

Want to make Portland greener? Change the Land Use Code

By: *Liam McNiff*

The city of Portland is currently undertaking the first major rewrite of its Land Use Code in forty years. The Land Use Code (a massive 954-page document) lays out the city ordinances on building and development that all developers and landowners must follow. This document has a critical impact on what the city looks like and how it operates- and is the primary way in which city government—and through it, the people of Portland—affect the nature of the city. The rewrite represents a major opportunity for the city to drastically improve the ecological infrastructure of the city through several no- and low-cost changes that would improve life in Portland for plants, animals, and people.



According to [ReCode Portland](#), the primary reason for the rewrite is to “align the Code with Portland’s Plan 2030.” Plan 2030 is a newly created strategic plan that guides future city policy. The Plan does include important language about native plants and environmental protections, pledging to “model environmentally-sound landscape management practices, such as planting for pollinators, planting native species, and limiting the use of pesticides and fertilizers (page 20).” These are all the steps the city should be taking, but whether and how these actions are realized comes down to implementation - and implementation can only happen if concrete changes are made in the Land Use Code.

Parking vs. Plants

Currently, the Land Use Code makes vague references to ecological necessity, setting out “review criteria” that the Planning Board “shall consider” before approving a new development. A new development should not cause “undue water and air pollution” nor “undue adverse effect” on the natural beauty and habitat of the area. In the Recreation and Open Space Zone, ground areas shall be “suitably landscaped” and natural features “shall be preserved to the greatest possible extent consistent with the uses of the property.” What does “undue” mean? Who is to say what the “greatest possible extent” is? All these matters are left to the discretion of the Planning Board—which means exceptions can be made, rules can be bent and developers can get what they want with little regard to the needs of the City.

Compare the vagueness of the environmental requirements to the extreme specificity of the requirements that exist for the most un-ecological of things – parking. All developments are required to abide by the strict minimum off-street parking requirements (set forth in Article III, Division 20). For example, let’s take a look at restaurants: “Restaurants or establishments constructed and intended for the dispensing of food and drink as the principal activity: One (1) parking space for each one hundred fifty (150) square feet, or major fraction thereof, of floor area not used for bulk

storage or food preparation.” Twenty-one pages are devoted to an in-depth description of off-street parking requirements for various types of businesses, but the regulations that pertain to plantings wouldn’t fill a single page.

Cars do not need our help in Portland - they rule the city. Huge swathes of land are taken up by roads, on-street parking, off-street parking, and parking lots. Native plants and the habitat they create for other species do need our help. Much of Portland’s green space is doing very little to support natural processes such as capturing and storing rainwater, filtering pollutants, supporting pollinators and maintaining landscape corridors to support species migration (which becomes especially important with climate change). Our regional ecosystem is based on an insect-based food web that supports birds, mammals, and other wildlife. Non-native plants do not support these insect-based food webs. As entomologist Doug Tallamy, explains, “only insect species that have shared a long evolutionary history with a particular plant lineage have developed the physiological adaptations required to digest the chemicals in their host’s leaves.” According to his research, non-native plants—including many of our street trees and street-side plantings—support 29 times *less* biodiversity than native plants. Even when natives are planted, it is in disparate patches around the city, and this patchy network of native plants cannot support a complete ecosystem of insects, birds, and mammals. These ecosystems are vital for the health of the natural world and are an economic necessity for Maine: 75% of our crops rely on pollinator species and the rapid decline of pollinator species around the world poses a significant threat to Maine farmers (Potts et al., cited in Batchelder et al., 2015, pp.5-6).

In the winter of 2015, graduate students from the Conway School prepared the Portland Pollinator Vision Plan for the Wild Seed Project (<https://wildseedproject.net/portland-pollinator-vision-plan/>). They found that Portland has the potential to support pollinators by creating corridors of native plant habitat throughout the city that would help mitigate the decline of pollinators in southern Maine through “low-cost landscaping strategies” and “reducing the negative factors of the urban landscape while enhancing the positive” (Batchelder et al., 2015, p.10). Plants are vital to Portland for other reasons, too: they cool down the city, absorb pollution, minimize storm-water run-off, and, recent research from Stanford and the Royal Swedish Academy of Sciences has found that exposure to nature combats depression and other mental health problems (Bratman et al., 2015).

Changing our Priorities

The first step toward reforming the Land Use Code is to prioritize people and plants over cars and to do away with the minimum off-street parking requirements. Vast open spaces of pavement (such as parking lots) have a negative effect on a city in many ways. For a start, they are anathema to plant and animal life. They are also bad for the climate: large areas of dark impervious surface absorb heat and are one of the main causes of the urban heat island effect, which causes cities to be hotter on average than the surrounding countryside. With a warming climate, this will become ever more important.

Off-street parking is bad for pedestrians, too: it creates sprawl between our homes, restaurants, shops, and workplaces, decreasing the walkability of neighborhoods. Compare walking from the West End to the Old Port along Congress Street—where there is a long stretch of contiguous businesses not split up by parking—to walking down Spring Street, where the developments are separated by parking lot after parking lot. More walkability would not just be a “nice” thing for the city to have—it is also a transportation necessity. A parking report commissioned by the city found

that the only way to prevent a future parking crisis in downtown Portland is to reduce parking demand and invest in bike and pedestrian infrastructure, and public transportation (*City of Portland Parking Study*, 2017).

Traffic in the Portland area is also reaching unsustainable levels. Traffic on I-295 is at an all-time high and expected to grow 20% by 2040, and the Maine Department of Transportation has said that building extra lanes is off the table for financial and environmental reasons (McGuire, 2018). The solution to car use exceeding the infrastructure capacities is getting cars off the road by promoting alternative means of transportation, including walking. Finally, parking lots take up valuable city-center land that could instead be used for commercial and residential purposes. The same city-commissioned parking study found that 21.8% of real estate in central Portland is taken up by parking, not much below infamously car-centric Los Angeles at 24%, and well higher than comparable cities such as New Haven (16%), Berkeley (6%), and Cambridge (3%) (*City of Portland Parking Study*, 2017, pp.35-36). Imagine if the Old Port matched Cambridge's 3% figure: the available land for development in the city center would increase by almost a fifth, combatting Portland's rising housing prices (a study in Seattle found that 15% of the cost of rent can be attributed to developer's parking costs), growing the Portland economy, and providing increased tax revenue for the city.

Of course, it is unrealistic to expect Portland to be able to do away with so much parking all at once. Nevertheless, the point still stands that less parking is a goal we should aim for, and at the very least we should not be indiscriminately creating more. Many cities have pushed back against the prioritization of parking, especially in Europe. Zurich put in place a cap on parking in 1996 (Berg, 2016), and cities such as Paris, Copenhagen, Barcelona, and Amsterdam have taken steps to reduce parking and promote other, more ecological forms of transit (Kodransky and Hermann, 2011). Closer to home, many small and medium-sized cities have abolished parking minimums, including Buffalo, New York and Hartford, Connecticut. The results in these cities—contrary to what many expected—have shown a reduction in off-street parking, and indeed a reduction in parking generally, creating enormous benefits for the health of the city and all its inhabitants.

The immediate objection that many will doubtless think of—and part of the rationale for the existence of off-street parking minimums—is that developments will not build enough parking, and the overflow onto street-side parking will cause even greater congestion in the city center. Economist David Shoup of the University of California-Los Angeles has proposed raising the price of on-street parking to accurately reflect the cost of parking. This will take the cost of parking off of developers and the city and put it on to car users, thereby incentivizing commuters to use more ecological forms of transit. It will also lower the cost of housing in the city, as housing becomes cheaper to build without the necessity of sacrificing half of an available plot of land to off-street parking. As Shoup notes, “Pricing curb parking rather than requiring off-street parking will improve urban design, reduce traffic congestion, restrain urban sprawl, conserve natural resources, and produce neighborhood public revenue” (1999, p.22).

Promote native planting

Street Trees

Most of the current planting requirements for new developments are in the Land Use Code's Technical Manual. The most rigorous requirements pertain to street trees, but even these could easily be better. New developments are required to plant 50% native trees and shrubs, which is great

- but why not make this 100%? All street trees must come from the “Recommended Tree List,” which unfortunately contains many species that are non-native, and in some cases, invasive. Native trees provide habitat for hundreds of more species of native insects, butterflies, moths, and bees than non-natives do not. This would not mean removing existing street trees, but changing the requirement so that all new street trees need to be native is a simple change that would highly benefit the city’s ecosystem.

Ground cover and shrubs

Another sentence from the Technical Manual that could easily be changed is the following (section 4.7.7): “Ground covers planted in lieu of grass shall be planted at a level of coverage equivalent to one complete growing season.” Grass is by far the least ecological type of planting. It does very little to support the ecosystem, often requires irrigation, and absorbs much less carbon dioxide than other ground covers, not to mention the time, pollution and fuel involved in weekly mowing. The only advantage that lawn grass has over any other type of planting is that it holds up well to human use. For areas unlikely to receive heavy foot traffic—which is most places where grass is planted—any other planting is better. While it would be ideal for the Technical Manual to contain requirements for native ground covers, it is more important that this requirement for planting a “level of coverage equivalent to one complete growing season” be eliminated. This sentence gives a huge incentive to developers to throw down grass seed instead of taking a more thoughtful approach with native landscaping which may require a little more time to establish and fill-in.

Two related issues to ground cover are the requirement put forth in section 4.7.13 that “all bare soil areas shall be vegetated and/or mulched” and the requirement of section 4.5.2 that “shrubs shall be placed 6-8 feet apart in areas where a buffer is required by the landscaping requirements.” These two regulations contribute to the pattern seen in virtually all commercial landscaping that Claudia West (author of *Planting in a Post-Wild World*) describes as “individual plants floating in oceans of mulch” (2018, p.12). This is both unsightly (look at any of the weird wastelands of dyed black or red mulch in new developments) and un-ecological. As West states, “Only dense plant cover creates great habitat, cleans polluted storm-water runoff, filters the air, sequesters significant amounts of carbon, and rebuilds soils. We need every inch of ground covered with the right kinds of plants if we really want to foster vital ecosystems and inspire others with meaningful plantings” (2018, p.12).

Urban plantings should seek to emulate wild habitats – the city should be dotted with patches of meadow and forest. Native, wild habitats are more conducive to a functional urban ecosystem, and also offer the added benefit of giving city residents a feeling of true nature within the city, with the positive effects on mental health that that brings with it. City ordinances should be pushing developers to adopt a more ecological and naturalistic form of landscaping, not preventing it. Shrubs should be planted much closer together, or, at the very least, the minimum spacing of six feet should be eliminated. Most importantly, mulch should not be treated as the equivalent of vegetation, and instead of incentivizing a few shrubs scattered in a wasteland of mulch, we should require fully formed areas of vegetation with dense shrubs, perennials, and native ground cover.

Simple first steps

This is a sampling of the easy, no- to low-cost changes to the Land Use Code that Portland could make. We already impose strict rules on developers—what if we relaxed some of those rules related to parking, and toughened up some rules related to landscaping? The money that developers would save on building only the amount of parking they need (vs. what the city currently mandates) would more than make up for the costs of planting better vegetation. We view ourselves as a progressive

city, but city government needs to catch up with the ecological views of Portland residents. Let's push our city officials to put the environment first in their land use planning. Portland, Oregon has also recently published a plan for the future of their city, the 2035 Comprehensive Plan. When it comes to ecology, their Plan is miles ahead of ours. Among other things, it contains the ambitious requirement of mandating green roofs on new large buildings in the city center- let's think big and push our city government to update the Land Use Code with such initiatives so that we have a healthier ecosystem that benefits us all.

Liam McNiff is a political science student at Sciences Po Paris and the Wild Seed Project intern for the summer of 2018. He was born and raised in Maine.

Works cited

- Berg, N. (2016, September 27) Lots to lose: how cities around the world are eliminating car parks. *The Guardian*. Retrieved from <https://www.theguardian.com/cities/2016/sep/27/cities-eliminating-car-parks-parking>
- Batchelder, B., Burhans, M., & White, C. (2015). *Portland Pollinator Vision Plan*. Conway, MA: Conway School.
- Bratman, G.N., Hamilton, J.P., Hahn, K.S., Daily, G.C., & Gross, J.J. (2015). Nature experience reduces rumination and subgenual prefrontal cortex activation. *PNAS*, 112(28), 8657-8572. <https://doi.org/10.1073/pnas.1510459112>
- *City of Portland Parking Study for Downtown, The Old Port, and The Eastern Waterfront*. (2017). Boston, MA: Fort Hill Infrastructure. Retrieved from <https://www.portlandmaine.gov/DocumentCenter/View/18261/Portland-Parking-Study-Final-Report?bidId=>
- Kodransky, M. & Hermann, G. (2011). *Europe's Parking U-Turn: From Accommodation to Regulation*. New York: Institute for Transportation and Development Policy. Retrieved from <https://www.itdp.org/2011/01/18/europes-parking-u-turn-from-accommodation-to-regulation/>
- Land Use Code. (2018). In *City of Portland, Maine Code of Ordinances*. Portland, ME: City of Portland. Retrieved from <https://www.portlandmaine.gov/131/City-Code>
- McGuire, P. (2018, June 26). Congestion on I-295 around Portland is getting worse and there's no easy solution, state report says. *Portland Press Herald*. Retrieved from <https://www.pressherald.com/2018/06/26/state-study-calls-for-traffic-flow-and-safety-improvements-along-congested-i-295/>
- Poon, L. (2017, January 9). Buffalo Becomes First City to Bid Minimum Parking Goodbye. *CityLab*. Retrieved from <https://www.citylab.com/equity/2017/01/buffalo-is-first-to-remove-minimum-parking-requirements-citywide/512177/>
- Portland's Plan 2030. (2017). Portland, ME: City of Portland. Retrieved from <https://www.portlandmaine.gov/1861/PortlandsPlan2030>
- Quedenau, R. (2018, June 18). 3 Lessons in People-Centered Transportation from the First U.S. City to Completely Eliminate Parking Minimums. *Strong Towns*. Retrieved from <https://www.strongtowns.org/journal/2018/6/14/3-lessons-in-people-centered-transportation-from-the-first-us-city-to-completely-eliminate-parking-minimums>

- Shoup, D. (1999). The trouble with minimum parking requirements. *Transportation Research: Part A*, 33, 549-574
- Tallamy, D. (n.d.). Gardening for Life. Retrieved from <http://www.bringingnaturehome.net/gardening-for-life.html>
- Technical Manual. (2010). Portland, ME: City of Portland. Retrieved from: <http://www.portlandmaine.gov/DocumentCenter/View/2211/Technical-Standards?bidId=>
- West, C. (2018). Plants are the Best Mulch on Earth. *Wild Seed*, 4, 12-17
- *Who Pays for Parking?* (2013). Seattle, WA: Sightline Institute. Retrieved from https://www.sightline.org/research_item/who-pays-for-parking/
- 2035 Comprehensive Plan. (2018). Portland, OR: City of Portland. Retrieved from <https://www.portlandoregon.gov/bps/2035-comp-plan.pdf>