MEDINA, WASHINGTON

PLANNING COMMISSION MEETING

Virtual/Online

Tuesday, April 26, 2022 – 4:00 PM

AGENDA

COMMISSION CHAIR | Laurel Preston
COMMISSION VICE-CHAIR | Shawn Schubring
COMMISSIONERS | Laura Bustamante, Li-Tan Hsu, David Langworthy, Mark Nelson, Mike Raskin
PLANNING MANAGER | Stephanie Keyser

Virtual Meeting Participation

With the passage of the City's Proclamation of Local Emergency, City Hall is closed to the public. Planning Commission participation in this meeting will be by teleconference/online only. Members of the public may also participate by phone/online. Individuals wishing to speak live during the Virtual Planning Commission meeting will need to register their request with the Development Services Coordinator at 425.233.6414 or email rbennett@medina-wa.gov and leave a message before 12PM on the day of the April 26 Planning Commission meeting. Please reference Public Comments for April 26 Planning Commission Meeting on your correspondence. The Development Services Coordinator will call on you by name or telephone number when it is your turn to speak. You will be allotted 3 minutes for your comment and will be asked to stop when you reach the 3-minute limit.

Join Zoom Meeting
https://us06web.zoom.us/j/83835156994?pwd=ejZQbGUxc3IzdlltZDNIeWVSTVBDUT09

Meeting ID: 838 3515 6994
Passcode: 674931
One tap mobile
+12532158782,,83835156994#,,,,*674931# US (Tacoma)

1. CALL TO ORDER / ROLL CALL

2. APPROVAL OF MEETING AGENDA

3. APPROVAL OF MINUTES

4. ANNOUNCEMENTS

4.1 Staff/Commissioners

5. AUDIENCE PARTICIPATION

Individuals wishing to speak live during the Virtual Planning Commission meeting will need to register their request with the Development Services Coordinator, Rebecca Bennett, via email (rbennett@medina-wa.gov) or by leaving a message at 425.233.6414 before 12pm the day of the Planning Commission meeting. Please reference Public Comments for the April 26 Planning Commission meeting on your correspondence. The Development Services Coordinator will call on you by name or telephone number when it is your turn to speak. You will be allotted 3 minutes for your comment and will be asked to stop when you reach the 3-minute limit.

6. DISCUSSION

6.1 Housing Needs Assessment Draft
Recommendation: Discussion
Staff Contact(s): Stephanie Keyser, Planning Manager
Time Estimate: 30 minutes

6.2 Alternatives to Original Grade
Recommendation: Discussion
Staff Contact(s): Stephanie Keyser, Planning Manager
Time Estimate: 30 minutes

7. ADJOURNMENT

ADDITIONAL INFORMATION

Planning Commission meetings are held on the 4th Tuesday of the month at 4 PM, unless otherwise specified.

In compliance with the Americans with Disabilities Act, if you need a disability-related modification or accommodation, including auxiliary aids or services, to participate in this meeting, please contact the City Clerk's Office at (425) 233-6410 at least 48 hours prior to the meeting.

UPCOMING MEETINGS

Tuesday, May 24, 2022 - Special Meeting at 4:00 PM
Tuesday, June 28, 2022 - Special Meeting at 4:00 PM
Tuesday, July 26, 2022 - Special Meeting at 4:00 PM
Tuesday, August 23, 2022 – No PC Meeting
Tuesday, September 27, 2022 - Special Meeting at 4:00 PM
Tuesday, October 25, 2022 - Special Meeting at 4:00 PM
Tuesday, November 22, 2022 - Regular Meeting Cancelled
November 2022 - ***Meeting Date TBD***
Tuesday, December 27, 2022 - Regular Meeting Cancelled
December 2022 - ***Meeting Date TBD***

MEDINA, WASHINGTON

AGENDA BILL

Monday, April 25, 2022

Subject: Housing Needs Assessment Draft

Category: Discussion

Staff Contact(s): Stephanie Keyser, Planning Manager

Summary

In the fall of 2021, the City applied for grant funding allocated by the Washington State Department of Commerce and funded through E2SHB 1923. The grant funding is being used for the development of a Housing Action Plan (HAP) that will allow the City to recognize the housing needs of its current and future populations, as well as outline goals, policies, and strategies to meet those needs.

The first step in the HAP development process is the creation of a housing needs assessment (HNA). A HNA is a study to identify the current and future housing needs of all economic segments of the community. It is intended to be guide for decision makers, residents, housing market professionals, and anyone else who might find it useful. It provides a baseline of data that explains the current conditions of housing in Medina and highlights where there are shortcomings or gaps in how the current housing supply meets the needs and demands of the residents now and in the future.

The draft HNA being presented tonight is the first deliverable. Throughout the next year the Housing Action Plan will be informed by public engagement and an assessment of existing city policies and regulations. The HAP strategies will address identified needs and policy changes and will be presented for Council for review and adoption in 2023. All of this information will then be incorporated in the Housing Element of the Comprehensive Plan.

Attachment(s) Draft Housing Needs Assessment

Recommendation: N/A

Proposed Council Motion: N/A

Time Estimate: 30 minutes

City of Medina

Housing Needs Assessment

Prepared by: Blueline

April, 2022

Insert Photo of Housing in City

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Glossary

Affordable housing: The United States Department of Housing and Urban Development (HUD) considers housing to be affordable if the household is spending no more than 30 percent of its income on housing costs (rent, mortgage payments, utilities, etc.). A healthy housing market includes a variety of housing types that are affordable to a range of different household income levels. However, the term "affordable housing" is often used to describe income restricted housing available only to qualifying low-income households. Income-restricted housing can be located in public, nonprofit, or for-profit housing developments. It can also include households using vouchers to help pay for market-rate housing (see "Vouchers" below for more details).

American Community Survey (ACS): This is an ongoing nationwide survey conducted by the U.S. Census Bureau. It designed to provide communities with current data about how they are changing. The ACS collects information such as age, race, income, commute time to work, home value, veteran status, and other important data from U.S. households.

Area median income (AMI): This is a term that commonly refers to the area-wide median family income calculation provided by the federal Department of Housing and Urban Development (HUD) for a county or metropolitan region. Income limits to qualify for affordable housing are often set relative to AMI. In this report, unless otherwise indicated, AMI refers to the HUD Area Median Family Income (HAMFI).

Cost burden: When a household that spends more than 30 percent of their gross income on housing costs, including utilities, they are cost-burdened. When a household pays more than 50 percent of their gross income on housing, including utilities, they are severely cost-burdened. Cost-burdened households have less money available for other essentials, like food, clothing, transportation, and medical care.

Fair market rent (FMR): HUD determines what a reasonable rent level should be for a geographic area and sets this as the area's fair market rent. Housing choice voucher program voucher holders are limited to selecting units that do not rent for more than fair market rent.

Household: A household is a group of people living within the same housing unit. The people can be related, such as family. A person living alone in a housing unit, or a group of unrelated people sharing a housing unit, is also counted as a household. Group quarters population, such as those living in a college dormitory, military barrack, or nursing home, are not considered to be living in households. The census sometimes refers to "occupied housing units" and considers all persons living in an occupied housing unit to be a single household. So, Census estimates of occupied housing units and households should be equivalent.

Household income: The census defines household income as the sum of the income of all people 15 years and older living together in a household.

Income-restricted housing: This term refers to housing units that are only available to households with incomes at or below a set income limit and are offered for rent or sale at a below-market rates. Some income-restricted rental housing is owned by a city or housing authority, while others may be privately owned. In the latter case the owners typically receive a subsidy in the form of a tax credit or property tax exemption. As a condition of their subsidy, these owners must offer a set percentage of all units as income-restricted and affordable to household at a designated income level.

Glossary

Low-income: Families that are designated as low-income may qualify for income-subsidized housing units. HUD categorizes families as low-income, very low-income, or extremely low-income relative to area median family incomes (MFI), with consideration for family size.

INCOME CATEGORY	HOUSEHOLD INCOME
Extremely low-income	30% of HAMFI or less
Very low-income	30-50% of HAMFI
Low-income	50-80% of HAMFI
Moderate income	80-100% of HAMFI
Above median income	>100% of HAMFI

Median family income (MFI): The median income of all family households in the metropolitan region or county. Analyses of housing affordability typically group all households by income level relative to area median family income. Median income of non-family households is typically lower than for family households. In this report, both MFI and AMI refer to the U.S. Department of Housing and Urban Development Area Median Family Income (HAMFI).

Subsidized housing: Public housing, rental assistance vouchers, and developments that use Low Income Housing Tax Credits (LIHTC) are examples of subsidized housing. Subsidized housing lowers overall housing costs for people who live in it. Affordable housing and subsidized housing are different, even though they are sometimes used interchangeably.

Tenure: Tenure references the ownership of a housing unit in relation to the household occupying the unit. According to the US Census Bureau, a housing unit is "owned" if the owner or co-owner lives in the unit, even if it is mortgaged or not fully paid for. A cooperative or condominium unit is "owned" only if the owner or co-owner lives in it. All other occupied units are classified as "rented," including units rented for cash rent and those occupied without payment of cash rent.

Vouchers (Tenant-based and Project-based): HUD provides housing vouchers to qualifying low-income households. These are typically distributed by local housing authorities. Vouchers can be "tenant-based", meaning the household can use the vouchers to help pay for market-rate housing in the location of their choice. They pay the difference between the fair market rent and 30 percent of the tenant's income. Or the vouchers can be "project-based", meaning they are assigned to a specific building.

Part 1: Introduction

1.1 BACKGROUND

In the fall of 2021, the City of Medina applied for grant funding allocated by the Washington State Department of Commerce and funded through E2SHB 1923. The grant funding is being used for the development of a Housing Action Plan (HAP) that will allow the City to recognize the housing needs of its current and future populations, as well as outline goals, policies, and strategies to meet those needs.

The City of Medina does not build or manage housing. However, the City can affect how much and what types of housing are produced in Medina through comprehensive plan policies, development codes, incentives, programs, and capital projects. The HAP will identify strategies to ensure the City's influence on housing production is in line with its overall housing goals.

The first step in the HAP development process is the creation of a housing needs assessment (HNA). Fundamentally, a HNA is a study to identify the current and future housing needs of all economic segments of the community. It attempts to answer the following types of questions:

- Who lives and works here and what are their socioeconomic characteristics?
- What types of housing are available?
- Are there any groups of people who are not able to find housing that is safe, affordable, and meets their household needs?
- How much housing, and what types of housing, are needed to meet current and future housing needs?
- Is there sufficient buildable land capacity to accommodate growth and diversity of housing choice?

The HNA is intended to be a guide for decision-makers, residents, housing market professionals, and anyone else who may find it useful. It provides a baseline of data that explains the current conditions of housing in Medina and highlights where there are shortcomings or gaps in how the current housing supply meets the needs and demands of the residents now and in the future.

This document is divided into three main parts:

- **Community Overview:** This part details who lives in the city and the characteristics that shape their current and future needs related to housing.
- **Housing Conditions:** This part describes the current housing inventory of the city with a focus on characteristics such as size, location, cost, and tenure.
- **Gap Analysis:** This part evaluates the alignment between the two previous parts and how certain populations are not finding their needs met through the current housing market.

1.2 METHODOLOGY

The data in this document will be combined and supplemented with information gathered through engagement with stakeholders and residents to form the HAP.

The analysis conducted in this Housing Needs Assessment relies on available socio-demographic and housing data from multiple sources. This includes as much publicly available data as possible. All data used is the latest data available but note that in some cases information may take some time to compile and may be older.

The sources of data we used for this analysis include the following:

- **Puget Sound Regional Council (PSRC).** The PSRC provides overall regional housing targets through the VISION 2040 regional growth strategies, recently updated with the VISION 2050 plan, which informs the development of Countywide Planning Policies. Additionally, the PSRC coordinates housing and employment projections for the region.
- **Washington State Office of Financial Management (OFM).** The OFM is the state-level agency in charge of developing official population and housing counts for statutory and programmatic purposes, and compiles data from individual jurisdictions to further this goal. Publicly available counts for population and housing are available on their website. Additionally, small-area and more detailed custom data are also available to provide more detail on housing and population growth.
- **King County Buildable Lands Report.** Coordinated on a periodic basis, the County coordinates a review and evaluation of development and land supply to determine whether its cities are meeting growth and density targets and if cities have enough land to meet future growth needs. As part of this work, cities survey their available lands for development, and compare this to growth targets established through the Countywide Planning Policies. This report relies on both the estimates of land capacity, as well as the assessment of future growth targets.
- **US Census Longitudinal Employer-Household Dynamics Origin-Destination Employment Statistics (LODES).** The US Census compiles information about the home and work locations of employees and provides information through a web-based interface on the characteristics of jobs and workers, such as economic sector, general length of commute, and wages. Additionally, LODES can also be used to indicate where people in a given location or jurisdiction work, and where workers in a community live, which can provide an understanding of commuting patterns. This data is partly "synthetic", meaning that it is based on estimates from the original data to preserve anonymity while being representative of major characteristics or trends. OnTheMap is the web-based mapping and report application that provides an easy-to-use interface for viewing the LODES data; it was used to pull the data shown in this report.
- **American Community Survey (ACS).** The American Community Survey is an ongoing survey program coordinated by the US Census Bureau to provide detailed information about the population. Developed as an alternative to the Decennial Census long form, the ACS relies on a sample of households to collect more detailed data on topics such as education, transportation, Internet access, employment, and housing. The results from the ACS are reported on a yearly basis for larger cities, and on a 5-year average basis for all communities. This report relies on this information for some demographics data, and the ACS is also used as part of the CHAS dataset (below). At the time of writing, the most recent dataset available was 2019-2015.
- **Comprehensive Housing Affordability Strategy (CHAS).** The US Department of Housing and Urban Development (HUD) relies on custom tabulations from the ACS to develop the more detailed CHAS dataset. This information is intended to demonstrate the extent of housing needs and issues across communities, with a focus on low-income households. This information, available at a city level, provides detailed information about characteristics of the local housing stock, including the affordability of both rental and owner-occupied housing. The CHAS dataset also provides some household information, which can be cross-tabulated with housing information to link household characteristics with needs. Note that the most recent dataset, released in September 2021, relies on the 2014–2018 ACS dataset.
- **National Housing Preservation Database (NHPD).** The NHPD is an address-level inventory of federally assisted rental housing in the US. The data comes from HUD and the US Department of Agriculture (USDA). NHPD was created in 2011 in an effort to provide communities with the information they need to effectively preserve their stock of public and affordable housing.
- **Zillow.** The online real estate listings company Zillow provides some data on the real estate market free of charge. These datasets include information on rents, home values, inventory, and sales at the city, metro, and zip code levels. To address gaps in data, some of this information relies on information from the ACS to weight key values.

Part 2: Community Overview

2.1 LOCAL HISTORY AND SETTING

Medina occupies a large peninsula projecting into the central portion of Lake Washington on the lake's east side and contains approximately five miles of waterfront property. Seattle lies directly across the lake to the west and can be accessed via the SR 520 bridge. Medina is bordered on the northeast by the Town of Hunts Point, the east by the City of Clyde Hill, and on the southeast by the City of Bellevue.

Medina was initially settled by the Duwamish and Stillaguamish peoples until the Point Elliot Treaty of 1855, forcing all Native Americans to move to reservations to retain rights to natural resources and hunting lands. The Medina area was vacant when the first white settlers arrived in the 1870s. By the late 1880's, a handful of wealthy landowners purchased properties adjacent to Lake Washington and began developing residences and infrastructure. Residents were enabled to purchase and develop land as a result of the Homestead Act of 1862, which allowed settlers to purchase up to 160 acres of western land and gain ownership after the land was improved for living and farming.

Medina was platted in 1914 and officially incorporated over 39 years later, on August 19, 1955. Access to Seattle had improved by 1941 with the opening of a bridge crossing from the eastside, through Mercer Island, and ending in Seattle. Regional transportation and access improvements encouraged people to purchase property on the eastside of Lake Washington. The population between 1921 and 1955 boomed as the city began to develop services such as schools, churches, and roadways. Since then, the city's population has leveled out over time with no additional annexations possible and a majority of parcels having existing development.

Medina is primarily single-family residential development, with some limited non-residential development exists, such as the Wells Medina Nursery, gas station, Medina grocery store, the post office, Medina Elementary School, St. Thomas Church, St. Thomas School, Bellevue Christian School, and City Hall.

• photo of medina

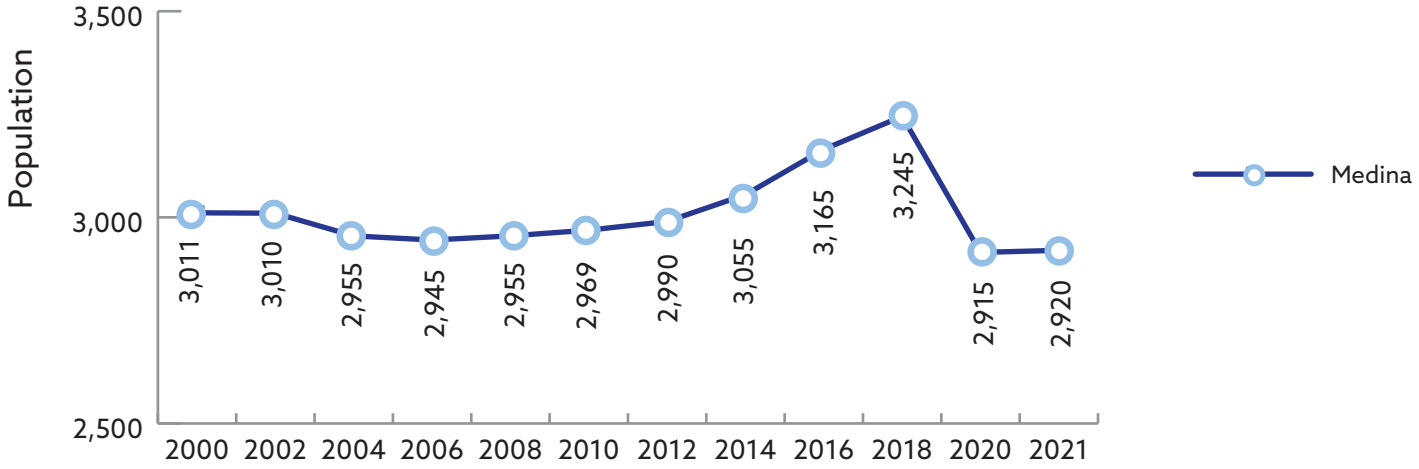
Photo 1: Medina, WA

2.2 POPULATIONS

According to the Office of Financial Management (OFM), Medina's population of 3,245 in 2019 had fallen to 2,920 in 2021.[1] As shown in Exhibit 1, the population since 2000 has hovered around 3,000 people. The community is unique; there is limited land available to accommodate population growth. Medina is one of the smallest cities in King County, spanning approximately 1.44 square miles. Medina's lands primarily consist of existing developed lands and uses and as such, there is limited developable lands available for growth. Between 2000 and 2021, the population had a growth rate of -3% indicating that the current city limits, land uses, and historical development pattern substantially limit population growth.

1 OFM has estimates of population to 2021, but 2019 is the year primarily used in this assessment due to 2019 being the most recently released American Community Survey (ACS) information at the time of writing.

Exhibit 1: Community Overview



Source: OFM, 2021.

According to the 2019 American Community Survey (ACS), the median age in Medina is around 47 years which is higher than King County's 37 years. Medina's population skews older, with over 40% of Medina's population being over the age of 50 while the County has approximately 33% of its population over 50. Additionally, Medina has a substantially larger youth population (under 20) at 28.5%, which his 6% more than the County.

Medina has a sharp decrease in the 29 to 40 age group. King County residents between ages 29 to 40 make up approximately 46% of the population. Medina is proportionally smaller with adult ages between 29 to 40 making up only 29.5% of the population.

Medina has proportionally a lower workforce population (20 to 64) than the County overall by a margin of 10%.

Exhibit 2: Population by Age Range

2019	Medina		King County	
Median Age	46.7	46.9	37.8	36.3
75 and over	8%	9%	6%	4%
65 to 74	10%	9%	8%	7%
55 to 64	12%	15%	12%	12%
45 to 54	23%	19%	13%	14%
35 to 44	13%	11%	15%	15%
25 to 34	4%	3%	17%	19%
15 to 24	11%	11%	11%	12%
5 to 14	15%	17%	11%	12%
Under 5	2%	5%	6%	6%
	Female	Male	Female	Male
Totals:	1,688	1,673	1,094,888	1,100,688
65 and over	301 (18%)	294 (18%)	158,164 (14%)	126,168 (11%)
50 to 64	370 (22%)	407 (24%)	203,590 (19%)	202,607 (18%)
18 to 49	511 (30%)	455 (27%)	489,965 (45%)	519,556 (47%)
Under 18	459 (27%)	470 (28%)	243,131 (22%)	252,321 (23%)

Source: 2015-2019 ACS 5-year estimates.

Ethnicity, Race, and Language Spoken at Home

Similarly to King County overall, Medina's population is two thirds white. Medina has a similar breakdown of demographics to King County with a couple of key differences. King County overall has a lower percentage of Asian residents (18%) compared to Medina's Asian population (24%). The County has a greater percentage of Hispanics (10%) and Black or African Americans (6%), while Medina's population is 4% Hispanic and 1% Black or African American.

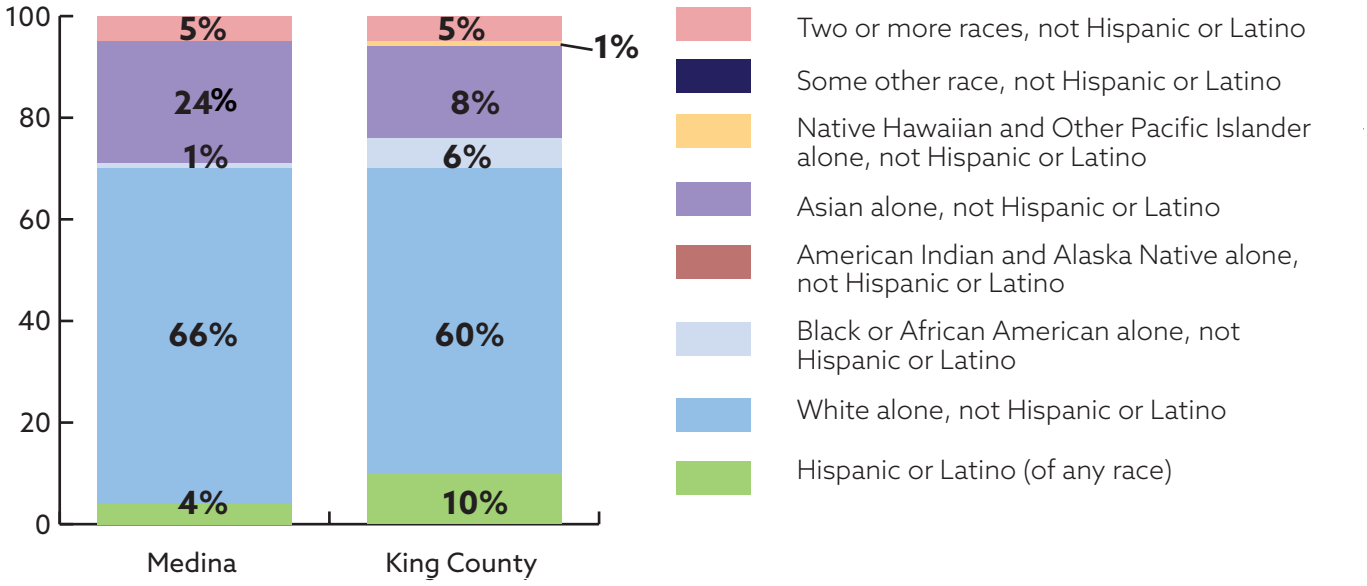
Approximately three fourths (74%) of residents only speak English at home, which is comparable to King County (72%), and 26% speak another language other than English at home. Medina has a higher frequency of Asian and Pacific Island language speakers (63%) compared to King County (43%).

There are some households with limited English proficiency meaning they may require access to language assistance services. All of Medina's households with limited English proficiency speaking Asian or Pacific Island based languages make up about 3% of households in the city.

Of residents that speak a language other than English at home, Medina has a significantly lower frequency of Spanish speakers (11%) than King County (24%).[2]

2 2015-2019 ACS 5-Year Estimates.

Exhibit 3: Race and Ethnicity of Population



Source: 2015-2019 ACS 5-year estimates.

2.3 HOUSEHOLDS

A household is a single person or a group of people, related or unrelated, who live in a single dwelling unit. Understanding the make-up of households across age, race, and sizes helps us to better understand how to provide housing options for the diverse range of household types.

Exhibit 4: Households by Housing Tenure

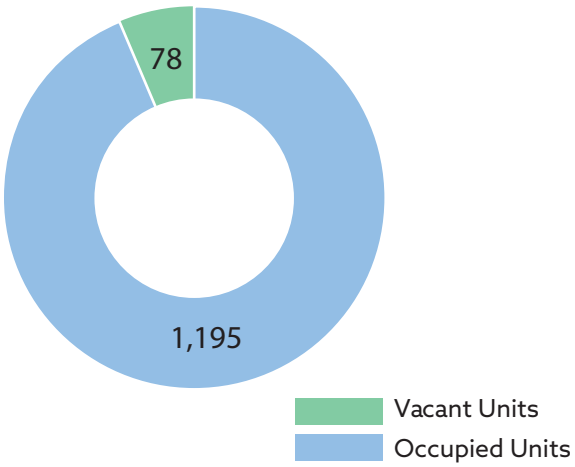
TYPE	CITY OF MEDINA		KING COUNTY	
	COUNT	PERCENTAGE	COUNT	PERCENTAGE
Owner Occupied	1,032	86%	502,293	57%
Renter Occupied	163	14%	379,735	43%
Total	1,195		882,028	

Household Tenure and Size

In 2019, there were 1,273 housing units in Medina, 94% of which are occupied. This indicates a 6% vacancy rate for all housing units. An occupied housing unit and household have the same meaning in the census. In Medina, 86% of households are owner households, compared to 57% in King County. This means only 14% of households are renter households.

As of 2019, the average household has 2.73 residents. Medina's typical household sizes have not significantly changed since 2000, which had an average of 2.71 residents. Owner occupied households have historically had a higher number of residents per unit than renter occupied units. As of 2019, owner occupied households had an average of 2.81 persons and renter occupied households had an average of 2.25 persons. Medina has a significant number of larger households, with 33% having four or more members. These larger households are primarily owner households, as 62% of renter households have only one or two people.[3]

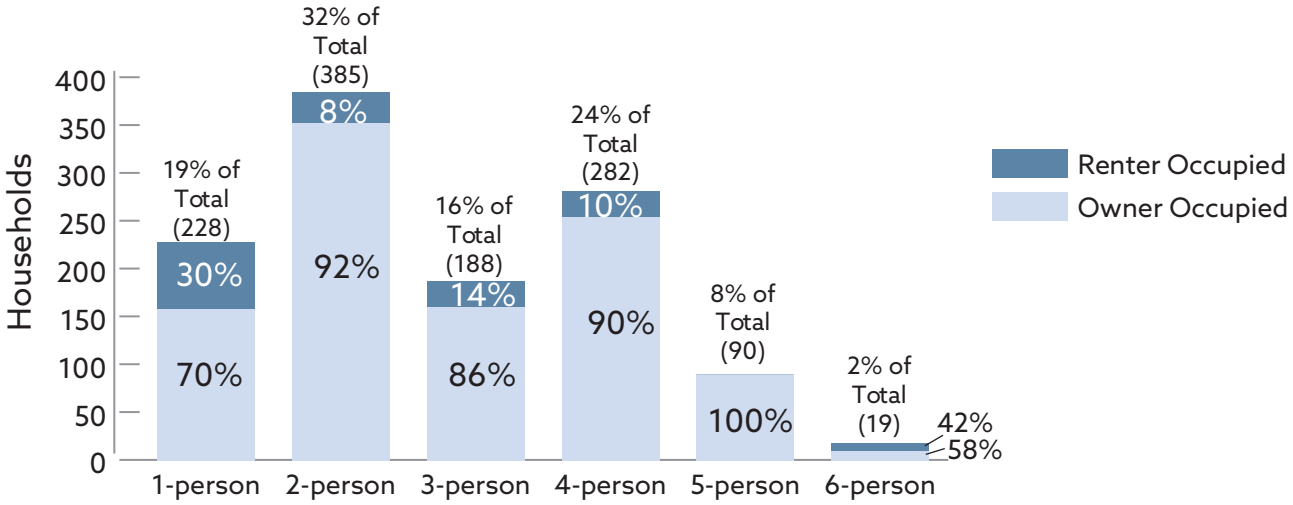
Exhibit 5: Occupied Housing Units



Source: 2015-2019 ACS 5-year estimates.

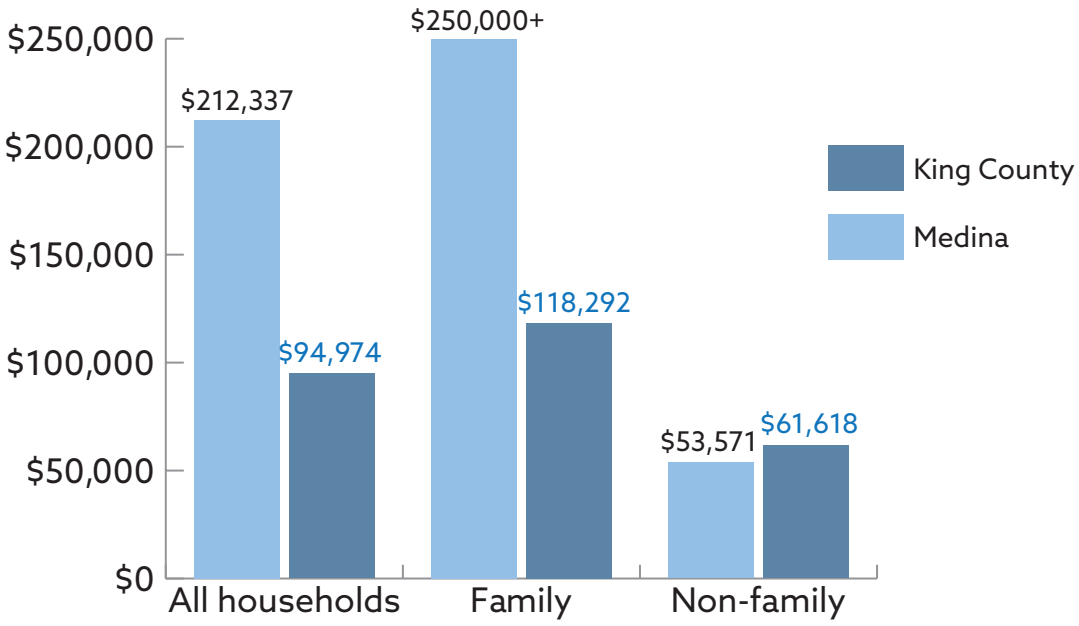
3 2015-2019 ACS 5-Year Estimates.

Exhibit 6: Household Size by Tenure



Source: 2015-2019 ACS 5-year estimates.

Exhibit 7: Median Household Income by Household Type



Source: 2015-2019 ACS 5-year estimates.

Household Income

Realizing the relationship and distribution of household income and housing prices is important to Medina's efforts to fully understand its housing needs. Medina's median household income is significantly greater than the income of a King County household. Medina households have a median income of $212,377 which is over twice the $94,974 that the King County median household makes. The 2019 ACS reports that Medina median family[4] household income is greater $250,000. Typically, this number would be a better estimate, but the 2019 ACS only breaks down income levels up to $250,000. Regardless, the actual median family income is still likely two times or more greater than the King County median family income ($118,292).

Non-family households in the City have a more comparable median income to King County differing by only $8,000. Medina non-family households make 9% less than non-family households in King County.

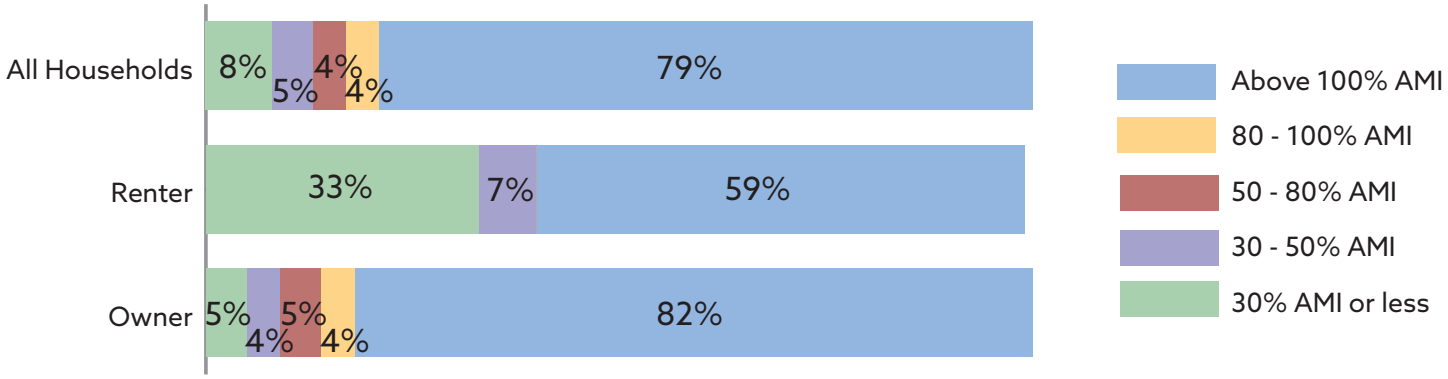
Another way to evaluate household income is to analyze the income distribution and its relationship to housing affordability through Area Median Family Income (AMI). The U.S. Department of Housing and Urban Development (HUD) defines AMI by the following income groups:

- Extremely Low Income: <30% AMI
- Very Low Income: 30-50 % AMI
- Low Income: 50-80% AMI
- Moderate Income: 80-100 % AMI
- Above Median Income: >100% AMI

Exhibit 8: Percentage of Households by Income Level and Tenure is a breakdown of Medina's AMI between owners and renters. Over four-fifths of owner households and three-fifths of renter households generate an income greater than 100% of the average median income. Owner households have an even distribution of AMI ranges with approximately 4-5% in all other categories. Renters do not have as even of an AMI distribution with the remaining 40% of rented households falling in the very low or extremely low-income group. One third of Medina renters are in the extremely low-income group.

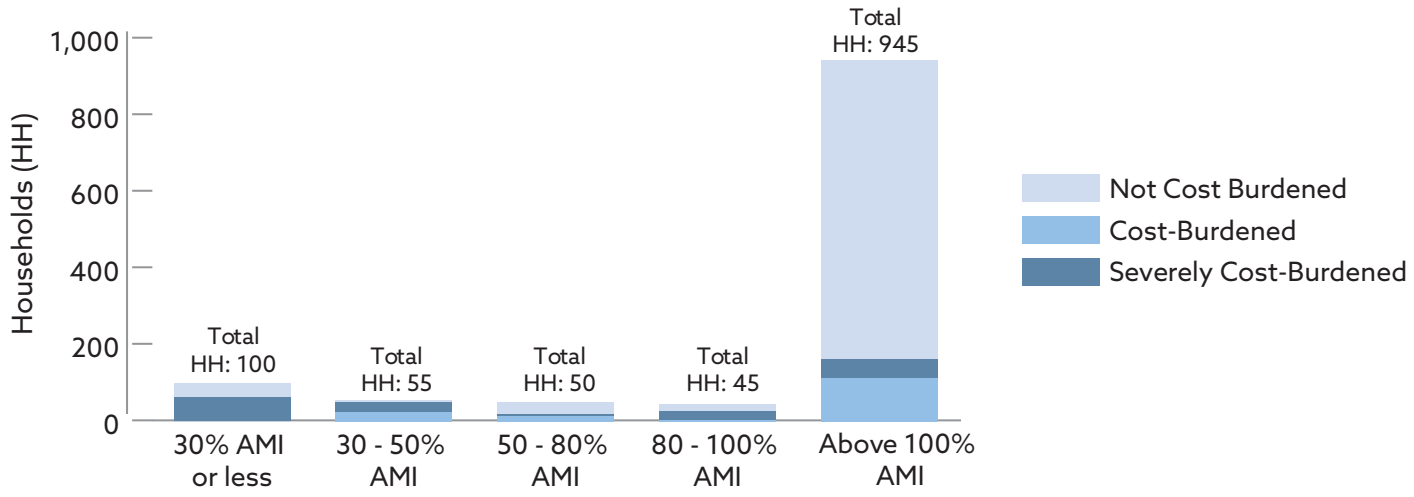
4 In the census, a "family" is a household where two or more people are related by birth, marriage, or adoption. Therefore, family incomes are typically higher than non-family and total household incomes due to the higher earnings from potential multi-income households.

Exhibit 8: Percentage of Households by Income Level and Tenure



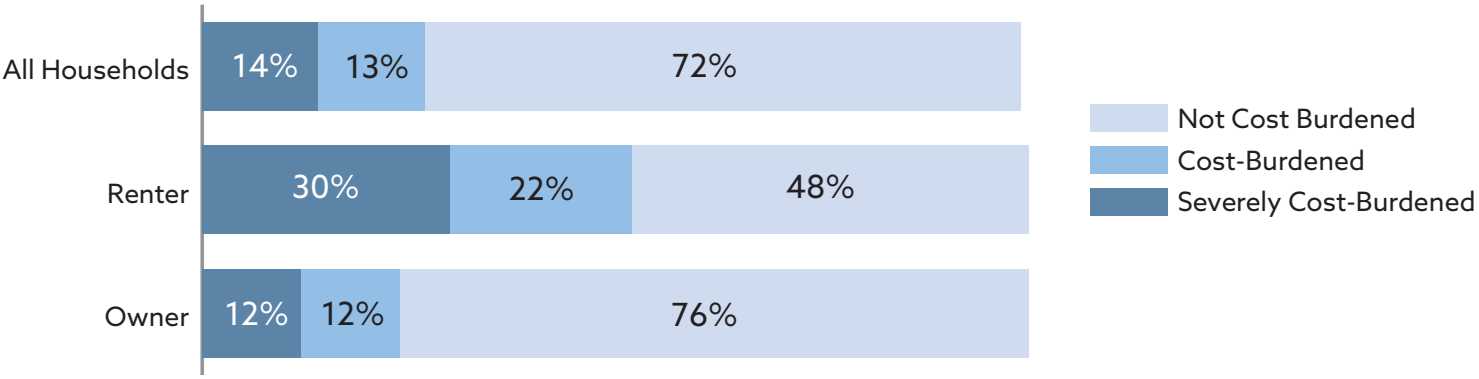
Source: HUD CHAS (based on 2014-2018 ACS 5-year estimates).

Exhibit 9: Households by Income Level and Cost-Burden Status



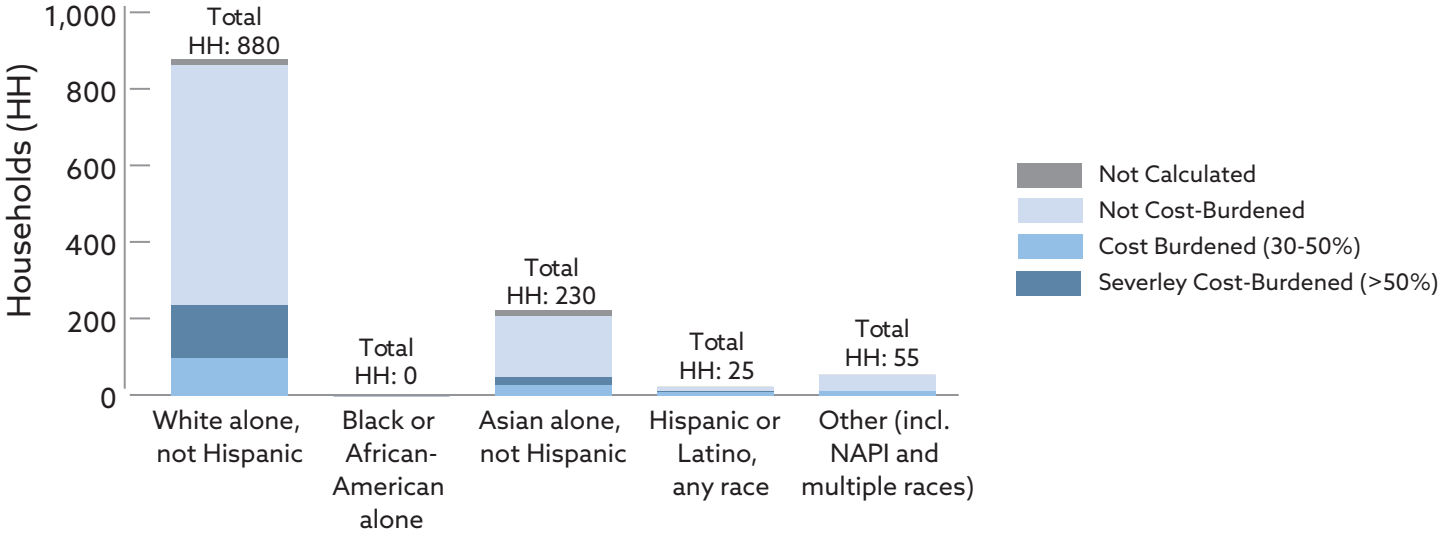
Source: HUD CHAS (based on 2014-2018 ACS 5-year estimates).

Exhibit 10: Proportional Cost-Burdened Households by Tenure



Source: HUD CHAS (based on 2014-2018 ACS 5-year estimates).

Exhibit 11: Cost-Burdened Household



Source: HUD CHAS (based on 2014-2018 ACS 5-year estimates).

Cost-Burdened Households

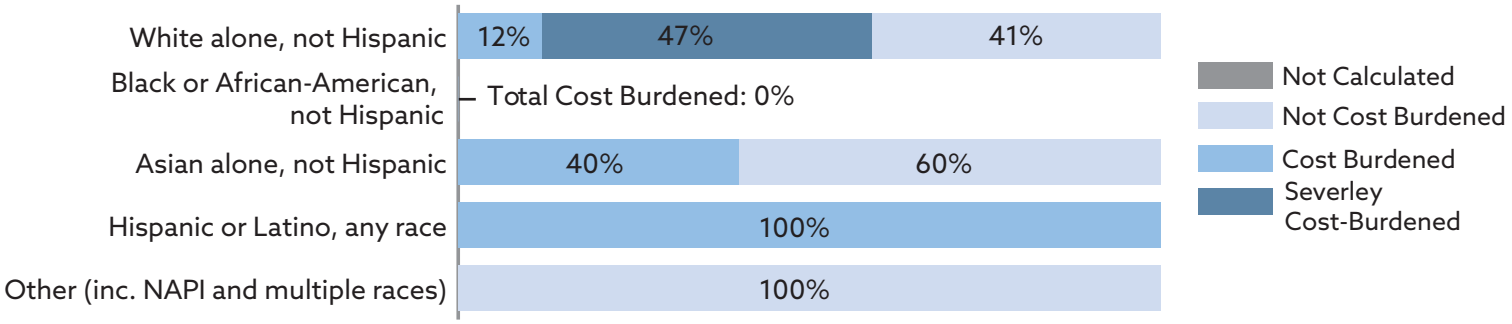
There are two primary income groups in Medina, those who earn above the median income and those who are extremely low income. High rent and property ownership costs lead to a lack of affordable housing in Medina for families or individuals that fall under the extremely low-income groups. About 30% of households are cost-burdened or severely cost-burdened.

There are disparities in who is experiencing cost burden between owners and renters. Of the 30% of households that are cost-burdened, 79% are owners compared to the 21% that are renters, but this is due to there being significantly more renters in the city compared to owners. When owner and renter households are separated, 52% of renters are cost-burdened or severely cost-burdened compared to 24% of owners. The majority of cost-burdened renter households are severely cost-burdened. Of cost-burdened owner households, half are cost-burdened, and half are severely cost-burdened.

There are some disparities in which racial groups are cost-burdened in Medina. Overall, the city's Hispanic households are more cost-burdened than white or Asian families. Nearly three-fourths of white and Asian households are not cost-burdened compared to 40% of Hispanic families. Tenure plays a role in affordability for Hispanic families as 100% of Hispanic renters are cost-burdened compared to 25% of owners that are severely cost burdened.

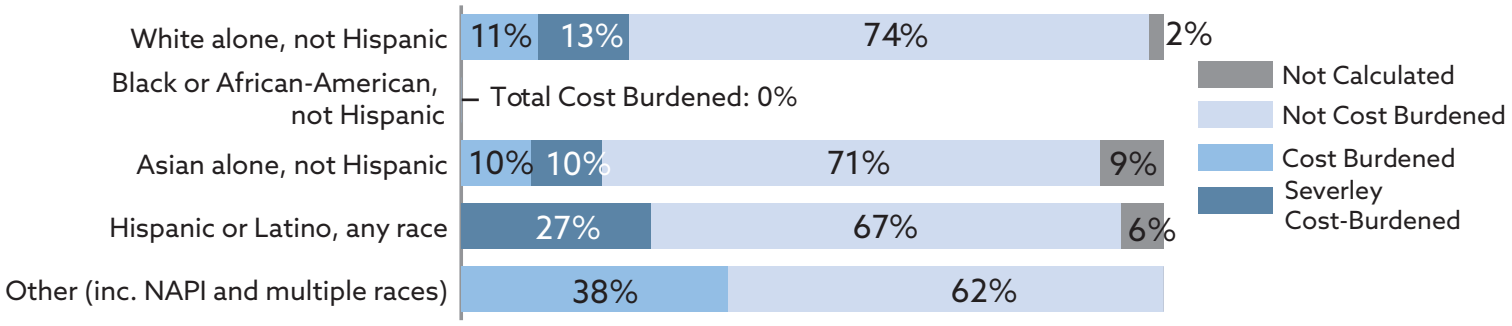
Some of Medina's white population is cost-burdened, and it appears to be related to tenure status. Approximately 24% of white homeowners are cost-burdened to some degree, and 13% are severely cost-burdened. Comparatively, 59% of white renters are cost-burdened with 47% being severely cost-burdened. Within the Asian population, the same percentage of owner households are cost-burdened as renter households (40%). However, half of the cost-burdened owner households are severely cost-burdened compared with none of the cost-burdened renter households.

Exhibit 12: Owners: Proportional Cost-Burden by Race and Tenure



Source: HUD CHAS (based on 2014-2018 ACS 5-year estimates).

Exhibit 13: Renters: Proportional Cost-Burden by Race and Tenure



Source: HUD CHAS (based on 2014-2018 ACS 5-year estimates).

What is cost-burdened?

Cost-burdened is a metric that was developed as an amendment to the federal 1968 Fair Housing Act by Senator Edward Brooke. Senator Brooke initially drafted the proposed amendment as a response to country-wide rent increases and complaints about services in public housing complexes by capping public housing rent at 25% of a resident's income.[1] The amendment, thereafter named the Brooke Amendment, passed in 1969 and was amended again in 1981 increasing the affordability cap to 30%.

Cost-burdened households are defined as households that spend more than 30% and less than 50% of their income on housing, and severely cost-burdened households spend more than 50% of their income on housing. Households need remaining income to afford other essentials such as food, utilities, transportation, childcare, and clothing.

In recent years, the metric has been up for debate among economists, planners, and affordable housing advocates because 30% is arguably an arbitrary number that may not be adequately representing actual cost burdens experienced in different household types. Incomes and cost of living factors vary greatly throughout the United States based on location and the robustness of the local and natural economies.

Or a household that spends greater than 30% on housing may live somewhere with better access to amenities or somewhere where they can take public transportation to work, thereby reducing their transportation costs, which is normally a household's highest expense following housing. Additionally, cost burden has the same metric for family and individual households, and owner and renter households. The economic burdens that a family may experience are vastly different than what an individual would experience, since families have additional members that require more essentials than an individual would have.

While a new metric for housing affordability is likely needed, the 30% approach still has some important uses cases. The severely cost-burdened measurement is still used by HUD in its Worst Case Housing Needs report to Congress of very low-income renting households that do not receive government housing assistance. The 30% cutoff for affordability also matches what assisted households are required to pay in HUD's Housing Choice Voucher program.

The history and flaws of the cost-burden metric are important to understanding the greater context to the purpose of the metric and how it should be critically considered in the overall Housing Needs Assessment. However, it is still widely agreed upon within the policy and advocacy community that households paying more than half of their income on housing is a serious issue that needs to be addressed.

1 HUD, "Rental Burdens: Rethinking Affordability Measures," 2014..

Displacement Risk

Displacement occurs when changing neighborhood conditions force residents to move and can create further financial pressures that impact job growth and housing distribution. Forecasting areas facing higher displacement risks can help cities be more aware of socioeconomic strains residents are coping with and prepare comprehensive policies that support racially and economically diverse communities.

The Puget Sound Regional Council (PSRC) issued a 2019 Displacement Risk Report[5] identifying areas where residents and business are at the greatest risk of displacement. The PSRC uses the following five generalized categories to calculate a city's score determining their respective risk level:

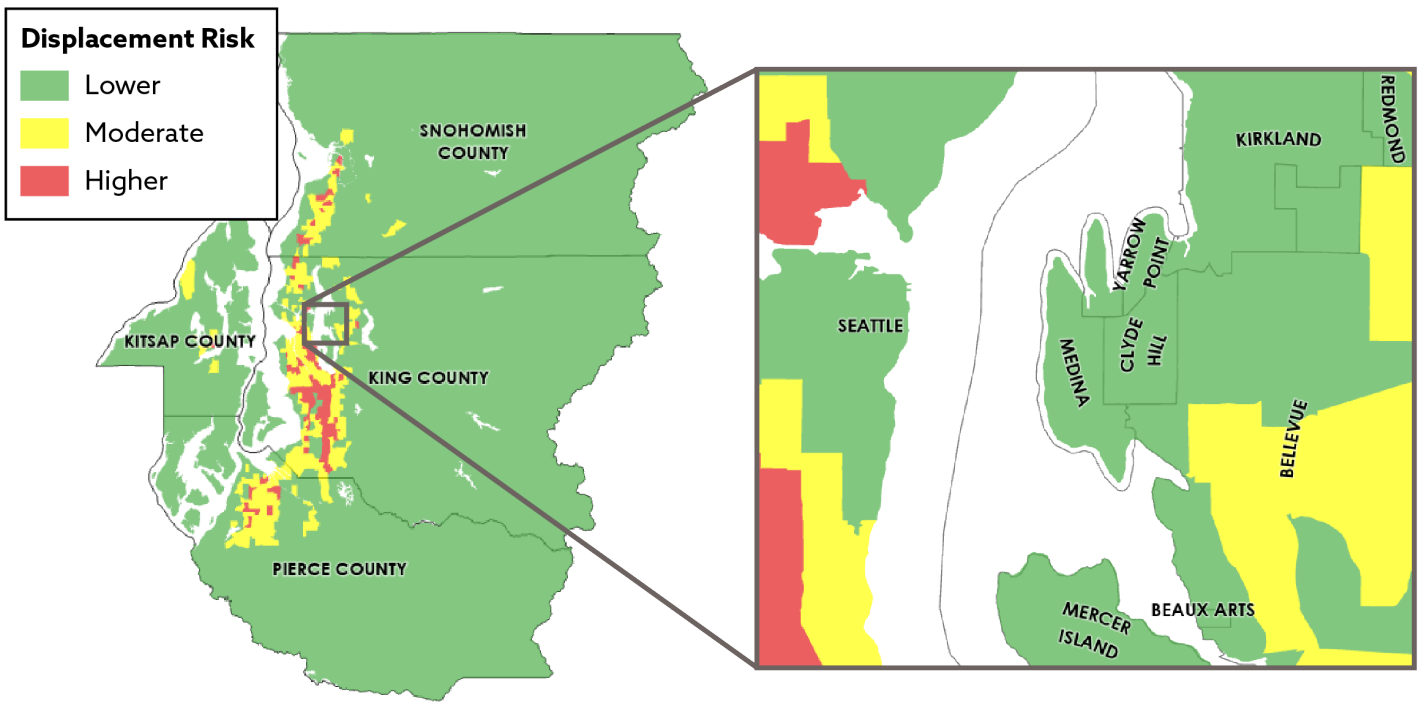
1. Socio-Demographics: Examines the race, ethnicity, linguistics, education, housing tenure and costs, and household income.
2. Transportation Qualities: Assesses access to jobs by car and transit and proximity to existing and/or future transit.
3. Neighborhood Characteristics: Analyzes the proximity of residents to services, retail, parks, schools, and high-income areas.
4. Housing: Reviews development capacity and median rental prices.
5. Civic Engagement: Measured by voter turnout.

Each category has multiple indicators that are standardized and weighted to determine an ultimate score. Each city's score is compiled into an overall index and risk level is determined by how the city fits in to the overall PSRC's data.

Scoring is broken down into three categories: high risk, moderate risk, and low risk. Exhibit 14: PSRC Displacement Risk shows the PSRC's Displacement Risk Map describing Medina's risk as low risk, meaning that Medina scored lower than more than half of other cities in Pierce, King, and Snohomish County.

5 PSRC, "Displacement Risk Mapping," 2019.

Exhibit 14: PSRC Displacement Risk



Source: PSRC, "Displacement Risk Mapping," 2019.

Residents with Special Housing Needs

While it is vital to understand which households are struggling with housing costs across all economic segments of the community, it is also important to analyze how different household types are affected because of their distinct characteristics. Residents who are disabled may have special housing needs or require supportive services. They may be on a limited budget and have higher medical costs than the average household. Exhibit 15: Households by Disability Status takes all the households with one or more housing problems (incomplete kitchen facilities, incomplete plumbing facilities, more than 1 person per room, or cost-burdened) and shows which of these households also has one or more member that falls into one of the four general disability categories. About 7% of households with a housing problem also have a disability status. It is important to be aware of these populations as the City is planning how to address the housing needs of the city as a whole.

Exhibit 15: Households by Disability Status and Income Level

DISABILITY STATUS	EXTREMELY LOW INCOME (≥30% AMI)	VERY LOW INCOME (30-50% AMI)	LOW INCOME (>50% AMI)	MODERATE INCOME (80-100% AMI)	TOTAL HOUSEHOLDS WITH 1 OR MORE HOUSING PROBLEM
Hearing or Vision Impairment	0	4	4	4	12
Ambulatory Limitation	0	0	0	0	0
Cognitive Limitation	0	0	0	0	0
Self-Care or Independent Living Limitation	0	10	0	0	10
None of the Above	65	35	15	185	300
Total	**65**	**49**	**19**	**189**	**322**

Source: HUD CHAS (based on ACS 2014-2018 5-year estimates).

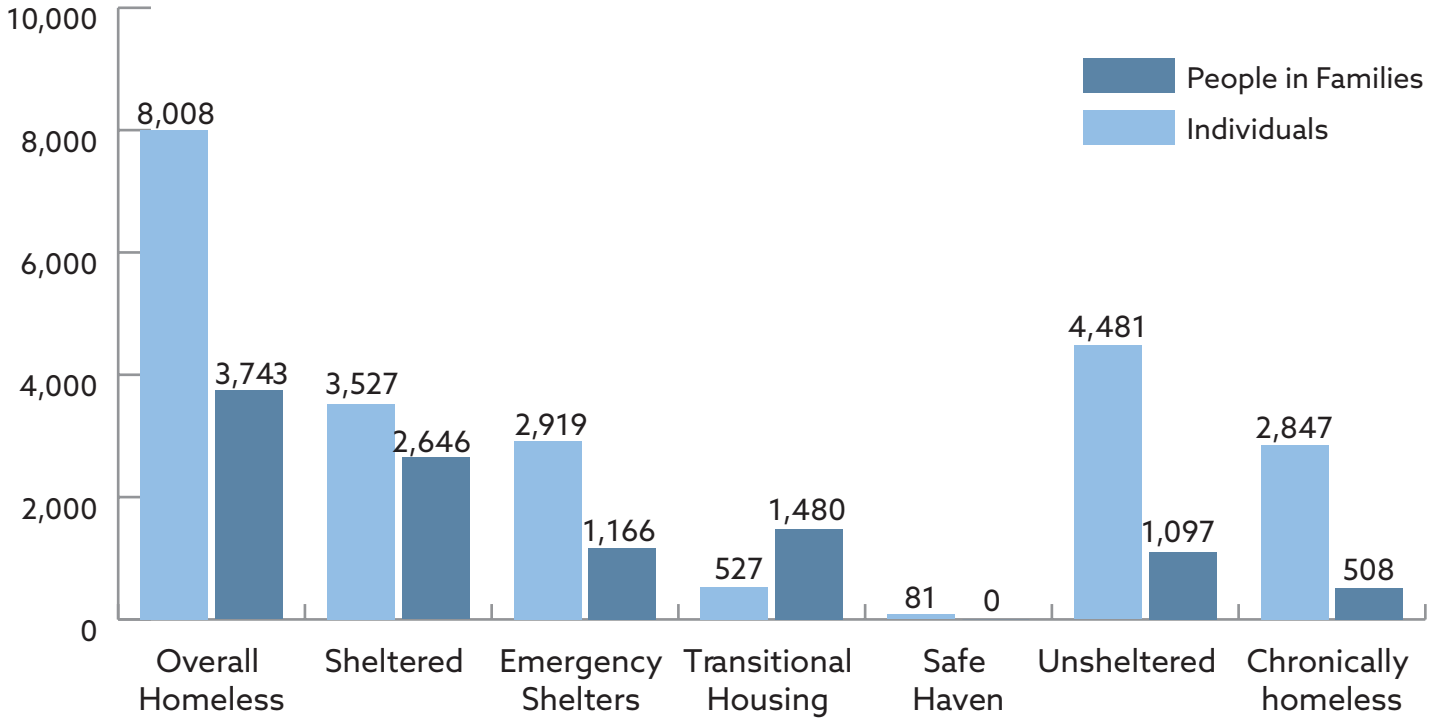
Homelessness

As of 2020, there has been a 5% increase in people experiencing homelessness in King County since 2019.[6] HUD estimates the number of homeless individuals and counts people in shelters, soup kitchens, and identified outdoor locations by working with local service provides to record an accurate count of homeless individuals, but it is likely that the number is underreported since service providers range in location, availability, and staffing. According to the 2020 Point-in-Time (PIT) Count, approximately 11,750 individuals or people in families are experiencing homelessness in the County and only about half are in shelters. The remaining half are those who are unsheltered or chronically homeless. A summary of the count results is shown in Exhibit 16: Point in Time Count 2020.

6 King County Regional Homelessness Authority, "Seattle/King County Point-in-Time Count of Individuals Experiencing Homelessness," 2020.

The intent of transitional housing is generally to house individuals or families for a limited time after a crisis, such as homelessness, job loss, or domestic violence, and is typically ranges from two weeks to two years. Transitional housing is a strategy in addressing the homeless crisis in longevity by setting people up for success by creating temporary housing security. Medina has no transitional housing. Medina also has no subsidized or income-restricted housing developments. Subsidized housing is important since it can potentially provide more permanent housing for homeless individuals or families that have little or no income. However, as a member city of A Regional Coalition for Housing (ARCH), it does contribute funding to the Housing Trust Fund. The fund invests local funding from ARCH member cities to create and preserve affordable homes for low- and moderate-income incomes and individuals in East King County. Between 1993 and 2012, a total of 4 moderate- and low-income units had been created through direct assistance from Medina.

Exhibit 16: Point in Time Count 2020



Source: HUD, 2020.

How will the HNA and HAP address homelessness?

According to a report published by the Department of Commerce in 2017, the number of people experiencing homelessness has been increasing in Washington since 2013 following 8 years of steady improvement. Through an examination of the potential drivers of the upward trend, it was found that the increase is overwhelmingly caused by growing rents that have driven people at the margins into homelessness. It also looks at other perceived causes of homelessness such as family instability, overall alcohol and drug dependence, lower educational attainment, all of which have been declining since 2013.

One factor that has intensified the problems caused by rent increases is very low vacancy rates. With low vacancy rates, people are priced out of one place and find it difficult to find another even when they have sufficient income or rental assistance to pay market rents. Vacancy rates below 3% are generally considered too low and can lead to housing price inflation.

In addressing the issue of homelessness, there has to be consideration given both to how to meet the needs of the people already experiencing homelessness and to how to prevent people from becoming homeless in the first place. As for the former, addressing the needs of the homeless population requires a multi-faceted systemic approach that includes housing, but also requires human services, health services, job trainings, and much more. Many of these factors are beyond the scope of what is covered in this Housing Needs Assessment and what can be confronted through a housing action plan. However, regarding the latter, considering the factors that may push people into homelessness and attempting to negate those is within the scope of the HNA and HAP, this proactive approach is still essential to addressing the issue at large.

2.4 WORKFORCE PROFILE

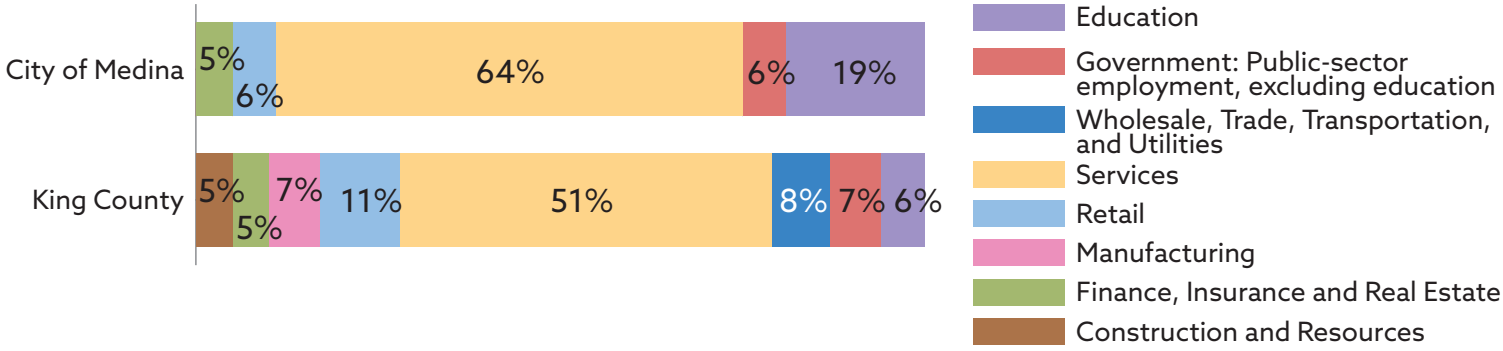
Citywide Employment

According to PSRC, the largest industry sectors available for employment in Medina are services (69%) followed by Education (19%) with a total of 463 jobs as of 2020. Services is also the major industry sector in King County at 51% followed by Retail (11%). The major industry sectors are compared proportionally in Exhibit 17: Employment by Industry.

Exhibit 18: Jobs Held by Residents by NAICS Industry Sector is a table that displays within which industry sectors residents of Medina work compared with residents of the county. Most residents of Medina work in Information (17%) which is the third most worked in industry for the county (9%). Health Care and Social Assistance is largest employment sector for county residents at 13%. Professional, Scientific, and Technical Services is the second most worked in industry for both the city (13%) and county (10%).

The City has a far greater number of housing units compared to jobs, providing nearly three times as much housing as jobs. King County has a jobs to housing ratio of about 1.48 (Exhibit 19: Jobs to Housing Ratio). A jobs to housing ratio in the range of 0.75 to 1.5 is typically considered ideal for reducing vehicle miles traveled, meaning it is more likely people can live near where they work. Commuting is discussed further in the next section. The primary land use in Medina is single-family residential, and there are limited number of properties zoned and operating as commercial uses. Exhibit 20: Job Density describes the concentration and density of jobs, demonstrating the City's limited employment sector. Medina has no undeveloped parcels and does not anticipate job growth within the city limits.

Exhibit 17: Employment by Industry



Source: PSRC, 2020.

Exhibit 18: Jobs Held by Residents by NAICS Industry Sector

JOBS HELD BY RESIDENTS	CITY OF MEDINA		KING COUNTY	
	COUNT	PERCENTAGE	COUNT	PERCENTAGE
Agriculture, Forestry, Fishing and Hunting	3	0%	4,089	0%
Mining, Quarrying, and Oil & Gas Extraction	0	0%	342	0%
Utilities	1	0%	3,923	0%
Construction	39	4%	50,383	5%
Manufacturing	62	7%	80,341	8%
Wholesale Trade	37	4%	44,981	4%
Retail Trade	76	8%	89,992	8%
Transportation and Warehousing	27	3%	42,669	4%
Information	160	17%	98,152	9%
Finance and Insurance	53	6%	35,431	3%
Real Estate and Rental and Leasing	20	2%	22,636	2%
Professional, Scientific, and Technical Services	120	13%	105,916	10%
Management of Companies and Enterprises	20	2%	26,028	2%
Administration & Support, Waste Management and Remediation	51	5%	61,451	6%
Educational Services	46	5%	83,551	8%
Health Care and Social Assistance	75	8%	133,494	13%
Arts, Entertainment, and Recreation	19	2%	24,003	2%
Accommodation and Food Services	72	8%	90,940	9%
Other Services (excluding Public Administration)	36	4%	38,659	4%
Public Administration	14	2%	29,301	3%
Total	931		1,066,282	

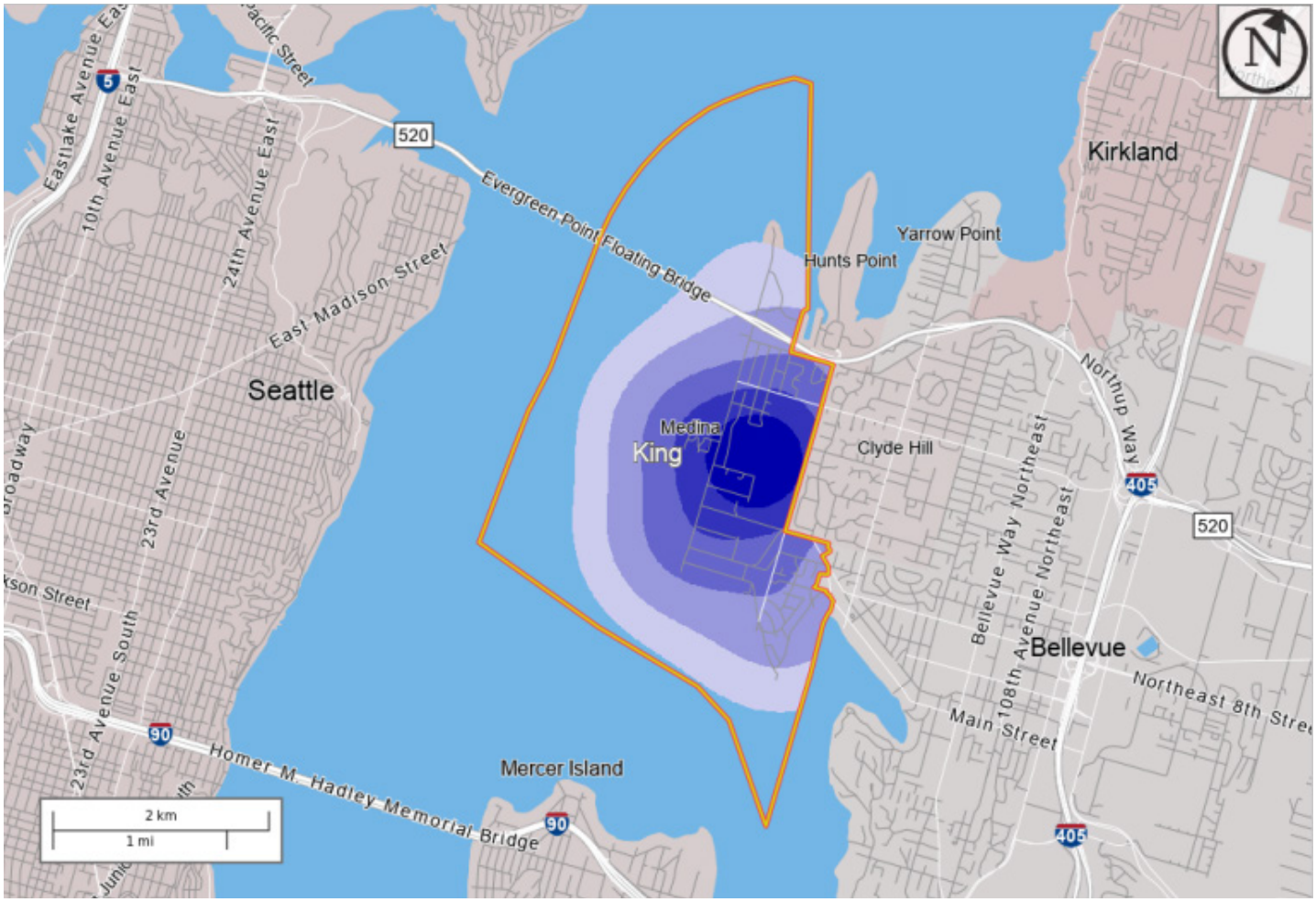
Source: OnTheMap, 2019.

Exhibit 19: Jobs to Housing Ratio

	CITY OF MEDINA	KING COUNTY
Jobs	463	1,430,940
Housing Units	1,131	969,234
Jobs-to-Housing Ratio	0.41	1.48

Source: PSRC, 2020; OFM, 2020.

Exhibit 20: Job Density



Source: OnTheMap, 2019.

- 5 - 27 Jobs/Sq.Mile
- 28 - 93 Jobs/Sq.Mile
- 94 - 203 Jobs/Sq.Mile
- 204 - 357 Jobs/Sq.Mile
- 358 - 555 Jobs/Sq.Mile

Commuting

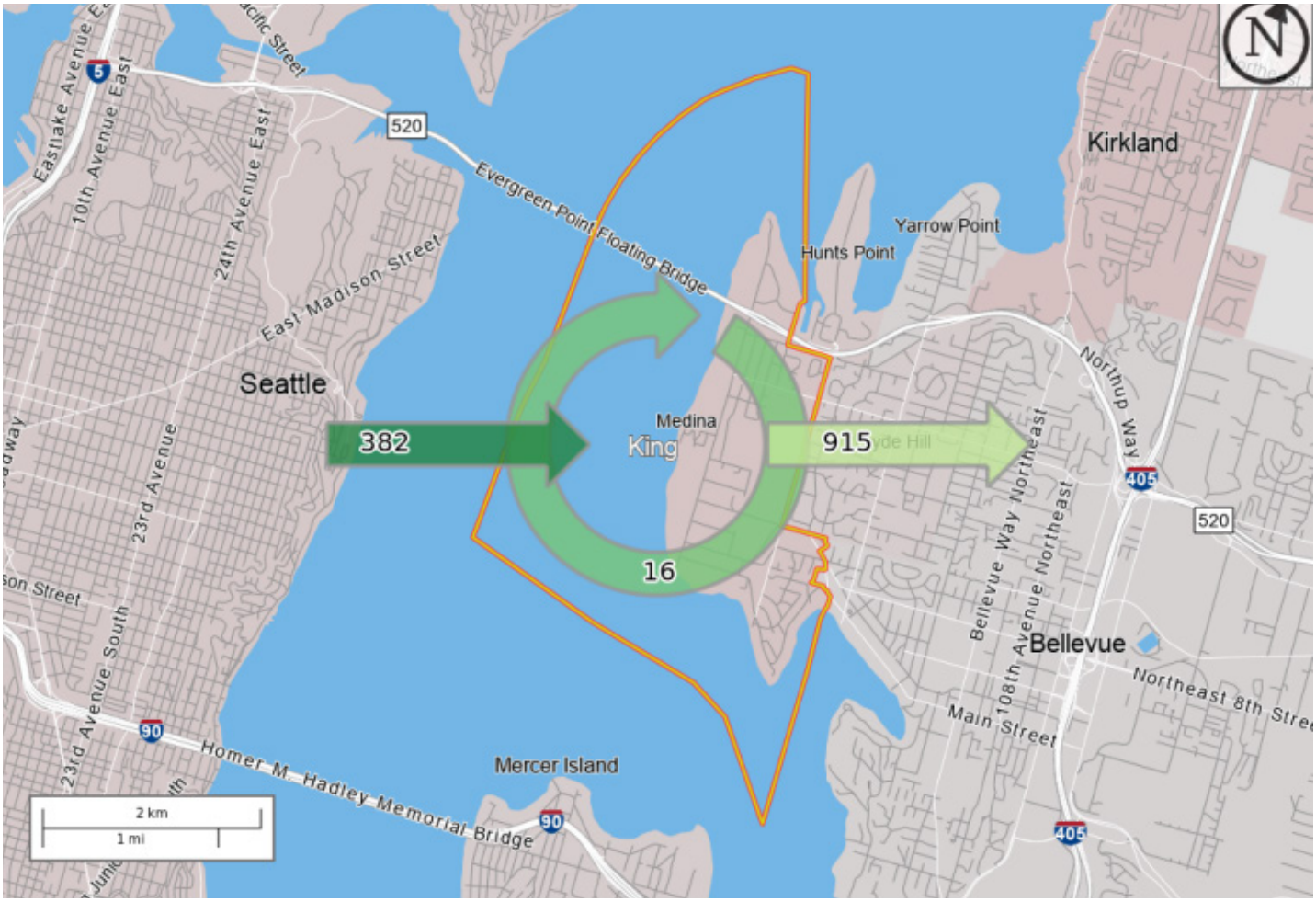
A factor to consider related to employment is the distance someone travels to and from work. Because a person's job is often the place they travel to the most, the distance between home and their place of employment matters as it relates to what they spend on transportation costs. After housing costs, transportation costs are generally a household's second largest expense. A picture of affordability is not complete without considering transportation.

Census OnTheMap data reveals only about 16 residents both live and work in Medina. Over 90% of Medina's workforce and residents are traveling between 1 and 24 miles to their jobs. Exhibit 21: Inflow/Outflow Counts of all Jobs shows the inflow and outflow of people commuting to work or who is entering and leaving the city for work. A vast majority of the workforce (96% or 382 people) lives outside the city's limits with one in ten traveling 24 miles or less to Medina. Medina's workforce primarily lives in Seattle (15%), Bellevue (15%), or Kirkland (7%).

Medina residents typically commute to Seattle (32%), Bellevue (18%), or Redmond (12%) for employment as shown in Exhibit 22: Employment Locations of Residents. Similarly to people who commute to Medina for employment, nine in ten residents travel less than 24 miles to work.

It should be noted that this data is from 2019 and therefore from prior to the COVID-19 pandemic, which had a large effect on traditional commuting patterns. There was a period when most non-essential workers were working from home, thereby likely not incurring the transportation costs to which they had been accustomed. While many places of employment have shifted back to requiring employees to come back to the office full-time or allowing more of a hybrid approach, it is still too soon to exactly the determine the lasting impacts the pandemic will have on the daily commute. Regardless, remote work seems like it will remain an option, even if not every day of the week, long-term for many employees. While transportation costs associated with a commute may not hold the same power as a factor when someone is choosing where they are going to live as it once did, it is still important to note when thinking about overall location affordability. Location affordability and the metrics that are considered are discussed later in this report.

Exhibit 21: Inflow/Outflow Counts of all Jobs



Source: OnTheMap, 2019.

Exhibit 22: Employment Locations of Residents

WHERE WORKERS WHO LIVE IN MEDINA ARE EMPLOYED	CITY OF MEDINA	
	COUNT	PERCENTAGE
Seattle, WA	300	32%
Bellevue, WA	171	18%
Redmond, WA	109	12%
Kirkland, WA	43	5%
Everett, WA	31	3%
Renton, WA	26	3%
Medina, WA	16	2%
Issaquah, WA	15	2%
Kent, WA	14	2%
Tukwila, WA	14	2%
All Other Locations	192	21%
Total	931	

Source: OnTheMap, 2019.

Employment Projections

Long term employment projects are prepared by the Washington State Employment Security Department (ESD) based on estimates of average annual job openings and population growth and breaks down anticipated employment projections by industry for counties or groups of counties. The 2021 ESD Projections Report contains estimates for a 5 and 10-year window in King County. The industries anticipating the largest growth between 2019 and 2029 are information, retail, and business/professional services with an average growth rate of 4.2%, 2.8%, and 1.2% respectively.

KEY TAKEAWAYS: COMMUNITY OVERVIEW

Populations

- The overall population is decreasing in the City, with the average growth rate between 2000-2021 at -3%. Medina is skewed towards having an older population with 46.8 years as the average resident age and is higher than King County's average of 37 years.
- The 20-62 age group makes up just under one third of the City's population and has a lower proportion of employment aged individuals than King County.
- Medina is predominately a white (64%) community with a higher ratio of Asian and Pacific Islanders (24%) and lower ratio of Hispanics (4%) and African Americans (1%) compared to the overall County.
- Families primarily speak English at home (74%). Of the 26% that do not speak primarily speak English at home, two thirds speak an Asian and Pacific islander language and one fourth speak an Indo-European language.

Households

- Medina is primarily a home-owner community with 86% of dwelling units being owner occupied and 14% being renter occupied. There is a low vacancy rate (6%) indicating a high demand for housing.
- The average household size is 2.73 residents and has not significantly increased since 2000. Owner occupied homes have a higher average family household size (2.81 persons) than renters (2.25 persons).
- Medina households have a median income of $212,377 which is double what the median County household earns. Families had a median income beyond the highest recorded income brackets ($250,000) for the 2019 ACS. Nonfamily households' average income was $54,000.
- Renters experience the most financial strain, with 22% of renters being cost-burdened and 30% severely cost-burdened.
- PSRC determined the city as a whole falls under the low displacement risk category.

Workforce Profile

- Medina will have limited employment growth since all Medina properties are developed and primarily zoned exclusively for residential uses.
- The jobs to housing ratio is 0.32, and indicates there is nearly three times as many housing units than jobs.
- Nine out of ten residents commute between less than 24 miles to work, most likely in Seattle, Bellevue, or Redmond.
- 96% of Medina's workforce lives outside the City and are most likely living in Seattle, Bellevue, or Kirkland. The top two industry sectors for employment in Medina are Services (64%) and Education (19%).

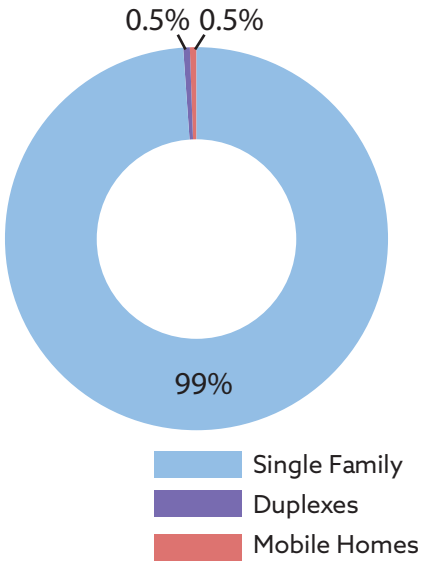
Part 3: Housing

3.1 HOUSING INVENTORY
Housing Units by Type and Size

As of 2021, there are 1,132 housing units in Medina, representing a 2.8% decreased in supply since 2000. Exhibit 24: Housing Inventory by Type describes the breakdown of housing units by type; 99% of the housing units are single family detached homes and the remaining 1% are comprised of either duplexes or mobile homes. There are no single family attached or multifamily developments in the city.

While over half of all households contain only one or two people, one-bedroom and two-bedroom units comprise just 8% of the city's housing stock. This means 92% of housing units in Medina have three or more bedrooms, with 20% having 5 or more. There is an oversupply of larger units compared to the distribution of household sizes.[7]

Exhibit 24: Housing Inventory by Type

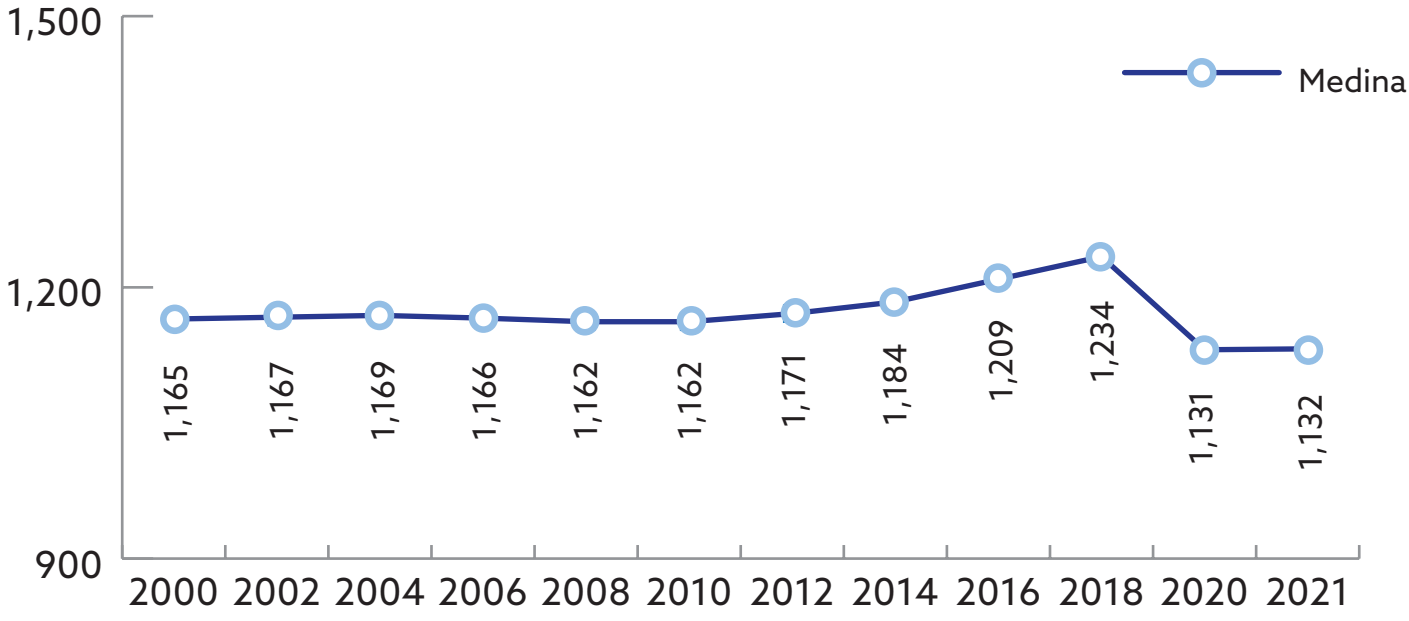


Source: 2015-2019 ACS 5-year estimates.

Housing Age and Production

7 *Source: 2015-2019 ACS 5-year estimates.*

Exhibit 23: Housing Units, 2000 to 2021



Source: OFM, 2021.

Exhibit 25: Age of Housing Stock describes the age of housing units in Medina by when the structures were built. A third of the current housing stock was constructed before 1959, with 22% being built between 1950 and 1959, representing the post World War II housing boom. As these homes continue to age, there will be a greater need to repair, maintain, and rehabilitate older structures. Another third of the housing stock was developed between 1960 and 1989, with the largest growth happening between 1960 to 1969. The last third was constructed between 1990 and present-day, with 16% constructed in the decade between 2000 and 2009.

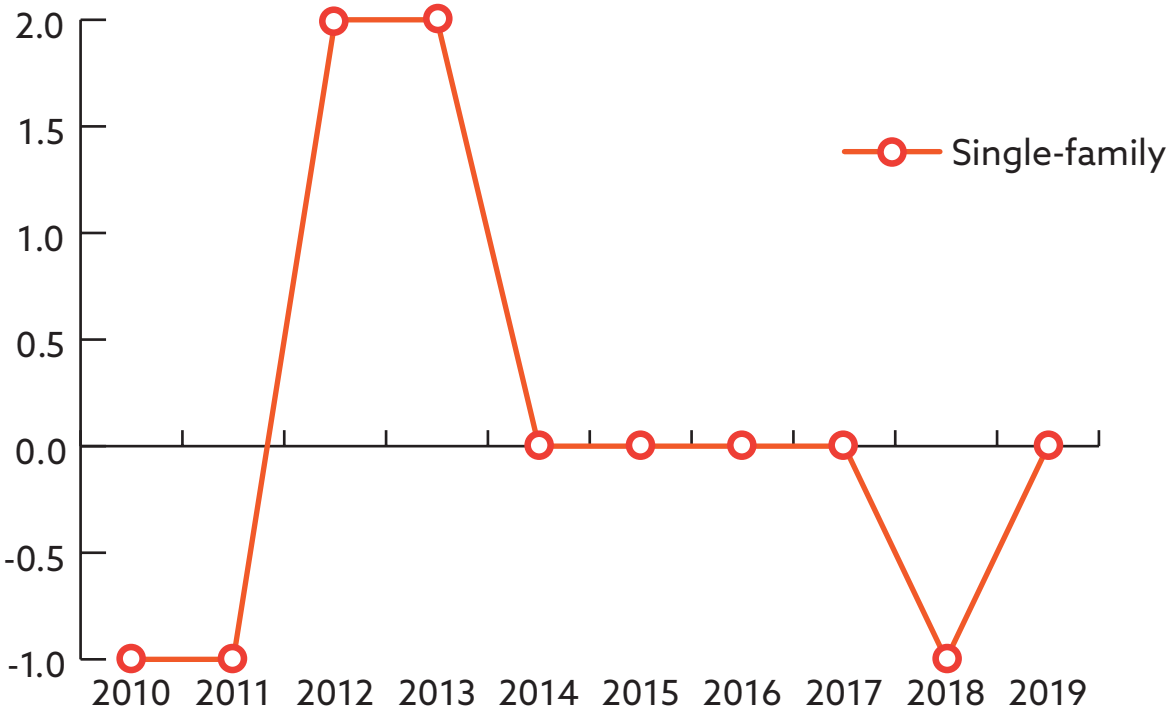
The PSRC records permit data on housing units and record net gains and losses by unit type, as shown in Exhibit 25: Age of Housing Stock. Between 2010 and 2019, the City lost an average of four housing units and gained an average of 4 new units annually. As mentioned previously, the total number of housing units in Medina has actually decreased by nearly 3% since 2000, indicating that new construction is primarily occurring through redevelopment of existing properties. A major increase in permits occurred between 2012 and 2013 with 34 permits being issued, 100% of which went toward the construction of single-family units. No multifamily or mobile home units were permitted between 2010 and 2019.

Exhibit 25: Age of Housing Stock

BUILT DATE	CITY OF MEDINA	
	COUNT	PERCENTAGE
Built 2014 or later	38	3%
Built 2010 to 2013	11	1%
Built 2000 to 2009	200	16%
Built 1990 to 1999	152	12%
Built 1980 to 1989	98	8%
Built 1970 to 1979	145	11%
Built 1960 to 1969	200	16%
Built 1950 to 1959	280	22%
Built 1940 to 1949	57	4%
Built 1939 or earlier	92	7%
Total	1,273	

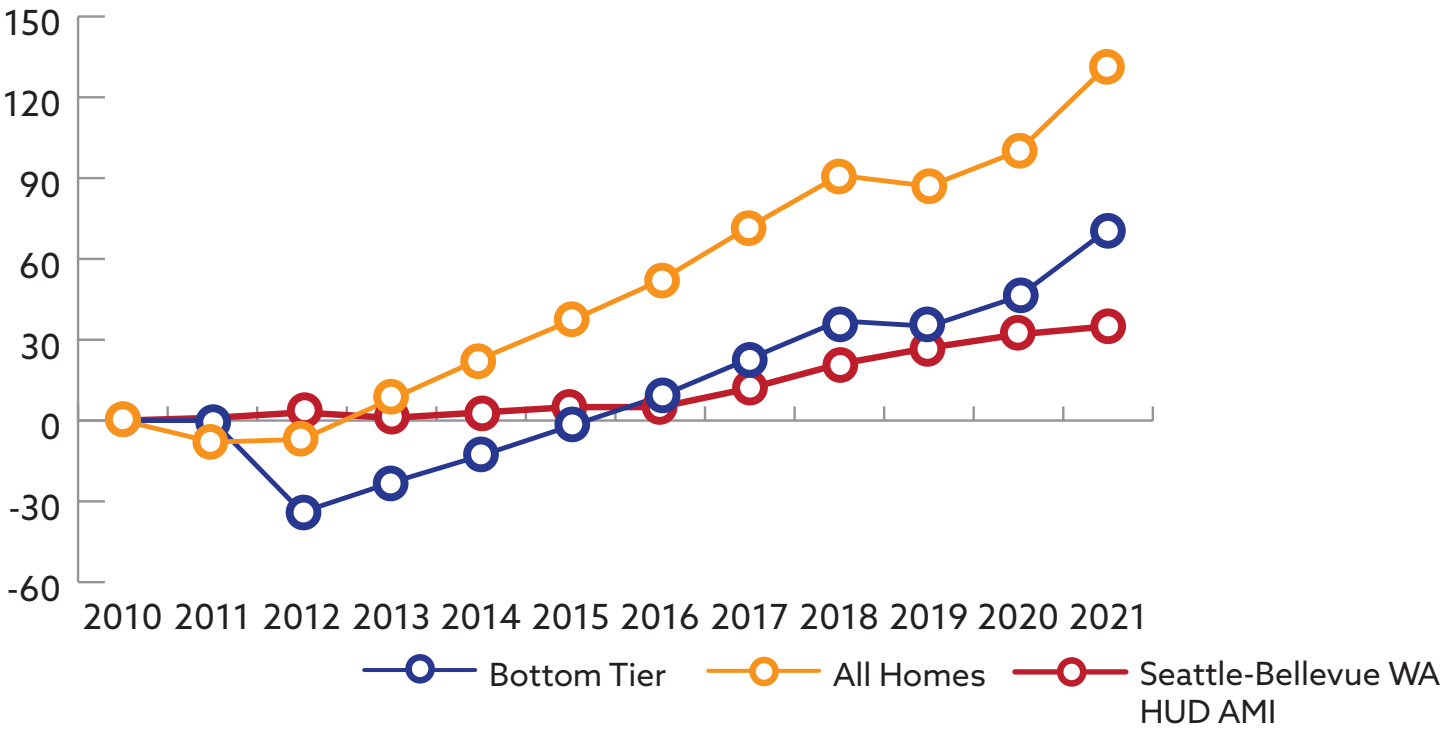
Source: 2015-2019 ACS 5-year estimates.

Exhibit 26: Permitted Units, 2010 - 2019



Source: PSRC, 2019.

Exhibit 27: Percent Change in Median Home Values and HUD Area Median Income Since 2010



Source: Zillow Home Value Index, 2021; HUD, 2021.

3.2 HOME OWNERSHIP

Home ownership is an important topic to consider since it is the main way most American families accumulate generational wealth. There are also typically more home ownership opportunities compared with rental opportunities in advantaged neighborhoods, which provide access to higher performing school districts, amenities, and social capital that can lead to better opportunities. Approximately 81% of housing units in Medina are owner-occupied. Of households that are owner occupied, approximately 73% are white, and 24% are Asian.

Exhibit 28: Age of Owners show the home ownership rate by age group. The represented age is that of the householder.[8] The 65 to 74 and the 85 years and over age groups have the highest rates of ownership, at 100% each. Generally, as age increases so does the home ownership rate, and eight of ten households that are 45 or older are owner households. Households that are 35 years old and younger have the lowest ownership rate at just over half of households in that age group.

Low ownership rates are typical for this range and are due to lack of wealth accumulation from minimal years in the work force, high amounts of student loan debt, and the high cost of ownership.

Exhibit 27: Percent Change in Median Home Values and HUD Area Median Income Since 2010 shows the percent change in median home value and bottom tier home value from 2010 to 2021 in comparison to the percent change in HUD AMI. The data reflects the decrease in home value following the Great Recession at the end of the 2000s. However, median home values have been increasing since 2013. In 2021, the median home value in Medina was $3,548,000 which is over twice the median home value of $1,529,000 in 2010. This is reflective of the regional population boom and increasing housing shortage. Bottom tier homes in Medina, which are described by Zillow as those in the 5th to 35th percentile of all units by value, followed a similar trend and grew 147% since 2010 which is a higher percentage the median home value increase. In 2021, the average bottom tier home cost $2,615,000.

Exhibit 28: Age of Owners

AGE OF HOMEOWNERS	CITY OF MEDINA	
	COUNT	PERCENTAGE OF HOUSEHOLDS IN AGE GROUP
Under 35 years	19	54%
35 to 44 years	132	69%
45 to 54 years	308	86%
55 to 64 years	237	94%
65 to 74 years	171	100%
75 to 84 years	100	81%
85 years & up	65	100%
Total	1,032	

Source: 2015-2019 ACS 5-year estimates.

Over the same period, Seattle-Bellevue area median income has also grown but not at the same rate as housing values. Between 2010 and 2021, the Seattle-Bellevue AMI was fairly stagnant the first half of the decade but grew to $115,700 by 2021, which is a 35% increase from 2010. In 2019, the household median income in Medina was $212,337[9], which is over double the Seattle-Bellevue, WA HUD AMI of the same year. The key takeaway here is that median housing costs have far outpaced regional wage growth, meaning that ownership affordability is getting further and further out of reach.

8 The householder refers to the person (or one of the people) in whose name the housing unit is owned or rented.

9 2015-2019 ACS 5-year estimates.

Home Ownership Affordability

Exhibit 29: Cost of Home Ownership describes the approximate incomes needed to afford a median or bottom-tier home. It also estimates annual income needed for a first time homebuyer, which is explained further in the Home Ownership Affordability call-out. To afford a median priced home in Medina, a minimum annual income of $569,131 is required, which is 524% of HUD AMI and 268% of the City's median income. Even a bottom tier home requires a household income of $411,773, or 194% of HUD AMI.

Exhibit 30: Percentage of All Households by Income Bracket shows the percentages of households by income bracket. Because ACS data does not break out household income above $200,000 and the minimum income to afford the median home is more than double that, it is difficult to have a more defined estimate of what percentage of households can potentially afford to own a home. However, at least 48% of households cannot afford a median home since that's the percentage that have incomes below $200,000. Furthermore, ACS data is also not available on household savings, so even if a household has a high enough income, it is impossible to estimate whether they have enough savings for a down payment.

Exhibit 29: Cost of Home Ownership

MONTHLY MORTGAGE	MEDIAN HOME	BOTTOM TIER-HOME	FIRST TIME HOMEBUYER
Sales Price	$2,858,012	$2,067,806	$2,429,310
Assumed down payment	$571,602	$413,561	$242,931
Mortgage amount	$2,286,409	$1,654,245	$2,186,379
Monthly mortgage payment	$10,837	$7,841	$10,679
Monthly Income Needed	$47,428	$34,314	$45,201
Annual Income Needed	$569,131	$411,773	$542,415
% of HUD AMI	524%	379%	499%
% of City Median Income	268%	194%	255%

Source: Zillow Home Value Index, 2019; HUD, 2019; 2015-2019 ACS 5-year estimates.

How is home ownership affordability calculated?

Home ownership affordability was calculated using the Zillow Home Value Index (ZHVI) which provides median home values for all ownership homes (single family residential and condos) as well as averages among "Bottom Tier" homes (those in the 5th to 35th percentile of all units by value) and "Top Tier" (those in the 65th to 95th percentile of all units by value). The ZHVI represents the whole housing stock and not just homes that list or sell in a given month.

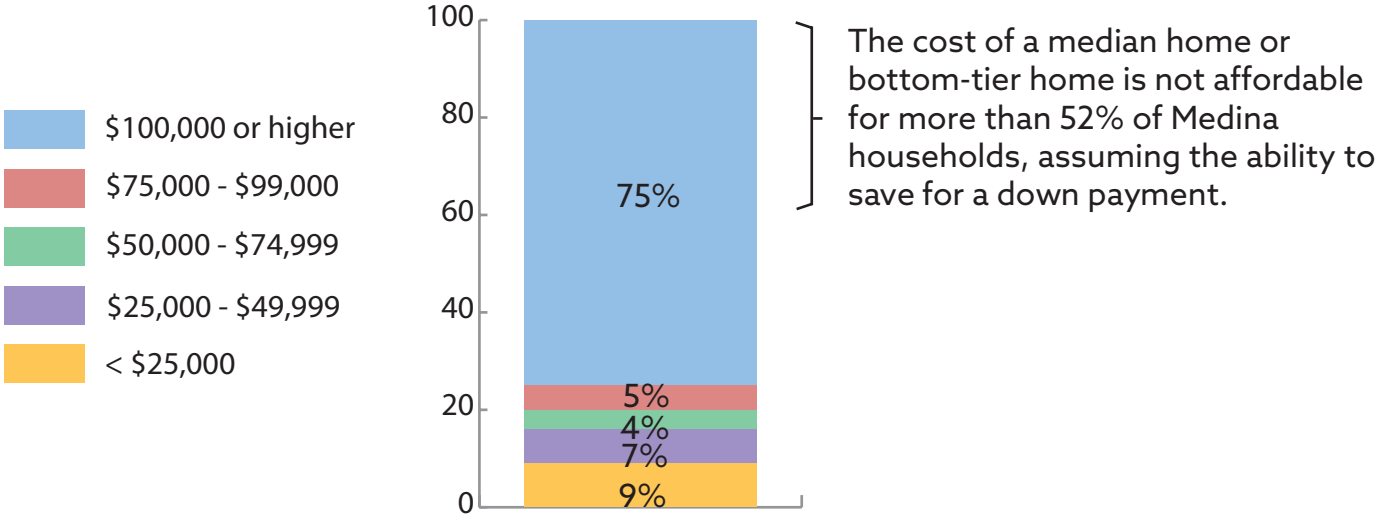
The monthly mortgage payment for these homes was calculated using several assumptions:

- The down payment is 20% for the Median Home and Bottom Tier Home calculations; therefore, the mortgage amount is 80% of the home value.
- Mortgage term is 30 years, so there are 360 payments over the course of the loan.
- Interest rate is the Freddie Mac national average for a 30-year fixed-rate mortgage from 2019.
- Monthly property taxes are assumed to be the county average.
- Monthly insurance payments are assumed to be 0.5% of the home's value.

The First Time Homebuyer calculations are based on a metric used by the Washington Center for Real Estate Research to assess housing affordability for a given area given the assumptions for a first-time homebuyer. These assumptions differ from those listed by assuming the home value is 85% of the median and the down payment is 10% of the home value.

These assumptions provided the monthly costs expected to be paid for the three home value types. The monthly costs were divided by .3 and multiplied by 12 to determine the minimum annual income needed to afford them (i.e., not be cost-burdened). Note that monthly utility payments are not included because of lack of data for estimating these costs, so affordability may be overestimated.

Exhibit 30: Percentage of All Households by Income Bracket



Source: 2015-2019 ACS 5-year estimates.

3.3 RENTAL HOUSING

About 14% of the city's housing stock are rental units, or approximately 163 housing units total. Four out of five renter households identify as white, and the remaining identify as Asian. There are no other minorities identified as residing in a rental unit. Exhibit 31: Age of Renters show the number of renter households by age group, displaying the inverse percentages discussed previously in the Home Ownership section. The under 35 age group has the highest rate of renter households at 46% of all households within that age group. However, the highest overall amount of renter households is in the 35-44 years age group trailed closely by the 45-54 years age group.

Rental Housing Costs

As of 2019, the median rent in Medina was $2,855, which is more than twice King County's median rent of $1,606. Approximately 71% of households can afford the median rental cost. Medina's median income is $212,337 and an annual income of $114,086 is required to afford a rental unit.[10] Exhibit 32: Median Gross Rent by Number of Bedrooms shows the median gross rent by number of bedrooms in Medina compared with the rents in King County. The data on rent in Medina is limited due to the lower quantity of units and range of unit sizes. The median monthly rent of a 3-bedroom unit is at least $3,500 which is less affordable than the median rent for 5-or-more bedroom rental in King County. Exhibit 33: Affordability of Median Cost Rental Units takes the rental affordability analysis deeper by showing for which income ranges the median rents are affordable. The median rent for all units and a 3-bedroom unit is affordable for all household making 80% of the median income and above.

HUD provides data on rental units available by income bracket compared with the income levels of renter households as shown in Exhibit 34: Rental Units Available by Income Bracket. For extremely low- and very low-income renter households (earning less than 50% AMI), there is an undersupply in units available at the affordability level compared to number of households. Some of these households must rent units that cause them to be cost-burdened. For the 60% of renter households that earn over 80% of the AMI, there is a slight surplus of units priced to meet these incomes.

This means there is less competition for the lower cost rental units, but there will be cost-burdened households as long as enough rental units do not exist that are affordable to households at all income levels.

While the ACS does not have rental vacancy information available at the city level, we can use the data for King County to gain an understanding of what renters in Medina may experience. The rental vacancy rate for King County is 3.3%, which is considered to be healthy but is verging on being too low. A healthy housing market has a vacancy rate around 5%; rates below 3% are generally considered too low and can lead to housing price inflation.

Exhibit 31: Age of Renters

AGE OF RENTERS	CITY OF MEDINA	
	COUNT	PERCENTAGE OF HOUSEHOLDS IN AGE GROUP
Under 35 years	16	46%
35 to 44 years	58	31%
45 to 54 years	49	14%
55 to 64 years	16	6%
65 to 74 years	0	0%
75 to 84 years	24	19%
85 years & up	0	0%
Total	163	

Source: 2015-2019 ACS 5-year estimates.

10 2015-2019 ACS 5-year estimates.

Exhibit 32: Median Gross Rent by Number of Bedrooms

BEDROOMS	CITY OF MEDINA	KING COUNTY
No bedroom	-	$ 1,307
1 bedroom	-	$ 1,420
2 bedrooms	-	$ 1,671
3 bedrooms	$ 3,500+	$ 2,030
4 bedrooms	-	$ 2,350
5 or more bedrooms	-	$ 2,291
Median Gross	**$ 2,855**	**$ 1,606**

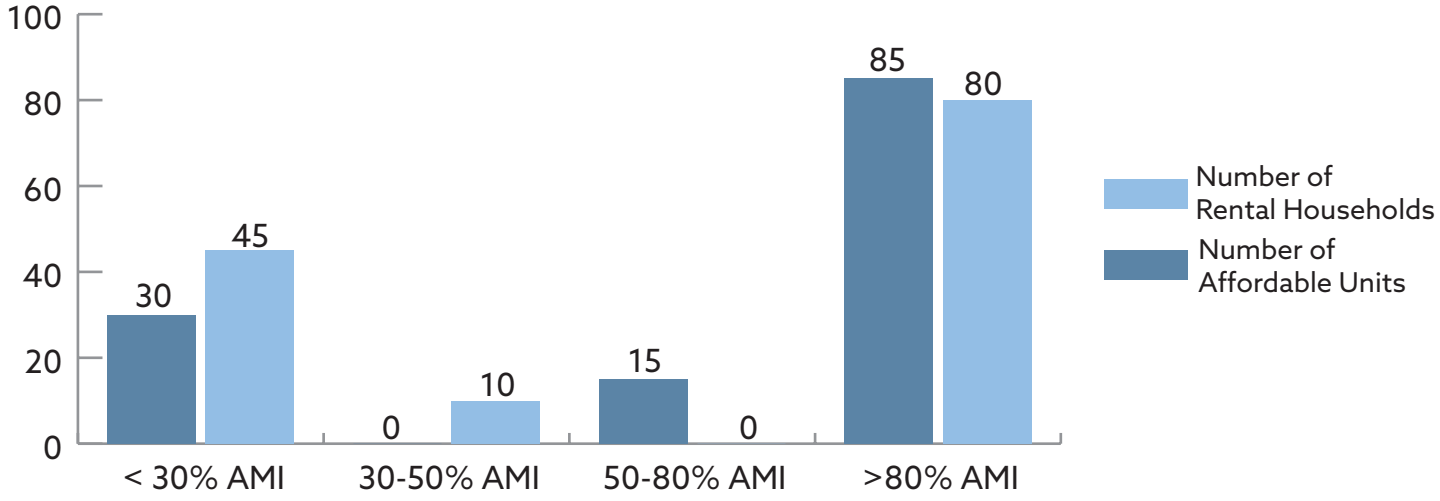
Source: 2015-2019 ACS 5-year estimates.

Exhibit 33: Affordability of Median Cost Rental Units

HOUSEHOLD INCOME (% OF MEDINA MEDIAN INCOME OF $212,337)	AFFORDABILITY OF MEDIAN COST RENTAL UNITS	
	ALL UNITS	3-BEDROOM
120%	YES	YES
100%	YES	YES
80%	YES	YES
60%	**NO**	**NO**
50% or less	**NO**	**NO**

Source: 2015-2019 ACS 5-year estimates.

Exhibit 34: Rental Units Available by Income Bracket



Source: HUD CHAS (based on ACS 2014-2018 5-year estimates).

3.4 SUBSIDIZED HOUSING

As mentioned previously, Medina has no subsidized housing units available to those households who qualify for income-restricted housing. However, as a member city of A Regional Coalition for Housing (ARCH), Medina does contribute funding to its Housing Trust Fund. The fund invests local funding from ARCH member cities to create and preserve affordable homes for low- and moderate-income incomes and individuals in East King County, but not necessarily within the jurisdiction from which the funds were contributed. Between 1993 and 2012, a total of 4 moderate- and low-income units had been created through direct assistance from Medina.[11]

11 ARCH, 2014.

KEY TAKEAWAYS: HOUSING CONDITIONS

Housing Inventory

- There are 1,132 housing units, of which more than 99% are single-family homes.
- Eight percent of the City's housing stock is a one- or two-bedroom unit, even though over half of all households contain only one or two people, meaning there is a shortage of smaller units.
- A third of the housing stock was built before 1959. As these homes continue to age, there will be a greater need to repair, maintain, and rehabilitate older structures. Another third was developed between 1960 and 1989. Sixteen percent was constructed between 2000 and 2009.
- All of the residential permits issued since 2010 have been for single-family homes. The total number of housing units in Medina has actually decreased by nearly 3% since 2000, indicating that new construction is primarily occurring through redevelopment of existing properties.

Housing Ownership

- Eighty-one percent of the city's housing units are owner occupied.
- Homeowners are primarily white (73%) and Asian (24%).
- Households in the 65 to 74 and the 85 years and over age groups have the highest rates of ownership, at 100% each. Households that are 35 years old and younger have the lowest ownership rate at just over half of households in that age group.
- As of 2021, the median home value is $3,548,000 which has more than doubled since 2010. This steady increase in home values began in 2013.
- Bottom-tiered home values have increased by 147% since 2010 to a value of $2,615,000 as of 2021.
- The Seattle-Bellevue, WA HUD AMI has increased by 35% since 2010 to $115,700 in 2021 but has not kept pace with increasing home ownership costs in the region.
- To afford a median priced home in Medina, a minimum annual income of $569,131 is required, which is 524% of HUD AMI and 268% of the City's median income. This assumes the household has enough savings to afford the down payment.

Rental Housing

- Eighty percent of Medina's renter households are white, and the rest are Asian.
- The under 35 age group has the highest rate of renter households at 46% of all households within that age group, but the highest overall amount of renter households is in the 35-44 years age group.
- As of 2019, the median rent in Medina was $2,855, which is more than twice King County's median rent of $1,606. Approximately 71% of households can afford the median rental cost.
- The median rent for all units and a 3-bedroom unit is affordable for all household making 80% of the median income and above.
- For extremely low- and very low-income renter households (earning less than 50% AMI), there is an undersupply in units available at the affordability level compared to number of households. For the 60% of renter households that earn over 80% of the AMI, there is a slight surplus of units priced to meet these incomes.
- The rental vacancy rate for King County is 3.3% indicating that the rental housing market is healthy but trending towards scarcity which can lead to housing price inflation.

Subsidized Housing

- Medina has no subsidized housing units.
- Between 1993 and 2012, a total of 4 moderate- and low-income units had been created in East King County through Medina's contributions into the ARCH Housing Trust Fund.

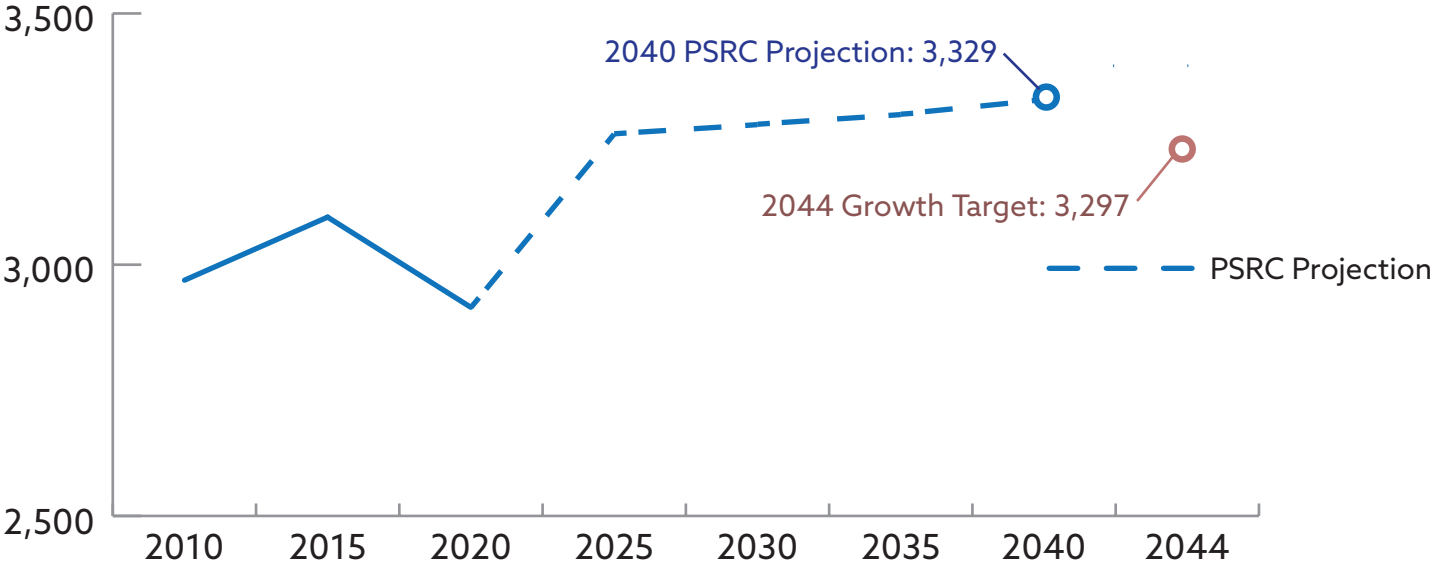
Part 4: Gap Analysis

4.1 HOUSING NEEDED TO ACCOMMODATE FUTURE GROWTH

Every eight years, the Growth Management Act (GMA) requires counties to coordinate a review and evaluation of development and land supply to determine whether its cities are meeting growth and density targets and if cities have enough land to meet future growth needs. As part of this work, cities survey their available lands for development, and compare this to growth targets established through the Countywide Planning Policies. This report relies on both the estimates of land capacity, as well as the assessment of future growth targets. These targets are developed through a collaborative countywide process that ensures all jurisdictions are accommodating a fair share of growth.

Within the 2021 King County Urban Growth Capacity Report, the County gave Medina a 2044 housing growth target of an additional 19 units from its 2018 total unit count of 1,234. Assuming a similar average household size, the population target is an additional 52 people, or a total population of 3,297 by 2044. This requires an average annual growth of approximately 2 people from the 2019 population of 3,245. The 2044 housing target requires an average annual increase of only one housing unit from the 2019 total. In 2017, PSRC produced projections to support the VISION 2040 regional growth plan. Exhibit 35: Housing Demand Projections shows that Medina's projected population for 2040 was 3,329. This is higher but does not differ significantly from the more recently set growth target. Vision 2050 passed in October 2020, but PSRC has not yet released their updated projections dataset.

Exhibit 35: Housing Demand Projections



Source: OFM, 2020; PSRC, 2017; [King County], 2021.

Affordability Gap by Income Level

Because the supply and affordability of housing is a regional issue, the analysis across these next few sections of the report analyzes how the current and future supply of housing in Medina can meet the needs of King County as a whole. To ensure the housing needs of all economic segments of the population are addressed and housing-related burdens are not simply transferred between jurisdictions, each community should attempt to take on its fair share of affordable housing. Policy H-1 of the 2021 King County Countywide Planning Policies sets a countywide need for housing in 2044 by percentage of AMI. The percentages are as shown in the table below. Policy H-4 requires cities to conduct create an inventory that shows the affordability gap of the jurisdiction's housing supply as compared to the countywide need. These percentages are applied to Medina's households in Exhibit 36: Housing Needs, Existing Supply, and Gaps/Surplus by Income Level and Exhibit 37: Housing Needs, Existing Supply, and Gaps/Surplus by Income Level.

Based on the percentages shown in the table below, the Medina housing stock does not meet the countywide need for those households earning 80% AMI and below. In other words, the current housing stock only meets the demand for those in the moderate income and above category. Ninety-three percent of Medina's housing is only affordable to households in the moderate income and above range. Exhibit 37: Housing Needs, Existing Supply, and Gaps/Surplus by Income Level breaks the existing need into owners and renters, assuming the County's current owners versus renters ratio within each income category. The highest need exists among renter households across all low-income categories.

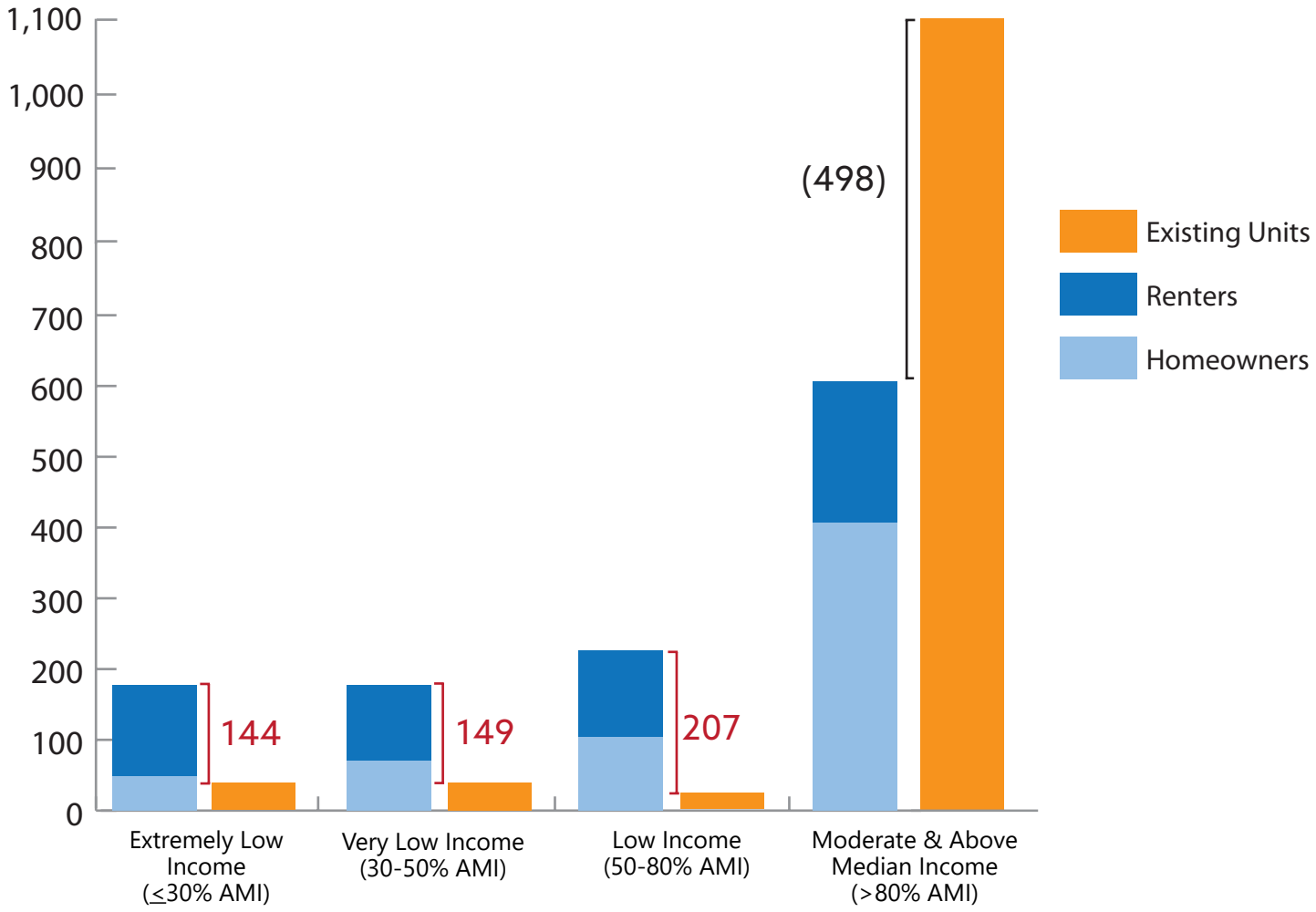
COUNTYWIDE NEED FOR KING COUNTY IN 2044		
INCOME CATEGORY	HOUSEHOLD INCOME	SHARE OF TOTAL UNITS
Extremely Low-Income	30% and below AMI	15%
Very Low-Income	31 - 50% of AMI	15%
Low-Income	51 - 80% of AMI	19%
Moderate Income and above	>80% of AMI	51%

Exhibit 36: Housing Needs, Existing Supply, and Gaps/Surplus by Income Level

INCOME LEVEL	EXTREMELY LOW	VERY LOW-INCOME	LOW-INCOME	MODERATE & ABOVE INCOME
	(≤30% AMI)	(30-50% AMI)	(50-80% AMI)	(>80% AMI)
Existing Need	179	179	226	607
Existing Housing	35	30	19	1,105
Existing Gap	**144**	**149**	**207**	498

Source: OFM, 2020; 2014-2018 ACS 5-year estimates; 2016-2020 ACS 5-year estimates; PSRC, 2019; HUD CHAS (based on ACS 2014-2018 5-year estimates); [King County], 2021.

Exhibit 37: Housing Needs, Existing Supply, and Gaps/Surplus by Income Level



Source: OFM, 2020; 2014-2018 ACS 5-year estimates; 2016-2020 ACS 5-year estimates; PSRC, 2019; HUD CHAS (based on ACS 2014-2018 5-year estimates); [King County], 2021.

Future Housing Need by Income Level

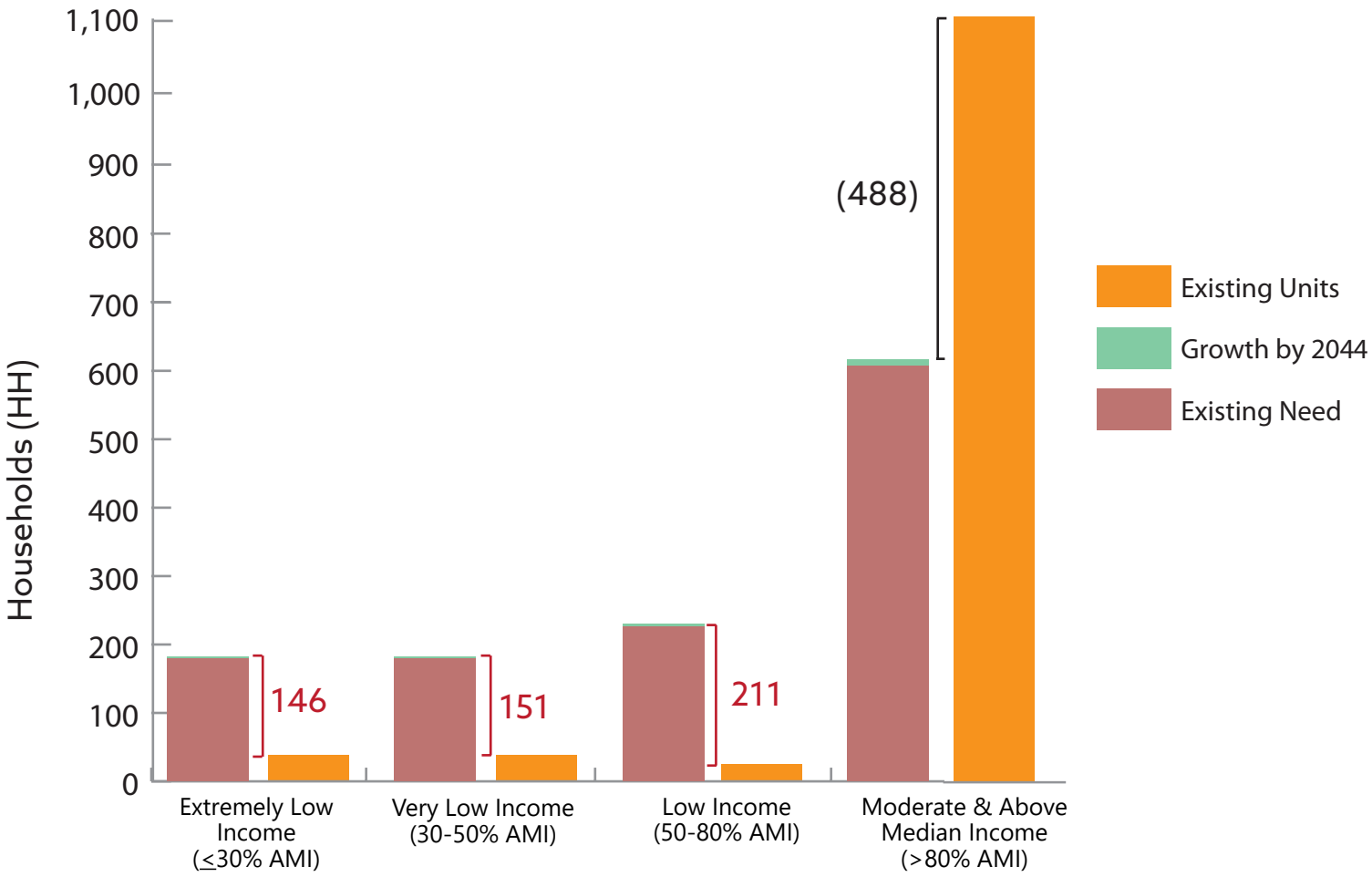
Exhibit 38: Projected Housing Needs and Gaps by Income Level and Exhibit 39: Projected Housing Needs and Gaps by Income Level compare existing housing supply with the projected need based on the 2044 growth targets. This is done with the assumption the current income distribution of the county will remain the same as growth occurs, and owners and renters are grouped together. Additionally, the 2044 gap represents where supply increases should be encouraged between now and 2044, not necessarily where there will be a greater supply deficit since it is based on existing supply before units are added. In 2044, it appears the gaps are projected to remain among the low-income ranges due to growth in households at those ranges. This also assumes the preservation of the small existing supply of more moderately priced units. To address the gaps, it will be necessary for the City to consider how to increase the supply of housing at those income levels through incentives for affordable housing developments or by encouraging non-profits to provide rent-subsidized housing in the city.

Exhibit 38: Projected Housing Needs and Gaps by Income Level

INCOME LEVEL	EXTREMELY LOW	VERY LOW-INCOME	LOW-INCOME	MODERATE & ABOVE INCOME
	(≤30% AMI)	(30-50% AMI)	(50-80% AMI)	(>80% AMI)
Existing Need	179	179	226	607
Existing Housing	35	30	19	1,105
2044 Need	181	181	230	617
2044 Gap	**146**	**151**	**211**	488

Source: OFM, 2020; 2014-2018 ACS 5-year estimates; 2016-2020 ACS 5-year estimates; PSRC, 2019; HUD CHAS (based on ACS 2014-2018 5-year estimates); [King County], 2021.

Exhibit 39: Projected Housing Needs and Gaps by Income Level



Source: OFM, 2020; 2014-2018 ACS 5-year estimates; 2016-2020 ACS 5-year estimates; PSRC, 2019; HUD CHAS (based on ACS 2014-2018 5-year estimates); [King County], 2021.

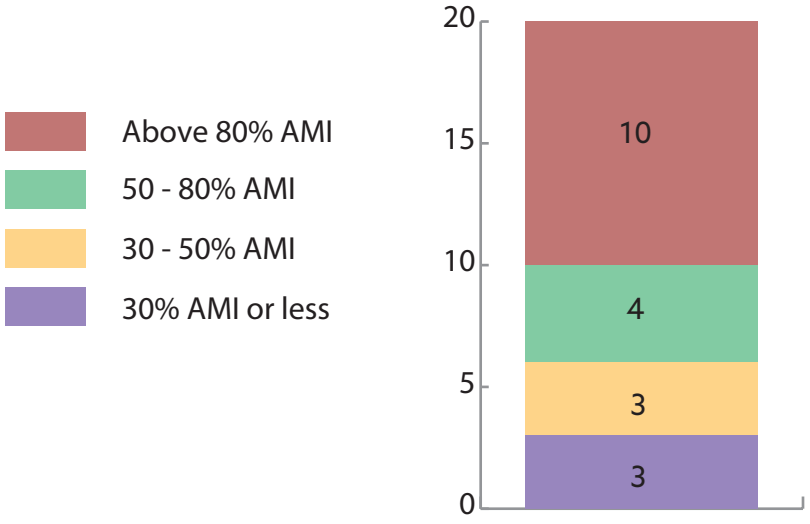
Exhibit 40: Existing Gaps versus Projected Gaps Based on Existing Housing gives a more in-depth look at how the existing supply gap is projected to change by 2044 by breaking the totals into owner versus renter occupied units. This is based on the existing supply of owner and renter occupied units in the city and the existing percentages of owner and renter households in the county. As stated previously, the 2044 gaps are meant to show at which income levels and for which types of units production should be prioritized to meet the countywide needs based on the city's future population. More units available for ownership are needed across the low-income ranges, and the sizable surplus in the moderate income and above range is not expected to get much smaller. By 2044, more rental units will be necessary for all economic segments of the population. Special attention will be needed to fill the gap in rental units for extremely low- and very low-income households through the provision of income-restricted units as mentioned above. summarizes the estimated new housing units needed by income level relative to HUD AMI to meet the 2044 growth target. Estimates are based on the countywide need levels discussed earlier.

Exhibit 40: Existing Gaps versus Projected Gaps Based on Existing Housing

	ALL UNITS		UNITS TO OWN		UNITS TO RENT	
	EXISTING GAP	2044 GAP	EXISTING GAP	2044 GAP	EXISTING GAP	2044 GAP
Extremely Low-Income (≤30% AMI)	144	146	48	49	95	97
Very Low-Income (30-50% AMI)	149	151	40	41	108	110
Low-Income (50-80% AMI)	207	211	100	101	107	109
Moderate & Above Median Income (>80% AMI)	498	488	614	608	116	119

Source: OFM, 2020; 2014-2018 ACS 5-year estimates; 2016-2020 ACS 5-year estimates; PSRC, 2019; HUD CHAS (based on ACS 2014-2018 5-year estimates); [King County], 2021.

Exhibit 41: Housing Units Needed by 2044 to Accommodate Growth



Source: OFM, 2020; 2014-2018 ACS 5-year estimates; 2016-2020 ACS 5-year estimates; PSRC, 2019; HUD CHAS (based on ACS 2014-2018 5-year estimates); [King County], 2021.

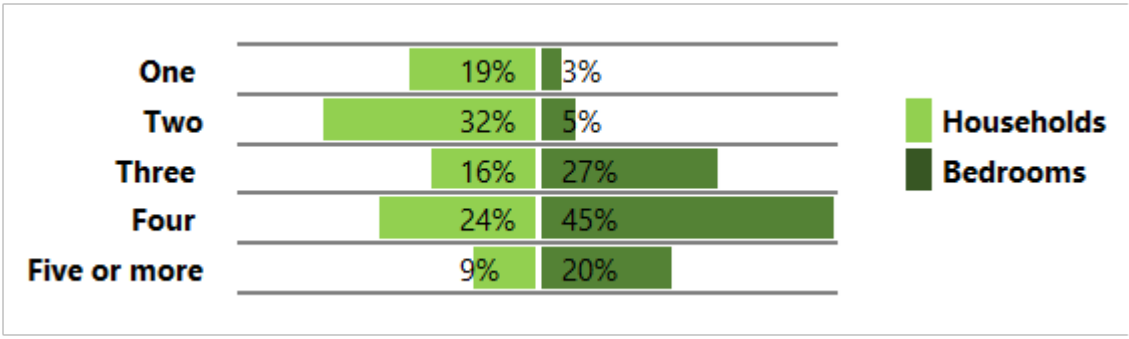
Exhibit 41: Housing Units Needed by 2044 to Accommodate Growth summarizes the estimated new housing units needed by income level relative to HUD AMI to meet the 2044 growth target. Estimates are based on the countywide need levels discussed earlier.

4.2 DIVERSITY OF HOUSING CHOICES

Having a diversity of housing choices is important for a city to meet the diverse needs of its population. Medina's housing supply is composed almost entirely of single-family detached units (99%).[12] While 51% of households in Medina have only one or two members, just 4% of units have one or fewer bedrooms, and all of these are rental units. A lack of smaller units compared to the percentage of one or two person households is noteworthy since smaller units are typically more affordable especially for smaller households that may be living off one income. It also means there is a lack of ownership options for younger families that may be looking to buy their first home and upsize later as their family grows. There is an oversupply of larger units in comparison to the distribution of household sizes, with 63% of all units having 4 or more bedrooms and only 10% of households having 5 or more people.

12 2015-2019 ACS 5-year estimates.

Exhibit 42: Comparison of Household Size versus Number of Bedrooms



Source: 2015-2019 ACS 5-year estimates.

Older Adults and Families with Children

Exhibit 42: Comparison of Household Size versus Number of Bedrooms shows a few different household types that are cost-burdened in the city are what their income levels are. Small families, which are families with 2-4 members (excluding older adults), make up the largest group of cost-burdened households. It is important to note that 70% of these households make above the median income yet are still cost-burdened. Many families likely have children since 42% of households in Medina have one or more people that are under 18. Housing concerns for families with children include sufficiently large housing units and proximity to schools, childcare facilities, and other amenities.

About 45% of households in Medina have one or more people that are 60 and over. Over half of older adults that are cost-burdened are low income (<80% AMI). Older adults primarily consist of retired or retirement age individuals who rely on a variety of income sources, such as retirement benefits, social security, and accrued wealth. The ACS does not capture who is retired but does include data on who has retirement pensions and incomes. Retired individuals have a limited budget that must sustain them for the remainder of their lives, which ranges greatly based on health, location, and lifestyle. Older adults have higher medical costs that may also contribute to financial insecurity. Older adults living in families may experience financial constraints as a result of more people living in the household that also require financial assistance or resources. Older adults choosing to age in place may require additional support services such as home modification, transportation, recreation and socialization, yard care, or care management and counseling.

Exhibit 43: Cost-Burdened Households by Type and Income Level (older adults and families)

HOUSEHOLD TYPE	EXTREMELY LOW-INCOME (≥30% AMI)	VERY LOW-INCOME (30-50% AMI)	LOW-INCOME (>50% AMI)	MODERATE INCOME (80-100% AMI)	ABOVE MEDIAN INCOME (>100% AMI)	ALL COST-BURDENED HOUSEHOLDS
Older Adult Family	0	25	10	4	28	67
Older Adults Living Alone	19	15	4	15	0	53
Large Family	0	0	0	0	20	20
Small Family	10	14	4	10	90	128
Other	35	0	0	0	24	59
Total	**64**	**54**	**18**	**29**	**162**	**327**

Source: HUD CHAS (based on ACS 2014-2018 5-year estimates).

Older Adult Family: Two persons, either or both age 62 or older
Older Adults Living Alone: A person 62+ living alone
Large Family: Families with 5 or more members
Small Family: Families with 2-4 members (excluding older adult families)
Other: Non-family, non-elderly adult households (including those living alone or with housemates)

Subsidized and Income-Restricted Units

As discussed earlier, one of the most important types of housing a city should have to ensure all housing needs are met is subsidized or income-restricted units. Without them, it is difficult for many low-income households not to be cost-burdened. Furthermore, among these units, variety is necessary for the diversity of household types. No subsidized or income-restricted units currently exist in Medina.

4.3 LAND CAPACITY ANALYSIS

In addition to preparing the 2044 growth targets, another component of the King County Urban Growth Capacity analysis was determining the remaining capacity within the city based upon developable land. This was done for both employment and housing capacity. Although both are important for planning growth and development within the city over the next couple of decades, this report is mainly concerned with the latter. A land capacity analysis calculates the amount of vacant, partially used, and underutilized lands as well as land that has potential for redevelopment. This process identifies the potential for land within a community's boundaries to accommodate anticipated housing growth given the current zoning restrictions. As of the beginning of 2019, Medina has a remaining net capacity of 8 units. To meet the 2044 housing growth target, Medina needs 19 new units, which means there is a capacity deficit of 11 units. The report notes that this is appropriate for now since the report is primarily concerned with confirming available capacity to accommodate remaining growth under the 2035 growth target, which Medina has already met. However, jurisdictions shall demonstrate zoned or planned capacity for their 2044 growth targets in the upcoming periodic update of the comprehensive plan in 2024.

Zoning Considerations

Another component of the land capacity analysis is to estimate the expected types of housing that will be built with the remaining capacity based on the zoning of the land where the capacity lies. This relies on the assumption that land zoned for lower densities will be developed with single-family units and that land zoned for higher densities will be developed with multifamily units. Another assumption used for the analysis is that single-family units will likely provide opportunities for homeownership while multifamily units will likely be occupied by renters. Although these are just assumptions, the exercise allows for a comparison between the current mix of owners versus renters in the city with the type of opportunities the remaining capacity may provide.

Exhibit 44: Zoning of Land Capacity Compared with Current Tenure shows that 100% of the remaining capacity in Medina is on land zoned for lower density residential or land that will most likely be developed as single-family residential. While the overwhelming majority of households in Medina are owners, 14% of households are renters. Rentals of single-family detached residences does occur, but higher density rental developments tend to be more affordable.

Exhibit 44: Zoning of Land Capacity Compared with Current Tenure

ZONING CAPACITY	PERCENTAGE OF LAND WITH REMAINING CAPACITY ZONED FOR:	HOUSEHOLD TENURE PERCENTAGES, 2019	CURRENT TENURE
Single-family	100%	86%	Owner
Multifamily	0%	14%	Renter

Source: ([King County], 2021; 2015-2019 ACS 5-year estimates.)

Another potentially useful comparison that can be assessed through the land capacity analysis is comparing the number of units by type (single-family or multifamily) likely to be developed through the remaining capacity with the projected need from the gap analysis. The projected need is based on the 2044 growth targets, and it has already been shown that there is currently a capacity deficit in terms of total units. Exhibit 45: Zoning of Land Capacity with 2044 Projected Needs displays the approximate totals of the remaining capacity broken down into single-family versus multifamily. This is evaluated against the projected 2044 need of owner-occupied and renter-occupied units as taken from the gap analysis. Not only is there a deficit in capacity for total units needed, there also appears to be a slight deficit in number of owner-occupied units projected to be needed. Medina may consider zoning changes to allow additional capacity for all unit types, including multifamily residential development to generate additional rental opportunities.

Exhibit 45: Zoning of Land Capacity with 2044 Projected Needs

ZONING CAPACITY	CAPACITY REMAINING IN UNIT TYPE PER ZONING:	2044 PROJECTED NEED	CURRENT TENURE
Single-family	8	10	Units to Own
Multifamily	0	9	Units to Rent
Total	**8**	**19**	

Source: OFM, 2020; 2014-2018 ACS 5-year estimates; 2016-2020 ACS 5-year estimates; PSRC, 2019; HUD CHAS (based on ACS 2014-2018 5-year estimates); [King County], 2021.)

4.4 HUD LOCATION AFFORDABILITY INDEX

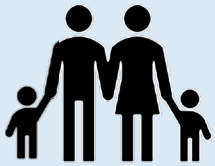
As a last glimpse at overall affordability of Medina and how different household types may be experiencing financial difficulties, Exhibit 46: HUD Location Affordability Index shows the results of the Location Affordability Index (LAI) for the city. The LAI was developed by HUD and the US Department of Transportation (DOT) in 2013 to better understand housing and transportation costs for specific geographies. This is because after housing costs, transportation costs are the largest type of expense for most households. The index models eight different household profiles that vary by percent of area median income, number of people, and number of commuters. The calculations account for twenty-four measures such as monthly housing costs, average number of rooms per housing unit, average vehicle miles traveled per year, walkability, street connectivity, and others. These eight model households are not meant to represent specific groups but are rather useful for relative comparison to the digester's particular situation. Broken down to the neighborhood (census tract) level, the LAI offers what percentage of their income each household profile would typically spend on housing and transportation costs. This information can be useful to the general public, policymakers, and developers in determining where to live, work, and invest.

Version 3, the most recent version of the LAI, was published in March 2019. Its data sources include the 2016-2012 5-year American Community Survey, 2014 Longitudinal Employer-Household Dynamics, and a few others. The eight household profiles modeled for the LAI are displayed. Please see the accompanying table for descriptions of each of the household types. Five out of eight of the household profiles (Very Low-Income Individual, Working Individual, Retired Couple, Single-Parent Family, and Moderate Income Family) are shown to be cost-burdened, or paying 30% or more of their income on housing costs. If this were the only measure of affordability under consideration, as it has been treated in this report thus far, Medina would still appear unaffordable to most households. Still, no household profiles are shown to be severely cost-burdened, or paying 50% or more of their income on housing costs. However, once transportation costs are brought into the conversation, the lack of affordability in Medina becomes even more concerning. All profiles spend over 30% of their income on housing and transportation costs combined, and all but two profiles spend over 45%, which is the maximum portion of income that should be spent on both types of costs. If this maximum is exceeded, HUD deems the location as unaffordable for the household profile in question. The most shocking number is the 64% of income spent on transportation costs by the Very Low-Income Individual profile, which brings their total spent on housing and transportation to 113% of their income.

The LAI shows how accessibility to work and amenities cannot be overlooked when addressing a city's affordability issues, especially when accessibility itself is one of the determinants of housing costs. The high accessibility of walkable, well-located neighborhood is normally added into the price of the rental and for sale housing there. Conversely, housing in a more automobile centric area with lower access to work opportunities and amenities will be priced at a discount. If a household living in a more suburban area is paying only 20% of their income on housing but also 20% of their income on transportation and their urban counterpart is paying 30 percent of their income housing but only 10% on transportation, the more suburban household should not be considered to have a more affordable living situation. The LAI clearly shows that Medina should contemplate both housing and transportation costs if attempting to increase overall affordability for residents.

HOUSEHOLD TYPE	INCOME	SIZE	NUMBER OF COMMUTERS
Median-Income Family	Area Median Household Income	4	2
Very Low-Income Individual	National poverty line ($11,880 for a one person household in 2016)	1	1
Working Individual	50% of median Household Income	1	1
Single Professional	135% of area median Household Income	1	1
Retired couple	80% of area median Household Income	2	0
Single-Parent family	50% of area median Household Income	3	1
Moderate-Income family	80% of area median Household Income	3	1
Dual-professional family	150% of area median Household Income	4	2

Exhibit 46: HUD Location Affordability Index

HOUSEHOLD PROFILE	SHARE OF INCOME SPENT ON	PERCENTAGE	HOUSEHOLD PROFILE	SHARE OF INCOME SPENT ON	PERCENTAGE
Median-Income Family 	Transportation	23%	Retired Couple 	Transportation	15%
	Housing	29%		Housing	39%
	Housing + Transportation	52%		Housing + Transportation	54%
Very Low-Income Individual 	Transportation	64%	Single-Parent Family 	Transportation	31%
	Housing	49%		Housing	42%
	Housing + Transportation	113%		Housing + Transportation	73%
Working Individual 	Transportation	27%	Moderate-Income Family 	Transportation	21%
	Housing	31%		Housing	35%
	Housing + Transportation	58%		Housing + Transportation	56%
Single Professional 	Transportation	12%	Dual-Professional Family 	Transportation	15%
	Housing	22%		Housing	25%
	Housing + Transportation	33%		Housing + Transportation	41%

Source: (HUD (based on ACS 2012-2016 5-year estimates).

KEY TAKEAWAYS: GAP ANALYSIS

Housing Needed to Accommodate Future Growth

- Medina has a 2044 housing growth target of 1,253 or a population target of around 3,297 people.
- Based on countywide need, the Medina housing stock has an insufficient supply of low-income housing, for those households earning 80% AMI and below.
- To address these gaps by 2044, Medina will likely need to consider how to increase the supply housing at those levels through incentives for affordable housing developments or by encouraging the provision of rent-subsidized housing.

Diversity of Housing Choices

- By comparing the household sizes and number of bedrooms provided in units in Medina, there do not appear to be enough smaller units, which could provide sufficiently sized, more affordable housing options for smaller households.
- Small families are currently experiencing proportionally higher rates of cost-burden.
- Subsidized housing may need to be introduced in Medina to meet the needs of the various types of households that are low-income.

Land Capacity Analysis

- According to the LAI, five of the household profiles (Very Low-Income Individual, Working Individual, Retired Couple, Single-Parent Family, and Moderate Income Family) are shown to be cost-burdened. Moreover, once transportation costs are estimated, only two profiles (Single Professional and Dual-Professional Family) do not spend more than 45% of their household income on housing and transportation costs combined.
- The Very Low-Income Individual profile is estimated to typically spend more than their annual income (113%) on housing and transportation costs.

HUD Affordability Index

- According to the LAI, only three household profiles (Very Low-Income Individual, Retired Couple, and Single-Parent Family) are shown to be cost-burdened. However, once transportation costs are estimated, only two profiles (Single Professional and Dual-Professional Family) do not spend more than 45% of their household income on housing and transportation costs combined.
- The Very Low-Income Individual profile is estimated to typically spend more than their annual income (119%) on housing and transportation costs.

NEXT STEPS

This Housing Needs Assessment identifies Medina's current and future housing needs. In addition to the HNA, the Housing Action Plan will be informed by a public engagement effort and an assessment of existing city policies and regulations. Housing Action Plan strategies will address identified needs and policy changes and will be presented to Council for review and adoption in 2023.

Housing is absolutely essential to human flourishing. Without stable shelter, it all falls apart.

-Matthew Desmond

American Sociologist

MEDINA, WASHINGTON

AGENDA BILL

Tuesday, March 29, 2022

Subject: Alternatives to Original Grade

Category: Discussion

Staff Contact(s): Stephanie Keyser, Planning Manager

Summary

In March, Planning Commission directed Staff to come back with more examples and to research what other cities do regarding limiting height on slopes. Mercer Island was the only city that Staff found that specifically limits façade height on a slope to the maximum allowed height as measured from either existing or finished grade, whichever is lower, at the furthest downhill extend of the proposed building, to the top of the roof framing, rafters, trusses, etc. This will essentially force a step-back building profile (See Example 3). The proposed draft has a similar provision.

The attachments include a redlined version (Attachment A) and one with all changes accepted (Attachment B). Just as with the tree code draft, in the redlined version, the sections that are *existing text* but have been moved are in red while the sections with new text are red and underlined.

Attachment(s) A) Average Grade Draft – Redlined

B) Average Grade Draft – All changes accepted

Recommendation: Discussion

Proposed Commission Motion: N/A

Time Estimate: 30 minutes

16.12.020. – "A" definitions.

…

Average Building Elevation means the weighted average elevation of the topography, prior to any development activity.

…

16.23.050 Maximum building and structure height standards.

A. Application of maximum height standards.

1. Table 16.23.050~~(A)~~ establishes the maximum height standards for buildings and structures within each zone and overlay.

2. Areas not identified in Table 16.23.050~~(A)~~ are subject to the height standards specified for the R-20/R-30 zone.

3. Where Table 16.23.050~~(A)~~ specifies eligibility for a height bonus, a property owner may elect to apply the additional height standards ~~in subsection (C) of this section in lieu of the height standards in Table 16.23.050(A);~~ provided, that:

a. The total structural coverage on the lot does not exceed 13 percent, excluding the structural coverage bonus set forth in MMC 16.23.040; or

b. If the lot area is 16,000 square feet or less, the total structural coverage on the lot does not exceed 17½ percent, excluding the structural coverage bonus set forth in MMC 16.23.040.

B. ~~Maximum height is determined by the zone or height overlay where the building or structure is located and the corresponding unit of height specified for original and finished grade prescribed in the tables~~. Maximum height is measured from the average building elevation to the highest point of a flat roof, or to the ridge of a pitched roof.

1. The maximum building façade height on a downhill side of a sloping lot shall not exceed the maximum height allowed by Table 16.23.050. The building façade height shall be measured from the existing grade or finished grade, whichever is lower, at the furthest downhill extent of the proposed building, to the top of the exterior wall façade supporting the roof framing, rafters, trusses, etc.

~~C. A property owner electing to apply the height bonus allowed pursuant to subsection (A)(3) of this section shall apply the height limits specified in Table 16.23.050(C).~~

C~~D~~. The methods for ~~measuring the height~~ determining the average building elevation of buildings and structures are set forth in MMC 16.23.060.

D~~E~~. Exemptions from maximum height requirements are set forth in MMC 16.23.070.

~~F. Eligibility for the bonus height standard in subsection (A)(3) of this section shall not apply where the total structural coverage on the lot exceeds 13 percent, excluding structural coverage that qualifies for the bonus under MMC 16.23.040.~~

Table 16.23.050(A): Maximum Height Standards

Measurement Points		Zoning/Height Overlay Maximum Height					
		R-16	R-20/R-30	SR-30	N-A	Public	Medina Heights
Original Grade	High Point	25 feet	N/A*	N/A*	None	None	N/A*
	Low Point		25 feet	25 feet			20 feet
Finished Grade	High Point	28 feet	N/A*	N/A*	30 feet	35 feet	N/A*
	Low Point		28 feet	28 feet			23 feet
Eligible for Height Bonus		No	Yes	Yes	No	No	No

Zoning District / Height Overlay	Maximum Height (feet)	Height Bonus (feet)
R-16	25	N/A
R-20/R-30	25	30
SR-30	25	30
N-A (Neighborhood Auto)	30	N/A
Public	35	N/A
Medina Heights Overlay	20	N/A

16.23.060. Measuring building and structure height.

This section establishes methods required for applying height standards and is applied in conjunction with the height standards prescribed in MMC 16.23.050.

A. Where multiple buildings and structures are located on the same lot, and are detached from each other, the height of each building or structure shall be measured independently from the others, except:

1. Excluding trellises, arbors and similar open structures, if the distance between any buildings and/or structures is less than six feet, the buildings and structures that are less than six feet apart shall be considered attached for purposes of measuring height;

2. If buildings are connected by a breezeway or similar above ground types of structures, the buildings shall be considered attached for purposes of measuring height.

BC. The following shall be excluded as part of the outside exterior wall/side of a building or structure for purposes of measuring height:

1. Walls adjoining window wells where the area inside of the window well does not exceed 15 square feet of open surface area;

2. Attached structures (e.g., uncovered decks, porches, steps, etc.), not exceeding 30 inches above original or finished existing grade, whichever is lower;

3. Uncovered decks, porches, and verandas not qualifying for the exemption in subsection (BC)(2) of this section where the space below the structure is not

enclosed and not more than 25 percent of the ground surface below the structure is hardscape; and

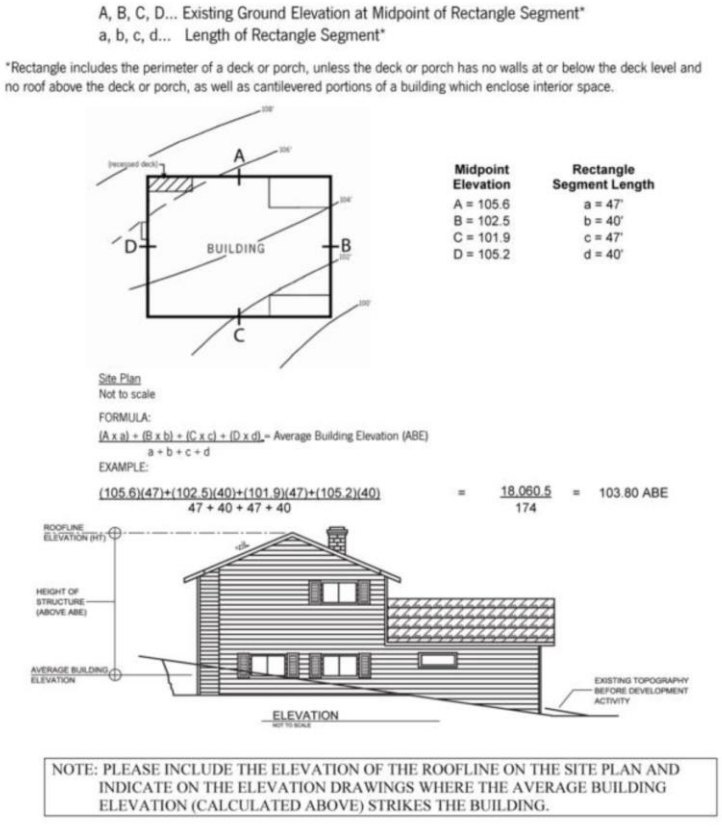
4. Areas under roof eaves including gutters and areas under balconies provided they extend 24 inches or less from the exterior wall. Gutters extending six inches or less from the outer edge of the roof eaves shall be excluded from counting towards the 24-inch limit.

C. Average building elevation is calculated at the discretion of the applicant using one of the following methods:

a. At the midpoint, measured horizontally, of each exterior wall of the structure, as shown in Figure 16.23.060(C)(a), or

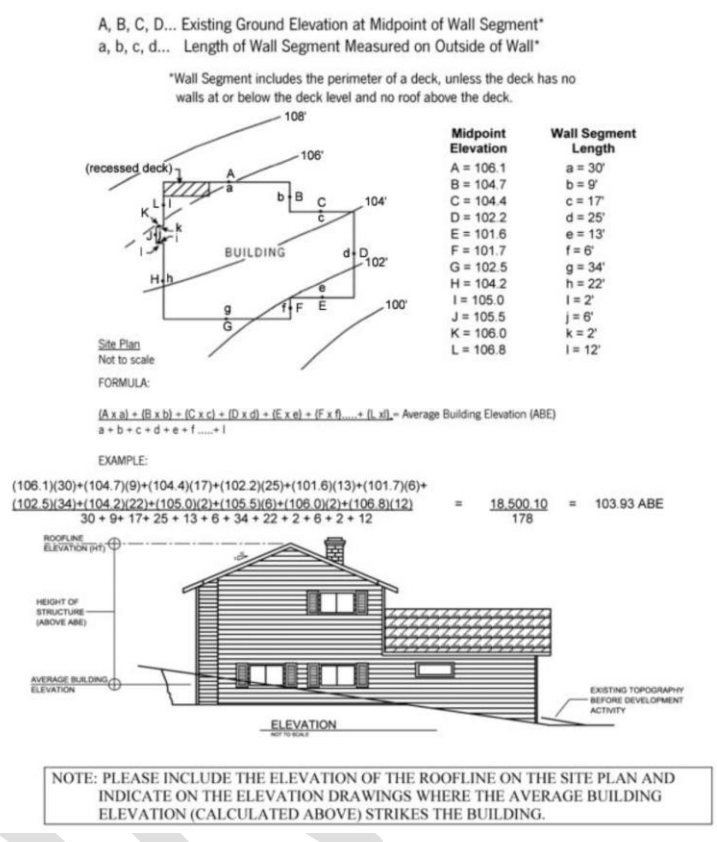
b. At the midpoint of each side of the smallest rectangle that can be drawn to enclose the structure, as shown in Figure 16.23.060(C)(b).

Figure 16.23.060(C)(a) Calculating Average Building Elevation, Option 1



Example from Kirkland – Temp placeholder for our own example

Figure 16.23.060(C)(b) Calculating Average Building Elevation, Option 2



Example from Kirkland – Temp placeholder for our own example

~~B. In the R-16 zone, height shall be measured as shown in Figure 16.23.060(B) and as set forth in the following procedures:~~

~~1. The original grade shall be established as set forth in MMC 16.23.080;~~

~~2. The base for measuring height shall be established as follows:~~

~~a. Base elevations shall be taken at four points where the outside of the exterior walls/sides of the building or structure intersect the following:~~

~~i. The lowest point of the original grade;~~
~~ii. The highest point of the original grade;~~
~~iii. The lowest point of finished grade; and~~
~~iv. The highest point of finished grade;~~

~~b. The lower grade between original and finished grade shall be used for measuring height, which is determined as follows:~~

i. Starting at the two highest original and finished grade elevations determined under subsection (B)(2)(a)(ii) and (iv) of this section, a vertical line shall be extended by the applicable maximum height prescribed in Table 16.23.050(A);
ii. The grade (original or finished) whose vertical line has the lower upper elevation (measured from a zero-elevation surface) shall be designated the "lower grade" to be used for measuring height;

3. Maximum height shall be measured by extending a vertical line from the lowest and highest base elevations established in subsection (B)(2)(a) of this section of the lower grade by the distance of the applicable maximum height prescribed in Table 16.23.050(A);

4. Maximum height shall be a plane essentially parallel to the lower grade drawn by a line intersecting the upper elevation of the two vertical lines extending from the lower grade;

5. An additional height limitation shall apply to buildings and structures on sloping grades established as follows:

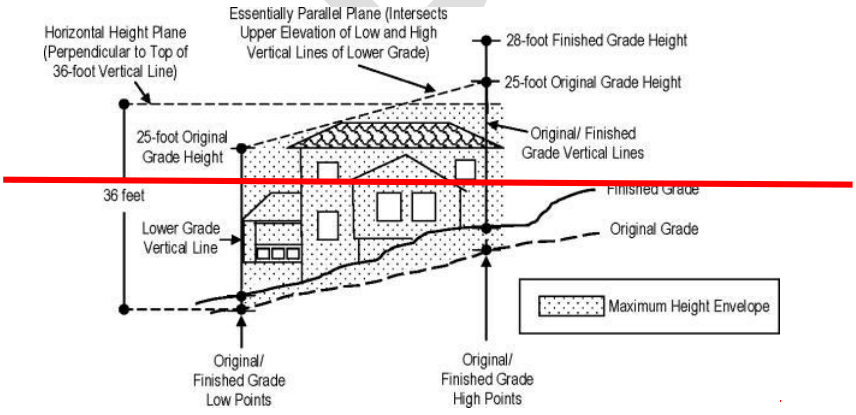
a. A vertical line shall be extended a distance of 36 feet from the lowest point of original grade ascertained in subsection (B)(2)(a)(i) of this section;
b. A horizontal plane shall be extended perpendicular from the top of the 36-foot vertical line;

6. The maximum height envelope shall be the area between the lower grade and the two height planes established in this section and shown in Figure 16.23.060(B);

7. No part of the building or structure, including roof lines, shall protrude above the maximum height envelope, except as allowed otherwise by law;

8. See subsection (E) of this section for establishing height plane parameters, subsection (F) of this section for establishing the orientation of the height plane, and subsection (G) of this section for height calculation exemptions.

Figure 16.23.060(B): R-16 Height Measurements

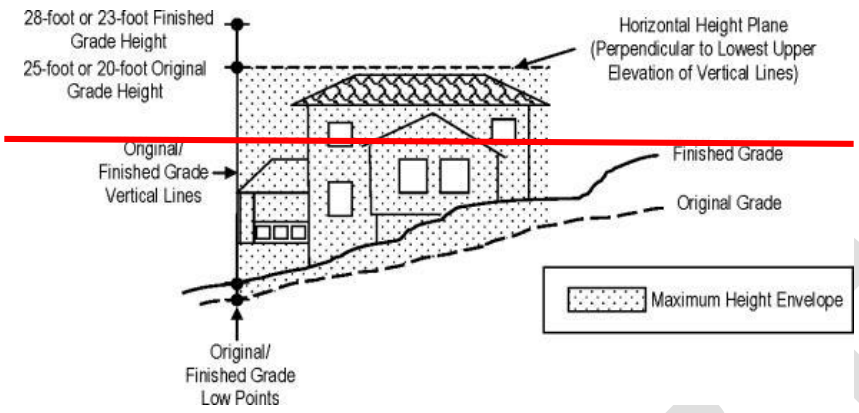


Average Grade Draft Code 4.22.22

C. In the R-20, R-30, and SR-30 zones (except where the bonus height standards in Table 16.23.050(C) are used) and in the Medina Heights overlay, height shall be measured as shown in Figure 16.23.060(C) and as set forth in the following procedures:

1. The original grade shall be established as set forth in MMC 16.23.080;
2. The base elevation for measuring height shall be taken at two points where the outside of the exterior walls/sides of the building or structure intersect the following:
   a. The lowest point of original grade;
   b. The lowest point of finished grade;
3. Starting at the two base elevation points ascertained under subsection (C)(2) of this section, a vertical line shall be extended by the distance of the applicable maximum height prescribed in Table 16.23.050(A);
4. The grade (original or finished) and corresponding vertical line established under subsection (C)(3) of this section that has the lower upper elevation (measured from a zero-elevation surface) shall be used to measure maximum height;
5. Maximum height shall be a horizontal plane intersecting the upper elevation of the vertical line established in subsection (C)(4) of this section for measuring maximum height and shall be perpendicular to the same vertical line as shown in Figure 16.23.060(C);
6. The maximum height envelope shall be the area between the applicable grade (original or finished) and the horizontal height plane established in this section and shown in Figure 16.23.060(C);
7. No part of the building or structure, including roof lines, shall protrude above the maximum height envelope, except as allowed otherwise by law;
8. See subsection (E) of this section for establishing the height plane parameter and subsection (G) of this section for height calculation exemptions.

~~Figure 16.23.060(C): R-20, R-30, SR-30, and Medina Heights, Height Measurements~~



~~D. Where the bonus height standards in Table 16.23.050(C) are used, height shall be measured as shown in Figure 16.23.060(D) and as set forth in the following procedures:~~

~~1. The original grade shall be established as set forth in MMC 16.23.080;~~

~~2. The base elevation for measuring height shall be taken at four points where the outside of the exterior walls/sides of the building or structure intersect the following:~~

~~a. The lowest point of the original grade;~~
~~b. The highest point of the original grade;~~
~~c. The lowest point of finished grade; and~~
~~d. The highest point of finished grade;~~

~~3. Starting at the four base elevation points ascertained under subsection (D)(2) of this section, a vertical line shall be extended by the distance of the applicable maximum height prescribed in Table 16.23.050(C);~~

~~4. The grade (original or finished) and corresponding vertical line established under subsection (D)(3) of this section that has the lower upper elevation (measured from a zero-elevation surface) shall be used to measure maximum height;~~

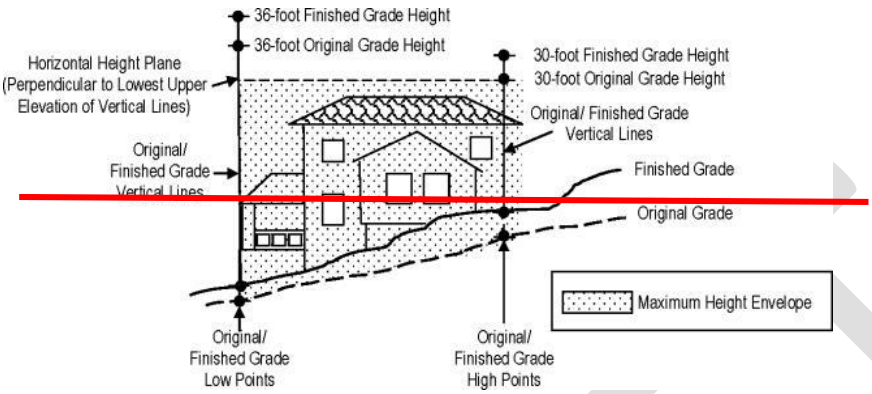
~~5. Maximum height shall be a horizontal plane intersecting the upper elevation of the vertical line established in subsection (D)(4) of this section for measuring maximum height and shall be perpendicular to the same vertical line as shown in Figure 16.23.060(D);~~

~~6. The maximum height envelope shall be the area between the applicable grade (original or finished) and the horizontal height plane established in this section and shown in Figure 16.23.060(C);~~

~~7. No part of the building or structure, including roof lines, shall protrude above the maximum height envelope, except as allowed otherwise by law;~~

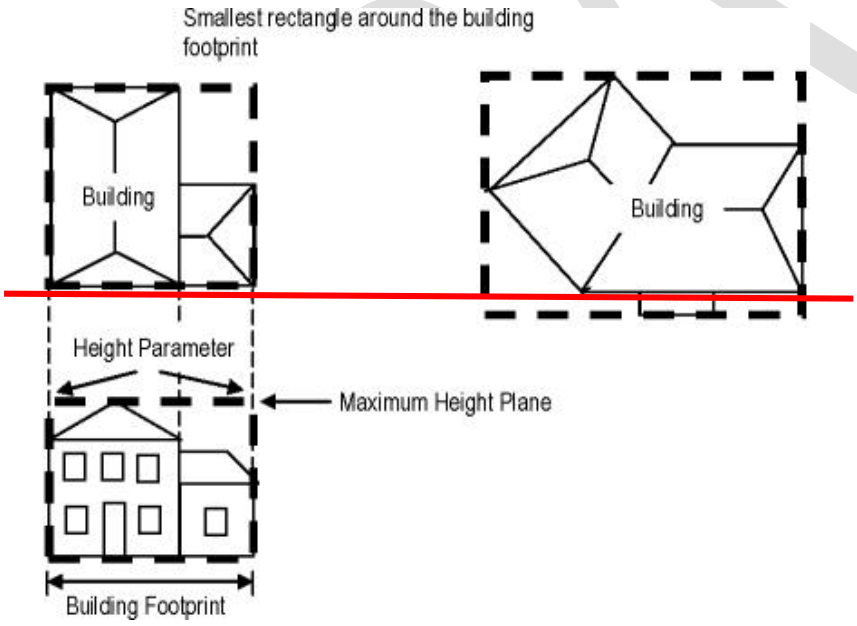
~~8. See subsection (E) of this section for establishing the height plane parameter and subsection (G) of this section for height calculation exemptions.~~

~~Figure 16.23.060(D): Bonus Height Measurements~~



~~E. The parameters of a maximum height plane shall be parallel to a parameter created by the smallest rectangle that can be drawn around the footprint of the building or structure. See Figure 16.23.060(E).~~

~~Figure 16.23.060(E): Height Plane Parameters~~



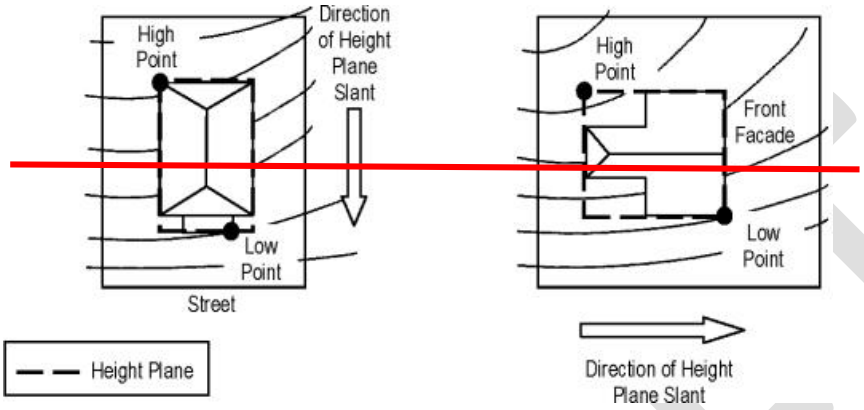
~~F. Where a building or structure is placed within the R-16 zone on a slope, the property owner may elect for the slant of the essentially parallel height plane to be in the direction of either:~~

~~1. The front facade of the building where the primary entrance of the building is located; or~~

~~2. The building facade facing a public street or private lane.~~

~~3. Figure 16.23.060(F) provides further direction on determining the orientation of the height plane slant.~~

~~Figure 16.23.060(F): Direction of Slant for Essentially Parallel Height Plane~~



~~16.23.080. Determining original grade.~~ Repealed

~~The following outlines the general procedures to establish the original grade on a lot. These procedures may be administratively modified by the director pursuant to subsection (F) of this section on a case-by-case basis to fit unique circumstances.~~

~~A. The placement of proposed exterior walls/sides of the building/structure on the lot is identified first and these locations are marked on the property. It is preferred, but not required, that a surveyor stake the proposed exterior wall corners of the building or structure.~~

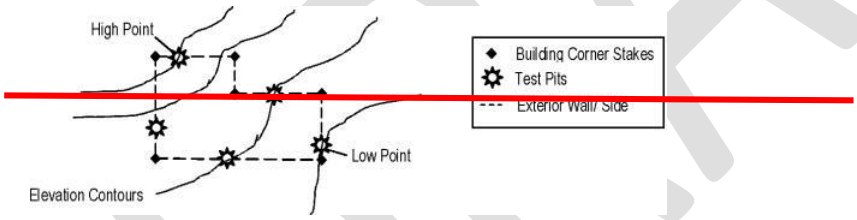
~~B. A geotechnical engineer shall conduct an investigation of the soils along the parameters of the proposed exterior walls/sides to determine the elevations of the original grade:~~

~~1. The investigation should include exploring and testing a reasonable number of test pits to substantiate the findings of the geotechnical engineer; and~~

~~2. Based on the findings of the soil investigation, the geotechnical engineer shall determine the original grade underneath the entire building or structure.~~

~~C. A surveyor shall set the vertical elevations of the applicable low and high base points required to measure height using the determination of original grade by the geotechnical engineer.~~

~~Figure 16.23.080: Confirmation of Original Grade~~



~~D. A written report of the determination of original grade shall be prepared by the geotechnical engineer for submission to the city. The content of the report shall at a minimum include the following:~~

~~1. The applicant's and property owner's name and contact information;~~

~~2. Project location (include parcel number);~~

~~3. Written narrative regarding the scope of work for which the original grade determination is being made;~~

~~4. The name and qualification of the persons preparing the report;~~

~~5. Written narrative of the investigation and findings;~~

~~6. A site plan showing:~~

~~a. An outline of the footprint of the building or structure on the lot;~~
~~b. The locations of the test pits where the soil exploration was performed;~~
~~c. The location and vertical elevation of the assumed high and low base points of the original grade, as applicable, for measuring height;~~

d. Reserved;
e. Topographical information including contour intervals of five feet or less, as appropriate; and

7. Other pertinent information determined to be necessary by the director in supporting an original grade determination.

E. The applicant must obtain approval from the city for an original grade determination. An approved determination of original grade report shall be used in determining plan review compliance with height standards prior to issuing construction permits.

F. The director may approve modifications to these procedures if:

1. The modification is evaluated and applied on a case-by-case basis;

2. The modification is to address a unique circumstance on the property such as an inability to conduct site investigation due to existing buildings and structures;

3. Modifications are based on accepted methods and/or practices found within the geotechnical engineer's profession;

4. The applicant requests the modification in writing to the director and provides justification for the modification; and

5. The modification is processed as a Type 1 decision pursuant to the review procedures in Chapter 16.80 MMC.

16.12.020. – "A" definitions.

…

Average Building Elevation means the weighted average elevation of the topography, prior to any development activity.

…

16.23.050 Maximum building and structure height standards.

A. Application of maximum height standards.

1. Table 16.23.050 establishes the maximum height standards for buildings and structures within each zone and overlay.

2. Areas not identified in Table 16.23.050 are subject to the height standards specified for the R-20/R-30 zone.

3. Where Table 16.23.050 specifies eligibility for a height bonus, a property owner may elect to apply the additional height standards provided, that:

a. The total structural coverage on the lot does not exceed 13 percent, excluding the structural coverage bonus set forth in MMC 16.23.040; or

b. If the lot area is 16,000 square feet or less, the total structural coverage on the lot does not exceed 17½ percent, excluding the structural coverage bonus set forth in MMC 16.23.040.

B. Maximum height is measured from the average building elevation to the highest point of a flat roof, or to the ridge of a pitched roof.

1. The maximum building façade height on a downhill side of a sloping lot shall not exceed the maximum height allowed by Table 16.23.050. The building façade height shall be measured from the existing grade or finished grade, whichever is lower, at the furthest downhill extent of the proposed building, to the top of the exterior wall façade supporting the roof framing, rafters, trusses, etc.

C. The methods for determining the average building elevation of buildings and structures are set forth in MMC 16.23.060.

D. Exemptions from maximum height requirements are set forth in MMC 16.23.070.

Table 16.23.050: Maximum Height Standards

Zoning District / Height Overlay	Maximum Height (feet)	Height Bonus (feet)
R-16	25	N/A
R-20/R-30	25	30
SR-30	25	30
N-A (Neighborhood Auto)	30	N/A
Public	35	N/A
Medina Heights Overlay	20	N/A

16.23.060. Measuring building and structure height.

This section establishes methods required for applying height standards and is applied in conjunction with the height standards prescribed in MMC 16.23.050.

A. Where multiple buildings and structures are located on the same lot, and are detached from each other, the height of each building or structure shall be measured independently from the others, except:

1. Excluding trellises, arbors and similar open structures, if the distance between any buildings and/or structures is less than six feet, the buildings and structures that are less than six feet apart shall be considered attached for purposes of measuring height;

2. If buildings are connected by a breezeway or similar above ground types of structures, the buildings shall be considered attached for purposes of measuring height.

B. The following shall be excluded as part of the outside exterior wall/side of a building or structure for purposes of measuring height:

1. Walls adjoining window wells where the area inside of the window well does not exceed 15 square feet of open surface area;

2. Attached structures (e.g., uncovered decks, porches, steps, etc.), not exceeding 30 inches above existing grade;

3. Uncovered decks, porches, and verandas not qualifying for the exemption in subsection (2) of this section where the space below the structure is not enclosed and not more than 25 percent of the ground surface below the structure is hardscape; and

4. Areas under roof eaves including gutters and areas under balconies provided they extend 24 inches or less from the exterior wall. Gutters extending six inches or less from the outer edge of the roof eaves shall be excluded from counting towards the 24-inch limit.

C. Average building elevation is calculated at the discretion of the applicant using one of the following methods:

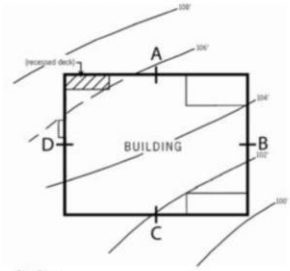
a. At the midpoint, measured horizontally, of each exterior wall of the structure, as shown in Figure 16.23.060(C)(a), or

b. At the midpoint of each side of the smallest rectangle that can be drawn to enclose the structure, as shown in Figure 16.23.060(C)(b).

Figure 16.23.060(C)(a) Calculating Average Building Elevation, Option 1

A, B, C, D... Existing Ground Elevation at Midpoint of Rectangle Segment*
a, b, c, d... Length of Rectangle Segment*

*Rectangle includes the perimeter of a deck or porch, unless the deck or porch has no walls at or below the deck level and no roof above the deck or porch, as well as cantilevered portions of a building which enclose interior space.



Midpoint Elevation	Rectangle Segment Length
A = 105.6	a = 47'
B = 102.5	b = 40'
C = 101.9	c = 47'
D = 105.2	d = 40'

Site Plan
Not to scale

FORMULA:

$$\frac{(A \times a) + (B \times b) + (C \times c) + (D \times d)}{a + b + c + d} = \text{Average Building Elevation (ABE)}$$

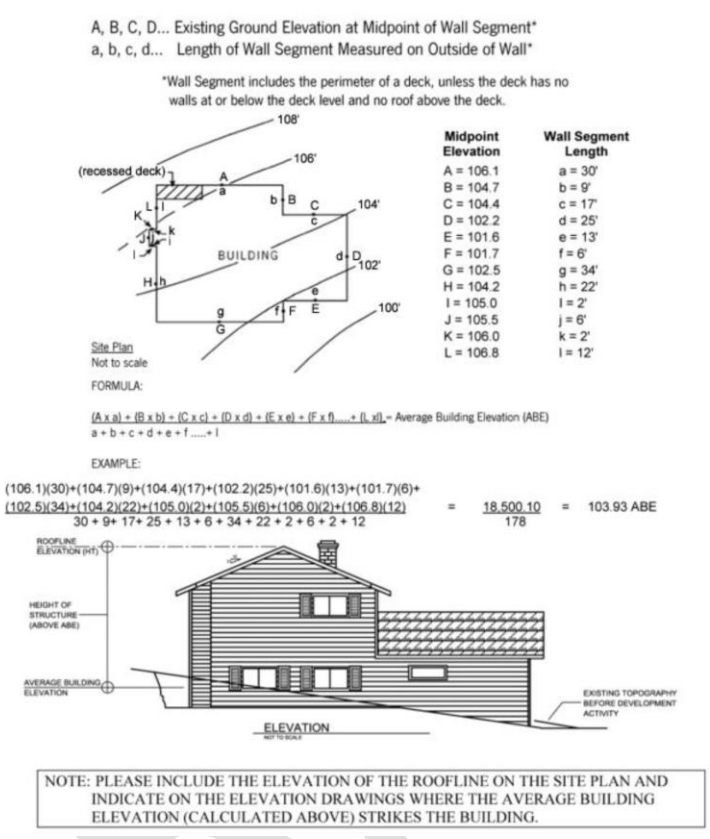
EXAMPLE:

$$\frac{(105.6)(47)+(102.5)(40)+(101.9)(47)+(105.2)(40)}{47 + 40 + 47 + 40} = \frac{18,060.5}{174} = 103.80 \text{ ABE}$$

NOTE: PLEASE INCLUDE THE ELEVATION OF THE ROOFLINE ON THE SITE PLAN AND INDICATE ON THE ELEVATION DRAWINGS WHERE THE AVERAGE BUILDING ELEVATION (CALCULATED ABOVE) STRIKES THE BUILDING.

Example from Kirkland – Temp placeholder for our own example

Figure 16.23.060(C)(b) Calculating Average Building Elevation, Option 2



Example from Kirkland – Temp placeholder for our own example

Average Building Elevation Examples 1-3 – April 26, 2022

Example 1 is zoned R-16. How maximum height is measured currently varies depending on the zoning district the lot is located. For lots zoned R-16, the measurement is taken from both the low points and the highs points of original and finished grade. By moving to average building elevation, we will be eliminating the two separate points of measurement. The average building elevation for this house is approximately 121.81, for a maximum of 146.81. The maximum height from the high point on the lot is 148.9, which is higher than what would be allowed under the proposal.

Example 2 is zoned R-20 and utilized the height bonus that's available for R-20 and R-30. The maximum height for this property is 36-feet from the low point of original grade and 30-feet from the high point. Again, by moving to average building elevation, relying on two measuring points will be eliminated. Averaging will automatically place the zero (where to begin measuring from) at a higher point so the new maximum height allowed with the bonus would just be 30-feet. The average building elevation for this house is approximately 154.38 and would have a maximum height of 184.38 under the height bonus.

Example 3 is the same example we looked at last month from Mercer Island and is located on a steep slope. The first page shows the table of how average building elevation was calculated and notes that the points are taken from existing grade because final was at the same grade or higher, and the second page shows an elevation section. While Mercer Island has a higher maximum height, we can generalize this example as if it were utilizing the height bonus that's offered for R-20 and R-30 lots. One of the concerns brought up during the February meeting was not allowing buildings to create a massive 50-foot façade on a downhill slope. To address this, the code includes language to limit the façade on a downhill slope to the maximum height otherwise allowed. Mercer Island's code is solely concerned with the façade and only measures to the roof framing, rafters, trusses, etc. (Example 3).

Average Grade Example #1
Maximum Height – 25 ft.

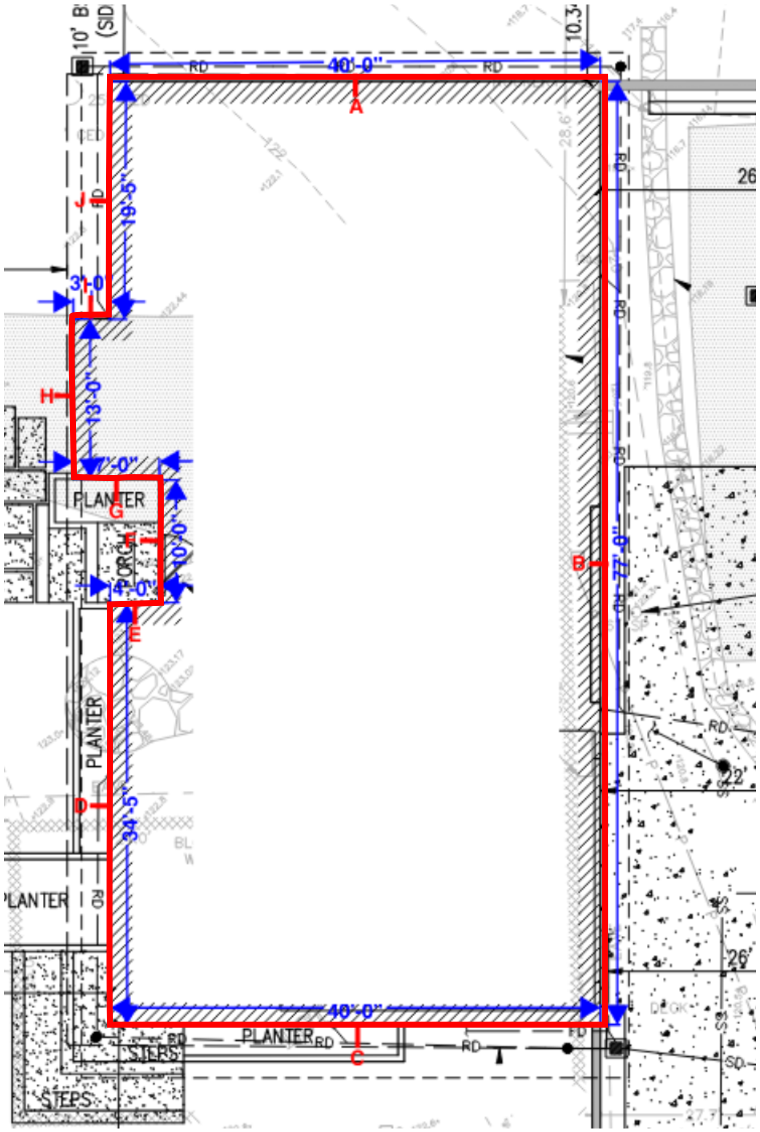
Midpoint Elevation	Rectangle Side Length
A. 121.2’	a. 40’
B. 121’	b. 77’
C. 121.9’	c. 40’
D. 122.8’	d. 34’-5”
E. 123’	e. 4’
F. 122.8’	f. 10’
G.122.6’	g. 7’
H. 122.6’	h. 13’
I. 122.5’	i. 3’
J. 122.7’	j. 19’-5”

Formula: $$\frac{(A \times a) + (B \times b) + (C \times c) + (D \times d) + (E \times e) + (F \times f) + (G \times g) + (H \times h) + (I \times i) + (J \times j)}{a + b + c + d + e + f + g + h + I + j}$$

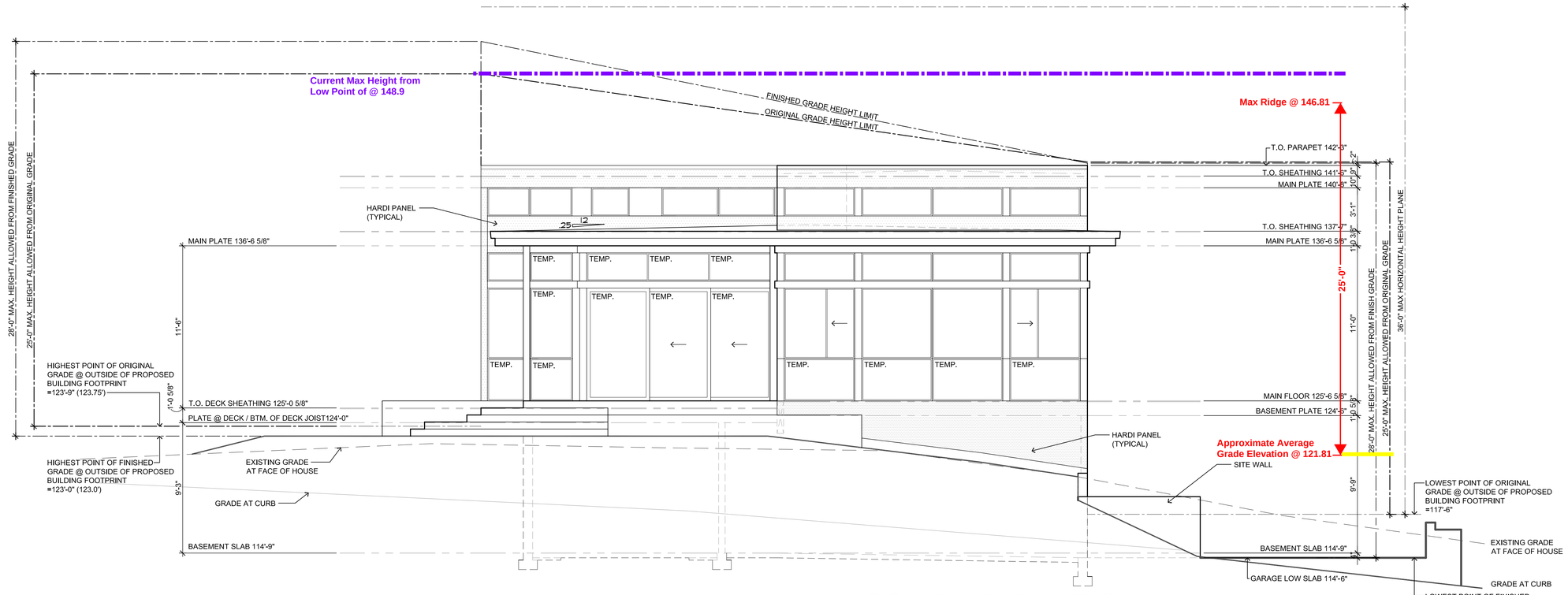
$$\frac{(121.2 \times 40) + (121 \times 77) + (121.9 \times 40) + (122.8 \times 34.5) + (123 \times 4) + (122.8 \times 10) + (122.6 \times 7) + (122.6 \times 13) + (122.5 \times 3) + (122.7 \times 19.5)}{40 + 77 + 40 + 34.5 + 4 + 10 + 7 + 13 + 3 + 19.5}$$

$$\frac{4848 + 9317 + 4876 + 4236.6 + 492 + 1228 + 858.2 + 1593.8 + 367.5 + 2392.65}{248} = \frac{30209.75}{248} =$$ **121.81 average grade elevation**

Maximum Elevation = 146.81’

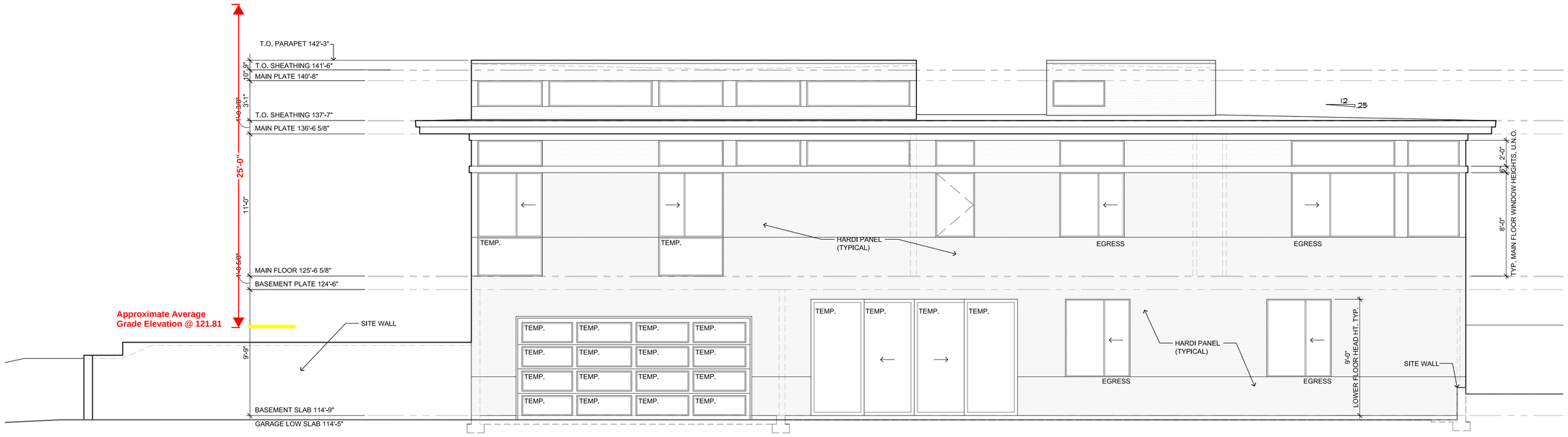

40'-0"
A
B
77'-0"
C
40'-0"
D
34'-5"
E
F
10'-0"
4'-0"
G
PLANTER
H
13'-0"
J
19'-5"
3'-0"
PORCH
PLANTER
STEPS
RD

Example 1



SOUTH ELEVATION

SCALE: 1/4" = 1'-0"



EAST ELEVATION

SCALE: 1/4" = 1'-0"

Average Grade Example #2
Maximum Height – 36 ft. (*they utilized the R-20 height bonus*)

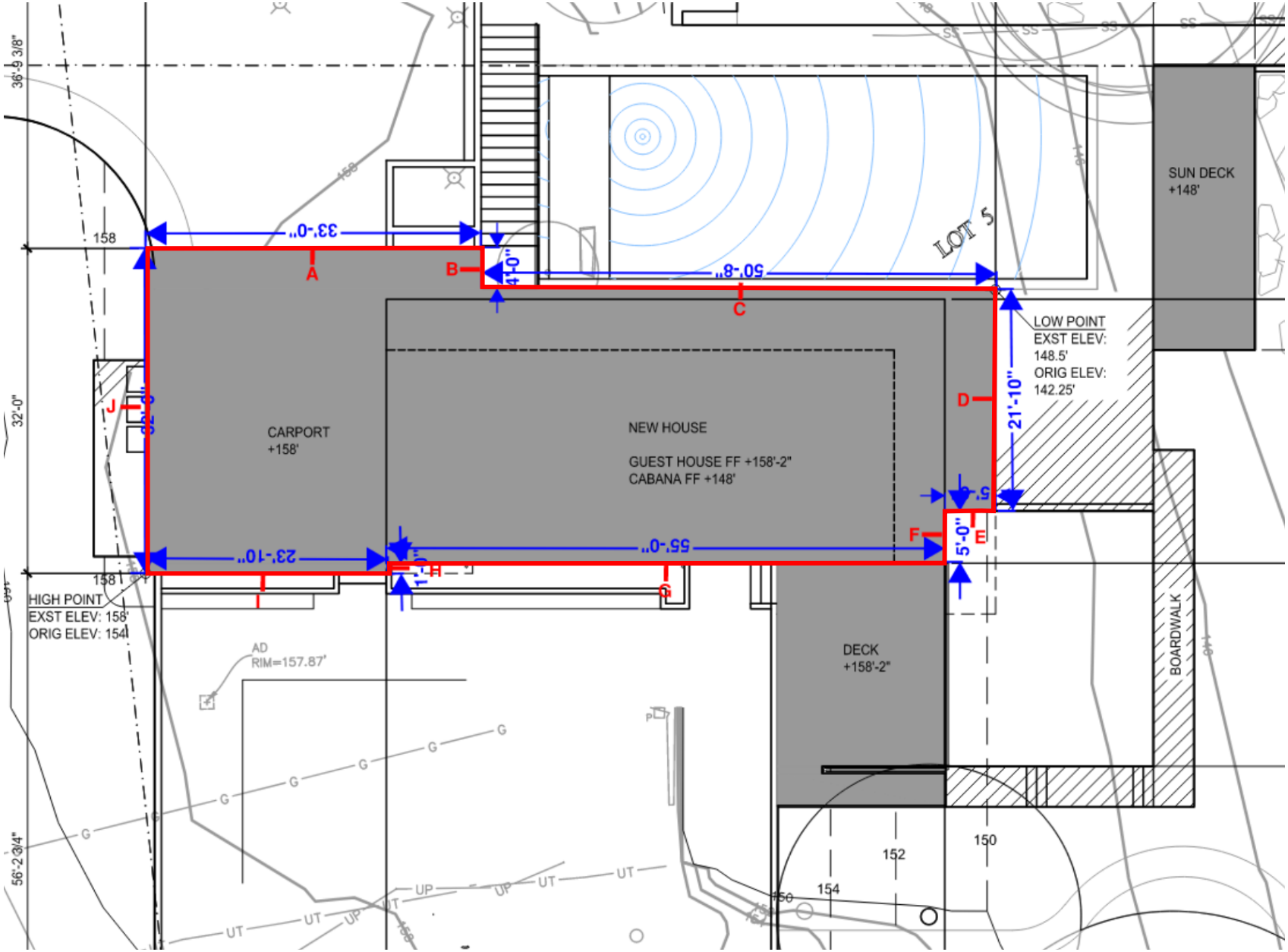
Midpoint Elevation	Rectangle Side Length
A. 157.7’	a. 33’
B. 157.5’	b. 4’
C. 149.8’	c. 50’-8”
D. 148.6’	d. 21-’1”
E. 150.3’	e. 5’
F. 150.9’	f. 5’
G.156’	g. 55’
H. 157.1’	h. 1’
I. 157.5	i. 23’-1”
J. 157.7’	j. 32’

Formula: $$\frac{(A \times a) + (B \times b) + (C \times c) + (D \times d) + (E \times e) + (F \times f) + (G \times g) + (H \times h) + (I \times i) + (J \times j)}{a + b + c + d + e + f + g + h + I + j}$$

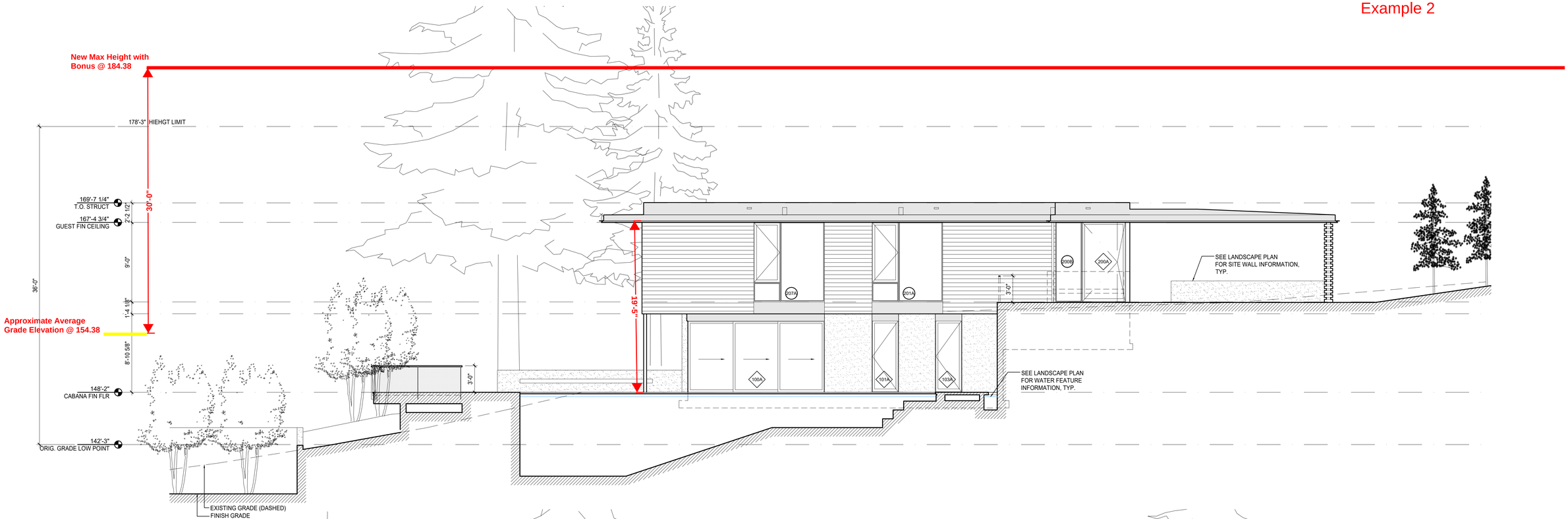
$$\frac{(157.7 \times 33) + (157.5 \times 4) + (149.8 \times 50.8) + (148.6 \times 21.1) + (150.3 \times 5) + (150.9 \times 5) + (156 \times 55) + (157.1 \times 1) + (157.5 \times 23.1) + (157.7 \times 32)}{33 + 4 + 50.8 + 21.1 + 5 + 5 + 55 + 1 + 23.1 + 32}$$

$$\frac{5204.1 + 630 + 7609.84 + 3135.46 + 751.5 + 754.5 + 8580 + 157.1 + 3638.25 + 5046.4}{230} = \frac{35507.15}{230} = \textbf{154.38 average grade elevation}$$

Maximum Elevation with *new* Height Bonus (Max of 30’) = 184.38

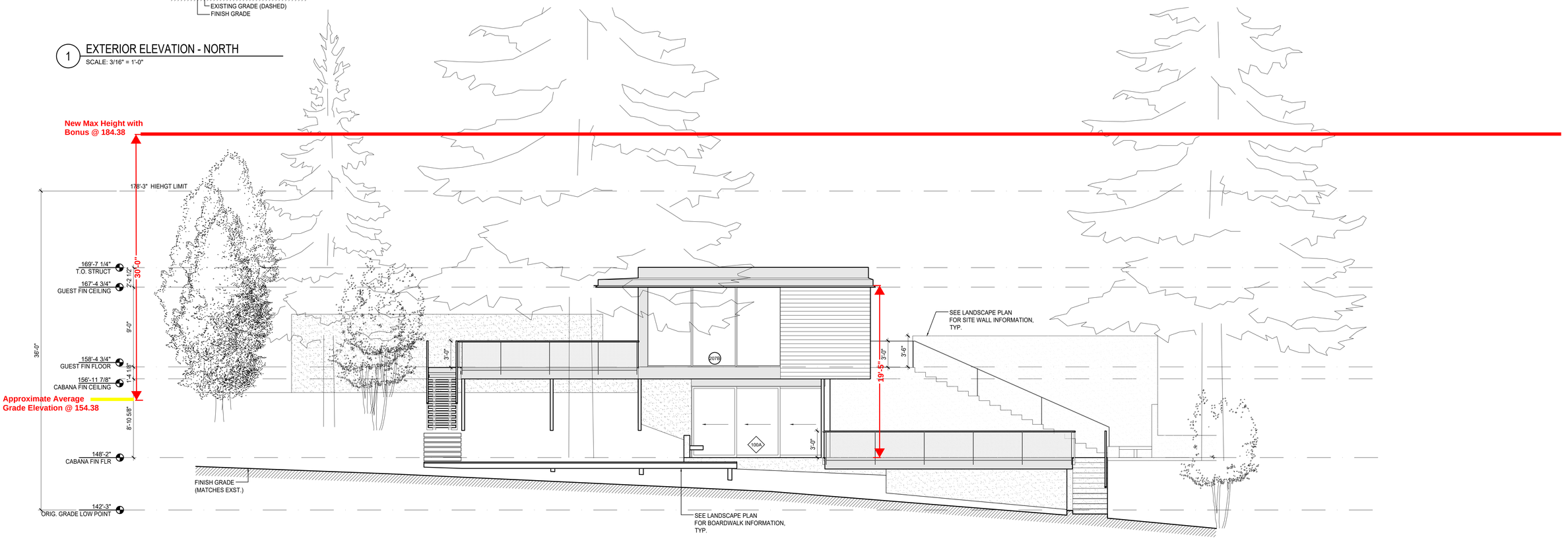

SUN DECK
+148'
LOT 5
LOW POINT
EXST ELEV:
148.5'
ORIG ELEV:
142.25'
CARPORT
+158'
NEW HOUSE
GUEST HOUSE FF +158'-2"
CABANA FF +148'
DECK
+158'-2"
BOARDWALK
HIGH POINT
EXST ELEV: 158'
ORIG ELEV: 154'
AD
RIM=157.87'
33'-0"
50'-8"
41'-0"
21'-10"
5'-0"
55'-0"
23'-10"
A
B
C
D
E
F
G
H
I
J
158
152
150
154

Example 2



1 EXTERIOR ELEVATION - NORTH

SCALE: 3/16" = 1'-0"



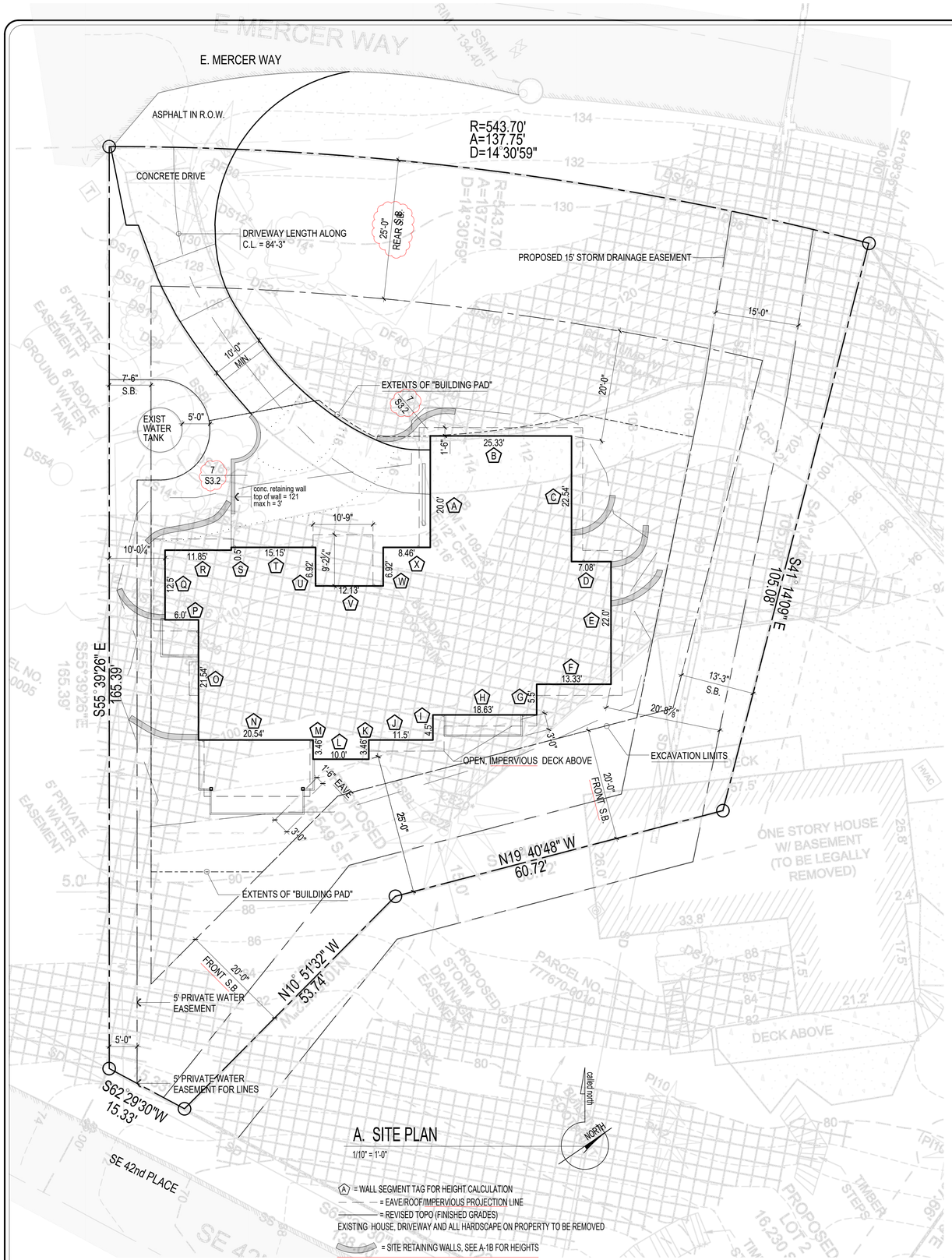
2 EXTERIOR ELEVATION - EAST

SCALE: 3/16" = 1'-0"

Example 3

Owner

Civil Engineer



A. SITE PLAN

1/10" = 1'-0"

Ⓐ = WALL SEGMENT TAG FOR HEIGHT CALCULATION
= EAVE/ROOF/IMPERVIOUS PROJECTION LINE
= REVISED TOPO (FINISHED GRADES)
EXISTING HOUSE, DRIVEWAY AND ALL HARDSCAPE ON PROPERTY TO BE REMOVED
= SITE RETAINING WALLS, SEE A-1B FOR HEIGHTS
= EXISTING TOPOGRAPHY

CONTINUOUS GEOTECHNICAL INSPECTION IS REQUIRED DURING EXCAVATION.

All Japanese knotweed (Polygonum cuspidatum) and Regulated Class A, Regulated Class B, and Regulated Class C weeds identified on the King County Noxious Weed list, as amended, shall be removed from the property.

development proposals for a new single-family home shall remove japanese knotweed (polygonum cuspidatum) and regulated class a, regulated class b, and regulated class c weeds identified on the king county noxious weed list, as amended, from required landscaping areas established pursuant to subsection 19.02.020(f)(3)(a). new landscaping associated with new single-family home shall not incorporate any weeds identified on the king county noxious weed list, as amended. provided, that removal shall not be required if the removal will result in increased slope instability or risk of landslide or erosion.

ABE CALCULATION

	EL @ MIDPOINT	segment	wtd sgmnt
A	115	20	2300.00
B	113	25.33	2862.29
C	108	22.54	2434.32
D	101.9	7.08	721.45
E	95	22	2090.00
F	92.5	13.33	1233.03
G	94	5.5	517.00
H	97	18.63	1807.11
I	98.1	4.5	441.45
J	97.2	11.5	1117.80
K	96.8	3.46	334.93
L	96.7	10	967.00
M	97.8	3.46	338.39
N	99	20.54	2033.46
O	105	21.54	2261.70
P	110.6	6	663.60
Q	112.7	12.5	1408.75
R	115.4	11.85	1367.49
S	114.8	0.5	57.40
T	114	15.15	1727.10
U	111.9	6.92	774.35
V	110.3	12.13	1337.94
W	112	6.92	775.04
X	113.3	8.46	958.52
Y			
		289.84	30530.11

AVG. EL = 105.3343

all midpoints are existing grade
all final grades same or higher than existing

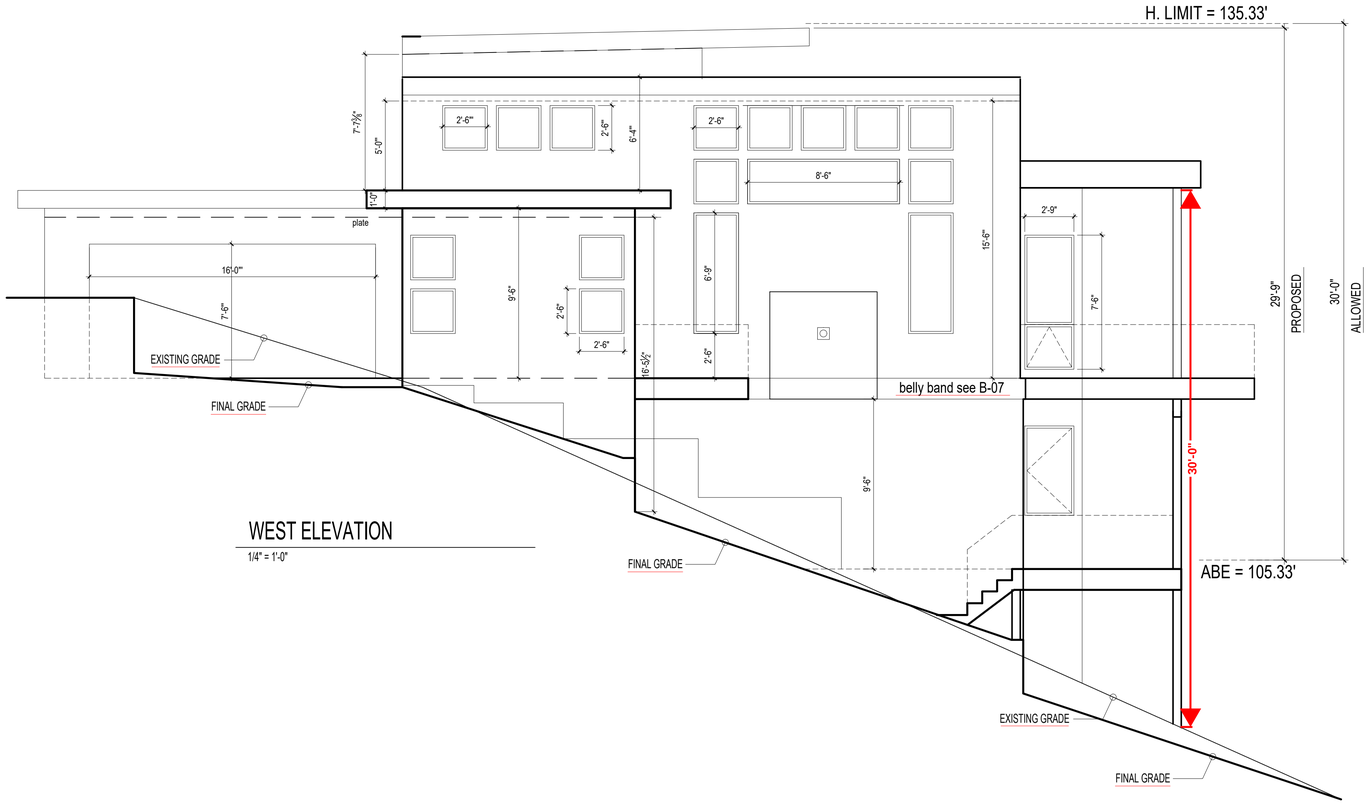
Parcel Number/Legal

FAR CALCULATION

Main Floor = 2280.5 sf
Lower Floor = 1893.8 sf
Upper Floor = 414 sf
Garage = 570 sf
12'16" clg = 301 sf
covered decks = 220 sf
stairs = (-88)

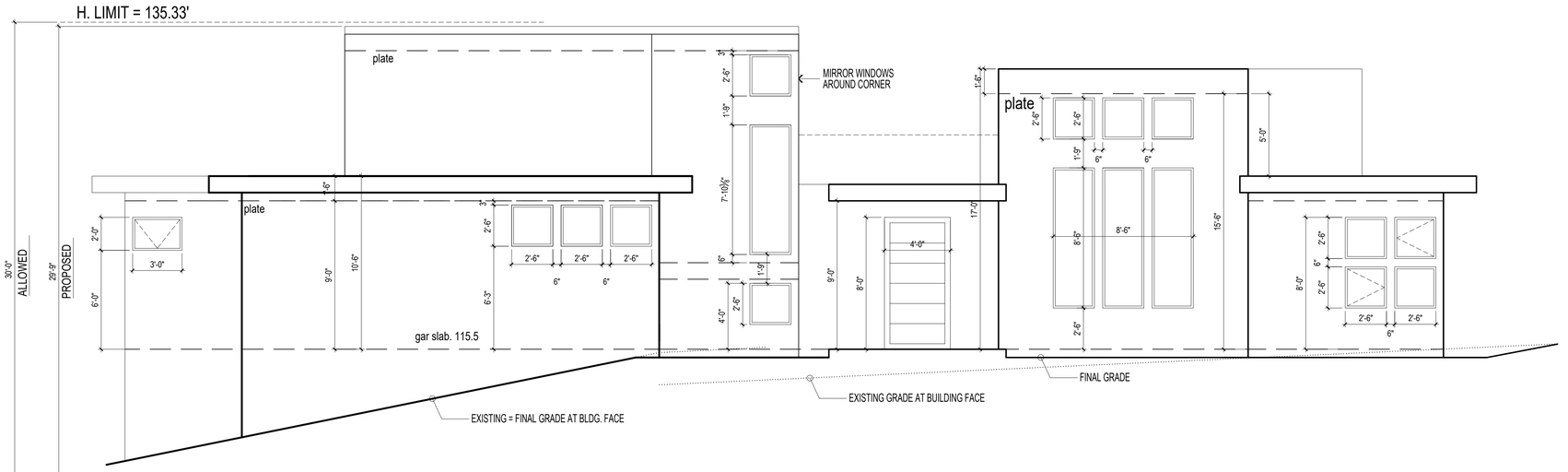
TOTAL = 5591.3 sf
allowable = 16,549 x .4 = 6619.6 sf

Example 3



WEST ELEVATION

1/4" = 1'-0"



NORTH ELEVATION

1/4" = 1'-0"