	51.2%
South Portland	4,104	11.6%	3,712	10.5%	3,514	10.5%
Westbrook	1,448	4.1%	1,668	4.7%	1,753	5.2%
Scarborough	1,412	4.0%	1,468	4.1%	1,471	4.4%
Falmouth	982	2.8%	974	2.7%	968	2.9%
Biddeford	517	1.5%	665	1.9%	540	1.6%
Freeport	465	1.3%	515	1.5%	518	1.5%
Gorham	445	1.3%	466	1.3%	441	1.3%
Lewiston	619	1.7%	509	1.4%	432	1.3%
Augusta	501	1.4%	537	1.5%	406	1.2%
All Other Locations	6,211	17.6%	6,940	19.5%	6,284	18.8%

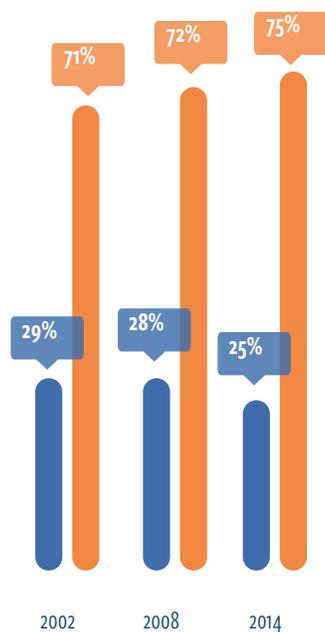
Source: U.S. Census Bureau / Local Employment Dynamics - "On The Map"



Between 2002 and 2014, while the proportion of people that live and work in Portland decreased, the proportion of people commuting to work in Portland from elsewhere increased steadily. The rate of change was more rapid between 2008 and 2014 than it was between 2002 and 2008.

### Commuters and Portland Residents Working in Portland (2002-2014)

- Live and Work in Portland
- Commute into Portland



Source: U.S. Census Bureau



### Industry Profile of Portland’s Labor Force

Between 2000 and 2014, the educational and health care, arts and entertainment, and professional and managerial segments of Portland’s labor force have increased significantly, while the information, transportation, wholesale trade, and finance, insurance, and real estate segments of Portland’s labor force have decreased significantly. All other segments of Portland’s labor force experienced moderate contractions over the same period.

#### Change in Industry Profile of Portland’s Labor Force (2000-2014)

Industry	2000	2014	2014 Share	% Change
Educational & Health Care	7,648	10,612	29%	38.8%
Arts & Entertainment	3,736	4,669	12.8%	25.0%
Professional & Managerial	3,925	4,411	12%	12.4%
Retail Trade	4,734	4,364	11.9%	-7.8%
Finance, Insurance, Real Estate	3,741	3,007	8.2%	-19.6%
Manufacturing	2,614	2,507	6.8%	-4.1%
Other Services	1,707	1,630	4.5%	-4.5%
Construction	1,453	1,377	3.8%	-5.2%
Information	1,718	975	2.7%	-43.2%
Transportation	1,335	974	2.7%	-27.0%
Public Administration	1,057	962	2.6%	-9.0%
Wholesale Trade	1,309	957	2.6%	-26.9%
Natural Resource	173	166	0.5%	-4.0%

Source: U.S. Census Bureau



The composition of Portland’s labor force is similar to that of Cumberland County and Maine, with Portland having a slightly higher share of arts and entertainment employment than Cumberland County and Maine, and both Portland and Cumberland County having a slightly higher share of professional and managerial employment (including information and FIRE occupations) along with a slightly lower percentage of retail, natural resource, construction, and manufacturing employment than Maine as a whole.

**Labor Force Industry Profile Comparison**

Industry	Portland	Cumberland County	Maine
Educational & Health Care	29.0%	28.0%	27.5%
Arts & Entertainment	12.8%	9.5%	8.8%
Professional & Managerial	12.0%	11.8%	8.7%
Retail Trade	11.9%	12.9%	13.5%
Finance, Insurance, Real Estate	8.2%	9.1%	6.2%
Manufacturing	6.8%	7.0%	9.3%
Other Services	4.5%	4.2%	4.4%
Construction	3.8%	5.3%	6.9%
Information	2.7%	2.2%	1.8%
Transportation	2.7%	3.2%	3.8%
Public Administration	2.6%	2.9%	4.4%
Wholesale Trade	2.6%	2.6%	2.4%
Natural Resource	0.5%	1.2%	2.5%

Source: U.S. Census Bureau

**Occupation Profile**

Portland has a higher percentage of professional and service based occupations than both Maine and Cumberland County, and a lower percentage of sales, production, construction, and natural resource based occupations than both Cumberland County and Maine.

**Occupation Profile of Portland Residents**

Occupation	Portland	Cumberland County	Maine
Managerial & Professional	45.5%	43.7%	35.3%
Sales	21.9%	23.9%	24.0%
Service	19.9%	16.9%	18.3%
Production & Transportation	7.1%	8.1%	11.5%
Natural Resource & Construction	5.5%	7.5%	10.9%

\*2010-2013 data are from ACS 5 year estimates

Source: U.S. Census Bureau



## Employment And Wages

### Location Quotient

The location quotient measures a region's concentration in a given employment sector relative to the employment concentrations in a reference economy, in this case Portland's employment relative to the U.S. as a whole. Employment sectors with a location quotient less than 1 do not produce enough goods and services locally, and the City must rely on imports to meet local demand. Employment sectors with a location quotient equal to 1 produce enough goods and services to meet local demand. Lastly, employment sectors with a location quotient greater than 1 produce a surplus of goods and services that can be exported.

The employment sectors for Portland with a location quotient over 1 include Educational and Health Services, Financial Activities, Information, Leisure and Hospitality, and Professional and Business Services. Using the regional multiplier for Portland, which is 8.1, this means that each new job created in these sectors will create eight jobs in the local economy, or each additional dollar spent in a basic sector will create \$8 of additional economic activity in the local economy.

### Location Quotients for Portland Relative to the U.S.

Employment Sector	Location Quotient
Construction and Natural Resources	0.52
Education and Health Services	1.25
Financial Activities	1.24
Information	1.25
Leisure and Hospitality	1.34
Manufacturing	0.66
Other Services	0.90
Professional and Business Services	1.11
Public Administration	0.53
Trade, Transportation, and Utilities	0.89

*Source: U.S. Census Bureau*

### Unemployment

The unemployment rates for Portland, Cumberland County, and Maine increased from 2000 – 2013, with the largest increase over the period 2009 – 2013. In 2000, Portland's unemployment rate was higher than Cumberland County's and Maine's. Even though the 2008 recession officially ended in June 2009, the unemployment rate continued to climb across Maine over the next five years. In 2013, the overall unemployment rate in Portland was still higher than that of Cumberland County and Maine.

Although Portland, like other cities, struggled economically through the recession, it is now on the rebound. While data offered above extends only through 2013, which is the most recent ACS 5-year sample US Census unemployment data available, more recent unemployment data reported by Portland states that the City's unemployment rate was down to 3.1% in 2015 from 4% in 2014.



**Annual Unemployment Rate (2000-2013)**

Geography	2000	2010*	2013*
Portland	4.8%	5.2%	8.5%
Cumberland County	3.6%	5.2%	6.3%
Maine	4.7%	6.5%	7.7%

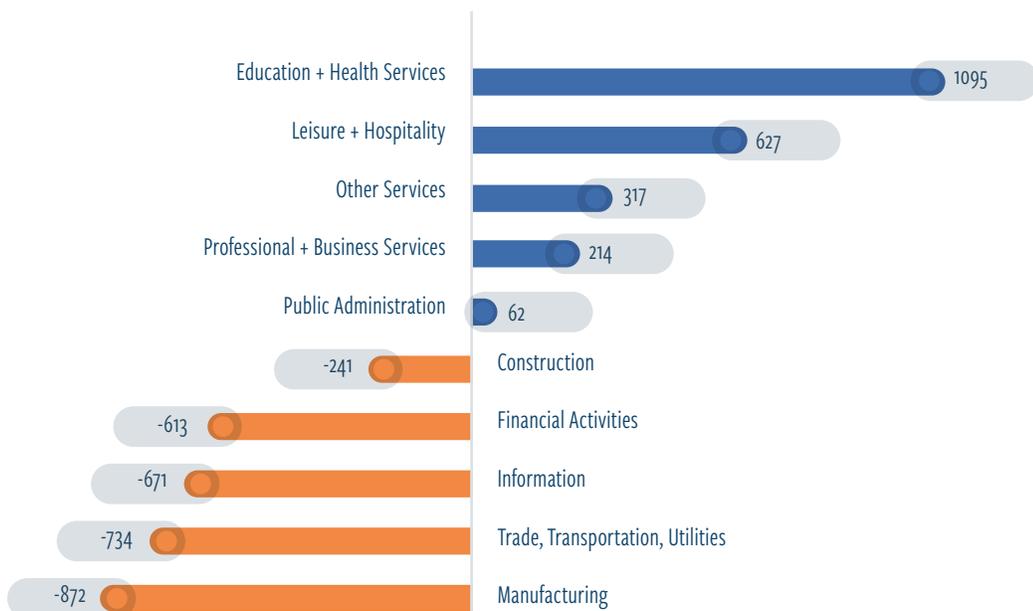
Source: U.S. Census Bureau

**Changes in Portland Average Employment**

Between 2004 and 2014, Portland had a net loss of 817 jobs. The education and health services, leisure and hospitality, professional and business services, public administration, and other services sectors gained a combined 2,314 jobs, while Portland lost a total of 3,131 jobs in manufacturing, trade, transportation, and utilities, information, financial services, and construction.

These trends may be in part influenced by the 2008 recession, which hit the financial and construction sectors first, while the drop-off in demand during the recession may have hurt other sectors of the economy. Based on the recent increase in residential construction, it is likely future ACS data will reflect an upswing in the construction sector in the coming years.

**Changes in Portland Average Employment (2004-2014)**



Source: Maine Department of Labor



**Livable Wages for the Portland Metro Area**

	<b>Single Adult</b>	<b>Single Adult 1 Child</b>	<b>Single Adult 2 Children</b>	<b>Two Adults (1 Earner) 2 Children</b>	<b>Two Adults (2 Earners) 2 Children</b>
Livable Hourly Wage	\$15.82	\$22.57	\$28.86	\$30.48	(2x) \$19.49
Livable Weekly Wage	\$685.75	\$977.75	\$1,250.75	\$1,320.75	(2x) \$844.75

Source: Alliance for a Just Society

**Wages**

The Alliance for a Just Society has estimated that the minimum livable weekly wage for a single adult in Maine is \$685.75, while the minimum livable weekly wage for a family of four with two earners is \$844.75 per earner. This is an average for Maine, and it may not reflect that Portland residents may face different costs than others in the state.

The average weekly wage for both the Portland metro region (\$916) and Portland (\$962) is considered adequate to support a family of four with two income earners. However, not all industry sectors that have grown over the past decade pay a living wage for all household and family types. For example, although the average wage for the education and health services sector is enough to support a single individual or a family of four with two earners, the leisure and hospitality sector pays an average weekly wage that is below the estimated livable wage for Maine. Only one sector with job growth, professional and business services, pays a weekly wage that can support a family of one adult and two children. There are no industries in Portland that pay an average living wage for a family of four with one income earner.

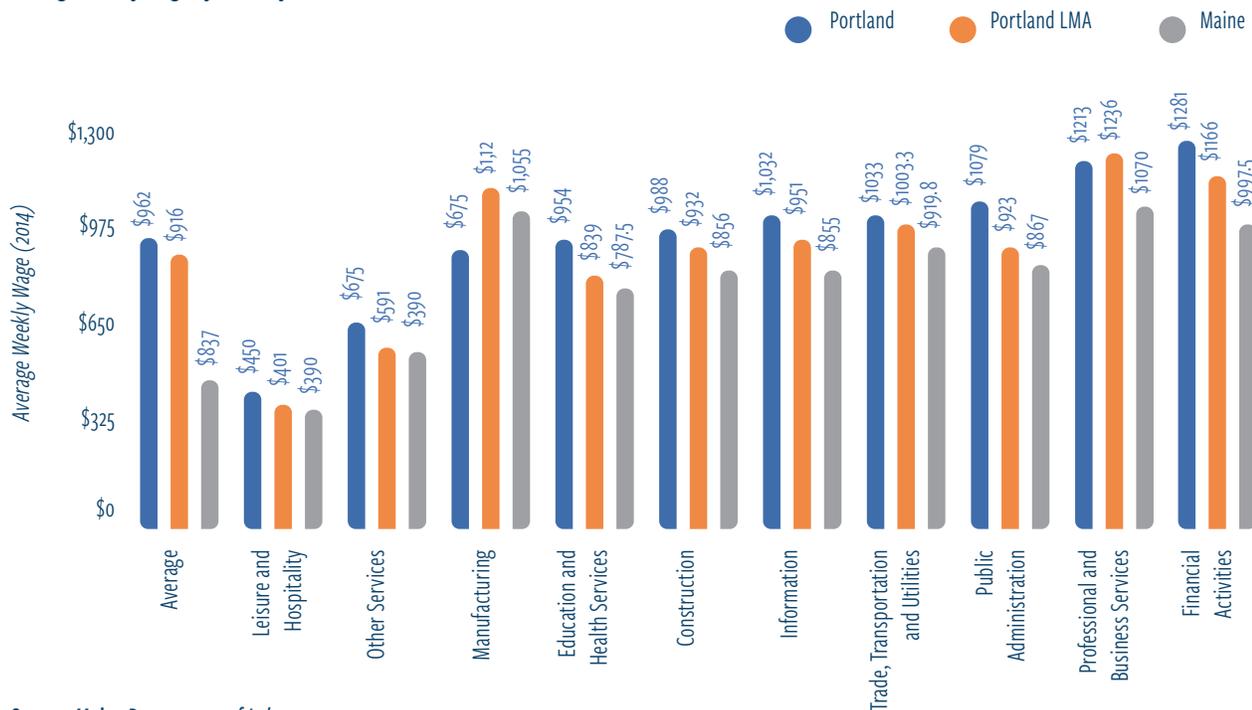
While employment in sectors that do pay a livable wage for individuals or families with two income earners, such as education and health services or professional and business services, have increased over the past decade, the majority of jobs that have been created over the past ten years do not pay an average wage that is adequate to support a family with only one income earner. Furthermore, jobs that do pay a livable wage, such as manufacturing, information, or financial services, have declined substantially.

In 2015, the City raised the minimum wage to \$10.10, with regulations in place to raise it to \$10.68 in 2017, and increase at the rate of inflation beginning in 2018. The increase went into effect on January 1, 2016, and is mandated by City ordinance. The state-mandated minimum wage is \$7.50 per hour, 25 cents more than the minimum guaranteed by federal law.



**APPENDIX:  
ECONOMY**

**Average Weekly Wage by Industry**



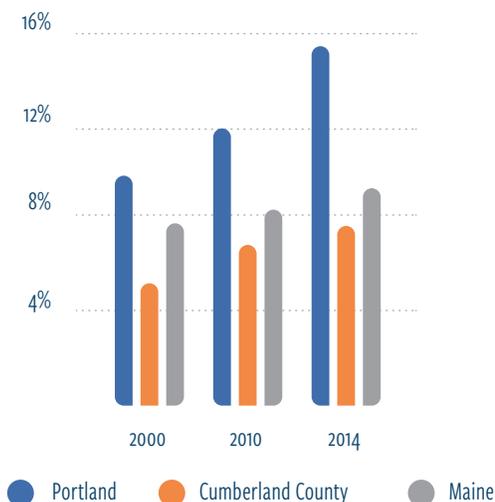
Source: Maine Department of Labor



### Poverty Status

The percentage of individuals and families in the City living below the poverty level has increased significantly since the 2008 recession, with Portland seeing a more significant increase in poverty status than Cumberland County or Maine as a whole. According to data from the US Census Bureau, 15.7% of Portland families lived below poverty level in 2014.

#### Poverty Status for Families in Portland, Cumberland County, and Maine (2000-2014)



Source: U.S. Census Bureau

### Gross Domestic Product

One limitation of reporting Portland’s Gross Domestic Product (GDP) is that GDP data are only available from the Bureau of Economic Analysis (BEA) for the Portland Metro Statistical Area (MSA), which includes all of Cumberland, York, and Sagadahoc Counties. Portland, South Portland, and Biddeford are the three largest cities in the Portland MSA; Bath, Saco, Sanford, and Westbrook are also major urban centers in the Portland MSA. Therefore, while Portland is a significant contributor to regional GDP, there are many other urbanized areas that also contribute to the Portland MSA’s GDP.

#### GDP Comparison (2000-2014)

2000	48%	7%	11%	34%	Portland MSA	Bangor MSA
2010	51%	7%	11%	32%	Lewiston-Auburn MSA	Non-Urban
2014	52%	8%	11%	30%		

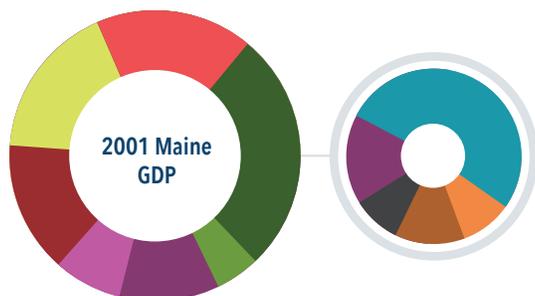
Urban GDP represents a growing share of Maine’s GDP, and the Portland Metro Region’s GDP accounts for an increasing share of Maine’s urban GDP. Between 2000 and 2010, the Portland metro region’s share of Maine’s GDP increased from 48% to 51%. As of 2014, Urban GDP accounts for 71% of Maine’s GDP. The Portland metro region is the economic engine of the state, and as the urban economy continues to expand in Maine, the success of Portland’s economy will directly influence the health of the Maine economy.



**Components of GDP (2001)**



- Financial Activities (26.2%)
- Other (28.4%)
- Education & Health (9.7%)
- Government (12.1%)
- Professional Business Services (9.2%)
- Trade, Transportation, and Utilities (14.4%)
- All Other (16.3%)
- Natural Resources (0.1%)
- Information (3.3%)
- Construction (4.6%)
- Leisure & Hospitality (4.1%)

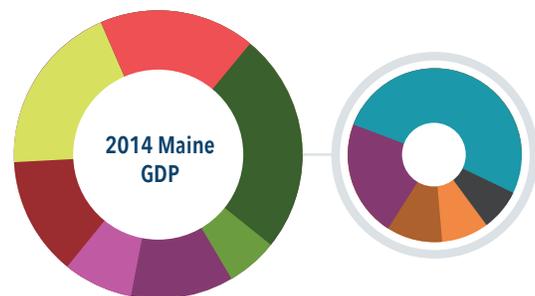


- Financial Activities (20.0%)
- Other (26.1%)
- Leisure & Hospitality (4.0%)
- Manufacturing (12.2%)
- Professional & Business Services (8.0%)
- Education & Health Services (10.8%)
- Trade, Transportation, and Utilities (18.9%)
- Government (14.0%)
- Natural Resources (1.7%)
- Information (2.8%)
- Other Services (2.4%)
- Construction (5.1%)

**Components of GDP (2014)**



- Financial Activities (26.9%)
- Other (24.9%)
- Education & Health (11.5%)
- Government (11.8%)
- Professional Business Services (11.8%)
- Trade, Transportation, and Utilities (13.1%)
- All Other (14.3%)
- Natural Resources (0.2%)
- Information (2.1%)
- Construction (3.6%)
- Leisure & Hospitality (4.6%)



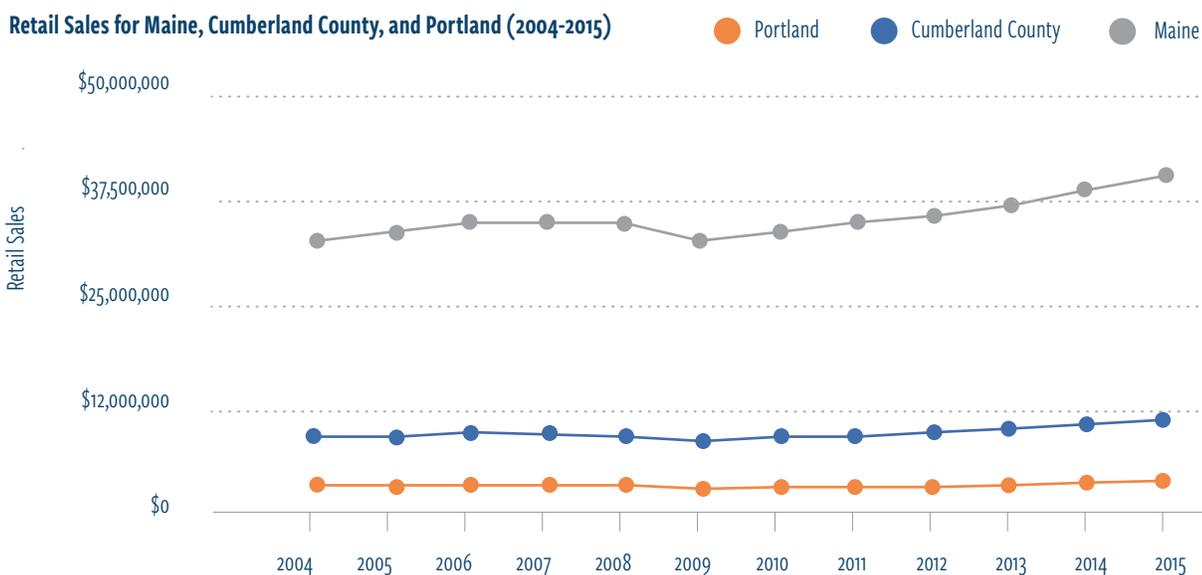
- Financial Activities (20.5%)
- Other (24.2%)
- Leisure & Hospitality (4.6%)
- Manufacturing (9.5%)
- Professional Business Services (9.9%)
- Education & Health (13.3%)
- Trade, Transportation, and Utilities (18.1%)
- Government (14.2%)
- Natural Resources (1.5%)
- Information (2.0%)
- Other Services (2.3%)
- Construction (4.2%)

Source: United States Bureau of Economic Analysis, 2016a

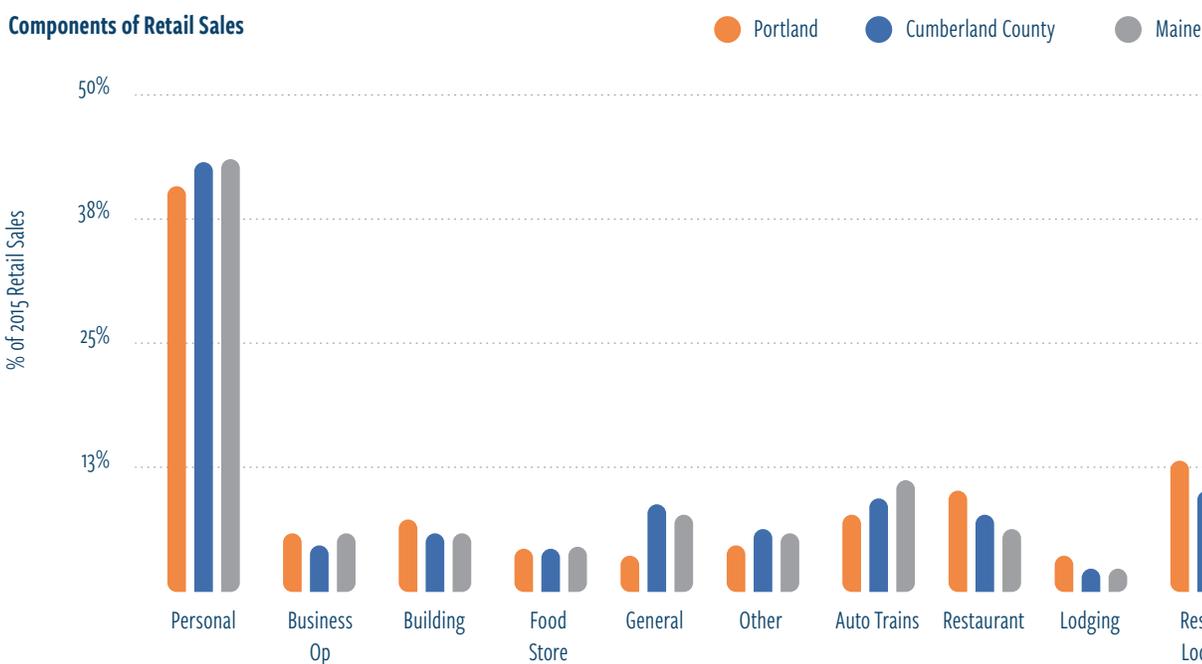


### Retail Statistics

Retail sales for the state show a gradual increase in sales through 2007, followed by a period of decline towards a minimum in 2009, and then a steady increase through 2015. Cumberland County shows a similar, but more moderate trend, while retail sales in Portland remained relatively flat over the entire period.



Source: Maine Office of Policy and Management, 2016



Source: Maine Office of Policy and Management, 2016

APPENDIX

# Housing



APPENDIX:  
HOUSING



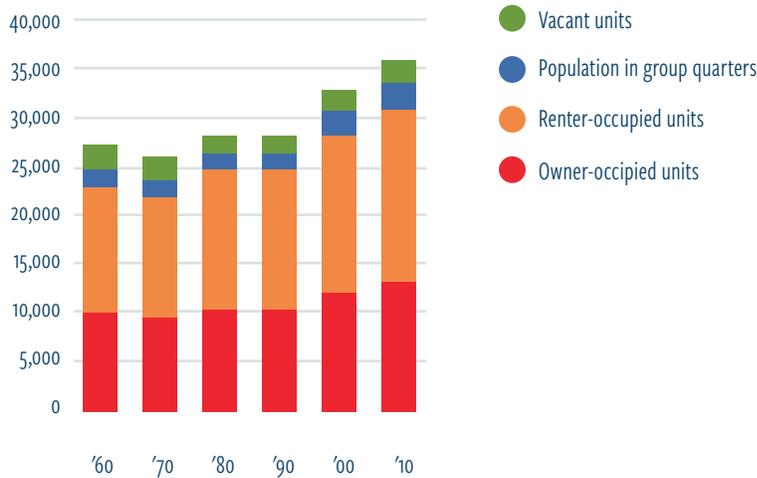
High quality housing options available to individuals and families along the full spectrum of income levels is a core component of a thriving community. The City invests significant resources into supporting efforts to address existing and future housing issues and opportunities.

### EXISTING CONDITIONS AND TRENDS

Over the last 50 years, the housing supply in Portland, including apartments, condominiums, single family homes, and group quarters, has grown 29%, while population has declined 9%. A growing housing stock is needed to house a shrinking population due to a 32% decline in average household size, from 3.03 persons per household in 1960 to 2.07 in 2010.

From 2010-2014, 1,130 residential units were built in Portland, representing a faster pace of construction than over the 2000s. New construction, both on and off the Portland peninsula, included 384 condominiums and single-family homes and 746 rental units.

Portland Housing by Tenure (1960-2010)





**APPENDIX:  
HOUSING**

**Occupancy Status of Portland Housing Stock (2000-2010)**

	2000 / Units %		2010 / Units %		Net Change	Percent Change
<b>Total Housing Units</b>	31,862	100	33,836	100	1,974	6%
Occupied housing units	29,714	93.3	30,725	90.8	1,011	3%
Vacant housing units	2,148	6.7	3,111	9.2	963	45%
<b>Tenure</b>						
Owner-occupied housing units	12,617	42.5	13,124	42.7	507	4%
Average Household Size	2.41		2.31			
Renter-occupied housing units	17,097	57.5	17,601	57.3	504	3%
Average Household Size	1.84		1.89			
<b>Vacancy Status</b>						
Vacant housing units	2,148	100	3,111	100	963	45%
For rent	642	29.9	1,054	33.9	412	64%
For sale only	65	3	197	6.3	132	203%
Rented or sold, not occupied	171	8	122	4	-49	-29%
Seasonal	950	44.2	1,322	42.5	372	39%
For migratory workers	1	0	2	0.1	1	100%
Other vacant	319	14.9	414	13.3	95	30%

Source: U.S. Census Bureau, U.S. Census 2000 and U.S. Census 2010

**Ownership**

As of 2010, Portland counted 33,836 housing units, nearly 2,000 more units than it had in 2000. Of the occupied units, 43% were owned and 57% were rented. New units were evenly split between ownership and rental. Of the city's 3,111 vacant units in 2010, 44% were for sale or rent but not occupied. Another 43% were for seasonal use. These figures, from 2010, reflect the impact of the economic downturn of the late 2000s, a unique period for housing markets nationwide.



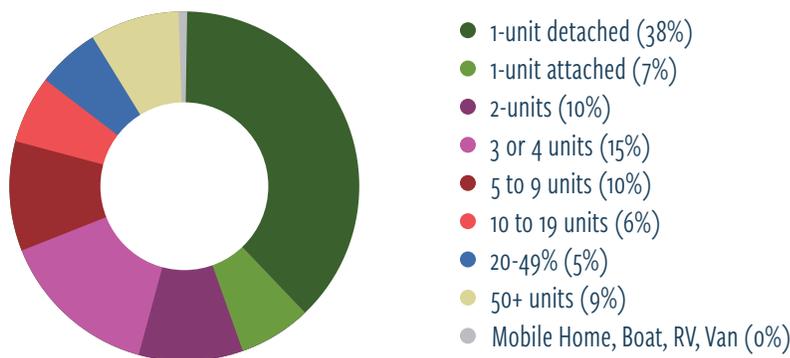
**APPENDIX:  
HOUSING**

**Age of Portland's Housing Units (2010)**

	Number	Percent
<b>Year Structure Built</b>		
1999 to March 2000	338	1.1%
1995 to 1998	503	1.6%
1990 to 1994	800	2.5%
1980 to 1989	2,818	8.8%
1970 to 1979	2,685	8.4%
1960 to 1969	2,851	8.9%
1940 to 1959	6,248	19.6%
1939 or earlier	15,621	49.0%

*US Census Bureau, 2010 US Census*

**Housing by Units in Structure (2014)**



2010-2014 American Community Survey 5 Year Estimate

**Age and Condition**

Maine has the eighth oldest housing stock in the country. Nearly 50% of Portland's housing stock was built before 1939, and 86% was built before 1980. There are issues associated with the age of the City's housing stock, as older units can be more expensive to heat and cool and are more likely to contain lead paint.

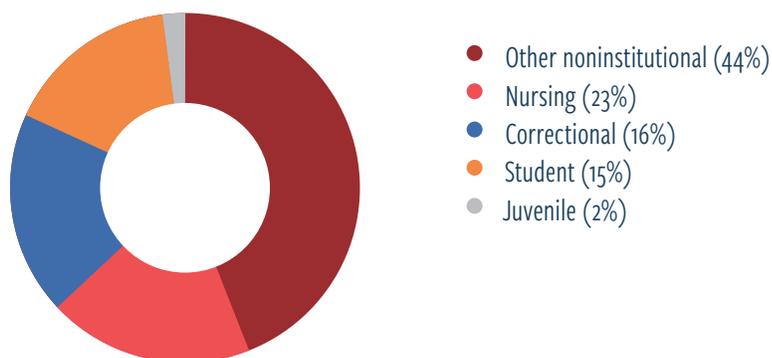
**Housing Types**

Portland's housing stock is located in a variety of building structures. Approximately 38% of Portland's housing is comprised of traditional single-family homes. Approximately 62% of Portland's housing units are located in attached structures. 42% of the City's units are located in low-density attached structures, such as single-family attached units, two-family homes, and multi-family structures with 3-9 units, while 20% are located in high-density structures of 10 or more units. Non-traditional housing options, such as mobile homes and boats, comprise a negligible portion of the housing stock.



Group quarters are places owned or managed by an organization that provides services that enable people to live in a group living situation. Group quarter facilities, which range in structure from single-family homes to large buildings, typically share a common front entrance as well as bathroom and kitchen facilities. They include correctional institutions, nursing homes, college dormitories, as well as homeless shelters. Because the census does not classify group quarters as housing units, neither they nor their occupants are represented in any of the housing or household data, except where noted in this analysis.

### **Group Quarters in Portland (2010)**



As of 2010, Portland had 2,613 persons living in group quarters, an increase of 7% since 2000. 23% of these lived in skilled nursing care facilities, 18% in adult or juvenile detention and correctional facilities, 15% in college or university dorms, and 44% in other non-institutional settings, such as group homes and homeless shelters.

### **Affordability**

For housing to be affordable, it should consume no more than 30% of a household's gross income, including rent or mortgage payments, utilities, and other housing related costs. According to the 2014 American Community Survey, 51% of renters in Portland and 34% of owners pay more than 30% of their income for rent. In fact, almost 30% of renters pay more than 50% of their income for housing.

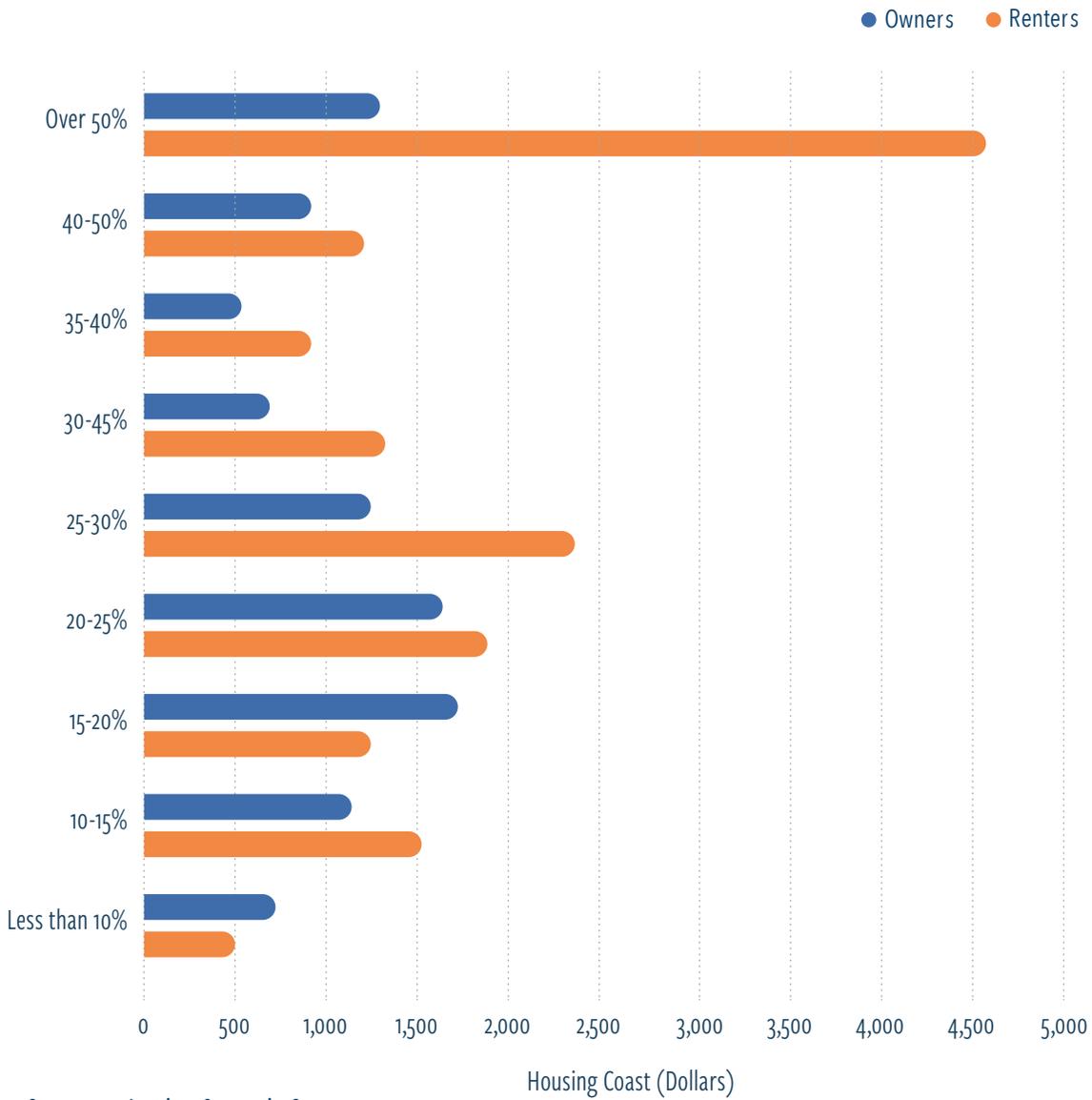
As of 2012, 52% of Portland's households can be classified as low to moderate income, meaning they earn 30-80% of the area median income. This is unchanged from the 2000 census. The greatest gain over the 2000-2010 decade was in the number of very low income households, or households which earn less than 30% of the area median income, which increased 24%. Middle income households, or those earning between 80%-100% of area median income, also increased 19%.



**APPENDIX:**  
HOUSING



**Housing Costs as a Percentage of Income by Tenure (2014)**



Source: 2014 American Community Survey



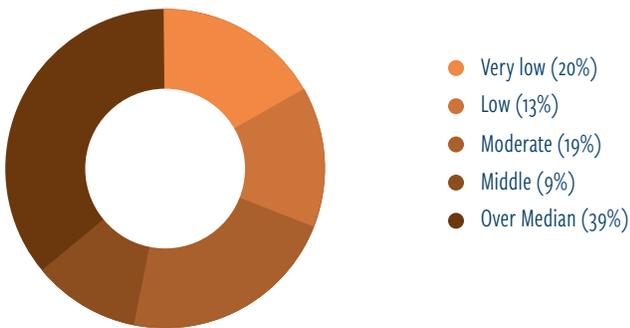
**APPENDIX:**  
HOUSING

**Income of All Households in Portland (2000-2012)**

Subject	2000		2012		Net Change	Percent
	Households	Percent	Households	Percent		
30% AMI or less	4,935	17%	6,100	20%	1,165	24%
30-50% AMI	3,775	13%	4,120	13%	345	9%
50.1-80% AMI	6,405	22%	5,900	19%	-505	-8%
80.1-100% AMI	2,385	8%	2,840	9%	455	19%
Over 100% AMI	11,565	40%	11,870	39%	305	3%
Total	29,065	100%	30,830	100%	1,765	6%
Low to Moderate Income	15,115	52%	16,120	52%	1,005	7%
Under median Income	17,500	60%	18,960	61%	1,460	8%

*Special tabulation by the U.S. Department of Housing and Urban Development based on the 2008-2012 American Community Survey*

**Income of All Households in Portland (2012)**



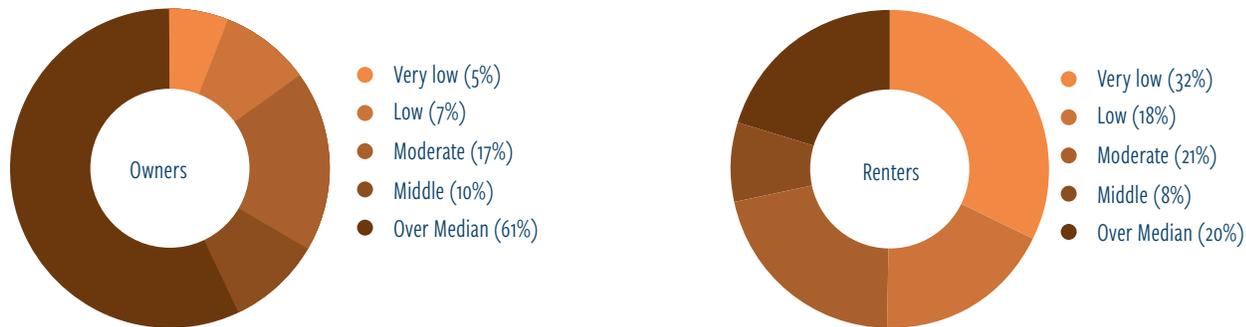


**APPENDIX:  
HOUSING**

**Income of Owners in Portland (2000-2012)**

Subject	2000		2012		Net Change	Percent
	Households	Percent	Households	Percent		
30% AMI or less	605	5%	625	5%	20	3%
30-50% AMI	1,020	8%	1,005	7%	-15	-1%
50.1-80% AMI	2,240	18%	2,285	17%	45	2%
80.1-100% AMI	970	8%	1,435	10%	465	48%
Over 100% AMI	7,865	62%	8,425	61%	560	7%
<b>Total</b>	<b>12,605</b>	<b>100%</b>	<b>13,775</b>	<b>100%</b>	<b>1,170</b>	<b>9%</b>
Low to Moderate Income	3,865	31%	3,915	28%	50	1%
Under median Income	4,835	38%	5,350	39%	515	11%

**Income of Portland Owners and Renters (2012)**



As of 2012, 28% of Portland’s 13,775 homeowners were considered low to moderate income. The greatest change was in the number of middle income homeowners, which increased by 48%. As of 2012, 72% of Portland’s 17,055 renters were considered to be low to moderate income. The greatest change from 2000 was in the number of very low income owners, which increased by 26%, while the number of moderate income renters decreased by 13%.



**APPENDIX:  
HOUSING**

**Income of Renters in Portland (2000-2012)**

Subject	2000		2012		Net Change	Percent
	Households	Percent	Households	Percent		
30% AMI or less	4,330	26%	5,475	32%	1,145	26%
30-50% AMI	2,755	17%	3,115	18%	360	13%
50.1-80% AMI	4,165	25%	3,615	21%	-550	-13%
80.1-100% AMI	1,415	9%	1,405	8%	-10	-1%
Over 100% AMI	3,700	23%	3,445	20%	-255	-7%
<b>Total</b>	<b>16,365</b>	<b>100%</b>	<b>17,055</b>	<b>100%</b>	<b>690</b>	<b>4%</b>
Low to Moderate Income	11,250	69%	12,205	72%	955	8%
Under median Income	12,665	77%	13,610	80%	945	7%

*Special tabulation by the U.S. Department of Housing and Urban Development based on the 2008-2012 American Community Survey*

According to more recent data from the Maine Housing Authority, the number of low to moderate income households in Portland has increased since 2000, when 31% of Portland homeowners and 68% of Portland renters were considered low to moderate income. A large affordability gap exists for Portland’s rental households. Portland’s middle income rental households, whose median income is \$33,081, can afford a rent of no more than \$827. The median rent, however, has reached \$1,426, representing a gap of \$599.

**Summary of Affordability (2015)**

Subject	Very Low Income	Low Income	Moderate Income	Middle Income
Income Range	< 30%	31-50%	51-80%	81-100%
<b>Owners</b>				
Median Owner Income	\$45,337	\$45,337	\$45,337	\$45,337
Percent of Owner Households	5%	8%	18%	8%
Median Home Price	\$249,900	\$249,900	\$249,900	\$249,900
Affordable Home Price	\$45,316	\$75,527	\$120,842	\$151,053
<b>Renters</b>				
Median Renter Income	\$33,081	\$33,081	\$33,081	\$33,081
Percent of Renter Households	26%	17%	25%	9%
Median Rent	\$1,426	\$1,426	\$1,426	\$1,426
Affordable Rent	\$248	\$414	\$662	\$827

*Source: Maine Housing Authority*

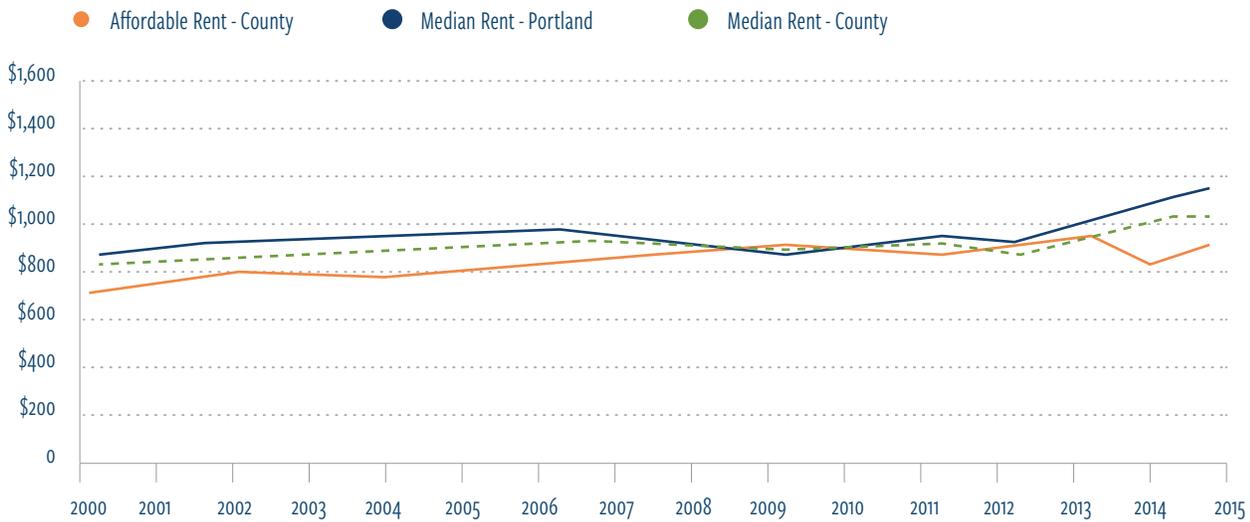
*Special tabulation by the U.S. Department of Housing and Urban Development based on the 2008-2012 American Community Survey*



**APPENDIX:  
HOUSING**

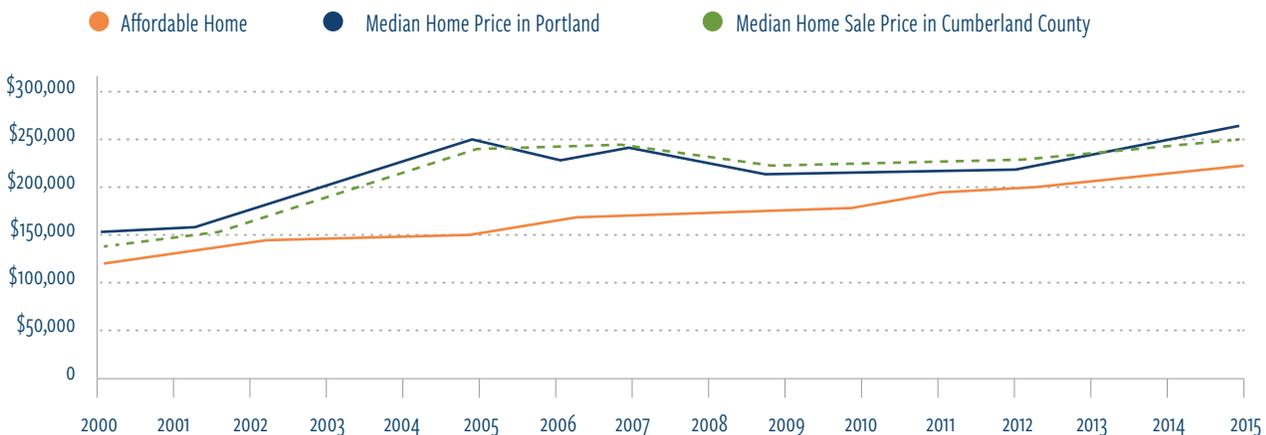
During the 2000s, home prices peaked in 2005 at \$237,000, then dipped during the Great Recession. In 2015, rebounding home prices surpassed their 2005 peak. While affordability has improved slightly over the last decade, a household in Cumberland County still has considerably more purchasing power than a household already living in Portland. In 2015, a household in Cumberland County earning the median income of \$60,474 could afford a home price of \$214,584, while the median home was \$241,000, a gap of \$26,416. Portland’s middle income owner households earn much less than the median income in the county. With a median income of \$45,337, Portland’s middle income households can afford a home costing no more than \$151,053 dollars. The median home price, however, has reached \$249,900, a gap of \$98,847.

**Affordable and Median Rent Comparison (2000-2015)**



Source: Maine Housing Authority

**Affordable and Median Home Price Comparison (2000-2015)**



Source: Maine Housing Authority



**APPENDIX:  
HOUSING**

**PARTNERSHIPS**

**Portland Housing Authority**

Portland Housing Authority (PHA) is responsible for administering U.S. Department of Housing and Urban Development Public Housing and Section 8 Housing Voucher programs. The agency’s mission is to work with its community partners to provide and expand affordable housing and services that improve quality of life, build community, enhance safety, and promote personal success for the people they serve and the neighborhoods in which they reside. In addition to managing public housing and administering the Section 8 Voucher program, PHA also works with a variety of community organizations to offer its residents youth, family, and career services including English as a Second Language (ESL) classes. In 2014, PHA owned and managed 1,172 public housing and other subsidized multifamily apartments, administered 1,914 Section 8 vouchers, paid over \$16.8 million to landlords in rent subsidies, and assisted 6,818 individuals. According to Portland Housing Authority’s 2014 Annual Report, those they serve represent 57 different countries of origin, with 55% of their residents born outside the United States. In 2016, PHA completed its first new housing development in over 45 years with the development of 45 residential units at Bayside Anchor.

In 2013, Portland Housing Authority began collaborating with the Housing Authorities of South Portland, Westbrook, and Bath on a centralized waiting list for families applying for Section 8 vouchers, meaning that a family that had applied to multiple agencies would appear only once on the waiting list. There are currently over 5,000 applicants on the central waiting list. Of those, 64% have identified Portland as their preferred place of residence should a voucher become available. Families qualified for a voucher typically wait a year or longer for an available voucher. It should also be noted that at times the waiting lists are closed due to the high demand, indicating that the number of families on the waiting list is not reflective of all the families in need of rental assistance.

The Section 8 voucher program is not inclusive of all those seeking housing assistance, as many also apply to live in public housing. An additional 1,464 families are on Portland Housing Authority’s public housing waitlist.

**Shared Section 8 Voucher Program Wait List**

	<b>Number</b>	<b>Percent</b>
Total Applicants	5,266	100%
Disabled	2,108	40%
Elderly	1,026	19.50%
Families	217	4%
Individuals	1,915	36.50%
<i>(non-elderly, non-disabled)</i>		

**Portland Housing Authority Public Housing Waitlist (2015)**

	<b>Number</b>	<b>Percent</b>
Total Applicants	1,464	100%
Disabled	255	17.3%
Elderly	78	5.2%
Families	1,010	68.5%
Individuals	131	9%

**Avesta Housing**

Avesta Housing is one of the largest non-profit developers of affordable housing in New England. The organization’s mission is to improve lives and strengthen communities by promoting and providing quality affordable homes for people in need. In addition to developing and managing



**APPENDIX:  
HOUSING**

affordable housing, the organization also offers homebuyer education, budget and credit counseling, and foreclosure prevention services.

**Preble Street**

Preble Street is a non-profit organization providing services to homeless and low-income residents. The organization’s mission is to provide accessible, barrier-free services to empower people experiencing problems with homelessness, housing, hunger, and poverty, and to advocate for solutions to these problems. Preble Street offers housing services in the form of housing for qualifying, chronically homeless individuals and assistance to low-income veterans in finding and maintaining housing; a resource center providing daytime shelter, a soup kitchen and food pantry, and case management services; a teen center, shelter, and transitional living program; and advocacy on homelessness. During the fiscal year of 2014, Preble Street served an average of 400 adults per day at the resource center, provided teen services to approximately 400 homeless and runaway youth, served approximately 370,000 meals at the soup kitchen, distributed meals to 130-160 families weekly via the food pantry, and housed 95 chronically homeless families in supportive facilities.

**Shalom House**

Shalom House is a non-profit organization providing housing and services to individuals with mental illness. The organization’s mission is to offer hope to adults living with severe mental illness by providing an array of community-based mental health services and a choice of quality housing that help people lead stable and fulfilling lives in the community. Shalom House’s housing services include group homes, transitional housing, supported housing, independent apartments, and housing subsidies for qualifying low income individuals. Additional services include community integration, peer support, mental health management support, hoarding therapy, and public education on mental illness.

**HOMELESSNESS**

Portland provides services to a large and growing number of homeless individuals at a variety of facilities, including the Family Shelter, Oxford Street Men’s and Women’s Shelters, Family Crisis Shelter, Milestone Foundation, Joe Kreisler Teen Shelter, and Florence House Women’s Shelter. In 2015, Portland sheltered an average of 454 homeless individuals per night. Even when counting overflow and satellite locations, this number exceeds bed capacity among all shelters by over 100 individuals. For families, the major reasons for being homeless were relocation (58%), domestic violence or family conflict (14%), lack of affordable housing (14%), and failure to pay rent resulting in eviction (11%). Other reasons include loss of job, substandard housing, loss of public assistance, and health and safety. For individuals, the major reasons for being homeless were substance abuse (83.3%), mental illness (27.1%), and physical disability or illness (34%). About one third (37.6%) of these individuals are classified as chronically homeless.

The Social Services Division of the City of Portland’s Health and Human Services Department operates the Family Shelter and Oxford Street Shelter, both the largest shelters serving their respective populations in the State of Maine. The Family Shelter offers both preventative services for families at risk of experiencing homelessness and support services to assist families who are



## APPENDIX: HOUSING

homeless to locate housing and achieve stability. On-site support services include assistance with housing placement; training sessions on tenant education; crisis intervention and management, including follow-up services after housing is located; and assistance with public transportation for appointments and self-sufficiency. During FY2014, the Family Shelter served more than 1,800 individuals and provided more than 41,000 bed nights. The Oxford Street Shelter is a low-barrier shelter which provides safe, temporary shelter for homeless adults, both men and women. The shelter offers a variety of support services to assist homeless individuals enhance their self-esteem, secure housing, and work towards a housing stability plan. During FY2015, the Oxford Street Shelter served more than 2,100 individuals and provided more than 85,000 bed nights – often exceeding capacity and requiring use of off-site community overflow shelters at three other locations.

Providing permanent housing to homeless individuals has been shown to reduce the overall costs of services. The City's *Cost of Homelessness* study conducted in 2007 underscores the benefit of providing permanent, safe housing to homeless individuals and families. "Permanent supportive housing" is housing coupled with supportive services for homeless individuals having a disability. Disability includes any diagnosed, long-term disability such as mental illness, substance abuse, physical disability, or combination thereof. Ninety-nine formerly homeless individuals participated in the study. 87% of those who participated resided in the City of Portland prior to placement in permanent supportive housing (the remaining 13% resided outside of Portland, but within Cumberland County). Although providing housing with support services comes at a cost, the study found that providing permanent supportive housing to people who are homeless cuts the average costs of services they consume in half. The average cost savings across all services was found to be \$944 per person per year, or \$93,436 for all 99 participants. Since the study, Portland has piloted three Housing First developments – Logan House for men, Florence House for women and the Bishop Street Apartments – all which target the chronically homeless population.

### SENIOR HOUSING

Over time, the population of seniors will continue to grow as the cohort of Baby Boomers, who began to turn 65 in 2011, age into seniors. As of 2014, there were an estimated 8,095 people in Portland aged 65 and over, who comprise 12.2% of the City's population. The vast majority of the City's seniors, 92%, live in households, while 8% live in nursing or assisted living facilities. Almost 60% of the City's seniors own a home, while 41% rent. 60% of seniors, whether renters or owners, live alone. In the future, this growing number of seniors living alone may demand more housing that is smaller and more accessible. Underscoring this demand in Portland is the fact that 93.5% of the current Shared Section 8 Voucher Program wait list applicants (3,133) who qualify for Portland Housing Authority's program are seniors or disabled.

As people age, housing costs can consume an increasing share of a flattening income. This reality increases the cost burden of housing. Over one quarter of seniors in Portland, 26%, live below or just above the poverty level. On average, senior renters are more likely to be cost burdened than owners: 46% of elderly renter households pay more than 30% of their income for housing, compared to 27% of elderly homeowners. However, low income owners with mortgages



**APPENDIX:  
HOUSING**

were much more likely to be cost-burdened than low income renters: 88% of very low-income homeowners and 72% of very low income renters paid more than 50% of their income for housing.

**Portland Seniors 65+ compared to General Population (2014)**

	<b>Portland</b>	<b>Seniors</b>
<b>Total population</b>	66,317	8,095
<b>Households by Type</b>		
Households	30,107	5,512
Family households	45%	38%
Married-couple family	31%	29%
Female householder, no husband present, family	10%	6%
Nonfamily households	55%	62%
Householder living alone	39%	60%
<b>Disability Status</b>		
With any disability	12%	38%
No disability	88%	62%
<b>Poverty Status in the Past 12 Months</b>		
Below 100 percent of the poverty level	21%	12%
100 to 149 percent of the poverty level	9%	14%
At or above 150 percent of the poverty level	70%	74%
<b>Housing Tenure</b>		
Owner-occupied housing units	44%	59%
Renter-occupied housing units	56%	41%

Source: 2010-2014 American Community Survey



**APPENDIX:  
HOUSING**

**Cost-Burdened Elderly Households**

<b>Renters</b>	<b>0-30% AMI</b>	<b>&gt;30-50% AMI</b>	<b>&gt;50-80% AMI</b>	<b>&gt;80-100% AMI</b>	<b>Over 100% AMI</b>	<b>Total</b>
Elderly	90	145	105	10	105	455
No Cost Burden	28%	24%	81%	100%	86%	54%
Cost Burden > 30%	44%	45%	19%	0%	10%	30%
Cost Burden > 50%	28%	31%	0%	0%	4%	16%
Not Computed	0%	0%	0%	0%	0%	0%

<b>Owners</b>	<b>0-30% AMI</b>	<b>&gt;30-50% AMI</b>	<b>&gt;50-80% AMI</b>	<b>&gt;80-100% AMI</b>	<b>Over 100% AMI</b>	<b>Total</b>
Elderly	80	175	480	185	1,035	1,955
No Cost Burden	0%	37%	55%	76%	91%	72%
Cost Burden > 30%	0%	34%	31%	22%	9%	17%
Cost Burden > 50%	88%	29%	14%	2%	0%	10%
Not Computed	13%	0%	0%	0%	0%	1%

Source: 2008-2012 American Community Survey

**POPULATION PROJECTIONS AND HOUSING CAPACITY**

The City of Portland’s estimated population in 2015 was 66,681. This is significantly less than the City’s historic high of 77,634, but represents an increase over prior years. For the period from 2000 to 2010, for example, census data shows that the City experienced a 3% increase in population. Data indicates that the daytime population of the City, approximately 96,000, is significantly higher than the current population estimate .

This plan supports the concept that those who work in Portland should be able to live here as well, and that, over the next decade, the City should aspire to accommodate 75% of the current daytime population, or approximately 72,000 people. Assuming an average household size of 2.08, this translates into a total of 2,557 new housing units over the next ten years.

# Recreation, Parks, and Open Spaces



**APPENDIX:**  
RECREATION, PARKS &  
OPEN SPACES

Portland's extensive network of parks and open spaces provides a variety of active and passive recreation opportunities for residents, workers, and visitors. These areas also serve other functions, protecting environmentally sensitive land, establishing habitat continuity, and improving public access to the water among them. Portland's network is characterized by large natural areas such as Oat Nuts Park, hardscaped areas such as Congress Square Park, and an extensive and continually evolving trail network. In addition to supporting parks and open spaces, the City's Parks and Recreation Department also provides recreational programming to the region.

## EXISTING CONDITIONS AND TRENDS

### Parks and Open Spaces

For planning purposes, the City historically defines a park as a publicly owned open space that is intended for passive or active recreation. The term "open space," however, comprises a broader category, including parks, playgrounds, active playing fields, community gardens, plazas/squares, cemeteries, trails, natural areas, golf courses, and joint-use school playgrounds. The City currently has a total of 63 publicly-owned parks covering 721 acres, including three on Peaks Island, and one on Cliff Island. In addition, the City has 35 land bank properties, totaling 483 acres. Lastly, Portland's trail network, portions of which occur on and through City property, form an important open space network throughout the City.

According to the City's 2016 *Open Space Vision and Implementation Plan*, the City's park and open space inventory includes the following:

- Signature Parks (195 acres) - Historically significant parks that serves the entire City. Examples include the Western Promenade and Deering Oaks Park.
- Neighborhood Parks (48 acres) - Parks greater than 0.5 acres, typically with three or more amenities (such as a basketball court, playground, or open lawn). One example is Fox Field.
- Pocket Parks (4.7 acres) - Parks smaller than 0.5 acres, typically with two or fewer amenities. Examples include Fessenden Park and Post Office Park.
- Plazas and Squares (2.1 acres) - Public areas of primarily hardscape that typically serve as a place for community gatherings or events. Examples include Congress Square Park and Longfellow Square.
- Cemeteries (350 acres)
- Special Use Areas (3.6 Acres) - Parks and open spaces designated for special uses. One example is Quarry Run Dog Park.
- Natural Areas (155 acres) - Unmanicured open spaces. Examples include Mayor Baxter Woods and Oat Nuts Park.
- Joint-use School Playgrounds (83 acres) - Playgrounds on public school property that receive investment by the Department of Public Works or Department of Recreation and Facilities.



**APPENDIX:**  
RECREATION, PARKS &  
OPEN SPACES

Examples of joint-use playgrounds include those at the Howard C. Reiche Community School and Riverton Elementary School.

The 2016 *Open Space Vision and Implementation Plan* identifies 63 parks and open spaces in the City's inventory.

1. Adams School Playground
2. Back Cove Trail
3. Barrows Park / Baxter's Sundial
4. Baxter Pines
5. Bayside Playground
6. Bayside Trail
7. Bedford Park
8. Bell Buoy Park
9. Belmade Park
10. Boothby Square
11. Bramhall Square
12. Caldwell Square
13. Canco Woods Natural Area
14. Capisic Pond Park
15. Clark Street Park
16. Compass Park
17. Congress Square Park
18. Conservation Area at Evergreen Cemetery
19. Deering High School / Longfellow - Presumpscot Park
20. Deering High School / Longfellow Elementary
21. Deering Oaks Park
22. Dougherty Field
23. East End School and Community Center
24. Eastern Promenade
25. Evergreen Cemetery
26. Fessenden Park
27. Fort Sumner Park
28. Fox Field
29. Hall School
30. Harbor View Memorial Park
31. Heseltine Park
32. Lincoln Park
33. Lobsterman Park
34. Longfellow Elementary School
35. Longfellow Park
36. Longfellow Square
37. Lyseth / Lyman Moore School Grounds
38. Martin Point Park
39. Mayor Baxter Woods
40. Monument Square
41. Munjoy Playground
42. Nason's Corner Park
43. Oatnuts Park
44. Ocean Avenue School
45. Payson Park
46. Peppermint Park
47. Pine Grove Park
48. Post Office Park
49. Presumpscot School
50. Quarry Run Dog Park
51. Reiche School
52. Riverton School
53. Riverton Trolley Park
54. Stroudwater Park 1
55. Stroudwater Park 2
56. Stroudwater Playground
57. Tate-Tyng Tot Lot
58. Tommy's Park
59. Trinity Park
60. University Park
61. Western Promenade
62. Ace Ballfield
63. City Acres Ballfield
61. Western Promenade
62. Ace Ballfield
63. City Acres Ballfield



**APPENDIX:  
RECREATION, PARKS &  
OPEN SPACES**



**Recreation Facilities**

Portland’s Parks and Recreation Department maintains a variety of recreation facilities and amenities and offers programming at several City-run facilities. Many of these facilities offer amenities such as vehicle and bicycle parking, handicapped access, and restrooms.

**City of Portland Recreation Facilities**

	Baseball/ Softball Fields	Basketball Courts	Multi-purpose Playing Fields	Swimming Pools	Tennis Courts
Breakwater School	X		X		
Deering Oaks Park	X	X	X		X
Deering High School	X		X		X
Dougherty Field	X	X	X	X	
East End School	X		X		
Eastern Promenade	X	X			X
Fitzpatrick Stadium			X		
Fox Field		X	X		
Hall School	X				
Lyman Moore School	X	X	X		X
Ocean Avenue School			X		
Payson Park	X	X			X
Peaks Island	X				
Pedro Little League Field	X				
Preble Street Field			X		
Presumpscot School	X		X		
Reiche School		X	X	X	
Riverside Field	X				
Riverton School		X		X	X

In addition to traditional playing fields and courts, Portland maintains a wide assortment of other facilities and seasonal activities, such as year-round ice skating at Troubh Ice Arena, golfing at Riverside Golf Course, sand volleyball at Deering Oaks Park, a skate park at Dougherty field, and a number of winter facilities, such as four outdoor skating ponds, sledding hills, a terrain park in Payson Park, and 6.1 km of Nordic ski trails at Riverside Golf Course.

**Shared Use Pathways (City-Owned And Maintained)**

**Back Cove Trail**

Back Cove is one of the oldest and most popular trails in Portland. The loop trail circles the Back Cove and is used for walking, running, and biking, and connects to the Bayside and Eastern Promenade Trails under Tukey’s Bridge.



**APPENDIX:  
RECREATION, PARKS &  
OPEN SPACES**

### **Eastern Promenade**

The Eastern Promenade Trail is a 2.1 mile trail with connections to Back Cove Trail and the Bayside Trail. Hugging the water, it runs along the perimeter of the combined 68 acres of the Eastern Promenade and Fort Allen Park. The Eastern Promenade is a multi-purpose public space, and the trail connects not only to other trails, but to ball fields, tennis courts, basketball courts, a playground, a boat launch, a beach, and the many views of Back Cove and Casco Bay.

### **Fore River Parkway Trail**

The Fore River Parkway Trail links West Commercial Street with the Portland Transportation Center.

### **Bayside Trail**

Begun in 2005 on a former railroad property, the Bayside Trail connects the Eastern Promenade to Preble Street. Ultimately, the trail will connect to Deering Oaks Park.

### **Recreation Department Programming**

Portland's Recreation Division offers a broad array of programming for all ages in locations throughout the City. Sports programming is offered to preschoolers, youth, teens, adults, and seniors across a spectrum of activities including swimming, basketball, dance, golf, and yoga. Skills courses, such as outdoor survival skills and American Red Cross babysitting are also offered to youth. The City runs a variety of sports clinics and competitive sports leagues for youth as well. Teen programming includes structured activities, such as American Red Cross babysitting and hip hop dance, and unstructured activities, such as open gym. Adult programming is mostly focused on athletic offerings and senior programming is primarily focused on social programming, such as luncheons and day trips.

### **LAND BANK COMMISSION**

The Land Bank Commission, created by the City Council in 1999, is essential to identifying and protecting open space resources within the City of Portland by supporting the acquisition and conservation of open space. The Commission also works to secure gifts and pursue funding to purchase these resources, assisting the City with some of this cost. All City parks are in the Land Bank. The City's Code of Ordinances lists all protected properties and explicitly dictates what activities are allowed in and around these areas, prohibiting them from being removed from this list for non-recreational purposes without approval of seven members of the City Council. Currently, the Land Bank maintains a digital inventory of parcels it has purchased, and prioritizes potential open space and recreation parcels for future acquisition.

### **PARTNERSHIPS**

The City of Portland's open space network thrives in part through collaboration with other organizations that advocate for and program publically accessible space. These include regional land trusts, the state program Land for Maine's Future, national organizations such as the Trust for Public Land, friends groups such as the Friends of the Eastern Promenade, the cooperation of private landowners, and dedicated work of local non-profits such as Cultivating Community and Portland Trails.





**APPENDIX:  
RECREATION, PARKS &  
OPEN SPACES**

Likewise, the City engages in a strong partnership with Portland Trails. Portland Trails oversees a trail network reaching over 70 miles, connecting Portland with Westbrook, South Portland, and Falmouth. These trails have been developed in conjunction with other non-profits, private landowners, neighboring communities, and in partnership with the City of Portland. They provide access within a quarter mile of 95% of all Portland residents, and offer free recreation opportunities for all ages. An urban land trust, Portland Trails has not only been a primary proponent of our robust trail network, but it also advocates in the areas of placemaking, conservation, and active transportation.

**RECENT PLANNING EFFORTS**

Recent planning work on the part of the city, much of it contained in the 2016 *Open Space Vision and Implementation Plan*, focused on identifying and addressing gaps in the existing recreation and open space system.

**Access To Parks**

According to analysis done for the plan, 86% of Portland residents live within a half-mile walk of a park. While proximity to parks is one indicator of the adequacy of the City's park system, so too are the demographics of the residents living in proximity to park land. When overall population density, density of individuals in households with incomes less than \$35,000, density of children under the age of 19, and density of seniors 64 years and older were considered, no place in the City appears to rise to a level of critical need for improved access to parks. However, several locations could benefit from access improvements. Such areas include the portion of East Deering located east of I-295, the portions of North Deering bounded by Washington Avenue and Auburn Street and bounded by Washington Avenue and the railroad, the portion of North Deering bounded by Allen and Maine Avenues, the portion of the Riverton off of Lane Avenue, and the portion of East Deering off of Pheasant Hill and Eben Hill Drives.

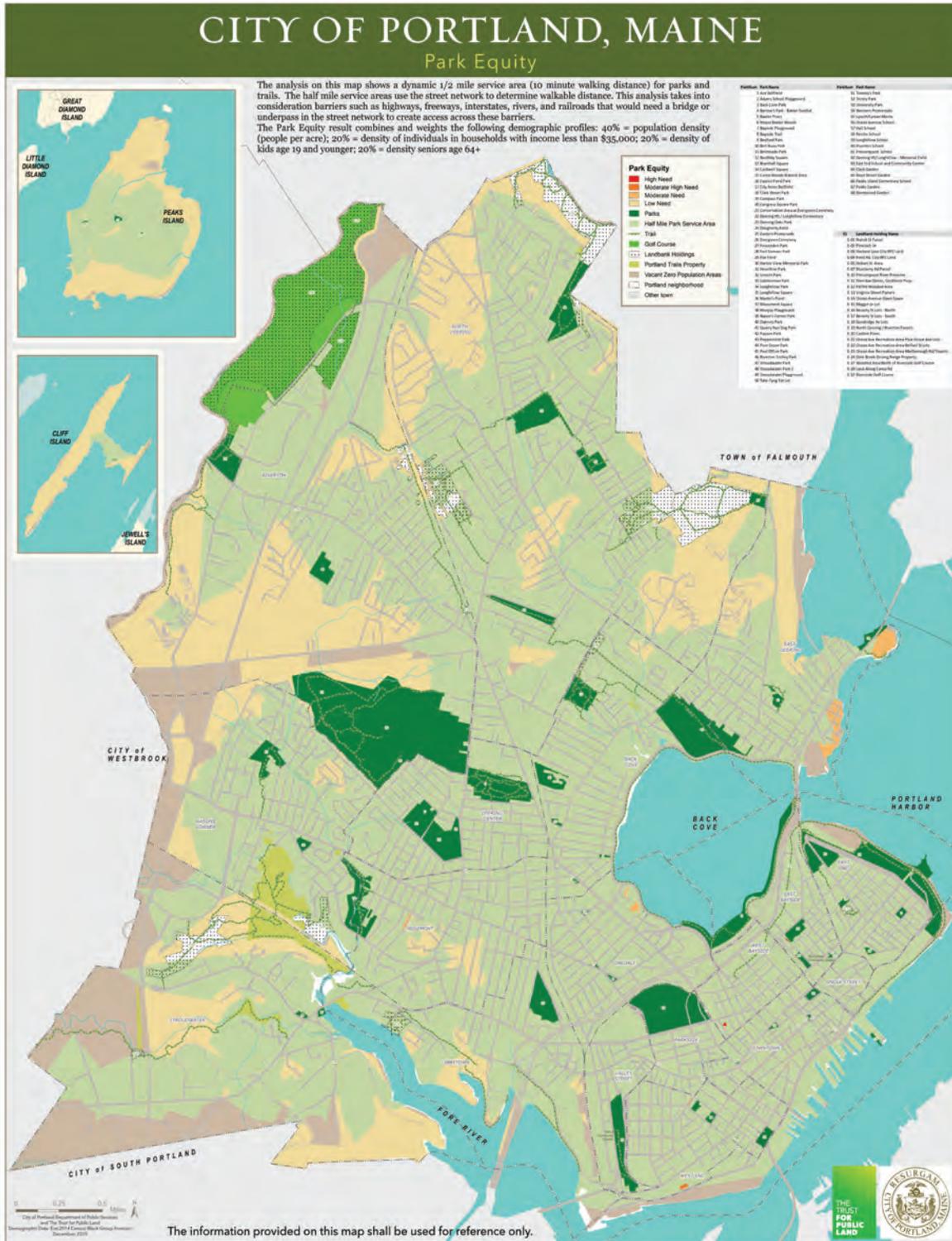
**Access To Open Water**

Many of the City's parks and open spaces, including those both on the mainland and on the islands, provide opportunities to recreate near or on the water. Of the City's mainland open spaces, those on the Eastern Waterfront, Presumpscot River, and Back Cove offer the most water access. In the Eastern Waterfront, the East End Beach provides a public beach area, a commercial ramp located near the bathhouse, and a public recreational boat ramp adjacent to a boat storage area. The Fore River Trail also provides important public access to the water.

However, other portions of the waterfront are not as readily accessed. The Western Waterfront is mostly industrial in nature, and provides little public access. Similarly, the Central Waterfront is also characterized by its working waterfront, with little recreational access. Two areas with potential to offer greater waterfront access in the coming years are a privately owned access point planned for Thompson's Point to the west, and the City's Amethyst Lot, which is being examined as new open space along the Eastern Waterfront.



**APPENDIX:  
RECREATION, PARKS &  
OPEN SPACES**





**APPENDIX:  
RECREATION, PARKS &  
OPEN SPACES**

**Capacity and Community Needs**

Building on a survey performed in 2007, the Trust for Public Land (TPL) completed a community needs survey in 2015, collecting 1,107 responses from residents. The 2007 and 2015 survey questions did not precisely align, but it is still possible to interpret the general changes in responses over the intervening time. As part of the survey, respondents were asked to estimate how frequently they use local parks. In 2015, respondents indicated visiting Portland’s parks with much higher frequency than in 2007. For example, 100% of recent respondents said they visited Portland’s parks at least once per year, whereas only 85% did in 2007. In 2007, only 54% visited the parks 11-19 times per year. In 2015, however, 89% visited at least monthly, and 79% visited at least a few times per month.

**2014/2015 Park Visit Frequency**

Daily	16%
A few times a week	51%
A few times a month	79%
Monthly	89%
A few times a year	100%
Never	0%

**2007 Park Visit Frequency**

20+ times a year	40%
11-19 times a year	54%
6-10 times a year	75%
1-5 times a year	98%
Never	15%

A second question asked respondents to identify the parks they use most frequently. The following table compares the 2007 study to the 2015 results. The results appear consistent between the two years in terms of ranking, although the volume of visitors is higher overall in 2014/2015.

	<b>Percent of Respondents Visiting Parks in 2014/2015</b>	<b>Percent of Respondents Visiting Parks in 2007</b>
Eastern Promenade (Trail)*	85%	47%
Back Cove Trail	82%	65%
Deering Oaks Park	79%	63%
Payson Park	58%	45%
Peaks Island	52%	Not Provided as Option
Western Promenade	50%	29%
Fort Allen Park / Eastern Prom*	50%	57%
Evergreen Cemetery Woodlands	46%	35%
Congress Square Park	46%	Not Provided as Option
Baxter Woods	44%	36%

*\*Eastern Promenade is listed twice on the 2014/2015 survey. The first listing provides the statistics for the Eastern Promenade Trail in the 2007 column.*



**APPENDIX:  
RECREATION, PARKS &  
OPEN SPACES**

**Improvements and Maintenance Issues**

In the summer of 2015, The Trust for Public Land and Portland Trails deployed a rapid assessment tool to evaluate the performance of Portland parks and open spaces on a number of metrics, including accessibility, level of amenities, support for educational uses, supportive facilities, aesthetics, safety, and maintenance conditions. The evaluation provided a snapshot-in-time analysis to help assess current park quality, establish a baseline for future evaluations, and inform decision-making regarding future investments. The rapid assessment revealed trends and necessary system-wide improvements.

**Protections, funding, and development**

Most of the larger parks and open spaces throughout Portland, such as Deering Oaks, Eastern and Western Promenades, Baxter Woods, Baxter Pines, Riverside Golf Course, Payson Park, and Stroudwater Park, are protected through deed covenants and easements, and the City's codes, the Land Bank Commission, and the Parks Commission rigorously address and review parks preservation, transactions, and alterations. However, like in most municipalities, funding for open space maintenance and acquisition is always a challenging issue. Likewise, keeping pace with park capital and operating needs is also a challenge.

# Public Facilities & Services



APPENDIX:  
FACILITIES &  
SERVICES

The City of Portland provides a variety of municipal services, including police and fire protection; the construction and maintenance of public infrastructure; sewer, wastewater, and trash collection services; health and social services; public schools; and planning, zoning, and general administrative services. Facilities associated with these and other public services are located within and serve every neighborhood in the City.

## EXISTING CONDITIONS AND TRENDS

### Municipal Governance

The City of Portland operates under a Council-Manager form of government with a nine-member City Council. Each of the City's five voting districts elects one Council member, and four members are elected from the registered voters of the entire City at-large. The Council members are elected for three-year staggered terms, and the Charter grants to the City Council all powers to enact, amend, or repeal rules, ordinances, and resolutions relating to the City's property, affairs, and government; to preserve the public peace, health, and safety; to establish personnel policies; and to authorize the issuance of debt. The entire Council, working as the Finance Committee, adopts an annual budget and provides for an annual audit. The City Manager is the administrative head of the City and is responsible to the City Council for the administration of all departments.

Following changes to the City charter approved by the voters in 2010, the City began electing a full-time mayor. Prior to these changes, the City's mayor was elected by and chosen from among the nine-member City Council for a one-year term. The Mayor provides community leadership, develops policies with the Council to guide the strategic goals and priorities for the City, and is also considered the City's top elected official.

### Police

The City of Portland Police Department is the largest in the state of Maine, with a staff of 163 sworn officers and 59 civilian employees. The administrative arm of the Department is comprised of the Office of the Chief, as well as a number of administrative and management positions. The Police Attorney provides legal services in areas ranging from labor and employment law to search and seizure, and ensures Department compliance with City, State, and federal laws. The Neighborhood Prosecutor addresses day-to-day neighborhood and quality of life issues. The Department's Principal Financial Officer oversees all fiscal aspects including budgeting, payroll, purchasing, and financial grants management. The Personnel Office oversees all human resources needs including recruitment, hiring, benefits, and retirement. The Internal Affairs Unit guarantees the integrity of the Department by ensuring the highest standards of professionalism from all employees, and investigates complaints against personnel, tracks the use of force by police officers, and administers the Department's Performance Management System.

The Patrol Division is comprised of over 80 uniformed patrol officers. They respond to service calls and patrol neighborhoods regularly. Additional officers are assigned to perform traffic enforcement and accident investigations, Jetport patrol, and Peaks Island patrol. A major and six lieutenants run the day-to-day operations of patrol. Officers are assigned to one of six teams and work a hybrid schedule of four 10-hour and five 8-hour shifts, allowing for a concentration of personnel during

the busiest time periods. Each team plays an important role in serving the community. At least half of all patrol officers are members of a specialty team such as the Dive Team, Hostage Negotiator Team, Special Reaction Team, K9 Team, or Bomb Team. In 2015, the Department responded to 85,115 calls.

**Fire Department And EMS**

The Fire Department has 236 employees, including a Fire Chief, five Deputy Chiefs, 12 Captains, 37 Lieutenants, and approximately 146 firefighters. The Fire Department operates nine stations and maintains approximately 40 vehicles. Emergency Medical Service (EMS) is provided by the EMS Division of the Fire Department. The EMS maintains nine MEDCU units, and also operates fireboat service protecting the harbor areas of Portland and the adjoining City of South Portland and the sixteen islands in Casco Bay.

In 2013, the City conducted a comprehensive analysis of public safety facilities in Portland. The report determined that almost all of Portland’s geography lies within the recommended distance from a fire station, including the islands. The only areas outside of that coverage were extreme southwest and northern areas of the City.

**City of Portland Fire Stations (2013)**



One measure of performance of any emergency service provider is response time. National Fire Protection Association (NFPA) national response time guidelines recommend that the first arriving apparatus to a fire alarm or a medical emergency arrive within five minutes of being dispatched at least 90% of the time. Subsequent apparatus are allowed additional time. According to City data, in 2012 the average response time for first arriving units on the mainland is within three minutes and twenty-six seconds, and 90% of all calls are answered within six minutes. On average, a MEDCU



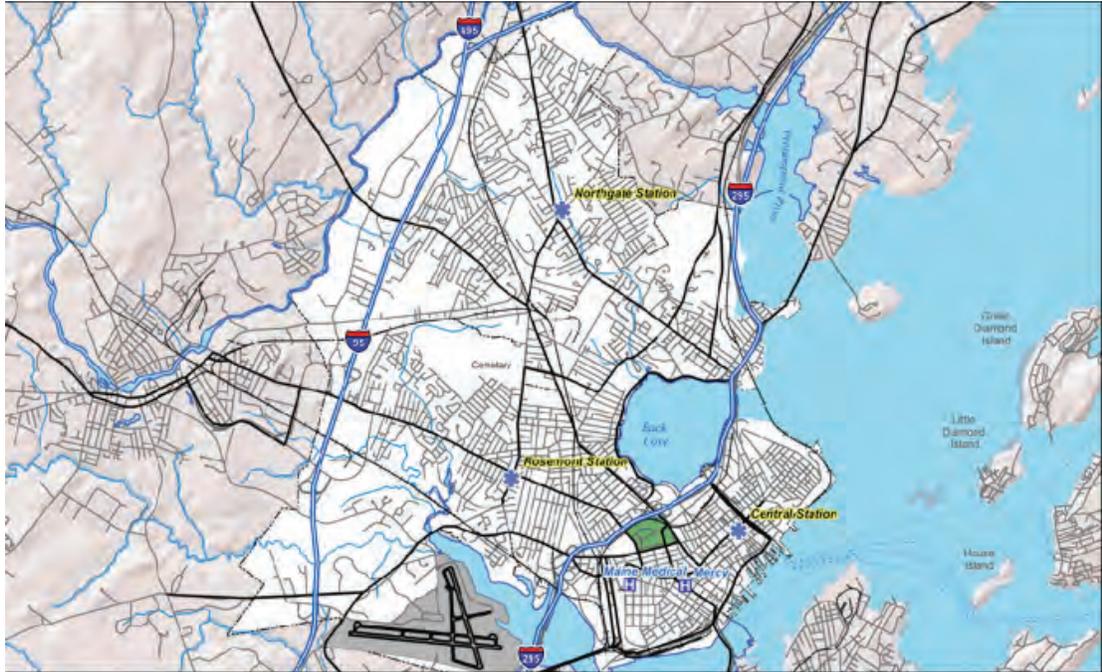
**APPENDIX:**  
FACILITIES &  
SERVICES



City of Portland Island Fire Stations (2013)



City of Portland MEDCU Stations (2013)



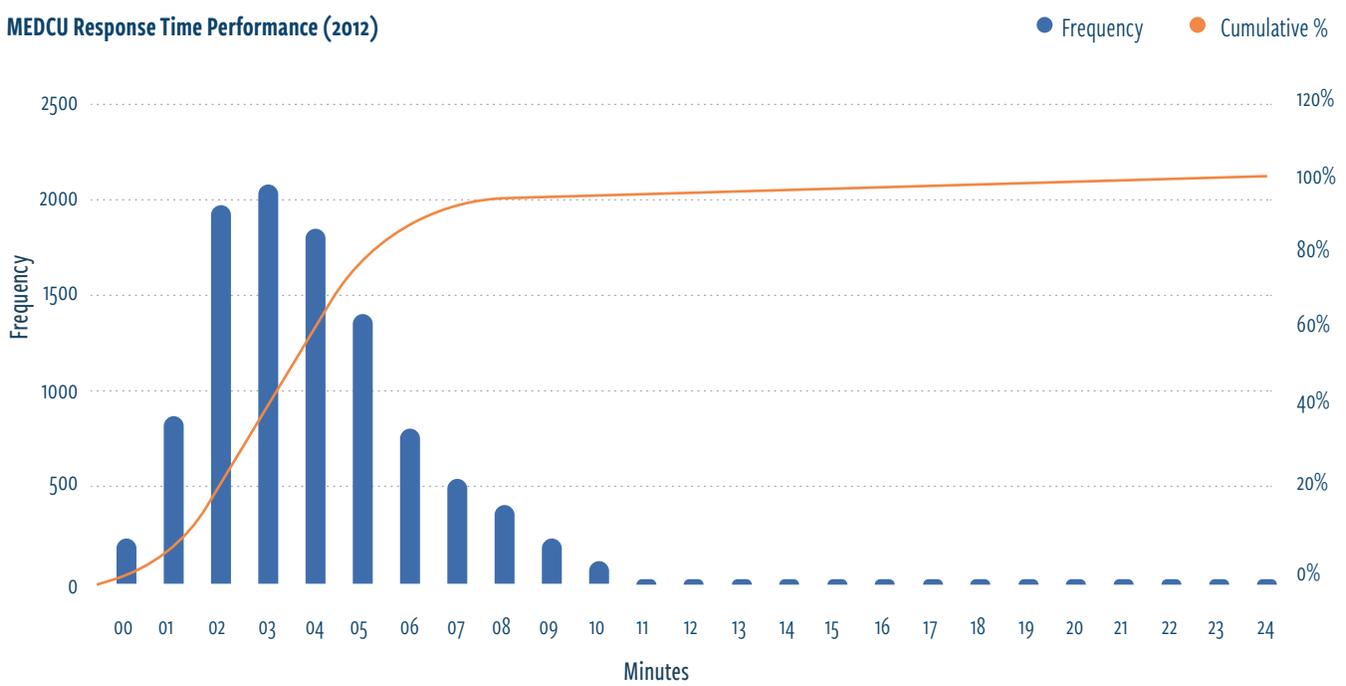


**APPENDIX:  
FACILITIES &  
SERVICES**

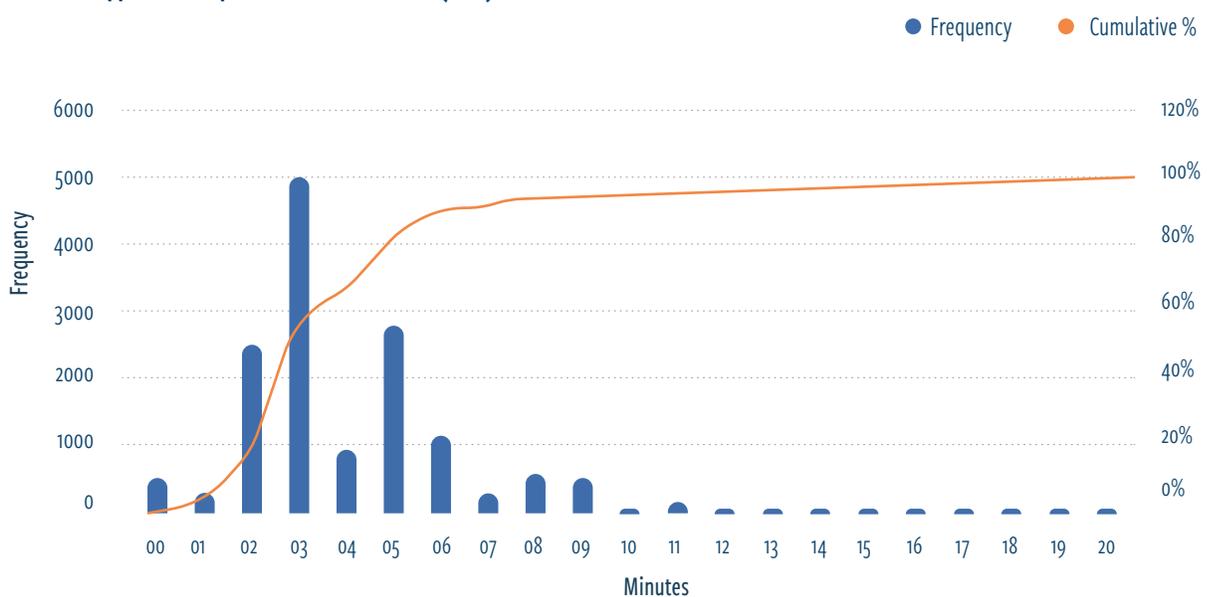


arrives on scene within four minutes and twenty-six seconds and answered 90% of all calls within seven minutes and twenty-six seconds.

**MEDCU Response Time Performance (2012)**



**Mainland Apparatus Response Time Performance (2012)**





### **Emergency Response System**

The City of Portland, South Portland, and the Town of Cape Elizabeth share a joint emergency communications center. The center is staffed 24 hours a day to answer 911 calls and radio dispatch the fire and police departments. Dispatchers at the communications center are trained as State Certified Emergency Medial Dispatchers (EMD), and the communications center is compliant with Maine Title 32 Chapter 2-B SS 85-A.

### **Communications**

Portland has many vendors offering broadband service. Time Warner Cable, FairPoint Communications, and GWI all offer wired internet access to major areas of the City. These providers use a variety of wired technologies, including cable and DSL. Oxford Networks offers fiber to some areas in Portland. In 2015, the City began the effort of studying the feasibility of a potential City-wide fiber network.

### **Health and Human Services**

The Department of Health and Human Services undertakes the planning and coordination of human service activities in Portland, including Public Health, Social Services, and direct skilled and intermediate care through the Barron Center.

The Health and Human Services Department has 260 employees at the Barron Center with 77 additional persons on-call, 61 Public Health employees with 19 additional persons on-call, and 61 Social Service staff members with seven individuals on-call. The Barron Center provides for long-term health care, both skilled and intermediate, with a 235-bed nursing home facility, which opened in 1982. The former Portland City Hospital is now congregate housing for the elderly and provides 110 units. An additional 50-bed Alzheimer's care facility on the 12-acre campus complex was completed and opened in March of 1992.

### **Public Works**

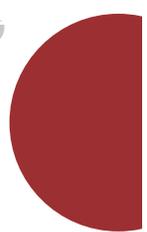
The City's Public Works Department is responsible for managing the construction and maintenance of roads, sidewalks, sewer facilities, wastewater facilities, and snow removal. The Department is also responsible for traffic control, street lighting, sanitation, and the removal and disposal of refuse and garbage. Public Works has a total of 150 employees with approximately 10 additional seasonal or on-call staff.

### **Solid Waste Collection and Recycling**

Public Works provides weekly curbside recycling and trash collection to residential properties within the boundaries of the City of Portland, serving approximately 23,000 households with a staff of 19 people. The City does not provide service to commercial entities, many large apartment complexes, or condominiums. The waste is delivered to facilities operated by Ecomaine on Blueberry Road in Portland. In FY 2002, Portland delivered 13,675 tons of trash to Ecomaine and 6,426 tons of recyclables. DPW is also responsible for receptacles in public spaces, the "silver bullet" drop-off recycle center, waste and recycling collection services for public schools and City buildings, and the Riverside Recycling Facility.



**APPENDIX:  
FACILITIES &  
SERVICES**

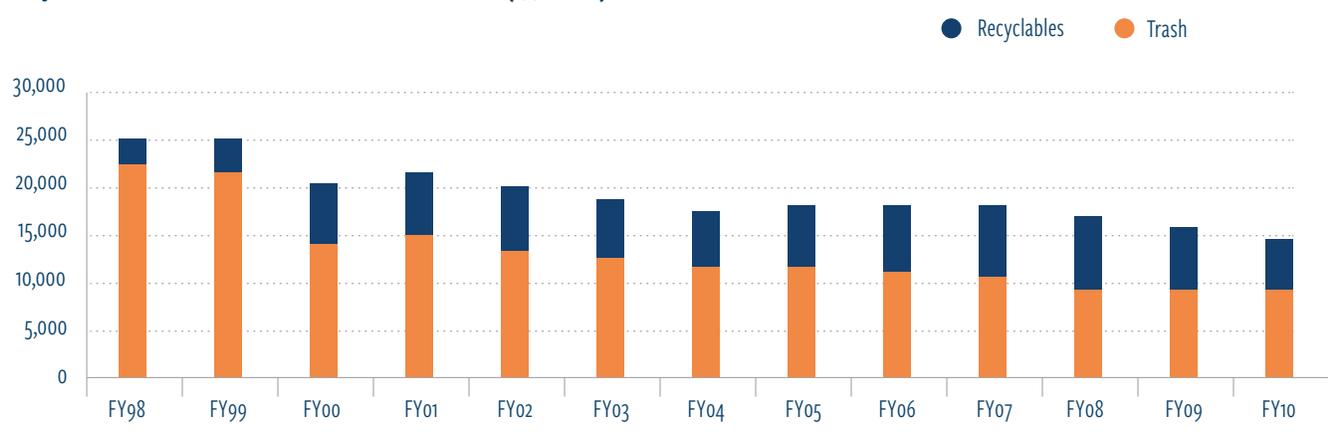


Portland Public Works delivers bulk waste to the City-owned Riverside Recycling Facility at 910 Riverside Street, the City’s transfer station and waste processing facility located on top of a capped landfill. The facility accepts bulk waste and construction and demolition debris from other municipalities, residents, and commercial waste haulers. Its lifespan is indefinite, and it accepts a total of approximately 41,000 tons of waste annually, of which only 6,600 tons comes from the City of Portland.

In 1998, the City’s Recycling Advisory Committee released a report containing recommendations that would retool the City’s recycling program considerably. The report received unanimous support from the City Council, who in 1999 approved implementation of several recommended programs including the blue bag “Pay As You Throw” (PAYT) program and the curbside recycling program that Portland residents use today. These changes led to marked improvements in the City’s waste handling practices and significantly reduced the amount of waste disposed of by Portland residents.

Between 1998 and 2010, the overall quantity of material, trash, and recyclables produced by residents of the City of Portland fell dramatically. In FY98, City vehicles delivered about 25,000 tons of material to Ecomaine facilities. Only 7% of this was recyclable. By 2010, City vehicles delivered only about 15,000 tons of material to Ecomaine facilities, 33% of which were recyclables.

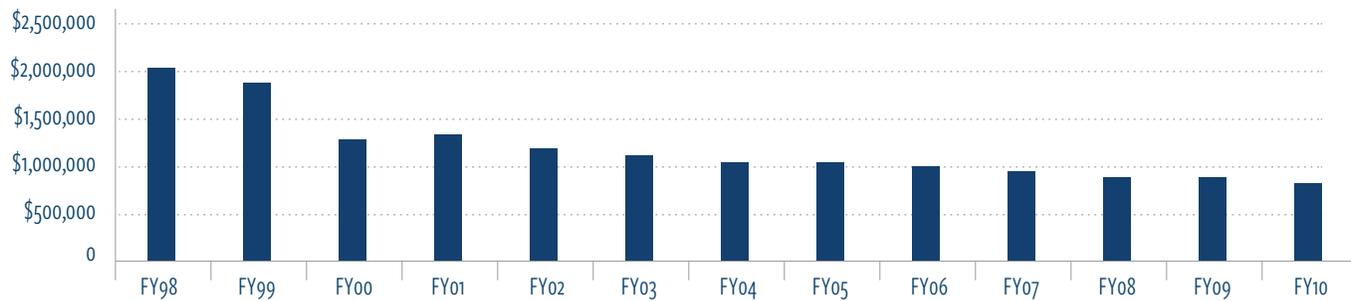
**City of Portland Material Deliveries to EcoMaine in Tons (1998-2010)**



Beyond the environmental benefits, this increase is significant because the City does not pay a tipping fee for recyclables or for waste that is not generated and set out for collection in the first place. In 1998 the City brought over 23,000 tons of waste to Ecomaine. This resulted in tipping fees of over \$2,000,000. By 2010, waste deliveries had fallen to less than 10,000 tons and tipping fees amounted to less than \$900,000, a major reduction resulting in several million dollars in savings over a decade.



### Tipping Fees Paid to EcoMaine (1998-2010)



### Water and Wastewater

Portland Water District (PWD) is a separate quasi-municipal entity whose operations are not part of the City. Although the City owns and maintains the infrastructure and is responsible for the cost of its maintenance, improvements, and expansion, PWD owns and manages the treatment of the City's water and wastewater. All City users of the water and wastewater systems pay monthly or quarterly fees, based upon water volume, to support expenditures to maintain these services.

Portland's East End wastewater facility was originally constructed in 1979 and the largest in Maine. It serves about 60,000 people, with an average flow of 19.8 millions of gallons per day, and a peak flow of 80 millions of gallons per day. Four million tons of septage from private septic systems in Naples, Casco, Bridgton, Yarmouth and several others communities is also sent to the facility for treatment. The water is treated and then released into Casco Bay. The biosolids, treated and removed in the process, are trucked to local farms and spread on fields to condition the soil. There are also pumping stations located throughout the City that move wastewater to the East End facility.

A second facility is located on Peaks Island, serving about 500 people and averaging a flow of 0.2 million gallons a day, with a peak flow of 0.61 million gallons a day. The facility has received three awards for engineering excellence, one from the Association of American Consulting Engineers and two from Consulting Engineers of Maine. Treating wastewater on Peaks Island became easier and more efficient once the sanitary and storm sewers were separated, allowing wastewater to now be confined to the sanitary system, resulting in a decreased risk of overflows occurring because of additional volume of water entering the system after heavy rains. With completion of sewers on Island Avenue and Welch Street and the addition of sewers at Torrington Point, overboard discharges of wastewater into Casco Bay was practically eliminated.

The City's Public Works Department manages system administration, inspections, investigations, Dig Safe, maintenance, repairs, and wastewater pumping stations. DPW manages 200 plus miles of sewer lines and 100 plus miles of stormwater lines, with 4,400 catch basins, as well as several thousand sewer and stormwater manholes. DPW also maintains the City's roadside ditches, culverts and sewers, and stormwater lines located on the right-of-way.



### **Stormwater Management**

As a Municipal Separate Storm Sewer System (MS4) community, the City of Portland is required to comply with federal regulations under the NPDES Phase II Stormwater Program. Communities are designated as MS4 if the National Pollutant Discharge Elimination System (NPDES) permitting authority determines that its discharges cause, or have the potential to cause, an adverse impact on water quality. The MS4 designation is based on the decennial U.S. census data for “Urbanized Areas,” which are generally defined as densely developed census tracts or blocks with populations of at least 50,000.

Every five years, the Maine Department of Environmental Protection (MEDEP) issues a state-wide General Permit to all communities designated as small MS4s. The 2013-18 General Permit identifies thirty MS4 communities in Maine and requires them all to implement Minimum Control Measures (MCMs) to reduce pollution from stormwater runoff. The six Minimum Control Measures (MCMs) include: public education and outreach on stormwater impacts; public involvement and participation; Illicit discharge detection and elimination; construction site stormwater runoff control; post-construction stormwater management in new development and redevelopment; and pollution prevention/good housekeeping for municipal operations. The *Stormwater Management Plan* for Portland was completed in 2008. The plan identifies priority watersheds, including Capisic Brook and Fall Brook, and also describes in detail how the City will achieve each of the six MCMs.

In 2016, the City implemented a stormwater fee to fund stormwater projects costing \$170 million over the next 15 years. These projects will help the City meet its MS4 requirements to reduce the amount of polluted runoff that is released into its waterways. The fee is intended to spread the cost among the largest number of property owners possible, and its calculation is based on the total impervious surface of a lot. Impervious surfaces may include rooftops, parking lots, or driveways. Currently, the average City resident pays \$4.50 monthly in stormwater fees. The City also offers mitigation credits for the installation of rain gardens or other low-impact development measures.

### **Municipal Facilities**

The Department of Parks, Recreation, and Facilities operates a number of public buildings with a City staff of 35 permanent employees and 74 seasonal or on-call employees.

#### **Merrill Auditorium**

Built in 1912 adjoining City Hall, Merrill Auditorium was most recently renovated in 1996. The facility currently seats an audience of 1,900, and hosts a broad range of performing arts, including the Portland Symphony Orchestra and Portland Ovations. There is also strong community use, with graduations, dance recitals, and lectures.

#### **City Homeless Shelters**

The City of Portland operates two homeless shelters, the Family Shelter and the Oxford Street Shelter, the largest shelters serving their respective populations in the state. The Family Shelter provides both preventative services for families at risk of homelessness and support services for homeless families. The Oxford Street Shelter is a low-barrier shelter for homeless adults.



**APPENDIX:  
FACILITIES &  
SERVICES**

### **Public Library**

The Portland Public Library was first established in 1867 as the Portland Institute. In 1889, the library incorporated as the Portland Public Library, a non-profit organization, which operated and maintained the newly built Baxter Library at 619 Congress Street. In August, 1979, the library moved to its present 80,000 square foot facility at 5 Monument Square, which was financed by a \$6.2 million bond issue of the City. The modern facility includes an automated circulation system, an auditorium, and conference rooms. The Portland Room contains the library's special collections for display, reference use, and preservation. In addition to a main library, there are three branch libraries - Burbank in Deering Center, Peaks Island, and Riverton. The library also operates an active Bookmobile. The Portland Public Library is managed by a Board of Trustees, which currently consists of 26 Trustees. As an independent and non-profit organization, the library is funded through a combination of its own resources and grants from the City, Cumberland County, and the State of Maine. The City owns the land and buildings in which the library operates.

### **Hadlock Field**

Hadlock Field is home to the Portland Sea Dogs, the Portland High School Bulldogs, and the Deering High School Rams. Named after long time Portland High baseball coach Edson Hadlock Jr., Hadlock Field is a 7,368 seat minor league baseball stadium that was most recently renovated in 1993. Since the Sea Dogs became the Boston Red Sox AA farm club in 2003, Hadlock has been transformed into a small Fenway. The left field wall is reminiscent of the famed "Green Monster" at Boston's Fenway Park, complete with Citgo sign and Coca-Cola bottles. The facility hosts other public events in addition to minor league baseball, including NCAA baseball tournaments, Maine American Legion tournaments, Maine Senior Little League tournaments, and a variety of camps and special events.

### **Portland Exposition Building**

The Portland Exposition Building is a 24,000 sq.ft. facility that is home to the Maine Red Claws NBA Development League team and the Portland High School Bulldogs. It also hosts a variety of public events, including speeches, concerts, and trade shows. It can be rented for public and private use.

### **Ocean Gateway**

The 5,600 Ocean Gateway is located along the Eastern Waterfront and is available for rental for corporate meetings, wedding receptions, fundraisers, and other functions.

### **Municipal Offices**

Portland City Hall, constructed in 1912, houses City offices, including the City Manager's office, the Mayor's office, Corporation Counsel, Health & Human Services, Economic Development, Human Resources, Parking, Permitting & Inspections, and Planning & Urban Development. Other City-owned properties also house City offices - 55 Portland Street contains Public Works offices; a portion of the Department of Public Health's offices are at 166 Brackett Street; the Police Department occupies 109 Middle Street; Parks, Recreation & Facilities has recently moved to 212 Canco Road; the Fire Department occupies 380 Congress Street; and the Recreation Division has a presence at 134 Congress Street, as well as in multiple, school-based recreation offices in the City.



### **Portland International Jetport**

The Jetport is owned and operated by the City of Portland. Originally a small private airfield, today the Jetport serves most major domestic airlines and over 1.6 million passengers a year. The present main runway was built in 1957 and lengthened in 1966. The current terminal building opened in 1968, when jet aircraft arrived, and has been expanded at least twice since. Northeast Airlines was the Jetport's only major carrier until the 1970s, when it was bought by Delta, and several other airlines came to Portland. Today, the Jetport is the fastest-growing airport in New England, and several expansions and other improvements have been made to keep up with that growth. Recent major projects include the opening of Maine Turnpike Exit 46.

### **Portland Public Schools**

The City operates its educational program for grades K through 12 and for applied technology education under its own supervision. The Department of Education for the City is administered by a nine member School Board, which performs all duties in regard to the care and management of the public schools. The School Board submits its budget to the City Council annually and included in the City budget process. The Schools' staff consists of a Superintendent, an Assistant Superintendent, 18 full-time principals, 12 full-time assistant principals, 597 full-time equivalent teachers, of which 571 are locally funded and 26 are federally- or state-funded, and 463 various other professional and non-professional staff. Portland Public Schools had a \$103.6 million budget for fiscal year 2017.

Portland Public Schools operates 10 elementary schools, three middle schools, and four high schools serving approximately 7,000 students in kindergarten through grade 12, as well as an adult education program that serves approximately 4,700 adult learners. The Operations Department of Portland Public Schools is charged with activities associated with the delivery of services to students, employees, and the general public, which include facilities operations and maintenance; capital planning; school design and construction; student transportation; community use of school facilities; property management; food services; emergency management; and safety management and procedures.

### **Portland Adult Education**

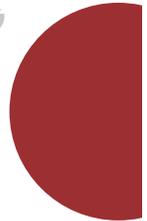
Portland Adult Education offers State of Maine approved CNA courses, including classroom, lab, and clinical experiences. Tuition includes texts, materials, and graduation fees. The admission process includes the completion of an application packet, passing a reading assessment, and an interview. Candidates must be at least 18 years of age and have a high school diploma or equivalency. The facility moved in 2013 from the West School to the formal Cathedral School (also known as Kavanagh). The job skills program is at the Riverton Elementary School.

### **Hospitals**

Portland is a health care center for the region. The two largest hospitals in Portland, neither of which are municipal facilities, are Maine Medical Center and Mercy Hospital. Maine Medical Center is the the largest hospital in Maine and is a fully accredited, community-oriented teaching hospital, serving the City, as well as the State and much of northern New England. Mercy Hospital is a

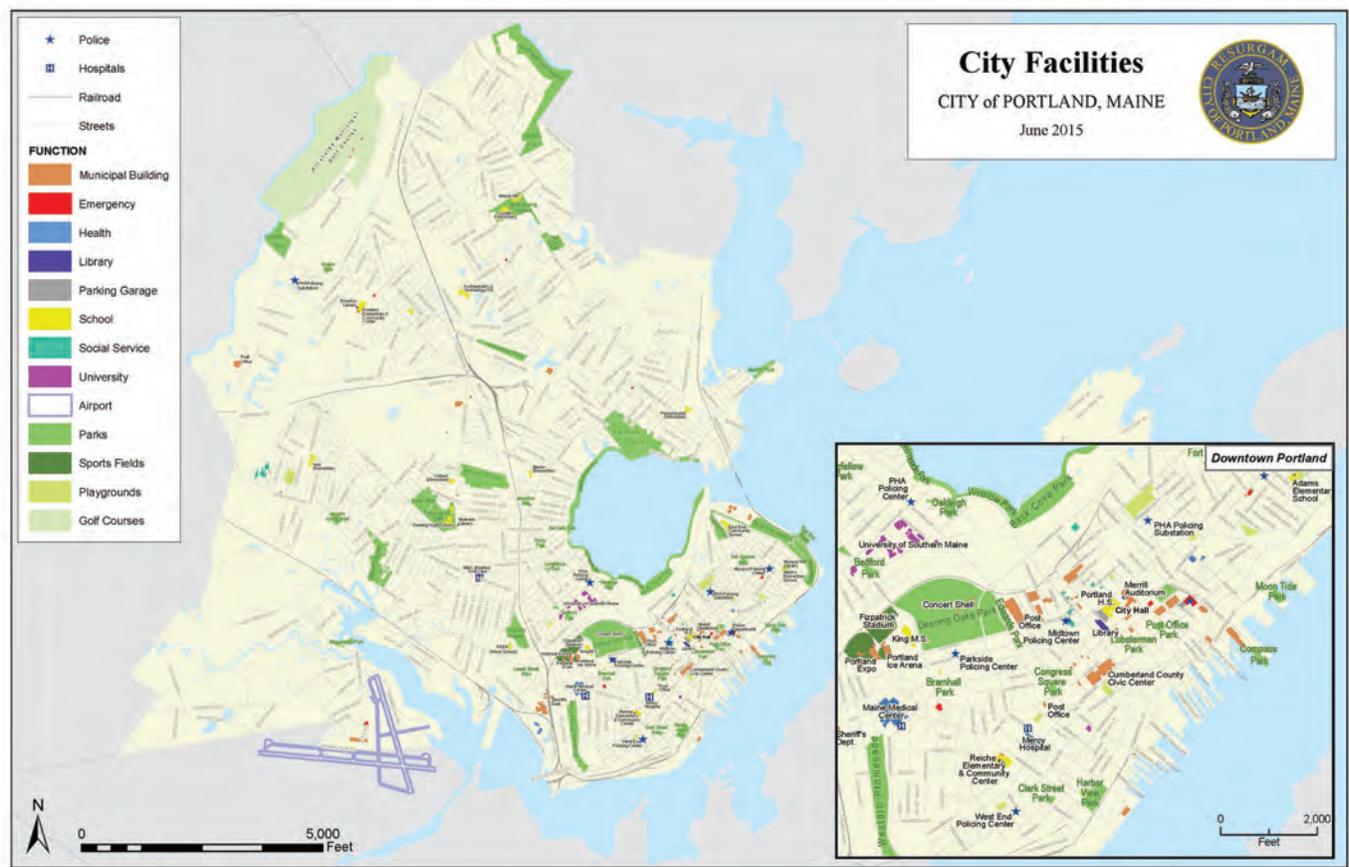


**APPENDIX:  
FACILITIES &  
SERVICES**

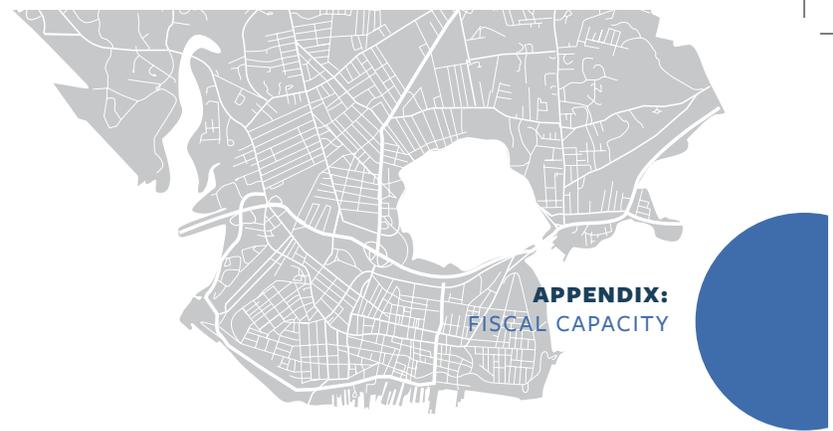


200-bed community hospital established by the Sisters of Mercy in 1918, providing inpatient, outpatient and emergency services in medicine, surgery, and obstetrics.

**City Facilities (2015)**



# Fiscal Capacity



Portland is a full service community. As such, the City must think long-term about its ability to provide services to its residents, businesses, and visitors. As with any city, the cost of providing services can be high. For this reason, the City has systems in place that ensure long-term fiscal capacity.

## CONTEXT

The City adopts a budget annually. The budget identifies expenditures and revenues and provides the basis for the determination of the City's property tax rate. The budget must be self-contained.

The City incorporates a suite of budgeting tools to guide budget procedures, including:

- Budget Policies and Procedure - The Finance Department has a set of policies and procedures based on the Generally Accepted Accounting Principles (GAAP.)
- Debt Management Policy - The City has a debt management policy related to borrowing. This policy is based on state law but further refines how and when the City will borrow money for capital needs.
- Fund Balance Policy - Fund reserves are budgeted for unforeseen circumstances. The Fund Balance Policy is designed to ensure that the City remains fiscally resilient.
- Primary Investment Policy - This policy outlines what investments the City is allowed to make to ensure that these investments are prudent, free of conflict of interest, and align with other City policies.
- Procurement Ordinance - The City's procurement ordinance outlines policies with respect to making purchases.

One element of the City's budget is the Capital Improvement Plan (CIP). The City has a robust CIP process that begins with requests for funding from City departments, works through the City Manager's determinations as to what CIP items are most needed and fiscally prudent, and ending with a five year CIP. This process is revisited annually to ensure that the CIP items remain current. In the past, the City has completed the CIP process parallel to the annual budget process.

Portland uses a combination of general fund allocations, federal and state grants, and borrowing to fund future investments. In general, the goal is to leverage City funds as much as possible with state and federal grant programs, as well as private donations. For example, a renovation of the Peaks Island Library will be completed using both City CIP funds and a major donation from a private benefactor.

The CIP is developed consistent with the City's debt management policy. That policy governs how the City borrows money to pay for future investments. That policy limits long-term debt outstanding to 15% of the state-assessed valuation of the City. That policy also aims to keep the City's bond ratings no lower than AA by Standard & Poor's and Aa1 by Moody's. Recently, the City's bond rating was increased to "AA positive" by Standard and Poor's, showing the success of the City's debt



**APPENDIX:  
FISCAL CAPACITY**

management policy. The City's debt management policy also requires that City debt stay within state statutory and Maine Bond Bank recommended limits.

**EXISTING CONDITIONS AND TRENDS**

**City Revenues and Expenditures, FY 2012-2017**

Until fiscal year 2017, the City generally used a maintenance budget strategy, which meant that services were to be maintained but generally not increased or decreased. In FY17, the City Manager instituted some aspects of zero-based budgeting, resulting in more systematic changes to the City administrative structure, elimination of some programs, and creation of some new ones. In addition, the City Manager was charged with delivering a tax rate increase of under 2.5%, which was primarily achieved through efficiencies in government, as well as some fee increases.

**Tax Rate, Valuation and Total Budgeted (FY12-17)**

Year	Mil Rate	Change	Valuation	Total City Budget (all sources)
FY12	18.38	+2.0%	\$7,520,000,000	\$291,353,709
FY13	18.82	+2.9%	\$7,535,000,000	\$300,602,794
FY14	19.41	+3.1%	\$7,575,000,000	\$313,517,939
FY15	20.00	+3.0%	\$7,662,000,000	\$322,578,505
FY16	20.63	+3.1%	\$7,712,000,000	\$327,813,183
FY17	21.11	+2.3%	\$7,780,000,000	\$339,784,476

**City of Portland, Maine | Comparative Tax Levy by Budget Category  
FY17 Budget versus FY16 Budget**

Department	FY16 Tax Levy	FY17 Tax Levy	\$ Change	% Change	'16 Tax Rate	% of Taxes	'17 Tax Rate	% of Taxes
Education	\$78,073,211	\$80,331,376	\$2,258,165	2.9%	\$10.12	49.1%	\$10.33	48.9%
Public Safety	\$27,814,140	\$29,558,392	\$1,744,252	6.3%	\$3.61	17.5%	\$3.80	18.0%
Debt	\$21,938,037	\$21,737,962	(\$200,075)	-0.9%	\$2.84	13.8%	\$2.79	13.2%
Public Works	\$10,708,268	\$9,517,152	(\$1,191,116)	-11.1%	\$1.39	6.7%	\$1.22	5.8%
Parks, Recreation & Facilities	\$2,912,092	\$5,521,294	\$2,609,202	89.6%	\$0.38	1.8%	\$0.71	3.4%
County Tax	\$5,240,009	\$5,417,119	\$177,110	3.4%	\$0.68	3.3%	\$0.70	3.3%
Health & Human Services	\$4,141,307	\$4,021,007	(\$120,300)	-2.9%	\$0.54	2.6%	\$0.52	2.5%
Library	\$3,681,713	\$3,825,000	\$143,287	3.9%	\$0.48	2.3%	\$0.49	2.3%
Metro	\$2,485,115	\$2,572,744	\$87,629	3.5%	\$0.32	1.6%	\$0.33	1.6%
General Government	\$2,104,521	\$1,692,019	(\$412,502)	-19.6%	\$0.27	1.3%	\$0.22	1.0%
<b>Total</b>	<b>\$159,098,413</b>	<b>\$164,194,065</b>	<b>\$5,095,652</b>	<b>3.2%</b>	<b>\$20.63</b>	<b>100%</b>	<b>\$21.11</b>	<b>100%</b>

Notes:

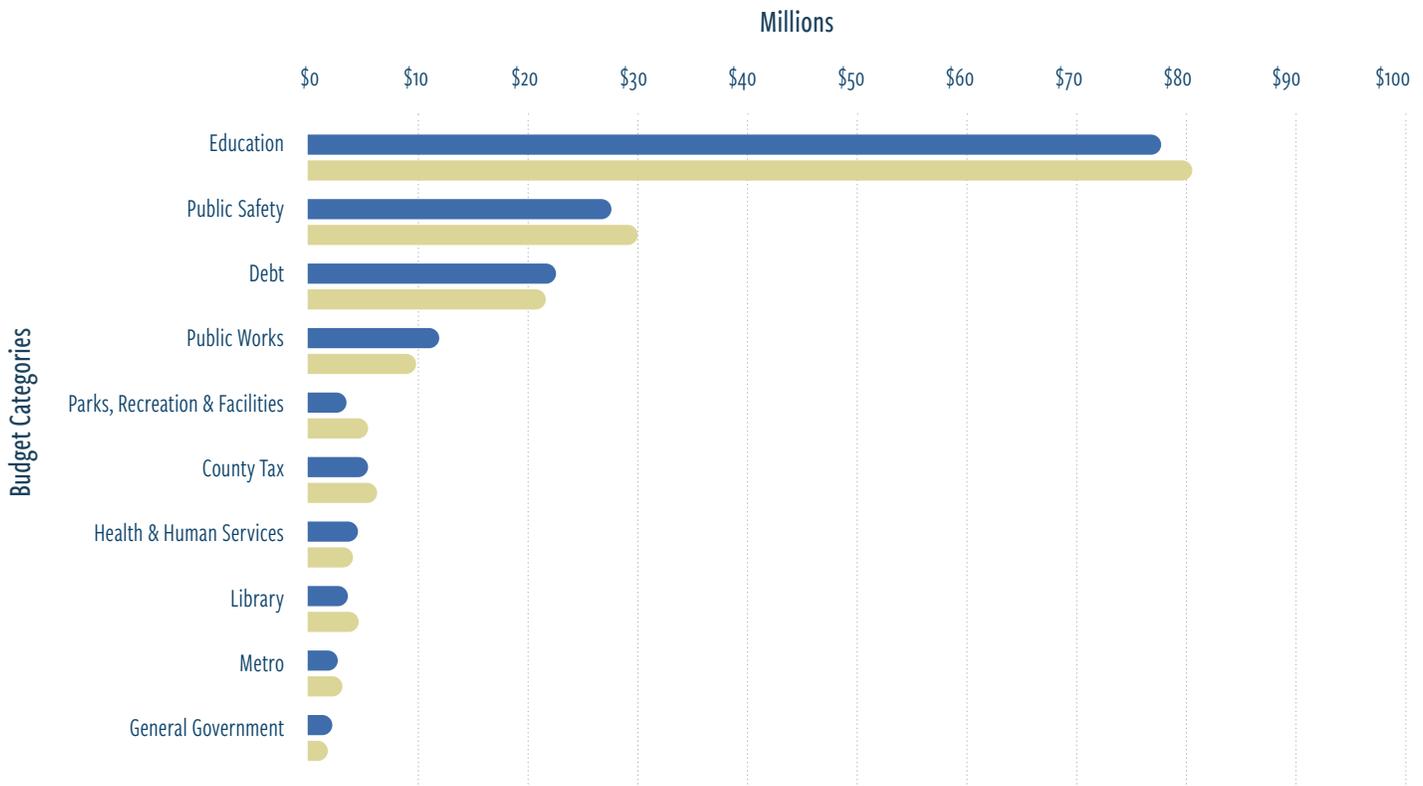
- The pension and insurance costs have been proportionately allocated to the budgets.
- Non-department specific revenues are allocated to all departments.



**APPENDIX:**  
FISCAL CAPACITY

**Tax Levy by Budget Category FY17 and FY16 Comparison**  
(Tax Levy in Millions)

FY16 Tax Levy      FY17 Tax Levy





**APPENDIX:  
FISCAL CAPACITY**

**Annual Expenditure Budget  
Comparative Budget Summary - General Fund and Enterprise Fund**

Department	FY15 Actual	FY16 Budget	FY16 Projection	FY17 Budget	
100-11-00	City Council	\$321,329	\$345,003	\$372,724	\$376,820
100-12-00*	City Clerk	493,029	577,997	537,011	492,149
100-13-00*	City Manager	848,247	1,146,961	988,126	785,299
100-14-00	Assessor	318,507	335,589	334,737	453,089
100-15-00	Finance	1,618,063	1,686,541	1,617,128	1,736,637
100-16-00	Legal	488,617	515,050	535,768	567,152
100-17-00	Human Resources	700,531	798,818	841,165	989,173
100-18-00	Parking	1,989,172	2,177,431	2,146,619	2,346,390
100-19-00	Economic Development	250,263	356,635	359,387	457,910
100-21-00	Police	14,647,184	14,624,338	14,755,577	15,697,557
100-22-00	Fire	15,919,806	16,649,012	16,480,009	16,862,979
100-24-00	Planning & Development	2,239,064	2,244,349	2,099,244	1,587,116
100-25-00*	Permitting & Inspections	0	0	0	1,370,574
100-29-00*	Information Technology	2,020,162	2,138,921	2,118,289	2,335,463
100-31-00	Public Works	16,204,708	14,727,550	14,580,331	14,227,049
100-33-00*	Parks, Recreation & Facilities	12,555,276	13,284,267	13,528,709	15,052,003
100-40-00*	HHS Administration	0	0	0	378,372
100-41-00	Public Health	3,735,082	3,836,163	3,638,181	3,030,990
100-42-00	Social Services	13,130,560	12,152,343	11,660,506	12,067,094
100-43-00	Barron Center	14,690,503	15,700,352	16,162,754	16,429,366
100-47-00	Debt Service	34,619,629	35,669,850	35,420,221	37,323,569
100-48-00	Library	3,591,915	3,681,713	3,681,713	3,825,000
100-51-00	Pension	5,910,863	7,156,027	6,424,584	6,988,107
100-52-00	Employee Benefits	18,882,663	18,940,704	22,000,247	21,012,624
100-61-00	Contingent	148,132	611,000	581,750	325,750
100-62-00	Liability Insurance	1,044,071	775,003	722,913	778,596
100-63-00	County Tax	4,969,143	5,240,009	5,240,009	5,417,119
100-65-00	Memberships & Contributions	3,036,636	3,039,722	3,035,855	2,967,938
100-67-00	Wage Adjustment	0	(111,827)	0	0
100-70-00	Capital	209,550	375,000	323,560	390,000
<b>Total General Fund Expenditures</b>		<b>\$174,582,705</b>	<b>\$178,674,521</b>	<b>\$180,187,117</b>	<b>\$186,271,885</b>
530-33-00	Fish Pier	\$217,371	\$336,795	\$332,795	\$342,733
570-31-00*	Sewer	23,154,880	22,987,251	16,360,304	23,678,025
571-31-00*	Stormwater	7,313	2,434,898	2,332,880	4,111,512
583-28-00	Jetport	18,827,959	20,753,061	21,168,143	21,777,437
<b>Total Enterprise Funds</b>		<b>\$42,207,523</b>	<b>\$46,512,005</b>	<b>\$40,194,122</b>	<b>\$49,909,707</b>
<b>Total General &amp; Enterprise Funds</b>		<b>\$216,790,228</b>	<b>\$225,186,526</b>	<b>\$220,381,239</b>	<b>\$236,181,592</b>

Please see notes on following page.

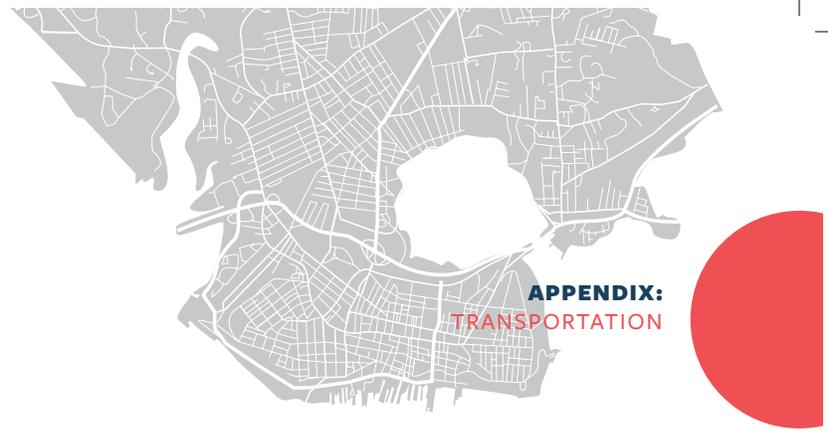


**APPENDIX:**  
FISCAL CAPACITY

Notes:

- Business Licenses transferred from City Clerk to Permitting & Inspections in FY17
- Housing Safety transferred from City Manager to Permitting & Inspections in FY17
- Inspections transferred from Planning & Development to Permitting & Inspections in FY17
- Parks split from Public Works Districting to Parks, Recreation & Facilities in FY17
- HHS Administration split from HHS divisions in FY17
- Cemeteries & Forestry transferred from Public Works to Parks, Recreation & Facilities during FY16
- Parks, Recreation & Facilities FY16 Canco Road Mid-Year Appropriation (Dec. 2015)
- Stormwater phase-in separation from the Sewer Fund in FY16 (FY15 Mid-Year Start-Up Appropriation)

# Transportation



As the largest city in Maine, with a growing and vibrant economy, Portland's transportation network is truly multi-faceted, featuring almost every mode of travel. The City's roadways are used by pedestrians, bicyclists, motorists, and bus transit; rail lines are shared by passenger and freight trains; Portland Harbor and Casco Bay are used by recreational boaters, the fishing industry, island ferries, international ferries, cruise ships, and container ships; and the City's airspace, managed by the Portland International Jetport, is shared by everything from small propeller planes, to life-flight helicopters, to cargo planes and passenger jets.

## CONTEXT

Portland has a rich history of forward-thinking, innovative transportation planning. Existing plans and studies reflect the long-standing consensus that multi-modal transportation is increasingly important in maintaining Portland's quality of place. Going back several decades, Portland's plans have called for enhanced public transportation, improved bicycle and pedestrian facilities, a wider array of strategies and policies to reduce travel demand, and more compact, mixed-use development patterns to encourage more walking, biking, and the use of public transportation. The underlying premise of this body of work is the idea that Portland's livability and growth opportunities will be diminished by continued over-reliance on the automobile unless a better balance of travel options is achieved. Many of the City's plans and studies have led to significant changes in policy and practice.

## POLICY

### Parking

The cost of providing parking in new residential development projects can often be substantial and encourage inefficient land use patterns and travel. Recently, the City has reduced some parking requirements to help decrease parking-related costs and incentivize residential development. Developments providing low-income or workforce housing units are required to provide no more than one parking space per affordable unit. The land use code incorporates fee-in-lieu parking standards, where some developments in non-residential zones may contribute fees to the Sustainable Transportation Fund in place of all or some of their parking requirements. Funds in the Sustainable Transportation Fund may be allocated to such purposes as shared parking infrastructure and facilities, bicycle parking, transit capital improvements, bus shelters, and pedestrian and bicycle infrastructure.

### Transportation Demand Management (TDM)

TDM refers to various strategies that change travel behavior (how, when, and where people travel) in order to increase the use of alternative transportation and efficiency of the transportation system. Portland's Land Use Code establishes TDM requirements for developments that meet certain size thresholds, with the goal of achieving transit incentives, car sharing, and other strategies that reduce single occupancy vehicle trips.

### Housing Density

Since 2014, the City has revisited its land use code to allow for greater residential density in certain zones, including the B1, B2, and R6 zones. The R6, as the dominant on-peninsula residential zone,



and the B1 and B2 zones, the predominant Forest Avenue and Washington Avenue zones, are poised to increase residential density in the areas best aligned to access transit – along or adjacent to primary transit routes.

### **Tax Increment Financing (TIF)**

The City has two Transit-Oriented Development Tax Increment Financing Districts (TOD TIFs) – the Downtown TOD TIF and the Thompson’s Point TOD TIF. TIFs allow the City to capture a portion of increases in assessed property values for dedicated improvements. Under a TOD TIF, the City retains a portion of TIF funds for transit-related projects.

### **Complete Streets**

In 2012, the City Council adopted a Complete Streets Policy, which commits to considering the needs of all current and future users and all modes in street planning, programming, design, construction, reconstruction, paving, retrofit, operations, and maintenance activities. The policy recognizes that all streets are different and creating an accessible transportation network requires flexibility and consideration of the context of each street and project. Critically, the policy requires that all modes and all users be considered early in the planning for all projects directly impacting our transportation network. Included in the policy are recommended implementation strategies. Additionally, MaineDOT recently adopted a Complete Streets Policy, which applies to all state jurisdiction roads.

### **Access Management and Traffic Calming**

Access management and traffic calming techniques are designed to encourage a stronger relationship between land use design and transportation, preserving roadway network efficiency, and improving safety. Techniques include shared access, lot width requirements, internal street circulation, and general corridor planning. Portland’s ordinance contains standards for entrances and curb cuts on public ways, and the City’s Technical Manual includes specific requirements for traffic studies, street and driveway design, and access management.

### **Street Connectivity and Sidewalks**

Portland’s subdivision regulations encourage new streets to contribute to a neighborhood street system with a network of interconnected streets that allows multiple ways for vehicles and pedestrians to get to a destination, reducing the likelihood of through- traffic. Sidewalks are also required.

## **PARTNERSHIPS**

### **Portland Area Comprehensive Transportation System (Pacts)**

As the region’s Metropolitan Planning Organization (MPO), PACTS is responsible for developing the federally required long-range transportation plan for the region. The current plan, *Destination 2040*, adopted in 2016, provides a vision for the region’s transportation network and includes a broad range of multi-modal goals and strategies to meet current and future growth and development. In addition to the long range plan, PACTS oversees transportation studies, and allocates federal capital and transit operating funds to transportation projects within its jurisdiction.



**APPENDIX:  
TRANSPORTATION**

### **Maine Department of Transportation (MaineDOT)**

The MaineDOT reconstructs, paves, and maintains state and federal roads. The MaineDOT work plan outlines the work the department plans to perform over the next three years, including work in the City of Portland.

### **Portland Trails**

Portland Trails is a regional, member-based land trust that has collaborated with a variety of community partners to create and connect a 70-mile trail network. Since 1991, Portland Trails has worked to save open spaces and build a network of trails and pathways throughout greater Portland. The trails serve both recreation and transportation purposes, and connect urban neighborhoods, follow river corridors, enhance natural areas, and build healthier human and natural communities.

### **Bicycle Coalition of Maine**

Established in 1992, the Bicycle Coalition of Maine is a state-wide advocacy group for biking and walking. The group works for bike and pedestrian-friendly laws at the state and federal level, teaches bike and pedestrian safety to children and adults, runs events such as the Great Maine Bike Swap, and trains local advocates through its Community Spokes program.

### **Portland Bicycle and Pedestrian Advisory Committee (PBPAC)**

The PBPAC is an ad hoc advisory committee comprised of Portland residents interested in improving conditions for walking and biking in the City. The group meets monthly and advises the City of Portland staff and City Councilors of its positions on issues related to walking and biking.

## **EXISTING CONDITIONS AND TRENDS**

### **Regional Population Patterns**

Over the last 50 years, much of the region's growth has occurred in the suburban and rural communities surrounding Portland. Between 2000 and 2010, for example, Cumberland County grew by a total of 16,062 residents. Of this growth, Portland captured 12%, or 1,945 new residents. By contrast, several of Portland's neighbors, which are three to four times smaller, captured similar or larger shares of the County's growth. In fact, the three fastest growing communities in the State of Maine in terms of net population growth between 2000 and 2010 were Windham, Gorham, and Scarborough. Each community added roughly 2,000 residents over the course of the decade. Several decades of sprawling development patterns in surrounding communities have implications for the City's transportation network, as it must accommodate local traffic as well as a considerable amount of regional traffic traveling between Portland and the surrounding communities.

### **Traffic Volumes**

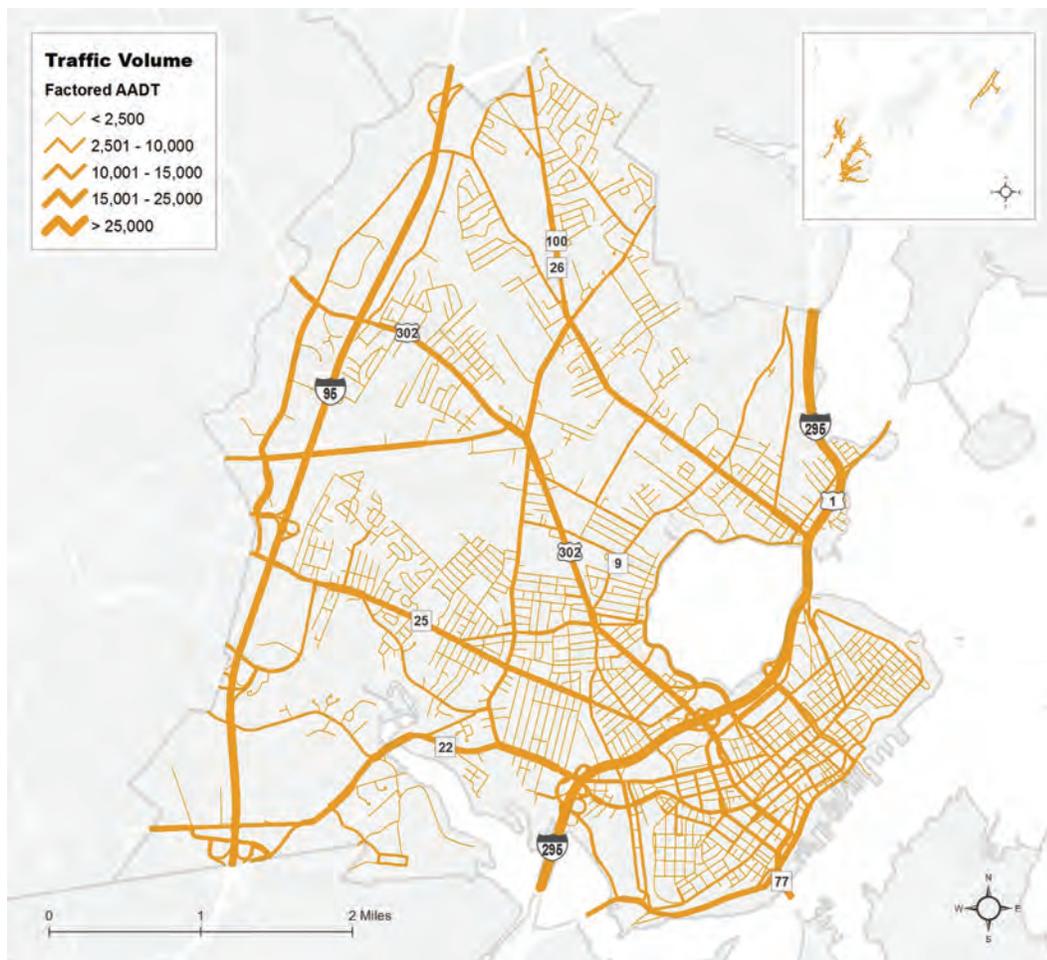
The amount of traffic a road experiences is one of several criteria used to determine how that road should be planned for, designed, and maintained. Although traffic volumes can be expressed in a number of ways, Annual Average Daily Traffic (AADT) is the most widely available and commonly used measurement. AADT is simply the total volume of vehicle traffic on a road for a year divided



**APPENDIX:**  
**TRANSPORTATION**

by 365 days. While AADT is a useful and simple measurement for estimating how busy a road is, it does not account for time of day, day of week, or seasonal fluctuations in traffic. The major traffic corridors in Portland that experience the highest AADT are Interstates 95 and 295, as well as Routes 26/100, 302, 25, and 22.

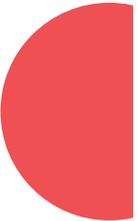
**Portland Average Annual Daily Traffic (AADT)**



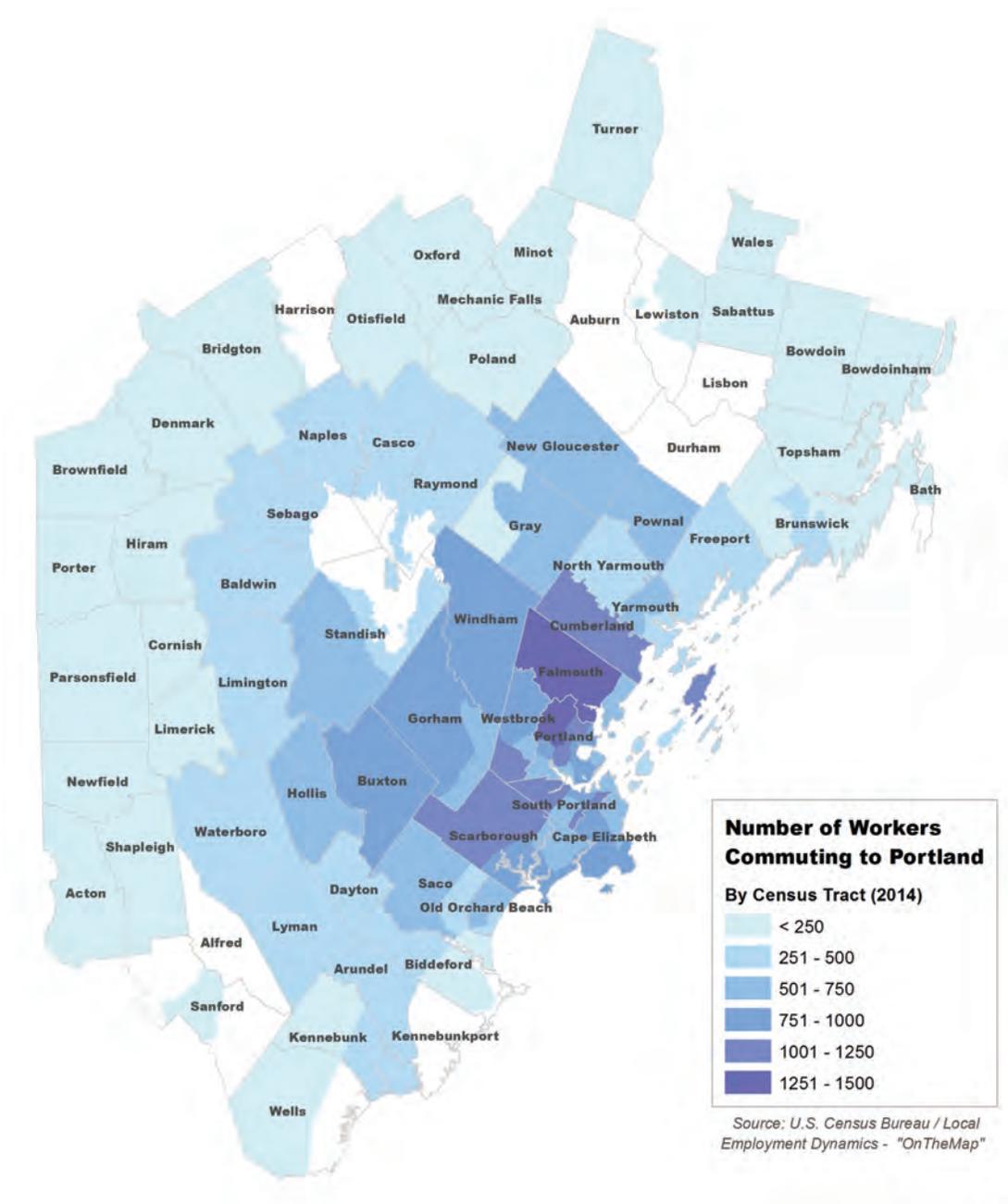
Traffic volumes are never static. As the region's economic center, Portland experiences a daily influx of commuters traveling to and from work. The U.S. Census Bureau estimates 50,000 workers commute regularly from outside the City to jobs in Portland. As a result, the City's population swells to approximately 96,000 people during regular daytime hours – an increase of over 40 percent. Likewise, 17,122 residents live in Portland, but commute to work somewhere else. Accordingly, road congestion typically spikes in the morning and evening when people are traveling to or from work.



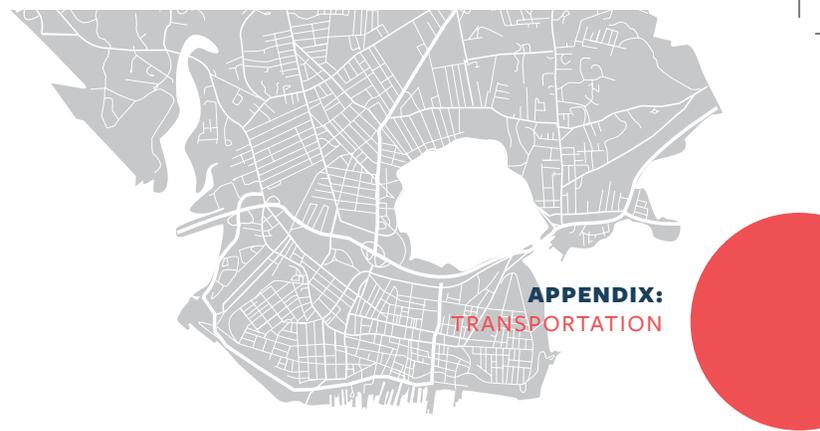
**APPENDIX:**  
**TRANSPORTATION**



**Estimated Number of Workers Commuting to Portland (2014)**



Source: U.S. Census Bureau



**APPENDIX:  
TRANSPORTATION**

**Portland Inflow/Outflow Analysis (2014)**



\*2014 Data provided by <http://onthemap.ces.census.gov> U.S. Census Bureau/Local Employment Dynamics. Diagram not to scale.

In addition to the influx and outflux of daily commuters, Portland is a popular destination for tourists, shoppers, and visitors from all over the world, particularly in the summer months. According to the Maine Office of Tourism, in 2014 the Greater Portland/Casco Bay region was the primary region of visitation for 14% of the state’s 37.9 million overnight and day visitors, or an estimated 5.3 million people. In 2015, traffic volumes along the Maine Turnpike broke records, exceeding 79.5 million transactions – more than in any year in its 69-year history. While many New England-based tourists arrive in Portland by car, the City also welcomes tourists via the Jetport, the AMTRAK Downeaster, the Concord Coach and Greyhound bus lines, or by cruise ship or ferry at Ocean Gateway and the Portland Ocean Terminal.

**Mode Share**

**Means of Travel to Work Trends**

The 1993 *A Time of Change: Portland Transportation Plan* called for reducing the share of single occupancy vehicle trips City-wide to 50%, just under the share briefly achieved following the oil crisis of the late 1970s, while at the same time increasing the share of trips by other modes. The City has yet to make significant progress towards these goals in its commute mode share. However, a number of signs suggest that the travel behavior of Portland residents is trending in new directions.

<b>Means of Transportation to Work</b>	<b>2000</b>	<b>2010*</b>	<b>2014*</b>	<b>1993 Goal</b>
Drove Alone	70%	69%	68%	50%
Carpooled	11%	10%	8%	15%
Public Transportation	4%	3%	3%	10%
Biked	1%	2%	2%	5%
Walked	9%	11%	12%	20%
Taxi or Other Means	1%	1%	1%	NA
Worked from Home	4%	5%	5%	NA
<b>Total</b>	<b>34,815</b>	<b>36,278</b>	<b>36,162</b>	<b>NA</b>

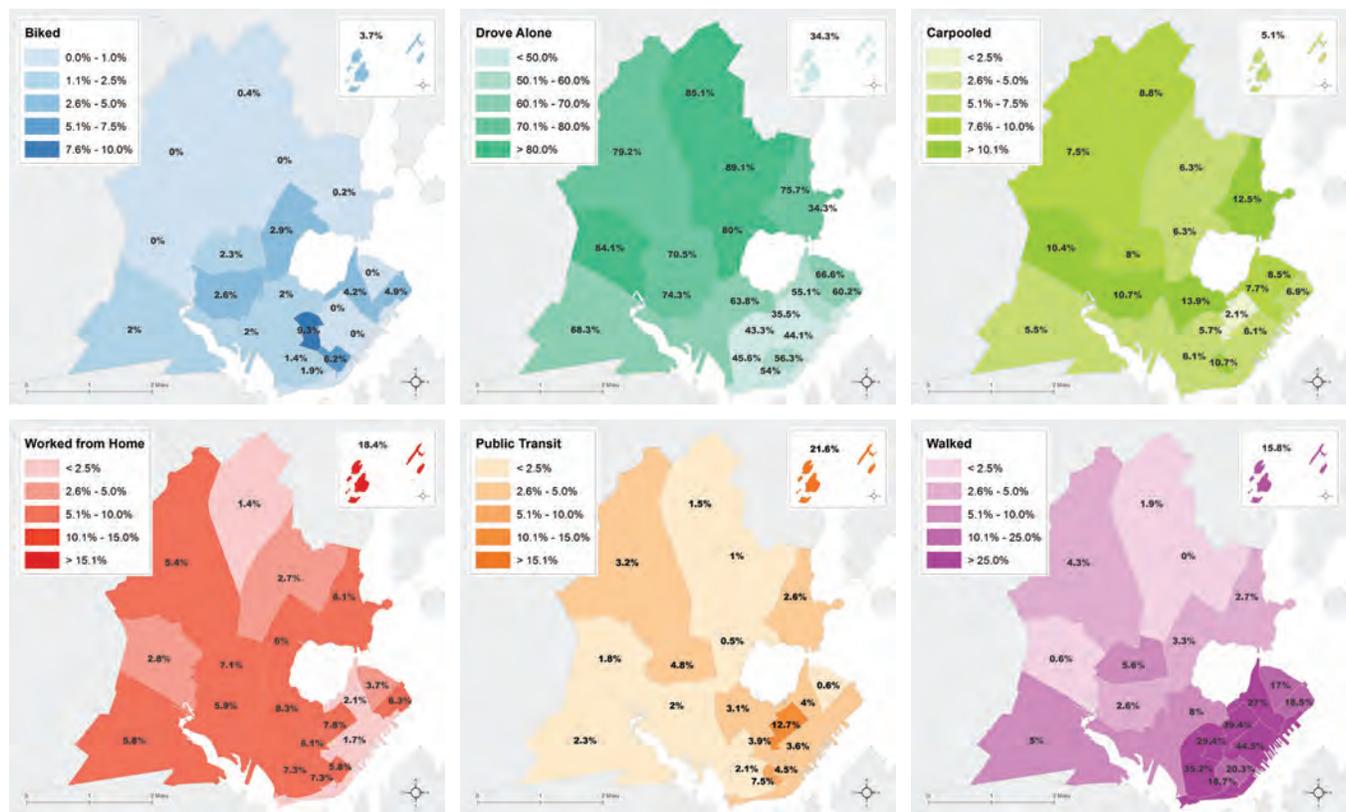
**(ACS Five-Year Estimate)**



**APPENDIX:**  
**TRANSPORTATION**

In Maine, Portland is unique in that it is one of the few places where it is possible – and in many places quite convenient – to walk, bike, or take public transportation to work. In fact, many Portland households are choosing alternative modes. For instance, the percent of people who drive alone to work on the peninsula is as low as 36%, while the percent of people who walk to work is in the 30%-40% range, the percent of people who bike to work is in the 4%-9% range, and the percent of people who take public transportation to work is in the 7%-13% range. Off the peninsula, these figures shift dramatically to reflect a higher reliance on single-occupancy vehicles for commuting purposes.

**Means of Transportation to Work (2010-2014)**



Source: ACS Five-Year Estimate by Census Tract: Workers 16 yrs and over



**APPENDIX:  
TRANSPORTATION**

**Driving And Vehicle Ownership Trends**

While the automobile remains the primary transportation mode for commuting – and will likely be for some time – there are several signs that Portland residents are driving less, choosing to go car-free, or downsizing the number of vehicles they own within their household. MaineDOT data provided in the PACTS *Destination 2040 Long Range Transportation Plan* shows that, for several key locations in the City, traffic volumes peaked in 2000 and have since leveled off, or in some cases are trending down.

**Annual Average Daily Traffic (AADT)**

Location	1980	1990	2000	2010	2012	2013	2014	2015
Rt. 1 at Portland/Falmouth line	13,000	16,000	16,000	14,000	NA	13,000	NA	NA
Rt. 1 on Veteran's Bridge	15,000	23,000	24,000	20,000	24,000	NA	NA	NA
Rt. 302 at Portland/Westbrook line	12,000	16,000	19,000	21,000	NA	20,000	NA	NA
Congress St. east of Waldo St.	20,000	26,000	28,000	26,000	NA	NA	NA	26,000
Rt. 302 south of Morrill's Corner	25,000	32,000	36,000	29,000	NA	NA	NA	NA
Rt. 77 on Casco Bay Bridge	26,000	33,000	34,000	31,000	NA	29,000	NA	NA
I-295 at S. Portland/Portland line	31,000	51,000	69,000	64,000	NA	NA	67,000	NA
I-295 on Tukey's Bridge	46,000	63,000	90,000	81,000	NA	NA	NA	NA

Source: *MaineDOT and PACTS*

As mentioned previously, vehicle ownership trends also appear to be stabilizing and perhaps on the decline. After steadily increasing every year since the end of WWII, vehicle ownership in the United States declined for the first time in 2009, and again in 2010. In Portland, one of the few cities in the state where it is possible to live comfortably without a vehicle, registration dropped considerably during and after the recession. Vehicle registration has since rebounded, somewhat, to around 45,000 vehicles per year, which is still about 5,000 vehicles shy of 2004 levels.

**Registered Passenger Vehicles in Portland (2004-2016)**



Source: Maine Bureau of Motor Vehicles Information Services Department



**APPENDIX:  
TRANSPORTATION**

As the economy gradually recovers from the recession and gas prices remain at unprecedented lows, vehicle ownership may return to previous levels. Alternatively, a number of countervailing forces may contribute to a continuing decline. For example, the new “sharing economy,” which has seen the introduction of Uber, ZipCar and U-Car in Portland, has made it more convenient to go without a vehicle. Likewise, improved public transportation services and better facilities for walking and biking are making alternative travel choices more compelling. Lastly, there is much evidence suggesting the Millennial generation is not as bound to the automobile as previous generations. Millennials are less likely to get their driver’s licenses, take fewer car trips, and are more likely to get around by alternate means: by foot, by bike, or by transit.

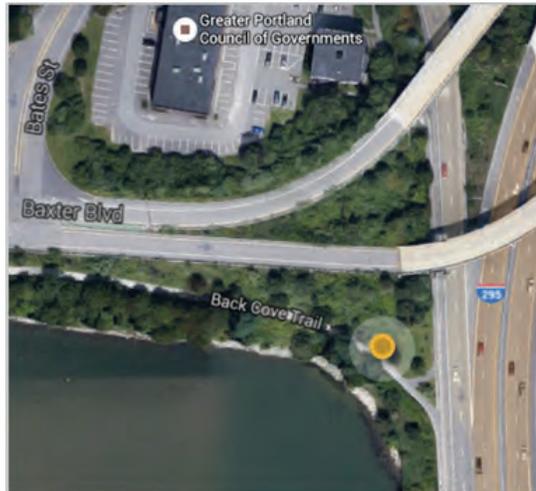
**Walking and Biking Trends**

While there is an abundance of data for how vehicle traffic moves throughout the City’s transportation network, collected over the span of decades, there is comparatively little information on where, and how often, people walk or bike. Several organizations are currently working to fill this gap, including Portland Trails and the Portland Area Comprehensive Transportation System (PACTS).

In May of 2014, Portland Trails installed two automated counters in Portland – one on the Back Cove Trail on the north side of Tukey’s Bridge, the other on the Eastern Promenade Trail. The counters provide invaluable data on walking and biking volumes at these specific locations, as well as insights on the time of year or time of day that experiences the most activity. For instance, in 2015 a total 261,353 pedestrians and 61,237 bicyclists passed the counter on the Back Cove Trail, while 237,220 pedestrians and 76,411 bicyclists passed the counter on the Eastern Promenade Trail.



*Location of counter on Eastern Promenade Trail*

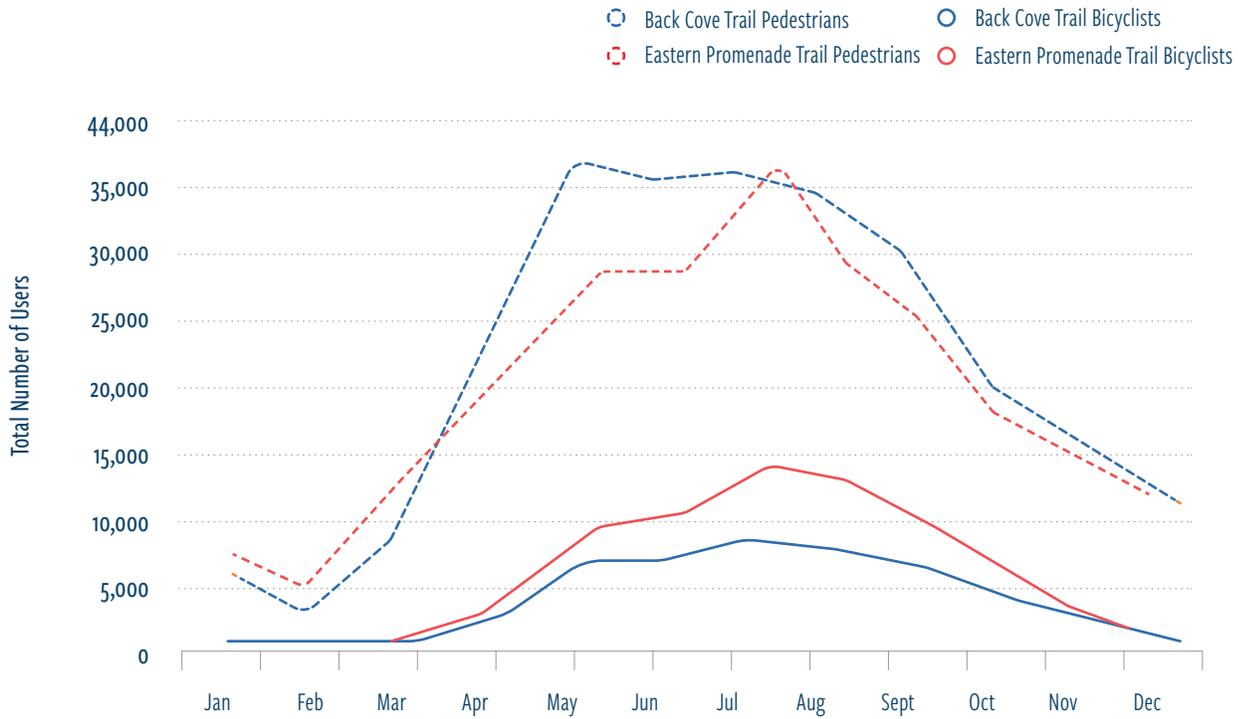


*Location of counter on Back Cove Trail*



**APPENDIX:  
TRANSPORTATION**

**Summary of Bicycle and Pedestrian Activity on Eastern Promenade Trail and Back Cove Trail (1/1/15 – 12/31/15)**



Source: Portland Trails

**Eastern Promenade Trail Summary Statistics (2015)**

	Pedestrians	Bicyclists
Total	237,220	76,411
Hourly Avg.	27	9
Daily Avg.	650	209
Monthly Avg.	19,782	6,372
Peak Day	Sat. July 11 (4,130)	Sun. June 14 (891)

**Back Cove Trail Summary Statistics (2015)**

	Pedestrians	Bicyclists
Total	261,353	61,237
Hourly Avg.	30	7
Daily Avg.	716	168
Monthly Avg.	21,794	5,107
Peak Day	Thur. June 18 (2,962)	Sun. June 14 (687)

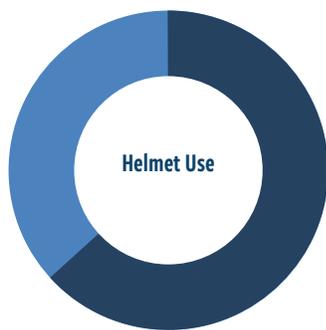


**APPENDIX:  
TRANSPORTATION**

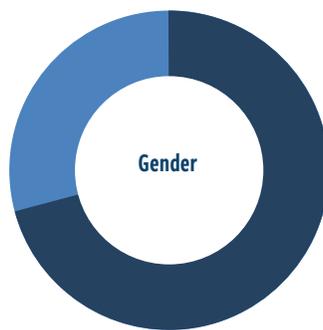
In addition to the automated counters, for the last several years PACTS has conducted an extensive volunteer bicycle and pedestrian count program. With help from the Bicycle Coalition of Maine, a group of 30-40 volunteers has been called upon three times a year to manually count bicyclists and pedestrians for two hour increments at over 20 locations in Portland and the greater Portland region.

Counters collect data on the total number of bicyclists and pedestrians, and for bicyclists additional information is gathered on gender, helmet use, and the location/direction the cyclist is riding (i.e., with traffic, against traffic, or on the sidewalk).

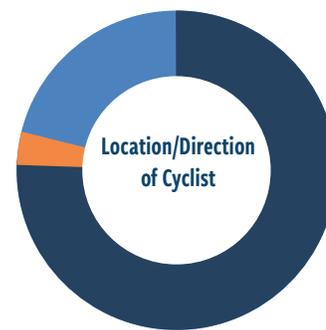
**Cycling Trends in Greater Portland (2013-2014)**



\*Based on 3,917 bicyclists counted between Spring 2013 - Fall 2014



\*Based on 3,917 bicyclists counted between Spring 2013 - Fall 2014



\*Based on 2,396 bicyclists counted between Spring 2013 - Fall 2014 on public roads

- Helmet (63%)
- No Helmet (38%)

- Male (72%)
- Female (28%)

- With Traffic (77%)
- Sidewalk (21%)
- Against Traffic (2%)

Source: PACTS

In the 2013-2014 data, the majority of cyclists observed were wearing helmets, and most cyclists were riding on the road with traffic. Locations with a higher percentage of cyclists either riding against traffic or on the sidewalk tended to have safety or design challenges (i.e., cyclists are riding against traffic or on the sidewalk due to safety concerns, or convenience factors). Finally, as with many places across the country, female ridership was lower than male.

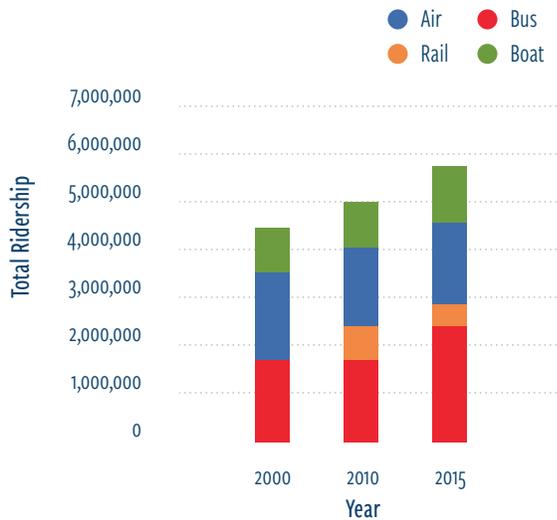
**Public Transportation Trends**

The use of public transportation is on the rise in greater Portland. Since 2000, overall ridership on public transit has increased by roughly 39%, a reflection of both new routes and improved services. For example, METRO recently added the Breez route, which brings long-awaited service connecting Yarmouth and Freeport to Portland. Likewise, in 2014 the Regional Transportation Program (RTP) introduced bus transit service along Route 302, connecting Portland to Bridgton, with stops in each community along the way.



**APPENDIX:  
TRANSPORTATION**

**Transit Ridership in Greater Portland (2000-2015)**



Source: Transit Providers

Transit Provider	2000	2010	2015
METRO	1,231,879	1,357,029	1,568,136
South Portland Bus Service	150,371	218,006	290,000
Biddeford, Saco, Old Orchard Beach	138,062	101,774	316,093
Regional Transportation Program	180,765	153,864	113,294
YCCAC	156,976	141,949	147,234
Lakes Region Explorer	NA	NA	5,966
Amtrak Downeaster	NA	474,058	438,364
Jetport	1,342,557	1,707,426	1,667,734
Casco Bay Lines	941,290	835,690	1,019,923
Portland - Nova Scotia Ferry	100,000	NA	51,000
<b>Total</b>	<b>4,272,900</b>	<b>5,068,346</b>	<b>5,717,744</b>

The Amtrak Downeaster, which did not exist in 2000, has been a major addition to the public transportation mix in the region and state, providing passenger rail service north to Brunswick and south to New Hampshire and Boston.

Other factors influencing ridership trends include the recent addition of smart route tracking technologies to the City’s bus and ferry routes. While these enhancements are too new to be reflected in existing ridership data, it is now possible to plan trips via Google Transit, and those with smartphones can access apps that show the public transportation network, where their particular bus or ferry is, and how much longer the wait will be. These, and other improvements, will likely



**APPENDIX:  
TRANSPORTATION**

make the City’s public transportation network more convenient and accessible for residents and visitors alike.

**Street Network**

**Road Classification**

Road classification is the process by which public roads and highways are grouped into classes according to the character of service they are intended to provide. Key to this process is the recognition that individual roads and streets are not independent from one another, but are part of a larger network of roads through which traffic flows. Road classification systems are used to determine funding, jurisdiction (for capital improvements and maintenance), and more broadly to define the role a particular road or street should play in serving the transportation needs of the community and region.

The Federal Functional Classification (FFC) System is the overarching classification system that every state in the country is required to use. It uses established guidelines to classify how a particular road should be planned for and engineered. A roadway’s federal classification helps determine what the speed limit should be, how wide the travel lane and shoulder should be, and what level of access should be provided, along with a number of other considerations. Federal classification also identifies which roads are eligible for federal money.

Using the federal guidelines, every road in the network falls into one of the following three broad categories: arterials, collectors, and local roads. Arterials funnel traffic between major destinations and typically have an interstate, U.S. route, or state highway designation. Collectors connect traffic between local roads and arterials. Local roads are the most common roads by far. Local roads are designed specifically to have high accessibility to abutting land uses and to connect to collector and arterial roads; they are typically not designed for longer distance through traffic.

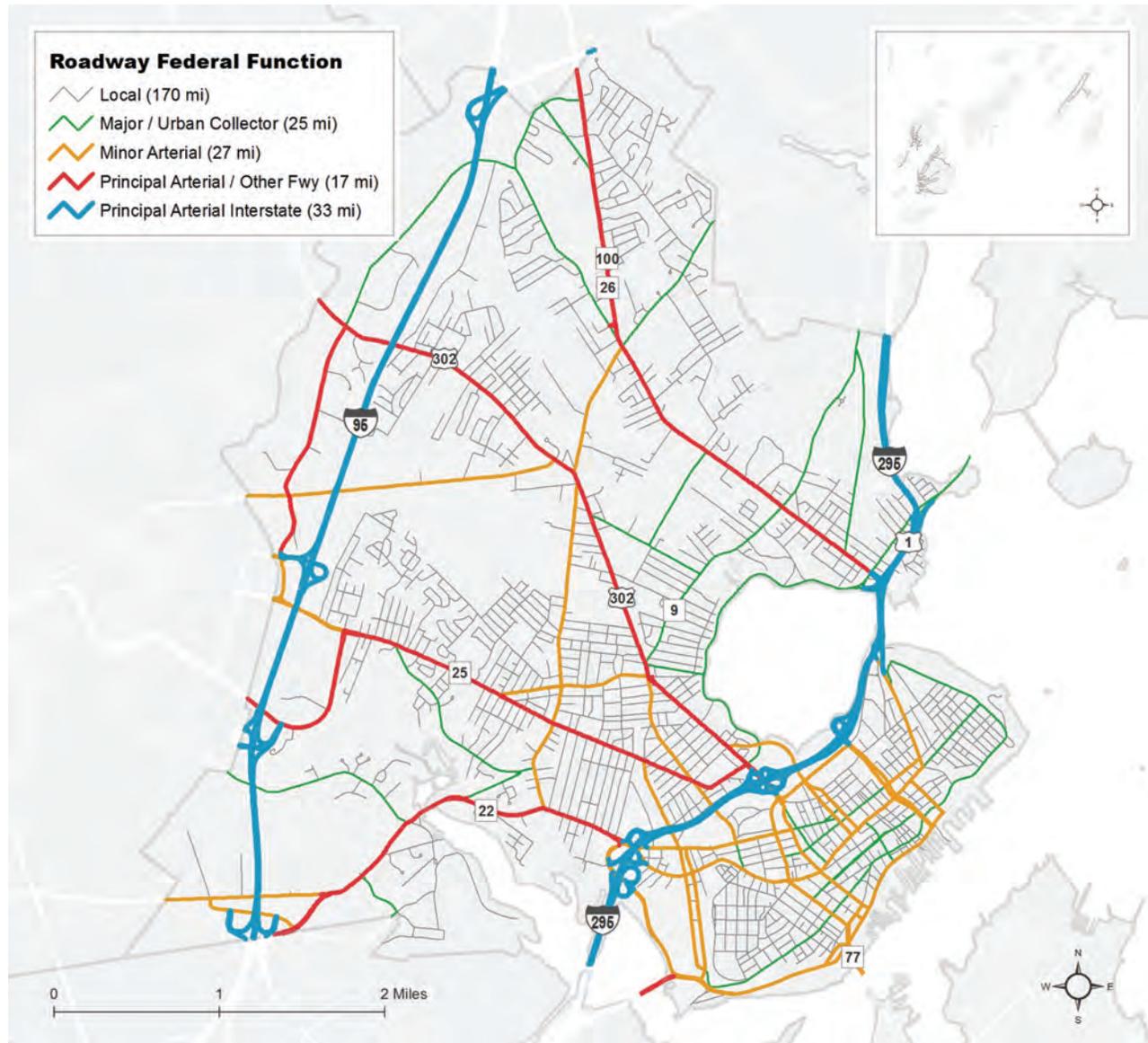
**Federal Functional Classification of Portland’s Roads**

<b>Federal Function</b>	<b>Miles</b>	<b>Percent</b>
Private*	1.6	1%
Local	170	62%
Major / Urban Collector	25.1	9%
Minor Arterial	27	10%
Other Principal Arterial	16.7	6%
Principal Arterial / Other Freeway	0.7	0%
Principal Arterial Interstate	33.2	12%
<b>Total</b>	<b>274.3</b>	<b>100%</b>

\*Private roads are not an FFC category, but are included for informational purposes.

Source: *MaineDOT*

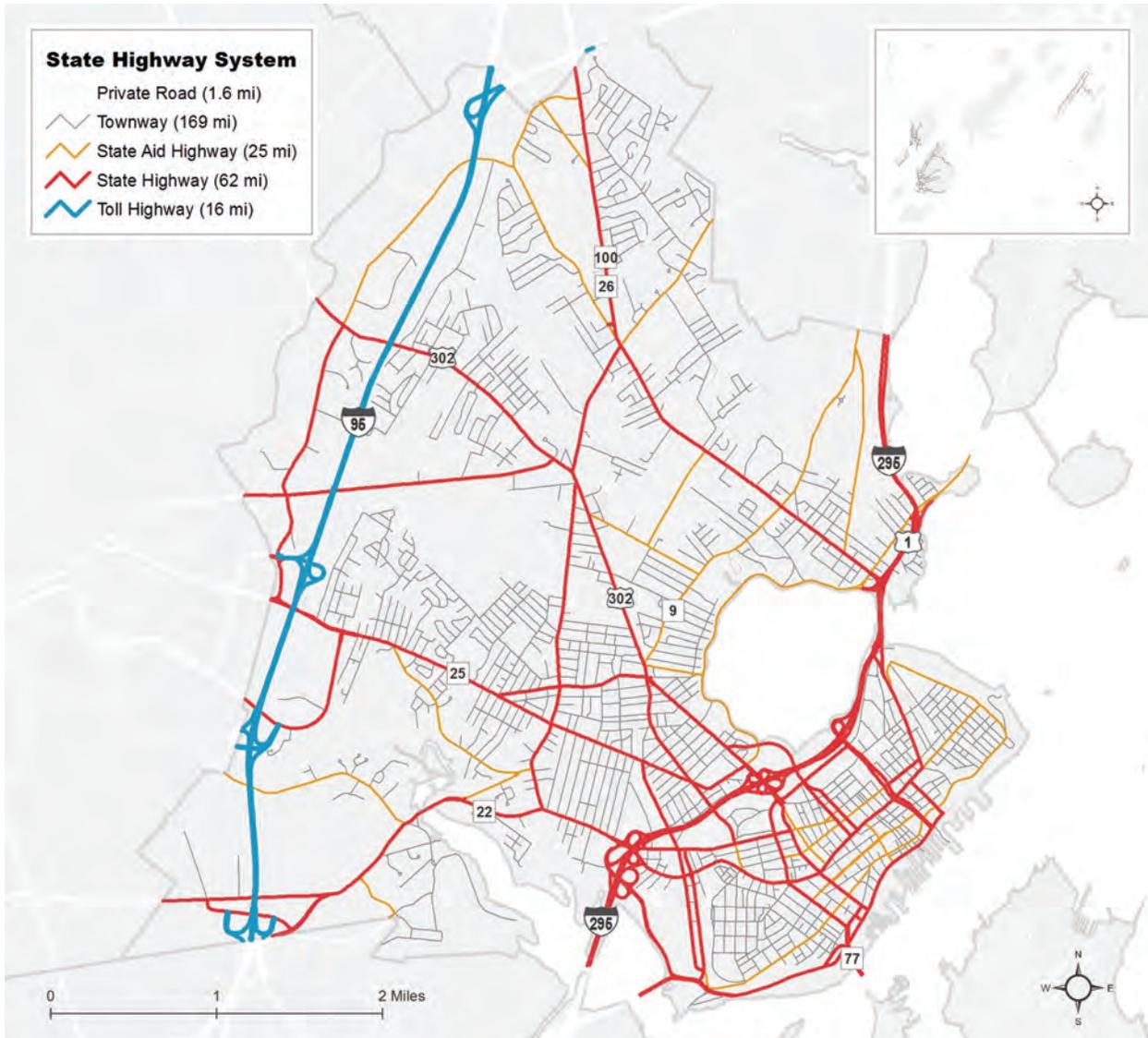
Federal Functional Classification of Portland's Roads



Source: *MaineDOT*

In contrast to the federal system, the state classification system is mainly used to determine what level of government is responsible for maintenance. Generally speaking, MaineDOT reconstructs, paves, and maintains state highways. Portland's Public Works Department is responsible for all work on townway roads, including snow removal, street resurfacing, and general repair. The two departments then share responsibility for state-aid roads. However, since Portland falls within an "urban compact" area, Portland's Public Works Department takes on more responsibility for maintenance on state-aid and state highways.

**State Highway Classification System of Portland's Roads**



Source: *MaineDOT*

Another way MaineDOT classifies roads is by Highway Corridor Priority (HCP). MaineDOT uses the HCP classification (along with another metric known as Customer Service Levels) as a framework to prioritize its many programs and projects. The MaineDOT has classified all 23,400 miles of Maine's public highways into six priority levels. The HCP system closely resembles federal functional classification, with interstates and select arterials classified Priority 1, and local roads classified as Priority 6.



**APPENDIX:  
TRANSPORTATION**

**Road Conditions**

In 2015, the City of Portland evaluated the condition of all paved roadways maintained by the City and/or State. This data was used to update the City’s pavement condition inventory, and to aid in developing a strategy for future pavement maintenance and rehabilitation. Since 38% of the total pavement area in the City is maintained with the help of MaineDOT and PACTS, the analysis is split into local and state-aid roads.

In 2012-2014, both the City and state spent relatively large amounts on paving, and a significant amount of money was also spent on paving as part of the City’s ongoing combined sewer overflow (CSO) work. As a result of these expenditures, the overall condition of both local and state-aid roads improved since 2011. Despite the improvement, the report cautions that state funding is expected to be drastically reduced for at least the next several years. This will make it difficult to maintain the improvements achieved over the last three years, and will likely increase the City’s burden. The report’s projections suggest that annual paving expenditures of between \$2.5 and \$3.5 million on local roads (those maintained solely by the City) would result in stable or moderately improved conditions over the next 15 years. For state-aid roads (those maintained with the assistance of PACTS and MaineDOT), a total of roughly \$2.5 million per year would be necessary to achieve stable or slightly improved conditions.

**Total Pavement Expenditures by Funding Source (2012-2014)**

	<b>City (\$)<sup>1</sup></b>	<b>CSO Projects (\$)</b>	<b>State (\$)</b>	<b>Total (\$)</b>
2012	1,415,780	783,480	3,817,436	6,016,696
2013	3,689,601	1,101,057	1,699,840	6,490,498
2014	1,801,491	437,518	1,745,770	5,557,258

*Source: Portland Department of Public Works*

*<sup>1</sup>City expenditures include contributions to PACTS and MaineDOT projects (State-Aid roads) as follows:*

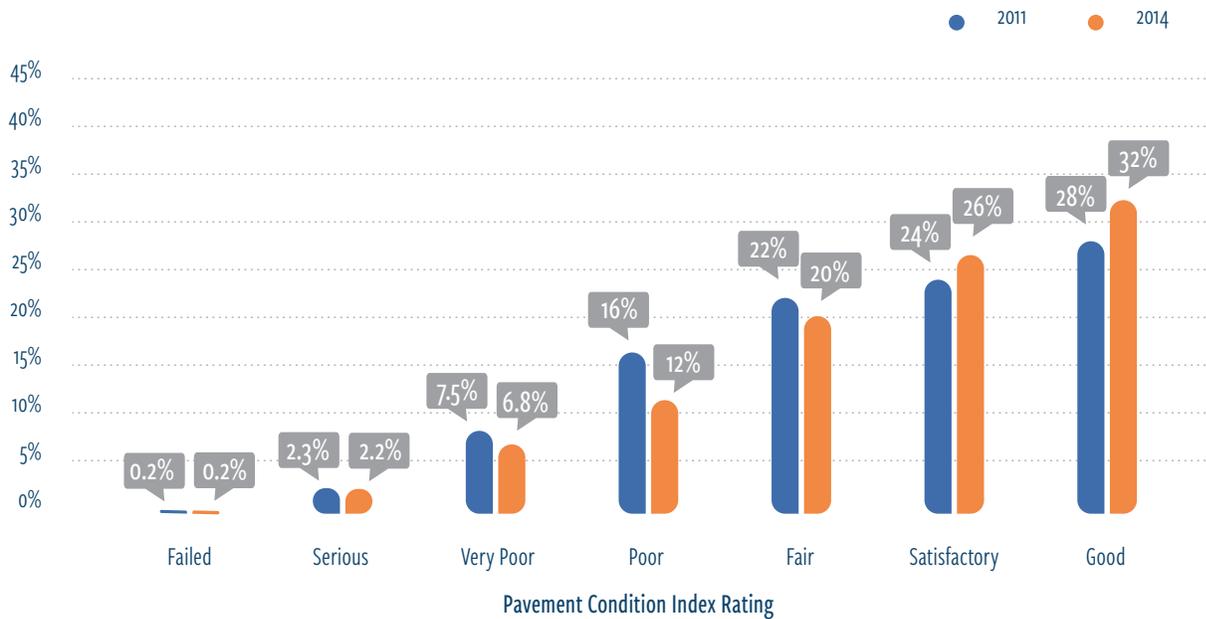
*2012 = 14%, 2013 = 18%, 2014 = 30%*

The report’s projections also indicate that the City should consider prioritizing roads with higher traffic volumes. Doing so would result in a higher proportion of such roads in at least “fair” condition, since roads with higher traffic volumes deteriorate more rapidly, and play a more crucial role in the transportation network. Lastly, the report suggests that the City should focus on maintaining roads that are currently in good condition.



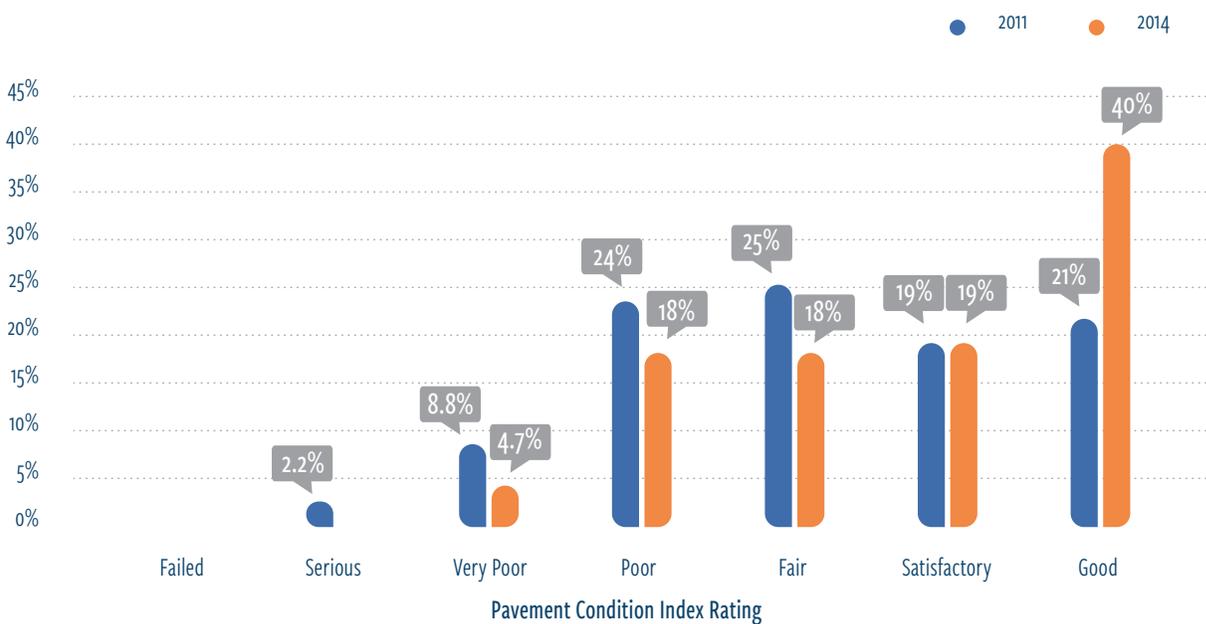
**APPENDIX:  
TRANSPORTATION**

**Total Pavement Area of Local Roads by Condition (2011-2014)**



Source: DPW

**Total Pavement Area of State-Aid Roads by Condition (2011, 2014)**



Source: DPW

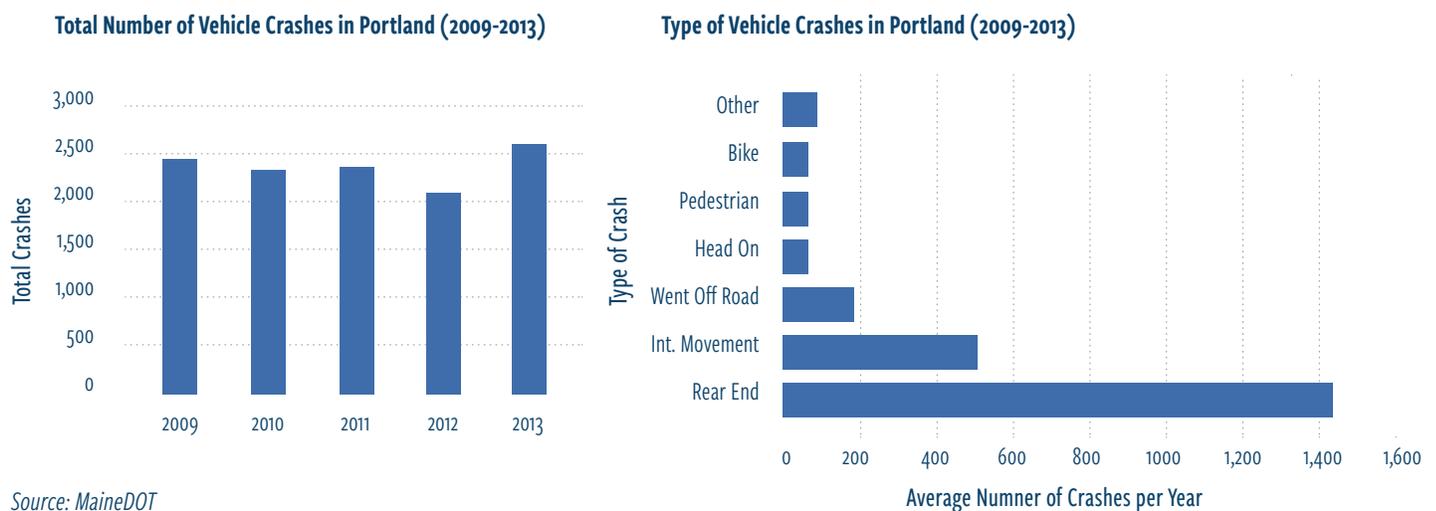


**APPENDIX:  
TRANSPORTATION**

**Road Safety**

In Maine, traffic crashes are the second leading cause of death for those 15 to 24 years old, and the third leading cause of death for those 25 to 44 years old. The City’s Public Works Department, PACTS, and MaineDOT continue to work to improve the safety, condition, and design of Portland’s roads and intersections.

An overview of crash trends in the greater Portland region, conducted by PACTS for the *Destination 2040* plan, found that between 2009 and 2013 there were a total of 11,815 crashes in Portland – an average of 2,363 per year, or 6.5 per day. For any given year, two to three crashes resulted in fatalities, while 30 to 40 result in serious injury.

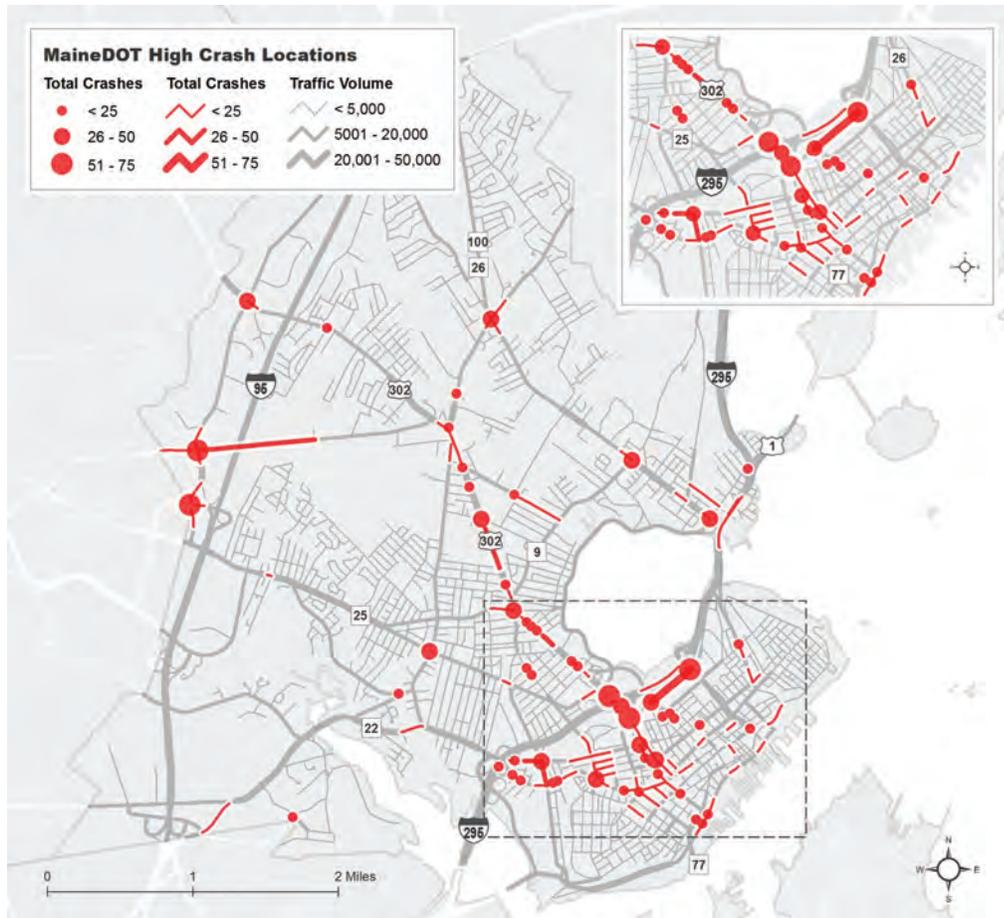


Source: MaineDOT

The majority of vehicle crashes in Portland between 2009 and 2013 were categorized as rear end collisions and improper intersection movements, followed by leaving the roadway and head on collisions. An average of 49 pedestrians and 47 bicyclists were involved in traffic crashes each year. In recent years, the City has installed a number of facilities to increase safety for bicyclists and pedestrians, including bike lanes, shared use lanes, new sidewalks, enhanced visibility of pedestrian crossings, and rapid flashing beacons at crosswalks.

**MaineDOT High Crash Locations (2013-2015)**

One of the main safety considerations for roadways throughout Portland are areas designated as High Crash Locations (HCLs) by the MaineDOT. As their name implies, these locations see the largest rate of traffic-related crashes in the state. The dataset is used for highlighting which road segments and intersections in a town or region may be most in need of safety modifications. For the 2013-2015 reporting period, 59 intersections and 83 road segments in Portland were identified as High Crash Locations.



Source: *Maine DOT*

### Bridges

Portland’s transportation system includes 72 bridges. According to MaineDOT, 40 of these bridges are owned and maintained by Maine DOT, 22 by the Maine Turnpike Authority, two by the Maine Central Railroad, and seven are the responsibility of the City. Most of the bridges under Portland’s jurisdiction are technically considered “minor spans” by MaineDOT. Minor spans are structures between 10-20 feet, whereas bridges are generally defined as structures with a length equal to or greater than 20 feet.

MaineDOT rates the condition of several elements of bridge structure on a 1-10 scale (10 being “excellent”). Bridges that receive a rating of five or less are typically flagged for maintenance, repair, or reconstruction. Most of Portland’s minor spans are perhaps better described as culverts. In 2015, all were in good condition. The Rowe Avenue span, the only Portland span that is rated in the deck, superstructure, and substructure categories, also appears to be in good condition.



**APPENDIX:  
TRANSPORTATION**

**Portland Owned and Maintained Bridges**

Bridge #	Bridge Name	Bridge Feature	Year Built	Length	Deck	Super Structure	Sub-Structure	Culvert
0320	Baxter Blvd East	Fall Brook	1995	13'	NA	NA	NA	7
0337	Rowe Avenue	Nasons Brook	1996	18'	8	8	8	NA
0340	Ray Street	Fall Brook	2005	25'	NA	NA	NA	8
0360	Webb Street	Drainage	1974	12'	NA	NA	NA	6
0366	Lucas Street	Capisic Brook	2006	22'	NA	NA	NA	8
6413	Dennett Street	Capisic Brook	1998	16'	NA	NA	NA	8
6414	Violette Avenue	Capisic Brook	1998	16'	NA	NA	NA	8

**Parking**

The City's Parking Division conducts an inventory of parking spaces on an annual basis. The most recent inventory, conducted in 2015, shows Portland's downtown contains approximately 7,358 public and private parking garage spaces and 3,932 surface lot spaces, for a total of 11,290 off-street parking spaces. In addition to off-street parking opportunities, there are an additional 1,609 on-street metered spaces downtown, and 7,483 unrestricted spaces (non-metered) in residential zones throughout the City.

**City of Portland Controlled Parking Spaces (2015 Inventory / Downtown Only)**

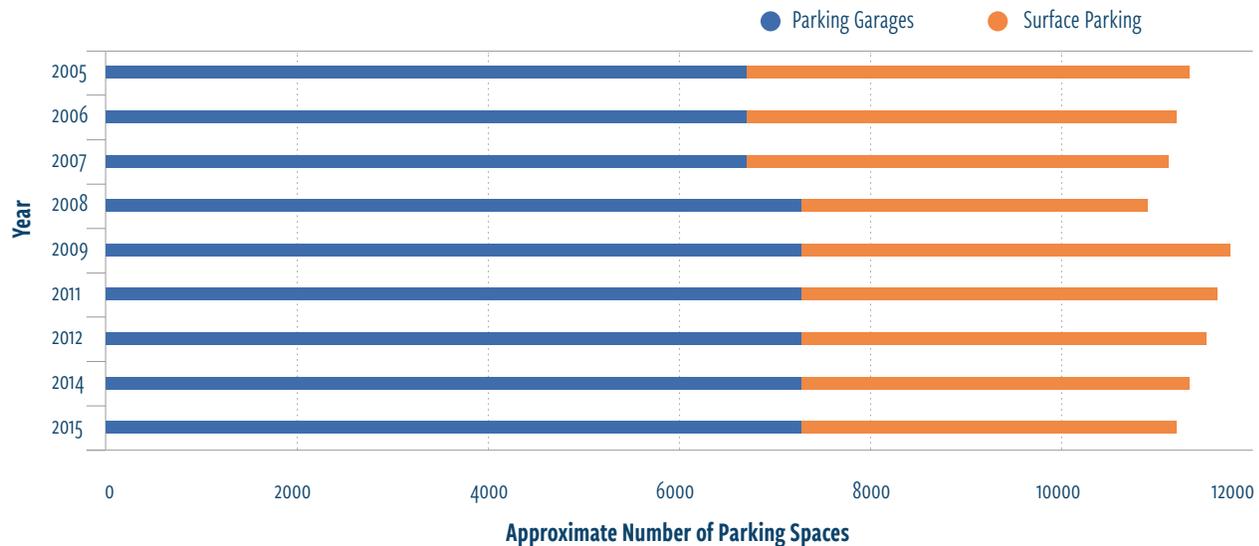
Parking Garages	# of Spaces	Parking Lots	# of Spaces	On-Street Parking	# of Spaces
Casco Bay Garage	418	Beach St. Lot	17	Meters	1,609
Elm St. Garage	400	Fish Pier Lot	165	HC, PD, Moped, U-Car, Taxi	225
Spring St	565	Marginal Way Lot	70	Subtotal	1,834
Temple St. Garage	630	Midtown Lot	170		
Subtotal	2,013	Spring Meter Lot	13		
		Thames St. Lot	285		
		Subtotal	2,723		

In Portland's downtown in the last ten years, parking supply has remained relatively stable, between 11,000 to 12,000 spaces, with a slight shift towards more parking garage spaces and less surface lot spaces.



**APPENDIX:  
TRANSPORTATION**

**Approximate Number of Parking Garage and Parking Lot Spaces in Downtown Portland (2005-2015)**



Source: Parking Division

**Public Transportation Network**

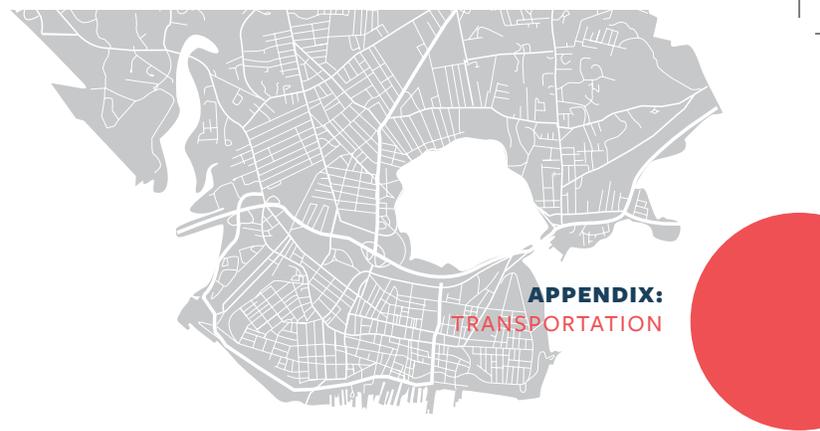
There is a long history of public transportation in the greater Portland region, going back to the horse-drawn streetcars and steamboat ferries of the mid 1800s. At the system’s height, around World War I, nearly every community in southern Maine was connected by electric railroad or ferry. Today, public transportation in greater Portland is served primarily by a growing network of bus and ferry routes, while passenger rail and air travel also play important roles.

**METRO**

Founded in 1966, the Greater Portland Transit District (METRO) is the largest provider of fixed-route bus transit in Maine. In 2015, METRO recorded 1.56 million boardings. With the recent addition of the Breez, METRO now provides nine local routes serving Portland, and parts of Westbrook, Falmouth, Yarmouth, Freeport, and South Portland. METRO recently expanded service on all routes to Sunday.

Most routes converge at or near the METRO Pulse located at 21 Elm Street. METRO also offers connectivity with other transit agencies. Riders on either METRO or the South Portland Bus Service can transfer from one system to the other free of charge. Both transit services also offer a joint regional pass, which enables travel on all METRO and/or South Portland routes.

METRO currently has 18 CNG-powered and 17 diesel-powered buses, 75 employees, and a \$7.5 million annual operating budget. Funding for METRO comes from federal, state, and local sources, as well as passenger fares, contracts, and advertising.



METRO leadership is currently exploring a number of innovative projects and ideas. For example, in partnership with Portland Public Schools, METRO now provides approximately 2,000 high school students with unlimited access transit passes during the school year, eliminating the need for school department busing of high school students. This program has helped introduce the City's younger generation to public transportation, as well as reduce the amount of bus traffic on the road.

#### **South Portland Bus Service**

Founded in 1983, the South Portland Bus Service (SPBS) operates fixed route public transit throughout South Portland, into downtown Portland, and parts of Scarborough via three bus routes. The SPBS maintains eight buses, averages roughly 200,000 boardings per year, and has an annual operating budget of \$1.2 million. Free transfers are available to and from METRO, as well as the Shuttlebus/Zoom. SPBS recently added Sunday service.

#### **Shuttlebus-Zoom**

Shuttlebus-Zoom has been operating for 30+ years within Old Orchard Beach, Saco, and Biddeford, and provides a critical public transportation link between Portland and its neighboring communities to the south. Shuttlebus-Zoom operates two bus routes with service to Portland. The Zoom is a weekday express bus that travels on I-95 with limited stops from Biddeford to Portland. The Inter-City route, by contrast, also begins in Biddeford but travels along Routes 1 and 9 and includes stops in Saco, Old Orchard Beach, Scarborough, and South Portland, before reaching Downtown Portland. For both routes, riders can transfer free to connecting ShuttleBus, METRO, and South Portland Bus services.

#### **RTP - Lakes Region Explorer and Paratransit**

The Lakes Region Explorer, operated by the Regional Transportation Program (RTP), began service in 2014 and provides long-awaited public transit service between Portland and the Lakes Region communities. The bus travels Route 302 from Portland to Bridgton with stops in Westbrook, Windham, Raymond, Casco, and Naples. In Portland, the route begins and ends at the Elm Street Pulse, but the bus also stops by request in many additional locations. Presently, the Monday-Friday service makes four round trips per day (two in the morning, two in the evening). The fare is \$3 for a one-way ticket, with free transfers to METRO and South Portland Bus Service. Fare discounts are also available for seniors, students, and with multi-ride ticket purchases.

Using a combination of paid and volunteer drivers, the Regional Transportation Program also provides low-cost transportation to the elderly, Maine Care and social service agency clients, the economically disadvantaged, and persons with disabilities throughout Cumberland County. RTP serves over 3,000 people countywide each year, providing more than 500 rides a day to people who need to get to medical appointments, grocery shopping, and work.

#### **Casco Bay Lines**

Casco Bay Island Transit District (CBITD), also known as Casco Bay Lines (CBL), is a quasi-municipal agency providing ferry service between Portland's Old Port and seven Casco Bay islands, including



Peaks Island, Little Diamond Island, Great Diamond Island (including Diamond Cove), Long Island, Chebeague Island, Cliff Island, and seasonal service to Bailey Island. CBL's fleet of ferries transports over one million passengers and 35,000 vehicles annually. The ferries also transport freight, USPS mail, FedEx, UPS, and Clynk.

Freight, fuel, goods, and vehicles are transported to the islands in a variety of ways. Peaks and Great Diamond have transfer bridges that permit the CBITD vehicle ferry to transfer autos or trucks at any phase of the tide. Vehicle access to the other islands is provided primarily by barge or landing craft and is possible only at the upper end of the tide range. Excluding large shipments of building materials or fuel, the bulk of down-bay (beyond Peaks Island) freight is carried on the passenger ferries.

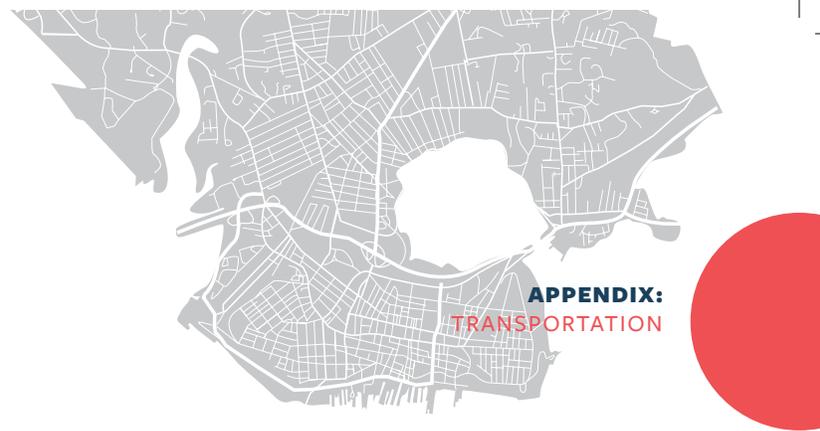
CBL ferries dock at the Portland Ferry Terminal located on the Maine State Pier, which has five berths and is within walking distance of Portland's Old Port and Downtown. Casco Bay Lines has a fleet of five vessels four of which are in regular operation, and a staff of 40+/- fulltime employees and 40+/- seasonal and part time employees. CBL has an annual budget of approximately \$6 million.

#### **Amtrak Downeaster**

Between 1842 and 1967, Portland was continually served by passenger rail services. In fact, at one point, Portland boasted four passenger rail stations: on Commercial Street, on India Street, on Preble Street on the north side of the peninsula, and at Union Station on the west. In 2001, intercity passenger rail service returned to Maine with commencement of the Downeaster service. The Amtrak Downeaster, managed by the Northern New England Passenger Rail Authority (NNEPRA), provides passenger rail service between Boston and Brunswick. The route covers 143 miles and includes stops at 11 full-time stations and one seasonal station in Old Orchard Beach.

Presently, the Downeaster makes five round-trips from Portland to Boston daily, with two round trips extending to Freeport and Brunswick. At its maximum authorized speed, the Downeaster travels 79 mph and makes the trip from Portland to Boston in approximately two and a half hours. In Portland, the Downeaster stops at the Portland Transportation Center (PTC), located on the edge of downtown Portland with easy access to I-295. The station is co-located with a bus station owned and operated by the Concord Coach Lines. The PTC is also a stop for METRO's Route 1 bus.

Since its re-introduction in 2001, ridership on the Downeaster has grown considerably. According to NNEPRA, in the ten year period between 2004 and 2014, annual ridership increased from 262,296 to 520,790 riders. However, the limited number of trips constrains the current schedule and leaves big gaps between trains, hindering growth potential. In the years ahead, NNEPRA hopes to make six daily round trips from Portland to Boston, to expand the PTC in Portland, and to improve overall travel times, among other goals.



### **Intercity Bus & Van**

Concord Coach Lines, Greyhound Bus Lines, and Mermaid Transportation are the three primary intercity bus and van carriers serving Portland. Concord Coach Lines, located at the Portland Transportation Center, targets business travelers with express service to Boston and recently New York City. Greyhound Bus Lines, whose terminal is at St. John and Congress Streets, provides connecting bus service to locations across the country. Mermaid Transportation (based in Saco) focuses on airport patrons, with direct service between the Portland, Boston, and Manchester airports.

### **Subscription Carpool & VanPool**

GO MAINE Commuter Connections is the statewide commuter services program sponsored by MaineDOT and administered by the Maine Turnpike Authority. GO MAINE provides commuters with carpool ride matching, express vanpools, and outreach and assistance to employers. GO MAINE services, including an interactive ride-matching system, are accessed online at [www.gomaine.org](http://www.gomaine.org) or 1-800-280-RIDE. The program annually serves more than 2,000 employers, enrolling commuters at their workspace, with the goal of continuing to expand the carpool and vanpool section of Maine's transportation system.

### **Ride Sharing Services**

Ride sharing services, which launched in the greater Portland area in 2014, allows consumers with smartphones to submit a trip request, which is then routed to local drivers who use their own cars to take the passenger to their destination. As ridesharing grows in popularity, the service may complement existing public transportation and contribute to a reduction in vehicle ownership.

### **Taxi Services**

Many "traditional" taxi services continue to operate in Portland. Taxis play an important role in local mobility.

### **Portland International Jetport**

The Portland International Jetport (PWM) is a thriving small hub, commercial airport, serving the aviation demands of the greater Portland region and much of the State of Maine. The Jetport, owned and operated by the City of Portland, is located west of downtown Portland, with a portion of its property in South Portland. A full-time airport manager, who reports to the Deputy City Manager, runs the facility, with the help of approximately 50 employed staff members.

In the last several years, the Jetport has undergone many innovative changes. Most notably, these include: a terminal expansion that achieved Leadership in Energy and Environmental Design (LEED) Gold certification; the installation of a geo-thermal heating and cooling system; and the establishment of a de-icing fluid recycling program to treat on-site and off-site spent glycol.



Source: Google Earth (2016)

In recognition of these and other efforts, in 2014 the Jetport received a grant through the Federal Aviation Administration's (FAAs) Sustainable Master Plan Pilot Program to prepare *The Sustainable Airport Master Plan*, to integrate sustainability principles into the traditional airport master plan process.

#### **Airfield Facilities**

The Jetport is served by two runways which intersect. Runway 11-29 is the airport's primary runway, and Runway 18-36 is the crosswind runway. Both runways are capable and certified to accommodate air carrier operations. However, air carrier operations are primarily conducted on Runway 11-29, with the crosswind runway used during periods of high northerly/southerly winds, or when the primary runway is closed for any reason.

#### **Landside Facilities**

The Jetport's passenger terminal has been upgraded several times, with the most significant upgrade in 2012. The latest renovation completes the phased terminal complex expansion project which began in 1995. Over that period, improvements have included: expansion of the building by approximately 145,000 square feet; renovation of the main existing building; addition of five passenger gates; new security screening checkpoint; renovated and expanded baggage claim facilities; addition of elevators and escalators; revised inbound/outbound passenger circulation; an enclosed bridge connection from the parking garage to the second level; a new food court, increased retail space, and increased development of surface parking lots.

#### **Current Aviation Demand**

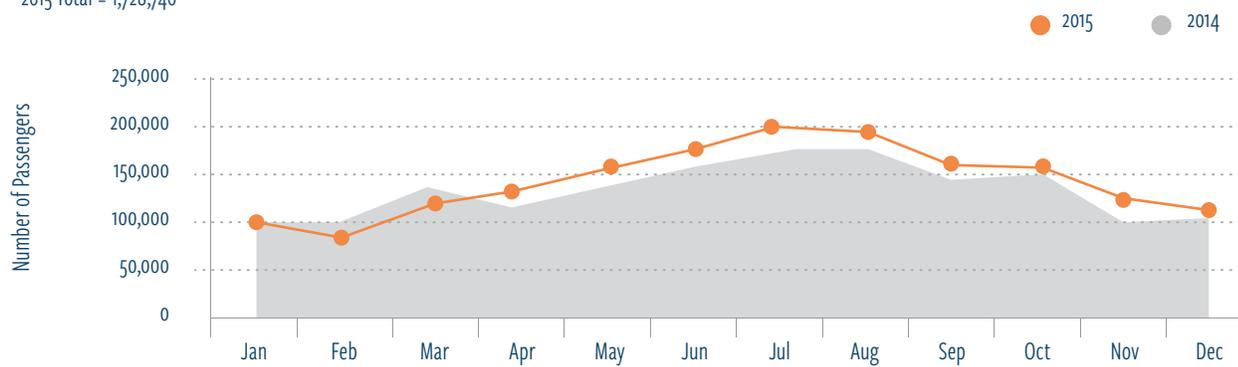
Elite Airways, Delta, Continental Express, JetBlue, United, US Airways, Southwest, and Republic Airline Charter currently provide passenger service to and from the airport. The airport tends to be busiest in the summer months and least active in January and February following the holidays.



**APPENDIX:  
TRANSPORTATION**

**Portland International Jetport Total Boarding Statistics (2014, 2015)**

2014 Total = 1,667,734  
2015 Total = 1,728,746



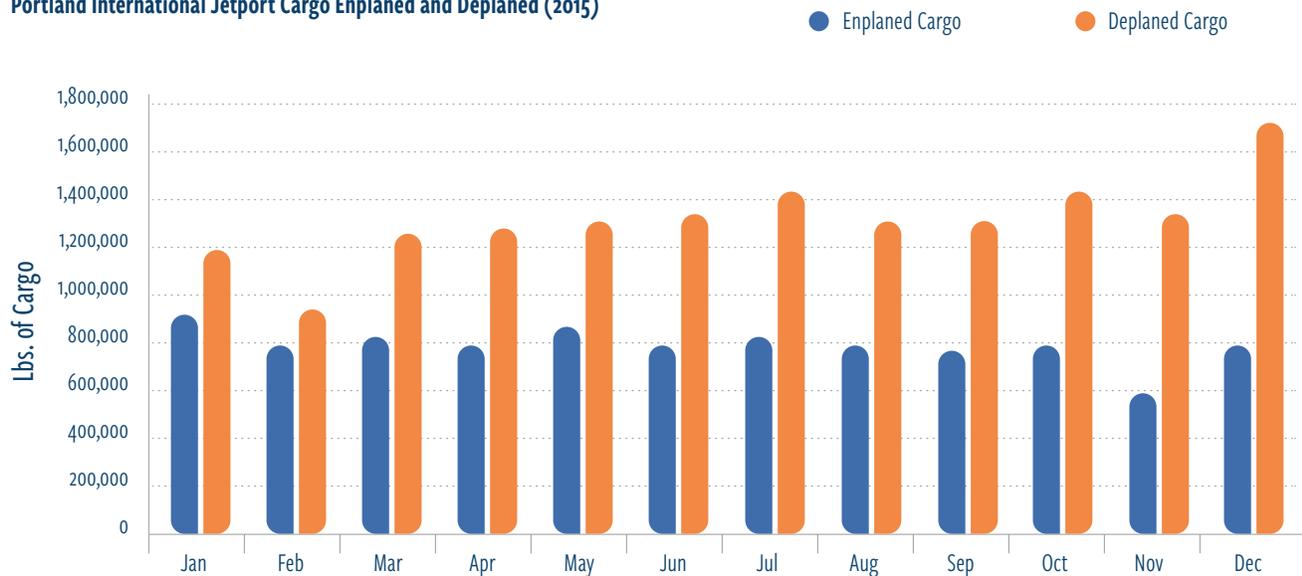
Source: Portland International Jetport

Shipping goods by air is another major activity at the Jetport. Air cargo is comprised of air freight and air mail. Air freight is handled by both passenger airlines and all-cargo airlines, including Delta, Air Wisconsin, Federal Express, and Wiggins, while air mail is handled by an all-cargo carrier under contract with the United States Postal Service. The Jetport deplanes considerably more cargo than it enplanes, and the monthly cargo totals are relatively steady, not differing as dramatically as the passenger boarding statistics. In total, over the course of 2015, the Jetport enplaned 9,777,031 pounds (4,889 tons) of cargo, and deplaned 16,042,052 pounds (8,021 tons) of cargo.



**APPENDIX:  
TRANSPORTATION**

**Portland International Jetport Cargo Enplaned and Deplaned (2015)**



Source: Portland International Jetport

Air cargo has not grown significantly at the airport over the past decade. Since the recession of 2008, air cargo declined from its peak of 20,000 total tons and has yet to fully recover – total enplaned and deplaned air cargo in 2015 was 12,910 tons. This decline is due in large part to the recession, as well as a switch by many cargo carriers to truck cargo to and from other airports. According to the *Sustainable Airport Master Plan*, in the coming years air cargo activity is expected to grow slowly in volume, though possibly not attaining previous highs.

**Aviation Demand Forecasts**

The *Sustainable Airport Master Plan* employs several forecasts to determine the need for future improvements. Annual enplaned (boarding) passengers serve as the most basic indicator of demand for passenger service. The forecasts, developed by the FAA and adjusted for high and low ranges based on a number of socioeconomic and airline industry considerations, estimate demand to 2035. Even the low range scenario from the *Sustainable Airport Master Plan* shows a considerable increase in enplanements.

**Enplanement Forecasts: Portland International Jetport**

	2014	2015	2020	2025	2035
Actual	844,041	869,953			
FAA Terminal Area Forecast			971,324	1,040,139	1,187,969
High Range Scenario			1,068,456	1,196,160	1,366,164
Low Range Scenario			874,192	936,125	1,069,172

Source: Portland International Jetport



**APPENDIX:  
TRANSPORTATION**

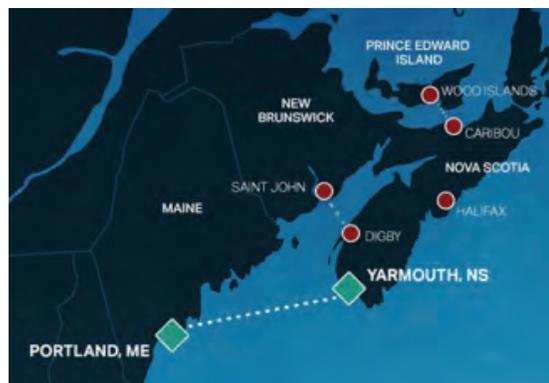
Another measure of trends in the airline industry is the average seats per departure metric, which has steadily increased at the Jetport. The *Sustainable Airport Master Plan* notes average seats per departure by commercial aircraft increased from 55.0 in 1993 to 61.0 in 2003, and then to 75.7 in 2013. The *Sustainable Airport Master Plan* anticipates the Jetport can expect 60-seat and larger aircraft to dominate service into the future, while service by smaller commuter turboprops is likely to decline. Altogether, airline passenger activity is anticipated to grow at an annual average rate of 1.5%.

### International Ferries And Cruise Ships

In addition to a robust network of local island ferries, Portland boasts international ferry service to Yarmouth, Nova Scotia via the CAT ferry, and the City is a major destination for international cruise ships as they work their way up the Maine coast.

#### Portland – Nova Scotia Ferry Service

In 2016, the Portland City Council unanimously approved a two-year lease agreement to resume ferry service between Portland and Yarmouth, Nova Scotia. The new operator of the ferry service, Bay Ferries Limited, uses a high-speed catamaran, called the CAT, to make the trip in five to six hours.



While the previous provider, Nova Star, fell short of its expectations of serving 100,000 passengers a year (it shuttled 59,000 in 2014, and 52,000 in 2015), with a new operator and faster ferry it is hoped the service will generate more interest in the years to come.

The ferry service runs from June to September and departs daily from Portland's Ocean Gateway terminal in the afternoon, arriving in Nova Scotia in approximately five hours. Under the lease agreement, the CAT will be barred from port periodically in order to prevent conflicts with cruise ship traffic. The CAT has a capacity for 866 passengers and 282 vehicles.

#### Cruise Ships

In the past decade, the cruise industry has experienced substantial growth in Portland. In 2016, Portland hosted 76 cruise ships with more than 102,000 passengers – the highest total on record – between May and the end of October. While the number of scheduled ship visits is down slightly from 84 in 2015, the projected passenger count is up from around 94,200. (By contrast, the City hosted just 33,000 passengers in 2003). The most popular month for cruise ships is September.

Cruise ships bring considerable revenue to Portland and the State of Maine. A 2014 study conducted by the Greater Portland Convention + Visitors Bureau found cruise ship passengers spent about \$6 million in the Portland area that year, while a Maine Office of Tourism study in 2013 found direct spending statewide from cruise ship passengers was about \$45 million.



**APPENDIX:  
TRANSPORTATION**

As can be expected, cruise ships increase the day and nighttime population of the downtown area considerably. A large cruise ship can bring an additional 3,000-4,000 visitors to Portland for several days at a time. While this influx of visitors brings economic opportunity to businesses and stores in the area, there is an associated demand on the transportation network. As cruise ship passengers do not have vehicles, they tend to rely on the City’s network of sidewalks and multi-use trails, chartered coaches, the public transportation system, or taxis.

**Bicycle and Pedestrian Network**

Changes in community design that prioritize automobiles – particularly since the end of World War II – led to a major decrease in active modes of transportation like walking and biking in the United States. However, in the last decade, Portland has made great strides towards improving conditions for walking and biking.

**Existing and Planned Bicycle and Pedestrian Network (2016)**

Facility Type*	Existing (Mi)	Planned (Mi)
Bicycle Lane	10	**38
Shared Lane	3	**38
Shared Use Pathway	8	6
Neighborhood Byway	6	22
Total	27	66

\*Paved shoulders and walking paths are not included in this inventory.

\*\*The City has identified 38 miles of road for bicycle lane or shared lane treatment; the specific facility will be determined at a later date.

**Bicycle Lanes**

Portland has ten miles of existing bicycle lanes. Bicycle lanes are designated bikeways that have stenciled bicycle symbol pavement markings and often have accompanying roadside signs. Bicycle lanes are designated for exclusive or preferential use by bicycles. They may be located on streets with or without on-street parking. In Portland, arterial and collector roads are the primary candidates for bicycle lanes. Since these roads experience more traffic than local streets, bicycle lanes are generally more appropriate for cyclists comfortable riding on streets with higher traffic volumes and speeds.

**Paved shoulders**

Paved shoulders are located outside travel lanes and delineated by a white pavement stripe. They are not designated specifically for use by bicycles, but are available for bicycle use and provide room for separation from motor vehicle traffic.

**Marked Shared Lanes**

Portland has three miles of marked shared lanes. Marked shared lanes are travel lanes that are marked as shared by motorists and bicyclists. Marked shared lanes are often used when the roadway is not wide enough to accommodate a bicycle lane. Shared lane pavement markings, also



called “sharrows,” are often used if the shared lane is part of a designated bicycle network. “Share the Road” signs, or more recently, “Bikes May Use Full Lane” signs, are often placed along roads where an on-road bicycle facility may transition from a bicycle lane or paved shoulder to shared lane facility due to reduced width.

#### **Shared Use Pathways**

There are currently eight miles of existing shared use pathways in the City. Shared use pathways are facilities physically separated from the roadway intended for multiple users, including bicyclists and pedestrians. They have a firm, compacted surface that serves road bicycles well.

#### **Neighborhood Byways**

The City has six miles of neighborhood byways. Neighborhood byways are designated local streets that form a network of quality biking and walking connections. Byways are intended for cyclists and pedestrians of all ages and abilities – with special emphasis on safe travel for children to and from school. Byway treatments include “bicycle boulevard” pavement markings, wayfinding and destination signs, traffic calming measures, sidewalk and crosswalk improvements, and streetscaping.

#### **Sidewalks And ADA Accessibility**

Portland has a rich environment for walking. The City’s dense development pattern, combined with a relatively extensive network of sidewalks, crosswalks, and shared use paths, provides many walking opportunities. In the past decade, the City has made a concerted effort to improve conditions for walking by constructing new sidewalks, improving the accessibility of curb ramps, and installing pedestrian refuge islands and rapid flashing pedestrian beacons, among other measures. However, a significant portion of Portland’s sidewalks do not meet current Americans with Disability Act (ADA) standards, and many intersections and arterial and collector streets throughout the City could benefit from pedestrian-oriented improvements and traffic calming. Some significant arterial streets, such as Warren Avenue and Riverside Street, are also missing key sidewalk segments.

#### **Trails**

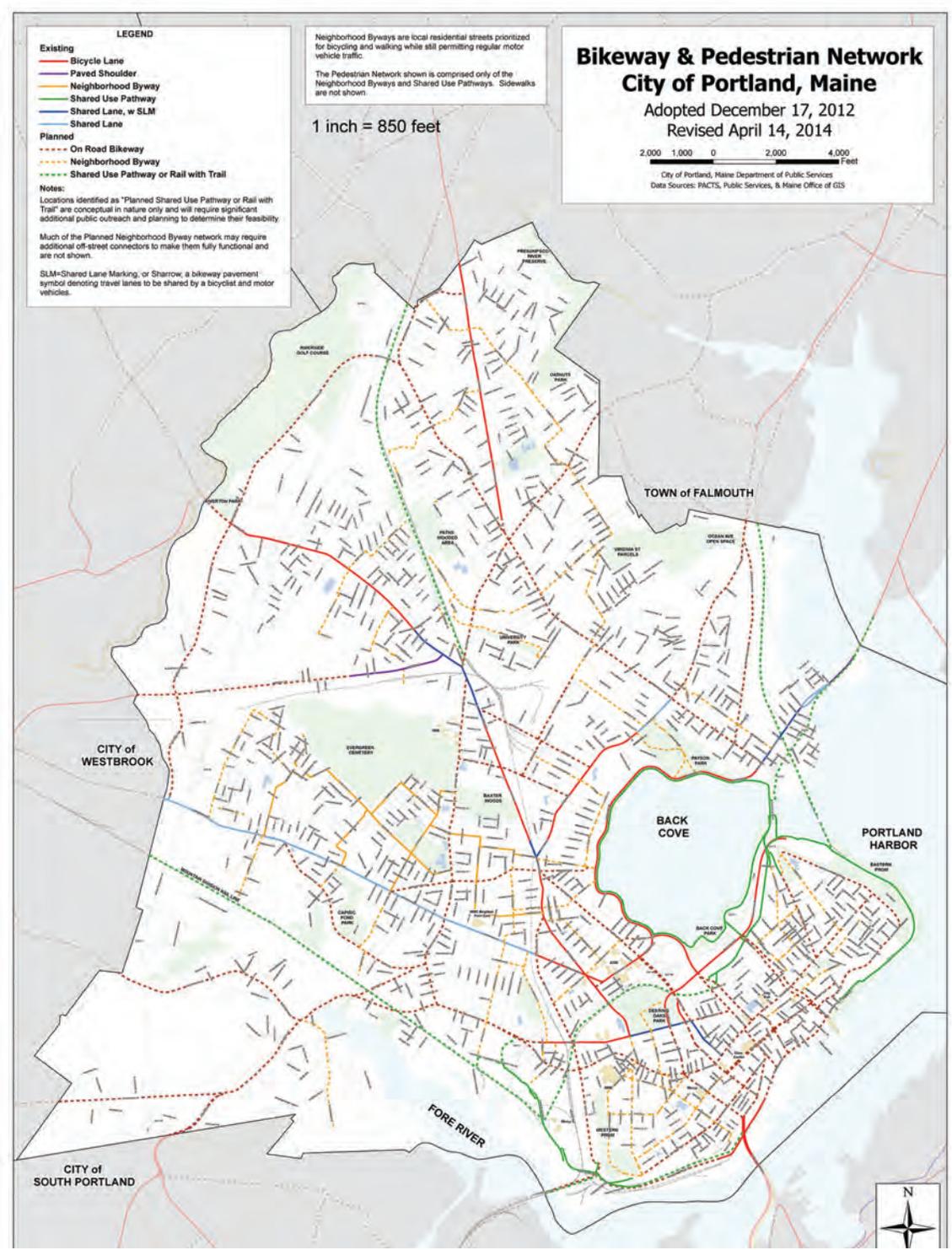
There is an extensive and growing network of shared use paths and hiking trails in Portland, from the popular Back Cove Trail to the forested paths in Evergreen Cemetery. Trails range in character and size from wide paved shared use pathways or ground stone dust trails, like the Eastern Promenade Trail or Back Cove Trail, to more primitive single track trails, like the ones in Evergreen Cemetery or Fore River Sanctuary.

The City’s trails are well-used by residents and serve many purposes, including for exercise and recreation, for enjoying the natural beauty of Portland, and for transportation – especially when trails are used in combination with the City’s sidewalk or on-road bicycle network. The non-profit Portland Trails has worked for years to increase the number of trails in the greater Portland region, and coordinates with the City to build and maintain many of the trails and related amenities.



**APPENDIX:  
TRANSPORTATION**

**Existing and Planned Bicycle and Pedestrian Network**





In addition to this network of local trails, several regionally significant bike routes and trails pass through, begin, or end in Portland. These trails provide more opportunities for recreation for residents and tourists and function as viable transportation routes:

- **U.S. Bicycle Route 1 (USBR 1):** USBR 1 is a cross-country bicycle route that will run the length of the eastern seaboard from Florida to Maine. The Maine portion of USBR 1 has been officially designated and mapped, and is currently being signed by MaineDOT and PACTS.
- **East Coast Greenway (ECG):** The ECG is a developing pathway project that spans from Calais, Maine to Key West, Florida, linking all major cities of the eastern seaboard. The intent of the project is to create a traffic-free, 3,000-mile urban pathway corridor. The ECG route in Maine is 381 miles long and 34% off-road. It is characterized by major path projects on the northern and southern ends of the route, with several gap areas in between. The Eastern Promenade Trail and the Harborwalk Trail are part of the East Coast Greenway System.
- **The Eastern Trail:** The Eastern Trail is a 65-mile section of the East Coast Greenway that extends from the Maine/New Hampshire border in Kittery to South Portland. The path features 22 off-road miles from Bug Light in South Portland to Kennebunk, as well as a scenic on-road route that mostly follows quiet country roads. The Eastern Trail Alliance is developing plans and funds to close a critical 1.6 mile gap between South Portland and Scarborough; the group also plans to add an additional 19 off-road miles between Kennebunk and South Berwick. As with the East Coast Greenway, the Eastern Trail includes the Eastern Promenade Trail and the Harborwalk Trail in Portland
- **Mountain Division Rail with Trail:** The Mountain Division project is an ongoing effort to develop a 52-mile multi-use path from Portland to Fryeburg along the Mountain Division transportation corridor. A six-mile section of paved path has been completed from Little Falls Village in Gorham to Otter Ponds in Standish, with a one-mile gravel path section connecting to Johnson Field on Route 35 in Sebago Lake Village, Standish. Another four miles of path has been constructed in Fryeburg at the visitor's center along Rt. 302 near the New Hampshire border and ending at Route 113 near the Eastern Slopes Regional Airport.
- **Sebago to the Sea Trail:** The Sebago to the Sea Trail is a contiguous, multi-use trail from Sebago Lake to Casco Bay connecting Standish, Windham, Gorham, Westbrook, Portland and Falmouth. The trail is essentially complete, with the exception of a 4.8-mile section between South Winham and Westbrook – this section is currently a paddling route only along the Presumpscot River until further improvements are made to the Mountain Division rail line.

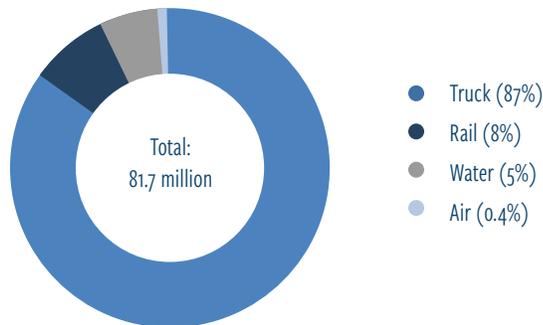
### Freight Network

As noted in MaineDOT's 2014 *Freight Strategy Report*, Maine's economy is fueled by both traditional and emergent industries, ranging from forestry, agriculture, and fishing to biotechnology and tourism. These, and other industries, demand a robust and reliable transportation system. Maintaining access to suppliers, customers, and markets – both within and outside the state – is critical for allowing these industries to prosper, grow, and enhance Maine's economic vitality. In Maine, freight is shipped primarily by truck (87%), followed by rail (8%), by sea (5%) and by air (0.4%).



**APPENDIX:  
TRANSPORTATION**

**Mode Split in Maine by Weight (tons) (2008)**



Source: *MaineDOT Freight Strategy Report*

**Road Freight**

Since trucks continue to be the major carrier of freight, Portland’s highway network plays a crucial role in moving goods to, within, and through the City. In Maine, the two busiest truck routes (as measured by truck annual average daily traffic) are the Maine Turnpike (I-95) and Interstate 295 (I-295), both of which travel north/south through Portland, with several exits in Portland. Other major truck routes include the seven regional arterials that converge in the City (Route 1, Route 9, Route 22, Route 25, Route 302, Route 26/100, and Route 77).

Arterials are often called upon to do double duty: to serve both as a local street and as a regional arterial. As such, finding the right balance between moving people and goods regionally versus preserving the safety and livability of neighborhoods locally is an issue that will likely persist in Portland for some time. Encouraging truck traffic to use highways in lieu of arterials through neighborhoods is one strategy for minimizing the impact of truck traffic. For this reason it is also important to ensure that industries with regional and interstate markets have adequate access to the interstate highway system to minimize commercial traffic in residential districts.

**Rail Freight**

Rail service is an underutilized, but important component of the transportation mix in Maine and is particularly cost-effective when moving high-volume, low-value commodities over long distances. Three rail operators provide service in the greater Portland region: Pan Am Railways, St. Lawrence & Atlantic Railroad Co, and Turners Island LLC. Pan Am is the largest of these operators, running a line from South Berwick near the New Hampshire border through Portland north to Mattawamkeag in Penobscot County. Pan Am carries the most traffic and is the primary rail connection to the rest of the continental U.S. The St. Lawrence & Atlantic Railroad runs a line from Portland north to Montreal, and Turners Island is a terminal operator that connects Pan Am to the shipping facility in South Portland.



**APPENDIX:  
TRANSPORTATION**

Rail continues to play an important role in the servicing of industrial and commercial facilities in Portland. Currently there are 5.39 miles of active track on the Pan Am mainline in Portland and 4.34 miles of active track on the Mountain Branch, for a total of 9.73 miles of active track in the City. Additionally, there are 35 active public at-grade crossings in Portland, as well as four at-grade crossings on private roads. Ensuring the safety of the tracks and crossings is a priority for the City and the state. The City has an ongoing plan to maintain “Quiet Zone” status within Portland whereby trains do not need to signal via horn at street crossings.

In *Connecting Maine*, MaineDOT’s long range transportation plan, the Department promotes increased use of the rail system as a cost effective, environmentally friendly alternative to highway use. To bring about more significant use of the rail network, however, a number of constraints will need to be addressed. As the 2014 *Maine State Rail Plan* notes, Maine’s freight railroad network is adequate to meet current demands, but will need improvement in the future.

Much of Maine’s rail infrastructure is outdated, aging, and struggling to keep up with new industry standards towards heavier and taller rail cars. The current standard of 263,000 pound cars is quickly being replaced by the heavier 286,000 pound cars (more recently, some Class I railroads are beginning to carry 315,000 pound cars on their main routes). These cars offer more cost effective transport of heavy products, but not all tracks in Maine are able to support the increased weight due to track and bridge conditions. While Pan Am and several other carriers in Maine accept 286,000 pound cars on an exception basis, regular use of the heavier cars would require significant capital investment.

Another physical constraint is vertical clearance. It has now become common in the industry to use “double stack” cars, where two shipping containers are placed on top of one another. According to the *Maine State Rail Plan*, only two of Maine’s rail routes are double stack capable -- these routes are located in northern Maine and provide an international connection to Canada, but do not link to the broader rail network in the continental U.S.

Lastly, the downsizing of the rail system in the region has concentrated both passenger and freight operations on several main corridors. Diminished capacity along certain corridors has hindered the ability of passenger and freight trains to share infrastructure effectively.

#### **Air Freight**

While air freight is a very small fraction of the freight traffic in Maine, it is still an important element in the freight system. Due to its high cost compared to other modes, air freight is typically used for transporting low-weight/high value commodities, such as semiconductors, or perishable commodities such as seafood. Only two airports in Maine provide freight services – Portland and Bangor. As referenced earlier, over the course of 2015 the Portland Jetport enplaned 9,777,031 pounds (4,889 tons) of cargo, and deplaned 16,042,052 pounds (8,021 tons) of cargo.

#### **Marine Freight**

The Port of Portland has a collection of terminals capable of accepting a wide variety of cargo along both the Portland and South Portland waterfronts. The Portland side features two substantial ports

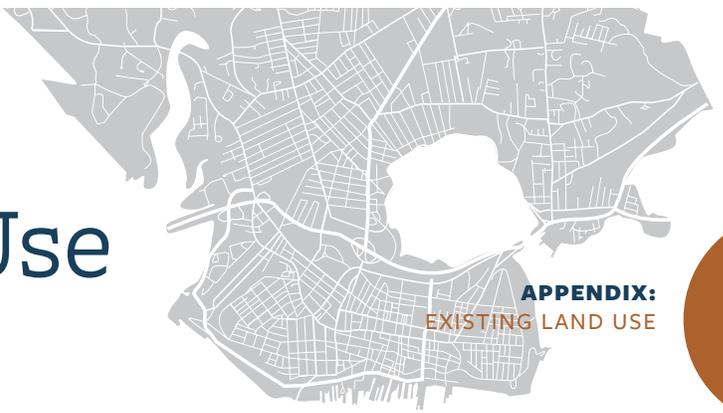


– the City-owned International Marine Terminal (IMT) and the privately-owned Merrill Terminal. The IMT, in particular, is part of MaineDOT’s Three-Port Strategy – to focus public investment in cargo port development efforts at the IMT in Portland, as well as in Searsport, and Eastport.

In 2013 the Icelandic shipping company Eimskip Logistics moved to the Port of Portland from Norfolk, Virginia, and began using the IMT for container service. Portland was designated as Eimskip’s logistical hub for North America. The company now offers direct container service between Portland and Newfoundland, Greenland, Iceland, and ports in northern Europe, including Russia, Norway, Poland, England, and Germany.

Directly connecting the terminal with the freight rail network was identified by MaineDOT and PACTS as a high priority project with large benefits. This connection was realized in 2015 as part of the IMT Expansion project, which more than doubled the size of the IMT facility, modernizing the security areas and providing customs separations. Identifying businesses and products that could make good use of the newly updated terminal is the next step towards taking advantage of this emerging opportunity.

# Existing Land Use



Portland is the largest urban center in Cumberland County and in Maine. The City's total area is 70 square miles, but only 22 square miles of this total is land area (the mainland and islands). Portland's prominence is in great part due to its strategic location on Casco Bay. The City is defined by its water resources, such as the deep water port of Portland Harbor, coastal wetlands, and three major rivers, the Presumpscot, Fore, and Stroudwater. Early settlements were established near the water in order to gain access to rich natural resources, transportation routes, and commerce.

It is the water resources that generally mark the geographic limits of Portland. The Fore River and Portland Harbor are the shared boundaries of Portland and South Portland, while the Presumpscot River is the boundary with the City of Westbrook. The Town of Falmouth shares portions of the Presumpscot River and Estuary along the City's westerly and northerly boundaries. Other neighboring communities on Casco Bay include Long Island and Chebeague Island.

The topography of the city has also defined it. Munjoy Hill and the West End are home to two promontories, the Eastern Promenade and the Western Promenade, which are preserved as historic landscapes. Linking these high points is a spine running the length of the peninsula, which tapers down to the water's edge at the harbor and at Back Cove. Portions of the Bayside neighborhood near Back Cove have very low elevations and are subject to periodic flooding. Off peninsula, the land gradually rises to high points located along Ocean Avenue, Canco Road, and Summit Street, and then slopes down toward the stream and river shorelines.

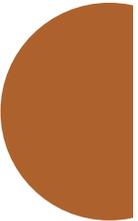
## EXISTING CONDITIONS AND TRENDS

Portland is an extensively developed City with a diverse mix of interwoven uses. The peninsula is generally comprised of high density housing, varying in degree and type by area, and commercial development. Off the peninsula, more intensive commercial development is concentrated in nodes and along arterial streets, surrounded by mostly late 19th and 20th century multi-family and single-family homes. Residential development transitions to more single-family suburban style neighborhoods along the outer edges of the City. The islands are comparatively rural, contrasting with the mainland of the City.

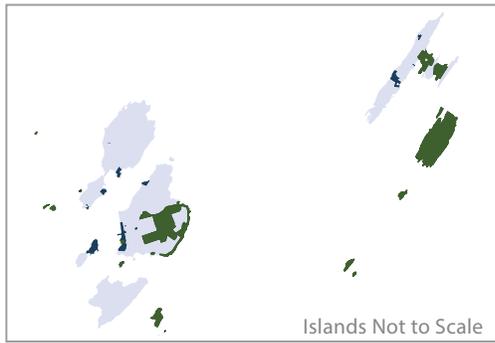
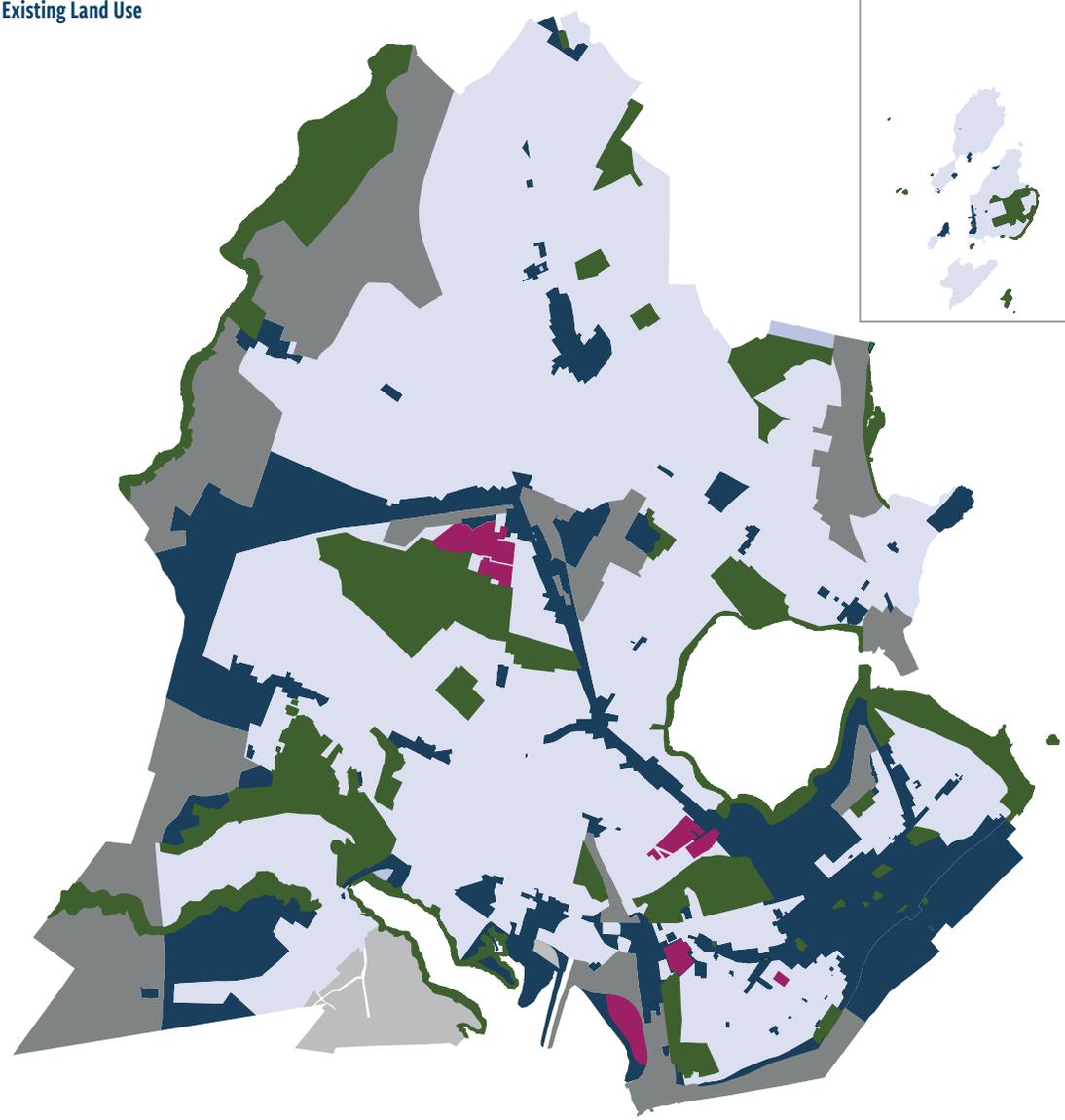
There are few large undeveloped areas left within Portland, particularly in comparison with surrounding suburban municipalities. Portland does have a limited number of vacant lots scattered throughout the urban center, with some larger parcels in the outer ring of neighborhoods. While there are few vacant greenfield parcels in Portland, the City has experienced active redevelopment of underutilized parcels, particularly surface parking areas and brownfield sites, which have been transformed into mixed-use developments.



**APPENDIX:**  
EXISTING LAND USE



**Existing Land Use**



Shaded areas are characterized as predominantly:

- Open Space
- Industrial
- Institutional
- Transportation
- Residential
- Mixed-Use/  
Commercial/Office



**APPENDIX:**  
**EXISTING LAND USE**

### **Recent Development Patterns**

The City of Portland's Planning and Urban Development Department consists of three divisions: Planning, Transportation, and Housing and Community Development. The Department of 20 staff members specializes in long-range planning for housing, transportation, land use, and historic preservation. In addition, the Planning Division provides a broad range of review services for development and historic preservation.

Between 2012 and 2014, the City's planning authority approved an average of 30 Level II and Level III developments per year. In 2015, the planning authority approved 40 Level II and Level III developments. Recent years have seen development proposals for commercial/industrial, mixed-use, and medium to high density residential developments, with a concentration on the peninsula.

### **Residential Approvals**

Portland's housing stock has continued to grow steadily each year over the past five years. In 2014, a total of 132 multi-family units were approved (not including single and two family units). 60% of the new housing units were efficiencies or one-bedroom, 28% two-bedroom, and 13% three-bedroom dwelling units. Portland's market in 2015 experienced a substantial surge in residential development with 1,180 multifamily units approved by the Planning Board, including the 440-unit Midtown project and roughly 300 units targeted exclusively to senior residents. Again, the market emphasis was in smaller units with three-bedroom units representing only 10% of the total that year. In 2016, the number of approved units dropped from the high of 2015, but exceeded the historical pattern of previous years with a total of 195 new units. All of the housing approved in 2014 is built, and 63% and 50% of the housing units approved in 2015 and 2016, respectively, are currently under construction or completed.

In addition to multi-family units, the City has also experienced modest new housing growth in the form of single and two-family developments. Between 2014 and August 2016, Portland approved 114 units of single-family, accessory, or two-family housing. The overall number of single and two-family homes constructed in Portland over the past five years is 145.

Many of the City's new developments with significant residential components have been concentrated in the East End, India Street, Downtown, and Bayside. There have also been several residential and elderly housing developments approved off-peninsula, including the redevelopment of the Nathan Clifford School in the Oakdale neighborhood, the redevelopment of 3 Pleasant Avenue, the Park Danforth on Stevens Avenue, 605 Stevens Avenue, and the Portland Retirement Residence in East Deering.



**APPENDIX:**  
EXISTING LAND USE

**Recent Development Projects with Residential Components (>10 units)**

Year	Name	Address	Approved Units
2012	Village at OceanGate	113 Newbury Street	94
	311 Commercial Street	311 Commercial Street	14
	West End Place	40 Pine Street	39
2013	409 Cumberland	67 Forest Avenue	57
	Munjoy Heights	79 Walnut Street	29
	Nathan Clifford Redevelopment	172 Falmouth Street	22
2014	118 on Munjoy Hill	118 Congress Street	18
	Washington Avenue Efficiencies	134 Washington Avenue	18
	Seaport Lofts	101 – 121 Newbury Street 81 East Oxford Street	35
2015	Bayside Anchor	Street	45
	Midtown	Somerset Street	440
	East Bayside Lofts	89 Anderson Street	53
	Longfellow Apartments	667 Congress Street	139
	Bishop Street Apartments	72 Bishop Street	30
	Park Danforth	777 Stevens Avenue	54
	Pleasant Avenue Church	3 Pleasant Avenue	25
	Motherhouse Senior Housing	605 Stevens Avenue	88
	17 Carleton Street	17 Carleton Street	37
	York & High Development	85 York Street	63
	Portland Retirement Residence	802 Ocean Avenue	150
	Schlotterbeck Block	117 Preble Street	56
2016	East End Lofts	273 Congress Street	10
	443 Congress Street	443 Congress Street	28
	Luminato	169 Newbury Street	29
	Anderson Townhouses	70 Anderson Street	10
	Westerlea View	75 Chestnut Street	54



**APPENDIX:**  
EXISTING LAND USE

### Commercial Approvals

Recently-approved commercial development includes a mix of retail, restaurant, office space, hotel, and marine uses. The India Street neighborhood and the Eastern Waterfront have been the focus of much of the commercial and mixed use redevelopment activity in the City, as well as the Bayside neighborhoods and downtown. Several large mixed-use proposals have been constructed and others are in the pipeline for the Commercial Street corridor as well. Development has also occurred within the neighborhood-centered B-1 and B-2 zones, which has resulted in more residential and mixed-use projects both on and off peninsula. A renewed interest in office development has emerged for sites within the O-P zone, as evidenced by the construction of the Patrons Oxford Insurance building in the Portland Technology Park and the approval of a large office complex at 1945 Congress Street.

New industrial developments, such as warehouses, breweries, and technology firms, have generally occurred in the areas along Riverside Street and Presumpscot Street. Portland's burgeoning food and arts-related industries have reused existing buildings and the revitalized industrial areas located in East Bayside and Libbytown.

After an extended period of limited investment in the working waterfront, the Western Waterfront has grown substantially in the past decade with the redevelopment and expansion of the International Marine Terminal and the relocation of the Portland Yacht Services. Within the Central Waterfront area, redevelopment and reuse proposals have been constructed, which support the marine uses on the adjoining piers.



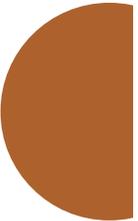
**APPENDIX:**  
EXISTING LAND USE

**Top 15 projects under construction by size (December 2016)**

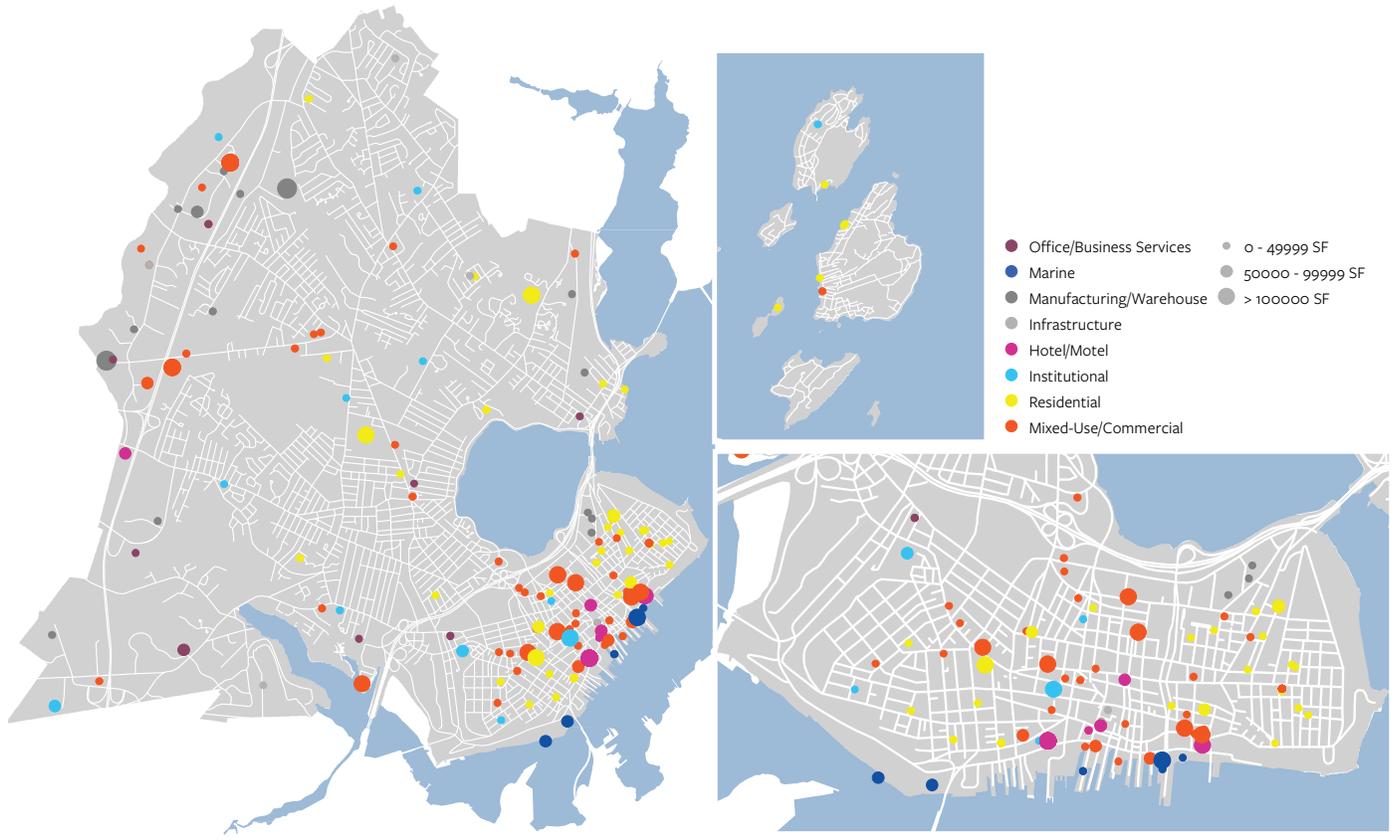
Project Name/Address	Est. Completion Date	Units	New Square Footage			New + Existing / Proposed		Estimated Construction Cost
			Residential SF	Commercial SF	Other	Total SF	Total SF Under Construction	
1 667 Congress St. (Longfellow Apts)	2017	139	141,742	3,700		145,442	145,442	\$11,911,934.00
2 802 Ocean Ave (Portland Retirement Residence)	2018	150	134,646			134,646	134,646	\$12,333,420.00
3 158 Fore (AC Marriot)	2017	n/a		120,760		120,760	120,760	\$4,687,000.00
4 101 York (JB Brown)	2017	63	80,000	17,000		97,000	97,000	\$15,418,000.00
5 777 Stevens (Park Danforth)	2017	59	94,236			94,236	94,236	\$1,694,312.00
6 62 India St (India Newbury Residences)	2017-2018	29	49,901			49,901	49,901	\$7,196,000.00
7 89 Anderson St (Bayside Lofts)	2016	53				44,050	44,050	\$3,897,000.00
8 169 Newbury (Luminato)	2017	26	40,000			40,000	40,000	\$6,200,000.00
9 58 Alder St (Bayside Bowl Expansion)	2017	n/a		35,251		48,857	48,857	\$3,010,000.00
10 117 Preble (Schlotterbeck & Foss)	2016	50	37,345			37,345	37,345	\$5,354,597.00
11 Brick South (Thompson's Point)	2017					675,850	34,650	\$2,000,000.00
12 121 Center (Asylum)	2017	n/a		11,310		24,459	24,459	\$5,600,000.00
13 33 India St (Ocean Gateway Condo)	2016	8	21,175			21,175	21,175	\$2,932,000.00
14 1342 Congress ( JCA)	2017	n/a				19,300	19,300	\$5,500,000.00
15 3 Pleasant Avenue	2017	25	17,582		19,300	17,582	17,582	\$1,568,756.00
		<b>602</b>						<b>\$89,303,019</b>



**APPENDIX:**  
EXISTING LAND USE



**Current Approved Development (Level II and Level III, 2012-1016)**





**APPENDIX:**  
EXISTING LAND USE

**POLICY**

The City’s first zoning ordinance was adopted in 1926 with eight zoning classifications. In 1974, Portland adopted a *Land Use Plan*, which is the basis for the current zoning code. The land use code has evolved over the years with updated planning initiatives and policies. The current code has multiple residential, commercial, industrial, waterfront and island districts to address the varied development patterns and plans throughout the City.

Nearly half of Portland’s land area (44%) is devoted to residential zoning, 14% is devoted to commercial use, 12% is zoned for industrial, and 2% is zoned for waterfront. The island zoning represents 13% of the acreage in Portland and the zones designed to preserve sensitive environmental areas and recreation opportunities constitute 13% of Portland’s land area.

**Total Land Area by Existing Zoning Classification (2015)\***

General Zoning Categories	Acres	Percent
Conditional or Contract Zones (C1-C62)	213	2%
Waterfront Zones (WCZ, WPDZ, EWPZ)	278	2%
Industrial Zones (IL, ILb, IM, IMb, IH)	1702	12%
Island Zones (I-B, I-TS, IR-1, IR-2, IR-3)	1743	13%
Resource Protection/ Rec/Open Space (RPZ, ROS)	1841	13%
Commercial/Business Zones (AB, B1-B7, OP, RP)	1944	14%
Residential Zones (R1-R6)	6184	44%
<b>Total</b>	<b>13,905</b>	<b>100%</b>

*\*All of the data above is summary only, and the current Land Use Code should always be checked for complete and up to date zoning information.*





**APPENDIX:  
EXISTING LAND USE**

**Residential Zones**

The R-1 through R-3 zones are primarily single family home districts found off-peninsula with accessory apartments permitted as conditional uses. The R-4 zone is located in the historic West End, where lower density housing is the predominant use. The R-5 and R-5A zones allow moderate density housing in off-peninsula locations with a variety of housing types in addition to single family homes, such as two-family, multiplexes, and planned residential unit developments. The R-6 was updated recently and provides opportunities for higher density housing on the peninsula. Similarly, the R-6A zone was created and is used for several larger scaled elderly complexes off Forest Avenue. In general, the R-7 zone was applied to specific downtown sites through the conditional rezoning process, but the recent update of R-6 has minimized the need for this regulatory tool. The Flexible Housing zone allows for the development of a mobile home park.

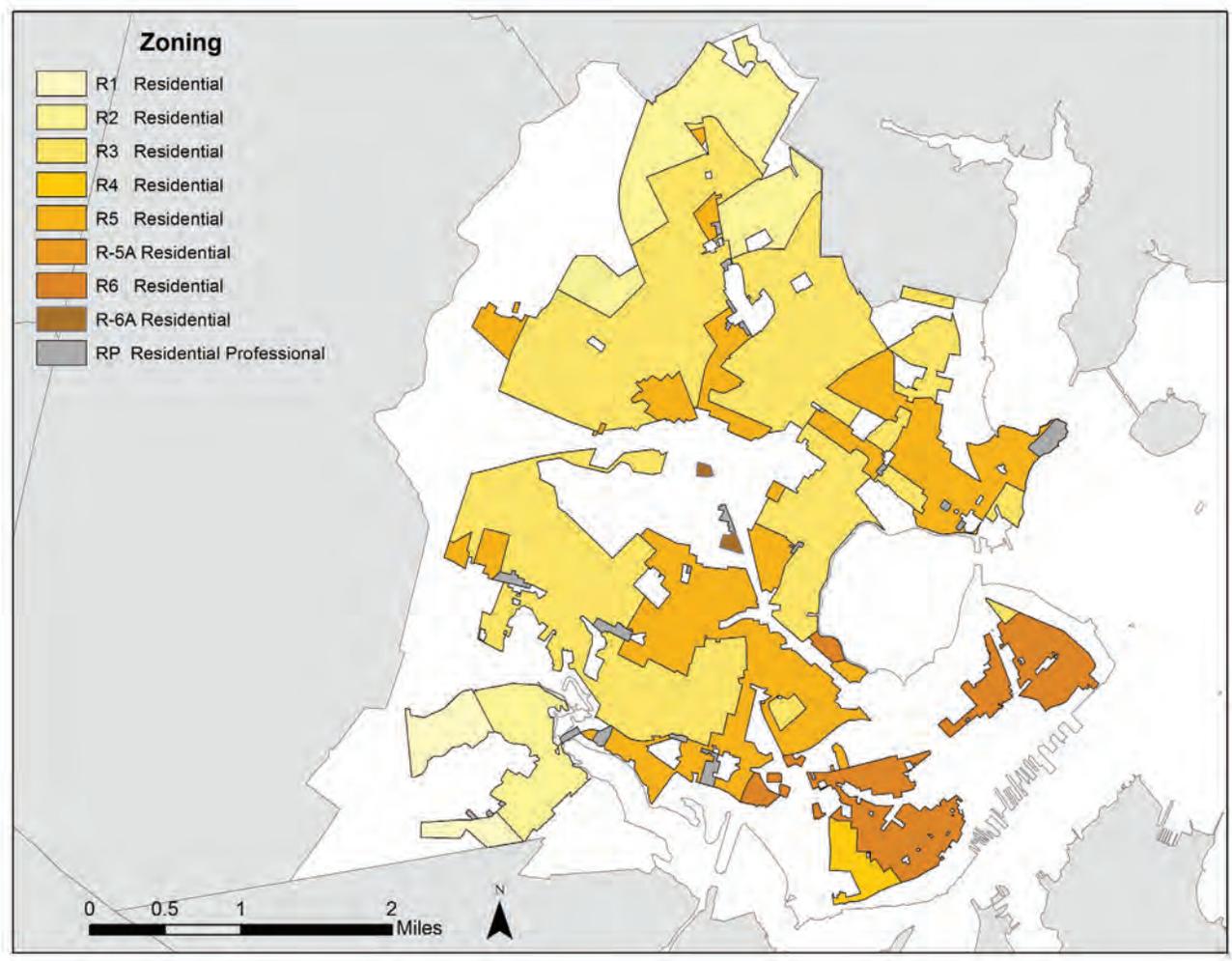
Residential zones are the core of Portland’s diverse neighborhoods. Significant housing infill and redevelopment has recently occurred on the peninsula where higher residential densities are allowed. The inner ring of off-peninsula neighborhoods has a more traditional street grid pattern with moderate density housing. Low-density single family development is found within the westerly ring of neighborhoods. Pockets of higher density housing are found near off-peninsula commercial nodes and major arterials. Institutional uses, such as schools and places of assembly, are listed as conditional uses in the residential districts.

**Dimensional Standards for Residential Zones**

	R-1	R-2	R-3	R-4	R-5	R-5A	R-6	R-6A	R-7	FH
Min. Lot Size (sq. ft.)	15,000	10,000	6,500	6,000	6,000	6,000	2,000	4 Acres	0	4,500
Min. Lot Area per D.U.	15,000	10,000	6,500	3,000	3,000	1,600	725	725	435	4,500
Min Street Frontage (in ft)	75	50	50	50	50	50	20	20	0	50
Min Lot Width	100	80	65	60	60		20	20	0	
Min Front Setback	25	25	25	25	20	25	5	5	5	20
Side Setback (in ft)	12 to 16	12 to 16	8 to 16	10 to 16	8 to 14	10 to 16	5	10 to 15	5	10
Rear Setback (in ft)	25	25	25	25	20	25	10	10	5	20
Max Building Height (in ft)	35	35	35	35	35	35	45	65	50	
Structure Stepbacks (in ft)							15 at 35	15 at 35		
Max. building Lot Coverage	20%	20%	35%	30%	40%	30%	60%	60%		50%
PRUD -option			yes		yes	yes				

<sup>1</sup> May be reduced by 5,000 sf if on public water and an additional 2,500 sf if permanent open space in development

**Residential Zones in Portland (2015)**





**Commercial Zones**

The City’s commercial zones are designed to accommodate a range of services, businesses, entertainment, hospitality, institutional, office, and other uses. The commercial zones in Portland tend to be congregated around the major arterial streets and highways, the downtown core, and along the upland side of the waterfront. For example, the B-3, B-5, B-6 and B-7 zones are primarily located on the peninsula and offer the broadest range of permitted uses. Redevelopment in these areas has included hotels, performance venues, restaurants, art studios, and residential projects.

The Neighborhood Business B-1 zones and the Community Business B-2 zones are located in neighborhood centers and along commercial arterials., which in close proximity to residential neighborhoods. Recent updates to B-1 and B-2 zones have provided incentives for housing, thus new developments in these districts include residential. The island business zone provides an opportunity for smaller-scaled facilities to serve the island communities.

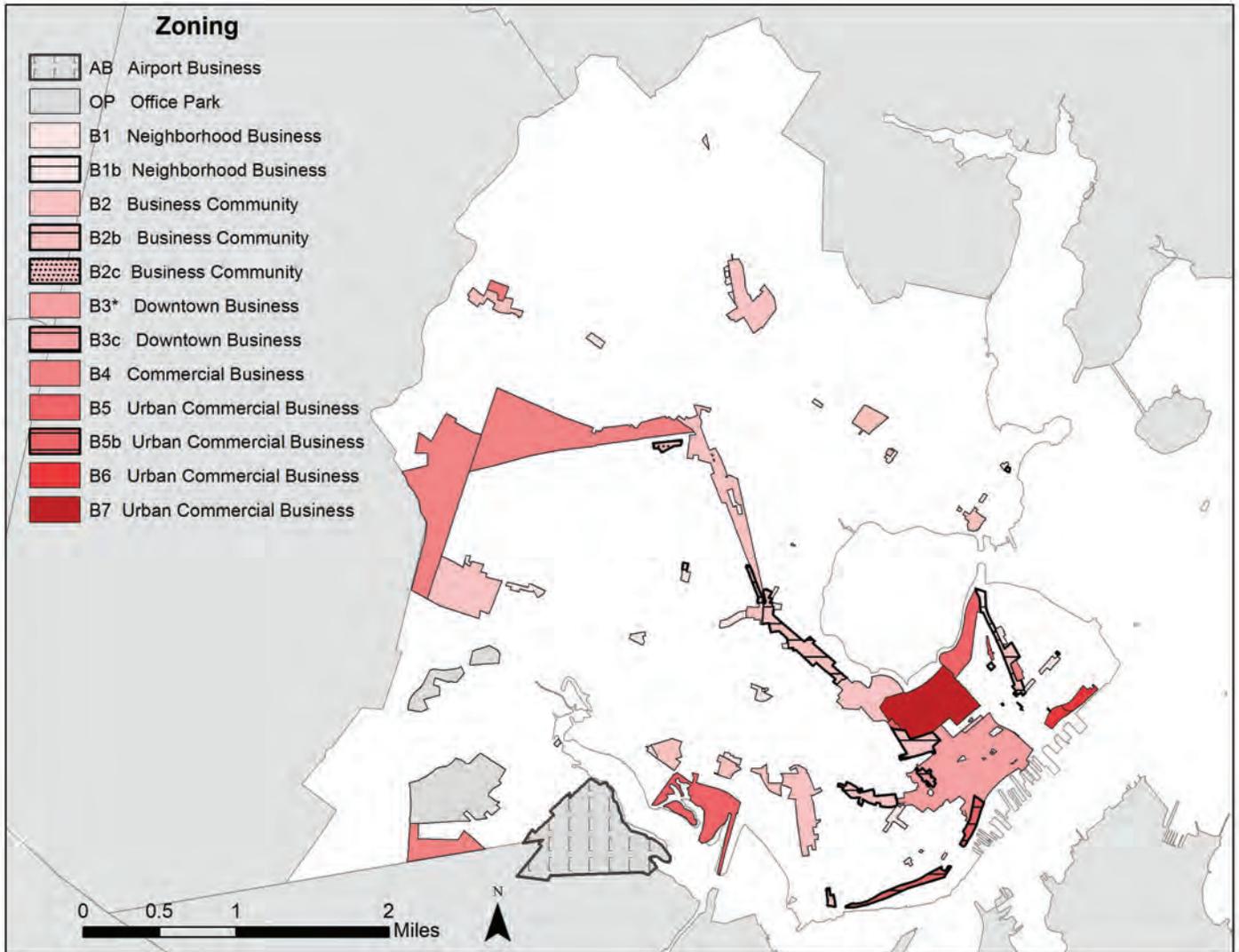
Warren Avenue and Riverside Street area (Exit 48 area) are zoned B-4, which allows for more semi-industrial uses and big box retail. The Residence Professional zone (RP) and the Office Park (OP) provide opportunities for office development off the peninsula. Portland’s Jetport and vicinity are zoned Airport Business (AB).

**Dimensional Standards for Commercial Zone**

Zoning District	B-1, B-1b	B-2-B-b, B-2c	B-3	B-4	B-5	B-6	B-7	RP	OP	AB
Min. Lot Size (sq. ft.)	0	0	0	10,000	0	0	0	6,000	1.5 acres	20,000
Min. Lot Area per D.U.	435-1,000	435-1,500	0							
Min Street Frontage (in ft)	20	20	15	60	0	0	0	60	100	50
Min Lot Width	0			60				60	50	50
Min Front Setback	0		0	20	0	0	0	20	50	0 to 20 <sup>1</sup>
Max Front Setback	10	10	5		10	10	10			
Side Setback (in ft)	0-5	0 to 5	0	10-12	0	0	0	10-14	25	
Rear Setback (in ft)	0-10	10	0	20	0	0	0	20	50	0 to 50 <sup>1</sup>
Max Building Height (in ft)	35-50	45-65	45-210		65	65	55-125	45	55-75	45 to 75 <sup>1</sup>
Minimum Building height			35			3 floors	2-4 floors			
Structure Stepbacks (in ft)	10 at 35	5-15	15 at 50 or 90							
Max impervious surface ratio	90%	80-90%	100%	80%	100%	100%	100%	6- to 80%		70%

<sup>1</sup> More restrictive next to a residential use/zone

**Commercial Zones in Portland (2015)**





**APPENDIX:**  
EXISTING LAND USE

**Industrial Zones**

The City’s industrial zones allow uses ranging from low-impact industrial, such as research & development facilities, breweries, and lumber yards, to high-impact industrial uses, such as metal recycling and solid waste disposal facilities. The low-impact industrial zones on the peninsula have served as incubator space for the City’s expanding food economy and arts-related industries. These formerly underutilized areas are now vibrant hubs of industry and activity. Similar reuse and innovation has occurred in the off-peninsula industrial areas, particularly for the breweries off Riverside Street.

Industrial zones in Portland are primarily clustered along the Interstate 95 corridor with some industrial zones also located on Warren Avenue near Morrill’s Corner, East Deering along Presumpscot Street, Canco Road, and near Tukey’s Bridge. The Low Impact Industrial zone is primarily located on the peninsula in East Bayside and Libbytown.

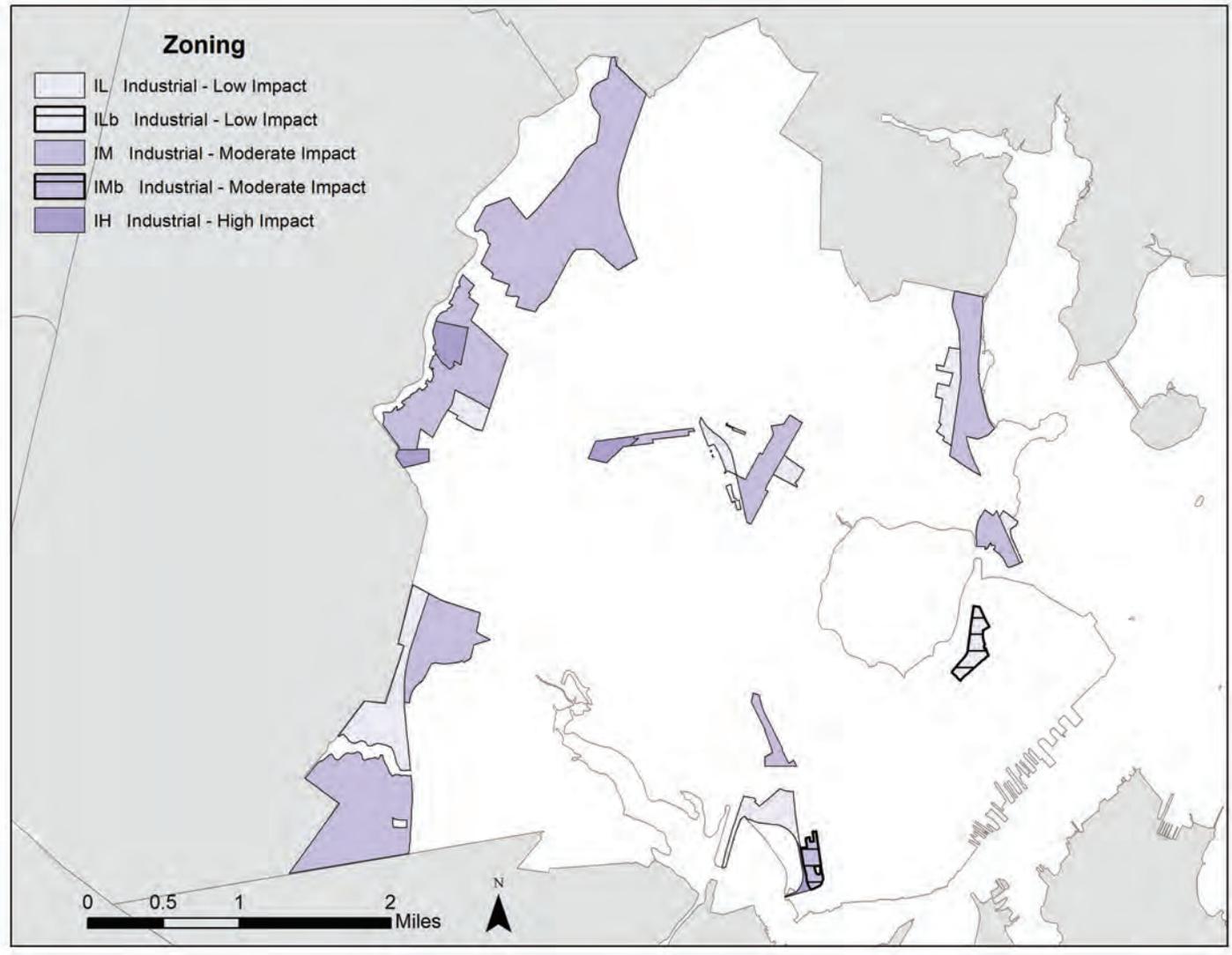
**Dimensional Standards for Industrial Zones**

	<b>I-L</b>	<b>I-LB</b>	<b>I-M</b>	<b>I-Ma</b>	<b>I-Mb</b>	<b>I-H</b>	<b>I-Hb</b>
Min. Lot Size (sq. ft.)	0	0	0	0	0	0	0
Min Street Frontage (in ft)	60	60	60	60	60	60	60
Min Front Setback	25	0	variable by building height	variable by building height	0	25	0
Side Setback (in ft)	25 to 40	0 to 25	variable to 35	variable to 35	0 to 25	35	0
Rear Setback (in ft)	25 to 40	0 to 25	variable to 35	variable to 35	0 to 25	35	0
Max Building Height (in ft)	45	45	75	45	75	75	75
Max impervious surface ratio	65%	100%	75%	75%	100%	85%	100%



**APPENDIX:**  
EXISTING LAND USE

**Industrial Zones in Portland (2015)**



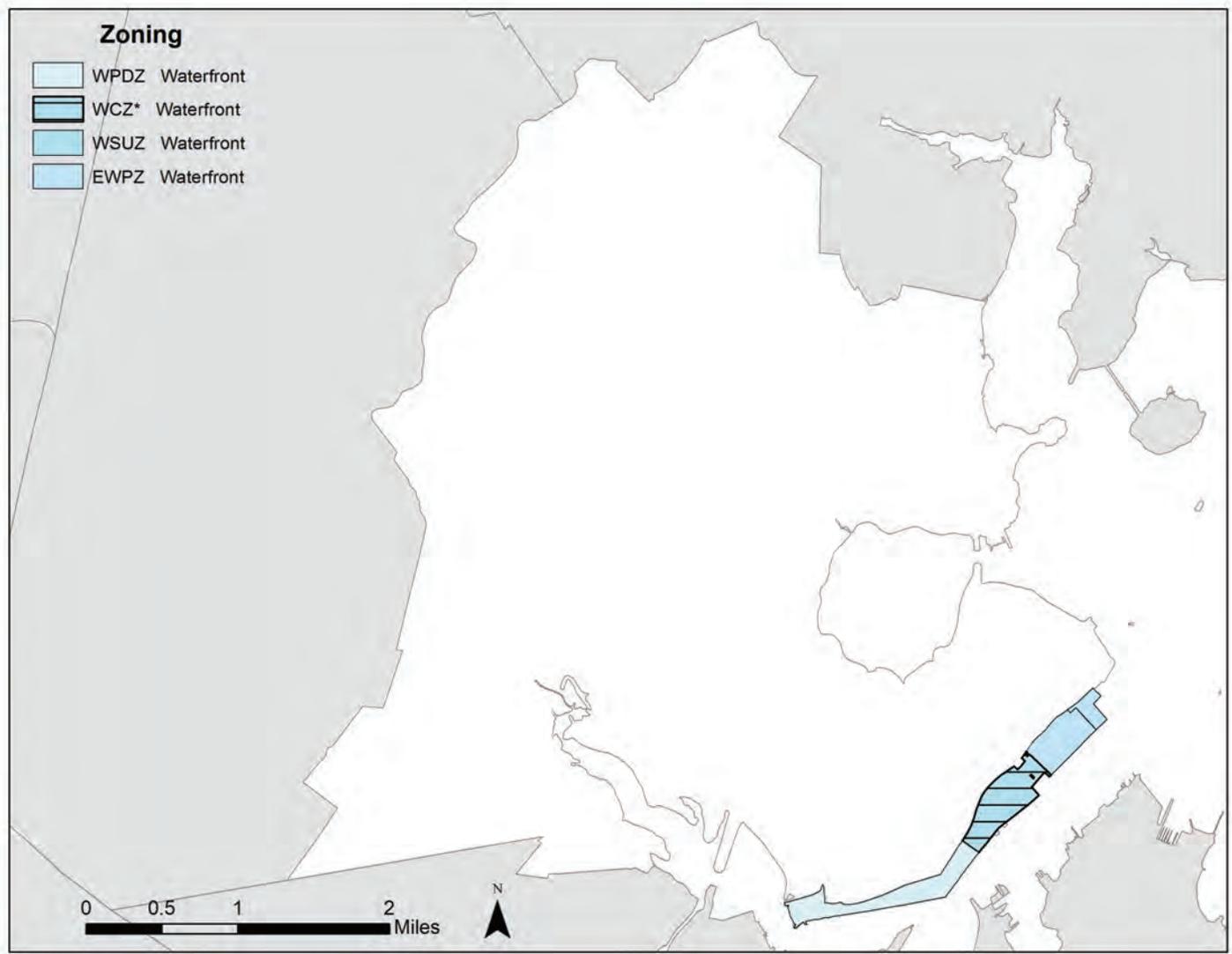


**APPENDIX:**  
EXISTING LAND USE

**Waterfront Zones**

Portland's waterfront zoning is designed to protect and support marine dependent activities. Recent revisions to the Waterfront Central zone incentivizes investment in waterfront infrastructure by providing greater flexibility for uses along Commercial Street. These changes have resulted in several new mixed-use developments that support ongoing investment in the working piers.

**Waterfront Zones in Portland (2015)**





**APPENDIX:**  
EXISTING LAND USE

**Dimensional Standards for Waterfront Zones**

	<b>EWPZ</b>	<b>WCZ</b>	<b>WPDZ</b>
Min. Lot Size (sq. ft.)	0	0	0
Min Street Frontage (in ft)	0	75	0
Min Lot Width		50	
Min Front Setback	0	0	0
Side Setback (in ft)	0	0	0
Rear Setback (in ft)	0	0	0
Min Setback from Pier Line (in ft)	25	5	5
Max Building Height (in ft)	45	50	45, with exceptions up to 145 for bulk storage
Max impervious surface ratio	100%	100%	
Minimum 1st Floor Clearance (in ft)		15	

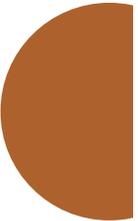
**Environmental Protection Zones**

The Resource Protection and Recreation and Open Space zones are designed to protect the many natural resources, parks, cemeteries, athletic fields, and other open space resources located throughout Portland. Resource protection zones are established along river corridors, undeveloped areas on the oceanfront, and in other areas with significant natural resources that require protection from development. Very limited uses and improvements are allowed in the resource protection zone. Recreation and open space zones cover the City’s park system. The ROS zone supports both passive recreation uses and active recreation uses, which range from preservation of historic landscapes to the active use of the ice arena and Hadlock Field.

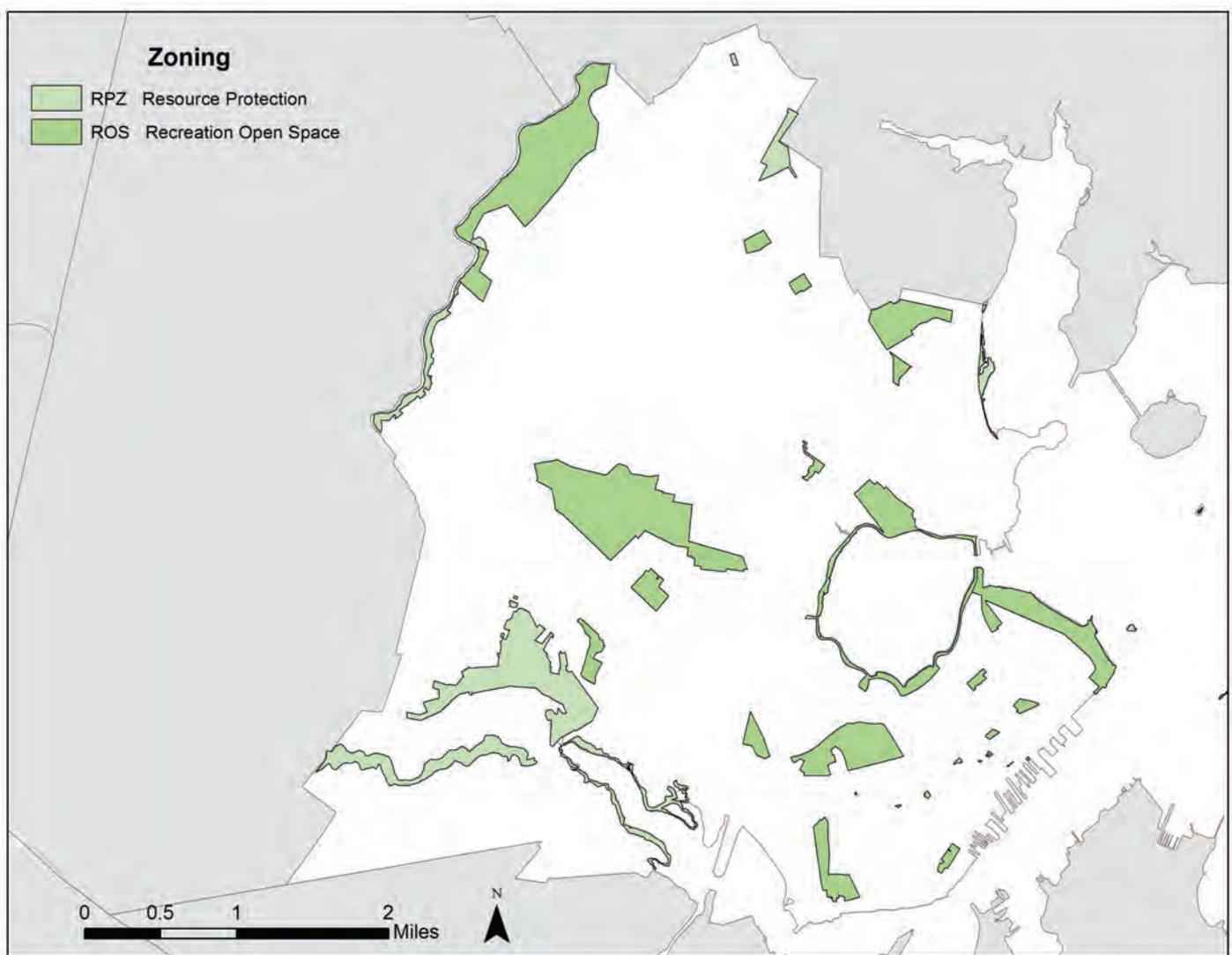
Shoreland zoning is an overlay zone that protects Portland’s shorelines along major water bodies, including coastal shorelines, river edges, and significant wetlands. The Stream Protection zone requires a 75 foot buffer along designated streams.



**APPENDIX:**  
EXISTING LAND USE



Resource Protection/Recreation and Open Space Zones in Portland (2015)



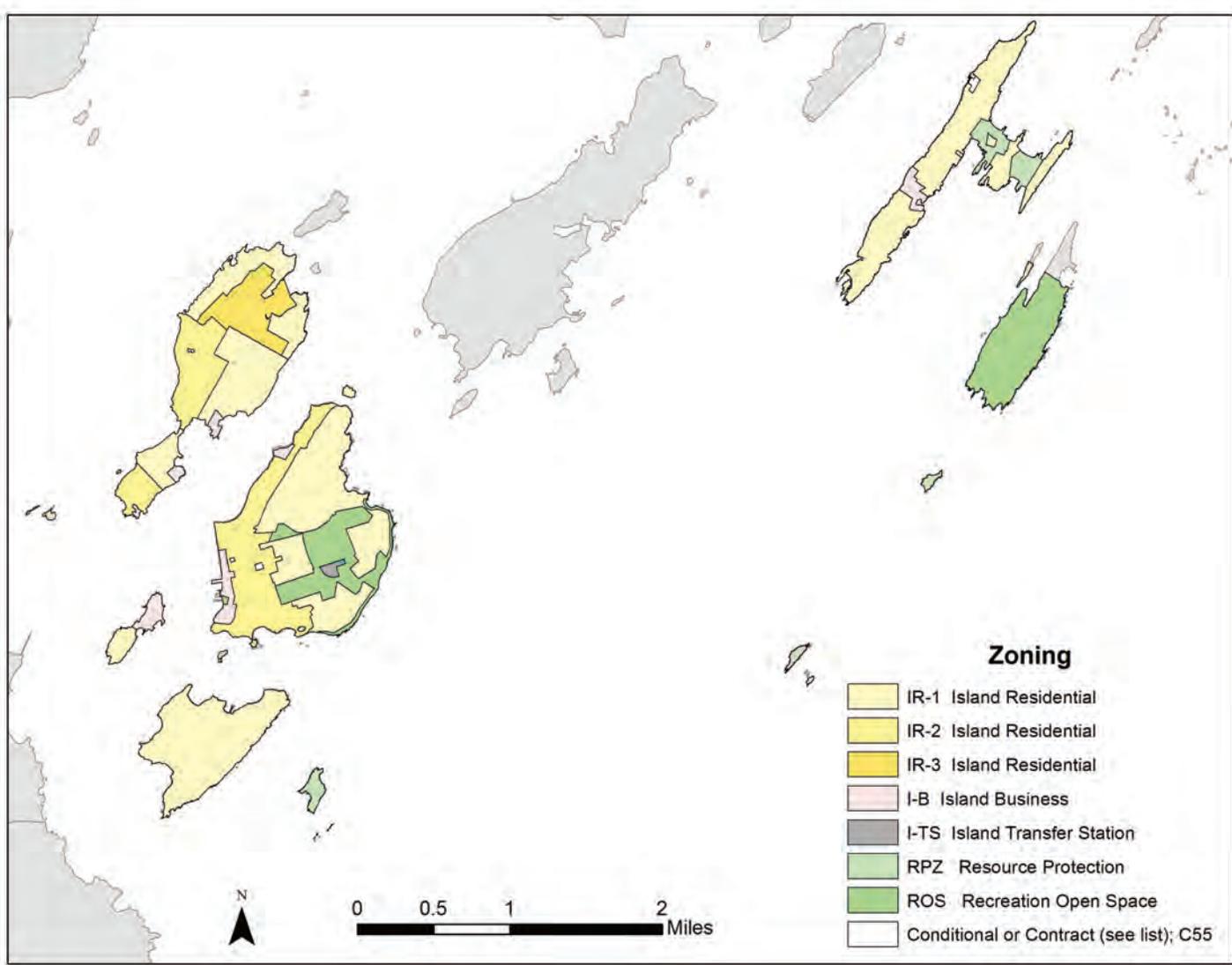


**APPENDIX:**  
EXISTING LAND USE

**Island Zones**

Portland's island zoning is designed to protect the quality and character of existing development and natural resources that support both seasonal and year round residents. The zoning for the islands, is primarily residential with limited areas for community business uses on each island. The island shores are regulated by the Shoreland Overlay zone and coastal wetlands are protected under the Resource Protection zone. Peaks and Jewell Islands have significant areas included with the Recreation Open Space zone.

**Island Zones in Portland (2015)**





**APPENDIX:**  
EXISTING LAND USE

**Dimensional Standards for Island Zones**

	<b>IR-1</b>	<b>IR-2</b>	<b>IR-3</b>	<b>I-B</b>
Min. Lot Size (sq. ft.)	40,000	20,000	42500	20,000
Min. Lot Area per D.U.	40,000	20,000	42500	
Min Street Frontage (in ft)	100	70	70	40
Min Lot Width		80	80	40
Min Front Setback	30	25	25	20
Side Setback (in ft)	20	20	20	10
Rear Setback (in ft)	30	25	25	10
Max Building Height (in ft)	35	35	35	45
Max. building Lot Coverage		20%	20%	
PRUD -option		yes	yes	

**Other Zones**

In addition to the zones above, the City recently adopted the India Street Form-Based Code zone (IS-FBC). Developed over several years, the intent of the India Street Form-based Code zone is to establish a zoning district that encourages a vibrant, walkable, mixed-use urban district, preserves and values the existing historic neighborhood fabric, and fosters and supports local businesses and residential areas. The goal of the India Street Form-based Code is the creation and preservation of an active and human-scale public realm and the reinforcement of existing neighborhood character through high quality design.

The zoning map also includes several overlay zones - the University of Southern Maine Overlay Zone, the Waynflete School Overlay Zone, Downtown Entertainment Overlay Zone, the Helistop Overlay Zone, three height overlays, in addition to Shoreland Zoning and Floodplain districts. Historic Districts are another crucial regulatory layer influencing Portland’s urban form and character.

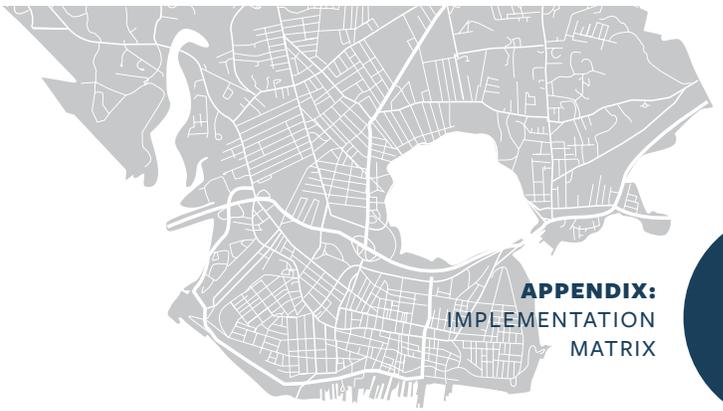
**APPENDIX**

# Implementation Matrix



The following matrix lists each strategy in the plan, the party primarily responsible, and a timeline for implementation.

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
ENVIRONMENT	Track performance on key environmental indicators.	Sustainability	Ongoing
	Generate reports to keep staff, City leadership, and the public apprised of performance.	Sustainability	Ongoing
	Explore national best practices in developing metrics.	Sustainability	Ongoing
	Collaborate with local non-profits, research organizations, private property owners, and surrounding communities to achieve cleaner waters.	PW	Ongoing
	Minimize impacts to the City's waterways by reducing combined sewer overflows and implementing stormwater best management practices.	PW	Ongoing
	Coordinate water and sewer infrastructure improvements with anticipated new growth areas.	PW	Ongoing
	Incorporate additional Low Impact Development (LID) standards into City codes.	Planning	Medium
	Implement watershed management plans for prioritized impaired waterways.	PW, Planning	Ongoing
	Support reduction in impervious surfaces and implementation of green infrastructure through local codes and incentives, and in infrastructure investments where appropriate.	PW, Planning	Ongoing
	Support best practices for Integrated Pest Management.	Parks	Ongoing
	Remain current with Maine DEP Shoreland Zoning direction for natural resource protection.	Planning	Ongoing
	Implement land use tools for increased protection of impaired streams.	Planning	Medium
	Recognize the particular needs of sensitive island ecologies by supporting 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 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.	PW, Planning	Ongoing



**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
ENVIRONMENT (CONTINUED)	Explore opportunities to develop and expand local food systems, including community gardens and urban farms.	Parks, Sustainability	Short
	Increase the total number of community garden plots to provide equitable access and to meet demand.	Parks	Short
	Support programs that increase healthy food access for all, including students in the Portland Public Schools and other City-run institutions.	Various	Ongoing
	Support a healthy, resilient, and sustainable food system by collaborating with local and regional stakeholders.	Sustainability	Ongoing
	Support and recognize Portland's role as a thriving food economy in City codes and policies.	Planning	Ongoing
	Increase the urban tree canopy by 15% above current canopy coverage to benefit air quality, local climate, CO2 absorption, and aesthetics.	Parks	Long
	Model environmentally sound landscape management practices, such as planting for pollinators, planting native species, and limiting the use of pesticides and fertilizers.	PW, Parks	Short, Ongoing
	Collaborate with surrounding municipalities to strengthen comprehensive climate change adaptation and mitigation planning.	PW, Parks, Planning, Various	Ongoing
	Evaluate the capacity of municipal infrastructure to meet or exceed needs associated with increased flooding impacts.	PW	Ongoing
	Continue to participate in the FEMA Community Rating System, which qualifies the City for discounts on flood insurance and certain emergency financial assistance.	Planning	Ongoing
	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.	Planning, PW	Short, Long
	Reduce City-wide non-renewable energy consumption through policies that support public and private investments in alternative energy sources.	Sustainability	Ongoing



**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
ENVIRONMENT (CONTINUED)	Explore possible adoption of an energy disclosure ordinance for larger commercial and multi-family buildings to reduce Portland’s greenhouse gas emissions and improve the energy performance of the city’s building stock.	Sustainability	Medium
	Pursue strategic opportunities to site solar arrays on City property, including roof tops, landfills and suitable open spaces.	Sustainability, Parks	Short, Ongoing
	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.	Planning	Ongoing
	Advocate for state adoption of up-to-date building codes, and consider adoption of supplemental provisions to ensure high-performance buildings.	Permitting	Medium, Ongoing
	Strive to be a state-wide leader in creating high-performance buildings in order to decrease carbon emissions in the building sector.	Permitting, Planning, Sustainability	Ongoing
	Eliminate, by 2040, net CO2 emissions from City operations through means such as improved efficiency of lighting and heating, installation of solar arrays, purchase of renewable electric power and conversation of vehicles to electric propulsion.	Sustainability, Various	Ongoing
	Encourage City residents to invest in renewable energy for heating and transport.	Sustainability, Various	Ongoing
	Encourage commercial entities to reduce fossil fuel use through expanded benchmarking, incentives for improved lighting and heating efficiencies and purchase of electric vehicles.	Sustainability, Various	Ongoing
	Encourage fossil fuel-free transport through support for electric vehicles, electric public transit, dedicated bicycle lanes and vehicle exclusion zones.	Sustainability, Various	Ongoing
	Ensure that all municipal decisions take into account the necessity of essentially eliminating carbon dioxide emissions within 30 years.	Various	Ongoing
Plan for the mitigation and redevelopment of brownfields to support productive uses and a healthier environment for residents.	Planning	Ongoing	



**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
ENVIRONMENT (CONTINUED)	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.	Planning	Ongoing
	Continue to develop land use policies which support complete neighborhoods.	Planning	Ongoing
	Encourage landowners and developers to incorporate sustainable design, materials, and practices in rehabilitation of historic resources and in new construction.	Planning, Permitting	Ongoing
	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.	Sustainability, PW	Short
	Increase efforts to promote waste reduction in City operations and in the community.	Sustainability, PW	Ongoing
	Promote the use of energy-efficient lighting that minimizes glare and light pollution while providing adequate lighting for safety.	Sustainability	Ongoing
	Maintain and enforce applicable standards that mitigate noise impacts.	Police	Ongoing
	Foster education and provide easily accessible information for residents and visitors on climate change impacts, waste management, environmental resources, and steps for local action.	Various	Ongoing
	HISTORIC RESOURCES	Continue to conduct architectural surveys, particularly in off-peninsula neighborhoods.	Planning
Undertake a city-wide archaeological survey to identify potentially significant resources associated with Portland's agricultural, residential, and industrial heritage.		Planning	Long
Document and designate resources of historic, architectural, and/ or cultural significance, based on survey findings and input from applicable stakeholders, to encourage thoughtful building rehabilitation, deter demolition, and support neighborhood revitalization.		Planning	Ongoing



**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
HISTORIC RESOURCES (CONTINUED)	Prepare annual reports on preservation activities and projects reviewed under the Historic Preservation ordinance for distribution to City leadership, staff, and the public.	Planning	Ongoing
	Track performance on key preservation objectives.	Planning	Ongoing
	Consider national best practices in developing metrics.	Planning	Ongoing
	Disseminate information about existing federal and state historic tax credit programs available for the rehabilitation of income-producing historic properties.	Planning	Ongoing
	Pursue grant and low-interest loan programs, potentially in collaboration with local non-profits, to assist eligible building owners with the cost of historic rehabilitation.	Planning	Ongoing
	Consider a Transfer of Development Rights (TDR) program to allow for the permanent transfer or sale of unused development potential of historic landmarks or districts to areas considered more appropriate for intensive growth, allowing direct revenue from the transfers to be applied toward prescribed preservation initiatives.	Planning	Medium
	Explore a Tax Abatement Program for owners of historic properties to allow a period for recouping investment.	Office of the City Manager	Medium
	Expand the Historic Preservation program website to include detailed information about the history and architecture of each historic district, comprehensive building inventories, and areas that have been researched or surveyed but not yet designated.	Planning	Medium
	Initiate a street sign program to identify and highlight historic districts.	Planning	Medium
	Expand interpretive signage programs for historic parks and selected sites.	Parks, Planning	Medium
	Collaborate with non-profit organizations, such as Greater Portland Landmarks, on the development of interpretive mobile applications.	Planning	Long
	Collaborate with Portland schools in educating younger generations about Portland's history and architectural legacy.	Planning	Ongoing



**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
HISTORIC RESOURCES (CONTINUED)	Expand the Historic Preservation program website to include an explanation of review standards, illustrated design guidelines, examples of model projects, and answers to frequently asked questions.	Planning	Medium
	Provide adequate staffing to ensure effective public outreach, efficient and timely permitting, follow-up on approved projects, and enforcement of ordinance requirements.	Planning	Ongoing
	Collaborate with non-profits, private organizations, neighborhood associations, businesses, property owners, and affinity groups to pursue and expand support for preservation initiatives, including the implementation of adopted master plans for historic structures, parks, and cemeteries.	Planning	Ongoing
	Identify and secure available grants and public funding to leverage private support for preservation projects.	Planning	Ongoing
	Accommodate multiple objectives, such as improved accessibility, improved energy efficiency, or climate change adaptation, in alterations to historic structures while adhering to preservation objectives.	Planning	Ongoing
	Assess new construction techniques, products, and materials for compatibility with historic structures, and develop policies and guidelines for their use in historic rehabilitation projects.	Planning	Medium, Ongoing
	Maintain City-owned historic resources to high preservation standards.	Planning	Ongoing
	Continue to implement improvements recommended in adopted master plans for historic parks and cemeteries.	Planning	Ongoing
	Ensure that public infrastructure projects in residential and commercial historic districts reinforce and enhance the distinct streetscape character of the district.	Planning	Ongoing
WATERFRONT	Identify metrics, collect data, and adapt existing waterfront policies.	Waterfront	Ongoing
	Routinely evaluate the capacity of existing waterfront zoning and technical standards that result in new marine uses, dimensional requirements, and infrastructure needs.	Waterfront	Ongoing



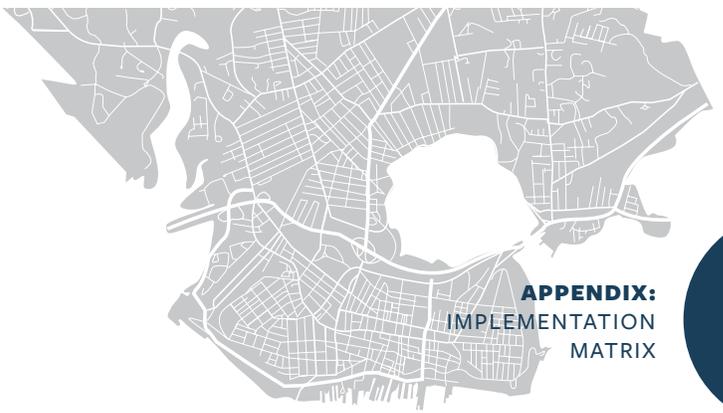
**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
WATERFRONT (CONTINUED)	Inventory marine and non-marine use and occupancy in the Central Waterfront to inform evaluation of future opportunities for marine use expansion potential.	Waterfront	Short, Ongoing
	Seek funds and create incentives to improve facilities for marine industries, including the maintenance and expansion of public and private berthing, dredging, and land-side infrastructure.	Waterfront	Ongoing
	Develop a capital improvement plan for the Eastern Waterfront for public and private investment in public facilities, including road and utility extensions, to facilitate planned and future development consistent with the <i>Eastern Waterfront Master Plan</i> .	Various	Short
	Continue to explore funding for pier maintenance in the Central Waterfront.	Waterfront, EcoDevo	Ongoing
	Support private, federal, and state investment in the Western Waterfront.	Waterfront, EcoDevo	Short, Ongoing
	Expand waterfront access for the public where possible and appropriate.	Waterfront, Parks	Short, Ongoing
	Program, design, and transform the Amethyst Lot into a signature waterfront open space for community boating, recreation, and active marine use.	Parks	Short
	Implement improvements to the East End Beach to expand facilities for non-motorized recreational boating.	Parks	Short
	Explore the potential for greater recreational access to and along the Fore River.	Parks	Medium
	Protect and promote access to the waterfront and Portland islands for commercial and marine activity, including berthing.	Waterfront	Ongoing
	Coordinate with Casco Bay Island Transit District for improvements to vehicle and pedestrian circulation on Maine State Pier for improved site layout and freight handling.	EcoDevo	Medium
	Facilitate the development of logistics and storage infrastructure that supports the economic viability of the port while prioritizing the functional needs of marine transport.	Waterfront	Short



**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
WATERFRONT (CONTINUED)	Produce illustrated design guidelines for marine and non-marine pier compatibility to serve as accessible, visual guidance for marine protective performance standards.	Waterfront	Medium
	Develop policies and directly support both mitigation of and adaptation to rising sea levels, changing water chemistry, increased water temperatures, and escalation of storm frequency and intensity, particularly as they impact piers, wharfs, and low-lying infrastructure.	Waterfront	Medium
	Study the economic risk of increased storm frequency and sea level rise for all City-owned or managed infrastructure assets.	Waterfront	Long
	Help property owners assess risk to waterfront and near waterfront assets and direct risk assessments to investments in more resilient infrastructure.	Waterfront, Planning	Medium
	Integrate best practices for adaptive waterfront strategies, including adaptive construction techniques, stormwater infrastructure and utilities, site protection, floodproofing, and risk avoidance into the City's technical standards and land use code.	Waterfront	Medium
	Consider land use tools to incentivize exemplary construction practices for climate resilience.	Planning, Waterfront	Medium
	Capitalize on emerging trade, fisheries and transportation patterns to the Arctic, Northern Europe, and beyond.	EcoDevo	Ongoing
	Coordinate with the Harbor Commission, South Portland, and other appropriate stakeholders to find a financial mechanism to dredge public and private piers and to achieve a Contained Aquatic Disposal (CAD) site for the responsible disposal of sediments.	Waterfront	Short
	Develop a plan for re-use of the Portland Ocean Terminal property, including evaluation of supporting infrastructure to attract increased and diversified commercial and marine tenants.	Waterfront	Medium
	Implement a plan for reconfiguration of the queuing area at Ocean Gateway to allow for more diversified marine activity, such as support for reuse of the Portland Ocean Terminal.	Waterfront	Medium



**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
WATERFRONT (CONTINUED)	Explore the feasibility of a new pier between Ocean Gateway and Maine State Pier to support increased commercial use of the waterfront and support for the marine passenger industry.	Waterfront	Short
	Plan for growth of cruise ship visits while continuing to evaluate impacts on other marine industries and the downtown.	Waterfront	Short
	Address transportation and congestion issues on Commercial Street to balance the mobility needs of marine industrial uses with bicycle and pedestrian safety improvements.	Planning	Medium
	Maintain Commercial Street, as the sole point of access for most of Portland's water-dependent uses, for truck access, loading, and staging.	Waterfront	Ongoing
	Continue to support local ferry service.	Waterfront	Ongoing
	Evaluate and balance the potentially competing needs of cruise ship visits with international ferry service.	Waterfront	Ongoing
	Collaborate with private pier and waterfront property owners to implement waterfront policies that promote and protect the marine economy.	Waterfront	Ongoing
	Continue to support the Portland Fish Pier and Fish Exchange as regional anchors of the seafood economy.	Waterfront	Ongoing
	Promote development of cold storage warehousing to support a competitive Port of Portland by improving capacity to serve the cargo needs of the seafood, agriculture, food manufacturing and beverage industries of Northern New England.	Waterfront	Short
ECONOMY	Track economic indicators and periodically issue performance reports to staff, City leadership, and the public apprised of performance.	EcoDevo	Ongoing
	Consider regional and national best practices in developing metrics.	EcoDevo	Ongoing
	Pursue policies that create, nurture, and retain local businesses.	EcoDevo	Ongoing
	Support job creation and business growth through public initiatives, and private, institutional, and regional partnerships.	EcoDevo	Ongoing



**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
ECONOMY (CONTINUED)	Strengthen City programs and services that support business development.	EcoDevo	Ongoing
	Develop programs that support industries with high growth/high value potential, such as life sciences, food production, information technology, and marine-related industries.	EcoDevo	Ongoing
	Make physical improvements and expansions to below- and above-grade infrastructure, including utilities, stormwater, transit, parking, and streets, to maintain and accommodate new growth.	PW, Various	Ongoing
	Coordinate interdepartmental planning and investment strategies, which may involve strategic public investment, private investment, or public/private partnerships.	Various	Ongoing
	Examine ways that the sharing economy can be leveraged to serve Portland residents in effective and innovative ways.	Various	Ongoing
	Encourage investment in mobile technology infrastructure for all residents.	Various	Ongoing
	Prepare our current and future residents to compete in an increasingly knowledge-based economy.	EcoDevo, School	Ongoing
	Invest in educational institutions and training as a means of attracting, developing, and retaining an educated workforce.	EcoDevo	Ongoing
	Establish a new City office to address issues of economic opportunity and workforce integration.	Ofc of the City Manager	Short
	Identify and invest in current and future entrepreneurs to anchor startups.	EcoDevo	Ongoing
	Ensure that new employment can be accommodated in priority growth areas across the City.	Planning	Ongoing
	Evaluate zoning and the condition of existing infrastructure in priority areas - downtown, in identified neighborhood nodes, and along transit corridors - to ensure that employment and housing growth can be supported.	PW, Planning	Ongoing
	Expand possibilities for live/work spaces - residential living space with integrated creative work space.	Planning	Medium



**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
ECONOMY (CONTINUED)	Modify ordinances and make strategic investments to better promote business development and job creation in priority areas.	Planning, Various	Ongoing
	Promote the orderly expansion of institutional uses, such as educational, cultural, and hospital campuses, which are central to workforce development, employment, and the health of the local and regional economies.	Planning	Short, Ongoing
	Ensure that the growth of Portland's educational, medical, and cultural institutions is integrated into Portland's urban fabric through the use of high quality design, management of impacts, community partnerships, and innovative planning.	Planning	Ongoing
	Sustain and strengthen relationships between local organizations and our anchor institutions to capitalize on their unique value to the well-being and future success of Portland and the region.	Planning	Ongoing
	Capitalize on the potential of temporary measures, activities, and uses to support and test new projects in the City, and explore models for incorporating changes in policy in an incremental and scalable way.	Planning, PW	Ongoing
	Continue marketing and branding programs and refine recruitment strategies.	EcoDevo	Ongoing
	Support policies that foster innovation, entrepreneurship, and the creative economy.	EcoDevo	Ongoing
	Capitalize on emerging open data trends to encourage transparency, test ideas, and develop solutions for urban issues.	Various	Ongoing
	Leverage arts and culture as a central element of Portland's distinct quality of place.	EcoDevo, Various	Ongoing
	Support our cultural institutions and spaces for the arts.	Various	Ongoing
	Support access to arts and culture for all residents.	Various	Ongoing
	Recognize the role of the transportation system in the current and future economic health of the City.	Planning	Ongoing



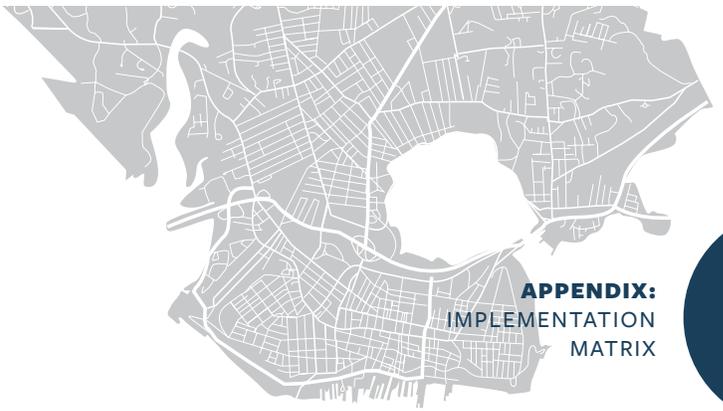
**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
ECONOMY (CONTINUED)	Modify ordinances and make strategic investments to better promote business development and job creation in priority areas.	Planning, Various	Ongoing
	Promote the orderly expansion of institutional uses, such as educational, cultural, and hospital campuses, which are central to workforce development, employment, and the health of the local and regional economies.	Planning	Short, Ongoing
	Ensure that the growth of Portland's educational, medical, and cultural institutions is integrated into Portland's urban fabric through the use of high quality design, management of impacts, community partnerships, and innovative planning.	Planning	Ongoing
	Sustain and strengthen relationships between local organizations and our anchor institutions to capitalize on their unique value to the well-being and future success of Portland and the region.	Planning	Ongoing
	Capitalize on the potential of temporary measures, activities, and uses to support and test new projects in the City, and explore models for incorporating changes in policy in an incremental and scalable way.	Planning, PW	Ongoing
	Continue marketing and branding programs and refine recruitment strategies.	EcoDevo	Ongoing
	Support policies that foster innovation, entrepreneurship, and the creative economy.	EcoDevo	Ongoing
	Capitalize on emerging open data trends to encourage transparency, test ideas, and develop solutions for urban issues.	Various	Ongoing
	Leverage arts and culture as a central element of Portland's distinct quality of place.	EcoDevo, Various	Ongoing
	Support our cultural institutions and spaces for the arts.	Various	Ongoing
	Support access to arts and culture for all residents.	Various	Ongoing
	Recognize the role of the transportation system in the current and future economic health of the City.	Planning	Ongoing



**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
ECONOMY (CONTINUED)	Maintain and invest in our multi-modal transportation system - the International Jetport, Ocean Gateway, passenger rail service, the International Marine Terminal, METRO, CBITD, the Portland Transportation Center, and our bicycle and pedestrian infrastructure - as a foundation for local, regional, and international economic growth and as a bridge to future economic opportunities.	EcoDevo, Planning, Various	Ongoing
	Enhance connectivity between transportation modes by expanding intermodal passenger service at the Portland Transportation Center and between transportation hubs such as the Jetport, Casco Bay Island ferry terminal, Portland Transportation Center, and downtown.	Planning, EcoDevo	Ongoing
	Recognize the waterfront as a major economic driver through policies and infrastructure that support a resilient and modern working port.	Waterfront	Ongoing
	Leverage the economic potential of Portland's marine sector as an innovator in climate change adaptation.	Waterfront, EcoDevo	Ongoing
	Invest in broadband to support a 21st century workforce, including telecommuters and entrepreneurs, and improve connectivity for the entire community.	IT	Short
HOUSING	Reinforce existing housing tools, policies, and programs while continuing to explore emerging best practices.	Planning	Ongoing
	Continue to implement best practices in workforce and affordable housing development, such as the Housing Trust Fund, inclusionary zoning, and other tools.	Planning	Ongoing
	Track performance on key housing objectives.	Planning	Ongoing
	Generate reports to keep staff, City leadership, and the public apprised of performance.	Planning	Ongoing
	Consider national best practices in developing metrics.	Planning	Ongoing
	Evaluate whether current zoning allows for new development consistent with historic patterns of form, density, and/or use, as well as whether it allows for priority growth areas.	Planning	Medium



**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
HOUSING (CONTINUED)	Assess the impact of current parking requirements on housing development, and evaluate the suitability of fee-in-lieu programs for some neighborhoods.	Planning	Medium
	Identify priority growth areas.	Planning, EcoDevo	Medium
	Coordinate linkages between accessible transportation and housing affordability.	Planning	Ongoing
	Allow for a range of housing models in City codes, whether small units, co-housing, or others that may suit changing needs and demographics.	Planning	Medium
	Encourage energy efficiency in new construction and rehabilitation of our housing stock.	Permitting	Ongoing
	Encourage housing that is resilient in the face of climate change, severe weather events, and storm surges, especially in vulnerable low lying areas.	Planning	Ongoing
	Encourage rehabilitation of existing historic buildings and materials.	Planning	Ongoing
	Consider the sale of City-owned land that may be appropriate for housing development.	Ofc of the City Manager, EcoDevo	Short, Ongoing
	Consider incentivizing affordability restrictions as part of City-owned property transactions, as well as the potential to return improved properties to the City's tax rolls.	Planning	Medium, Ongoing
	Explore tools that support innovative frameworks for housing creation, stability, and affordability, such as but not limited to community land trusts and a Transfer of Development Rights program to encourage preservation of highly valued open spaces, natural resources, or historic resources while allowing development potential to be transferred to areas considered appropriate for more intensive growth.	Planning	Medium
	Develop additional resources for neighborhood associations and citizen planners, such as neighborhood planning toolkits and processes to enhance communication between neighborhood groups and City staff, to enrich community input.	Planning	Short
	Ensure that the land use code aligns with City Council policy direction on homeless shelter placement and contemporary facility requirements.	HHS	Short
Support programs and tools that facilitate aging safely in place.	Planning	Ongoing	



**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
HOUSING (CONTINUED)	Create, promote, and facilitate safe, affordable, and practical housing solutions that will meet the evolving needs of Portland residents as they age.	HHS, Planning	Ongoing
	Assess the capacity of existing affordable housing developments, many of which were built over four decades ago, to adapt to current best practices by improving energy efficiency and physical and social connections to surrounding neighborhoods.	Planning	Medium, Ongoing
	Pursue new opportunities for increased energy efficiency, increased densities, mixed incomes, and greater connectivity to surrounding neighborhoods.	Planning	Ongoing
	Support land use tools that encourage year-round residences in existing and new housing on Portland's islands, while maintaining their unique character and environment.	Planning	Medium
RECREATION & OPEN SPACE	Employ measurable objectives that collectively provide a desired level of service for Portland's open space system.	Parks	Ongoing
	Develop specific metrics for levels of maintenance, accessibility, funding health, programming, ecological health, connectivity, safety, and citizen stewardship through the use of rapid park quality assessments and maintenance plans.	Parks	Ongoing
	Consistently monitor the quality of park and open space facilities.	Parks	Ongoing
	Add amenities, such as cigarette receptacles, trash cans, bike racks, dog waste bags, and water fountains, where appropriate.	Parks	Ongoing
	Maintain trails, sports fields, courts, and playgrounds, as well as other amenities such as seating and landscaping, in good condition.	Parks	Ongoing
	Consider state, federal, and non-profit grant sources, public/private partnerships, and fundraising of private dollars to supplement the local budgeting process.	Parks	Ongoing
	Establish a clear protocol for involving commissions and the general public in the annual funding decision-making process so that the process is optimally transparent, collaborative, predictable, and incorporates the concerns and expertise of all stakeholders.	Parks	Short



**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
RECREATION & OPEN SPACE (CONTINUED)	Explore the potential for development-related impact fees that can be applied to funding open space planning, maintenance, programming, and acquisition.	Parks, Planning	Medium
	Adopt project selection criteria for prioritizing open space and recreation projects for capital and operating funding that foster objective and strategic decision making.	Ofc of the City Manager, Parks	Medium
	Pursue opportunities, in collaboration with partners, to create new open spaces in areas that are currently underserved.	Parks	Ongoing
	Pursue opportunities for new and enhanced walking and biking trails as a means of filling existing gaps, and investigate paper streets, vacant land, medians, and other often overlooked areas for the potential for park linkages, trails, and other improvements to the urban landscape.	Parks, PW, Planning	Ongoing
	Distribute community gardens, playgrounds, fields, public art, historic resources, and other program elements where the demand and need are greatest, and periodically assess demands and needs.	Parks	Ongoing
	Promote citizen stewardship in open space maintenance and programming.	Parks	Ongoing
	Incorporate creative design, public art, and placemaking wherever possible to enhance aesthetic value.	Various	Ongoing
	Engage the community in bringing arts and culture to the open space network.	Parks, Planning, Various	Ongoing
	Employ consistent signage to reflect distinct identities of elements of the open space system, as well as aid in wayfinding, while respecting historic district and neighborhood branding initiatives.	Parks	Ongoing
	Expand safe, well-lit walking and cycling routes to open spaces, including crosswalks, sidewalks, and bike lanes.	PW	Ongoing
	Improve ADA accessibility in and to public open spaces.	Parks, PW	Ongoing
	Improve the utility of existing spaces by developing and programming parks and open spaces for diverse, simultaneous, complementary uses.	Parks	Ongoing



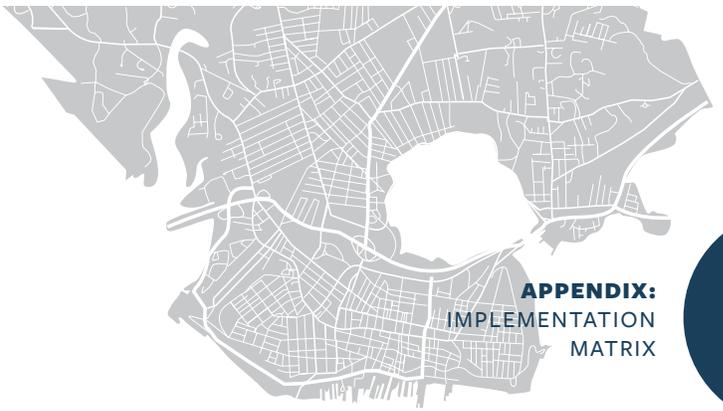
**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
RECREATION & OPEN SPACE (CONTINUED)	Develop and implement forest management plans for wooded parcels, and improve the health and quantity of trees and natural areas in parks where forest management plans are not appropriate.	Parks	Long, Ongoing
	Model ecologically-sound landscape management practices in open spaces, such as planting native species, planning for potential wildlife corridors, planning for pollinators, and limiting the use of pesticides and fertilizers.	Parks	Ongoing
	Pursue opportunities for optimizing green infrastructure and enhancing the existing stormwater management and flood storage functions of the City's open spaces where appropriate and practicable.	PW	Ongoing
	Encourage physical and visual access to Portland's waterfront - Casco Bay, Back Cove, and the Stroudwater, Presumpscot, and Fore Rivers - as a "blueway" network and an extension of public space for local and regional recreation and transportation needs.	Parks	Ongoing
	Continue partnerships with local and regional land trusts and conservation organizations, such as Portland Trails, Maine Audubon, and other non-profit organizations, in open space creation, stewardship, and programming.	Parks	Ongoing
	Capitalize on the potential of temporary measures, activities, and uses to support and develop active public spaces through participatory design that incorporates robust stakeholder input.	Parks	Ongoing
	Prioritize open space acquisition and programming toward creating linkages where there are gaps in the network, particularly between Stroudwater and the Fore River, Evergreen Cemetery and the Presumpscot River, Portland Transportation Center and Bayside, Martin's Point and the Back Cove, and the western waterfront and the Fore River.	Parks	Ongoing
FACILITIES	Track performance on key indicators.	Parks	Ongoing
	Generate reports to keep staff, City leadership, and the public apprised of performance.	Parks	Ongoing
	Explore national best practices in developing metrics.	Parks	Ongoing



**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
FACILITIES & SERVICES (CONTINUED)	Ensure transparency and access to City services and facilities for all residents.	Parks	Ongoing
	Operate City facilities and services in an efficient and effective manner that is responsive to all segments of the community.	Parks	Ongoing
	Explore efficient ways of delivering services to the homeless by investigating a wide variety of service models, evaluating the local potential of these models, and developing plans for implementation.	HHS	Ongoing
	Provide services that integrate new residents into civic and community life.	HHS	Ongoing
	Strengthen protocols for translation and interpretation services.	HHS	Ongoing
	Make strategic investments in school facilities to modernize and update buildings and grounds, ensure student safety, and preserve and enhance neighborhood connections.	Parks, School	Short
	Ensure that future land use policy is compatible with school plans by identifying growth areas, evaluating school capacity, and developing plans to address future service gaps.	Planning, School	Long
	Leverage state, local, and private funding to allow a comprehensive approach to sustain excellence in the school system.	School	Ongoing
	Continue to provide continuing education and job training for adults and new residents.	School	Ongoing
	Update the City's Emergency Action Plan to ensure adequate integration of emergency responders.	Ofc of the City Manager	Medium
	Leverage community partnerships to plan and implement steps to improve emergency preparedness.	Fire, Police	Ongoing
	Evaluate Fire Department facilities and vehicles, looking at the adequacy of buildings and equipment for 21st century life safety needs, as well as the location of facilities in relation to changing growth patterns.	Fire, Parks	Medium
	Continue to combine cutting-edge law enforcement technologies with compassionate police engagement.	Police	Ongoing
Work with community partners to maintain and strengthen police-community relationships.	Police	Ongoing	



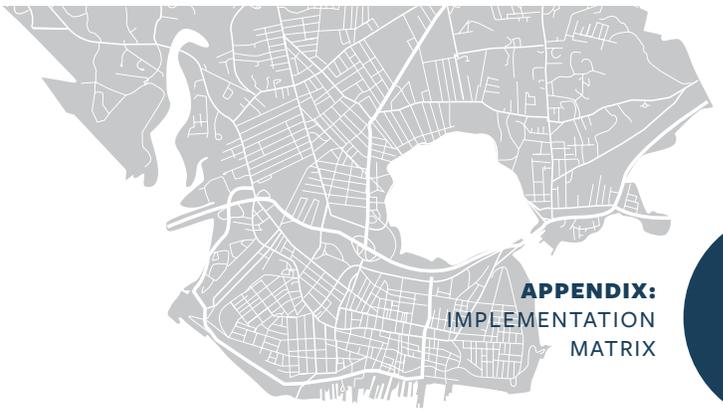
**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
FACILITIES & SERVICES (CONTINUED)	Continue to develop partnerships to explore all available avenues to address the region's substance abuse and addiction issues.	HHS	Ongoing
	Develop long-range asset management plans for public facilities in order to ensure that our limited public funds are maintained and invested in strategically.	Parks	Medium
	Engage in needs assessment and cost-benefit analysis for proposed public facilities.	Parks	Ongoing
	Align the City's land use code with City Council policy direction on shelter placement, shelter models, and facility requirements.	HHS	Ongoing
	Continue to embrace innovation and best practices towards eliminating homelessness.	HHS	Ongoing
	Keep tax rate increases manageable, and provide predictability and stability in tax rate increases while supporting city services and a stable labor force.	Ofc of the City Manager	Ongoing
	Make fiscal stability a factor in land use planning by considering both public investments and potential gains in the City's tax base when planning for a sustainable future for the city, while recognizing that not all land use decisions will be driven by the fiscal impacts of the development produced.	Planning	Ongoing
	Ensure that the assessed values of property generally reflect their market value.	Assessor	Ongoing
	Investigate the potential of a more robust framework for defining needs and assessing development-related impacts to generate additional funding, while also adding clarity and predictability to existing procedures.	Planning, PW, Parks	Short
	Pursue public-private partnerships to fund needed projects and services.	Parks	Ongoing
	Frame City funding for major projects as seed money for potential projects, rather than the sole funding source.	Planning, EcoDevo	Ongoing
Look to examples of successful public-private trade-offs in other communities where public funding for capital projects is constrained.	Planning, EcoDevo	Medium	



**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
FACILITIES & SERVICES (CONTINUED)	Modify the City's budgeting process to allow City staff, the public, and the City Council to focus on the annual budget each spring and then the CIP in the fall.	Ofc of the City Manager, Finance	Medium
	Explore ways to capitalize on existing, underused assets as a means of subsidizing programs and facilities with broad public support.	Parks, Planning	Ongoing
	Pursue disposition of properties that are no longer in active use, such as former schools, and invest the resulting resources to meet public goals.	Parks, Planning	Ongoing
	Prioritize returning income from land disposition to the City's capital or long-term needs.	EcoDevo	Ongoing
	Continue to work in partnership with regional and state agencies, neighboring communities, non-profit organizations, and private property owners in support of efficient, sustainable City services.	Various	Ongoing
	Consider climate change and associated patterns of sea level rise, storm frequencies, and storm surges, which will impact City infrastructure in previously unanticipated ways, when planning for investments.	Parks, PW	Ongoing
	Establish carbon reduction goals for City operations and evaluate energy efficiency of City buildings to prioritize energy-saving investments.	Sustainability	Short
	Develop increased programmatic and budgetary resiliency to ensure continuity in provision of vital services.	Sustainability	Ongoing
	Explore ways to modernize the trash collection process, alternatives to the current public operation, and strategies to support the City's growth.	PW	Short
	Implement strategies outlined by the Solid Waste Task Force in 2011, including the adoption of the Maine State Waste Management Hierarchy, the promotion of durable, recyclable products and materials, and the creation of opportunities to turn discarded resources into new products and new jobs.	Sustainability	Short, Ongoing
	Seek to identify regional solutions for issues such as housing, homelessness, transportation, and water quality.	Various	Ongoing
	Seek to strengthen community partnerships, increase diversity of partnerships to ensure robust input from residents on City services.	Various	Ongoing



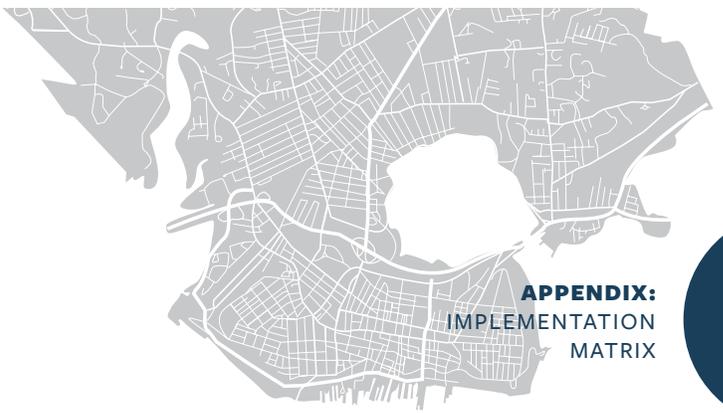
**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
TRANSPORTATION	Maintain existing infrastructure as the City's priority transportation objective, capitalizing on opportunities to incorporate modernization of existing infrastructure in the course of maintenance when possible.	PW	Ongoing
	Keep the City's streets in a state of good repair, upgrade and coordinate traffic signal systems, maintain pavement markings, rehabilitate the sidewalk network, and replace the public transit fleet in a timely fashion.	PW	Ongoing
	Monitor indicators such as mode share, multi-modal levels of service, and levels of active transportation, particularly on key transportation corridors.	Planning	Ongoing
	Explore adoption of a multi-modal level of service performance standard for new development review.	Planning, DPW	Ongoing
	Benchmark existing conditions and set targets for specific future years.	PW	Ongoing
	Make improvements to the transportation system to improve equity, sustainability, and accessibility for all ages and abilities.	PW	Ongoing
	Address existing High Crash Locations, improve ADA accessibility, and ensure pedestrian access to transit stops and along Safe Routes to School Routes.	PW	Ongoing
	Explore new funding sources as a way to lessen the burden of transportation projects on the traditional funding mechanisms, such as the local annual operating budget and Capital Improvement Program (CIP).	Ofc of the City Manager	Ongoing
	Partner with funding agencies such as PACTS and the MaineDOT to leverage additional outside funding.	PW	Ongoing
	Consider creative funding mechanisms, such as Transit Tax Increment Finance (TIF) districts, Transit TIF districts, the Sustainable Transportation Fund, and public-private partnerships.	Various	Ongoing
	Make strategic investments in streets and street design to create Complete Streets and provide mobility, safety, and accessibility to all users.	PW	Ongoing
Invest in traffic signal modernization, street design safety modifications, and reconfigurations of existing streets to reinforce safer urban traffic speeds.	PW	Ongoing	



**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
TRANSPORTATION (CONTINUED)	Implement wayfinding, place-making, and street lighting programs to unify the City's streetscape.	Planning	Ongoing
	Support the vision of large, transformative projects, such as the redesign of Franklin Street, the transformation of Forest Avenue, and others, as well as future studies, through strategic, cost effective, and incremental actions.	Various	Ongoing
	Minimize the impact of highway infrastructure, such as ramps and overpasses, on City streets and neighborhoods.	Various	Ongoing
	Identify and plan for parking needs, particularly downtown, on the waterfront, and in conjunction with large institutions.	Ofc of the City Manager, EcoDevo, Planning	Short, Ongoing
	Develop robust, integrated parking management strategies to reduce parking demand.	Ofc of the City Manager, EcoDevo, Planning	Ongoing
	Invest in a walkable City through sidewalk maintenance, accessibility improvements, trail and path connections, snow clearance, lighting, landscaping, traffic calming, enhanced street crossings, strong urban design, artistic elements, and wayfinding.	PW, Planning	Ongoing
	Complete and maintain the City's system of shared use pathways, neighborhood byways, and protected/enhanced bike lanes in a legible and continuous network, and develop the complementary infrastructure, such as bicycle parking and wayfinding, to support it.	PW, Planning	Ongoing
	Explore potential locations for separated bike infrastructure.	PW, Planning	Medium
	Support the development of a bikeshare program.	Planning	Medium
	Explore the technical and financial feasibility of a Transportation Management Association (TMA) as a means of improving access to, and mobility around, downtown and the waterfront.	Various	Medium
	Expand Transportation Demand Management (TDM) initiatives for large development sites and institutions, building upon the recent implementation of TDM plans for individual employers and sites.	Planning	Short, Ongoing



**APPENDIX:  
IMPLEMENTATION  
MATRIX**

	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
TRANSPORTATION (CONTINUED)	Support initiatives to strategically increase the frequency and span of service, on-time reliability, and geographic scope of transit service.	Planning	Ongoing
	Deploy information technology and quality of service improvements, such as traffic signal priority, real-time transit information, fare integration, and Bus Rapid Transit service.	Planning	Short, Ongoing
	Develop transit centers, enhance bus stops, and improve transit stop and transit corridor operations and accessibility.	PW, Planning	Short, Ongoing
	Create incentives to spur transit-oriented, mixed-use development on corridors and in areas that can support high quality transit service.	Planning	Medium, Ongoing
	Plan for multi-modal trip connections, whether bike storage, timetable coordination, or other measures that facilitate ease of transitions between modes of travel.	Planning	Ongoing
	Make bus and other transit options legible and easy to use for tourists and new riders through flexible payment options, marketing, improved technology, and readily accessible route, schedule, and payment information.	Planning	Short, Ongoing
	Recognize seasonal impacts on transit accessibility, particularly snow and ice near and approaching bus stops.	PW	Short
	Support transit serving the regional labor market area.	Planning	Ongoing
	Support the waterfront as a signature transportation resource.	Waterfront	Ongoing
	Make investments and adopt policies to promote the International Marine Terminal, the Ocean Gateway cruise ship terminal, the Portland Ocean Terminal, the Casco Bay Island Ferry Terminal, and other parts of the waterfront that serve Portland and connect it to the world.	Parks	Ongoing
	Support the success of the Portland International Jetport as a key transportation connection to worldwide economic and tourist centers.	Jetport	Ongoing



**APPENDIX:  
IMPLEMENTATION  
MATRIX**



	STRATEGY	PRIMARY RESPONSIBILITY	TIMEFRAME
TRANSPORTATION (CONTINUED)	Work with the Northern New England Passenger Rail Authority and other regional partners to ensure the success of the Downeaster's trunk route from Portland to Boston, while allowing for strategic expansion of the route.	Planning	Ongoing
	Support the Portland Transportation Center, especially commuter and visitor connections to other Maine cities and Boston.	Various	Ongoing
	Support international freight and ferry service.	EcoDevo	Ongoing
	Enhance regional trail connections.	Parks, Planning	Ongoing
	Consider specific measures to promote awareness and usability of our transportation system for the elderly.	HHS	Ongoing
	Ensure that seniors are aware of transit options, reduced fares, and specialized transit services.	HHS	Short
	Maintain a City-wide ADA compatibility assessment.	Office of the City Manager	Ongoing
	Consider senior transportation needs in areas of concentrated senior housing, including but not limited to new developments.	Planning, HHS	Ongoing
	Expand volunteer networks, such as the Volunteer Snow Shoveling for Seniors Program, and prioritize sidewalk snow and ice clearance in areas with concentrations of seniors.	HHS	Short
	Ensure sufficient ferry and freight service to support island communities and economies.	Various	Ongoing