

Common Ground OR-WA ORIGINAL RESEARCH

The Power of Land Value Taxation to Spur “Missing Middle” Housing

Tom Gihring, May 2021

The Oregon Housing Economic Summit in January 2021 concluded that annual housing construction in Oregon needs to increase by over one-third over the next 20 years. No clear consensus emerged from the summit about how to close the gap. The Oregon Office of Economic Analysis maintains that local zoning policies opening single-family properties to moderate density housing will help boost supply, but not enough.

Portland’s recent amendment to the zoning codeⁱ allowing duplex, triplex and four-plex units in single-family zones is a significant step, potentially increasing the supply of developable sites. But the new rules do not provide the economic incentives to make the policy effective in increasing production of “missing middle housing.” The current land use planning system is not well equipped to induce housing affordability. We need to become more focused and intentional in the effort to incentivize development, especially on vacant and underutilized residential land.

There is an increasing recognition that using the tax system as an incentive tool can be an effective market-driven approach to increase housing production. Yet, Oregon’s property tax system as it remains 25 years after the tax revolt that resulted in Measure 5 and 50 assessment limitations is too broken to offer any possibility for incentivizing development. The evidence is clear:

A 2014 study for the [League of Oregon Cities](#) concluded that Oregon’s property tax is inequitable, undermines local control, and fails to sustain service levels approved by voters. Property owners with similarly valued homes pay significantly different tax levies, an occurrence caused by the divergence of maximum assessed value (MAV) from real market value (RMV). The MAVs are limited to a 3 percent increase annually, and by now lag far behind RMVs.

A study of [Land Value Taxation in Multnomah County](#), conducted by the Northwest Economic Research Center (NERC) at Portland State University for Common Ground-OR/WA in 2019, confirmed the inequities caused by tax limitations that have accumulated over the past 22 years. This study focuses on two contrasting communities in Portland: Inner Northeast (INE), a rapidly gentrifying residential and commercial district where MAV assessments (taxable under M-50 limitations) are only 29 percent of RMV; and Outer Southeast (OSE), a lower income, low property value community with MAV and RMV assessments in closer alignment. Reaching further than previous studies, the NERC study aimed at a solution to the problems of Oregon’s defective tax system. Rising land prices underly housing unaffordability. If market incentives are needed to expand the range of re-developable sites, then a revised tax system based on land values offers the best answer.

The idea of a land value tax (LVT) originated with 19th Century political economist Henry Georgeⁱⁱ. Several Pennsylvania cities have moved towards down-taxing building improvements and up-taxing land values. Research has verified the economic and social benefits of this conversion to LVT: land prices are dampened and speculation curtailed, putting more sites on the market; construction and rehabilitation increase, adding to housing supply and stabilizing rents.

No amount of government coercion through land use regulations or zoning policies will result in property owners doing what is not in their economic interest. The housing crisis will only ease when local governments take a larger share of its revenue from land value and a smaller share from capital investment in structures (assessed as improvement value).

Incentive Taxation to Stimulate Housing Production

The NERC study confirmed previous analyses examining the effects of LVT. Moving from the current tax system to an LVT shifts tax burden off higher density sites onto vacant and underutilized sites, raising the costs to owners for holding land out of production.

In this paper we seek to validate the proposition that the incentive effects of LVT would underpin the Residential Improvement Project (RIP), the policy basis for the code amendments [recently adopted](#) by Portland city council allowing more housing type options ⁱⁱⁱ.

Expanding Portland's housing options through [reforms](#) to the zoning code is a significant first step toward increasing the housing supply. This trend has been growing throughout North America, following the example of [Minneapolis](#) in December 2018. It is anticipated that the [Sacramento city council](#) will also allow small multi-unit housing such as duplexes, triplexes and fourplexes, because they're more affordable than single family homes and less dense than large apartment buildings.

Extensive [academic research](#) indicates that allowing more compact infill development tends to increase affordability. A [new study](#) of allowable densities in Portland found that both up-zoning and higher density zoning led to significantly greater development and more housing supply than in areas with lower allowable densities.

The Simulation Model

Using the parcel-level data set generated for the NERC LVT study for tax year 2017-18, we extracted all Inner Northeast parcels classified by existing use as single-family, excluding row houses. The data set numbers 7,780 developed parcels and 182 vacant parcels. The first step in the analysis is to identify those parcels most likely to be redeveloped.

This requires criteria for classifying development status, using both valuation and site utilization measures ^{iv}. Three categories identified are (1) fully developed – parcels with a high improvement-to-land assessment ratio, and a high ratio of building floor space to lot area; (2) underutilized – parcels falling below the two thresholds; (3) vacant parcels. The last two categories are combined, resulting in two development status categories: *fully developed*, n=7,748; *vacant & underutilized*, n=327.

Next, we compute the zoned development capacity for all single-family parcels. The new RIP regulations allow up-zoning for missing middle housing options on parcels zoned for R5 and R2.5 only. Nearly 7,000 single-family lots fall within these two zones. The zoning code increases the allowable floor area ratio (FAR) and the minimum lot size in order to accommodate duplex, triplex, and fourplex buildings ^v. The allowable square footage of internal building floor area is calculated by multiplying the allowable FAR for each of eight zoning code categories by the lot area of each parcel ^{vi}.

Eliminating parcels from the database that do not meet the minimum lot size threshold for conversion to missing middle housing types, 6,810 parcels now qualify for upgrades from single family units to duplexes; 6,492 qualify for 3 & 4 units. But for all practical purposes most of these homes will remain as single-family units for the foreseeable future. For the purpose of modeling changes under the RIP

amendments, we shall assume that redevelopment is limited to vacant and underutilized single-family parcels: 201 qualify for duplex conversions and 164 for triplex and 4-plex conversions.

Redevelopment Scenarios

From Table 1 we see the mean existing building area on all the eligible lots is far below the maximum allowed under RIP regulations; the overall FAR is only 0.11 compared to the maximum FAR over .70. This aggregate maximum FAR for all qualified parcels is calculated by dividing the sum of maximum building area by the sum of the lot area. If all the vacant & underutilized parcels were redeveloped to maximum capacity, the average total floor area on the 201 duplex qualified parcels would be 3,270 sq. ft., sufficient floor area for an attached dwelling over 1,600 sq. ft. The mean building area of triplex & fourplex redevelopment sites is 4,106 sq. ft., allowing for 4-plex units of about 1,000 sq. ft. each.

Table 1

Mean RIP Zoned Development Capacity by Expanded Housing Option

Vacant & Underutilized Parcels qualifying under RIP	Parcel Count	Mean Lot Area	Mean Bldg area	Existing FAR	Maximum Bldg. SqFt
Duplex	201	4,525	518	0.11	3,270
Triplex & Fourplex	164	5,030	578	0.11	4,106

The next step in the analysis is to determine assessed land and building values on qualifying parcels in both their existing and hypothetically redeveloped status. Table 2 shows the mean existing values of vacant & underutilized parcels. The land-to-total value ratio (LTV) is the proportion of total assessment attributed to land value.

To calculate real market values on the same sites redeveloped to RIP zoned capacity we employ a simplified *proforma*. This is a routine method developers and investors use for feasibility analysis. It consists of a spreadsheet containing a set of calculations of costs and revenues, and results in a projection of the financial return that a proposed real estate development is likely to generate. The proforma used here simply projects construction costs and total redevelopment value ^{vii}.

Table 2

Mean Existing Assessed Values - RMV

Vacant & Underutilized Parcels qualifying under RIP	Parcel Count	Mean Land Value	Mean Building Value	LTV Ratio
Duplex	201	234,115	64,631	0.78
Triplex & Fourplex	164	248,884	71,973	0.78

Land values are assumed to remain the same. Output from the simulated redevelopment project proforma is contained in Table 3. Mean building values on redeveloped sites are high enough to lower the LTV ratios considerably. These ratios (in the low 20 percent range) are found to be representative of new residential building types with densities higher than typical single-family units.

Table 3

Mean Projected Values - RMV

Redeveloped Parcels qualifying under RIP	Parcel Count	Mean Land Value	Mean Building Value	LTV Ratio
Duplex	201	234,115	699,813	0.25
Triplex & Fourplex	164	248,884	925,285	0.21

Tax Shift

The final step in the redevelopment scenario is to simulate property tax applications, comparing existing underutilized sites with the same sites redeveloped under the RIP amendment to the zoning code.

Comparisons are made across the different tax regimes: tax levies using MAVs, RMVs, a 60% LVT, and a 90% LVT^{viii}. The land value tax method chosen for this analysis is a split-rate tax; the percentage figure expresses the proportion of the total tax rate applied to land assessments. All four tax rates are revenue neutral – resulting in the same Multnomah County-wide total levy amount^{ix}. Simulated tax levy outcomes are shown in Table 4 A&B.

Table 4A

COMPARATIVE TAX LEVIES BY PARCEL DEVELOPMENT STATUS

Parcels qualifying for redevelopment under RIP - Duplex	No. parcels	Tax Levies			
		MAV Tax	RMV Tax	60% LVT	90% LVT
Vacant & Underutilized	201	\$ 1,296	\$ 3,062	\$ 3,692	\$ 5,550
Redeveloped	201	\$ 4,038	\$ 9,573	\$ 9,333	\$ 7,176

Parcels qualifying for redevelopment under RIP - Triplex & Fourplex	No. parcels	Tax Levies			
		MAV Tax	RMV Tax	60% LVT	90% LVT
Vacant & Underutilized	164	\$ 1,370	\$ 3,289	\$ 3,954	\$ 5,909
Redeveloped	164	\$ 5,278	\$ 12,035	\$ 11,531	\$ 8,093

Table 4B

TAX SHIFT RATES

MAV to RMV	RMV to 60% LVT	RMV to 90% LVT
136%	21%	81%
137%	-3%	-25%

MAV to RMV	RMV to 60% LVT	RMV to 90% LVT
140%	20%	80%
128%	-4%	-33%

Moving through the tabular results it becomes clear that changing from the current tax system to the LVT system, tax levies become progressively higher on vacant & underutilized parcels. Note that LVT rates are based on RMV assessments, as it is important that in order to achieve the desired incentive effects assessments must be up-to-date and accurate, reflecting true market values. The effect of the split-rate land tax is to progressively lower tax levies on the same parcels as redeveloped. The 60% LVT would be employed during a phase-in period, so as not to cause economic dislocation or hardship to property owners that a sudden change to a 90% LVT could bring about.

Incentive Effects

Now we see the real incentive power of LVT. Basically, the LVT shifts tax burden from more efficiently utilized sites to less efficiently used sites. The negative shift is greater on parcels converted to triplex & fourplex units because the density or land utilization level is higher. Figure 1 illustrates the tax shift effects of converting the present tax system to a land value tax on the two higher density housing types.

If vacant & underutilized parcels were left undeveloped, the average tax difference between a RMV tax and a 90% LVT on parcels qualifying for redevelopment under RIP zoning to a duplex would be \$2,488 more. If the same parcels were redeveloped, the tax difference is \$2,397 less. The overall difference is **\$4,885** – the tax benefit of converting one parcel. The tax benefit for constructing a triplex or fourplex building is **\$6,562** (see also Figure 2). Because this is an annual tax levy it wouldn't take long for owners to realize the tax penalty for leaving their lots vacant or underutilized, as well as the reward for investing in new buildings.

Figure 1



One of the main objectives of the Residential Infill Project and the up-zoning amendment is to discourage demolition of smaller and older single-family homes and replacing them with large, luxury single-family dwellings. In this analysis we model the marginal tax benefit of choosing the higher density housing types over the single-family option. The marginal benefit for converting to a duplex rather than a single-family dwelling is \$2,050 in annual taxes; for converting to a triplex or 4-plex building the marginal benefit is \$3,727. The methodology for this and the previous sections is elaborated in the working paper that accompanies this original research report (see the commongroundorwa website, below).

Conclusion

The evidence shown in these scenarios is conclusive: the land value tax does have the desired incentive effects that proponents claim. We expect that because tax shift in this analysis is based on RMV assessments rather than MAV, the results can be generalized beyond Portland's Inner Northeast community to the wider metro area.

Oregon's fateful attempt to limit the growth of property taxes has resulted in gross inequities and adverse incentives that encourage holding land out of production and discourage capital investment in building improvements.

The City of Portland has taken another step toward expanding the supply of affordable housing by adopting the Residential Infill Project and subsequent zoning code amendments. Now is the time to take the next step – to make our land use regulations work in collaboration with incentive property taxation.

NOTES:

ⁱ The City of Portland adopted amendments to the zoning code that regulate the types of housing permitted in its neighborhoods. The changes approved in July 2020 allow more housing options in the “missing middle” range, including duplexes, triplexes and fourplexes, if they follow new limits on size and scale. The new zoning rules take effect in August 2021.

ⁱⁱ Henry George’s seminal work is the classic Progress and Poverty, first published by Appleton & Co. in 1880. He also wrote The Science of Political Economy, copywrite 1897.

ⁱⁱⁱ **Residential Infill Project Summary – Draft, February 2019.**

The Residential Infill Project (RIP) was developed by Portland’s Bureau of Planning and Sustainability. The new policy recognized population growth pressures resulting in a housing shortage that has driven up housing costs. Also, housing market changes have made it more attractive to construct large, expensive new houses in older residential neighborhoods — even as the number of people per household is getting smaller. RIP sets a new standard: up to four homes on almost any lot, or up to six homes for price-regulated projects.

^{iv} Note: Two criteria combined are used to determine the development status of a parcel:

1. The ratio of land assessment to total assessed valuation (in RMVs), expressed as the LTV ratio. The threshold ratio is less than .66 for the fully developed status category. (More than half the assessed value is in building improvements) Conversely, if the LTV exceeds .66, a parcel is underutilized (more than half the assessed value is in land), or vacant if so designated.
2. The floor area ratio (FAR) is a standard measure derived from the building area (floor space in square feet) as a percentage of lot area. A standard FAR is derived from the mean FAR of all newer single-family structures (1010 to 2017-18) in each zone from the zoning code. The threshold is set at 50% of the standard FAR. A parcel is considered fully utilized if the parcel’s FAR is greater than the standard FAR for the zone in which the subject parcel is located; it is considered underutilized if its FAR is below the threshold.

Summarized: Underutilized = LTV ratio > .66 and FAR < 50% of standard FAR
 Fully developed = LTV ratio < .66 and FAR > 50% of standard FAR

^v *Residential Improvement Project Zoning Code Amendments, July 2020:*

Chapter 33.110.265.D

Duplexes: In R5 zones maximum FAR = 0.6, new minimum lot area = 3,000 sf.
 In R2.5 zones maximum FAR = 0.8, new minimum lot area = 1,600 sf.

Chapter 33.110.265.E.

Triplex & Fourplexes: In R5 zones maximum. FAR = 0.7, new minimum lot area = 3,150 sf.
 In R2.5 zones maximum FAR = 0.9, new minimum lot area = 2,880 sf.

^{vi} Note: Criteria to determine zoned development capacity using allowable FARs for all single-family & mixed used zones is found in Chap 33.130, Table 130-2 of the city’s zoning code.

Allowable FARs for the zones present in INE:	R2.5 = 0.7	R5 = 0.5	CM2 = 2.5
CM3 = 3.0	R1 = 1.0 (est.)	R2 = 0.9 (est.)	CM1 = 1.5
			RH = 0.7 (est.)

^{vii} Proforma input figures:	Hard costs	Soft costs	
Small infill	\$185	15%	Use for duplex
Town house	\$195	15%	Use for triplex & fourplex

Soft costs as a percentage of hard costs include design, engineering, inspection fees, insurance, accounting & legal fees, construction loan fees & interest payments.

These figures are based on Technical Memorandum, Community Attributes Inc., Nov 29, 2016. Estimated Construction Costs, MHA Economic Analysis, 2016

Note: The RIP up-zone is not likely to push up land prices because its probable consequence (rebuilt to higher density) is too scattered rather than concentrated in a particular neighborhood.

^{viii} This assumption, MAVs remaining unchanged, is consistent with the methodology used by NERC analysts in their latest report. This is verified by the finding that on developed lots the MAVs for duplex and single-family housing types are found to be similar. But the data show that row house properties (less than five units) have about a 30% higher average MAV than single-family structures.

Mean MAVs

All Single-family parcels:	Vacant & Underutilized = 48,819	Fully developed = 152,863
RIP parcels – Duplex:	Vacant & Underutilized = 51,825	Redeveloped = 161,464
RIP parcels – 3 & 4 plex:	Vacant & Underutilized = 54,778	Redeveloped = 211,044

^{ix} Multnomah County **TAX RATES**, expressed as mill rates (\$ per 1000 AV):

MAV = 25.01	RMV = 10.25	60% LVT-LAND = 13.32	60% LVT-IMPROVEMENTS = 8.88
		90% LVT-LAND = 23.00	90% LVT-IMPROV = 2.56

Note the RMV rate is lower than the MAV rate because market rate assessments are higher. The tax rate must be lowered to achieve revenue neutrality. Effective LVT rates are derived from a conversion formula.

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