



**Date:** June 13, 2021

**Subject:** City of Portland – HB2001 Code Update Project

**To:** City of Portland Project Management Team

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## HB2001 CODE UPDATE PROJECT FOR CITY OF PORTLAND | PROJECT OVERVIEW

On August 12, 2020, the City of Portland adopted the Residential Infill Project (RIP 1) which constitutes the majority of their HB 2001 implementation effort. For the past five years, The City's Bureau of Planning and Sustainability (BPS) has been working to allow for duplexes, triplexes, quadplexes and second ADUs in their R7, R5, and R2.5 single-dwelling zones, which represents 90% of the single-dwelling residential lots in the City.

This project is addressing the requirement to allow for middle housing in large-lot, lower- density R10, R20, and RF zones. The areas where these zones apply tend to be in the outskirts of Portland, predominantly in the West Hills and Pleasant Valley area. These areas have been identified as having significantly deficient sewer, storm water drainage and transportation infrastructure (substandard and unbuilt streets).

RIP 1 did not address the requirement to allow for cottage clusters. Portland's current provisions allow for cottage clusters through a discretionary planned development approval process, but do not have a clear and objective standards track. The City reduced the review process and costs for these types of developments, but has not developed a specific "Cottage Cluster" code.

The City adopted alternative access standards for houses served by common greens, shared courts, and alleys as part of the land division code within multi-dwelling zones. Expanding upon these tools with intentional development standards that adequately respond to the challenges of multi building development in the single dwelling zones, will better facilitate micro-neighborhoods within neighborhoods, to fully achieve the vision of the house bill (HB 2001).

The City is in the early stages of preparing a code amendment package to encompass the remaining elements (cottage clusters and middle housing in large lot zones) to comply with HB 2001. Urbsworks is the DLCD-provided consultant and is working with the City to assist in development concepts for the necessary code changes to comply with the cottage cluster and duplex code requirements.

### **Outcomes of the project**

In collaboration with the City, Urbsworks will develop concepts for duplex and cottage cluster development standards that could fit into the framework and format of the City's Zoning Code.

## **EXISTING CONDITIONS SUMMARY**

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An existing conditions report (this document) is intended to provide the needed background to better understand the particular facets of these lower-density zones, in order to evaluate and analyze proposed code concepts.

Urbsworks, with support from City of Portland BPS staff, explored existing conditions, opportunities and challenges in R10 and R20 zoned areas. The report addresses demographic characteristics, land use, urban form, housing characteristics, mobility, infrastructure and the environment to better understand the unique issues in lower density zones. This memo provides a high-level summary of key findings.

### **Contents of this memo**

- Subareas that were mapped
- Summary of subareas—east and west subareas compared

- Demographic overview
- Mapping opportunity and access
- Lot sizes and parcelization
- Infrastructure constraints
- Goal protected areas

## SUBAREAS THAT WERE MAPPED

Six subareas were defined in advance of this project (existing conditions: maps and data, page 4), and key findings are organized by these subareas. They include:

- Northwest Portland: from the NW city boundary to Hwy 26
- South of Hwy 26: between Hwy 26 and SW Barbur Boulevard
- South of Barbur: Southwestern city boundary to Barbur Boulevard
- Columbia Corridor: North and northeast near Columbia Boulevard
- Kelly Butte/Wilkes: North of NE Glisan Street, along eastern city boundary and areas adjacent to Kelly Butte Natural Area
- Johnson Creek: Southeast edge of the city in areas adjacent to Powell Butte and along Johnson Creek

## SUMMARY OF SUBAREAS

This section summarizes opportunities and constraints by subarea region – east and west. Though there are six low-density subareas throughout the city, west subareas are most alike and east subareas are most alike. Demographics, site and infrastructure challenges, and development show stark contrasts between east and west. Any significant differences within the set have been noted.

It's important to also note that zones R10 and R20 represent a small fraction of residentially-zoned lands in the city overall (less than 10 percent). These low-density areas overwhelmingly exist on the west side of Portland, and are mostly found at the edges of the city.

### **West subareas**

- Populations of the west subareas are whiter, more educated, significantly higher income-earners with higher rates of homeownership. Median home sales prices at the top end are generally more than 50% higher than the citywide median sales prices. Median home sales are almost \$850,000 (northwest) and at almost \$700,000 (south of Barbur) as compared with a citywide median sales price of almost \$500,000 and even lower sales prices for the eastern subareas.
- West subareas combined account for 76% of parcels zoned R10 and R20, with the subarea south of 26 containing the most lots overall (36%). The majority of western lots fall within the size range that does not permit subdivision, based on current regulations. Of the total lots that could potentially be subdivided, the majority (over 75%) of those are found in the western subareas.
- While the western subareas account for the greatest number of parcels and the greatest percentage of potentially dividable lots, they face other challenges. West subareas are relatively low on the opportunity scale, meaning homes are not located in walkable neighborhoods near active transportation, employment centers, open spaces and other services. West subareas face substantial infrastructure constraints and topography and wooded areas present wildfire and landslide hazards. Stormwater and

sewer constraints are significant, with a large patch of sewer constraints occurring in the northwest subarea. Unmaintained streets present minimal challenges for parcels on the west.

- East subarea populations are more racially mixed, lower educational attainment, and lower income earners with a higher percentage of renters. There is more risk of displacement with a greater percentage of low-income cost-burdened renters on the east. Additionally, there is more economic vulnerability overall, with some parts of Columbia corridor and Kelly Butte/Wilkes subareas identified as “most vulnerable”. This is in contrast to all subareas of the west, which are identified exclusively as “least vulnerable”.
- The east subareas have less R10 and R20 land and parcels overall (24%). Combined, Kelly Butte/Wilkes and Columbia corridor subareas account for just 9% of total parcels. Similar to the west subareas, most parcels fall within the range of sizes that does not allow further subdivision.
- Infrastructure constraints, particularly sewer and stormwater, are a challenge for the east subareas as well, but less so than the west. Sewer, water, and stormwater constraints are primarily in the Johnson Creek subarea. Unmaintained streets are a challenge for minimal parcels within the Johnson Creek subarea and otherwise not present on the east.

## DEMOGRAPHIC OVERVIEW

Urbsworks collected demographic data by census tract for low-density zones throughout the city. All subarea data is from 2019 American Communities Survey 5-year estimates. Data was collected related to population, race and ethnicity, income, age, educational attainment, housing tenure, and commute mode (existing conditions: maps and data, pages 6-7).

The contrast among subareas is most stark between east and west sides of the city. East subareas are more similar demographically. Generally, they are more racially mixed, lower educational attainment, and lower income-earners. West subareas are similar demographically and tend to be whiter, more educated and higher income earners.

**Race and ethnicity:** East subareas including Columbia Corridor, Kelly Butte/Wilkes, and Johnson Creek have higher populations of people of color, while west subareas have higher percentages of white people. West subareas are predominantly white: 88% South of Barbur, 86% in Southwest, and 82% in Northwest. East subareas vary in population breakdown with greatest percentage of Black people in Columbia Corridor (13%) with next greatest number of 7% in Kelly Butte/Wilkes subarea. Asian populations are highest in Kelly Butte/Wilkes and Johnson Creek subareas (both 12%) and Northwest (11%). Hispanic populations are highest in Kelly Butte/Wilkes (18%) and Columbia Corridor (17%).

**Income:** Individual incomes in eastern subareas are substantially lower than those in the west, with over 35% of individuals earning 75,000 a year or greater as compared with eastern subareas at 15% (Columbia Corridor) 12% (Kelly Butte/Wilkes) and 18% (Johnson Creek).

**Age:** Despite all the differences between east and west subareas, age groups are not substantially different. South of Hwy 26 has the highest percentage of people over the age of 70 (13%).

**Educational attainment:** West subareas are highly educated with almost 3/4 of the population with bachelor’s or advanced degree (71% in northwest, and 72% in both southwest subareas). This is almost 20% higher than Portland as a whole. East subareas have lower educational attainment. College or advanced degree is 22% in Kelly Butte/Wilkes subarea and 32% in Columbia Corridor and Johnson Creek areas.

**Owners and renters:** More renters are found in east subareas, more owners in west subareas. Columbia Corridor subarea has the highest percentage of renters (41%) which is closer to the city as a whole (46% renters) while Northwest subarea has the highest percentage of home ownership (76%). In all subareas the share of renters is less than the citywide average.

**Commute modes:** Higher than average share of the population commute by single occupancy vehicles. A greater percent of people work from home in west subareas.

## MAPPING OPPORTUNITY AND ACCESS

A series of pre-existing maps from other sources were overlaid with R10 and R20 zones to better understand historic trends that mapped economic vulnerabilities and opportunities. The Home Owner’s Loan Corporation maps from the 1930’s (“redlining” maps) resulted in a cascading series of disinvestments that affect certain neighborhoods to this day. Each map type is described in more detail below and accompanying maps can be found in existing conditions: maps and data, pages 8-12.

### Redlining Maps

The Home Owner’s Loan Corporation maps from the 1930’s—available from the Mapping Inequality Project<sup>1</sup>—were overlaid with low-density residential zones to better understand the impacts of Portland’s racist planning history on the study areas (existing conditions: maps and data, page 9). Between 1935 and 1940 the federal government’s Home Owner’s Loan Corporation created maps of major cities to rate “residential security” for real-estate investments. Areas marked as grade “A” and colored green were determined to be minimal risk to banks and mortgage lenders while areas graded “D” and colored red were considered “hazardous.” Racial makeup of neighborhoods was a leading factor in how a neighborhood was graded. Those neighborhoods that had African American and immigrant populations were colored red on the map, or “redlined.” These racist practices have impacted almost a century of home-buying and lending practices, specifically impacting communities of color.

In order to understand what impacts the HOLC mapping practice may have had on these low-density zones, they were overlaid over the historical HOLC data. Urbsworks found that minimal land from R10 and R20 zones were included in the HOLC map, which is not surprising as most of these areas are at the edges of today’s city boundary and would not have been within the city limits at the time the HOLC map was created. There is no overlap with R10 and R20 zones on the east. There are small pockets of mapped areas on the west and those that are mapped are primarily graded green (“best”). The largest green area is adjacent to Lewis and Clark College and Tryon Creek State Natural Area in the south of Barbur subarea. It should also be noted that several small areas identified as yellow (“definitely declining”) can be found on the west side, though they are not of significant land area.

Most areas of this project were not mapped in the HOLC redlining map. Areas that were mapped were all on the west side and primarily given favorable ratings.

### Opportunity map

The Opportunity Map is part of the Portland Plan’s Healthy Connected City strategy and provides policy guidance to expand opportunities for Portland residents. The Opportunity Map is included in the 2035 Comprehensive Plan and categorizes Portland neighborhoods into varying levels of opportunity with a goal to expand opportunities for Portlanders to live in complete communities that offer a mix of desirable services. The Comprehensive Plan states “Housing that is located in a walkable neighborhood near active transportation, employment centers, open spaces, high-quality schools, and various services and amenities enhances the general quality of life for its residents.” Opportunity is mapped and scaled from 1 to 5 with 5 being the highest and 1 being the lowest level of opportunity. The scale is based on a methodology that includes five factors: childhood education, employment, transportation, access to family wage jobs, and healthy eating/active living. When low density zones are paired with the opportunity map, most areas fall into a Level 2 of Opportunity, which is second to lowest. All east subareas are Level 2 and west subareas are mostly Level 2 with some Level 3 and Level 4, especially in the southwest subarea.

Since R10 and R20 lands are mostly on the outskirts of the City, it is not surprising that they have less access to walkable neighborhood centers and other amenities.

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<sup>1</sup> Robert K. Nelson, LaDale Winling, Richard Marciano, Nathan Connolly, et al., “Mapping Inequality,” American Panorama, ed. Robert K. Nelson and Edward L. Ayers, accessed February 17, 2021, <https://dsl.richmond.edu/panorama/redlining/#loc=12/45.544/-122.771&city=portland-or>.

R10 and R20 zones are rated low on the Opportunity Scale. See existing conditions: maps and data, page 10.

### **Gentrification and displacement maps**

A series of gentrification and displacement maps were created as part of a previous planning effort for the City. Through the Portland Plan, the community set a goal for increased equity with an expectation that an equitable city needs to be proactive about how changing neighborhoods and gentrification disproportionately impact vulnerable households. Using these maps from the 2018 Gentrification and Displacement study, Urbsworks was able to overlay low density zones to better understand impacts for the study area.

The existing Economic Vulnerability Assessment map (existing conditions: maps and data, page 11) takes into account four factors of vulnerability including renter households, low-income households, people of color, and lacking four-year degree. The overlay shows a significant difference in the vulnerability level for the east and west subareas. West subareas are primarily in the least vulnerable categories, while those in the east are in the two highest levels of vulnerability.

The existing High Displacement Risk Assessment: Low-Income Cost-burdened Renters map (existing conditions: maps and data, page 12) shows Johnson Creek, Kelly Butte/Wilkes, and Columbia Corridor subareas as having high displacement risk areas. By contrast, the west subareas are all within the lowest level of cost-burdened renters.

East subareas are substantially more economically vulnerable and have more cost-burdened renters.

## LOT SIZES AND PARCELIZATION

### **Most lots fall into the “one parcel” category**

Lot sizes in R10 and R20 zones were assessed to better understand how many lots are below the minimum required size, within the range of required minimum and maximums by zone, and those that could be divided into two, three, or more parcels (existing conditions: maps and data, page 14). Understanding current lot sizes gives some insight into what lots could be immediately developable because they fit within the range of minimums and maximums or what lots have the potential to be divided into smaller parcels based on current density standards.

The data shows that the largest portion of lots fall within the category of immediately developable as they are within the allowed range of minimums and maximums for their zone. They are considered “immediately developable” because no land division procedure needs to occur before development can take place.

### **R10 and R20 represent a small portion of lots overall**

Areas zoned R10 and R20 represent less than 10% of residential lands in the city. The land that is zoned for low density is also much more prevalent on the west side of the city (76%) versus the east side (24%). A further study of subareas on the east reveals that Columbia corridor and Kelly Butte/Wilkes subareas only account for 9% of lots overall.

## INFRASTRUCTURE CONSTRAINTS

Previously mapped constraints data from the Bureau of Planning and Sustainability was studied to better understand the impacts of infrastructure constraints on low density zones in Portland.

### **Sanitary constraints**

Sanitary constraints are most frequent in the Northwest subarea, with some patches in the Johnson Creek subarea. Additional lots are constrained throughout the study area, however they are not significant. See existing conditions: maps and data, page 18.

### **Stormwater constraints**

Stormwater constraints are concentrated on the west side, with some additional storm constraints occurring in Johnson Creek. All three subareas of the west have significant stormwater-constrained parcels. This is not a surprise, as the east side is much less hilly than the west. Columbia Corridor and Kelly Butte/Wilkes subareas have almost no

stormwater constraints, though they also have the least amount of total parcels. See existing conditions: maps and data, page 18.

### **Unmaintained streets**

Lots are constrained if they only front on streets that have not been accepted for maintenance. These streets either do not or have not been confirmed as meeting weight bearing and road surface requirement for fire trucks.

Unmaintained streets are found throughout all subareas. This is not a surprise, as these areas tend to be at the edges of the city, are more rural in nature and are likely to have less improved roadways.

### **Water constraints**

Water constrained lots are scattered throughout all subareas but remain minimal overall. The largest amount of constrained parcels occurs in the Johnson Creek subarea, though proportionally numbers are low overall. See existing conditions: maps and data, page 21.

## GOAL PROTECTED AREAS

Previously mapped goal protected areas from the Bureau of Planning and Sustainability were studied to better understand the impacts of other constraints on low density zones in Portland.

### **Environmental overlays**

These areas show the City's environmental zones, including the 'p' protection zone, 'c' conservation zone, and 'v' Pleasant Valley Natural Resources zone. R10/R20 areas on the west have many conservation and protection zone overlays as well as the Johnson Creek subarea

### **Flood hazards**

These areas reflect the FEMA special flood hazard area, floodway, and 1996 Flood Inundation area. Most flood hazards are on the east side, with pockets in Johnson Creek and Columbia Corridor.

### **Landslide hazards**

These areas reflect Potential Rapidly Moving Landslide Hazard Zones as shown in the DOGAMI IMS-22 publication and High Susceptibility Deep Landslide, Landslide Deposit or Scarp as shown in the DOGAMI IMS-57 publication. Landslide hazards are overwhelmingly present on the west side, throughout all three subareas.

### **Wildfire hazards**

These areas are shown in the Wildfire Hazard Zone Map which is based on topography, weather, vegetation type and fuel density. All west subareas along with Johnson Creek have substantial wildfire hazard risk. Minimal to no wildfire hazards present in Columbia Corridor and Kelly Butte/Wilkes subareas.

### **Employment area**

These areas are designated Industrial Sanctuary and are an important part of meeting the City's future employment needs. No employment areas are designated on R10/R20 zoned lands.

### **Airport noise**

This area shows the 68 decibel and higher noise contour for the Portland International Airport. Residential densities are limited within this area. Columbia Corridor is the only impacted subarea and it includes several small patches within the airport noise overlay.

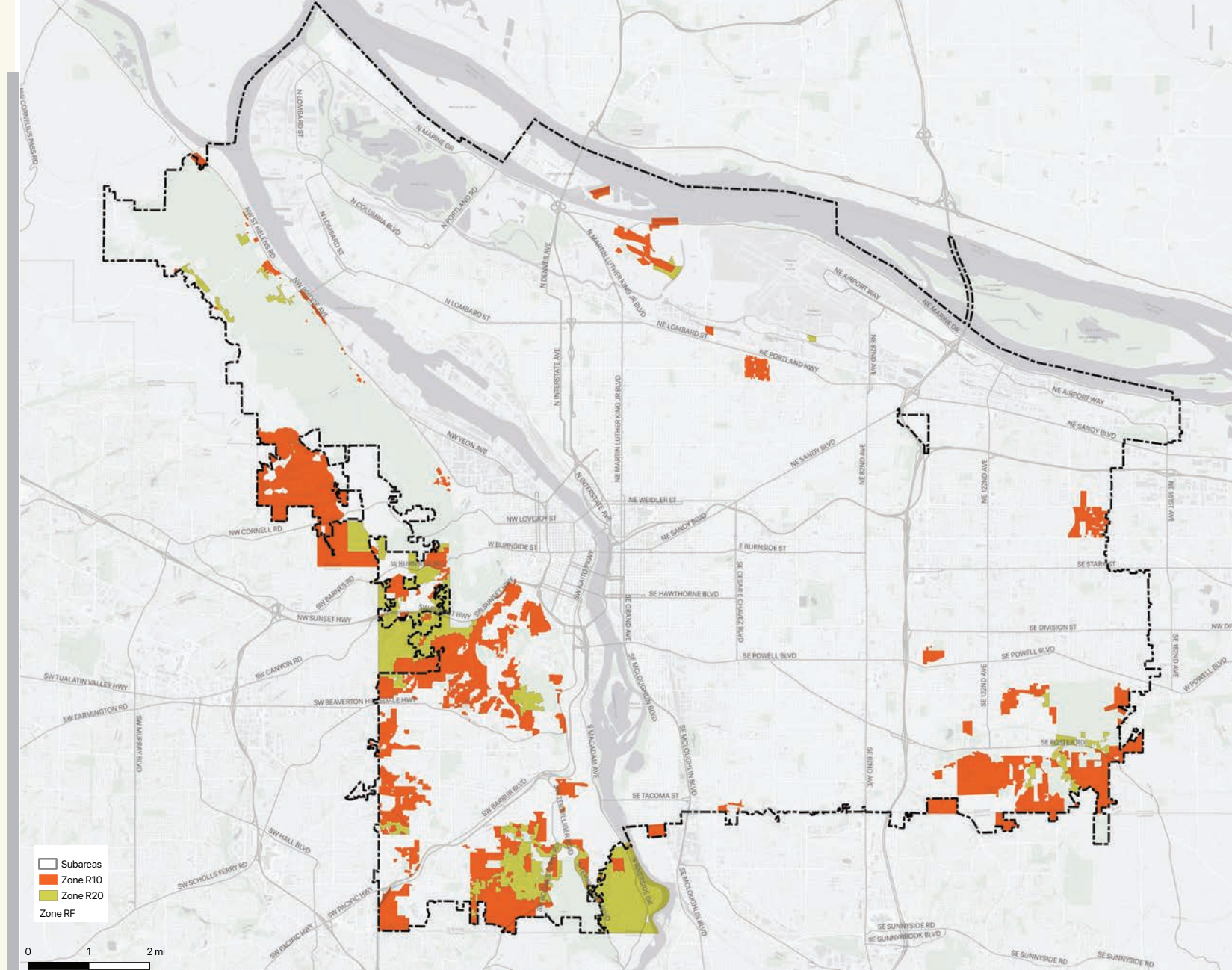
ATTACHMENT E

# RIP #2: MIDDLE HOUSING FOR R10 AND R20 ZONES

Existing Conditions Report: [maps and data](#)

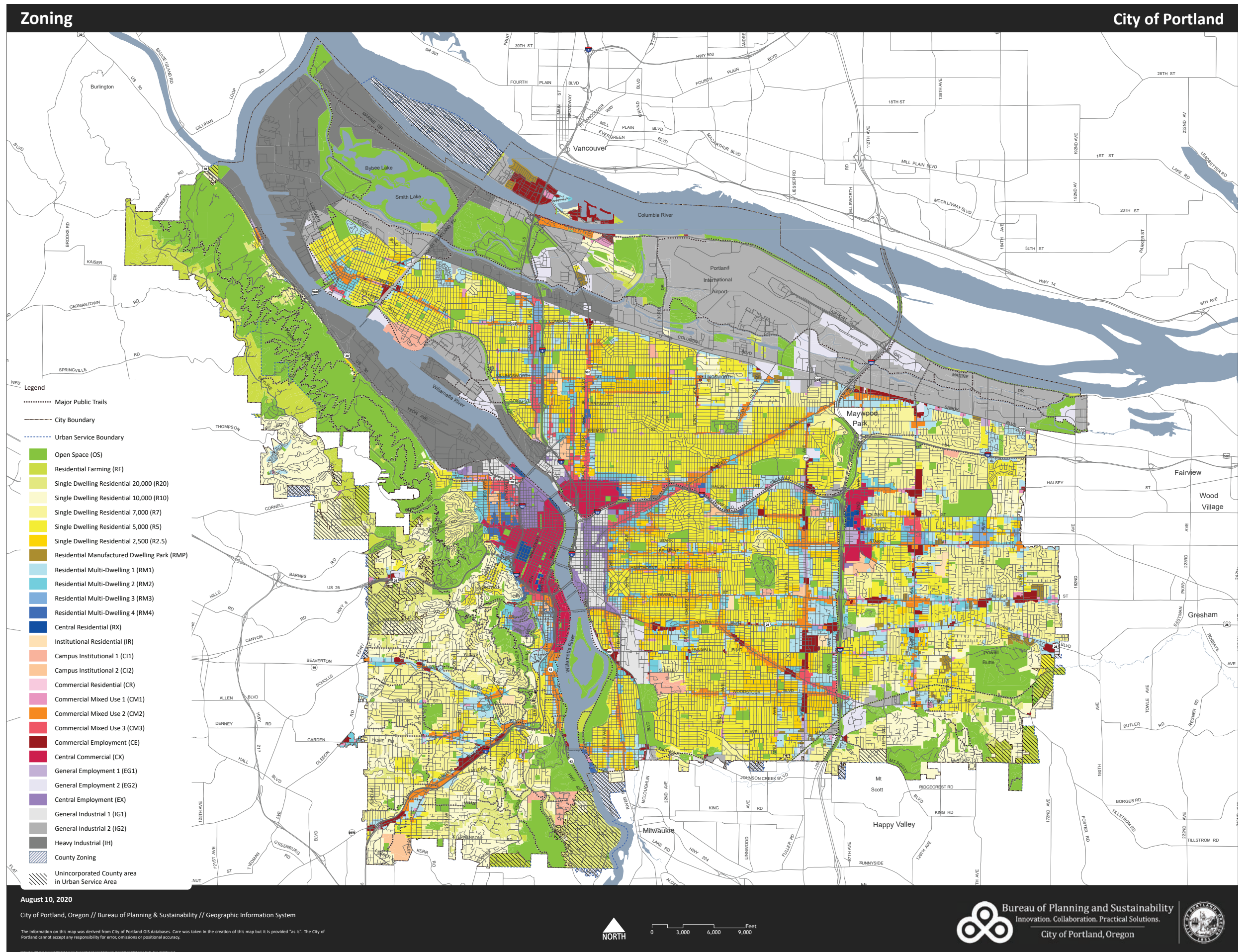
Prepared for Portland Bureau of Planning and Sustainability  
by Urbsworks, Inc.

June, 2021



# Existing Zoning

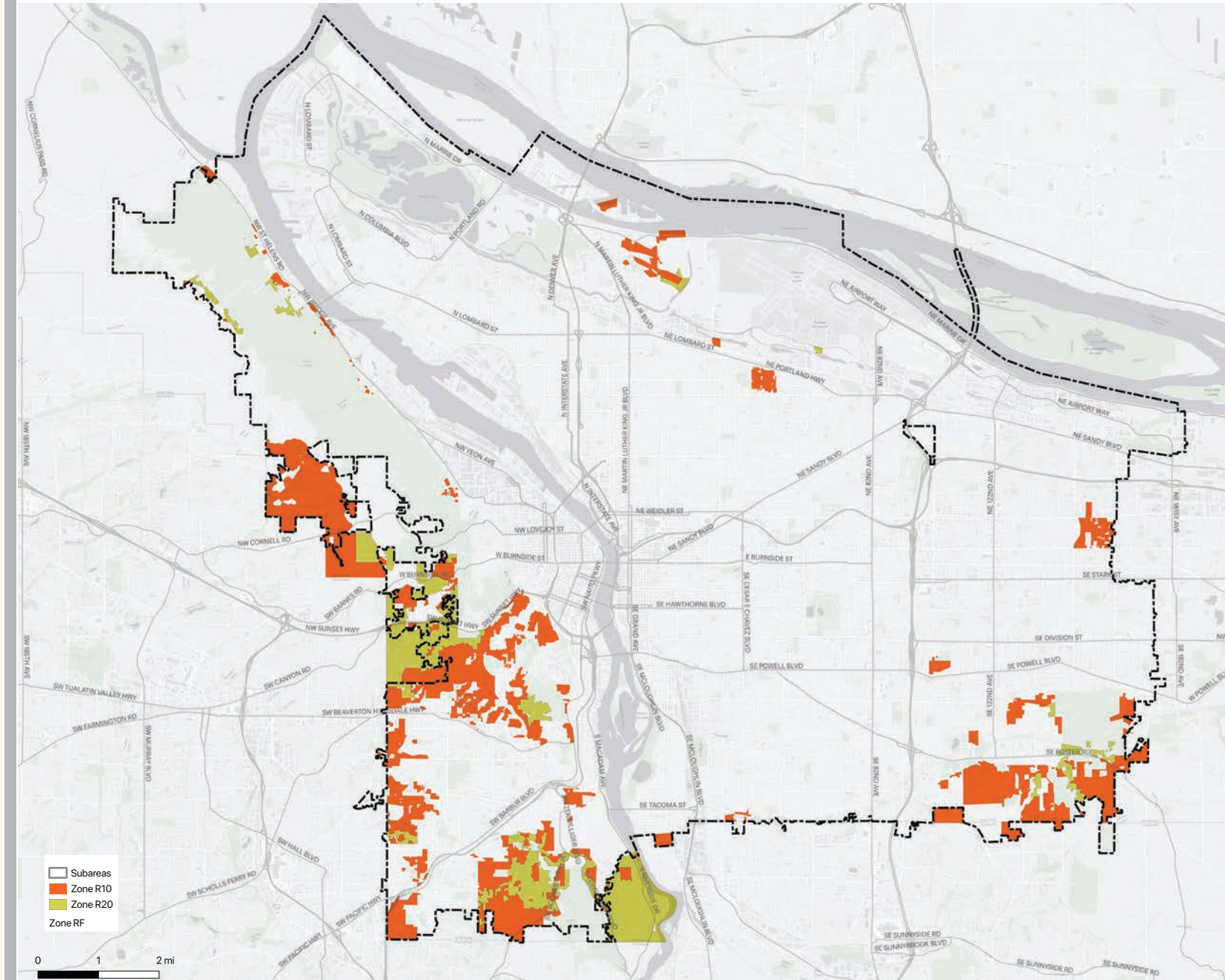
- » R7, R5, and R2.5 single-dwelling zones represent 90% of the single-dwelling residential lots in Portland, approximately 133,000 lots
- » A small percentage of land is zoned R10 and R20, approximately 16,000 lots





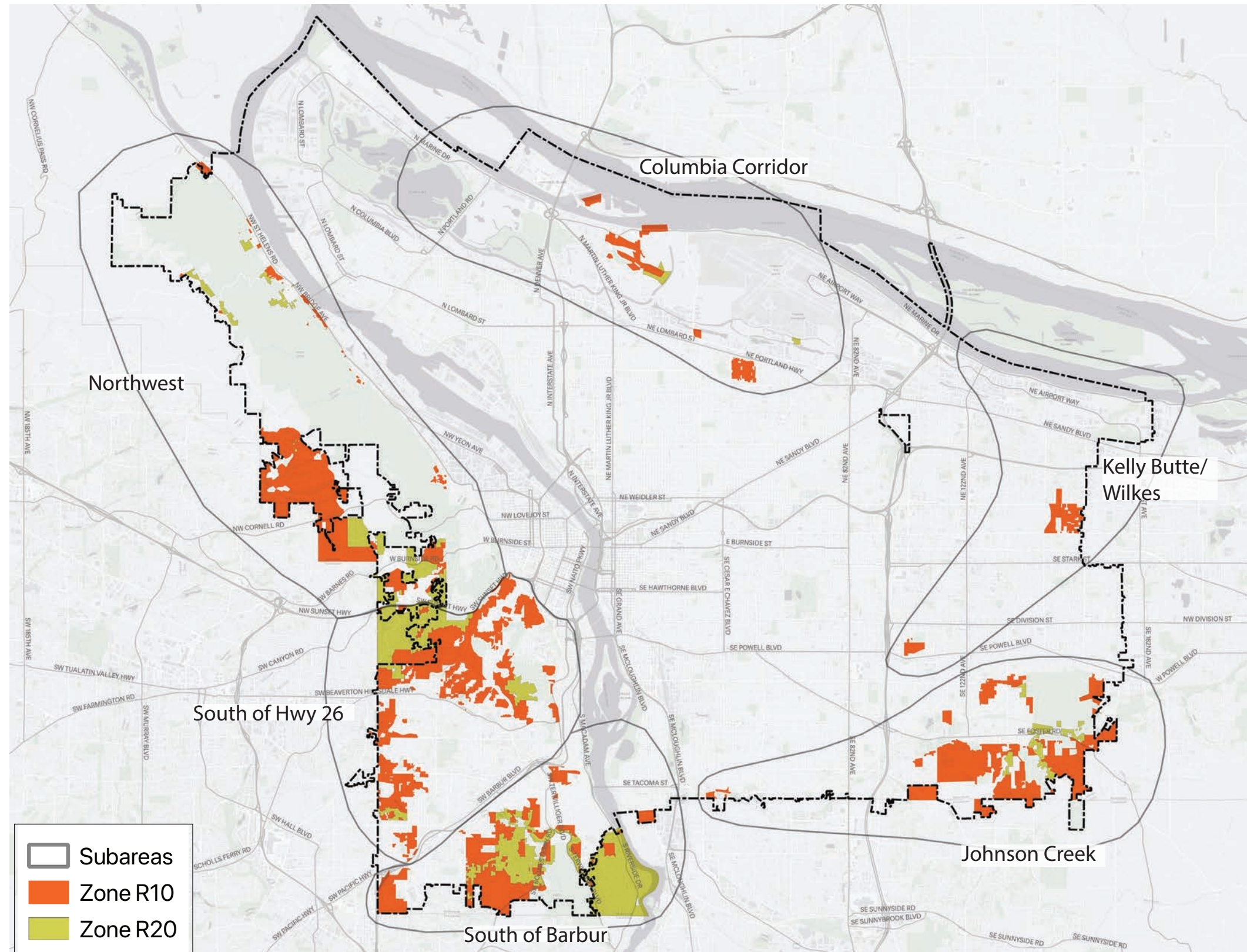
## Purpose

- » Urbsworks is tasked with addressing middle housing (cottage clusters and duplexes) for large-lot lower density zones R10 and R20
- » Six subareas were defined in advance of this project
- » We are looking at the built environment, demographics, and housing market
- » Incorporating some of the previous IBTER mapping work
- » Creating context-sensitive cottage cluster standards based on existing conditions and stakeholder feedback



## R10/R20 subareas

- » 1 - **Northwest Portland:** From the NW city boundary to Hwy 26
- » 2 - **South of Hwy 26:** between Hwy 26 and SW Barbur Boulevard
- » 3 - **South of Barbur:** Southwestern city boundary to Barbur Boulevard
- » 4 - **Columbia Corridor:** North and northeast, near Columbia Boulevard
- » 5 - **Kelly Butte/Wilkes:** North of NE Glisan Street, along eastern city boundary and areas adjacent to Kelly Butte Natural Area
- » 6 - **Johnson Creek:** Southeast edge of City in areas adjacent to Powell Butte and along Johnson Creek



# DEMOGRAPHICS

# Demographics key findings

- » **East subareas are more similar demographically.** Generally, these areas are more racially diverse, have lower income-earners, and lower levels of education attainment.
- » **West subareas are similar demographically.** Generally, these areas have more white people, higher incomes, and more people with advanced degrees.

## Race and Ethnicity

- » East subareas including Columbia Corridor, Kelly Butte/Wilkes, and Johnson Creek have higher populations of people of color, while west subareas have higher percentages of white people
- » West subareas are predominantly white: 88% South of Barbur, 86% in Southwest, and 82% in Northwest
- » East subareas vary in population breakdown with greatest percentage of Black people in Columbia Corridor (13%) with next greatest number of 7% in Kelly Butte/Wilkes subarea
- » Asian populations are highest in Kelly Butte/Wilkes and Johnson Creek subareas (both 12%) and Northwest (11%)
- » Hispanic populations are highest in Kelly Butte/Wilkes (18%) and Columbia Corridor (17%)

## Income

- » Individual incomes in eastern subareas are substantially lower than those in the west, with over 35% of individuals earning 75,000 a year or greater as compared with eastern subareas at 15% (Columbia Corridor) 12% (Kelly Butte/Wilkes) and 18% (Johnson Creek).

\*All subarea data is from 2019 American Communities Survey 5-year estimates.

## Key to study areas

|   |     |                 |   |    |                                 |
|---|-----|-----------------|---|----|---------------------------------|
| 1 | NW  | Northwest       | 4 | NE | Columbia Corridor               |
| 2 | SW1 | South of Hwy 26 | 5 | OE | Kelly Butte/Wilkes (outer east) |
| 3 | SW2 | South of Barbur | 6 | SE | Johnson Creek                   |

|                               | Study Areas |          |         |        |        |        | Portland 2019 |
|-------------------------------|-------------|----------|---------|--------|--------|--------|---------------|
|                               | 1   NW      | 2   SW 1 | 3   SW2 | 4   NE | 5   OE | 6   SE |               |
| <b>Population</b>             |             |          |         |        |        |        |               |
| Total population              | 17,218      | 32,029   | 18,205  | 10,887 | 25,963 | 51,619 | 653,467       |
| <b>Race and Ethnicity</b>     |             |          |         |        |        |        |               |
| Total people of color         | 2,825       | 3,440    | 2,059   | 3,894  | 9,948  | 15,831 | 192,808       |
| People of color               | 16%         | 11%      | 11%     | 36%    | 38%    | 31%    | 30%           |
| White                         | 82%         | 88%      | 86%     | 71%    | 73%    | 70%    | 70%           |
| Black                         | 1%          | 2%       | 2%      | 13%    | 7%     | 6%     | 6%            |
| Native American               | <1%         | <1%      | <1%     | 1%     | 1%     | 1%     | 1%            |
| Asian                         | 11%         | 5%       | 4%      | 4%     | 12%    | 12%    | 8%            |
| Native Hawaiian / Pacific Is. | <1%         | <1%      | <1%     | 1%     | 1%     | 1%     | 1%            |
| Other                         | 5%          | 4%       | 6%      | 6%     | 5%     | 5%     | 5%            |
| Hispanic                      | 4%          | 4%       | 5%      | 17%    | 18%    | 11%    | 10%           |

|                         | Study Areas |          |         |        |        |        | Portland 2019 |
|-------------------------|-------------|----------|---------|--------|--------|--------|---------------|
|                         | 1   NW      | 2   SW 1 | 3   SW2 | 4   NE | 5   OE | 6   SE |               |
| <b>Income</b>           |             |          |         |        |        |        |               |
| Median HH Income        |             |          |         |        |        |        | \$76,231      |
| Per Capita Income       |             |          |         |        |        |        | \$45,035      |
| % of people with income | 90%         | 92%      | 91%     | 87%    | 87%    | 86%    |               |
| % people without income | 10%         | 8%       | 9%      | 13%    | 13%    | 14%    |               |
| \$1 to \$15,000         | 19%         | 18%      | 21%     | 27%    | 30%    | 24%    |               |
| \$15,000 - \$34,999     | 16%         | 17%      | 17%     | 29%    | 31%    | 28%    |               |
| \$35,000 - \$49,999     | 10%         | 9%       | 11%     | 14%    | 13%    | 15%    |               |
| \$50,000 - \$74,999     | 14%         | 14%      | 13%     | 15%    | 16%    | 15%    |               |
| \$75,000 and above      | 42%         | 41%      | 37%     | 15%    | 12%    | 18%    |               |

# Demographics key findings

## Age

» Age groups are not drastically different across subareas ; however, the share of seniors (60 and up) is higher than the city as a whole.

## Education

» West subareas are highly educated with almost 3/4 of the population with bachelor’s or advanced degree (71% in northwest, and 72% in both southwest subareas). This is almost 20% higher than Portland as a whole

» East subareas have lower educational attainment. College or advanced degree is 22% in Kelly Butte/Wilkes subarea and 32% in Columbia Corridor and Johnson Creek areas

## Housing

» Homeowners comprise a much higher share of housing in all subareas (59-83%) than the city as a whole (54%)

» More renters are found in east subareas, more owners in west subareas

» Columbia Corridor subarea has the highest percentage of renters (41%) which is closer to the city as a whole (46% renters) while Northwest subarea has the highest percentage of home ownership (76%).

## Commute Mode

» Higher than average share of the population commute by single occupancy vehicles

» A greater percent of people work from home in west subareas

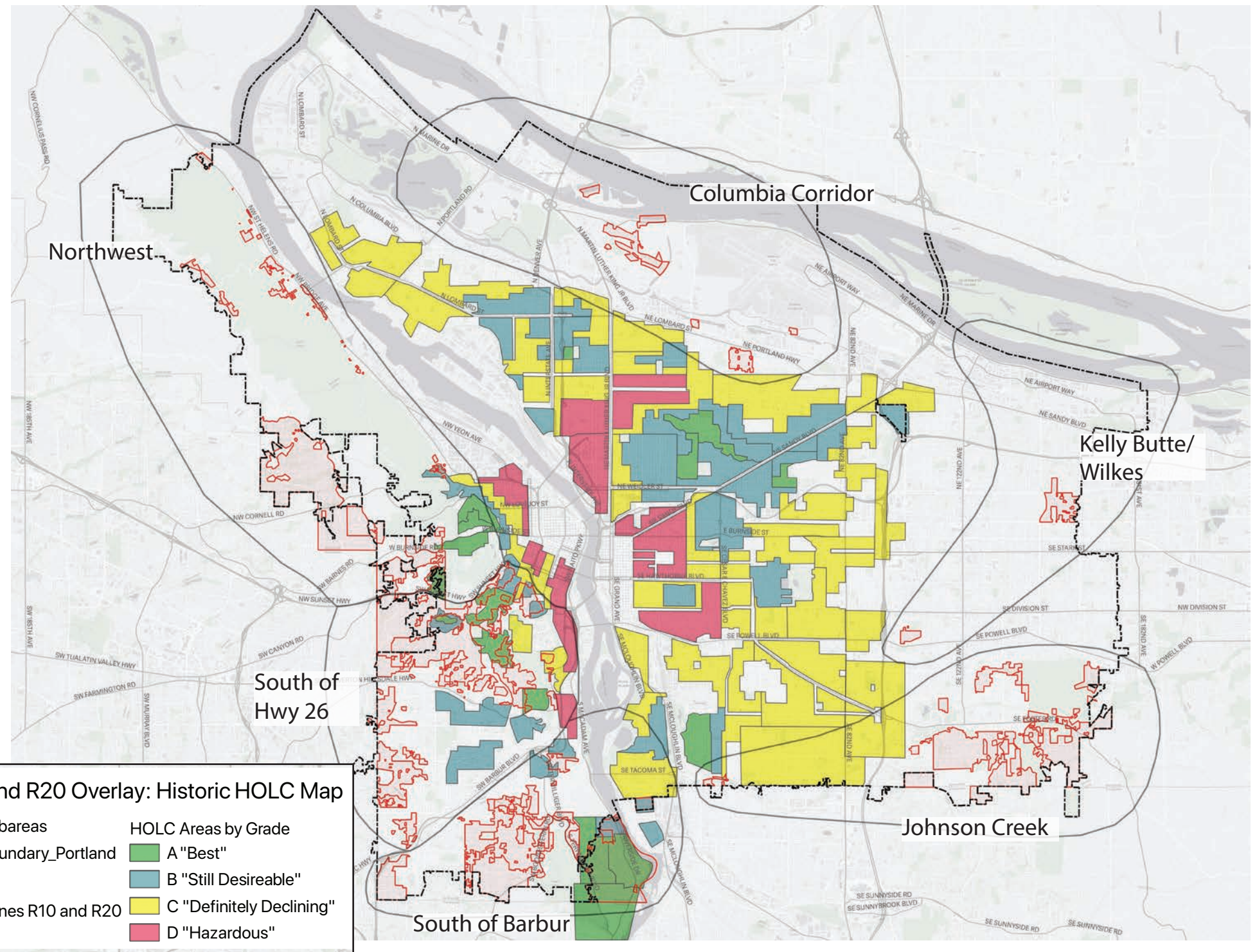
\*All subarea data is from 2019 American Communities Survey 5-year estimates.

|  | Study Areas |          |         |        |        |        | Portland 2019 |
|--|-------------|----------|---------|--------|--------|--------|---------------|
|  | 1   NW      | 2   SW 1 | 3   SW2 | 4   NE | 5   OE | 6   SE |               |
| <b>Age</b>                               |             |          |         |        |        |        |               |
| 19 and under                             | 22%         | 22%      | 24%     | 20%    | 22%    | 26%    | 20%           |
| 20 to 59                                 | 55%         | 51%      | 52%     | 59%    | 53%    | 54%    | 61%           |
| 60 - 69                                  | 13%         | 14%      | 15%     | 14%    | 12%    | 11%    | 10%           |
| 70 and over                              | 10%         | 13%      | 9%      | 8%     | 12%    | 8%     | 9%            |
| <b>Highest education level completed</b> |             |          |         |        |        |        |               |
| Less than HS                             | <1%         | 1%       | <1%     | 14%    | 18%    | 10%    | 7%            |
| HS diploma                               | 7%          | 8%       | 7%      | 21%    | 27%    | 23%    | 15%           |
| Some college                             | 15%         | 15%      | 14%     | 27%    | 26%    | 24%    | 26%           |
| BA/BS degree                             | 35%         | 36%      | 39%     | 21%    | 15%    | 18%    | 31%           |
| Advanced degree                          | 36%         | 36%      | 33%     | 11%    | 7%     | 14%    | 21%           |
| <b>Housing tenure</b>                    |             |          |         |        |        |        |               |
| Total HH                                 | 7,254       | 13,547   | 6,914   | 4,065  | 9,274  | 16,865 | 280,176       |
| Share HH Own                             | 76%         | 74%      | 83%     | 59%    | 65%    | 70%    | 54%           |
| Share HH Rent                            | 24%         | 26%      | 17%     | 41%    | 35%    | 30%    | 46%           |
| <b>Commute mode</b>                      |             |          |         |        |        |        |               |
| Total Workers                            | 9,197       | 16,029   | 9,848   | 5,325  | 10,481 | 24,873 | 366,463       |
| Share SOV                                | 73%         | 65%      | 65%     | 65%    | 68%    | 69%    | 56%           |
| Share Non SOV                            | 27%         | 35%      | 35%     | 35%    | 32%    | 31%    | 44%           |
| Share Carpool                            | 6%          | 8%       | 10%     | 8%     | 12%    | 14%    | 8%            |
| Share Transit                            | 3%          | 6%       | 6%      | 11%    | 8%     | 8%     | 13%           |
| Share Bicycle                            | 2%          | 2%       | 2%      | 3%     | 1%     | 1%     | 5%            |
| Share Walk                               | 3%          | 5%       | 5%      | 4%     | 2%     | 1%     | 6%            |
| Share Other                              | 1%          | <1%      | <1%     | 1%     | 1%     | 1%     | 1%            |
| Share Telework                           | 11%         | 13%      | 11%     | 7%     | 4%     | 6%     | 9%            |

# OPPORTUNITY AND ACCESS

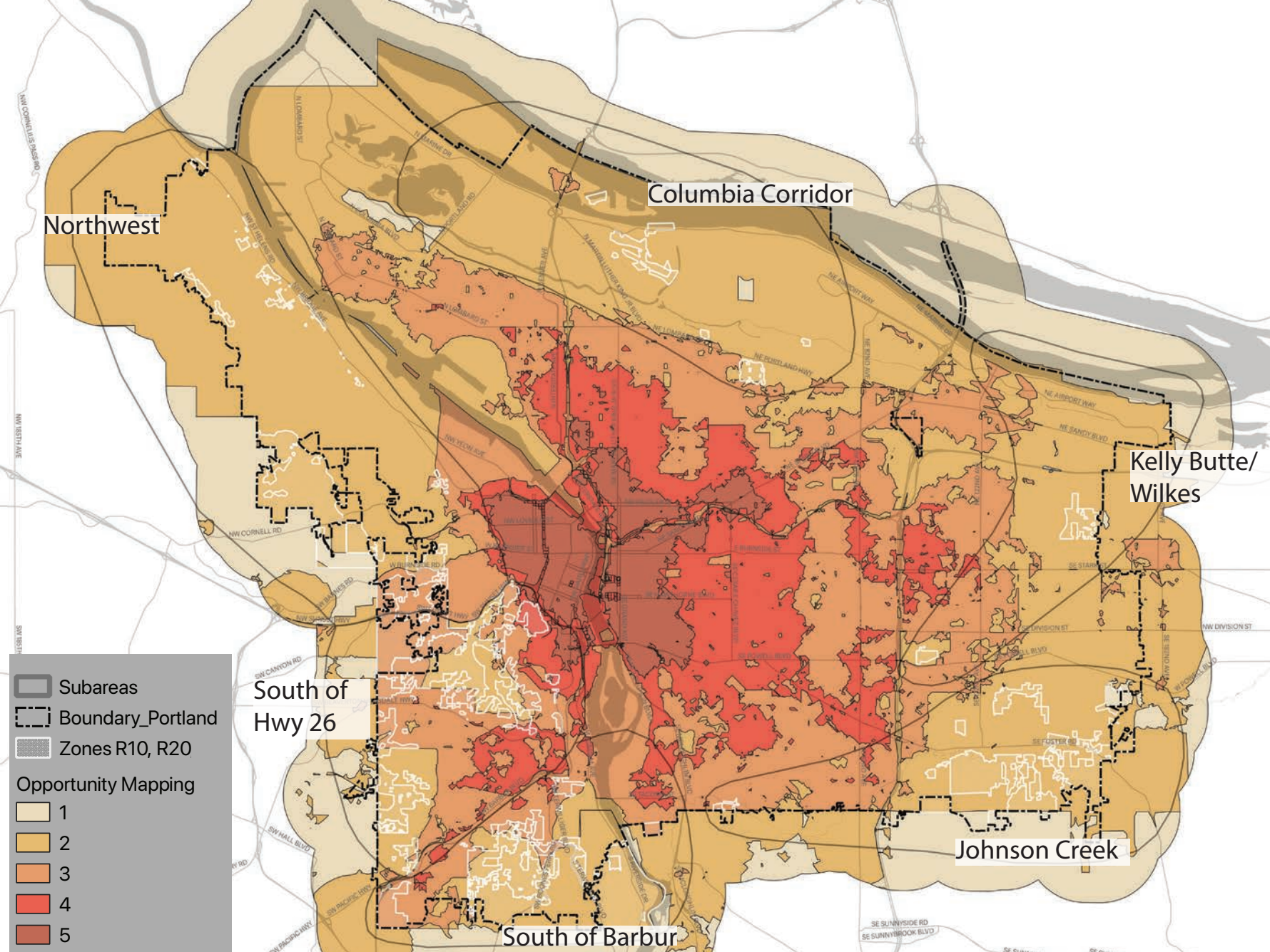
# Home Owners' Loan Corporation (HOLC) Historic and Racist Redlining Maps

- » Historical and racist practice of redlining has been layered with existing R10 and R20 zones to understand impacts for this project
- » Most R10 and R20 were not included in the HOLC map
- » No R10 and R20 areas on the east side were mapped
- » West subareas have patches of green areas, though minimal. This includes all of Dunthorpe and smaller SW areas close to downtown
- » South of Barbur: no areas zoned R10/R20 were redlined
- » South of Hwy 26 subarea has the greatest mix of neighborhood grading, with patches of blue, yellow and green



HOLC data from Mapping Inequality:

Robert K. Nelson, LaDale Winling, Richard Marciano, Nathan Connolly, et al., "Mapping Inequality," American Panorama, ed. Robert K. Nelson and Edward L. Ayers, accessed February 17, 2021, <https://dsl.richmond.edu/panorama/redlining/#loc=12/45.544/-122.771&city=portland-or>.



## Opportunity mapping

- » The 2035 Comprehensive Plan and the Portland Plan's Healthy Connected City provide guidance to expand opportunities for Portlanders to live in complete communities offering a mix of desirable services and opportunities.
- » The Opportunity Map categorizes Portland neighborhoods into varying levels of opportunity, scored Low to High, with market-rate housing in high-opportunity neighborhoods tending to be expensive compared to more affordable housing in areas that offer fewer opportunities.

### Opportunity Methodology includes five categories:

- » Childhood Education
- » Employment
- » Transportation
- » Access to Family Wage Jobs
- » Healthy Eating/Active Living

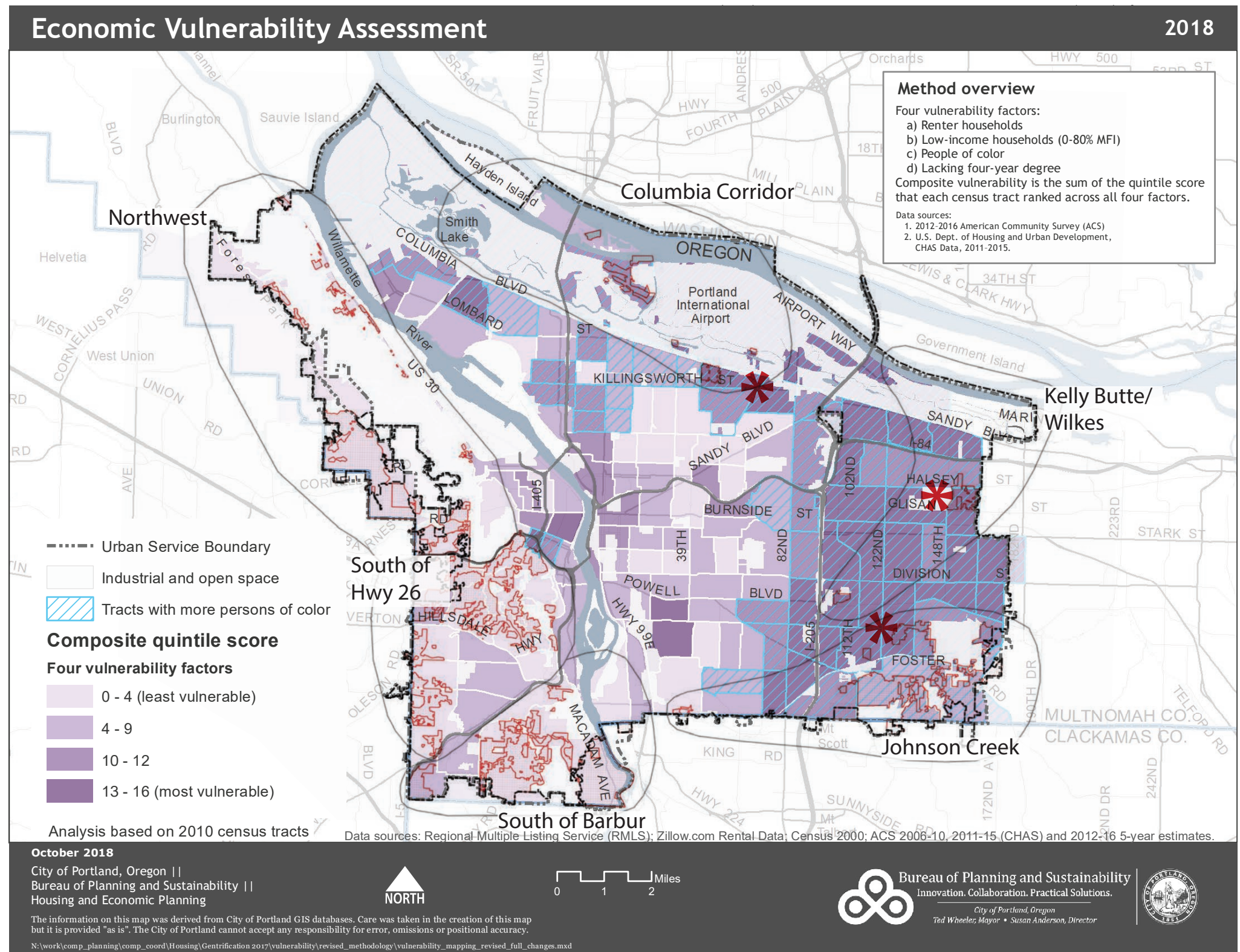
## Key findings


- » Levels of opportunity scaled low (1) to high (5). White overlay shows zones R10 and R20
- » Areas zoned R10 and R20 are mostly on the outskirts of the City, with less access to walkable neighborhood centers and other amenities, therefore they have a lower rating on the opportunity scale.
- » **East subareas are all Level 2**, with the exception of one small area in Johnson Creek
- » **West subareas are mostly Level 2, with some Level 3 and Level 4**, especially the Southwest subarea.



# Economic Vulnerability Assessment

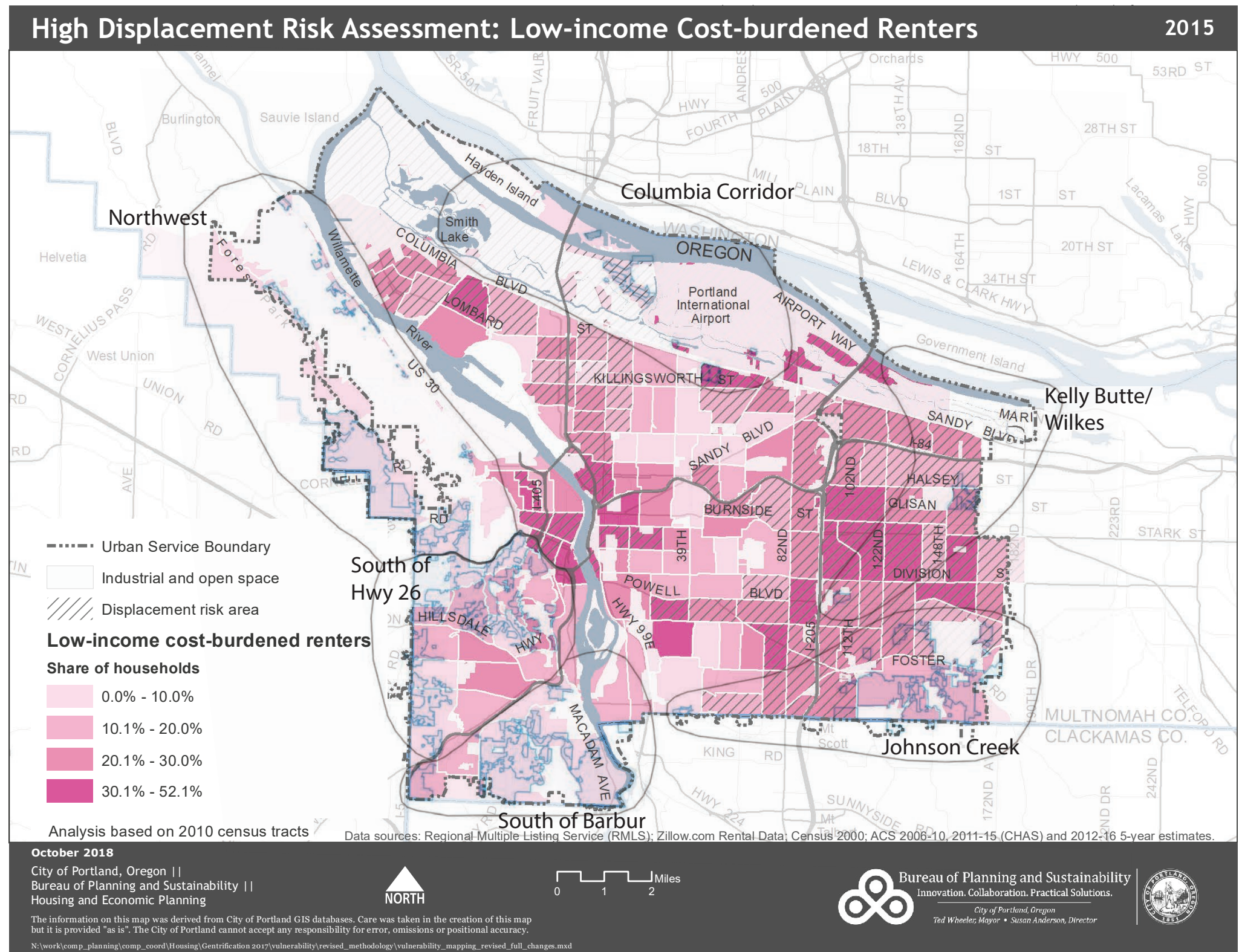
- » Four levels of vulnerability from light (least vulnerable) to dark (most vulnerable)
- » Red outline shows R10 and R20 overlay
- » **East subareas are substantially more vulnerable** than those on the west
- » Kelly Butte/Wilkes subarea is most vulnerable, with pockets also in Columbia Corridor and some in Johnson Creek
- » West subareas are primarily in least vulnerable category




 Zones R10 and R20

# Displacement Risk Assessment

- » Four levels of low income cost-burdened renters show share of households by percentages low (light) to high (dark)
- » “Cost burdened” means households that are paying more than 30% of their income on housing
- » Blue outline shows R10 and R20 overlay
- » **West subareas have significantly fewer low-income cost-burdened households**
- » **Johnson Creek, Kelly Butte/Wilkes, and Columbia Corridor have displacement risk areas; none present in west subareas**

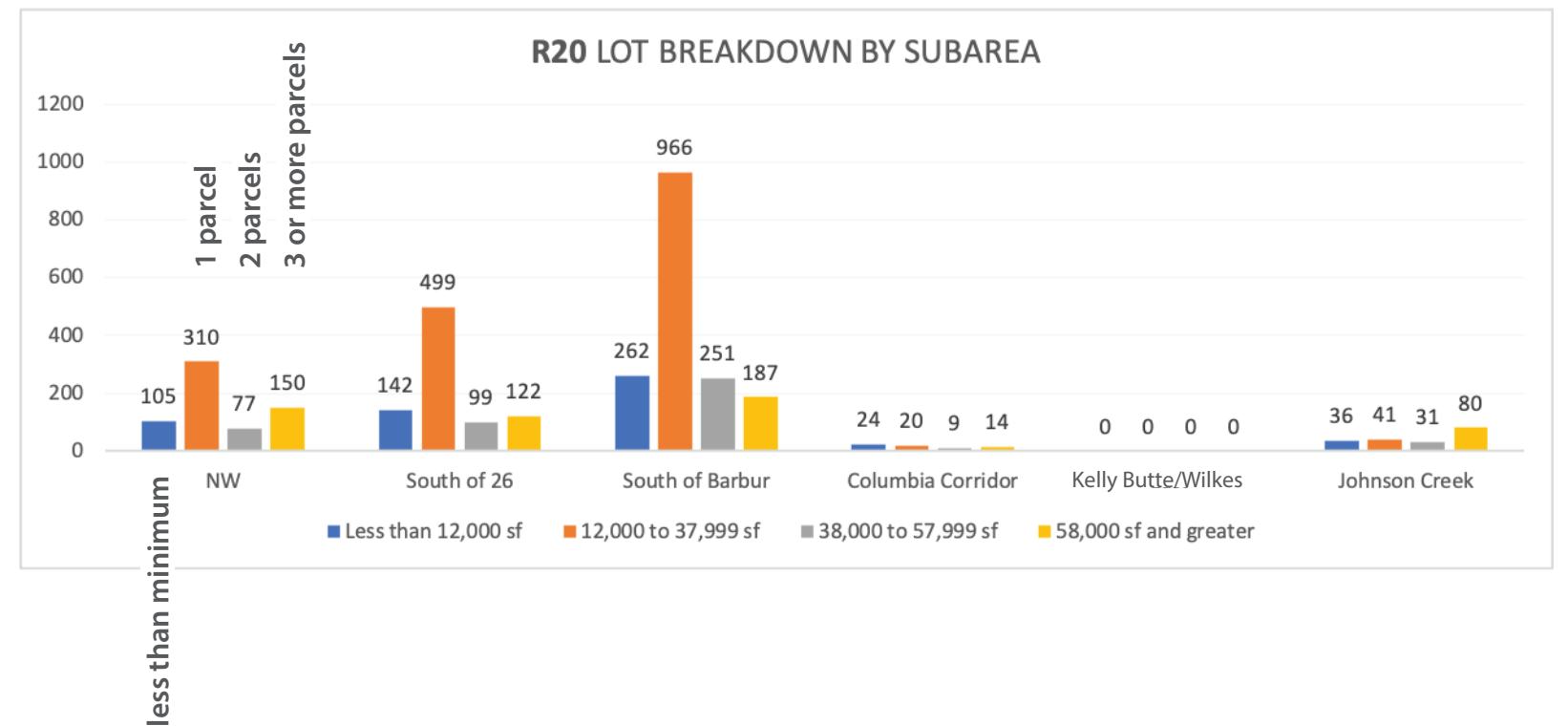
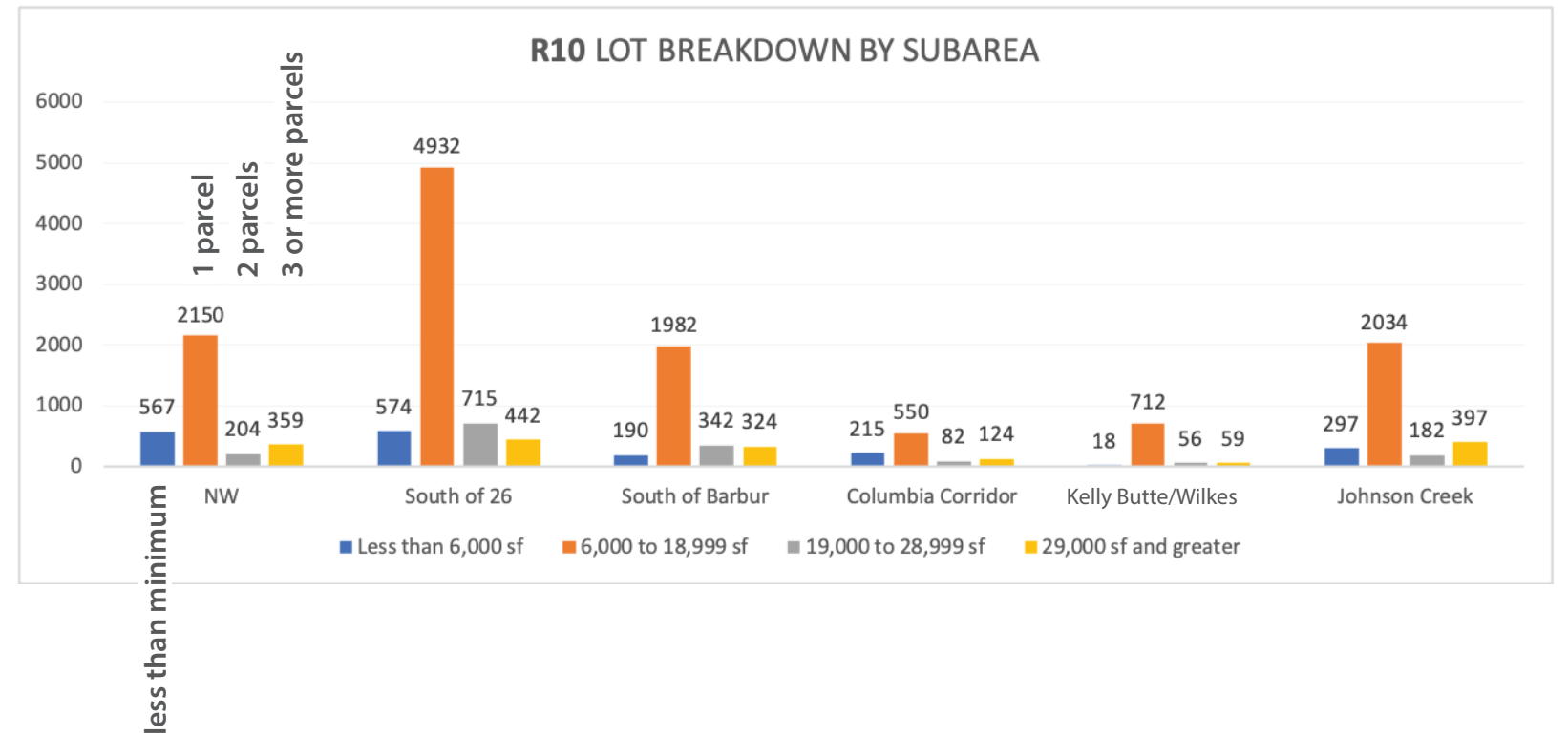


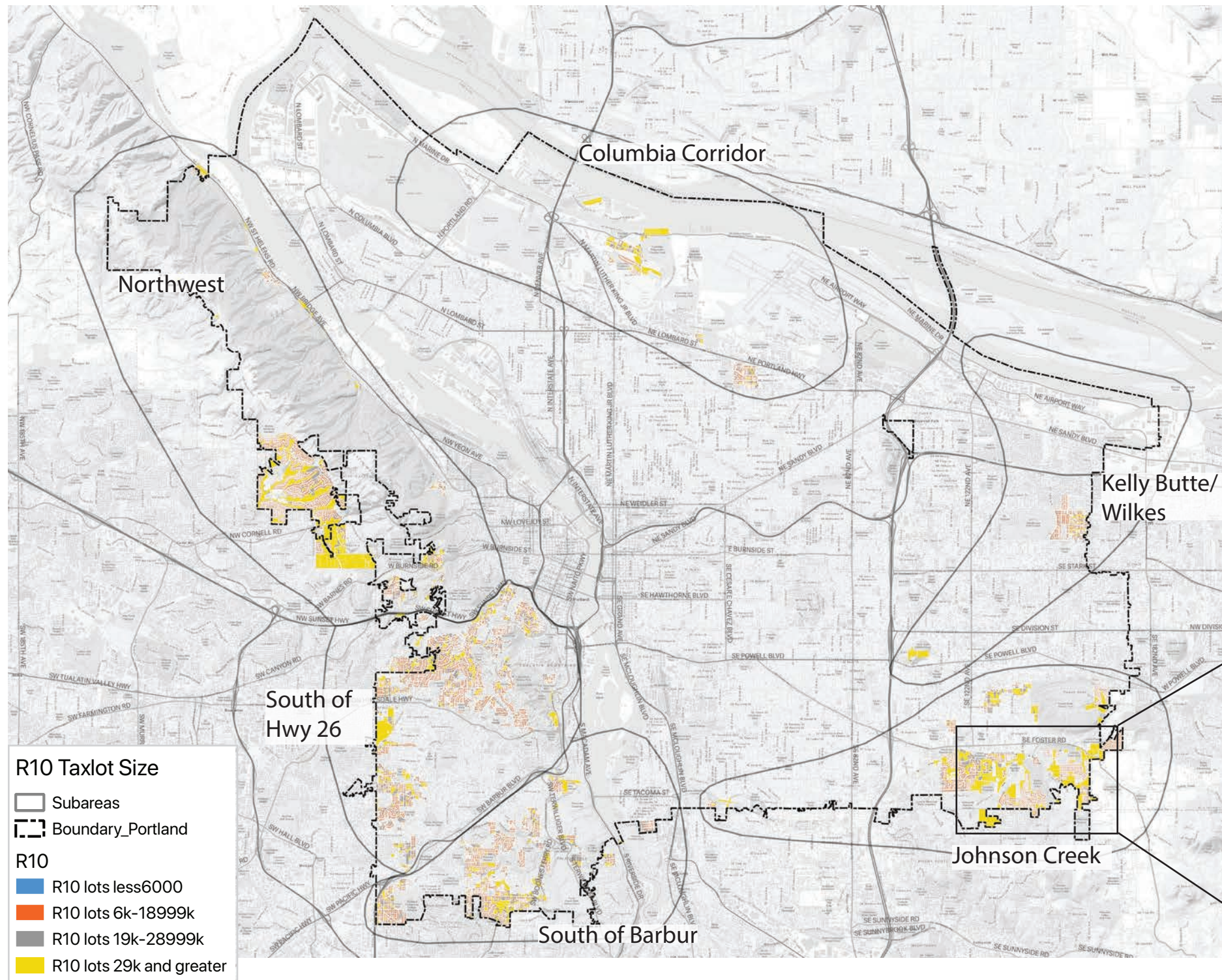
 Zones R10 and R20

## LOT SIZES

## Lot sizes

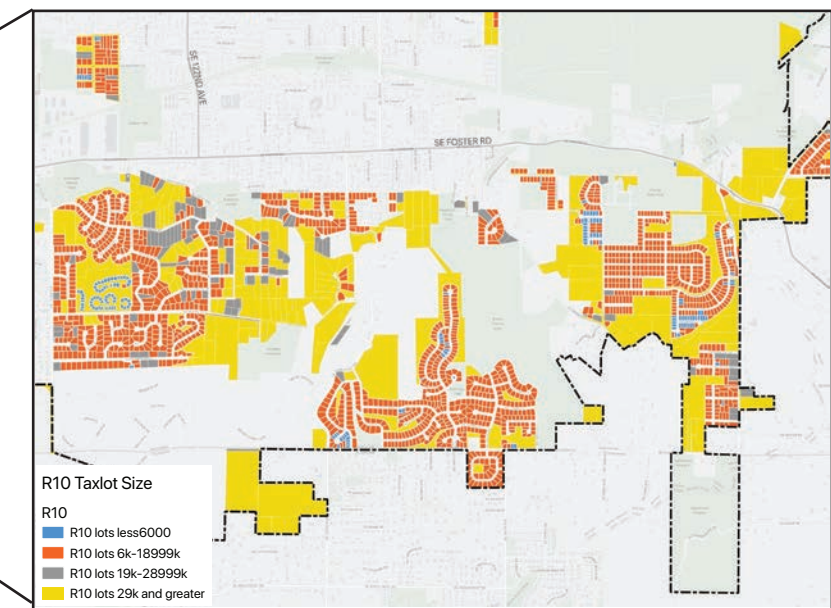
- » Evaluated Lot sizes to understand how many were below the minimum size, met the minimum, or were large enough to be divided into 2 or 3 or more parcels.
- » Largest portion of lots that are immediately developable (shown in orange)
- » Range of additional lots that could potentially be divided into 2 or 3 or more parcels across subareas

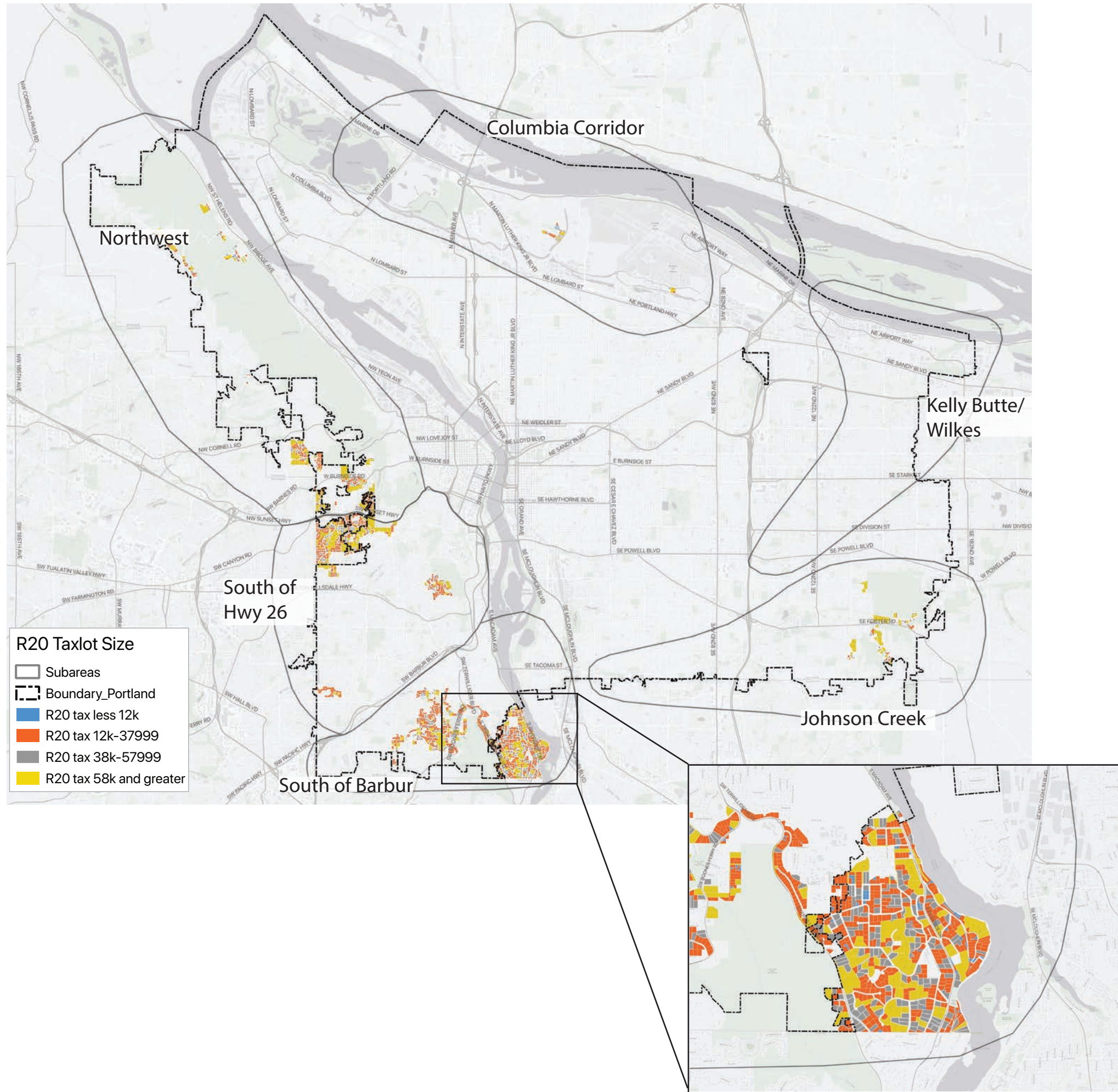




## R10 Lot sizes

- » Detail of R10 lots in Johnson Creek for illustrative purposes
- » Yellow area shows lots that can potentially be divided into 3 or more parcels





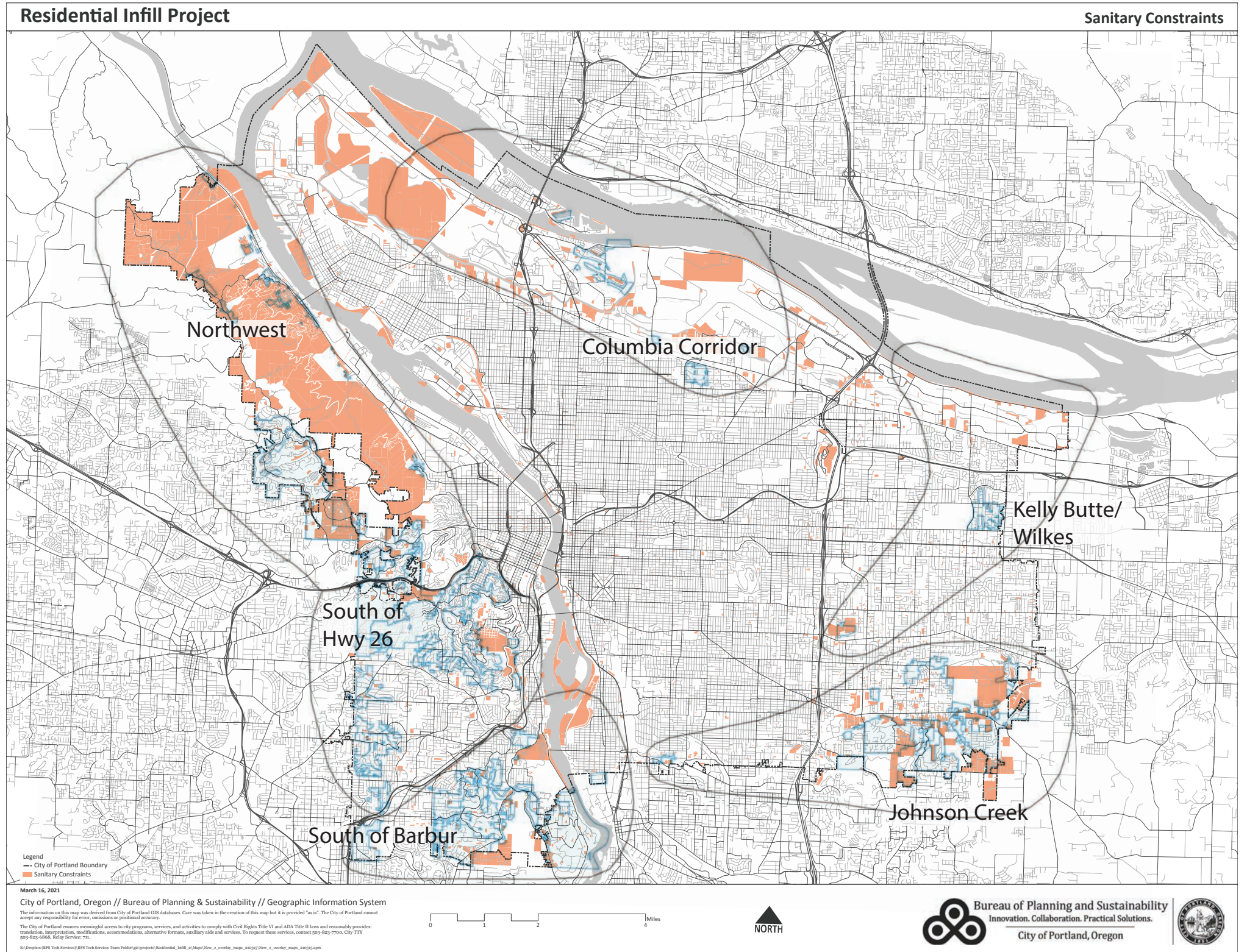
## R20 Lot sizes

- » Detail of R20 lots in Dunthorpe for illustrative purposes
- » Yellow area shows lots that can potentially be divided into 3 or more parcels

# INFRASTRUCTURE CONSTRAINTS

# Infrastructure Constraints: Sanitary

- » Lots are shown as constrained if they have been identified as not able to connect to the public sewer system
- » **Sewer constraints are most prominent in Northwest** for both zones
- » Johnson Creek subarea also has a large number of sanitary-constrained lots

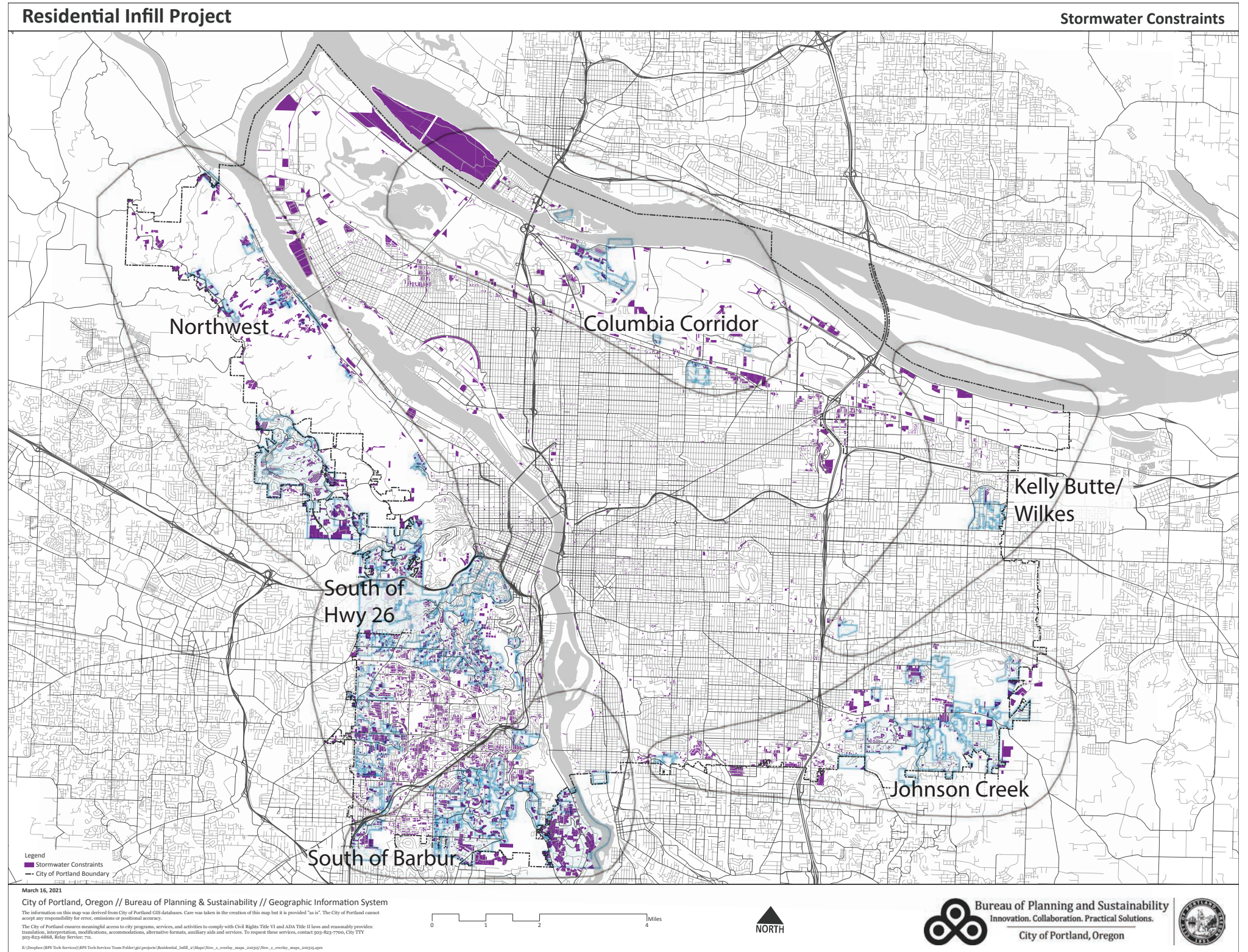


Zones R10 and R20



# Stormwater Constraints

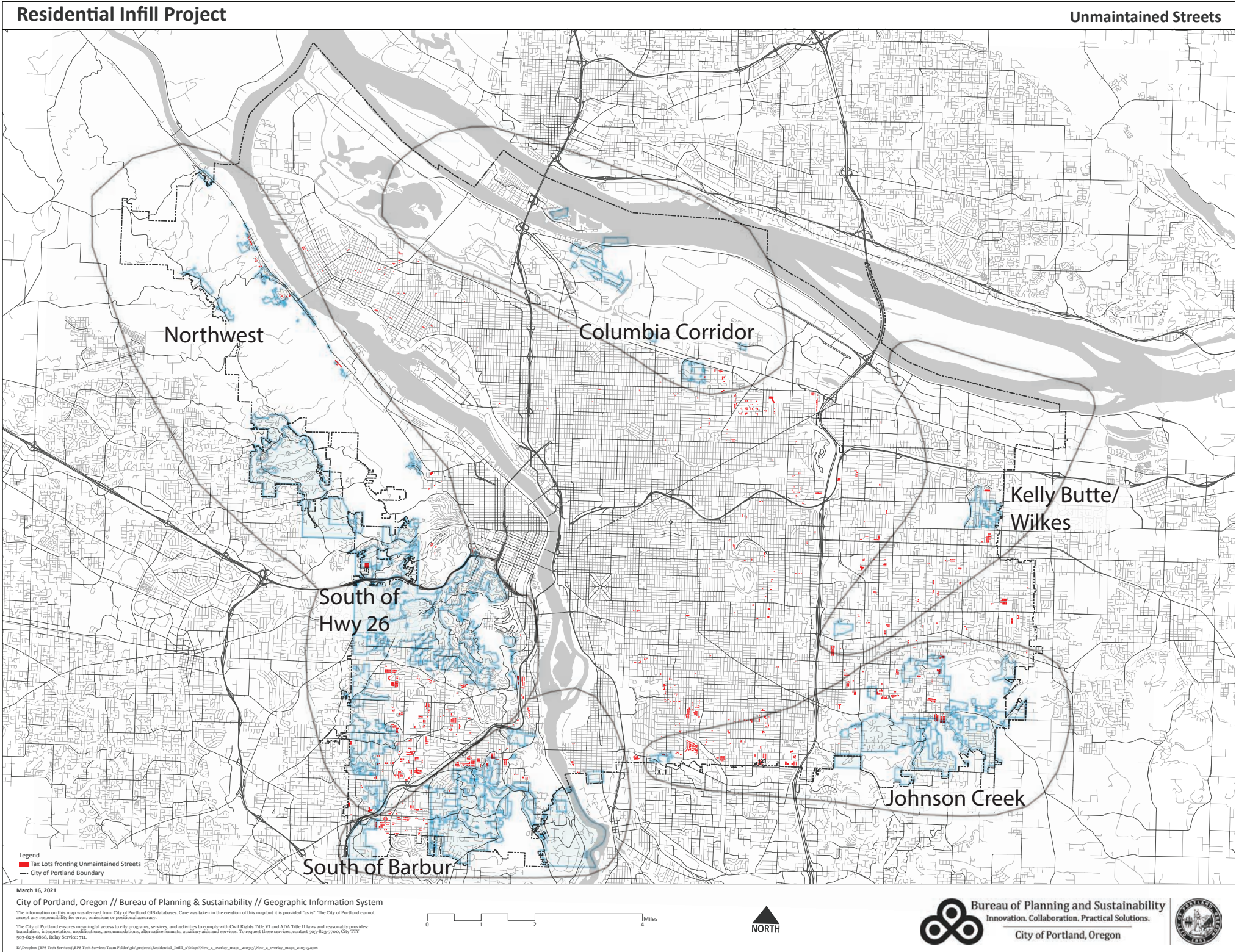
- » Lots are shown as constrained if they are more than 50' from a mapped stormwater pipe or culvert, combined sewer pipe, sump, or stream/river/ drainageway, AND meet one or more of the following conditions:
  - » are less than 10' to seasonal high groundwater
  - » are identified as not suitable for infiltration based on soil and slope
  - » in a mapped wellhead protection area
- » Most **stormwater constraints are concentrated on the west side**, with some pockets in the Johnson Creek subarea



Zones R10 and R20

# Unmaintained streets

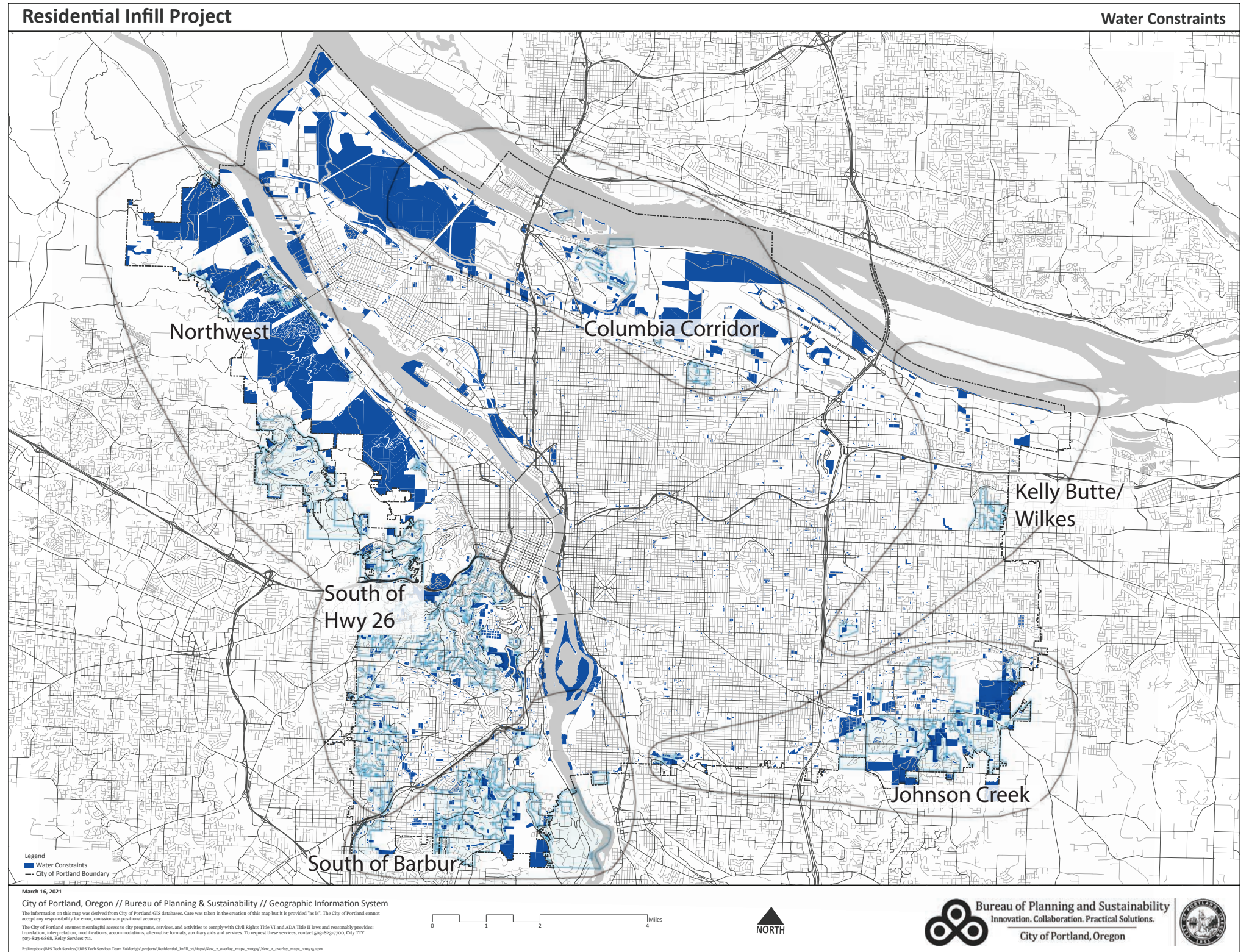
- » Lots are constrained if they only front on streets that have not been accepted for maintenance. These streets either do not or have not been confirmed as meeting the weight bearing and road surface requirement for fire trucks.
- » **Minimal transportation constraints** in R10/R20 zones throughout all subareas




Zones R10 and R20

# Water Constraints

- » Lots are shown as constrained if they meet one or more of the following conditions:
  - » 1 | greater than 50' from a water main;
  - » 2 | less than 50' from a 2" water distribution main AND not within 50' of a distribution main larger than 2"
- » Water constrained lots are scattered throughout all subareas, but remains **minimal overall**

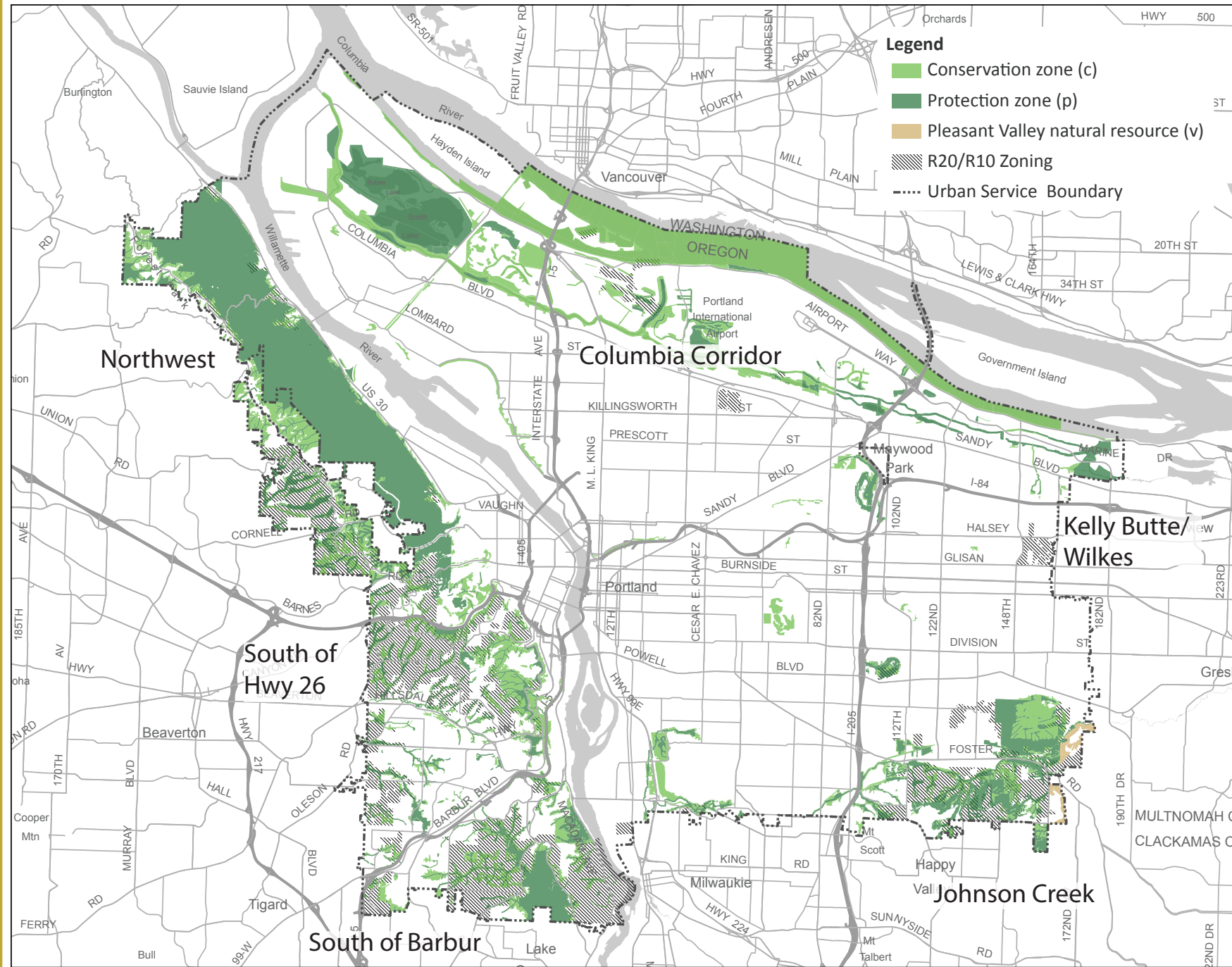


 Zones R10 and R20

## **GOAL PROTECTED AREAS**

# Environmental Overlays

- » These areas show the City's environmental zones, including the 'p' protection zone, 'c' conservation zone, and 'v' Pleasant Valley Natural Resources zone.
- » R10/R20 areas on the west have many conservation and protection zone overlays as well as the Johnson Creek subarea



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## Residential Infill Project - Existing Conditions Atlas

### Environmental Overlays

**Legend**

- Conservation zone (c)
- Protection zone (p)
- Pleasant Valley natural resource (v)
- R20/R10 Zoning
- Urban Service Boundary

**North**

0 1 2 Miles

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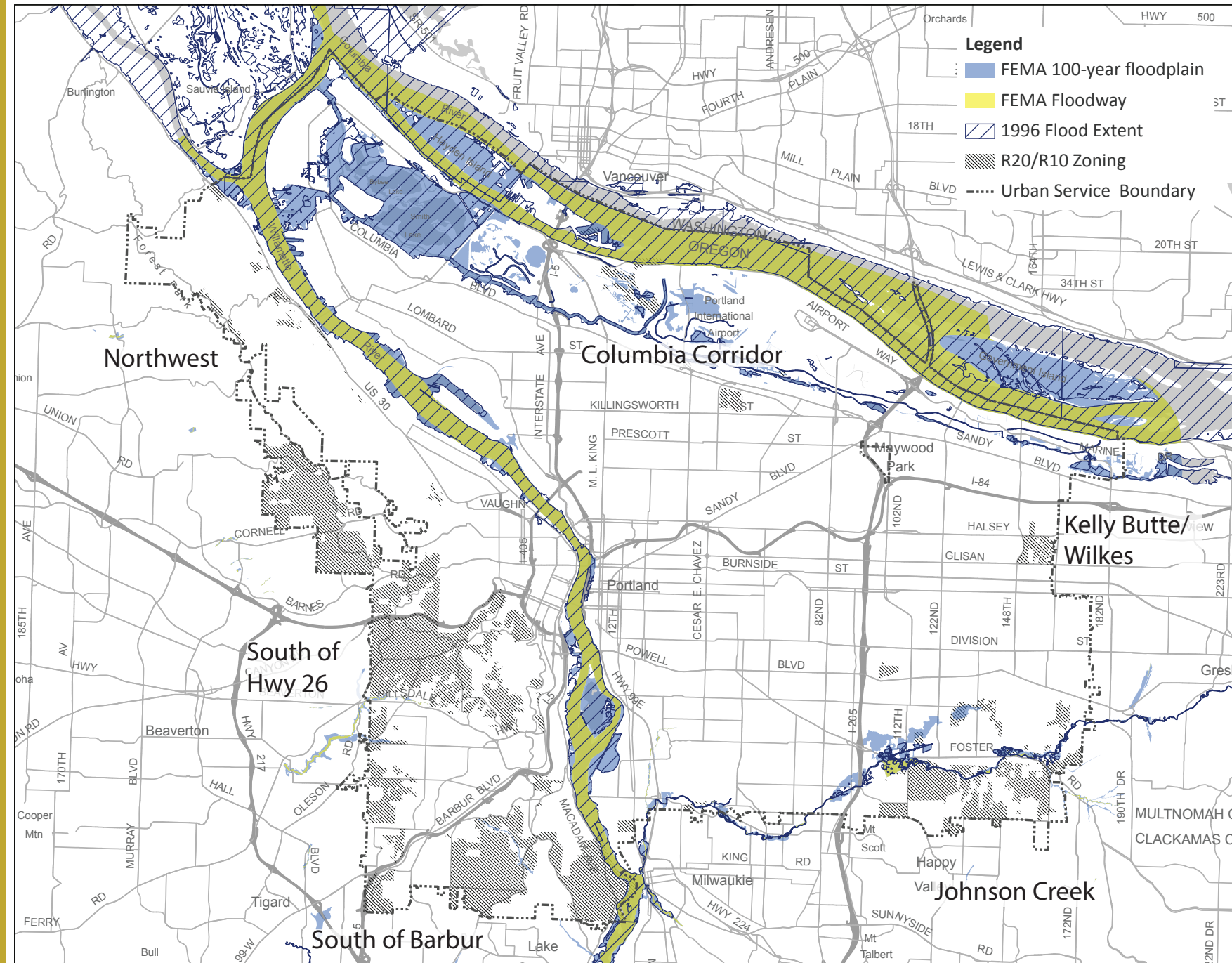
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Project: Residential Infill Atlas  
Map: Existing Conditions Atlas - 2/20/21 | 10/18/19 | 10/18/19 | 10/18/19 | 10/18/19

# Flood Hazards

- » These areas reflect the FEMA special flood hazard area, floodway, and 1996 Flood Inundation area
- » Most flood hazards are on the east side, with pockets in Johnson Creek and Columbia Corridor.



**Legend**

- FEMA 100-year floodplain
- FEMA Floodway
- 1996 Flood Extent
- R20/R10 Zoning
- Urban Service Boundary

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## Residential Infill Project - Existing Conditions Atlas

Flood  
 Hazards

**NORTH**

0 1 2 Miles

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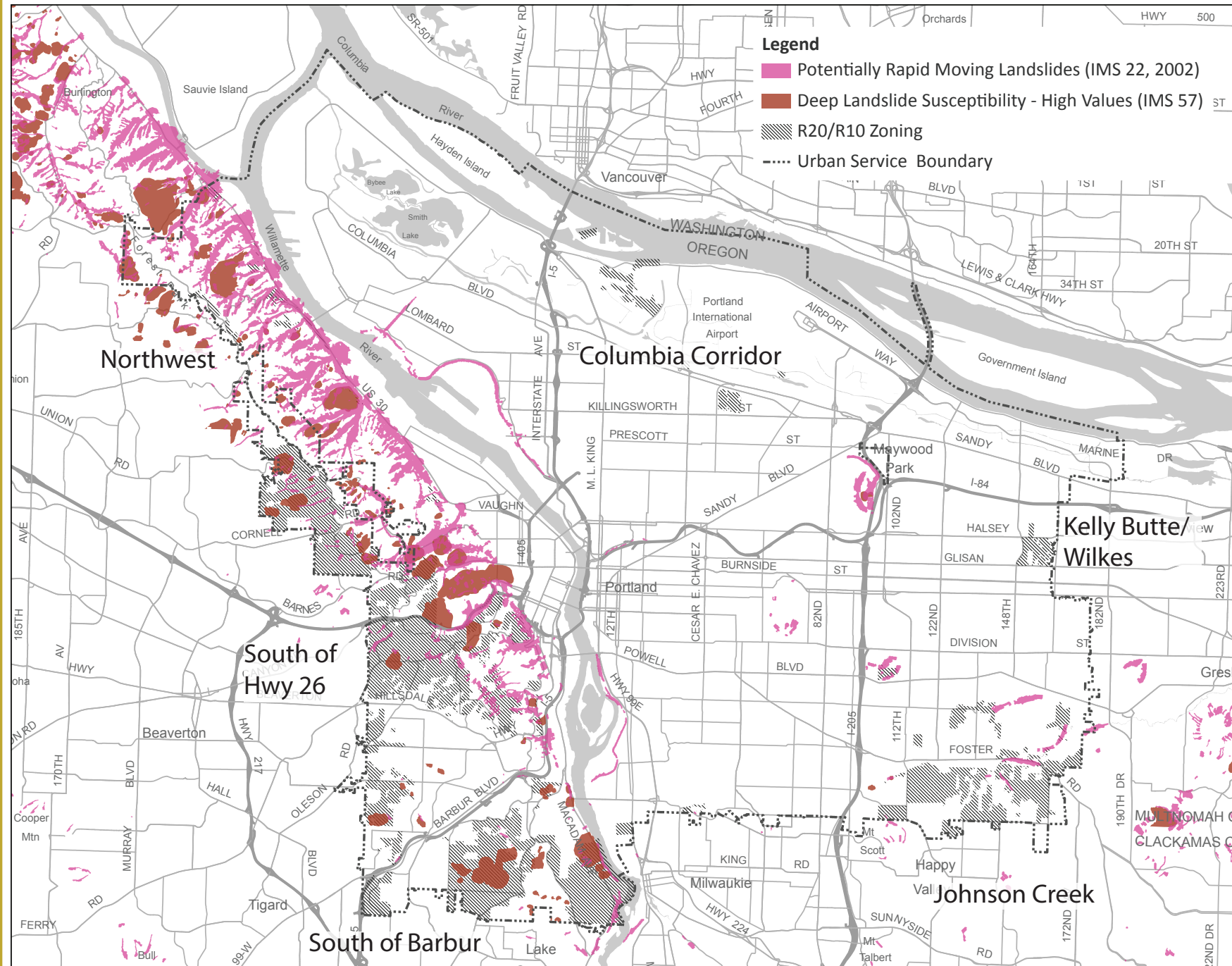
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 Project: Residential Infill Atlas | Maps  
 MAPS\_existing\_conditions\_atlas\_20210310\_BPS\_techservices\_atlas\_20210310.aprx

# Landslide Hazards

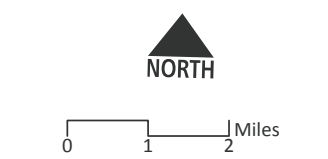
- » These areas reflect Potential Rapidly Moving Landslide Hazard Zones as shown in the DOGAMI IMS-22 publication and High Susceptibility Deep Landslide, Landslide Deposit or Scarp as shown in the DOGAMI IMS-57 publication.
- » Landslide hazards are overwhelmingly present on the west side, throughout all three subareas.



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## Residential Infill Project - Existing Conditions Atlas

### Landslide Hazards



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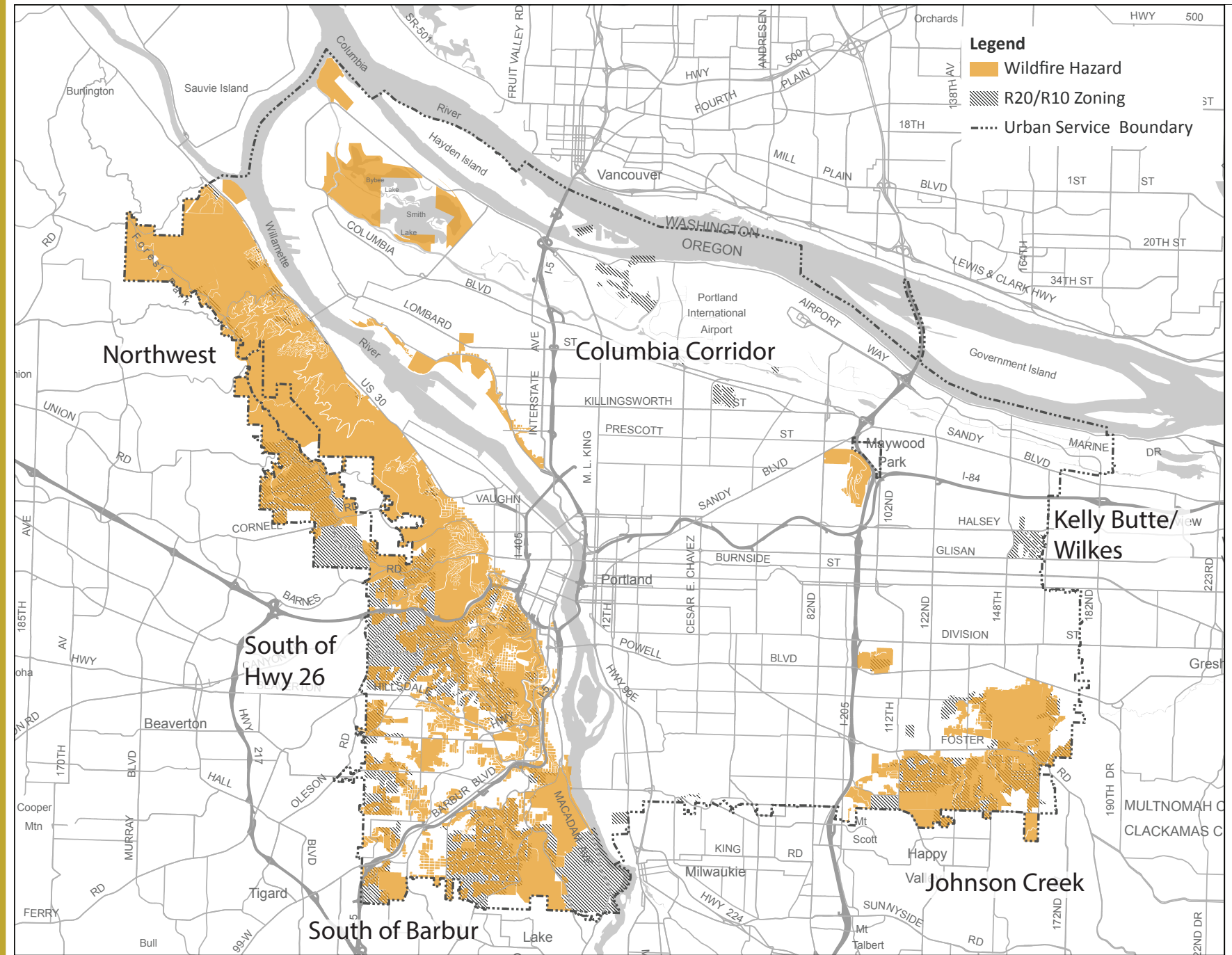
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# Wildfire Hazards

- » These areas are shown in the Wildfire Hazard Zone Map which is based on topography, weather, vegetation type and fuel density.
- » All west subareas along with Johnson Creek have substantial wildfire hazard risk
- » Minimal to no wildfire hazards present in Columbia Corridor and Kelly Butte/Wilkes subareas



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## Residential Infill Project - Existing Conditions Atlas

### Wildfire Hazard

**North**

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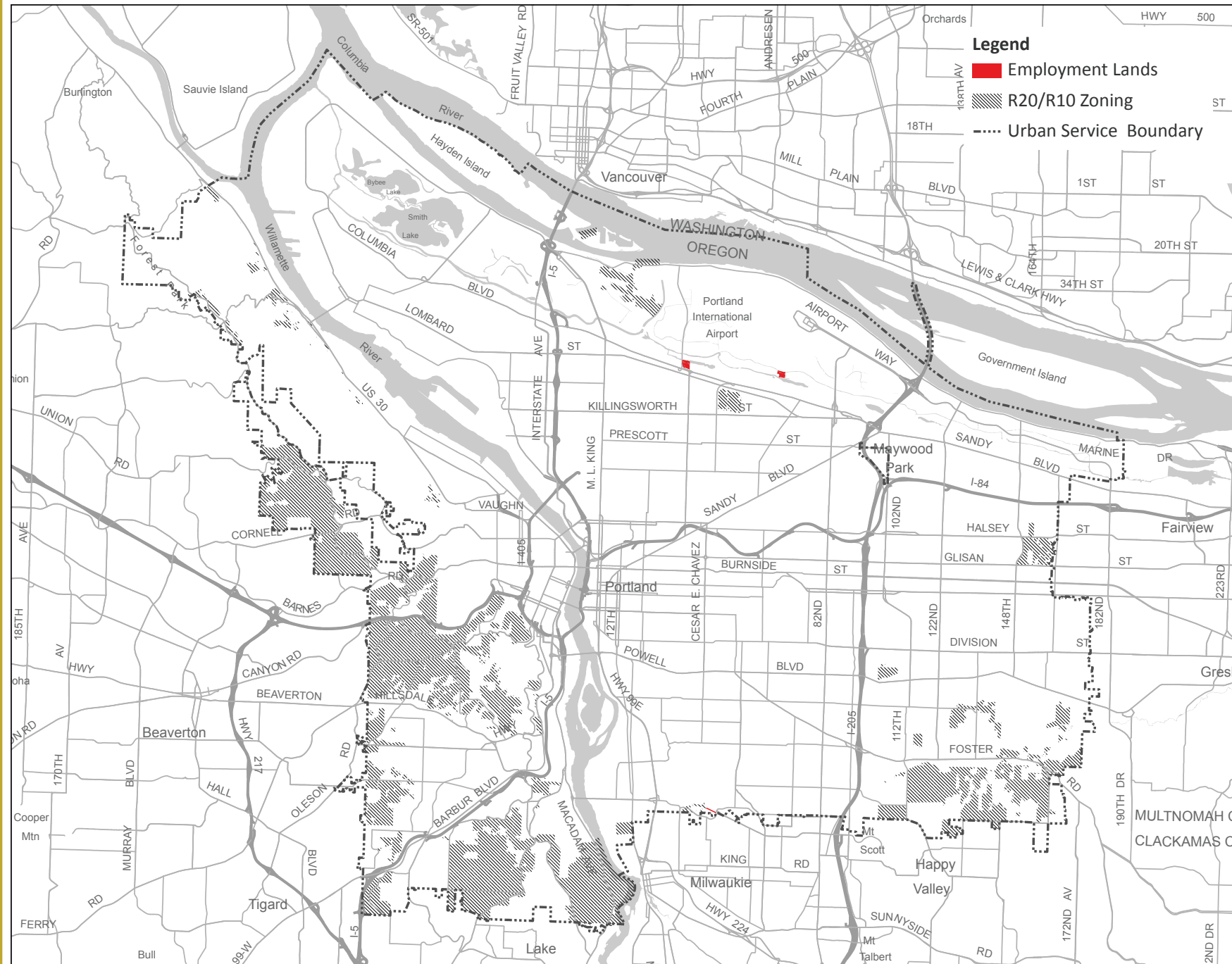
**City of Portland, Oregon**

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## Employment Area

- » These areas are designated Industrial Sanctuary and are an important part of meeting the City's future employment needs.
- » No employment areas are designated on R10/R20 zoned lands



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## Residential Infill Project - Existing Conditions Atlas

### Employment Lands



0 1 2 Miles

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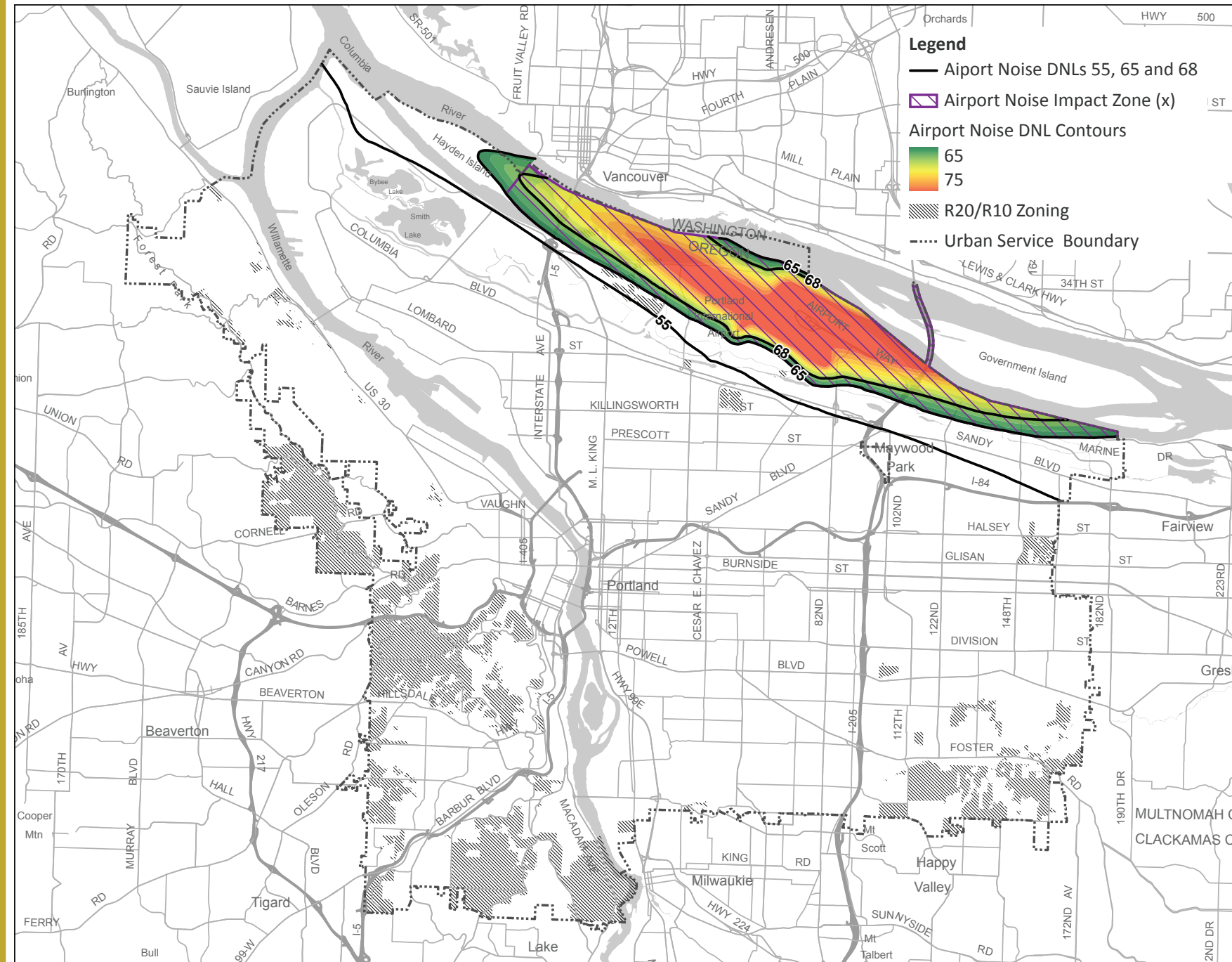


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Project: Residential\_Infill\_21/Map  
MAPs\_existing\_conditions\_atlas\_210221/BPS\_tech\_services\_atlas\_210221.aprx

# Airport Noise

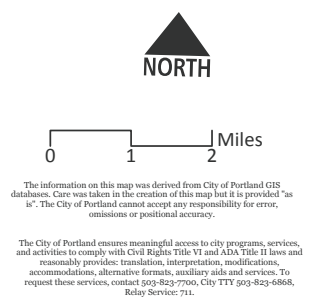
- » This area shows the 68 decibel and higher noise contour for the Portland International Airport. Residential densities are limited within this area.
- » Columbia Corridor is the only impacted subarea and it includes several small patches within the airport noise overlay



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## Residential Infill Project - Existing Conditions Atlas

### Airport Noise Contours

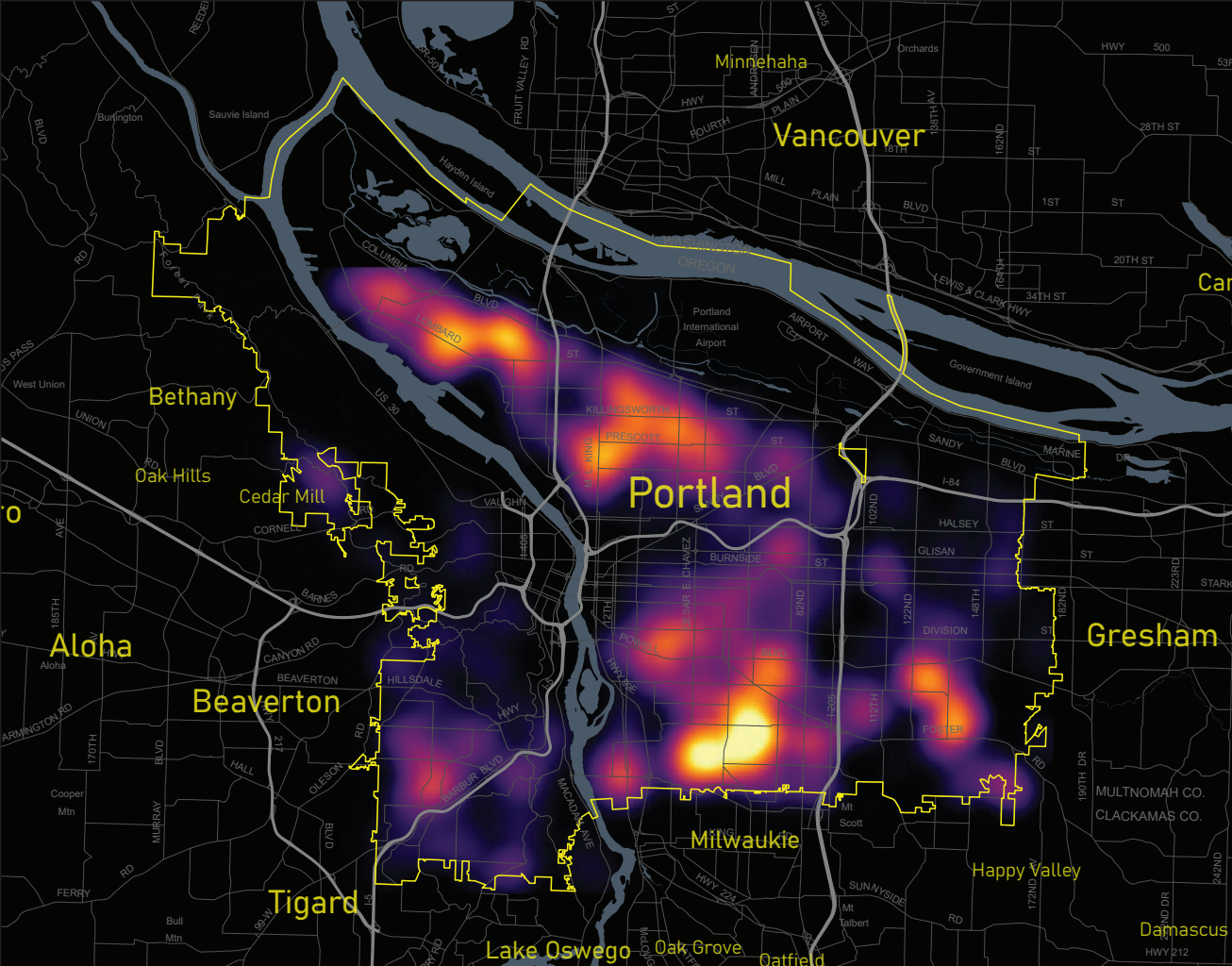


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# DEVELOPMENT



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**Residential Permit Activity**  
 Spatial distribution of 2011 - 2020 single-family permits in R2.5 - R20 zones

**Legend**  
 City of Portland Boundary  
 Single-family  
 Density of new units  
 High  
 Low

0 0.8 1.5 Miles

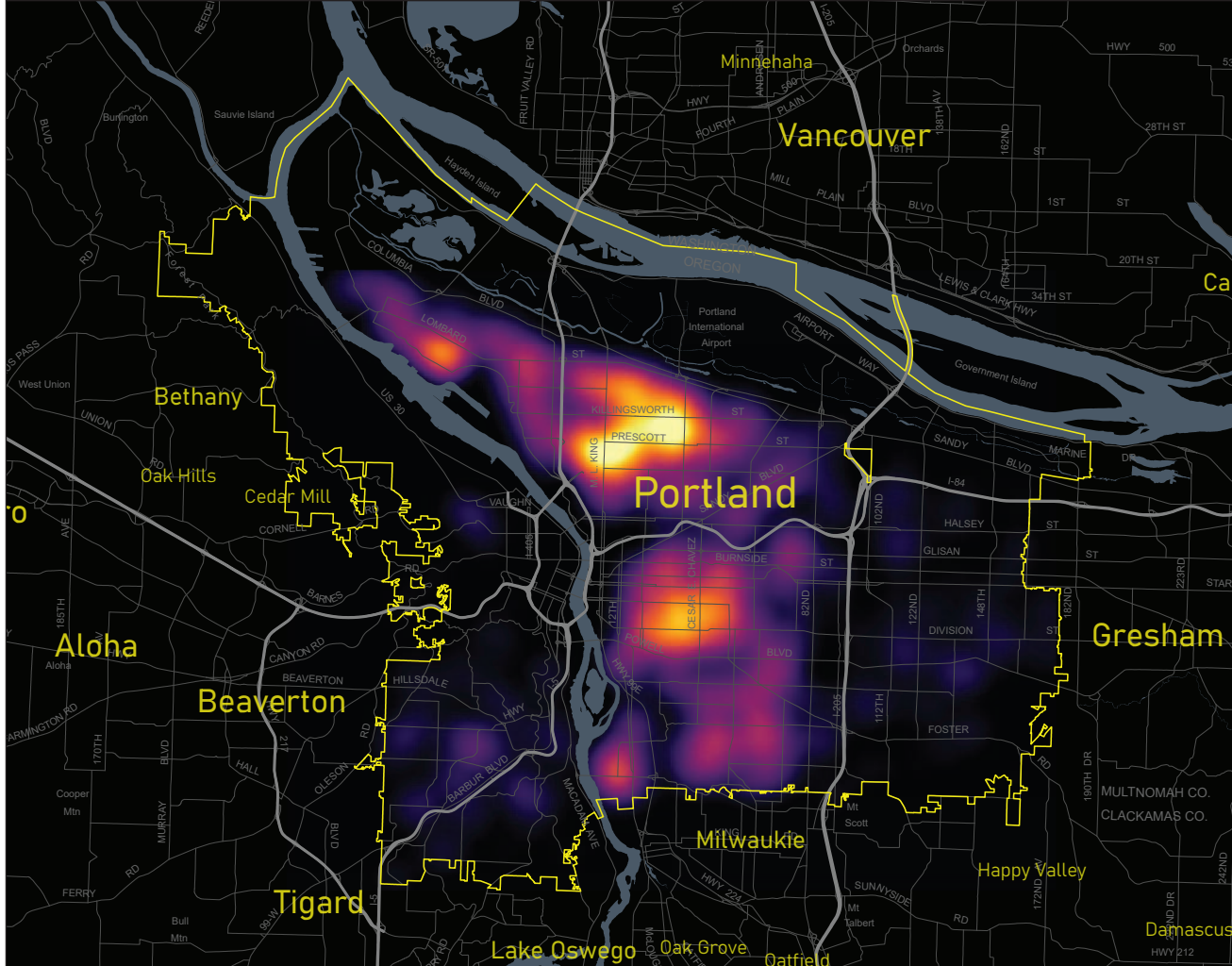
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Single dwelling permit activity



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**Residential Permit Activity**  
 Spatial distribution of 2011 - 2020 ADU permits in R2.5 - R20 zones

**Legend**  
 City of Portland Boundary  
 ADU  
 Density of new units  
 High  
 Low

0 0.8 1.5 Miles

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ADU permit activity

## Residential permit activity

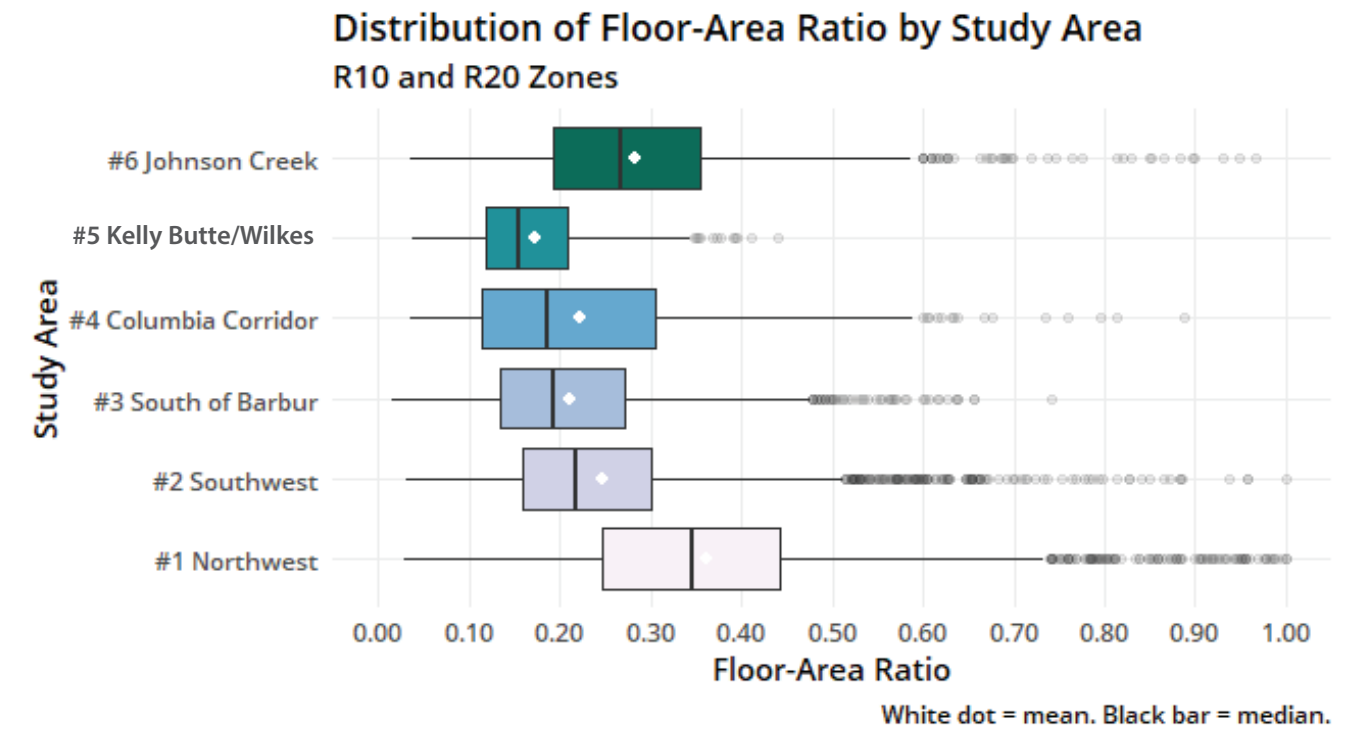
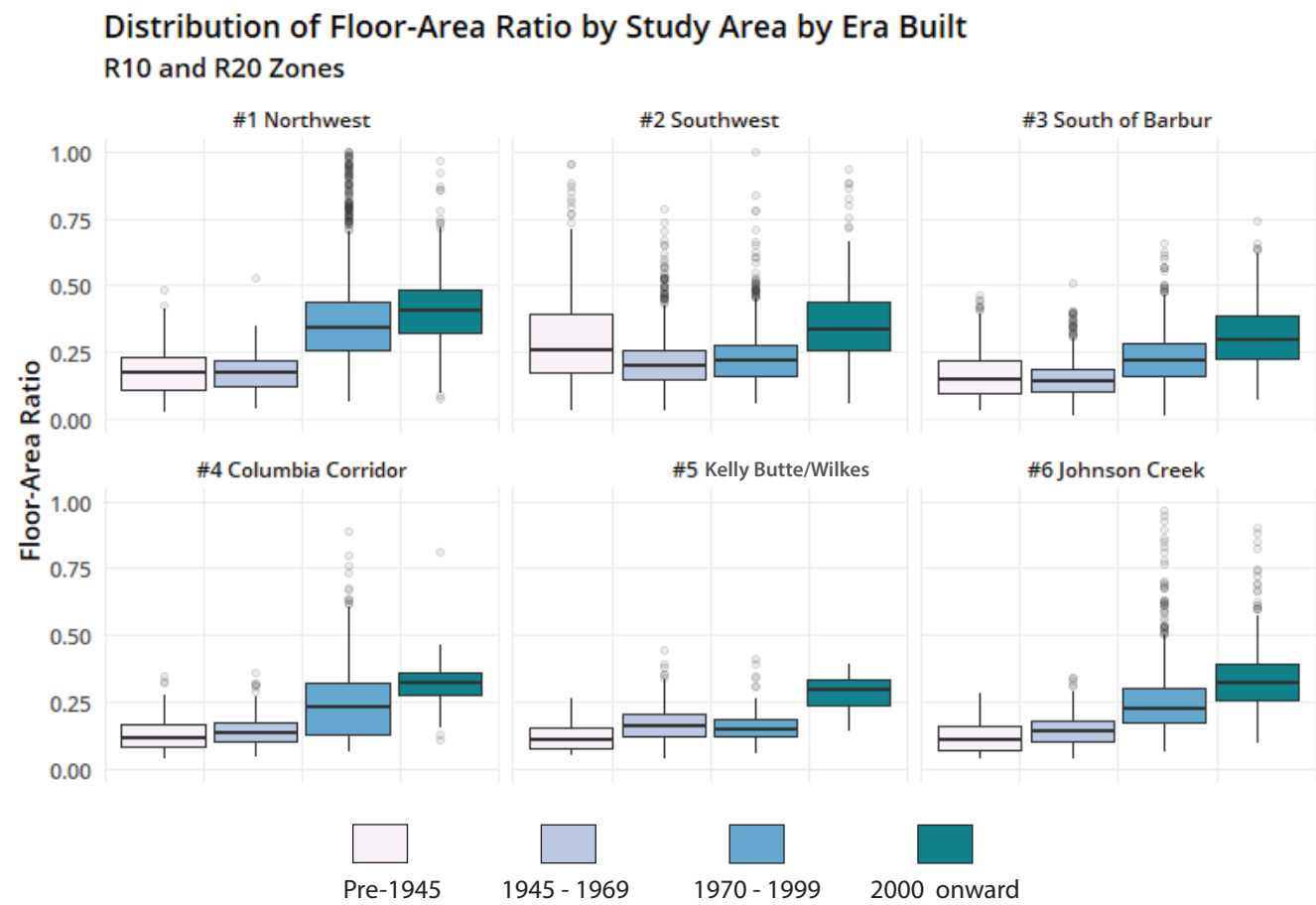
- » Heat maps show permit activity for single dwellings (left) and ADUs (right) in a range from low to high
- » **More permit activity on the east side**
- » R10 and R20 areas **make up 10% of total single dwelling permit activity** in the last 10 years
- » **ADU permit activity accounts for 3% of total activity** in the last 10 years

R10 and R20 residential permits 2011 - 2020

| Year         | New SFR    | % of total | New ADU   | % of total |
|--------------|------------|------------|-----------|------------|
| 2011         | 38         | 13%        | 2         | 4%         |
| 2012         | 27         | 7%         | 3         | 4%         |
| 2013         | 50         | 9%         | 2         | 3%         |
| 2014         | 58         | 11%        | 6         | 7%         |
| 2015         | 63         | 11%        | 5         | 3%         |
| 2016         | 40         | 7%         | 5         | 2%         |
| 2017         | 42         | 9%         | 6         | 2%         |
| 2018         | 55         | 11%        | 10        | 3%         |
| 2019         | 45         | 12%        | 5         | 3%         |
| 2020         | 18         | 8%         | 10        | 7%         |
| <b>Total</b> | <b>457</b> | <b>10%</b> | <b>54</b> | <b>3%</b>  |

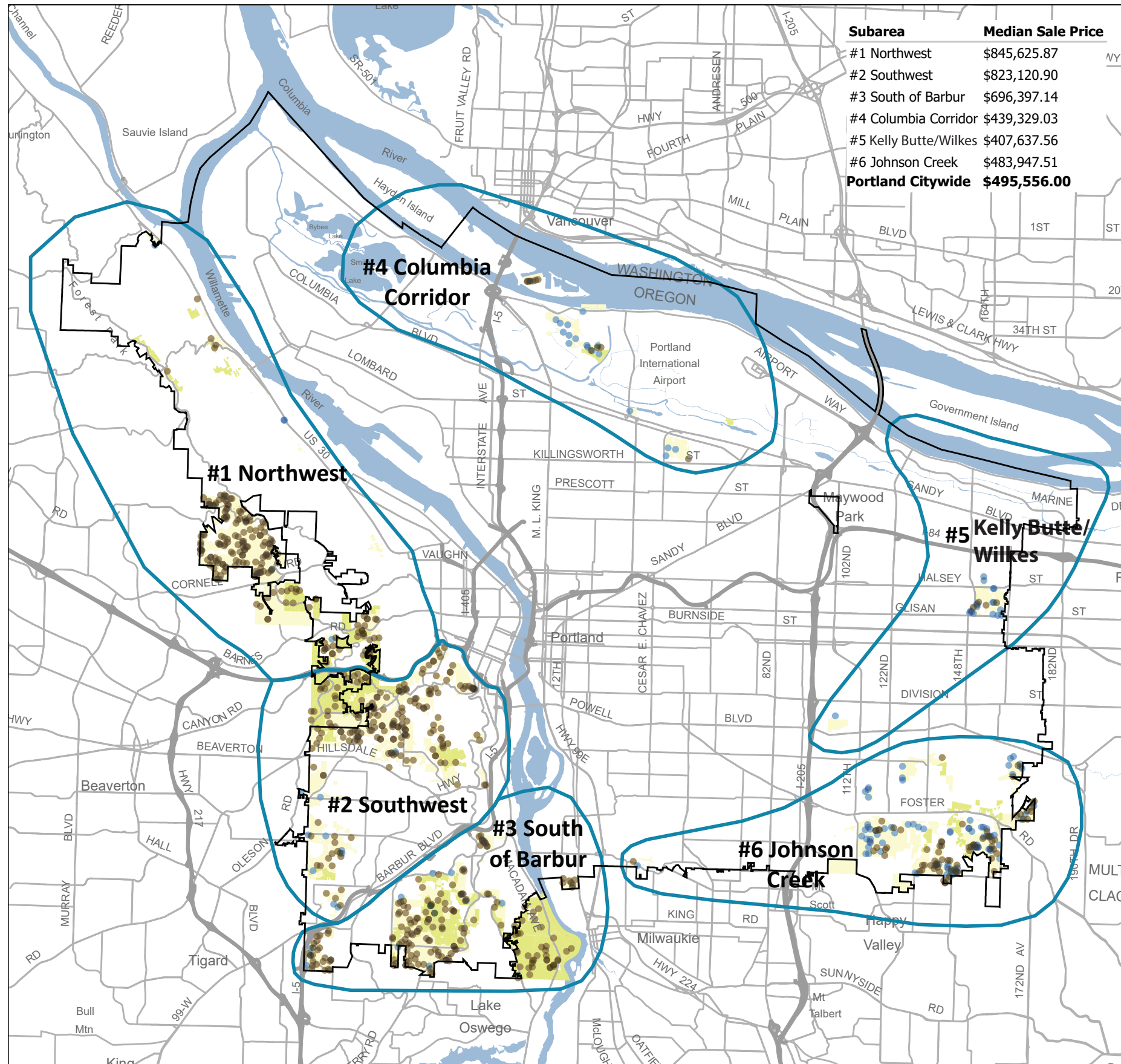
# Existing structures

- » Looking at floor area ratio distribution and age of structures
- » Trend towards larger structures over time, with the exception of southwest, where FAR was high before 1945
- » Structures built in the last 20 years have the highest FAR
- » Johnson Creek and Northwest have the highest existing median FARs



# Home Sales

- » Large discrepancy between sales prices in east subareas vs. west subareas
- » East Subareas are about 10% lower on average than Citywide median sales price of \$495,000
- » West Subareas are about 60% higher than the Citywide median sales price
- » Columbia Corridor subarea has the lowest median sales prices at roughly \$440,000
- » Highest median sales prices are in the Northwest subarea at over \$845,000

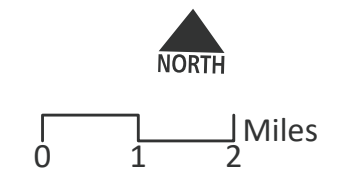


| Subarea                  | Median Sale Price   |
|--------------------------|---------------------|
| #1 Northwest             | \$845,625.87        |
| #2 Southwest             | \$823,120.90        |
| #3 South of Barbur       | \$696,397.14        |
| #4 Columbia Corridor     | \$439,329.03        |
| #5 Kelly Butte/Wilkes    | \$407,637.56        |
| #6 Johnson Creek         | \$483,947.51        |
| <b>Portland Citywide</b> | <b>\$495,556.00</b> |

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## 2020 Home Sales Single-Family Homes in R10 & R20 Zones

- City of Portland Boundary
- ▭ RIP2 Subarea
- Single-Family Home Sale
  - Sale \$ < Citywide Median
  - Sale \$ > Citywide Median
- RIP2 Zone
  - R10
  - R20



Source: Regional Multiple Listings Service (RMLS).

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 "E:\Dropbox (BPS Tech Services)\BPS Tech Services Team Folder\gis\projects\Residential\_Infill\_21\Maps\RIP2\_Permit\_Activity\_201223\RIP2\_Permit\_Activity\_201223.aprx"