St. Johns, Portland
Affordable Housing Development Potential

Problem Statement

What vacant properties should the St. Johns Center for Opportunity prioritize for affordable housing development? Given the existing racial and socioeconomic disparities in the neighborhood, an equity lens will be applied to prioritize sites that will provide access to essential neighborhood services like bus stops, grocery stores, schools, and more.

Project Summary

In October 2015 the Portland City Council declared a housing state of emergency that has now been extended through October 2017. The Portland region continues to attract new residents from across the country and world. Between 2014 and 2015, the region grew by 111 people per day and average rents increased by approximately $100 per month. In 2016 the average home sale price in Portland broke $400,000, an increase of nearly 100% in 15 years. As a result of the dramatic increases in rents and home values, Portland has experienced large scale housing loss by low-income residents and a sharp rise in the number of people seeking emergency shelter.

In the north Portland neighborhood of St. Johns, the St. Johns Center for Opportunity has launched an affordable housing program to slow neighborhood displacement trends and stabilize housing costs. The neighborhood currently experiences serious housing related racial inequities whereby only White and Asian households can afford to purchase a home. Black households and Single Mother households are unable to afford a rental unit of any size (Studio and 1, 2, 3 Bedroom).

When combined with other approaches, the construction of new affordable housing units can help stabilize housing costs in an area. This GIS analysis identifies and prioritizes suitable sites for the construction of new affordable housing in St. Johns using an equity lens. To minimize costs and barriers to development, only vacant land was considered. The equity lens was developed to ensure that the residents of new affordable housing units have access to critical services such as transit stops, grocery stores, schools, community centers, and more. Post-GIS analysis was conducted to prioritize sites that may be most accessible for development such as properties currently owned by the City of Portland. This analysis provides the St. Johns Center for Opportunity with a list of single-family and multi-family properties that are suitable for affordable housing development.
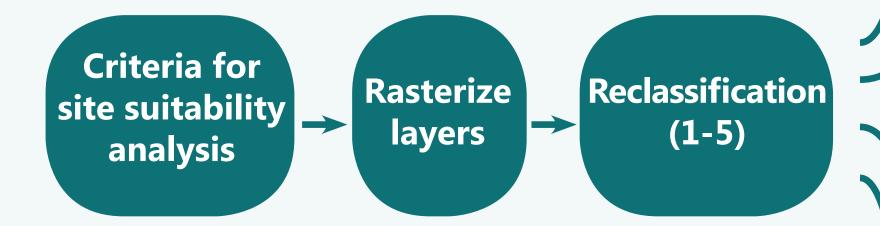
Methodology

A site suitability model was used to identify specific vacant lots within an equity zone that should be prioritized for affordable housing development in St. Johns. Seven criteria were used in the weighted analysis model including appropriate land use designations and proximity to amenities. The City of Portland's Buildable Lands Inventory was used to identify tax lots that were vacant and held residential development potential.

Appropriate distances were selected and assigned to amenities based on urban planning principles. Distances were a quarter mile, half mile, three quarters of a mile, one-mile, and six-mile radius for bus stops and grocery stores as a regularly used amenity. The six mile radius was used to ensure the raster analysis included the entire neighborhood. Distances were a half mile, one mile, one and a half miles, two miles, and six-mile radius for libraries, community centers, schools, and parks which are not used as regularly. These defined distance thresholds were used in a multiple ring buffer as a ranking system giving a higher value the nearer an area was to a single amenity. The output of the multiple ring buffer was converted to raster and reclassified.

Zoning map designations were converted from vector to raster and assigned a number one through five. A one was assigned to zoning designations that do not permit residential development. A two was assigned to zoning designations that allow residential development under a conditional use permit. Conditional use permits increase the cost associated with developing the land so a lower score was given. A five was assigned to land use designations that allow residential development without a conditional use permit. This included single-family and multi-family zones, with no priority given to higher density potential.

A weighted overlay was used for assigning importance in terms of percentages to each raster used in the analysis. Table 1 shows the weights assigned to the amenities/raster inputs. The completed weighted analysis is Fig. 2. The model defines areas as more equitable with a darker

Criteria for site suitability analysis → Rasterize layers → Reclassification (1-5)

shade of green and less equitable areas with a lighter shade. The model defines the darkest green area as an area that ought to be considered an equitable area for affordable housing, titled Equity Zone raster.

Lastly a Buildable Lands Inventory data set provided by the City of Portland was used in an overlay with the equity zone raster. The Buildable Lands Inventory lists vacant properties and the total number of residential units allowed by right (e.g. without a conditional use or density bonus). The number of units is calculated using square footage of the parcel and the building code limitations such as floor area ratio and maximum height limit.

A visual audit of vacant lots within the equity zone was conducted to remove irregular or undevelopable sites. For example, the Buildable Lands Inventory included some vacant lots that are landlocked by other properties without easement access. Other properties are highly irregular in shape (long and skinny near a railroad) and likely undevelopable. These properties were removed from the analysis.
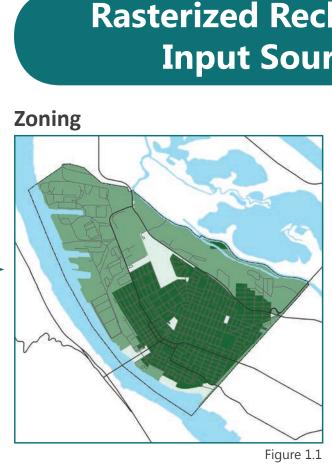
The remaining lots were considered suitable for residential development and pertinent information on the lots including property address, value, etc. were pulled from the Buildable Lands Inventory data and are shown in Tables 2 and 3.
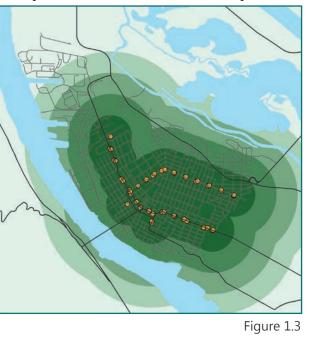
1 Weighted (1-5) Land Use Zoning Codes
   CG: 5, CM: 5, CN1: 5, CN2: 5, CS: 5, EG1: 2, EG2: 2, EX: 5, IG2: 2, IH: 2, OS: 1, R1: 5, R2: 5, R2.5: 5, R5: 5, RF: 5
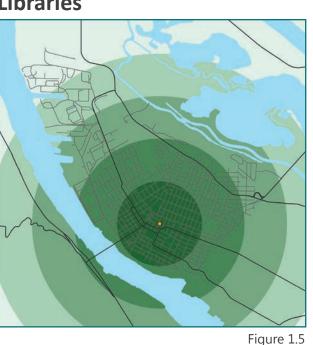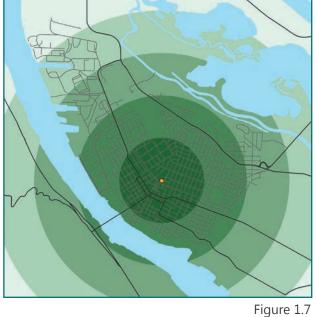
Rasterized Reclassified Input Sources

Zoning — Figure 1.1

Grocery Stores — Figure 1.2

Frequent Service Bus Stops — Figure 1.3

Schools — Figure 1.4

Libraries — Figure 1.5

Parks — Figure 1.6

Community Center — Figure 1.7

Legend
- Arterials
- Streets
- Rivers
- St. Johns Neighborhood Boundary

Equity Zone Weighted Overlay

Variable	Original Data Format	Final Data Format	Weight
Zoning	Polygon	Categorical Raster	5%
Transit, frequent service	Point	Categorical Raster	20%
Libraries	Point	Categorical Raster	10%
Community Center	Point	Categorical Raster	10%
Grocery Stores	Point	Categorical Raster	20%
Schools	Point	Categorical Raster	20%
Parks	Polygon	Categorical Raster	15%

Table 1

Figure 2

Legend
- Community Center
- Schools
- Library
- Frequent Bus Stops
- Arterials
- Streets
- Priority Housing Development Zone
- Rivers
- St. Johns Neighborhood Boundary

Most suitable
Suitable
Less suitable
Least suitable

Figure 4

Legend
- Frequent Service Bus Stops
- Library
- Community Center
- Grocery Stores/Farmers Market
- Vacant Single-Family Lots
- Vacant Multi-Family Lots
- Schools
- Parks
- Equity Zone
- Neighborhood Boundary
- Tax Lots
- Streets
- Arterials
- Railroad Track
- Water Bodies

Suitable Sites for Affordable Housing

Priority Single-Family Lots

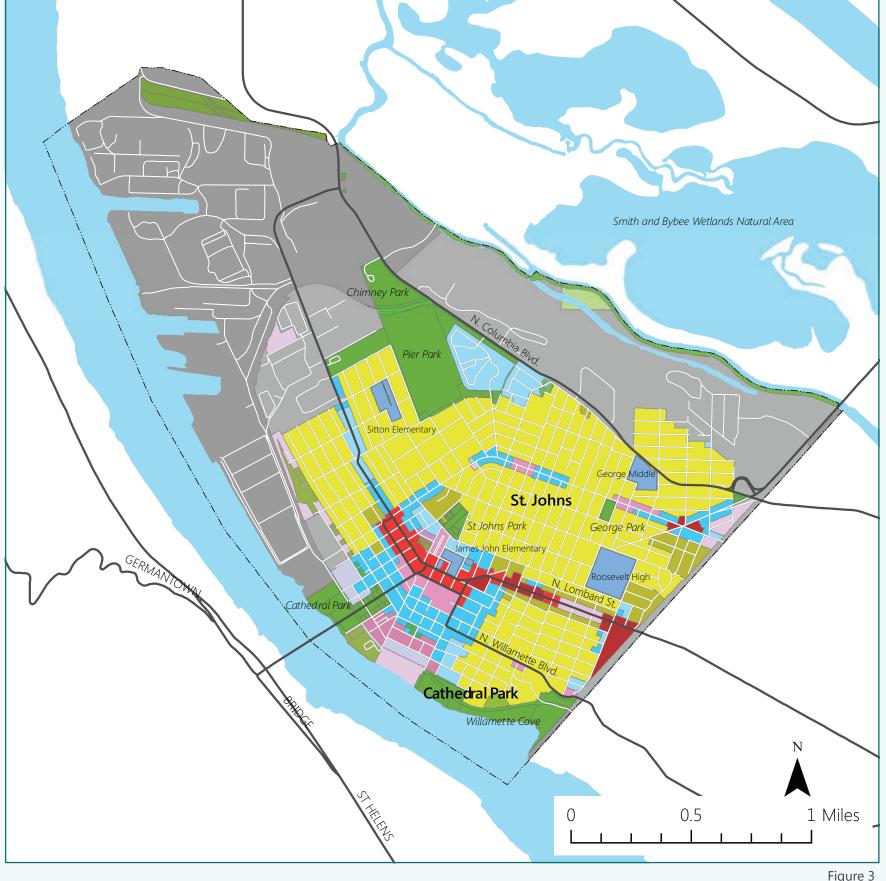| Owner	Site Address	Property Description	Total Value ($)	Comprehensive Plan Update	Single-Family Units Allowed
BARRERA,ISMAEL &	7567 S/ N GILBERT AVE	VACANT LAND	174,800	Single-Family Residential	4
ROBERTS,JILL	-	VACANT LAND	19,700	Single-Family Residential	4
SINNOTT,THOMAS O JR	9431 N TRUMBULL AVE	VACANT LAND	112,500	Single-Family Residential	2
GIBLIN,GERALDINE A	9515 N SMITH ST	VACANT LAND	110,400	Single-Family Residential	2
DIGGER LLC	N MACRUM & SENECA ST	VACANT LAND	109,100	Single-Family Residential	2
DOZER CONSTRUCTION LLC	9525 N LOMBARD ST	VACANT LAND	86,400	Single-Family Residential	2
EVERETT CUSTOM HOMES INC	6738 N MOHAWK AVE	VACANT LAND	124,000	Single-Family Residential	1
CHATTERLEY,MICHAEL W	-	VACANT LAND	97,800	Single-Family Residential	1
DAVIS,TERRY P	7908 S/N DECATUR ST	VACANT LAND	136,200	Single-Family Residential	1
THOMPSON,LARRY & KATHLEEN	-	VACANT LAND	126,500	Single-Family Residential	1

Table 2

Priority Multi-Family Lots

Owner	Site Address	Property Description	Total Value ($)	Comprehensive Plan Update	Multi-Family Units Allowed
PORTLAND CITY OF	N JOHN AVE	VACANT LAND	77,190	Multi-Family Residential	13
PORTLAND CITY OF	SEC/ LEAVITT & N EDISON ST	VACANT LAND	292,600	Multi-Family Residential	7
PORTLAND CITY OF	NEC/ JOHN & N DECATUR ST	VACANT LAND	413,600	Multi-Family Residential	7
PORTLAND CITY OF	N CRAWFORD ST	VACANT LAND	308,000	Multi-Family Residential	5
PORTLAND CITY OF	SEC/ LEAVITT & N EDISON ST	VACANT LAND	292,600	Multi-Family Residential	2
NORTH CRAWFORD PARTNERS LLC	SWC/ DECATUR & N JOHN AVE	VACANT LAND	128,080	Commercial	120
SL DEVELOPMENT LLC	N ST LOUIS AVE	VACANT LAND	192,100	Commercial	26
ORRICK JOINT VENTURE LP	7741 E/ N LOMBARD ST	IMPROVED LAND AS VACANT	287540	Commercial	18
ANDERSON,RICHLIN	8028 N LOMBARD WAY	VACANT LAND	147840	Commercial	16
LUCE,VERN C &	8836 W/ N LOMBARD ST	VACANT LAND	93500	Commercial	15

Table 3

Figure 3

Legend
- General Commercial
- Mixed Commercial
- Neighborhood Commercial 1
- Neighborhood Commercial 2
- Storefront Commercial
- General Employment 1
- General Employment 2
- Central Employment
- General Industrial 1
- Heavy Industrial
- Open Space
- Med Density Multi-Dwelling Residential
- Low Density Multi-Density Residential
- Single Dwelling Residential 2,500
- Single Dwelling Residential 5,000
- Residential Farming
- Neighborhood Boundary
- Parks
- Schools
- Arterials

Findings

Based on the suite suitability analysis, an equity zone emerged covering southwest St. Johns. The equity zone includes much of N. Lombard Street, the historic main street corridor. This is unsurprising, as N. Lombard features multiple frequent bus lines including the 4 and 75. Many essential neighborhood services such as grocery stores, parks, and a library are also concentrated along the corridor.

Within the equity zone, the current stock of vacant land would allow for the development of 55 single-family residential units and 406 multi-family residential units. The number of allowable units per vacant lot for single-family sites ranges from 1-4, while the number of allowable units per vacant lot for multi-family sites ranges from 2-120. Vacant land for single-family development is relatively evenly dispersed throughout the equity zone, while vacant land for multi-family development is concentrated along the N. Lombard Corridor.

The St. Johns Center for Opportunity can use the additional information provided in Tables 2 and 3 to prioritize sites for development. Details include land ownership, land value, number of potential units, and other information that can help the organization take the next steps to develop the properties. It is recommended that the St. Johns Center for Opportunity visit each of these sites in person to confirm the findings of the GIS data are still accurate.

Limitations

The analysis was conducted at the neighborhood scale which limits the effectiveness of the study methods. For example, the buffer distances of one quarter and one half created a suitable area around N. Lombard Street that is relatively large compared to the size of the neighborhood. While smaller buffer distances could have been used to achieve finer detail, this would contradict urban planning principles whereby one quarter mile is considered a suitable walkable distance to access transit.

A second limitation is the lack of equity data to inform the equity zone. St. Johns is surrounded by industrial land that causes air, noise, and other pollution that negatively impacts human health. This analysis did not incorporate pollution levels into the equity analysis, due to data and time constraints. Further analysis should consider this as an important equity consideration.

Data Sources:
- Portland Metro, RLIS
- City of Portland, Buildable Lands Inventory

Sources:

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