

Much to Do with ADUs:

Advancing Flexible, Cost-Effective Housing Production in Belvidere, Lowell, MA

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Second-Semester Core Studio
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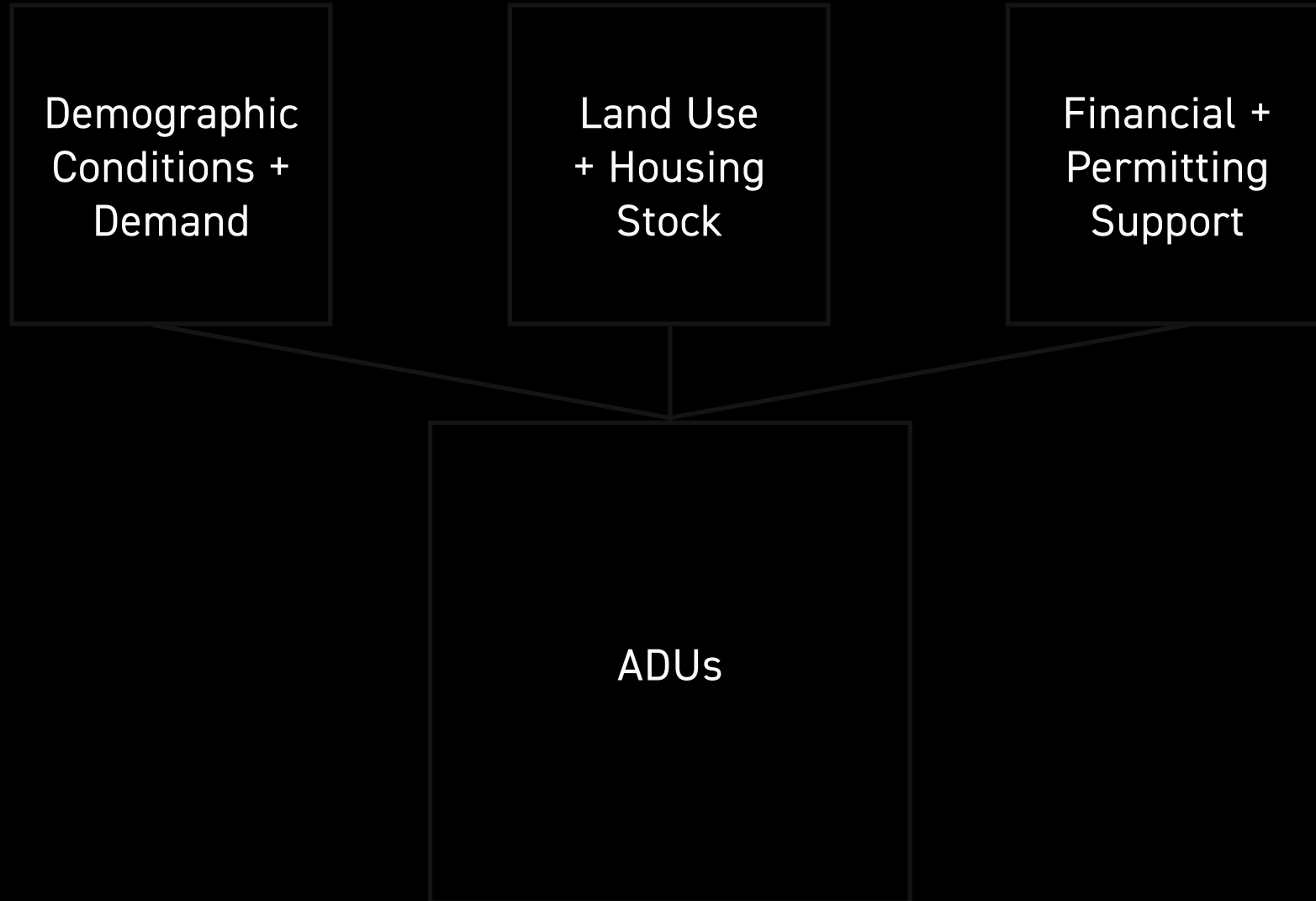
What is an Accessory Dwelling Unit (ADU)?

- Residential units located in owner-occupied, single-family homes or properties
- Have their own kitchen, bathroom, and other necessities
- Homeowner household typically lives on the property
- Densification via incremental change and preservation of neighborhood character
- More cost-effective than traditional housing construction

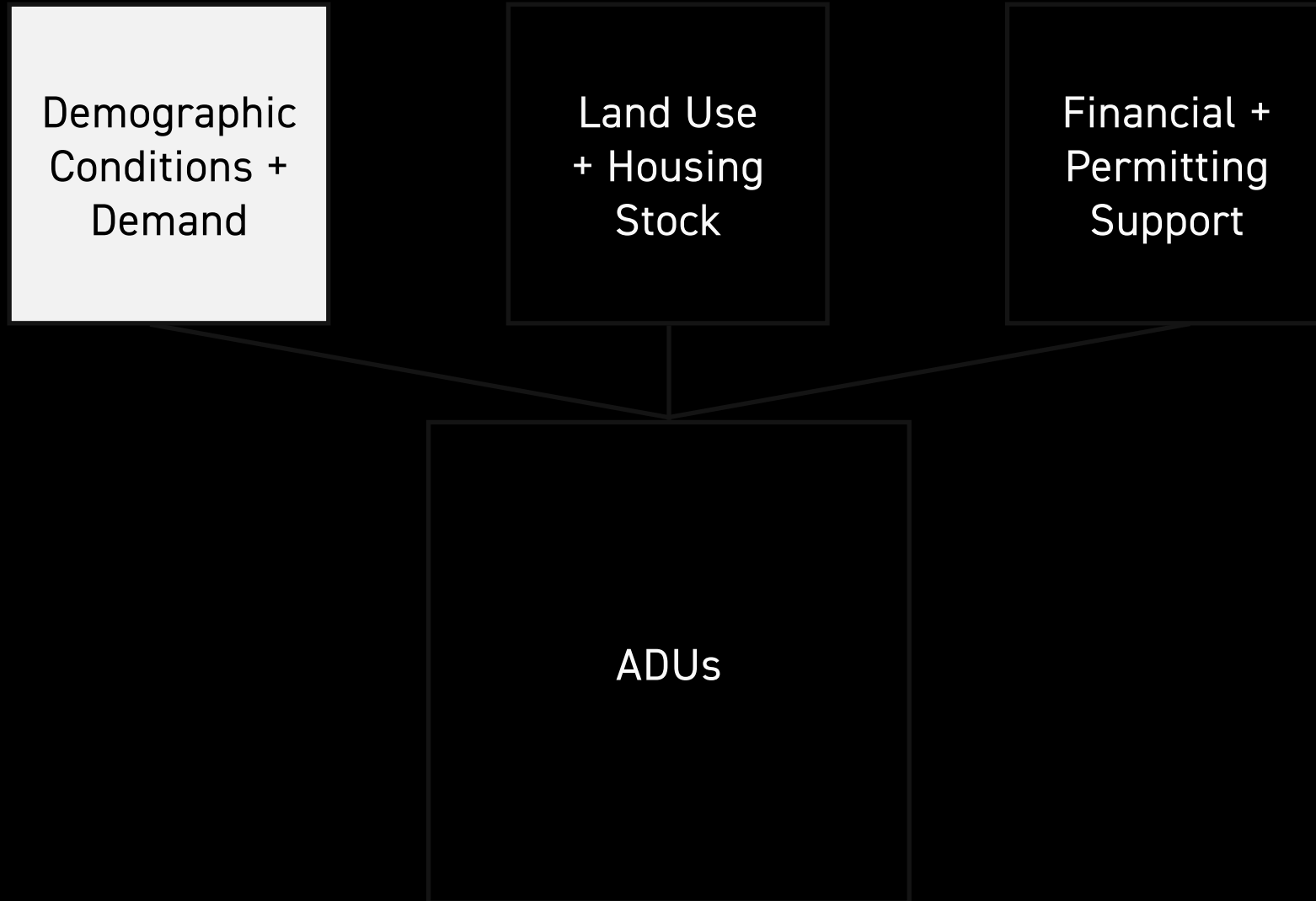


Examples from Massachusetts, mass.gov

Why ADUs in Belvidere?



Why ADUs in Belvidere?



Demographic Conditions + Demand

Building an ADU might be especially appealing for the following reasons:

Financial

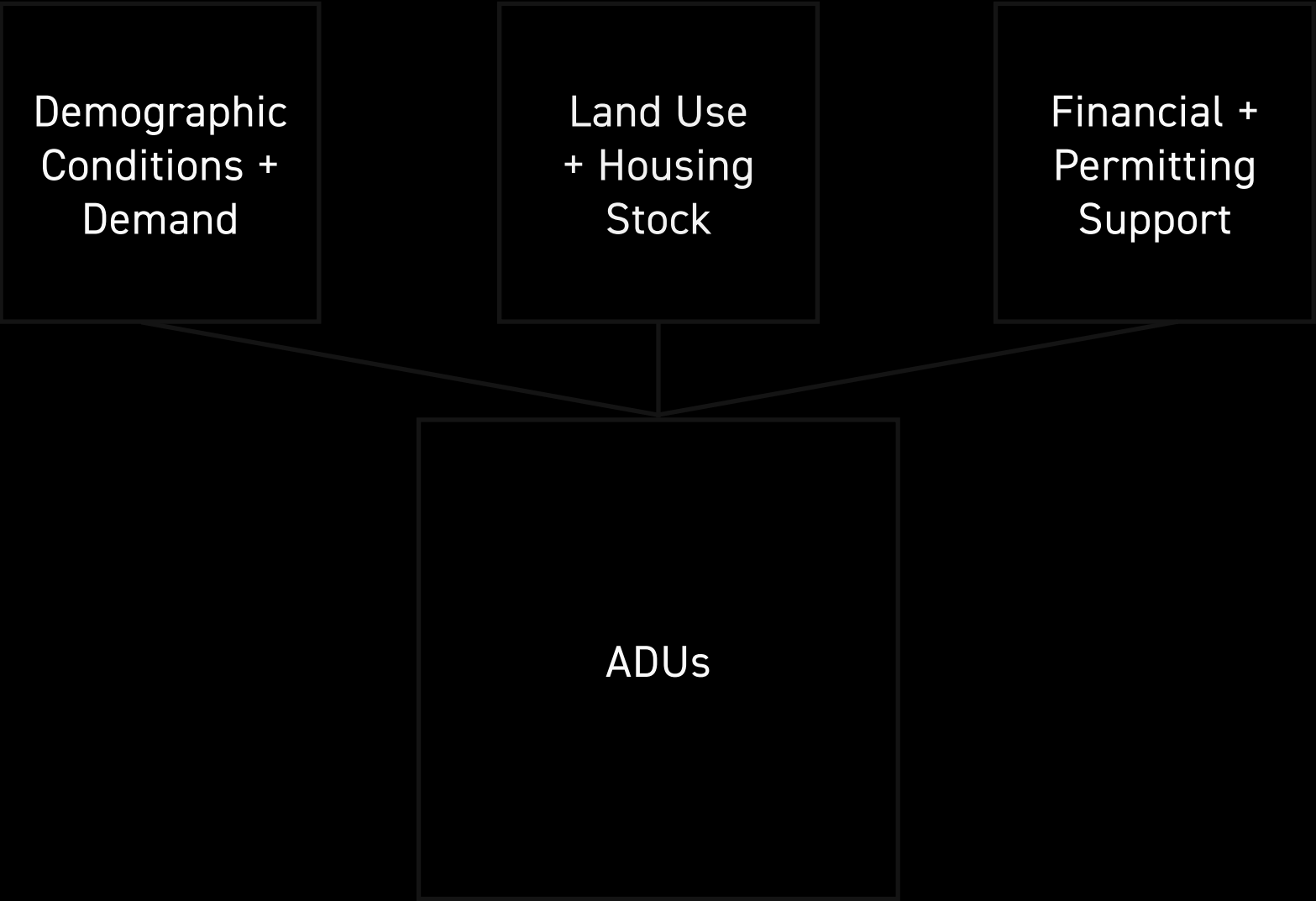
- Additional income in the form of collected rent
- Increased property value (25-34%, variable)

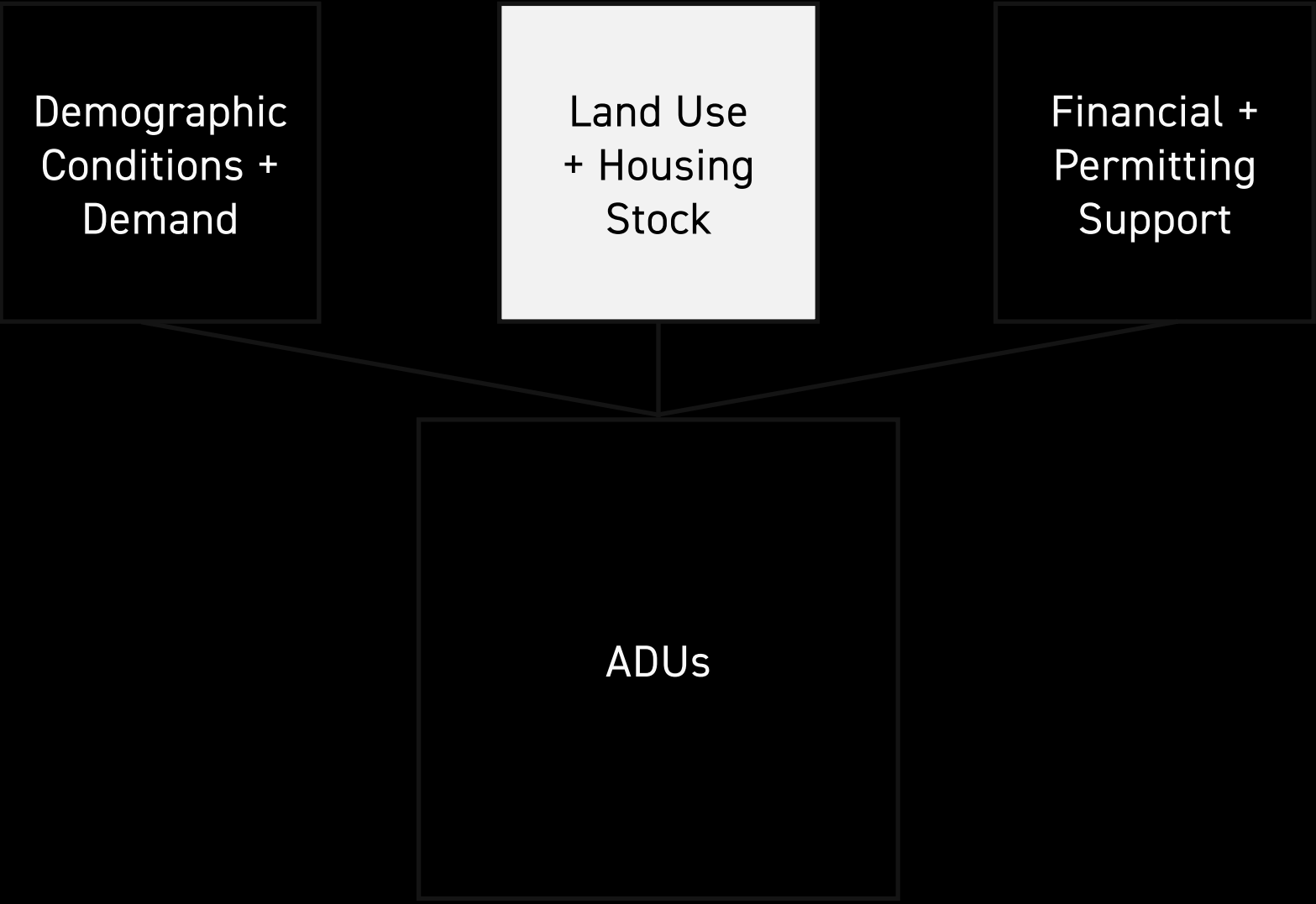
Social/Life

- Keeping family closeby
- More affordable rental option (e.g., downsizing)

Societal

- *"I supported measures to densify via ADUs and 'missing middle' style housing."*
- *"I'd like to see more housing options, like ADUs, be allowed to be built by-right in Belvidere."*





Land Use + Housing Stock

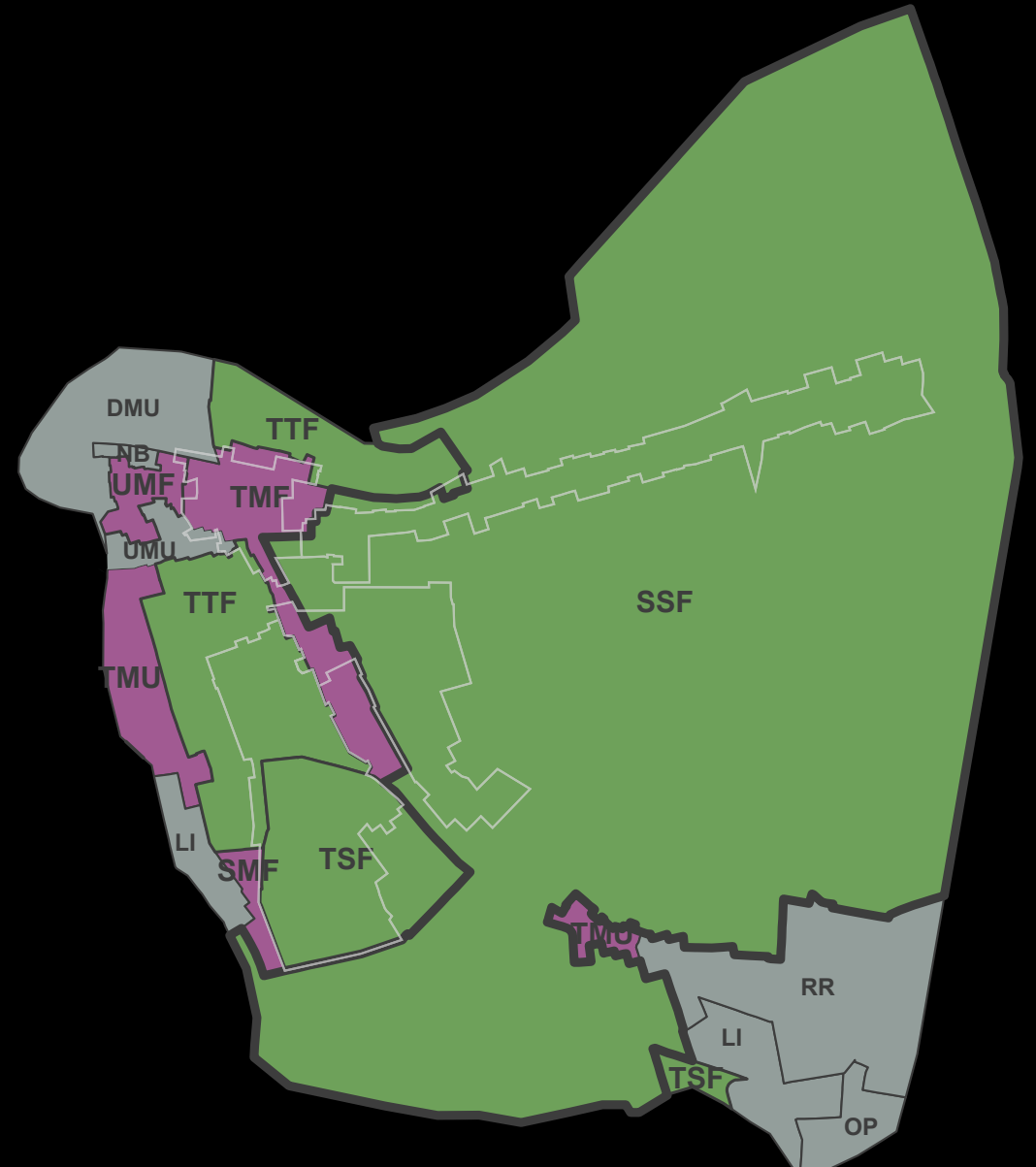
- Primarily zoned Single-Family



ADU Allowability Based on 2017 Proposal

SSF = Suburban Single-Family
SMF = Suburban Multi-Family
TSF = Traditional Single-Family
TTF = Traditional Two-Family
TMF = Traditional Multi-Family
TMU = Traditional Multi-Use
UMF = Urban Multi-Family

Allowed As-of-Right	
Allowed As-of-Right (but potentially lower utilization)	
Allowed by Discretion	
Not Allowed	
Historic District (special design considerations apply)	



Land Use + Housing Stock

- Large lot sizes



Lots $\leq 5,000$ SF
(7%)



Lots $> 5,000$, $\leq 10,000$ SF
(38%)



Lots $> 10,000$ SF
(55%)

Land Use + Housing Stock

- Large homes (i.e., Residential Area SFs)
- Variety of housing styles

Showing all single-family homes with Residential Area $\geq 1,333$ SF

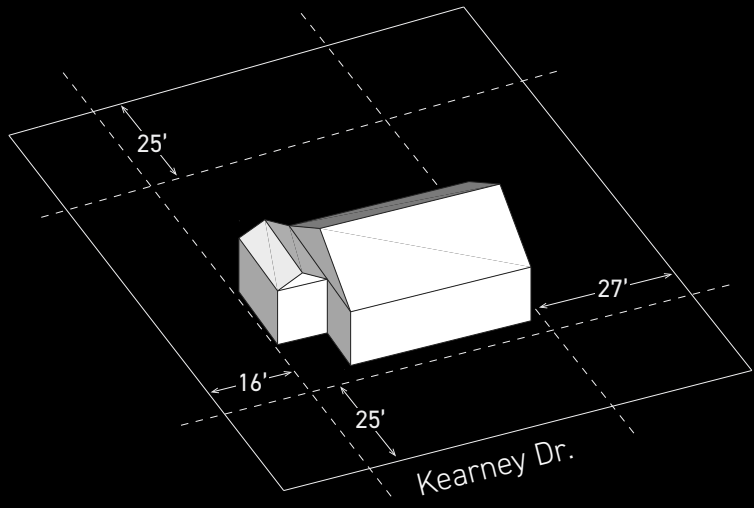
Style \ Lot Size	≤ 5000	$\geq 5000, < 10,000$	$> 10,000$	Total #	
Colonial	26	270	632	928	30%
Ranch	9	324	370	703	23%
Conventional	136	258	279	673	22%
Cape Cod	32	234	169	435	14%
Raised Ranch	2	45	182	229	7%
Split-Level	0	29	59	88	3%
Modern/Contemp.	0	13	12	25	1%
Bungalow	2	19	6	27	1%
	207	1192	1709	3108	100%
	7%	38%	55%	100%	

$1709 * 35\% = \mathbf{598 \text{ ADUs}}$ (applying Vancouver's ADU utilization on Belvidere homes on lots $> 10,000$ SF)



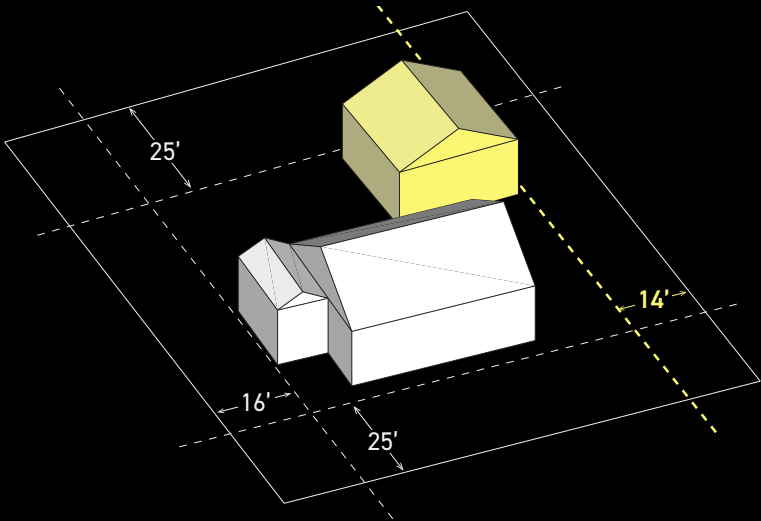
55 Kearney Dr. (Cape)

Main House Footprint: 1032 SF
Lot Size: 9570 SF
Lot Coverage: $1032 / 9570 = 11\%$ (max: 35%)
Building Area: 2740 SF
FAR: $2740 / 9570 = 0.29$ (max: 0.35)



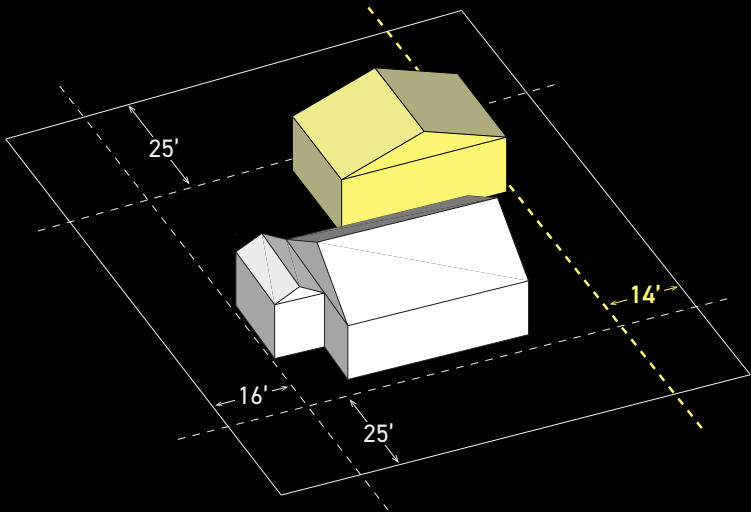
1 Lot Coverage:
Main House 1032 SF
ADU + 400 SF
Total 1432 SF
New Lot Coverage:
 $1432 / 9570 = 15\%$

Building Area:
Main House 2740 SF
ADU + 400 SF
Total 3140 SF
New FAR:
 $3140 / 9570 = 0.33$



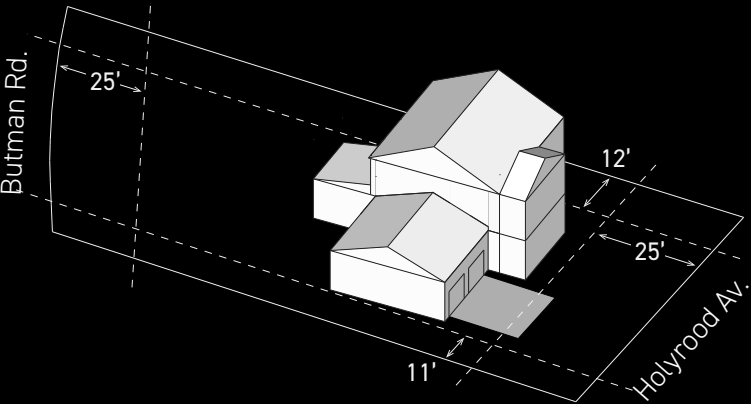
2 Lot Coverage:
Main House 1032 SF
ADU + 600 SF
Total 1632 SF
New Lot Coverage:
 $1632 / 9570 = 17\%$

Building Area:
Main House 2740 SF
ADU + 600 SF
Total 3340 SF
New FAR:
 $3340 / 9570 = 0.35$



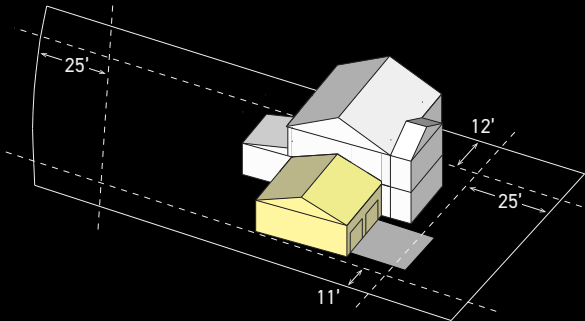
24 Holyrood Av. (Colonial)

Main House Footprint: 2161 SF
Lot Size: 12,806 SF
Lot Coverage: $2161 / 12,806 = 17\%$ (max: 35%)
Building Area: 4500 SF
FAR: $4500 / 12,806 = 0.35$ (max: 0.35)



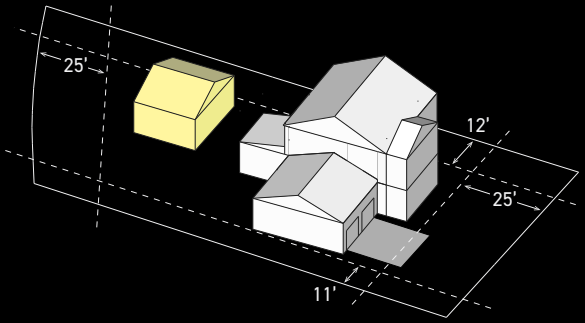
1 Lot Coverage:
Main House 2161 SF
ADU Garage Conversion + 680 SF
Total 2161 SF
New Lot Coverage:
N/A (remains at 17%)

Building Area:
Main House 4500 SF
ADU + 680 SF
Total 5180 SF
New FAR:
 $5180 / 12,806 = 0.40$
(zoning change: allow higher FAR)



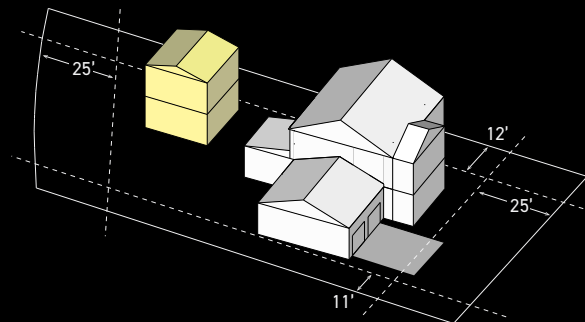
2 Lot Coverage:
Main House 2161 SF
ADU + 500 SF
Total 2661 SF
New Lot Coverage:
 $2661 / 12,806 = 21\%$

Building Area:
Main House 4500 SF
ADU + 500 SF
Total 5000 SF
New FAR:
 $5000 / 12,806 = 0.39$
(zoning change: allow higher FAR)



3 Lot Coverage:
Main House 2161 SF
ADU + 800 SF
Total 2961 SF
New Lot Coverage:
 $2961 / 12,806 = 31\%$

Building Area:
Main House 4500 SF
ADU + 800 SF
Total 5300 SF
New FAR:
 $5300 / 12,806 = 0.41$
(zoning change: allow higher FAR)



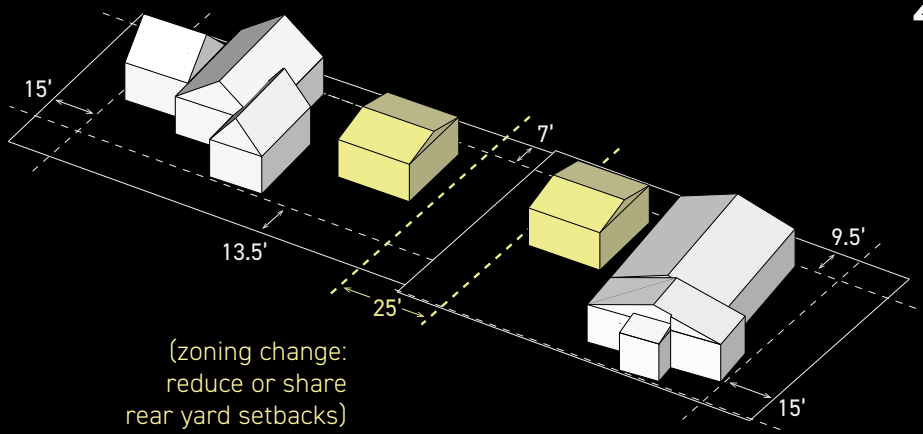
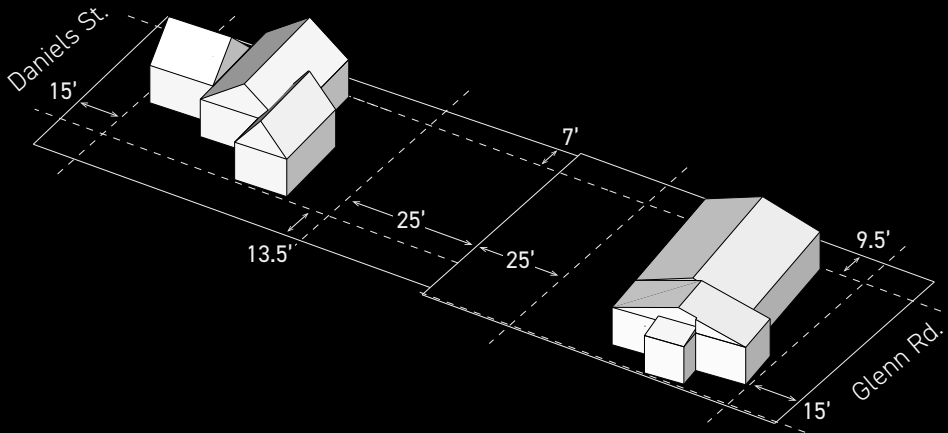
53 Daniels St. (Conventional)

Main House Footprint: 1308 SF
Lot Size: 6991 SF
Lot Coverage: $1308 / 6991 \text{ SF} = 20\%$ (max: 35%)
Building Area: 3264 SF
FAR: $3264 / 6991 = 0.47$ (max: 0.35)



1 Lot Coverage:
Main House 1308 SF
ADU + 460 SF
Total 1768 SF
New Lot Coverage:
 $1768 / 6991 = 25\%$

Building Area:
Main House 3264 SF
ADU + 460 SF
Total 3724 SF
New FAR:
 $3724 / 6991 = 0.53$
(zoning change: allow higher FAR)



56 Glenn Rd. (Ranch)

Main House Footprint: 1701 SF
Lot Size: 7000 SF
Lot Coverage: $1701 / 7000 \text{ SF} = 24\%$ (max: 35%)
Building Area: 2461 SF
FAR: $2461 / 7000 = 0.35$ (max: 0.35)



2 Lot Coverage:
Main House 1701 SF
ADU + 460 SF
Total 2161 SF
New Lot Coverage:
 $2161 / 7000 = 31\%$

Building Area:
Main House 2740 SF
ADU + 460 SF
Total 3200 SF
New FAR:
 $3140 / 7000 = 0.45$
(zoning change: allow higher FAR)



E. Merrimack St.

Geana Ln.

Rivercliff Rd.

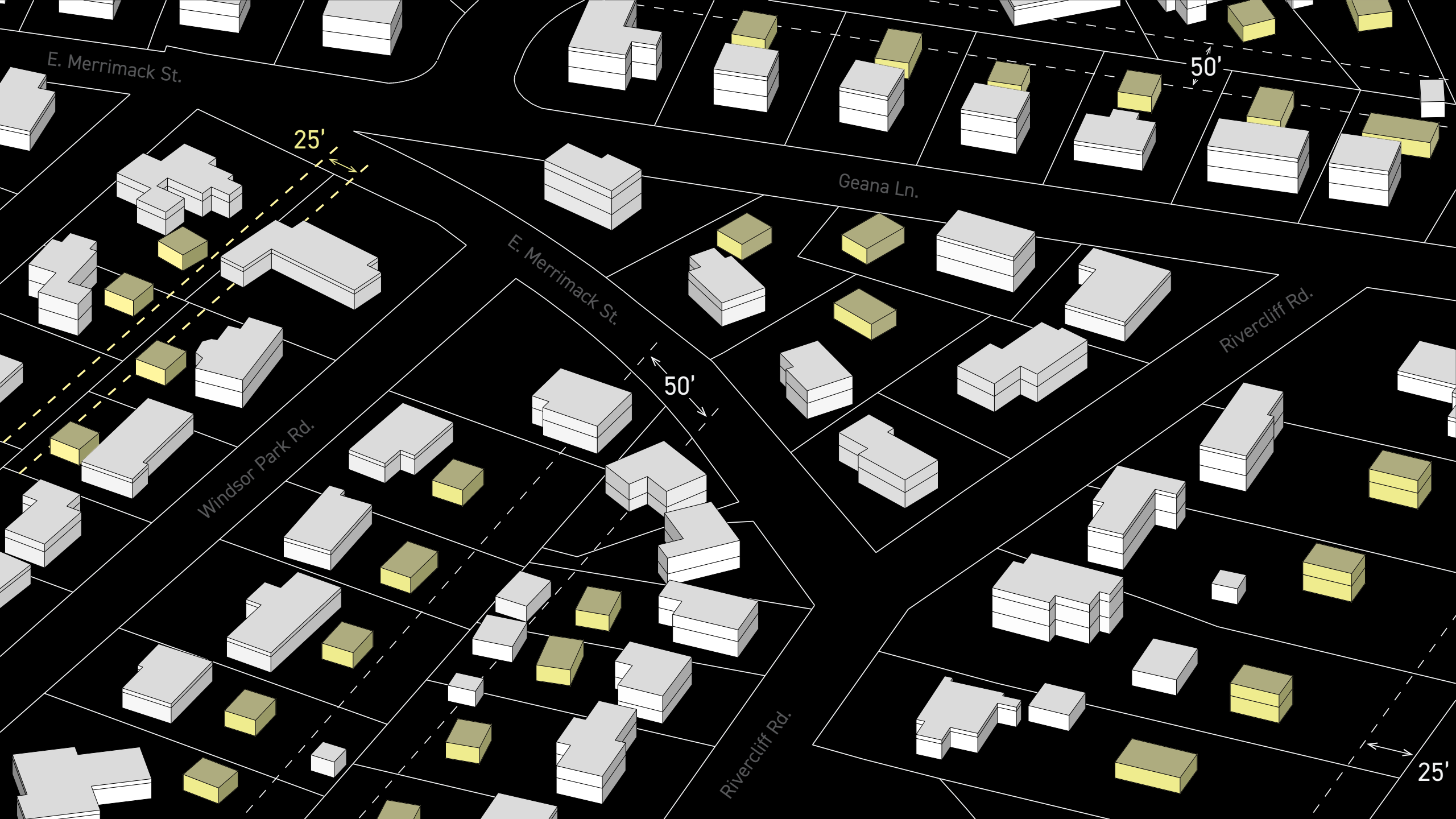
Windsor Park Rd.

E. Merrimack St.

Rivercliff Rd.







E. Merrimack St.

50'

25'

Geana Ln.

E. Merrimack St.

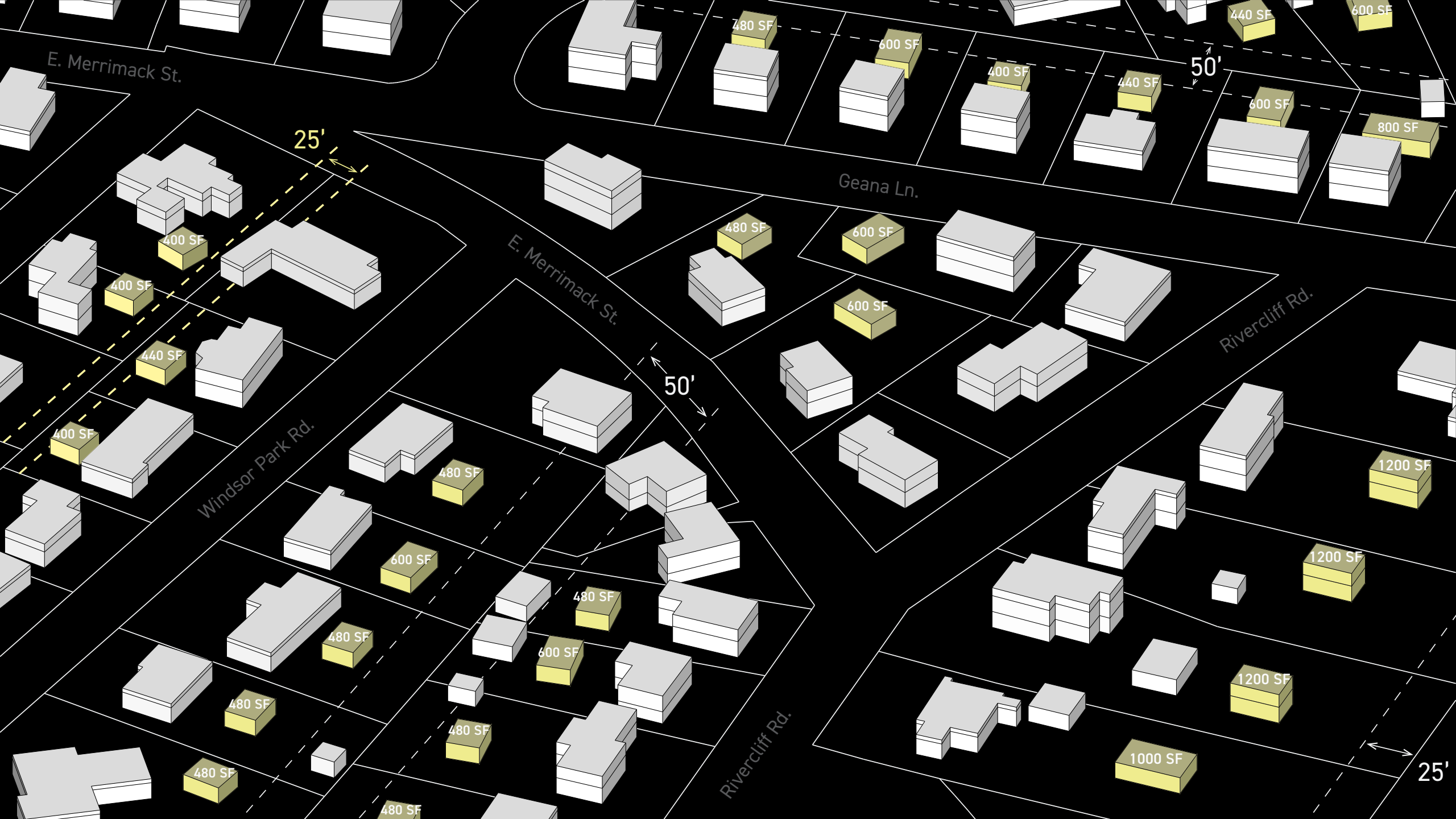
50'

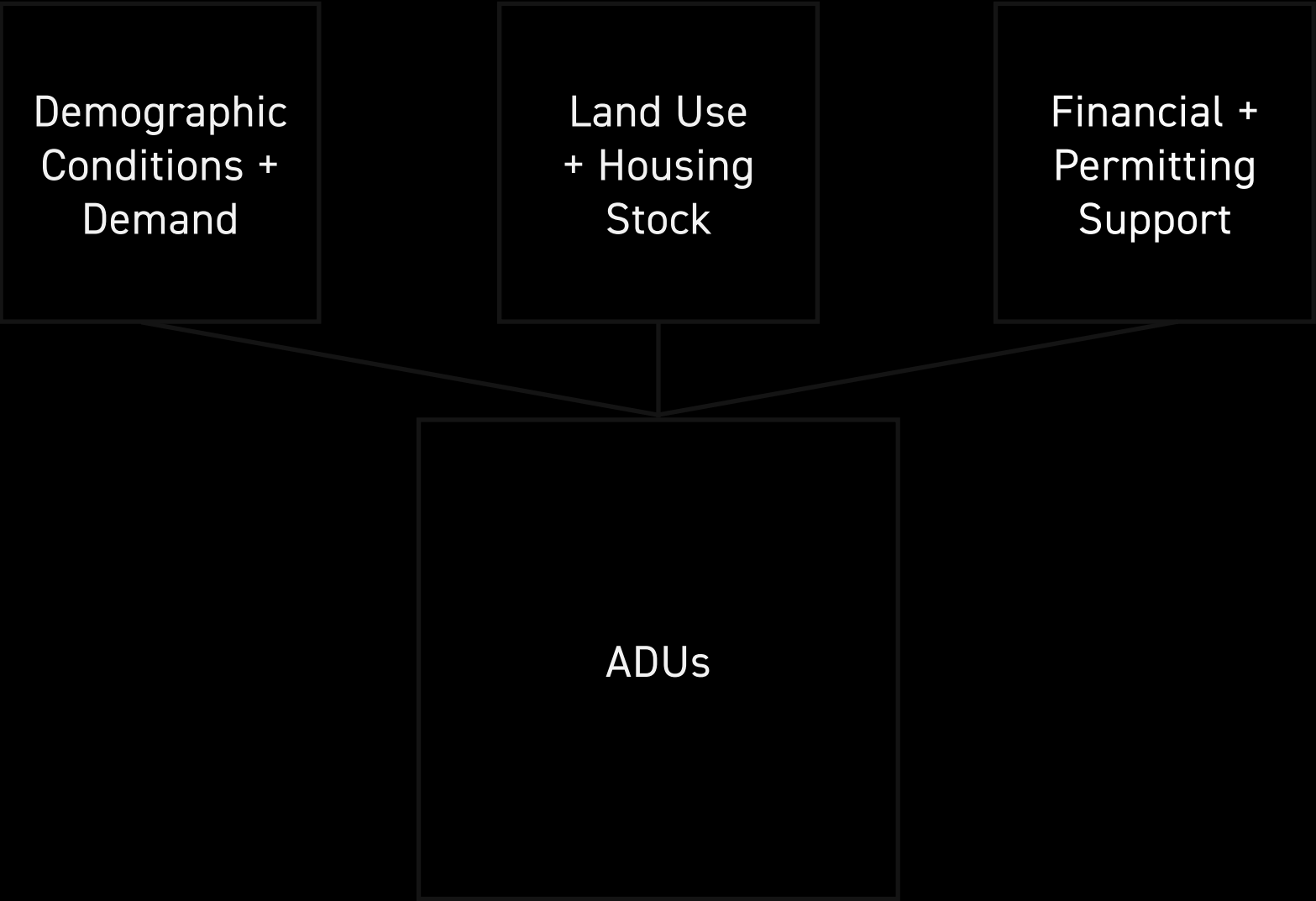
Windsor Park Rd.

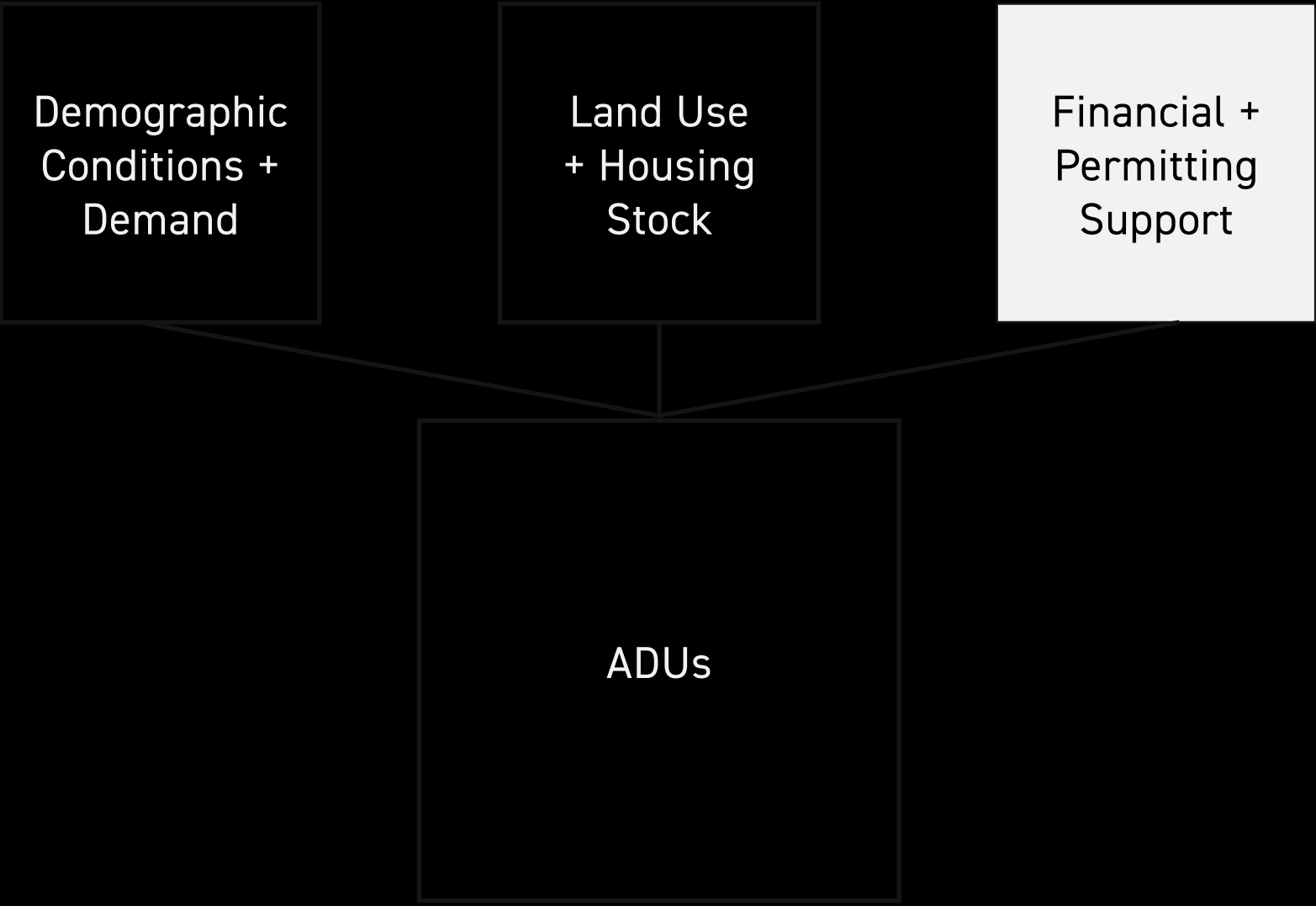
Rivercliff Rd.

Rivercliff Rd.

25'







Financial + Permitting Support

- ADUs are still a commitment/investment with many costs
- Construction cost range is wide: avg. cost per SF can be \$200 to \$300+, leading to a total cost of \$80k to \$120k+ for a 400 SF ADU
- Obtaining permits and paying permitting fees
- Using architecture and/or engineering services
- Cash savings, Home Equity Lines of Credit (HELOC), First Mortgage Cash-Out Refinancing, Construction Loans, Renovation Loans

Conclusion

- Given that Detached ADUs are eventually allowed, many options for ADUs within existing zoning code
- But liberalize zoning code, particularly in the Suburban Single Family (SSF) zone, and more ADU options become available
- Understanding who potentially has interest in building ADUs and who might want to rent one is important for tailoring design and financing options, allowing ADUs to become more broadly utilized

Thank You!