

rehousing Eugene / Springfield

a housing course and thesis studio sequence

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2017-2018

examining the possibilities for “missing middle”

housing to engage the current “housing crisis”



Missing Middle housing

Missing middle refers to all the housing types, between single-family detached houses and midrise apartment buildings, that our country used to build, but no longer does.



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The current housing “crisis” - Affordability

- Affordability has long been a problem for working class and low-income households, but it has now become an increasing concern for the middle class too.
- 60% of Eugene residents spend more than 30% of their income on housing
- Programs exist to serve the housing needs of some low-income households, but nothing is being done about housing policy for everyone else.

Housing type suitability

Breakdown of Eugene-Springfield demographics by Household Type

Households

146,327

Senior single
over 65

15,798
10.8%

Younger single
under 65

25,466
17.4%

Other
non-family

18,806
12.9%

Single parent
with minor kids

14,620
10.0%

Married parents
with kids

19,680
13.4%

Senior couple
over 65

13,345
9.1%

Younger couple
under 65

28,873
19.7%

Other
family

9,739
6.7%

**28% of households
are single persons**

23.4% of households have kids

20% of households are over 65

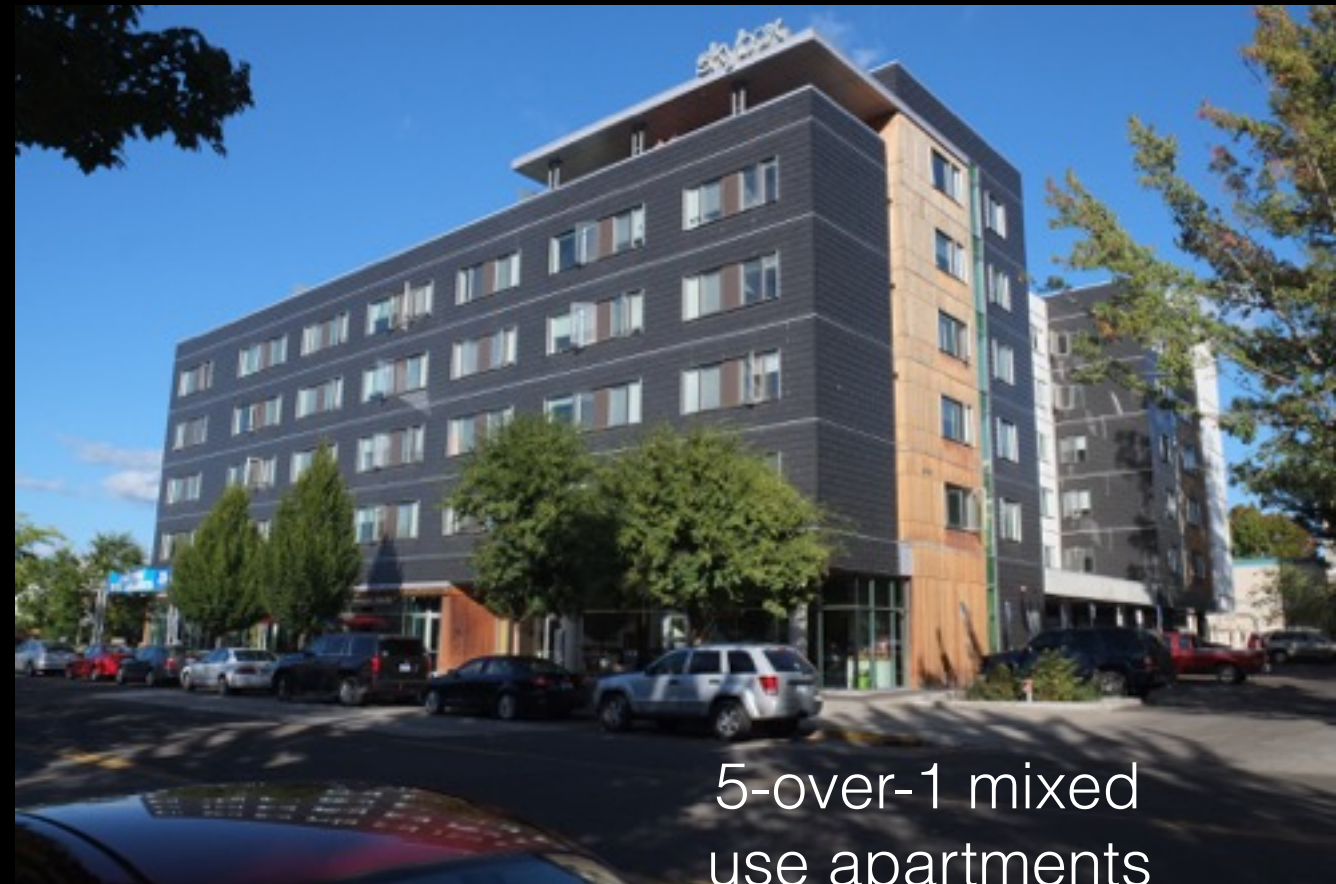
Problems with current housing production

- We are not building the wide range of housing unit types we need to meet the demands of our population
- Specifically, the needs of many smaller households are being ignored
- Most new houses are too big for our needs and neighborhoods - 2687 sf is the median new house
- Lots in new developments may be small, but existing lots in older neighborhoods are large - about 8000 sf. How can we use this excess land capacity?
- Zoning ordinances do not allow for a range of housing types - whether single family detached, or denser multifamily

What we build now



Single family detached houses



5-over-1 mixed
use apartments



Three-story walkups, in big developments



Amazingly ugly buildings for students

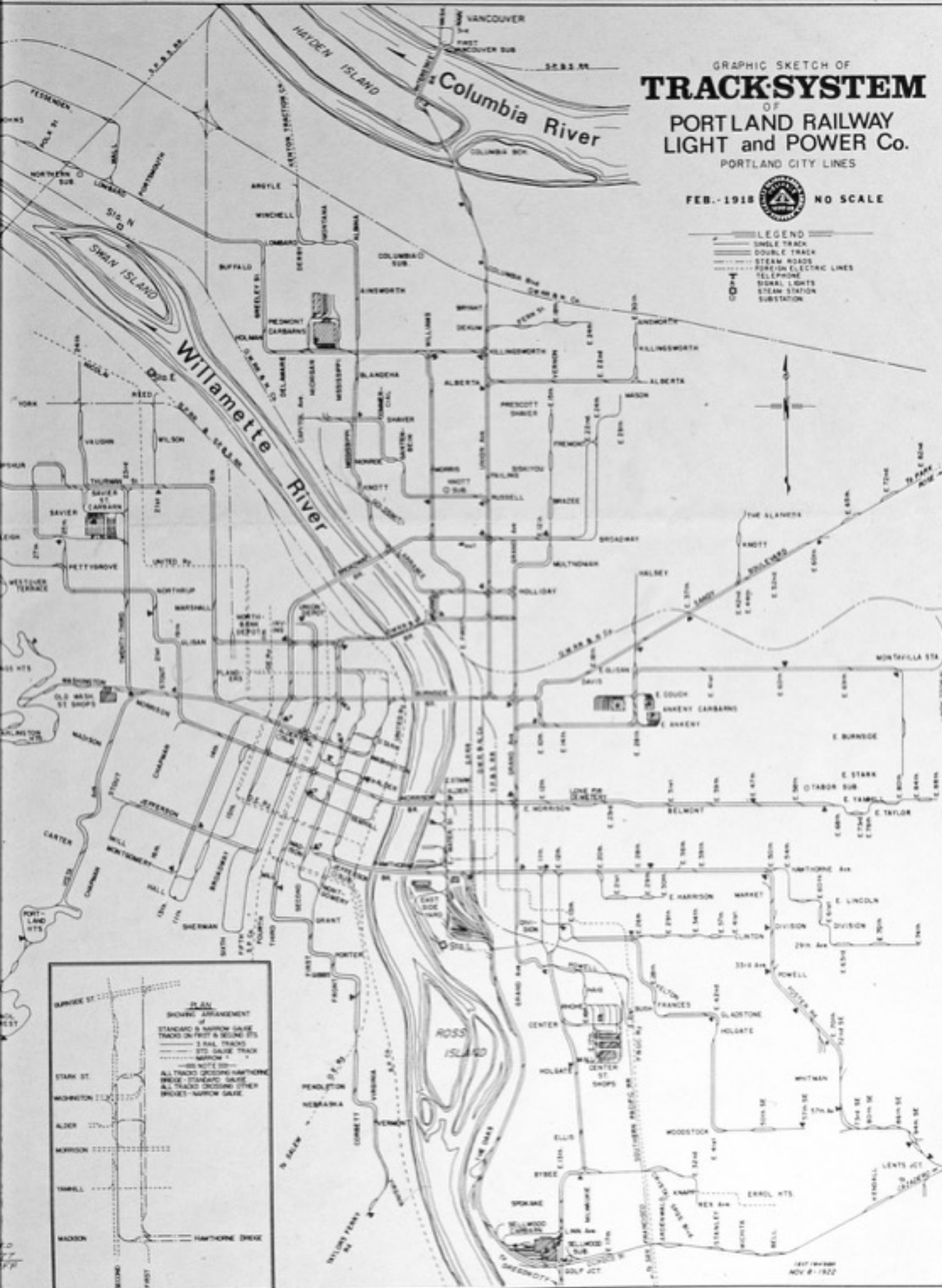
This is not a new problem. Portland faced this in the 1990s, as they up-zoned for higher density development along transit lines.





Neighborhood associations were concerned that they would get development like this - typical postwar car-oriented, multi-family - in their neighborhoods.





But Portland used to have a higher-density, transit-oriented development pattern, back in the days of the streetcar system, so I decided to document what had been built then.

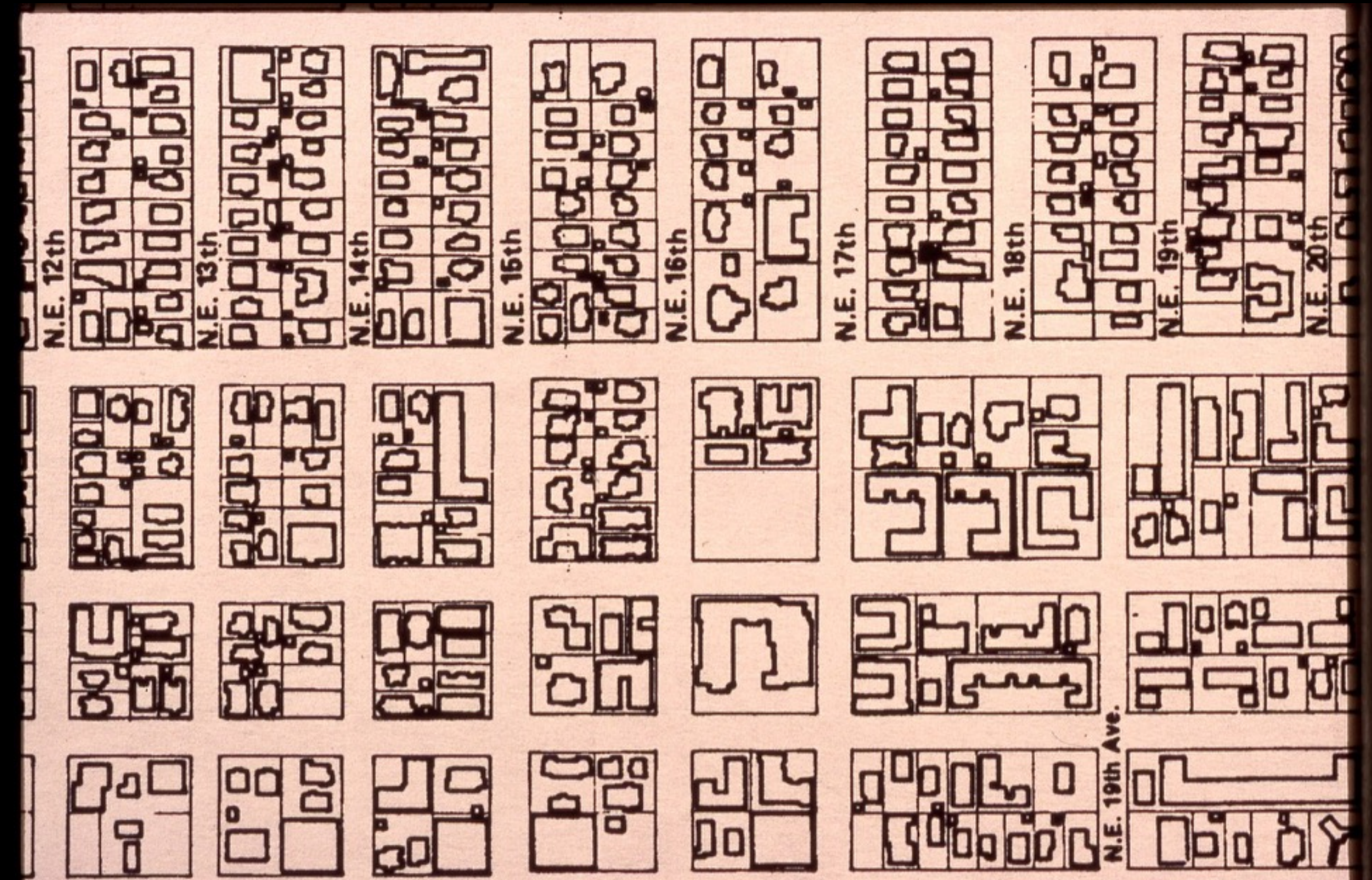


Portland streetcar housing

These are mainly small-scale, multifamily buildings that fit well within the predominantly single family neighborhoods, and which widen the range of housing options available, accommodating many smaller households.



Even in what we think of as high-end, single-family neighborhoods, such as Irvington, there are lot of small-scale multi-family buildings, of a few basic types.





Fourplex



Rowhouse

Courtyard

Block apartments



...of which there are great examples hidden in Eugene







Historic Streetcar Housing in Portland, Oregon: Background

Peter A. Keyes

Associate Professor
Department of Architecture
University of Oregon

The original research for this study was generously supported by a Belluschi Faculty Fellowship and a Fletcher Farr Ayotte Faculty Fellowship.

Courtyard housing was built widely in Portland in the first half of the 20th century, and a clear understanding of these successful, historic examples can inform the design of new courtyard housing to meet today's needs. Portland's existing courtyard buildings are quite small in scale, fitting in well with the predominantly single-family house neighborhoods in which they are located. This complementary scale is an important reason why they have remained vital parts of their neighborhoods through changing circumstances over many years.

A UO Architecture course and thesis studio will work on these issues throughout the year

Fall term course

- Work with residents, neighborhood associations, developers, city planners
- Proposals for use of historic “missing middle” housing types in various neighborhoods
- Present student work at Housing Summit on campus on February 21st

Winter term studio

- In-depth study of housing typology, space syntax, futureproofing and resilience strategies
- Design and analysis of new types

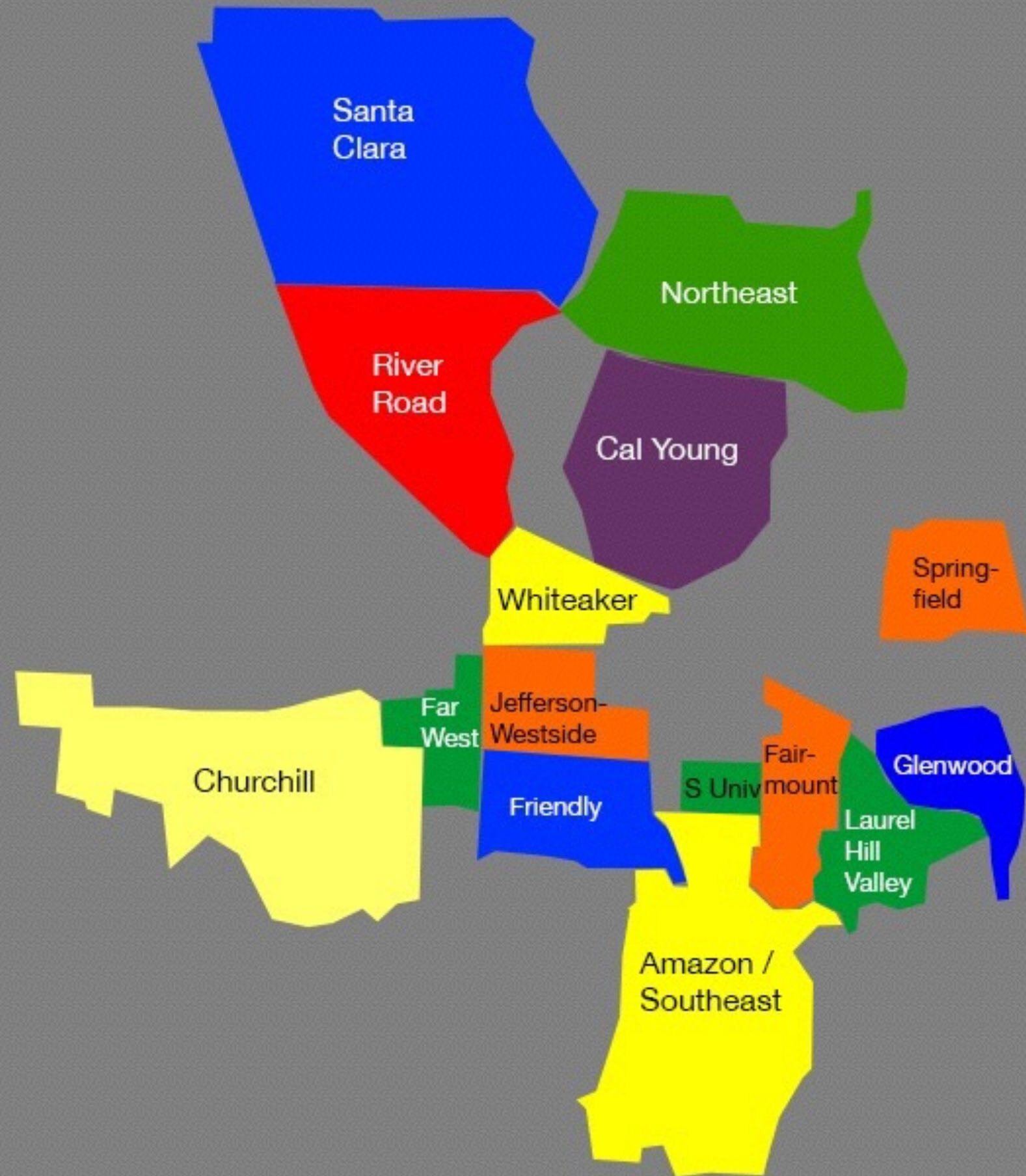
Spring term studio

- Design development of resilient housing
- Form-based code proposals for zoning revisions
- Viable demonstration projects proposals



Fall term housing course

Teams of students identified opportunities and sites in 15 different neighborhoods in Eugene and Springfield, collaborating and seeking input from members of neighborhood associations.



Neighborhoods being studied in the Rehousing Eugene / Springfield studio

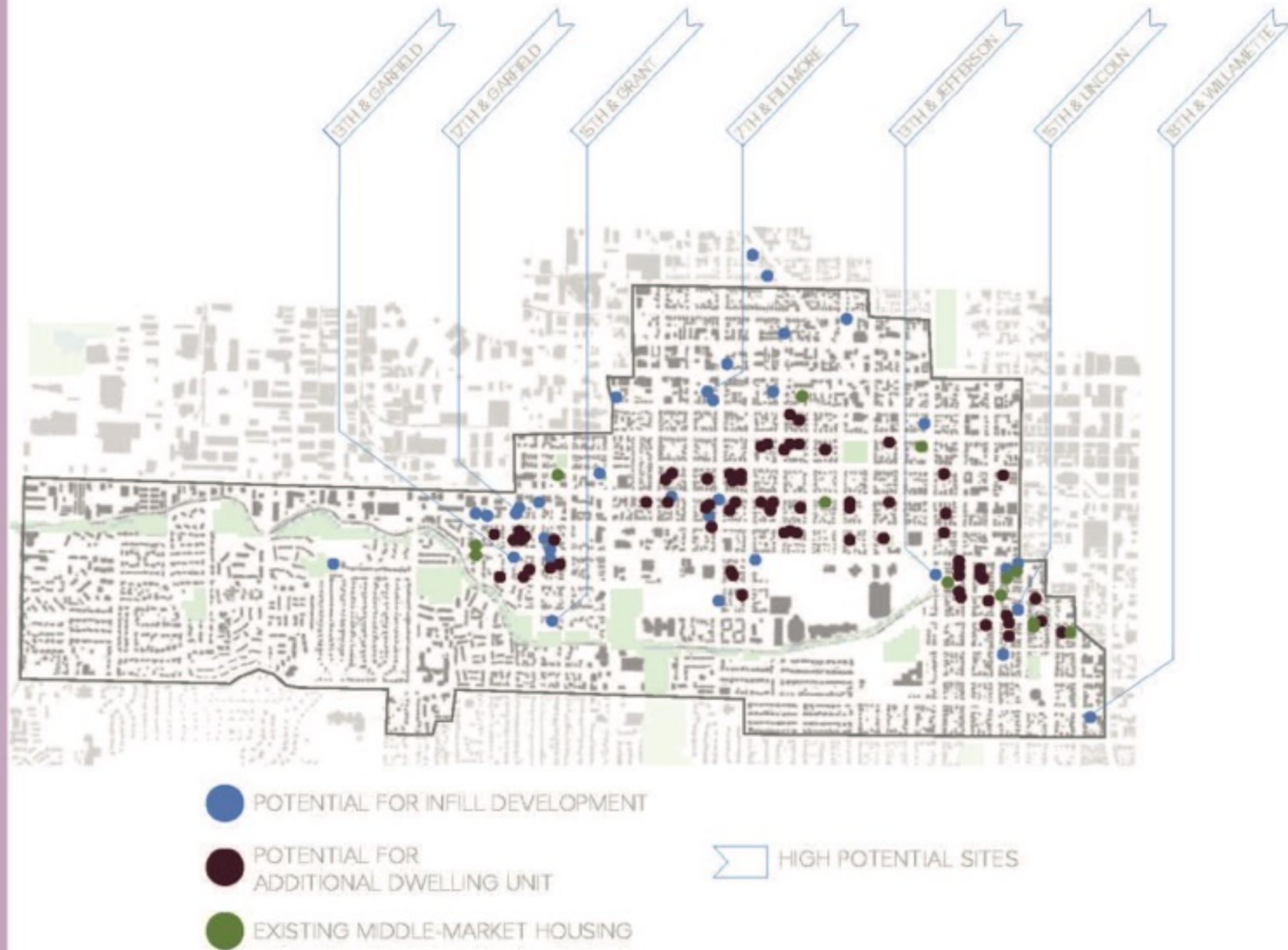
Students analyzed the possibility of siting historic “missing middle” types, such as these from Portland, into Eugene neighborhoods.



Project 1

Site selection and analysis

Students identified possible sites, and analyzed their potential for development, including the zoning requirements for these sites, to ascertain whether “missing middle” types would be permitted, or why not.



Project 2

Market conditions and comparable projects

Students defined their target market(s), and looked for other projects with comparable household types, unit sizes, amenities, etc., to understand market rents and sales prices

Nicole Giustino

What does this lot have to offer?



College Students:
Within a mile of campus
Adjacent to 82 and 92 bus lines
Less than 10 min bike ride to campus
Walking distance to Downtown Eugene
Close proximity to ball parks, tennis courts, track, and park
Walking distance to grocery store and other commercial centers

Young Families:
Adjacent to 82 and 92 bus lines
Walking distance to Downtown Eugene
Walking distance to Roosevelt Middle School
Across the street from South Eugene High School
Close proximity to ball parks, tennis courts, track, and park
Walking distance to grocery store and other commercial centers

Empty Nesters:
Adjacent to 82 and 92 bus lines
Walking distance to Downtown Eugene
Close proximity to ball parks, tennis courts, track, and park
Living in a age-diverse area, not in a retirement community
Walking distance to grocery store and other commercial centers

POSSIBLE DEMOGRAPHICS

Lucia

Site Information / Zoning / Overlay
Site: 0.5 acres
City Neighborhood Commercial District
Usable Lot Size: 22,500 Sq Ft
Density: 28 DU/acre

Zone Requirements:
Minimum of 80% of Building Street Frontage in Commercial Use
Minimum of 80% of Ground Floor Area in Commercial Use
Maximum Building Height: 3.5 feet
Front Yard Setback: 10-15 feet
Minimum Interior Yard Setback (from residential properties): 10 feet
Businesses limited to 5000 Sq Ft of floor area in new buildings

2 bd / 2 ba | 1290 Sq Ft | \$522,586

Features:
-Space and wiring for elevators to allow aging in place
-Courtyard arrangement
-Mixed use development
-Close to services

Real Market Value (RMV)		Total	Total Assessed Value
Year	Land		
2015	n/a	\$3,000,000	\$4,500,000

Summary:
-12 Fee Simple Row Houses
-0.04 acre lot subdivisions
-8 units 1400 Sq Ft
-4 units 1800 Sq Ft

COMP ANALYSIS

2712 Friendly Street

Project 3

Type selection and site design

Students determined which historic types would work best on each site and then designed preliminary site plans to work with those types.

RIVER ROAD, GOLDEN AVE SCHEMATIC DESIGNS

SITE



COMMUNITY DESIGN PROCESS

As a group we came up with 8 schematic designs, each having their own merits. We will be meeting with the clients and future residents of this project on the 27th of this month. They can then choose what schematic best suits their needs. They can also choose from attributes in other schematics to be incorporated.

Some programmatic elements of the design include some guest parking, some attached parking and car share. They would also like a sizable bike storage and a yoga room that can be converted into a guest room. All units will be accessible and one story. The site will also include a garden space

KEY

- A. YOGA/GUEST
- B. GARDEN
- C. HARDSCAPE
- D. 600SF UNIT
- E. 800SF UNIT
- F. ACCESS
- G. BIKE STORAGE

SCHEMATICS 1-4

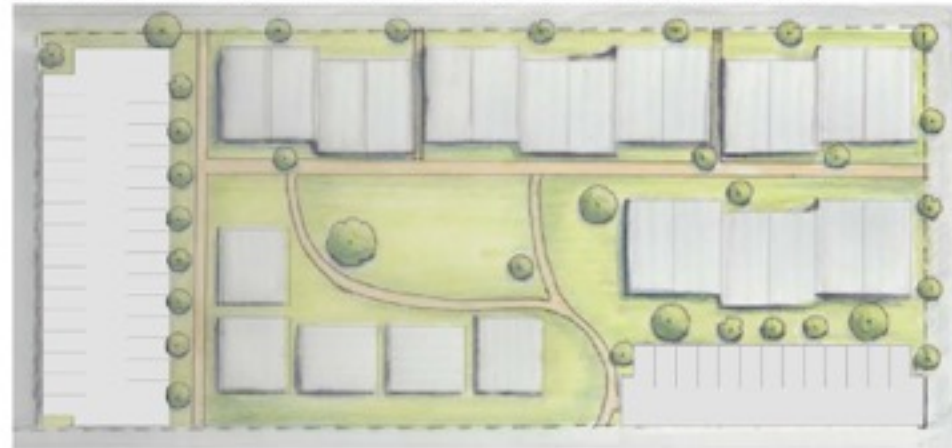


Project 4

Pro-forma

Students used data on site costs, construction costs, units sizes, typical rents and sales prices, to determine whether their designs would be profitable and affordable.

MORTGAGE FINANCIAL ANALYSIS



We investigated the mortgage option instead of the rental option because we intend to build long term homes that will help stabilize the South University neighborhood. Student housing in this area is increasing rapidly and it is our hope that new families will want to buy units in our development to maintain a variety of household types -- not just students.

ZONING: R3
SIZE: .1189 Acres
MARKET VALUE: 100,000 - 300,000
MAXIMUM BUILDING COVERAGE: 39%
MAXIMUM NUMBER OF UNITS: 79
MINIMUM NUMBER OF UNITS: 39
TPOLOGY: Courtyard / Rowhouse
UNITS: 53
FOOTPRINT: 20,480 sqft

PARKING: 42 spaces
REQUIRED PARKING: 1 per dwelling
OPEN SPACE: 23,310 sqft (45%)
OPEN SPACE REQUIREMENT: 45%

Mortgage Scenarios

	Interest Rate	Mortgage Term
	4.50%	30
1.5 BR Ground	Sales Price (\$)	225,000
	Down Payment	22,500
	Principal	202,500
	Annual Mortgage	\$12,432
	Monthly Payment	1,036
	Necessary Salary	41,436
2 BR Upper	Sales Price	260,000
	Down Payment	26,000
	Principal	234,000
	Annual Mortgage	15,961
	Monthly Payment	1,330
	Necessary Salary	53,203
2 BR Detached	Sales Price	300,000
	Down Payment	30,000
	Principal	270,000
	Annual Mortgage	18,417
	Monthly Payment	1,535
	Necessary Salary	61,390
1 BR Ground	Sales Price (\$)	100,000
	Down Payment	22,500
	Principal	202,500
	Annual Mortgage	\$12,432
	Monthly Payment	1,036
	Necessary Salary	41,436

Cost Analysis

	# of Units	Sq Ft Per	Total Sq Ft
1 Bedroom Ground	28	375	10,500
1.5 Bedroom Ground	6	800	4,800
2 Bedroom Upper	14	800	11,200
2 Bedroom Detached	5	896	4,480
Total Sq Ft			30,980

Hard Costs	Sq Ft Per	Total Sq Ft	Total Cost
	\$150.00	30,680	\$4,602,000
Soft Costs	% of HC	25%	\$1,150,500
Land Cost			\$595,000
Total Development Cost			\$4,770,550

Income Analysis

	# of Units	Sq Ft	Price per SF	Total Unit Price	Total per Type
Ground 1 BR	28	375	\$200	75,000	2,100,000
Ground 1.5 BR	6	800	\$200	120,000	720,000
Upper 2 BR	14	800	\$200	160,000	2,240,000
Detached 2.5 BR	5	896	\$200	\$179,200	896,000
					5,956,000

Pro Forma

Total Development Cost	\$4,770,550
Market Sales Price	\$5,956,000
Profit	\$1,186,000
Return	24%

Analysis

A typical family would need an approximate salary of \$40,000, assuming of course that they are spending the recommended 30% of their salary on housing. This is very realistic for our target market of young families. We accounted for 53 units in this analysis, which could be increased up to 79 units, however when we tested this alternative it did not increase our profit substantially enough to make it a valid option. We decided to choose quality over quantity. For this project maintenance costs would equal about \$100 per unit, and taxes would equate to \$71,558 for the entire project. This project would make an respectable profit and would offer ample open space, plenty of parking, and would have roomy units, all at a very affordable price.

Eugene area has the second tightest housing market in the nation.

We can change that.



better
HOUSING
together

February 21, 2018 | 5 - 7 pm

Winter term studio

1. Continue neighborhood mapping and investigation, working with residents
2. Site selection for design projects
3. Design of appropriate housing types for the selected sites, working at all scales:
 - dwelling
 - site
 - neighborhood
4. Preliminary study of building systems



Spring term studio

1. Design development - detailed study and resolution at building and site scales, including issues of:
 - energy usage (annual and peak conditions)
 - environment and habitat
 - resilience
 - building systems
 - financing and development
 - futureproofing
2. Design proposals used to develop “form-based” code revisions to city zoning ordinances



Clay Neal

Proposals for revisions to zoning ordinances

- Form-based codes:
- design and analyze prototypes, then construct rules that allow and encourage these solutions
- iterative process
- universal for all sites, or
- neighborhood-specific