



MEMORANDUM

SUBJECT: 1-4 Unit Housing Zoning Study Phase 2

TO: Comprehensive and Neighborhood Planning Committee

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DATE: December 16, 2022

SUMMARY

This is the first part of a comprehensive memo examining zoning code provisions as part of Phase 2 of the 1-4 Unit Housing Study to support a greater range of housing options in the city. It includes the first five sections: the study's background and objectives, context regarding the housing shortage and status quo policies that have led to insufficient housing supply, and conclusions learned from staff and consultant work as part of community engagement, consultation with professionals in the small-scale development field, technical analysis, and housing financial and city/state case studies. The second part of the memo, to be released in January, will include the analysis section, proposed zoning code text amendments, and staff recommendation.

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1. Background

City Council Resolution 18-1204

In 2018, the City Council passed Resolution 18-1204, which calls “for action to create and preserve housing that is affordable at all income levels, address racial, social and economic disparities in housing, and create infrastructure needed to stabilize housing.” In this resolution, “the Saint Paul City Council acknowledges the housing crisis in our city and region and the urgent need to address the crisis as our population grows” and requests “[z]oning studies by the Planning Commission to explore ways to increase density in residential districts including... analysis on allowing more multi-unit buildings (i.e., triplexes and fourplexes) along transit routes and in neighborhood nodes in single-family zoning districts...” The Saint Paul Planning Commission directed staff to expand the scope of this study to include other neighborhood-scale housing types such as duplexes, cluster developments including cottage/courtyard homes, and accessory dwelling units.

Saint Paul 2040 Comprehensive Plan

One stated value of the 2040 Comprehensive Plan is “Growth and Prosperity through Density,” a value that supports incremental density increases within Saint Paul’s residential neighborhoods. Additionally, the policies in the Plan support environmentally and economically efficient, resilient land use development, offering opportunities for density in areas of high existing or planned transit capacity, and increasing housing choices for residents of all income levels. Land Use Goal 3 is “Equitably-distributed community amenities, access to employment and housing choice” and the land use policies below support increased housing density and choice and zoning flexibility.

- **Policy LU-1:** Encourage transit-supportive density and direct the majority of growth to areas with the highest existing or planned transit capacity.
- **Policy LU-7:** Use land use and zoning flexibility to respond to social, economic, technological, market and environmental changes, conditions and opportunities.
- **Policy LU-30:** Focus growth at Neighborhood Nodes using the following principles:
 - Increase density toward the center of the node and transition in scale to surrounding land uses.
- **Policy LU-33:** Promote amenities that support those who live and work in Neighborhood Nodes, including frequent transit service, vibrant business districts, a range of housing choices, and neighborhood-scale civic and institutional uses such as schools, libraries and recreation facilities.
- **Policy LU-34:** Provide for medium-density housing that diversifies housing options, such as townhouses, courtyard apartments and smaller multi-family developments, compatible with the general scale of Urban Neighborhoods.

Housing policies also support increased housing choices and the development of small-scale multi-family and small-home development communities like cottage communities:



- **Policy H-46:** Support the development of new housing, particularly in areas identified as Mixed Use, Urban Neighborhoods, and/or in areas with the highest existing or planned transit service, to meet market demand for living in walkable, transit-accessible, urban neighborhoods
- **Policy H-47:** Encourage high-quality urban design for residential development that is sensitive to context, but also allows for innovation and consideration of market needs.
- **Policy H-48:** Expand permitted housing types in Urban Neighborhoods (as defined in the Land Use Chapter) to include duplexes, triplexes, town homes, small-scale multifamily and accessory dwelling units to allow for neighborhood-scale density increases, broadened housing choices and intergenerational living.
- **Policy H-49:** Consider amendments to the Zoning Code to permit smaller single-family houses and duplexes to facilitate the creation of small-home development types, such as pocket neighborhoods and cottage communities.

2. Study Objectives

Based on the above policy direction and current housing context, the following objectives were identified for this study:

- To increase housing choice within Urban Neighborhoods to meet Saint Paul's housing needs.
- To increase housing type equity by allowing greater opportunities for neighborhood-scale housing (e.g., duplexes, triplexes, fourplexes, townhomes, cluster developments) in every neighborhood of the city.
- To once again permit 1-2-unit types by right, which is consistent with Saint Paul history (i.e., before the 1975 zoning code update, these were allowed in residential zones across the city).
- To encourage and promote reuse of existing homes and infill development in existing neighborhoods, lots, and backyards, while discouraging demolition of existing viable housing.
- To especially empower homeowners and small-scale developers to engage in infill development.
- To encourage the development of family-sized or workforce housing through zoning bonuses.
- To make the zoning code easier to read, navigate, and understand.



3. Context

Household Types and Housing Options

An objective of this study is to increase housing choice within Urban Neighborhoods to meet Saint Paul's housing needs. As shown in Figure 1, one-person households continue to be the most prevalent housing type, making up 36.3% of the city's household types in 2021, followed by two-person households. Together, one- and two-person households make up almost 65% of households. The third most prevalent household type is four-person-or-more households, which, along with three-person households, have seen a slight increase since 2010. Senior households are also increasing as households with at least one person 60 years and older have grown by 10% since 2010, and currently, 28% of one-person households are 65 years and older. In 2021, 27.8% of households have at least one child, a slight decrease from 30.1% in 2010. Compared to 2010, average household size has only mildly increased, from 2.44 to 2.45.

While average household size has increased slightly, this data suggests that demand for units accommodating one- to two-person households is likely to continue to rise, with the trend driven in no small part by older adults transitioning from previous life stages and housing types. This trend is paired with a growth in larger households, many of which may face economic challenges in finding suitable housing due to rising costs for existing housing and limited construction of multifamily rental units of a larger size.

Indeed, the Metropolitan Council projects one-person households to grow at the fastest rate by 26% in the Twin Cities region, two-to-three-person households to grow by 13%, and 4+person households to grow by 13% ([The Twin Cities Regional Forecast to 2040](#), November 2019). Since 2010, The Metropolitan Council has also seen an emerging trend of "doubling up" in housing and a rise in extended family and multi-generational living arrangements, partially attributed to declining housing affordability and continued wage stagnation.

At the same time, Saint Paul residents have few housing types from which to choose. As shown in Figure 2, 50% of housing units are in single-family detached homes and 31% of housing units are in buildings with 20 or more units, as of 2017. Since 2010, the number of units in these two specific housing types has increased, with the greatest growth for buildings with 20 or more units. The housing units in 1-unit attached have also increased mildly but remain to make up only 4% of the city's housing units. Small- and medium-scale multi-family housing types including 2-4-unit and 5-19-unit housing types are disappearing from the housing stock,

Figure 1. Saint Paul Household Types

	2010	2021
1-person households	36.7%	36.3%
2-person households	29.9%	28.6%
3-person households	12.7%	13.4%
4-person-or-more households	20.7%	21.6%

Source: American Community Survey 2010 and 2021 5-year data

Figure 2. Saint Paul Housing Types

	2000	2017
1-unit detached	58,489	59,859
1-unit attached	4,039	5,228
2 to 4 unit	9,714	8,030
5 to 19 unit	15,632	13,928
20 unit or more	22,083	28,509

Source: 2000 Decennial Census and American Community Survey 2019-19 5-year data (2017 midpoint)



replaced by other housing types and new, often larger developments. Duplexes, triplexes, and fourplexes together only represent 11% of the city's housing units.

'Neighborhood-Scale' and 'Missing Middle' Housing Options

One of the objectives of the study is to allow for neighborhood-scale housing in every neighborhood of the city. Neighborhood-scale housing already exists in many of Saint Paul's urban neighborhoods (shades of orange, brown, green, and purple in Figure 3 below), and is compatible in scale with neighborhoods predominantly developed with single-family homes. It is generally 1-3 stories in height and could be either rented or owned. An overlapping and more widely-discussed term nationally is "missing middle housing." Coined by Daniel Parolek of Opticos Design, Inc., it includes "a range of house-scale buildings with multiple units—compatible in scale and form with detached single-family homes—located in a walkable neighborhood." The housing types that are referred to with the "neighborhood-scale" and "missing middle" housing labels largely overlap but in general, the "neighborhood-scale" descriptor refers to the lower-density end of the scale (under 15-20 units), and specifically excludes live-work buildings which feature a small amount of non-residential/commercial space.

Figure 3. Lots Developed with Existing 1-4-Unit Housing in RL-RT2 Districts

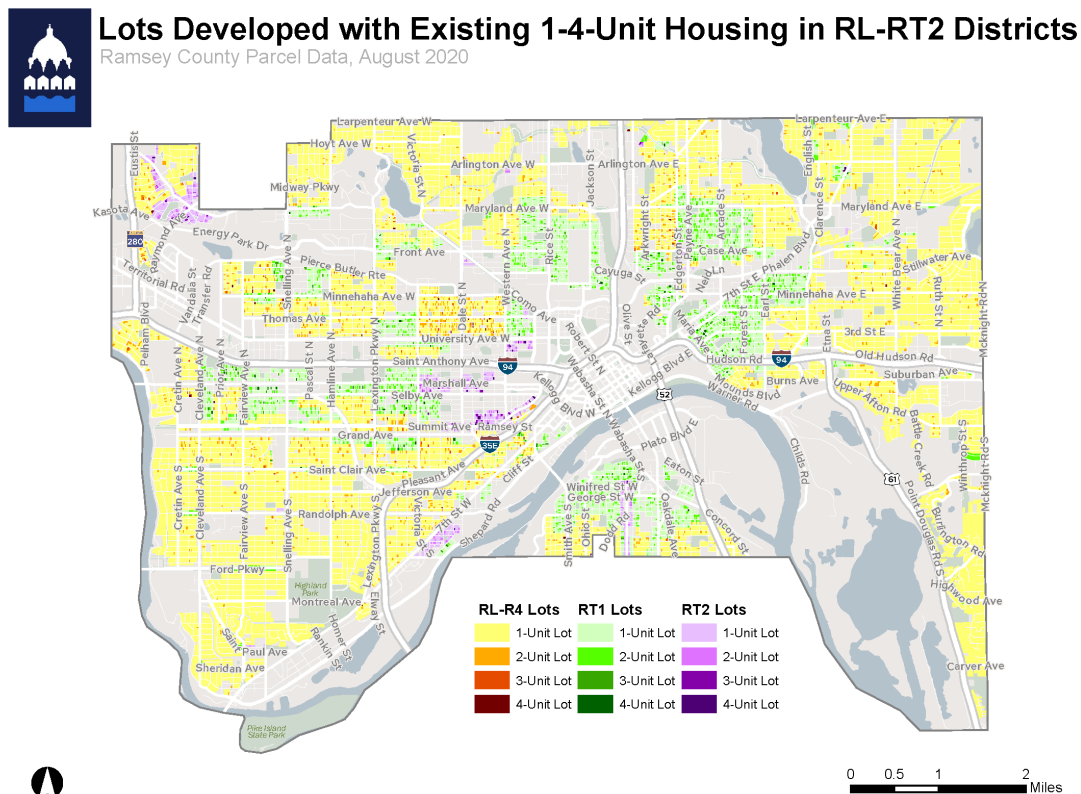




Figure 4. Missing Middle Housing image (Source: Opticos Design, Inc.)



“Neighborhood-scale” and “missing middle” housing was not historically missing in Saint Paul’s development trajectory. Many of the city’s oldest neighborhoods have duplexes, triplexes, fourplexes, occasional second, smaller homes and carriage houses placed behind homes located closer to the street, and even some clustered multifamily buildings grouped/designed around common open space and courtyards. The original zoning code of Saint Paul, dating from 1922, permitted single family and duplex homes in all zoning districts. The 1922 code had three residential zoning districts – “A” and “B” residence districts permitted 1-2-unit dwellings and the “C” residence district permitted all residential uses. The commercial and industrial districts also permitted all residential uses. The 1922 zoning districts had the following standards for residential uses:

- “A” Residence District
 - 1-family dwelling: 40’ minimum lot width and 5,000 sq. ft. minimum lot area
 - 2-family dwelling: 60’ minimum lot width and 7,500 sq. ft. minimum lot area
- “B” Residence District
 - 1-family dwelling: 40’ minimum lot width and 4,000 sq. ft. minimum lot area
 - 2-family dwelling: 50’ minimum lot width and 6,000 sq. ft. minimum lot area
- “C” Residence, Commercial & Industrial Districts
 - 1-family dwelling: 40’ minimum lot width and 4,000 sq. ft. minimum lot area
 - 2-family dwelling: 50’ minimum lot width and 6,000 sq. ft. minimum lot area
 - Dwelling with more than 2 units: 50’ minimum lot width and 6,000 sq. ft. minimum lot area + 900 square feet for each additional unit beyond 2 units, up to a maximum density of 1,000 sq. ft. lot area minimum per unit
 - 35% maximum lot coverage
- Most of city had a building height maximum of 40’ plus 1 foot for each foot the building or portion of it is set back from all lot lines.

These “gentle-density”, “neighborhood-scale”, or “missing middle” housing options represent alternatives to single-family detached and larger (20+ unit) multifamily development that has been predominant in recent decades. However, as currently over 70% of the city’s residentially-zoned area



is restricted to only single-family homes, it is difficult for market actors to contribute enough of these alternative options to the housing supply to address Saint Paul's housing needs.

The Housing Shortage

The city and Twin Cities metro region currently faces a critical housing shortage. The rental vacancy rate stands at 6.7% in the Twin Cities as of third quarter of 2022 (Costar), and the supply of for-sale homes available to buyers in the Twin Cities stands at 1.6 months in November 2022, which are just above and below healthy market benchmarks, respectively (5% rental vacancy, 5-6 months of for-sale inventory).¹

More specifically, on the for-sale side of the ledger, median prices are stabilizing or down slightly, but still up year over year from 2021 to 2022. From September 2022 to October 2022, the median sales price for for-sale homes in Saint Paul ticked up from \$283K to \$287K, per Saint Paul Real Estate Blog.² In the broader Twin Cities metro, prices went down marginally from \$365K in September 2022 to \$359K in October 2022 (MN Realtor).³ That said, Norada Real Estate Investments predicts that none of Minnesota's metropolitan areas will see a home price decline in 2023, and also forecasts that Twin Cities metro area home values will modestly rise by 0.6% from July 2022 to July 2023.⁴

Median rents are also stable in Saint Paul, though larger-sized units keep increasing, measured year over year. HousingLink notes that one-bedroom rental units have stabilized at \$997 in September 2022 (compared to \$1,000 in September 2021), two-bedroom units have increased slightly to \$1,295 in September 2022 (compared to \$1,275 in September 2021), and three-bedroom units have increased almost 10% in a year, to \$1,688 in September 2022 compared to \$1,538 in September 2021.⁵

However, Saint Paul and the Twin Cities are not alone in the housing shortage. A report from Up for Growth, sponsored by a diverse group of interests including the American Planning Association, CBRE, National Multifamily Housing Council, the Urban Land Institute's Terwilliger Center for Housing, the Amazon Housing Equity Fund, and Habitat for Humanity, the underproduction of housing units affects 47 states and Washington D.C., and its impacts are being felt in urban cities, suburbs, and small, rural towns. Per Up for Growth and the *2022 Housing Underproduction™ in the U.S.* report, underproduction "...occurs when communities fall short of meeting housing needs," and is calculated as "...the difference between total housing need and total housing availability." Per the report, almost 75 percent of U.S. metro areas are seeing worsening levels of underproduction, and "...of the 309 metro areas in the U.S.,

¹ CoStar News - Nation-Leading Demand Not Enough To Check This Region's Historic Wave of New Apartments, at <https://www.costar.com/article/294031617/nation-leading-demand-not-enough-to-check-this-regions-historic-wave-of-new-apartments>, and Minnesota Realtor November 2022 Report, <https://www.mnrealtor.com/buyers-sellers/marketreports>, accessed December 12, 2022.

² Saint Paul Real Estate Blog, "Saint Paul Home prices up and down," Nov. 3, 2022, accessed December 13, 2022, at <https://www.stpaulrealestateblog.com/saint-paul-values>.

³ <https://www.mnrealtor.com/buyers-sellers/marketreports>, accessed December 5, 2022.

⁴ Minnesota Housing Market: Prices & Forecast 2022-2023, Nov. 23, 2022, accessed December 5, 2022, at <https://www.noradarealestate.com/blog/minnesota-housing-market>.

⁵ Saint Paul Rental Housing Brief, Oct. 2022, Housinglink, accessed December 5, 2022, at <https://www.housinglink.org/Research/st-paul-rental-housing-brief>.



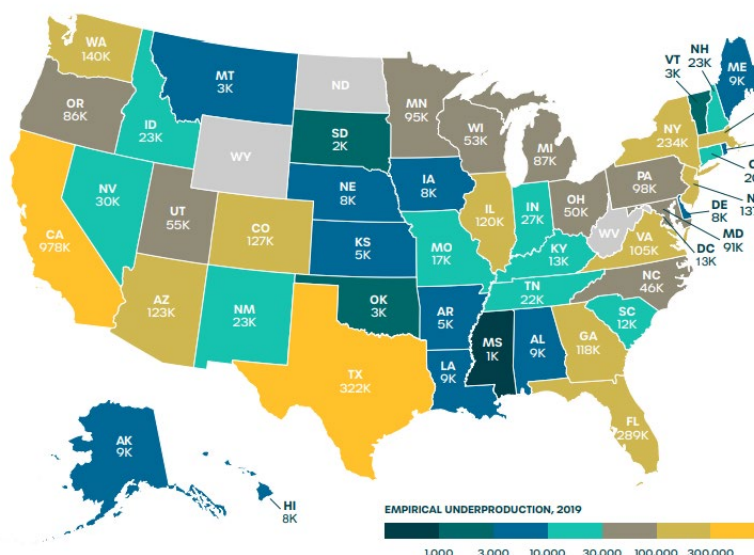
169 are underproduced, and 75 are trending toward underproduction."⁶

Unfortunately, Minnesota and the Twin Cities rank high on the list of underproducing states and metropolitan areas, respectively. Minnesota had a high housing underproduction amount of 95,000 units as of 2019. Of 309 metro areas analyzed for underproduction in the Up for Growth report, the Twin Cities metro, including western Wisconsin, was over 80,000 units short when calculated in 2019. This makes Saint Paul part of the 13th most underproduced metro area in the US.

Figure 5. Underproduction of Housing, State by State

(source: 2022 *Housing Underproduction™ in the U.S.* report, Up for Growth)

Because 80,000 is the majority (84%) of the 95,000 missing units in Minnesota, the Twin Cities arguably have the most work to do to address this shortage in the state.



Other research has stressed the importance of greater housing supply, generally:

- Research looking at San Francisco, New York, Boston, and 52,000 residents across 12 U.S. metropolitan areas has found that new construction can impact demand by inducing a filtering effect of residents occupying the new market-rate units, which indirectly loosens the housing market in low- and middle-income areas, even in the short run (within five years). This may have a downward effect on housing prices, though more research is needed [“The Effect of New Market-Rate Housing Construction on the Low-Income Housing Market,” Upjohn Institute Working Paper 19-307.]⁷
- In his 2020 book, *The Affordable City: Strategies for Putting Housing Within Reach (and Keeping it There)*, author and manager of the UCLA Lewis Center Housing Initiative, Shane Phillips, emphasizes the role of “Supply, Stability, and Subsidy” as necessary for an affordable city. Phillips states: “When housing is hard to come by, all other obstacles to affordability and accessibility become exponentially more difficult to overcome....Providing an abundant supply

⁶ 2022 *Housing Underproduction™ in the U.S.*, p. 5, accessed December 12, 2022, at <https://upforgrowth.org/apply-the-vision/housing-underproduction>.

⁷ Accessed December 5, 2022, at https://research.upjohn.org/up_workingpapers/307.



of homes is about growing the pie for everyone's benefit rather than dividing it into smaller and smaller slices as a population grows."

Figure 6. Housing Underproduction by Metropolitan Area (source: 2022 *Housing Underproduction™ in the U.S.* report, Up for Growth)

Rank	Region	UNDERPRODUCTION		Percent Change in Median Rent (2012-2019)	Share of Renter Households who are Cost Burdened	Percent Change in Median Home Value (2012-2019)	Black-White Home-ownership Gap
		Total (2019)	As a Share of Total Housing Stock (2019)				
1	Los Angeles-Long Beach-Anaheim, CA	388,874	8.3%	NA	53.4%	NA	17.0 pp
2	New York-Newark-Jersey City, NY-NJ-PA	342,144	4.4%	22.6%	47.5%	20.7%	28.1 pp
3	Miami-Fort Lauderdale-Pompano Beach, FL	189,301	7.4%	31.6%	58.5%	79.7%	15.8 pp
4	Washington-Arlington-Alexandria, DC-VA-MD-WV	156,597	6.5%	19.9%	44.0%	21.4%	19.8 pp
5	Riverside-San Bernardino-Ontario, CA	153,372	9.7%	29.2%	52.9%	76.8%	22.0 pp
6	Chicago-Naperville-Elgin, IL-IN-WI	129,218	3.3%	21.0%	43.8%	22.5%	32.4 pp
7	San Francisco-Oakland-Berkeley, CA	114,000	6.2%	47.0%	42.1%	68.7%	23.7 pp
8	Phoenix-Mesa-Chandler, AZ	108,564	5.5%	26.9%	44.1%	81.6%	32.9 pp
9	Atlanta-Sandy Springs-Alpharetta, GA	97,538	4.1%	31.8%	47.0%	53.7%	26.9 pp
10	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	89,949	3.6%	20.0%	48.0%	12.2%	26.1 pp
11	Dallas-Fort Worth-Arlington, TX	85,226	3.0%	37.1%	44.9%	69.7%	29.2 pp
12	Seattle-Tacoma-Bellevue, WA	81,024	4.9%	50.2%	45.4%	71.3%	35.0 pp
13	Minneapolis-St. Paul-Bloomington, MN-WI	80,138	5.5%	27.8%	43.4%	39.7%	50.1 pp
14	Boston-Cambridge-Newton, MA-NH	77,252	3.9%	35.9%	46.2%	34.7%	31.9 pp
15	Houston-The Woodlands-Sugar Land, TX	74,192	2.8%	30.5%	47.2%	55.0%	26.3 pp
16	Denver-Aurora-Lakewood, CO	69,173	5.7%	52.8%	47.1%	77.3%	22.1 pp
17	San Diego-Chula Vista-Carlsbad, CA	67,799	5.5%	40.3%	53.6%	60.3%	26.6 pp
18	San Antonio-New Braunfels, TX	64,624	7.1%	27.7%	44.9%	49.6%	19.8 pp
19	Portland-Vancouver-Hillsboro, OR-WA	58,624	5.7%	45.2%	47.6%	63.9%	25.4 pp
20	Detroit-Warren-Dearborn, MI	51,282	2.7%	18.3%	45.7%	65.1%	35.1 pp

While single-family construction continues to be a significant proportion of privately-constructed housing in the U.S., **smaller starter homes are increasingly in scarce supply** while **missing middle housing production is lagging**:



- A recent national report that appeared in the New York Times lamented the lack of construction of new, small, detached starter homes, arguing that they have all but vanished nationwide. "Only about 8% of new single-family homes today are 1,400 square feet or less.... At the root is the math problem of putting — or keeping — a low-cost home on increasingly pricey land...The result today is that a builder who can put up only one home on an expensive piece of land will construct a large, expensive one."⁸
- The US Census Building Permit Survey for New, Privately-owned Housing Units shows that overall housing production has recovered since levels before the pandemic (pre-2020), but 2-4-unit housing continues to represent only 2-5% of total units. The national production level in October 2022 was approximately 1.51M privately-owned housing units constructed; at this monthly delivery volume, it would take 2.6 years to catch up on underproduction levels as identified in the Up for Growth report if need were held constant.⁹ Note: This Census data for building permits does not include conversions, so it undercounts actual production.
- Architect and author of *Missing Middle Housing* Daniel Parolek predicted in June 2016 that "Cities that don't respond to missing middle housing will suffer economically, and developers will be in a tough spot in five to 10 years if they don't. Research shows that 90 percent of the housing built between now and 2040 will need to be missing middle housing ... to meet the demand for non-single family housing."¹⁰

Equity reflections on the exclusion of missing middle housing

History has led us to the current status quo that prioritizes single-family dwellings and mostly excludes missing middle housing from residential areas, with large implications for equity. In the landmark court case, 1917's *Buchanan v. Warley*, 245 U.S. 60, the Supreme Court outlawed a Louisville, KY city ordinance that forbade people of color to occupy houses on blocks where the greater number of houses were occupied by white persons (and vice versa), which had a practical effect of preventing the sale of lots on such blocks across racial lines.¹¹ The Court found the city ordinance unconstitutional and in violation of the 14th amendment which guarantees equally to all citizens the civil right to acquire, enjoy and use property.

In the book *The Color of Law* (2017), historian Richard Rothstein outlines how "...economic zoning that could also accomplish racial segregation" without violating the *Buchanan v. Warley* decision "...spread widely in the 1920s, with support from the federal government, [and] prominent city planners, ... who advocated for zoning laws everywhere to prevent conflict and protect the value of white people's homes."¹² The "economic zoning" in question refers to single-family-only zoning, which proliferated in the 1920s. Shortly after this, in 1926's *Village of Euclid v. Ambler*, 272 U.S. 365, the Supreme Court found that a local zoning ordinance that regulated land in Euclid, Ohio to various zoning districts was a valid exercise of police power, and implied that zoning regulations would generally be upheld as long as

⁸ "What happened to the starter home," Emily Badger, The New York Times, Sept. 22, 2022, accessed December 6, 2022.

⁹ Accessed December 12, 2022, at <https://www.census.gov/construction/bps/index.html>.

¹⁰ 5 Questions About 'Missing Middle Housing', AARP, June 2016, Accessed Dec. 5, 2022, at <https://www.aarp.org/livable-communities/housing/info-2016/missing-middle-housing-daniel-parolek.html>.

¹¹ *Buchanan v. Warley*, 245 U.S. 60 (1917), accessed December 16, 2022, at <https://supreme.justia.com/cases/federal/us/245/60>.

¹² Accessed December 16, 2022, at <https://www.litcharts.com/lit/the-color-of-law/chapter-3-racial-zoning>.



there were some connection to the public welfare in the circumstances of the situation.¹³ This court case has been a landmark one for local municipalities' ability to zone property in general, including single family-only zoning districts.

In 2019, an article in the *Journal of the American Planning Association* stated that "*Buchanan [v. Warley]* made single-family mandates appealing because they maintained racial segregation without racial language. Forcing consumers to buy land in bulk made it harder for lower income people, and therefore most non-White people, to enter affluent places. Single family-only zoning let prices discriminate when laws could not."¹⁴

Finally, the White House Council of Economic Advisors stated the following in 2021:

*"Exclusionary zoning laws have a profound impact on social welfare because where a family lives matters. Using data that cover virtually the entire U.S. population from 1989 to 2015, researchers have shown that neighborhoods can have significant causal effects on children's long-term outcomes, including their earnings. Because exclusionary zoning rules drive up housing prices, poorer families are kept out of wealthier, high-opportunity neighborhoods. This, in turn, leads to worse outcomes for children, including lower standardized test scores, and greater social inequalities over time."*¹⁵

For-sale housing status quo

Saint Paul's homeownership rate has been consistently lower than the US rate, and the city's rate continues to decline. From 2010 to 2020, Saint Paul's homeownership rate declined from 54% to 51%, while the national rate only fell one point from 65% to 64%.¹⁶ As mortgage interest rates have increased in recent months to above 6 and 7 percent, it has hit many homebuyers hard, especially first-time homebuyers. Per the 2022 *Housing Underproduction™ in the U.S* report, the cost of the monthly mortgage payment on a typical single-detached home goes up about \$200 per month for every one-point rise in mortgage rates. Unfortunately, Saint Paul and Minnesota continue to have a high disparity in the homeownership rate between whites and people of color. As can be seen in Figure 6, the Twin Cities have the highest black-white homeownership disparity in the top 20 most underproduced metro areas, and it has the highest disparity among the top 44 metro areas on Up for Growth's list, at 50.1 percent, only surpassed by Ogden-Clearfield, Utah at 50.7%. In the words of Bryan Green, Vice President of Policy Advocacy for the National Association of Realtors, "...the greatest obstacle to closing the homeownership gap at this moment is the shortage of housing for purchase in

¹³ Village of Euclid v. Ambler Realty Co., 272 U.S. 365 (1926), accessed December 16, 2022, at <https://supreme.justia.com/cases/federal/us/272/365/>.

¹⁴ Journal of the American Planning Association, 2019 "Viewpoint: It's Time to End Single-Family Zoning," Accessed December 16, 2022 at www.tandfonline.com/doi/epdf/10.1080/01944363.2019.1651216?needAccess=true&role=button.

¹⁵ "Exclusionary Zoning: Its Effect on Racial Discrimination in the Housing Market," White House Council of Economic Advisors, Cecilia Rouse, Jared Bernstein, Helen Knudsen, and Jeffery Zhang, June 17, 2021, accessed December 16, 2022 at <https://www.whitehouse.gov/cea/written-materials/2021/06/17/exclusionary-zoning-its-effect-on-racial-discrimination-in-the-housing-market/>.

¹⁶ Draft St. Paul Existing Conditions Analysis, Sept. 2022, Antidisplacement & Community Wealth Building Study, HR&A Advisors, unpublished.



this country. We can't get more people into the homes of their dreams if there are no homes for them to buy. This problem preempts all our other efforts to promote equal housing opportunity." White households are the only demographic group in Saint Paul more likely to own (61%) than to rent their homes.¹⁷

As of October 2022, the median sales price for a for-sale home in Saint Paul was \$287,000.¹⁸ This is affordable to households earning \$89,687, i.e., a household just below 80% of the Twin Cities median income, or AMI, of \$117,300. However, Redfin calls the Saint Paul housing market "very competitive," with homes receiving three offers on average and selling within 25 days.¹⁹ For-sale homes affordable to workforce are in short supply in Saint Paul.

Another status quo occurrence is the occasional purchase, demolition and redevelopment of modest-sized single-family homes and replacement with a much larger-sized home. Such homes are often 4+ bedroom in size and have sales prices well over \$500,000, typically affordable only to high-income households. Saint Paul's current single-family only zoning (districts R1-R4) allow for such redevelopment to happen when supported by underlying market dynamics. Current R1-R4 districts and dimensional standards (e.g., minimum lot widths and setbacks, maximum heights, maximum lot coverage requirements) allow for a maximum built Floor Area Ratio of 1.05, which if maximized, translates to single-family homes in the vicinity of 5,200 square feet in R4 and up to 7,800 square feet in R1. This compares to the average size of new construction single-family homes in Minnesota at 1,992 square feet. Another way to compare is to consider such lots instead as missing middle housing opportunities: The average-sized apartment in Saint Paul of 818 square feet; if lots currently zoned R4 instead enabled multiple units on a lot, and one allocated 20% of a residential building as common area, one could easily fit three such apartment units within a 3,984-square foot residential building—a structure that is double the size of the average-sized single-family dwelling in Minnesota.²⁰ This structure would still be well under the maximum single-family dwelling size currently allowed on typical lot zoned R4.

Rental housing status quo

Saint Paul also has an underproduction of rental housing affordable to households making less than \$35,000, which is about 30% of AMI for a 4-person household; Saint Paul renters have a median income of \$38,000 (versus an overall City median income of \$60,000).²¹ Per HousingLink, there is also a scarcity of other modestly-priced units – only 47% of vacant Saint Paul rental units in September

¹⁷ Ibid.

¹⁸ Saint Paul Real Estate Blog, Nov. 3, 2022, accessed December 13, 2022, at <https://www.stpaulrealestateblog.com/saint-paul-values>.

¹⁹ Redfin, "Saint Paul Housing Market, accessed December 13, 2022, at <https://www.redfin.com/city/15027/MN/St-Paul/housing-market>.

²⁰ RentCafe, "St. Paul, MN Rental Market Trends, accessed December 13, 2022 at <https://www.rentcafe.com/average-rent-market-trends/us/mn/st-paul/#:~:text=What%20is%20the%20average%20apartment%20size%20in%20St.,and%20luxury%20alternatives%20for%20houses%20and%20apartments%20alike>.

²¹ Draft St. Paul Existing Conditions Analysis, Sept. 2022, Antidisplacement & Community Wealth Building Study, HR&A Advisors, unpublished.



2022 were affordable to households at 50% of AMI (an improvement from September 2021 when only 20% were affordable to such households), and 77% of vacant Saint Paul rental units in September 2022 were affordable to households at 60% of AMI (a mild improvement from September 2021 when 58% were affordable to such households). Based on 2022 data from Minnesota Housing and adjusted for family size, \$35,190 is 30% of AMI for a 4-person household, and \$58,650 is 50% of AMI for a 4-person household. The majority of each of Saint Paul's populations of color rent their homes.²²

Housinglink also measures the income required to rent a home in Saint Paul, based on the number of bedrooms in the unit. The figures are based on the common landlord screening requirement that an applicant must earn 2.5 times the rent in household income. Staff has annualized the income to produce the following figures about rental affordability:

- 1-bedroom: A \$30K annual income is required, which is between 30-40% AMI for a 2-person household (30% AMI is \$28,000; 40% AMI is \$37,560)
- 2-bedroom: A \$38K annual income is required, which is between 30-40% AMI for a 3-person household (30% AMI is \$31K; 40% AMI is \$42K)
- 3-bedroom: A \$50K annual income is required, which is:
 - between 40-50% AMI for a 4-person household (40% AMI is \$47K; 50% AMI is \$58K); or
 - about 40% AMI for a 5-person household (40% AMI is \$50,680).

As noted in detail above, Housinglink also reports that one and two-bedroom rents in Saint Paul have stabilized or increased slightly but the rent for a three-bedroom unit increased by 10% from September 2021 to September 2022, from \$1,538 to \$1,688.

To summarize, there are less rental units available in Saint Paul outside of larger (20+ unit) buildings; there is continuing supply pressure on 3+ bedroom units in Saint Paul and rents have increased a lot in the last year; there is a continued gap of units affordable to households earning up to \$35,000 (approximately 30% of Twin Cities AMI) – estimated at 12,549 missing units per HR&A Advisors; and only 47% of vacant rental units are affordable to 50% AMI renters.

The case for a new approach

Local Housing Solutions, an interactive online policy toolkit that is a joint initiative of the NYU Furman Center and Abt Associates and funded by the Ford Foundation and the John D. and Catherine T. MacArthur Foundation states the following in its missing middle housing policy brief:

*"To achieve the goals of diverse and inclusive neighborhoods, and to distribute growth and development more evenly, ...at least certain forms of missing middle housing ... would ideally be allowable throughout all residential zones. Lower-density housing types, like duplexes and triplexes, can easily be incorporated into single-family neighborhoods..."*²³

The Up for Growth report predicts that "if we preserve a more of the same approach to policymaking, the nation's housing shortage will continue to worsen." It goes on to say that "at the local level,

²² Ibid.

²³ "Missing Middle Housing," policy brief at Local Housing Solutions.org, accessed Dec. 12, 2022, at <https://localhousingsolutions.org/housing-policy-library/missing-middle-housing>.



exclusionary and discriminatory land-use and zoning policies artificially restrict housing production. A host of policies and practices—too much single-detached zoning, minimum lot size requirements, unpredictable and lengthy permit processes—restrict the availability and affordability of homes in high-opportunity neighborhoods, places that are rich in jobs, transportation, infrastructure, and community assets.”²⁴

Up for Growth instead proposes a new approach, dubbed “A Better Foundation,” which would convert housing underproduction to housing opportunity, optimizing “...the distribution of these underproduced homes by prioritizing development in high-opportunity neighborhoods—places that are rich in jobs, transportation, infrastructure, and community assets—at a density scaled to fit into the existing neighborhood while increasing housing options.” It also says that “developed using a racial equity lens, it prioritizes housing that can be built and distributed in ways that elevate housing choice for communities of color.” This approach, it argues, leads to “...better and more socially equitable outcomes than historical development patterns....”

Based on Saint Paul’s existing density, staff reads the Up for Growth approach as prescribing 100 percent medium density infill to tackle the City’s underproduction challenges, as opposed to say, 50% missing middle and 50% medium density infill development as it proposes for communities with existing built forms characterized by an overall lower density than Saint Paul. Up for Growth defines “medium density” as “residential development that falls between attached small-scale development (see Missing Middle housing) and high-density development. [Medium density] Buildings are typically constructed using wood framing and are two to four stories in height.” Despite this distinction, in this zoning study, staff finds a significant housing type overlap between missing middle and medium density, and believes that a geographically-broad-based, yet sensitive neighborhood-scale infill zoning approach is appropriate to address the city’s highly underproduced housing situation. That said, a strategy based broadly on missing middle development does not preclude the need for, or appropriateness of, additional rezoning to support medium density, and higher density housing development given the City’s growth projections (e.g., rezonings to districts such as RM and T, along with B4-B5 districts). Last, staff notes that the Up for Growth approach is consistent with medium density housing policies (calling for small-scale multifamily housing) in Saint Paul’s 2040 Comprehensive Plan.

Policy responses to address supply, to-date

Recent regulatory and policy changes adopted by the City to increase access to and/or reduce barriers to housing supply in Saint Paul have included:

- 2018: Permitted accessory dwelling units (ADUs) citywide with the provision for owner-occupancy in either the principal or the ADU;
- 2019: Updated the zoning code’s definition of family to allow for up to 6 adults with minors in their care in each household;
- 2020: Updated RM Multifamily districts to reduce setbacks, allow for greater maximum height, change to a Floor Area Ratio (FAR)-based density system (allowing units of various sizes as

²⁴ 2022 Housing Underproduction™ in the U.S., p. 5, accessed December 12, 2022, at <https://upforgrowth.org/apply-the-vision/housing-underproduction>.



opposed to the traditional approach that relied on a minimum lot area per unit), and incorporate an affordable housing density bonus;

- 2020: Adopted the 2040 Comprehensive Plan;
- 2021: Eliminated minimum parking requirements;
- 2022: Adopted Phase 1 of this study to make ADU regulations more flexible - e.g., deleted the owner-occupancy requirement, permitted multiple units on lots zoned for single family homes that meet the district's dimensional standards; and
- 2022: Launched a citywide anti-displacement & community wealth-building study that included a feasibility analysis of Inclusionary Zoning.

Context Conclusions

- Almost two-thirds of Saint Paul households are 1-2 person, yet 3- and 4-person households have increased slightly (from 33.5% to 35%) in the last decade.
- Saint Paul and the Twin Cities are very underproduced in terms of new housing, and the shortage affects the rental and for-sale inventories.
 - Saint Paul's homeownership rate is declining for all groups, and while units affordable to the workforce exist, they are in scarce supply in the city's very competitive market. Current single-family-only zoning does allow for the redevelopment of lots with one existing modestly sized home to be replaced with a large single-family unit but not any neighborhood-scale housing alternatives.
 - Saint Paul has a severe underproduction of rental housing affordable to households making 30% of AMI, and under half of existing vacant rental housing units are affordable to households earning 50% of AMI. Rents for larger (3+ bedroom) units went up 10% compared to last year; scarcity may play a role. Saint Paul renters have a median income of \$38,000 (versus an overall City median income of \$60,000). The majority of each of Saint Paul's populations of color rent their homes.
- The City has done some work on Supply (e.g., ADU and multifamily zoning reform); Stability (e.g., Rent stabilization); and Subsidy (e.g., Housing Trust Fund), but 72% of Saint Paul's residential zones still largely prohibit smaller, missing middle housing.
- Despite their historical presence, 2-4plexes are disappearing from the city's housing stock, and projects with 5-19 units are waning, according to recent housing production data.
- The status quo set of zoning regulations has contributed to insufficient supply. In the face of a growing population, status quo policies do little to help increase housing availability or reduce prices, and in fact will exacerbate the displacement of modest income and increasingly middle-income people.

4. Engagement, Consultation and Technical Analysis

Process

The Planning Commission initiated this study in Spring 2021. Due to the pressing nature of the housing shortage, the study was broken up into two different phases. On a relatively faster timeline, Phase 1



focused on regulatory amendments to facilitate small housing, additional accessory dwelling units, and small parcels. Phase 1 zoning code amendments were adopted by the City Council on January 19, 2022, in [City Council Ordinance 22-1](#) and went into effect March 5, 2022. Occurring simultaneously, Phase 2 has been the longer, more intensive phase to evaluate a broader set of zoning amendments that would support a greater range of housing options in one-family, two-family, and townhouse zoning districts.

Between Summer 2021 and Fall 2022, staff performed research, analyzed existing conditions and the zoning code, engaged the community, and consulted technical professionals in the small-scale development field. The study's engagement website offered an online survey and other virtual activities, and staff engaged the community at the City-hosted Safe Summer Nights events, district council meetings, and three virtual engagement sessions co-hosted by district councils. The [Community Engagement Summary Report](#) summarizes these activities and feedback gathered through the Phase 2 virtual engagement sessions and online survey.

Staff also engaged and consulted with the study's Technical Advisory Committee (TAC) made up of professionals with experience in non-profit development, small-scale for-profit development, architecture, housing finance, and the Department of Safety and Inspections' building plan review process, a realtor focus group, finance professionals, and Zoning, Site Plan Review, and Building Plan Review staff.

The **consultant team** of Jim Kumon of Electric Housing and Neil Heller of Neighborhood Workshop with expertise in zoning code review, site design, and financial pro forma analysis were hired to complete technical analysis for the study. Between Summer 2021 and Fall 2022, the team completed a code and parcel analysis of the RL-RT2 zoning districts, interviewed small-scale development professionals, including the study's TAC, performed spot testing analysis, and developed a series of housing prototypes with site plans on several different lot types using proposed adjusted zoning standards. The team also prepared financial pro formas to test the financial viability of many of the housing prototypes and engaged the TAC to review their work.

Community Engagement Conclusions

Phase 2 engagement topics in the survey and virtual engagement sessions focused on gauging community preferences for housing types, where they should be allowed, and potential policy changes to allow more housing and housing choices. Housing needs vary among residents based on personal preferences and many factors including current stage of life. While some may prefer the privacy and yard space that a single-family home provides, others may prefer a lower-maintenance housing type such as a duplex or townhouse that allows the ability to downsize or a more community-based lifestyle that a cluster development can provide. Some are ready for homeownership and may want more opportunities to house their growing or multi-generational family or earn rental income, while others may want more rental options.

The community expressed that a greater variety of housing choices would benefit many household types in the city, including smaller households, seniors, families with children and multi-generational families. There is an overall desire for high-quality, well-maintained housing that is affordable to and



large enough to accommodate its occupants. Many people care about the characteristics of and type of housing they live in and want access to outdoor space, parking, transportation networks, and walkable neighborhood amenities. There was support for adding more housing of all types, especially duplexes, triplexes, fourplexes, and accessory dwelling units.

Overall, the community was supportive of allowing construction of these types in more areas of the city as well as conversions of existing housing into these types. Many community members believe that these housing types belong throughout residential neighborhoods, especially near good transit such as a high-frequency or fixed transit route, along collector streets, and minor arterials. When considering development of these housing types, many lot considerations and building elements were considered important, especially building height, width, and depth, lot width and depth, and alley access, while size of yards and location within a block were considered less important. Frequent suggestions for building or site plan design elements that should be encouraged or mandated included: Fitting into the neighborhood in terms of style, material use, and/or scale; including yard space or form of private outdoor space; height and size limits, parking; and greater zoning flexibility.

The community also expressed concerns about the potential for more neighborhood-scale housing types. Concerns that were mentioned the most included that housing will not fit in with neighborhood character, lack or decrease in available parking, affordability and height, size, and scale of housing types, density or overcrowding issues, lack of preservation and creation of homeownership opportunities, increase in noise, pollution, or trash, and increase in traffic or congestion.

Zoning Code and Parcel Analysis Conclusions

The consultant team performed a zoning code and parcel analysis for the RL-RT2 zoning districts (shown in Figure 7) with the following conclusions:

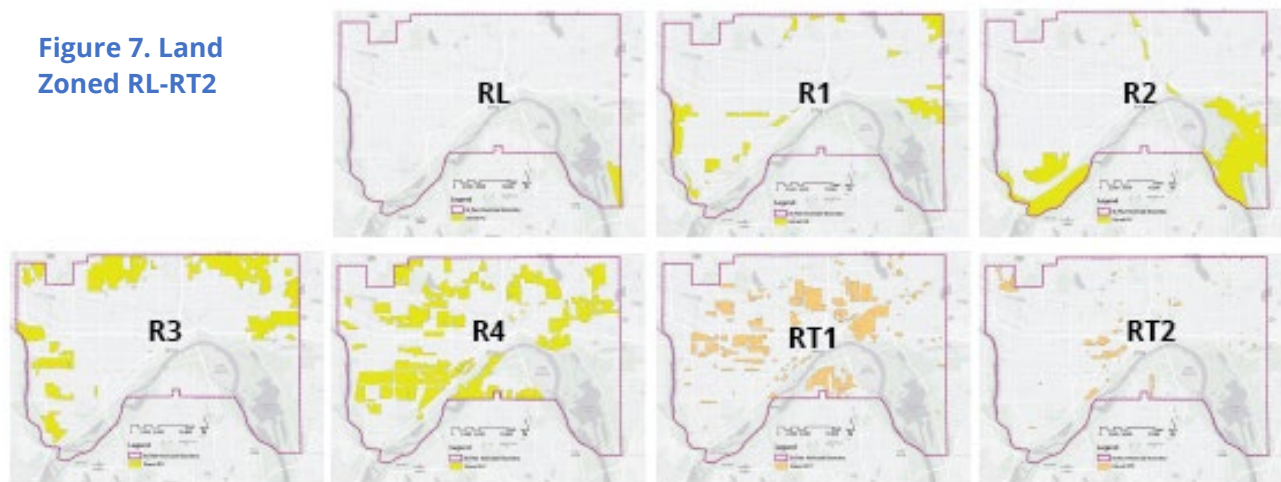
- For zoning districts RL-R4 that represent 82% of the city's RL-RT2 zoned land area and allow only one-family dwellings, median lot sizes are relatively higher than the current minimum lot size per unit requirement.
- 17-31% of RL-R4 lots do not meet the current minimum lot size per unit requirements for a one-family dwelling and a significant number of lots that contain more than two dwelling units are on non-conforming lots that are less than the districts' current minimum lot size per unit.
- For RT1, a district that permits one-family and two-family dwellings, 5% of lots do not meet the current minimum lot size per unit requirements for a one-family dwelling and due to their size alone, 62% of lots would only allow a one-family dwelling and not a duplex.
- For RT2, a district that permits one-family dwellings, duplexes, triplexes, and fourplexes, and townhomes, 28% of lots do not meet the current minimum lot size per unit requirements for a single-family dwelling, and not counting the lots 10,000 square feet or larger, only 51% of lots would allow a duplex, 28% would allow a triplex, and 8% would allow a fourplex.

As shown earlier in Figure 3, staff's analysis work confirms that R1, R2, R3, and R4 have existing duplexes, triplexes, and/or fourplexes that would not be permitted to be built today, RT1 has existing



triplexes and fourplexes that would not be permitted to be built today, and while triplexes and fourplexes are permitted in RT2, there are few that exist.

**Figure 7. Land
Zoned RL-RT2**



Impervious Surface Analysis

As described in Section 1, the policies in the 2040 Comprehensive Plan support environmentally and economically efficient, resilient land use development, offering opportunities for density in areas of high existing or planned transit capacity, and increasing housing choices for residents of all income levels. The current Administration and the City of Saint Paul are committed to building resiliency in the face of climate change. Increased precipitation and frequency of more intense precipitation is one hallmark of climate change in Minnesota, and the impact of additional impervious surface on surface water management systems is an important consideration when planning for additional residential buildings. Impervious surface is any constructed hard surface that prevents or retards the entry of water into the soil. Examples include rooftops, sidewalks, patios, driveways, parking lots, storage areas, and concrete, asphalt, or gravel roads ([SPLC Sec. 52.03](#)). As impervious surface increases, less rainfall, snowmelt, and irrigation runoff (collectively called “stormwater”) are able to percolate through the soil into groundwater, instead ending up in the City’s sewer system or draining onto neighboring properties. While the City’s zoning code requires that new development not cause stormwater to drain onto neighboring properties, retaining pervious surfaces – that is, material that permits absorption of stormwater into the ground, including grass or planted areas, permeable pavers, or porous asphalt – can cause stormwater to bypass the sewer system entirely, filtering pollutants out of the water naturally as it follows the course of the local ecosystem.

While no regulation specifically applies to impervious surface coverage of a lot, several regulations generally limit the amount of impervious surface permitted. Current Saint Paul zoning regulations permit principal buildings to cover only 35% of a zoning lot in RL-R4 zoning districts, except in planning districts 14 and 15, in which all buildings may cover only 40% of the lot. On top of these limits, accessory structures may cover only 1,200 square feet of a lot and only 35% of a rear yard; and paved parking surfaces may cover only 15% of a lot or 1,000 square feet, whichever is less. Special rules apply to runoff on lots within the Mississippi River Corridor Critical Area, focusing on preserving the integrity



of shorelines, blufflines, wetlands, and important natural habitats through structure setbacks and restrictions on vegetation removal and land disturbance. While all these regulations respond to different lot shapes, sizes, and locations uniquely, they form a framework for ensuring pervious surfaces are retained on lots around the city.

To understand the impact of additional impervious surface related to new housing construction, staff performed an analysis to understand what percent of a typical Saint Paul residential lot is covered in impervious surfaces, and then how much impervious surface might increase with the addition of another home or homes on the same lot. Staff selected a case study area within the Dayton's Bluff neighborhood defined by local sewer service, isolated the 1,149 low-density residential parcels, and analyzed their existing impervious surface coverage. The average parcel size in the analysis is 5,701 square feet (median 5,036 square feet), a size which falls between those of other smaller lots within the City's core (4,000, 3,000, and even 2,600 square feet) and those of larger lots in neighborhoods farther out from the City's core. Eighty percent (80%) of the case study parcels are built with single-family dwellings, 19% have two-family dwellings or single-family dwellings with an accessory dwelling unit, and 1% are built with three-family dwellings.

The average percent of a lot that is made up of impervious surface was found to be 40.1%, with the median being 40.0%. The average building "lot coverage" per lot – that is, how much of a lot is covered by a principal or accessory structure – rounds to 29%. Paved parking or driveway areas, swimming pools, walkways, and patio decks were added to the building lot coverage to reach the average total impervious surface. Breaking the 40% average down further, 30% of parcels had between 31% and 40% impervious surface; 28% of parcels had between 41% and 50% impervious surface; 22% of parcels had between 1% and 30% impervious surface; and 19% of parcels had between 51% and 70% impervious surface. Twelve parcels had more than 70% impervious surface.

In support of additional missing middle housing, amendments proposed in this study could permit additional impervious surface in the form of building enlargement, an additional residential building, or expansion of paved driveway and parking areas. These additions would be limited by existing or updated zoning regulations like lot coverage maximums, accessory building size maximums, and paved surface maximums, all of which would mitigate the actual expansion of impervious surface.

Impacts to stormwater and sanitary conveyance infrastructure may occur with substantial and spatially-concentrated construction of new housing in parts of the city which are currently predominately single-family homes. Zoning amendments supportive of missing middle housing would regulatorily permit additional housing in these areas, but actual housing construction will depend on the choices of individual property owners and their ability to finance construction. Recent experience in Saint Paul with ADUs, and in Minneapolis with zoning amendments that expand low density housing options, suggests that actual housing construction will proceed slowly. As development activity continues, City staff will monitor resulting stormwater runoff, and will develop mitigation plans if needed. Further, development techniques, such as the use of permeable paving systems or installation of rain gardens and similar green infrastructure methods could further mitigate the impacts of any increased impervious surfaces. Preserving trees and replacing turf grass with native vegetation that has deeper roots and is better adapted to Minnesota's climate can also help to offset increases in impervious surfaces on a site. Comprehensive Plan policies WR-3, WR-6, and WR-7 provide direction.



Technical Professionals Consultation Conclusions

Interviews with **small-scale developers and design professionals** exposed challenges to, and opportunities for developing housing with up to four units:

- The zoning code presents barriers due to RL-RT2's limited permitted dwelling types, lot coverage and setback requirements that limit building design, and overall complicated and hard-to-find standards throughout the entire code;
- The zoning standards in Traditional Neighborhood (T) districts were cited as working well for small-scale multi-family, but it also allows commercial uses which can be controversial to rezone to;
- Corner lots may be an opportunity for allowing slightly higher density.

Interviews with **area realtors** involved discussion about housing demand:

- There is significant demand for duplexes, triplexes, fourplexes, single-family homes, and townhomes that the current supply does not meet;
- Duplexes, triplexes, and fourplexes have less demand from investors because of high home prices, taxes, relatively low rents as supported by the market, and costs resulting from deferred maintenance that reduces return;
- Detached single-family homes have less demand from investors, with the exception of large corporations that own an estimated 15% of single-family homes in the Twin Cities. [More recent data from Realtor.com, however, suggests that this investor interest and home purchases have fallen the most in several markets including the Twin Cities given the high costs to acquire them, and relatively low rents supportable in these markets.²⁵].

Research and interviews with **financial professionals** exposed challenges to purchasing owner-occupied and investment 1-4 unit dwelling types, financing the construction and renovation of 1-4-unit dwellings and accessory dwelling units:

- Common challenges include appraisal methods using comparable properties in the vicinity that can cause difficulties in locations where few 2+ unit-dwellings have been built in the last 70-80 years, which can result in lower appraised values and loan underwriting standards may not allow projected future rental income to be applied towards qualifying for a loan;
- While there are standard loan products available for purchasing 1-4-unit dwellings, residential loans may not be available to owners with many investment properties, LLCs, or dwellings with 5+ units;

²⁵ Realtor.com, " Mom-and-Pop Real Estate Investors Are Pulling Way Back. Here's Where—and Why It Matters", Nov. 22, 2022, accessed December 15, 2022.



- Challenges to financing the construction and renovation of 1-4-unit dwellings include strict requirements that can make a loan difficult to qualify for, especially for someone without prior experience owning rental properties, lenders using different terminology for these types of loans and varying experience, and that it can be difficult to find a lender that offers a specific renovation loan type;
- There are a number of ways to finance the construction of a new ADU, including a home equity loan/home equity line of credit (HELOC), cash-out refinance, and a construction loan, but many require the owner to have high home equity, some renovation loans limit the type of ADU, and there is a lack of specialized financial products; additionally, it can be difficult to find a lender that offers a specific renovation loan type. All of this results in many ADUs financed mostly or entirely with an owner's cash savings.

Interviews with **Department of Safety and Inspection Site Plan Review** and **Building Plan Review staff** also revealed challenges to small-scale development that exist in building, fire, and plumbing codes:

- While single-family dwellings, ADUs, and duplexes are controlled by the Minnesota Residential Building Code and an architect or engineer is not necessarily required depending on the design, triplexes and fourplexes are controlled by the Minnesota Building Code and/or Minnesota Conservation Code and require an architect and engineer. Depending on the occupancy type, townhouses can use the Minnesota Residential Building Code and an architect and engineer are not necessarily required or can use the Minnesota Building Code and/or Minnesota Conservation Code and an architect and engineer are required.
- Accessibility requirements also kick in for dwellings with four units or more and townhouses. Accessible units may be required for conversions to these types depending on the extent of and scope of work involved, and the use of elevators in new construction.
- For properties with dwellings of three or more units, State Fire Code requires an unobstructed 20'-wide fire access drive from the street to extend to within 150' of all portions of each building. Automatic sprinklers are sometimes required for triplexes and fourplexes, depending on design/layout of building, and are required if greater than 4,500 square feet. Fire-rated interior walls are required for duplexes, triplexes, fourplexes, and townhouses.
- The City's interpretation of the State Plumbing Code presents a major barrier to developments with multiple buildings, including ADUs, as each building is required to have its own independent water and sewer connection, regardless of the ownership of the buildings. Connecting the ADU to the existing home's sewer and water connection would require an Alternate to the Plumbing Code and demonstration for exhausting all efforts to install separate connections.



Spot Testing Analysis Results

The consultant team performed a spot testing analysis to model various potential housing types (e.g., existing single-family home with a new construction ADU, a new construction triplex, and other new construction housing types) on different lot types (4,520 square foot (sf) lot with an alley, 6,250 sf lot without an alley, and double lots, both vacant or one vacant and one with an existing single-family home) using current zoning standards for different zoning districts (R1, R3, R4, RT1, T2). The results showed:

- For the R3/R4 and RT1 spot tests, the new ADU fits within setbacks, but the triplex is not permitted due to the minimum lot area per unit requirements.
- For the lot on an alley, the triplex results in a small backyard due to the larger front setback required in R4 and RT1 and a standard 26' foot wide triplex does not fit within the side setbacks in RT1. Additionally, a narrow triplex may result in an awkward internal configuration.
- For the T2 spot testing, both housing programs (new construction ADU or triplex) fit within setbacks and resulted in a more usable backyard space due to the smaller front yard setback.
- In comparison to residential districts, the T2 zoning district has setback standards that allow a greater variety of housing types, additional units, and better site plan arrangements. The restrictions that limit accessory buildings to occupying 35% of the rear yard can impact accessory structures' design and the fact that the porch may count toward the lot coverage limitations can discourage housing designs to include a porch.
- The double-lot scenarios confirmed that, besides the limited dwelling uses permitted in RL-RT1, lot area per unit and setbacks are some of the most limiting zoning code standards for 1-4-unit housing types.

Summary of Conceptual Housing Types

As part of their robust zoning code and financial viability analysis, the consultant team developed a series of conceptual housing types with site plans of different housing types on several different lot types (40'-wide lot on an alley, 50'-wide lot without an alley, 100'-120' wide double and triple lots) using proposed adjusted zoning standards of 10-15 feet front setbacks, 5' side yard setbacks, and 10' rear yard setbacks, based on T2 zoning district standards. See Appendix A for the three batches of conceptual housing types.

Batch 1 included status quo housing types of an existing single-family home with garage, and extra-large single-family replacement; backyard housing types of an existing house with backyard ADU, backyard double ADU, and twin cottages; as well as new construction types including twin homes, and rowhouses on a double lot. Characteristics of the Batch 1 prototypes summarized:

- Lot area per unit ranges from 1,507 sf to 3,125 sf for types with two or more units;



- Total building lot coverage ranges from 32.6% to 48.1% for 40' lot types, with the extra-large single-family replacement, existing house with twin cottages, and twin home types having over 45% coverage;
- Total building lot coverage ranges from 27.2% to 36.7% for 50' lot types, with the extra-large single-family replacement, existing house with twin cottages, and twin home types having over 34% coverage.

Batch 2 included new construction types including three principal structures, family-sized duplex with ADU, four homes a lot, five homes on a lot, three mirrored cottages, duplex court on a double lot, and duplex court on a triple lot. Characteristics of the Batch 2 prototypes summarized:

- Lot area per unit ranges from 904 to 2,460 sf for types with 2+ unit;
- Total building lot coverage ranges from 39.7% to 52.6% for 40' lot types, with the family-sized duplex with ADU and four homes on a lot types having over 50% coverage;
- Total building lot coverage ranges from 25.3% to 39.6% for 50' lot types, with the family-sized duplex with ADU, duplex court on double lot and triple lot types having over 35% coverage.

Batch 3 included new construction fourplexes and sixplexes of different programs: family-sized fourplex and sixplex, market-sized fourplex and family-sized sixplex, market-sized fourplex and mixed-unit sixplex on 50' lots, and market-sized double duplex and sixplex on 40' wide lots. Family-sized refers to three-bedroom, one-bath units, market-sized refers two-bedroom, two-bath or one-bath units, and mixed-unit refers to containing three-bedroom and two-bedroom units. Characteristics of the Batch 2 prototypes summarized:

- For the fourplex types, the lot area per unit is 1,563 sf and total building lot coverage is 29% for the market-sized type and 48% for the family-sized type on the 50' wide lot; and the lot area per unit for the double duplex is 1,130 sf and total building lot coverage is 44% on the 40' wide lot;
- For sixplex types on a 50' lot, the lot area per unit is 1,042 sf and the total building lot coverage is 48%. The lot area per unit is 753 sf and the total building lot coverage is 40% on the 40' wide lot.

5. Case Studies

Housing Financial Case Studies

As discussed in Section 4, the consultants prepared financial pro formas for many of the conceptual housing types that serve as case studies for potential development that could be permitted with zoning code amendments.

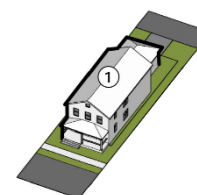
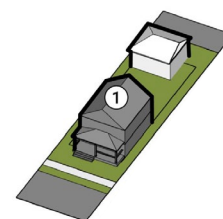


For-sale/ownership case studies

For case studies where a developer builds new construction to sell units to an owner-occupant, developers of different types can have different motivations. While non-profit developers aiming to build attainable housing may have a goal to make tens of thousands of dollars in developer fees for one project, full-time for-profit developers doing multiple projects a year may have a high annual goal to account for staffing costs and other expenses. Part-time DIY developers may have a smaller goal for financial return over a longer time period because they spend more time on a project and less money on employee compensation. Many factors go into determining a project's feasibility and profitability, including internal rate of return (IRR), a metric used to evaluate profitability and a way of comparing the future value of an investment if it were valued in today's dollar. Investors are looking for a market-rate return of at least 15% with a buffer of around 3% (e.g., 18%).

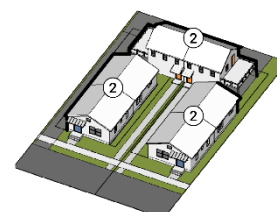
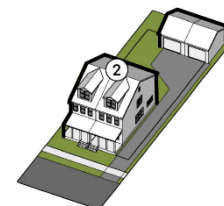
Single-family homes:

- For the Batch 1, existing modest single-family home with garage on an average 4,520-6,250 square foot lot with three bedrooms and two baths, the pro forma indicates a sales price of \$206,000. However, as of October 2022, the median sales price in Saint Paul is \$287,000, which is a more likely sales price. This is affordable to households earning \$89,687, a household just below **80%** of the Twin Cities median income, or AMI, of \$117,300.
- For the Batch 1, new construction extra-large home of 3,240 square feet with three bedrooms and two baths, the pro forma indicates a sales price of \$700,000, which is affordable to **high-income** households earning \$218,750. This assumes a construction cost of \$175 per square foot and includes the cost for demolition of an existing home on a lot.



New construction twin homes:

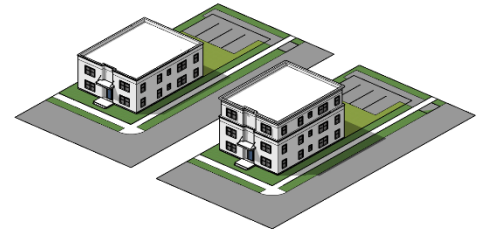
- For the Batch 1, twin homes with three-bedroom, three-bath units of 2,560 square feet, the pro forma indicates a sales price of \$590,000 for each unit, which is affordable to **high-income** households earning \$184,375. This example, however, assumes demolition of an existing house, a detached garage, and three bathrooms, which is not necessarily a housing type that would be produced in all contexts.
- For the Batch 2 duplex court on a double lot with two-bedroom, two-bath units, the pro forma indicates a sales price of \$270,000 for each unit, which is affordable to three-person households earning \$84,375, around **80%** of AMI.





New construction fourplex and sixplex (for-sale):

- For the Batch 3, family-sized fourplex and sixplex with three bedrooms, the sales price affordable to middle-income households (100% of AMI) is \$378,000 for each unit; this results in a negative rate of return for the fourplex and a very low rate of return for the sixplex; however, by achieving a rate of return of 15%, it would yield a sales price affordable to **middle-income** households – 118% of AMI for the fourplex and 115% of AMI for the sixplex.
- For the Batch 3, family-sized fourplex and sixplex, the sales price of \$309,000 that is affordable to four-person households earning \$94,600 (**80%** of AMI) results in a funding gap per door of \$91,709 for the fourplex and \$82,0079 for sixplex. The density increase from four units to six results in a 11% decrease in the funding (subsidy) gap needed per unit. This example would be relevant to non-profit developers.



Rental case studies

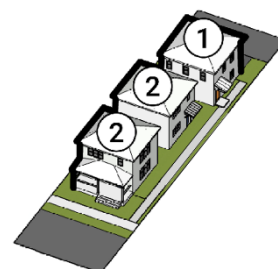
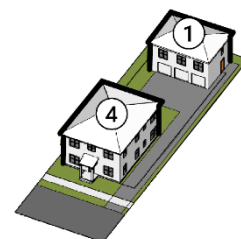
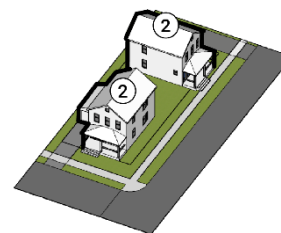
For case studies with a developer to build new construction to rent out all the units, many factors go into determining a project's feasibility and profitability including:

- Return on project cost (measurement of the risk of a project): The net operating income (cash flow minus operating expenses) divided by the total upfront project cost. Investors are looking for 4-6%, with more comfort if closer to 6%.
- Cash on cash return (return on down payment): The annual cash flow after debt service (net operating income minus the cash required to pay debt payments) divided by the construction loan down payment. Investors are looking for 4-6%, with more comfort closer to 6%.
- Debt Service Coverage Ratio (DSCR) (Measurement of an entity's ability to produce enough cash to cover its debt payments): Net operating income (cash flow minus operating expenses) divided by the debt service (cash required to pay debt payments). Lenders often require 1.25 or higher, depending on risk.
- Internal rate of return (IRR): Metric used to evaluate profitability and a way of comparing the future value of an investment if it were valued in today's dollar: An IRR of 10% over 10 years is on the very low end that very few investors, aside from an owner-occupant or people looking to invest in a family member's or friend's project, would be interested in. At least 15% with a buffer of around 3% (e.g., 18%) is the market-rate return that investors are looking for.



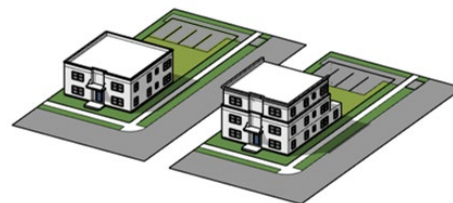
New construction mixed housing types with 4-5 units on a lot:

- For the Batch 2, double duplex (four homes on a lot), the pro forma indicates projected monthly rents for the two-bedroom units of \$1,800, which is greater than the Saint Paul median two-bedroom unit rent.²⁶ This is affordable to households at **70%** of the AMI – a two-person household earning \$65,730 or a three-person household earning \$73,920. The project results in 6.0% return on project cost, 4.8% cash on cash return, 1.25 debt service coverage ratio, 4.9% IRR over 10 years.
- For the Batch 2, fourplex with backyard ADU (five homes on a lot), the pro forma indicates projected monthly rents for the 2-bedroom units ranging from \$1,800 to \$1,900, which is greater than the median Saint Paul two-bedroom rent. These are affordable to households at just over **70%** of the AMI. The project results in a 6.5% return on project cost, 6.5% cash on cash return, 1.34 debt service coverage ratio, and 1.4% IRR over 10 years.
- For the Batch 2, double duplex with backyard ADU (five homes on a lot), the pro forma indicates projected monthly rents for the one-bedroom units in the duplex of \$1,350 and \$1,400 for the ADU, which are both greater than the median Saint Paul one-bedroom rent. These rents are affordable to one-person households earning \$54,000-\$56,000 (i.e., a household between **60-70%** of AMI); or a 2-person household earning **50-60%** of AMI. The project results in a 6.1% return on project cost, 5.0% cash on cash return, 1.26 debt service coverage ratio, and 6.4% IRR over 10 years.



New construction fourplex and sixplex:

- For the Batch 3, market-sized fourplex with two-bedroom units and mixed-unit sixplex with two three-bedroom units and four two-bedroom units, a rent affordable to 100% of AMI (\$2,267 for the fourplex units and \$2,616 for the sixplex units) results in a good market rate return. An 11% IRR results in the two-bedroom rents (\$2,180) being affordable to households earning \$87,200 (i.e., a three-person household just over **80%** of AMI) and the three-bedroom rents (\$2,567) being affordable to households earning \$102,680 (i.e., a five-person household just over **80%** of AMI).



²⁶ Saint Paul Rental Housing Brief, Oct. 2022, Housinglink, accessed December 5, 2022, at <https://www.housinglink.org/Research/st-paul-rental-housing-brief>.

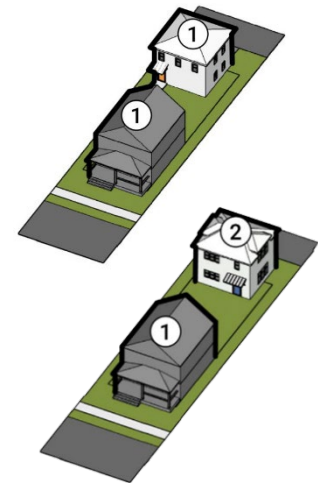


Owner-occupied with rental unit(s) case studies

For homeowners with existing equity that want to invest in their property by adding additional housing units to rent out and/or share housing costs across larger household, there is generally no profit motive in terms of developer fee or immediate return on capital. "Return" is measured in terms of long-term off-set costs through collecting rental income to off-set mortgage costs.

Existing house with backyard ADU(s):

- For the Batch 1, existing house with backyard ADU and existing house with double ADU, proformas indicate approximate costs of \$175,000 to add a new ADU and \$265,000 to add a new double ADU. The projected monthly rent for a one-bedroom unit in the ADU (\$1,250) is slightly above the median Saint Paul one-bedroom rent (\$997), and the projected monthly rent for a one-bedroom unit in a double ADU (\$1,000) is close to the median Saint Paul one-bedroom rent, according to HousingLink, October 2022. These rents are affordable to households at **50-60% of AMI**.
- The sales price of the single-family home and ADU property (estimated \$350,000) can be affordable to households earning \$93,000 (i.e., a household earning just under 80% of AMI), when counting rental income. The sales price of the single-family home and double ADU property (estimated \$450,000) can be affordable to households earning \$114,000 (i.e. a household earning **just under the median Twin Cities household income of \$117,300**).



Pro Forma Conclusions

- For-sale/ownership case studies:** While sales prices overall are high due to the high construction costs and are mostly affordable to middle-income and upper-middle-income households, the case studies indicate that it is possible to serve homebuyers at 60-80% of AMI, especially with sufficient density permitted by zoning, and in some cases, subsidy. The status quo, existing, modestly sized single-family home serves similar affordability, but is in low supply in the market. In the case of the new construction family-sized fourplex and sixplex, the additional two units on the same lot (in the sixplex) results in a funding gap (subsidy) that is 11% lower per unit compared to the fourplex. While developer fees earned from new construction homeownership projects are not extremely high, they are sufficient to motivate a non-profit or small-scale developer.
- Rental case studies:** Monthly rents for new construction rental units are generally higher than Saint Paul median rents, but in many cases, new construction could still be supportable by rent levels that are affordable to low-income households. That said, many of these case studies would not be considered viable development projects by large-scale market-rate developers and accredited investors motivated by more significant profit goals; as such, these players are



not likely to be interested in investing in these projects. Rather, local developers or “community builders” with existing equity who are not looking to make a large return but want to improve their neighborhood and address the housing shortage are more likely to be motivated to undertake these projects.

- **Owner-occupied with rental unit(s) case studies:** While the cost to add one to two rental units is substantial, the rental income generated from it can off-set enough long-term costs to make it worthwhile for the owner-occupant. These cases are examples of community wealth-building, in which a local homeowner or community-focused developer may invest in incremental development and support the housing supply.
- **The importance of by-right development:** Small-scale developers, homeowners with equity, and other community builders are unlikely to take the risk of rezoning a property for only a 6-10% return, because these soft costs cannot be absorbed (time and cost to rezone, and risk if the rezoning does not get approved).

City and State Case Studies

Other cities and states have taken action to allow a greater variety of housing options. Through zoning code updates, cities are allowing more housing types and increasing zoning flexibility in residential districts to incrementally increase the supply of housing. States are also passing ordinances to require cities to allow certain housing types and prohibit cities from adopting certain standards that can be barriers to housing development. These changes are recent; therefore, data is not yet available on their impacts to housing supply, but they serve as example of ways that other places are removing barriers to housing.

City of Minneapolis

In 2019, the City of Minneapolis zoning code was amended to allow up to three housing units in single-family and two-family districts with minimum lot areas and width standards for one-to-three-unit dwellings and maximum floor area ratio (FAR) standards based on the built form overlay districts, some of which are consistent for one-to-three-unit dwellings. Amendments include a maximum lot size requirement for one-to-three-unit dwellings in certain districts, intended to ensure that large structures out of character with a low-density neighborhood cannot be constructed as a result of combining multiple parcels.

City of Portland / State of Oregon

In 2019, the State of Oregon passed an ordinance that required cities with populations greater than 10,000 or within the Portland metropolitan area to allow duplexes on sites zoned for single family dwellings within an urban growth boundary and required Portland metro counties and cities with populations greater than 25,000 to allow middle housing (duplexes, triplexes, quadplexes, cottage clusters) on sites zoned for residential use within an urban growth boundary.

In 2021, City of Portland zoning code amendments went into effect to allow a house and an accessory dwelling unit (ADU) or a duplex on all lots and allowing a house and two ADUs, a triplex, a duplex and



an ADU, and a fourplex on lots that meet certain standards. Amendments also legalized three-story apartment buildings of up to six units on any lot if at least half of the units met affordability standards. In 2022, Portland made dwellings with up to 4 units permitted on even more lots, increased the allowed floor area ratio for fourplexes to allow for family-size units, and reduced minimum lot size standards for triplexes, fourplexes, sites with two ADUs or duplexes with an ADU to match the minimum lot size for single-family and duplexes, which was also slightly reduced. Portland also allows detached unit duplexes (a new second detached unit on lots with an existing single-family home that does not need to meet ADU standards provided that the new unit is not more than 25' tall and meets other standards) with the option to subdivide the property so each unit can be separately owned and created a simplified land division for duplexes, triplexes, fourplexes, and cottage clusters to allow for units to be separately owned without being a condominium.

State of California

In 2020, the State of California passed an ordinance that allows accessory dwelling units (ADUs) in any residential or mixed-use zone and prohibits local agencies from adopting ADU ordinances that impose minimum lot size requirements for ADUs, certain maximum ADU dimensions, and owner-occupancy requirements for ADUs or the primary dwelling. It also allows for one ADU as well as one "junior" ADU (a dwelling unit created by converting space within the walls of an existing single-family residence) on a single-family property and up to two detached ADUs on a multi-family property. In addition, in 2021, the CA Assembly, Senate and Governor signed SB9 which streamlines the process for a property owner to build two homes on a single-family zoned parcel and subdivide an existing single-family parcel into two parcels. To be eligible for the streamlining provided by this bill, a parcel must meet a specific list of qualifications that protects historic districts, preserves the environmental quality and the look of communities, and prevents tenants from being displaced.

6. Analysis – *Coming soon*

7. Staff Recommendation – *Coming soon*

- A. Consolidation of RL-RT2 zoning districts; new districts**
- B. Related use, district, and standards updates**
- C. Updates to cluster development standards**
- D. Updates to ADU and accessory building standards**
- E. Updates to off-street parking facility standards**
- F. Clarification for Site Plan Review requirements**
- G. Updates to subdivision regulations**
- H. Additional minor updates to improve clarity**

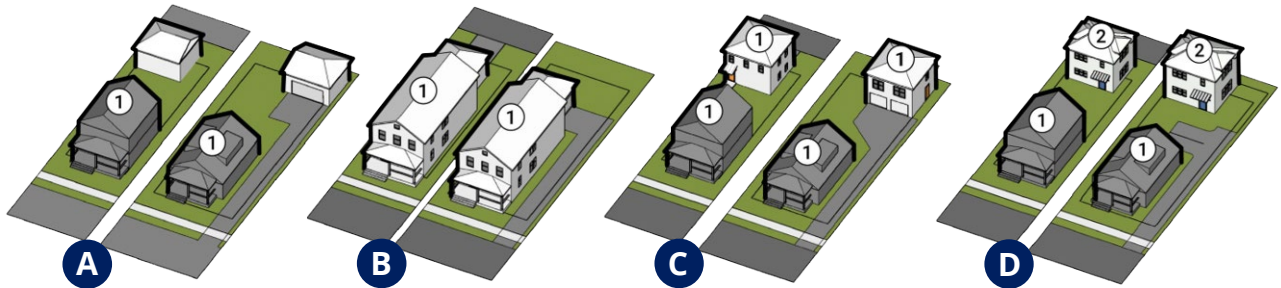


8. Appendices

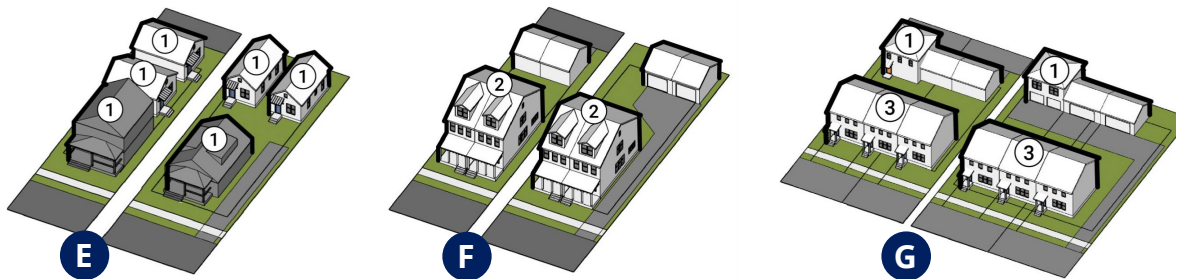
Appendix A: Conceptual Housing Types

Appendix B: Proposed text amendments – *Coming soon*

Conceptual Housing Types: Batch 1

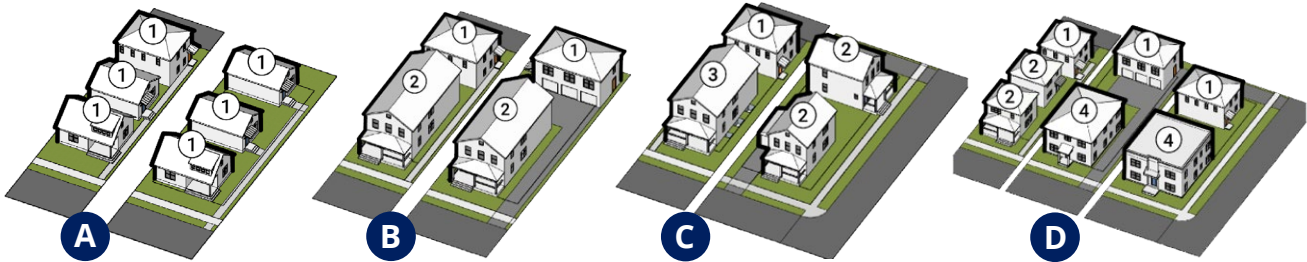


	A. Existing Single-Family Home with Garage		B. Extra-Large Single-Family Replacement		C. Existing House with Backyard ADU		D. Existing House with Backyard Double ADU	
	40' Lot (Alley)	50' Lot (No Alley)	40' Lot (Alley)	50' Lot (No Alley)	40' Lot (Alley)	50' Lot (No Alley)	40' Lot (Alley)	50' Lot (No Alley)
Housing Types	Single-family detached	Single-family detached	Single-family detached	Single-family detached	Single-family detached, ADU	Single-family detached, ADU	Single-family detached, double ADU	Single-family detached, double ADU
Number of Units	1	1	1	1	2	2	3	3
Building Footprints (square feet)	780 (home), 484 (garage)	1,008 (home), 484 (garage)	1,484 (home), 484 (garage)	1,484 (home), 484 (garage)	780 (home), 624 (ADU)	1,008 (home), 624 (ADU)	780 (home), 624 (double ADU)	1,008 (home), 624 (double ADU)
Garage spaces	2	2	2	2	2	2	2	0
Lot area per unit (square feet)	4,520	6,250	4,520	6,250	2,260	3,125	1,507	2,083
Lot width per unit (square feet)	40	50	40	50	20	25	13	17
Total Building Lot Coverage	32.6%	27.2%	48.1%	34.8%	35.7%	29.4%	35.7%	29.4%
Lot Coverage (not including porches)	28.0%	23.9%	43.5%	31.5%	31.1%	26.1%	31.1%	26.1%
Lot Coverage (not including garages)	21.9%	19.5%	37.4%	27.1%	N/A	N/A	N/A	N/A

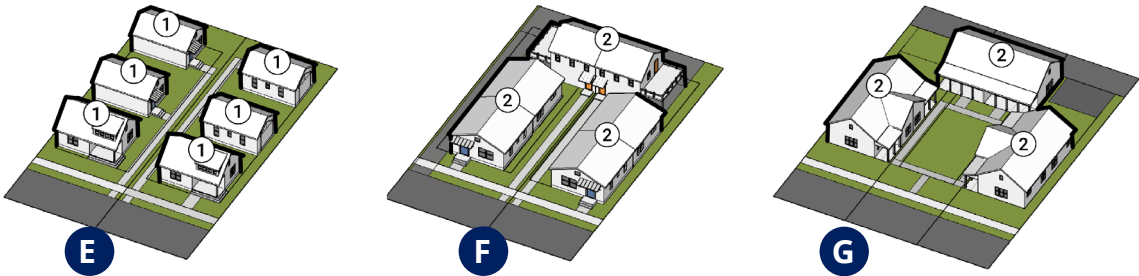


	E. Existing House with Twin Cottages		F. Twin Homes		G. Rowhouses on Double Lot	
	40' Lot (Alley)	50' Lot (No Alley)	40' Lot (Alley)	50' Lot (No Alley)	80' Lot (Alley)	100' Lot (No Alley)
Housing Types	Single-family detached, Cottages	Single-family detached, Cottages	Twin homes	Twin homes	Rowhouses, ADU	Rowhouses, ADU
Number of Units	3	3	2	2	4	4
Building Footprints (square feet)	780 (single-family detached), 540 (each cottage)	1,008 (single-family detached), 540 (each cottage)	1,200 (twin home), 600 (garages)	1,280 (twin home), 600 (garages)	2,310 (rowhouses), 528 (ADU), 840 (garages)	2,520 (rowhouses), 576 (ADU), 840 (garages)
Garage spaces	0	0	2	2	6	6
Lot area per unit (square feet)	1,507	2,083	2,260	3,125	2,260	3,125
Lot width per unit (square feet)	13	17	20	25	20	25
Total Building Lot Coverage	45.8%	36.7%	45.1%	34.2%	40.7%	31.5%
Lot Coverage (not including porches)	41.2%	33.4%	39.8%	30.1%	N/A	N/A
Lot Coverage (not including garages)	N/A	N/A	31.9%	24.6%	31.4%	24.8%

Conceptual Housing Types: Batch 2

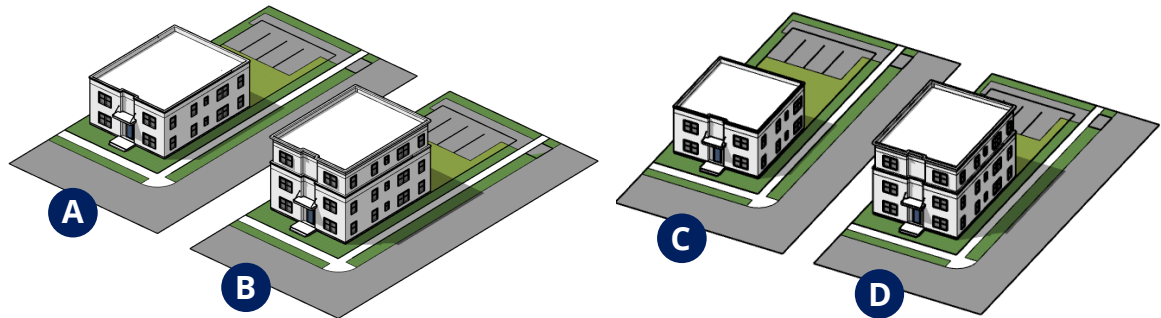


	A. Three Principal Structures		B. Family-Sized Duplex with ADU		C. Four Homes on a Lot		D. Five Homes on a Lot		
	40' Lot (Alley)	50' Lot (No Alley)	40' Lot (Alley)	50' Lot (No Alley)	40' Lot (Alley)	50' Lot (No Alley)	40' Lot (Alley)	50' Lot (No Alley)	50' Lot (Corner)
Housing Types	Single-family detached	Single-family detached	Duplex, ADU	Duplex, ADU	Triplex, ADU	Duplex	Duplex, ADU	Fourplex, ADU	Fourplex, ADU
Number of Units	3	3	3	3	4	4	5	5	5
Building Footprints (square feet)	616-720 (each single-family detached)	616-720 (each single-family detached)	1,352 (duplex), 720 (ADU)	1,352 (duplex), 912 (ADU)	1,196 (triplex), 720 (ADU)	704 (each duplex)	497-528 (each duplex), 576 (ADU)	1,376 (fourplex), 576 (ADU)	1,640 (fourplex), 576 (ADU)
Garage spaces	3	0	3	3	3	1	3	3	3
Lot area per unit (square feet)	1,507	2,083	1,507	2,083	1,130	1,563	904	1,250	1,250
Lot width per unit (square feet)	13	17	13	17	10	3	8	10	10
Total Building Lot Coverage	45.5%	31.2%	50.4%	39.6%	52.6%	25.3%	39.7%	31.2%	35.5%
Lot Coverage (not including porches)	N/A	N/A	45.8%	36.2%	42.4%	22.5%	35.4%	31.2%	35.5%

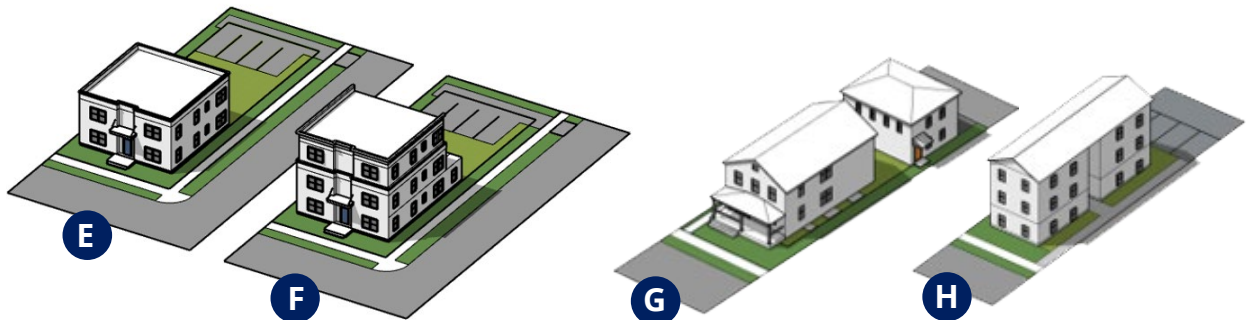


	E. Three Mirrored Cottages	F. Duplex Court on Double Lot	G. Duplex Court on Triple Lot
	100' Lot (No Alley) - Two 50' lots	100' Lot (No Alley) - Two 50' lots	120' Lot (Alley) Three 40' lots
Housing Types	Single-family detached	Duplexes	Duplexes
Number of Units	6	6	6
Building Footprints (square feet)	616-768 (each cottage)	1,152-1,680 (each duplex)	1,352-1,768 (each duplex)
Garage spaces	0	4	0
Lot area per unit (square feet)	2,083	2,083	2,460
Lot width per unit (square feet)	17	17	20
Total Building Lot Coverage	32.0%	38.4%	35.9%
Lot Coverage (not including porches)	N/A	36.1%	33.1%

Conceptual Housing Types: Batch 3



	A. Family-Sized Fourplex 50' Lot (corner)	B. Family-Sized Sixplex 50' Lot (corner)	C. Market-Sized Fourplex 50' Lot (corner)	D. Family-Sized Sixplex 50' Lot (corner)
Housing Types	Fourplex	Sixplex	Fourplex	Sixplex
Number of Units	4	6	4	6
Unit Type	3 bed/1 bath	3 bed/1 bath	2 bed/1 bath	3 bed/1 bath
Building Footprints (square feet)	3,000	3,000	1,833	3,000
Garage spaces	0	0	0	0
Lot area per unit (square feet)	1,563	1,042	1,563	1,042
Lot width per unit (square feet)	13	8	13	8
Total Building Lot Coverage	48%	48%	29%	48%



	E. Market-Sized Fourplex 50' Lot (corner)	F. Mixed-Unit Sixplex 50' Lot (corner)	G. Market-sized Double Duplex 40' Lot (Alley)	H. Market-Sized Sixplex 40' Lot (Alley)
Housing Types	Fourplex	Sixplex	Duplex	Sixplex
Number of Units	4	6	4	6
Unit Type	2 bed/1 bath	2 bed/1 bath, 3 bed/1 bath	2 bed/1 bath	2 bed/2 bath
Building Footprints (square feet)	1,833	3,000	1,976	1,810
Garage spaces	0	0	0	0
Lot area per unit (square feet)	1,563	1,042	1,130	753
Lot width per unit (square feet)	13	8	10	7
Total Building Lot Coverage	29%	48%	44%	40%