

CITY OF PORTLAND, MAINE
Standing Committee on Sustainability and Transportation
Councilor Spencer Thibodeau (D2), Chair
Councilor Belinda Ray (D1)
Councilor Jill Duson (D3)

Agenda
April 15, 2020
5:30 PM

To attend this virtual meeting please click the link below:
<https://zoom.us/j/924190736>

To join by telephone dial 312 626 6799
Use Webinar ID: 924 190 736

1. Meeting Information
The Sustainability and Transportation Committee hold a remote meeting on Wednesday, April 15 2020 at 5:30 PM . This meeting will take place remotely using Zoom. Virtual meetings are allowed using emergency legislation approved by LD 2167; 1M.R.S. §403-A, that authorizes cities and towns to conduct meetings online. A recorded version of the meeting will be posted portlandmaine.gov/livestream the following day.
2. Review and approve minutes from February 26, 2020
 - a. Minutes
3. Sustainability Program Updates
 - a. Updates
4. Presentation and Discussion
Communication Items Only No Public Comment
 - a. Greenhouse Gas Inventory -- City Operations, 2018
 - b. One Climate Future -- climate action planning progress report
 - c. 2019 Report from the Pesticide Management Advisory Committee
5. Other Business

CITY OF PORTLAND, MAINE

Standing Committee on Sustainability and Transportation

Councilor Spencer Thibodeau (D2), Chair

Councilor Belinda Ray (D1)

Councilor Jill Duson (At large)

Draft Minutes February 26, 2020

Members Present: Councilor Thibodeau, Councilor Ray, Councilor Duson

Staff Present: Mayor Kate Snyder, Troy Moon, Ashley Krulik, Bill Needelman, John Peverada, Lena Geraghty, Jeff Tarling, Sally Deluca, Alex Marshall

Meeting was called to order at 5:01 PM.

Sustainability Program Updates

Troy Moon reviewed the items on the Sustainability Updates memo.

- Councilor Ray - What is the resource that PMAC created? Mrs. Krulik - organic pest solution matrix that was printed, laminated, and handed out to retailers.

Move and approve minutes: Councilor Duson moved to approve, Councilor Thibodeau seconded, all in favor, 3-0.

Portland Harbor Dredge Project

Bill Needelman presented PowerPoint presentation.

- Councilor Ray:
 - When the CAD cell is placed, is it a noisy process? Mr. Needelman - Not a subtle activity. Required to occur between November and March when the harbor is least used by humans and critters. No complaints during past dredging projects.
- Councilor Thibodeau:
 - Quick update on how this is financed? Mr. Needelman - Will cost \$30 million (still being fine tuned). State of Maine has committed \$5 million. Pending federal grant application is for \$20 million. Last \$5 million would come from tipping fees assessed by cubic yard of material that each pier owner requests. City of Portland has a lot of berthing and may need to pay up to \$1 million.
- Councilor Duson:
 - Might was to create an internship around this project to give students an opportunity to gain experience in this unique process. Mr. Needelman - agree that this would be a great opportunity. Finding time to manage interns may be a challenge given the current resources. Will look into it.

Preparing for a AV Shuttle Pilot

Lena Geraghty presented PowerPoint presentation.

- Councilor Duson
 - Served on the Legislative Committee supported legislation and appreciate the update.
 - Are City and Metro talking? Mr. Jordan - yes, but would like more formal involvement by being in stakeholder group.
 - Councilor Duson: Have you made that request?
 - Councilor Ray: I have made that request. Would like to have the Committee make a recommendation to have Metro be a part of the stakeholder group.
 - Councilor Thibodeau: Sustainability Office to work on formal recommendation for next meeting.
- Mayor Snyder
 - What is a 15 minute headway? Mrs. Geraghty - shuttle would arrive every 15 minutes.
- Councilor Ray
 - You can walk the corridor in 18 minutes, so if you need to wait 15 minutes you don't save much time. Mrs. Geraghty - this is designed for people who can't easily walk due to carrying baggage to ferry, physical limitations, etc.
 - How many shuttles? Mrs. Geraghty - leaving it open but envisioning at least 3 shuttles.
 - City is hoping that there is a vendor who is ready to go? Mrs. Geraghty - yes, other municipalities have been able to implement in 3 months after the contract is approved.
 - June start date? Mrs. Geraghty - yes, as long as State rules have been finalized and vendor selected.
 - Why stop in October? Mrs. Geraghty - limited number of vendors who want to operate in bad weather. Councilor Ray - opportunity to test in bad weather? Mrs. Geraghty - absolutely, but have also selected June - October time period due to time of high use.
 - Really appreciate the innovation that the City Manager has brought to the City thus far. Would like to see more collaboration with other partners such as Greater Portland Metro. There are buses that run along Commercial Street.
 - Mrs. Geraghty - this is not intended to replace the bus but to test a new type of transportation.
 - Councilor Ray - we should invite Metro to be a part of the working group to be involved in this test.
 - Mrs. Geraghty - absolutely - has already had multiple conversations with Metro.
 - Metro is currently doing a reboot of the peninsula loop - asked Greg Jordan to give a quick update.
 - Greg Jordan: Updating circular routes on the peninsula. Intending to bring more service to Commercial Street.

- Councilor Ray - important that the AV shuttle is not a competitor with the Metro.
- How can we make transit better on Commercial Street? Mr. Jordan: Dedicate lanes and signal priority.
- How do you see Metro and City working together? Mr. Jordan: Excited about the pilot program. Think we should be mindful to not create a two-tiered system and should maximize integration. Would love to partner more formally.
- There is a new fare collection system being implemented to help create a seamless experience between transit systems.
 - Mrs. Geraghty - AV Pilot will be a free service and integrate with the current transit time-tracking system.
- Councilor Thibodeau
 - Mapping piece is Commercial Street and Franklin Street - why those two streets? Mrs. Geraghty - initial pilot is Commercial Street but longterm Franklin Street offers great opportunity.
 - Island shuttle currently operates during the same time period (June-Oct) - need to think about access from outside of the City and the "last mile."
 - Councilor Ray - Island shuttle is a temporary solution as well.

Time-Limited Residential Parking

Lena Geraghty presented a PowerPoint presentation.

- Councilor Ray:
 - Important to build in a guest pass - that was one of the biggest objections when the City tried to implement this program in the past.
 - Would like to start with Zone 4 because it has been asked for for a very long time. Waterville Street is a priority because residents have already completed a petition. Need to make sure notification happens first.
 - Mr. Peverada - Waterville Street residents would like to see this program implemented. Important to notify residents who may not be aware. Residential visitor passes are not foolproof - sell to people who park in the neighborhood but don't live there.
 - Could there be a petition for more than one block? Mrs. Geraghty - yes, as many blocks as would like to participate.
- Councilor Thibodeau
 - What is the process to get a guest pass? Mr. Peverada - likely will be an electronic process.
 - For the next meeting, need to see how other guest pass programs work. Sustainability Office to research for next meeting.
 - For dense neighborhoods, we cannot limit to a specific street.
 - Mrs. Geraghty - this is specifically for daytime parking. Nighttime issues would require much more conversation.

- Mr. Peverada - nighttime parking is residents vs. residents.
- Determine what items need action for the next meeting.
 - Notification to residents on Waterville Street.
 - Guest pass action item.

Repeal of Bag Fee Ordinance

Troy Moon presented a memo.

Councilor Duson:

- If our ordinance is superseded by State ordinance, why do we need to repeal it? Mr. Moon: Corporation Council recommended that we repeal it.
- Would be in favor of the City making revision to ordinance to conform to State ordinance rather than repeal.

Councilor Thibodeau:

- What will happen to the 5 cent fee? Mr. Moon: State ordinance requires a 5 cent fee for paper bags. Fee would continue to go to the store.
 - Should discuss where that fee should go.

Public comment: none.

Councilor Ray made a motion to move the passage. Councilor Duson seconded for the purpose of discussion.

- Councilor Duson would prefer to conform to the State policy rather than repeal. Request that Corporation Counsel language that shows conformity rather than repeal.
- Councilor Ray would like to move out of Committee to the Council with the understanding that there will be further explanation from Corporation Counsel at the Council meeting around why they want to repeal.
- Councilor Duson - state preemption of municipal authority is a constant conversation with National League of Cities and pre-preemption in a home rule state is concerning.

All those in favor to repeal, contingent on additional information from Corporation Counsel: 2-1.

Heritage Tree Ordinance

Troy Moon reviewed the draft ordinance.

- This ordinance was a collaborative effort by multiple City staff members
- Developed definition of "Heritage Trees"
- Ordinance does allow people to remove heritage trees but requires them to replace the ecological services they provide
- There would be cost to implement to manage program and offer guidance to property owners

Councilor Ray:

- Talked about no clear-cutting - does this ordinance cover that? Mr. Moon - covers certain stands of trees but doesn't address larger wooded parcels. That would be a zoning item. This is just for historic districts which don't have larger parcels.
- Would there be a permit to cut down a tree? Mr. Moon - still discussing that aspect with Corporation Counsel. Goal is to keep administration to a minimum.
- Would like to consider how to handle a wooded lot so that someone doesn't cut all the trees prior to site plan review.
- When will we see a draft to consider? Mr. Moon - 1-2 months.

Councilor Duson:

- If you have a heritage tree and live outside of a historic district, would this apply? Mr. Moon - no.
- If someone goes through this process and completes all the steps - is it too much to ask them to post a notice? Mr. Moon - this was included so that neighbors are not surprised when the tree is taken down.

Dogs in Baxter Woods

Friends of Baxter Woods presented:

- Mark, Portland
- Lee Norton, St. John St.
- Karen St. Peter, Westbrook
- Stephan Speigel, Prospect Street
- Michelle Speigel, Prospect Street
- David, Portland
- We would like a delay in the process to collect more data prior to making a decision.
 - No spring bird data collected.
 - Survey those who use Baxter Woods
- We realize that there are people who are afraid of dogs and we want to work with them to find a solution
- No evidence of damage to bird population due to dogs
- No other local woodland acreage compares to Baxter Woods
- Not clear that City is in violation of deed - if the ordinance passes, Friends of Baxter Woods contends that the City will be in violation of deed due to construction of elements for habitat restoration
- Strike summer limitations
- Strike first section
- Second section - would like to have hours extended to 10am
- Strike bird habitat which is next to new development

Sally Deluca and Alex Marshall:

- Need to understand distinction between "dogs off leash" and "dogs under voice control"

- July 2019-February 2020 park rangers began visited Baxter Woods every couple of days to get more data - observed 764 dogs off-leash - 65 were not under voice control
- 666 instances of dog waste that was not collected
- Reimagined habitat restoration area - no longer includes trail - use trail as barrier, no fence or logs, trail to become on-leash only at all times
- Still recommend same hours and seasonality

Public Comment:

Elaina Spitzer, Portland - use woods daily, find it to be most social and pleasant space in city, deed focuses on Baxter Woods being of benefit to people of Portland, at the time of the deed being written "bird sanctuary" meant that they could not be hunted. Dog walkers have discouraged dangerous uses of woods.

Dawn Leland, Bancroft Street - when survey was completed, spoke with all people using woods (with and without dogs) and most were in favor of dogs being off leash.

Paul Wilson, Oakdale Street - walks dog in woods and works in nearby Lincoln Middle School. Baxter Woods is unique and safe. Important that dogs have a place to play. Shortened on-leash hours (10am-2pm) that Friends of Baxter Woods is recommending would be workable for school based on experience.

Michelle Lesbrance - Baxter Woods is very highly used. Would like to explore models that other cities use such as dog training to get voice control tag. Feels like this hasn't been a collaborative process.

Ben Williams, Bradley Steet - Park is jewel of community. Dog owners are in favor of stronger enforcement of voice control rule.

Sarah Maloney, Highland Street - bird issue is important and needs to be addressed. Ask to delay vote to gather more information. Dogs typically stay on the paths. Should look at other bird predators in woods. In favor of shortening on-leash hours.

Logan Puck, Woodfords Street - opposed to new leash laws. Baxter Woods is a very accessible due to wide paths for dog walking. No ticks. Quarry has pooling, dirty water. Doesn't make sense to have leash law in effect during winter when no one else uses park. Dogs on leash are more likely to be aggressive.

Andy, Westbrook - dog trainer. Dogs just follow the owner's lead. People need to be more self-aware when they are walking their dogs. Baxter Woods is well designed for dogs.

Jess Lovitts, Mayland Street - dog community is very important for mental health and provides support system. Agree with some on-leash hours. Do not agree with on-leash only during summer months.

Tessa Wood, Deering Center - in support of 10am-2pm on-leash hour compromise. Have a dog who needs to be on-leash and unable to use Baxter Woods.

Michael Eisler, Mayland Street - this is a public space that encourages community and relationships. This ordinance restricts that use. This was originally raised as a bird sanctuary issue and has become a dog issue. Proposed nesting area does not align with deed and is next to a construction site. Would like more data on voice control areas.

Lindsey Sellers, Portland - need to look at uses of a public space. Do not feel that due diligence has been done. Woods feel very safe.

Ann Calendar, Portland - confused by need to create a bird nesting ground. Displacing community for unclear use. Do not feel that there should be on-leash hours during winter.

Kaylee, Dartmouth Street - delay leash law until a year's worth of bird data has been collected. Baxter Woods is a very special and unique place. Have never seen an instance of dog aggression at Baxter Woods. Law would significantly impact community.

Michael, Hartley Street - keep dogs on-leash and have had several instances of off-leash dogs attacking them. Voice control is wish rather than reality. Difficult to use woods with on-leash dogs. In favor of on-leash hours. Have noticed ducklings on pond and red-winged hawk.

David, Rackliffe Street - what happens when dogs leave woods? Western Cemetery has been abandoned since dogs were banned

Christina, Rackliffe Street - Baxter Woods is a special community. Rules threaten that dynamic. Urge Councilors to strike 4 month rule. Consider on-leash hours of 11am-2pm. Delay vote until more data can be collected.

Lisa Goth, Glenwood Ave - Woods offer great community. Dogs do need to be under better control because there is no fence. Hate idea of big block of the summer being taken away from off-leash dogs. Would be in favor of 11am-2pm on-leash compromise. Other off-leash areas have been taken away.

Councilor Ray made a motion to move the restrictions forward. Councilor Dusen seconded for purpose of discussion.

Eric Tupper, Maine Audubon - Parsons Road, Portland - Audubon here for educational support with no formal position on issue.

- Want to promote quality wildlife habitat
- Role of a bird sanctuary today is to support entire bird lifecycle - a best practice is to eliminate dogs to encourage breeding

- 3 species to pay attention to in this instance -
 - Song Sparrow - research has shown that dogs hinder breeding
 - Red-Eyed Vireo - found a nest in Baxter Woods, compromised by off-leash dogs
 - Ovenbird - will not nest where there are off-leash dogs
- Habitat restoration is planting - Maine Audubon would like to work with City on this project

Councilor Ray

- Report from BRI has several recommendations, including banning dogs at all times. Staff originally recommended banning dogs. Mr. Tupper - would like to find a compromise that works for everyone. An Ornithologist would say to ban dogs.
- Quickly talk about other pieces of restoration plan. Ms. Deluca - this is not just about dogs. Baxter Woods is not a dog park. Ethan Hipple can add more detail - create a summary of all the steps.

Councilor Thibodeau

- Regarding the other impacts on the breeding habits - how do you feel? Mr. Tupper - the threat of other animals outweighs other threats.
- Barrier vs. nothing vs. path, thoughts? Mr. Tupper - something needs to be there to educate people.
 - Councilor Ray - could using trail with on-leash dogs as barrier work? Mr. Tupper - the more area that the birds get the better they will be.
- April 1 - July 31st restrictions - Mr. Tupper - that is breeding season and will play the biggest role in whether the habitat is a "source" or a "sink"
- Any specific changes that you'd suggest for habitat restoration? Mr. Tupper - understory native plants.
- Thoughts on the history of use? Ms. Deluca - in 2012 the City tried to restrict the use of voice control and staff felt they were "run out of town." Advocacy from a staff perspective is different now than in 2012.
- Are any other Portland parks bird sanctuaries? Ms. Deluca - no. Ethan Hipple researched the definition of bird sanctuary in deed. Found that hunting had already been banned in the City by that time.
- Other seasonal restrictions? Mr. Tarling - Eastern Promenade used to have seasonality but no longer. Ms. Deluca - envision having educational signage at both entrances.

Councilor Dusen

- Required buffer between woods and development? Ms. Deluca - 30 feet buffer.

Deliberation:

Councilor Dusen -

- This is about off-leash dogs that are not under voice control
- Should make an aspirational attempt to achieve Mayor Baxter's vision
- No one feels that there is currently a sanctuary for birds in Baxter Woods

- Proposal is for the City to commit to restoration of the habitat for birds
- I will not support changing on-leash times from what is outlined in staff proposal
- I support dogs on-leash at all times April 1 - July 31
- I support dogs under voice control at other times of the year
- Feel that restoration area should be larger but will support proposal

Councilor Ray -

- Discussion around the community that this place provides is very strong and important
- Believe that the definition of a bird sanctuary in deed is the same definition as today - it is important that we honor that deed and feel that we are currently in violation of that deed
- Originally felt that the PRF proposal was too much of a compromise but now understand due to the community that Baxter Woods provides and the service they provide to the park
- I support the staff recommendation

Councilor Thibodeau -

- A deed is meant to encumber and prescribe a use
- Accessibility issue - make sure that park is accessible to everyone. Restrictions on dogs provides more access to the park for other people.
- What is expected of us - as a trustee of a public space I have an obligation to meet the restrictions of the deed
- Need more information from PRF about implementation
- Time period is important for bird habitat
- I support the staff recommendation with more information about implementation and annual report

All in favor to move to full Council: 3-0.

Motion was made by Councilor Ray to adjourn the meeting at 8:45 pm. Motion was seconded by Councilor Dusen. All in favor: 3-0.

Sustainability Updates

April 2020

Straw Ordinance

The City of Portland Straw Ordinance went into effect on April 1, 2020. During this first phase of the ordinance food service establishments may only provide customers with a plastic straw upon request. Although the ordinance has taken effect City staff are not actively enforcing it. Under the emergency decree restaurants are serving take out only. Most customers are not ordering beverages at this time. We will resume education and outreach about the ordinance when the emergency is lifted.

<http://www.portlandmaine.gov/2558/Straw-Ordinance>

Energy Benchmarking

Buildings with 20,000 square feet and a single primary occupant must report their energy and water consumption to the Sustainability Office by May 1, 2020. We have updated the website with a list of buildings we believe fall in this category and we have assigned each of them a unique building ID so we may track their reports easily over time, regardless of building ownership. We greatly appreciate the assistance of the Public Works GIS Team who worked with us and partners at the Northwest Renewable Energy Laboratory and the EPA to establish an innovative approach to mapping properties.

Several building owners have already submitted their reports.

<http://www.portlandmaine.gov/2389/Energy-Benchmarking>

Solar Consortium

We are pleased to report that the City Manager and the Superintendent have signed all of the contracts associated with the CES solar consortium. Under this program the City will be purchasing Net Energy Bill Credits for 20,000 mWh of electricity annually. The credits have a value on the City's utility bills that substantially exceed their cost. Monthly savings will build over a period of about 18 months until all of the projects associated with the consortium are constructed and come on line. We anticipate the first credits to appear on our bills in three to four months. As we noted to the City Council, our contracts also provide the City with a proportionate share of the Renewable Energy Credits associated with the power generated by the facilities we're associated with. The City will have the ability to retire these RECs or to sell them for revenue.

Sustainability Updates

April 2020

Legislation

The abrupt ending of the current legislative session has left two sustainability bills supported by this committee and the Legislative Committee stranded.

Staff testified in favor of LD1748, "An Act To Allow for the Establishment of Commercial Property Assessed Clean Energy Programs" and it received support from the Energy and Utilities Committee and was scheduled for a vote in the Senate before the abrupt adjournment. It was carried over to any special session of the 129th Legislature.

Staff testified in favor of L.D. 2104, "An Act To Support and Increase the Recycling of Packaging" during its public hearing in February. It was carried over to any special session of the 129th Legislature.

Outreach and Education

Before the COVID-19 emergency we had prepared a number of events to promote Sustainability Week and the 50th Anniversary of Earth Day. Unfortunately, these in-person events are no longer possible. Instead, we are trying to put together some virtual events instead. On April 22 we plan to release a video featuring some local leaders recognizing Earth Day and emphasizing the importance of climate action - the greatest environmental threat facing the planet today. We still hope to collaborate with other partners to bring additional programs forward.

We continue regular social media posts. Follow us on Facebook and Instagram at @sustainableportlandme We invite people to participate in One Climate Future by visiting the webpage at www.oneclimatefuture.org

MEMORANDUM

GHG Inventory

TO: City of Portland

FROM: Competitive Energy Services

DATE: March 10, 2020

RE: 2018 Greenhouse Gas Inventory

City of Portland 2018 Greenhouse Gas Inventory

In early 2019, Competitive Energy Services (CES) was contracted by the City of Portland (City) to create an inventory of Scope I and Scope II Greenhouse Gas (GHG) emissions from municipal operations for the calendar year of 2018, as a benchmark to aid the City in understanding current emissions levels, comparing emission levels to prior years, and planning future reductions goals.

Part of the 2018 GHG scope included a breakdown of the emissions by City department. Initially thought to be a simple task, CES and the City soon realized that utility accounts were not consistently or completely assigned to individual City departments. The City subsequently reviewed every Central Maine Power (CMP) electric invoice & assigned the proper department label to each account. This time intensive process delayed the completion of this inventory but the City is now in position to make future department level evaluations and comparison to better focus GHG mitigation efforts.

Methodology

SCOPE I

For the purposes of this inventory, CES obtained relevant available data from the City and the City's energy providers. Scope 1 emissions categories included stationary onsite fuel combustion, city-owned vehicle fuel combustion, and fertilizer use on City property. Stationary onsite fuel combustion includes the usage of natural gas and heating oil. CES obtained natural gas usage for the City's 44 natural gas accounts through usage requests to Unitil, the local distribution company. CES obtained heating oil usage, including both #2 oil and kerosene, from Fieldings Oil, the past and current heating oil supplier to the city. EPA emissions factors for carbon dioxide, methane, and nitrous oxide were used for all heating fuels.

For the remainder of Scope 1 emissions, City staff provided CES with 2018 recorded commodity usage. Combustion of gasoline and diesel by fleet vehicles was provided by the Fleet Manager. The Jetport also provided Fleet combustion of gasoline and diesel use.

EPA emission factors for carbon dioxide, nitrous oxide, and methane were used for fleet fuels diesel and gasoline. The Clean Air Cool Planet Carbon Calculator nitrogen emissions factors were used for fertilizers.

SCOPE II

The only applicable Scope II emissions source for the City is purchased electricity. CES obtained 2018 electricity usage for 334 accounts from Central Maine Power. Recently released EPA eGrid 2018 emissions factors for carbon dioxide, nitrous oxide, and methane were used to calculate emissions. CES used New

England regional emissions factors instead of Maine emissions factors. The 2016 GHG report used Maine emissions factors. For comparison purposes, we updated the 2016 numbers to reflect New England emissions.

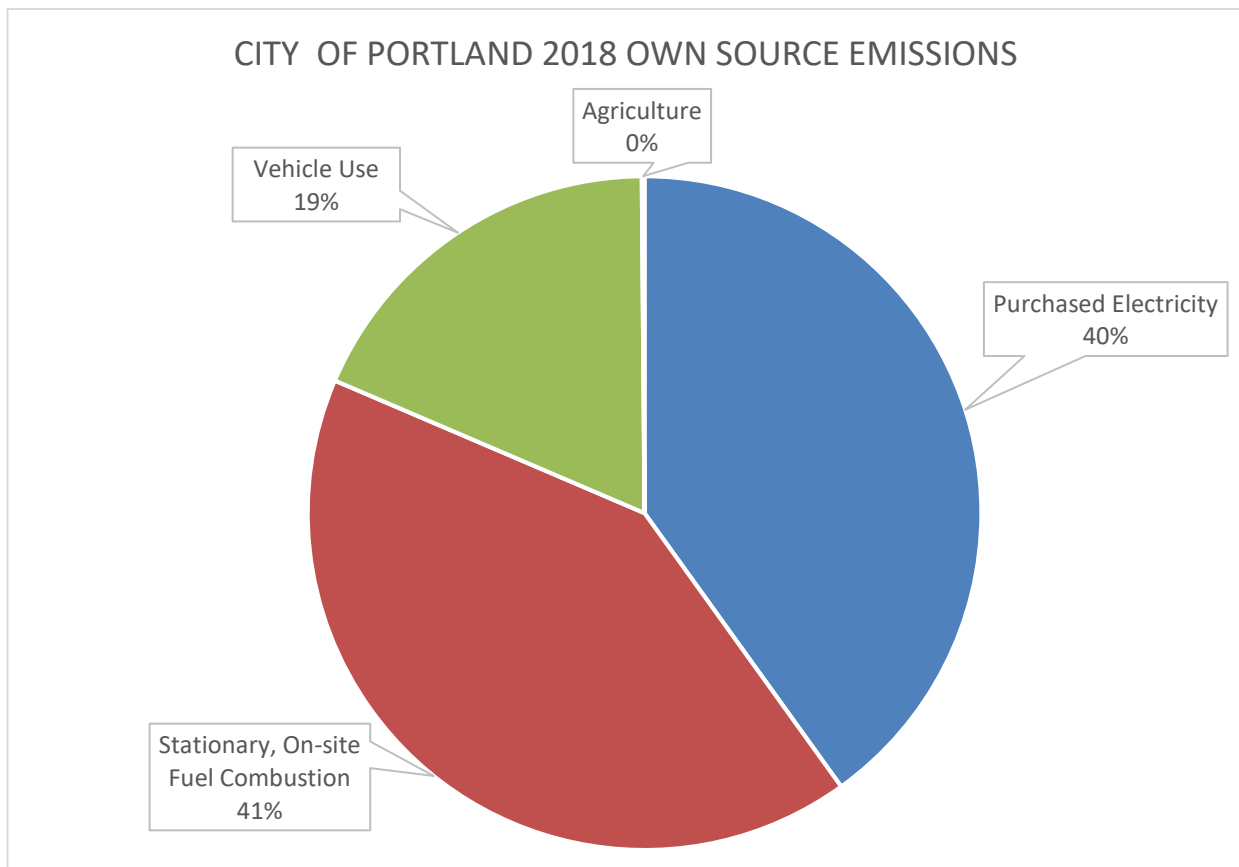
Results

CES calculated total calendar 2018 emissions at 20,804 metric tons of carbon dioxide equivalent (MTCO₂e). 60%, or 12,466 MTCO₂e, came from Scope I sources. Of these Scope I sources, 8,604 MTCO₂e came from stationary onsite fuel combustion, 3,835 came from City vehicle use, and 27 came from fertilizer usage. The remaining 8,338 MTCO₂e came from Scope II purchased electricity. The contributions of the different sources may be seen in detail in the tables and chart below. The combination of Scope I and Scope II emissions is referred to as “Own Source” emissions as the City has direct control and influence over usage in these categories.

SCOPE 1	CO ₂ e	CO ₂	N ₂ O	CH ₄	Unit
Stationary, On-site Fuel Combustion	8,604	8,595	0.0183	0.1695	metric tons
Vehicle Use	3,835	3,814	0.0402	0.3661	metric tons
Agriculture (only N ₂ O applies)	27		0.0899		metric tons
SCOPE 1 TOTAL	12,466	12,409	0.15	0.54	metric tons

SCOPE 2	CO ₂ e	CO ₂	N ₂ O	CH ₄	Unit
Purchased Electricity (Regional Emissions Factors)	8,338	8,225	0.1732	2.4252	metric tons
SCOPE 2 TOTAL	8,338	8,225	0.17	2.43	metric tons
2018 OWN SOURCE EMISSIONS TOTAL	20,804	20,634	0.32	2.96	metric tons

SOURCE	USAGE UNIT	USAGE	mTons CO ₂ e
Electricity	(MWh)	34,718	8,338
Natural Gas	(MMBtu)	155,573	8,257
Diesel	(gallons)	198,694	2,042
Gasoline	(gallons)	203,343	1,794
Distillate Oil	(gallons)	22,861	234
Kerosene	(gallons)	11,098	113
Refrigerants	(lbs)	0	0
Fertilizer	(lbs)	64,000	27
TOTAL			20,804



2018 Emissions by Department

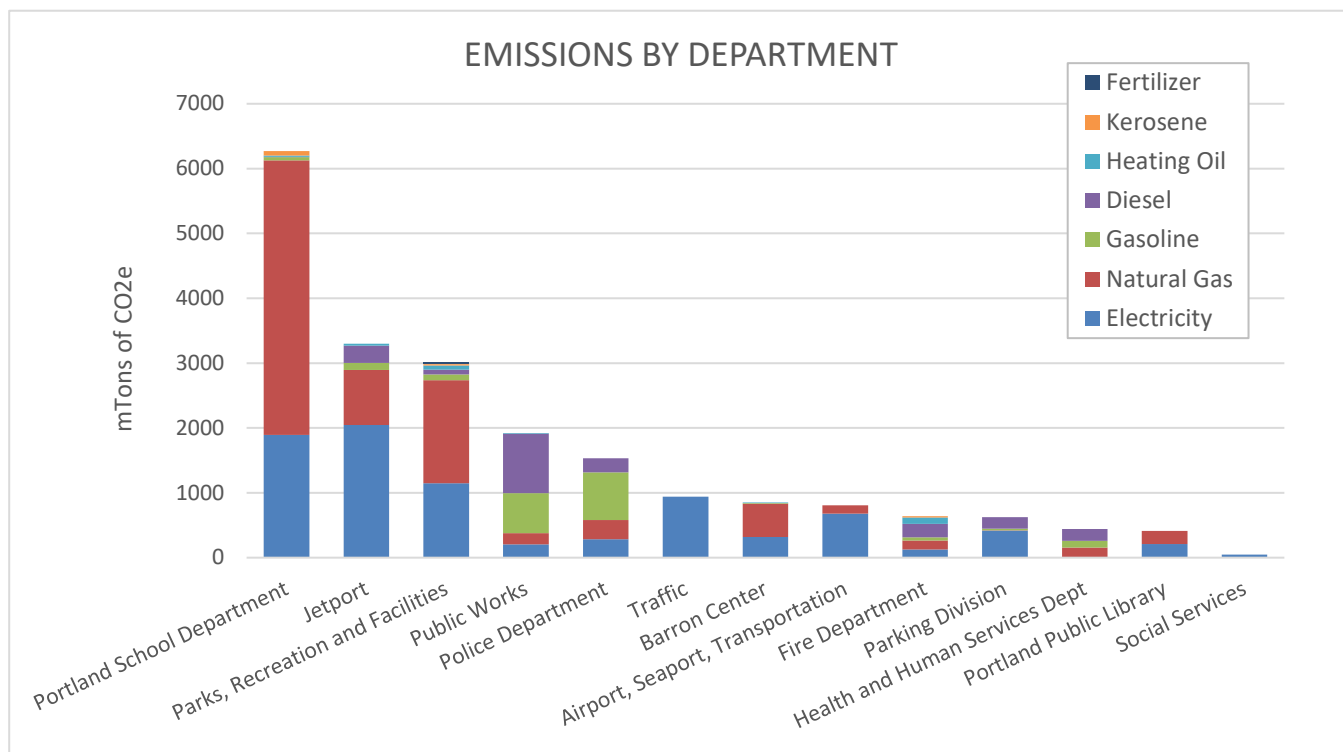
For the 2018 report, the City requested a breakdown of total emissions by department. This is a new addition to the report, so there is not a 2016 comparison. CES worked with the City to assign departments to all electricity and natural gas accounts. Gasoline, diesel, heating oil, kerosene and fertilizer were provided by department. Total emissions by each department can be found in the chart and table below.

The Portland School Department led all departments in emissions with a total of 6,250 MTCO₂e. The next highest department by emissions was the Jetport with 3,299 MTCO₂e, which is closely followed by the Parks, Recreation and Facilities department with 3,070 MTCO₂e.

The School Department's natural gas usage accounted for 68% of their emissions, and 20% of the entire City's emissions.

The Jetport, which has multiple high usage accounts, had the most emissions from electricity. The Jetport accounted for 25% of the entire City's electricity usage and related emissions.

The Police Department and Public Works accounted for a large share of the City's total gasoline and diesel emissions. Police Department usage made up 41% of total gasoline emissions. The Public Works usage made up 34% of total gasoline emissions and 45% of total diesel emissions.



DEPARTMENT	SOURCE (mTons CO2e)							TOTAL
	Electricity	Natural Gas	Gasoline	Diesel	Heating Oil	Kerosene	Fertilizer	
Portland School Dept.	1,894	4,234	2	49	23	68		6,270
Jetport	2,048	845	268	109	30			3,301
Parks, Recreation, Facilities	1,149	1,586	71	93	64	23	27	3,012
Public Works	205	175	917	616	9			1,922
Police Department	284	295	218	738				1,535
Traffic	941							941
Barron Center	318	512		10	11			851
Airport, Seaport, Transp.	680	128						808
Fire Department	128	135	209	50	97	22		641
Parking Division	419	4	177	25				625
Health Human Services	10	144	181	105				440
Portland Public Library	212	199						411
Social Services	49							49
TOTAL	8,338	8,257	2,042	1,794	234	113	27	20,804

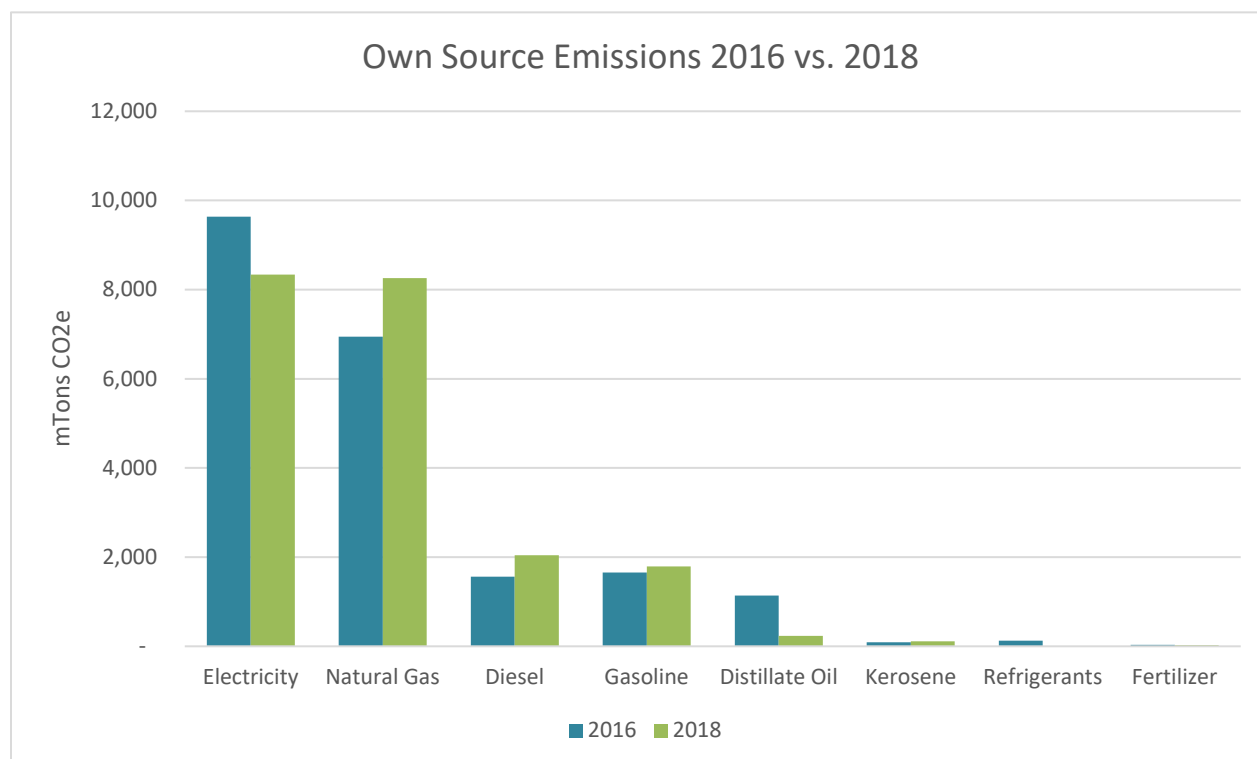
Comparison to 2016

CES completed the City's municipal inventory for 2016. The methodology used for 2018 is consistent with 2016 except for the following update: for 2018 CES changed the EPA egrid electrical emissions factors from Maine state emissions to New England regional emissions. This decision was made to make the City's emissions more comparable to other cities in New England. The electrical grid in Maine is managed as part of the New England wide Independent System Operator Of New England (ISONE). Maine emissions are lower than New England emissions due to cleaner generation sources, such as hydro but are more volatile from year to year and less representative of the integrated regional electrical grid. CES also revised the 2016 emissions factors to New England emissions and updated the 2016 gasoline and diesel usage to include missing Jetport usage.

With the updates noted above, 2018 total emissions were 2% lower than in 2016. The largest contributor to this reduction is the drop in electricity & distillate oil usage. Electricity emissions dropped 14% while distillate oil emissions dropped 80%. Electricity usage totaled 37,543 MWh and 9,636 MTCO_{2e} in 2016 compared to 34,718 MWh and 8,338 MTCO_{2e} in 2018. Distillate oils usage totaled 110,867 gallons and 1,136 MTCO_{2e} in 2016 compared to 22,861 gallons and 234 MTCO_{2e} in 2018. The increase in natural gas usage in 2018 nearly offsets the emission reductions from electricity and distillate oil. Natural gas usage totaled 130,830 MMBtu and 6,944 MTCO_{2e} in 2016 compared to 155,573 MMBtu and 8,257 MTCO_{2e} in 2018.

The drop in electricity usage can likely be contributed to energy efficiency initiatives and the Jetport solar project. The City's efforts to convert distillate oil usage to natural gas usage is the main factor for the increase in natural gas usage. It should be noted that 2018 was colder than 2016, with 6% more heating degree days, which likely contributed to increased natural gas usage.

Fleet usage increased for both fuels, particularly diesel, which increased in emissions by 31%. Gasoline increased in emissions by 9%. Side by side comparison for all sources can be seen in the chart and table below.



2016				2018			
SOURCE	USAGE UNIT	USAGE	mTons CO2e	SOURCE	USAGE UNIT	USAGE	mTons CO2e
Electricity	(MWh)	37,543	9,636	Electricity	(MWh)	34,718	8,338
Natural Gas	(MMBtu)	130,830	6,944	Natural Gas	(MMBtu)	155,573	8,257
Diesel	(gallons)	151,775	1,559	Diesel	(gallons)	198,694	2,042
Gasoline	(gallons)	187,449	1,653	Gasoline	(gallons)	203,343	1,794
Distillate Oil	(gallons)	110,867	1,136	Distillate Oil	(gallons)	22,861	234
Kerosene	(gallons)	8,701	89	Kerosene	(gallons)	11,098	113
Refrigerants	(lbs)	180	129	Refrigerants	(lbs)	0	0
Fertilizer	(lbs)	82,200	34	Fertilizer	(lbs)	64,000	27
TOTAL			21,180	TOTAL			20,804



ONE CLIMATE FUTURE

**Charting a Course *for*
Portland and South Portland**

Strategy Development
April 10, 2020

Lunch n' Learn

Strategy Development Workshop Goal
How to Participate
One Climate Future Update
Focus Areas & Breakout Discussions

Who might also join us....



Manny



Snowflake



Henry



Herbie

We take partnering very seriously.

Julie Rosenbach
Sustainability Director
South Portland

Troy Moon
Sustainability Director
Portland



Ashley Krulik
Sustainability Associate
Portland

Lucy Perkins
Sustainability Coordinator
South Portland



A large crowd of young people, mostly teenagers and young adults, are gathered for a climate protest. They are standing in front of a large, multi-story stone building with arched windows and doorways. Some individuals are sitting on the ledge of one of the arches, holding a purple flag with a globe design. The crowd is holding various signs and banners. Visible signs include "WORLD-WIDE EMERGENCY", "Tolerance", "ACT NOW", "RESPECT YOUR", and "SCHOOL". The scene is outdoors, with bare trees visible in the background, suggesting a cool season. The overall atmosphere is one of a large-scale public demonstration.

Climate Goals

80% reduction in GHG emissions by 2050

100% clean energy by 2040

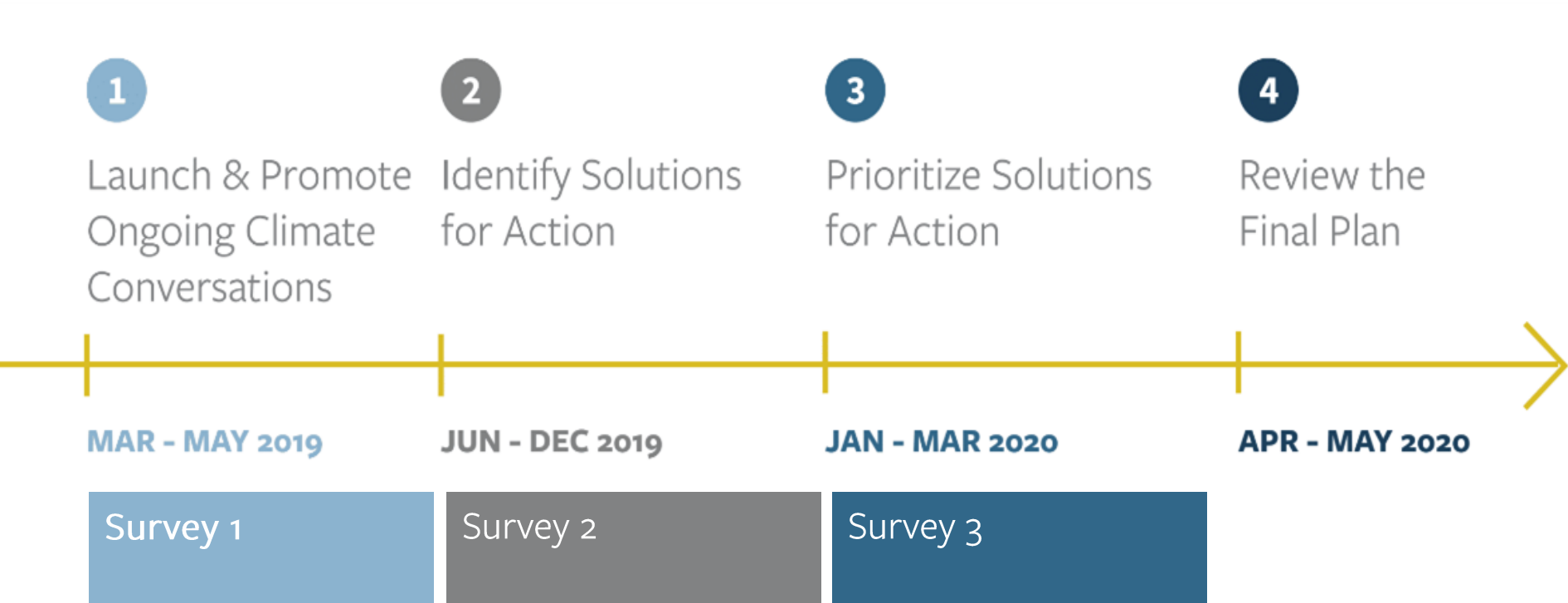
Vision

THE CITIES OF PORTLAND AND SOUTH PORTLAND ARE DEVELOPING A JOINT CLIMATE ACTION AND ADAPTATION PLAN.

Together, Portland and South Portland work to be inclusive, vibrant communities that provide opportunities for residents and businesses to thrive in a changing climate.



Progress



Our Contribution to Climate Change

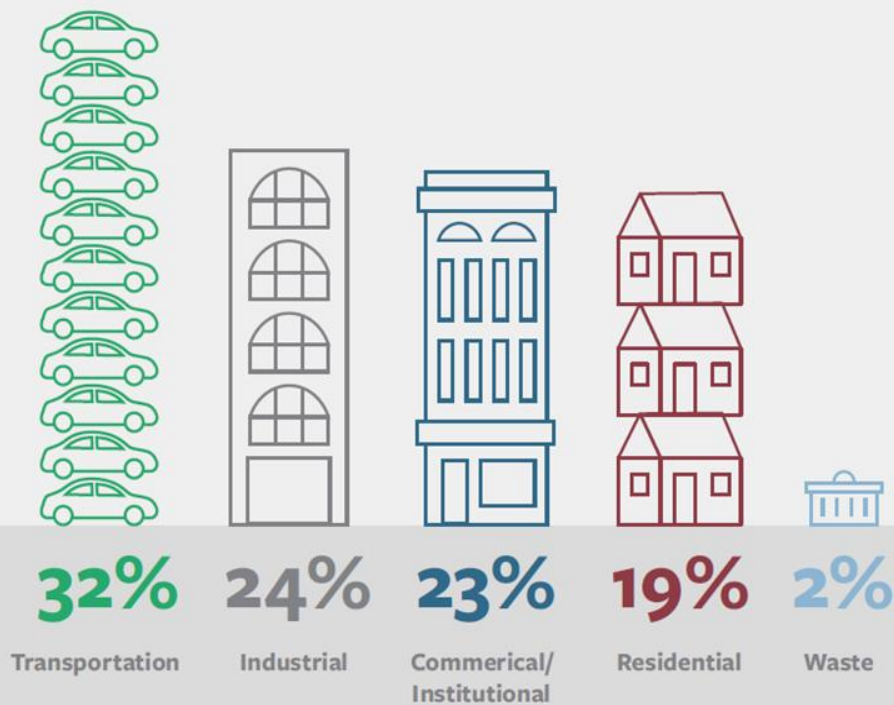
City of Portland's Greenhouse Gas Emissions

Total Emissions in 2017 = 837,940 tCO₂e/year



City of South Portland's Greenhouse Gas Emissions

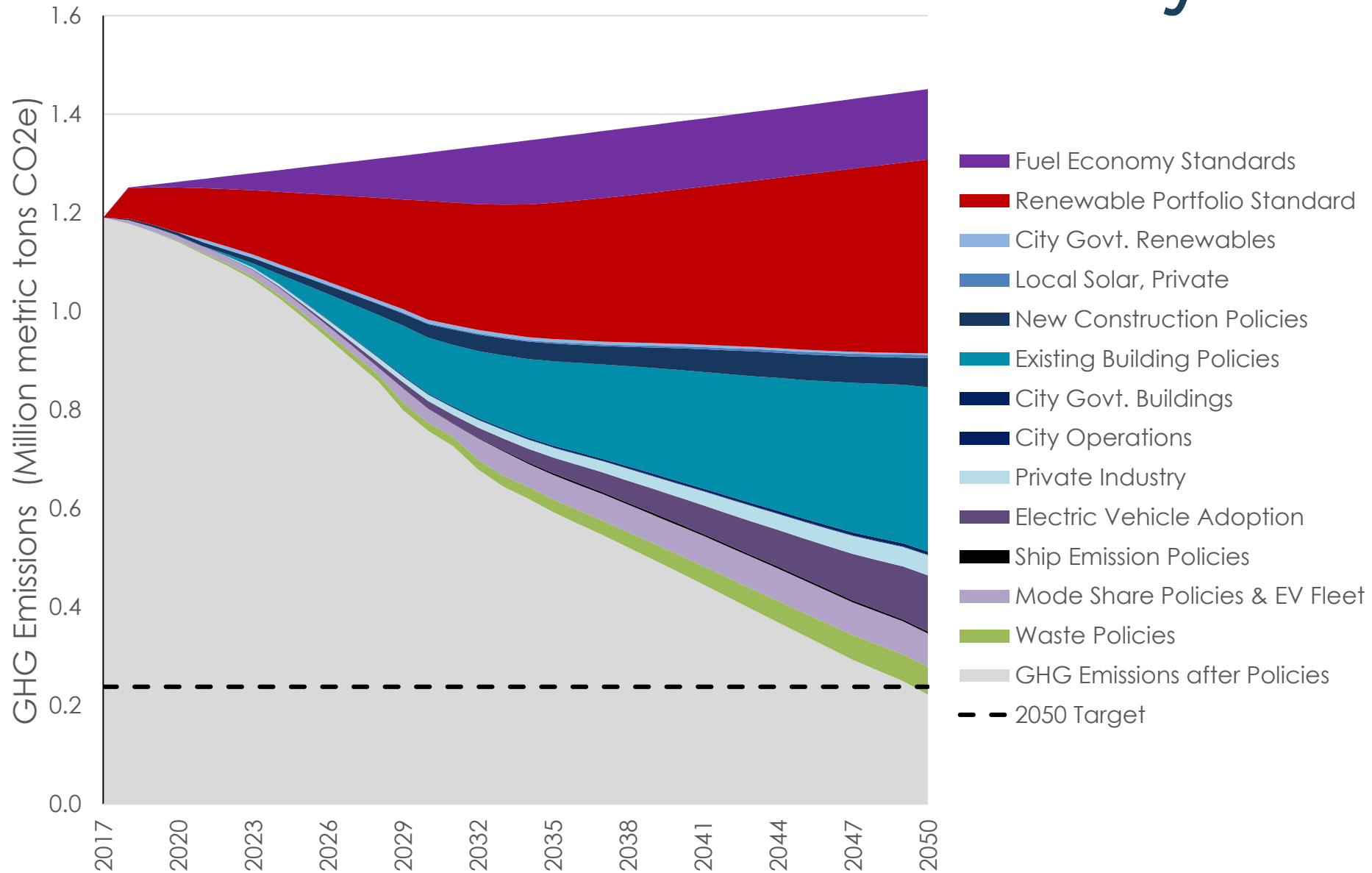
Total Emissions in 2017 = 352,364 tCO₂e/year



How do we reduce these impacts?



Emissions Reduction Pathway



Focus Areas & Breakout Discussion

Buildings & Energy Use
Transportation & Land Use
Waste Reduction
Climate Resilience

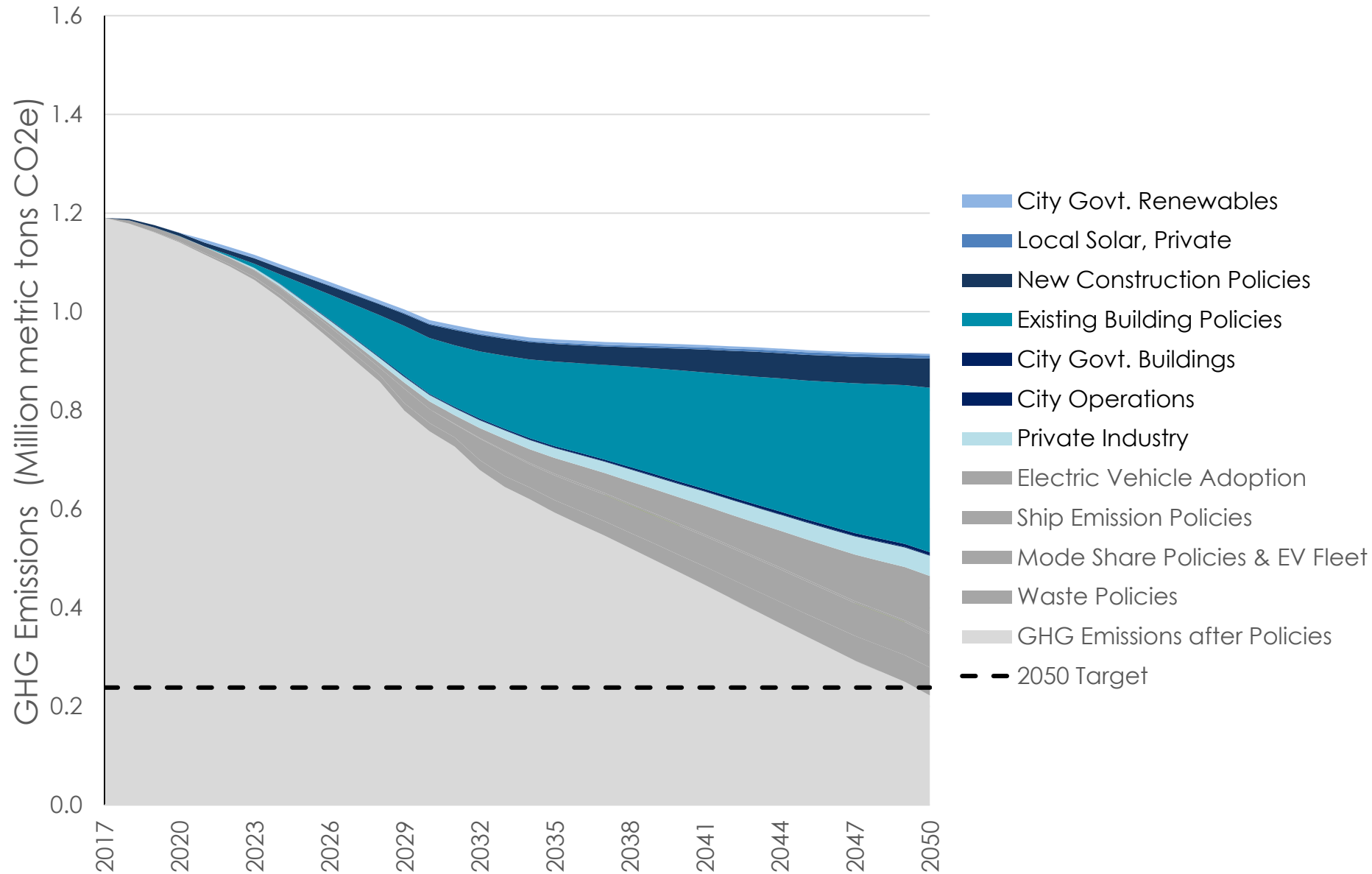


Buildings and Energy

Goal: Use energy efficiently, transition to renewable energy, and encourage high performing buildings.



Buildings and Energy



Buildings and Energy

Portland and South Portland may organize a community solar program that allows residents, both homeowners and renters, to buy solar power without installing solar panels on their own roof with no upfront cost. If offered...

- a) I would probably participate in such a program
- b) I would probably not participate in such a program



Buildings and Energy

To help meet our climate goals, Portland and South Portland should require commercial and residential property owners using fuel oil or natural gas to install electric heating and cooling systems when it is time to install a new system.

- a) Agree
- b) Disagree

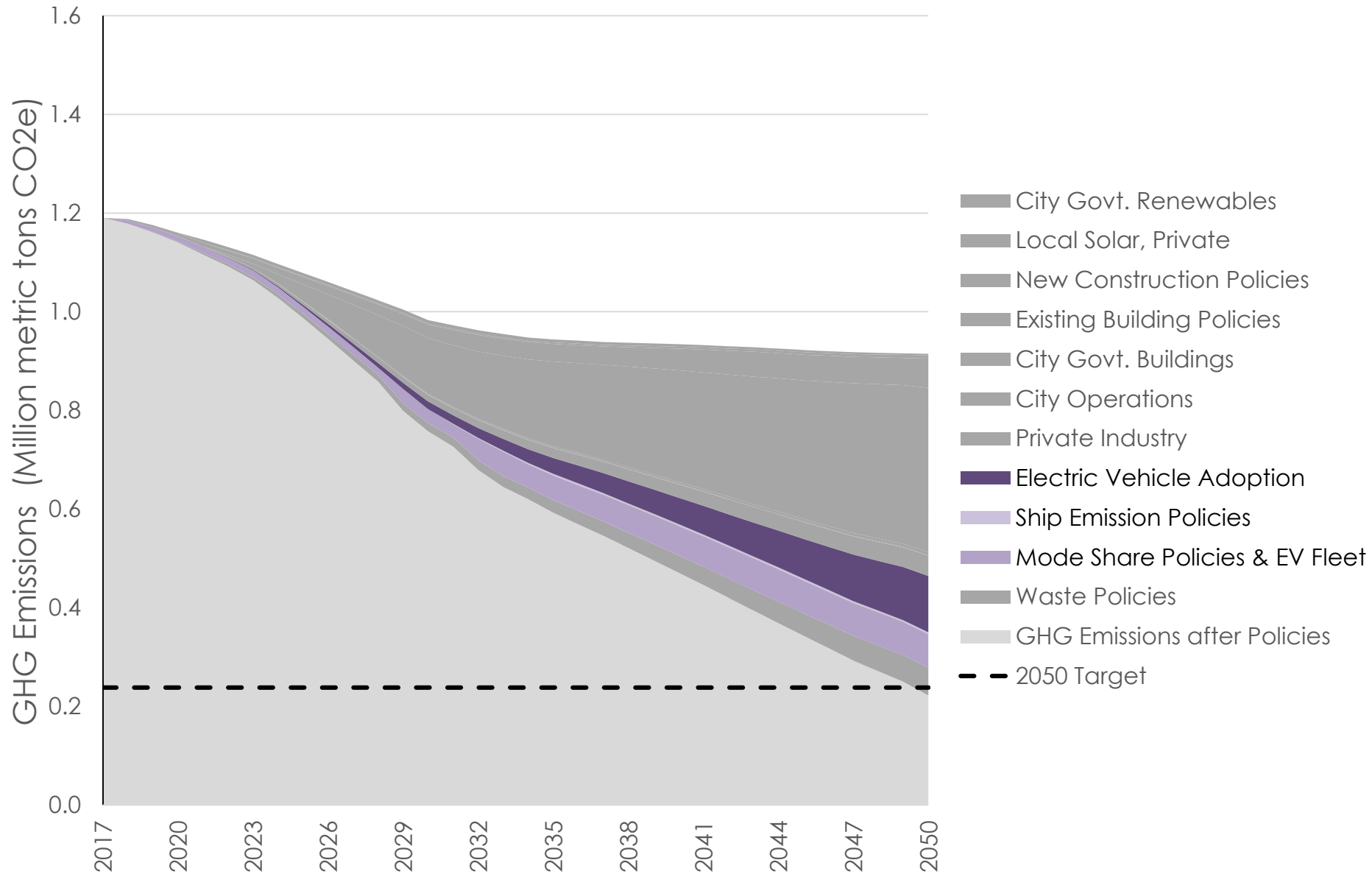


Transportation and Land Use

Goal: Design and connect our homes, businesses, and public spaces around an efficient transportation network.



Transportation and Land Use



Transportation and Land Use

Portland and South Portland should reduce traffic congestion in certain areas by charging more to park in popular areas or by creating car free zones.

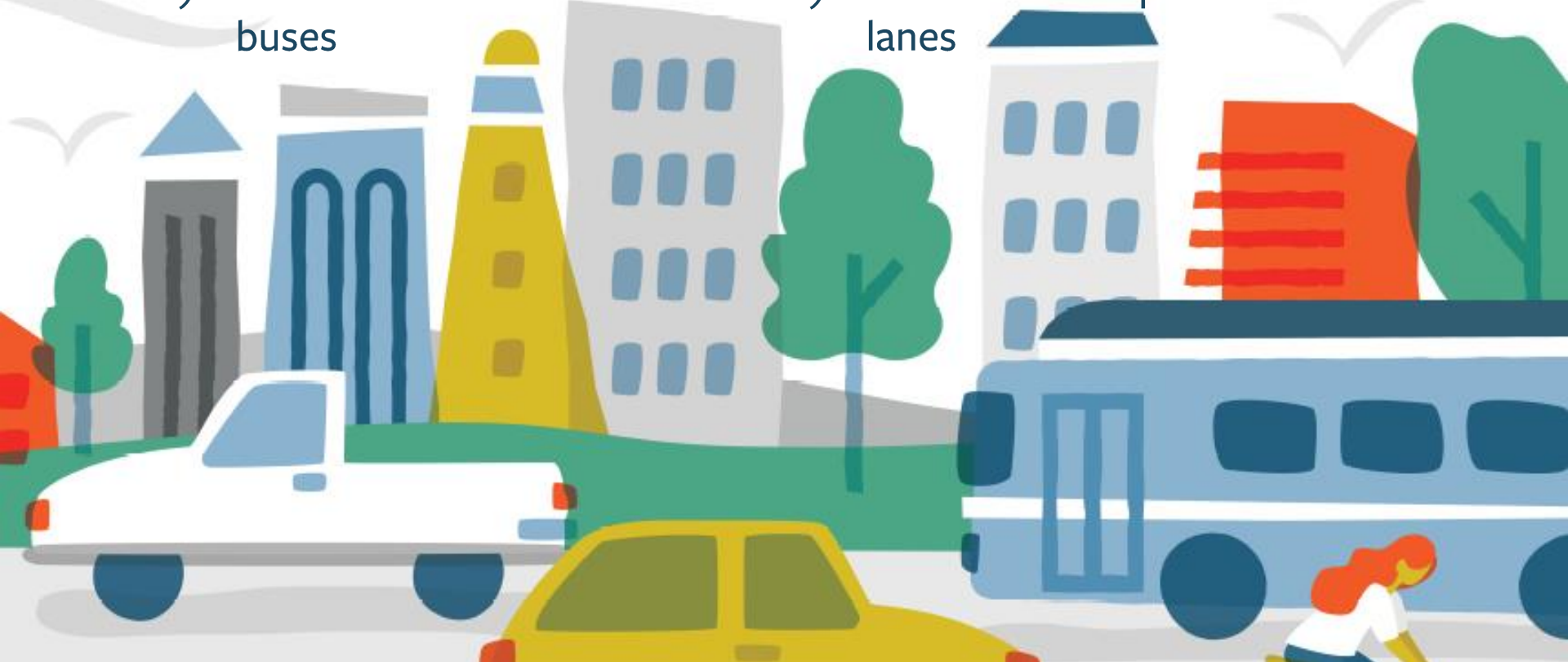
- a) Agree
- b) Disagree



Transportation and Land Use

Please rank how you feel Portland and South Portland should invest money to reduce dependency on private vehicle use:

- a) Reduce wait times and frequency of bus service
- b) Create dedicated lanes for buses
- c) Improve sidewalks and pedestrian crossings
- d) Create more separated bike lanes

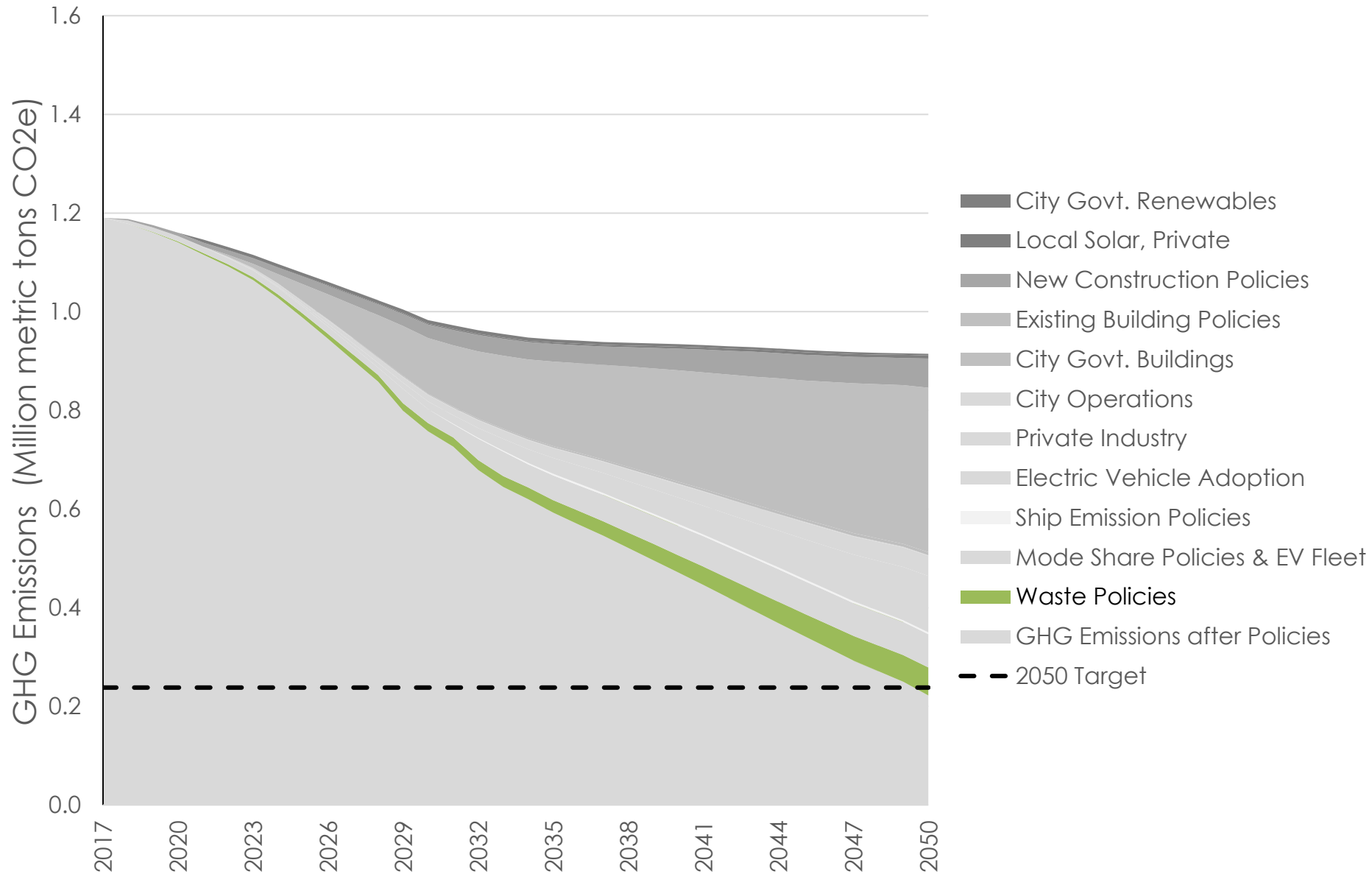


Waste Reduction

Goal: Minimize waste by changing how our community consumes and disposes of goods and materials.



Waste Reduction



Waste Reduction

Food waste makes up more than 30% of the waste generated in Portland and South Portland. To keep food scraps out of the waste stream, the cities should **require** residents and businesses to participate in a food waste composting program. Do you...

- a) Agree
- b) Disagree



Waste Reduction

Portland and South Portland should **require** restaurants and foodservice establishments to use compostable or recyclable takeout containers and service ware in place of single-use plastics.

- a) Agree
- b) Disagree

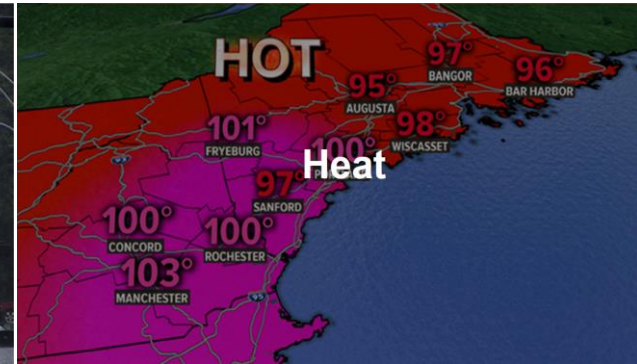


Climate Resilience

Goal: Ensure all our neighborhoods can withstand, respond to, and recover from natural disasters.



Climate Resilience



Climate Resilience

Portland and South Portland should prevent property damage in flood-risk areas by:

- a) Only allowing construction of specific types of commercial or industrial buildings that are flood tolerant
- b) Prohibiting all new construction in areas with high flood risk



Climate Resilience

Portland and South Portland should encourage construction of denser and more diverse housing on public transportation routes so more people have access to resources and jobs without a car.

- a) Agree
- b) Disagree





Fill in the blank: In order for One Climate Future to be successful it must _____.



Complete and share Survey #3 online:
<https://www.surveymonkey.com/r/OneClimateFuture>



CITY OF PORTLAND

Sustainability Office

Troy Moon

Sustainability Director

To: Councilor Thibodeau and Members of the Sustainability and Transportation Committee

DATE: April 10, 2020

SUBJECT: 2019 Annual Pesticide Ordinance Summary Report

Overview: The City of Portland Pesticide Use Ordinance requires the Pesticide Management Advisory Committee (PMAC) to submit an annual report to the Sustainability and Transportation Committee that provides data about pesticide use in the community and summarizes the activity of the PMAC during the previous year. This report provides this information for 2019.

Educational Outreach: 2019 was the first year the Pesticide Use Ordinance was in effect for public and private property. Therefore, it was a year of building awareness and compliance across both the resident and professional audiences. To achieve this, we developed educational materials and distributed them at events, via mailings, and through social media to target both groups. These materials and events included:

Educational Materials:

1. Web pages on City website outlining ordinance, alternative land care practices, and FAQs (<http://www.portlandmaine.gov/2168/Pesticide-Use-Ordinance>)
2. Pesticide Use Ordinance postcard announcement
3. Pesticide Use Ordinance Overview brochure
4. Alternative Lawn Care Practices brochure
5. Organic product/practice solutions matrix for most common plant, insect, and animal pests (developed in 2019, to be distributed to retailers spring 2020), distribution to date:
 - a. Maine Hardware
 - b. Eldredge Hardware
 - c. Paris Farmers Union
6. Mailing to Maine Landscape and Nursery Association (MELNA) members outlining ordinance and inviting them to a January 2019 roundtable event. The event was followed-up with multiple email communications to attendees with ordinance information.
7. Social media outreach

Educational Events:

1. Hosted professional applicators roundtable to discuss ordinance and problem solve around concerns/challenges
2. Presented a session at the MELNA training workshop in the spring of 2019.
3. Presented ordinance and alternative land care practices at the Maine Flower Show in partnership with the City of South Portland, Friends of Casco Bay, Cumberland County Soil and Water Conservation District, and a professional landscaper
4. Tabled at the Green Neighbor Family Fest in partnership with the Stormwater team
5. Tabled at Portland Greenfest
6. Coordinated YardScaping event at the East End Community Center
7. Co-hosted a presentation of the Northeast Organic Farming Association's (NOFA) Organic Landcare certification program.

Enforcement: The Sustainability Office received a small number of complaints from residents about possible illegal pesticide use by neighbors. In response, the Sustainability Office contacted property owners and applicators to learn more about the potential violation. We provided educational materials to residents who may have been outside of compliance and discussed ordinance requirements with applicators. Upon investigation we found that most applications reported by the public proved to be for exempt applications to treats for ants, mosquitoes, or ticks. In two cases we were unsure about the nature of a possible application but provided information to property owners with no further contact. To better track compliance, we implemented a *SeeClickFix* report that allows residents to submit compliance complaints. The link to the service was added to the Pesticide Ordinance webpage on the City website. We did not receive any complaints via the *See, Click, Fix* report in 2019.

Waivers: The PMAC Waiver Subcommittee received two synthetic pesticide use waiver requests in 2019.

- The Waynflete School requested a waiver to utilize a phased organic approach on athletic fields similar to the exemption given to City athletic fields. Waiver request was denied in a 2:0 vote due to lack of evidence of need for synthetic pesticides to combat a specific pest issue.
- The Cushing Island Conservation Corporation requested a waiver to apply glyphosate on invasive plant stumps within the conservation area. The request was denied by the PMAC Waiver Subcommittee in a 1:1 vote. The Cushing Island Conservation Corporation appealed the decision to the City Manager designee, Lena Geraghty. The designee approved the waiver for one year, finding that the organization's application, evaluation of alternate methods and materials, and evidence of need met the City's requirements for a waiver. The applicant may apply for a further waiver in 2020. The ordinance does not require a report from unlicensed applicators regarding the amount of pesticide they apply but the applicant indicated that they would use no more than 32 ounces of 20% concentrated product.

Applicator Report Data: The Pesticide Use Ordinance requires that licensed applicators submit an annual report outlining all pesticide treatments (both synthetic and organic) within the City of Portland. To notify applicators of this requirement, we utilized the MELNA and State of Maine Board of Pesticide Control lists and sent notice via email to all licensed applicators in Cumberland County. Information about the report and a Google Form to submit a report were also added to the Sustainability Office web pages within the City's website.

Twenty two reports were submitted (including the City of Portland's Parks, Recreation, and Facilities departments). Businesses that submitted reports include:

- | | |
|--|--|
| 1. Ant Man Pest Control | 13. Snapdragon Tick and Mosquito Control |
| 2. Sterling Insect - Lawn Control Inc | 14. Modern Pest Services |
| 3. The Grounds Crew | 15. Burnell Pest Service Inc |
| 4. Atlantic Insect & Lawn Control | 16. Lucas Tree Experts |
| 5. EZ Pest Solutions | 17. Octagon Cleaning and Restoration |
| 6. TruGreen | 18. Turf Doctor Lawn & Pest Services |
| 7. Bartlett Tree Experts | 19. Bullseye Pest Services LLC |
| 8. City of Portland - Parks and Recreation | 20. City of Portland - Riverside Golf Course |
| 9. MD Weaver Corporation | 21. Advantage Pest Control |
| 10. Protect Pest Services | 22. Ants Etc. Pest Control |
| 11. Seabreeze Property Management | |
| 12. David Macdonald Inc DBA Whitney Tree Service | |

Staff was pleased that these companies submitted reports detailing their pesticide applications during the calendar year 2019. *We do not know how many pest management and landscaping companies operate in Portland so we do not know how many firms are required to submit reports.*

Based on the reports, 96 distinct products were used in Portland in 2019 Applications occurred on:

- 350 acres of ground
 - 19 private
 - 331 public (primarily Riverside Golf Course, which is exempt from the ordinance and makes applications in accordance with its participation in the Audubon Cooperative Sanctuary Program.)
- 54 trees
 - 36 private
 - 18 public
- 176 buildings for insects or mold
- 76 rodent bait boxes

Pesticides Reported

- 26019 CHIPCO
- Acelepryn
- Advance C/A Bait
- Advion Ant Gel
- Advion Fire Ant Bait
- Advion Roach Gel
- AFFIRM
- Allectus 18-0-8 Lesco
- Apline Aerosol
- Aprehend
- Arbor Tree-Age
- Avdian Evolution
- Avenger
- Avert Dry Flowable
- Azatin O
- AZOXY 5000 DG Select
- Badge X2
- BANOL
- Bedlam Plus
- Bifen I/T
- Bifen I/T 7.9
- Bisect L
- Boractin
- CB 80
- CB 80 Aerosol
- CB 80 Extra
- Cimexa
- Clorothalonil 720
- Confirm 2F insecticide
- Contrac Blox
- Contrac Pellets
- Cueva
- Delta Dust D
- D-Fence Dust
- D-Fence SC
- DIMENSION 2EW
- Drione Dust
- Eco Via MT
- Eco Via EC
- EcoExempt D
- EcoPCO DX
- Ecovia WH
- Essentia G
- Essentria Dust
- Essentria IC3
- EZ block 18# Pail
- Fastrac Pellets
- Fendona CS
- Fiesta
- First Strike
- Grub Gone
- INSIGNIA
- Intice 10
- Lesco Cross Check Plus
- LEXICON
- Masterline B Maxx
- Masterline Bifen
- Max Force Ant Gel
- Maxforce Carpenter Ant Gel
- Mirimichi green pro weed control
- Mosquito Free
- MUSKATEER
- Niban Granule
- Nyguard
- Omni Supreme Spray
- Opti Guard Ant Gel
- Perma Guard - Zinsser Co. Rustoleum
- Propicozinde 14.3
- PROPLANT
- PT Ultracide
- QuindoRAC 75DF
- ROTATOR
- SECURE
- Shock Wave RTU - Fiberlock Tech.
- SPECTATOR
- SPEEDZONE
- Suspend Polyzone
- Suspend SC
- Talstar PL Granular
- Talstar Professional
- Taurus Fipronil
- Taurus SC
- TEBUCOZINOLE 3.6
- Tempo Dust
- Tempo SC Ultra
- Temprid FX
- Terad 3 AG
- Termidor SC
- Tick Killz
- Transport GHP
- Tree-Age
- Triact 70
- TRINITY
- T-STORM
- VELISTA
- XZEMPLAR

Summary of Target Sites, Pests, and Amounts of Pesticides Used

(We have included a table with all report data as an appendix)

Ownership	Target Site	Target Pest	SUM of Pounds	SUM of Undiluted Gallons	SUM of Total Area Treated
Private	Building (# of Buildings)	Insects	0.6	0.9	162.00
		Unspecified	941.4	2.6	293.00
	Building (# of Buildings) Total	Insects; Unspecified	942.1	3.5	455.00
	Building (Square Feet) Total	Mold	0.0	118.8	31014.00
	Ground Total	Unspecified	583.5	63.9	20.43
	Rodent Bait Boxes Total	Rodents	15.6	0.0	76.00
	Tree Total	Unspecified	4.1	3.2	36.15
	Wasp Nest Total	Wasp	0.4	0.1	2.00
Public	Golf Course Total	Unspecified	54.6	73.8	318.07
	Ground Total	Unspecified	2778.0	10.0	13.00
	Tree Total	Unspecified	0.0	0.2	18.00
Grand Total			4378.3	273.4	31952.65

City of Portland Treatment Summary:

Riverside Municipal Golf Course

- The total quantities of synthetic pesticides used during 2019 were:
 - 74.37 gallons of liquid formulations (54% reduction compared to 2015)
 - 54.63 pounds of dry formulations (44% reduction compared to 2015)
 - These numbers include all herbicides, insecticides, fungicides, and growth regulators
 - No organic pesticides were applied.
 - The cost of all pesticide applications was about \$28,000 (\$20,000 for putting greens, \$8,000 other turf surfaces).
- Certified organic fertilizers composed of hydrolyzed feather, bone, meat, and blood meals were used on all playing surfaces.

- 1,704 bags at a cost of \$56,232 were applied.
- 41 bags of synthetic granular fertilizers at a cost of \$1,800 were applied to the putting greens.
- Total lime applied was 936 bags at a cost of \$8,280.
- It is expected to be certified as an Audubon Cooperative Sanctuary (ACSP) for golf courses this year.
- The nesting box trail continues to be very successful, 30 more boxes were built and installed around the course for a total of 79 nesting boxes.
- About 40 pounds of honey was harvested this year.

City of Portland Athletic Fields:

- Applied organic practices: Slit seeding
 - Aerification
 - Clipping reincorporation
 - Soil testing
 - Irrigation
 - Soil amendments
 - Overseeding/dormant seeding
- Synthetic pesticides applied:
 - Allectus - 2,000 undiluted pounds across 12 acres
 - Mirimichi Green Pro Weed Control - 10 gallons undiluted formula across 1 acre
- Predicted issues to transitioning to fully organic practices:
 - Cost to implement practices successfully:
 - Insufficient irrigation
 - Equipment
 - Staffing
 - Organic treatments more expensive than synthetic
 - Infrastructure
 - Soil modification and amendments
 - Playability standards
 - Public perception

Discussion:

The Sustainability Office and members of the Pesticide Management Advisory Committee were successful in their efforts to educate professional pesticide applicators, landscapers, and retailers about the requirements of Portland's pesticide ordinance. This occurred through workshops and training sessions with licensed applicators and in person contact with the managers of hardware stores and garden centers. Members of the PMAC created a very comprehensive guide to solving pest problems organically that several local retailers have agreed to make available to customers. PMAC members plan to provide this resource to other retailers when stores and garden centers reopen. We would note that a hardware store opened a Portland store recently and has chosen not to carry any synthetic pesticides in their store.

Other stores have reduced inventory of synthetic pesticides and/or noted products that comply with the ordinance. We also note that several applicators placed lawn signs on properties they maintain noting “non-pesticide application” after providing services.

The reporting provisions of the Pesticide ordinance provide Portland residents with data about the types of pesticides being applied in the City and the quantities applied. It will take time to fully analyze the information reported by the twenty two applicators who submitted reports. We would like to thank Eli Rubin, an intern for the Director of Innovation and Performance Management, for organizing the information in the submitted reports and presenting it in a useful way. This took a significant amount of work because reports arrived in a variety of formats from computer generated spreadsheets to handwritten notes. Staff and PMAC members will more fully analyse the information as time allows to understand the types of products applied. The vast majority of reported applications are for buildings and exempt pests including ants. Staff would note that we do not know how many applicators and landscapers work in Portland so we do not know how many applicator reports we should have received.

In order to track and monitor resident reports about possible non-compliance, staff created a See Click Fix category for pesticide applications. No residents used this tool to report applications. Prior to creating this reporting vehicle staff received a small number of reports about possible violations. When staff called the phone numbers listed on lawn signs reported by residents we found the applicators very responsive. In every case in which we contacted an applicator we found the application to be for an exempt purpose. Staff mailed information about the ordinance to two or three properties based on a resident complaint but did not follow up further.

During the upcoming year staff will collaborate with our colleagues in neighboring communities to better understand the data being collected by our respective offices. We will also approach the Maine Board of Pesticide Control about creating a reporting platform for applicators that will be more useful to municipalities, residents, and licensed applicators.

The City of Portland Parks, Recreation, and Facilities department continues to work toward making all of Portland’s open spaces pesticide free. They note that this approach incurs additional expense for materials and labor costs due to the hands-on nature of fully organic land care. They note that there is not currently an effective product available to treat grubs, which pose a potentially costly hazard to high use athletic fields. The staff at Riverside Golf Course anticipate achieving status as an Audubon Cooperative Sanctuary this year. They have increased their efforts to be environmental stewards by increasing the number of bee hives they manage and by creating refuges for wild birds on and near the golf course. We look forward to discussing this report and answering any questions you may have.

Respectfully submitted,

Troy Moon
Sustainability Director

Ashley Krulik
Sustainability Associate

Riverside Municipal Golf Course
Organic Fertilizer Transition, Reduced Pesticide Quantities and
Environmental Efforts Progress Report
January 6, 2020

The golf season of 2019 marked the fourth year of the transition to certified organic fertilizers and reduced pesticide quantities. The greens, tees, fairways and roughs were treated with certified organic fertilizers. The puttings greens had some additional synthetic applications of fertilizer in the spring and fall. The South Course was the designated 9 holes allowed for pesticide treatments. The roughs and fairways were treated for insects, weeds, and crabgrass. The North Course was left untreated with the exception of the fairways. In mid summer and fall an aggressive fungus attack on the fairways required two fungicide treatments. Due to the high volume of golfers and their resultant high expectations for good turf conditions, it will be necessary to break with current protocols and treat the fairways as needed in the future. The South Course and Practice Course both experienced high damage levels from the infecting fungus but a pesticide application was deemed not necessary due to the lower expectations at those courses.

All putting greens remain to be treated with synthetic pesticides. The established three year rotation of synthetic pesticide applications on all other playing surfaces has not resulted in damage above acceptable thresholds. During the first 3 years of this transition FB Environmental was retained to monitor pest damage that was expected to occur due to the reduced pesticide applications. This past year no noticeable damage was evident to document. It was not deemed necessary to document the fungus infection on the North Course fairways. Budgeting \$1,000 per year for FB Environmental will continue in case the need to document arises in future years.

The average use of pesticides prior to the resolution to reduce pesticide quantities was 163 gallons of liquid formulations and 97 pounds of dry formulations (years 2012 - 2015). The total quantities of synthetic pesticides used during 2019 were: 74.37 gallons of liquid formulations (54% reduction) and 54.63 pounds of dry formulations (44% reduction). These numbers include all herbicides, insecticides, fungicides, and growth regulators. No organic pesticides were applied. The cost of all pesticide applications was about \$28,000 (\$20,000 for putting greens, \$8,000 other turf surfaces). If the North Course Fairways were not treated, the pesticide quantities would have been lower than 2018.

It is expected to be certified as an Audubon Cooperative Sanctuary (ACSP) for golf courses this year. The program has 6 environmental components that need to be achieved and a site visit from ACSP staff. Riverside has been certified in 5 categories. The final written category has been submitted and awaiting certification. This summer a site visit from ACSP will complete our certification process.

Certified organic fertilizers composed of hydrolyzed feather, bone, meat, and blood meals were used on all playing surfaces. A quantity of 1,704 bags at a cost of \$56,232 was applied. Due to the winter stress present in April on the putting greens, 41 bags of synthetic granular fertilizers at a cost of \$1,800 were applied to the putting greens.

Soil tests were conducted in the fall on all playing surfaces (100 individual tests) to determine soil chemistry. The soil chemistry has improved due to the last 4 years of lime applications. It appears 1 to 2 more years of liming will correct the soil chemistry to desirable levels. Total lime applied was 936 bags at a cost of \$8,280.

The nesting box trail continues to be very successful, 30 more boxes were built and installed around the course for a total of 79 nesting boxes. All but a few boxes showed evidence of occupation by native cavity nesters. The nesting box trail will continue to be monitored for occupation and successful fledglings.

The honey bee hives have been a challenge. About 40 pounds of honey was harvested this year. High varroa mite populations killed 2 hives last winter. The other 2 hives had queen issues. The bees were replaced with purchased packages in 2 hives and then were split later in the year. The course currently has 4 hives.



9 Plant native species and attract pollinators

Why: Native plants are best suited to the local growing season, climate, and soils. They have natural defenses to insects and disease, and will grow with minimal needs for nutrients and pest control.

Tip: Milkweed, bunchberry, and cinnamon ferns are examples of native plants with great benefits.



7 Embrace clover

Why: The addition of 10% mini or Dutch white clover can help reduce or eliminate the need for fertilizing. Clover is drought tolerant and, once established, grows despite lack of water. White clover is a rapid spreader that crowds out broadleaf weeds while growing harmoniously with grass. It will thrive in areas that are poorly drained or too shady for a conventional lawn. Plus, the flowers not only create a beautiful visual effect, but also bring in bees, butterflies, and beneficial insects that prey on garden pests.

10 Consider permaculture

Why: Permaculture is a creative design process based on whole-systems thinking. The term is generally used to describe sustainable agriculture designs for urban and suburban yards based on natural ecosystems. These are often home gardens that are closed-loop, linking household compost, rainwater collection, vegetable gardening, and backyard chickens to create a system as self-sufficient as possible.

8 Rethink weeds

Why: Many plants that are considered weeds in lawns have beneficial qualities. Clover adds much-needed nitrogen to soil. Crabgrass helps with erosion control. You can eat plantain. Dandelions are medicinal, an important bee food source, help aerate soil and reduce soil erosion, and their deep roots draw up nutrients that help other plants.

Questions?

If you have any questions or concerns about this ordinance, please contact the City of Portland's Sustainability Office at SustainabilityOffice@portlandmaine.gov or visit Portlandmaine.gov/pesticides.

Top 10 Practices to Manage Your Lawn and Landscape Organically

Managing your property organically can make a big difference and give you a healthy, pesticide-free lawn with fewer pests and weeds. Once established, an organic lawn will require fewer resources, such as water and fertilizers and your lawn and landscapes become safer places for children and pets, and make for healthier waterways.

What you need to know about the Portland Pesticide Use Ordinance

As of January 1, 2019, the City of Portland's Pesticide Use Ordinance prohibits the use of synthetic pesticides on all public and private property. The city enacted it to protect the health of our waterways, residents, pets, and natural ecosystems.



City of Portland
SUSTAINABILITY OFFICE
portlandmaine.gov/pesticides



1 Start with a soil test

Why: A soil test will identify the relative acidity of your soil and give you more information on the nutrients the soil does and doesn't have. It will help determine what practices are needed to create healthy soil and plants.

What Is tested: Soil pH, levels of nutrients, amount of organic matter, if there is lead contamination, fertilizer, and lime needs.

When: Best time to test soil is mid to late spring or early fall before any fertilizer or lime is added to lawn.

How: One can get a free soil test kit from the UMaine Extension Office in Falmouth (5 Clearwater Dr. #104), or one can order a kit online - umaine.edu/soiltestinglab/home/kit-request. Test kits are free and the test costs just \$15.

2 Mow smart

Tip 1: Set your mower blade to the highest setting. Grass height should be at least 3" throughout the growing season.

Tip 2: Keep your mower blades sharp. A sharp blade provides a clean cut, which helps the grass to heal faster and promotes photosynthesis.

Tip 3: Don't bag your lawn clippings. Leaving the clippings on the lawn returns organic matter and nutrients to the soil, can cut fertilizer needs, and shade out weeds to foster deep, drought-resistant roots.

3 Water the right amount, at the right time

How much: In Maine, well-established organic lawns are drought-tolerant and only require 1"-1.5" of water a week, including rainfall.

When: If watering is needed during a summer drought, be sure to water deeply and only in the morning hours.

Tip: Avoid frequent, shallow watering. This can lead to shallow root growth, which allows for weeds to colonize. It also creates a humid environment, which encourages harmful soil fungi and pathogens.

4 Choose fertilizers with care

Why: Chemical fertilizers can harm the microorganisms in soil and undermine healthy turf. Compost will feed the soil, build organic matter, and encourage microbial diversity. Use only the amount indicated as necessary by soil testing, as even natural fertilizers in excess can cause problems for local streams and water bodies.

Tip 1: Compost can be applied yearly to add organic matter and jump-start soil biology. Sandy soils require more compost than clay soils.

Tip 2: Grass clippings and a thin layer of mulched leaves are rich in nitrogen and potassium, and can build organic matter in the soil.

5 Core Aeration

Why: Compacted soil encourages weeds and aeration will help air, water, and nutrients to enter. If you cannot stick a screwdriver easily into your soil, it is too compacted.

When: Prior to reseeding in late summer or early fall. (Fall is the best time to do it when the soil is moist).

How: Rent a core aerator from a local hardware or garden store or hire a lawn care company to do it for you.

Tip: Lawns that are properly aerated should have 20 to 40 holes per sq ft.

6 Overseed with the right variety of grass

What: Adding grass seed to your lawn, known as "overseeding," is actually a more effective way to manage weeds than using herbicides.

When: Seeding should be done primarily in late summer and early fall (following aeration when necessary) with a top dressing of ¼ inch of compost. If you have bare spots or areas where the grass is sparse, they should be reseeded or overseeded with a mixture of grass cultivars.

Tip: Maine's yardscaping program provides a helpful list of some grass seed sources. www.yardscaping.org

A Guide to Organic Pest Management Practices

Choose a pest and learn about the best management practices and avoid the use of illegal, synthetic pesticides.

Distributed by the City of Portland Sustainability Office - Pesticide Management Advisory Council

Learn more about the City of Portland Pesticide Use Ordinance: portlandmaine.gov/pesticides



PEST TYPE	PEST	BIOLOGICAL CONTROLS	NON-CHEMICAL AND MECHANICAL CONTROLS	LEAST TOXIC CHEMICAL OPTION AS LAST RESORT
Animal	Deer	None	1) Repair holes, 2) Create a barrier, 3) Fencing, 4) Mesh screens.	Caution: Most deer chemical repellants should not be allowed on food crops. 1) Deer repellents based on ammonium salts of fatty acids 2) Capsaicin- based animal repellent, 3) Dried blood or animal renderings used as a repellent. Caution: these materials must come only from American cattle to avoid risk of infectious disease.
Animal	Gophers	Predators such as owls, snakes, cats, dogs, coyotes eat pocket gophers.	1) Create a barrier, 2) Remove burrow and habitat. 3) Trapping.	None
Animal	Squirrels-Tree	None	1) Repair holes, 2) Create a barrier, 3) Fencing, 4) Mesh screens like hardware cloth, 5) Remove trash from property, 6) Remove clutter, 7) Remove debris and habitat.	1) Capsaicin- based animal repellent , 2) Cayenne pepper.
Animal	Rats	None	1) Use metal trash cans, never plastic, 2) Remove food source (such as pet food), 3) Remove debris/trash, 4) Repair holes/seal cracks, 5) Trapping.	Vitamin D3-based rodenticides
Insect	Ants	None	1) Seal cracks and crevices, 2) Repair holes, 3) Create barriers, 4) Sticky traps, 5) Remove trash from property, 6) Remove clutter, 7) Vacuum, 8) Boiling water, 9) Remove debris and habitat.	1) Botanical sprays such as cinnamon oil, mint oil, cedar oil, orange oil. Garlic spray can be used as a repellent. 2) Desiccating dust such as diatomaceous earth, 3) Corn meal.
Insect	Aphids	Lady beetles	1) Create a barrier, 2) Sticky traps, 3) Unusually a strong spray of water, 4) Handpick to root and destroy, for example, enclosing in a trashbag..	1) Usually a strong spray of water or soapy water can be a solution. Soapy water spray consist of: 1 heavy tablespoon of bio-degradeable dish soap to 1 quart (1 liter) of water, 2) Insecticidal soaps such as horticultural oils such as neem oil can be toxic to good insects. Note: Homemade insecticidal soap is 1 heavy tablespoon of bio-degradable dish soap to 1 quart (1 liter) of water.
Insect	Bagworms	1) Bacillus Thuringiensis, least toxic bacterium, 2) Nematodes (Steinernema carpocapse).	1) Remove debris and habitat, 2) Handpick to root and destroy, for example, enclosing in a trashbag..	1) Neem oil and insecticidal soaps are effective against young bagworm larvae however, can have adverse affects on other beneficial insects. Note: Homemade insecticidal soap is 1 heavy tablespoon of bio-degradable dish soap to 1 quart (1 liter) of water.
Insect	Browntail Moth	None	1) Clipping the overwintering webs and destroying these webs by either soaking in soapy water or burning them. This control should be undertaken in the winter and very early spring - September to mid-April. 2) Cocoons or caterpillars crawling on buildings can be removed with water from a high pressure hose.	Webs and larvae are generally high up in trees and are difficult for a home owner to effectively control. Seek professional help from an arborist who is a licensed organice pesticide applicator if considering pesticide control. Pesticides should be applied when caterpillars are small and feeding; usually before the end of May. Timing of pesticide treatment is critical, treatment before the end of May will prevent the development of the toxic hairs, treatment after the end of May will result in dead caterpillars and toxic hairs. Undertake control measures as early as possible to reduce the exposure to the irritating caterpillar hairs. Contact a licensed pesticide applicator well before May to plan a control strategy. Note: A licensed pesticide applicator is required for applications of non-biological insecticides to control browntail moth within the 250 feet of the high tide mark.
Insect	Chiggers	None	1) Remove water source: check drains, faucets, and pipes, 2) Remove trash from property, 3) Remove clutter, 4) Remove debris and habitat, 5) After being exposed, shower with warm soapy water. 6) Wash clothing in 125F or hotter.	Direct, chemical control of chiggers is not practical.
Insect	Chinch Bugs	Bigeyed bugs (Geocoris, sp.)	1) Aerate soil, 2) Proper watering, 3) Dethatching, 4) Proper fertilizing of lawn, 5) Add agricultural limestone when soil PH is below 6.5, 6) Spray soapy water.	1) Insecticidal soap, Note: Homemade insecticidal soap is 1 heavy tablespoon of bio-degradable dish soap to 1 quart (1 liter) of water., 2) Diatomaceous earth. (Be sure to purchase food grade).
Insect	Cutworms	1) Nematodes, 2) Bacillus thuringiensis, var. kurstaki, 3)Tachinid fly, 4) Wild birds	1) Protect seedlings with collar, 2) Handpick	Diatomaceous earth
Insect	Emerald Ash Borer	Encourage biodiversity such as woodpeckers.	1) Remove debris and habitat, 2) Handpick to root and destroy, for example, enclosing in a trashbag.	Azadirachtin- derived from neem oil but can still harm bees.
Insect	Fire Ants	None	1) Flame treatment, 2) Boiling water, 3) Aerate soil, 4) Remove debris and habitat.	Boric acid bating system
Insect	Fleas	Nematods	1) Seal Cracks and crevices, 2) Repair Holes, 3) Remove water source: Check drains, faucets, and pipes, 4) Remove standing water, 5) Vacuum, 6) Steam treatment, 7) Sanitation- use soap and water to clean surfaces, 8) Restrict pets to as single bed, 9) Groom pet daily with flea comb, 10) Give pet Vitamin B1.	1) Diatomaceous earth, 2) Boric acid, 3) D-limonene and linalool (citrus acids).
Insect	Grubs, including European Chafer, Japanese Beetle, June Beetle, etc.	1) Nematods, 2) Bacillus thuringiensis, var. galleriae during both beetle and grub stages	1) Mow lawn above 3 inches, 2) Aerate soil, 3) Proper watering, 4) Dethatching, 5) Setting mechanical traps.	None
Insect	Gypsy Moths	1) Natural predators such as: birds, spiders, beetles, flies, and wasps, 2) Bacillus thuringiensis, var. kurstaki	1) Sticky traps, 2) Handpick and destroy, for example, enclosing in a trash bag.	1) Spray egg masses with dormant oils or vegetable based Horticultural oils, or homemade which is vegetable oil, liquid soap and water.
Insect	Hemlock Woolly Adelgid	Proper timing is key to control HWA. 1) Pseudocymnus Tsugue (black lady beetle) 2) Laricobius Nigirinus (beetle), 3) Fungi (V. lecanii)	1) Proper watering, 2) Remove debris and habitat.	Horticultural oils and insecticidal soaps. Note: Homemade insecticidal soap is 1 heavy tablespoon of bio-degradable dish soap to 1 quart (1 liter) of water
Insect	Mosquitoes	1) Natural predators are: bats, birds, dragonflies, beetles, frogs, snails, 2) Stock ornamental ponds with mosquito biting fish such as minnows or bluegills, 3) Bacillus thuringiensis, var israelensis.	1) Seal cracks and crevices, 2) Repair Holes, 3) Create a barrier, 4) Mesh screens, 5) Remove water source: check drains, faucets, and pipes, 6) Remove standing water, 7) Use least toxic repellants such as lemon eucalyptus, rosemary oil, or other essential oils, 8) Sit near a fan when outdoors, 9) Screen yourself in, 10) Burn citronella candle, 11) Mosquito trap.	1) Before hatching, use a least toxic organic larvacides like bacillus thuringiensis israelensis, 2) Horticultural oils (vegetable based) but can kill some mosquito predators that breath from surface.
Insect	Snails/Slugs	1) Natural predators such as Ground beetles, snakes, toads, turtles, birds, 2) Domesticated fowl such as ducks, geese, chickens.	1) Create a barrier, 2) Remove debris and habitat, 3) Handpick and destroy.	1) Table salt, 2) Caffeine concentrations of 1-2%, 3) 1 part household ammonia with 10 parts water sprayed on plant to prevent slug damage, 4) Beer.
Insect	Sod Webworms	1) Nematodes, 2) Bacillus thuringiensis, var. kurstaki.	1) Mow lawn above 3 inches, 2) Aerate soil, 3) Proper watering, 4) Dethatching, 5) Limit fertilizer.	Insecticidal soap, Note: Homemade insecticidal soap is 1 heavy tablespoon of bio-degradable dish soap to 1 quart (1 liter) of water
Insect	Thrips	Predatory thrips, green lacewings, minute pirate bugs, mites, certain parasitic wasps.	1) Stick traps, 2) Mesh screens, 3) Sanitation - use soap and water to clean surfaces, 4) Remove debris such as pruning and row covers and habitat.	Does not warrant the use of insecticides because by the time it is noticed, the thrips are gone.
Insect	Ticks	Natural predators are opossums and domestic fowl.	1) Place trash in sealed container, 2) Remove clutter, 3) Do not let pet go in tick infested area, 4) Discourage mice, 5) Remove piles of leaves, 6) Clean around bushes and trees, 7) Store wood piles away from house, 8) Keep metal trash containers with lids, 9) Wear light colored clothing, 10) Tuck your pants into your sock, 11) Wear a hat, 12) Use an herbal repellent, 13) Create 3-foot wide barrier or wood chips or crushed stone between wooded areas and house.	Various combinations of: citronella, lemongrass, rosemary, peppermint, and cedarwood essential oils.
Insect	Tree Boring Caterpillars	Nematodes	Remove debris and habitat.	If the opening of the tree is unobstructed, blow boric acid, diatomaceous earth, or silica aerogal into it.
Insect	Wasps & Yellowjackets	Skunks, raccoons, and badgers prey upon the nest for honey.	1) Seal cracks and crevices, 2) Repair holes, 3) Create a barrier, 4) Mesh screens such as hardware cloth, 5) Remove trash from property, 6) Vacuum.	1) If in ground, first try pouring soapy water solution into entrance. 2) For aerial nests, use an enzyme solution to help loosen nest. Peppermint oil or dishwasher soap spray solution works also. Note: Homemade insecticidal soap is 1 heavy tablespoon of bio-degradable dish soap to 1 quart (1 liter) of water.
Insect	Whiteflies	1) General predators include lacewings, bigeyed bugs, and minute pirate bugs. Several small lady beetles including Clitostethus arcuatus (on ash whitefly) and scale predators, such as Scymnus or Chilocorus species, and the Asian multicolored lady beetle, Harmonia axyridis, feed on whiteflies.	Remove debris and habitat.	1) Whiteflies can be difficult to control with insecticides. Most less-toxic products such as insecticidal soaps or neem oil control only those whiteflies that are directly sprayed. Therefore, plants must be thoroughly covered with the spray solution, and repeat applications may be necessary. Be sure to cover undersides of all infested leaves; 2) Avoid using other pesticides (other than soaps and oils) to control whiteflies; not only do most of them kill natural enemies, whiteflies quickly build up resistance to them, and most are not very effective in garden situations.
Plant	Apple and Pear Scabs	None	1) Proper watering, 2) Remove debris and habitat.	1) Several fungicides are available: Fixed copper, Bordeaux mixture, copper soaps, sulfur, mineral or neem oil. Note: These fungicides are harmful to beneficial insects and bees.

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PEST TYPE	PEST	BIOLOGICAL CONTROLS	NON-CHEMICAL AND MECHANICAL CONTROLS	LEAST TOXIC CHEMICAL OPTION AS LAST RESORT
Plant	Annual Bluegrass	Goats	1) Create a barrier, 2) Flame treatment, 3) Boiling water, 4) Mow law above 3 inches, 5) Aerate soils, 6) Proper watering not excessive, 7) Dethatching, 8) Handpick to root and destroy, for example, enclosing in a trashbag.	1) Horticultural vinegar (Caustic > 11%, Read directions) or try canning white vinegar which is not as harsh, 2) Herbicidal soap. Note: Homemade herbicidal soap consists of: 1/2 gallon of vinegar, 1/2 cup of salt, 2 tablespoon of bio-degradable dish soap.
Plant	Barberry	Goats	Cut to root and destroy, for example, enclosing in a trashbag.	1) Horticultural vinegar (Caustic > 11%, Read directions) or try canning white vinegar which is not as harsh, 2) Herbicidal soap. Note: Homemade herbicidal soap consists of: 1/2 gallon of vinegar, 1/2 cup of salt, 2 tablespoon of bio-degradable dish soap.
Plant	Bittersweet-Asiatic	1) Plants can be eaten by goats, 2) Fruit and seeds eaten by rabbits, squirrels, and birds.	Cut don't pull out of trees before seed is set; then cut frequently through season for multiple seasons; dispose of cut vines carefully, they re-sprout; replant densely with native plants and continue to maintain and monitor replanted area.	For established stand of bittersweet, painting fresh-cut stems of bittersweet at the correct time with an appropriate organic approved herbicide such as Horticultural vinegar (Caustic > 11%, Read directions) at the correct dosage.
Plant	Black Swallow-Wort	None. Poisonous to goats.	1) Mow it to the ground after it has begun to develop seed to stop seed dispersal, 2) Handpick to root and destroy, for example, enclosing in a trash bag, 3) Replant densely with native plants and continue to maintain and monitor replanted area.	A chemical-resistant gauntlet glove is worn and a short absorbent (cotton) glove is worn over the gauntlet glove, then dipped in a non-synthetic herbicide and wiped on the leaves. This must be repeated several times in a season to be effective because it does not kill roots. The plant "starves" due to repeated leaf loss. In a meadow or dense vegetative cover, the treated plants can then be covered with adjacent vegetation to omit sunlight, aiding in control. In such conditions plants can be repeatedly cut at ground level and covered.
Plant	Burning Bush	None. Poisonous to goats.	1) Hand pull seedlings, 2) Hand pull and dig our roots and destroy, 3) Grind out stump or clip new growth each season, 4) Replant densely with native plants and continue to maintain and monitor replanted area.	1) Horticultural vinegar (Caustic > 11%, Read directions) or try canning white vinegar which is not as harsh, 2) Herbicidal soap. Note: Homemade herbicidal soap consists of: 1/2 gallon of vinegar, 1/2 cup of salt, 2 tablespoon of bio-degradeable dish soap.
Plant	Chickweed	Goats	1) Mow lawn above 3 inches, 2) Proper watering, 3) Remove debris and habitat, 4) Handpick to root and destroy, for example, enclosing in a trashbag.	1) Horticultural vinegar (Caustic > 11%, Read directions) or try canning white vinegar which is not as harsh, 2) Herbicidal soap. Note: Homemade herbicidal soap consists of: 1/2 gallon of vinegar, 1/2 cup of salt, 2 tablespoon of bio-degradeable dish soap.
Plant	Clover	Goats; Clover provides natural source of soil nitrogen fertilization and a nectar source for pollinators.	1) Remove debris and habitat, 2) Handpick to root and destroy, for example, enclosing in a trashbag..	Horticultural vinegar (Caustic > 11%, Read directions) or try canning white vinegar which is not as harsh.
Plant	Crabgrass	Goats	1) Flame treatment, 2) Mow above 3 inches, 3) Proper watering, 4) Handpick to root and destroy, for example, enclosing in a trashbag..	1) Horticultural vinegar (Caustic > 11%, Read directions) or try canning white vinegar which is not as harsh, 2) Herbicidal soap. Note: Homemade herbicidal soap consists of: 1/2 gallon of vinegar, 1/2 cup of salt, 2 tablespoon of bio-degradeable dish soap.
Plant	Dandelions	Goats; Dandelion is edible and an important spring nectar source for pollinators.	1) Create a barrier, 2) flame treatment, 3) boiling water, 4) Mow law above 3 inches, 5) Aerate soils, 6) Proper watering not excessive, 7) Dethatching, 8) Handpick to root and destroy, for example, enclosing in a trashbag.	1) Horticultural vinegar (Caustic > 11%, Read directions) or try canning white vinegar which is not as harsh, 2) Herbicidal soap. Note: Homemade herbicidal soap consists of: 1/2 gallon of vinegar, 1/2 cup of salt, 2 tablespoon of bio-degradeable dish soap.
Plant	Glossy Buckthorn	Goats	Repeated cutting at leaf out or during summer for multiple seasons; replant densely with native plants and continue to maintain and monitor replanted area.	1) Horticultural vinegar (Caustic > 11%, Read directions) or try canning white vinegar which is not as harsh, 2) Herbicidal soap. Note: Homemade herbicidal soap consists of: 1/2 gallon of vinegar, 1/2 cup of salt, 2 tablespoon of bio-degradeable dish soap.
Plant	Ground Ivy	Rust fungus (Puccinia glechomatis)	1) Mow lawn above 3 inches, 2) 1) Aerate soil, 3) Proper watering, 4) Dethatching, 5) Handpick to root and destroy, for example, enclosing in a trashbag..	1) Horticultural vinegar (Caustic > 11%, Read directions) or try canning white vinegar which is not as harsh, 2) Herbicidal soap. Note: Homemade herbicidal soap consists of: 1/2 gallon of vinegar, 1/2 cup of salt, 2 tablespoon of bio-degradeable dish soap.
Plant	Hardy Kiwi	Goats. The fruit is edible.	Cut don't pull out of trees; then cut frequently through season for multiple seasons; dispose of cut vines carefully, they re-sprout; replant densely with native plants	1) Horticultural vinegar (Caustic > 11%, Read directions) or try canning white vinegar which is not as harsh, 2) Herbicidal soap. Note: Homemade herbicidal soap consists of: 1/2 gallon of vinegar, 1/2 cup of salt, 2 tablespoon of bio-degradeable dish soap.
Plant	Honeysuckle	Goats	Cutting to the ground with a chainsaw, then repeated mowing for several years. Plant thickly with native shrubs such as Cornus racemosa, Physocarpus opulifolius, and Cephalanthus occidentalis.	1) Horticultural vinegar (Caustic > 11%, Read directions) or try canning white vinegar which is not as harsh, 2) Herbicidal soap. Note: Homemade herbicidal soap consists of: 1/2 gallon of vinegar, 1/2 cup of salt, 2 tablespoon of bio-degradeable dish soap.
Plant	Japanese Knotweed	Sheep, horses, donkeys, and goats. It is a nectar source for pollinators in the fall. Roots are used as medicine, including treatment of Lyme disease, and the young shoots are edible.	1) Smother or cut repeatedly through the growing season to starve roots (repeat for number of seasons), 2) If a small patch, dig out the roots and destroy. Dispose of plant matter carefully. Repeat if grows back. 3) Knotweed prefers moist soils. Restricting water from lawn irrigation and improving drainage can help contain the plants, 4) Replant densely with native plants and continue to maintain and monitor replanted area.	1) Horticultural vinegar (Caustic > 11%, Read directions) or try canning white vinegar which is not as harsh, 2) Herbicidal soap. Note: Homemade herbicidal soap consists of: 1/2 gallon of vinegar, 1/2 cup of salt, 2 tablespoon of bio-degradeable dish soap.
Plant	Multiflora Rose	Goats. It is a nectar source for pollinators.	Repeated cutting at leaf out or during summer for multiple seasons; replant densely with native plants and continue to maintain and monitor replanted area.	1) Horticultural vinegar (Caustic > 11%, Read directions) or try canning white vinegar which is not as harsh, 2) Herbicidal soap. Note: Homemade herbicidal soap consists of: 1/2 gallon of vinegar, 1/2 cup of salt, 2 tablespoon of bio-degradeable dish soap.
Plant	Norway Maple	None	Cutting to the ground with chainsaw followed by repeated cutting for several years. Replant densely with native shrubs or trees and continue to maintain and monitor replanted area.	None
Plant	Phragmites Australis	Goats. The plants are used to clean polluted water.	Mow repeatedly throughout season and replant densely with native plants. Reduce nutrient (pollution) in water as phragmites tolerates high nutrient loads compared to native plants. Replant densely with native shrubs or trees and continue to maintain and monitor replanted area.	1) Horticultural vinegar (Caustic > 11%, Read directions) or try canning white vinegar which is not as harsh, 2) Herbicidal soap. Note: Homemade herbicidal soap consists of: 1/2 gallon of vinegar, 1/2 cup of salt, 2 tablespoon of bio-degradeable dish soap.
Plant	Plantains	Goats	1) Mow lawn above 3 inches, 2) Aerate soils, 3) Proper watering, 4) Dethatching, 5) Handpick to root, 6) Overseeding with grass seed.	1) Horticultural vinegar (Caustic > 11%, Read directions) or try canning white vinegar which is not as harsh, 2) Herbicidal soap. Note: Homemade herbicidal soap consists of: 1/2 gallon of vinegar, 1/2 cup of salt, 2 tablespoon of bio-degradable dish soap.
Plant	Poison Ivy	Goats; The berries are a food source for birds.	1) With protection, hand pull to root and destroy, for example, enclosing in a trash bag, 3) Hire commercial company to mechanically remove.	1) Horticultural vinegar (Caustic > 11%, Read directions) or try canning white vinegar which is not as harsh, 2) Herbicidal soap. Note: Homemade herbicidal soap consists of: 1/2 gallon of vinegar, 1/2 cup of salt, 2 tablespoon of bio-degradable dish soap.
Plant	Purple Loosestrife	Root-mining weevil (Hylobius transversovittatus) and beetles Galerucella pussilla and G. californiensis. It is a nectar source for pollinators.	1) Hand pull to roots and destroy before plants set seed, 2) Dig our larger plants to roots and destroy. Do NOT mow.	1) Horticultural vinegar (Caustic > 11%, Read directions) or try canning white vinegar which is not as harsh, 2) Herbicidal soap. Note: Homemade herbicidal soap consists of: 1/2 gallon of vinegar, 1/2 cup of salt, 2 tablespoon of bio-degradable dish soap.

Sources: <https://beyondpesticides.org/resources/managesafe/choose-a-pest?pestlocation=outdoor#headerphoto>
https://www.maine.gov/dacf/mfs/forest_health/insect_disease_fact_sheets.html
"NOFA Standards for Organic Land Care: Practices for the Design and Maintenance of Ecological Landscapes," 6th edition, 2017 (there isn't an author other than "created by The NOFA Organic Land Care Program")
<http://www.ladybug.uconn.edu/FactSheets/bacillus-thuringiensis.php>

Revision date: January 9, 2020



portlandmaine.gov/pesticides

If I have a weed or pest problem, what products are allowed?

If weed or pest problems do occur, the City allows the use of pesticides that are certified organic by the USDA or considered “minimum risk” by the EPA.

Types of effective, allowed pesticides include:

- Horticultural and insecticidal soaps
- Vinegar-based herbicides
- Essential oil-based pesticides
- Diatomaceous earth
- Biological-based pesticides such as bacillus thuringiensis

List of Allowed Products

A pdf list of products compatible with organic landscape management can be downloaded at portlandmaine.gov/pesticides

Note: This is not a complete list and will be updated periodically but may not reflect all qualifying products. This list is not an endorsement of any product and does not ensure their efficacy.

Product Labeling

- Look for the yellow YardScaping sticker at garden centers and hardware stores. This is a simple way to know which products are allowed under this ordinance
- Another way to tell if a pesticide is allowed is if it has one of these labels visible on the front packaging

Note: To search the products approved by the Organic Materials Review Institute (OMRI) database online, go to OMRI.org



Portland Pesticide Ordinance Waiver Process

Before a restricted pesticide can be used in the City, your lawn care applicator must request and receive approval from the City of Portland. This applies to each application.

There are only two allowed reasons for requesting a waiver:

- A situation that threatens public health
- When invasive plants pose a threat to the environment

Note: Pesticide applications for the management of invasive insects (as defined by the Maine Forest Service) are exempt under the ordinance and therefore no waiver is needed.

Four conditions must be present for the Pesticide Management Advisory Committee waiver committee to approve an application:

- The applicant has tried alternative methods and materials
- The applicant will to the greatest extent practical, minimize the impact on abutting properties and nearby water sources
- The applicant will avoid applying pesticides immediately prior to rain events and/or windy conditions
- The grant of the waiver will not be detrimental to the public health, safety, or welfare

Note: Broadcast applications and preemptive treatments are prohibited, even when a waiver is granted.

Waiver applications are available at City Hall and online at: portlandmaine.gov/pesticidewaiver



City of Portland
SUSTAINABILITY OFFICE
portlandmaine.gov/pesticides



What you need to know about Pesticides in Portland

As of **January 1, 2019**, the City of Portland's Pesticide Use Ordinance prohibits the use of synthetic pesticides on all public and private property. The city enacted this ordinance to protect the health of our waterways, residents, pets, and natural ecosystems.

Watering and rainfall cause pesticides to pollute our streams, rivers, and Casco Bay - leading to algae blooms, reduced water quality and impacts for marine life.

By eliminating synthetic pesticides and establishing an organic lawn care system, your lawn will require fewer resources while resulting in healthy soil with fewer pests and weeds.



City of Portland
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portlandmaine.gov/pesticides





What are the ordinance basics?

As of January 1, 2019, lawn and garden products that contain synthetic pesticides are prohibited on all public and private property in Portland, Maine.

This ordinance prohibits weed killers that contain glyphosate (such as Roundup™), fertilizer/pesticide combinations (weed and feed), and insecticides that contain imidacloprid.

The pesticide ordinance covers the following areas:

- Lawns
- Vegetable and ornamental gardens
- Landscaped areas
- Patios
- Sidewalks
- Driveways
- Parks and playing fields

For more information on the ordinance, products you can and can't use, and tips on how to achieve organic land care, visit portlandmaine.gov/pesticides

How will this ordinance be enforced?

Portland's Sustainability Office maintains all the pesticide waiver applications and a listing of complaints of alleged violations. The City's Sustainability Coordinator will work with contractors and the public to bring any alleged violators into compliance by providing educational materials and advice on the use of organic practices and products.

Are there any exemptions?

Yes, the following are NOT covered by the ordinance.

- Indoor and structural pest management (eg. termites)
- Commercial agriculture
- Pet supplies (shampoos, tick and flea treatments)
- Insect repellants
- Rat and rodent control supplies
- Swimming pool supplies
- General use paints, stains, wood preservatives & sealants

In addition, you may continue to use any pesticide for:

- Management of invasive insects (as defined by Maine Forest Service)
- Poison ivy and other poisonous plants
- Tick and mosquito control
- Utility right of way applications
- Pesticide Waiver approved applications

Are there restrictions on allowed pesticides?

Yes. ALL pesticides are prohibited within 75 feet of a water body or wetland.

This includes:

- Ponds
- Rivers
- Streams
- Tidal areas
- Coastal or freshwater wetlands



We are here to help.

Portland residents have many local and national resources to assist you in implementing organic land care, a few key resources include:

- [YardScaping.org](https://www.yardscaping.org) outlines ways to manage pests, build healthy soils, and choose native plants specific to Southern Maine
- [BeyondPesticides.org](https://www.beyondpesticides.org) is a national organization with extensive educational materials
- Consult this UMaine Cooperative Extension's Bulletin for solutions to specific issues: <https://extension.umaine.edu/gardening/manual/lawns/>

All of these resources and more can be found on portlandmaine.gov/pesticides

If you have any questions about this ordinance, please contact the City of Portland's Sustainability Office at SustainabilityOffice@portlandmaine.gov

