



THE BUREAU OF  
**PLANNING &  
SUSTAINABILITY**

**DATE:** April 14, 2022  
**TO:** City Council and Interested Parties  
**FROM:** Daniel Soebbing  
**SUBJECT:** Ezone Project Impacts to Citywide Housing Unit Development Capacity

During the Planning and Sustainability Commission hearings process on the Ezone Project, project staff conducted an analysis to determine what the impact of the proposed changes to the ezones would have on the long-term Citywide capacity for new housing development. Staff used a series of assumptions to calculate the impacts:

- Area covered by c zones on sites zoned multi dwelling residential could develop to maximum density because multi dwelling development can be structured and concentrated to minimize impacts to resources and density transfers are possible within sites.
- Area covered by c zones on dividable single dwelling lots would have the potential land division density reduced by a factor of 20% based on staff knowledge of past land division cases on sites with ezone coverage.
- Area covered by p zones would be totally unbuildable and discounted 100%.

Based on these assumptions, it was calculated that the Citywide residential land capacity would be decreased by 551 units if the Ezone Project proposals are adopted. The 2035 Comp Plan (adopted in 2018) calculated that citywide, there was a quantity of vacant or underutilized land that could yield 201,000 units of new residential development, given existing zoning and potential constraints. It was calculated that between 2018 and 2035, population growth would generate a demand for 123,000 new residential units. Subsequent to the adoption of the Comp Plan, RIP1 was adopted, which could theoretically generate an additional 25,000 units of residential land. Therefore, it was determined that there was a residential land surplus equivalent to more than 100,000 units. The 551 units of residential development that would be prevented from being developed by the changes to the ezones would have a minimal impact on the overall residential land surplus.



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Project staff wanted to verify the assumption that area covered by the c zone would have a reduced land division unit production capacity of 20%. They reviewed recent land division cases on sites that had ezones to determine how many units were produced relative to the theoretical maximum density that would be allowed on the sites by the base zones. They found that there were a range of outcomes, with some lots developing at maximum density, and other developing at below maximum density. On the whole, the 20% discount factor appears to be reasonably close to the outcomes of real-world land division examples. The memo that was presented to the PSC follows with revisions to reflect the recent additional analysis.



# Environmental Overlay Zone Map Correction Project Housing Capacity Analysis

Submitted to PSC on January 29, 2021

Refiled with Revisions on April 14, 2022

In 2018, the City of Portland adopted the 2035 Comprehensive Plan, including the Buildable Land Inventory (BLI). The BLI estimates that Portland has the capacity for 201,000 additional housing units; more than the estimated need to accommodate the City's forecasted future growth of 123,000 units by 2035. In July 2020, the City of Portland adopted the Residential Infill Project, which increased the housing capacity citywide by an additional 25,000 potential units.

Based on the Ezone Map Correction Project Housing Capacity Analysis, there may be a loss of 366 single dwelling residential units and 185 multi-dwelling residential units due to the proposed ezone changes. However, there will remain a citywide housing capacity surplus of at least 102,449 residential units after adoption of the Ezone Map Correction Project.

Below is the methodology used to determine the Ezone Map Correction Project's impact on housing capacity citywide. The analysis was performed separately for lots zoned single dwelling residential and multi-dwelling residential. For both categories, only vacant or underutilized lots, as designated by the Buildable Lands Inventory, were evaluated. In addition, publicly owned lots and lots under a common ownership, such as a homeowner's association, were excluded. Lots that are under public ownership are generally not expected to be developed as residential sites, and tracts under common ownership of HOA's are typically either natural resource tracts or private street tracts, which are prohibited from being redeveloped.

## 1. Single-Dwelling Residential Lots

The methodology compared the potential units under the existing ezones to potential units with the proposed ezones. Lots that had a 10% or greater increase in ezone coverage were included in the calculations below. Lots that had less than a 10% increase in ezone coverage were excluded because it is assumed that minor changes in site area covered by ezones would have a minimal impact on developability or divisibility of sites.

The lots were split into two categories: dividable and undividable. Whether the lot is dividable was determined using the BLI calculations of total lot divisions possible per the zoning code. Please see the Bureau of Development Service's Land Division Information Guide, available online at [www.portland.gov/sites/default/files/2020/lu\\_Id002\\_density\\_single\\_dwell.pdf](http://www.portland.gov/sites/default/files/2020/lu_Id002_density_single_dwell.pdf), for the steps to calculate density and dividability.

### A. Dividable Single-Dwelling Residential Lots

The minimum density (or minimum number of lots to be created through division) for each lot was calculated for both the conditions under the existing ezones and the proposed ezones.

To calculate this area, the area with no ezone coverage was calculated, the conservation 'c' overlay zone areas were calculated and counted as 80% of their coverage area. These values were added together and divided by the maximum density, based on Table 610-1 of the zoning code.

Formula:  $Sq\ ft\ of\ no\ ezone + (Sq\ ft\ of\ 'c'\ zone \times .80)$  all divided by max density (Table 610-1)

It is assumed that the area of 'p' zone coverage is not developable. It is assumed that while the area of 'c' zone coverage is developable either through zoning code standards or review, at least 20% will not be developed due to constraints, such as steep slopes and/or mitigation costs.



Next the minimum density under proposed ezones were subtracted from the minimum density under existing ezones dividable lots, resulting in the number of lots lost. When the minimum density under proposed zoning was calculated to be zero, the analysis assumes one lot is lost and subtracts that one from existing minimum lots to arrive at number of lots lost.

Based on this analysis, the number of new single-dwelling residential lots that can no longer be created through land divisions due to the proposed ezone changes is 278.

### **B. Undividable Single-Dwelling Residential Lots**

The minimum number of units was calculated for both the conditions under the existing ezones and the proposed ezones. For this portion of the analysis, only vacant lots, as designated by the BLI, were included. Underutilized lots were not included because the existing development can be replaced in its current footprint per zoning code 33.430 exemptions.

Using Table 110-4 in the zoning code and each lot's square footage, the maximum building coverage was determined for each lot. A 5-foot setback, measured inward from all property lots lines, was subtracted. Next the area of 'p' zone coverage was subtracted; it is assumed that the 'p' zone area is not developable. (It is assumed the area of 'c' zone coverage is developable either through standards in 33.430.140 or through Environmental Review.)

If the remaining lot size, minus setback and 'p' zone, was more than the maximum building coverage, then the site was considered fully developable, even with the changes to the ezones. If the remaining lot size, minus setbacks and 'p' zone, was less than the maximum building coverage, then there may be units lost on the lot.

Each lot that may have a loss of units was reviewed individually by staff. The allowed disturbance area from Table 430-1, was compared to the lot area outside of the 'p' zone and setbacks. If the allowed disturbance area was greater than the amount of lot area located outside of the 'p' zone and the setbacks then the lot was determined to be undevelopable. It is possible that some lots that meet this definition actually do have enough space for a potential development site. However, these sites were considered undevelopable in this analysis to ensure that all sites that are highly constrained by ezones are included in the calculation of the potential loss of development capacity. *Note – Staff are systematically reviewing every undevelopable vacant lot and if the lots have >70% p zone coverage, they are converting a portion of the proposed 'p' zone to proposed 'c' zone to ensure that every lot will be developable through Environmental Review. This process was completed in 2021 and details of each conversion are listed in the Recommended Draft.*

The number of potential undividable single dwelling residential units lost is 88.

## **2. Multi-Dwelling Residential Lots**

The methodology compared the potential units under the existing ezones to potential units with the proposed ezones.

A 5-foot setback, measured inward from all property lots lines, was subtracted. Because the base zone standards require development to be set back from lot lines. On sites with ezones, lot line setbacks from rights of way can be reduced to 0 feet. But the expectation that all development will be set back at least 5 feet from lot lines is probably a realistic assumption for most development. The area of 'p' zone coverage was also subtracted; it is assumed that the 'p' zone area is not developable. (It is assumed that the area of 'c' zone coverage is developable either through standards in 33.430.140 or through Environmental Review.)

The remaining area, minus setbacks and 'p' zone, was compared to the maximum building coverage per zoning code Table 120-3. If the area outside of the setbacks and the 'p' zone exceeded the maximum building coverage allowed by the base zone, it is assumed that the ezones would have no impact on the development capacity of the lot. If the area outside of setbacks and 'p' zone is less than the max building coverage for the



lot, the difference between the two values is assumed to be a reduction in the development capacity of the lot.

Next, the maximum potential buildouts under existing and proposed ezones were calculated based on the lot's FAR and maximum height restrictions per zoning code Table 120-3. A 12-foot per floor height was used to generate the hypothetical building height, and one unit per thousand square feet was used to calculate how many potential units could be built.

The number of potential units for full buildout under the proposed ezones were subtracted from the potential units for full buildout under the existing ezones.

The number of potential multi-dwelling residential units lost is 185.

## Verifying the Methodology used for Dividable Single Dwelling Residential Sites

Ezone Project staff attempted to verify the accuracy of the assumption that the conservation zone could potentially reduce land division unit density on single dwelling residential lots by 20%. They reviewed the land use review case history of single dwelling residential-zoned sites that intersect with ezones that have applied for land divisions since the start of 2006. Staff identified 53 sites that met those criteria. Of those land division cases, 32 received preliminary approval (those that did not were either pending, withdrawn, voided, or denied).

Of the 32 sites that received preliminary plat approval, staff compared the theoretical maximum number of lots that could be created in a land division with the number of buildable lots that were actually created (the number of buildable lots excludes separate tracts created for private street access, natural resource protection, or creation of public parks). Because most of these sites were not completely covered by ezones, and because other factors can impact whether or not a lot is divided in a way that attains maximum density, there may not be a direct correlation between the application of ezones to a site and the number of lots that are generated by a land division. The analysis is further complicated because included in the results are several planned unit development sites or split zoned sites that were approved to be developed with multi-dwelling structures.

At the low end, there was a 4.5-acre lot that could have theoretically been divided into 20 developable lots at maximum density on which a land division was approved to create just a single buildable lot. This land division was completed with the intention of creating a public park, so it is not representative of a typical development site. At the high end, there were 8 sites on which land divisions were approved that allowed for a number of lots to be created that was equivalent to the maximum density allowed by the base zone. Between these extremes are a number of land divisions that resulted in a number of lots being created that were fewer than the theoretical maximum that would be allowed by the base zone.

For each of the approved land divisions, a ratio was calculated that compared the number of buildable lots that were actually approved to be created to the theoretical maximum that would be allowed by land division code. This ratio was then used to determine the percentage reduction in the number of lots that were produced per land division compared to the maximum.

Examples of land divisions that resulted in a number of lots being created that was less than the theoretical maximum was a 4.57-acre site that could theoretically have been divided into 128 lots on which a 25 unit planned unit development was approved (80% reduction in units compared to the maximum) and a 4.96 acre site that theoretically could have been divided into 18 lots on which a 17 unit subdivision was approved (5.6% reduction in units compared to the maximum).

The average reduction in the number of units per land division compared to the theoretical maximum density was 29% and the median reduction was 28% (LU 15-188653 was excluded from the calculation because the



site is zoned RH. The RH zone, now reclassified as RM3 and RM4, was an FAR-based zone that had no maximum density).

The 29% average reduction in the number of units on sites that have ezones compared to maximum density is not inconsistent with the 20% discount that was used as the discount factor in the calculation that was made for dividable single dwelling residential lots. More so because land divisions on sites that don't have ezones often undershoot maximum density by a considerable amount. On many of the 32 sites, factors other than ezones may have played a significant role in determining the total number of units that could be produced through a land division, such as lot layout, physical constraints, requirements for construction of public improvements, such as sewers and other utilities or other factors.

However, it is also possible that application of the c zone to lots reduces the land division unit capacity of areas covered by c zones by more than 20%. But even if ezones prevented development on 100% of the vacant or dividable residential land that they are applied to (which they clearly do not, as demonstrated by the fact that 32 land divisions were approved on lots that have ezones, several of which resulted in maximum density being achieved), it is unlikely that the proposed changes to the ezones would have a significant impact on the overall buildable residential land surplus.

The preceding analysis determined that the proposed changes to the ezones would result in the loss of 551 buildable residential units, overall (combining the reduction in single dwelling and multi dwelling units). This number was calculated on the assumption that the c zone coverage would discount the development capacity of dividable lots by 20%. The review of land division cases described above verifies that the 20% reduction calculation falls within the reasonable range of expected real world outcomes of land divisions on sites that have complete or partial c zone coverage. And because the demonstrated surplus of housing capacity is so much greater than the expected reduction in development capacity that would be caused by the proposed changes to the ezones, even if the 20% discount factor is off by a very larger margin, there will still be a negligible impact on the overall residential land surplus.

