



Comprehensive Plan

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Introduction

Orono's most recent Comprehensive Plan was adopted in 2015, and much has changed since then. The ultimate goal of this updated plan is to provide a new, shared vision for the community and produce a set of usable recommendations for the next 10-12 years. The Comprehensive Plan Committee hopes that this plan will serve as the foundation for public policy and land use decisions in the future and that it will provide an ongoing framework for both public investment and private development.

How to Use This Plan

This plan addresses several topic areas that are of particular relevance to the community.



Within each chapter are analyses and additional data related to each topic. These analyses, coupled with the public feedback described further in the Planning Process section, form the basis for the recommendations of the Plan outlined in the Implementation Matrix (starting on page 41).

Within the Implementation Matrix, readers will find various Goals, Objectives, and Actions organized by topic area. **Goals** are broad, aspirational statements that help make the community vision a reality. **Objectives** include a bit more specific direction for how the goals will be carried out. **Actions** are the specific checklist items that, if implemented, will allow the Town to fulfill its identified goals.

Framework Pyramid



Executive Summary

Overview

A Comprehensive Plan is a long-term guide that looks at different issues affecting a community's character, growth, and finances. In a world that is always changing, this plan serves as a broad, forward-thinking tool for local leaders to make decisions over the next 10 to 12 years. This includes planning budgets, changing laws, and deciding on programs and staff needs. While it isn't a strict set of rules, following the suggestions in this plan will help the Town of Orono achieve the goals shared by its residents and community members during public engagement events held throughout late 2024 and early 2025.

Community Desires

Throughout the planning process, a variety of topics were discussed and visions for Orono's future were posited. Some common themes/sentiments emerged after an analysis of these responses from attendees and responses to the community surveys:

- There is a desire for more community cohesion, which is defined broadly, the ability of a community to function together harmoniously: to tackle common problems, provide mutual support, respect one another's diversity, and work together towards a shared vision.
- Stakeholders emphasized a focus on attracting a wide variety of businesses (including job creators of 10+ employees) and on increasing our general economic vitality (filling vacant buildings in and around the downtown).
- Stakeholders highlighted the need to increase housing options. The sentiment throughout the process emphasized the creation of so-called "missing middle" or "starter home" construction, or on houses geared towards families.
- Many comments were centered on increasing (or at least maintaining) our public service capacity. "Public service capacity" is the ability of a municipality to provide services ranging from public works and roadway maintenance, to utilities like water and sewer, to recreation programs, to police and fire protection. In some responses, this was directly called out as a need, but in others this would be a need in order to accommodate the more specific suggestion. For example, there were a handful of responses focused on beautification of the community or on increasing property maintenance; in order for the Town to be proactive in this regard, additional staffing levels would be needed. (I should note that another small handful of responses were focused on school upgrades and related school issues; the Town's Comprehensive Plan does not directly impact or address these kinds of issues, but may have an indirect impact on these issues by, for example, creating a regulatory environment that would stimulate production of family housing, thereby increasing the number of students in the schools.)

- Stakeholders noted a desire to decrease vehicular traffic and/or increase alternative modes of transportation (e.g., walking, bicycling, taking public transportation). Some stakeholders offered specific improvements that they would like to see made, and these are reflected in the Capital Improvement Plan. Other comments were broader in that they generally encourage the construction of sidewalks or trails or advocate for the expansion of existing public transportation in Orono.

Community Needs

In addition to the desires of the community expressed above, the data analysis that was undertaken in “Phase 1” of the planning process revealed several community needs and issues that this plan also addresses.

Housing

- Orono currently has 3,367 households, with 1,131 (33.6%) being “family” households, including those who are either married or cohabitating with a partner. Family households as a proportion of Orono’s overall households have been steadily dropping over the past 20 years, with family households with children under 18 seeing an approximately 40% drop in the last 20 years.
 - 2000: 583
 - 2010: 483
 - 2020: 350, avg. of 2.93 children per home
- There is a discrepancy between available housing units in Orono and people’s actual, day-to-day housing needs. 1,108 households are one-person households, but there are only 682 one-bedroom or studio housing units in the community. This means that about 40% of the single-person households in Orono (426 people) are still living in housing units with extra bedrooms beyond what they need on a day-to-day basis. Of course, people may want to have extra bedrooms to be utilized for guests or as extra living space, but this data suggests that there may be greater demand for smaller housing units (1-bedrooms and studios) than what is currently available in Orono.
 - Providing units that would allow these households to have the choice to downsize ends up having a positive impact on the rest of the housing system in the community, as those larger units will then be available for those who need them (such as larger families). Given the loss of family households in the community over the past 20 years, and projections showing that this is likely to continue, aiming to provide housing for the entirety of the lifespan will be of the utmost importance.
- 18% of homeowners in Orono are housing cost-burdened, and seniors tend to be the most cost-burdened group, with about a quarter of those 65+ being housing cost-burdened (spending more than 30% or more of their gross income on housing-related costs (mortgage and utilities).

- If the average household size of 2.27 holds, we will need at least an additional 431 housing units to accommodate the projected increase in Orono's resident population over the next 10-15 years. Orono easily outpaced this production target between 2010 and 2023 (when a net 560 units were produced), but we were also operating in an economy with low interest rates and significant out-of-state investment in large housing complexes primarily geared towards students. Since then, the Town has adopted regulations significantly limiting the size of new housing complexes, and interest rates are much higher.

Economy

- The adults of “prime working age” (between 25 and 54) are predicted to decline slightly over the next 15 years. In 2020, this age group represented 13.6% of the population. In 2040, they are projected to represent 11.9% of the population.
- Since 2010, the percentage of Orono residents employed in retail trade has risen from about 12.4% to about 15.2% of the population. While still representing a relatively small portion of the community, the percentage of manufacturing workers has increased slightly, from about 2.2% to 4.3% of the population. Meanwhile, the share of those employed in educational services, health care, and social assistance has decreased by about 15% since 2011. This does not necessarily mean there are fewer jobs in Orono within these sectors, but rather that the available jobs might now be worked by people commuting in from outside the community.
- The 2011 update to the Town’s Downtown Plan found that restaurants and specialty stores located in downtown Orono are reaching beyond the immediate Orono area and into Bangor (based on exit surveys of customers of downtown businesses). Focusing on having a recognizable cluster of restaurants and eating places unique to the region could increase the regional draw to Orono’s downtown even further, into places like Hampden, Eddington, Glenburn, and further afield (the defined “Secondary Market Area” from the 2011 update).
- Conversely, convenience store goods and other personal service businesses in the downtown study area are heavily dependent on those already frequenting the downtown area. The growth of these kinds of businesses is more dependent on increasing the “feet on the street” within the downtown. Co-locating higher-density housing or offices within or immediately adjacent to the downtown area would have the impact of drawing more customers to downtown businesses.
- Since the onset of the COVID-19 pandemic in 2020...
 - Remote work has fundamentally changed the way that our community functions. People require different amenities than a traditional office worker would have, including co-working spaces and quality-of-life amenities.
 - Increasingly, small businesses are no longer looking to be auto-oriented but understand that when they locate retail or restaurants within a $\frac{3}{4}$ mile (about a 15-minute walk) of denser housing, they will capture people willing and able to spend money.

Transportation

- About 18% of Orono residents walk or bike to work, making active transportation especially important. This number likely includes many University students who walk between their apartments and jobs on campus.
- Sidewalks are currently clustered in and around the downtown area, though they also extend outwards towards the large student apartment complexes and commercial businesses along Park Street (to the Orono/Old Town municipal boundary), up College Avenue (to the Orono/Old Town municipal boundary), along Forest Avenue, and out past the residential neighborhoods off of Bennoch Road to the Maine Technology Park on Godfrey Drive and along the frontage of the University Mall property on Stillwater Avenue.
- The road most frequently used for cycling is Route 2, followed by Bennoch Road, College Avenue, and Forest Avenue (per data compiled by BACTS from the Strava app in 2019).
 - Route 2: Main Street has bicycle lanes from Pine Street to Canal Street, and Park Street features wide shoulders marked as bicycle lanes.
 - Bennoch Road features wide shoulders north of Noyes Drive.
 - College Avenue features wide shoulders.
 - Forest Avenue features wide shoulders.
 - ...but none feature protected bicycle lanes.

Recreation

- While the Town owns 8 parks, including 5 with water access, there are no water access points meet ADA-accessibility requirements, meaning there are no water access points suitable for those with disabilities.
- The Town's Parks & Recreation Department is currently staffed with two full-time staff members. Town's current range of programming would not be possible without volunteers (sports coaches, Beautification Committee, Trails Committee, student volunteers from both high school + UMaine) and outside organizations (Orono Land Trust, Orono Veazie Little League, Penobscot Valley Ski Club, Orono Paddlers).
- Many trails are used by the community but aren't formally recognized (owned/managed) by either the Town or the Orono Land Trust because they are located on private property or there are no rights to maintain the trails.
- Many trails on private property lack formalized access easements (just "handshake agreements"), posing an issue if the land owner changes their mind about access. Similarly, owners may allow the trail to cross their property, but will not allow the portion of the trail on their property to be listed on any maps, limiting accessibility and connectivity for all users except for those "in the know" and creating safety issues.

- Many Town-owned trails lack formalized trailheads or parking areas and/or aren't connected to sidewalks, so they end up functioning as neighborhood walking paths rather than formalized, interconnected trail systems.
- There are no permanent public toilets (with plumbing) at any Town-owned facilities (though Webster Park, Gould's Landing, and Brownie's Park do have seasonal Port-A-Potties). This limits how long people can reasonably use the Town's recreational amenities before having to leave to seek restrooms.

Big Ideas

Big Ideas are highlights of the Goals, Objectives, and Action recommendations of this Plan.

Big Ideas: Housing

Attainable housing, through a combination of both regulation and incentives

- ◆ Create opportunities for home ownership within the designated Growth Area, with emphasis on families with school-aged children, in support of the community and region's economic development (through a combination of regulation and incentives)
- ◆ Aim for at least 10% of all new residential development in the next decade to be subsidized/regulated senior affordable (inclusive of those with disabilities) or workforce housing
- ◆ Amend land use controls to stimulate the production of attainable housing (starter homes, “missing middle” housing, smaller one-bedroom and studio housing units inclusive of older adults and young professionals, and family homes in service of ensuring school sustainability)

Big Ideas: Economy

Grow our workforce to allow for a diversity of businesses that meet the daily needs of the community to locate here

- ◆ Amend the Town's Land Use Ordinance to stimulate the production of new, year-round housing (see also the Housing chapter)

Enhance “feet on the street” (more people living and working) in and around Orono’s downtown

- ◆ Amend the standards of the VC District standards to allow offices/salon/barber shops or flexible uses that meet everyday needs within about a mile of downtown (that people can walk or bike to)
- ◆ Look to Mill Street, Pine Street, and the neighborhoods to the north of the existing downtown as opportunities for new residential growth (in easy walking distance).
- ◆ Work with owners of vacant properties in the downtown area to fill vacancies with businesses that would serve day-to-day needs of residents

Promote cultural amenities and work with partners to create festivals, events, and plenty of points of interest to explore in Orono for all age groups

- ◆ Create opportunities for volunteer-led, inexpensive, short-term community art projects or demonstrations

Big Ideas: Outdoor Recreation & Natural Resources

Enhance or expand access to natural environments for recreation

- ◆ Maintain and improve existing recreational facilities as necessary to meet current and future needs
- ◆ Strengthen Orono's image as a scenic river town by enhancing connection to the river
- ◆ Seek to achieve or continue to maintain at least one major point of public access to all major water bodies for boating, fishing, and swimming, and work with nearby property owners to address concerns

Work with partners to protect important outdoor and natural areas (including special habitats, wildlife corridors, water bodies, and scenic vistas) for future generations

- ◆ Create a Recreation & Open Space Plan that identifies: (1) Priority sites that may be appropriate for recreation/conservation uses or trail network connectivity (through a clearly defined evaluation process); (2) Strategies to preserve land, including funding sources as applicable; and (3) How the land will be managed in the future (e.g. how it will be used or developed for either conservation or recreation purposes)

Big Ideas: Transportation

Make transportation improvements – especially active transportation – to incentivize walking, biking, and public transit, and reduce vehicle traffic

- ◆ Increase sustainable mobility and decrease vehicle miles travelled (VMT) by investing in public transit and active transportation infrastructure improvements
- ◆ Implement the Route 2 Corridor Village Partnership Initiative (VPI) Study as developed by Sebago Technics in 2024
- ◆ Balance the diverse transportation needs of all users regardless of mode (pedestrians, cyclists, motor vehicles) or ability
- ◆ Adopt *Complete Streets* and *Vision Zero* policies

Big Ideas: Public Facilities & Services

Adequately fund the Capital Improvement Plan and carefully consider operational budget requests to continue providing exemplary public services at the level that the community has come to expect

- ◆ Identify public service needs and develop efficient, actionable strategies to meet them
- ◆ Continue to explore options for regional delivery of local services
- ◆ Prioritize the provision of public facilities and services that promote and support development in identified Growth Areas
- ◆ Continue to explore grants available to assist in the funding of capital and maintenance investments within the community
- ◆ Support the level of financial commitment necessary to provide needed infrastructure in designated Growth Areas, consistent with the community's vision

Planning Process

Overview

In April 2024, the Town Council appointed the Comprehensive Plan Committee, an ad hoc committee of 13 citizen volunteers of various backgrounds and expertise, to guide the 18-month-long Comprehensive Plan Update process. Between May 2024 and November 2025, the Committee met monthly (or more often, as needed) throughout the development of this Plan. These meetings were posted on the Town's website and were open to the public.

In addition to the Comprehensive Plan Committee meetings, a robust public engagement process occurred utilizing a hybrid approach that included intimate, face-to-face community conversations and online engagement tools. This allowed those who could not attend meetings in person to still participate and stay informed.

At the outset of the planning process, a Social Pinpoint site was developed to serve as a hub for information about the project. It included various documents and resources for stakeholders to peruse, including recordings and notes from in-person public engagement events, answers to frequently asked questions regarding the process, as well as maps and data related to each chapter of the Comprehensive Plan. It also hosted an online survey and interactive mapping activity.

The Social Pinpoint site had 1,060 unique users (unique IP addresses captured) over 1,595 visits. It had 251 unique stakeholders (who either left a map comment, took the survey, or both). The online survey was conducted through the Social Pinpoint site in September and October of 2024 and received 244 responses. Full responses to the online survey are included in the Appendix.

In addition to the online survey, a Community Open House event was held on October 5 and October 9, 2024. This was the same program, given on both a weekend morning and weekday evening, to allow as many members of the public as possible to participate. Across both events, 16 members of the public attended. The Committee's hired planning consultant provided an overview of Comprehensive Plans and what is required to be included in them, and had high-level discussions with the community focused on what attendees love about Orono and want to keep as is, and what about Orono they would like to see change.

The consultant then met community members at public events throughout the Fall of 2024, including a Saturday morning at the Orono Farmer's Market and a Thursday evening at Orono Brewing Company, to ask the same questions. As a result of these combined efforts, 22 responses were provided to the questions on the "tabling posters."

Throughout the efforts described on the previous page, some common themes began to emerge that were worthy of more detailed exploration. These were:

- Housing
- Downtown
- Active Transportation
- Outdoor Recreation & Natural Resources

The Comprehensive Plan Committee, assisted by a hired consultant, hosted a Topic Exploration meeting series in November and December of 2024 with one evening meeting focused on each of the above (four meetings total) to hear feedback from the public related to these topics.

The first meeting, focusing on housing, was held on November 13, 2024, and was attended by 8 people. During this meeting, the Town's hired planning consultant presented information on the state of housing in Orono today and how population projections will likely exacerbate the existing lack of housing for certain demographics. The group then discussed how we might realistically address known housing issues over the next 10-12 years. Ideas are outlined in the graphic at right.

Housing Perceptions

Strengths

- Desire to be a more representative community (including students with decent places to live, housing available for young families, housing geared toward older adults)

Weaknesses

- Lack of housing stock & the cost
- Lack of family housing / lack of senior housing for folks to downsize into
- Need affordable housing for older adults

Opportunities

- Planning for student housing and increased coordination with the University regarding student housing based on expected enrollment trends
- Homeshare program - the Town can have a role in either funding it or communicating availability
- ADUs/granny flat/in-law apartment support - consider financial incentives or grants
- Inclusionary zoning requirements

Threats

- Lack of resources for people that need regulated/subsidized affordable housing or supportive housing as poverty increases
- Continued decline in family housing without intervention

What makes a successful downtown?



Mentimeter

The second meeting, focusing on the economy but more specifically on downtown Orono, was held on November 19, 2024, and was attended by 8 people. The Town's hired planning consultant set the stage by discussing post-pandemic changes to downtowns (and how these trends might be positive for Orono) and by providing information about Orono's downtown economy as it stands currently. Participants were then asked to provide their ideas for what would make a successful downtown, which are shown on the word cloud at left.

Attendees then identified strengths, weaknesses, and opportunities concerning Orono's downtown which are summarized on the graphic at right.

Downtown Perceptions	
Strengths <ul style="list-style-type: none">• Proximity of schools, library, pool, and Town Office to the downtown (mix of services)• Pat's Pizza and lots of choices of restaurants• Proximity of many residential neighborhoods to downtown• Regional draw	Weaknesses <ul style="list-style-type: none">• Vacancy of buildings, dilapidated buildings• Transportation access issues (essentially a bifurcated downtown because Main Street is difficult to cross)• Black Bear Express does not run at convenient times (e.g. at night when people want to patronize downtown)• Empty kiosks on Tough End trails• Lack of diversity of businesses downtown (many restaurants but not much else)• Low lighting areas where pedestrians try to cross• Intersection of Bennoch Road/Main Street/Mill Street is dangerous for all users• Large curb cuts at Circle K make walking unsafe
Opportunities <ul style="list-style-type: none">• Wayfinding signage to help find your way around• Vacancy tax on empty buildings• "Better not bigger"• Use space next to Margarita's as a community gathering space• Reduce building setbacks/build to sidewalk• Invest in building facades• Electric shuttle to transport people from businesses to existing parking areas• Address housing density requirements to enable more foot traffic• Improve walkability on Park Street from student apartment complexes to downtown• Expand off-road pedestrian trails in targeted areas• More mixed-use development• Bring more niche businesses that will draw people in• Make downtown a destination• Breakfast/lunch-oriented restaurant• Address vacant buildings• Address underutilized space - create the environment for infill development• Look at opening more commercial opportunities along the entirety of Main Street• Explore barriers to opening more businesses / convene downtown business owners• Create a community center or place to gather	

The third meeting, focused on Active Transportation, was held on December 4, 2024, and was attended by approximately 25 people. Information was provided regarding existing active transportation infrastructure as well as identified issues with respect to this topic (identified through the online survey and previous engagement events). Maddie Jensen, Bangor Area Comprehensive Transportation System (BACTS), was present to provide regional context. Then, the group broke off into small group discussions where they were asked to prioritize transportation improvements (namely, bicycle and pedestrian infrastructure) using limited “Orono Bucks.” What this meeting highlighted was that active transportation is an important issue to many community members, but there are many disparate ideas and limited consensus for what areas of the community are priorities. The Route 2 Corridor Village Partnership Initiative Project (ongoing with MaineDOT) was identified as the biggest “bang for our buck” project by attendees present, though it was acknowledged that there are many other areas of the community where bicycle and pedestrian transportation infrastructure could be improved. The full list of discussed areas is included in the Appendix.

To conclude the Topic Exploration meeting series, a meeting focused on Outdoor Recreation & Natural Resources was held on December 12, 2024, and attended by 15 people. The planning consultant provided an overview of Orono’s existing outdoor recreation amenities and known issues as identified through the online survey and conversations with the Town’s Parks & Recreation Director. Then, attendees were asked to participate in three different feedback stations.

- The first station asked participants to identify on a map the parks, recreation, and open space areas in the community (either publicly or privately owned) that are special to them. Many of the identified special places are already conserved or publicly-owned lands, although some additional places (such as a cove of Pushaw Lake off of Villa Vaughn Road, land on the banks of the Penobscot & Stillwater Rivers, and publicly accessible woods on the University of Maine campus) were likewise identified, as shown on the map below.



- The second station asked participants to identify which three categories of recreation and/or open space they would like the community to prioritize over the next 10 years. Possible answers covered both active recreational use and land preservation. Top priorities were:
 - Expanded multi-use trails for walking, biking, snowmobiling, cross-country skiing, etc.;
 - Protection of wetlands and other environmentally sensitive areas;
 - Development of in-town neighborhood parks and playgrounds; and
 - Protection of important wildlife habitats.
- The third station asked participants to write down what elements or ideas must be addressed in order for the plan to be successful for the community, or any concerns they may have. Concerns included:
 - Maintain street parking at trailheads
 - Lack of sidewalks in Webster area
 - Lack of safe way to get from Town trails to University trails
 - Lack of breakdown lanes on many roads, which cyclists and walkers can also use
- Elements of Plan success included:
 - Good maps of recreational areas (paper, online, and on-site)
 - Safe routes through Town (recommended bike and walking routes)
 - Maintenance of what is there, while adding housing adjacent to current conserved areas
 - Increased housing density → fill in empty lots and allow/encourage duplexes and small, multi-unit buildings in existing neighborhoods

Next, the Town Manager ran a visioning session on January 8, 2025, to attempt to hear more broad feedback from the community about their vision for Orono. Approximately 40 members of the public were in attendance. In this facilitated conversation held in the Orono High School Performing Arts Center, attendees were provided an “Orono by the Numbers” sheet, the front of which showed data related to Orono as of 2024 and the back of which showed Orono as of 2014 (the time of the last Comprehensive Plan). Given that information, attendees were asked to indicate where they fell on a scale between “Total reset point” or “Opportunity to build on the 2014 Comprehensive Plan.” The purpose of this question was to ask attendees to weigh in on the continued relevance of the recommendations that came from the 2014 Comprehensive Plan. The result is shown below. The Town Planner shared that, while many recommendations related to land use outlined in the 2014 Plan have technically been adopted, they may not have had the desired effect in some cases. In addition, many of the recommendations of other chapters have yet to be implemented as recommended.

Mentimeter

Do you feel that Orono is at a total reset point, or do you feel that this should be a time to build upon our last Comprehensive Plan?



The January 8th visioning session ended with an ask for attendees to write down what they want the top 5 accomplishments of Orono to be by 2035 (essentially, within the lifetime of the Comprehensive Plan). These responses varied greatly and are all included in the Appendix.

In March and June of 2025, updates regarding the planning process were also provided to the Town Council and the Planning Board, respectively.

In May of 2025, the hired planning consultant visited fourth-grade classrooms at Asa C. Adams Elementary School and presented an interactive activity where students brainstormed what kinds of amenities they want to see in Orono in the next 10 years, and then drew on maps of Orono's "in-town" areas to illustrate where their ideas might go. Ideas included a variety of different businesses, areas where bike paths/trails/multi-use paths might be needed or improved, and many different recreational amenities (fixing the municipal pool and creating a better outdoor ice rink, rentals of sports equipment at common recreation areas, more clubs/activities/after-school programs for pre-teens, a turf field, ultimate frisbee area, and increased playground maintenance).

Finally, the Comprehensive Plan Committee hosted a Future Land Use Workshop on the evening of July 23, 2025. This workshop was well-attended by about 30 members of the public. At this meeting, the planning consultant introduced state requirements for Growth and Rural areas and how land use interacts with all other aspects of the community. Then, those in attendance were split into small groups for an interactive mapping activity meant to help the Comprehensive Plan Committee refine the required Growth area boundaries.

Community Vision

The Comprehensive Plan is guided by a community vision statement, which was developed as a result of public engagement described previously, and is intended to summarize the community's desired character throughout the lifetime of this plan. It is an aspirational statement that we hope that we will live up to by the year 2035.

"Orono is a walkable, bikeable, outdoors-oriented community serving as the gateway to the Maine wilderness and located on the ancestral lands of the Penobscot Nation, who have and continue to steward this land. As the proud home of the University of Maine's flagship campus, Orono is a culturally rich haven that brings people together through diverse events and abundant economic opportunities.

We nurture the growth of our beloved small town in harmony with the dynamic energy that being a university community offers. Orono is a pinnacle of diversity and friendly neighborhoods, which ensures that everyone feels at home and thrives in our community. We recognize resiliency and sustainability in all of our decision-making.

Over the next 10 years, we...

- Are committed to developing housing solutions that cater to the needs of individuals and families of all ages who seek the perfect blend of university proximity and small-town charm. We will stimulate the production of attainable housing (starter homes, "missing middle" housing, smaller one-bedroom and studio housing units inclusive of older adults and young professionals, and family homes in service of ensuring school sustainability) by undertaking careful planning, involving both clear regulation and the provision of incentives.
- Will invest in transformative transportation improvements – from major upgrades along the Route 2 corridor to creating additional, off-road bicycle and pedestrian paths. We will identify important alternative transportation and multi-use ways (separated from public road systems) and incentivize modes of alternative transportation (such as walking, biking, and public transportation), all in an effort to reduce vehicle traffic and enhance quality of life.
- Will continue providing exemplary public services at the level that the community has come to expect by adequately funding the annual Capital Improvement Plan and thoughtfully considering operational budget requests.
- Increase the vibrancy of our downtown area by filling vacant storefronts, increasing visual appeal, creating more community gathering/green spaces, enhancing connectivity to the river, prioritizing a diversity of businesses that meet the daily needs of the community, and enacting zoning changes that increase the year-round population/workforce and provide more "feet on the street" (more people living and working) in and around downtown.
- Will focus on quality-of-life improvements such as enhancing or expanding access to natural environments for recreation.
- Be a vibrant and energized community through promotion of cultural amenities, including working with partners (such as the University) to create festivals, events, and plenty of points of interest to explore in Orono for all age groups.
- Will ensure that important outdoor and natural areas (including special habitats, wildlife corridors, water bodies, and scenic vistas) are protected for future generations by working with our non-profit, University, and business partners.

Through all of this, we work together to tackle common problems, provide mutual support, respect one another's diversity, and work together towards this shared common vision."

Future Land Use

Overview & Purpose

The Future Land Use Plan is an overarching statement of policy, showing Growth, Limited Growth, and Rural Areas. This section is not regulatory in nature, but the recommendations should be used to evaluate current zoning regulations and other land use policies or programs and to propose amendments or revisions that will better align these tools with the Future Land Use Plan.

This section seeks to chart a path to accomplish the priorities of the overall Comprehensive Plan: Ensuring sustainable growth of family-housing that allows Orono schools to continue to succeed, incentivizing the creation of attainable housing that allows all age groups and demographics to thrive in our community, growing our workforce and allowing a diversity of businesses to locate here (with the ultimate goal of having residents' daily needs be met locally), and protecting important outdoor and natural areas (including special habitats, wildlife corridors, water bodies, and scenic vistas) for future generations. How to accomplish each of these priorities is more particularly described throughout this section.

To the extent that the State of Maine requires that a minimum of 75% of new municipal growth-related capital investments (including investments in transportation improvements) be directed into designated growth areas identified in the Future Land Use Plan, this plan will also guide the Town in planning for major capital investments and infrastructure enhancements. Such investments will be incorporated into the Town's Capital Improvement Plan (CIP). A recommended CIP that reflects the capital needs identified in this Plan is included in the Appendix.

Process of Developing the Future Land Use Plan

The Future Land Use Plan was developed based on feedback from all of the online and in-person public engagement held throughout the process of developing the overall Comprehensive Plan, but more specifically on feedback provided at a Future Land Use Workshop in July 2025.

This Future Land Use Plan also incorporates a variety of other inputs, including:

- Existing land uses and their locations
- Orono's historic development patterns
- Sewer and water service areas
- The availability of three-phase power
- Environmental attributes such as waterways, wetlands, and flood protection zones
- Existing protected open space areas
- Existing transportation infrastructure

The character areas depicted in the Future Land Use map also describe areas to Strengthen, Transform, Enhance, and Preserve. Most parts of Orono are areas to Enhance or Preserve. Areas to Strengthen or Transform have significant opportunity to accommodate new growth in patterns that support Orono's vision and goals for the future.

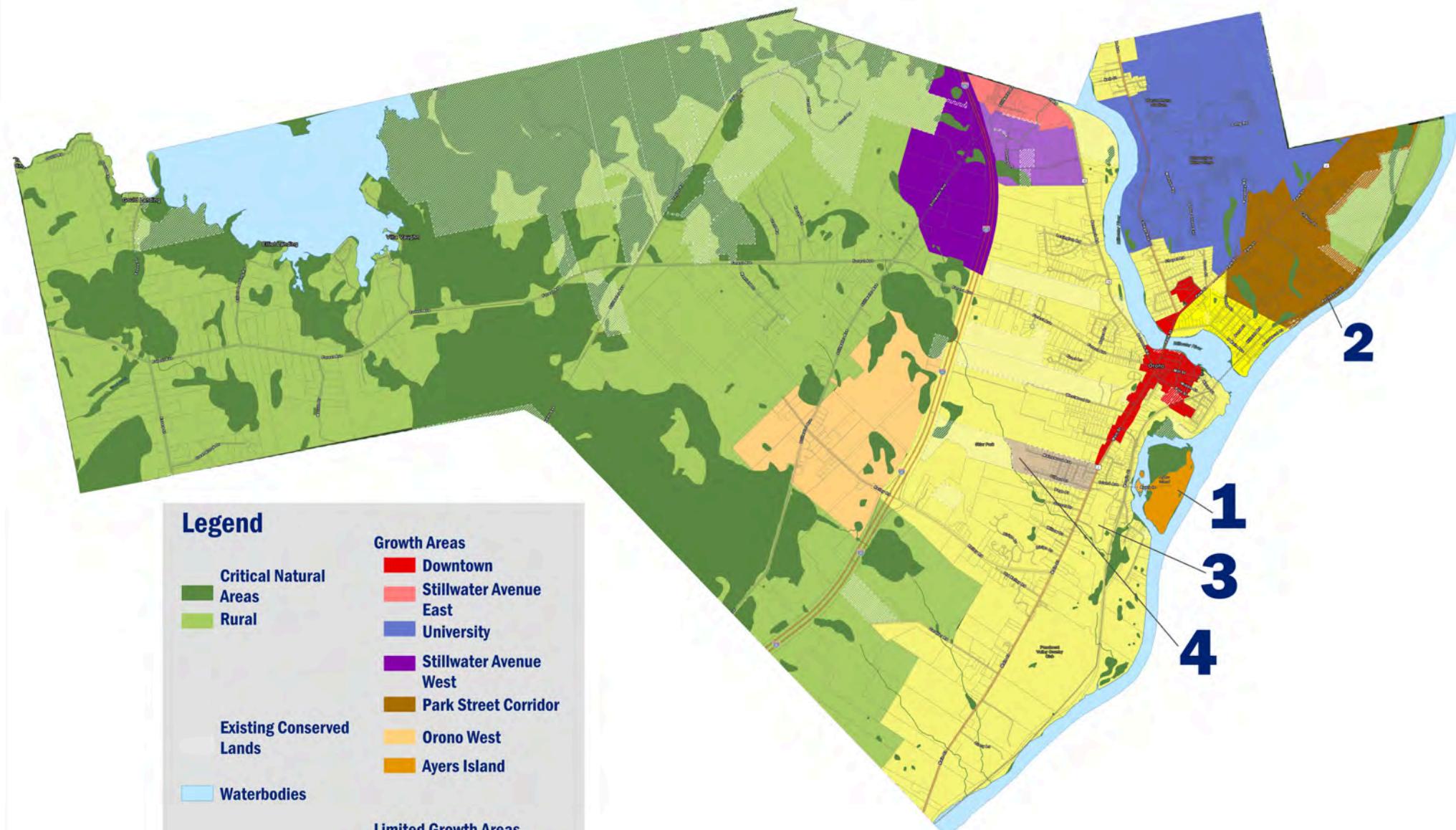
Strengthen: Orono's Downtown already has a variety of existing assets and can be further strengthened by reinforcing its character with tactical public and private investments.

Transform: Places that can be transformed over time, such as areas along Route 2 and declining strip retail centers along Stillwater Avenue, for which the plan focuses on redevelopment into walkable, mixed-use, amenity-rich activity centers.

Enhance: Places like Orono's traditional neighborhoods, for which the plan focuses on improvements ranging from traffic calming to new sidewalk and bicycle connections. In some instances, there may be opportunities for carefully planned and designed infill development that provides the next increment of growth (or, rather, reinforces the historic development patterns of these areas that were zoned out of the community for many years).

Preserve: Places across Orono (namely, west of I-95) where things should be kept largely the way they are, due to environmental characteristics or other important factors.

The Future Land Use map on the following page shows the location of the character areas and formally designates Growth, Limited Growth, Rural, and Critical Rural Areas. The following pages include additional information regarding the distinction of these areas as well as recommended performance standards and/or zoning amendments that may be appropriate to help the Town attract the kind of development that the Town needs (driven by quantitative data) and that stakeholders desire (qualitative suggestions from public engagement events).



0 0.5 1 2 Miles

Growth Areas

Growth areas are places where the community wants to see new development and is willing to invest to make that happen. These areas are planned to accommodate a variety of different land uses and are well-served by public services. This Comprehensive Plan emphasizes growth over the next ten years (the prescribed life of this Plan), though long-term (multi-decade) planning for the Growth Area is also considered.

Some public services are directly location-sensitive, such as the current locations of public sewer, water, and transportation infrastructure (roads, sidewalks, and trails). Expanding this infrastructure can be costly, so it's more effective for development to occur close to existing services, which can save taxpayers money in the future. Additionally, it's important for new developments to be near fire and police stations to ensure quick emergency response times. In addition, to meet Orono's vision of being a walkable and bikeable community, new development should ideally be sited close to (within about 3/4 miles) from schools or jobs.

The State notes that land areas designated as Growth Areas must include: (1) already built-out areas that require maintenance or additional capital investment to support existing or limited infill development; (2) located adjacent to existing densely populated areas, to the extent practical; (3) be designed to encourage compact, efficient development patterns (including mixed-uses) and discourage development sprawl; and (4) promote nodes or clusters of development along roads.¹

The designated Growth Area will be the primary place that the needs documented throughout this Plan are met. The anticipation is that most residential and non-residential development over the next 10 years will occur in these areas, and that the Town will invest in infrastructure improvements (such as transportation improvements or utility expansion) within these areas in order to support needed growth. Growth Areas include the areas with significant undeveloped land that is appropriate for development as well as certain developed areas where more dense infill development or redevelopment of existing buildings is desired.



Vision for potential transportation improvements at Silk Bridge over the Stillwater River (rendering c/o Sebago Technics)

¹ Maine Comprehensive Plan Review Criteria Rule, Maine Department of Agriculture, Conservation & Forestry, as amended through August 2011.

Places to Strengthen: Downtown

This area to strengthen is a mixed-use community activity center. It is intended to accommodate a portion of Orono's projected future growth. Adaptive reuse and redevelopment of existing buildings will add employment uses and residential units in these walkable areas to increase the likelihood of walking and biking for short trips. Downtown will be strengthened as a lively community gathering place, and a concentrated effort to improve the visual beauty and appeal of the downtown area will be undertaken.



The Town will take the lead on funding public art and murals in key areas. Vacant buildings will be filled with businesses that support the day-to-day needs of Orono residents. Throughout this area, new housing will include adaptive reuse of existing buildings (such as the recent conversion of the former Byer Mill into 28 apartments), adding housing on upper floors of downtown buildings, adding units to the large single-family houses along Main Street, and new construction on underutilized parcels. New housing in the area will grow the customer base to support more local businesses.



Rendering of representation for what potential development could look like at corner of Goodridge Drive and Main Street (rendering c/o Sebago Technics)



Rendering of representation for what potential development could look like along Main Street (rendering c/o Sebago Technics)

Stately homes along Main Street may also be converted, by right, into office space in order to create more “feet on the street” in downtown Orono at all times of day. Design requirements for Main Street (in contrast to the current design guidelines) will ensure the character of the residential structures is protected. A shared approach to parking within the downtown area will minimize the need for additional private parking for businesses and residences. Improvements to sidewalk and bicycle facilities should fill gaps in the existing network, increase safety and ADA-accessibility where currently lacking, and connect to nearby destinations. A stronger connection to the river will be invested in and promoted in order to improve an already attractive amenity. In the long-term (20+ years), ensuring connectivity to the catalyst sites described in this chapter will allow “downtown” to extend over time.

Places to Strengthen: University

Development within the University of Maine campus area has recently been occurring on a project-by-project basis as grants or significant public funding becomes available. At the time of drafting this Comprehensive Plan, the University was investing in significant capital improvements on campus. In general, the anticipation for the future is that the University campus would function much the same way as it does currently. Allowed land uses would remain primarily the same. The focus should be on collaborating with the University to better integrate the campus into the surrounding residential neighborhoods, the Park Street Corridor area, and Orono's downtown through targeted active transportation investments.

In the long-term, if significant growth in the University occurs, a campus master planning effort undertaken by the University and approved by the Town would be appropriate. A campus master plan would address the overall future use and development of the campus in a conceptual form including addressing traffic and parking provisions, infrastructure, and utilities. The master plan would need to establish appropriate development standards to be met by future projects in an effort to mitigate on- and off-site impacts. If this were undertaken with significant public engagement with surrounding neighborhoods, it may even be appropriate for the Town to stop regulating activity that occurs on the University campus through zoning controls.



Rendering of new Harold Alfond Sports Arena and Shawn Walsh Hockey Center courtesy of WBRC, Inc.

Places to Transform: Stillwater Avenue East

This area has been identified as a major area for future transportation investment in regional transportation plans. Existing sidewalks along the University Mall property to the Old Town municipal boundary provide an existing amenity to build off of. This area will be transformed through the reconfiguration / narrowing of vehicle lanes to slow traffic and improve pedestrian safety and add formalized bicycle lanes. The Town should utilize Tax Increment Financing (TIF) funds to provide seed money for major active transportation improvements. Redevelopment of existing commercial sites, such as the University Mall frontage along Stillwater Avenue, should be prioritized over new greenfield development. Development should be mixed-use, including residential and office, and should allow densities which support transit use. A network of secondary streets will be needed to provide a walkable block structure between Stillwater Avenue and Bennoch Road. Opportunities for future connections across parcels to Bennoch Road should be preserved. The long-term redevelopment of this area will improve a major gateway to the community and provide additional housing and employment uses. Pedestrian and bicycle connections should accompany all redevelopment.



Places to Transform: Stillwater Avenue West

This area will primarily be the location of new industrial development in Orono. Currently, heavy industry uses are only allowed in one location: Ayers Island. As noted on the next page, Ayers Island currently suffers from connectivity issues. Further, community stakeholders desire different uses for Ayers Island in the future. Thus, the Stillwater Avenue Corridor (West of I-95) will take advantage of proximity to the highway and will be primarily a single-use area developed in industrial subdivision patterns. Tax Increment Financing (TIFs) should be utilized to fund the initial expansion of public sewer and water to this area. Limited employee-serving retail or commercial uses would also be appropriate land uses, and improvements to walkability and bikeability should be explored to increase the overall appeal of the area for workers and employers.



Places to Transform: Park Street Corridor

These areas will be transformed from their current suburban, auto-oriented development areas to areas that can accommodate a substantial portion of Orono's projected future growth. Land uses allowed in this zoning district will need to be reconsidered so as not to encourage auto-oriented growth. A mix of employment uses to grow the commercial tax base and provide quality jobs, a variety of housing types at medium to high densities (sufficient to support increased public transit), and supporting retail as market demand allows should be encouraged. Safety improvements for all roadway users and beautification efforts should be implemented in accordance with the Route 2 Planning Study prepared by Sebago Technics, which recommends the facilitation of shared curb cuts/the elimination of existing wide curb cuts, a major redesign of the roadway to slow down speeds, and the installation of bicycle/pedestrian amenities. In addition, the design standards of this area (outlined in Sec. 18-128) will be further revised to reflect a desire for more pedestrian interconnectivity. Off-road trails that facilitate a connection to the University should be a key component of future development in the area.



Places to Transform: Orono West

This area includes land currently zoned as both Economic Development and Low Density Residential. This area's transformation depends primarily on public water and sewer infrastructure being expanded west of I-95. In this area, a proactively planned medium- to high-density subdivision (with a mixed-use component located adjacent to Kelley Road and/or Stillwater Avenue corridors) would be appropriate in order to facilitate densities that make expansion of utilities economically feasible. The case study on the following page provides additional insight into the vision for this area. The Town should be in charge of rezoning this area to make this vision a reality.

If public infrastructure is not expanded, conservation/clustered subdivisions should be encouraged as an alternative for future development, but at lower densities. In this case, reviewing the clustered development performance standards outlined in Sec. 18-136 will be necessary to ensure that they are encouraging development at the size and scale that the community desires in this area. In either case, appropriate buffers (75 feet or greater) around critical resources such as wetlands providing habitat for inland waterfowl and wading birds should be maintained to preserve their ecological integrity.



Case Study: Dunstan Crossing

Mixed-use neighborhoods are proactively planned to have a mixture of uses that allow residents to meet many of their everyday needs within the immediate surroundings. They often include a mix of housing types (single-family, duplex, and larger), a recreation component, and a commercial component. The commercial components are typically sited on the main roadway that connects the development to the rest of the community. Importantly, all uses are connected through sidewalks or trails that allow alternative forms of transportation to be used to move throughout the neighborhood.

One of the first of its kind in Northern New England, Dunstan Crossing in Scarborough (developed by Chamberlain Homes) was planned and designed to be a mixed-use neighborhood that focuses on walkability and new urbanism principles. The neighborhood consists of 288 residential housing units and a retail center and restaurant located off Route 1, within walking distance of the housing sectors.

In order to attract a wide cross-section of residents, the housing types include small starter homes on small lots, duplex and townhouse units, larger single-family homes, and an elderly housing complex. Service access and off-street parking needs are met with the introduction of “alleyways” in the rear of the homes, leaving the front/public streetscape uncluttered and free for pedestrian activities.

Design guidelines are in place to ensure the architectural quality of the homes, promoting diverse housing types while at the same time fostering compatible materials and colors. Buildings are required to be located close to the streets and most feature porches, promoting outdoor spaces and interaction with neighbors and visitors using the extensive sidewalks provided. The entire project is connected by sidewalks, which provide access between neighborhoods, to retail areas, and to public parks and open spaces.

High-density neighborhoods foster interaction amongst residents and allow large areas of the natural environment to be retained. In addition to protected natural areas, the project includes two formal park spaces which serve as areas for active and passive recreation, while serving as aesthetic focal points within the community.



Key Catalyst Sites (Individual Places to Transform) – see corresponding numbers on the Future Land Use Map

The individual properties described below are specific places to transform. While limited public engagement around these properties occurred through the development of the Comprehensive Plan, additional master planning initiatives specific to these properties would be appropriate to more clearly define the desired scale and intensity of future development.

[1] Ayers Island: The condition of the bridge(s) connecting Ayers Island to the mainland is a severely limiting factor in the redevelopment and reuse of the island. The bridge consists of two segments built in 1902 to serve a now defunct mill: Island Avenue Bridge (108 feet long) and Shoddy Mill Bridge (359 feet long). Both are currently owned by the Town. Through the public engagement events held as part of this planning process, a number of suggestions were offered by Orono residents and stakeholders specific to this area, including:

- “Creation of a retail/restaurant/entertainment center”
- Development of an “intentional community designed around community connections, shared space, walkability, and sustainability that is also intentionally multigenerational”
- “Residential and perhaps small art/craft shops. Create a destination!”

The current zoning of Ayers Island is Industrial, which does not allow residential or the majority of the commercial uses described in these comments. As such, a contract or conditional zone that requires promoting connections to the river as an amenity, has a mixed-use component, and also considers the financial investment needed for the reconnection of this site to the mainland will be necessary for the redevelopment of this former mill site.



View of Ayer's Island from above

[2] Former Public Works Facility – 98 Penobscot Street: The former site of the Orono Public Works Department has been unoccupied since the Town moved the department's operations to a newly constructed facility in December of 2015. The site consists of two parcels totaling approximately 3.47 acres and containing a 7,000 sq. ft. metal maintenance building with a steel frame. The site is served by public water, sewer, and three-phase power, making it an ideal site for commercial or higher density residential development. However, the site is under a Voluntary Response Action Program (VRAP) agreement with the Maine Department of Environmental Protection, with certain conditions that are required to be adhered to as future development may occur. These may include a groundwater use restriction that would not allow the installation of a drinking water well and a soil management plan for guiding the handling of spoils from intrusive site work. In addition, any proposed reuse scenario would require a different set of institutional and/or engineering controls. For example:

- Commercial/industrial uses of the site may require only maintenance of existing cover and a digging restriction.
- A managed multi-unit residential development or mixed commercial/multi-unit residential use scenario may be feasible with thinner cover consisting of more carefully designed and maintained landscape features, paved surfaces, and property use restrictions.
- Single-family housing may require a 24" soil cover system to prevent contact with untested surface soils. The cover system would be paired with periodic inspection and a digging restriction.

Some of these restrictions could be removed pending an exhaustive soil testing plan that eliminates the risk associated with the property's previous use and is approved by Maine DEP.

Given the unique restrictions and conditions of the site that must be adhered to, redevelopment would likely require a contract/conditional zone outlining the restrictions but also allowing for higher intensity development than what would otherwise be allowed in the underlying zoning district in order to make redevelopment financially feasible for a private property owner.

[3] Margin Street & Main Street: This collection of properties include a former gravel pit, as well as the location of popular local business, Orono Brewing Company. The topography, drainage, natural resource constraints, and current/former uses of this site will require careful consideration and planning for redevelopment. However, the approximately 40 acres within a short walk of Orono's downtown also presents extraordinary potential for redevelopment. Similar to the above, any potential redevelopment of this site would likely require a contract/conditional zone that allows for higher density development than in the underlying MDR zoning district. In addition, allowing for future expansion of Orono Brewing Company and a mix of land uses conducive to Traditional Neighborhood Development, which is focused on creating walkable, mixed-use neighborhoods that prioritize community connections and sustainability.

[4] Sailor Development: The area known as the Sailor Development was developed in phases in the late 1950s and early 1960s. The development features 9,000 sq. ft. lots with, in most cases, 80 feet of road frontage. The development was approved for three different phases – only the first phase and a portion of the second phase have been built out. A majority of the third phase is no longer able to be built because of deed restrictions imposed on the portion of the development to the west of Johnny Mack Brook. However, approximately 15 acres are unrestricted, owned by the Town, and still able to be developed in accordance with the originally approved plans. This area is Town-owned so presents a unique opportunity for the Town to work with a private developer to meet our attainable housing goals. Initially, it is the recommendation of this plan that the Town take the initiative to rezone the property to more closely adhere to the historic development pattern of the area. This would also eliminate many existing nonconformities in the area, as many of the already built-out properties likewise do not meet today's minimum lot standards for the MDR zoning district.

Limited Growth (Transition) Areas

Limited Growth Areas include areas where the Town's objective is to maintain the current development pattern while allowing limited infill development (development that fills in vacant lots in an established neighborhood) or redevelopment of existing buildings. The expectation is that the Town will maintain current infrastructure in these areas but only certain, targeted investments in new infrastructure will occur.

Places to Enhance: Webster Neighborhood

The area now known as the Webster neighborhood has many existing nonconforming properties. When originally developed, the area consisted of ~8,000 sq. ft. lots with 50 feet of road frontage. Many of these properties still exist on Pierce, Peters, and Pond Streets and Hillside Road and are considered grandfathered nonconformities as they do not meet today's zoning requirements for the MDR zoning district, which requires minimum lot sizes of 15,000 sq. ft. and minimum frontage of 80 feet. In an effort to reduce nonconformities and allow for limited infill development in this area, the road frontage should be reduced to 50 feet, and the minimum lot area should be reduced within this area to be consistent with recently passed state law.



This area to enhance will continue to be a primarily residential neighborhood, parts of which will evolve incrementally over time to accommodate a share of Orono's projected future growth. Encouraging new housing in this area, including additional "Missing Middle" housing types (see box on the next page), is intended to redirect development from Rural Areas to places with existing public infrastructure and nearby amenities. Small-scale neighborhood-serving commercial uses should be allowed on corner lots along busier streets. Improvements to sidewalks, trails, bicycle facilities should fill gaps in the existing network and connect neighborhoods to nearby destinations.

“Missing middle” refers to a range of multi-family or smaller residential building types that are compatible in scale with single-unit houses. They are considered “missing” because the vast majority of housing developed in North America since the 1950s has either been single-unit houses or larger multi-unit buildings (10+ units). This might include townhomes, smaller “starter homes,” cottages, and more.

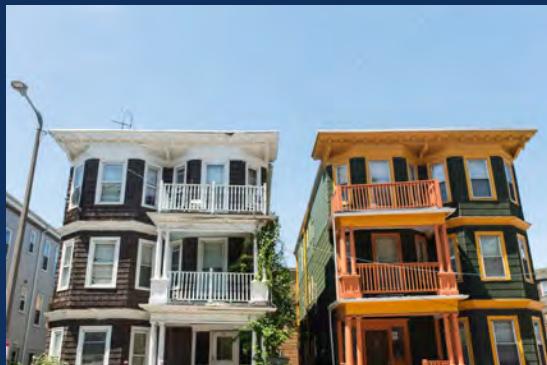
These housing types help provide compact, healthy, walkable neighborhoods and meet the need for housing at varying price points. Because of their scale, it is possible to integrate missing middle housing into existing neighborhoods composed primarily of single-unit detached homes without significant conflicts. Many neighborhoods built before the 1940s that people perceive as primarily single-family detached homes are actually made up of a mix of these missing middle housing types.

By accommodating additional units and right-sized housing densities, missing middle housing can allow more people to live near the services and amenities they need without requiring the addition or expansion of infrastructure. When regulating these housing types, the focus should be on the size and scale of the building rather than unit counts.

This Plan recommends developing missing middle housing to address the documented need for attainable housing. This kind of housing can serve as both starter homes as well as places for older adults to downsize into.



Duplex



Triple-Decker



Townhomes



Cottage Court Development (where many smaller cottages face a central courtyard, with parking on the side, rear, or on-street)

Places to Enhance: Other In-Town Neighborhoods

The allowed uses in this area should include the same general types of uses currently allowed in the MDR zone. This includes a range of residential uses (single-family, two-family, and multi-family), accessory apartments, municipal and community uses, and institutional uses. The development standards for these areas should remain primarily the same, allowing for medium-density development at about 4 units per acre (10,000 s.f. minimum lot area per dwelling unit).



Rendering of representation for what potential development could look like along Main Street (rendering c/o Sebago Technics)



Places to Enhance: Godfrey Drive

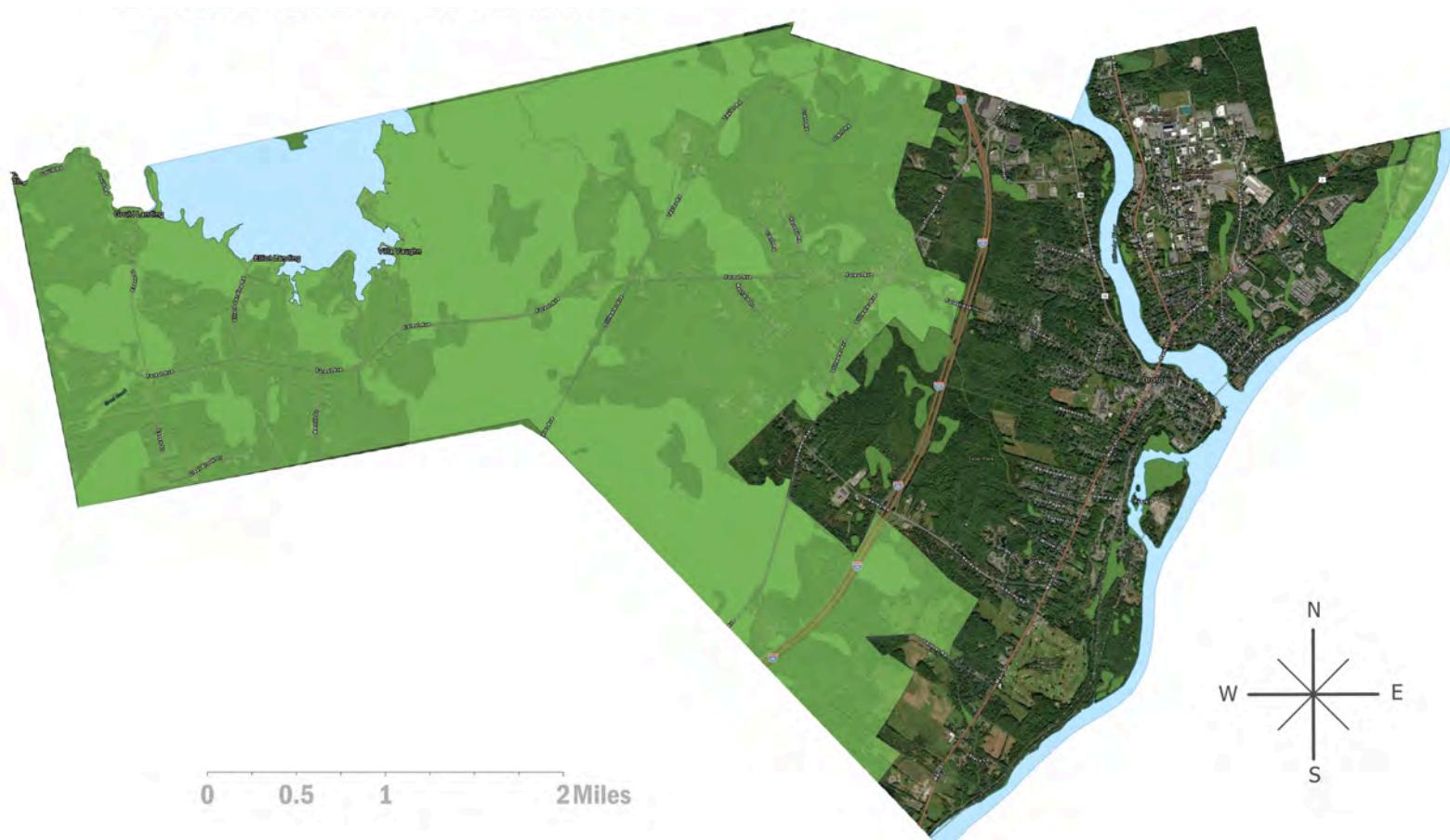
This area to enhance is a business park developed by the Town. The area is almost fully built out, so change will mostly occur as businesses come and go (with some limited infill development on the remaining properties). Limited employee-serving retail or commercial uses (daycares, lunch spots, etc.) and improvements to walkability and transit amenities should be considered to increase the appeal for workers and employers.

Rural Areas: Places to Preserve

For the purposes of this Plan, a **Rural Area** is any area of town outside of the defined Growth Area and which is less built-up than the identified Growth Area. New development and growth may still occur in a Rural Area, but development in a Rural Area is typically less intense.

Rural Areas tend to have less infrastructure and may include areas identified for agricultural uses, low-density housing, conservation, or other purposes. While Rural Areas will not receive the same amount of public investment into infrastructure as Growth Areas, private property owners are still free to invest in their property. As such, new growth may occur in designated Rural Areas, just without the express encouragement of the municipality. While Orono may not be expressly encouraging growth, this area may still be susceptible to sprawling development that detracts from its visual character and natural resources without careful planning.

Development pressure will need to be mitigated and redirected toward Growth Areas with existing public infrastructure to avoid sprawl development and the negative impacts associated with it.



This Plan discourages significant or impactful development in most parts of the Rural Area, although it is expected that some development may take place. Per State guidelines, public funds should generally be used to accommodate new development within the Town's identified Growth Area. However, parts of the Rural Area that may develop should be managed in ways that are compatible with a more rural landscape.

Conservation subdivision standards should be required of any future residential development within the Rural Areas, however, the existing standards should be revised to actually encourage conservation subdivisions. The standards currently require approximately 3.67 acre minimum lot areas in the F&A zoning district (even in clustered/conservation subdivisions), which is not encouraging the use of this tool and is instead hindering any and all residential development in the F&A zoning district.

As noted in the Agriculture & Forest Resources section of this Plan, Orono's ordinances require additional restrictions on farming uses, including increased setback requirements and the need for off-street parking for even seasonal uses. While there are no longer many large-scale farming operations in Orono, increased flexibility would go a long way towards protecting the rural function of land and encouraging farming, especially in an age where farming alone is no longer an economically viable means of keeping farmers going. Maine Farmland Trust releases information about how communities across Maine can work to be more "farm-friendly." Specifically, Maine Farmland Trust recommends that municipalities recognize that farm enterprises are often hybrids of several different land uses (agriculture, retail or restaurants, even event spaces), and regulations should allow farm businesses increased flexibility to adapt to rapidly changing markets.

Critical Rural Areas

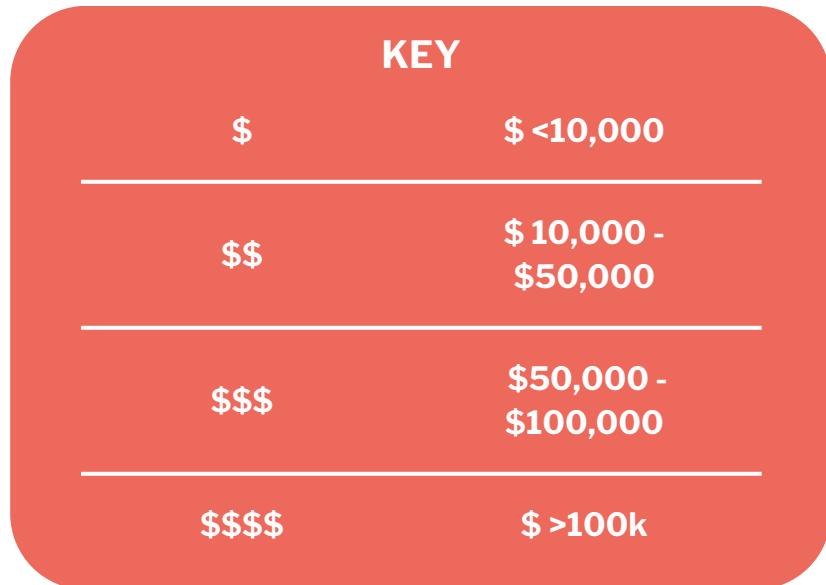
This area includes the least developed parts of Orono, including large blocks of forested areas, significant areas of natural habitats, and sensitive water bodies (e.g. wetlands, streams, and brooks). Compatible non-residential uses that increase the economic viability of land conservation and provide a financial alternative to residential subdivisions (such as tree growth or farmland tax use exemptions) should be encouraged, but for the most part, these Critical Rural Areas would be best served through either appropriate buffers from potential development or through working with non-profit partners, such as the Orono Land Trust, to be conserved permanently.



Taking Action

The following pages contain the Implementation Matrix, or the summary of all of the recommendations of this Plan. Within the Implementation Matrix, readers will find various Goals, Objectives, and Actions organized by topic area. Goals are broad, aspirational statements that help make the community vision a reality. Objectives include a bit more specific direction for how the goals will be carried out. Actions are the specific checklist items that, if implemented, will allow the Town to fulfill its identified goals.

This document recommends some priority timelines, responsible parties for carrying out the recommended action, and initial budget estimates for ease of use in planning for the future.



Within the Appendix, a draft Capital Improvement Program is included, which provides more in-depth estimates of Plan recommendations as well as suggested fiscal years for the Town to begin setting aside funds in reserve accounts to pay for the recommended item. This is a non-binding document intended to be a helpful aid to the Town Council and Town Departments during the annual budget cycle.

Topic	Goal	ID	Objective	Action	Priority	Who	Suggested Start Date	Estimated Time Commitment	Cost	Potential Partners & Resources
Population & Demographics	Orono is a model for friendly neighborhoods for all.									
Population & Demographics			1.1	Build bridges between stakeholder groups, more fully integrate University students into community life.						
Population & Demographics				a. Adequately fund the expansion of downtown events (within current staffing constraints) that appeal to students, such as festivals, movies, and concerts.	MEDIUM	Town Council	Year 4	Volunteer time	\$ annually	Volunteers, UMaine Student Senate, other University representatives or student groups
Population & Demographics			1.2	Foster a respectful, inclusive, and supportive community environment by promoting positive neighborly behaviors, encouraging open communication, and establishing shared expectations that enhance the well-being, safety, and connectedness of all residents.						
Population & Demographics				a. Educate all community members on what it means to be a good neighbor.	HIGH	Town Council	YEAR 1	24 months	Staff-time	UMaine Student Senate, other University representatives or student groups
Population & Demographics				b. Adopt ordinances that reflect the community's ideas for what being a "good neighbor" entails.	HIGH	Town Council	YEAR 1	24 months	Staff-time	Administration, Police Department, Code Enforcement Department
Population & Demographics				c. Continue collaborative work with Penobscot Nation in recognizing and integrating their history into Orono through, potentially: interpretive signage, trails, formal resolutions and communication, etc.	HIGH	Town Council	YEAR 1	Ongoing	Staff-time	Administration, Penobscot Nation
Population & Demographics	1.3 Improve Orono as a university town that appeals to students both for the time they are attending UMaine and for their whole lives after graduation.									
Population & Demographics				a. Utilize the UMaine Student Senate liaison for ideas and feedback about how to educate students about expectations.	HIGH	Town Council	YEAR 1	24 months	Volunteer time	UMaine Student Senate
Population & Demographics				See also Action #1.1.a						
Population & Demographics	Orono is a diverse, multigenerational community that enables older adults to age in place, while expanding accessible housing and community amenities that attract and retain younger families and professionals.									
Population & Demographics				See related Objectives in Housing chapter						

Topic	Goal	ID	Objective	Action	Priority	Who	Suggested Start Date	Estimated Time Commitment	Cost	Potential Partners & Resources				
Historic & Archeological Resources	Historic and archaeological resources in the community are preserved.													
Historic & Archeological Resources				2.1 Protect identified significant historic and archaeological resources in the community, through regulation when necessary.										
Historic & Archeological Resources				a. Amend the Town's Land Use Ordinance to require that applicants for Planning Board projects are explicitly required to protect known historic and archeological sites and areas sensitive to prehistoric archaeology through modification of the proposed site design, construction timing, or extent of excavation.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department				
Historic & Archeological Resources				b. Amend the Town's Land Use Ordinance to require the Planning Board (or other designated review authority) to incorporate maps and information provided by the Maine Historic Preservation Commission into their review process.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department				
Historic & Archeological Resources				c. Revise the Main Street Office Overlay District to: (1) expand in scope to cover all properties within the Main Street National Register Historic District; and (2) be explicit requirements for the protection of these properties instead of optional guidance only in certain instances.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department				
Historic & Archeological Resources				2.2 Update the existing inventory and investigate potentially overlooked historic and archeological resources in the community, inclusive of the Wabanaki people.										
Historic & Archeological Resources				a. Earmark funds to conduct an archaeological survey of Orono's prehistoric and historic archaeological resources, beginning with the banks of the Penobscot River to the north (per MHPC recommendation).	MEDIUM	Town Council	Begin earmarking funds Year 4	8 months	\$	Penobscot Nation, Orono Historical Society, Planning Department / Grant-writer				
Historic & Archeological Resources	Connections with and awareness of local history are promoted as economic assets.													
Historic & Archeological Resources				2.3 Collaborate with local institutions, clubs, and enthusiasts to develop educational and entertainment programs (e.g. walking tours or similar) integrating local history into Orono, inclusive of the Wabanaki people.										

Topic	Goal	ID	Objective	Action	Priority	Who	Suggested Start Date	Estimated Time Commitment	Cost	Potential Partners & Resources
Housing				Orono is home to a growing population of year-round residents.						
Housing		3.1		Create opportunities for home ownership within the designated Growth Area , with emphasis on families with school-aged children, in support of the community and region's economic development.						
Housing				a. Create a Housing Trust Fund that will set aside funds to be granted to priority housing projects, with priorities and funding levels established annually by the Town Council or a designated committee.	HIGH	Town Council	Year 2	6 months	Suggested funding sources: private donations; awards/grants; Affordable Housing TIF district(s); percentage of funds from other TIF districts; CDBG; Inclusionary Zoning Fee-In-Lieu	Administration, Planning Department, Economic Development Department
Housing				b. Promote mixed-use redevelopment of aging retail sites within Growth Areas as their market viability declines.	MEDIUM	Planning Board	Ongoing		Staff-time	Planning Department, Administration, OEDC, Economic Development Department
Housing				c. Designate a location(s) in Growth Areas where mobile home parks are allowed pursuant to 30-A M.R.S.A. §4358(3)(M) and where manufactured housing is allowed pursuant to 30-A M.R.S.A. §4358(2).	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department
Housing				See also Action #34.a - #34.g						

Topic	Goal	ID	Objective	Action	Priority	Who	Suggested Start Date	Estimated Time Commitment	Cost	Potential Partners & Resources
Housing	Orono encourages the development of affordable, decent housing opportunities that accomodate a diverse range of households and lifestyles.									
Housing	3.2 Encourage and support the efforts of regional housing coalitions in addressing affordable and workforce housing needs.									
Housing				a. Participate in and support the efforts of any regional affordable housing coalitions.	HIGH	Administration, Town Council	Ongoing		Staff-time	Planning Department, Economic Development Department
Housing	3.3 Aim for at least 10% of all new residential development in the next decade to be subsidized/regulated senior affordable (inclusive of those with disabilities) or workforce housing.									
Housing				a. Amend the Town's Land Use Ordinance as necessary to increase density (or provide incentives such as density bonuses beyond what was required by LD2003), to encourage the development of senior affordable (limited to those 55+) and workforce housing in designated Growth Areas.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department
Housing				b. Proactively reach out to known regional affordable housing providers to communicate available incentives for affordable housing development.	HIGH	Economic Development Department	Ongoing			Administration, Planning Department
Housing				c. Educate the public on available density bonuses available through LD2003.	HIGH	Economic Development Department	Ongoing			Administration, Planning Department
Housing	3.4 Ensure that land use controls stimulate the production of attainable housing (starter homes, "missing middle" housing, smaller one-bedroom and studio housing units inclusive of older adults and young professionals, and family homes in service of ensuring school sustainability).									
Housing				a. Reduce the burden of residential development in designated Growth Areas by removing regulatory barriers and permitting through administrative (CEO) review the residential developments that the community needs - e.g. senior housing (limited to those 55+), and "starter homes" such as townhomes or larger apartments to accommodate families just starting out.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department
Housing				b. Decrease minimum lot size per dwelling unit in areas with existing public water and sewer to allow for smaller lots conducive to "starter" home construction, consistent with LD1829 / PL Chapter 385 (2025).	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department
Housing				c. Amend the Town's Land Use Ordinance to allow for "back-lot" development within the Growth Area.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department

Topic	Goal	ID	Objective	Action	Priority	Who	Suggested Start Date	Estimated Time Commitment	Cost	Potential Partners & Resources
Housing				d. Amend the Town's Land Use Ordinance to expressly allow for the kinds of housing that the community wishes to see on the prioritized sites within the Future Land Use Plan (following a concerted planning effort), thereby reducing "soft costs" of development.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department, Planning Board, OEDC, Economic Development Department
Housing				e. Amend ordinances to allow the addition of ADUs consistent with LD1829 / PL Chapter 385 (2025).	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department
Housing				f. Encourage the construction of ADUs within or on the same lot as existing residences by providing a grant program that encourages the construction of ADUs (see Kittery as an example).	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department
Housing				g. Encourage the renovation/refurbishment of existing structures as a way to meet our housing goals, through financial incentives when appropriate.	HIGH	Town Council		Ongoing	Staff-time	Planning Board, Planning Department, Economic Development Department, Administration, OEDC
Housing				h. Sell Town-owned land in order to further housing production consistent with Orono's needs and desires, as articulated throughout this plan.	HIGH	Town Council		Ongoing	Staff-time	Planning Board, Planning Department, Economic Development Department, Administration, OEDC
Housing	Housing in the community is safe and secure.									
Housing				3.5 Establish minimum thresholds for regularly reviewing compliance with safety standards for Orono's housing units.						
Housing				a. Adequately fund, based on level of service desired, the Code Enforcement Department and Life Safety position(s) in the Fire Department to ensure that Orono's housing units are regularly reviewed for compliance with safety standards.	HIGH	Town Council / Administration		Ongoing	\$\$ - \$\$\$ annually	Code Enforcement, Fire Department
Housing				b. Promote available state and federal financial assistance programs for homeowners of older homes to complete maintenance/repairs.	HIGH	Assessing		Ongoing	Staff-time	Town Council, Administration

Topic	Goal	ID	Objective	Action	Priority	Who	Suggested Start Date	Estimated Time Commitment	Cost	Potential Partners & Resources		
Economy	Orono's economic climate increases job opportunities and overall economic well-being.											
Economy		4.1	Grow our year-round population and workforce in order to allow for a diversity of businesses that meet the daily needs of the community.									
Economy				a. Connect owners of underutilized properties with parties interested in creating businesses or housing that aligns with the Town's identified goals.	MEDIUM	ODEC, Economic Development Department	Ongoing		Staff-time	Planning Department, Administration		
Economy				See Action #3.4.a - #3.4.g								
Economy		4.2	Enhance "feet on the street" (more people living and working) in and around Orono's downtown.									
Economy				a. Amend the standards of the existing VC District (and surrounding districts as necessary) to allow by right offices/salon/barber shops or flexible uses that meet everyday needs within about a mile of downtown (that people can walk or bike to).	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department		
Economy				b. Look to Mill Street, Pine Street, and the neighborhoods to the north of the existing downtown as opportunities for new residential growth (in easy walking distance).	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department		
Economy				c. Work with owners of vacant properties in the downtown area (e.g. former Margaritas, Park's Hardware, Pharmacy buildings) to fill vacancies with businesses that would serve day-to-day needs of residents.	HIGH	Economic Development Department, Planning Board	Year 1	12 months	Staff-time	Planning Department		
Economy				See Action #3.4.a - 3.4.g								
Economy				See Action #7.1.a								
Economy		4.3	Create an environment that supports identified growth sectors and innovation coming out of the University of Maine.									
Economy				a. Amend the standards of the existing C-2 District to be more consistent with the purpose of a mixed-use, walkable district adjacent to the University of Maine.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department		
				b. Allow by administrative (CEO) review the innovative uses that the community desires and that Orono has a market for (e.g. outpatient specialty services and other healthcare-related offices/businesses, cottage industry or light industrial uses) in areas zoned for economic development.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department		

Topic	Goal	ID	Objective	Action	Priority	Who	Suggested Start Date	Estimated Time Commitment	Cost	Potential Partners & Resources
Economy		4.4		Coordinate with regional partners as necessary to support economic development.						
Economy				a. Participate in regional economic development efforts.	HIGH	Administration	Ongoing	Staff-time		Town Council, OEDC, Economic Development Department
Economy		4.5		Coordinate with neighboring towns to support small and locally-owned businesses.						
Economy				a. Continue to build relationships with appropriate staff in neighboring communities to discuss and coordinate economic development initiatives.	HIGH	Economic Development Department	Ongoing	Staff-time		Administration
Economy		4.6		Strengthen and/or support the expansion of existing infrastructure and systems that support quality of life for a growing regional workforce, including housing, childcare, education, transportation, and broadband.						
Economy				a. Assess common barriers to employment (childcare needs, transportation needs, education/skill gaps, etc.).	MEDIUM	OEDC	Year 4	12 months	Staff-time / project dependent	Administration, Economic Development Department, major employers
Economy				b. Develop initiatives to mitigate or overcome identified barriers.	MEDIUM	OEDC	Year 5	Ongoing	Staff-time / project dependent	Administration, Economic Development Department, major employers
Economy				c. Extend, or assist in extending, utilities to locations with the best opportunities to support expansion of business and jobs in Orono and to build-out districts zoned for economic development.	MEDIUM	Town Council	Year 5	Ongoing	Staff-time / project dependent	Administration, Economic Development Department
Economy		4.7		Use our natural resources and University expertise to expand the outdoor recreation economy.						
Economy				a. Partner with local businesses to market Orono as a recreation/quality of life destination.	MEDIUM	Town Council	Year 5	Ongoing	Staff-time / project dependent	Administration, Economic Development Department
Economy		4.8		Encourage tax base growth in order to maintain the Town's quality of life benefits: historic, cultural, and conservation assets.						
Economy				a. Create additional economic development incentives (e.g. credit enhancement agreements or similar) to attract targeted business investment.	HIGH	Town Council	Ongoing	Staff-time		Administration, Economic Development Department
Economy				Arts and cultural amenities in the community are robust.						
Economy		4.9		Develop and support public arts and cultural programs to increase Orono's vibrancy and community ties.						
Economy				a. Create opportunities for volunteer-led, inexpensive, short-term community art projects or demonstrations that demonstrate the impacts of public art in a visible way.	MEDIUM	Town Council	Ongoing	Volunteer time \$ (private donations or Town fund may be necessary)		Orono Public Library, Parks & Recreation Department
Economy				See also Action #1.1.a						

Topic	Goal	ID	Objective	Action	Priority	Who	Suggested Start Date	Estimated Time Commitment	Cost	Potential Partners & Resources		
Agriculture & Forest Resources	Orono's agricultural and forest resources are protected for productive use.											
Agriculture & Forest Resources			5.3 Conserve prime farmland and the function of rural lands, especially areas capable of supporting commercial agriculture.									
Agriculture & Forest Resources			a. Amend the Town's Land Use Ordinance to expressly permit land use activities that support productive agriculture and forestry operations, (e.g. roadside stands, greenhouses, firewood operations, feed milling, and pick-your-own operations) as expressly allowed operations within the designated Rural Area (not subject to Planning Board review).	MEDIUM	Planning Board	Year 1		18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department		
Agriculture & Forest Resources			b. Clarify in the Town's Land Use Ordinance the difference between timber harvesting and forestry management, potentially lessening regulations on forestry management to maintain the health of our forests.	MEDIUM	Planning Board	Year 1		18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department		
Agriculture & Forest Resources			c. Update the inventory of areas of scenic importance throughout the community to determine areas to be prioritized for protection through local ordinances.	MEDIUM	Ad Hoc Committee (to be created)	Year 3		18 months	\$\$	Planning Department, Parks & Recreation Department, Orono Land Trust		
Agriculture & Forest Resources			d. Amend the Town's official zoning map to protect areas of scenic importance from development.	MEDIUM	Planning Board	Year 6		8 months	Staff-time	Planning Department		
Agriculture & Forest Resources			e. Amend the Town's Land Use Ordinance to require that development occurring in the Critical Rural Areas (as designated in the Future Land Use Section of this Plan) maintain areas with prime farmland soils (as mapped) as undeveloped open space.	HIGH	Planning Board	Year 1		18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department		
Agriculture & Forest Resources			f. As required by 12 M.R.S.A. §8869, consult with the Maine Forest Service district forester when developing any land use regulations pertaining to forest management practices.	as needed	Planning Board		Ongoing		Staff-time	Planning Department		
Agriculture & Forest Resources			g. Consult with the Penobscot County Soil and Water Conservation District staff when developing any land use regulations pertaining to agricultural management practices.	as needed	Planning Board		Ongoing		Staff-time	Planning Department		
Agriculture & Forest Resources			h. Limit non-residential development in Critical Rural Areas (as designated in the Future Land Use section of this Plan) to natural resource-based businesses and services (such as those outlined in 6.3.b above), nature tourism/outdoor recreation businesses, farmer's markets, and home occupations.	HIGH	Planning Board	Year 1		18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department		

Topic	Goal	ID	Objective	Action	Priority	Who	Suggested Start Date	Estimated Time Commitment	Cost	Potential Partners & Resources
Agriculture & Forest Resources				5.4 Support the economic viability of local agriculture and forestry (including urban farming opportunities) through education, outreach, and economic development initiatives in an effort to strengthen the local economy.						
Agriculture & Forest Resources				a. Include agriculture and commercial forestry operations in local or regional economic development plans.	HIGH	Economic Development Department	Ongoing		Staff-time	Administration, EMDC
Agriculture & Forest Resources				b. Educate owners of productive farm and forest land in available incentives (such as the current use taxation programs).	HIGH	Assessing	Year 2		Staff-time	
Agriculture & Forest Resources				c. Remove barriers to small-scale agriculture by allowing this as an expressly permitted use in all zoning districts.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department
Agriculture & Forest Resources				d. Identify municipally owned properties that could be converted into community garden spaces.	HIGH	Administration / Parks & Recreation Department	Year 1	6 months	Staff-time	Planning Department
Agriculture & Forest Resources				e. Suggest that development projects proposing housing incorporate as part of the site design community garden spaces for use by their residents.	HIGH	Planning Board	Year 1	N/A	Staff-time	Planning Department
Natural & Water Resources	The community's critical natural resources (including but not limited to: wetlands, wildlife and fisheries habitat, shorelands, scenic viewsheds, and unique natural areas) are well protected and healthy, even in the face of development pressure and climate change.									
Natural & Water Resources				6.1 Coordinate with neighboring communities and regional and state agencies to protect shared critical natural resources.						
Natural & Water Resources				a. Initiate and/or participate in interlocal and/or regional planning, management, and/or regulatory efforts around shared critical and important natural resources.	HIGH	Administration	Ongoing		Staff Time	Planning Department
Natural & Water Resources				6.2 Protect and restore local wildlife habitats.						
Natural & Water Resources				a. Amend the Land Use Ordinance to require applicants to look for and identify critical natural resources that may be on-site and to take appropriate measures to protect those resources, including but not limited to, modification of the proposed site design, construction timing, and/or extent of soil disturbance.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department Orono Land Trust
Natural & Water Resources				b. Amend the Land Use Ordinance to require the Planning Board (or other designated review authority) to consider as part of the review process pertinent habitat maps and information regarding critical natural resources.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department
Natural & Water Resources				c. Ensure compliance with the Maine DEP Chapter 1000 standards for Shoreland Zoning Ordinances and resolve inconsistencies and ambiguities between the Town's Land Use Ordinance and Shoreland Zoning standards.	HIGH	Planning Board	Ongoing		\$\$ (as part of a suite of Ordinance updates)	Planning Department Maine DEP

Topic	Goal	ID	Objective	Action	Priority	Who	Suggested Start Date	Estimated Time Commitment	Cost	Potential Partners & Resources
Natural & Water Resources				d. Distribute information to those living in or near critical or important natural resources about current use tax programs and applicable local, state, or federal regulations.	HIGH	Assessing	Year 2	6 months	Staff-time	Orono Land Trust
Natural & Water Resources				e. Provide educational information to property owners near critical or important natural resources to facilitate partnerships with the Town and local land trusts to permanently protect undeveloped areas, such as through conservation easements.	HIGH	Orono Land Trust	Year 2	12 months	Volunteer time	Parks & Recreation Department
Natural & Water Resources				f. Update the Town's lighting standards to mitigate known environmental impacts and give the Code Enforcement Officer the tools to address complaints and address environmental issues within Rural Areas.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department
Natural & Water Resources				g. Continue to promote the flexible standards allowing for development within the Town's Vernal Pools Overlay District in accordance with the "Orono Vernal Pool Special Area Management Plan" (SAMP).	HIGH	OEDC, Economic Development Department, Planning Department, Planning Board	Ongoing			
Natural & Water Resources				See also Action #5.3.f						
Natural & Water Resources	The quality of water resources (including rivers, streams, aquifers, lakes and ponds) is protected.									
Natural & Water Resources				7.1 Protect current and potential drinking water sources.						
Natural & Water Resources				a. Work with private landowners on acquiring land surrounding their wellheads, or adopt strict wellhead protection standards in these areas.	MEDIUM	Administration Planning Board	Year 4	8 months	Staff-time	Planning Department Maine DEP
Natural & Water Resources				7.2 Minimize pollution discharges through the upgrade of existing public sanitary and storm facilities.						
Natural & Water Resources				a. Provide staff or financial support to assist WPCF in applying for grants which will improve water quality and/or upgrade existing sewer systems.	HIGH	Administration	Ongoing	\$\$ (state and federal funds available)		Planning Department or Grantwriter

Topic	Goal	ID	Objective	Action	Priority	Who	Suggested Start Date	Estimated Time Commitment	Cost	Potential Partners & Resources
Natural & Water Resources			7.3	Treat our water bodies as resources, the protection of which benefits the local and regional economies as well as the environment.						
Natural & Water Resources				a. Amend the Town's Land Use Ordinance as applicable to incorporate stormwater runoff performance standards consistent with Maine Stormwater Management Law and Maine Stormwater regulations (Title 38 M.R.S.A. §420-D and 06-096 CMR 500 and 502) and Maine Department of Environmental Protection's allocations for allowable levels of phosphorus in lake/pond watersheds.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department Public Works Department
Natural & Water Resources			7.4	Protect water resources while accommodating development within Growth Areas.						
Natural & Water Resources				a. Amend the Town's Land Use Ordinance to incorporate low impact development standards, consistent with state guidelines.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department Public Works Department
Natural & Water Resources				b. Adopt water quality protection practices and standards for the construction <i>and maintenance</i> of public and private roads and properties. Require the implementation of these practices by contractors, property owners, and Town employees.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department Public Works Department
Natural & Water Resources				c. Utilize climate change modeling to update floodplain zoning to take into account future climate risk.	MEDIUM	Planning Board	Year 4	18 months	Staff-time	Planning Department, UMaine, Public Works Department
Natural & Water Resources				d. Assess local dams. Where feasible, consider removal as a strategy for ecological restoration.	MEDIUM	Administration, Public Works Department	Year 4	18 months	Staff-time	Planning Department, UMaine

Topic	Goal	ID	Objective	Action	Priority	Who	Suggested Start Date	Estimated Time Commitment	Cost	Potential Partners & Resources
Natural & Water Resources		7.5		Collaborate with neighboring communities and regional/local advocacy groups to protect water resources.						
Natural & Water Resources				a. Participate in local and regional efforts to monitor, protect and, where warranted, improve water quality.	HIGH	Administration, Public Works Department	Ongoing		Staff-time	Pushaw Lake Association
Natural & Water Resources				b. Provide contact information at the municipal office for water quality best management practices from resources such as the Natural Resource Conservation Service, University of Maine Cooperative Extension, Soil and Water Conservation District, Maine Forest Service, and/or Small Woodlot Association of Maine in order to encourage landowners to protect water quality.	MEDIUM	Public Works Department	Ongoing		Staff-time	
Natural & Water Resources				c. Collaborate with the Maine DEP and local conservation organizations to understand the impact projected increases in annual precipitation will have on stormwater runoff to help minimize future contamination of waterways and allow for the right-sizing of culverts.	HIGH	Public Works Department	Ongoing		Staff-time	Maine DEP, Orono Land Trust
Natural & Water Resources				d. Provide signage and/or educational materials at appropriate locations (e.g. boat landings) regarding aquatic invasive species and how to recognize them/mitigate their impact.	MEDIUM	Town Council, Parks & Recreation Department	Year 4	12 months		Donation-based
Recreation	Outdoor recreation opportunities, including at least one public access point to all rivers and lakes, are promoted and protected.									
Recreation		8.2		Preserve open space for recreational use as appropriate.						
Recreation				a. Create a Recreation & Open Space Plan that identifies: (1) Priority sites that may be appropriate for recreation/conservation uses or trail network connectivity (through a clearly defined evaluation process); (2) Strategies to preserve land, including funding sources as applicable; and (3) How the land will be managed in the future (e.g. how it will be used or developed for either conservation or recreation purposes).	HIGH	Trails Committee or a to-be-created Ad Hoc Committee	Year 3	2 years	\$\$	Planning Department Town Council Administration Orono Land Trust
Recreation				b. Connect private landowners and conservation organizations in order to create permanent protections (such as easements) for open space and recreation areas. Continue to rely on the Orono Land Trust as the easement holder.	MEDIUM	Parks & Recreation Department	Ongoing	Ongoing	Staff and volunteer time	Orono Land Trust Trails Committee Town Council Town Manager

Topic	Goal	ID	Objective	Action	Priority	Who	Suggested Start Date	Estimated Time Commitment	Cost	Potential Partners & Resources
Recreation		8.3	Maintain and improve existing recreational facilities as necessary to meet current and future needs.							
Recreation				a. Evaluate current recreation facilities to undertake a global assessment of recreation needs to: (1) determine need for facility upgrades; (2) survey the public to determine needs for improvements to existing programs; and (3) survey the public to determine interest in new programs (potentially as part of Strategy 8.2.a, above).	MEDIUM	Parks & Recreation Department	Year 4	12 months	Staff and volunteer time	Trails Committee Orono Public Library
Recreation				b. Work with public and private partners to extend and maintain a network of trails for both motorized and non-motorized uses. Connect with regional trail systems where possible. See also Strategy 8.2.a.	HIGH	Trails Committee, Parks & Recreation Department	Year 3	2 years	\$\$	Planning Department Town Council Administration Orono Land Trust
Recreation				c. Ensure that, at minimum, seasonal restrooms are available at all Town-owned recreation facilities. Ensure that bathrooms are cleaned daily.	HIGH	Parks & Recreation Department	Year 1	First budget cycle after Comp Plan adoption	\$\$	Town Council, Administration
Recreation				d. Continue to collaborate with the University's outdoor recreation education program to meet or expand current recreation needs.	MEDIUM	Parks & Recreation Department	Ongoing	Staff and volunteer time		Town Council Town Manager University of Maine
Recreation		8.4	Strengthen Orono's image as a scenic river town by enhancing connection to the river.							
Recreation				a. Formalize trails by obtaining easements from riverfront property owners where existing trails cross their property but where no formal rights for public access exist.	HIGH	Trails Committee, Parks & Recreation Department	Year 3	2 years	\$\$	Planning Department Town Council Administration Orono Land Trust
Recreation				b. Ensure that it is safe and easy to walk to and between locations with riverfront access. Provide adequate lighting and wayfinding to and along riverfront trails.	HIGH	Public Works Department, Economic Development Department	Year 5	2 years	\$\$	Town Council Administration Orono Land Trust
Recreation				c. Integrate quality public access to the riverfront into future Ayer's Island development.	as needed	Planning Board				Planning Department Public Works Department
Recreation				d. Revise Shoreland Zoning Ordinance to allow trail development in all shoreland areas (except RP) through administrative (CEO) review only.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department
Recreation				e. Partner with the University, Orono's business community, and other organizations to provide regular programming that activates the riverfront.	MEDIUM	Volunteers	Ongoing			Parks & Recreation Department, Economic Development Department

Topic	Goal	ID	Objective	Action	Priority	Who	Suggested Start Date	Estimated Time Commitment	Cost	Potential Partners & Resources
Recreation		8.5		Seek to achieve or continue to maintain at least one major point of public access to all major water bodies for boating, fishing, and swimming, and work with nearby property owners to address concerns.						
Recreation				a. Create a formalized water access plan to water bodies where access is not currently available (potentially as part of Strategy 8.2.a, above).	MEDIUM	Parks & Recreation Department	Year 3	18 months	\$\$ (as part of Open Space & Recreation Plan)	Town Council Orono Land Trust Trails Committee
Recreation				b. Provide educational materials to private property owners about the benefits of available state programs and/or conservation easements in order to encourage permanent public access to our woods and waters.	MEDIUM	Orono Land Trust	Year 6	6 months	Staff/volunteer time	Assessing
Recreation				c. Provide educational materials regarding the benefits and protections for landowners allowing public recreational access on their property. At a minimum this will include information on Maine's landowner liability law regarding recreational or harvesting use, Title 14, M.R.S.A. §159-A, and MDIFW's Outdoor Partners Program.	MEDIUM	Orono Land Trust	Year 6	6 months	Staff/volunteer time	Assessing
Transportation	Land use and development patterns complement transportation networks and promote mobility.									
Transportation		9.1	Prioritize community and regional needs associated with safe, efficient, and optimal use of transportation systems.							
Transportation				a. Review and revise the Land Use Ordinance as appropriate to address or avoid conflicts with: Policy objectives of the Sensible Transportation Policy Act (23 M.R.S.A. §73); state access management regulations under 23 M.R.S.A. §704; and state traffic permitting regulations for large developments under 23 M.R.S.A. §704-A.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department, Maine DOT
Transportation				b. Amend the Town's subdivision standards to foster transportation-efficient growth patterns and provide for future street and transit connections.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department Public Works Department
Transportation				c. Amend the Town's Land Use Ordinance to encourage alternatives to private automobile transportation, such as reducing parking requirements consistent with LD1829 / PL Chapter 374 and requiring sidewalks along the frontage of new development located within the Growth Area as defined by this Plan.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department
Transportation				d. Consider the adoption of transportation impact fees for certain kinds/sizes of projects for collect funds to reinvestment in pedestrian and bicycle facilities throughout the community.	HIGH	Town Council	Year 1	9 months	Staff time	Planning Department

Topic	Goal	ID	Objective	Action	Priority	Who	Suggested Start Date	Estimated Time Commitment	Cost	Potential Partners & Resources
Transportation		9.2		Ensure that land use in identified growth areas strategically balances the need for adequate parking with the development of new housing.						
Transportation				a. Coordinate with private landowners to allow for overnight parking in municipal lots that are currently sitting empty at night (facilitate shared parking agreements), thereby saving costs associated with the development of housing in the downtown area.	HIGH	Administration or Economic Development Department	Year 1	8 months	Staff-time	Public Works Department, Planning Department
Transportation				Transportation investments and policies aim to reduce vehicular traffic and enhance quality of life.						
Transportation		9.3		Increase sustainable mobility and decrease vehicle miles travelled (VMT) by investing in public transit and active transportation infrastructure improvements.						
Transportation				a. Conduct a walking audit of existing sidewalk locations and all streets and intersections within the Growth Area identified as part of this Plan, to better understand where pedestrian improvements may be necessary. Relates to Action #9.5.a, below.	HIGH	Administration or Planning Department	Year 2	8 months	\$ (utilizing summer intern)	Public Works Department Trails Committee
Transportation				b. Identify priority public rights-of-way and/or "paper streets" in the community that could be upgraded to expand trail interconnectivity, especially in areas that would allow for off-road trails. See also Action #8.2.a.	HIGH	Trails Committee	Year 3	6 months	\$ (utilizing summer intern)	Administration Maine DOT BACTS
Transportation				c. Adequately fund reserve accounts for the construction of transportation improvements in accordance with the recommendations of the Capital Investment Plan.	HIGH	Town Council	Ongoing		Project-dependent	Administration Maine DOT Public works Department
Transportation				Transportation infrastructure efficiently accommodates the Town's growth and economic development.						
Transportation		9.4		Maximize the functionality and efficiency of public (state, state-aid, local) roads.						
Transportation				a. Participate in regional and state transportation efforts, including continuing to advocate for funding for priority MDOT roadway improvement projects and active transportation improvements.	HIGH	Town Council or Town Manager	Ongoing		Staff time	Administration BACTS
Transportation				b. Create a prioritization plan to connect otherwise developable back lots to the existing street network, through incentives to private developers where necessary.	HIGH	Public Works Department and a to-be-created Ad Hoc Committee	Year 3	2 years	\$\$	Planning Department Town Council Administration
Transportation		9.5		Promote fiscal prudence by projecting potential costs of capital investments, maintenance, and operations of the local transportation network beyond one fiscal year for policy-making and planning purposes.						
Transportation				a. Develop a prioritized improvement, maintenance, and repair plan for the community's transportation network (beginning with the designated Growth Area).	HIGH	Public Works Department and a to-be-created Ad Hoc Committee	Year 3	2 years	\$\$	Planning Department Town Council Administration Orono Land Trust
Transportation				b. Adequately fund reserves to allow for the implementation of the prioritized improvement, maintenance, and repair plan referenced above.	HIGH	Town Council	Ongoing	\$\$\$\$		Public Works Department Administration

Topic	Goal	ID	Objective	Action	Priority	Who	Suggested Start Date	Estimated Time Commitment	Cost	Potential Partners & Resources
Transportation	Transportation systems meet local and regional needs safely and efficiently.									
Transportation		9.6	Balance the diverse transportation needs of all users regardless of mode (pedestrians, cyclists, motor vehicles) or ability, by providing a safe and efficient transportation system.							
Transportation				a. Implement the Route 2 Corridor VPI Plan as developed by Sebago Technics in 2024.	HIGH	Town Council	Begin earmarking funds Year 1	Ongoing	\$\$\$	Public Works Department Administration
Transportation				b. Amend the Town's Road Ordinance (cross-referencing the Land Use Ordinance) to include sidewalk design requirements including minimum width, curb types, and street tree requirements.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department Public Works Department Contract Arborist or Landscape Architect
Transportation				c. Adopt <i>Complete Streets and Vision Zero</i> policies.	HIGH	Town Council	Ongoing		Staff-time	Administration
Transportation				d. Address dangerous hills where views of pedestrians or cyclists from vehicles is limited (e.g. Taylor Road) and others.	HIGH	Town Council, Public Works Department	Year 1	12 months	Staff-time	Administration
Transportation				e. Given projected increase in train activity along the railways in Orono, explore the feasibility of investing in infrastructure sufficient to designate Orono's train crossings as "quiet zones" through the Federal Railroad Administration.	MEDIUM	Town Council, Public Works Department	Year 4	2 years	\$\$\$ (for upgrading the crossings)	Administration, BACTS
Public Facilities & Services	Public facilities and services efficiently accommodate anticipated growth and economic development and are resilient into the future.									
Public Facilities & Services		10.1	Identify public service needs and develop efficient, actionable strategies to meet them.							
Public Facilities & Services				a. Continue to explore options for regional delivery of local services.	HIGH	Town Council	Ongoing		Staff-time	Administration
Public Facilities & Services				b. Create a long-term plan to address identified deferred maintenance issues associated with the current Public Safety (Fire Department) building.	HIGH	Town Council	Ongoing		\$\$\$	Administration
Public Facilities & Services				c. Create a process/relationship for City of Old Town and Town of Orono Councils to collaborate on an annual or semi-annual basis (regular meetings together) on shared needs and issues.	MEDIUM	Town Council, Administration	Year 5	Ongoing	Staff-time	City of Old Town
Public Facilities & Services				d. Consider entering into power purchase agreements/creating Town-owned solar to power municipal buildings.	MEDIUM	Town Council, Administration	Year 4	9 months	\$\$	Economic Development Department, BACTS' Penobscot Climate Action Committee
Public Facilities & Services				e. Periodically (at least every five years) evaluate implementation of this Comprehensive Plan.	HIGH	Town Council	Ongoing		Staff-time	Administration, Planning Department

Topic	Goal	ID	Objective	Action	Priority	Who	Suggested Start Date	Estimated Time Commitment	Cost	Potential Partners & Resources
Public Facilities & Services		10.2	Provide public facilities and services that promote and support development in identified Growth Areas.							
Public Facilities & Services				a. Coordinate planned sewer and water service extensions to ensure that utilities are available throughout the Growth Area designated in this Plan. Adequately fund sewer reserve accounts to allow for these planned expansions to occur.	HIGH	Administration, WPCF	Ongoing	Staff-time	Planning Department	
Public Facilities & Services				b. Locate at least 75% of new municipal growth-related capital investments in designated Growth Areas identified in the Future Land Use Plan.	HIGH	Town Council	Ongoing		Administration	
Public Facilities & Services				c. Utilize the Capital Improvement Plan estimates included within this Plan as a guide to maintain and upgrade public services to accomodate the community's anticipated changes in population and demographics. Prioritize and adequately fund maintenance.	HIGH	Town Council	Ongoing		Administration	
Public Facilities & Services				d. Explore alternative funding sources to address deferred sewer maintenance (e.g. the use of Tax Increment Financing (TIF) funds).	HIGH	Administration	Ongoing	Staff-time	Economic Development Department	
Public Facilities & Services				e. Provide the Code Enforcement Officer with the tools, training, and support necessary to enforce land use regulations, and ensure that the Code Enforcement Officer is certified in accordance with 30-A M.R.S.A. §4451.	HIGH	Town Council	Ongoing	Dependent	Administration	
Public Facilities & Services		10.3	Finance existing and future facilities and services in a cost effective manner.							
Public Facilities & Services				a. Continue to seek alternative funding sources such as grants whenever possible.	HIGH	Town Council	Ongoing	\$\$ (hired Grant Writer cost)	Administration, Hired Grant Writer	
Public Facilities & Services				b. Continue to work with neighboring communities to plan for and finance shared of adjacent capital investments to increase cost savings and efficiencies.	HIGH	Town Council	Ongoing		Administration	
Public Facilities & Services		10.4	Continue to explore grants available to assist in the funding of capital and maintenance investments within the community.							
Public Facilities & Services		10.5	Reduce Orono's tax burden by staying within LD 1 spending limitations.							

Topic	Goal	ID	Objective	Action	Priority	Who	Suggested Start Date	Estimated Time Commitment	Cost	Potential Partners & Resources
Land Use	Promote orderly growth and development in designated areas to efficiently use public services and prevent sprawl.									
Land Use	11.1 Coordinate the community's land use strategies with other local and regional land use planning efforts.									
Land Use				a. Meet with neighboring communities to coordinate land use designations and regulatory and non-regulatory strategies.	MEDIUM	Planning Department	Ongoing			Neighboring communities, EMDC, BACTS
Land Use				b. Track new development in the community by type and location.	MEDIUM	Planning Department, Code Enforcement Department	Ongoing	Staff-time		
Land Use	11.2 Support the locations, types, scales, and intensities of land uses the community desires as stated in the Vision Statement and the vision for the character areas within this Plan.									
Land Use				a. Using the descriptions provided in the Future Land Use Plan narrative, maintain, enact or amend local ordinances as appropriate to: (1) Clearly define the desired scale, intensity, and location of future development; (2) Establish or maintain fair and efficient permitting procedures, and explore streamlining permitting procedures in Growth Areas; (3) Clearly define protective measures for critical natural resources and, where applicable, important natural resources; and (4) Clearly define protective measures for the proposed Critical Rural Areas.	HIGH	Planning Board	Year 1	18 months	\$\$ (as part of a suite of Ordinance updates)	Planning Department
Land Use				b. Engage the surrounding neighborhood and other stakeholders to develop a neighborhood-specific master plan for the town-owned parcel in the Sailor Neighborhood consistent with Housing Action 34.h, Recreation Action 8.2.a, and Transportation Objective 9.3.	HIGH	Town Council	Year 3	2 years	\$\$ (consultant)	Planning Department, Administration
Land Use	11.3 Support the level of financial commitment necessary to provide needed infrastructure in designated Growth Areas.									
Land Use				a. Include in the Capital Investment Plan anticipated municipal capital investments needed to support proposed land uses.	HIGH	Town Council	Ongoing			Administration
Land Use	11.4 Establish efficient permitting procedures, especially in designated Growth Areas.									
Land Use	11.5 Protect Critical Rural Areas from the impacts of development.									

Regional Coordination

Overview

Many of the key issues addressed in this Plan are largely regional issues that will require some level of collaboration between Orono and its neighboring municipalities, regional non-profit organizations, and different levels of government.

Regional coordination is addressed throughout this Plan within the narrative text of each of the chapters. A summary of each of the key issues that will require a regional approach (as well as existing efforts to address each issue) is included on the following pages.

The success of the overall region means success for Orono residents. To that end, the Town is committed to working collaboratively, aligning strategies with state goals, and will consider the impact of proposed policies on the larger region. In addition, the Town will continue to seek financial and technical support on its most pressing initiatives from regional and statewide partners when feasible.

Transportation

As noted in both the Transportation and the Economy chapters of this Plan, many (46.7%) of Orono's residents commute out to the broader region for work each day. Interstate 95 and Route 2 (and, to a slightly lesser but growing extent, Stillwater Avenue) are the most essential routes connecting Orono to nearby communities and services. This makes the preservation of the safety and traffic-carrying capacity of these roads an issue of regional importance. Orono will need to continue to work with the Maine Department of Transportation (MaineDOT) and the Bangor Area Comprehensive Transportation System (BACTS) – the region's metropolitan planning organization – on ongoing transportation planning initiatives and infrastructure improvements. In addition, working with neighboring municipalities, the University of Maine, and the Orono Land Trust to connect trail systems will be important in ensuring regional connectivity and will be mutually beneficial to surrounding communities.

Recreation

In terms of regional partnerships, a key player in the delivery of recreational programming is the University of Maine. There is a contract between the Town and UMaine Campus Recreation for them to provide operational support – namely, students who provide staffing – for RAD Afterschool and the operation of the municipal pool. There is also a partnership between the Town and UMaine to run the RAD summer camp program. In addition, the Town offers volunteer opportunities to the UMaine Physical Education Majors Club, in turn providing teaching and coaching opportunities to students. The University also hosts their own summer camps and sports clinics for youth in the region for a fee.

Other important organizational partnerships that share in the cost of programming or provide space/instructors for programming at low to no cost include the Penobscot Nation, Orono Veazie Little League, Adult Education, Penobscot Valley Ski Club, Orono Paddlers, UMaine College of Education, and others. Without these regional partnerships, the level of service that the community has come to expect with regard to recreation programming would plummet.

Public Facilities & Services

The Town collaborates with other neighboring communities to share services, such as its agreement with the City of Bangor to share in the cost of the local bus system. The Town also has mutual aid contracts with neighboring towns to mutually provide response to emergencies within each other's borders. Orono would be served by continually exploring regional solutions to service delivery. For example, many municipalities across the state have begun to partner with neighboring communities to share in the costs of programming (such as regional delivery of recreation programs), capital projects, and even staffing.

Housing

In October 2023, the State of Maine Housing Production Needs Study was released, highlighting a historic underproduction of housing across the state as well as the need to produce more housing to both correct this historic underproduction and provide for the projected population growth across the state. Overall population and population growth determine how many people currently need homes or will need homes in the future. The study focuses on regional housing needs and indicates that Penobscot County specifically will need between 1,400 and 3,000 new housing units by the year 2030 to accommodate projected population growth, population shifts, and anticipated economic changes. This study anticipates that the need will be met regionally (across the entirety of Penobscot County). However, some communities (namely those with public sewer and water capacity) will need to be responsible for creating an environment that fosters the production of more housing.

Orono has the capacity to take on more development on water and sewer (discussed in the Public Facilities section of this Plan), where elsewhere in the region, limited water and sewer capacity would make it difficult for new development to occur.

Economy

Orono is one of 43 municipalities that make up the Bangor Metropolitan Area. The metro area extends from central Penobscot County to the edges of Hancock and Waldo Counties. In 2002, Orono was designated as a "secondary" regional service center (with Bangor being the "primary" service center in this area). Retail, personal services, education, and social services are also all sectors where the region is more competitive than the statewide average. These are also the primary sectors in which Orono residents work. Importantly, these sectors are all driven by the Bangor Metropolitan Area (including Orono, as a secondary service center) being a regionwide service center for more rural communities. Thus, growth anywhere in the region bodes well for growth in these sectors. Collectively strengthening the region's workforce will also benefit Orono's residents, so continued cooperation with regional economic development organizations such as Eastern Maine Development Corporation will be of the utmost importance.

Natural Resource Protection

There are several organizations in the region working to protect natural and water resources

from both human and environmental impacts. These impacts are not limited by municipal boundaries, thus, coordinating efforts with these organizations and neighboring towns to protect critical habitats and address water quality will be necessary for the Town to reach any of its goals related to natural resource protection. There is an opportunity for further collaboration between the Town and these partners, which include:

- Orono Land Trust: A local non-profit that protects, manages, and preserves portions of the natural environment in Orono and surrounding communities, for the benefit and enjoyment of present and future generations (for both recreation and conservation purposes). OLT is an invaluable partner for the Town in the stewardship of trails and natural areas used for both recreation and conservation purposes.
- Penobscot Climate Action (through BACTS): Penobscot Climate Action is a joint effort of local governments, organizations, and residents who live and work in the Greater Bangor region to advance climate goals locally and together as a region, using the Penobscot Climate Action Plan as a guide. Now that the plan is in its implementation phase, an implementation group has been put together (spearheaded by BACTS) to share resources and best practices going forward.
- Bangor Area Stormwater Group: An opportunity for the Bangor Metro MS4 communities to collaborate on education, outreach, and planning needed to help comply with the General Permit's requirements.
- University of Maine: The University of Maine is heavily involved in statewide planning efforts for climate resiliency and natural and water resource conservation. Continuing to utilize our local resources (namely, students and professional researchers) would be helpful to Orono in preserving natural and water resources for the future.

Inventory Chapters

Population & Demographics

Overview

Orono's future will primarily be shaped by its current and future residents. Understanding who those residents are and attempting to predict their needs is essential to comprehensive planning since these population and demographic trends impact all facets of the community, including housing, the economy, transportation patterns, education, and the capacity of the Town to continue providing services at its current level. A sustainable, demographically diverse population (particularly in age makeup) is essential to support a community's long-term well-being.

Demographics are a key element of understanding the functions of an economy. The economy is made up of people making decisions: decisions about how much to work, what to buy, whether to hire more workers, where to live, and so on. Understanding demographics can tell us about the makeup of the labor force, what the demand for a new product might be, or about where to start a new business. Looking ahead to what the population might be like in the future can help us develop plans and policies now.

-Maine State Economist's *Maine Population Outlook* (June 2023)

This chapter utilizes information from the US Census Bureau, Maine Bureau of Vital Statistics, the Office of the Maine State Economist, and others to attempt to better understand Orono's current population and help to predict how Orono is likely to grow in the future.

Population Trends

Between 1810 and 1940, the Town's population grew fairly steadily. Between the 1940 and the 1950 Censuses, however, the Town's population more than doubled. The significant number of veterans returning from WWII and attending UMaine likely led to this growth. The number of veterans enrolled at UMaine and living in the region along with their families peaked at 2,575 in 1947.¹ Likely as a result, the student body grew by more than 250%, from 1,485 in 1941 to 5,338 by 1950.²

The Town experienced another period of slow but steady growth between 1950 and 1980. Since 1980, however, the Town's population has remained relatively flat. The low point over the last 40 years was in 2000 when the population dipped to 9,112. As of the 2020 Census, Orono's population was 11,183, the highest ever recorded. Likewise, enrollment at UMaine peaked at about this time, but has decreased slightly each fall since 2021.³

¹ <https://umaine.edu/150/through-the-decades/1935-1944/>

² <https://digitalcommons.library.umaine.edu/cgi/viewcontent.cgi?article=1147&context=mainehistoryjournal>

³ Source: University of Maine Office of Institutional Research, <https://umaine.edu/oira/reporting/enrollment-data/>

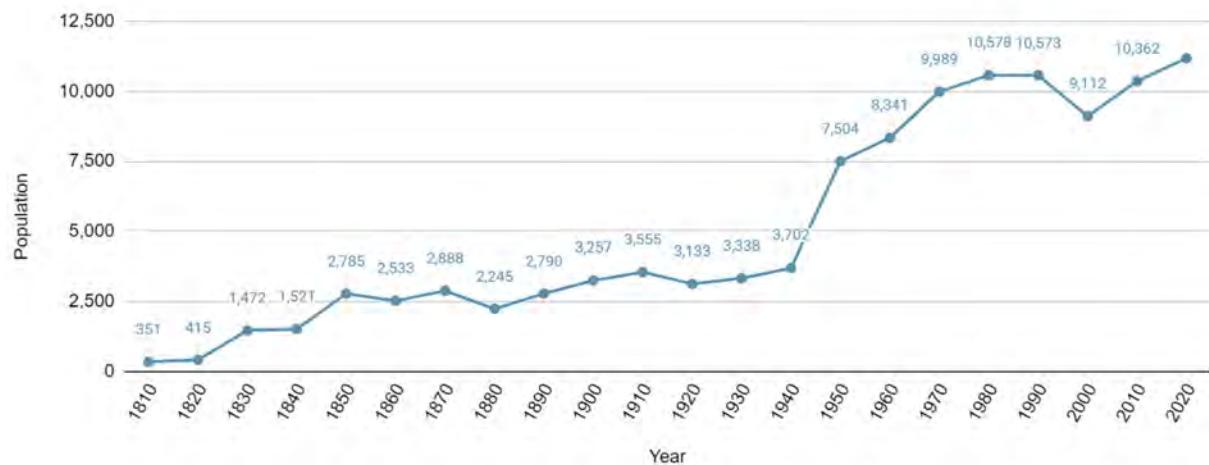


Figure 1-1. Population of Orono, 1810-2020. Source: US Census Bureau

Orono's recent population growth (between 2000-2020) is in stark contrast to neighboring Old Town, which has had a declining population since 1970. Figure 1-2, below, shows Orono's population changes in relation to neighboring Old Town, as well as to Penobscot County and the State of Maine as a whole.



Figure 1-2: Regional Population Change Comparison: Orono vs. Old Town, Penobscot County, Maine. Source: US Census Bureau

Changes in a community's population are the result of natural changes (births and deaths) as well as migration (people deciding to move into or out of the community for work, school, or other reasons).

Orono Births and Deaths by Year, 2011-2020			
Year	Births	Deaths	Net Change
2011	38	53	(-15)
2012	44	64	(-20)
2013	44	69	(-25)
2014	36	52	(-16)
2015	30	67	(-37)
2016	53	66	(-13)
2017	34	68	(-34)
2018	42	74	(-32)
2019	35	69	(-34)
2020	27	76	(-49)
Total	383	658	(-275)

Figure 1-3. Births and Deaths by Year, 2011-2020. Source: Data, Research, and Vital Statistics, Maine Center for Disease Control and Prevention, Department of Health and Human Services

Recent birth and death data shown in Figure 1-3 indicate that the natural population change is negative, implying that the population growth observed since 2000 is the result of in-migration (since the death rate is outpacing the birth rate each year). It should be noted, however, that the natural population change is steadily decreasing. For example, between 1981 and 1990, Orono recorded 675 births and 483 deaths, for a net natural

increase of 192 people. Between 1991 and 2000, we had 477 births and 506 deaths, for a net decrease of 29 (the first time in the past 50 years that we experienced a net decrease). Finally, between 2001 and 2010, we had 417 births and 578 deaths, for a net decrease of 161.

A decreasing rate of natural change is not unique to Orono. In fact, of the Maine communities that have been growing in recent decades, many are seeing growth not as a result of natural change but as a result of net in-migration. While natural change is more of a measure of the health of a community (and is based on the number of residents of “prime childbearing age” within the community), migration is calculated as the difference between overall population change and natural change. Thus, migration can be interpreted as a measure of the economy (and individual choices made within that economy) rather than one of health.

The combination of a somewhat higher cost of living than elsewhere in the region and specific attributes that make Orono appealing to more affluent residents (proximity to Bangor and local employers) make it difficult for households comprised of younger, less affluent people (e.g. first-time homeowners) to compete for a limited housing supply. This is discussed in greater detail in the Housing section of this Plan.

It should also be noted that, in Orono, migration is also heavily dependent on UMaine enrollment. As shown in Figure 1-1, enrollment trends at UMaine have historically heavily impacted the population of Orono, since students are counted as residents for Census purposes while they live in the community where they go to school. Historic enrollment information is available in the Appendix of this Plan.

Current Demographics

Population by Race, Sex, and Age

The majority of Orono’s population (88.5%) is white, per the 2020 Census. However, Orono is more racially diverse than Penobscot County (91.5% white) or the State of Maine (90.8% white). This is likely due to the presence of students at the University. Figure 1-4 below shows the breakdown of all other races.

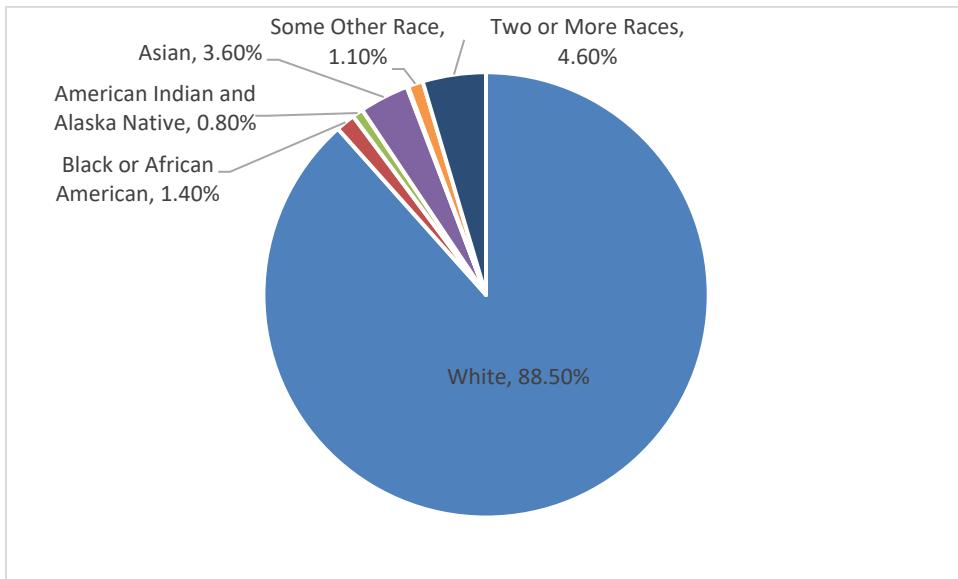


Figure 1-4: Population of Orono by Race, 2020. Source: US Census Bureau

The population of Orono is almost exactly split between males and females, with females comprising 49.6% of the population in 2020. However, there are more females over the age of 65 than there are males over the age of 65 (685 compared to 487) suggesting that females in Orono may be living longer than their male counterparts.

As a population group, seniors (those 65 and older) have been steadily growing in Orono. 2010 was the first Census in recent memory where seniors made up a larger share of the population than children under 18 (10.4% over 6.9%). However, the trend may be beginning to reverse itself as of the 2020 Census.

Orono had 1,028 children (under age 18) in 2020, up by 15.8% since 2010 (when there were 888). The share of adults of “prime child-rearing age” (typically considered between 25 and 34) has grown only slightly since 2010 (by 0.6%), meaning that the adults in Orono who are having children are likely having more of them (or people in Orono are having children at older ages). Seniors (those 65 and older) numbered 1,172 in 2020, up by 9% from 2010 (when there were 1,075). Additional information regarding population changes by age group is shown in Figure 1-5, below.

	1980		1990		2000		2010		2020	
	Number	% Total	Number	% Total	Number	% Total	Number	% Total	Number	% Total
Under 5	253	2.39%	243	2.30%	262	2.88%	217	2.09%	286	2.56%
5-9	321	3.03%	372	3.52%	283	3.11%	244	2.35%	280	2.50%
10-14	406	3.84%	343	3.24%	307	3.37%	257	2.48%	283	2.53%
15-19	2,864	27.08%	2,574	24.35%	1,906	20.92%	2,306	22.25%	2,582	23.09%
20-24	3,563	33.68%	3,367	31.85%	2,687	29.49%	3,649	35.22%	3,770	33.71%
25-34	960	9.08%	939	8.88%	803	8.81%	759	7.32%	888	7.94%
35-44	622	5.88%	840	7.94%	758	8.32%	506	4.88%	638	5.71%
45-54	519	4.91%	617	5.84%	766	8.41%	689	6.65%	584	5.22%
55-64	467	4.41%	510	4.82%	493	5.41%	660	6.37%	700	6.26%
65-74	281	2.66%	388	3.67%	419	4.60%	393	3.79%	579	5.18%
75+	322	3.04%	380	3.59%	428	4.70%	682	6.58%	593	5.30%
Total	10,578	100.00%	10,573	100.00%	9,112	100.00%	10,362	100.00%	11,183	100.00%
Children 14 and under	980	9.26%	958	9.06%	852	9.35%	718	6.93%	849	7.59%
Seniors 65 and older	603	5.70%	768	7.26%	847	9.30%	1,075	10.37%	1,172	10.48%

Figure 1-5. Population Change, 1980-2020, by Age Group. Source: Orono Comprehensive Plan (2014); US Census Bureau

Population Characteristics

Of those 25 and older in Orono, about 98% have a high school diploma (or equivalency). About 64% have a Bachelor's degree, and about 35% have a graduate or professional degree. This makes Orono's adult population more highly educated than the Bangor metropolitan area or the state as a whole. See Figure 1-6 for comparison.

Seasonal Population

As of 2020, 28.5% of Orono's population lived on campus at the University of Maine (see the Group Quarters information below). The bulk of this population is likely only in the community during the school year, returning to their hometowns in early May.

Per data from the 2020 Census, there were 140 properties vacant for seasonal, recreational, or occasional use in Orono. This is up by 45.8% from the 2010 Census, when the number was 96.

	Orono	Bangor	Maine Metro Area
High school diploma (or equivalency)	98%	93%	93%
Bachelor's degree (or higher)	64%	29%	33%
Graduate or professional degree	35%	11%	12%

Figure 1-6: Educational Attainment Comparison.
Source: US Census American Community Survey 5-year estimates (2020)

Even though a small portion of the student population lost in the summer is replaced by seasonal visitors (such as to camps on the shores of Pushaw Lake), Orono is still heavily dependent on its student population from an economic perspective. This is discussed in greater detail in the Economy section of this Plan.

Household Trends

Total Households

The Town of Orono had 3,367 households according to the 2020 Census, representing an increase of 536 households since the 2010 Census. This number does not include the population living in “group quarters” (such as dormitories), which is discussed in greater detail below. Since 2010, the average household size has held approximately steady: from about 2.29 in 2010 to about 2.27 in 2020.⁴ This means that there are only slightly more 1- and 2-person households in Orono in comparison to 2010. For information on the number of housing units added in this period, see the Housing section of this Plan.

Household Composition

Of Orono’s 3,367 households, 1,131 or 33.6% were “family” households, including those who are either married or cohabitating with a partner. A majority, or 2,236, were living in “non-family” households. More specifically:

- 1,108 are one-person households. Of these, 36.1% (400) are a person 65 or older.
- 1,128 are comprised of two or more unrelated people sharing a dwelling unit.

The number of family households has been steadily dropping in Orono. The number dropped by nearly 5% between 2000 and 2010 and dropped nearly 8% further between 2010 and 2020 (even though the US Census reclassified its definition of a family in that same period, to include households whose inhabitants are unmarried but cohabitating).

For comparison, the number of family households in broader Penobscot County in 2020 represented 60.4% of total households (or 38,100 family households). This was up just slightly from 2010, when the number of family households was 37,888. In Maine as a whole, the number of family households likewise went up between 2010 and 2020 (from 345,248 to 349,955), but the number of family households in 2020 represented a smaller share of the total households compared to 2010 (61.4%). This can be attributed to the total number of households also growing across the state at the same time.

The number of family households where children under 18 are present has likewise been steadily dropping. In 2000, the number of family households with children was 583. In 2010, this number dropped to 483, and as of the 2020 Census, this number is at 350. Put differently, Orono has seen almost a 40% drop in family households with children since 2000. These statistics further suggest that the adults in Orono who are having children are likely just having more of them, leading to an overall increase in the number of children. One can extrapolate that, in the 350 households with children, there are approximately 2.93 children in each home.

Meanwhile, the number of non-family households in Orono increased by 634, or more than 45% since the year 2000. The increase in non-family households appears to be due to both a rise in older persons living alone and an increase in unrelated, unpartnered persons living together. Increasingly, a large number of UMaine students live off-campus, both in apartment complexes such as Orchard

⁴ Source: US Census Bureau’s American Community Survey 5-Year estimates, 2020.

Trails (built in 2005), The Reserve (built in 2012), and The Avenue (built in 2015), as well as in homes that may have been previously occupied by families.

As noted above, the average household size in Orono is 2.27 persons per household (in 2020). Household size declined between 1970 and 2000, but it appears to have leveled off since then. While county- and state-wide, the average household size has continued to decline since 2000, Orono has held approximately steady (unlike the rest of the region, where the average household size typically declined). Housing needs and projections, including types of housing desired in Orono, are discussed further in the Housing section of this Plan.

Group Quarters Population

A group quarters facility houses multiple, unrelated people in a group living arrangement. Often, group quarters house an institutional or service-receiving population. Some examples of “group quarters” include college or other dormitories, military barracks, nursing homes or other long-term care facilities, and prisons. One significance of the designation is that these individuals are excluded from certain calculations that focus on households, such as household size or household income.

Group quarters are also different than, for example, four students living together in one house, and are more representative of shared kitchen or bathroom facilities for an entire building or hall.

In Orono, the characteristics of this population are important to understand due to the prevalence of students living at UMaine. The chart at right shows the breakdown of where Orono’s group quarters population lives. From this chart, we can see that approximately 28.5% of the Town’s population lives in college housing located on the University of Maine campus. This does not consider off-campus housing geared towards students.

In comparison to other well-known college communities with a similar population mix as Orono, Orono has less of a population in group quarters than in, for example, Durham, New Hampshire (where 43.8% of the Town’s population lives on campus). However, this could be due to a difference in culture related to upperclassmen living on campus. This is fairly uncommon at UMaine and leads to more students living in apartments or group houses in Orono and surrounding communities.

Changes in the group-quarters population are difficult to predict because they depend largely on investment decisions made by organizations not controlled by the Town (such as the University).

Income and Poverty

Household and family incomes in Orono differ greatly, mainly due to the presence of many households comprised of students with lower incomes (but also, to a lesser extent, single elderly households, some of which also have low incomes). The median household income in 2020 was

Year	Average Household Size
1970	3.00
1980	2.57
1990	2.50
2000	2.23
2010	2.29
2020	2.27

Figure 1-7: Average Household Size by Census Year. Source: US Census Bureau American Community Survey estimates

Group Quarters Type	# (as of 2020)
Nursing/skilled nursing facilities	152
College housing	3,189
Other noninstitutional	11

Figure 1-8: Group Quarters Information (as of 2020); Source: US Census Bureau

approximately \$46,563. This is lower than the median household income for Penobscot County and statewide during the same period (about \$52,128 and \$59,489, respectively).⁵

It should be noted, however, that when family households are broken out, a different picture emerges. The median family household income in 2020 was approximately \$97,833. This is much higher than the statewide average (\$76,192) and the Penobscot County average (\$67,988) for the same time period.⁶ Recall that the Census Bureau's definition of a "family" includes those who are either married or cohabitating with a partner, while the "households" number would include both "family" and "non-family" households.

In Orono, approximately 2,150 people (29.3% of the population) were living in poverty in 2020. Of these, 87 people were seniors older than 65, and 55 were children under the age of 18. The vast majority (about 1,621) were individuals between the ages of 18 and 24, meaning that this number is likely skewed by students who are living in poverty while they are in school. In comparison, across Penobscot County (which would include Orono's numbers), 13.4% of people are living in poverty.⁷ Still, more seniors are living in poverty today than in 2010 (an increase of 43 people). While this still represents a small number of the overall population living in poverty (about 4%), this growing share could mean the loss of longtime Orono residents, as they may be forced to move to an area that they can more reasonably afford.

Future Population & Demographic Trends

The Maine State Economist creates local projections using a constant rate of growth for each town's share of their county population between 2015 and 2019 and then extrapolates this growth into the future.⁸ This projection estimates that Orono's population will grow by 15.6% between 2020 and 2040 (to 12,925 people).

⁵ Source: US Census Bureau's American Community Survey 5-Year estimates, 2020.

⁶ Source: US Census Bureau's American Community Survey 5-Year estimates, 2020.

⁷ Source: US Census Bureau's American Community Survey 5-Year estimates, 2020.

⁸ Source: Office of the State Economist, Maine Population Outlook to 2040 (released June 2023).

	1990	2000	2010	2020	2030 (PROJECTION)	2040 (PROJECTION)
Under 5 years	243	262	217	286	307	330
5 to 9 years	372	283	244	280	262	245
10 to 14 years	343	307	257	283	269	255
15 to 19 years	2,574	1,906	2,306	2,582	2,642	2,704
20 to 24 years	3,367	2,687	3,649	3,770	3,917	4,070
25 to 34 years	939	803	759	888	882	875
35 to 44 years	840	758	506	638	602	568
45 to 54 years	617	766	689	584	577	570
55 to 64 years	510	493	660	700	783	875
65 to 74 years	388	419	393	579	674	784
75+ years	380	428	682	593	724	885
Total	10,573	9,112	10,362	11,183	11,639	12,161

Figure 1-9. Orono Population Projections by Age Cohorts, 1990-2040. Source: US Census Bureau (for 1990 - 2020 data)

More detailed local projections can be created using a formula that takes into account the growth rate for each age group over a number of past decades. These projections (shown on Figure 1-9, above) assume that the average rate of growth observed over those decades will continue into the next decades. Using this approach (based on average growth rates from 1990 to 2020), the total population of Orono will grow to about 12,100. This approach shows that the age group between 15 and 24 will stay approximately the same as a proportion of the population (perhaps even declining slightly by 2040 – from 56.8% to 55.7%). This also follows the projection of the 2014 Comprehensive Plan, which predicted that enrollment would level off for the foreseeable future. If there is enrollment growth, it likely will be due to either more successful retention of students following their freshman and sophomore years or increased recruitment of out-of-state and international students. This also shows that the population aged 75 and older will grow slightly, from 593 to 885, or from 5.3% to 7.3% of the population. Meanwhile, we can expect adults of “prime child-rearing age” (between ages 25 and 44) to decline slightly, from 1,526 to 1,443, or from 13.6% to 11.9% of the total population.

Issues & Opportunities

Issue/Opportunity: Growth in the Elderly Population

As the 2014 Comprehensive Plan predicted, growth in Orono’s elderly population (those 75+) continues to increase, and this portion of the population will make up more than 7% of the community in the future. This will likely lead to higher demand for medical and public safety services, as well as for retirement housing and assisted living and nursing home units, which would allow this

population to continue to “age in place.” If provided with the right resources to continue to age in Orono, this could also provide for a turnover in the existing housing stock (especially those 400 units headed by people over 65) that could become available for younger generations. Providing housing for residents through the lifespan is an important aspect of comprehensive planning and is discussed in greater detail in the Housing section of this Plan.

Opportunity: High Educational Attainment & Wealth

Orono has a highly educated population, especially in comparison to the rest of the county and Maine as a whole. Retaining highly educated individuals should continue to be a top priority for the Town, as these individuals bring with them disposable income that can be spent patronizing local businesses. Further, these individuals bring a unique expertise that allows them to contribute more broadly to local non-profit organizations, schools, local government, and civic life.

Issue: Population Disparities

In stark contrast to the above, Orono also has a high concentration of those living in poverty. The share of seniors (those 65 and older) living in poverty grew slightly between 2010 and 2020. Anecdotal evidence suggests that older individuals may be being “priced out” of Orono, which would mean a loss of long-time residents and the local knowledge that they bring to life in Orono.

Further, students (or at least, those between the ages of 18 and 24) living below the poverty level as a share of the population has grown by about 4% since 2010. While students likely access most of their social services through the University, the Town may need to play a role in the provision of services to this population.

Issue: Loss of Family Households, Family Aged Population

As noted above, the combination of a somewhat higher cost of living than elsewhere in the region and the “quality of life” attributes that make Orono appealing to more affluent residents also make it difficult for households comprised of younger, less affluent people (e.g. first-time homeowners) to compete for a limited housing supply. This may be a contributing factor to the loss of nearly 40% of Orono’s family households with children in them since 2000. This is likely to continue without intervention from the Town given the projected loss of the “adults of prime child-rearing age” over the next 20 years.

Historic & Archeological Resources

Overview

Before the arrival of Europeans, the banks of the Penobscot and Stillwater Rivers in the area now known as Orono were inhabited by the Abenaki (part of the Wabanaki Confederacy). The name for Marsh Island and the falls at the confluence of the Stillwater and Penobscot Rivers was *Arumsumhungan*, translating to “the place where alewives are found.” The first European settlers to Orono, Jeremiah Coburn and Joshua Eayres, began settling in the area in 1774.¹ The Town was incorporated on March 12, 1806. It was named in honor of Chief Joseph Orono of the Penobscot Nation, who supported the American colonists against the British during the Revolutionary War and died in 1801.

At first, the community grew very slowly. In 1800, it had a population of only 77; by 1820, this had grown to only 415. After 1820, however, rapid growth took place, largely due to a dramatic boom in the lumber industry. By the 1830s the town had become the center of the region’s lumber industry with water-powered sawmills located on the riverbanks, and the Penobscot River itself being utilized as a shipping channel to get logs downstream for shipping and export from coastal ports.² By 1840, the town’s population had swelled considerably and it became a thriving community, including numerous professionals and many prosperous mill owners and merchants. Today’s Main Street Historic District (shown on the map below) was primarily developed in this period and reflects the prosperity of the community in this era as a result of the lumber boom.

The Town’s first paper mill was built on Ayer’s Island (in 1889) and a second was built on the Webster Park side of the Stillwater River in 1892 (this mill was demolished in the 2010s). However, papermaking did not last very long in the community as Orono’s smaller mills were overtaken by larger paper mills elsewhere in the state.

The University ended up replacing both the logging and the pulp and paper industries as the primary economic driver of the community within its first century of being open. The University’s student body jumped by more than 250% between 1941 and 1950 (from 1,485 to 5,338). Enrollment and, directly proportional, employment at the University continued to grow between the 1950s and the 1970s. The Town’s population followed the growth of the University, increasing by more than 30% in that period. As a result, entirely new residential neighborhoods (such as the Sailor Development off Main Street and the Noyes and Mahaney developments off Forest Avenue) were built for employees of the University and their families.

Historic Settlement Patterns

Main Street Residences

Orono began primarily as a farming community. The first dwellings in the community were quite primitive and were not intended to last. Along Main Street (between Maplewood Avenue to the south and Pine Street to the north) are some of the first examples of dwellings that were built to last. These buildings are a mix of architectural styles, from Federal to Greek Revival to Italianate to Queen Anne. There is also a Gothic Revival church in the mix. This area was listed on the National Register of Historic Places in 1977 as it clearly shows the history and development of the community and includes significant architecture. Per the National Register Nomination Form for the Main Street

¹ Peterson, Scott D., *Images of America: Orono*, Arcadia Publishing (2004). Page 7.

² Main Street Historic District National Register Nomination (1977).

Historic District: “the street is a microcosm of 19th-century architectural styles.” The architectural integrity of this historic district is still intact, for the most part.

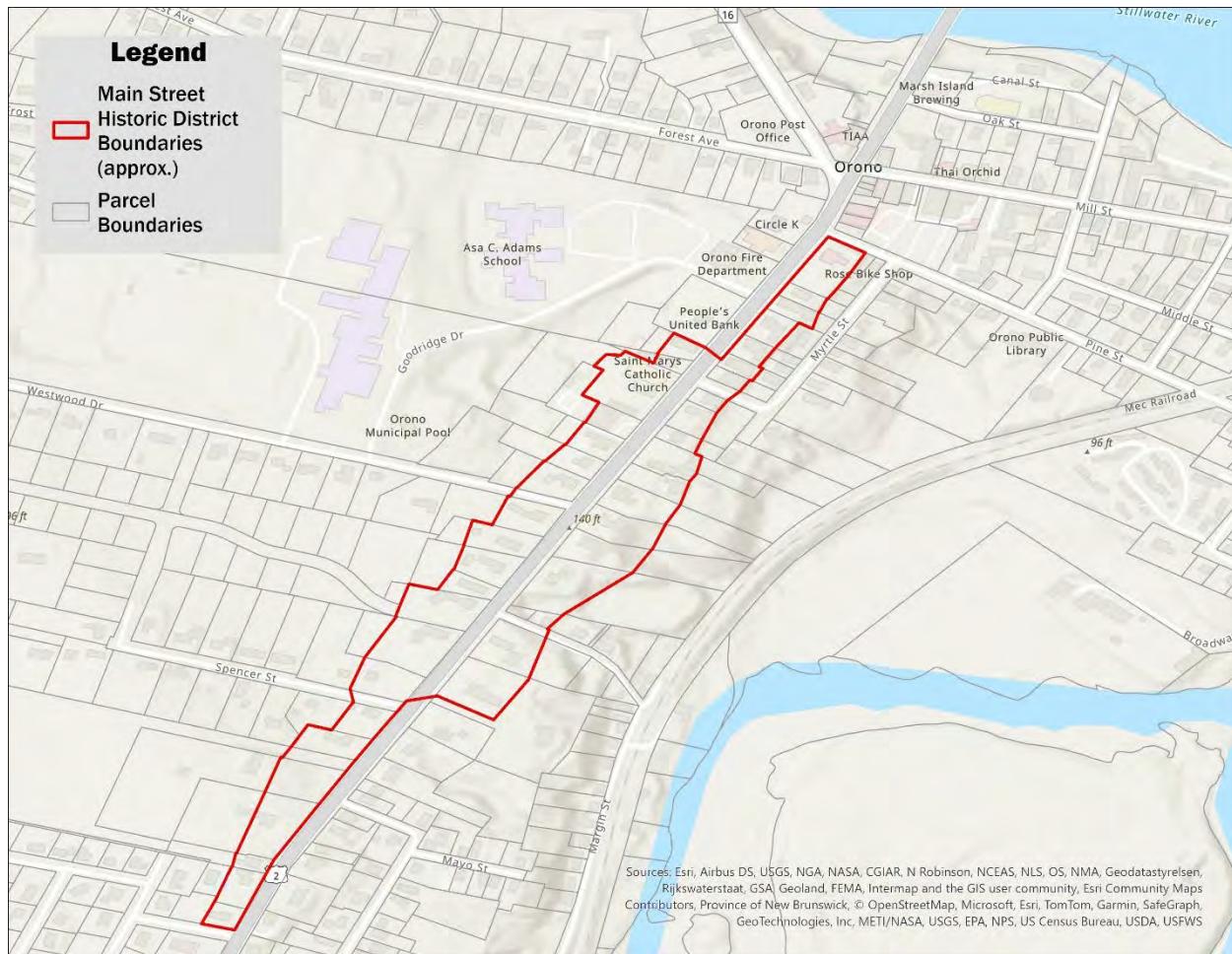


Figure 2-1: Orono Main Street National Register Historic District Map

The structures continue to be used primarily for residential uses, with a few commercial, educational, and religious buildings mixed in. Most of the buildings are in fair to good condition, though a few appear to be deteriorating. One building, the former Charles Nichols house at the corner of Main Street and Pine Street, was removed and replaced with a branch bank building. Another building, a former schoolhouse at 88 Main Street, was lost to fire. The others in the original listing remain in place.

Downtown & Monument Square

The intersection of Bennoch Road/Forest Avenue, Main Street, and Mill Street (now the heart of Orono's downtown) was an area known as Monument Square because of the Civil War monument that previously stood there (shown on the right side of the 1930s image, below). Many buildings on the Mill Street side of the intersection remain today (as shown in the two images below). Where the Katahdin Building once stood (far left of the first image) is now the home to the headquarters of University Credit Union (built in 2014).



Image Source: Peterson, Scott D., *Images of America: Orono*, Arcadia Publishing (2004). Page 11.



Image Source: Google Images, June 2023.

Orono's current post office became a part of the square in 1933. The area is still recognizable today, though the statue was removed in the 1940s and was then moved around Orono five different times until it was dismantled in 2008. The Orono Historical Society raised funds to restore the monument, and the restoration process was completed in 2015. The monument is now located in Riverside Cemetery off of Bennoch Road.

University of Maine Historic District

In 1978, ten buildings located on the University of Maine campus were added to the National Register of Historic Places as the University of Maine at Orono Historic District. The district represents the oldest section of the campus and includes ten architecturally significant buildings, including the Carnegie Library (now known as Carnegie Hall). All of the buildings were constructed between 1860 and 1909. While Andrew Carnegie donated money for hundreds of municipal libraries to be built across the country, this is one of only two libraries that he funded on college campuses (it was used as the campus library until Fogler Library was constructed in 1941).

Founded as a result of the Morrill Land Grant Act of 1862 (which gave each state 30,000 acres of land per congressman to create at least one mechanical and agricultural college), the Maine State College of Agriculture and Mechanic Arts (as it was then known) opened its doors to students for the first time on September 21, 1868. When it opened, there were only two professors and twelve students. The location won out after Orono and Old Town purchased the former Frost and White Farms for \$11,000 in April of 1866 and donated the land to the State. Although not carried out

exactly as originally conceived (mainly due to budgetary constraints), the original plan of the campus was drawn by the preeminent landscape architect Frederick Law Olmstead.³

By the end of the 19th century, the administration began to feel the need to expand beyond its agricultural education roots because of shifting economic interests in Maine and the nation. The percentage of farmers had fallen from 60% of Maine's population in 1860 to 38% in 1890. In addition, the president of the college at the time (Abram Harris) argued that the growing manufacturing sector needed to become a bigger focus for the institution, requiring more education in science and engineering. Thus, the name was changed from the Maine State College for Agriculture and the Mechanic Arts to the University of Maine. The broadening of the college's mission also impacted the campus: Wingate and Lord Halls (two large brick buildings on prominent campus sites) were built for the engineering program around the turn of the 20th century.⁴

In 2010, the boundaries of this National Register Historic District were expanded to include the 56.77 acres around the periphery of the original historic district which contains 26 additional buildings (including Wingate and Lord Halls) and sites (significant for their architecture or landscape architecture as well as their association with the growth of the community and education).⁵

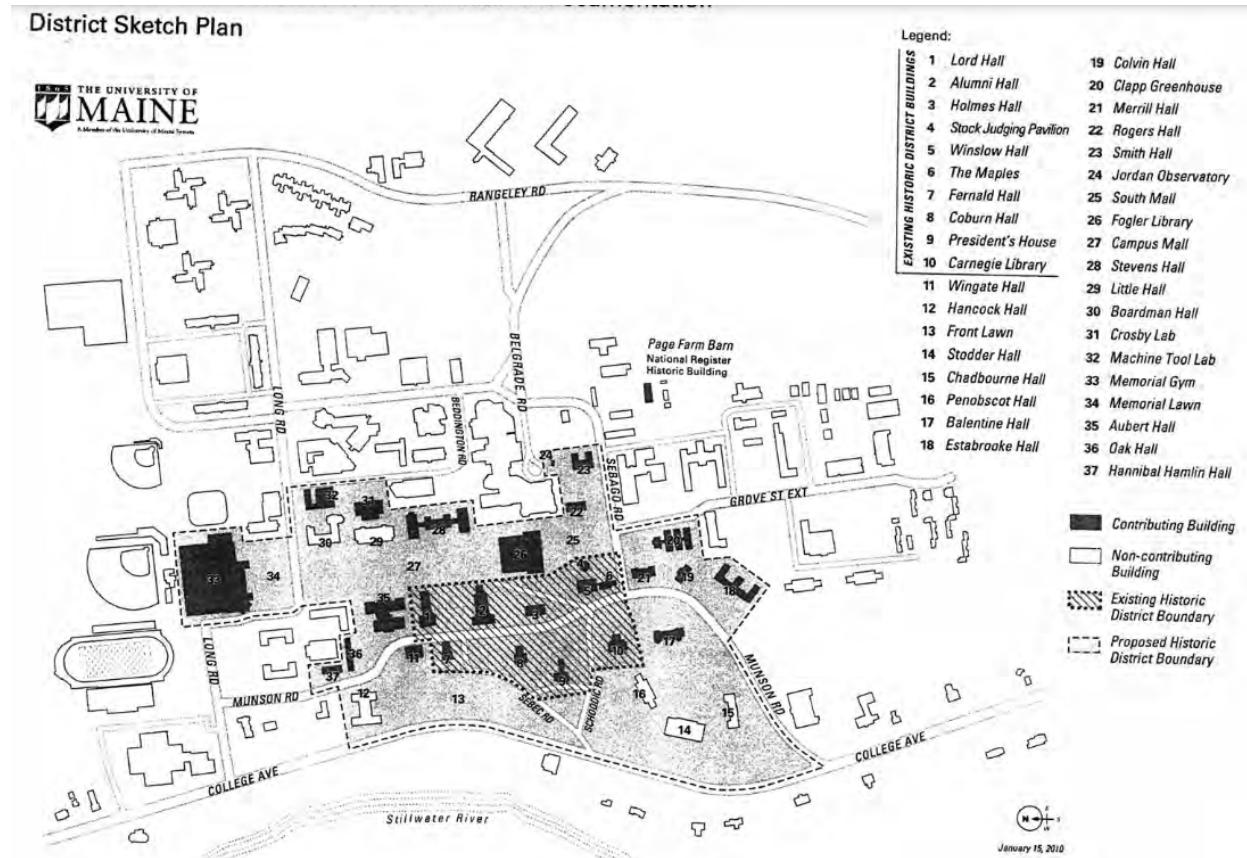


Figure 2-2: University of Maine Historic District Map

³ University of Maine at Orono Historic District National Register Nomination (1978).

⁴ University of Maine Historic District Additional Documentation / National Register Nomination Form (2010).

⁵ University of Maine Historic District Additional Documentation / National Register Nomination Form (2010).

Webster Neighborhood

It is a short walk from Monument Square to the base of Ferry Hill, where a bridge has connected the Town to Marsh Island since the early 1830s. The first structure was a covered toll bridge that originally cost two cents to cross. On the Marsh Island side of the bridge is the area of Orono known as the Webster side due to the existence of elegant residences of the Webster family, who played a significant role in Orono's development as a town.

Andrew Webster moved to the area in 1795, and three of his children stayed in Orono to raise their own families. One of the better-known members of the family was his son, Ebenezer Webster, who served as captain of Orono's militia in the disastrous Battle of Hampden in the War of 1812, where the poorly equipped and poorly trained American forces panicked and fled as the British attacked Hampden. It is said that Orono's militia, under the leadership of Ebenezer Webster, were among the last to leave the field, and "received the order to do so with disgust."

A few years after Maine became a state, Webster built a fairly grand home on the banks of the Stillwater River, facing Orono's village. The Webster mansion graced Marsh Island's shores into the 20th century, serving in its later years as a dormitory for University of Maine students. The former site of the Webster mansion is the new home of Tyler Technologies.

In the early 1900s, the family donated a large section of land to the Town of Orono, under the agreement that it should always be used as a recreational space. This area became what is today known as Webster Park. The original planning documents of the park included fountains and promenades. While these never materialized, the 4-acre park continues to serve as a peaceful spot for residents, just as the Webster family intended.⁶

An electric trolley connecting Old Town, Orono, and Bangor used to run through this area and over the covered bridge into Monument Square. Trolley service began in the summer of 1895 and ran through 1940, with a car passing through every 30 minutes.

Housing Development (1950-1970)

As noted in the Overview section above, enrollment and employment at the University grew significantly between the 1950s and 1970s. Since many University employees were still living in Orono at that time, the Town's population followed the growth of the University, increasing by more than 30% in that period. As a result, entirely new residential neighborhoods (such as the Sailor Development off Main Street and the Noyes and Mahaney developments off Forest Avenue) were built for employees of the University and their families.

Inventory of Historic Resources

Orono is home to a plethora of historic and archaeological resources which are described in further detail in the following sections.

Prehistoric Archaeological Sites

Prehistoric archaeological sites reveal information about Orono's original Abenaki inhabitants, who lived in the area far before European settlers arrived.

Per the Maine Historic Preservation Commission, "Prehistoric sites in Maine may include campsites or village locations, rock quarries and workshops (from making stone tools), and petroglyphs or rock carvings. Prehistoric archaeological site sensitivity maps are based on the current understanding of Native American settlement patterns (known site locations and professionally surveyed areas) within

⁶ Glanville, A. Douglas, *Old Orono Oddments*,

the portion of the state where the municipality is located. Most commonly, prehistoric archaeological sites are located within 50 meters of canoe-navigable water, on relatively well-drained, level landforms. Some of the most ancient sites (>10,000 years old) are located on sandy soils within 200 meters of small (not canoe-navigable) streams."

The Maine Historic Preservation Commission (MHPC) has identified 7 known prehistoric archaeological sites in Orono, mostly clustered around the banks of the Penobscot River as well as the confluence of the Penobscot and Stillwater Rivers. One of these is significant and would be eligible for listing in the National Register of Historic Places.

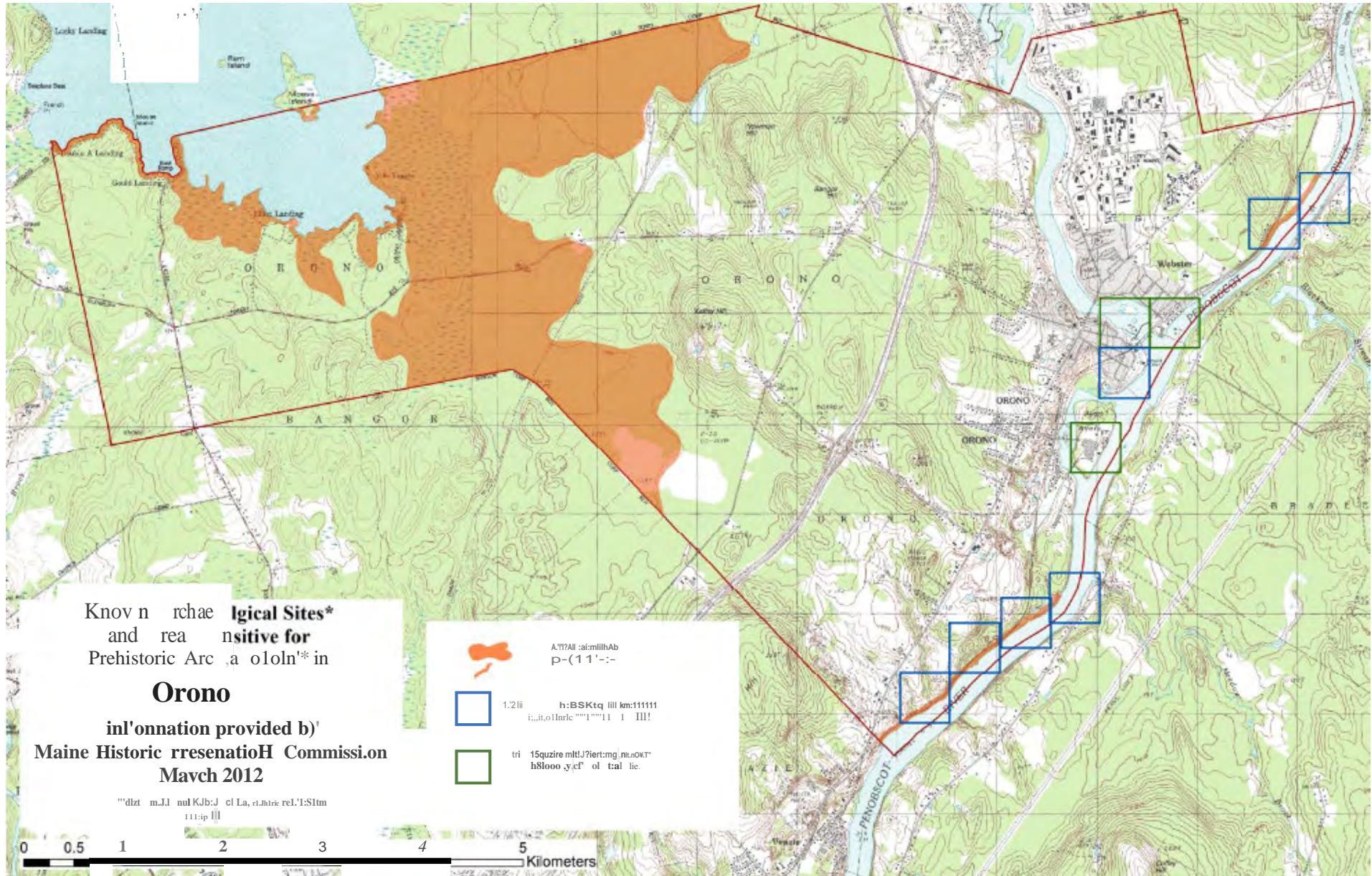


Figure 2-3: Orono Archaeological Sites

Historic Archaeological Sites

Statewide, historic archaeological sites often include early house foundations and cellar holes, foundations for various farm buildings, mills, boat yards, and forts. Since transportation and then power generation were largely provided by the State's many waterways, historic archaeological sites are often located on the shores of ponds and streams. The Maine Historic Preservation Commission identifies four such historical archaeological sites in Orono, further detailed in Figure 2-4.⁷

Site Name	ID #	Site Type	Periods of Significance (if known)
Websters Pulp Mill	ME 327-001	Pulp mill	c. 1900
Basin Mills	ME 327-002	Sawmill	c. 1850
Orono Dam Graffiti	ME 327-003	Petroglyph	c. 1852 to 1930s
Anthony Nadeau Property	ME 327-004		Evidence of 17th-century French occupation, and possible 18 th -century/19 th -century field scatter of whiteware

Figure 2-4: Historic Archaeological Sites in Orono, Source: Maine Historic Preservation Commission

Cemeteries

Cemeteries are also important areas linking present-day Orono to its storied past. The Riverside Cemetery, located on Bennoch Road, is the only municipal cemetery in Orono. Additional small, family cemeteries are located throughout the community but are typically maintained by family members of those buried there.

Buildings

The Town's historic assets help create a cultural fabric that conveys the community's identity. The National Register of Historic Places, the "official" list of places throughout the United States deemed worthy of preservation by the federal government, currently lists 8 buildings in Orono that are contributing in their own regard (in addition to the three National Register Historic Districts described above):

- Gov. Israel Washburn House, 120 Main Street: Listed on the National Register in 1973, this building is a classic example of the Greek Revival style of architecture. It was built in 1840 by Israel Washburn, Jr. Washburn was prominent in both state and national politics. He was admitted to the bar in 1834 at the age of 21 (with no formal education). He began his legal practice in Orono at the beginning of the logging boom in central and northern Maine. He was then elected to Congress in 1851, where he was a leader in drafting anti-slavery legislation. He went on to serve two terms as the Governor of Maine, beginning in 1861.
- Nathaniel Treat House, 114 Main Street: Built in the 1830s and listed on the National Register of Historic Places in 1973, this house represents a transitional phase between the Federal and Greek Revival architectural styles. Along with Andrew Webster, Treat acquired extensive land holdings. Much of the land that would become Old Town and Orono (Marsh

⁷ Note: MHPC does not provide exact location due to fear of disturbance.

Island) was previously known as Treat and Webster Island, and a dam in the Stillwater River was called the Treat and Webster Dam. He was also involved in local and state politics.

- William Colburn House, 91 Bennoch Road: This Cape Cod Colonial-style house was designed by William Colburn and built in 1780, and today remains an active single-family residence. It was placed on the National Register in 1973 for its association with the Colburns (a prominent family in Orono following the American Revolution) as well as it being an example of a style of house that would not typically be found this far north of the coast.
- Old Fire Engine House, North Main Avenue: The Old Fire Engine House located on North Main Avenue along the Stillwater Branch was listed on the National Register of Historic Places in 1985. At a town meeting in 1892, voters authorized the construction of this building as a permanent structure for the engine (on the main level) and the horses to draw it (on the basement level down the hill). The bell was used to summon the volunteer firefighters of the time. The building is one of few examples of a virtually unaltered late 19th-century fire station. The structure was designed in a modified Colonial Revival style and continues to be owned by the Town of Orono (though it is no longer in any sort of use).
- U.S. Post Office, Forest Avenue and Bennoch Road: The Post Office was built in 1933 and was placed on the National Register in 1986. The building was authorized under the Public Buildings Act of May 25, 1926 (Keyes-Elliot Act), which allocated \$100,000,000 for the construction of post offices across the United States. The building continues to function as the Town's Post Office, with a strong architectural presence at the center of Downtown.
- Maine Experiment Station Barn - University of Maine Campus: This structure was placed on the National Register in 1990. The restored barn, built in 1833, is the last original agricultural building on the UMaine campus. It is now part of the Page Farm & Home Museum, whose mission is to document, preserve, and provide Maine history relating to farms and farming communities between 1865 and 1940.
- Phi Gamma Delta House, 79 College Avenue: The Phi Gamma Delta House was built in 1925 and was listed on the National Register in 2013. It was designed by Crowell & Lancaster to provide housing for its fraternity members at a time when enrollment at the university outpaced university-constructed housing. To alleviate the housing shortage (and due to limited budgets to expand university dormitories), the State Legislature authorized the university to guarantee loans for chapter house construction on or adjacent to their campuses in 1903. The Phi Gamma Delta House is also unique in terms of its architecture. It is a large, 2 ½ story brick Tudor Revival (the only one of its kind on campus).
- Alpha Tau Omega House, 81 College Avenue: Just listed on the National Register in June of 2023, the Alpha Tau Omega House was built in 1932.⁸ It was similarly built using a university-backed loan to alleviate housing shortages on campus.

There are four other properties that have previously been surveyed and that may still be eligible for listing on the National Register of Historic Places. However, additional information or research is likely needed to confirm if they are still eligible, as the surveys were completed in the early 2000s (more than 20 years ago in some cases).

⁸ All descriptions summarized from the National Register of Historic Places nomination forms for the mentioned properties.

Protections for Historic Resources

Limited protections for historic resources in Orono currently exist. Town Ordinances, such as the shoreland zoning regulations and site plan and subdivision review regulations, provide some legal protection for historic resources from the impacts of new development.

Performance Standards

Any proposed land use activity involving structural development or soil disturbance on or adjacent to historic or archaeological resources or sites listed on or eligible to be listed on the National Register of Historic Places is required to submit their proposal to the Maine Historic Preservation Commission (MHPC) for review and comment. For the purposes of this standard, “eligible to be listed” means that a formal application to be listed has actually been filed with MHPC. The permitting authority (either the Code Enforcement Officer or the Planning Board) is required to “consider comments received from the Commission prior to rendering a decision on the application and shall require that historic and archaeological resources be protected to the maximum extent possible in accordance with the Commission's recommendations” (Chapter 18, Article V, Section 18-123 of the Town’s Ordinances).

This performance standard would apply to all land use activities within the community requiring a permit from either the Code Enforcement Officer or the Planning Board, including development or soil disturbance within the shoreland areas as well as applications for subdivisions.

In addition, subdivision applications are required to provide “appropriate measures for the protection of the historic or prehistoric resources” when any part of the proposed subdivision is located within a site of prehistoric or historic importance “designated by MHPC or the Comprehensive Plan.” The Planning Board also has to find that “the proposed subdivision will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, ...”

Main Street Office Overlay District

In 2017, the Town adopted provisions to create the Main Street Office Overlay District. The purpose of this overlay zoning district was to allow property owners to maintain the historic buildings in return for greater flexibility in their use (in this case, allowing offices). For historic buildings, such flexibility is conditioned on reasonably preserving its architectural integrity.

This overlay applies to 49 properties with frontage on Main Street, several of which are also within the Main Street National Register Historic District. In addition to land uses that are allowed within the underlying Medium Density Residential Zoning District, offices (including medical offices) are also allowed uses within the overlay, provided that a residential dwelling unit is also located on the property and that the office use would not require the demolition of any building or portion of any building that is part of the architectural significance of the property. There are also additional performance standards that apply to office uses.

At the time of the drafting of this plan, this incentive bonus to create offices within the overlay has not been utilized.

Issues & Opportunities

Issue/Opportunity: Archaeological Survey Work Needed

Readers will note that the map provided by the Maine Historic Preservation Commission with respect to prehistoric archaeological sites, as shown above, is from 2012. This is the most recent data available and is primarily based on surveys conducted as part of hydroelectric relicensing requirements along the Penobscot River. However, the banks of the Penobscot River at the southern

edge of the town have not had a professional archaeological survey and thus resources may not be identified.

In addition, no professional town-wide surveys for historic (post-European settlement) archaeological sites have been conducted to date in Orono. Future archaeological surveys should focus on the identification of potentially significant resources associated with the community's agricultural, residential, and industrial heritage, particularly those associated with the earliest Euro-American occupation and settlement in the 17th and 18th centuries, per Maine Historic Preservation Commission recommendation.

Grants from the Maine Historic Preservation Commission could be utilized to help fund this effort. Since the Town relies on these surveys to determine whether applications for development review will require comment from the Maine Historic Preservation Commission to be considered by permitting authorities, additional survey work is vital to understand what archaeological sites exist in Orono and what needs protection. Without this information, permitting authorities may not know to contact the Maine Historic Preservation Commission for further information or review.

Issue: Limited Protection for Historic Resources

Some of the properties within the Main Street Historic District are deteriorating or have had noncontributing additions added. While incentives for the preservation of properties within the Main Street Office Overlay exist, these incentives are not having the desired impact, as evidenced by their lack of use by developers and/or business owners since the adoption of the standards in 2017. Additional incentives might be considered to allow for the continued preservation or rehabilitation of properties within the Main Street Historic District and surrounding Main Street Office Overlay.

Furthermore, it is a common misconception that simply being listed on the National Register of Historic Places means that a property is protected from demolition or change. Unless a building owner is utilizing either federal or state historic preservation tax credits, no review of changes to National Register properties is required to take place. Thus, local regulation is often considered one of the most important ways to guarantee that changes that may take place to historic properties are historically sensitive because changes will require review and must meet local standards.

As noted above, Orono requires applicants to submit their projects to the Maine Historic Preservation Commission for review and comment for properties that are listed on the National Register of Historic Places and requires permitting authorities to consider those comments in their decision-making, including protection of historic and archaeological resources "to the greatest extent practicable." However, many of the properties within the locally designated Main Street Office Overlay are not included in the boundaries of the Main Street National Register Historic District (even though they were found to be contributing properties, based on a 2016 Reconnaissance Survey⁹), which means that they are not subject to any regulation (if they are not utilizing the office incentive) and could be altered or demolished at any time.

Opportunity: Grant Funding Available Through MHPC

Despite Orono's large number of documented historic resources and desire to steward them, it has not leveraged outside assistance with the preservation of historic resources. Other communities of comparable size are using the Certified Local Government (CLG) program sponsored by the Maine Historic Preservation Commission (MHPC) to maximize its efforts to protect historic and

⁹ See "Main Street Corridor Reconnaissance Survey, Juniper Street to Kelley 28 Road," prepared by Malcolm L. Collins, AIA, for the Town of Orono in 2016.

archaeological resources. Grant funding is consistently available through this program. This would require the Town to adopt regulations to protect historic resources, apply to the MHPC, and be found eligible by the Commission and the National Parks Service, under the State's CLG Guidelines.

Opportunity: Historic Resources as Economic Assets

Orono's historic and archaeological resources are important parts of the community's identity and brand. Although they are appreciated by those who pass by them and experience them daily, as economic assets they have been under-publicized and underused. There are opportunities to more completely weave them into the visitor, cultural, and recreational experiences of the Town. This is often known as "heritage tourism." The National Trust for Historic Preservation defines heritage tourism as "traveling to experience the places, artifacts, and activities that authentically represent the stories and people of a community's past and present." Many Maine municipalities are designing walking tours or "Museum in the Streets" to showcase their community's past. Local historians already lead walking tours through certain parts of Orono, such as in the Webster neighborhood. The Town may wish to get involved in promoting or formalizing these tours and events.

Housing

Overview

Homes are part of the landscape of the community and are often as or more indicative of a town's future character as data on population. While people come and go, the houses stay. Without additional housing, there is often no population growth. Further, the type of housing available in a community can impact the demographics of people moving into or out of a community.

Existing Housing Stock

Per American Community Survey estimates from 2022, there were approximately 3,792 housing units in Orono. Of these, about 3,290 were occupied housing units and about 491 were vacant. Units might be vacant for a variety of reasons, including that they are for sale or rent waiting on a tenant, or because they are used for only seasonal or recreational use. This section does not consider "group quarters" type housing (including dormitories on the University of Maine campus and those living in nursing homes). Group quarters housing represents shared kitchen or bathroom facilities and is discussed in further detail in the Population & Demographics section.

Of the occupied units in Orono, about 51% are single-family, detached dwelling units (excluding mobile homes). Mid-sized apartment buildings (between 2 and 9 units) comprise the second most common type of occupied unit, at approximately 26%. Single-family, attached dwelling units (also called townhomes) make up about 4% of the housing stock. Finally, mobile homes make up about 3% of the housing stock.

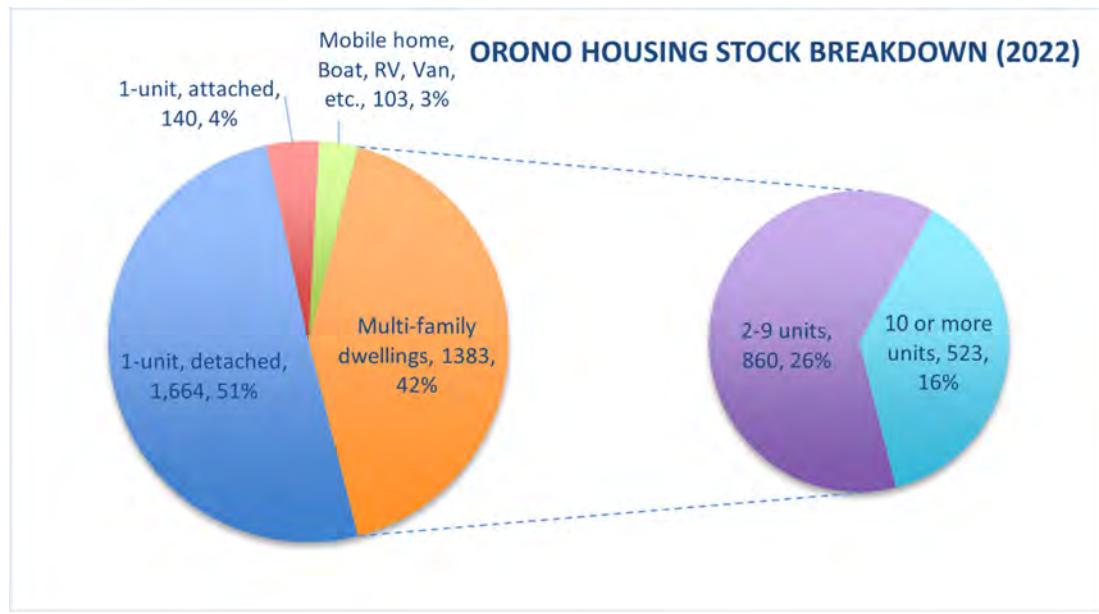
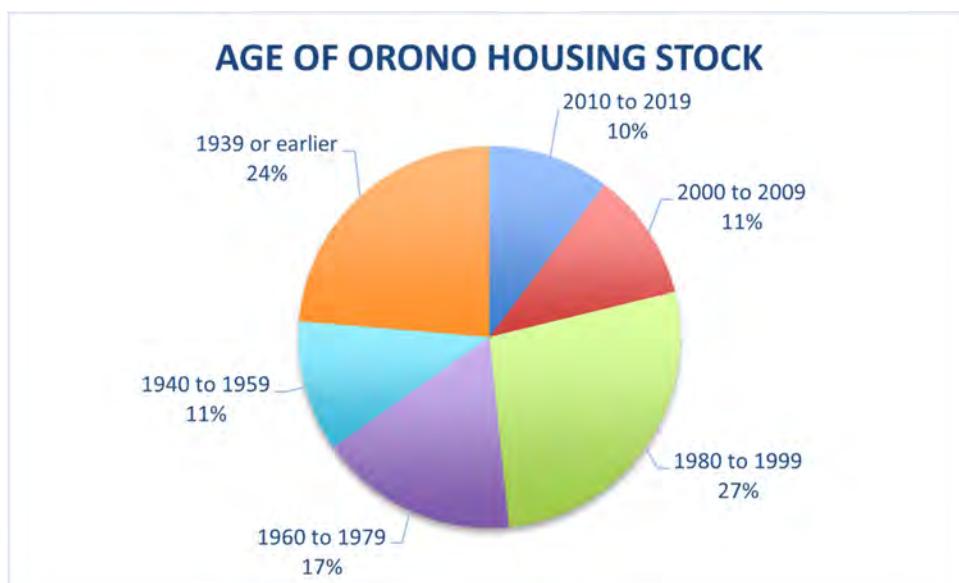


Figure 3-1: Orono Housing Stock Breakdown by Type. Source: American Community Survey estimates, 2022.

Accessory apartments (also called accessory dwelling units, ADUs, in-law apartments, or "granny flats") are allowed but do not make up a large share of the Town's housing stock. Performance standards related to accessory apartments were adopted in the year 2000. Between 2010 and 2023, however, only six new accessory apartments were added (according to building permit data obtained from the Code Enforcement Office).

Between 2010 and 2023, the Town added a net total of 560 new dwelling units, including 23 mobile homes. The vast majority of new dwelling units were added in either The Reserve (198 units) or The Avenue (272 units), which were built in 2012 and 2015 respectively. These units are primarily marketed towards students, though non-students and even families live there as well. During the same period, 40 units were demolished in Town (though 17 of these were replaced with newly built homes on the same lot).



The range of the age of the Town's housing stock is vast. The bulk of the Town's existing housing units (24%) were built in the 1930s or earlier, though there was another building boom in the 1980s and 1990s (which now comprises 27% of the Town's housing stock).

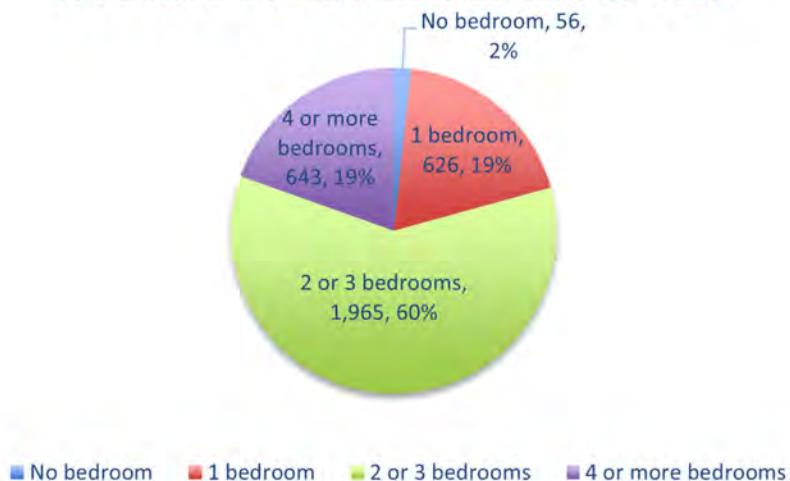
Figure 3-2 (left): Age of Orono Housing Stock. Source: American Community Survey estimates, 2022.

As shown on Figure 3-3, below, Most of Orono's housing units (60%) have between 2 and 3 bedrooms. This is followed by housing units with 4 or more bedrooms (643, or about 19%), and units with 1 bedroom (626, or about 19%). Importantly, The Avenue, The Reserve, and Orchard Trails (three of Orono's larger student apartment complexes) have larger, townhouse-style units available with 4 or more bedrooms (a total of 329 units across the three complexes), which would be counted in the 643 units.

Figure 3-3 (right): Orono Housing Stock by Number of Bedrooms. Source: American Community Survey estimates, 2022.

The number of smaller 1-bedroom or studio ("no bedroom") units may be indicative of a discrepancy between how people are currently living in Orono and their actual housing needs. As noted in the

HOUSING BY NUMBER OF BEDROOMS



Population & Demographics section of this Plan, 1,108 households in Orono are one-person

households. This means that about 40% of the single-person households in Orono (426 people) are still living in housing units with extra bedrooms beyond what they need on a day-to-day basis. It should be noted that, of course, people may want to have extra bedrooms to be utilized for guests or as extra living space, but this data suggests that there may be greater demand for smaller housing units (one-bedrooms and studios) than what is currently available in Orono.

Of occupied housing units in Orono, 52% are occupied by renters and 48% are occupied by owners. The average household size of an owner-occupied unit is 2.44 and the average household size of renter-occupied units is 2.26, indicating that a larger share of renters in the community live alone or in pairs while owner-occupied units are occupied by larger groups of people, such as families.

The overall household size is 2.27 persons per household (in 2020, per American Community Survey data). As noted in the Population & Demographics section of this Plan, household size in Orono declined between 1970 and 2000, but it appears to have leveled off since then.

Still, smaller household sizes can drive demand for new housing as much as an influx of new residents. Under the average household size in 1970, we would have needed about 334 new households to accommodate 1,000 people. Now, with a lower household size, we would need closer to 445 households to accommodate 1,000 people.

On-Campus Student Housing

Students living on campus at the University of Maine make up a large portion of Orono's population. Housing supplied by the University includes:

- 17 residence halls (dormitories), including:
 - 6 residence halls for first-year students;
 - 6 residence halls for upper-class students; and
 - 3 residence halls reserved for honors students.
- Four buildings (Doris Twitchell Allen Village) that offer apartment or suite-style living
- University Park, an apartment complex for families, with 48 one-bedroom and 46 two-bedroom apartments
- 14 fraternity and sorority houses, located primarily on College Avenue on or adjacent to campus.

In 2022, more than 4,000 students (and in some cases, their families) lived on campus, including the 3,189 living in dormitories and several hundred more living in on-campus apartments.

Off-Campus Student Housing

A large share of apartment units in Orono are rented to students. According to 2020 Census data, 1,026 rented dwelling units (about 49% of all rented units) had a "householder" under age 25. Each unit included between one and five residents, with an average of between two and three people. Not all of these households were students, but it is reasonable to assume that most were. Several large complexes are specifically targeted towards and/or rely heavily on students, including The Reserve (198 units), The Avenue (272 units), Orchard Trails (144 units), Stillwater Village Apartments (84 units), Dryden Terrace (77 units), Washburn Place (48 units), College Park (32 units), Founders Place (26 units), and Timberview (24 units). However, many students also live in single-family, small multi-family, and mixed-use commercial buildings throughout the community. These are concentrated in Orono's village area and the Webster neighborhood but extend into other neighborhoods as well.

Rental Housing

In 2008, the Town enacted a Rental Registration Ordinance to build out a database that would help stakeholders track trends in rental housing in the community in response to complaints of student housing creeping into traditionally single-family neighborhoods. As of 2023, the rental registration database (which covers all rental units, whether student or non-student households) included:

- 352 rental properties, including single-family homes, with at least one rental unit
- 1,849 total units across all of these properties, for an average of 5.27 units per property
- 3,858 bedrooms across all of these properties (not including studio apartments), with an average of 2.08 bedrooms per unit

The number of rental properties within the database is down by 218 properties since 2011, but the number of total units and the average number of units per property are both up since 2011 (from 1,470 units with an average of 2.8 rental units per property). This means that the Rental Registration Ordinance (and subsequent changes to other land use policies in Orono) have had the desired effect, leading to more rental housing complexes but fewer single-family homes being rented out as (most likely) student housing.

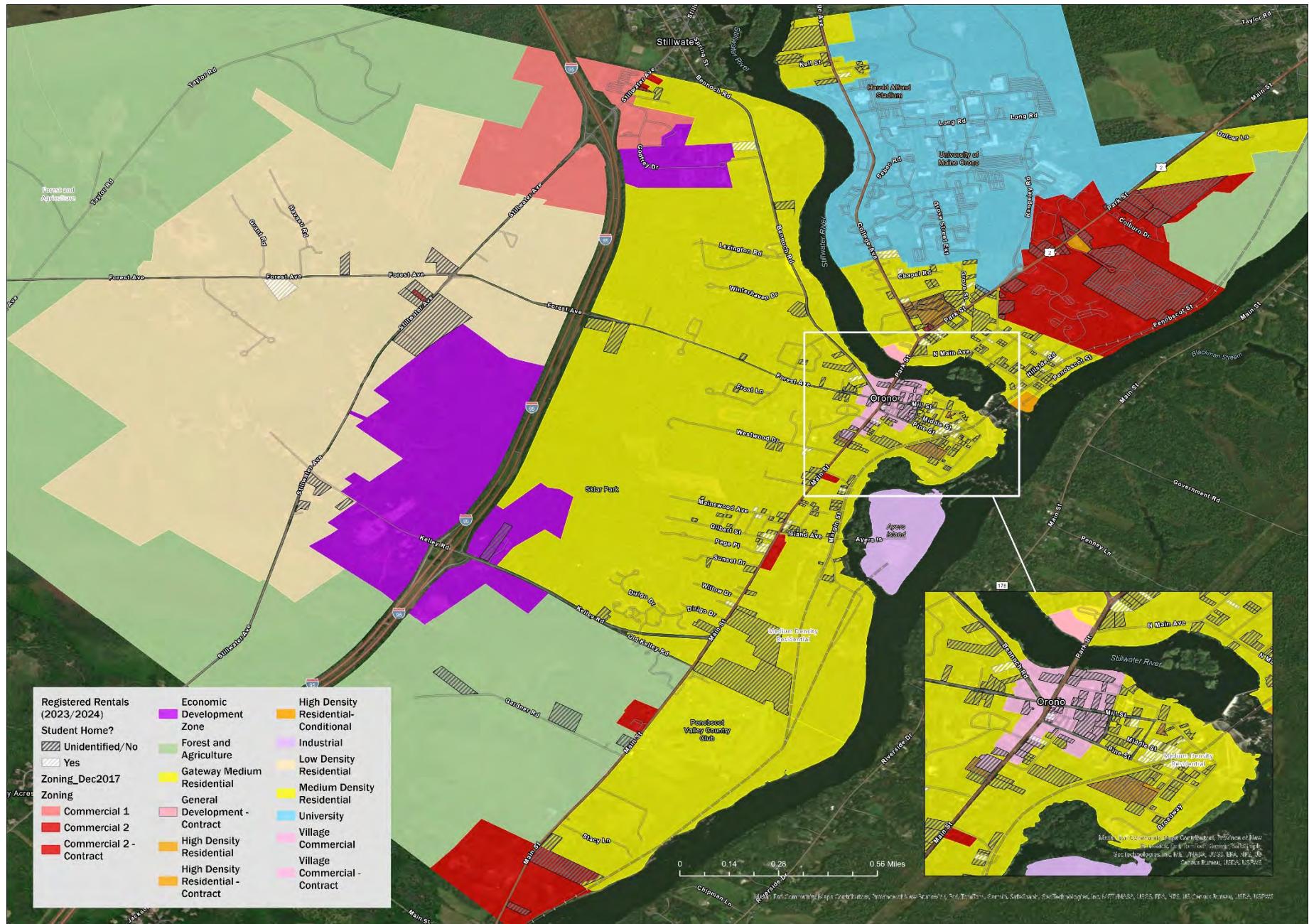


Figure 3-4: Registered Rentals by Zoning District. Source: Orono Code Enforcement Office.

As shown on Figure 3-4 on the previous page, about 29% of the rental units as of 2023 are located in the Medium Density Residential (MDR), Forest & Agriculture (F&A), or the Low Density Residential (LDR) zoning districts. These were historically lower-density districts that did not allow multi-family dwellings. Rentals are primarily located within the MDR district. This number is down from 2011, when early half (47%) of the rental units were located within these zoning districts (also primarily the MDR). Today, the majority of rental units within these lower-density zoning districts are rented single-family homes, but about 37.5% are small multi-family structures (between 2 and 5 units). There are also 12 properties within these districts with “grandfathered in” larger multi-family buildings (with more than 5 units) on them.

About 71% of the rental units were located within districts that allow multi-family dwellings. The most prominent of these is the Commercial-2 (C-2) District, which includes several large multi-family complexes. The Village Commercial (VC) and High Density Residential (HDR) districts also have larger multi-family dwellings or apartments in mixed-use buildings.

Substandard Housing

The Census Bureau defines substandard housing as “the lack of complete kitchen or bathroom facilities.” As of 2022, an estimated 14 units lacked complete bathroom facilities, and an estimated 29 units lacked complete kitchen facilities, according to the Census Bureau’s American Community Survey data. Each of these represents less than 1% of all housing units in Orono.

Sources of Heat

In 2010, 70% of occupied housing in Orono used fuel oil for heat. This has been steadily changing over the past 10 years, as Bangor Natural Gas expanded its gas lines throughout the community. Traditional fuel oil is now the heating source for only about 40% of housing units in Orono. Utility gas now represents about 21% (compared to 4.9% in 2010). Electricity (such as heat pumps) continues to represent about 16% of households (this number is unchanged since the 2010 Census).¹

Seasonal and Vacant Housing

Per data from the 2020 Census, of the 3,792 total housing units in Orono, 140 are vacant due to “seasonal, recreational, or occasional use.” That constitutes 3.69% of the housing units within the Town. This is primarily made up of camps at Pushaw Lake but may also be the second homes of “snowbirds.” An additional 69 units are listed as “other vacant,” of which some might be for other kinds of seasonal use (like by a caretaker or janitor).² In total, 425 units in Orono were vacant in the 2020 Census as being vacant, representing about 11% of the Town’s total housing stock.

This is up by 45.8% from the 2010 Census when the number of “seasonal, recreational, or occasional use” housing units was 96. This suggests that there may have been conversions from year-round to seasonal housing or vice versa.

Per data obtained from AirDNA, a market research firm for investors of AirBNB or VRBO, there were 37 short-term rentals listed in Orono as of August 2024. 12 of these are clustered near Pushaw Lake, with the remainder scattered throughout Orono (many of which are focused primarily on renting out one room in a home rather than the entirety of a property).

¹ Source: U.S. Census Bureau, 2018-2022 American Community Survey 5-Year Estimates, Table S2504

² Note: According to the definition of the Census Bureau, the “Other vacant” category, “includes units held for occupancy by a caretaker or janitor, and units held for personal reasons of the owner.”

Housing Affordability

Ownership

Housing affordability is typically evaluated by measuring the proportion of a household's income that is spent on housing costs. Households spending 30% or more of their gross income on housing costs (including rent or mortgages and utilities) are considered housing cost-burdened. By this measure, 18% of homeowners in Orono are considered housing cost-burdened.

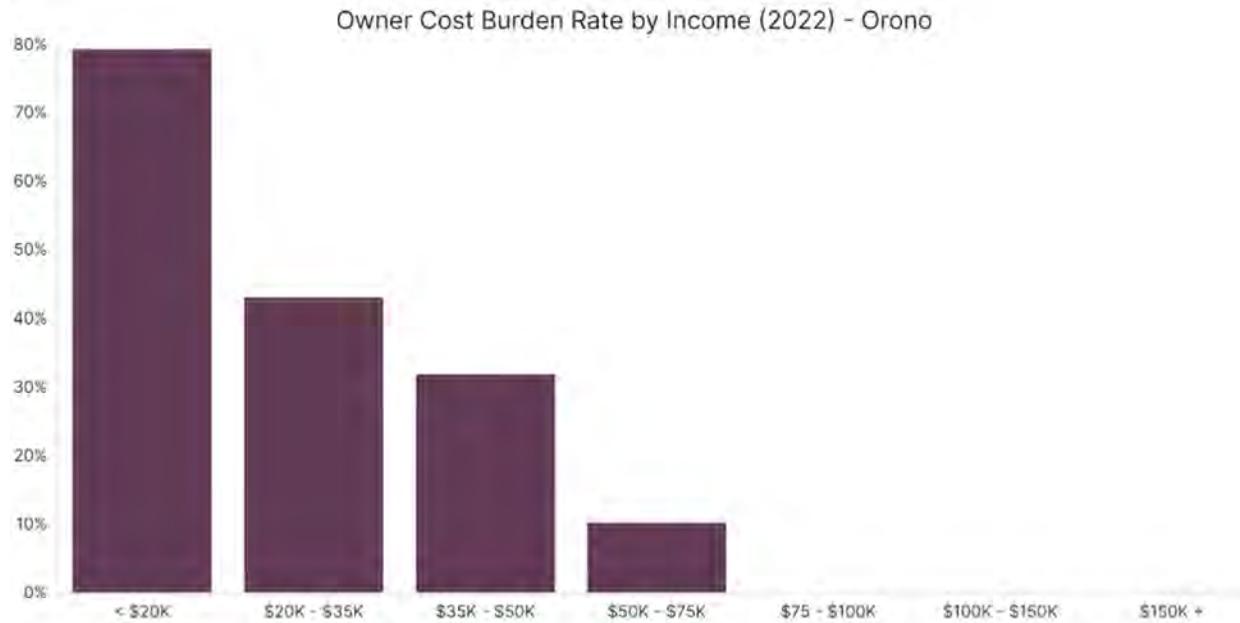


Figure 3-5: Percent of Owner Households with Cost Overpayment Above 30% of 2022 Household Income (by Income Bracket). Source: MaineHousing data.

As shown in Figure 3-5, above, owning a home in Orono is considerably less affordable for lower-income thresholds. This is expected, especially in a tight housing market like Orono, but suggests that there might be a lack of homes for ownership affordable to households making less than \$50,000 annually (approximately 41% of households in the community headed by someone older than 25, per American Community Survey data from 2022).

Importantly, senior homeowners in Orono (those 65 and older) tend to be more cost-burdened than the general population. Specifically, 25.9% of senior homeowners are housing cost-burdened, compared to 18% for the remainder of the community.

Median Home Sale Price Over Time (Regional Comparison)

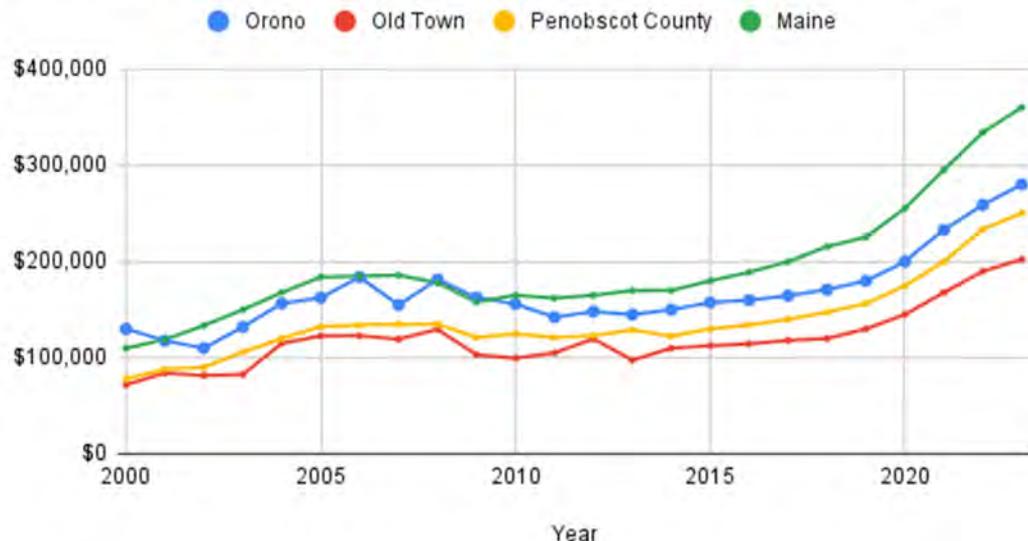


Figure 3-6: Median Home Sale Price Over Time (Regional Comparison). Source: MaineHousing data.

Median home sales prices have increased across the country, and especially in Maine. Between 2018 and 2023, the State experienced a 67% increase in median home sales price (from \$215,000 to \$360,000). Orono itself experienced a comparable, at 64% (from \$171,000 in 2018 to \$279,825 in 2023). This is a slower rate of growth than surrounding Penobscot County, however, which grew about 69% between 2018 and 2023 (from \$147,500 to \$250,000).

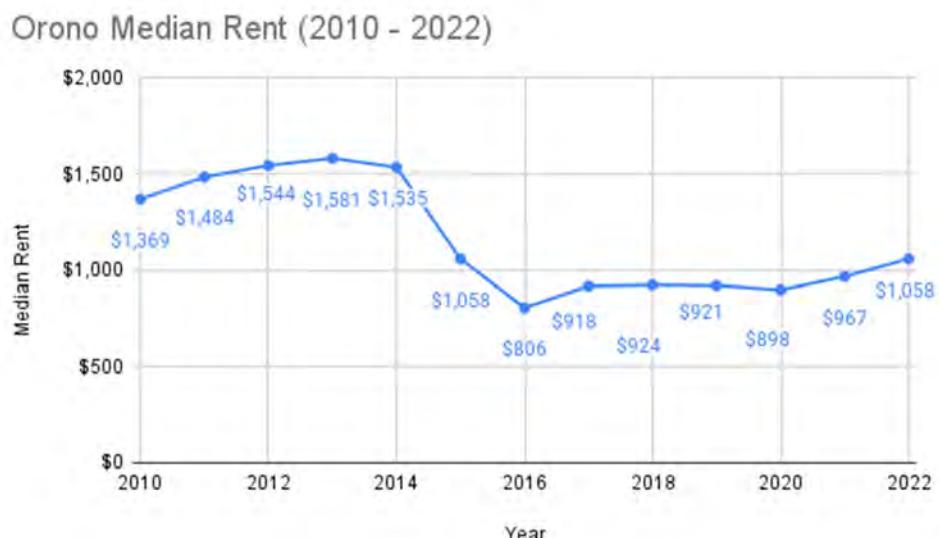
For greater context, Orono's median home sale price has increased 79% since 2010, when it was \$156,000. It should be noted though that this increase is less rapid than in surrounding Penobscot County, where the median has increased 100% (from \$125,000 in 2010), and in neighboring Old Town, where it has increased 103% (from \$99,500 in 2010 to \$202,450 in 2023).

Rental Housing

The median rent for all occupied rentals in Orono rose between 2010 and 2012, before plateauing for a couple of years between 2012 and 2014. The fall in rent between 2014 and 2016 is unique to Orono in comparison to the surrounding region and was likely the result of The Reserve and The Avenue being built in 2012 and 2015, respectively. So many units becoming available at once likely had the effect of depressing the rental market slightly in those years in a classic supply and demand scenario (especially since, as mentioned above, the majority of rentals in Orono are rented by students).

The median rent is relatively stable at this point. The median rent as of 2022 was \$1,058, more than \$300 cheaper than the median rent in 2010 (though, it should be noted, this number is not adjusted for inflation).

Figure 3-7 (right): Orono Median Rent (2010-2022). Source: US Census Bureau's American Community Survey data.



Even though rents have remained relatively stable over time, about 55% of Orono residents who rent their homes are housing cost burdened as of 2022.³ In other words, more than 55% of Orono renters spend more than 30% of their monthly income on rent. Single-parent households, though they represent less than 2% of Orono's total households (or 57), are the most cost-burdened cohort, with 79.2% of these households (or 45 of the 57) spending more than 30% of their monthly income on rent.

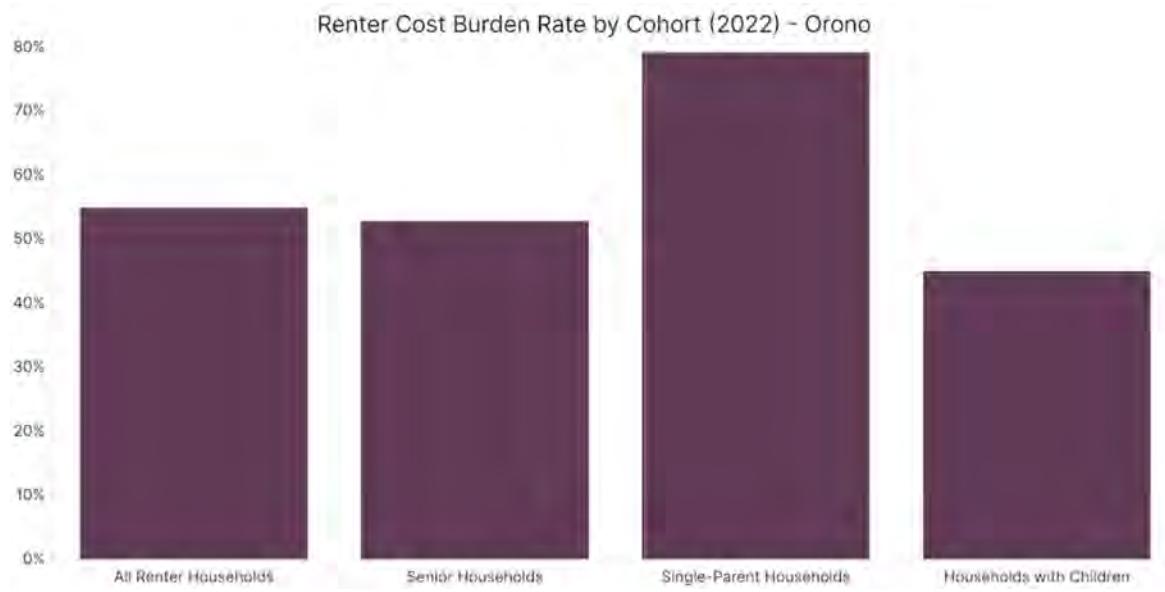


Figure 3-8: Renter Cost Burden Rate by Cohort (2022). Source: MaineHousing data.

³ Per Maine Housing data.

Affordable Housing

325 rental units across fourteen buildings are either federally subsidized affordable housing and/or serve the elderly and/or persons with disabilities. These are:

- Community Housing of Maine, 8 units, persons with disabilities, homeless, very low incomes
- Crosby Court, 16 units, elderly and persons with disabilities
- Freeman Forest, 18 units, elderly and persons with disabilities
- Glenridge Apartments, 24 units, elderly and persons with disabilities
- Hasbrouck Court (The Housing Foundation), 30 units, elderly and persons with disabilities
- Longfellow Heights (The Housing Foundation), 40 units, elderly and persons with disabilities
- Main View Apartments, 24 units, elderly and persons with disabilities
- Meadowview (Community Health and Counseling Services), 8 units, adults with chronic mental illness
- Talmar Woods, Phases I and II (The Housing Foundation), 156 units, families

The Housing Foundation, a nonprofit corporation based in Orono that serves the role of a local housing authority, owns three of the above facilities, for a total of 226 units. Additional private apartment complexes around Orono accept households with Section 8 low-income housing vouchers.

Efforts to Address Known Issues

Multi-family dwelling units (defined as a residential building designed for or occupied by three or more families, with the number of families in residence not exceeding the number of dwelling units provided) are allowed in the HDR, VC, C-2 (as part of a mixed-use project), EDZ (as part of a mixed-use project), and University zoning districts with review and approval by the Planning Board in accordance with the Town's Site Plan Review provisions (as outlined in Article VI). The minimum lot area per family (net density) requirements in Figure 3-8, at right, outline how many units can be allowed on a property.

The Town has also recently (2021) adopted standards that minimized the required minimum lot area for single-family homes in the MDR zoning district when those properties will utilize public water and sewer, decreasing the requirement from 20,000 s.f. minimum lot areas to 15,000 s.f. and shrinking required frontage from 100 feet to 80 feet.

Zoning District	Net Density Allowance ⁴
HDR	8 units/acre
VC	17 units/acre
C-2	2 units/acre (only as part of a mixed-used project)
EDZ	2 units/acre (only as part of a mixed-used project)
UNIV	No limitation
MDR	~2 units/acre
LDR	Minimum 1.37 acre lot size, unless part of an approved subdivision
F&A	Minimum 3.67 acre lot size, unless part of an approved clustered development

Figure 3-9: Minimum Lot Area per Family (Net Density) Requirements. Source: Sec. 18-106(f) of the Town's Land Use Ordinance

⁴ Note: This number represents the maximum number of units per acre that are allowed on a property within each zoning district when the property is connected to public sewer and water. These numbers are smaller when a property is connected to either a well or a septic system. However, this number may be multiplied by 2.5 if the development is a qualified affordable housing development (where a majority of units are affordable to those making less than 80% of the Area Median Income for rental units and less than 120% of the Area Median Income for ownership units).

Similarly, to respond to recommendations of the 2014 Comprehensive Plan, the Town adopted standards in 2023 which reduced the required minimum lot area in the C-2 zoning district in order to better reflect the district's intent to be a mixed-use, compact area of the town which creates a more walkable feel. The minimum lot area requirement for new lots was reduced to 20,000 s.f. on lots regardless of whether they utilized public water and sewer or well water and septic. Combined with the existing footnote 7, this change would make it possible for a 20,000 s.f. lot in the C-2 district to have one dwelling unit along with a commercial unit. There are also a number of lots in the C-2 between 40,000 sq ft and 79,000 sq ft that would potentially now have more development options due to this change than they previously had.

In addition, with the recent adoption of the provisions intended to comply with LD2003, any lot located in an area in which residential units are allowed (including districts previously zoned only for single-family homes) are now allowed up to three dwelling units, though they must be split between a duplex and a single-family home rather than all in one building, unless located in an area in which multi-family dwelling units are also allowed. Lots located in the Town's designated Growth Area are allowed up to four units, again, split between either single-family or two-family structures unless located in an area in which multi-family dwelling units are also allowed. It should be noted, however, that other dimensional standards (such as the net density allowance noted above, setbacks, and minimum lot widths, among others) still apply.

The minimum parking standards are the same for both single-family and multi-family dwellings and are based on the number of bedrooms rather than the number of dwelling units. These were amended in 2022 to follow recommendations from the 2014 Comprehensive Plan. Units with one bedroom or less require one parking space to be provided for each unit, and units with two or more bedrooms require two spaces per dwelling unit. The exception to this is senior affordable housing projects ("low-income housing for the elderly"), where the parking count is 0.75 per dwelling unit (rounded up if not a whole number). Accessory apartments do not require any additional parking beyond the standards required for the principal dwelling.

In the early 2000s, the Town grappled with a variety of issues related to student housing in the community, namely, complaints from homeowners regarding the creep of student housing into historically single-family neighborhoods.

As a result, the Town adopted regulations that attempted to address complaints related to student housing and had the impact of changing the housing landscape in Orono (as documented in the Student Housing section, above), including:

- The adoption of the aforementioned Rental Registration Ordinance in 2008, intended to arm stakeholders with more information about rental housing in the community;
- Amending the definition of "family" in the Land Use Ordinance in order to limit the number of unrelated persons living together in historically single-family zoning districts (LDR, MDR, F&A) to three people or less (elsewhere the limit stayed at five people);
- Revisions to the Land Use Ordinance to create a definition for "student home" (meaning a single-family detached, single-family attached, or multi-family dwelling where one or more of the dwelling units is occupied by three or more students) and assigned associated performance standards for that use;
- Requiring "absentee landlords" (including parents of students who purchased the home to rent out to their student) to have a local agent who can respond to emergencies and code enforcement complaints

In terms of providing affordable housing, the Town relies heavily on the Orono Housing Foundation, which was created in 1978 to provide low-income housing and related management activities (the properties that it manages are inventoried in the Affordable Housing section, above). Within the region, other providers such as Penquis and BangorHousing develop affordable housing (though do not currently have any properties in Orono).#

Projected Future Demand

As noted in the Population & Demographics section of this Plan, Orono's population is projected to be between 12,161 and 12,925 by 2040. This represents an increase of between 8.7% and 15.6%, compared to the 2020 population. If the average household size of 2.27 holds, we will need at least **an additional 431 housing units to accommodate the projected increase in population**. Orono easily outpaced this production target between 2010 and 2023 (when a net 560 units were produced), but we were also operating in an economy with low interest rates and significant out-of-state investment in large housing complexes primarily targeted towards students. Since then, the Town has adopted regulations significantly limiting the size of new housing complexes (as described above) and interest rates are at a 20-year high.

In October 2023, the *State of Maine Housing Production Needs Study* was released, highlighting a historic underproduction of housing across the state as well as the need to produce more housing to both correct this historic underproduction and provide for the projected population growth across the state.⁵ Overall population and population growth determine how many people currently need homes or will need homes in the future. The study focuses on regional need for housing and indicates that Penobscot County specifically will need between 1,400 and 3,000 new housing units by the year 2030 to accommodate projected population growth, population shifts, and anticipated economic changes.⁶ This study anticipates that the need will be met regionally (across the entirety of Penobscot County). However, some communities (namely those with public sewer and water capacity) will need to be responsible for creating an environment that fosters the production of more housing. Utility capacity in Orono is discussed in greater detail in the Public Facilities section of this plan.

Furthermore, as this section has identified, there is currently a discrepancy between the available housing units in Orono and people's actual, day-to-day housing needs. 1,108 households are one-person households, but there are only 682 one-bedroom or no-bedroom ("studio") housing units in the community. This means that about 40% of the single-person households in Orono (**426 people**) are still living in housing units with extra bedrooms beyond what they need on a day-to-day basis. Providing units that would allow these households to have the choice to downsize ends up having a positive impact on the rest of the housing system in the community, as those larger units will then be available for those who need them (such as larger families). Given the loss of family households in the community over the past 20 years, and projections showing that this is likely to continue, aiming to provide housing for the entirety of the lifespan will be of the utmost importance.

Orono will require additional senior housing (limited to those 65 and older) to accommodate the projected increase in this population. As noted in the Population & Demographics section, this group is expected to grow by about 42% (or about 497 people) through 2040. Further, providing *affordable* senior housing would have the dual impact of allowing older individuals to downsize into more economical and low-maintenance units, as well as allowing the seniors who are currently cost-

⁵ This study can be viewed online at [this link](#).

⁶ *State of Maine Housing Production Needs Study* (2023), page 56.

burdened (25.9% of senior homeowners and about 52.8% of senior renters, for a total of 318 current households) to be able to afford their housing more easily.



Issues & Opportunities

Issue/Opportunity: Growth in the Elderly Population

Growth in the elderly population is expected to continue through 2040, with the cohort 65 and older growing by about 42% (or about 497). As noted above and in the Population & Demographics section, this will likely lead to higher demand for medical and public safety services, as well as retirement housing and assisted living and nursing home units, which would allow this population to continue to “age in place.” If provided with the right resources to continue to age in Orono, this could also provide for a turnover in the existing housing stock (especially those 898 units headed by people over 65) that could become available for younger generations.

Further, providing affordable senior housing (limited to those 65 and older who make less than \$50,000 annually) would allow the vast majority of the 318 seniors in Orono who are currently housing cost-burdened to afford their housing more easily and continue to live in and contribute to the community.

Opportunity: LD2003 Density Bonuses

The Town adopted amendments to the Land Use Ordinance to comply with LD2003 in December of 2023. LD2003 was adopted by the State Legislature in April 2022, and required municipalities to increase housing densities outlined in their zoning regulations in several different ways, including:

1. Allowing additional housing units to be built on lots previously zoned only for single-family homes;
2. Allowing accessory dwelling units on any lot with a single-family home;
3. Allowing up to 2.5x the “base density” for qualified affordable housing projects, if located within the municipality’s Growth Area as identified through the Comprehensive Plan.⁷

The Town adopted standards allow any lot located in an area in which residential uses are allowed and which had an existing single-family dwelling on or before January 1, 2024 to have a maximum of three dwelling units, so long as density requirements for each unit can still be met. The three dwelling units may consist of a single-family and two-family dwelling structure but cannot consist of three detached single-family dwellings. A single structure with three dwelling units within it is only permitted in zoning districts which allow the multi-family dwelling land use.

⁷ Qualified affordable housing projects are those projects where the majority of units (51%) are proposed to be affordable to those making less than 80% of the Area Median Income for rental units, and to those making less than 120% of the Area Median Income for ownership units.

Lots located within the designated Growth Area and which did not have any dwelling units as of January 1, 2024 are allowed up to four dwelling units (so long as density requirements for each unit are met). These may consist of any combination of single-family or two-family units, but a single structure with three dwelling units is only permitted in zoning district which allow multi-family dwellings as a land use.

These amendments will likely have the effect of increasing housing stock within the community over the coming years.

Opportunity: Accessory Dwelling Units

Also noted above, accessory apartments are not very common in Orono, but with the number of large homes on public sewer and the need for affordable housing, there is potential for many more. The amendments to the Town's Land Use Ordinance as a result of LD2003 will likely result in a higher proliferation of accessory dwelling units being built in Orono over the coming years, as these amendments made it easier and cheaper to build an ADU by: (1) removing extra parking requirements (now, ADUs require no additional parking over and beyond that which is required for a single-family home), and; (2) removing extra setback requirements (now, accessory dwelling units are subject to the same setback requirements as single-family homes).

Issue: Lack of Vacant Units

In Orono in 2022, an average of 19 housing units were vacant due to being for sale. A “healthy” housing market has a portion of homes that are vacant and available at any given time in order to accommodate people who need to move around as they change jobs, move into larger homes to start a family, or otherwise need to relocate because of major life changes. Typically, a “healthy” housing market has about 5% of housing units on the market at any given period to accommodate this kind of demand.⁸ The fact that there are very few units on the market in Orono at any given time suggests that the local economy might be in danger. The economy requires workers to be able to fill open positions as an increasing number of residents reach retirement age. Further, we need room for workers to fill new open positions as local businesses and the economy grow. Without enough homes for workers to fill open positions, businesses may struggle and at times fail.

⁸ *State of Maine Housing Production Needs Study*, October 2023 (Prepared by MaineHousing, the Governor's Office of Policy Innovation & Future (GOPIF), the Maine Department of Economic and Community Development (DECD) and HR&A Advisors).

Economy

Overview

Orono's strategic location at the confluence of the Penobscot and Stillwater Rivers made it a center of industrial activity in the 19th century. However, Orono's industrial economy was quickly replaced by a knowledge economy (led by the University of Maine). Today, Orono is still a regional center of knowledge work, including employees at the University but also, increasingly, in financial services, technology, and other sectors.

This chapter seeks to describe current conditions, outline Orono's role in the regional economy, identify the community's numerous economic development assets, examine visible trends and areas of need, incorporate public sentiment, and lay out a direction and strategy to guide the Town's economic development efforts for the foreseeable future.

Orono's Economy: A Historical Perspective

Orono started as a farming community but quickly became more industrialized due to its location at the confluence of the Penobscot and Stillwater Rivers. Orono was historically the center of the region's lumber industry, with dams on the Stillwater branch of the Penobscot River and at the Ayers Rips to create Basin Mills. Water-powered sawmills were located on the riverbanks, and the Penobscot River itself was utilized as a shipping channel to get logs downstream for shipping and export from coastal ports. At about the same time, the Town's first paper mill was built on Ayer's Island (in 1889) and a second was built on the Webster Park side of the Stillwater River in 1892 (this mill was demolished in the 2010s).¹

Within the first century of being open, however, the University replaced the logging and pulp and paper industries as the primary economic driver of the community. By World War II, the smaller paper mills in the community were overtaken by much larger mills elsewhere in the state.

The University's student body jumped by more than 250% between 1941 and 1950, likely fueled by a large number of veterans returning from WWII. In fact, the number of veterans enrolled at UMaine and living in the region along with their families peaked at 2,575 in 1947.²

In general, few businesses remain from Orono's industrial period, the most notable of which is Shaw & Tenney, which has been manufacturing wooden oars, paddles, spars, and boat hooks since 1858 and is still going strong today.

In 2002, Orono was designated as a "secondary" regional service center due to the level of retail sales, the jobs-to-workers ratio, the amount of federally assisted housing, and the volume of service sector jobs in the community (with Bangor being the "primary" service center for this area).³ Its designation as a service center allows Orono to be eligible for priority consideration in certain State capital investments under Maine's Growth Management Law (30-A MRSA, Section 4349-A).

¹ <https://digitalcommons.library.umaine.edu/cgi/viewcontent.cgi?article=1147&context=mainehistoryjournal>

² <https://umaine.edu/150/through-the-decades/1935-1944/>

³ Source: Maine Department of Agriculture, Conservation & Forestry, Municipal Planning Assistance Program, *Maine's Service Centers*, https://www.maine.gov/dacf/municipalplanning/service_centers.shtml#sc

Regional Economic Climate & Trends

Orono is one of 43 municipalities that make up the Bangor Metropolitan Area. The metro area extends from central Penobscot County to the edges of Hancock and Waldo Counties. As noted above, Orono is considered a “secondary” economic service center for the region, with Bangor continuing to be the primary service center of eastern Maine.

In 2022, the Bangor Metropolitan Area had a resident civilian labor force of approximately 78,000. This has grown from about 71,000 in 2011. The term “labor force” refers to the number of people either actively working or able to work within the working-age population. It should be noted that being in the workforce is not the same as being employed. Figure 4-1, below, shows that the Bangor Metropolitan Area’s unemployment rate last peaked with the recession in 2009/2010, consistent with the state as a whole. Since then, there has been a steady decline in the unemployment rate (except for a sharp peak of unemployment when many people were out of work due to the onset of the COVID-19 pandemic), to its current rate of 2.9% (which is consistent with statewide unemployment rate).

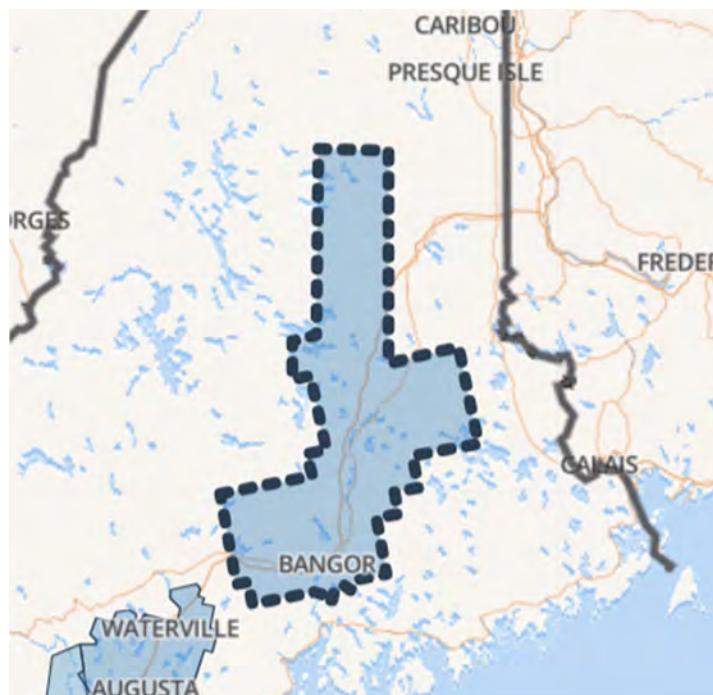


Figure 4-1: Bangor Metropolitan Area map

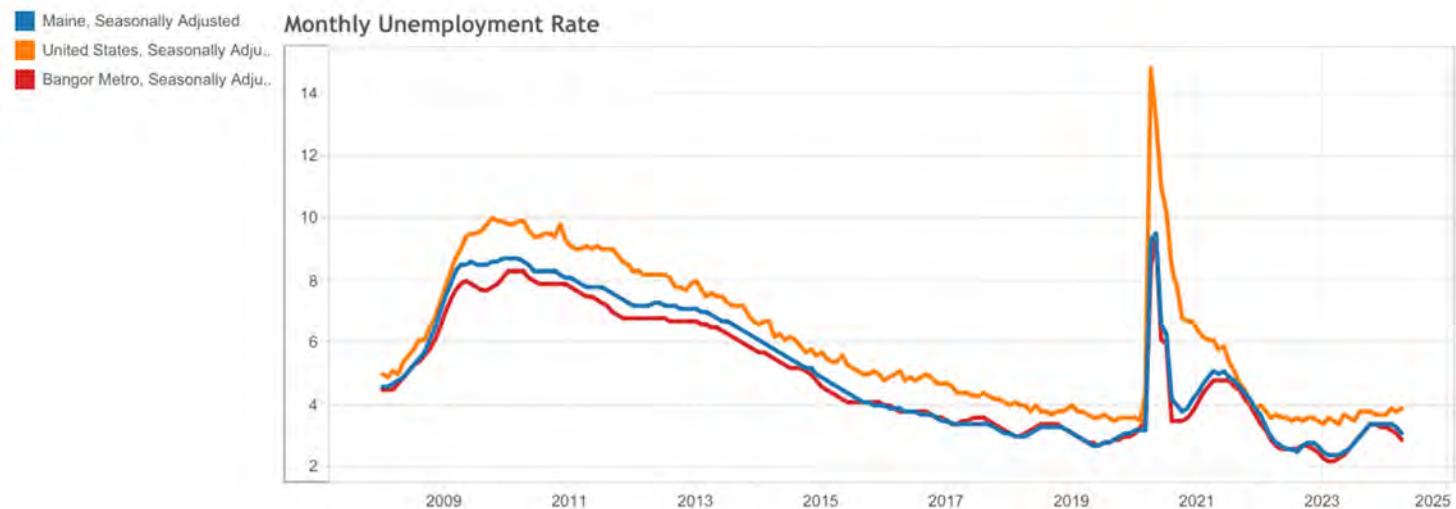


Figure 4-2: Unemployment Rate Over Time, Source: Maine Center for Workforce Research and Information

In 2022, the Bangor Metropolitan Area had about 70,000 salary jobs (self-employed people are not counted in this statistic). A statistic called “location quotients” (LQ) can provide insight into the region's economic sectors that drive job growth. Location quotients indicate how specialized or dependent an area is on a particular economic sector compared to the state or nation. A high location quotient suggests strong specialization and possible competitive advantages versus the

state or country. A low location quotient indicates that the region likely lacks a competitive advantage and probably cannot depend on that sector to drive growth. It should be noted, however, that a low location quotient does not mean that a sector is unimportant. In fact, the diversification of regional economies is key to sustained economic well-being, and sectors with a low location quotient might show us what we need to work on to ensure long-term sustainability.

In Figure 4-3, below, a sector with an LQ of 1.25 or more (versus the state) means that the Bangor region has a dependency on or specialization in that sector that is disproportionately high, meaning that the region has a competitive advantage in these sectors versus the state as a whole. An LQ of between 0.75 and 1.24 means the Bangor region performs at around the average for the state. An LQ of under 0.75 indicates a probable competitive disadvantage.

Figure 4-3 (below) shows that the Bangor Metropolitan Area has a competitive advantage in transportation (namely, trucking and associated support services for the transportation sector). Hospitals, broadcasting/television, motor vehicle dealers, and utilities also perform well. Retail, personal services, education, and social services are also all sectors where the region is more competitive than the statewide average. Importantly, these sectors are all driven by the Bangor Metropolitan Area (including Orono, as a secondary service center) being a regionwide service center for more rural communities. Growth anywhere in the region bodes well for growth in these sectors.

The Bangor region is a disproportionately weak center for professional, scientific, or technical jobs (outside of those in healthcare or education); finance and insurance; agriculture, forestry, fishing, and hunting; all types of manufacturing; and warehousing/storage.

In most other broad sectors, the Bangor region performs about as expected in relation to the rest of the state. It is possible to dig deeper into some of these broad economic sectors and find sub-sectors that either are disproportionately strong or weak. For example, because of Bangor's unique role in the gambling industry, that sub-sector is an area of strength within the otherwise average arts, entertainment, and recreation sector. However, the general picture presented above sets the context for a look at Orono's local economy.

Least & Most Competitive Sectors, Bangor Metro

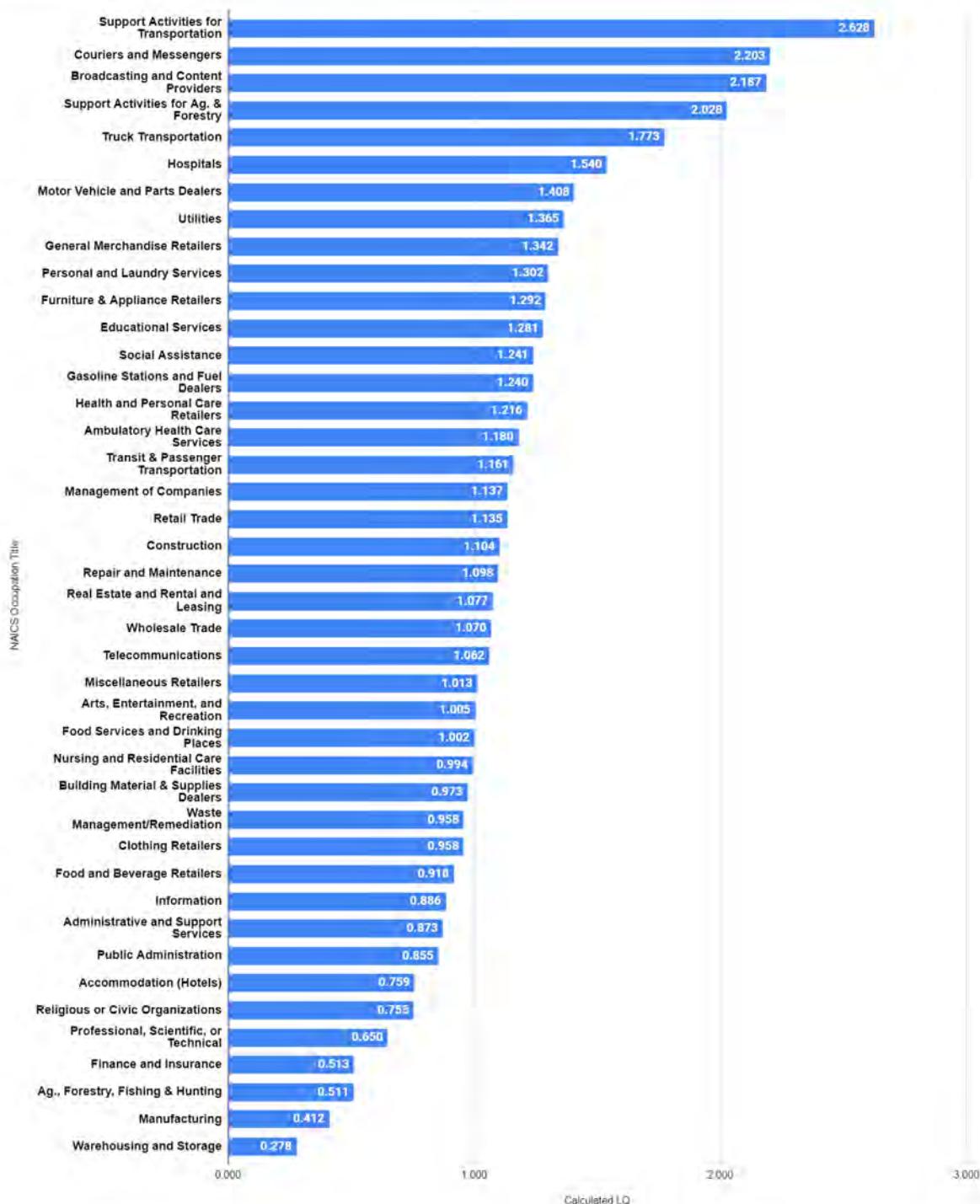


Figure 4-3: Most and Least Competitive Sectors, Bangor Metropolitan Area. Source: Maine Center for Workforce Research and Information: Annual Industry Employment & Wages

Orono's Labor Force & Employment

Orono's economy is a modest but notable piece of the Bangor Metro Area's economy. As noted above, Orono is a secondary service center in its own right. More workers come into Orono to work than leave Orono to work, as further described in the Commuting Patterns section, below.

The labor force forms the backbone of Orono's local economy, and its characteristics, such as education, skill areas, and availability, are important to consider in terms of future development. In 2022, Orono's resident civilian labor force consisted of 5,948 people (or about 7.6% of the entire labor force for the Bangor Metropolitan Area). Of these, 119 were unemployed in 2022 (the last date for which local data is available, representing an unemployment rate of about 2.3%, on par with the Bangor Metropolitan Area rate and lower than the statewide unemployment rate at the time). 41 people were self-employed in 2022, representing less than 1% of those in the labor force in the community.

It should be highlighted that future demographic trends (detailed further in the Population & Demographics section of this Plan) shows that the share of adults of "prime child-rearing age" (typically considered to be between the ages of 25 and 34) is declining in Orono. Prime child-rearing age is also prime working age, meaning that Orono's labor force could be smaller over the next decade or two.

Figure 4-4, below, shows what sectors Orono residents work in (*where these residents actually work* is described further in the Commuting Patterns section, below). These figures can help us to develop or support local or regional economic growth. Orono residents primarily work in the educational services, healthcare, social assistance, and retail sectors; job growth in those sectors is what we should be focusing on if we want to match the skills of existing residents with new jobs.

Orono Employment by Industry

	2022	
	Count	Share
Educational services, health care, social assistance	2651	47.71%
Retail trade	846	15.23%
Arts, entertainment, and recreation, and accommodation and food services	805	14.49%
Professional, scientific, and management, and administrative and waste management services	380	6.84%
Manufacturing	239	4.30%
Construction	122	2.20%
Other services, except public administration	120	2.16%
Transportation and warehousing, and utilities	108	1.94%
Public administration	91	1.64%
Finance and insurance, and real estate and rental and leasing	90	1.62%
Wholesale trade	48	0.86%
Information	44	0.79%
Agriculture, forestry, fishing and hunting, and mining	12	0.22%

Figure 4-4: Orono Employment by Industry (2022), Source: US Census Bureau Table DP03

Since 2010, the percentage of Orono residents employed in retail trade has risen from about 12.4% to about 15.2% of the population. While still representing a relatively small portion of the community, the percentage of manufacturing workers has increased slightly, from about 2.2% to 4.3% of the population. Meanwhile, the share of those employed in educational services, health care, and social assistance has decreased by about 15% since 2011. This does not necessarily mean there are fewer jobs in these sectors, but rather that the available jobs might now be taken up by people commuting in from outside the community, as further discussed below. Agriculture, forestry, and other natural resource management-related occupations, which already made up about 1% of the population in 2010 now make up an even smaller portion of the community at 0.22%.

Commuting Patterns

As noted, Orono is a secondary player in the broader Bangor Metropolitan Area's regional economy. This must be considered in any economic development strategy.⁴ The US Census Bureau indicates that in 2022 (the most recent available data), about 46.7% of Orono's residents are employed outside the community (about 2,500 people). Of these, the Census Bureau estimates that about 28.5% are commuting to Bangor, with smaller numbers going to Brewer (4.3%), Old Town (3.6%), Augusta (2.3%) or even further afield. The average commuting time for Orono residents in 2022 was 16.7 minutes. The remaining 53.3% (about 2,800 people) both live and work in Orono. Other sources of workers for Orono include Old Town, Bangor, Brewer, Milford, Veazie, Bradley, and Hampden.

There have consistently been more jobs located in Orono than people in Orono's labor force. According to the US Census Bureau, there were about 7,016 jobs in Orono in 2022 (compared to a

⁴ According to the Maine Center for Workforce Research and Information, Metropolitan areas have at least one urbanized area of 50,000 or more population, plus adjacent cities/towns that have a high degree of social and economic integration with the core as measured by commuting ties.

total resident labor force of 5,948 people). The total resident labor force has risen by about 500 people since 2011, while the total number of jobs available in Orono has held approximately steady.

It should also be noted that in the post-pandemic world, more people than ever are working remotely in Orono. In 2022, about 9.3% of Orono resident workers (an estimated 524 people) were working from home the majority of the time. This is up significantly from 2010, when only about 200 people worked remotely.

Local Business Climate & Major Employers

The largest local employer is the University of Maine, which employs people across many sectors, including education and related services (professors, teaching assistants, and advising); professional, scientific, or technical services (including engineering, like for example, at the Advanced Structures and Composites Center); and a variety other sectors, all counted under the umbrella of this one large employer. As such, Orono's economy tends to grow when the University of Maine grows and slow when UMaine slows.

Additional top employers (those with more than 50 employees) include Orono Commons (a Genesis Healthcare nursing home facility), RSU26 (the local public school system), and the Treats Falls House (an intermediate care facility for those with intellectual disabilities run by the Independence Advocates of Maine). Within the Bangor Metropolitan Area, Northern Light Eastern Maine Medical Center, Bangor Savings Bank, and, of course, the University of Maine are the major employers.⁵

Downtown Orono

Orono boasts a traditional New England-style downtown that provides a recognizable commercial center within the community. The zoning is Village Commercial, with a stated purpose "to strongly encourage the use of existing buildings and allows new commercial or residential ventures either in existing buildings or in new structures that are similar in size, style, and proportion to those which are currently in the district."⁶ Buildings are a diverse mix of architectural styles set close to the sidewalks. The downtown contains a diverse mixture of land uses, including some higher-density housing, with access to restaurants, shops, services, the library, the municipal office, and other activities. It is one of the two gateways to the University of Maine campus (along with Stillwater Avenue) and, as such, tends to be many visitors' first impression of the community. In addition, downtown Orono stores and restaurants depend on those affiliated with UMaine (including faculty and students) for their patronage, with more than one-third of their customers being attributed to the University.⁷

Industrial & Commercial Areas

There are a variety of areas of the community where commercial development is allowed and encouraged. A majority of the Town's zoning districts allow for some level of commercial development, with higher impact uses concentrated in the Economic Development Zone (EDZ), C-1, and C-2 zoning districts.

Adjacent to Exit 193 off I-95, the Maine Technology Park contains 20 lots on about 70 acres off of Stillwater Avenue. It was developed in phases beginning in the 1970s and has public sewer, water, and three-phase power available. One of the major tenants is the UpStart Center for Entrepreneurship (formerly known as the Target Technology Center), a 20,000 s.f. space that leases

⁵ Source: Maine Center for Workforce Research and Information.

⁶ Per Sec. 18-105(f) of the Town's Land Use Ordinance.

⁷ Orono Planning Office, *Market Area Analysis, Downtown Orono* (Orono, ME: Town of Orono), March 2011.

office space to a variety of different companies, including start-ups and larger 8-10 person companies. The Center is also home to the UpStart Center for Entrepreneurship, which supports entrepreneurs in building competitive, market-oriented companies and is staffed by business advising professionals from the University of Maine.

In 2012-2013 the Orono Economic Development Corporation (OEDC) prepared a conceptual plan for further build-out of the park, including both vacant and underused properties. The plan recognized the limits of wetlands in the park, and state and federal permitting for alleged historic wetland impact along with prospective approval to alter 1.78 acres of wetland was granted in 2018. In exchange, a portion of property owned by the Town off of Taylor Road was identified and a permanent conservation easement to the Orono Land Trust was provided to provide for off-site mitigation of wetland impact.

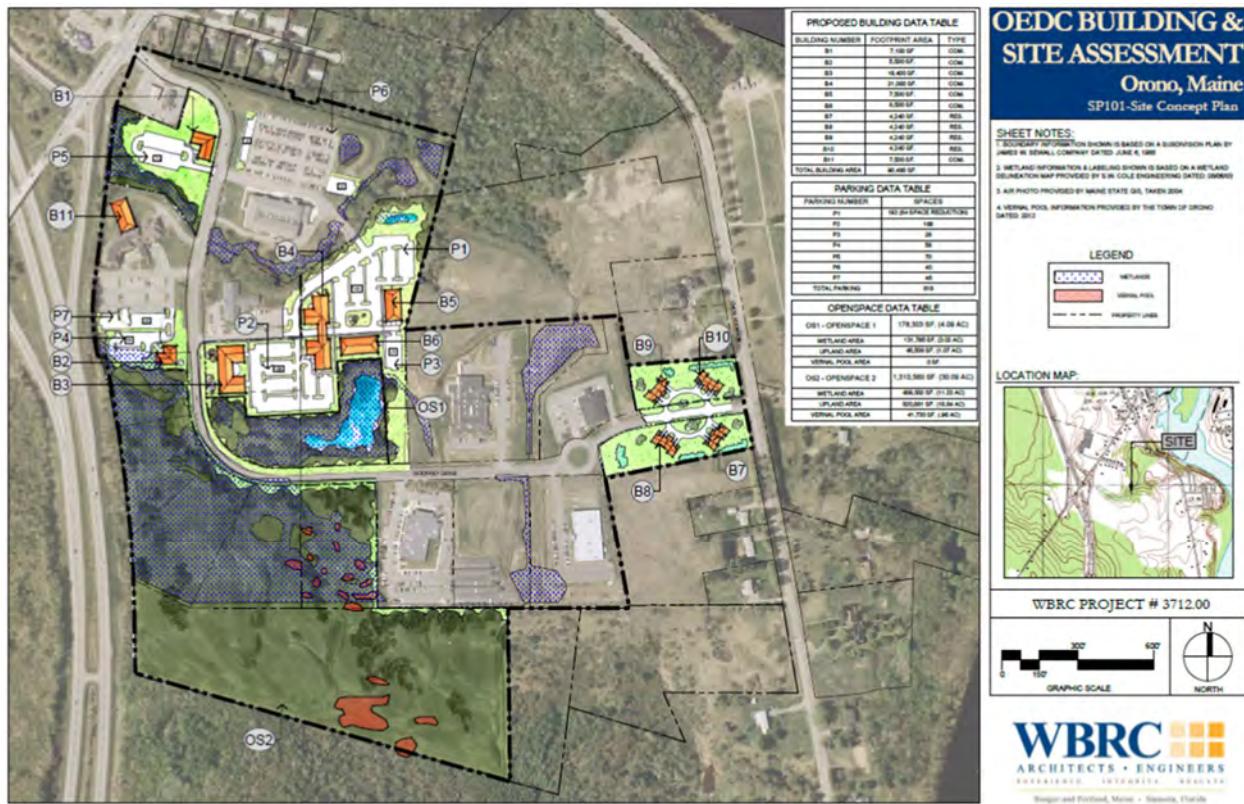


Figure 4-5: Maine Technology Park Conceptual Site Plan (prepared for OEDC, 2012-2013)

In addition to the Tech Park, Stillwater Avenue hosts the University Mall, the Town's largest retail facility. Active tenants include an IGA supermarket, a movie theater, a trampoline park, restaurants, and other services. Another 125+ acres on the west side of the Stillwater Avenue interchange also are zoned for commercial use. A few businesses are located there, but the area lacks public sewer and water, which limits its development potential. There are also wetlands constraints on some of these parcels.

Home Occupations

Self-employment is an important part of Orono's economy, and many self-employed individuals are in home-based businesses. Orono's register of home occupations includes more than 30 businesses, but the number undoubtedly is larger than that given that those who do not see clients or visibly look

like a business are not necessarily known by their neighbors or the Town. Home occupations represent a low-cost way to experiment with entrepreneurial ideas and start a business. The availability of easy-to-use, online-based selling platforms, and the increased ability to work from anywhere on a laptop, will likely drive growth in home occupations in the future.

Currently, Planning Board approval is required for home-based businesses when they see clients on-site or when there will be a significant number of delivery vehicles visiting the site. In addition, additional parking must be provided on the lot where the home occupation is to be located. This policy likely has the impact of limiting home occupations to larger lots where additional parking spaces for employees and patrons can be accommodated.

While it makes sense to review potential impacts associated with home occupations, the cost associated with Planning Board review (including fees associated with noticing the project, and also so-called “soft costs” associated with developing an application for the Planning Board, such as getting a site plan drawn) might deter would-be business owners from establishing home occupations.

Seasonality of the Economy

As noted above, UMaine students and faculty make up more than one-third of the customers for downtown businesses. Sectors such as arts, entertainment, recreation, and food service as well as retail trade rely on the Town’s student population to sustain their businesses year-round. When students return to their hometowns during the summer, local businesses tend to suffer, as the number of people returning to camps at Pushaw Lake does not come close to replacing the number of students lost during the summer months.

Local Economic Development Priorities & Strategies

Orono has an excellent school system, plentiful natural resources, historic architecture, and a diverse mixture of artists and cultural amenities (thanks in large part to the vibrancy provided by the presence of UMaine students). Outdoor recreation such as running, biking, cross-country skiing, canoeing and kayaking, fishing, and boating at Pushaw Lake are all part of the quality of life that Orono offers. The Town utilizes all of these amenities in the way that it markets itself, especially in marketing materials on the Town’s website.⁸

Orono Economic Development Corporation

The Orono Economic Development Corporation (OEDC) is a nonprofit, 501(c)(4) corporation formed in 2000 which is dedicated to the growth of business and cultural enterprise in Orono. The Board of Directors includes leaders from various sectors represented in Orono. In addition, representatives from the University of Maine and the Town of Orono are active members of the board. OEDC tracks major properties available in Orono to provide this information to potential developers. OEDC was also responsible for the redevelopment of the former Taylor Bait buildings at the Caribou Bog Outdoor Center, a four-season, public outdoor center located within the Caribou Bog Conservation Area (a nearly 7,000-acre corridor of conservation lands and trails extending from the Bangor City Forest north to Old Town). The new center, completed in 2022, will enhance the overall experience of Nordic skiers, mountain bikers, bird watchers, and the general public. As of 2024, OEDC is in the process of redefining its priorities and coming up with ideas for new major projects.

⁸ See: <https://orono.org/555/Why-Orono>

Downtown Plan

In 1995, the Town adopted a Downtown Plan that addressed zoning, parking, sidewalks and streetscape improvements, façade improvements, and marketing strategies. Over 15 years following the adoption of that plan, many of the recommendations (either as presented or as they evolved) were subsequently adopted, including:

- Rezoning the Downtown area to a Village Commercial district;
- Adoption of a Special Downtown Tax District to support downtown maintenance activities, events and marketing, and beautification activities;
- Establishment of the Orono Village Association to act as a voice for Village businesses and residents and to help carry out the activities funded by the special tax district (note: as of 2023, the Orono Village Association is currently dormant while strategic next steps are explored);
- Improved parking management;
- Reconstruction of sidewalks and burying of power lines;
- Creation of a Downtown Transit-Oriented Tax Increment Financing District; and
- In cooperation with the University of Maine, the Community Connector, and Maine DOT, the establishment of a shuttle bus service between Downtown and the University of Maine campus, funded in part with the transit TIF revenues.

The Downtown Plan was updated in 2011 to include an updated market area analysis as well as recommendations for an updated downtown façade improvement program.

The 2011 update found, based on exit surveys of customers of downtown businesses, that restaurants and specialty stores located in downtown Orono are reaching beyond the immediate Orono area and into Bangor (the population center of the region). Focusing on having a recognizable cluster of restaurants and eating places unique to the region could increase the regional draw to Orono's downtown even further, into places like Hampden, Eddington, Glenburn, and further afield (the defined "Secondary Market Area" from the 2011 update).

Conversely, convenience store goods and other personal service businesses in the downtown study area are heavily dependent on those already frequenting the downtown area. The growth of these kinds of businesses is more dependent on increasing the "feet on the street" within the downtown (either through an increase in population or the number of workers located in or immediately adjacent to the downtown on any given day).

The 1995 Downtown Plan included sketches, done by local firm WBRC, Inc., of potential façade improvements that could be done to several downtown buildings to reestablish unifying elements (namely, materials and building scale/lines). In 2011, the total estimate for these improvements was valued at \$872,000. The businesses identified in the 2011 Plan have not pursued these upgrades, mainly due to lack of funding.

Tax Increment Financing

Tax increment financing (TIF) is an economic development tool used to catalyze economic development. They allow municipalities to "shelter" from state/county fiscal formulas any increases in assessed valuation (for up to 30 years) and instead keep that revenue local. The revenue can be used for locally designated economic development projects such as infrastructure investment, economic development staffing, marketing, façade improvements, and more.

Orono utilizes TIFs to encourage development in the Growth Areas designated within the Town's most recent (2014) Comprehensive Plan. The Town currently has seven TIF districts, which are more particularly described in Table 1 of the Appendix.

Public Services/Utilities

The location and availability of public services and utilities is discussed further in the Public Facilities section of this document.

Regional Economic Development Priorities & Strategies

Orono sits at a unique intersection as it is both a major economic center in its own right, but also outsources a lot of jobs to surrounding communities within the Bangor Metropolitan Area. The strength of the broader, regional economy has a significant impact on growth locally. Likewise, trends impacting the region have the potential to impact Orono as well.

A regional perspective is most valuable when it comes to economic development efforts. Marketing and business solicitation on a regional level is far more cost-effective than when done by individual towns, and the impacts of economic development seldom are confined inside any one town's boundary. Thus, Eastern Maine Development Corporation (EMDC) has taken the lead in preparing the 2021-2025 Comprehensive Economic Development Strategy (CEDS), which identifies the following goals for regional economic development within Penobscot, Piscataquis, Hancock, and eastern Waldo counties:

- Expand and increase the accessibility and affordability of broadband capacity
- Improve and expand existing transportation infrastructure and support port and rail development
- Foster methods of adaptation and mitigation to strengthen the region's resilience against climate-related impacts
- Develop, retain, and attract talent by increasing collaboration between educational institutions and businesses, improving the digital literacy of individuals and businesses, and working to attract new talent to the region
- Support the growth of existing businesses and the attraction of new businesses

These goals will also be important locally as well, given the importance of a regional strategy as outlined above.

Issues & Opportunities

Issue/Opportunity: Small Year-Round Population, Proximity to UMaine

As a result of its relatively small year-round population (not even half of the total University enrollment), Orono has historically been unable to support the array of retail or commercial services that might otherwise locate in a service center community. As such, most stores and services have tended to locate in Bangor instead. However, this might be changing as larger employers (such as Tyler Technologies, which is currently building a nearly 15,000 s.f. headquarters in Orono for about 100 employees and student interns) have begun to locate in the community. Tyler Technologies noted that it chose its project site due to the close proximity of the University of Maine campus and the opportunity for research synergy. Building on this momentum through physical infrastructure improvements, including enhancing walkability as described below, could be a key priority in the future.

Issue: Walkability Between UMaine and Orono's Downtown

The physical distance between the University of Maine campus and Orono's downtown is greater than what would typically be considered a comfortable walking distance. The shortest road distance from the activity center of UMaine's campus to downtown Orono is 1.3 miles. A one-mile pedestrian trail is available, but it is beyond what many would consider to be a walkable distance (typically no more than $\frac{3}{4}$ of a mile, or about a 15-minute walk). Enhancing the walkability between UMaine and Orono's downtown would allow students to more easily patronize local businesses and alleviate some of the vehicular traffic issues associated with moving students between campus and the commercial center of the community.

Opportunity: More "Feet on the Street"

Similar to the above, there are strong connections to be made between arts and culture, a community's downtown, and its pedestrians, bicyclists, and even motorists. When vehicular traffic is calmed, pedestrians and bicyclists feel more comfortable and are more likely to use the sidewalks and roads. When people get out of their cars and walk, they are more likely to explore and duck into a shop or visit a restaurant they haven't been to before. When a community's downtown features art and culture, both in the public and private realms, people tend to slow down, linger, and explore.

One way to enhance the existing downtown would be to invest in community murals, art installations, and similar, that invite people to linger in the downtown and see what else it has to offer.

Along the same vein, when a downtown has more "feet on the street" (more people walking or biking between activities), they tend to explore certain kinds of establishments more. As noted, the 2011 Update to the Downtown Plan indicated that convenience store goods and other personal service businesses in the downtown study area are heavily dependent on those already frequenting the downtown area. Thus, the growth of these kinds of businesses is more dependent on increasing the "feet on the street" within the downtown (either through an increase in population or the number of workers located in or immediately adjacent to the downtown on any given day). Co-locating higher-density housing or offices within or immediately adjacent to the downtown area would have the impact of drawing more customers to downtown businesses.

If more people lived in and around the downtown area, Orono would likely look more attractive to restaurateurs looking to open restaurants, to other businesspeople looking to start small businesses, or even to existing business owners thinking about expanding their hours to meet a burgeoning need. With more people in and around downtown, it would be easier to engage them and keep them visiting downtown amenities and spending money locally. Recognizing that the downtown itself is physically constrained, the corridors parallel to Mill Street and Pine Street on the south and existing neighborhoods to the north may offer opportunities for incremental growth.

Opportunity: Growth Sectors

Opportunities for more significant growth in the community may include healthcare, social services, and retail. These are the sectors in which Orono residents already work, so there is an existing skill set within the community. In addition, as noted in the Population & Demographics section of this document, Orono's population is aging so there will likely be a higher demand for healthcare and social services.

The region's healthcare sector is currently centered in Bangor, though there is a small presence in Orono as well. Since Bangor is likely to remain the major healthcare center for the region given the presence of Northern Light Eastern Maine Medical Center, the opportunity for Orono is outpatient specialty services and healthcare-related offices. Working to attract health service providers like

Penobscot Valley Dermatology that offer attractive career opportunities and mid-higher earning jobs will be important. Any new office locations will need to be planned strategically to create demand and synergies within existing commercial and mixed-use areas.

Opportunity: Remote Work Expected to Continue

It is also expected that Orono residents will continue to work from home, taking advantage of high-speed internet connections and new technology. This could mean good things for the convenience retail and service-oriented businesses currently operating or who may be looking to operate in Orono's downtown, as it means a larger number of potential customers stay in town during the workday.

Opportunity: Tourism Marketing

As noted above, the Town's economy is heavily dependent on students and faculty associated with the University. The Town is likely losing more than 3,000 people during the summer months when undergraduates living on campus return to their hometowns. While tourism is not currently a large part of the local economy, the opening of Hotel Ursa (a new 95-room boutique hotel located on the University of Maine campus and open to the public) may present an opportunity to market the community's vibrant downtown, quality of life, and outdoor recreation economy to tourists at all times of the year.

Agriculture & Forest Resources

Overview

Orono's rural resources (such as agriculture and forest management) are essential to the Town's history and its rural character. Though local farming and forestry no longer play significant, direct roles in Orono's economy in terms of jobs and income, they continue to play a role in the community.

Agriculture

At the time of the Town's founding until the mid-19th century, agriculture formed the backbone of the Town's economy. Local foods continue to be important to Orono residents. The most evident sign of this is the Orono Farmers' Market, a local institution with a summer market (May to November) held at the University of Maine's steam plant parking lot; and a winter market (December to April) held in the Asa Adams School Gym and nearby parking lot. Between 25 and 30 farms participate in the Farmers' Market. The Town also provides land for community gardens, including one started and maintained by John Jemison, a soil and water quality specialist with the University of Maine Cooperative Extension Service, located next to the Orono (Birch Street School) Senior Center. The produce is provided to senior citizens.

The University of Maine is a center for agricultural sciences and education. The College of Natural Sciences, Forestry, and Agriculture maintains research and teaching facilities at two nearby farms in Old Town: the Witter Farm on College Avenue adjacent to the main campus, with a focus on dairy and equine science, and Rogers Farm on Bennoch Road, with a focus on sustainable agriculture research and education. University of Maine students also run the Black Bear Food Guild, which has been active since 1994. The Food Guild is a community-supported agricultural endeavor that grows certified organic vegetables on two acres of land at Rogers Farm for delivery to guild shareholders.

More recently, a combination of changes in the nature of farming, competition, demand for suburban land, improvements in transporting food, and other factors have contributed to a tremendous drop-off in local agriculture.

There are, however, signs of a transition in farming, such as a focus on high-value specialty products that require less land but more intensive effort. A few of Orono's working farms fit this niche (see, for example, Hidden in Thyme micro flower farm and Bas Rouge Farm & Forse – a native plant nursery and blacksmith forge). These niches contribute to household income and are more compatible with smaller-scale living.

Soils

The U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) has rated certain soils as highly productive (i.e., as either "prime" farmland soils or farmland soils "of statewide significance") for crops. Prime farmland, as defined by the USDA, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas.¹ Prime farmland soils are also among those best suited and easiest to develop, however, placing competing values upon a limited

¹ Note: Generally, farmlands of statewide importance include those that are *nearly* prime farmland (but which don't technically meet USDA criteria for that designation) and that will still produce high yields of crops when treated and managed according to acceptable farming methods.

resource. Such soils are both an opportunity (if we want to encourage rural development) and an asset (if we want to preserve farmland).

Analysis of NRCS soil maps shows that about 12.5% of Orono's land area – 1,442 acres out of a total of 11,542 acres – is covered by highly productive farmland soils. However, most of these soils are in the immediate Penobscot and Stillwater Branch river valleys, which are also where Orono has historically been its most dense in terms of development, and where the University of Maine settled. (See Figure 5-1, on the following page.)

As a result of this historic growth, combined with the gradual spread of development into rural sections of the community, it is estimated that fewer than 500 acres of highly productive farmland soils are either on vacant parcels of at least 5 acres or are on 20+ acre parcels that have a single-family home located on it, but due to their size may have farming potential. Of these, about 200 acres are located in either the Forestry & Agriculture or Low Density Residential zoning districts, with the remaining approximately 300 acres located in districts zoned for more intensive development.

Regulation

Agriculture (defined as “the production, keeping or maintenance for sale or lease, of plants and/or animals, including but not limited to: forages and sod crops; grains and seed crops; dairy animals and dairy products; poultry and poultry products; livestock; fruits and vegetables; and ornamental and green-house products”) is permitted in Orono by right within the Forestry & Agriculture (F&A), Low Density Residential (LDR), and University zoning districts. It also is allowed with Planning Board review in other districts, except High Density Residential and Village Commercial.

The keeping of barnyard animals is treated as a separate use and is also permitted in the F&A, LDR, and University zoning districts. In the Medium Density Residential district, one animal per acre of land is allowed with Planning Board review, provided the lot contains at least five acres, is appropriately buffered and fenced, and manure is properly stored away from water bodies and dwellings. Up to two small barnyard animals kept as pets are exempt from these standards.

Regardless of the zone in which it is located, agricultural uses and the keeping of barnyard animals are subject to the performance standards of Sec. 18-124 of the Land Use Ordinance. Within these performance standards, farm buildings are subject to more restrictive setback requirements than other kinds of buildings.

Agricultural roadside stands and farmers' markets are allowed throughout the Town provided that they are under 200 square feet and that they also meet the standards of Sec. 18-124, including providing off-street parking for patrons (outside of the street right-of-way) and

In 2010, the Town amended the performance standards to allow the keeping of up to six domesticated chickens in the Medium Density Residential district for personal use, subject to the standards of Sec. 18-149 of the ordinance.

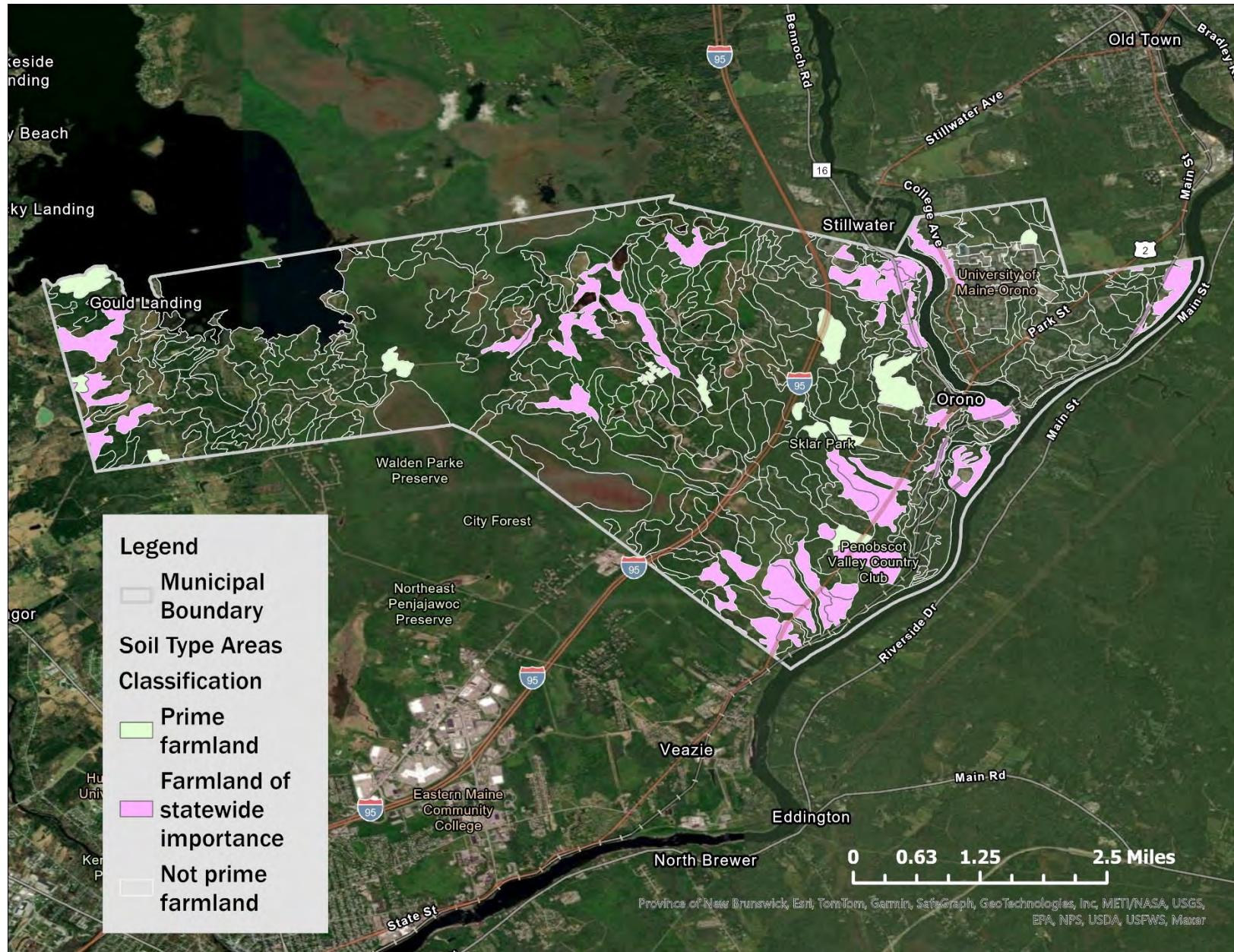


Figure 5-1: Orono Soils by Farmland Productivity. Source: NRCS Web Soil Survey

Protective Measures

In this era of labor-intensive farming, the quality of the farming support systems may be just as important to successful agriculture as the quality of land and soil. Support might come in the form of usable roads, marketing assistance, or just by allowing equipment dealers and other agriculture support businesses to locate in close proximity to agricultural uses. This is particularly true for the new generation of farmers, who are looking for niche markets and local sales to sustain them.

The Maine Department of Agriculture supports small farms through publicity, events, and marketing strategies. Other organizations (such as the University of Maine Cooperative Extension, the Maine Organic Farmers and Gardeners Association, and the Maine Farmland Trust) also aid farmers across the state through advocacy work at all governmental levels.

Finally, the Town provides support to farming through multiple channels. The use of the state's Farmland Tax Law Program is encouraged locally. A total of 7 parcels in Orono benefit from this program (as of 2022, the most recent year for which data is available), reducing property valuations and taxes on 264 acres of farmland. To qualify, designated farmland must consist of at least five contiguous acres and produce gross agricultural income of at least \$2,000 annually (in at least one out of the last two years or three out of the last five years).

While still a relatively low number, the number of parcels enrolled in this program has grown by one since the drafting of the last Comprehensive Plan. Few parcels in Orono have ever enrolled in the Farmland Tax program. In 2012, parts or all of six parcels, containing 191 acres, were enrolled. This is the same number of acres identified in Orono's 1998 Comprehensive Plan. All of the acres are located south of Kelley Road, between Route 2 and I-95.

In terms of regulatory protection, new subdivision developments in the Town's Forestry & Agriculture (F&A) zoning district are **required** to be clustered developments. One of the stated purposes of the clustered development provisions, as outlined in Sec. 18-136, is to preserve the opportunity for rural land uses, such as agriculture, forestry, and outdoor recreation, and to conserve such natural features as intact wildlife habitat and high-value natural systems within the F&A zoning district.

The clustered development provisions require a certain percentage of land (depending on the zoning district) to be set aside as community open space which cannot be included within the individual lots proposed for the subdivision. The open space shall be dedicated to a recreational amenity or the environmental enhancement of the development, and/or to an agricultural or forestry use, and be recorded on the subdivision plan as such. While a limited amount of prime farmland soils remain in the area of the F&A zoning district (as shown on Figure 5-1 on page 116), if they are located within the proposed subdivision, the Planning Board would endeavor to protect those soils in the area designated for open space.

Forestry

Forests contribute to the community in many ways. They provide a source of pleasure and income to landowners and residents and provide a plethora of environmental benefits. In addition, they provide outdoor recreation and habitat for wildlife.

Small-scale forestry activities are the norm in Orono. Individual parcels are logged from time to time for commercial sale but, for the most part, wooded parcels are managed for personal, small businesses, recreational, or educational purposes.

Timber Harvesting

Because wooded land is so extensive throughout the State, people tend to take its presence for granted. However, forests can add another important dimension to the local economy. The clearest example is in the harvesting of timber. According to landowner reports to the Maine Forest Service, between 1991 and 2021, Orono landowners averaged about 5 timber harvest operations per year. Each operation averaged about 164 acres. However, the majority of acres harvested were in 1991-2001. Since 2002, the average number of acres harvested annually has fallen to about 89. Most harvests were a selection of individual or small groups of trees; full clearcuts have not occurred since 2001.

Urban Forestry

The National Arbor Day Foundation has recognized Orono as a Tree City USA. The Tree City USA program, sponsored by the foundation in cooperation with the USDA Forest Service and the National Association of State Foresters, provides recognition for urban and community forestry programs in towns and cities.

Article 38 of Orono's Code of Ordinances establishes both a Tree Board and a Tree Warden to regulate the planting, maintenance, and removal of trees along public streets and in public parks and other municipal-owned property. The Tree Board includes members trained in arboriculture. The Tree Warden is presently the Town's Environmental Services Manager, who is directed to act in consultation with the chair of the Tree Board. Any planting, pruning, removal or other disturbance of a public tree (a tree located within the right-of-way of a public street or on Town-owned land) requires a permit from the Tree Warden.

Regulation

Forestry, including timber cruising and other forest resource evaluation activities, pesticide or fertilizer application, management planning activities, timber stand improvement, pruning, regeneration of forest stands, fire lanes, and other similar or associated activities (but not including timber harvesting and the construction, creation or maintenance of roads) is expressly permitted in the F&A, LDR, C-1, C-2, Economic Development, and University zoning districts. It is allowed with site plan approval from the Planning Board in the MDR zoning districts but is subject to further regulation (including additional permitting from the Planning Board) when proposed in shoreland zoning areas.

Timber harvesting, defined as the cutting and removal of timber for the primary purpose of selling or processing forest products (but not including clearing of land for already approved construction activities), tends to be more impactful. However, there are no specific regulations for timber harvesting outside of the shoreland zoning areas. The cutting or removal of trees within shoreland zoning areas are regulated under subsection 18-274(15).

Protective Measures

Enacted by the Maine Legislature in 1972, the Tree Growth Tax Law (36 M.R.S.A. §571 - 584-A) helps Maine landowners maintain their property as productive woodlots and incentivizes the designation by reduced valuation and tax burden. Qualifying parcels are taxed according to their current forestland value rather than their potential market value for development. Owners must manage the land according to accepted forestry practices designed to produce trees having commercial value. The parcel must have a forest management and harvest plan prepared by a licensed professional forester and certified as consistent with sound silvicultural practices. The Town gets reimbursed by the state for most of the property tax reduction from this program.

As of 2022 (the most recent year for which data is currently available), 28 parcels in Orono are enrolled in the Tree Growth program, totaling 1,139 acres. 1,556 acres were enrolled in the program as of the 2014 Comprehensive Plan, up from 1,325 acres enrolled as of the Town's 1998 Comprehensive Plan.

The Town does not currently have any publicly owned woodlands under active management. However, as noted in the Recreation section of this Plan, some of the Town-owned parcels frequently used for recreation purposes would benefit from a forestry management plan. The most prominent example is the Jeremiah Colburn Natural Area, where the forest has become so dense that there is no new growth occurring and there is a lack of species biodiversity.

Issues & Opportunities

[Issue: Lack of Flexibility for Farming Uses](#)

Farming alone is no longer an economically viable means of keeping existing farms going. Maine Farmland Trust releases information about how communities across Maine can work to be more "farm-friendly." Specifically, Maine Farmland Trust recommends that municipalities recognize that farm enterprises are often hybrids of several different land uses (agriculture, retail or restaurants, even event spaces), and regulations should allow farm businesses increased flexibility to adapt to rapidly changing markets.

Unfortunately, Orono's ordinances require additional restrictions on farming uses, including increased setback requirements and the need for off-street parking for even seasonal uses. While there are no longer many large-scale farming operations in Orono, increased flexibility – especially in rural areas – would go a long way towards protecting the rural function of land.

[Issue: Unclear Regulations for Timber Harvesting \(Commercial\) and Forestry Management](#)

The Town's Land Use Ordinance is actually a combination of many, traditionally separate ordinances including land use, site plan and subdivision review, shoreland zoning, and floodplain management. All of these regulations are considered one "Land Use Ordinance," and are subject to the same definitions as found in Article II. When these ordinances were combined, it does not appear that consideration was given to the varying levels of impact between timber harvesting for commercial purposes and general forestry management (which is typically undertaken for the health of the forest, though the selling of harvested wood may be an ancillary benefit).

Timber harvesting is heavily regulated in the shoreland zoning areas, in order to protect waterways from erosion and other concerns that can occur when extensive root systems are removed. However, timber harvesting also tends to be a more impactful use than general forest management (though it is not regulated at all in the Town's underlying zoning districts). Performance standards for timber harvesting should be added for all zoning districts, allowing the standards for forestry management (which, again, tends to be less impactful) to potentially be lessened. The definitions of these two differing activities could also be further clarified.

[Opportunity: Small-Scale Agriculture](#)

One of the high-priority goals of *Penobscot Climate Action*, the regional climate action plan recently developed by BACTS with funding and participation from the Town of Orono, is to strengthen local and regional food resilience. One of the main ways that Orono could accomplish this goal is by expanding access to urban farming opportunities, including community gardens. For example, the Town could remove barriers to small-scale agriculture and associated structures even in the more urban areas of the community (e.g. the Village Commercial and High Density Residential zoning districts, where agriculture – at any scale – is not currently allowed). Further, the Town could identify

municipally owned properties that could be converted into community garden spaces. In order to build community cohesion and food resilience, the Planning Board could suggest that projects proposing housing incorporate as part of the site design community garden spaces for future residents.

Natural & Water Resources

Overview

Orono owes its existence to the fact that the Penobscot River and its Stillwater Branch re-converge here. The Town was founded on the food, water, and power resources that the rivers provided.

In addition to serving as habitats for a diverse range of plant and animal species, Orono's waterways are used for a variety of recreational and economic activities. There are five principal watersheds within the boundaries of Orono: the Kenduskeag Stream; Pushaw Lake; the Stillwater River branch; Johnny Mack Brook (en route to the Penobscot River); and, the broader Penobscot River.

These watersheds as well as their ecological value, threats to water quality and quantity, and information on the Town's protective measures are included throughout this chapter. There are no documented invasive species in any of Orono's surface waterbodies.¹

Also included within this chapter is information on other critical natural habitats and rare or endangered animal species, threats to ecosystems, and protective measures for natural and water resources.

Watersheds

Watersheds encompass the land areas that drain into surface waters, as well as the surface waters themselves. Surface waters are bodies of water located on top of the land (as opposed to groundwater), forming rivers, ponds, lakes, or streams. A map of the watershed areas in Orono is shown as Figure 6-1 on the following page.

The state has had a water classification system since the 1950's, which helps to designate potential uses of waterbodies, and therefore the corresponding water quality that should be maintained for each body based on those uses. An overview of the surface water classifications is below:

- Class A: Water at the highest quality, potentially acceptable for water supply after filtration. The risk of degradation of these waters is quite small.
- Class B: Water of the second highest quality, acceptable for swimming and other recreational uses and potentially a water supply after treatment.
- Class C: Water of the third highest quality, potentially acceptable for boating or industrial water supply following treatment. While these waters still have fairly high quality, the margin for error before significant degradation might occur in these waters in the event of an additional environmental or human-made stress being introduced (such as a spill or a drought) is the smallest.²

All of Orono's freshwater rivers and streams are currently rated Class B, per available information from the Maine Department of Environmental Protection.³

¹ https://www.maine.gov/dep/water/invasives/Maine_IAP_Map_2024_v2.pdf

² For more information about the classification of waterbodies, see M.R.S.A. Title 38, §465.

³ Per data provided in the Maine Comprehensive Plan Data Portal and Mapping Services, accessed July 30, 2024.

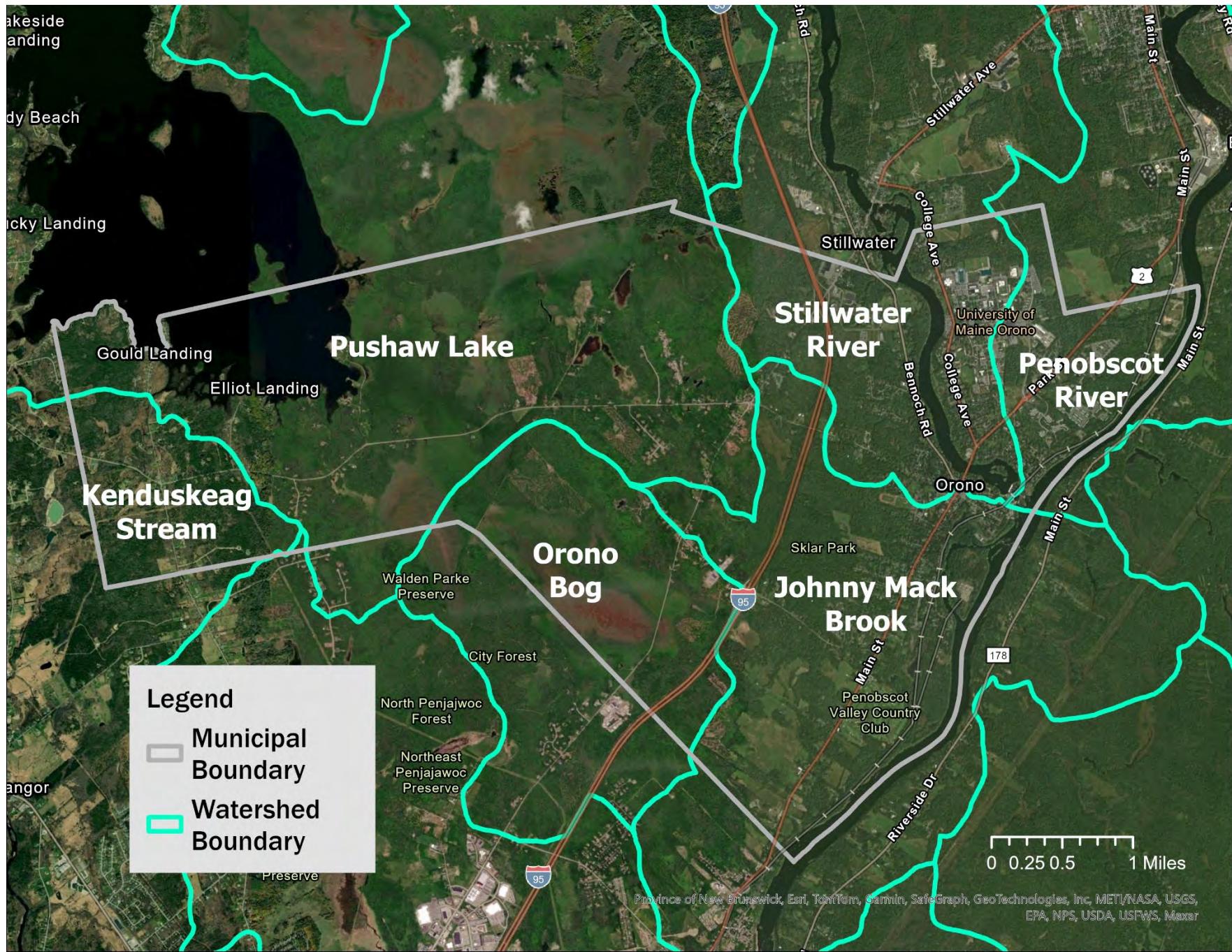


Figure 6-1: Orono Watershed Boundaries. Source: Maine Geological Survey.

Kenduskeag Stream Watershed

The southwest corner of Orono, in the vicinity of Essex Street, drains to Kenduskeag Stream via Great Brook. Great Brook begins in the westernmost part of Orono and joins Kenduskeag Stream at Six Mile Falls in Bangor. The Kenduskeag Stream is a 36.2-mile stream that rises at the outlet of Garland Pond (in the Town of Garland) and flows southeast through Corinth, Kenduskeag, and Glenburn before reaching Bangor and flowing into the Penobscot River.

Land use in Orono's portion of this watershed is primarily forested with some low-density residential development. On-site wastewater disposal (septic) systems serve development within this watershed.

Pushaw Lake Watershed

The large, central portion of Orono drains to Pushaw Lake. Pushaw Lake extends from the Town of Hudson in the north to Orono in the south, with most of its shoreline in the intervening City of Old Town and the Town of Glenburn. The lake has a surface area of 5,056 acres, and it flushes ("replaces") its water an average of 1.96 times per year. It is a shallow lake, with a maximum depth of 28 feet and a mean depth of 10 feet. Land use in the watershed is primarily forest and residential, with some limited small-scale commercial uses. Land uses in this area are served by on-site wastewater disposal (septic systems).

The Maine Department of Environmental Protection (DEP) and volunteers through the Lakes of Maine Volunteer Lake Monitoring Program have been testing water samples from Pushaw Lake since 1974. Data was most recently taken in 2022. Information on transparency, dissolved oxygen and temperature, and chemistry is consistently gathered.⁴

Pushaw Lake supports an unusual number of rare plants and invertebrates. The lake supports intermittent sections of lacustrine shallow-bottom communities, particularly on the shoreline of the Twin Islands (closer to the Old Town Landing). Rare plants in this location include water stargrass and American shore-grass. Yellow lampmussels occur in Pushaw Stream and Pushaw Lake, and tidewater muckets occur in Pushaw Lake. Both rare species have very similar ranges in Maine, occurring in only three watersheds statewide (Penobscot, Kennebec, and St. George). They are often found together in the same locations, and both likely occur throughout the Pushaw Lake watershed wherever suitable habitat exists. Given the state-threatened status of these two species, their limited range and distribution in Maine, and the declines experienced range-wide, protection of mussel habitat and water quality is critical to their conservation.

In addition, although only the southern end of the lake is in Orono, it is an important recreational and seasonal home resource, and the many seasonal (and year-round) residences there are a significant part of the Town's tax base and economy.

Stillwater River Watershed

The northeast portion of the community drains to the Stillwater Branch. The Stillwater Branch parts from the main stem of the Penobscot River north of Orson Island, separates Marsh Island from the mainland of Orono, and rejoins the main stem at the southern tip of Marsh Island, just below Orono's downtown.

Orono has 4.3 miles of frontage along both banks of the Stillwater. It is classified as a Class B river by the Maine DEP and is noted for its flat water recreation in the summertime (flows move too fast for recreation in the springtime) and as a small-mouth bass fishery. Brook trout can also be caught here.

⁴ <https://www.lakesofmaine.org/lake-water-quality.html?m=0080>

Land use in this watershed is primarily residential or commercial, with the majority of properties connected to the public sewer system.

Johnny Mack Brook Watershed

The eastern-central portion of the community drains to Johnny Mack Brook, which begins west of I-95 near the intersection of Forest Avenue and Stillwater Avenue. It travels southeasterly beneath I-95, across mostly vacant lands behind the Town school property and the Sailor and Page Place developments, under Route 2, and through the lands previously utilized by Lane Construction en route to the Penobscot River, exiting in the Basin neighborhood. The brook supports a native brook trout population (at least above Route 2), which, according to the Department of Inland Fisheries and Wildlife, is somewhat unusual in this area of the State.

It is protected by a Shoreland Resource Protection zone. Land use in this watershed is a mix of commercial and residential, and the vast majority of properties are served by public sewer.

Orono Bog Watershed

The Caribou Bog Wetland Complex (part of the Orono Bog Watershed) has been identified as a focus area of ecological significance. Ecosystems of significance are identified by biologists from the Maine Natural Areas Program (MNAP), Maine Department of Inland Fisheries and Wildlife (IF&W), Maine Department of Marine Resources (DMR), The Nature Conservancy, Maine Audubon, and Maine Coast Heritage Trust (MCHT) for their ability to support rare plants, animals, and significant wildlife habitat. These non-regulatory areas are intended as a planning tool for landowners, conservation entities, and towns.

Caribou Bog, Perch Pond (also known as Mud Pond – which was purchased by the Orono Land Trust and deeded to the University), and the adjoining Pushaw Stream wetlands together form an expansive peatland ecosystem that extends from near Stillwater Avenue in Orono, northwest along the east shore of Pushaw Lake, to Whitten Bog in Alton. Covering nearly 6,000 acres, this complex comprises one of the largest wetland systems in Maine and is one of the state's best examples of a domed bog ecosystem, which is a vulnerable natural community as classified by the Maine Natural Areas Program (MNAP).⁵ All three domes of the bog are now permanently conserved through the efforts of the Orono Land Trust.

Penobscot River Watershed

The eastern half of Marsh Island and the area south of Kelley Road also drain to the Penobscot River, either directly or via smaller streams (each with their own small watersheds). The larger Penobscot River Watershed (encompassing all of the smaller watersheds discussed in this chapter) drains an area of 8,570 square miles, making it New England's second-largest river system and the largest in Maine.

Like all of New England's major rivers, the Penobscot was grossly polluted with untreated industrial and municipal waste for most of the 20th century, however, water quality on the main stem and lower tributaries has improved markedly since the 1970s. (As noted above, the state considers the portion running through Orono to be a Class B waterway.)

The Penobscot is home to many fish, including native brook trout, landlocked salmon, smallmouth bass, white perch, and chain pickerel. Sea-run species include Atlantic salmon, alewives, American shad, American eel, sea lamprey, striped bass, tomcod, rainbow smelt, and occasional Atlantic sturgeon.

Most sea-run species except smelt and eels are found in numbers far below historic levels because of non-existent or inadequate fish passage facilities on the main stem and its tributaries, past

⁵ Fact sheets about each of these communities can be found online [here](#).

pollution, and the loss of habitat due to dam construction. The Penobscot River Restoration Project, completed in 2016, was intended to provide unobstructed access to 100% of historic habitat for Atlantic and shortnose sturgeon and striped bass, provide access to 2,000 miles of river and stream habitat for endangered Atlantic salmon and other species of sea-run fish, and restore ecological systems that benefit native plants and animals in the river. By 2017, signs of rebound were already evident, with nearly 4,000 shad and nearly 1.2 million river herring using the Milford fish lift that year (up from essentially zero just three years prior).⁶

Land use in Orono's portion of this watershed is forest and residential with limited commercial uses, with the majority of properties being served by public sewer (except in the area west of I-95).

Wetlands

In addition to providing habitat for waterfowl, amphibians, and critical species, wetlands in the community act as a natural barrier for nearby infrastructure by storing excess water and minimizing erosion with their extensive root systems. A map of wetlands in Orono is shown in Figure 6-2 on page 128. It should be noted, however, that this map (from the National Wetlands Inventory) was created using digital map data and is for general planning purposes only. Actual on-the-ground locations of wetlands would need to be field-verified.

Vernal Pools

One type of wetland that is not picked up in the National Wetlands Inventory is vernal pools. Vernal pools are ephemeral, usually small wetlands in shallow depressions that appear during the spring and dry up during the rest of the year. Because of their hydrological cycle, they serve as critical breeding habitat for salamanders, wood frogs, and a crustacean species known as fairy shrimp. By breeding in these ephemeral pools, these species' eggs are safe from fish predators that inhabit year-round surface waters. However, they do provide sustenance for other wildlife, including waterfowl, hawks, snakes, and other predators. In 2007, "significant" vernal pools that meet certain criteria were officially recognized in Maine's Natural Resources Protection Act as significant wildlife habitat. The criteria relate to the numbers of egg masses of salamanders and wood frogs observed during the spring breeding season or to the presence of fairy shrimp. Development within 250 feet of a "significant" vernal pool requires a permit under the Act.

Significant vernal pools are shown on the habitat map (Figure 6-6).

Floodplains

The rivers and streams of Maine have always overflowed their banks at times, but the damage of the flooding has increased over the decades as development has intensified closer to their shores. In the 1970s, as part of a Flood Insurance Program, the Federal Emergency Management Agency began mapping the Base Flood, also known as the 100-year flood. The 100-year flood is a statistical concept that considers both the severity of a flood and the likelihood of it occurring. In today's world, the term "100-year flood" is a bit of a misnomer, since these storms are occurring more and more frequently (and not every 100 years).

Since Orono has opted to join the National Flood Insurance Program, the Town has been provided with Flood Insurance Rate Maps that map the 100-year (and 500-year) flood boundaries. These maps are used by communities in their regulation of shoreland areas, by financial institutions considering mortgage applications, by engineers designing roads, utilities, and bridges, and for a variety of other purposes. The maps are periodically updated as better topographic and other

⁶ <https://www.nrcm.org/programs/waters/penobscot-river-restoration-project/>

information becomes available. The official maps for Orono were just updated in July of 2023 and are included as Figure 6-3 on page 129.

Orono has two general areas that are subject to flooding: the Pushaw Lake-Caribou Bog area and the banks of the Stillwater and Penobscot Rivers. During 100-year floods, Pushaw Lake and the bog essentially become one continuous water body, flooding Forest Avenue. The flooding along the Penobscot River and Stillwater Branch is less extensive but is important to mention because it affects the most developed areas of town.

Significant areas that are within the rivers' 100-year floodplain include:

- An area between Union Street and the railroad tracks;
- The north end of Ayers Island and the opposite river bank up to the railroad bed;
- A floodplain wetland along the Penobscot River on Marsh Island, near the Orono Land Trust's Piney Knoll Conservation Area; and
- Along various stretches of the Stillwater River.

The floodplain should serve as a protective buffer between the river's waters and development. That buffer is lost or diminished when development intrudes upon it. When buildings in a floodplain are destroyed by flooding, the question arises as to whether public policy should require re-building in a more floodproof way (by, for example, elevating the structure – as the Town's floodplain management standards in Article VIII currently require), or whether the better strategy is to relocate the buildings. In any case, the best management practice is to limit new floodplain development to the greatest extent practical and to zone these shoreland areas accordingly.

Drinking Water

Aquifers & Public Drinking Water

An aquifer is a water-bearing geological formation capable of yielding a usable amount of groundwater to a well. Within Orono, there are a few significant aquifers. These are shown in Figure 6-4 on page 130.

The largest of these aquifers is one that parallels the Stillwater River and runs along Bennoch Road, ending near the intersection of Main Street and Island Avenue. This aquifer is also the Town's public drinking water source. The Orono-Veazie Water District (OVWD) gets its water from a well field consisting of four wells. The water from all four wells is filtered and treated at OVWD's plant at 116 Bennoch Road, where chlorine (to prevent bacterial contamination), fluoride, and potash (to reduce lead solubility) are added before the water enters the distribution system. The treatment plant was built in 1995 and was upgraded in 2008.

Regarding drinking water quality, every spring the Orono-Veazie Water District (OVWD) produces an annual water quality report per U.S. EPA (Environmental Protection Agency) requirements. The most recent available OVWD water report, which includes sampling dates during 2023, shows that there were no instances of regulated substances exceeding the maximum containment level (MCL).⁷

All of the Town's aquifers have a potential groundwater yield of anywhere from 10-50 gallons per minute (GPM).

In 2000, the Town adopted an Aquifer Protection Overlay zoning district that covers the entire identified sand and gravel aquifer along both the Stillwater and Penobscot Rivers. The zoning district prohibits land uses that involve the use or handling of petroleum products and hazardous materials

⁷ Annual Water Quality Report, Orono-Veazie Water District (Reporting Year 2023), available online [here](#).

in an effort to prevent groundwater contamination and requires the submittal of a groundwater impact assessment for projects located within the overlay.

In addition, the Town's Site Plan Review standards require the Planning Board to find that the proposed site development and use must not adversely impact either the quality or quantity of groundwater available to abutting properties or to public water supply systems. For applicants whose projects involve on-site water supply or sewage disposal systems with a capacity of 2,000 gallons per day, the applicant or their consultants must demonstrate that the groundwater at the property line will comply with the standards for safe drinking water as established by the State of Maine following development. Similar standards exist for subdivision review, where the Planning Board likewise has to find that the quality or quantity of groundwater will not be adversely impacted by the proposed subdivision.

Public/Private Water Sources

The Drinking Water Program, overseen by the Department of Health and Human Services, implements regulatory practices and outreach to ensure safe drinking water and promote public health. The Drinking Water Program (DWP) promotes the establishment of wellhead protection plans for water supplies. New wells are recommended to maintain a minimum 300' radius of restricted land uses around their wellhead (more for larger systems). The State also requires a 100-foot setback between wells and septic systems. While they appear to impede development within the immediate vicinity, these setbacks exist to protect drinking water sources from both pollution and eutrophication (a process where an excess of nutrients that have made their way into water bodies trigger algal blooms that kill off aquatic life and degrade drinking water quality).

The Drinking Water Program likewise monitors wells that are technically privately owned but which serve more than 15 service connections or serve at least 25 individuals daily at least 60 days out of the year. These usually include large employers not connected to public water, campgrounds, or mobile home parks.

There are four private water supplies in Orono monitored by the DWP:

1. A bedrock well serving the Pushaw Lake Campground on Villa Vaughn Road (off of Forest Avenue). Because the campground proprietor owns or controls all land within 300' of the well and should be incentivized to protect the water quality, the DWP considers the future risk of acute contamination to be low.
2. A bedrock well serving the Havasu Pines Mobile Home park off of Forest Avenue. Because a 300' radius around the well is owned by the mobile home park (which is incentivized to protect water quality for its residents), the future risk of acute contamination is considered to be low.
 - a. There are two additional bedrock wells serving this property that are shown as inactive (for emergency use only) by the DWP. These wells are likewise shown as having a low risk of future acute contamination.
3. A bedrock well serving the Stillwater Avenue Mobile Home Park. Since the property owner does not currently control a 300' radius of property around the well, the future risk of acute contamination is considered to be high without intervention to protect the area from groundwater contamination.

An additional well exists at Northern Light Family Medicine on Kelley Road. However, the Drinking Water Program has no record of a Source Water Assessment for this source and thus a report of the future risk for this well is not available at the time of plan drafting.

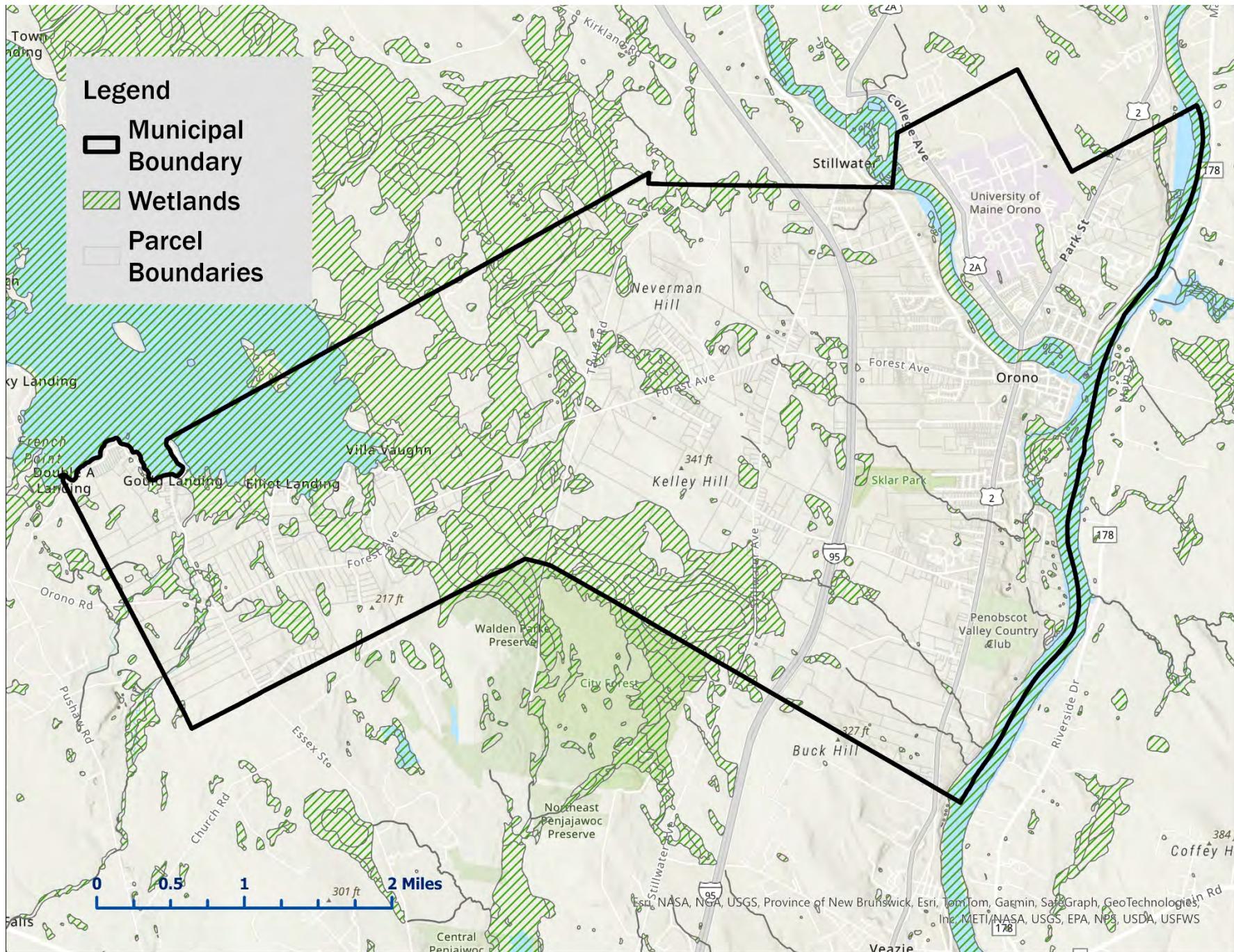


Figure 6-2: Orono Wetland Areas. Source: National Wetlands Inventory Mapper.

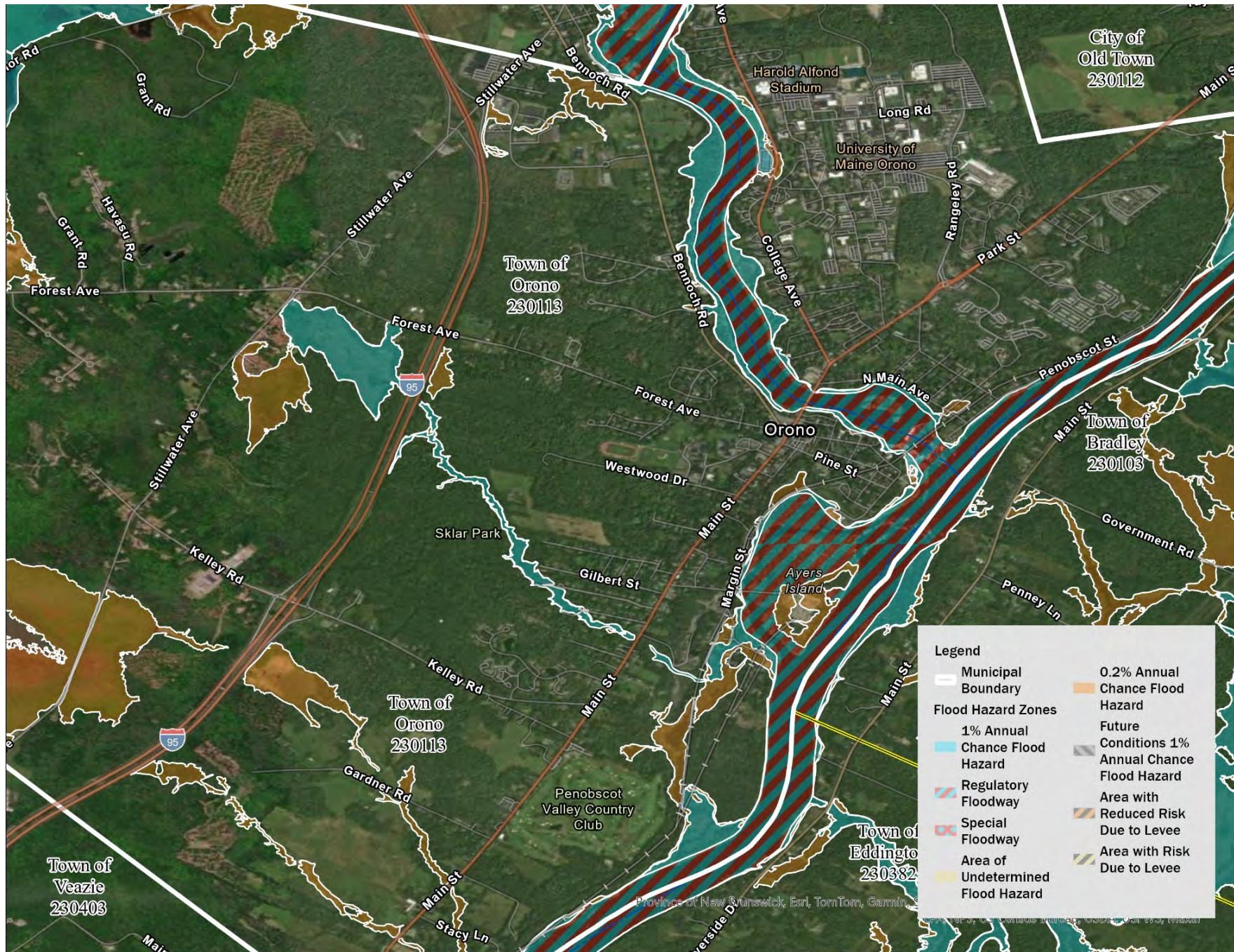


Figure 6-3: Federal Emergency Management Agency Flood Hazard Zones: Orono Growth Area. Source: FEMA

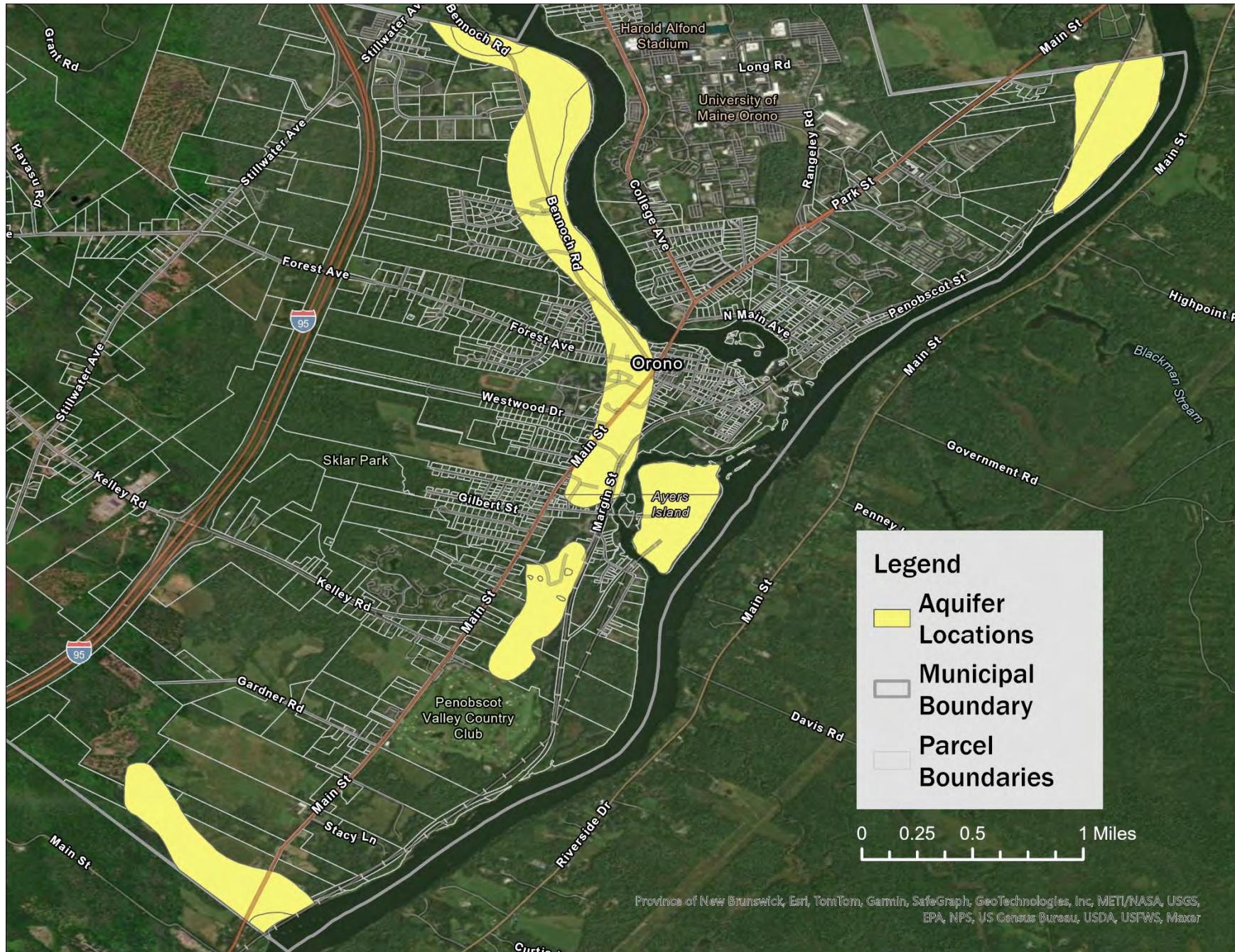


Figure 6-4: Orono Aquifer Locations. Source: Maine Geolibrary

Significant Natural Resources

Figures 6-5 and 6-6 at the end of this section shows the location of documented habitat areas within Orono. Conserved lands are shown in Figure 7-2 in the Recreation section of this plan.

Conserved Lands & Scenic Views

Within the Town of Orono, there are over 2,000 acres set aside as conservation lands (within either easements or as owned land). The largest share of these conserved lands is owned or managed by the Orono Land Trust, which owns more than 1,700 acres and has conservation easements over another 2,000 acres (conserving more than 4,000 total acres in Orono).

With respect to scenic views, Orono's location in the Penobscot River Valley at the junction of the Penobscot's main stem and its Stillwater Branch brings with it scenic views that enhance the Town's recreational resources, the value of residential properties, and the appeal of the University of Maine campus. The scenic resources include natural settings such as the rivers, Pushaw Lake, and Caribou Bog. From different public vantage points, the views can be short-range or to far horizons, intimate in their detail or of whole scenes. They can also be human creations, such as the historic districts along Main Street and on the University of Maine campus.

Scenic resources are appreciated both for their "soft" values that enhance recreation, produce memories, or are sought for quiet moments of reflection, and thus contribute to the quality of life in the town, as well as for their hard economic value that attracts people to a community. In some cases, they define the community and are the community's strongest economic selling point (as in the case of many harbor towns, for example) and, as a result, sometimes require regulatory protections of the resources. That is not explicitly the case in Orono, which does not have a single, dominant scenic focal point. But the accumulation of Orono's scenic resources is part of its identity and its economy.

The Comprehensive Plan Committee performed a Scenic Resource Inventory as part of the development of the 2014 Comprehensive Plan, which identified the following areas as scenic resources:

- View of fields from Route 2 (near Old Town boundary)
- View across golf course to Chick Hill from Route 2
- Union Street boat launch
- Main Street Historic District (discussed in greater detail in the Historic & Archaeological Resources section)
- View from ridge behind schools
- Views up and downriver from the Route 2 bridge
- Stillwater Branch trail
- Webster Park view of the river
- Views from Summer Street Park
- Webster Point Overlook
- University Steam Plant boat launch
- University of Maine Historic District (discussed in greater detail in the Historic & Archaeological Resources section)
- Piney Knoll
- Views from Brownie's Park
- Orono Bog Boardwalk
- Newman Hill & view to Pushaw Lake
- Views from Gould's Landing

Due to development and shifting ecosystems, the nature of these views has likely changed, potentially necessitating the need for an updated inventory of Orono's most scenic areas.

[Fisheries](#)

The community's rich fisheries have become an attraction for visitors to Orono. These include small-mouth bass, white perch, chain pickerel, brook trout, and northern pike. Pushaw Lake's principal fisheries are smallmouth bass, white perch, and chain pickerel. Northern pike are also a regular occurrence. Likewise, the Penobscot River and the Stillwater Branch offer small-mouth bass fishing. Brook trout have been caught in Johnny Mack Brook and are annually stocked in the Penobscot River in Orono.

[Other Important Wildlife Habitats](#)

Finally, there are a variety of other areas of the community that serve as important wildlife habitats. These include:

- Deer Wintering Areas, which typically consist of softwood or mixed forests which have a winter use by deer. In the more developed areas Orono, these areas may only be used in winters with exceptionally heavy snowfall, but during those years they may be critical for deer survival.
- Unfragmented Habitat Blocks, which are large, forested areas with little or no human disturbance. These blocks are essential for maintaining a diverse wildlife population. The health and diversity of these blocks typically increase with the size of the block. Development can fragment these blocks and reduce their value. As blocks disappear, not only are we left with a suite of species indistinguishable from those in suburban communities, but we lose a part of who we are as well. These are shown on Figure 6-5 on page 134. As shown, much of the Town west of I-95 has intact blocks of land, with most development arrayed along Forest Avenue itself. East of I-95, lands south of Kelley Road are largely intact, and narrower intact blocks of land lie between neighborhoods off Main St./Bennoch Road and I-95. These narrower blocks have less "interior" acreage than the larger blocks south and west.

[Species of Significance](#)

There are a variety of endangered, threatened, or special concern species in Orono. For example, the intersection of Taylor Road, Forest Avenue, and Stillwater Avenue is a known habitat of the Arrowhead Spiketail. This is one of the state's most rare dragonflies. They are listed as a species of special concern due to their low population numbers across the state and their sensitivity to aquatic and riparian habitat degradation.

Great Blue Heron habitat is found near the end of Taylor Road near the municipal boundary with Old Town. Great Blue Herons were listed as a species of special concern by the Maine Department of Inland Fisheries & Wildlife (MDIFW) after a significant decline in the number of nesting pairs from the 1980s to 2007. They typically breed in colonies, most often with others of the same species, but will sometimes mix with other wading birds. Nest siting can be highly variable but usually occurs in trees 20-60 feet above ground or water. Nests are sometimes located in low shrubs, on the ground, or even above in trees more than 100 feet off the ground.

Finally, the area along the Penobscot River is a known habitat of the sedge wren. This small, brownish bird sporadically breeds at only a handful of sites in Maine, which is the northeastern limit of this bird. Sedge wrens breed in freshwater meadows dominated by grasses and sedges and in the grassy, upland borders of freshwater marshes. They prefer little to no standing water. Thus, the amount of rainfall in a given year may lead them to choose different nesting sites year after year. They are listed as endangered in Maine given their low population size, a declining population trend, and the small number of dispersed sites where they can be found. Conservation of freshwater

uplands would be essential in the recovery of this species.

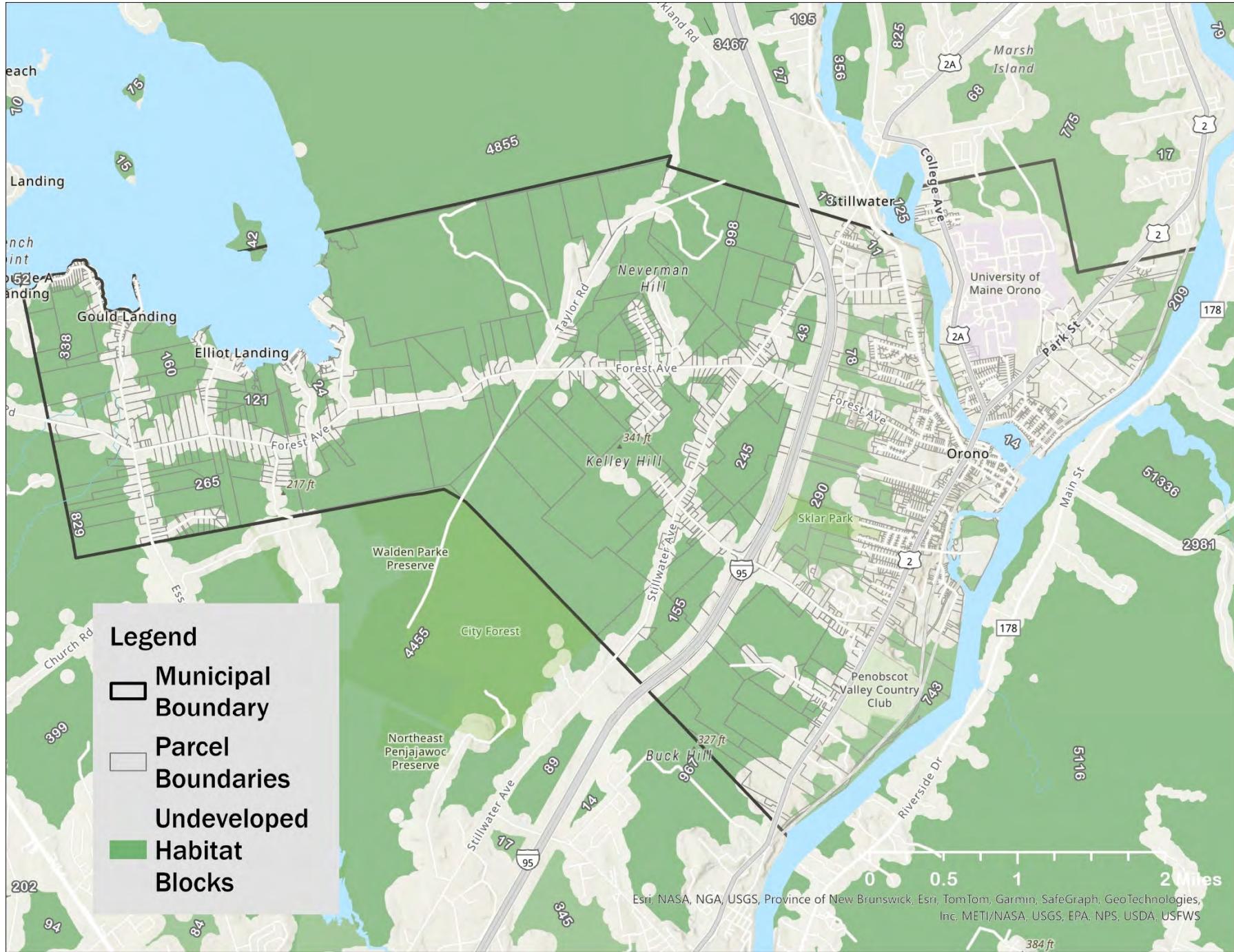


Figure 6-5: Undeveloped Habitat Blocks in Orono and Surrounding Region. Source: Beginning with Habitat GIS data.

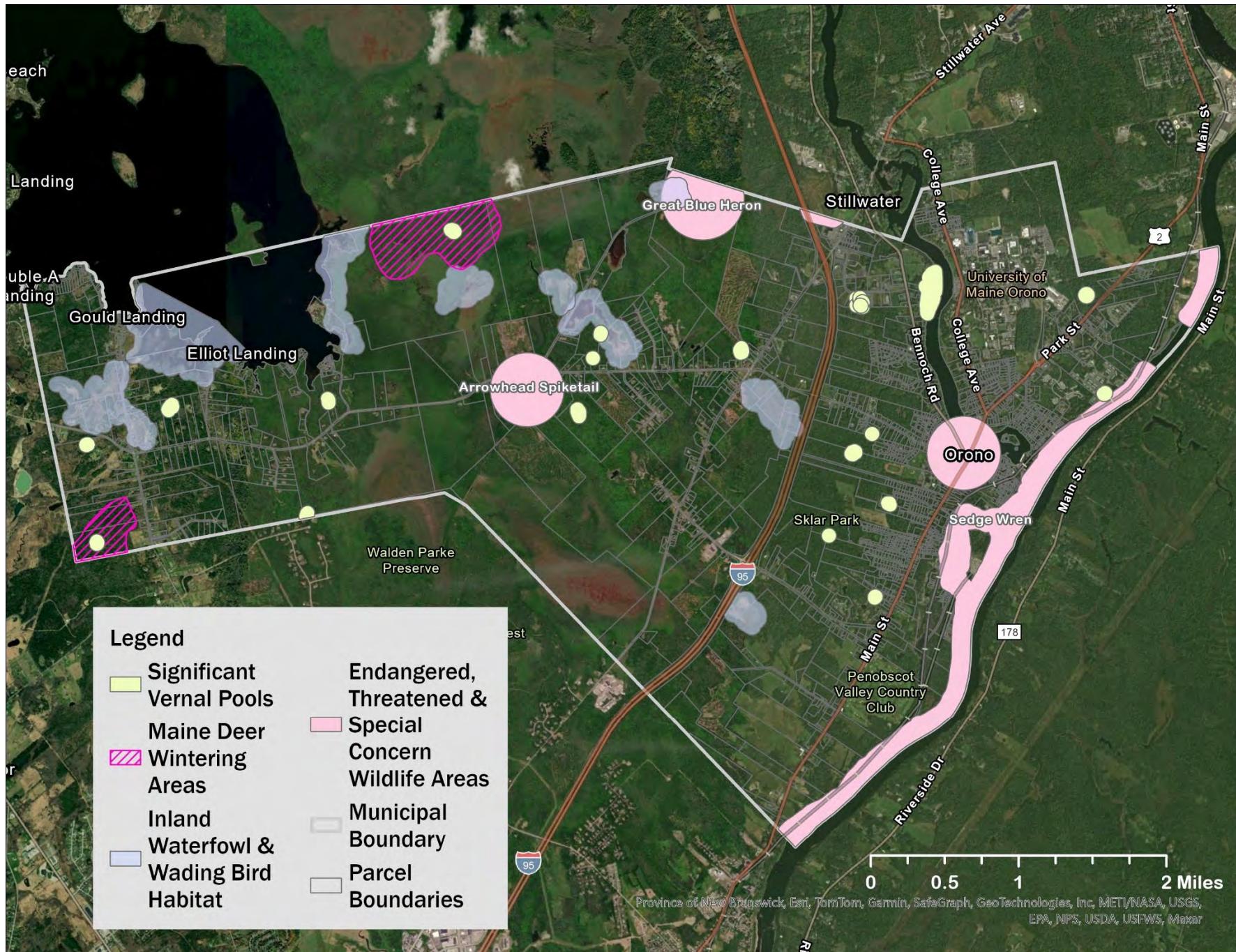


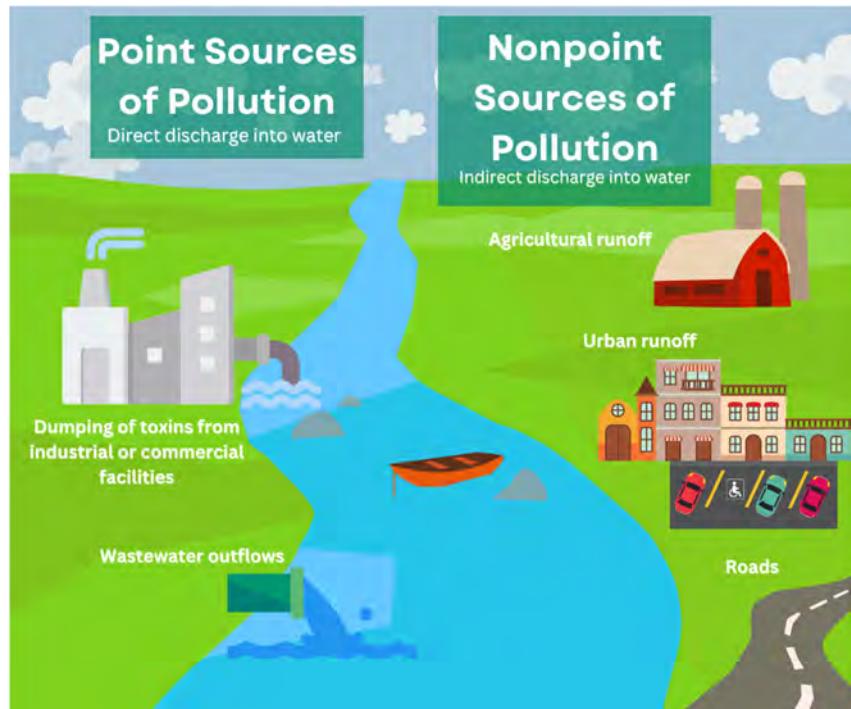
Figure 6-6: Orono Habitat Map. Source: Maine Department of Inland Fisheries & Wildlife/Maine Geolibrary

Threats to Water & Habitat Quality

There are two basic sources of pollution to Orono's water resources. These are non-point sources of pollution (or indirect discharges into water, such as through runoff) or point source pollution (or direct discharges into water, such as from wastewater outflows or, historically, dumping of toxins from industrial facilities).

Non-Point Source Pollution

Non-point source pollution typically comes from stormwater runoff from developed areas, allowing fertilizers, pesticides, yard and pet wastes, and chemicals found on parking lots or roads to enter waterways.



The area of Orono generally east of I-95 is part of Bangor Metro's urbanized area and is a "Small MS4 community" (a municipality with a regulated Municipal Separate Stormwater Sewer System). "Separate" refers to a stormwater system that is separate from the sewage collection and treatment system.

Orono, like most MS4 communities, is licensed to allow stormwater to be discharged to water bodies. The license is in the form of a General Permit issued by the Maine DEP every five years. To be in compliance with the General Permit, the Town must undertake a variety of Best Management Practices through its operating procedures, the regulation of development, the collection and treatment of stormwater, education/public outreach, and other practices aimed at reducing and treating the flow of stormwater to water bodies.

Construction and development create an impervious ground surface that can result in faster runoff and erosion, increased transportation of both point and non-point pollution to surface waters, and the lowering of the groundwater table. Non-point source pollution can be drastically reduced by limiting the amount of impervious area (parking lots, roofs, roads, etc.), using erosion and sediment control best management practices in construction and infrastructure projects, and encouraging low-impact development strategies such as rain gardens, pervious pavement, and retaining natural vegetation.

In 2008, the Town revised its ordinances to: limit new stormwater discharges from development, require increased measures for erosion control, and prohibit the discharge of hazardous substances to the stormwater system. The stormwater management and erosion control standards apply townwide, not just in the urbanized area. As a result of a recent appeal to the Maine Department of Environmental Protection, all MS4 communities across the state will need to adopt even stricter standards related to low-impact development strategies before November 2025. These include

further minimizing site clearing and disturbance, impervious areas, and soil compaction, and requiring additional stormwater quality treatment and on-site retention measures.

In addition to the regulatory measures described above, the Public Works Department also adheres to best management practices to limit soil erosion or stormwater contamination through their daily operations (such as street sweeping and catch basin cleaning and avoiding tracking soil out onto the roadway).

The Town is also a member of the Bangor Area Stormwater Group, through which the Bangor Metro MS4 communities cooperate on education, outreach, and planning needed to help comply with the General Permit's requirements.

The University of Maine is its own "MS4" entity and, like the Town, is required to employ Best Management Practices to manage stormwater. Because the University's and the Town's stormwater systems interconnect in a number of places (such as along College Avenue) they have a Memorandum of Understanding to cooperate on managing discharges to their respective systems.

Point Source Pollution

Historically, point source pollution was a result of the dumping of toxins from industrial facilities directly into waterways. However, the threat nowadays comes primarily from sewage collection and treatment systems, including wastewater outfalls and other pipes, which dump treated wastewater into waterways. There are eight wastewater outfalls documented along the Stillwater branch and the Penobscot River in Orono.

While there are no remaining overboard discharges (a septic system that discharges directly into waterways) in Orono, there are several overboard discharges in neighboring Milford and Bradley, which flow into Otter Stream (a stream that eventually discharges into the Penobscot River just north of Orono).

Regulatory Protection Measures

In addition to regulations already highlighted throughout this chapter, the Town has put in place the below regulatory protection measures intended to protect natural and water resources.

Shoreland Zoning

The principal policy in place to protect natural and water resources from pollution is the Town's shoreland zoning regulations, outlined in Article IX of the Town's Land Use Ordinance. These are consistent with the guidelines for shoreland zoning put out by the State of Maine. The Ordinance requires all new principal and accessory structures to be set back at least 100 feet of a river or great pond, or at least 75 feet of other water bodies, tributaries, or the upland edge of wetlands (except in the Resource Protection Shoreland area, where the required setback is 250 feet, and the General Development Shoreland area, where the required setback is 25 feet). Relocation of structures must reduce the nonconformance to waterbody setbacks to the greatest practical extent, as determined by staff and the Planning Board.

When it is necessary to remove vegetation within the water or wetland setback area in order to relocate a structure located within the shoreland zoning areas, the Planning Board shall require replanting of native vegetation to compensate for any that was removed or destroyed. Additionally, the area from which the relocated structure was removed must be replanted with vegetation. Nonconforming (sometimes called "grandfathered") structures can only receive permission to change their use by the Planning Board, which must determine whether the new use will have no greater adverse impact on the water body, tributary stream, or wetland, or on the subject or adjacent properties and resources than the existing use.

All construction and maintenance, both public and private, must also be designed to minimize stormwater runoff from the site in excess of the natural pre-development conditions. Where possible, existing natural runoff control features, such as berms, swales, terraces, and wooded areas, shall be retained in order to reduce runoff and encourage infiltration of stormwater.

Site Plan and Subdivision Review

The Town's site plan review criteria, outlined in Sec. 18-177, help to preserve natural and water resources in the following ways:

- **Sec. 18-177(c): Utilization of the site:** This standard ensures that proposals for new development protect environmentally sensitive areas, including, but not limited to, wetlands, steep slopes, floodplains, significant wildlife habitats, fisheries, scenic areas, habitat for rare and endangered plants and animals, unique natural communities and natural areas, and sand and gravel aquifers to the extent practical. Natural drainage areas must also be preserved to the maximum extent. The development must include appropriate measures for protecting these resources, including but not limited to, modification of the proposed design of the site, timing of construction, and limiting the extent of excavation.
- **Sec. 18-177(h): Stormwater management:** This standard ensures that, when impervious surface is added through new development, natural drainage ways are preserved to the extent practical and that flooding, erosion, or other impacts on adjacent properties do not occur. In addition, this standard requires on-site treatment of stormwater in certain instances.
- **Sec. 18-177(i): Erosion control:** This standard ensures that erosion and sediment control practices employed during construction minimize soil erosion and sedimentation of waterbodies by following Maine DEP Best Management Practices.
- **Sec. 18-177(j) and (k): Water supply and sewage disposal:** These standards either require the applicant to ensure that public water and sewage disposal providers have adequate capacity to serve the proposed development, or that septic systems will be installed according to all applicable laws.
- **Sec. 18-177(m): Natural features:** This standard requires applicants to minimize tree removal and compaction of soil and retain existing landscaping on the site to the extent practical.
- **Sec. 18-177(n): Groundwater protection:** For projects that are proposing to utilize well water, this standard requires applicants to demonstrate that the project will not adversely impact either the quality or quantity of groundwater available to abutting properties or to public water supply systems.
- **Sec. 18-177(o): Water quality protection:** When hazardous materials are stored on-site or utilized as part of the operation of the proposed development, this standard ensures that adequate provisions are made for the protection of water quality (such as installing an oil/water separator connected to the sewer line for uses that involve motor oil).
- **Sec. 18-177(u): Floodplain management:** This standard requires projects within the flood hazard area as identified by the Federal Emergency Management Agency (see Figure 6-3) to comply with the Town's Floodplain Management standards outlined in Article VIII.

Similar standards to the above are in effect for subdivisions being proposed in Orono as well, as outlined in Sec. 18-210.

Clustered Development Provisions

The Town has adopted provisions for clustered development (outlined in Sec. 18-136), which are required to be utilized within the Forestry & Agriculture (F&A) and the Gateway Medium Density Residential (GMDR) zoning districts but are optional provisions for properties in other districts where

this is allowed (including the MDR, LDR, C-2, and EDZ zoning districts). The stated purposes of the clustered development provisions are to: (1) Permit flexible and innovative design of development; (2) Promote efficient use of land, resulting in a smaller network of utilities and streets; (3) Provide significant open space and recreational areas typically not included in conventional subdivisions; and (4) In the Forestry and Agriculture District, preserve the opportunity for rural land uses, such as agriculture, forestry, outdoor recreation, and to conserve such natural features as intact wildlife habitat and high-value natural systems, consistent with the stated purpose of the F&A District.

In addition to any other requirements of Article VII related to subdivisions, applications for clustered development must also include within the submitted preliminary plan an inventory of natural resources on the parcel or parcels proposed for development. This inventory must include any wetlands and vernal pools; hydric soils not captured by wetland or vernal pool boundaries; streams, rivers, and ponds to their mean high water marks; any land specified by Maine's Shoreland Zoning Act and rules to be resource protection areas; slopes over 20 percent; ledge outcrops; and lands restricted by existing easements whose purposes include conservation of the land or natural resources or uses that affect or rely on those resources.

The clustered development provisions require a certain percentage of land (depending on the zoning district) to be set aside as community open space which cannot be included within the individual lots proposed for the subdivision. This open space area is also required to contain all natural resources identified in the inventory of resources as unsuitable for development, with limited exceptions. The open space shall be dedicated to a recreational amenity or the environmental enhancement of the development, and/or to an agricultural or forestry use, and be recorded on the subdivision plan as such. An applicant can also opt to pay an open space impact fee which, in the long term, could be used by the Town to acquire land for recreation or conservation purposes.

Vernal Pools Overlay District

Typically, vernal pools are regulated at the state-level through the Natural Resource Protection Act (NRPA). Significant vernal pools are protected, as well as the area within 250' of the normal high-water mark of the pool.

Between 2008 and 2010, the Town partnered with Dr. Aram Calhoun, professor of wetlands ecology at the University of Maine and a national expert on vernal pools, to formally identify the location of possible vernal pools in Orono. Working with the UMaine team, the Town of Topsham, and state and federal regulators, the Town drafted and, in 2018, subsequently adopted a Vernal Pools Overlay District.

The stated purpose of the Vernal Pools Overlay District (Sec. 18-113) is to provide owners of property located within the overlay district that is subject to state or federal regulation with respect to vernal pools the option of developing and using the property in accordance with either the applicable state and federal wetland regulations and associated requirements for the protection of vernal pools, or the standards outlined in this section, including the enhanced protection of other vernal pools through payment of a "vernal pools mitigation fee" or by undertaking "permittee-responsible mitigation activities." Mitigation fees collected under this section are for the purpose of protecting other vernal pool ecosystems within the community or in other nearby communities identified through the application of the Maine Vernal Pool Conservation Criteria in the "Orono Vernal Pool Special Area Management Plan" (SAMP) and the conservation priorities of the Maine Vernal Pool SAMP.

Thus, this section is a voluntary approach that would allow some impacts to vernal pools in the Town's designated growth areas so long as the applicant works with the Town and its partners to permanently protect vernal pools in other areas of Orono or in neighboring communities.

State and federal regulators consider this a desirable approach for three reasons:

- Vernal pool species spend most of the year not in vernal pools but rather in surrounding uplands that may extend a considerable distance from the pools. These uplands, for the most part (i.e., beyond 250 feet), are not regulated by the State and may not be regulated by the Federal agencies. The regulators are therefore interested in approaches that would extend protections to that larger landscape (such as purchase or other permanent protection of areas where significant vernal pools exist, using the mitigation fees outlined in these provisions).
- In any given year, a vernal pool may not have the requisite egg counts to be deemed "significant." This may vary from year to year, and in any case, a pool with small numbers of egg masses may be important to the local ecology. But, under the NRPA, once a pool is deemed to be not "significant," it is no longer protected under state law. These provisions would permanently protect certain vernal pools outside of the Town's growth area, regardless of significance in any given year.
- At the same time, growth would not be as impeded in areas most suitable for it, near town services, schools, and the downtown. Removing impediments to growth in designated "growth" areas may relieve growth pressures in outlying or more rural areas of a community and provide other environmental benefits.

Regional Collaboration

There are several organizations in the region working to protect natural and water resources from both human and environmental impacts. There is an opportunity for further collaboration between the Town and these partners, which include:

- **Orono Land Trust:** A local non-profit that protects, manages, and preserves portions of the natural environment in Orono and surrounding communities, for the benefit and enjoyment of present and future generations (for both recreation and conservation purposes). The Orono Land Trust is an invaluable partner for the Town in the stewardship of trails and natural areas used for recreation. This is discussed in greater detail in the Recreation chapter of this plan.
- **Penobscot Climate Action (BACTS):** Penobscot Climate Action is a joint effort of local governments, organizations, and residents who live and work in the Greater Bangor region to advance climate goals locally and together as a region. The regional plan was developed by BACTS along with the City of Bangor and the Town of Orono and extensive stakeholder engagement throughout the planning process. Drawing on insight from community conversations and surveys, community members and town staff then worked to identify, develop, and prioritize climate actions. This process resulted in identifying ten high-priority and high-impact strategies for the region and developing "climate action toolkits" that package resources and information that would make it easier to put these strategies into action. Now that the plan is in its implementation phase, an implementation group has been put together (spearheaded by BACTS) to share resources and best practices going forward. The high-priority and high-impact strategies identified in the plan were the following:
 - Update zoning and new development standards for low-carbon resilience
 - Retrofit existing housing stock
 - Create a capacity-building strategy for public transit
 - Foster complete and walkable neighborhoods
 - Adapt land management practices to support resilience
 - Develop a climate-ready business resource

- Strengthening the green trades pipeline
- Expand community hubs for resilience
- Strengthen local and regional food resilience
- **Bangor Area Stormwater Group:** An opportunity for the Bangor Metro MS4 communities to collaborate on education, outreach, and planning needed to help comply with the General Permit's requirements.
- **University of Maine:** The University of Maine is heavily involved in statewide planning efforts for climate resiliency and natural and water resource conservation. Continuing to utilize our local resources (namely, students and professional researchers) would be helpful to Orono in preserving natural and water resources for the future.

Issues & Opportunities

Issue: Right-Sizing Culverts for Future Storm Events

As noted previously in this chapter, the term “100-year flood” (or “100-year storm”) is a bit of a misnomer, since these storms are occurring more and more frequently as a result of increased precipitation and climate change.

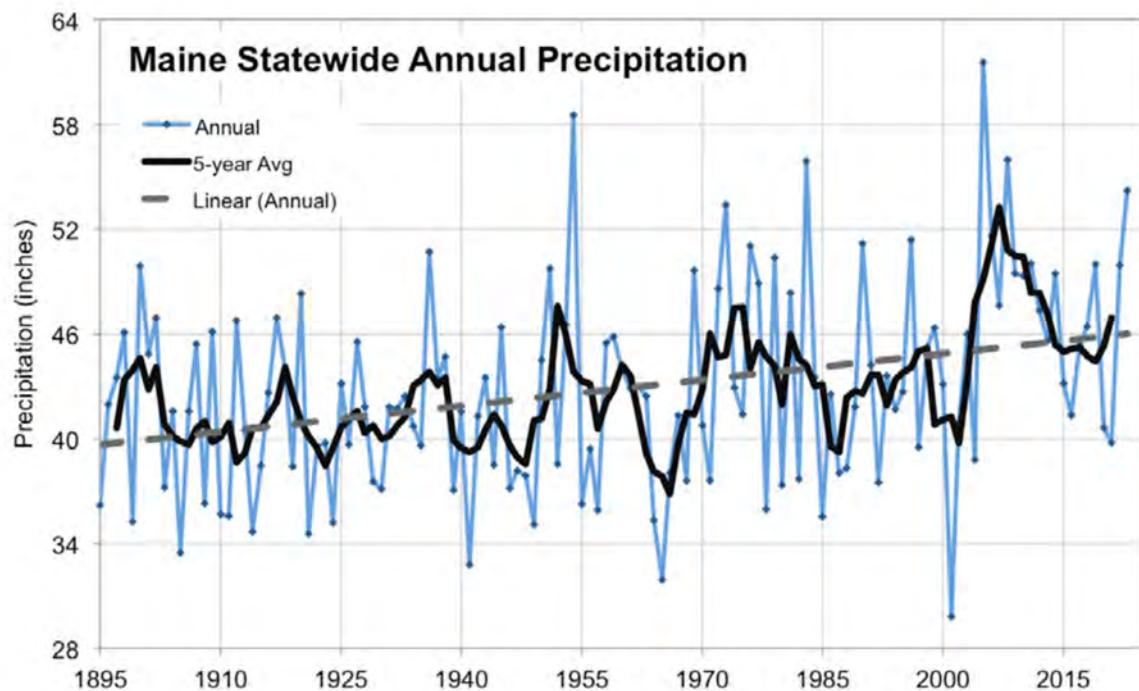


Figure 6-7: Maine Statewide Annual Precipitation. Maine's annual cumulative precipitation from 1895–2023, based on data from the National Centers for Environmental Information (NCEI, 2024a). The dashed linear trendlines show precipitation increases of 6 inches (15 cm) across the record period. The bold black line represents five-year averages.

In general, Maine's climate is getting wetter and is experiencing more extremes. In fact, each calendar year between 2020 and 2023 ranks among the top 10 warmest years (according to data available since 1895). The calendar year 2023 ranked the second warmest and the fifth wettest for Maine. In addition to more days per year with over an inch of precipitation, storm events with one-hour intensities have prompted municipalities across the state to consider adaptation measures.⁸

⁸ “Based on an analysis of daily surface observations since the 1950s, Maine now receives on average 1–2 more days per year with 2 inches or greater precipitation, and 2–3 days more per year with 1 inch of

An important aspect of adapting to the increased frequency of extreme storm events is right-sizing culverts to accommodate the huge volume of water that quickly fills drainage systems during these events. When a culvert cannot convey the amount of water attempting to flow through it, water can back up and cause localized flooding. The accumulated water may overflow across the roadway, disrupting transportation and increasing erosion that can entirely wash out the culvert, as happened across the region during major storm events in December of 2023.

Ensuring that Orono's culverts are appropriately sized for future storm events (not just based on historical storm data) will be an important part of how the community protects water resources, and its major transportation events, in the future.

[Issue: Floodplains Based on Historical Patterns, Not Future Climate Modelling](#)

FEMA's flood maps currently define flood risk based solely on past events. Historical storms are used to calibrate computer models that are used to map flood risk, based on the assumption that the past should inform future decisions. However, climate change is making flood disasters more frequent and more severe. Basing decisions on past conditions does not take into account climate impacts and other factors. *Penobscot Climate Action* recommends that all communities in our region update their floodplain zoning to take into account future climate risk. Since extreme precipitation events are becoming more frequent, Orono may wish to utilize climate modeling in floodplain regulation rather than FEMA's historical data.

precipitation. Short-duration, high-intensity precipitation events with several inches of accumulation can occur over limited areas during thunderstorms, tropical or strong extratropical cyclones. A previous examination of data across New England and New York found that extreme precipitation days (top 1% of wet days) tended to have 50% of the total accumulation occurring in 3 hours or less (Agel et al., 2015)." (From [Scientific Assessment of Climate Change and Its Effects in Maine](#), Maine Climate Council Scientific and Technical Subcommittee, published 2024.)

Recreation

Overview

In Orono, indoor and outdoor recreation opportunities are both expected and valued by the community. Orono residents have access to a wide variety of recreational programming for all ages, and public-private partnerships are essential in maintaining this level of service. The Town, the University of Maine, the Orono Land Trust, and a variety of other important partners all collaborate to meet the recreational needs of the community.

The typical community (town or city) in the United States has one park for every 2,323 residents.¹ In Orono, there is one park for every 1,398 residents.² (This figure only includes parks wholly or partially owned by the Town and does not include open spaces owned by regional partners such as the Orono Land Trust.) In addition, the Orono Land Trust offers 14 areas with more than 1,000 acres of land that can be used for a variety of low-impact activities.

Though Orono has a diversified and robust mix of facilities, some are not adequately maintained or built-out to meet the needs of the community. Issues range from the need for trail improvements to additional parking areas and restrooms at existing facilities. In addition, there are currently no community playgrounds outside of the Community/School Complex.#

Parks and Recreation Department

The Parks and Recreation Department has two full-time staff members. Otherwise, they rely on contractors, volunteers, and regional partnerships to deliver high-quality and varied recreation programming.

The Parks and Recreation Department provides year-round activities for youth, adults, and seniors, many of which are offered at free or reduced prices for residents. Notable youth programs include soccer, flag football, and field hockey leagues; a winter basketball league and clinics; spring frisbee and lacrosse programs; and “Little Rookies,” designed to introduce young children (3- and 4-year-olds) to a variety of different sports. In addition, the Department (in collaboration with UMaine and other partners) runs after-school and summer camp programming for kids.

Programs geared to adults, including older adults, include knitting groups, coffee chats, and other opportunities for socializing.

As of FY2025, the Department’s operational budget was \$255,495.

Contracted instructors are utilized for a variety of activities (for example, rock climbing, horseback riding, and swim lessons during RAD Afterschool). These are important partnerships as the wide range of youth activities that the Town currently offers would not be possible without some contracted outside labor.

Volunteers also make up a significant number of labor hours and help Town staff deliver services at next to no cost. These include:

- Sports coaches, with 32 coaches providing over 1,200 hours of instruction annually

¹ Per the National Recreation and Park Association’s 2022 Agency Performance Review, available online here: <https://www.nrpa.org/siteassets/2022-nrpa-agency-performance-review.pdf>

² This figure was calculated based on the 2020 Census population for Orono of 11,183.

- Beautification Committee (volunteers who maintain all of the Town's flower beds)
- Trail planning through the Trails Committee
- Student volunteers at both the high school and college level, providing over 500 hours annually in various capacities

In terms of regional partnerships, a key player in the delivery of recreational programming is the University of Maine. There is a contract between the Town and UMaine Campus Recreation for them to provide operational support – namely, students who provide staffing – for RAD Afterschool and the operation of the municipal pool. There is also a partnership between the Town and UMaine to run the RAD summer camp program. In addition, the Town offers volunteer opportunities to the UMaine Physical Education Majors Club, in turn providing teaching and coaching opportunities to students.

Other important organizational partnerships that share in the cost of programming or provide space/instructors for programming at low to no cost include the Penobscot Nation, Orono Veazie Little League, Adult Education, Penobscot Valley Ski Club, Orono Paddlers, UMaine College of Education, and others.

Municipal Recreation Facilities

Outdoor Recreation Facilities

The Town owns eight parks, including five with water access. However, there are no permanent public toilets (with plumbing) at any of these. Webster Park, Gould's Landing, and Brownie's Park do have seasonal Port-A-Potties. No water access points meet ADA-accessibility requirements, meaning there are no water access points for those with disabilities. Figure 7-2, on page 8, includes the location of municipal parks along with other recreational open spaces frequently used by the community.

#

- **Marden Park** – Marden Park is located at the corner of Park and Crosby streets. This 3.1-acre park is the site of a Little League baseball field. There is no off-street parking for users of this park.
- **Webster Park** – Webster Park is located along the northern banks of the Stillwater River on North Main Avenue. The 4.4-acre park, a 19th-century gift from the Webster family, has more than 1,000 feet of frontage on the river and is frequently used for picnics, summer concerts, weddings, group outings, and passive recreation. There are no structured facilities at the park, but it does have electrical power for concerts. It should be noted that there is limited parking for this heavily utilized park.
- **Gould's Landing at Nadeau-Savoy Memorial Park** – Nadeau-Savoy Memorial Park is on the banks of Pushaw Lake on outer Essex Street. The 2.1-acre site on the south shore of the lake and either side of Hemlock Point Road provides space for picnicking and a boat landing. The boat landing consists of a ramp and three 8-foot dock sections. There is parking for five cars with boat trailers. However, since this is the only free-to-access public boat launch to the

For the purposes of this plan, the term **"passive recreation"** means low-impact, non-motorized outdoor recreational activities or uses that do not require developed facilities and can be accommodated with minimal change to an area and its topography. Examples include but are not limited to walking or hiking, cross-country skiing, bird-watching, snowshoeing, hunting, fishing, and other similar activities.

entirety of Pushaw Lake, the park is frequently used to capacity, but expanding the facility, which is on a dead-end road, would likely create problems with traffic flow.

- **Sklar Park** – Sklar Park is located off Mainewood Avenue and Gilbert Street about a mile from downtown. It is a 60-acre park divided into two parts: (1) a 45-acre “wilderness” park on the west side of Johnny Mack Brook and running west to I-95, and (2) a 15-acre open space on the east side of the brook and extending into the Sailor Development between Mainewood and Gilbert. The land was donated to the Town by David Sklar in 1984, with the “wilderness” portion restricted to passive recreation. This is a wooded area with walking and ski trails, though the trails need improvement. The Orono Land Trust assists with the stewardship of the property. The portion of the park that extends into the Sailor Development is currently maintained by the Town for passive recreation, though it was originally laid out for the possible addition of house lots as well. It has the potential for a neighborhood play area.
- **Brownie’s Park** – Brownie’s Park is a node along a 1,500-foot strip of Town land located between Bennoch Road and the Stillwater River. The park is on the river below the point at which Noyes Street intersects Bennoch Road and is easily reached on foot via a pathway that begins downtown, or down a pathway from Bennoch. In 2011, a small parking lot was built off Bennoch near Noyes Street for easier use by those who arrive by car. While owned by the Town, Orono Land Trust maintains the property. The park is used for relaxation, views, and picnics, as a stopping point along the Stillwater River trail, and informally by swimmers. It is possible to carry a canoe or kayak to a launching area in the park.
- **Summer Street Park** – This is a half-acre “pocket park” at the end of Summer Street, with 379 feet of frontage along the south side of the Stillwater River. The Town acquired the property in 2006, removed a dilapidated house, and (with assistance from the Land for Maine’s Future Program) prepared it as a hand-carry boat launch site. It is a short walk from downtown and is intended to serve, among other things, as a scenic spot for those who live, work, or visit downtown. It is positioned as a trailhead for a potential future “lunchtime” trail loop around downtown that could be used for short walks.
- **The Jeremiah Colburn Natural Area** – This 20.6-acre natural area was acquired by the Orono Land Trust in 1986 with a combination of private and public dollars from the Land and Water Conservation Fund, a grant program established to assist federal, state, and local governments in the acquisition and/or development of public outdoor recreation facilities. OLT gave the area to the Town in 1988, but OLT continues to manage the property. It is located off Forest Avenue, adjacent to Forest Avenue and Bennoch Road neighborhoods. It is designated for passive recreation such as hiking, cross-country skiing, snowshoeing, and walking. Motorized vehicles are not permitted. This area lacks a formal trailhead or parking area. There is also a need for a forestry management plan on this parcel as the forest has become so dense that there is no new growth occurring and there is a lack of species biodiversity.
- **Union Street Boat Landing** – The Penobscot River Restoration Project, completed in 2016, restored access to historic breeding grounds for a number of anadromous fish species, including Atlantic salmon.³ Under a settlement agreement among Penobscot River dam owners, federal and state agencies, and a coalition of environmental organizations, three dams were acquired by the Penobscot River Restoration Trust for removal or bypassing. The Union Street Boat Landing, which was built and owned by the dam owners as part of its hydropower license, was acquired by the Trust in the process and later transferred to the Town. The 1.1-acre parcel is located at the “elbow” on Union Street, just below Ayers Island. The facility includes a ramp and 15 parking spaces for cars with boat trailers. At this point, the boat landing is really more of a hand-carry boat launch due to lack of maintenance. There

³ For more information, visit: <https://www.nrcm.org/programs/waters/penobscot-river-restoration-project/>

is a desire from the surrounding neighborhood to upgrade this boat launch and make the Union Street Boat Landing more of a relaxing park atmosphere where people can gather.

Athletic Fields, Pool, and Community Playground

- **Municipal (Nickerson) Pool** – In 1979, Orono built a municipal pool on Goodridge Drive, across from the High School. In the early 2024 season, the pool was closed for repair of the PVC membrane liner. It is anticipated that the pool will reopen for a few weeks at the end of the 2024 season. It is typically used by approximately 6,000 people each summer when it is open daily for about 10 weeks. The Parks & Recreation Department hires a summer staff (including a pool director and five lifeguards). Swimming lessons are offered for a fee and there are scheduled times for lap swimming. The pool is accessible to people with disabilities.
- **School/Community Athletic Complex** – This complex, located behind the High School, consists of two soccer fields, football game and practice fields, a track facility, and a field hockey field. This is the community's primary area for active recreation and also includes the following:
 - **Multi-Purpose Field (former St. Mary's)** – This Town-owned field, formerly owned by St. Mary's Church, is located off Goodridge Road behind the Main View Apartments. It is used for softball, baseball, soccer, and field hockey.
 - **Tennis and Basketball Courts** – Three tennis courts are located behind the Middle School. The High School tennis team practices here, and the courts are open to the public as well. Individuals were recently (August 2024) awarded grant funding through the Town Council's mini-grant program to paint lines for pickleball on one of the tennis courts.
 - **Outdoor Ice Rink** – Orono's ice rink is also located behind the High School. This is a regulation-sized outdoor rink with boards, lighting, and a warming hut. It is open to the public and for use by the University Recreation Center. The facility has been improved and now has a building for cross-country ski waxing along with two miles of trails for cross-country skiing behind the track/football field complex. The trails are maintained by the Penobscot Valley Ski Club.
 - **Orono Community Playground** – The community playground was built in 2000 for elementary school-aged children. It is located adjacent to Asa Adams School on Town property and is maintained by the Parks & Recreation Department. It is the only Town playground in Orono; neighborhood playgrounds are among the recreation needs in the community identified by the Department.

For the purposes of this plan, "**active recreation**" means recreational activities that require specialized fields, courts or other developed areas. Examples include but are not limited to pickleball or tennis, baseball or softball, football or soccer, playing at a playground, skateboarding, and other similar activities.

Community Buildings

- **Keith Anderson Community House** – The Keith Anderson House is located downtown on Bennoch Road. It is a two-story former Congregational Church that was constructed in the 19th century. For many years it has been used for community-based programs and activities, ranging from after-school programs to coffee house performances, dances, community

theater, fitness programs, receptions, elections, and meetings. It is equipped with a new vertical lift for access to the second floor by people with disabilities, however, it is still not accessible due to the lip of the door from the sidewalk. It can hold about 95 people.

- **Birch Street Senior Center** – The senior center is a multi-purpose facility housed in the former Birch Street School off Pine Street (adjacent to the Public Library). The center was renovated in 2007 with the assistance of a community development block grant and is in good condition. Functions at the center include the Orono Thrift Shop and a senior citizen meal program, and the center is a meeting place for community-based organizations. A community garden is located behind the center. It can hold about 45 people. Though this building is wheelchair-accessible, there are no buttons for the doors.
- **Orono Public Library** – The library, which opened the doors to its new, freestanding facility at 39 Pine Street in 2009, hosts a variety of recreational activities for youth and families. These have included, among other things, arts programs, theater, and other performances for children, as well as book groups for adults.

Private Recreation

There are also a handful of private recreation facilities located in Orono, including:

- **Penobscot Valley Country Club** – The Penobscot Valley Country Club golf course was created by famed golf course architect Donald Ross in 1924. Shortly after the club was acquired by Harris Golf in 2008, the company undertook efforts to restore the 18-hole course to its original design. Penobscot Valley is a membership club that is open to the public.
- **Pushaw Lake Campground** – The Pushaw Lake Campground is located on the southeastern shore of Pushaw Lake, off outer Forest Avenue via Villa Vaughn Road. The campground includes RV, tent, and cabin sites, a camp store, and a restaurant. The campground also owns Moose Island in Pushaw Lake. Customers can rent canoes or kayaks to paddle to the island.

Smaller, indoor recreational facilities are available throughout the community.

In addition to the above, the University of Maine has a variety of recreational facilities and programs available to those who work or study there for low or no cost. Many of these facilities and programs may also be accessed by the general public for a small fee. The University also hosts their own summer camps and sports clinics for youth in the region for a fee. The University's principal recreational facilities include:

- **New Balance Recreation and Fitness Center** – This state-of-the-art facility, with LEED certification, was opened in 2007. It is an 85,000-square-foot center with a full array of fitness equipment, basketball courts, track, racquetball/squash courts, and an indoor recreational pool. The public can purchase memberships or pay by the visit.
- **Alfond Arena** – The Alfond Arena, home of the University of Maine ice hockey team, offers public skating hours.
- **Wallace Pool** – This 8-lane pool with two diving boards in the Memorial Gym also offers open swim hours.

Trail Network

Publicly accessible trails and bicycle facilities are located throughout the community. All Town-owned trails are intended to be multi-purpose trails for bicycling, walking, cross-country skiing, and even horseback riding. The location of these trails is shown on Figure 7-1, below. Many trails lack formalized trailheads or parking areas and are also not connected to the broader community through

sidewalks, so end up functioning as neighborhood walking paths more than formalized trail systems. Furthermore, Town-owned trails are not user-friendly or intuitive and people frequently get lost.

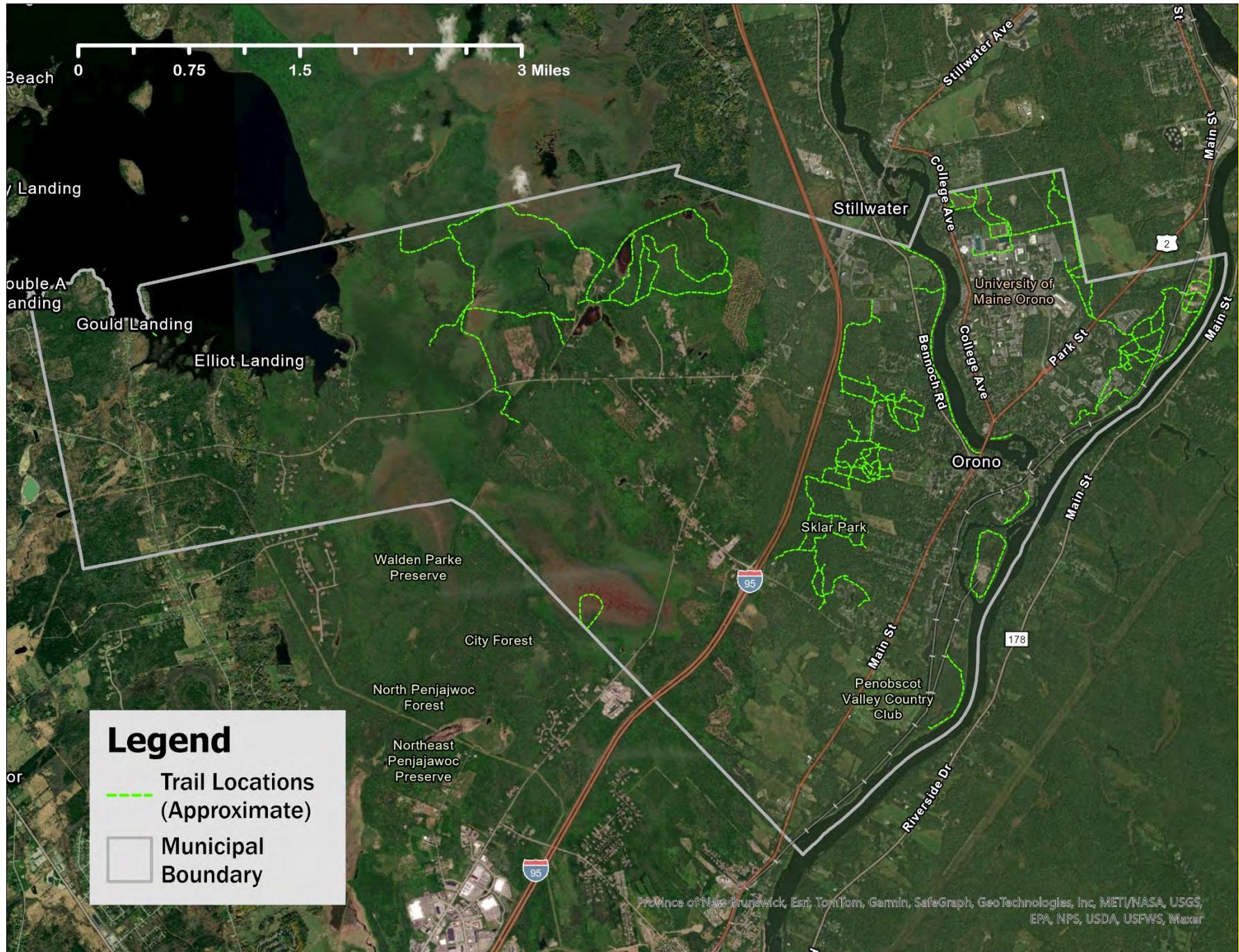


Figure 7-1: Orono Trail Systems (Locations Approximate). Source: Town of Orono GIS

The maintenance of Town-owned trails is generally neglected because of staffing issues and lack of funding. The Trails Committee is given \$6,000 annually to maintain all Town-owned trails, which only covers minimal spot repair. There is a trails reserve account, but this has not been recently funded through annual budget appropriations. There is currently about \$23,000 available in the account. Further, unlike other communities of comparable size to Orono, there are no Parks & Recreation laborers to work on maintenance, so time is based on the availability of Public Works laborers or the goodwill of local partners to help groom and maintain trails (for example, the Penobscot Valley Ski Club and the Orono Land Trust). The trails on the Town lot behind the high school (39.8 acres) are the most well-maintained and the most utilized by the public.

In addition to the trails shown above, a 3.1-mile paved bicycle trail system (the University Bike Paths) connects Orono (via Park Street) to the heart of the University of Maine campus and onto residential and commercial areas in neighboring Old Town.

Two Maine Department of Transportation (MaineDOT) designated bicycle routes pass through Orono: the River Loop, a 27-mile loop that goes from Bangor to Old Town, up one side of the Penobscot River and down the other, and also includes the bike path through the University of Maine campus; and the Pushaw Loop, a 44-mile loop continuing from Old Town that circles around Pushaw Lake and through woods and farmlands.⁴ It should be noted, however, that sections of these loops are on major roadways that in some cases lack paved shoulders (and no sections of roadway have designated bicycle lanes). Bicycle and pedestrian connectivity is explored further in the Transportation section of this Plan.

Conserved Open Space

Open space in Orono is primarily owned and maintained by regional landowners such as the Orono Land Trust (OLT). OLT maintains more than 1,000 acres of publicly accessible open space for the enjoyment of Orono residents and visitors.⁵ Figure 7-2, below, shows the location of conserved open spaces frequently utilized for recreation as well as Town-owned land, with parks and recreation amenities labeled.

⁴ <https://www.maine.gov/mdot/bikeped/>

⁵ <https://oronalandtrust.org/lands-trails-maps/>

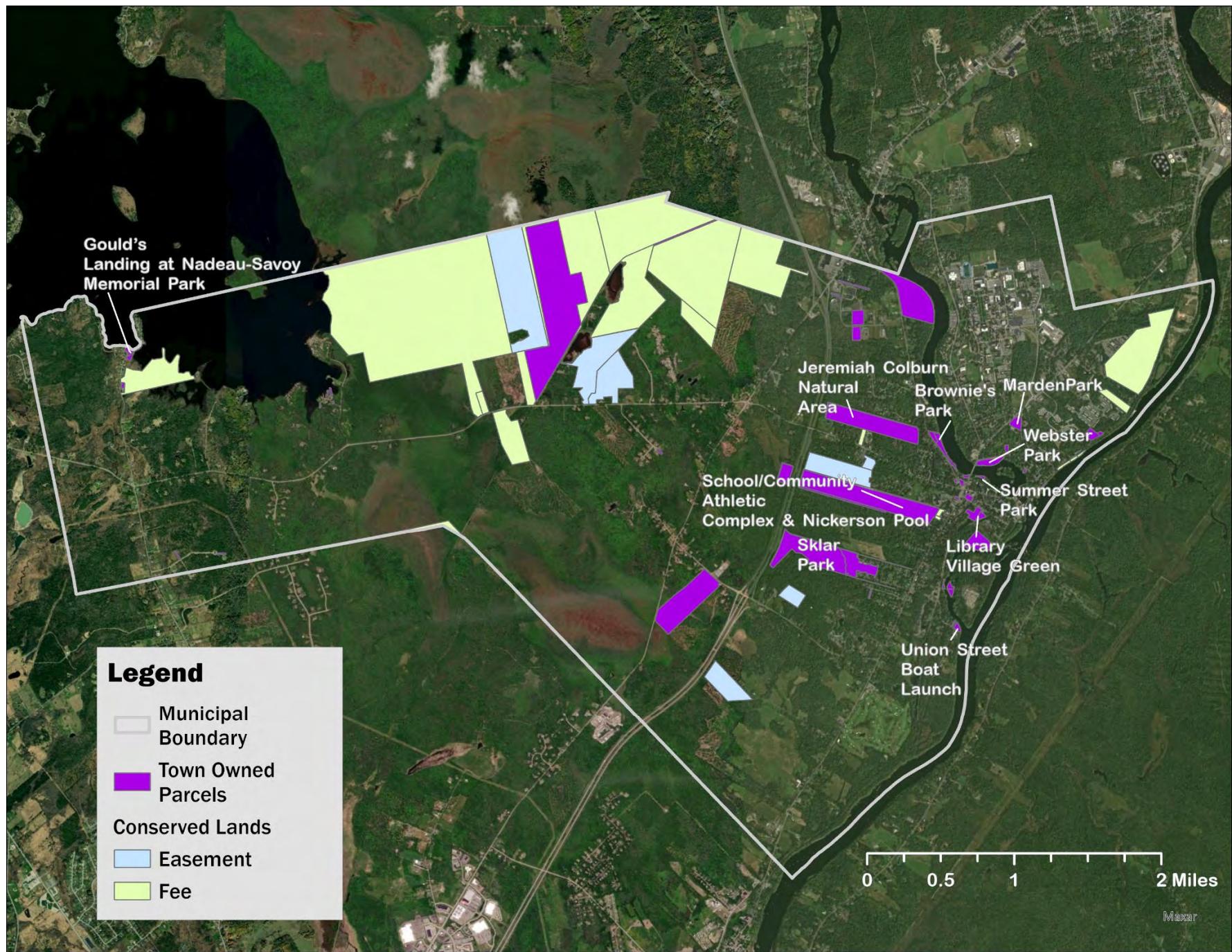


Figure 7-2: Orono Conserved Lands and Recreation Amenities. Source: Maine Geobrary and Town of Orono GIS

Provisions for the Protection of Open Space

Clustered Development Standards

The Town has adopted provisions for clustered development (outlined in Sec. 18-136), which are required to be utilized within the Forestry & Agriculture (F&A) and the Gateway Medium Density Residential (GMDR) zoning districts but are optional provisions for properties in other districts where this is allowed (including the MDR, LDR, C-2, and EDZ zoning districts). The stated purposes of the clustered development provisions are to: (1) Permit flexible and innovative design of development; (2) Promote efficient use of land, resulting in a smaller network of utilities and streets; (3) Provide significant open space and recreational areas typically not included in conventional subdivisions; and (4) In the Forestry and Agriculture District, preserve the opportunity for rural land uses, such as agriculture, forestry, outdoor recreation, and to conserve such natural features as intact wildlife habitat and high-value natural systems, consistent with the stated purpose of the F&A District.

In addition to any other requirements of Article VII related to subdivisions, applications for clustered development must also include within the submitted preliminary plan an inventory of natural resources on the parcel or parcels proposed for development. This inventory must include any wetlands and vernal pools; hydric soils not captured by wetland or vernal pool boundaries; streams, rivers, and ponds to their mean high water marks; any land specified by Maine's Shoreland Zoning Act and rules to be resource protection areas; slopes over 20 percent; ledge outcrops; and lands restricted by existing easements whose purposes include conservation of the land or natural resources or uses that affect or rely on those resources.

The clustered development provisions require a certain percentage of land (depending on the zoning district) to be set aside as community open space which cannot be included within the individual lots proposed for the subdivision. This open space area is also required to contain all natural resources identified in the inventory of resources as unsuitable for development, with limited exceptions. The open space shall be dedicated to a recreational amenity or the environmental enhancement of the development, and/or to an agricultural or forestry use, and be recorded on the subdivision plan as such. An applicant can also opt to pay an open space impact fee which, in the long-term, could be used by the Town to acquire land for recreation or conservation purposes (though this has not been utilized by applicants since the adoption of the clustered development provisions and thus there is currently no funding in this account).

Projected Future Demand

From conversations with the Parks & Recreation Director, there currently seems to be demand for more diversified children's programming and more community events, as well as various upgrades to Town-owned recreational facilities.

Concerning children's programming, there are currently not enough children in Orono to sustain the Department's existing programs. For example, in the Spring of 2024, karate was introduced as an option for elementary-aged children. Within the first week though, many children ended up dropping out of that program because they were already involved in too many other activities.⁶ This could be an opportunity for regional collaboration with neighboring municipalities to share in the cost of providing diversified children's programming if this continues to be a community desire. However, based on projected demographic shifts outlined in the Population & Demographics section of this plan, the demand for more senior citizen/older adult-focused programming will be what is needed in the near future.

⁶ Per anecdotal conversations with the Town's Parks & Recreation Director.

As noted above, there also seems to be a desire for more community events in Orono (such as community-wide festivals or downtown events). Trunk or Treat, at Halloween, is the only event that is completely run by the Town (through the Parks & Recreation Department), though the Department supports and promotes many other community events throughout the year (such as Artsapalooza, Orono Pride, the Stillwater Trail of Lights, Orono-Veazie Little League, the annual Caribou Bog Ski Race, and Penobscot Valley Ski Club trails and activities).

Neighborhood playgrounds have also been a desire of the community, documented in the 2014 Comprehensive Plan as well. The only playgrounds in Orono currently exist at the School/Community Athletic Complex. Sklar Park was identified as a prime spot for a community playground in the 2014 plan, but Marden Park was also looked at as well (with a conceptual plan prepared for that park in 2014). Reserve funding for a neighborhood playground is available but has not recently been funded, so there is only about \$30,000 in the account currently.

Issues & Opportunities

Issue/Opportunity: Trail Management Planning

As noted above, many of the Town-owned trails lack formalized trailheads or parking areas and are also not connected to the broader community through sidewalks, so end up functioning as neighborhood walking paths more than formalized, interconnected trail systems. Furthermore, Town-owned trails are not very user-friendly or accessible and people frequently get lost (based on anecdotal conversations with the Parks & Recreation Department).

The Town's Trails Committee has expressed a desire to understand areas of Town trails that are difficult to traverse, the width of the trails, identifying/eliminating spur trails (or unsanctioned trails that end up connecting to backyards or other areas), and creating more accurate maps of the trail systems. A Trail Management Plan would undertake this kind of analysis to provide a framework for the management of Orono's multi-use trails and recommend maintenance standards moving forward. As part of this effort, the connection of trails and sidewalks should be prioritized so that trail systems are more formally integrated into the Town's transportation network.

Issue: Informal Trails

Many trails throughout Orono are used by the community but are not formally recognized by either the Town or the Orono Land Trust because they are located on private property or there are no rights to maintain those trails.

There are also a lot of trails on private property that, while the owners have permitted to traverse their properties, lack formalized access easements (just "handshake agreements" with either the Town or the Land Trust). This poses an issue if the landowner changes and someone changes their mind about access. Similarly, many property owners allow the trail to cross their property but will not allow the portion of the trail on their property to be listed on any maps, which limits accessibility and connectivity and creates safety issues in certain spots.

Issue: Lack of Toilet Facilities

For the most part, Town-owned recreation facilities lack toilet facilities. There are no permanent public toilets (with plumbing) at any Town-owned facilities, though Webster Park, Gould's Landing, and Brownie's Park do have seasonal Port-A-Potties. This limits how long people can reasonably use the Town's recreational amenities before having to leave to seek restrooms.

Issue/Opportunity: Global Assessment of Recreation Needs

In addition to other programming needs that will be needed as a result of projected demographic shifts (outlined above), there is also currently no programming for older children and teens. Orono

lacks a formalized “teen center” where teens could feel safe hanging out after school. Further, while the Parks & Recreation Department offers plenty of sports-related programming, there is not a lot of “lower-stakes” non-sports-related programming being offered currently. Especially as demographics shift in the community, a global assessment of recreation needs should be undertaken to better understand and prioritize community desires in this area. Town facilities should be considered as part of this assessment, and places for people to gather and do a variety of activities should be prioritized.

Transportation

Overview

Infrastructure such as roadways, bridges, sidewalks, cycling routes, and more are essential for ensuring safe and effective vehicular, pedestrian, and bicycle movement throughout the community. While the primary mode of transportation in Orono is currently vehicular, pedestrian and bicycle accessibility are also important to this college town for both transportation and recreation purposes. Finding a balance between the mobility of vehicles along the Town's street network and the safety and availability of pedestrian and cycling amenities has long been an objective of the community, especially given that approximately 18% of Orono residents commute to work by walking or biking.

Biking and walking instead of driving reduces greenhouse gas emissions, allows people to be more connected to their community, and can reduce identified traffic congestion issues – but choosing to walk or bike requires infrastructure to make those trips both safe and appealing. This is also an equity issue since walking or biking are also the primary modes of transportation for people who do not own cars.

This chapter analyzes Orono's transportation system including roads, traffic impacts, pedestrian links, cycling infrastructure, bridges, railroads, and public transit. Understanding where there are issues and planning for solutions are important steps in meeting the Town's future priorities and needs.

Local Street Network

Road Classification

Road classification systems are used to group public roads and highways into classes according to the character of service they are intended to provide. They are used to determine funding and jurisdiction and to define the role a particular road plays in serving the needs of the community and region as a part of the larger transportation network. The Federal Functional Classification (FFC) System uses established guidelines to classify how a particular road should be planned for and engineered. A roadway's federal classification helps determine the speed limit, 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. Every road in the network falls into one of the following three broad categories: arterials (including interstates and highways), collectors (major and minor), and local roads.

The Maine Department of Transportation (MaineDOT) defines an arterial road as serving countywide, statewide, or interstate travel, linking cities and large towns to an integrated highway network.¹ Collector roads link villages, neighborhoods, and major facilities to the arterial network. The State maintains both arterial and collector roads scheduled according to a 3-year Work Plan, which is updated and revised on an annual basis.²

¹ <https://www.maine.gov/mdot/csd/docs/roadwayinfo/RoadClassification.pdf>

² <https://www.maine.gov/mdot/projects/workplan/data/workplan/town/Orono.pdf>

Figure 8-1 shows the Federal Functional Classification of Orono's roadways, except for any private roads (which are not maintained by a governmental entity and are instead maintained by a Road Maintenance Association or Homeowner's Association comprised of the road's users).

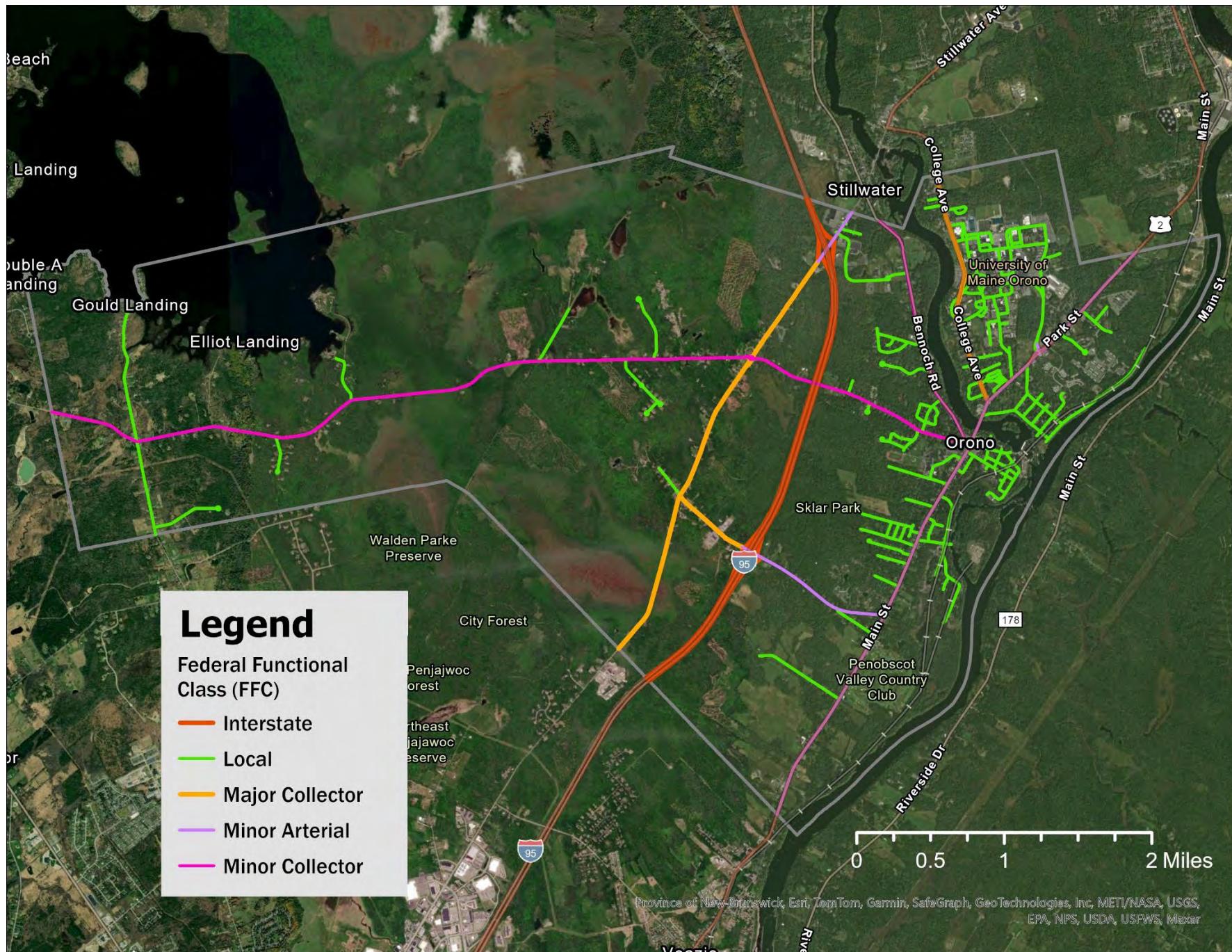


Figure 8-1: Federal Functional Class (FFC) of Orono Public Roads. Source: Maine DOT Public Map Viewer

As shown in Figure 8-1, many local roads are dead-end streets. This has been the norm for new residential developments over the past 40 to 50 years for two primary reasons. First, residential development in the Bangor region, including Orono, tends to be relatively small-scale, and individual subdivisions tend to be located on a single, existing parcel of land. These individual parcels are most easily and economically designed with a dead-end street. Second, the market responds well to streets that have no through traffic. Dead-end streets offer a sense of quiet and protection and may have open space (private or public) at the end that may be viewed as a neighborhood amenity.

However, there are also many disadvantages to dead-end streets for the homebuyer, the developer, and the community as a whole. First, dead-end streets impede circulation through a neighborhood or area of town for both emergency response and public works personnel. They likewise limit the choice of routes and tend to limit modes of travel by encouraging auto use since, unless there are separate pathways, travelers are directed to arterial streets rather than a network of local streets favored by walkers and bicyclists. Finally, they tend to cut off the development potential of land just beyond the dead-end, encouraging instead a leapfrog pattern of development into areas farther from local utilities and services.

While most residential development over the last 50 or so years has occurred on dead-end streets, the Town's subdivision regulations do require that a provision for interconnectivity be made in these subdivisions for future connections to adjacent vacant land, typically by reserving a 50-foot right-of-way area for this purpose.

Road Maintenance

According to the Maine Department of Transportation (MaineDOT), there are about 58 miles of public roads in Orono maintained by either the Town of Orono, the Maine Turnpike Authority, or MaineDOT. The Maine Turnpike Authority is responsible for the maintenance of the state's interstate system, including the portion of I-95 that runs through Orono. MaineDOT generally reconstructs, paves, and maintains state highways, and is responsible for summer maintenance on state aid highways (except for the portion of Orono that is within an Urban Compact Area, where the Town is responsible for both winter and summer maintenance, except for bridge maintenance and maintenance of signage).

Including the Urban Compact Area, the Town's Public Works Department maintains 41 miles of public roads and more than 20 miles of sidewalks.³ Regular maintenance includes winter snow removal, repainting pavement markings, street sweeping, roadside mowing, ditching, and patching of potholes. The Town's Capital Improvement Program plans for major expenditures related to road resurfacing in fiscal years 2025 through 2029. \$5,166,109 in capital infrastructure costs related to roads and sidewalks (including paving, resurfacing, and drainage improvements) are planned during this period, with an average of about \$1,033,221 spent annually. About \$225,000 is devoted to sidewalk improvements. About 60% of the annual Public Works budget is related to the general and winter maintenance of both streets and sidewalks (or \$2,648,519 in FY2025).

Bridges

There are seven bridges located completely within Orono's municipal boundaries, of which two are water crossings and three are highway ramps, underpasses, overpasses, or railroad bridges.

³ <https://orono.org/218/Public-Works>

MaineDOT has devised a rating system that takes into account the condition of the bridge deck, superstructure, substructure, and, in the case of bridges that cross water, channel condition. The map below is color-coded to show the overall sufficiency rating of each bridge in Orono. A rating above 80 is good; 50 to 79 is fair; and below 50 is poor.

As shown in Figure 8-2 (on the following page), a bridge connects Ayers Island to the mainland. It consists of two segments built in 1902 to serve a now-closed mill. The shorter segment of the bridge, called the Island Avenue Bridge (108 feet long) is Town-owned and is in poor to serious condition, is posted for weight limit, and has a sufficiency rating of 4.00. The longer segment, called the Shaddy Mill Bridge (359 feet long) is privately owned, although the Town retains the right (but not the obligation) to maintain or replace it. It is in poor to critical condition, is posted for weight limit, and has a sufficiency rating of 2.00. The condition of the bridge(s) is a severely limiting factor in the redevelopment and reuse of Ayers Island.

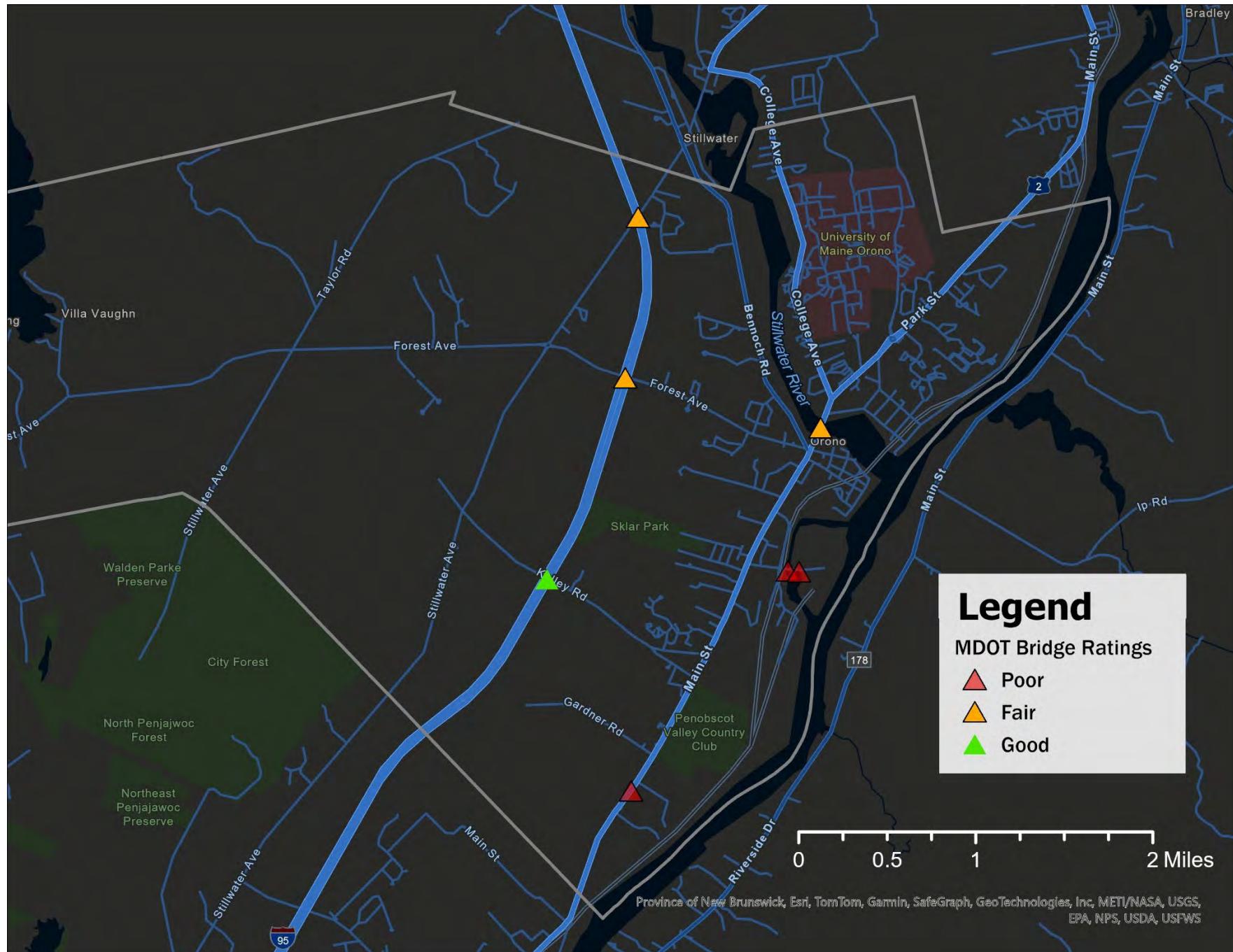


Figure 8-2: Orono Bridge Locations & Ratings. Source: Maine DOT Public Map Viewer

Traffic Counts

Traffic counts are measured by Annual Average Daily Traffic (AADT) which measures daily traffic on roadways throughout the year and averages them out for planning purposes. This is an important note because, in Maine communities, roadways are much less heavily trafficked in the winter than in the summer. This means that the AADT is somewhere in between the actual winter and summer measurements of roadway traffic. A map of AADT on Orono's roads is shown on the following page in Figure 8-3.

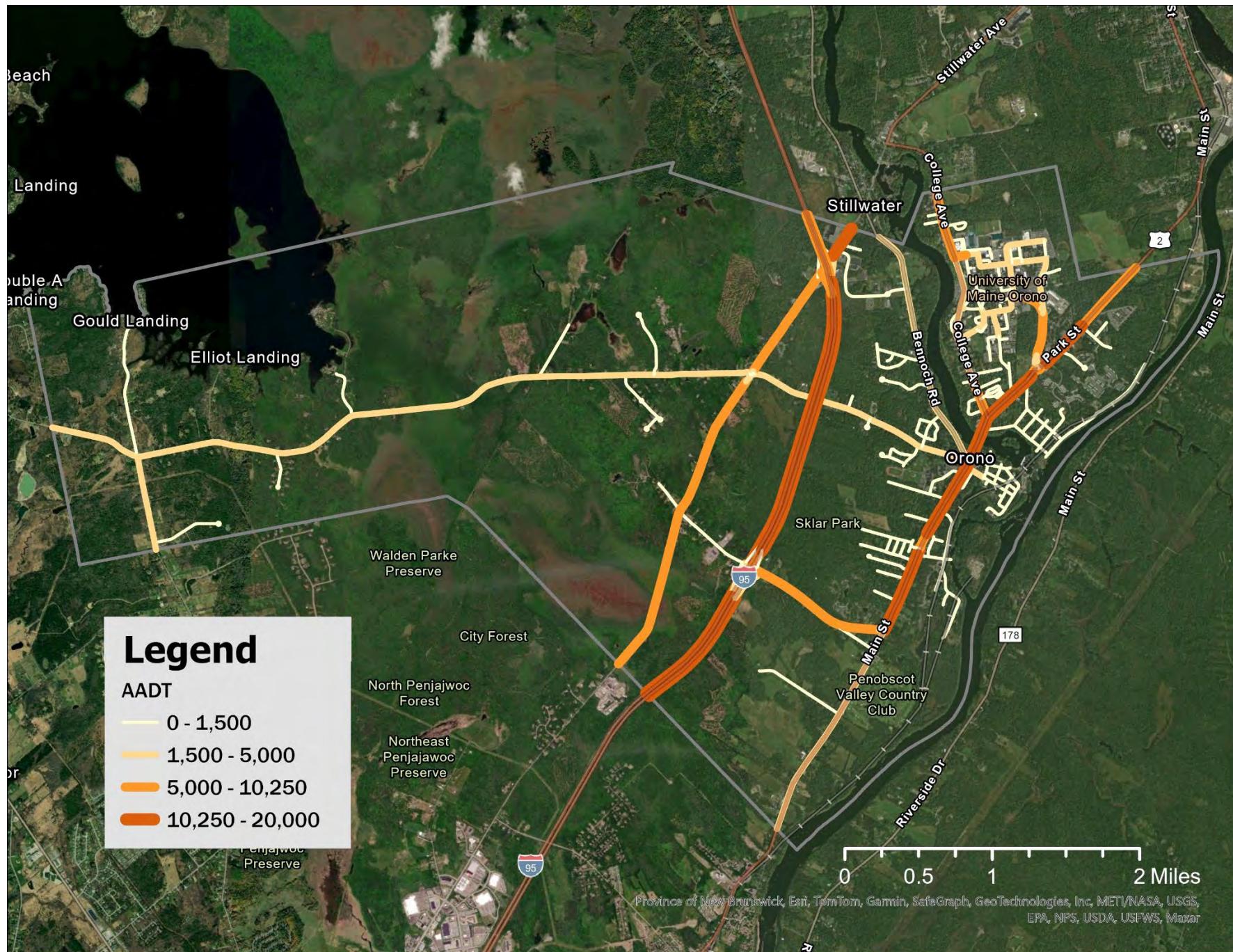


Figure 8-3: Orono Annual Average Daily Traffic (AADT) Counts. Source: MaineDOT Public Map Viewer

High Crash Locations

MaineDOT has identified 8 high crash locations in Orono in the three-year period between 2021 and 2023 (the most recent data available at the time of plan drafting). A high crash location is either an intersection or a stretch of road that experienced at least eight crashes during the three-year period and has a “critical rate factor” of more than one. The critical rate is a comparison of the actual accident rate to the expected accident rate based on the type of road and traffic volume. A rate of more than one indicates more accidents than expected and may indicate the need for remedial steps.

Area	Total Crashes	Critical Rate Factor
Intersection of Essex Street and Forest Avenue	9	3.89
Intersection of Kelley Road and Stillwater Avenue	8	2.48
Intersection of College Avenue and Main Street	8	1.37
Intersection of Park Street & Rangeley Road	15	2.18
Intersection of Belgrade Road Spur and Rangeley Road	9	2.93
Intersection of Park Street and Washburn Place	16	2.76
Section of Park Street between Orchard Trails Drive and Washburn Place	15	1.56
Section of Stillwater Avenue in front of University Mall plaza	19	2.4

8-4: Orono High Crash Locations (HCLs). Source: Maine DOT Public Map Viewer.

Access Management

Access management is important because it helps both drivers and pedestrians anticipate where motor vehicles will enter and exit businesses, and minimizes the number of conflict points between pedestrians, bicycles, and motor vehicles. MaineDOT has developed a set of access management rules to improve safety and preserve highway capacity by minimizing the number of curb cuts along a roadway. A curb cut is an entrance cut into a street curb to provide vehicular access to a driveway or parking area. Each curb cut creates a location for turning movements that increase the likelihood of an accident. Good access management reduces the number of curb cuts by limiting the number of allowed entrances that are available to each parcel of land, encouraging shared curb cuts by adjacent parcels, and replacing multiple driveways with a single access road.

The Town’s development review standards outlined in the Land Use Ordinance include a number of standards for the number of curb cuts allowed per lot (typically one, unless two is needed for safety reasons in the determination of the Planning Board), sight distances, and for the location and spacing of curb cuts. In addition, for projects requiring Planning Board review, the Board may ask applicants for turning movements, queuing information, and full traffic impact analyses as part of their application.

Road Design Standards

The design of highways, streets, and roads is highly important for user safety and the maneuverability of vehicles. Quality roadway design directly impacts the user experience, and roads themselves are a key contributor to the development and growth of the local economy. It is important for roads to allow the creation of a network of interconnected streets, rather than many cul-de-sacs off of one central roadway. Road design can support alternative transportation (such as biking or walking), but only if they are thoughtfully designed with all users in mind.

In Orono, new local streets are typically created as a result of the development of residential subdivisions. These streets must follow standards set out in the subdivision section (Article VII) of the Land Use Ordinance. Referred to as “minor” streets, these streets must include a 24-foot-wide paved surface centered within a 50-foot right-of-way. A 5-foot-wide sidewalk is required to be located on one side of the street.

Whenever possible, subdivisions shall have at least two street connections with existing public streets or to private streets on an approved subdivision plan. Dead-end streets are allowed and have been the most common type of new street built over the last 50 or so years, however, they cannot exceed 2,500 feet in length (for residential subdivisions) and, unless located in a clustered development under the standards of Sec. 18-136, cannot serve more than 20 dwelling units. This is mainly for fire safety purposes when additional hydrants are not proposed.

New streets serving commercial uses, such as in a business park, require a 30-foot paved surface within a 66-foot right-of-way, with a 6-foot-wide sidewalk on one side. A separate set of standards is available for clustered residential developments to recognize the priority placed on conserving open space. Provided that the street remains in private ownership and is privately maintained, the street can consist of an 18-foot graveled surface, with either a 4-foot sidewalk or pathway, which can be located outside of the right-of-way.

The Town does not have any adopted Complete Streets Policy or requirement to construct bicycle facilities along new roads or during improvements to existing roadways.

Active Transportation

Active transportation is human-powered mobility, such as walking or biking. This is an integral part of any efficient transportation network.

“Active transportation networks—including bike lanes, sidewalks, and multi-use trails—help create vibrant communities by providing safe, comfortable, convenient, reliable, efficient, and affordable ways for people to get around. Investing in active transportation can drive community cohesion and economic prosperity while helping to ensure people are connected to the outdoors and the essential places they need to go each day. Importantly, active transportation networks provide opportunities for affordable, low-emission or zero-emission trips while closing gaps between people and their next ride—after all, active transportation is an essential part of every public transportation trip.”

-United States Department of Transportation, *Active Transportation* webpage

In Orono, sidewalks are primarily concentrated in and around the downtown area. They extend outwards towards the apartment complexes and commercial businesses along Park Street (to the Orono/Old Town municipal boundary), up College Avenue (to the Orono/Old Town municipal boundary), along Forest Avenue, and out past the residential neighborhoods off of Bennoch Road to the Maine Technology Park on Godfrey Drive. There is also a sidewalk along the frontage of the University Mall property on Stillwater Avenue. The Town's full sidewalk network is shown on the map in Figure 8-4 on the following page.

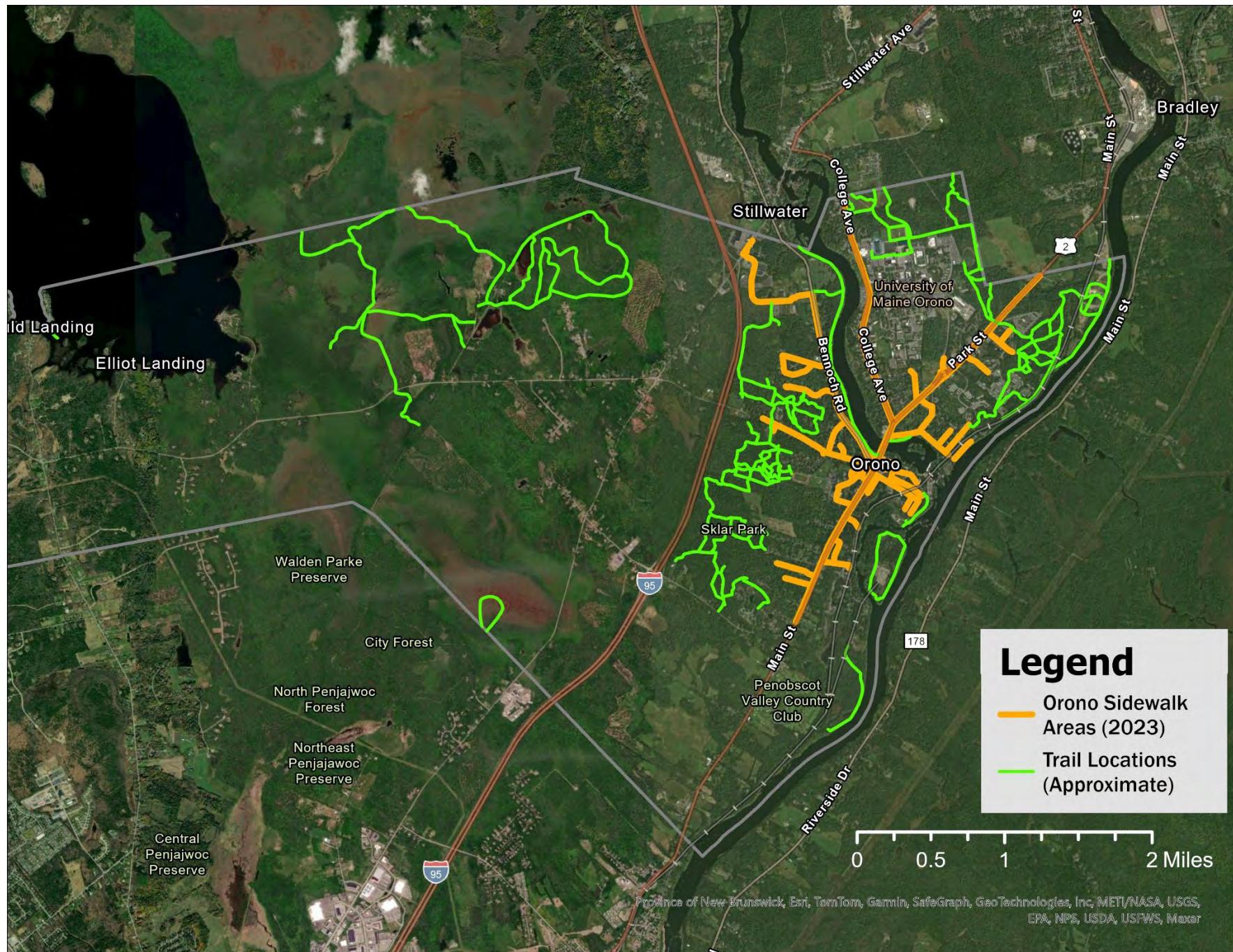


Figure 8-4: Orono Sidewalk and Trail Locations. Source: Town of Orono GIS

About 18% of Orono residents walk or bike to work, making active transportation especially important.⁴ This likely includes many University students who walk between their apartments and jobs on campus. Commuting patterns of Orono residents are described in greater detail in the Commuting Patterns section, below.

Between 2019 and 2021, the Maine Department of Transportation (MaineDOT) partnered with the Bicycle Coalition of Maine (BCM) to facilitate a series of public meetings addressing pedestrian safety.

As part of the Heads Up Pedestrian Safety Initiative, these meetings:

- collected information on locations the residents felt were unsafe;
- identified possible infrastructure changes to improve pedestrian safety; and
- discussed specific educational and law enforcement interventions that might improve driver and pedestrian behavior.

The aim of the project was to explore potential short-, medium-, and long-term mitigation strategies to improve pedestrian safety and reduce crashes. These include the following areas (in order of priority):

Area	Site-specific Objectives (Recommended by the 2021 <i>Pedestrian Safety Action Plan</i>)
Intersections of Main, Mill, and Pine Streets, Forest Avenue, and Bennoch Road	<ul style="list-style-type: none">• Increase visibility of crosswalks• Modify pedestrian signals to improve pedestrian crossing safety• Improve safe pedestrian access on Main Street• Change traffic patterns to simplify intersections
Intersection of Main Street, Park Street, and College Avenue	<ul style="list-style-type: none">• Increase visibility of crosswalks• Shorten crossing distance• Change traffic patterns to simplify intersections
Main Street from Pine Street to Westwood Drive	<ul style="list-style-type: none">• Increase visibility of crosswalks• Better define unsignalized crosswalk locations for drivers by making them a prominent roadway feature• Improve pedestrian safety near the Orono Fire Station, especially for pedestrians with visual impairments• Evaluate locations for safe crossings• Lane reconfiguration / narrowing to slow traffic to improve pedestrian safety
Stillwater Avenue (East of I-95)	<ul style="list-style-type: none">• Increase visibility of crosswalks• Lane reconfiguration / narrowing to slow traffic to improve pedestrian safety• Improve safe pedestrian access
Pine Street from	<ul style="list-style-type: none">• Increase visibility of crosswalks

⁴ U.S. Census Bureau. "Means of Transportation to Work by Selected Characteristics." American Community Survey, ACS 5-Year Estimates Subject Tables, Table S0802, 2022.

Main Street to the Library	<ul style="list-style-type: none"> • Better define unsignalized crosswalk locations for drivers by making them a prominent roadway feature • Improve safe pedestrian access
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Figure 8-5: Pedestrian Safety Action Plan Site Specific Recommendations. Source: Orono Pedestrian Safety Action Plan (2021).

The Town's FY2024-2029 Capital Improvement Program outlines approximately \$225,000 of spending on planned sidewalk rehabilitation projects.

Schools

The public schools in Orono are all located in one complex on Goodridge Drive, immediately adjacent to the downtown area and surrounded by residential neighborhoods. There are sidewalks that connect this property to the rest of the Town's sidewalk network via Main Street. There are also trails behind the High School that connect to surrounding residential neighborhoods off of Forest Avenue.

Downtown

Most sidewalks along Main Street in downtown Orono are wider than five feet (the minimum requirement for ADA accessibility) as they have been designed to accommodate both pedestrians and business uses (such as store entrances, outdoor dining, and sandwich board advertisements). Streets perpendicular to Main Street though, including Mill Street and Pine Street, lack the same wide sidewalks. Pine Street sidewalk improvements have been funded through the adopted Capital Improvement Plan for FY2027. Sidewalks also end about halfway down Mill Street, even though this is one of Orono's major commercial streets.

The 2021 *Pedestrian Safety Action Plan* documented that crosswalks crossing Main Street are often too long (because Main Street is a three- or even four-lane road downtown) or are not visible enough in the winter months. In addition, pedestrian signals are often too short to allow for adequate time for people to cross the street.

Bicycling and Off-Road Trails

Publicly accessible trails and bicycle facilities are located throughout the community. All Town-owned trails are intended to be multi-purpose trails for bicycling, walking, cross-country skiing, and even horseback riding. Many of these trails are not paved and many also lack formalized trailheads or have had their maintenance neglected due to lack of funding. Trails are described in greater detail in the Recreation section of this Plan.

In addition to the local trails described above, a 3.1-mile paved bicycle trail system (the University Bike Paths) connects Orono (via Park Street) to the heart of the University of Maine campus and then on to residential and commercial areas in neighboring Old Town. This trail is mostly paved and is wide and in good condition.

On-Road Cycling

Two Maine Department of Transportation (MaineDOT) designated bicycle routes pass through Orono: the River Loop, a 27-mile loop that goes from Bangor to Old Town, up one side of the Penobscot River and down the other, and also includes the bike path through the University of Maine campus; and the Pushaw Loop, a 44-mile loop continuing from Old Town that circles around Pushaw Lake and through woods and farmlands.⁵ It should be noted, however, that sections of

⁵ <https://www.maine.gov/mdot/bikeped/>

these loops are on major roadways that in some cases lack paved shoulders (and no sections of roadway have designated bicycle lanes).

In terms of roads most frequently used for cycling, Route 2 sees the heaviest amount of bicycle traffic, followed by Bennoch Road, College Avenue, and Forest Avenue.⁶

Public Transportation

Community Connector

The Community Connector bus service is owned and operated by the City of Bangor, which cost-shares operations with the other communities served. Community Connector operates 11 routes over a 29-square-mile area in the municipalities of Bangor, Brewer, Hampden, Veazie, Orono, and Old Town. The bus currently runs on a flag-stop system (though has plans to transition to a fixed-stop system by the end of 2024), and the majority of routes meet at the bus depot located at Pickering Square in downtown Bangor. The transition to fixed stops will allow for improved stop amenities (benches/shelters/lighting) and bus tracking technology integration. BACTS recently created design guidelines to encourage more coordination between municipalities, developers, and the Community Connector in designing infrastructure that is supportive of fixed stops.

Black Bear Orono Express

The Black Bear Orono Express (BBOE) provides a free shuttle between the University of Maine campus and downtown Orono, with stops at major apartment complexes in between. The BBOE is catered towards students and follows the University's schedule (so does not operate on days when the University does not have classes, including all summer). As of FY2024, ridership of the Black Bear Orono Express totaled 17,473. Like all public transit systems pre-pandemic, this is far less than the 37,392 riders documented in FY2019 but has been slowly rebounding since FY2021 (the height of the COVID-19 pandemic).

Inter-state Bus Service

Concord Coach is an intercity bus service that makes one round trip daily between Bangor and Logan Airport in Boston, Massachusetts, with additional stops in Brunswick, Portland, and several other southern Maine communities.

Passenger Rail Service

The Bangor region is not served by passenger rail. Passenger rail has been reestablished in southern Maine, with service to and from Boston that in 2012 was extended north to Brunswick.

Freight Rail Service

Freight rail service within the region is primarily privately owned, operated, and maintained. To that end, infrastructure investment is related to market forces and business cycles with limited influence by any governmental policy or priority. Unlike much of the rest of the United States, in which rail systems were established to connect regions to the rest of the country, many of Maine's rail lines were designed to link the state and its ports to Montréal and larger cities in Canada.

The freight rail service operating in the region is now CSX Transportation after a recent purchase from Guilford Transportation. CSX provides rail freight transportation between the Atlantic coast of Maine to the rest of the northeast United States and on to Montréal. Before selling the rail line to

⁶ Data taken from the STRAVA app and compiled as part of the *BACTS – Long-Range Pedestrian and Bicycle Transportation Plan* (2019).

CSX, Guilford Transportation began a \$40 million rail upgrade project. CSX has continued the upgrade project.

At a public meeting with representatives from CSX, hosted by the Orono Town Council on April 1, 2024, it was stated that continued investment would occur on the rail line through Orono. CSX expects to run heavier trains through Orono at speeds up to 49 mph within 5 years, with the potential for running double-stacked container trains should major infrastructure upgrades occur.

The driving force behind the \$40 million upgrade of the line from Waterville to Mattawamkeag is the expansion of the port of St John, New Brunswick. The port expansion is intended to dramatically increase the handling of container freight at the port, and the regional rail system is poised to capture a portion of the increased container freight traffic to send through its freight network in the eastern half of the U.S., which is likely to lead to increased impacts in Orono.

Airports

There are no airports located within Orono's boundaries. The Old Town Municipal Airport at Dewitt Field is owned by and located in the neighboring City of Old Town and includes two small runways and a sea-plane base, along with aviation fuel stations.

The closest airport offering passenger flights is the Bangor International Airport, located about 10 miles from Orono. This airport provides passenger service to the region and serves as a transit point for commercial and international flights. It also is home to the 101st Maine National Guard Air Refueling Wing. It has all-weather access, an 11,440-foot runway, an instrument landing system, and the ability to handle any aircraft flying today.

Commuting Patterns

According to 2022 American Community Survey data, there are 7,016 jobs located in Orono. About 49% of these are held by Orono residents. The remainder commute to Orono from outside of the community. The highest density of jobs in Orono is the University of Maine. Other top employers (those with more than 50 employees) include Orono Commons (a Genesis Healthcare nursing home facility), RSU26 (the local public school system), and the Treats Falls House (an intermediate care facility for those with intellectual disabilities run by the Independence Advocates of Maine).

Orono residents who commute out of town for work are primarily headed toward Bangor, Brewer, or other nearby areas. About 32% of workers travel less than ten minutes to work, 54% travel between 10-30 minutes, and the remainder (14%) travel longer distances.⁷

The average commute time for Orono residents is 16.7 minutes, up just slightly from 2012 when the average commute time was 16.0 minutes. 70.9% travel by car, truck, or van, with 60.9% driving to work alone and 10% of people carpooling. Commuters using other means of transportation primarily walk to work (17.2%) with small percentages biking (0.5%) and using public transportation (0.4%). Over 9% percent of workers work from home, up from 4.6% in 2012.⁸

⁷ U.S. Census Bureau. "Means of Transportation to Work by Selected Characteristics." American Community Survey, ACS 5-Year Estimates Subject Tables, Table S0802, 2022.

⁸ U.S. Census Bureau. "COMMUTING CHARACTERISTICS BY SEX." American Community Survey, ACS 5-Year Estimates Subject Tables, Table S0801, 2022.

Local Transportation Plans

A brief history of transportation planning in Orono over the past 10 years is included below.

History of Transportation Planning in Orono (2014-2024)

- **2014:** The 2014 Comprehensive Plan included a variety of recommendations related to transportation, including active transportation and “Complete Streets” initiatives. The Plan considered land use and transportation as two parts of the same issue, with a broad vision to transform the downtown from a neighborhood commercial district into a more mixed-use, specialized district with a varied mix of residential and commercial uses together within walking distance. Many of the recommendations have been implemented. Some, like reestablishing connection to Ayer’s Island, are underway but will primarily rely on public/private partnerships to complete.
- **2017:** The *Downtown Traffic and Circulation Study* is completed by Sebago Technics on behalf of the Town. Among other things, this document included recommendations for the adoption of a Complete Streets policy for Main Street in particular, signalization improvements, signage suggestions, ways to improve circulation at key sites, and a concept plan for enhancing bicycle accommodations within the Main Street Corridor.
- **2018:** The *Park Street Transportation Study* is completed by Ty-Lin International on behalf of the Town. This document provides a variety of conceptual plans for roadway and bicycle and pedestrian improvements that could be made at intersections and along the Park Street Corridor. Some of these improvements have been completed, such as the crosswalk connection at Grove Street. Other improvements would require additional funding or public private partnerships so have yet to be implemented. Still others, such as the formalization of bicycle lanes through pavement markings, have not been implemented and the reason is unclear.
- **2019:** As a result of recommendations from the 2014 Comprehensive Plan, Sec. 18-128 (which includes design standards for both the VC and C-2 zoning districts) was updated, with a focus on “pedestrian circulation and face-to-face retail sales.”
- **2021:** Working with the Bicycle Coalition of Maine and MaineDOT, Orono completed the Pedestrian Safety Action Plan in 2021. The plan provides general considerations to improve walking and biking throughout town, such as regularly refreshing crosswalk paint, improving signage, ensuring compliance with the American Disabilities Act (ADA), and installing traffic calming measures. The plan also identifies five priority sites for improvements, as identified through attendees of a Community Pedestrian Safety Forum held in November of 2017.
- **2022:** Based on recommendations of the 2014 Comprehensive Plan, the minimum required off-street parking standards for a variety of residential uses were lowered (see Sec. 18-235).

Regional Transportation Plans

Maine Department of Transportation

MaineDOT is responsible for setting the transportation goals for the State. To do so, they work with all of the State’s transportation organizations and local governments as well as other interested parties. In 2024, MaineDOT released its Family of Plans, a set of multimodal transportation planning documents that lay out the department’s vision for Maine’s transportation system. The documents present recommendations for how to achieve the vision and lay out specific implementation steps.

The Family of Plans is centered around the *Long-Range Transportation Plan (LRTP)*, a high-level plan for addressing the needs of Maine’s multimodal transportation system over the next 20+ years. The *LRTP* looks at the system as a whole, with each mode of transportation making up one piece of the multimodal whole working to move Maine. Other plans provide more specific

guidance focused on a single mode: active transportation, aviation, rail, and transit. These complement other key MaineDOT plans and studies.⁹

MaineDOT financially supports and partners with Maine's Metropolitan Planning Organizations (MPOs) to coordinate and provide outreach to local governments, and to work directly with communities and local officials on transportation planning activities. The Bangor Area Comprehensive Transportation System (BACTS) is the regional transportation planning organization for the greater Bangor region, including Orono.

BACTS Metropolitan Transportation Plan, 2023-2043

This regional transportation plan for the greater Bangor region is the responsibility of the Bangor Area Comprehensive Transportation System (BACTS), the congressionally designated metropolitan planning organization for the area. This plan considers a variety of recommendations that would enhance economic development of the region (implementing strategies to attract in-migration to the area), enhance public transportation in the region, encourage municipalities to adopt Complete Streets Policies and promote alternative modes of transit, and more.¹⁰

BACTS – Long-Range Pedestrian and Bicycle Transportation Plan

In 2019, the BACTS Policy Committee adopted a Long-Range Pedestrian and Bicycle Transportation Plan. This was intended to be a compendium to the Metropolitan Transportation Plan but focusing specifically on bicycle and pedestrian transportation in the region. This plan provides a variety of prioritized, community-specific pedestrian and bicycle improvements as well as general bicycle and pedestrian design improvements.¹¹

In terms of pedestrian recommendations for Orono, this plan recommended the following:

- Installation of a Main Street sidewalk (from Veazie municipal boundary to Kelley Road) – Not completed at the time of 2024 plan drafting
- Installation of a Park Street sidewalk (from The Reserve Apartments to the Old Town municipal boundary) – Not completed at the time of 2024 plan drafting
- Installation of a Crosby Street sidewalk (entire length of the east side of the street) – Not completed at the time of 2024 plan drafting but has been planned for FY2029
- Expand right-of-way from Pierce Street to Penobscot Street (currently limited) – Not completed at the time of 2024 plan drafting
- Installation of a Bennoch Road sidewalk (from Godfrey Drive to Old Town municipal boundary). This is important because paved shoulders are also limited in this segment. – Not completed at the time of 2024 plan drafting
- Park Street sidewalk improvements (as recommended in the 2017 Park Street Study) – Described further in the History of Transportation Planning in Orono call-out, page 171

⁹ For more information, visit: <https://storymaps.arcgis.com/stories/27763afe326645c285cb1d726ee68cae>

¹⁰ This plan is available online here: <https://storymaps.arcgis.com/stories/f36ea68bf60a44a5bd8aef8ba028eefdf>

¹¹ This plan is available in its entirety online here: <https://bactsmopo.org/wp-content/uploads/2021/06/BACTS-Long-Range-Pedestrian-and-Bicycle-Transportation-Plan.pdf>

- Main Street mid-block crossing north of Westwood Drive (Install rectangular rapid flashing beacon (RRFB)) – Signage installed but not RRFB
- Install curb extensions on Main Street at Westwood Drive – Not completed at the time of 2024 plan drafting
- New crossing on Main Street at Gilbert Street (Install RRFB) – Not completed at the time of 2024 plan drafting
- Installation of a Gilbert Street sidewalk (Leadbetter's to Gilbert Street). This was envisioned as a small landing that would allow residents to get to Leadbetter's from the neighborhoods to the west via ADA-compliant facilities connecting to the existing sidewalk network. – Not installed, would require the closing of curb cuts at Leadbetter's (private property)
- Installation of North Main Avenue sidewalk (connect to Penobscot Street) – Sidewalk is available but is not in great condition, and does not connect to Penobscot Street due to train tracks
- Marden Park multi-use path (creating a connection point to Park Street from Crosby Street through Marden Park) – Not completed at the time of 2024 plan drafting
- Create an off-road multi-use path parallel to Route 2 from Kelley Road to Westwood Drive – Not completed at the time of 2024 plan drafting

In terms of bicycle improvement recommendations for Orono, this plan recommended the following:

- Creation of Stillwater Avenue bicycle lanes (I-95 Interchange to the Old Town municipal boundary). Right-of-way is currently limited here so it would be unsafe for walking and biking without formalized areas. – Not completed at the time of 2024 plan drafting, the width of roadways would need to shift considerably
- Park Street Bicycle Lanes (formalize existing shoulders into bicycle lanes from College Avenue to The Reserve) – Not completed at the time of 2024 plan drafting
- Create an off-road multi-use path parallel to Route 2 from Kelley Road to Westwood Road – Not completed at the time of 2024 plan drafting

Parking

Parking is accommodated in Orono by a combination of public parking lots, private parking lots, and on-street parking. Off-street parking is required for all new developments (residential and commercial) located outside of the Village Commercial (VC) zoning district. Within the VC district, off-street parking is required to be provided only for new residential development being proposed (commercial development may take advantage of existing public parking).

Municipal Parking

There are five parking lots with public parking within 1,000 feet of the center of Orono's downtown (considered to be in the vicinity of Pat's Pizza), which have a total of 331 parking



Image of Rectangular Rapid Flashing Beacon (RRFB)

spaces. In addition, there is marked on-street parking available on the section of Mill Street nearest Main Street.

Parking Requirements for New Development

The Town's Land Use Ordinance, Section 18-135, regulates off-street parking requirements for new developments and re-use of existing buildings. The standards require a minimum number of parking spaces based on land use and a portion of accessible parking spaces per the standards of the Americans with Disabilities Act (ADA). The parking space requirements include some variation by zoning district – namely, the Village Commercial district, where businesses are not required to provide off-street parking.

New dwelling units must provide two parking spaces per dwelling unit. Exceptions are efficiency (studio) or 1-bedroom apartments, which must provide one space, and low-income housing for the elderly, which must provide three-fourths space per unit (plus five spaces for the complex).

In 2019 (as a result of recommendations from the 2014 Comprehensive Plan and continued complaints from would-be developers), these standards were lessened from three spaces for all new dwellings and two spaces for one-bedroom apartments.

Identified Parking Issues

Businesses still often note that there is not enough parking downtown (per conversations with the Community Development Director). However, this may be a problem more of parking management rather than a lack of parking spaces. The largest demand for parking, first identified in the 1995 *Downtown Improvement Study* but still widely acknowledged today, occurs during lunchtime and on Thursday, Friday, and Saturday nights. There is also a lack of overnight parking areas for downtown residents, also noted as far back as the 1995 study.¹² The facilitation of shared parking agreements with private parking lot owners has been identified as a way to manage the existing parking demand.

In addition, the circulation in existing parking areas creates serious problems. Angled on-street parking, such as that along Mill Street, has been identified by the Federal Highway Administration as unsafe and has been abandoned in many communities. This situation is particularly dangerous on Mill Street near the intersection with Main Street. There is poor visibility for parked vehicles backing out into traffic entering from Main Street, plus, high concentrations of pedestrian activity in the area creates the potential for conflicts between pedestrians and vehicles.

Issues & Opportunities

Opportunity: Adoption of a Complete Streets/Vision Zero Policy

Orono does not currently have an adopted Complete Streets Policy. Such a policy would ensure that proposed improvements to public streets would need to ensure that streets are designed to work for all people and modes of transportation including bicyclists, motor vehicles, pedestrians, and public transportation riders. Such a policy is becoming increasingly popular in Maine communities and would require the Public Works Department and Town Council to, at minimum, consider as part of proposed improvements any potential changes that would also make the streets safer for all modes of transportation (not just vehicular).

¹² *Downtown Orono Physical Improvements Study* (December 1995):

<https://www.orono.org/DocumentCenter/View/717/Downtown-Orono-Plan-1995-PDF?bidId=>

It should be noted that the *Downtown Traffic and Circulation Study* prepared by Sebago Technics and submitted to the town in August 2017, the 2021 *Orono Pedestrian Safety Action Plan*, and Toolkit #5 of Penobscot Climate Action all make similar recommendations. Orono's Complete Streets Policy should explicitly define the cost threshold at which including robust facilities for pedestrians and persons riding bikes is not feasible. The Bicycle Coalition of Maine encourages municipalities to include bike/pedestrian facilities when doing so accounts for no more than 20% of a project's total cost.

In addition to the above, many municipalities are also adopting Vision Zero policies, a guide to eliminating all traffic fatalities and severe injuries in the community while increasing safe, healthy, equitable mobility for all. BACTS was recently awarded a Safe Streets for All (SS4A) grant to create individual Vision Zero Safety Plans for each of their member communities. Part of the planning process will involve creating demonstration projects. Once these plans are complete, municipalities such as Orono can then apply for implementation grants through the same program. These are large grants that support implementing recommendations from the Vision Zero plans.

Opportunity: Shared Parking Arrangements

Parking in the Town's lots is not currently allowed overnight. In addition, there are many private lots located within 1,000 feet of the downtown area that are unused at night. There would seem to be an opportunity for coordination between the Town and/or private landowners to allow for overnight parking in lots that are currently sitting empty at night, thereby saving costs associated with the development of housing in the downtown area. At a minimum, parking alternatives should be offered in certain cases, such as where a shared parking agreement is amenable to meet the needs of multiple uses, instances where a satellite lot can be made available to accommodate a portion of the parking requirement, or when a parking demand study verifies reduced demand for vehicle parking.

Issue: Expected Increased Rail Activity

As noted above, CSX (the private owner of the rail system that runs through Orono) expects to run heavier trains through the area at speeds up to 49 mph within 5 years, with the potential for running double-stacked container trains should major infrastructure upgrades occur. The railroad is arguably Orono's most prominent industrial presence, and the rail bisects Orono's in-town neighborhoods. With increasing frequency of heavier trains running at higher speeds, the noise generated by the trains is likely to become greater and more frequent. As such, the Town should consider exploring funding the upgrade of railroad crossings in order to create "quiet zones" through Orono's in-town neighborhoods, thereby reducing the noise associated with the train horns passing through the area. This is likely to require a significant investment on the part of the Town (estimates are in the realm of \$7 million). However, as these areas are also within the Growth Area established by this planning process, the investment may be particularly warranted at this time.

Issue/Opportunity: Continued Investment in Transportation Planning & Improvements

The Town's recent investment in the Main Street Pedestrian Safety and ADA Improvements project, the continuation of the College Avenue sidewalk reconstruction funding, and the recent support of the MaineDOT Heads Up program grant funding for improved pedestrian facilities on Stillwater Avenue demonstrate the Town's commitment to investment in alternative transportation modes. However, there are still examples of underserved areas of Town and crumbling infrastructure that need resources. These range from the need for full reconstruction of sidewalks in certain areas, to simply funding increased staffing levels so that Public Works can adequately

repaint crosswalks throughout the year. Additionally, some of the documented desires of the community with regard to active transportation infrastructure continue to be unfunded or unfulfilled (see the *BACTS – Long-Range Pedestrian and Bicycle Transportation Plan* subsection, above).

The Town is currently participating in a MaineDOT Planning Partnership Initiative project for the Route 2 Corridor. This project will be a comprehensive evaluation of all infrastructure in the Route 2 Corridor from Kelley Road to the Old Town municipal boundary. The recommendations of this study will act as a guide for what could be a comprehensive reconstruction project funded by MaineDOT that will end up requiring a 10% match by the Town. If funded, early estimates of the project are in the \$30 million range. This unique opportunity would address most of the infrastructure needs on Main Street, a small portion of College Avenue, and Park Street, including storm sewer issues, utility infringements for sidewalks and other large-scale active transportation needs, failing retaining walls, environmental compliance, and other issues, many of which require fairly expensive solutions.

Given all of the above, it may be time to consider a town-wide active transportation implementation plan that can provide the Town with a guide to identify where the need is greatest and a plan to prioritize investments in the community's active transportation infrastructure. The commitment to investment in the Town's infrastructure must continue. A consistent level of investment allows Orono to maintain the overall condition of the infrastructure at acceptable levels and plan for the future. Inconsistent, or insufficient funding of these investments will lead to a further reduction in the quality of the Town's infrastructure and the overall quality of life in this community.

Public Facilities & Services

Overview

The growth of a community is based on the provision of public services, programs, and facilities. A healthy community can rely on a broad range of efficiently provided public services. Public services range from public works and roadway maintenance to utilities like electric water and sewer to recreation programs to police and fire protection. Primarily, these services are provided by the municipality and paid for by taxes, but there are many variations and options for where to get and how to fund services.

This chapter provides an overview of the current services that Orono provides and identifies any known gaps in services (based on either state or federal requirements or known resident desires).

General Government Overview

Over fifty years ago, Orono voters adopted the Town Council-Town Manager form of municipal government. Under this format, policy decisions are made by the elected municipal officers (the Town Council), while the administrative and executive duties are overseen by a professional, non-partisan administrator (the Town Manager). The Town Manager, who is appointed and overseen by the Town Council, is responsible for managing the day-to-day operations of the Town and implementing the policies adopted by the Town Council. The Town Council's policy role is to determine "what" the Town does, and the Town Manager determines "how" the policy is implemented. The Town Manager also assists with the Town Council's policy-making process with technical advice and other support.

The Town Council and Town Manager are supported by a variety of different municipal departments: Community Development, Public Safety, Public Works, Parks and Recreation, and the Library. The offices of IT/GIS, Finance, and Town Clerk are considered part of the "General Government" / Administration of the Town.

Finally, the range of public services offered by the Town is such that no small group of officials could manage them all. In addition to the legislative Town Council and the quasi-judicial Planning Board and Board of Appeals, Orono residents and stakeholders can participate on a variety of volunteer boards and committees that are advisory in nature, providing recommendations to the Town Council and Town staff. These include the: Tree Board; Diversity, Equity, Inclusion & Belonging (DEIB) Committee; Beautification Committee; Trails Committee; and others. Outside entities comprised of Orono stakeholders also provide valuable input to the Town Council but have their own tasks and can make decisions independent of the Town government.

Community Development

The Community Development Department includes the offices of Code Enforcement, Planning, Economic Development, and Assessing. This Department is responsible for the following:

- Enforcement of building and land use codes and regulations
- Facilitating and providing technical support to the Planning Board and Board of Appeals
- Managing updates to an integrated Land Use Ordinance that includes zoning, subdivision regulations, site plan review, shoreland zoning, and floodplains

- Reviewing the Land Use Ordinance for compliance in an ever-changing regulatory environment, and making recommendations for additions/revisions to better meet community needs and guide desired forms of development
- Providing decision-makers with quality information and analysis of alternative policy solutions, utilizing available data
- Providing comment on or managing other planning efforts
- Facilitating regular (every 10-12 years) updates to the Town's Comprehensive Plan to codify the long-term vision of the community
- Working with current and prospective businesses to grow and retain commercial enterprises in Orono
- Reviewing plans, approving permits, and performing inspections for new construction and property renovations
- Overseeing the Rental Ordinance and the required rental registration process
- Assisting the Orono Economic Development Corporation and regional entities in support of economic growth
- Completing Municipal Valuation Report and all associated documents for the Maine Revenue Service
- Process abatement applications related to the valuation of property
- Complete BETE applications for Maine Revenue Services
- Discuss valuations with taxpayers, real estate brokers, and appraisers

This Department is comprised of three full-time employees (a Community Development Director, a Code Enforcement Officer, and an Administrative Assistant) and two independent contractors who provide services to the Town (Planner and Assessor).

The operating costs of this Department as of FY2025 were \$1,208,694. Much of the costs of supplies and salaries (the entirety of the Community Development Director's salary and a portion of the contract for the Town Planner) are allowable expenses paid for through Tax Increment Financing (TIFs).

Public Safety

Orono provides comprehensive public safety and health services, including local police, fire protection, and emergency services. Both the Police and Fire Departments provide 24-hour/day emergency response. The Town also engages in regional planning for emergency management, hazard mitigation, and disaster response through the Penobscot County Emergency Management Agency. The total FY2025 operating budget for Public Safety is \$5,377,762.

The Town's Public Safety Departments share one building. Concerns have been raised by Department leadership about a variety of issues with the existing public safety building, including potential structural issues, the heating system, energy efficiency issues due to deterioration of windows and doors, the need for security updates, and more. In addition, the Departments are

experiencing space constraints. These are more particularly described for each “wing” of the Town’s Public Safety Departments below.

Police

The Orono Police Department is staffed with 15 full-time police officers. The **Administration Division** is comprised of the Director of Public Safety, the Chief of Police, the Captain, and an Administrative Assistant. A Director of Public Safety is responsible for general oversight, and the Chief and Captain are responsible for the daily management and supervision of the Department. The Administrative Assistant provides secretarial, record-keeping, and clerical support.

The **Patrol Division** is staffed with three Sergeants and seven Patrol Officers. The Department currently has one Detective who is responsible for investigating serious crimes and incidents requiring specialized investigation skills.

The **Community Policing Division** is staffed with a Director of Community Policing and a shared Patrol Officer. This division is responsible for leading the community policing strategy of the Orono Police Department (maintaining community relationships and partnerships, collaboration, and problem-solving), in particular:

- Non-emergency Community Conflict Resolution
- Community events
- PD/Town Liaison with various local and community groups
- School-based services (School Resource Officer)
- Community education and outreach

The provision of municipal law enforcement is mandated by local ordinances. Additionally, several of the functions under the direction of the Police Department are mandated functions of Maine municipalities (such as concealed weapons license processing and animal control). As of FY2025, the Department is now considered to be fully staffed to meet current service demands. As such, response time is typically immediate (less than 5 minutes from notification to response or follow-up). Over the last three years (2022-2024), the Department has handled an average of 5,300 calls for service. Around 25% of these are traffic-related, including calls for service (e.g. as a result of a car accident) or through proactive stops for OUIs or other criminal driving violations.

In terms of the Public Safety building, the building is not currently meeting accreditation standards and best practices for the storage of evidence, since the room available was not initially designed for the storage of property/evidence. In addition, the patrol room does not have enough space for officers working in the building to move comfortably and would pose a challenge in the hiring of any additional officers, if the need arises. There is also not currently enough office space for the administrative staff that the Department does have (e.g. the Community Policing Officer and the Director of Community Policing). The locker rooms were not designed to accommodate the number of staff that the Department now has and are overcrowded at shift change.

Fire & EMS

The Orono Fire Department is focused on protecting the community from all hazards with dedicated professionalism. “All hazards” is no longer just fire prevention; the Department must also be ready to

intervene when natural, technological, or medical calamities occur that place lives, the environment, or property in danger.

The Department currently has 25 full-time personnel, including a Director of Public Safety, a Deputy Fire Chief, a Life Safety Inspector (who works closely with Code Enforcement to ensure the safety of buildings in Orono for habitation or business use), four Captains, four Lieutenants, and 16 firefighters/EMTs. The Fire Department provides 24-hour/day emergency response with a minimum of five-person staffing, including at least two paramedics on shift. It should be noted that the University does not have its own Fire/EMS Department, so Orono's Fire Department provides emergency response to issues on campus at the University as well. The Department likewise provides mutual aid to surrounding communities, responding to fires or emergency events outside of Orono when necessary.

The Public Safety building was designed to house four people providing fire protection. Over the years, Orono Fire has taken on EMS, serves as the county Haz-Mat team, and has continually expanded into other areas when a public safety need was identified. Plus, as noted, they are required to have at least five people on shift at any given time. This has led to a lack of space in the existing building for all of the work that the Fire Department is doing.

In 2022 (the most recent full year for which data is available), the Department responded to 2,026 calls for service. About 75% of these were for emergency medical services. After a small dip in 2020, the number of calls that the Department responds to on an annual basis has been steadily rising. This increase in demand strains existing resources and decreases service reliability for fire and emergency medical responses.

An important aspect of firefighting is the availability of water to fight fires. The urban portion of Orono, where there is a public water supply, is well served, with 213 fire hydrants distributed throughout the area. The hydrants are owned by the Orono-Veazie Water District and the Town pays annual rental fees for the public hydrants. In general, the public water lines have both sufficient quantity and pressure for firefighting.

Staffing is an ongoing concern for the department. To date, as the result of Staffing for Adequate Fire and Emergency Response (SAFER) grant funding, additional staffing has been deployed to address overtime and scheduling concerns. The need for additional staffing was identified as a way to reduce mandatory overtime shift coverage, thereby saving money and addressing concerns related to overworking staff. However, this staffing level has not been evaluated through the lens of service demand or resource reliability. As call volume increases, the availability of resources decreases, resulting in serious gaps in coverage. Given that other Fire Departments in the area are also experiencing this draw on services (especially related to emergency medical response), the local resource deficiency is not able to be covered as effectively through mutual aid relationships and continues to pose a service delivery risk for the community.

There will soon be a need for a new ladder truck. The current ladder truck has been in operation since 2009. Modern aerial trucks typically last between 10 and 15 years. There are currently no reserve funds to replace this truck, which may lead to the Town needing to bond the approximately \$2,000,000 needed to replace the apparatus, or severely impact the tax rate if and when the truck fails.

Public Works

Major responsibilities of the Public Works Department include:

- Snow removal: Plowing and managing ice on 41 miles of right of way, over 20 miles of sidewalks, and municipal parking areas (including the school grounds)
- General maintenance of the right of way: Maintaining pavement markings, street-sweeping, roadside mowing, curb repair, ditching, roadside collection of brush and leaves, and pothole patching
- Capital Improvement Plan support: Project management and cost estimating, coordinating bids and contracts for facilities and roadway projects; as well as performing work not contracted out like loam and grass seeding, final clean up, adjusting and installing culverts and drainage structures, sidewalk construction, and hand-placed asphalt paving.
- Cemetery operation and maintenance: Aiding the Town Clerk with lot sales, monument installations, performing internments, and grounds maintenance at Town-owned cemeteries.
- Landfill operation and maintenance: Management of collected materials (construction and demolition debris), maintenance for DEP permit requirements, spring cleanup “Free Week,” providing an attendant for regular hours of operation at the Town landfill on Putnam Road.
- Curbside collection of recycling and waste: Trash and recycling are both picked up curbside by Casella Waste Systems. Currently, trash is being diverted to the Juniper Ridge Landfill and recycling is being collected as part of Casella’s Zero-Sort program.
- Equipment maintenance and repair: Operating the town garage and regular maintenance and repair of all fleet vehicles and equipment.
- Environmental services: Collaborating with the Planning Department on ordinance amendments and policies related to climate action planning; developing and executing environmental policies and procedures to meet and exceed State and Federally mandated environmental requirements and as directed by Town leadership; managing the community’s street tree program, in coordination with the Tree Board; pursuing grant funding opportunities to support environmental operations and to advance the Town’s articulated goals for climate change and environmental compliance; managing DEP compliance as outlined in our MS4 stormwater discharge permit.

The Public Works Department includes 13 full-time employees and one part-time employee shared with the Water Pollution Control Facility (WPCF). Employees include a Director, a foreman, the Town’s Environmental Services Manager, a mechanic, two Public Works Level III (crew leads) employees, and six Public Works Level II employees. Currently, there is a need for at least one additional staff person. One challenge that has become clear is managing the upkeep of Town cemeteries. This causes a ripple effect because there is a need to pull people off other jobs to make sure that the Department is meeting the necessary level of service in the cemetery. Ultimately, this is creating challenges to complete the Department’s other necessary work within the confines of Maine’s short construction season. This will likely be exacerbated if the region experiences a particularly snowy or icy winter in the near future.

The Town owns a variety of highway maintenance equipment and does much of its own maintenance, rather than contracting out maintenance as many small communities do. Equipment is scheduled for replacement on a 10 to 15-year rotation, funded by the Capital Improvement Program. The operating budget for the Public Works Department in FY2025 was \$5,377,762.

Water & Sewer

Water

The Orono-Veazie Water District (OVWD) was created in 1976 as a non-profit corporation to serve water users in Orono and Veazie. It is governed by the Maine Public Utilities Commission. The OVWD has a board of trustees consisting of five residents from Orono and Veazie (three from Orono and two from Veazie), and five staff that run the treatment plant and manage daily operations. Water supply and quality are not an issue in the service area.

The locations of the water lines are shown in Figure 9-1, on page X.

Public water is drawn from four drilled wells in a well field north of 116 Bennoch Road. The water from all four wells is filtered and then treated with chlorine to protect against bacteriological contaminants, fluoride to promote dental health, and sodium hydroxide to reduce lead solubility from plumbing. The Orono-Veazie Water District maintains 2,285 service connections that serve a population of 8,125 people in both communities (as of 2023).¹

Per conversations with the OVWD Superintendent as part of the drafting of this Plan, there are currently no water line expansions planned for the foreseeable future. OVWD typically relies on private development to expand water lines but has in the past expressed a willingness to take over maintenance of the water lines once built. Otherwise, OVWD coordinates with the Town to try to make needed upgrades to existing lines occur at the same time as needed road maintenance to avoid multiple construction disruptions. In the long term, new regulatory requirements related to PFAS and other environmental issues will likely require upgrades to the treatment plant.

Sewer & Wastewater

Sewer and wastewater in Orono is managed by the Water Pollution Control Facility, a Department of the Town. The Orono Water Pollution Control Facility itself is a secondary activated sludge wastewater treatment plant. The original facility was built in 1970 with a design flow capacity of 1.84 million gallons per day. In 2006, the facility was upgraded to increase capacity, eliminate outdated inefficient processes, provide a biological nutrient removal process, make energy conservation improvements, make physical plant improvements, and work continued to eliminate combined sewer overflows. The upgraded facility now treats between 375-450 million gallons of wastewater per year (depending on rainfall amount) and serves 1,330 users. The University of Maine is the single largest user in Orono. The treatment plant is currently at about 60% capacity when school is in session. Significant development could occur before the community would need to think about upgrading the treatment plant, per conversations with the WPCF Superintendent.

Operations at the plant consist of laboratory testing, equipment and building maintenance, process control, and solids handling. The facility is staffed with five operators licensed by the State of Maine (including the Superintendent, a Lab Tech/Collection Lead, an Operator/Mechanic Lead, and two Operators). Additional responsibilities include maintaining 23 miles of sanitary sewer lines, more than 500 sanitary sewer manholes, and four pumping stations.

The locations of sewer lines are shown in Figure 9-1, on the following page. The Town requires new development within 200 feet of an existing sewer line to connect to the system (per Chapter 36, Article II of the Town's ordinances).

¹ https://ovwd.weebly.com/uploads/5/0/9/1/50914273/2023_ccr_report.pdf

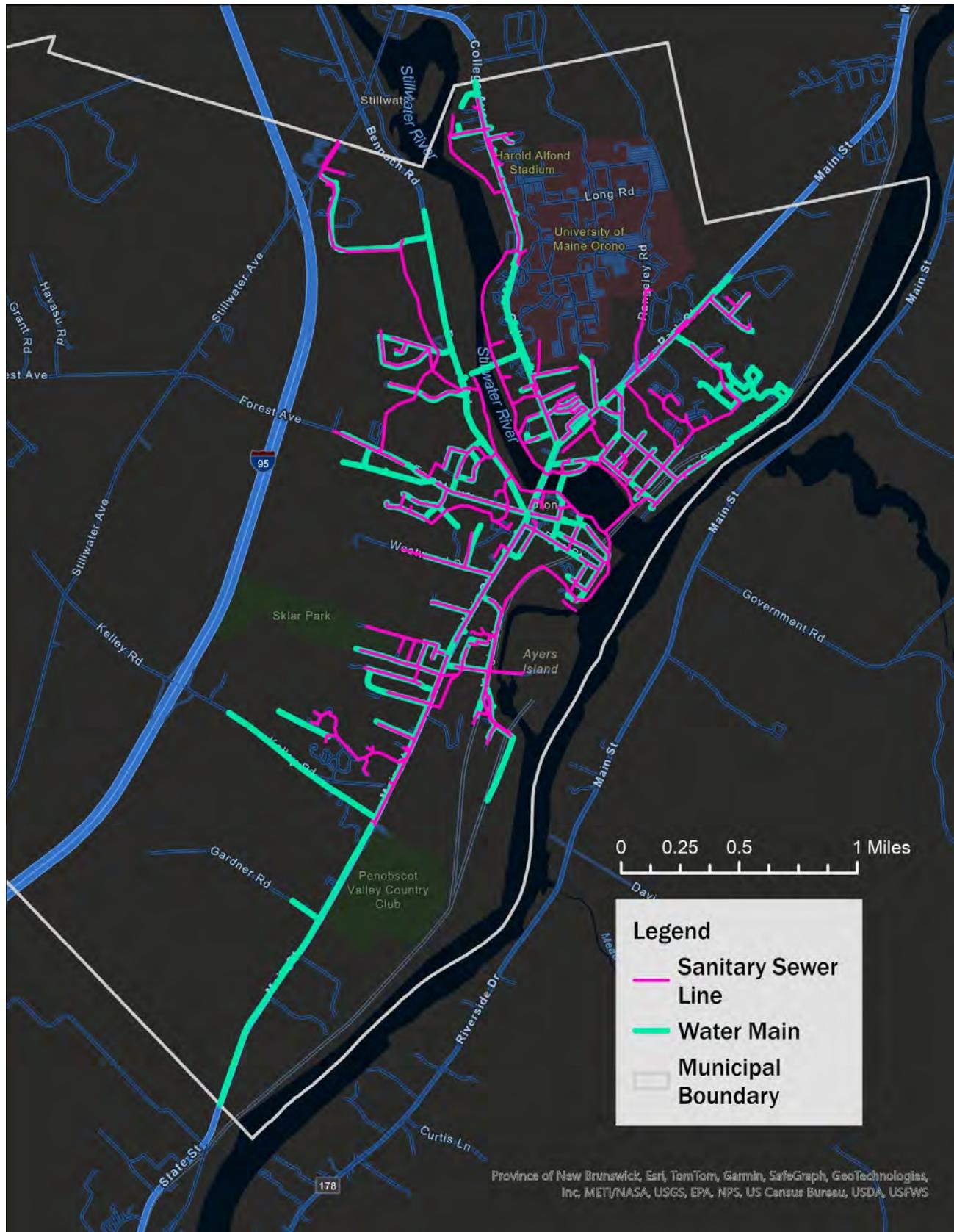


Figure 9-1: Orono Sewer and Water Line Locations. Source: Orono-Veazie Water District; Town of Orono GIS

WPCF operations are in large part dictated by regulatory requirements and generally accepted best practices for safe and environmentally sound wastewater collection, treatment, and disposal. It is likely that operations and capital investments will need to adapt in the very near term to address the changing impacts of climate change and likely regulatory shifts focused on mitigating the environmental and public health impacts associated with PFAS, arsenic, and mercury.

The Water Pollution Control Facility administers three fees to pay for operation and upgrades of the system: a user fee; a connection fee for activities requiring a sewer connection permit; and, for developments that would require the replacement or expansion of the system, an impact fee. The recently approved FY25 WPCF expense budget will add \$132,000 into the reserve accounts for current and future capital infrastructure and facility expenditures, funded through a small increase to the user fee. While this is a significant amount, it still represents a fraction of what is needed to build reserve levels sufficient to fund future necessary investments in aging and undersized sewer and storm drain infrastructure.

For example, there are currently two known areas of the sewer system that would significantly impact the cost of residential development in the near future because of bottlenecks. These include development in the vicinity of Park Street and the existing large student housing complexes (including areas off of Penobscot Street, such as the old Public Works facility), as well as development in the vicinity of the Maine Tech Park on Godfrey Drive and along Bennoch Road to Winterhaven Drive. The lines in these areas are undersized for the amount of flow that they currently handle, but upgrades would cost between \$600,000 to \$1 million at the time of the last cost estimate. With careful planning (both land use and financial), there may be an opportunity for cost-sharing with developers.

Septic Systems

Any private septic system located in Orono must follow the State of Maine Subsurface Wastewater Disposal Rules and the State Plumbing Code. Septic systems must receive a permit through the Local Plumbing Inspector (currently the Code Enforcement Officer). Domestic septic tank waste is removed by private haulers at the sole cost of the property owner. Additional information on septic systems, including the location of overboard discharges in the community, is provided in the Natural & Water Resources section of this Plan.

Stormwater Management

Stormwater in Orono is typically managed by the roadway crown directing water to vegetated ditches adjacent to the roadway, where the ditches will then convey water to a downstream outlet. Storm drains are only available on portions of Main Street, Park Street, College Avenue, Forest Avenue, and within newer subdivisions.

The area of Orono generally east of I-95 is part of Bangor Metro's urbanized area and is a so-called "Small MS4 community" (a municipality with a regulated Municipal Separate Stormwater Sewer System). "Separate" refers to a stormwater system that is separate from the sewage collection and treatment system. It includes all of the streets, gutters, ditches, catch basins, and other channels owned by the Town that collect and convey stormwater to streams, rivers, and other state waters.

Orono, like most MS4 communities, is licensed to allow stormwater to be discharged to water bodies. The license is in the form of a General Permit issued by the Maine DEP every five years. To be in compliance with the General Permit, the Town must undertake a variety of Best Management Practices through its operating procedures, the regulation of development, the collection and treatment of stormwater, education/public outreach, and other practices aimed at reducing and

treating the flow of stormwater to water bodies. These efforts are described in greater detail in the Natural & Water Resources section of this Plan.

The impacts of future development on the stormwater system primarily depend on where future growth occurs in the community. Redevelopment of existing, in-town sites can reduce impervious surface coverage and integrate new green infrastructure and low-impact development features. These design strategies can mitigate runoff from buildings and parking lots and improve water quality. On the other hand, the development of undeveloped or rural sites will increase local runoff and decrease water quality, even if green infrastructure and low-impact development strategies are employed. This is discussed in greater detail in the Water Resources section of this Plan.

Education

This Comprehensive Plan does not analyze, plan, or make recommendations relating to the school system that serves Orono. However, this Plan does recognize the broad impact of the school system on the future of the Town. The quality and offerings of the system compared with schools elsewhere in the region are a determining factor in the decisions of many families to move to Orono or elsewhere. The schools are a large fraction of the Town budget and affect the local tax rate and the ability of families to afford to live in Orono. They also are a center of community activity, located in the heart of the town.

RSU26 recently underwent a major expansion and redevelopment of their Goodridge Drive parcel, where construction was completed in 2023. This project included additions to the Orono Middle School/High School and Asa C. Adams Elementary School, as well as redeveloping a portion of the high school's athletic fields and expanding the parking lot by the Orono Middle School/High School. Based on these recent improvements and noting the population and demographic trends described in this Plan, school construction or major expansion is not anticipated during the lifetime of this Plan.

However, the RSU26 property is located in an area that would be suitable for more intensive development since the surrounding area has access to public water and sewer, is well-serviced by sidewalks and other transportation infrastructure, and is within walking distance (approximately 1,000 feet) from the center of Orono's downtown. Further, additional children in Orono schools are needed to maintain state funding formulas (which are primarily based on number of students).²

Telecommunications

In today's world, electricity and connection to the internet are of the utmost importance in ensuring that people can effectively do their jobs, complete schoolwork, and communicate with each other. Luckily, Orono is well suited in this regard.

Internet

The Federal Communications Commission's (FCC) definition of "broadband," and how access to it is determined, is antiquated. The FCC considers a household to be served by broadband if the minimum data download speed is 25 megabits per second (Mbps) and the minimum upload speed is 3 Mbps. At a time when many households require 100 Mbps service to support multiple devices streaming simultaneously (such as if two family members are both on remote video calls), it seems this might be a more fitting definition of minimum high-speed broadband. Using this definition, households in Orono are generally well-served by internet providers.³

² For more information, visit: <https://www.maine.gov/doe/funding/gpa/eps>

³ <https://broadbandmap.fcc.gov/location-summary/fixed>

Healthcare & Social Services

The region's healthcare sector is currently centered in Bangor, though there is a small presence in Orono as well. This is primarily made up of more specialized providers, such as Penobscot Valley Dermatology and Northern Light Multiple Sclerosis Care Center. Bangor is likely to remain the major healthcare center for the region given the presence of Northern Light Eastern Maine Medical Center. This is about 7 miles from Orono.

The Orono Health Association plays an important role in the health and welfare of local citizens. It is a volunteer, nonprofit organization based at the Town's former Birch Street School. The Association operates a Thrift Shop at the Birch Street School, with the proceeds supporting a number of charitable endeavors (mainly related to health and welfare). They also maintain a medical equipment loan building behind the Birch Street School, stocked with durable medical supplies.

In the past, there has been conversation among individual Town Council members and the Fire Department about utilizing paramedicine or a public health nurse to provide low- to no-cost healthcare to Orono residents (including, potentially, primary care, public health, disease management, prevention, and wellness, such as well-baby visits, home assessment, health teaching and consultation, and direct care, such as wound management). Many years ago, the Town had an on-staff public health nurse, but the position was eliminated due to high liability and regulatory requirements associated with this service. Staff suggested (during the FY25 budget process) that if this is an area where the Town Council wishes to expand service level, exploring community paramedicine may be a more reasonable and cost-effective option. However, additional staffing of paramedics in the Fire Department would be required as well as additional office space and another vehicle.

Issues & Opportunities

Many of the issues and opportunities related to public facilities and services are described in other sections of this Plan, including Population & Demographics, Economy, Existing Land Use, Transportation, Recreation, and Fiscal Capacity.

Issue: Demographic Shifts Likely to Necessitate Changes in Municipal Service Delivery

As noted in the Population and Demographics section of this Plan, the population is projected to stay approximately steady, but demographics are expected to continue shifting. First, additional housing units will likely be required to serve a population that is trending towards living alone or in pairs rather than in large, single-family homes. Second, Orono's population is projected to skew older in 2035, with the largest growth happening among those 55 and older.

The ability of public services to meet projected changes in population and demographics will depend on where future development is located. Water and sewer capacity is more than adequate to accommodate needed changes in household size (namely, the need for additional, smaller housing units) within the areas where these services are available.

Changes in emergency response might be necessary to accommodate the varying needs of an aging population, potentially necessitating the need for increased staffing levels within the Fire/EMS Department to respond to an increase in call volume.

Other changes in municipal services, namely the types of recreation amenities offered, may also be necessary in the long term. For example, the Recreation Department may need to cater more towards recreation programs for older adults rather than children.

Issue/Opportunity: Need for Sewer Upgrades, Alternative Funding Sources

As an Enterprise fund, upgrades to the sewer system are funded through three different revenue streams: a user fee; a connection fee for activities requiring a sewer connection permit; and, for developments that would require the replacement or expansion of the system, an impact fee. Without exorbitant increases to ratepayers or revising the way that the Town calculates impact fees for new development, it is going to be difficult to catch up on deferred maintenance. Locating new development on public sewer is important to protect groundwater quality and quantity in rural areas, and because more dense development can be connected to public sewer than would be allowed under state rules for septic systems.

That said, the Town may wish to consider alternative funding sources for sewer upgrades. Many of the Development Programs for the Town's adopted Tax Increment Financing (TIF) districts allow the use of TIF funds to go toward sewer upgrades. In addition, public-private partnerships may be a feasible path forward depending on the size and scale of new development being proposed.

Issue: Public Safety Building

There have been a variety of issues documented with the Town's current public safety building, ranging from a lack of space for expected staffing levels, potential structural issues, the heating system, space not meeting accreditation requirements, and more. As noted by the former Chief during the FY2025 budget process, the state of the public safety building is posing a recruitment and retention issue for the Town's Fire Department. A solution to this issue that takes into account both current and projected staffing and space needs will be of the utmost importance to the ability of the Police and Fire Departments to accommodate Orono's future growth and projected demographic shifts.

Fiscal Capacity

Overview

Community facilities and services, with some exceptions, are dependent on municipal revenues. The quality of services depends on a town's capacity to support them monetarily (such as through taxes and other revenues). As costs increase because of inflation or the provision of higher service levels, revenues must go up accordingly. "Fiscal capacity" is our ability to do this without serious financial impact or impact to the property tax rate.

In Orono, public safety (Police, Fire/EMS, and hazmat) and public works (maintenance of roads and sidewalks) are the major municipal expenses, representing more than two-thirds of the operational budget in FY2024.¹ These expenses will likely remain a priority in the future. Cost increases in products and materials due to inflation and supply chain disruption following COVID-19, as well as labor issues (including labor supply and wage demands), are likely to present challenges for the municipal budget going forward.

Community Revenues & Expenditures

A municipality's budget includes its plans for spending and how it anticipates funding those plans. These plans are based on government-wide, departmental, programmatic, and community needs and goals. By putting money behind promises and commitments (or choosing not to do so), adopted budgets reveal the priorities of the municipality.

Expenses, outlined in Figure 10-2 on page 190, include all of the expenses related to operating the various Departments of the Town (including salaries and benefits for municipal staff, training for staff, computer and telephone costs, and general office supplies, as well as the running of elections, administration of programming, vehicles, and related expenses for the Departments that utilize them, and the general maintenance of roads, sidewalks, street trees, and more). Expenses in this category are shown as operating

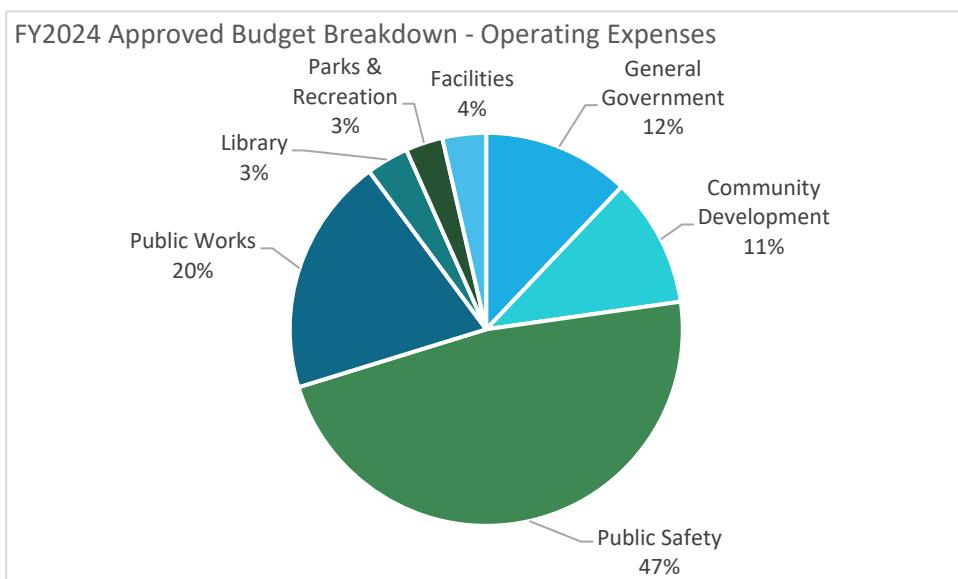


Figure 10-1: FY2024 Approved Budget Breakdown: Operating Expenses by Department.
Source: FY2024 Adopted Budget Book.

¹ The operational costs noted here do not factor in major road repairs (resurfacing, which happens about every 10 years, and major road reconstruction, typically needed about every 30 years) or the purchase of new fire trucks or police vehicles. These kinds of expenses would be included in the Capital Improvements budget.

expenses. Figure 10-1, on the previous page, shows the breakdown of operating expenses by Department as of the approved FY2024 budget.

In terms of other expenses, the debt service category would include paying off principal and interest on bonds that the Town has taken for various purposes (more particularly described in the Debt Capacity & Capital Investments section, below). Economic development expenses include Town operational expenses that are allowed to be paid from Tax Increment Financing (TIF) revenue, described in further detail below. Overlay expenses include expenses related to tax abatements or legal expenses and refunds related to tax appeals. TIF program expenses are major capital expenses outlined in the Development Programs for the Town's various Tax Increment Financing Districts. Capital projects outlined in the Development Programs are likewise limited to projects outlined in state law and any changes or additions must be adopted by the Town Council after a noticed public hearing. Finally, capital improvement expenses include larger projects and purchases, such as improvements to facilities outside of normal maintenance, the replacement of Town-owned vehicles (fire trucks, police cruisers, plows, and other public works equipment) as well as undertaking major repaving, drainage, or bicycle and pedestrian infrastructure projects.

Revenues are separated into categories which include state reimbursements and revenue sharing, general fund revenues (such as excise taxes paid through vehicle or boat registrations; permit fees for plumbing, electrical, and building permits; fees collected through the required registration of rental housing units; planning application review fees; ambulance/EMS bills; after school and recreation program fees; and other smaller sources of revenue), and capital revenues (which typically includes previously budgeted reserve funds, grants, and revenue gained from the sale of no longer used vehicles or other municipal property). In addition, the revenue category includes the use of previously accrued unassigned fund balances and TIF funds and payments in lieu of taxes paid to the Town by otherwise tax-exempt organizations (such as the University of Maine, which will contribute \$655,431 in FY2025).

Separately, Regional School Unit (RSU) 26 creates its own budget that must be voted on by residents of the communities represented in the RSU (shown as the school/education appropriation in Figure 10-4). The Town government has limited control over the RSU's budget.

Finally, the county tax assessment is based on a budget prepared by the county budget committee and controlled by the Penobscot County Commissioners. This budget includes the operating expenses associated with courts, jails, the Registry of Deeds, and more county-level services. Each municipality within Penobscot County is allocated a percentage of the total county budget, which is calculated based on a percentage of total taxable valuation in each municipality.

Tax Increment Financing

Tax increment financing (TIF) is an economic development tool used to catalyze economic development. They allow municipalities to "shelter" from state/county fiscal formulas any increases in assessed valuation (for up to 30 years) and instead keep that revenue local. The revenue can be used for locally designated economic development projects such as infrastructure investment, economic development staffing, marketing, façade improvements, and more (outlined in state law, Title 30-A, M.R.S.A. §5225).

Orono utilizes TIFs to encourage development in the Growth Areas designated within the Town's most recent (2014) Comprehensive Plan. The Town currently has seven TIF districts, which are more particularly described in Table 1 of the Appendix.

	FY2020 APPROVED	FY2021 APPROVED	FY2022 APPROVED	FY2023 APPROVED	FY2024 APPROVED	FY2025 APPROVED
OPERATING EXPENSES	\$7,858,821	\$7,886,139	\$8,640,665	\$9,597,831	\$10,396,615	\$11,311,014
DEBT SERVICE (PRINCIPAL & INTEREST)	\$702,341	\$709,295	\$850,170	\$921,547	\$907,821	\$854,223
ECONOMIC DEVELOPMENT EXPENSES	\$866,309	\$873,575	\$843,880	\$838,669	\$859,784	\$879,856
OVERLAY (ESTIMATED)	\$75,143	\$75,487	\$285,222	\$98,407	\$50,000	\$156,395
TIF PROGRAM EXPENSE (ESTIMATED)	\$944,913	\$1,005,060	\$974,286	\$910,033	\$856,000	\$969,856
TOTAL OPERATING EXPENSES	\$10,467,527	\$10,549,556	\$11,594,224	\$12,366,487	\$13,070,219	\$14,171,345
CAPITAL IMPROVEMENTS BUDGET	\$1,197,000	\$942,180	\$1,679,480	\$1,782,655	\$2,160,180	\$3,404,784
TOTAL MUNICIPAL EXPENSES	\$11,664,527	\$11,491,736	\$13,273,704	\$14,149,142	\$15,230,899	\$17,576,129

Figure 10-2. Municipal Expenses by Category and Fiscal Year. Source: Orono Approved Town Budget(s).

	FY2020 APPROVED	FY2021 APPROVED	FY2022 APPROVED	FY2023 APPROVED	FY2024 APPROVED	FY2025 APPROVED
STATE MUNICIPAL REVENUE SHARING	\$1,513,835	\$1,248,160	\$2,451,400	\$3,340,190	\$4,653,260	\$5,784,231
ANTICIPATED GENERAL FUND REVENUES	\$2,738,866	\$2,593,970	\$2,613,325	\$2,505,205	\$2,730,488	\$2,900,215
CAPITAL REVENUES	\$225,000	\$321,500	\$280,000	\$688,500	\$650,000	\$1,632,084
HOMESTEAD REIMBURSEMENT	\$342,963	\$538,229	\$498,183	\$468,229	\$465,941	\$486,388
BETE REIMBURSEMENT	\$74,726	\$80,437	\$74,452	\$68,128	\$72,653	\$74,144
USE OF UNASSIGNED FUND BALANCE	\$350,000	\$400,000	\$382,500	\$300,000	\$300,000	\$300,000
USE OF RESTRICTED FUNDS (TIF FUNDS)	\$886,309	\$873,575	\$843,880	\$838,669	\$859,784	\$879,856
TOTAL MUNICIPAL REVENUES	\$6,131,719	\$6,055,871	\$7,143,740	\$8,208,921	\$9,732,126	\$12,056,918

Figure 10-3. Revenue Sources by Category and Fiscal Year. Source: Adopted Orono Town Budget(s).

	FY2020 APPROVED	FY2021 APPROVED	FY2022 APPROVED	FY2023 APPROVED	FY2024 APPROVED	FY2025 APPROVED
NET MUNICIPAL ASSESSMENT (EXPENSES - PROJECTED REVENUES)	\$5,532,808	\$5,435,865	\$6,129,964	\$5,940,221	\$5,638,503	\$5,519,212
COUNTY TAX ASSESSMENT	\$682,020	\$705,010	\$784,583	\$825,399	\$848,451	\$903,109
SCHOOL/EDUCATION APPROPRIATION	\$6,827,436	\$7,386,565	\$6,932,408	\$7,242,774	\$7,684,926	\$8,514,903
NET ASSESSMENT FOR COMMITMENT	\$13,042,264	\$13,527,440	\$13,846,955	\$14,008,394	\$14,171,880	\$14,937,224

Figure 10-4. Assessments by Category and Fiscal Year. Source: Adopted Orono Town Budget(s).

As noted, property taxes will account for around 31% of the total revenue for Orono in FY2025. State revenue sharing will make up roughly 33%, followed by general fund revenues (17%), capital revenues (9%), use of TIF funds (5%), other state reimbursements (3%), and use of the unassigned fund balance (2%).

As shown in Figure 10-1 above, the Town's highest spending category (in terms of operational expenses) is public safety (the Police and Fire Departments), followed by Public Works. This is consistent across fiscal years since these are the departments with both the most employees and the most vehicles.

Orono leverages its limited resources by participating in regional cooperation for better services. For example, the Town participates in a regional public transit service operated by the City of Bangor (the Community Connector bus service). Based upon current practice, the Town is responsible for paying 5.37% of the total local share needed to operate the service (as of FY2025). Orono also serves as the regional Haz-Mat service provider for Penobscot County, which brings in revenue from surrounding communities.

Revenue Capacity & Tax Rates

Since FY2022, Orono's average property tax mil rates have been hovering at about \$23.65. The mil rate is projected to increase to \$23.94 for the recently approved (at the time of plan drafting) FY2025 budget. As shown in Figure 5-5 (below), there was a steady increase in the mil rate until FY2021, when the mil rate peaked at \$28.09. For context, this same year, the average mil rate in Penobscot County was \$18.39. In neighboring Old Town, the mil rate was \$21.70 that same year and in neighboring Veazie the mil rate was \$18.10. Bangor's mil rate that year was closer at \$22.30.²

	FY2020 (2019-2020)	FY2021 (2020-2021)	FY2022 (2021-2022)	FY2023 (2022-2023)	FY2024 (2023-2024)
STATE VALUATION ³	\$488,500,000	\$516,000,000	\$541,550,000	\$569,700,000	\$645,550,000
TOWN TAXABLE VALUATION	\$493,091,810	\$481,574,900	\$582,967,700	\$588,585,300	\$605,635,895
MIL RATE	\$26.45	\$28.09	\$23.75	\$23.80	\$23.40
COMMITMENT	\$13,042,264	\$13,527,440	\$13,846,955	\$14,008,394	\$14,171,880

Figure 10-5. Local Tax Information Changes. Source: Maine Revenue Services Municipal Valuation Return Statistical Summary; Orono Town Budget(s).

Debt Capacity & Capital Investments

During the FY2025 budget process, the Capital Improvement Plan was revised to include small portions of funding for all equipment each year. This practice will help the Town avoid significant spikes in expenses and/or financing costs that would have occurred when a piece of equipment must be funded all in one fiscal year. Most future capital investments will likely continue to be funded with cash, but judicious borrowing will also be employed.

² Per Maine Revenue Services Municipal Valuation Return Statistical Summary for the same year.

³ Note: The State Valuation process, which takes Maine Revenue Services about 18 months to complete, begins with the compilation of a sales ratio study which measures the assessed value of residential and certain commercial properties relative to their actual selling price. However, the State Valuation lags actual market values and municipal assessments by nearly two years by the time it is final and certified (thus, the difference in state versus town taxable valuations).

Orono has significant borrowing capacity in relation to Maine's statutory limits on municipal borrowing, as shown in Figure 10-6, below.

OUTSTANDING MUNICIPAL DEBT (START OF FY2025)	% STATE ASSESSED VALUE (\$645,550,000 AS OF 2024)	ALLOWABLE AMOUNT ⁴	MARGIN
\$19,893,595.58	3.08%	\$96,832,500	\$76,938,904.42

Figure 10-6. Source: Orono Finance Department.

In addition, grants and TIF funds will continue to be an important component of capital funding into the future.

Issues & Opportunities

Opportunity: Strategic Growth & Economic Development

Sustaining the Town's fiscal health requires that there are adequate financial resources needed to provide services at a level consistent with community expectations. To that end, the Town must be persistent in pursuing new or enhanced revenue resources. This does not necessarily mean increases in property tax rates. Strategic growth and economic development can bolster the tax base without increasing the tax rate. For example, studies have shown that targeted infill development (characterized by smaller-scale individual projects of new building, rehabilitation or remodeling, and additions to existing structures within already developed areas) costs one-third less for upfront infrastructure and saves an average of 10% on ongoing delivery of services while generating up to 10 times more tax revenue per acre than conventional suburban development.⁵

Opportunity: Regional Partnerships

In addition, the Town must continue to explore more efficient use of existing resources. Many municipalities across the state have begun to partner with neighboring communities to share in the costs of programming (such as regional delivery of recreation programs), capital projects, and even staffing. Orono would be served by continually exploring regional solutions to service delivery (such as the Community Connector bus system, which is cost-shared with the City of Bangor).

Opportunity: Continued Long-Term Capital Improvement Planning

There are a number of known capital investments and infrastructure upgrades needed to maintain the level of service that the community has come to expect and keep current with state and federal laws (for example, upgrades to the public safety building). Addressing deferred maintenance and the capital replacement needs of existing municipal facilities requires a strategic approach. Planning for the maintenance of existing buildings and facilities can be targeted to support and encourage new investment and development in areas adjacent to those facilities. Strategic investment in capital improvements will provide the foundation for private investment and growth in certain areas of the community. Long-term planning, such as through the Capital Improvement Plan, will be crucial in maintaining the fiscal health of the community.

⁴ Per statutory limitations, the total allowable municipal debt as a percent of assessed value is 15%.

⁵ *Building Better Budgets: A National Examination of the Fiscal Benefits of Smart Growth Development*, Smart Growth America, May 2013.

Existing Land Use

Overview

The term “land use” describes the human use of land, representing the economic and cultural activities (e.g., agricultural, residential, industrial, mining, and recreational uses) practiced at a given place. Land use policy is the collection of regulations that directly or indirectly impact land use.

Studying land use in a community is important because changes in land use can have specific and cumulative effects on the economy, climate, human health, air and water quality, watershed function, waste generation, and the extent and quality of wildlife habitat. This chapter provides an overview of recent developments occurring within Orono and the regulations that impact development within the community.

Orono Land Uses by Parcel

According to the US Census Bureau, Orono contains 19.78 square miles (12,659 acres). Of this, approximately 1.57 square miles are made up of water (sections of the Penobscot and Stillwater Rivers and Pushaw Lake that are located within Orono’s boundaries). The remaining 18.21 square miles is land.

The land in Orono has been divided over time into 2,471 parcels (or “lots”). As shown on the map on the following page (Figure 11-1), Orono is primarily a residential community, with about 64% of parcels being classified as residential uses (according to Assessing records). 87.5% of these residential parcels (or 1,382) are classified as single-family homes. About 13% of parcels in Orono are classified as institutional, which would include town, state, and federally owned property as well as property owned by non-profits or churches (including the Orono Land Trust). About 10% of parcels are classified as vacant, undeveloped properties. Finally, about 3% of parcels in Orono are classified as developed commercial properties.¹

The map shows large areas of vacant land, especially south of Kelley Road and west of I-95. It should be noted that not all of this is developable land. Wetlands, vernal pools, and other significant natural resources (described further in the Natural Resources section of this plan) limit the potential for development. In Figure 11-2, a general map of wetlands and significant vernal pools is overlaid on the land use map above to show the amount of land constrained by these resources.

¹ Per report courtesy of the Town’s Assessor.

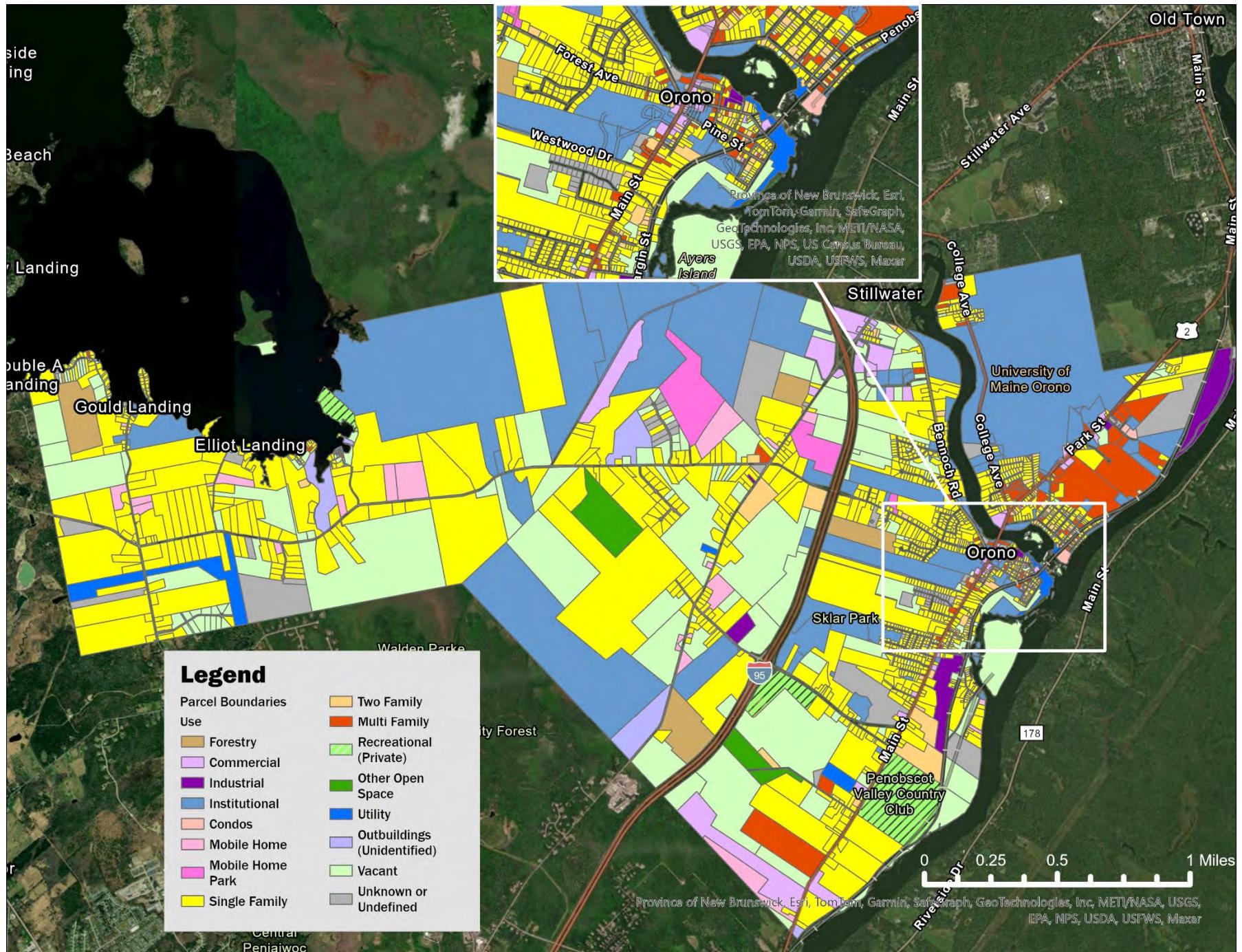


Figure 11-1: Orono Existing Land Use Map (2024). Source: Town of Orono Assessing Records.

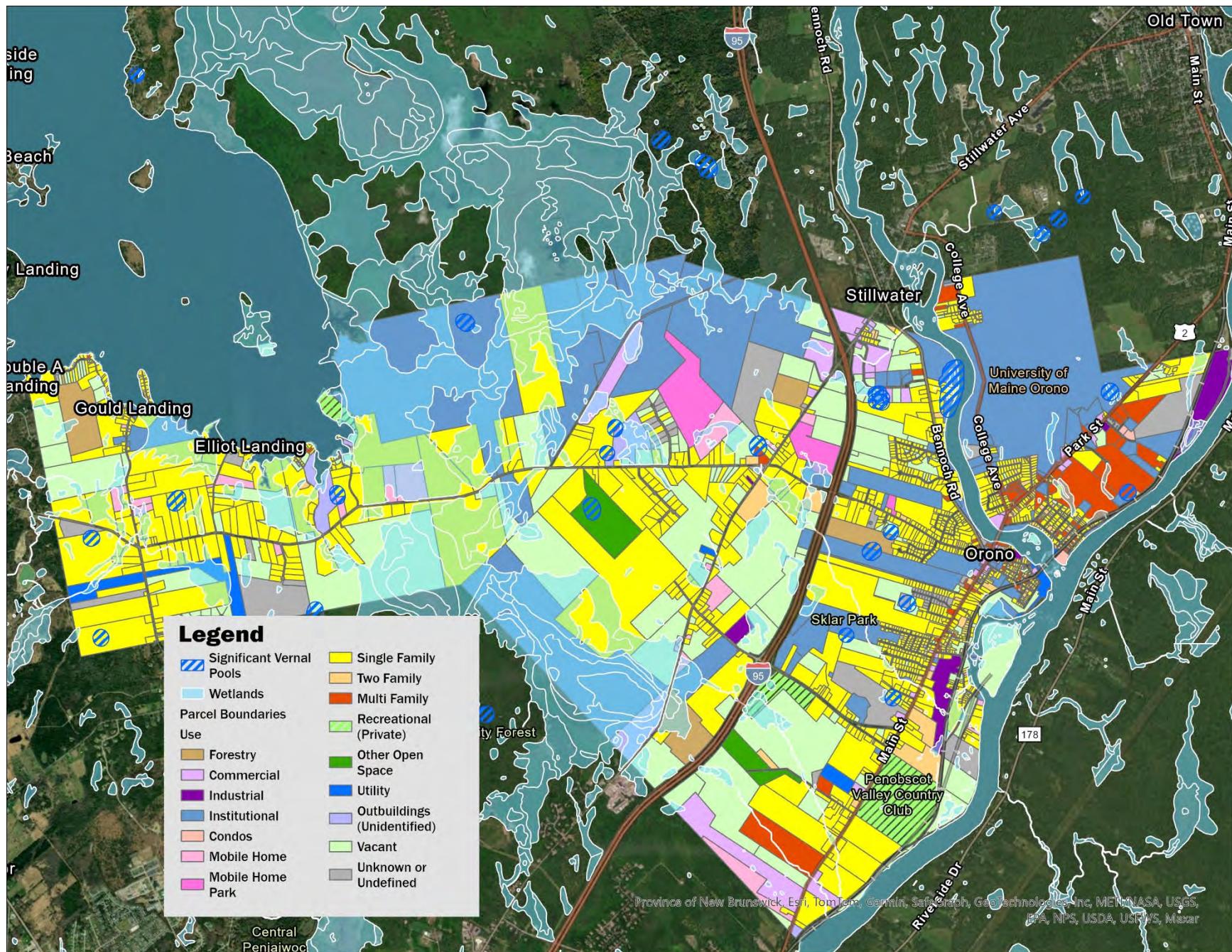


Figure 11-2: Orono Existing Land Use Map Overlaid with Natural Resource Constraints. Source: Town of Orono Assessing Records, National Wetlands Inventory (US Fish & Wildlife Service), Maine Geolibrary.

Existing Land Use Regulations

Orono has a traditional Euclidean zoning ordinance, meaning that land uses are separated land into allowed zones. Development in Orono is further regulated by shoreland zoning standards (if the subject property is adjacent to water bodies, including ponds and streams), and floodplain management standards (if the subject property is located within the FEMA floodplain). Depending on the kind of development being proposed, applicants may also be subject to site plan or subdivision reviews with the Town's Planning Board, a nine-member citizen board appointed by the Town Council.

[Land Use Ordinance \(Chapter 18\)](#)

The Town's Land Use Ordinance, first adopted in 1992 and most recently amended in December of 2023, regulates all divisions of land, all constructions or alterations of structures (except for routine maintenance and repair of structures, as defined), as well as all land use activities within Orono's boundaries. In addition to traditional Euclidean zoning (where areas of the community are broken up into different zones and only certain uses are allowed in each of the various zones), the Land Use Ordinance also encompasses regulations related to shoreland zoning, floodplain management, site plan and subdivision review, and a variety of other performance standards that all development must adhere to. These are more particularly described in the sections below.

Land in Orono is divided into eleven different zoning districts, which, along with their various dimensional requirements, are shown in Table 2 of the Appendix.

There are also a variety of overlay districts, including:

- **Aquifer Protection Overlay District:** Applies to land within the Town's sand and gravel aquifers, plus land within 500' of these aquifers. The purpose of this district is to protect the groundwater resources of the Town from development or land use practices that would reduce the quality and quantity of water available in these aquifers. This is accomplished by requirements that further limit the uses that are allowed within the Aquifer Protection Overlay and by requiring a groundwater impact analysis for projects that require site plan review with the Planning Board.
- **Stillwater Avenue Overlay District:** Encompasses properties with frontage and within 500' of Stillwater Avenue, west of I-95, that are also located within the Town's Low Density Residential (LDR) zoning district. The purpose of this district is to permit certain low-impact, non-residential uses that would not otherwise be allowed in the underlying LDR zoning district, but that are

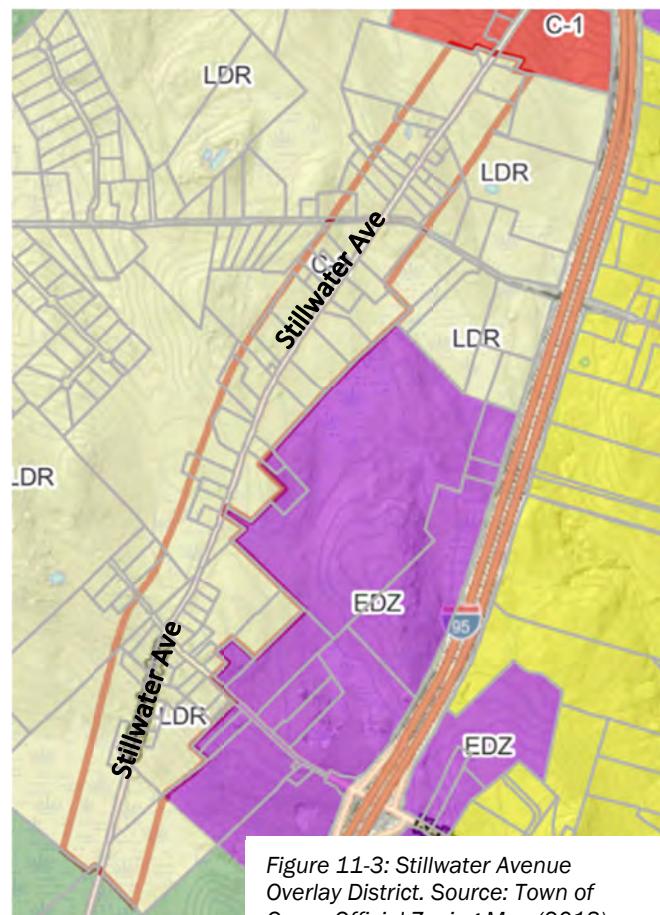


Figure 11-3: Stillwater Avenue Overlay District. Source: Town of Orono Official Zoning Map (2018).

compatible with the existing small-scale businesses that characterize this section of Stillwater Avenue. This overlay district intends to allow small-scale nonresidential uses in the Stillwater Avenue corridor without the additional limitations put on home occupations, but to regulate these uses through performance standards that reduce the impact they might otherwise have on traffic, noise, parking, and the character of the surrounding area.

- **Main Street Office Overlay District:** Discussed further in the Historic & Cultural Context section of this plan, the Main Street Office Overlay District encompasses properties both within the Main Street National Register Historic District as well as properties deemed contributing to the overall character of the area through a 2016 architectural survey. The purpose of the district is to incentivize the preservation of historic or architecturally significant properties by allowing an additional use (offices), which are not allowed in the underlying Medium Density Residential (MDR) zoning district.
- **Vernal Pools Overlay District:** Provides a set of optional provisions for land within or within 250' of a vernal pool, when the vernal pool that is impacted does not support threatened or endangered species. These optional overlay provisions provide property owners with the option of developing and using the property in accordance with either the applicable state and federal wetland regulations and associated requirements for the protection of vernal pools, or utilizing the provisions of this section including the payment of a "vernal pools mitigation fee" or by undertaking "permittee-responsible mitigation activities." Mitigation fees collected under these provisions are used to protect other vernal pool ecosystems within the community or in other nearby communities.
- **Village Residential Overlay District:** This overlay applies to areas within the Medium Density Residential zoning district which are in "approximate walking distance of the Village Commercial District." The purpose of the Village Residential Overlay District is to provide residents with an incentive (in this case, a residential density bonus and smaller street frontage requirements) that would help to establish a traditionally designed village residential area within short walking distance of services and amenities while also promoting the foundation for more affordable housing and homeownership opportunities. However, any structures built under this incentive must have at least one unit that is owner-occupied.

It should be noted that land adjacent to waterbodies is further divided into shoreland zoning overlays, described further below.

The Town employs one Code Enforcement Officer (who also acts as the local Plumbing Inspector and Electrical Inspector). The Code Enforcement Officer is tasked with the enforcement of this Ordinance as well as the issuance of building permits as outlined in Article III. Prior to a business opening or a residential unit being occupied, the Code Enforcement Officer is also tasked with inspecting the building to ensure that all local, state, and federal laws, codes, and ordinances have been met. Further, the Code Enforcement Officer also ensures that plumbing or electrical work conforms to the State Plumbing Code and the State Electrical Code (with inspections on all plumbing and electrical permits received), and coordinates with the Town's Life Safety Inspector (within the Fire Department) and the Community Policing Director/Business Support Liaison (within the Police Department) to ensure effective complaint resolution related to land use code matters.

In addition to the above, the Land Use Ordinance tasks the Code Enforcement Officer with the issuance of other miscellaneous permits (sign permits, street opening permits, and more). Over the past 5 years for which full data is available, the number of permits issued on an annual basis has steadily increased year over year.

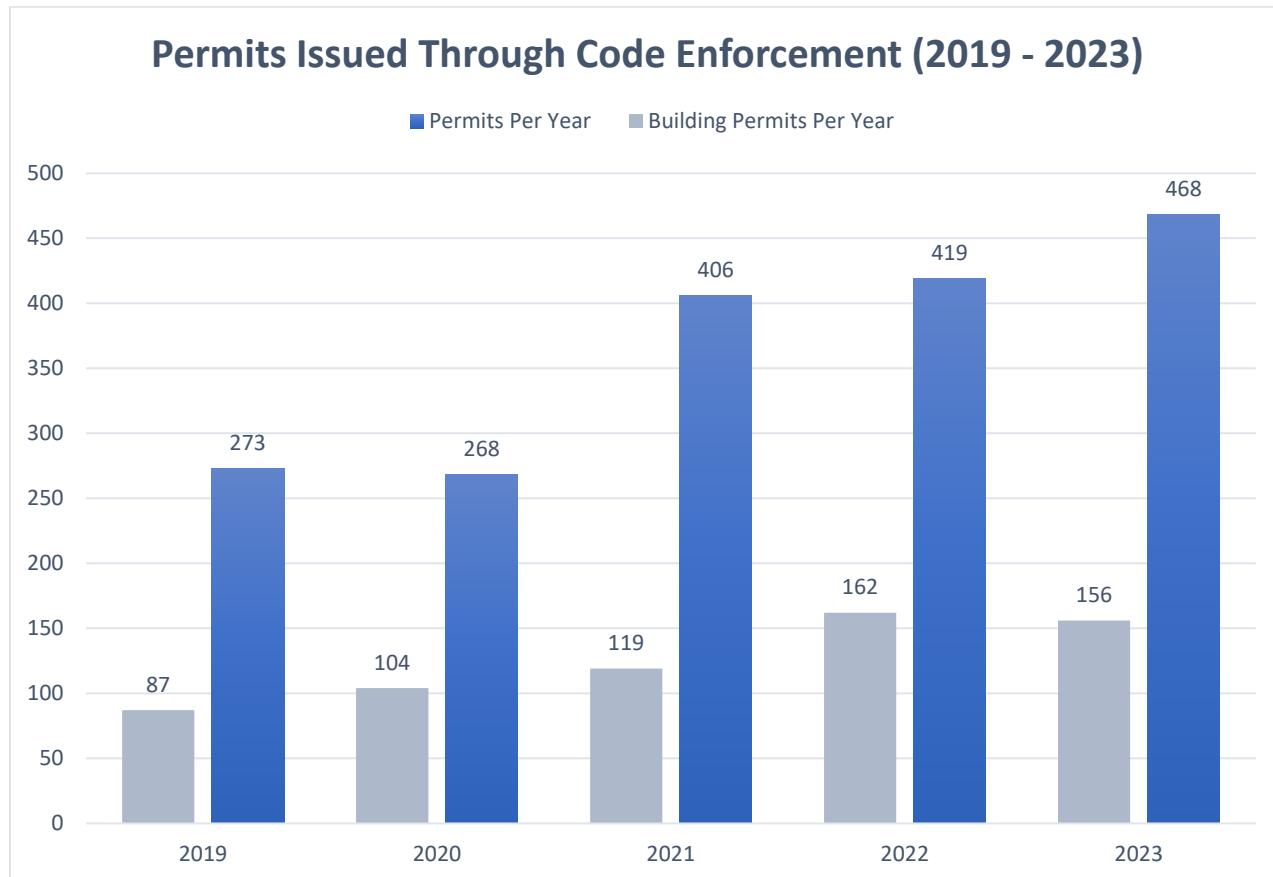


Figure 11-4: Permits Issued Through Code Enforcement (2019-2023). Source: Code Enforcement Office.

Shoreland Zoning Standards

The Town's shoreland zoning standards (Chapter 18, Article IX) were most recently amended in 2011. These standards regulate land areas within 250 feet, horizontal distance, from the normal high-water line of any great pond, river, or upland edge of a freshwater wetland, as well as land areas within 75 feet, horizontal distance, of the normal high-water line of a stream. These standards also apply to any structure built on, over, or abutting a dock, wharf, pier, or other structure extending or located below the normal high-water line of a water body.

This section provides additional land use standards over and beyond what is required in the rest of the Town's land use regulations for the areas described above. These additional standards are intended to protect the environment and water quality of the Town's waterbodies and include standards around erosion control, building setbacks, parking and driveway setbacks, stormwater management, septic waste, agriculture and timber harvesting, and the clearing and removal of vegetation more broadly.

The most recent amendment to the Shoreland Zoning Ordinance was intended to comply with the Maine Department of Environmental Protection's Chapter 1000 Guidelines for Municipal Shoreland Zoning Ordinances.

Floodplain Management Standards

The Town has adopted a Floodplain Management Ordinance in order to become a participating community in the National Flood Insurance Program. This Ordinance was most recently amended in

2023 to comply with the state's model ordinance, and it regulates new construction within areas of special flood hazard (Zones A and AE on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps) and provides additional standards intended to both protect water quality and protect buildings from flooding.

Site Plan Review Standards

This site plan review standards require that the Planning Board, a nine-member citizen board appointed by the Town Council, review and act upon all applications that involve the following:

- Filling/excavation of more than 100 cubic yards of material;
- Any proposed use designated in Sec. 18-106(e) as requiring site plan approval from the Planning Board;
- The construction, substantial alteration, or external enlargement of any existing building or structure devoted to a use requiring site plan approval from the Planning Board; and
- The enlargement or expansion of the parking, loading, outdoor display, or storage area of any commercial or industrial use by more than 10%.

Unlike development review by the Code Enforcement Officer, development review by the Planning Board requires a duly noticed public hearing. The premise behind requiring certain types of development to be reviewed by the Planning Board is to evaluate and allow the public to speak regarding potential impacts of the proposed development that may be more impactful to the surrounding neighborhood, or the community as a whole, than the projects reviewed by the Code Enforcement Officer.

As part of a public hearing, the Planning Board is required to determine whether an application meets the standards as outlined in Section 18-177 of the Town's Ordinances before approval. These standards include measures to evaluate a proposed development's impact on stormwater management and drainage, sewage disposal, water supply, vehicular access and traffic (including emergency access), financial and technical capacity of applicants, and environmental quality.

Subdivision Review Standards

Similarly, the Planning Board reviews all projects for the subdivision of land (defined through state law, Title 30-A, M.R.S.A. §4401). Public hearings are also required through this process to evaluate potential impacts to the community. Following a duly noticed public hearing, the Planning Board must evaluate proposed subdivision applications for compliance with both local standards (outlined in Section 18-210) and state law.

Recent Development Trends

Growth, Rural & Transitional Areas

The State of Maine's Growth Management laws direct municipalities to designate in their Comprehensive Plans:

- **Growth Areas:** Areas where the Town would like residential and commercial growth and development to occur over the lifetime of the Comprehensive Plan. This is the part of the community that is most easily served by municipal infrastructure (sewer, water, and three-phase power but also existing transportation infrastructure like roads and sidewalks); that is easily accessible to public safety departments (police and fire); and where an economic base has the best chance to expand. Importantly, Growth Areas are not simply areas where new development and growth may happen but rather where the community feels that growth

should happen and where it would be willing to invest to support such growth. Growth Areas are intended to be well-served by public infrastructure and are proactively planned to accommodate a wide range of land uses.

The State notes that land designated as Growth Areas must: (1) include already built-out areas that require maintenance or additional capital investment to support existing or limited infill development; (2) be located adjacent to existing densely populated areas, to the extent practical; (3) be designed to encourage compact, efficient development patterns (including mixed-uses) and discourage development sprawl; and (4) promote nodes or clusters of development along roads.

Further, the State expects communities to undertake the following actions to plan for and regulate land development within their identified Growth Areas:

- o Establish development standards;
- o Establish timely permitting standards;
- o Prevent inappropriate development in natural hazard areas or critical natural areas;
- o Ensure that needed public services are available; and
- o Direct a minimum of 75% of municipal “growth-related capital investments” (specific funds to improve or expand infrastructure and services that support new development) to these areas during the life of the Comprehensive Plan.

The Town's Designated Growth Area from the 2014 Plan includes the EDZ, C-1, C-2, UNIV, HDR, MDR, and GMDR zoning districts.

- **Rural Areas:** Areas where the Town may discourage intense residential and commercial development because the area is too far from existing municipal infrastructure and services or is environmentally fragile. Rural Areas may include areas identified for agricultural uses, conservation, low-density housing, or other purposes. While Rural Areas will not receive the same amount of public investment into infrastructure as Growth Areas, private property owners are still free to invest in their property. As such, new growth may end up occurring in designated Rural Areas, just without the express encouragement of the Town. While the Town may not be encouraging growth, it would still be important to coordinate, guide, and generally plan for development in these areas to help protect and maintain the qualities of rural areas that residents value.

The Designated Rural Area from the 2014 Plan includes the Forestry & Agriculture District, areas within the Shoreland Resource Protection District, and the Shoreland Limited Residential District.

- **Transitional Areas:** Areas between Growth and Rural Areas that are not located too far from existing municipal services and may be slated for long-term (10-30 year) development. These areas may currently be suited for low- to medium-density growth and have the prospect of receiving extended municipal services in the long term. The Transitional Areas identified in the 2014 Plan include the Low Density Residential Zoning District and the Stillwater Avenue Overlay District.

Summary of Recent Development

In the past 10 years, development has been primarily occurring on a lot-by-lot basis. The majority of subdivision applications reviewed by the Planning Board since 2014 have been amendments to previously approved plans. At the time of plan drafting in 2024, the Planning Board was reviewing a 20-lot residential subdivision, which will be the largest project reviewed by the Board in recent memory.

The Town has permitted a net total of 560 new dwelling units since 2011, including 23 mobile homes.² The majority of these were located in large student housing complexes – The Reserve (188 units) or The Avenue (272 units) – which were built in 2012 and 2015 respectively.

As shown in Figure 11-7, below, the vast majority of new dwelling units were located in the Growth Area designated as part of the 2014 Comprehensive Plan.

	Single-family dwellings (incl. mobile homes)	Two-family dwellings	Multi-family dwellings (incl. condos)	Accessory Dwelling Units (ADU)	TOTAL UNITS
Growth Area	28	4	483	6	521
Rural Area	24	0	0	0	24
Transitional Area	15	0	0	0	15

Figure 11-5: Distribution of Permits for Residential Units, 2011-2024. Source: Orono Code Enforcement Office.

In terms of commercial development, there has been a total of 146,456 commercial square footage added or renovated in Orono since 2014. This included the construction of 46,789 square feet of new office space, 18,485 square feet of new retail/convenience store spaces, and a new 5,000 square-foot manufacturing facility in the Town's technology park. Renovations occurred to create a brewery, a medical office suite, and to existing hotels in the community. All of this occurred within the 2014 designated Growth Area, as shown on the map below.

² Per data collected by the Town's Code Enforcement Office.

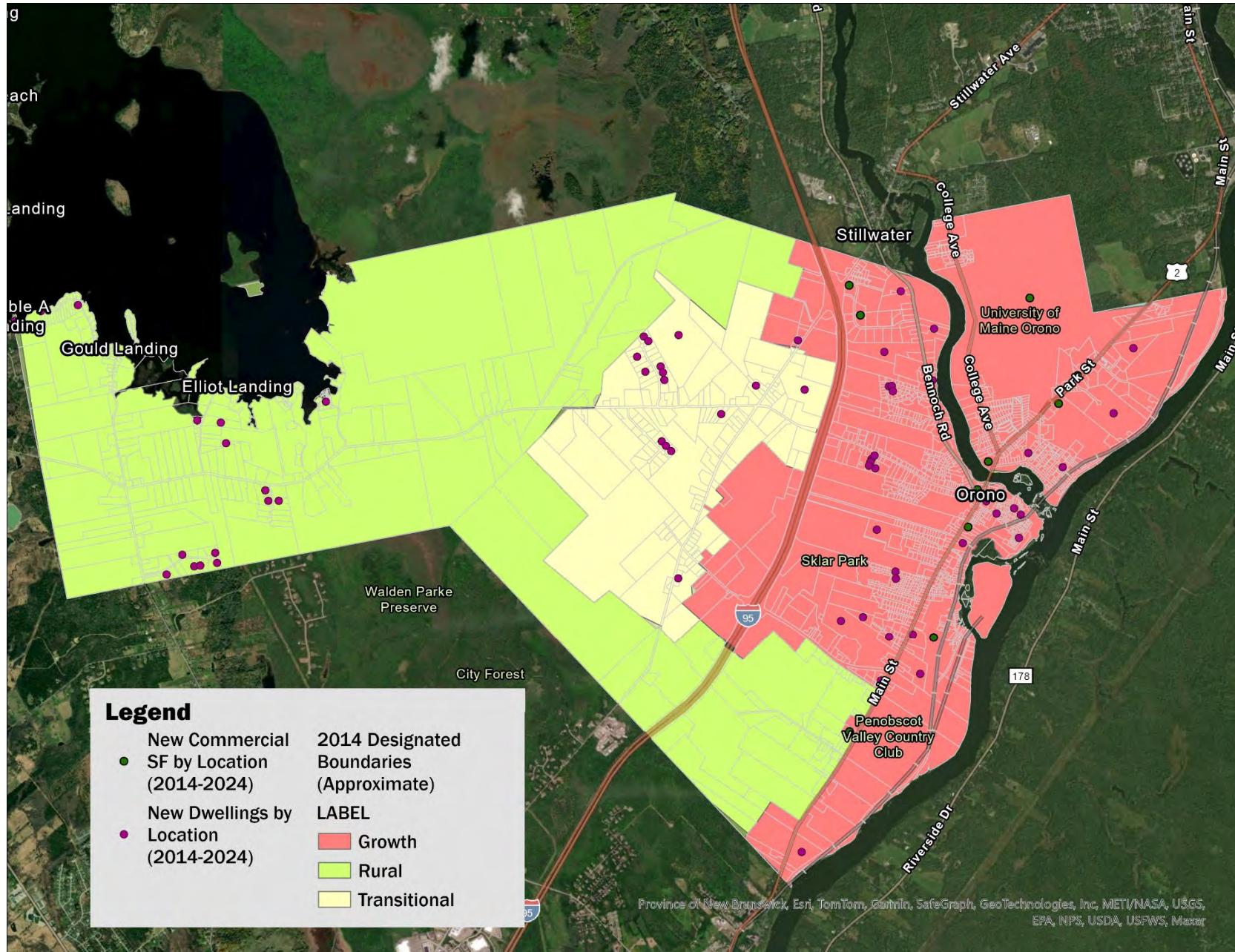


Figure 11-6: Locations of New Development, 2014-2024. Source: Orono Code Enforcement Office.

Projected Land Use Needs

The Housing section of this plan discusses needed housing units in greater detail. In brief, Orono needs to produce an additional 431 housing units by 2040 to keep pace with projected population growth. Much of this should be concentrated on housing units restricted to older adults, to allow those living in houses with additional bedrooms over and above what they need on a day-to-day basis to downsize if desired. This will have a cumulative impact on the larger housing units available to families wishing to live in or stay in Orono. Much of the needed housing can likely be accommodated in multi-family buildings, which require less land than single-family housing (typically sited on separate lots) to build the same number of units.

In addition to the above, the Town will likely need to take on a greater role in alleviating projected county-wide housing shortages because of the existence of utilities (public water and sewer) that make Orono more attractive for housing development. The *State of Maine Housing Production Needs Study* projects the need for between 1,400 and 3,000 new housing units in Penobscot County by the year 2030 in order to accommodate projected population growth, population shifts, and anticipated economic changes.³

New economic development will likely be focused on specialty healthcare and social services to cater to Orono's aging population. In addition, however, the community has an opportunity to capitalize on more people than ever working remotely from Orono (meaning more potential customers in town on any given weekday), which could be a boon for retail or service-oriented businesses (restaurants, coffee shops, etc.) who may be looking to locate in Orono.

The amount of land needed to accommodate the projected development needs of the community will depend on what kinds of development are proposed and where that development is located. For example, a far greater amount of land will be required to accommodate needed residential development if that development is sited in the more rural areas of the community (where public sewer and water are not available) than if that development were sited on public sewer and water. Similarly, service-oriented businesses will likely choose to locate close to existing amenities (utilities and sidewalk infrastructure) clustered in and around Orono's downtown.

Issues & Opportunities

Issue: Code Enforcement Staffing Level

Of the top 20 largest communities in Maine (by population), Orono is currently the only community that operates the review, inspections, and enforcement of municipal building codes with a single employee. All of the other communities have 3 or more inspectors handling the responsibilities associated with permitting, inspections, investigating violations, etc. This causes Orono's Code Enforcement Department to be very reactionary when it comes to enforcement, relying heavily on complaints to identify code violations. This has only been exacerbated by the growth in permits being pulled on an annual basis over the past 5 years (shown in Figure 11-4, above).

Issue: Known Performance Standard Conflicts

Article V of the Town's Land Use Ordinance (Chapter 18) has many performance standards that must be met by all land use activities undertaken in the Town of Orono. While these performance standards provide important protections for the environment and public welfare, a number of these standards do not have the desired regulatory impact (for example, lighting standards – in that Town staff has heard from the public that the lighting standards focus too heavily on sight of the light bulb

³ *State of Maine Housing Production Needs Study* (2023), page 56.

rather than brightness, hours when the lights will be dimmed, and environmental impacts of bright lighting), or conflict with other standards of the Land Use Ordinance (for example, the regulations around signage – which do not provide clear guidance around whether the Planning Board or the Code Enforcement Officer is responsible for reviewing signage) or existing easements (for example, the design standards for streetscapes that apply to projects within the Route 2 corridor, which require front setback requirements that cannot be met due to existing Maine Department of Transportation easements that are in place). A wholesale review of the Town's performance standards may need to be undertaken to clean up known conflicts or areas where the performance standards no longer have the desired regulatory impact on development.

Opportunity: Use of Contract or Conditional Zoning to Accomplish Goals

Contract or conditional zoning is a tool that, in limited circumstances, can be used to customize zoning for a particular parcel, without being considered illegal “spot-zoning.” With this tool, the Town Council agrees to rezone a property to a zone that allows more intense development of land than would otherwise be allowed in the underlying zoning district, and the property owner in turn agrees to limits or performance standards on those more intense uses that would not normally apply. A contract or conditional zone typically also addresses design standards to protect surrounding properties. Several contract zones currently exist throughout Orono and have been integral to the redevelopment of several formerly vacant sites, including most recently the old Byer Factory building, which is being converted into housing and is utilizing historic preservation tax credits to complete the project. Continuing to judiciously employ this tool, especially for parcels that were formerly home to unique or high-intensity uses where there would be limited redevelopment potential within their existing zoning district regulations.

Opportunity: Land Use Definitions to Meet Shifting Business Needs

Occasionally, the Community Development Department will receive an inquiry from a business that does not squarely fit in with the land uses specifically defined in the Schedule of Allowed Uses outlined in Section 18-106 because they are a new market niche or an interesting new idea that the Town's regulations did not consider when adopted in 1992. An effort to modernize the permitted uses within the Town's Land Use Ordinance should be undertaken to meet shifting business needs. There are also several instances in which certain generally acceptable land uses have been omitted from the Ordinance entirely or are too tightly defined to be utilized.

Opportunity: Construction Standards & Process for Private Roads

The dimensional requirements of each zoning district, outlined in Section 18-106, require each lot (except in the University zoning district) to have some level of frontage along a public or private road. The definition for front lot line in Article II allows for frontage requirements to be met through “the edge of the private road as shown on the plan approved by the Planning Board,” but there are no specific requirements or road standards for private roads outside of subdivisions or mobile home parks. Frequently, the Community Development Department is contacted by someone attempting to create one “back lot” behind their existing home, to be serviced by a private road. Since only one lot is proposed, subdivision review would not be triggered. Currently, there are no specific standards laid out for these kinds of requests. However, allowing back lots provides owners with flexibility in the use of their land and would be an incremental way to increase the developable land within the community (if planned appropriately).

Appendix A

Table 1: Municipal Tax Increment Financing Districts (as of 6/2024)

Name	Effective Date	Term/End Date	Purpose/Program	Acreage
EnvisioNet	7/13/2000	30 years 6/30/2030 100% captured	Assist with financing of 3 Godfrey Drive; Bolster economic development capacity; Conduct economic development related studies; Revolving loan fund; Childcare; Recreational trails	26.57
Maine Technology Park Omnibus	3/1/2000	30 years 2/28/2030 100% captured	Assist with financing initial development costs (CEA ended in 2010); Bolster economic development capacity; Infrastructure improvements; Marketing and workforce training	34.99
Dirigo Pines	2/10/2003	30 years 2/9/2033 100% captured	Assist with financing initial development costs and related infrastructure (CEA with developer)	12.19
Downtown & Transit-Oriented Development TIF	3/17/2010	30 years 3/16/2040 100% captured	Financing of shuttle bus operations; Infrastructure improvements (sewer, pedestrian, wireless service, underground electric, parking facilities); Assistance for businesses; Façade improvement program	96.4
Webster Point Affordable Housing	1/7/2011	16 years 6/30/2027 100% captured	Assist with financing initial development and on-site public improvements; School expenses as a result of project; Proportional shares of neighborhood infrastructure	3.48
Penobscot Valley Dermatology	7/1/2015	30 years 6/30/2049 100% captured	Assist with financing initial development; Route 2 infrastructure; Childcare; Workforce training; Economic development staff; Recreational trails	6.5
Orono Basin Omnibus	7/1/2019	30 years 6/30/2049 100% captured	Assist with financing initial development; Funding for public infrastructure inside and outside of District	68.71

Table 2: Existing Orono Zoning Districts and Dimensional Requirements

	F&A ¹¹	LDR ⁴	MDR ⁴ ; See Footnote ¹² for GMDR	HDR	VC ²	C-1	C-24, ¹³	EDZ ⁴	UNIV	RP	IND
Minimum Lot Area											
Off-Lot Sewer & Water (connected to public sewer & water)	160,000 s.f. (see §18-136 for lots within subdivisions)	Outside subdivision: 60,000 s.f.; Within approved subdivision: 30,000 s.f. w/ average for all lots 60,000 s.f.	15,000 s.f.	10,000 s.f.	2,000 s.f.	40,000 s.f.	20,000 s.f.	40,000 s.f.	-	-	40,000 s.f.
Off-lot sewer or water	""	""	30,000 s.f.	20,000 s.f.	See footnote 3.	40,000 s.f.	20,000 s.f.	40,000 s.f.	See footnote 3.	-	40,000 s.f.
On-lot sewer and water (served by well and septic system)	""	""	40,000 s.f.	40,000 s.f.	See footnote 3.	60,000 s.f.	20,000 s.f.	60,000 s.f.	See footnote 3.	-	60,000 s.f.
Minimum Lot Size Width in Feet											
Off-Lot Sewer & Water (connected to public sewer & water)	200 (see §18-136 for lots within subdivisions)	Outside subdivision: 150; Inside subdivision: 100	80	75	50	100	100	100	-	-	100

	F&A ¹¹	LDR ⁴	MDR ⁴ ; See Footnote ¹² for GMDR	HDR	VC ²	C-1	C-24, ¹³	EDZ ⁴	UNIV	RP	IND
Off-lot sewer or water	200 (see §18-136 for lots within subdivisions)	Outside subdivision: 150; Inside subdivision: 100	125	100	See footnote 3.	100	100	100	See footnote 3.	-	150
On-lot sewer and water (served by well and septic system)	200 (see §18-136 for lots within subdivisions)	Outside subdivision: 150; Inside subdivision: 100	150	150	See footnote 3.	200	100	200	See footnote 3.	-	200
Minimum Lot Area Per Family (Net Density)											
Off-Lot Sewer & Water (connected to public sewer & water)	160,000 s.f.	60,000 s.f.	15,000 s.f.	5,000 s.f.	2,500 s.f.	-	15,000 s.f. ⁷	15,000 s.f. ⁷	-	-	-
Off-lot sewer or water	160,000 s.f.	60,000 s.f.	30,000 s.f.	10,000 s.f.	See footnote 3.	-	20,000 s.f. ⁷	30,000 s.f. ⁷	See footnote 3.	-	-
On-lot sewer and water (served by well and septic system)	160,000 s.f.	60,000 s.f.	40,000 s.f.	40,000 s.f.	See footnote 3.	-	20,000 s.f. ⁷	40,000 s.f. ⁷	See footnote 3.	-	-
Minimum Depth of Front Yard in Feet (Front Setback)											
Off-Lot Sewer & Water (connected to public sewer & water)	20	20	20	20	0	50	20	50	50 ⁸	50	20
Off-lot sewer or water	20	20	20	20	See footnote 3.	50	20	50	See footnote 3.	50	20

	F&A ¹¹	LDR ⁴	MDR ⁴ ; See Footnote ¹² for GMDR	HDR	VC ²	C-1	C-24, ¹³	EDZ ⁴	UNIV	RP	IND
On-lot sewer and water (served by well and septic system)	20	20	20	20	See footnote 3.	50	20	50	See footnote 3.	50	20
Minimum Width Side Yard in Feet (Side Yard Setback)											
Off-Lot Sewer & Water (connected to public sewer & water)	10	10	10	10	0 ⁵	10	10	10	-	10	10
Off-lot sewer or water	10	10	10	10	See footnote 3, 5.	10	10	10	-	10	10
On-lot sewer and water (served by well and septic system)	10	10	10	10	See footnote 3, 5.	10	10	10	-	10	10
Minimum Depth Rear Yard in Feet (Rear Yard Setback)											
	20 feet or 20% of or Lot Depth, whichever is less ¹	20 feet or 20% of or Lot Depth, whichever is less ¹	20 feet or 20% of or Lot Depth, whichever is less ¹	20 feet or 20% of or Lot Depth, whichever is less ¹		20 feet or 20% of or Lot Depth, whichever is less ¹	20 feet or 20% of or Lot Depth, whichever is less ¹	20 feet or 20% of or Lot Depth, whichever is less ¹			
Maximum Building Height in Feet											
	35	35	35	35	45 ⁹	45 ⁹	45 ⁹	45 ⁹	-	35	45 ⁹

Footnotes to Schedule of Dimensional Requirements

¹ Accessory building of one story may be built no closer than five feet to the rear lot line, except that any accessory building used as an accessory dwelling unit shall meet the regular base requirement for minimum rear yard depth.

² Maximum net density for efficiency apartments shall be 6,300 square feet for the first unit and 1,300 square feet for each additional unit.

³ Water and sewer connections are required in the VC District and University District.

⁴ See [Section 18-136](#) for dimensional standards that apply to clustered developments in the MDR, LDR, C-2, and EDZ Districts.

⁵ No side yard shall be required where a principal building is to share a common wall with a building on an adjacent lot.

⁶ Fences and equipment or structures necessary for making a building accessible to persons with disabilities are not required to meet setback requirements.

⁷ The first residential dwelling unit is permitted with a commercial use. Additional residential dwelling units must meet the minimum lot area per family (net density) standard.

⁸ From public streets College Avenue and Park Street.

⁹ May be increased to 50 feet under site plan review.

¹⁰ Not notwithstanding the above requirements, the lot requirement for an essential service building shall be a maximum area of 2,500 sq. ft. Details are in [Section 18-146](#).

¹¹ Within the Forestry and Agriculture District, lots within subdivisions must be clustered according to the terms of [section 18-136](#).

¹² Within the GMDR District:

- a. The dimensional requirements for individual lots outside of subdivisions shall be the same as those for lots within the MDR District, except that structures on individual lots that are not part of subdivisions approved after April 7, 2010, shall have a minimum front yard depth of 50 feet from the Route 2 right-of-way property line.
- b. All lots created as part of subdivisions approved after April 7, 2010, shall be clustered according to the terms of [Section 18-136](#) for clustered development within an MDR District. No subdivision lot on which a structure will be built may be closer than 200 feet from the Route 2 right-of-way property line.
- c. Principal structures existing as of April 7, 2010, may be expanded, and structures accessory to these principal structures may be built or expanded, according to the dimensional requirements for lots within the MDR District.

¹³ Certain dimensional standards relating to the depths of front yards and building height of structures on lots in the C-2 District with frontage along Park Street (Route 2) shall be governed by [Section 18-128](#)(b): Design Guidelines. Among other things, these standards specify a maximum front yard depth as well as a minimum front yard depth.

Table 3: Inventory of Outdoor Recreation Amenities

The following tables include a list of areas and facilities maintained by the Town's Parks & Recreation Department along with the amenities at each facility (if available). This list does not include facilities located in Orono but maintained by other community or non-profit partners.

	Marden Park	Webster Park	Nadeau-Savoy Memorial Park	Sklar Park	Brownie's Park	Summer Street Park	Jeremiah Colburn Natural Area	Union Street Boat Landing	School / Community Athletic Complex	Asa Adams Multi-Purpose Fields	Municipal (Nickerson) Pool
Baseball Field	X										
Softball Field											
Bank Fishing Area			X								
Biking Trail (Paved)											
Walking Trail ¹				X			X				
Boat Access			X		X ²	X ²		X			
Community Garden											
Water Service											
Off-Street Parking			X ³		X			X			
Ice Skating									X		
Basketball Court											
Swimming											X
Dog Off-Leash Area											
Designated Picnic Area			X								
Playground Equipment									X		
Restrooms									X		
Soccer/Lacrosse Field									X		
Tennis Court									X		

¹ Unless otherwise noted, walking trails provided are also multi-use paths allowing for other uses such as mountain biking, cross country skiing, and snowshoeing (as weather permits).

² Hand-carry only.

³ Parking permit required.

	<i>Marden Park</i>	<i>Webster Park</i>	<i>Nadeau-Savoy Memorial Park</i>	<i>Sklar Park</i>	<i>Brownie's Park</i>	<i>Summer Street Park</i>	<i>Jeremiah Colburn Natural Area</i>	<i>Union Street Boat Landing</i>	<i>School / Community Athletic Complex</i>	<i>Asa Adams Multi-Purpose Fields</i>	<i>Municipal (Nickerson) Pool</i>
Pickleball Court											
Volleyball Court											
Bench Seating	X										

Appendix B: Capital Improvement Plan

Project	Description	Funding & Financing Approach		Timeframe
Buildings	Expansion of Orono Library	The Library expansion is already in its design phase, in collaboration with the Orono Public Library Foundation. The majority of funding was secured through Congressionally Directed Spending, with additional funding from a fundraising effort by the Foundation. The Town has committed to \$2.6 million.	Bond or other borrowing	Short
	Public Safety Building(s)	The existing Public Safety Building has had many recent studies, revealing lack of space and deferred maintenance issues. The Town recently purchased a building on Main Street that the Police Department could move into. In any case, however, funds will be needed to address deferred maintenance of the existing Public Safety Building and to make the new building workable for the PD.	Bond	Mid
Transportation	Route 2 Improvements (MDOT Partnership)	The Route 2 partnership with the Maine Department of Transportation is in the early stages. Sebago Technics worked with the Town on initial planning recommendations; the next step will be to actually design/engineer any proposed improvements. The Town is waiting on more details of process and timelines. If the Town proceeds, the estimated match will be approx. \$3 million.	TIF funds	Mid
	Ayer's Island Reconnection for Development	Reconnection / replacement of the bridge to Ayer's Island to allow redevelopment to occur	TIF funds	Mid
	Road paving	Ongoing pavement maintenance and repaving of Town roads and sidewalks. Approx. \$900,000 per year is typically budgeted.	Reserve funds / operational budgets on a case-by-case basis	Ongoing
Utilities	WPCF Sludge Press	Sludge press machines are essential components of wastewater treatment facilities. This machine needs to be replaced at the treatment plant, and is expected to cost approx. \$2,775,000.	Bond	Mid
	Main Street (Route 2) Clay Line Replacement	Replacing outdated clay lines on upper Main Street (near Veazie line). Needed to allow for additional growth and development in this area, but is expected to cost approx. \$2 million.	Bond	Mid
	Hillside Sewer Line Replacement	\$515,000	Bond	Mid
	Bennoch Road Capacity Increase	\$650,000	Bond	Mid
	WPCF UV Disinfection Upgrade	Needed mechanical upgrade at the treatment plant, expected to cost approx. \$315,600.	Explore grant opportunities; Reserve funds	Mid
	WPCF Jetter Flusher	Needed mechanical upgrade at the treatment plant, expected to cost approx. \$125,000.	Explore grant opportunities; Reserve funds	Mid
	Ayer's Island Reconnection for Development	The cost is unknown at this time, but reconnection of the sewer system to Ayer's Island would be needed in order for redevelopment of Ayer's Island to occur.	Explore grant opportunities; TIF funds	Mid
	I-95 sewer crossing to Economic Development Zone ("Stillwater Avenue West")	The cost in today's dollars is unknown, but this would be needed in order for the Town's vision for development in this area to occur.	Explore grant opportunities; TIF funds	Long
	Penobscot Street Capacity Increase	Would increase capacity in this area and allow for higher density development at Town-owned former Public Works site. Additional analysis is needed regarding cost.	Explore grant opportunities; Reserve funds	Mid
	Sewer line up Kelley Road (crossing I-95 to "Orono West")	The cost in today's dollars is unknown, but this would be needed in order for the Town's vision for development in this area to occur.	Explore grant opportunities; TIF funds	Mid-Long

Appendix B: Capital Improvement Plan

	Project	Description	Funding & Financing Approach	Timeframe
Misc. Projects	Major Zoning Ordinance Amendment/Overhaul	Needed as a result of the recommendations of this Comprehensive Plan; funds will be needed to hire a consultant to manage this process. Approximately \$40,000.	Reserve funds / TIF funds	Short
	Archaeological survey of Orono's prehistoric and historic archaeological resources, beginning with the banks of the Penobscot River to the north	See Historic & Archeological Resources chapter FMI. Likely to cost approximately \$25,000. Grant opportunities are frequently available from MHPC.	Explore grant opportunities; Reserve funds	Mid
	Creation of a Housing Trust Fund to divert funds towards designated housing projects	See Housing chapter FMI. Meaningful funds would be in the realm of \$400,000+.	Explore grant opportunities; TIF funds; Reserve funds on a case-by-case basis	Mid-Long
	Recreation & Open Space Plan, Scenic Resources Inventory	See Recreation chapter FMI. Likely to cost approximately \$40,000. Grant opportunities may be available from Maine Office of Outdoor Recreation.	Explore grant opportunities; Reserve funds	Mid
Vehicles & Equipment	Vehicle & equipment replacement	Purchase vehicles for Public Works, Police, Fire, and other Town operations on an as needed basis	Reserve funds / operational budgets on a case-by-case basis	Ongoing

This is a list of capital improvement projects either already planned for (white) or recommended in this plan (blue). This is not necessarily an exhaustive list for the projects within this plan's horizon, as new capital needs may arise that are unforeseen at the time of this writing.