Development Economics and Housing Affordability

The Columbia Gorge Commission

Michael Wilkerson, Ph.D.
July 10, 2018

Some Questions You May Have

- If land was added to an urban growth area/boundary for an urban area in The Gorge, what type and cost of housing would the private market build and what would be the price/rent?
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- What effect would the new housing built in a UGB expansion area have on the price of existing housing, or on rents?

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- If zoning allowed it, what types of middle housing might be built by the market in cities in The Gorge? What kinds of families and households would need and use that kind of housing?
Homeownership Decreasing For All Ages

Housing Prices more than doubled in some areas since 2000

AVERAGE CHANGE IN HOME PRICES BY COUNTY
2000-2016

Source: St. Louis Federal Reserve GEOFRED
County Price to Income Ratios above historical rates

Price to Income Ratio of 3 is a “Normal” Range

Price to Income Ratio, 2017
- 1.9 - 3.5
- 3.6 - 4.0
- 4.1 - 4.5
- 4.6 - 5.0
- 5.1 - 9.5
- No data

Median Price
Median Income

Cost burdening worst in areas with highest price increases

Percent of Cost Burdened Households (Owner + Renter) in 2015

Cost Burdened = Spending 30%+ of Gross Income on Housing

Source: St. Louis Federal Reserve GEOFRED
25% of renters nationally spend more than 50% of income on rent

Source: Harvard Joint Center for Housing Studies

Available for download at: www.upforgrowth.org

State reports are forthcoming for:
- California
- Oregon
- Washington
Methodology:
- Use Econometric model to estimate supply elasticity at the state level.
- Calculate baseline through 2000.
- Estimate number of units in 2015 if market were in historic equilibrium (national benchmark).
- Subtract forecast from the actual 2015 stock to determine underproduction of units for each state.

7.3 million housing units under produced from 2000 to 2015
Price Impacts from Additional Production over 20 years

Price Elasticity of Supply

- 0.47
- 0.77
- 0.84

(% change in supply) / (% change in price)

Note: less than one is considered inelastic

Housing starts haven't kept pace with household formation

U.S. Household Formation vs. Housing Starts
5 year moving average in millions

Since 1960 - 1.11 Units per Household
2000 to 2016 - 0.98 Units per Household
2010 to 2016 - 0.72 Units per Household

Source: U.S. Census Bureau
Ratio of starts to household formation lower in OR

Since 1982 - 1.0 Units per Household
Since 2000 - 0.8 Units per Household
Since 2010 - 0.6 Units per HH

Housing Starts

Household Formation

State of Oregon -- 1982 to 2017 -- 5 year moving average

Source: U.S. Census Bureau, Oregon Office of Economic Analysis, and Moody's

Building Permits - Share of 1 Unit Homes

89%
90%
93%
79%
74%
56%
39%

Gorge = Hood River, Klickitat, Skamania, and Wasco Counties

Source: Census Building Permits Survey
Real Estate Development Economics

Understanding the Economics of Development

Entitlements/Policies

Land

Highest and Best Use

Development Can Occur

Capital

Risk vs. rate of return
Capital is mobile

Market Feasibility

Rent vs. Construction Cost
Construction and Permanent Financing

**CONSTRUCTION SOURCES**
- INVESTORS: 40–50%
- DEVELOPER EQUITY: 25%
- CONSTRUCTION LOAN: 50–60%

**CONSTRUCTION USES**
- FEE: 5%
- HARD COSTS: 60%
- SCIFT COSTS: 10%
- CARRY: 5%
- LAND: 20%

**PERMANENT SOURCES**
- LONG-TERM LOAN: 75%
- FORGIVABLE DEBT/GRANTS: 0–10%

**BUILD THE PROJECT**

**TRANSFER TO LONG-TERM DEBT STRUCTURE**

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**Residual Land Value**

\[ \text{RLV} = \text{Developer Maximum Land Budget} \]

Given a set of capital, construction, operating costs, and revenue assumptions.
Residual Land Value

Development Example (feasible)

- Land Budget
- Hard Costs (construction)
- Soft Costs (design, permitting, etc.)

DEVELOPMENT COST

Residual Land Value

DEVELOPMENT VALUE

- Net Operating Income
- Market Capitalization Rates

Residual Land Value

Development Example (not feasible)

- Hard Costs (construction)
- Soft Costs (design, permitting, etc.)

DEVELOPMENT COST

Subsidy Needed Before Land Purchase

DEVELOPMENT VALUE

- Net Operating Income
- Market Capitalization Rates
Residual Land Value

**Development Example (not feasible)**

- Land Cost
- Hard Costs (construction)
- Soft Costs (design, permitting, etc.)

**Development Cost**

- Subsidy Needed Including Land Purchase

**Development Value**

- Net Operating Income
- Market Capitalization Rates

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**Construction Prototypes**

- Stacked Flats
- 4 over 1 (podium)
- Residential Tower

**Residual Land Value by Construction Prototype**

- RLV = $ per gross square foot of land

- Rent per Square Foot:
  - Stacked Flat: $2.50
  - 4 over 1: $3.00
  - Tower: $3.50
  - Residential Tower: $4.00

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Land Value - Highest and Best Use

The Market Builds High-End Housing

The Market Builds High-End Housing

150%  $2,440 Market Average 2 bedroom (Built since 2014)
+ 46%
Compared to a 15% increase in MFI from 1 bedroom to 2 bedroom

120%  $1,675 Market Average 1 bedroom (Built since 2014)

100%  $1,401 1 bedroom (including utilities)

94%  $1,310 Market Average All 1 bedroom units

80%  $1,100 1 bedroom (including utilities)

60%  $825 1 bedroom (including utilities)

City of Portland – Sept 2017

Source: CoStar and HUD

Price Distribution of New Homes Nationally

http://www.calculatedriskblog.com/
### Cost of New Home Construction 2017

**Table 1. Single Family Price and Cost Breakdowns 2017 National Results**

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Share of Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Finished Lot Cost (including financing cost)</td>
<td>$91,906</td>
<td>21.5%</td>
</tr>
<tr>
<td>B. Total Construction Cost</td>
<td>$237,760</td>
<td>55.6%</td>
</tr>
<tr>
<td>C. Financing Cost</td>
<td>$7,636</td>
<td>1.8%</td>
</tr>
<tr>
<td>D. Overhead and General Expenses</td>
<td>$21,835</td>
<td>5.1%</td>
</tr>
<tr>
<td>E. Marketing Cost</td>
<td>$5,314</td>
<td>1.2%</td>
</tr>
<tr>
<td>F. Sales Commission</td>
<td>$17,448</td>
<td>4.1%</td>
</tr>
<tr>
<td>G. Profit</td>
<td>$45,902</td>
<td>10.7%</td>
</tr>
<tr>
<td><strong>Total Sales Price</strong></td>
<td><strong>$427,892</strong></td>
<td><strong>100.0%</strong></td>
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</table>

### Average Sales Price and Price per SF

<table>
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<tr>
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<th>Average Sales Price</th>
<th>Price per SF</th>
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<tbody>
<tr>
<td>Nationally (Census)</td>
<td>$368,100</td>
<td>$140</td>
</tr>
<tr>
<td>Hood River County</td>
<td>$426,171</td>
<td>$201</td>
</tr>
<tr>
<td>Klickitat County</td>
<td>$438,619</td>
<td>$219</td>
</tr>
<tr>
<td>Wasco County</td>
<td>$296,411</td>
<td>$169</td>
</tr>
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</table>

Source: NAHB, Redfin

### Gorge Real Estate Overview

<table>
<thead>
<tr>
<th>2012-2016 cumulative averages</th>
<th>% owner occupied housing</th>
<th>Median Value Owner Occupied Housing</th>
<th>Average Monthly Cost Owner Occupied Housing</th>
<th>Median Gross Rent</th>
<th>Median Household Income</th>
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<td>Skamania County</td>
<td>69.3%</td>
<td>$243,000</td>
<td>$1,464</td>
<td>$723</td>
<td>$53,082</td>
</tr>
<tr>
<td>Klickitat County</td>
<td>67.4%</td>
<td>$197,500</td>
<td>$1,355</td>
<td>$787</td>
<td>$49,633</td>
</tr>
<tr>
<td>The Dalles</td>
<td>61.6%</td>
<td>$177,500</td>
<td>$1,296</td>
<td>$757</td>
<td>$45,856</td>
</tr>
<tr>
<td>Hood River</td>
<td>48.4%</td>
<td>$324,600</td>
<td>$1,604</td>
<td>$1,064</td>
<td>$47,967</td>
</tr>
<tr>
<td><strong>US Average</strong></td>
<td><strong>63%</strong></td>
<td><strong>$243,000</strong></td>
<td><strong>$1,464</strong></td>
<td><strong>$723</strong></td>
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Source: US Census, ACS
Zoning Capacity

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Economically Feasible

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<th>Policy Options – Increase vs. Decrease Supply</th>
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<tr>
<td><strong>Increase</strong></td>
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<td>Tax vacant land or land bank</td>
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<td>Streamline/shorten permitting</td>
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<td>Eliminate/reduce parking requirements</td>
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<td>Increase density in TOD areas</td>
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<td>Allow ADUs</td>
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<td>Density bonuses</td>
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<tr>
<td>Establish “by-right” development</td>
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<td>Tax abatements</td>
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<td>Urban Growth Boundary expansion</td>
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**Rural Options**

### Increase supply

- Tax vacant land or land bank
- Streamline/shorten permitting
- Eliminate/reduce parking requirements
- Increase density in TOD areas
- Allow ADUs
- Density bonuses
- Establish “by-right” development
- Tax abatements
- Urban Growth Boundary expansion

### Policy Options to Improve Affordability

1. Local Zoning and Regulatory Constraints
   - By right zoning in transit corridors
   - ADU fee waivers

2. Local Infrastructure Funding

3. Land Banking Authorities

4. Construction Defect Laws
   - Increases Condo Construction Costs

5. Low Income Housing Tax Credits (under 60% MFI)
   - Middle Income Housing Tax Credit (60 to 100% MFI)

6. Mortgage Interest Deduction Reform
Some Questions You May Have

- If land was added to an urban growth area/boundary for an urban area in The Gorge, what type and cost of housing would the private market build and what would be the price/rent?

Would build the type of housing currently being developed.

Single Family, detached homes, with average price of $400k

Recent Portland Metro UGB expansions haven’t delivered the expected number of new units. 27,000 acres since 1998, produced 11,000 permitted units of expected 67,000 (16% of total)

Some Questions You May Have

- What effect would the new housing built in a UGB expansion area have on the price of existing housing, or on rents?

Increasing the supply of housing will put downward pressure on price of housing.

Calculating the supply elasticity for a market will estimate how much of an impact price adding new supply will have on prices.
Some Questions You May Have

- If zoning allowed it, what types of middle housing might be built by the market in cities in The Gorge? What kinds of families and households would need and use that kind of housing?

Missing middle housing is the most difficult type of housing to finance.

Given the challenges of small scale development, ADUs/cottage homes are the most likely form of development.

They would primarily serve the vacation rental market, but could also serve single householders, and couples without children.

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