
**Anchorage Housing
Market Analysis
Appendix C:
Anchorage Forecast for
Housing Demand
2010 to 2030**

Final

Anchorage Housing Market Analysis

Appendix C: Anchorage Forecast for Housing Demand 2010 to 2030

Prepared for:
Municipality of Anchorage

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Disclaimer

ECONorthwest completed this report as a subcontractor to McDowell Group, on behalf of the Municipality of Anchorage. The report is a forecast of demand for housing in Anchorage over the 2010-2030 period. The result of the analysis is an estimate of demand for all housing and potential demand for compact housing in Anchorage.

Throughout the report we identify the sources of information and assumptions used in the analysis. Within the limitations imposed by uncertainty and the project budget, ECONorthwest has made every effort to check the reasonableness of the data and assumptions, and to test the sensitivity of the results of our analysis to changes in key assumptions. ECO acknowledges that any forecast of the future is uncertain. The fact that we evaluate assumptions as reasonable does not guarantee that those assumptions will prevail.

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Executive Summary

Anchorage is the largest urban area in Alaska, and is expected to grow by nearly 20% over the next 20 years. More people will create a need for more housing. The *Anchorage 2020: Anchorage Bowl Comprehensive Plan* concluded that the amount of land in the Anchorage Bowl that would be needed to accommodate expected new housing construction through 2020 was greater than the amount of land that was available for building that housing (given the existing zoning). The conclusion of the Anchorage Bowl Comprehensive Plan was that the Municipality would need to provide opportunities for developing housing at greater densities than in the past and to facilitate infill and redevelopment of underutilized land throughout the Anchorage Bowl.

The Municipality is in the process of updating its information about the supply of land within Anchorage, including information about (1) the amount of vacant and buildable residential land; and (2) the capacity of that land to accommodate new dwelling units, given what zoning and other public policy allow. The Municipality will also update the Anchorage Bowl Land Use Plan map through 2030. Part of that update will include an evaluation of opportunities for increasing residential land-use efficiency – in other words, for increasing housing density on vacant and developed land parcels in some parts of the city.

This report presents a housing demand analysis for the Anchorage Municipality. This report is part of a larger analysis of housing demand in Anchorage that considers on potential demand for compact housing (e.g., denser housing) in the Anchorage Municipality. Other products in this project include: (1) a survey about housing preferences, (2) evaluation of financial feasibility for developing compact housing, and (3) evaluation of strategies for facilitating development of compact housing, including infill and redevelopment.

The purpose of this report is to evaluate overall demand for all types of housing in the Anchorage Bowl and Chugiak-Eagle River over the 2010 to 2030 period and to forecast potential demand for compact housing types. This report presents two forecasts for housing demand in the Municipality: (1) a baseline forecast for demand for all housing based on historical trends and (2) a variation to the baseline forecast that shows potential demand for compact housing based on forecasts of demographic changes, economic changes, and results of the survey of housing preferences in Anchorage.

The baseline forecast of housing demand is only a starting point. The future is inherently uncertain; the past is not necessarily the future. The best

forecasters can do is to simulate alternative futures. The variation holds population growth, household size, and vacancy assumptions constant from the baseline forecast to examine how demand for compact housing types of housing may vary. Other variations to housing demand in the Municipality are possible, including variations in population growth, household composition and size, or vacancy rates.

METHODS

The study area used in this report is the entire Municipality of Anchorage, excluding Girdwood and Turnagain Arm.¹ Through this report, the terms Municipality of Anchorage, the Municipality, and Anchorage are used interchangeably to refer to this geographic area.

The forecasts for housing demand in this report are based on the six factors that affect the amount and type of housing built in a community: (1) population growth and population demographics, (2) purchasing power of households, (3) housing preferences, (4) prices and costs of housing, (5) price of housing substitutes (e.g., transportation), and (6) housing policy. The study uses historical trends in population and housing growth, coupled with official forecasts for both, as a starting point for a long-run forecast of housing demand in the aggregate. This study considers how demand for compact housing may vary from historical trends and current conditions based on these factors.

This report forecasts demand for housing without considering supply of residential land. Municipality staff are in the process of updating the buildable lands inventory and estimating residential development capacity. This information is presented in Appendix F.

For the purposes of this study, ECONorthwest grouped housing types based on: (1) whether the structure is stand-alone or attached to another structure, (2) the number of dwelling units in each structure, and (3) the compactness of multifamily housing types. The housing types used in this analysis are:

- **Single-family.** Single-family detached dwellings on lots smaller than 40,000 square feet or site condos with single-family detached dwellings on common lots
- **Large-lot single-family.** Single-family detached dwellings on lots larger than 40,000 square feet in large-lot (rural) zoning districts

¹ Girdwood and Turnagain Arm were not included in this study because their housing market is fundamentally different from the housing market in the Anchorage Bowl and Chugiak-Eagle River. In addition, Girdwood is currently in the process of updating the *Girdwood Area Plan*.

- **Two-family and duplex.** A single-family dwelling attached to one other unit on an adjacent parcel or a single structure containing two units on one parcel or site condos on common or adjacent parcels
- **Townhouse.** A single-family dwelling attached to two or more other units on an adjacent parcel or on a common parcel
- **Multifamily and other.** Multifamily with three or four units, multifamily with five or more units, dwellings in mobile home parks, dwellings in mixed-use buildings, and institutional housing

FACTORS THAT AFFECT HOUSING DEMAND IN ANCHORAGE

This section describes current conditions and trends for factors that affect housing demand in the Municipality of Anchorage. This section focuses on the implications of the most significant facts that may affect housing demand in Anchorage. Chapter 3 and Appendix C.3 present detailed data about these factors.

Residential development

- Housing and population grew at similar rates between 1998 and 2009/2010.
- The types of housing in the Anchorage Bowl did not change substantially, with the percentage of single-family and large-lot single-family accounting for 42% of housing in the Bowl in 1998 and 2010.
- Attached and multifamily housing types grew faster than single-family housing types in Chugiak-Eagle River.
- About 60% of Anchorage's dwellings were owner-occupied in 2009, with more than 80% of single-family units owner-occupied and 70% of attached and multifamily units renter-occupied.
- Vacancy rates are likely to be relatively low.

Population and demographic trends and forecasts

- Housing will grow with population.
- Anchorage will have growth in older and younger households.
- Anchorage is becoming more ethnically diverse.
- Average household size will continue to decline.

Household purchasing power

- Lack of growth in income may increase demand for compact housing.
- Declines of income for older households will disproportionately affect the purchasing power of lower-income older households.

Housing preference

- Some households are willing to consider compact housing but want private outdoor space.
- Not all households who say they will consider compact housing will choose to live in compact housing.

Housing prices and costs

- Housing costs increased over the last decade.
- Homeownership costs grew faster than income, making homeownership less affordable in Anchorage.
- Continued increases in housing costs may increase demand for compact housing.
- Lower housing costs make Mat-Su an attractive place to live for people working in Anchorage.

Prices of housing substitutes

- Commuting from outside of Anchorage may continue to be a substitute for housing in Anchorage.
- Remodeling will continue to be a substitute for new housing.

Housing policy

- Changes in Municipality housing policy have potential for changing the supply of compact housing, which could increase or decrease the price of compact housing.

BASELINE HOUSING DEMAND

The analysis in Chapter 3 and Appendix C.3 leads to a baseline forecast of new housing units likely to be built in the Municipality during the 2010 to 2030 period. Table S-1 shows an estimate of that housing in the Anchorage Bowl and Chugiak-Eagle River for the 2010 to 2030 period, based on recent data. The forecast is based on the following assumptions:

- Population will increase by 53,900 people from 2010 to 2030, with 43,400 additional people in the Anchorage Bowl and 9,000 additional people in Chugiak-Eagle River.
- The average household size will decrease to 2.53 persons per household in the Anchorage Bowl and 2.87 persons per household in Chugiak-Eagle River, as described in Appendix C.4.
- Vacancy rates for all housing types will be 6.0% in 2030, based on recent vacancy rates in the Municipality.

Based on the assumptions shown in Table S-1, the Anchorage Bowl will need 18,184 new dwelling units and Chugiak-Eagle River will need to add 3,324 new dwelling units to accommodate population growth between 2010 and 2030. The total new dwellings added in the Municipality would be 21,222 over the 20-year period.²

Table S-1. Forecast of new dwelling units, Anchorage Bowl and Chugiak-Eagle River, 2010 to 2030

	Estimate of Housing Units (2010-2030)	
	Anchorage Bowl	Chugiak- Eagle River
Change in persons	43,400	9,000
Average household size	2.53	2.87
New occupied DU	17,155	3,136
<i>times</i> Aggregate vacancy rate	6%	6%
<i>equals</i> Vacant dwelling units	1,029	188
Total new dwelling units (2010-2030)	18,184	3,324
Annual average new dwelling units	909	166

Source: ECONorthwest
Note: DU is dwelling unit

The growth in Table S-1 would result in an increase from 97,660 dwelling units in the Anchorage Bowl in 2010 to 115,844 dwelling units in 2030. In Chugiak-Eagle River, the number of dwelling units would increase from 12,707 units in 2010 to 16,031 dwelling units in 2030.

Table S-2 presents a baseline forecast of new dwelling units by structure type based on the current distribution of housing stock in the Anchorage Bowl and Chugiak-Eagle River. The forecast in Table S-2 assumes that the current housing conditions and recent trends continue over the next 20 years.

² The forecast of new units does not account for dwellings that will be demolished. This analysis does not factor those units in; it assumes they will be replaced at the same site and will not create additional demand for residential land.

Table S-2. Baseline forecast of new dwelling units by structure type, Anchorage Bowl and Chugiak-Eagle River, 2010 to 2030

Dwelling Units by Structure Type	Estimate of Housing by Structure Type (2010-2030)	
	Anchorage Bowl	Chugiak-Eagle River
Total new dwelling units (2010-2030)	18,184	3,324
Dwelling units by structure type		
Large Lot Single-Family		
Percent large lot single-family	4%	25%
equals Total new large lot single-family DU	726	831
Single-Family		
Percent single-family	38%	52%
equals Total new single-family DU	6,912	1,729
Two Family/Duplex		
Percent two family/duplex	16%	12%
equals Total two family/duplex DU	2,909	399
Townhouse		
Percent townhouse	5%	1%
equals Total townhouse DU	909	33
Multifamily and other		
Percent multifamily and other	37%	10%
equals Total multifamily and other DU	6,728	332
Total new dwelling units	18,184	3,324

Source: ECONorthwest
 Note: DU is dwelling unit

If trends in tenure continue, about 60% of new dwelling units will be owner-occupied (nearly 11,000 units in the Anchorage Bowl and nearly 2,000 units in Chugiak-Eagle River) and 40% will be renter-occupied (more than 7,000 units in the Anchorage Bowl and more than 1,300 units in Chugiak-Eagle River). The majority of large-lot single-family and single-family will be owner-occupied. The majority of attached and multifamily units will be renter-occupied.

VARIATIONS IN DEMAND FOR COMPACT HOUSING

The factors described above and in Chapter 3 are ones that can cause the housing market in Anchorage to change from the trends it evidenced over the last 20 years. This section assesses how potential changes in these factors might change demand for compact housing in Anchorage relative to historical demand.

The baseline forecast of housing demand by type of housing (Table S-2) is only a starting point. The variation holds population growth, household size, and vacancy assumptions constant from the baseline forecast to examine how demand for compact housing types of housing may vary. The variation assumes, as does the baseline forecast, that there will be demand

for about 18,184 new dwelling units in the Anchorage Bowl and 3,324 new dwelling units in Chugiak-Eagle River.

The future is inherently uncertain, so any single forecast of long-run social phenomenon (like housing production) is unlikely to prove correct over time. The forecasts that follow adjust the baseline forecast shown in Table S-3 is based on an assessment of expected variation in some of the key factors that affect housing demand:

- **Population and demographics.** Future demand for compact housing will be affected by changes in demographics, especially changes in age and growth in Alaska Native and Hispanic populations. In general, Anchorage's population will grow older, with the most growth in people over 65 years and between 20 and 39 years. Minorities are likely to account for a larger share of Anchorage's population in the future, with the largest growth in Alaska Native and Hispanic populations. **These changes suggest an increase in demand for housing in general and need for compact housing types to meet housing demand.**
- **Purchasing Power.** ISER's³ projection for change in real household income is that income will remain stable over the 20-year period, without substantially increasing or decreasing. **The lack of growth in household income suggests that, if real housing costs increase (as discussed below), housing may become less affordable and demand for compact housing may increase.**
- **Preferences.** The survey of housing preferences in Anchorage shows that respondents lived at their current residence for about eight years, suggesting that, on average, most households will move two or more times over the 20-year period. About half of residents are willing to accept a smaller home in the right location and about one-fifth of respondents are "highly likely" candidates for compact housing. **The results of the survey suggest that the types of compact housing most likely to be in higher demand are lower-density multifamily housing types, such as duplexes or townhouses.**
- **Prices and costs of housing.** The price of homeownership and renting increased over the last decade or more. If housing costs continue to grow and purchasing power does not grow at the same rate, then housing will become less affordable over time. As housing prices increase, some households may choose smaller dwellings, which may be more expensive on a per-square-foot basis but will be

³ ISER is the Institute of Social and Economic Research at the University of Alaska Anchorage.

more affordable than larger housing types. **Decreases in housing affordability suggest increased demand for compact housing.**

- **Prices of housing substitutes.** The most common housing substitute is commuting from a lower cost housing market (e.g., Mat-Su) to Anchorage. The factors that have the greatest chance of substantially increasing commuting costs are increases in fuel cost or parking cost. **Increases in commuting costs (primarily, in fuel price, parking price, and congestion) would result in increased housing demand in Anchorage, including demand for compact housing. Substantial increases in those costs would tilt the demand even more toward compact housing, which presumably could be functional with fewer automobiles (and lower transport cost) per household.**
- **Housing Policy.** Changes in Municipal housing policy have potential for changing the supply of compact housing, which could increase or decrease the price of compact housing. For example, if the Municipality allowed small-lot single-family detached units (e.g., on 3,000 square foot lots), households may choose to purchase or rent these more compact single-family dwellings. The main report document discusses potential changes to Municipal housing policy.

In addition to the factors described above, availability of land will affect demand for compact housing, as discussed in the main report. The Anchorage Bowl Comprehensive Plan documented a deficit of buildable land, which suggests an increase in demand for compact housing types. These issues are described in Appendix F and in the main report.

In the opinion of ECONorthwest, the bulk of the data described in this report support the conclusion that compact housing in Anchorage, as a share of total new housing, is more likely to increase than to decrease over the next 20 years. New housing will shift in the direction of higher densities and more multifamily housing types, which are typically more affordable because land costs are lower, the amount of space per dwelling unit is less, and service costs for multifamily are spread out over multiple units.

Table S-3 shows a variation to housing mix for new housing in the Anchorage Bowl and Chugiak-Eagle River. There are dozens of ways that housing mix in the Anchorage Bowl and Chugiak-Eagle River could vary over the 20-year period. Table S-3 presents one informed variation for compact housing in Anchorage.

Table S-3. Variation to the forecast of new dwelling units by structure type, Anchorage Bowl and Chugiak-Eagle River, 2010 to 2030

Dwelling Units by Structure Type	Estimate of Housing by Structure Type (2010-2030)	
	Anchorage Bowl	Chugiak-Eagle River
Total new dwelling units (2010-2030)	18,184	3,324
Dwelling units by structure type		
Large Lot Single-Family		
Percent large lot single-family	2%	20%
<i>equals</i> Total new large lot single-family DU	362	665
Single-Family		
Percent single-family	33%	50%
<i>equals</i> Total new single-family DU	6,003	1,663
Two Family/Duplex		
Percent two family/duplex	19%	15%
<i>equals</i> Total two family/duplex DU	3,455	499
Townhouse		
Percent townhouse	8%	4%
<i>equals</i> Total townhouse DU	1,455	132
Multifamily and other		
Percent multifamily and other	38%	11%
<i>equals</i> Total multifamily and other DU	6,909	365
Total new dwelling units	18,184	3,324

Source: ECONorthwest
 Note: DU is dwelling unit

This report is part of a larger study that assesses long-run demand for housing in the Anchorage region, with a focus on the demand for compact housing. This chapter describes the background for the study, the methods of analysis, and how the rest of the report is organized.

1.1 BACKGROUND

Anchorage is the largest urban area in Alaska, and is expected to grow. Anchorage's population grew by more by almost 25% in the 20 years between 1990 and 2010; it is projected to grow by almost 20% over the next 20 years.

More people will create a need for more housing. A fundamental question for the Municipality of Anchorage is whether public policy has taken reasonable steps to facilitate the provision of new housing units by the private sector. Such steps might include removing regulations that add more to housing cost than they provide in public benefits, or providing incentives for the production of certain housing types for which market prices fall short of those that would induce private developers to build those housing types.

In 2001 the Municipality adopted the *Anchorage 2020: Anchorage Bowl Comprehensive Plan*, which concluded that the amount of land in the Anchorage Bowl that would be needed for 20 years of expected new housing construction (of housing units that would roughly accommodate the expected population growth) was greater than the amount of land that was available for building that housing (given the existing zoning). The conclusion of the Anchorage Bowl Comprehensive Plan was that the Municipality would need to provide opportunities for developing housing at greater densities than in the past and to facilitate infill and redevelopment of underutilized land throughout the Anchorage Bowl. The preferred development scenario in the Anchorage Bowl Comprehensive Plan was the Urban Transition, which envisioned an increase in housing density, mixed-use development, and infill and redevelopment in Downtown, Midtown, and older in-town neighborhoods. The scenario envisioned retaining the suburban and rural neighborhoods in South Anchorage.

The Municipality is in the process of updating its information about the supply of land within Anchorage, including information about (1) the

amount of vacant and buildable residential land; and (2) the capacity of that land to accommodate new dwelling units , given what zoning and other public policy allow. The Municipality will also update the Anchorage Bowl Land Use Plan Map, its plan for land use in the Anchorage Bowl through 2030. Part of that update will include an evaluation of opportunities for increasing residential land-use efficiency – in other words, for increasing housing density on vacant and developed land parcels in parts of the City.

This report presents a housing demand analysis for the Anchorage Municipality. This report is part of a larger analysis of housing demand in Anchorage that considers potential demand for compact housing (e.g., denser housing) in the Anchorage Municipality.⁴ Other products in this project include: (1) a survey about housing preferences, (2) evaluation of financial feasibility for developing compact housing, and (3) evaluation of strategies for facilitating development of compact housing, including infill and redevelopment.

The purpose of this report is to evaluate overall demand for all types of housing in Anchorage over the 2010 to 2030 period, focusing on potential demand for compact housing types. The forecast of housing demand is based on a forecast of population growth for the Anchorage Municipality. ECONorthwest presents a range of demand for different types of housing (e.g., single-family detached housing or multifamily housing) based on historical development patterns, housing preferences of current residents described in the housing preference survey, and projected demographic and socioeconomic trends, which may affect demand for compact housing.

This report forecasts demand for housing without considering supply of residential land. Municipality staff are in the process of updating the buildable lands inventory and estimating residential development capacity. Appendix F and the main document discuss the residential capacity of Anchorage’s land and issues related to the Municipality’s constrained land supply.

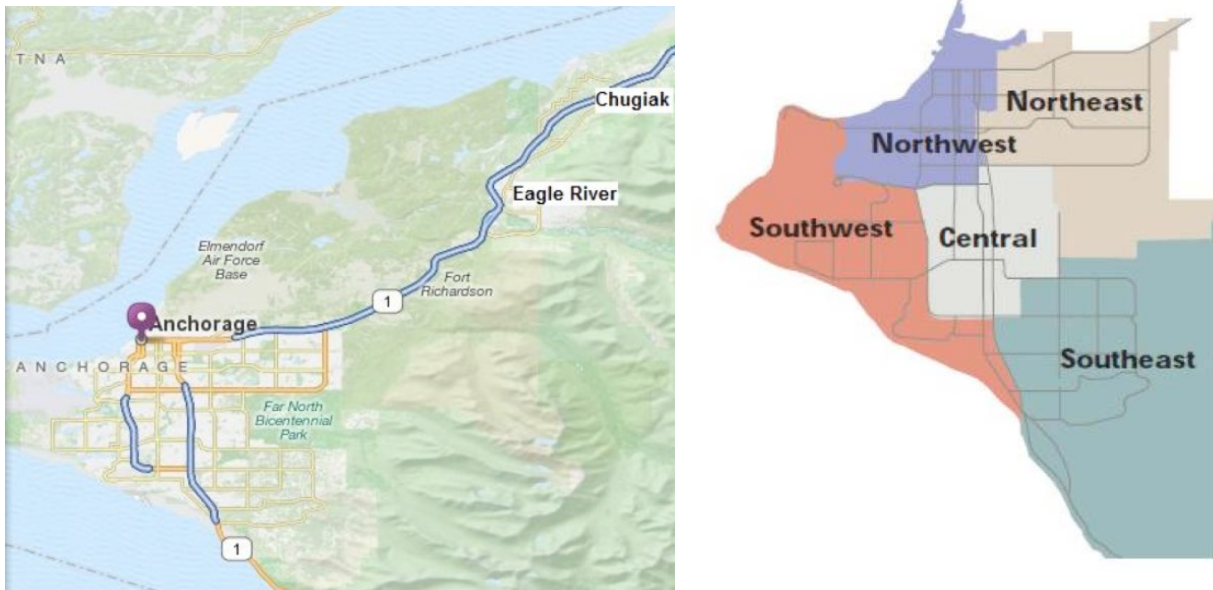
⁴ That larger report is being managed by McDowell Associates, and includes surveys of regarding housing preferences. This report—the demand analysis—is the work of ECONorthwest and incorporates some of the survey results.

1.2 METHODS

Chapter 2 and Appendix C.1 describe the framework and methods used in the report. In brief, this report describes potential housing demand in the Municipality of Anchorage and sub-areas within the Municipality over the 2010 to 2030 period.

The study area used in this report is the entire Municipality of Anchorage, excluding Girdwood and Turnagain Arm. Through this report, the terms Municipality of Anchorage, the Municipality, and Anchorage are used interchangeably to refer to this geographic area. This report refers to the following sub-areas: (1) the Anchorage Bowl, the urbanized area in the western part of the Municipality, and (2) the community of Chugiak-Eagle River, a suburban community located northeast of the Anchorage Bowl along the Glenn Highway. Map 1-1 shows the Anchorage Bowl and Chugiak-Eagle River, as well as five sub-areas within the Anchorage Bowl: Northeast, Northwest, Central, Southwest, and Southeast.

Map 1-1. Municipality of Anchorage and sub-areas within the Anchorage Bowl



Source: McDowell Group

The forecasts for housing demand in this report are based on the six factors that affect the amount and type of housing built in a community: (1) population growth and population demographics, (2) purchasing power of households, (3) housing preferences, (4) prices and costs of housing, (5) price of housing substitutes (e.g., transportation), and (6) housing policy.

The study uses historical trends in population and housing growth, coupled with official forecasts for both, as a starting point for a long-run forecast of housing demand in the aggregate. This study considers how demand for compact housing may vary from historical trends and current conditions based on these factors.

The forecasts for housing demand in this report are based on the six factors that affect the amount and type of housing built in a community: (1) population growth and population demographics, (2) purchasing power of households, (3) housing preferences, (4) prices and costs of housing, (5) price of housing substitutes (e.g., transportation), and (6) housing policy. The study uses historical trends in population and housing growth, coupled with official forecasts for both, as a starting point for a long-run forecast of housing demand in the aggregate. It then refers to data regarding the six categories of factors to describe how they might make the demand higher or lower, and how that aggregate demand might distribute itself into different housing types and subareas.

The forecasts of housing demand in this report build from other forecasts, such as population and demographic forecasts, to describe overall demand for housing in the Municipality, focusing on demand for compact housing.

This report presents two forecasts for housing demand in the Municipality: (1) a baseline forecast for demand for all housing based on historical trends and (2) a variation to the baseline forecast that shows potential changes in demand for housing by housing type based on forecasts of demographic changes, economic changes, and results of the survey of housing preferences in Anchorage.

The baseline forecast of housing demand is only a starting point. The future is inherently uncertain; the past is not necessarily the future. The best forecasters can do is to simulate alternative futures. The variation holds population growth, household size, and vacancy assumptions constant from the baseline forecast to examine how demand for housing by housing type may vary. Other variations to housing demand in the Municipality are possible, including variations in population growth, household composition and size, or vacancy rates.

1.3 ORGANIZATION OF THIS REPORT

The information in Chapters 2 through 4 present a summary of analysis about housing market demand in Anchorage. Appendices C.1 through C.4 present detailed data about the Anchorage housing market and the methods used in this report. This document is organized as follows:

- **Chapter 2. Framework and Methods** describes the framework for developing a housing demand analysis and the methods used in this report.
- **Chapter 3. Factors that Affect Housing Demand in Anchorage** summarizes demographic, housing, and socioeconomic data that affect demand for housing in Anchorage.
- **Chapter 4. Housing Demand in Anchorage, 2010 to 2030** presents a housing demand analysis for Anchorage.

This report includes four data appendices:

- **Appendix C.1. Forecasting Housing Demand: Framework and Methods**
- **Appendix C.2: National Housing Trends**
- **Appendix C.3: Factors that Affect Housing Demand in Anchorage**
- **Appendix C.4: Additional Information about Population Growth and Household Size**

Housing demand is affected by many categories of factors, most importantly population growth and demographics, housing preferences, housing prices, economic growth and income, interest rates, transportation costs, and other factors. Modeling future housing demand is complicated by the number and interactions of the factors. This chapter summarizes information the most important factors and interactions, and the implications for the methods used in this study to forecast the long-run demand for new, compact housing demand for Anchorage.

2.1 FACTORS THAT AFFECT HOUSING MARKETS AND HOUSING CHOICE

Economists view housing as a bundle of services for which people are willing to pay some price: shelter certainly, but also proximity to other attractions (jobs, shopping, recreation), amenity (type and quality of fixtures and appliances, landscaping, views), prestige, and access to public services (quality of schools).

Because it is impossible to maximize all these services and simultaneously minimize costs, households must, and do, make tradeoffs. What they can get for their money is influenced by both economic forces and government policy. Different households will value what they can get differently. They will have different preferences, which in turn are a function of many factors like income, age of the head of the household, number of people and children in the household, number of workers and job locations, number of automobiles, and so on.

These points explain why forecasting what types of housing will be built is so complex and uncertain:

- The housing choices of individual households are influenced by dozens of factors.
- Those factors interact in complex ways.
- Individual households may weight (value) the factors in very different ways. Those preferences may be correlated with certain socioeconomic and demographic characteristics, but they are not dictated by them.
- What people say they want and what they can and will actually pay may be very different.

- Housing demand in a given region is the result of the individual decisions of thousands of households.

The complexity of a housing market is a reality, but it does not obviate the need for some type of forecast of future housing demand, and of the implications of that housing demand for land demand and consumption. Such forecasts are inherently uncertain. Their usefulness for public policy often derives more from the explanation of their underlying assumptions about the dynamics of markets and policies than from the specific estimates of future demand and need.

Broadly speaking, residential choice means the choice of both a housing *location* and a housing *type*. Factors relating to location include travel times (to work, shopping, recreation, education), views, neighborhood characteristics, quality of public services (especially, for many families, schools), and tax rates. Factors relating to structure and site types include structure type (e.g., single-family, multi-family) and size, lot size, quality and age, price, and tenure (own/rent). All of these attributes – what real estate economists refer to as the *bundle of goods* that one purchases when making a housing choice – affect residential choice.⁵

2.2 CONSIDERATIONS IN MODELING FUTURE HOUSING DEMAND

Appendix C.1 describes ideas necessary to understand the model of housing demand. Some key concepts, in summary:

- **Housing demand.** The term “demand” gets used to mean two different but related things: (1) the concept from economics of a demand curve, the estimated amount of some good or services that consumers will purchase at different prices; and (2) the intersection of supply and demand curves at some quantity for a given price, which is referred to in real estate as “absorption.” Throughout this report, ECONorthwest uses the term “demand” in two ways: (1) to refer to a category of factors that influence the amount of housing, by type, that has been or is likely to be absorbed in the Anchorage market, and (2) the historical and forecasted amount of that absorption.
- **Housing demand and housing need.** The ability to pay is essential to the definition of housing demand. Housing market analysis often do not make a clear distinction between demand and need:

⁵ Appendix C.1 provides more detail.

- *Housing need* can be defined broadly or narrowly. At its broadest, all households need shelter. For analysis, however, most studies use narrower definitions that distinguish between: (1) households that are financially able to purchase or rent housing at an “affordable” price, consistent with the requirements of their household characteristics, and (2) households that cannot find and afford such housing. Households in the second category have need: they are either unhoused, in housing of substandard condition, overcrowded, or paying more than their income and federal, state, or local standards say they can afford.
- *Housing market demand* is what households demonstrate they are willing to purchase in the market place. Growth in population means growth in the number of households and implies an increase in demand for housing units. That demand is met, to the extent it is, primarily by the construction of new housing units by the private sector based on its judgments about the types of housing that will be absorbed by the market.
- **Compact housing.** This study considers potential demand for compact housing in Anchorage. The “compactness” of housing is defined by multiple characteristics: the structure type (detached or attached), the size of the dwelling unit, and the size of the lot the dwelling is located on. Compact housing may have a locational component, with the type of compact housing found in a downtown being different from the type of compact housing found in a suburban area. Compact housing can be either ownership or rental housing.

While compact housing may be less expensive than non-compact housing, as a result of lower land costs from smaller lots and dwelling units with less floor area, compact housing is not necessarily the same thing as affordable or workforce housing. A separate report, about financial feasibility of developing compact housing in the Municipality, will address the potential costs of selected types of compact housing. For the purposes of this study, ECONorthwest defines compact housing as including:

- *Small-lot single-family detached housing* on individual parcels of land smaller than 6,000 square feet.⁶ This category could include single-family detached units on individual lots or single-family

⁶ A 6,000 square foot lot size is large for compact housing. This lot size was chosen to conform with existing Municipality policies. The policy analysis in the main report discusses policies about reducing minimum lot size for single-family detached housing.

detached site condos on a common lot. Small-lot single-family housing is most appropriately located in medium density areas within the Municipality, including some suburban areas.

- *Attached housing* of all types. Some types of attached housing are more compact than other types of attached housing because they are developed at higher densities (more units per acre). Attached housing can be divided into two groups:
 - *Less-compact attached housing*, which includes townhouses, two-family, and duplexes. Less compact attached housing might be more likely to locate in medium density areas within the Municipality, including some suburban areas.
 - *More-compact attached housing*, which includes structures with 3 or 4 units and structures with five or more units. These housing types are likely to locate in medium and higher density areas within the Municipality.

2.2.1. TWO CLASSES OF FORECASTING METHODS

2.2.1.1 Forecasting demand based on historical trends in the variable of interest

A simple way to forecast new housing units (i.e., units built or absorbed, one definition of demand) is to project historical trends into the future. That technique gets criticized as “driving by looking in the rear-view mirror,” but for long-run forecasting it can be equally or more reliable than much more sophisticated forecasting techniques. Why?

For growing metropolitan areas (Anchorage is in this class), it is typical to see long-run, average growth rates for population and employment in the range of 1.0% to 1.5%. Since housing stock is highly correlated with population, it is not surprising that new housing gets added annually at the rate of about 1% of total housing stock. In any given year these numbers can vary, in the aggregate and by type of housing. But over a 20-year forecasting period, the historical data typically show a long-run (secular) upward trend containing short-run (cyclical) peaks and troughs.

2.2.1.2 Forecasting demand based on component factors

The other way to forecast new housing construction / absorption is as a function of the factors that cause it to occur (like the six P’s). If one could do the measurement fine enough, one might find that every household has a unique set of preferences for housing. But no regional housing analysis can

expect to build from the preferences of individual households.⁷ Thus, most housing market analyses that get to this level of detail try to describe *categories* of households on the assumption that households in each category will share characteristics that will make their preferences similar.

Three household characteristics are strongly correlated with choices about residential location and housing type: age of the household head, size of the household, and income. Appendix C.1 describes in greater detail how these characteristics interact to describe a range of potential housing choices.

- **Age of householder** is the age of the person identified (in the Census) as the head of household. Householder age affects housing type and tenure. Households make different housing choices at different stages of life. Mobility is substantially higher for people aged 20 to 34. People in that age group will also have, on average, less income and fewer children than people in the next older age bracket. All of these factors mean that younger households are much more likely to be renters. Renters are more likely to be in multi-family housing. Although this pattern describes the housing choices of many households, it is not absolute: some young people own single-family houses and some old people rent. This trend holds true for Anchorage.
- **Size of household** is the number of people living in the household. The size of the household is related to the age of the householders. Younger and older people are more likely to live in single-person households and people in their middle years are more likely to live in multiple person households (often with children). In Anchorage, households older than 55 years are more likely to be single-person households (about one-quarter to one-half of households older than 55 years). Households between age 15 and 44 years are equally likely to be single-person households (about 20% of households in this age range).
- **Income** is the household income. Income is probably the most important determinant of housing choice. Income is strongly related to the type of housing a household chooses (e.g., single-family detached, duplex, or a building with more than five units) and to household tenure (e.g., rent or own). When income allows, there is a substantial preference for single-family housing and ownership, regardless of age. A review of census data that analyzes housing

⁷ Not only could one not measure the preferences of all existing households; one could not know what specific households would be migrating to the region.

types by income in most cities will show that as income increases, households are more likely to choose single-family detached housing types. Consistent with the relationship between income and housing type, higher income households are also more likely to own than rent. This trend appears to hold true for Anchorage.

The national and local data about these three factors illustrate what more detailed research has shown and what most people understand intuitively:

- Household life cycles and housing choice interact in ways that are predictable in the aggregate.
- Age of the household head is correlated with household size and income.
- Household size and age of household head affect housing preferences.
- Income affects the ability of a household to afford a preferred housing type.

Simply looking at the long wave of demographic trends can provide good information for estimating future housing demand.

2.2.2. FORECASTING METHODS USED IN THIS STUDY

Figure 2-1 shows an overview of the steps for projecting Anchorage's housing demand for the 20-year period. The forecast of housing in the Municipality is separated into two broad parts: (1) forecasting a baseline demand for all types of housing in the Municipality over the 20-year period and (2) forecasting a variation of housing demand among the different types of housing over the 20-year period based on potential changes to demographics and the results of the survey of housing preferences. The steps to forecasting housing demand in the Municipality are:

1. **Forecast the total number of new dwelling units in the Anchorage Bowl and Chugiak-Eagle River.** This starting forecast was an aggregate forecast in two senses: it is a forecast of new housing units (1) in total, not disaggregated by all types, and (2) for the entire region, not disaggregate by sub-area. The basis of the forecast is the forecast of population growth developed by ISER. Population was converted to households and demand for new dwelling units through estimates of future average household size, which results in future occupied dwellings. Average vacancy rates were used to convert occupied housing to total new housing. Building permit information was used to compare past absorption of dwelling units

to forecast for population growth, to assess the differences between the forecast for housing development with past trends in housing absorption.

2. **Disaggregate the forecast of total dwelling units into a forecast of dwelling units by structure type.** The Municipality has records about each dwelling unit in the Anchorage Bowl and Chugiak-Eagle River, which can be used to categorize the housing stock into housing types (e.g., single-family, townhouse, multifamily with more than five units, etc.). The baseline forecast assumed that the share of housing by housing type will remain the same over the 20-year period, based on the current housing stock and changes in the housing stock by structure type that occurred over the 1998 to 2010 period. The result is a forecast of the number of new dwelling units by structure type in the Anchorage Bowl and Chugiak-Eagle River.
3. **Forecast variation in demand for the types of housing.** Dozens of variations are possible to describe demand for compact housing in the Municipality over the 20-year period. This step involved forecasting one variation of the baseline demand for compact housing using results of the housing preference survey and demographic trends.
4. **Revisit demand for compact housing based on results of the financial feasibility and buildable lands analysis.** The relationship between the demand analysis and the financial feasibility and buildable lands inventory was revisited on completion of these three analyses. The main body of the report discusses the implications of the results of the three analyses.
5. **Allocate units to the five sub-areas in the Anchorage Bowl for the variation.** The final step in forecast is to allocate the new dwelling units to the five sub-areas within the Anchorage Bowl, based on assumptions for *Anchorage 2020*.

Figure 2-1. Methods for forecasting demand for housing in the Municipality of Anchorage, 2010-2030

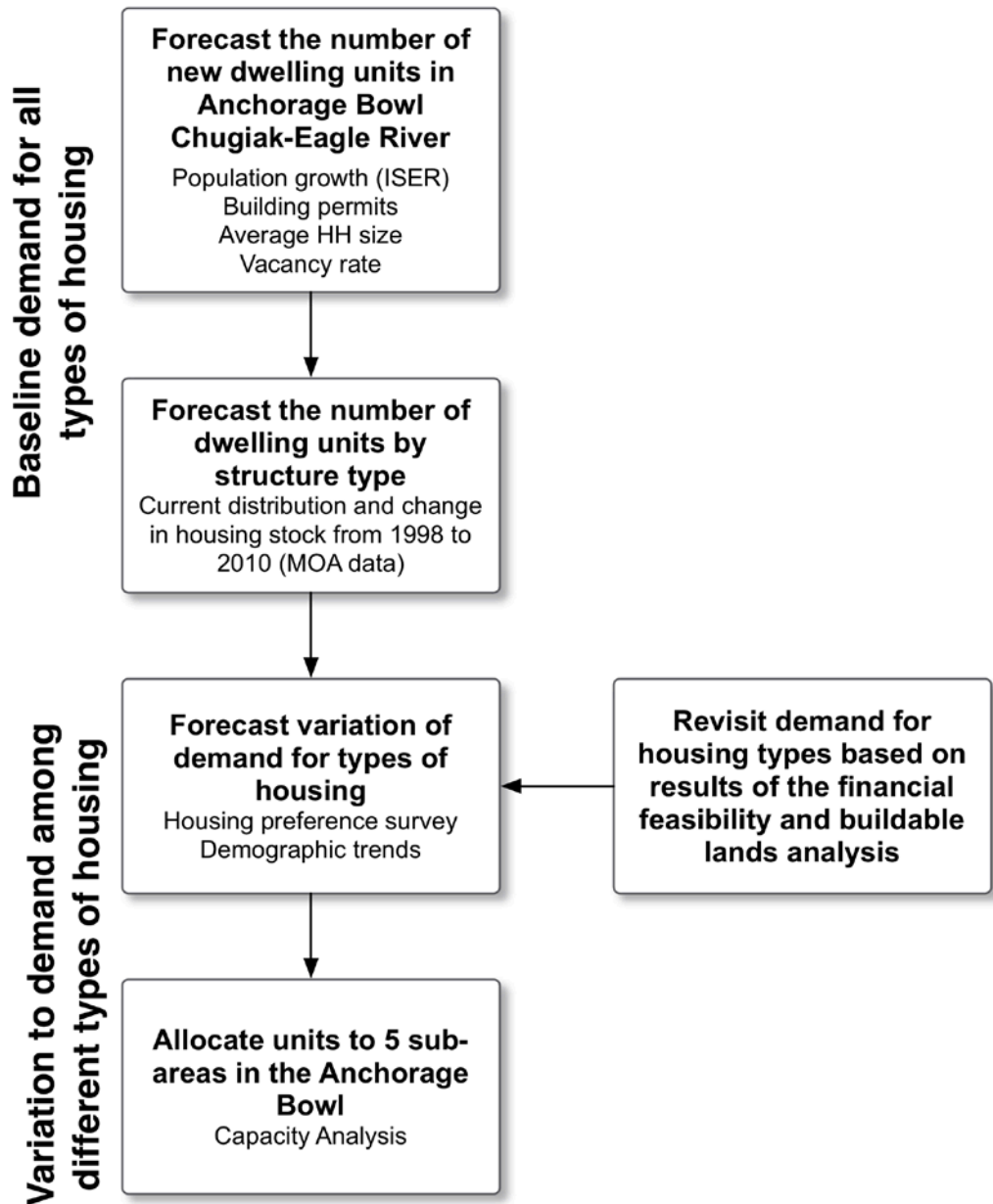


Table C.1-1 in Appendix C.1 shows the data ECO used to model Anchorage’s housing demand, organized by the six P’s.

Factors that Affect Housing Demand in Anchorage

This chapter describes current conditions and trends for factors that affect housing demand in the Municipality of Anchorage. It is generally organized by the six Ps described in Chapter 2. Appendix C.3 covers in more detail of the information summarized in this chapter. The implications of the information presented in this chapter are the basis for the baseline housing demand and variations of compact housing demand presented in Chapter 4. The chapter describes current and historical trends in the factors that affect housing demand, drawing from:

- Alaska Department of Labor and Workforce Development
- University of Alaska Anchorage's Institute of Social and Economic Research (ISER)
- Municipality of Anchorage Planning Division
- U.S. Census 1990 and 2000 Decennial Census and the 2009 American Community Survey
- Multiple Services Listing
- Alaska Housing Finance Corporation
- Other data sources as noted

3.1 RESIDENTIAL DEVELOPMENT: CONDITIONS AND TRENDS

The amount and distribution of housing types is influenced by a variety of factors, including the cost of new home construction, area economic and employment trends, demographic characteristics, and amount of land zoned to allow different housing types and densities.

For the purposes of this study, ECONorthwest grouped housing types based on: (1) whether the structure is stand-alone or attached to another structure, (2) the number of dwelling units in each structure, and (3) the compactness of multifamily housing types. The housing types used in this analysis are:

- **Single-family.** Single-family detached dwellings on lots smaller than 40,000 square feet or site condos with single-family detached dwellings on common lots

- **Large-lot single-family.** Single-family detached dwellings on lots larger than 40,000 square feet in large-lot (rural) zoning districts
- **Two-family and duplex.** A single-family dwelling attached to one other unit on an adjacent parcel or a single structure containing two units on one parcel or site condos on common or adjacent parcels
- **Townhouse.** A single-family dwelling attached to two or more other units on an adjacent parcel or on a common parcel
- **Multifamily and other.** Multifamily with three or four units, multifamily with five or more units, dwellings in mobile home parks, dwellings in mixed-use buildings, and institutional housing

Analysis of current residential developments and trends in development is a key factor in describing the current and recent housing market in the Municipality. This section describes residential development trends in the Municipality based on information about the housing stock collected by the Planning Division at the Municipality, building permits, and the U.S. Census.

3.1.1. CURRENT CONDITIONS

Table 3-1 shows housing stock by housing type in the Anchorage Bowl and Chugiak-Eagle River.⁸ Based on information from the Municipal Planning Division about housing stock in the Municipality, the distribution of housing by housing type in 2010 is:

- **Anchorage Bowl.** 38% of housing in the Anchorage Bowl is single-family, 37% is multifamily and other, 15% is duplex and two-family, 5% is townhouse, and 4% is large-lot single-family: an overall single-family / multifamily split of 42% / 57%.
- **Chugiak-Eagle River.** 52% of housing in the Chugiak-Eagle River is single-family, 25% is large-lot single-family, 12% is duplex and two-family, 10% is multifamily and other, and 1% is townhouse: an overall single-family / multifamily split of 77% / 23%.

⁸ The reason that percentages represented in tables throughout the report may not add to 100% correctly is rounding error. For example, in Table C.3-1, the percent of housing types in the Anchorage Bowl adds to 99% because each type of housing has a small remainder that is less than 0.5%.

Table 3-1. Housing stock by housing type, Anchorage Bowl and Chugiak-Eagle River, 2010

Housing Type	Anchorage Bowl		Chugiak-Eagle River	
	Dwelling		Dwelling	
	Units	Percent	Units	Percent
Single-family	37,314	38%	6,670	52%
Large lot single-family	4,047	4%	3,127	25%
Duplex and Two-family	15,137	15%	1,464	12%
Townhouse	4,859	5%	148	1%
Multifamily and other	36,303	37%	1,298	10%
Total	97,660	100%	12,707	100%

Source: Municipality of Anchorage Planning Division

Note: Table 3-1 includes housing for the entire Municipality of Anchorage, except for housing stock in Girdwood-Turnagain Arm.

According to data from the U.S. Census, 60% of housing in Anchorage was owner-occupied in 2000 and 62% was owner-occupied in 2009. The State average was 63% owner-occupied in 2000 and 65% in 2009.

3.1.2. CHANGE AND TRENDS

The Municipality inventoried **housing stock** in 1998 as part of preparation of *Anchorage 2020*. Table 3-2 shows the change in housing stock in the Anchorage Bowl between 1998 to 2010. A comparison of the 1998 and 2010 inventories of housing stock show that, while housing has grown in Anchorage, the mixture of different housing types has not changed substantially over the 12-year period. The mixture of housing in Chugiak-Eagle River did change over the 12-year period, with attached housing types growing faster than detached housing.

- Anchorage’s housing stock grew by nearly 11,000 dwellings over the 1998 to 2010 period, a 13% increase at about 1.0% average annual growth rate (AAGR). This growth rate is very close to population growth in Anchorage from 1998 to 2009, which averaged 1.1% per year.
 - The share of single-family and large-lot single-family housing held stable at 38% and 4% of all housing in Anchorage respectively.
 - The share of duplex and two-family housing increased from 13% to 15% over the 12-year period.
 - The share of townhouse, multifamily and other housing including institutional housing and mobile home parks decreased from 44% to 42%. The main reason for this decrease was the conversion of mobile home parks to other housing types. After

deducting for attrition of mobile home parks, the share of townhouse and multifamily held relatively steady at 38%.

- Chugiak-Eagle River’s housing stock grew by more than 2,800 dwellings over the 1998 to 2010 period, a 29% increase at about 2.1% average annual growth rate (AAGR), faster than growth in housing stock in the Anchorage
- More than 1,000 new single-family houses were added in Chugiak-Eagle River but the share of single-family housing decreased from 57% in 1998 to 52% in 2010. About 600 large-lot single-family houses were added but share of large-lot single-family housing decreased from 26% in 1998 to 25% in 2010.
- The share of attached and multifamily housing increased over the 12-year period. About 675 new duplex and two-family dwellings were added, increasing the share from 8% in 1998 to 12% in 2010. About 550 new multifamily and townhouses were added, increasing the share from 9% in 1998 to 11% in 2010.

Table 3-2. Change in Housing stock by housing type, Anchorage Bowl, 1998-2010

Housing Type	1998 Inventory		2010 Inventory		Change 1998 to 2010			
	Dwelling		Dwelling		Dwelling Percent			
	Units	Percent	Units	Percent	Units	Change	Share	AAGR
Single-family	33,264	38%	37,314	38%	4,050	12%	-0.1%	1.0%
Large lot single-family	3,477	4%	4,047	4%	570	16%	0.1%	1.3%
Duplex and Two-family	11,498	13%	15,137	15%	3,639	32%	2.2%	2.3%
Multifamily and Townhouse	38,528	44%	41,162	42%	2,634	7%	-2.3%	0.6%
Total	86,767	100%	97,660	100%	10,893	13%		1.0%

Source: Municipality of Anchorage Planning Division

Note: Change in Share is change in the percentage of a housing type. For example, the share of duplex and two-family increased from 13% to 15%, a 2% change in share.

Note: AAGR is average annual growth rate.

Building permits for new dwellings are an indicator of recent residential development. The Municipality issued 5,047 permits for new buildings between 2005 and 2010, with an annual average of 841 permits. Forty-four percent of the permits issued were single-family, 46% were multifamily, and 9% were duplex. The number of building permits peaked in 2005 and 2006, with more than 1,000 permits issued, and decreased to approximately 400 permits issued in 2010.

Tenure describes the percentage of households that are owner-occupied and renter-occupied. In 2000, about 60% of dwellings were owner-occupied. By 2009, about 62% of dwellings were owner-occupied. In 2009, more than 80% of single-family units were owner-occupied and 70% of attached and multifamily units were renter-occupied.

Anchorage's increase in homeownership rates between 2000 and 2009 is consistent with national increases in homeownership rates during the housing bubble. National forecasts suggest that homeownership is the preferred tenure but that national homeownership rates will decline from nearly 70% to the low 60 percent range in the next five years.

Vacancy rates are cyclical and represent the lag between demand and the market's response to demand in additional dwelling units. Most studies of housing demand assume a structural vacancy rate of at least about 2% (houses on the market as people move, even in a market with strong demand) and that a vacancy rate in a healthy housing market is between 2% and 5%, with 10% a common threshold for identifying housing markets with problems. According to Census data, the vacancy rate in the Municipality was 5.5% in 2000 and 6.9% in 2009. In comparison, Alaska's vacancy rates were about 15% in 2000 and 17% in 2009. According to a survey by the Alaska Housing Finance Corporation, rental vacancy rates were generally below 5% between 2000 and 2010.

3.1.3. IMPLICATIONS OF RESIDENTIAL DEVELOPMENT TRENDS AND CONDITIONS FOR FORECASTING ANCHORAGE'S HOUSING DEMAND

Long-run historical trends are the usual starting basis for forecasts of long-run demand:

- **Housing and population grew at similar rates between 1998 and 2009/2010.** The average annual population growth rate in the Municipality was 1.1%, compared to an average annual growth rate of 1.0% for housing in the Anchorage Bowl and 2.1% in Chugiak-Eagle River. This demonstrates the close relationship between population and housing growth. A reasonable assumption for a baseline forecast is that housing will continue to grow at about the same rate as population growth over the 20-year period.⁹
- **The types of housing in the Anchorage Bowl did not change substantially.** The mix of single-family housing types and attached or multifamily housing types remained relatively stable over the 1998 to 2010 period. Duplexes and two-family housing grew faster than multifamily and townhouse. The stability in the amount of single-family housing types and the growth in lower density attached housing types suggests that Anchorage will need to make

⁹ Other variables (e.g., large changes in household size or income that are different from historical trends) might suggest adjustments to that assumption and are discussed later in this chapter.

policy changes if the Municipality wants to increase production of compact housing types.

- **Attached and multifamily housing types grew faster than single-family housing types in Chugiak-Eagle River.** The mix of single-family housing types and attached or multifamily housing types changed over the 1998 to 2010 period, with the share of all single-family housing decreasing from 83% to 77% and attached multifamily housing types increasing from 17% to 23%. Duplexes and two-family housing grew faster than multifamily and townhouse. The dominance of single-family housing types and the growth in lower density attached housing types suggests that Anchorage will need to make policy changes if the Municipality wants to increase production of compact housing types.
- **Vacancy rates are likely to be relatively low.** The vacancy rates in Anchorage, especially for rental housing, are relatively low. It is reasonable to use an *average* vacancy rate in the range of 4% to 6% for all housing types for forecasting over the 20-year planning period.

3.2 POPULATION AND DEMOGRAPHIC TRENDS AND FORECASTS

The housing literature and research show that housing choice is related to age of the household head, household composition, and household size (see Appendix C.1). This section describes long-term changes to population, demographic, and household composition that may affect housing demand in Anchorage.

3.2.1. POPULATION GROWTH

- **Population in Alaska fluctuates with economic cycles:** increases in population accompany increases in economic activity. Historically, Alaska's and Anchorage's populations increased as a result of natural resource harvesting and extraction, most recently and significantly from petroleum-related activity, such as construction of the Trans-Alaska Pipeline. As Anchorage's economy has diversified beyond oil production, population change has become more stable, with population growing steadily over time.
- **Anchorage grew by more one-quarter over the last 20 years.** Table 3-3 shows that the Municipality of Anchorage added more than 65,000 people, a 29% increase in population, and an average annual rate of 1.3% between 1990 and 2009.
- **Anchorage grew slower than Mat-Su over the last 20 years.** Table 3-3 shows Mat-Su grew from nearly 40,000 people in 1990 to nearly 89,000 people in 2010, more than doubling the Borough's population. While the absolute growth in Mat-Su (49,000 people) was smaller than Anchorage's growth (65,000 people), Mat-Su grew at a much faster average annual rate (4.1%) than Anchorage (1.3%).

Table 3-3. Population change, Alaska, Municipality of Anchorage, and Matanuska-Susitna Borough, 1990 to 2010

Area	Population			Change 1990 to 2010		
	1990	2000	2010	Number	Percent	AAGR
U.S.	248,709,873	281,421,906	308,745,538	60,035,665	24%	1.1%
Alaska	550,043	626,931	710,231	160,188	29%	1.3%
Anchorage Municipality	226,338	260,283	291,800	65,462	29%	1.3%
Matanuska-Susitna Borough	39,683	59,322	88,995	49,312	124%	4.1%

Source: U.S. Census 1990 SF1 P001, U.S. Census 2000 SF1 P1, Alaska Department of Labor and Workforce Development

Note: AAGR is average annual growth rate.

- **The majority of people moving to the Anchorage / Mat-Su Region have located in Mat-Su.** Ninety-six percent of Anchorage's population growth between 2000 and 2009 was from natural increase (births minus deaths) and 4% was from net migration (people

moving to Anchorage). In Mat-Su, 26% of population growth was from natural increase and 74% was from net migration.¹⁰

- **Migration between Mat-Su and Anchorage is common.** The population flows both ways, from Anchorage to Mat-Su but also from Mat-Su to Anchorage. Between 2000 and 2008, about 14.5% of people moving away from Anchorage moved to Mat-Su. About 8% of people moving into Anchorage came from Mat-Su.
- **The Municipality of Anchorage is forecast to grow by about 53,900 people over the 20-year planning period.**¹¹ Table 3-4 shows ISER forecast population growth for Anchorage. Municipality Planning Division staff forecast growth of 43,400 people in the Anchorage Bowl (82%), and of 9,000 people in Chugiak-Eagle River (16%). Population at the Joint Base Elmendorf Richardson (JBER) military base is projected to hold steady at 13,900 people over the planning period.

Table 3-4. Population forecast, Municipality of Anchorage and selected areas within the Municipality, 2010 to 2030

	Anchorage Municipality	Anchorage Bowl	Chugiak-Eagle River	JBER	Girdwood - Turnagain Arm
2010	291,800	240,300	35,000	13,900	2,600
2030	345,700	283,700	44,000	13,900	4,100
Change 2010 to 2030					
Number	53,900	43,400	9,000	-	1,500
Percent	18%	18%	26%	0%	58%
AAGR	0.85%	0.8%	1.2%	0.0%	2.3%
Percent of Muni in 2030	N/A	82%	16%	4.0%	1.2%

Source: U.S. Census 1990 SF1 P001, U.S. Census 2000 SF1 P1, 2010 Decennial Census

Note: AAGR is average annual growth rate.

Note: JBER is the Joint Base Elmendorf Richardson

Note: The ISER forecast used in the study is the base case, which assumes that the Knik Arm Bridge will be constructed.

- **Population growth in Anchorage will drive housing demand in Anchorage.** The approximately 53,900 additional people in Anchorage will require housing. Population growth and housing demand do not generally occur linearly but vary with economic cycles.

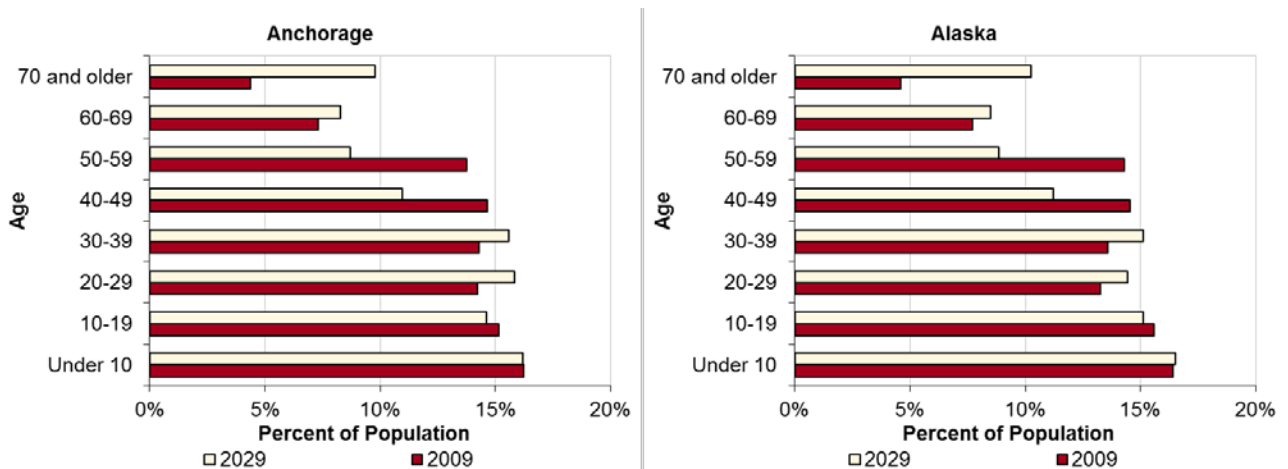
¹⁰ The Alaska Department of Labor and Workforce Development, "Alaska Population Digest 2009 Estimates" reports the components of population changes based, in part, on vital statistics.

¹¹ Population growth in Girdwood and Turnagain Arm (1,400 people) is excluded from the forecast of housing demand in this report because it is outside of the study area for this project.

3.2.2. AGE STRUCTURE

- The age structure of Anchorage residents is generally similar to the age structure of all residents of Alaska. The Municipality of Anchorage has a higher proportion of its population aged 20-39 (29%) than the State (27%). The Municipality has a smaller share residents above age 50 (25%) than the State (27%).
- Anchorage’s population is forecast to be older in 20 years. Figure 3-1 shows the Alaska Department of Labor and Workforce Development projection of change in age of the population. Over the 20-year planning period, the largest growth will be for groups of people over 60 years and people 20 to 39 years old.

Figure 3-1. Projected population distribution by age, Alaska and Municipality of Anchorage, 2009 to 2029



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section, Demographics Unit, “Alaska Population by Age and Sex and Components of Change, 2009-2034”

- Eighteen percent of Anchorage’s population is projected to be aged 60 or older by 2029, up from 12% of the population in 2009. The majority of growth in this age group can be accounted for by aging of people already in Anchorage, rather than older people moving to Anchorage at retirement.
- People ages 20 to 39 are projected to grow from 29% of Anchorage’s population in 2009 to 31% of the population in 2029. This group is often referred to as Gen Y or the Echo Boomers. As they form households over the next 20 years, growth in this age group will affect demand for housing.
- The share of people between 40 to 59 years will decrease from 28% in 2009 to 20% in 2029. The share of people under age 20 will remain about the same in 2029 as in 2009.

- These trends are consistent with projected trends in Alaska.
- **Age is related to housing choice.** U.S. Census data describes the relationship between age and housing choice (Figure C-5 in Appendix C.3). Anchorage householders younger than 34 years and older than 64 years were more likely to live in rental, multifamily units. Householders between 35 and 64 years old were more likely to live in owner-occupied single-family detached housing.
- **The forecast of population by age group assumes that many retirees will remain in Anchorage.** One of the important demographic questions in the coming years is how members of the large baby-boom population cohort (those born from 1946 to 1964, and now age 47 to 65) will behave when they reach retirement over the next 20 years. A large proportion of previous generations have left Alaska when they retired.¹²

If a large share of baby-boomers leave Anchorage, the demand for new housing may decrease as a result of the increased supply of existing housing on the market. If a large share of baby-boomers stay in Anchorage, demand for different types of housing more suitable to older households will increase. Moreover, the availability of suitable housing products may change decisions about migration. The projection of age change over the next 20 years assumes that many baby-boomers remain in Anchorage after retirement.

3.2.3. RACE AND ETHNICITY

- **Anchorage grew more racially diverse between 1990 and 2009.** Table 3-5 shows that all races added population in Anchorage over the 19-year period. The share of Alaska Native population increased from 7% of population in 1990 to 9% of population in 2009, adding 12,700 people. Although the white population added 26,000 people, the share of the white population decreased from 82% of population in 1990 to 73% of population 2009.

¹² ISER, "Anchorage at 90: Changing Fast, with More to Come," June 2005.

Table 3-5. Population by Race, Municipality of Anchorage, 1990 and 2009

	1990		2009		Change 1990-2009		
	Number	Percent	Number	Percent	Number	Percent	Share
White	185,601	82%	211,616	73%	26,015	14%	-9.2%
Black or African American	14,801	7%	17,117	6%	2,316	16%	-0.6%
Native American	14,780	7%	27,487	9%	12,707	86%	2.9%
Asian and Pacific Islander	11,156	5%	19,569	7%	5,669	51%	1.8%
Two or More Races	NA		14,799	5%	NA	NA	NA
Total	226,338	100%	290,588	100%	64,250	28%	

Source: 1999 and 2009 *Alaska Population Digest*, Alaska Department of Labor and Workforce Development

- **Anchorage grew more ethnically diverse between 1990 and 2009.** The share of persons of Hispanic or Latino origin in Anchorage increased from 4% in 1990 to 7% in 2009, adding more than 9,900 people.
- **Anchorage is attractive to immigrants.** According to a study by ISER, the number of immigrants, including Hispanic, Asian, Pacific Islander, and other immigrants, are a growing part of Anchorage’s population. Applications to the Permanent Fund from non-citizens increased by 26% between 1995 and 2004.
- **Growth in racial and ethnic minority persons may drive demand for affordable housing.** Minority households often (but not always) have lower incomes than the population as a whole, resulting in more need for affordable housing. This is especially true for recent immigrants to the U.S., who often (but not always) have lower-than-average income. Some types of compact housing fall into the categories of affordable and workforce housing.

3.2.4. HOUSEHOLD COMPOSITION

- **Household size in Anchorage has decreased over time, consistent with State and national trends.** Anchorage’s household size decreased from 3.4 persons per household in 1970 to 2.67 persons per household in 2000. The State Department of Labor estimates that the 2010 household size was about 2.62 persons per household in the Municipality.
- **The decrease in household size in Anchorage reflects a change in household composition.** The share of households that had children under 18 years old decreased from 39% in 2000 to 35% in 2009. The share of single-person households increased from 21% in 2000 to 23% in 2009. These trends are similar to Statewide trends.
- **Household size is projected to continue decreasing.** As the population ages and the number of single-person households

increases, household sizes will continue to decrease. Based on Statewide projections for future household sizes, Municipality planning staff estimates that future household size in 2030 will be: 2.56 persons per household for the entire Municipality, 2.53 persons per household in the Anchorage Bowl, and 2.87 persons per household in Chugiak-Eagle River.

3.2.5. IMPLICATIONS OF POPULATION AND DEMOGRAPHIC TRENDS AND FORECASTS FOR FORECASTING ANCHORAGE'S HOUSING DEMAND

- **Housing will grow with population.** ISER forecasts growth of about 53,900 people in Anchorage over the 20-year period (an average annual rate of about 0.9%). That population will require housing. If housing grows at the same rate as population (as it has in the past), by 2030 Anchorage would have about 132,000 dwelling units. This is an increase of around 21,500 dwelling units, an average of roughly 1,075 dwelling units per year.
- **The aging of Anchorage's population will result in changes in household characteristics.** The fastest growing group in Anchorage will be people 60 years and older, as the resident baby-boomers age and move into the over-60 age group. On average, household size decreases as people age and, after age 75, homeownership decreases.
- **Older households will make a variety of housing choices.** The major impact of the aging of the baby-boomers on demand for new housing will be through demand for housing types specific to seniors, such as assisted living facilities. Baby-boomers will make a range of housing choices in Anchorage:
 - Many will choose to remain in their houses as long as they are able.
 - As their health fails, some will choose to move to institutional housing, such as assisted living facilities or nursing homes.
 - Some may downsize to smaller single-family homes (detached and attached) or multifamily units. These will be a mixture of owner and renter units.
 - Some may choose to move to retirement or age-restricted communities.
 - Some may choose to move away from Anchorage to cities with more medical facilities and services for the elderly or to be closer to family care-givers.

- **Anchorage will have growth in younger households.** Households 20 to 39 years old will grow over the 20-year period. Some recent research hypothesizes that people in this age group (called Gen Y or the Echo Boomers) may make different housing choices than their parents as a result of the on-going recession and housing crisis. They suggest that echo boomers will prefer to rent and will prefer to live in multifamily housing, especially in large cities. Other studies suggest that the majority of people in this age group housing preference is to own a single-family home.

ECONorthwest's conclusion based on review of recent research is that it seems unlikely that the majority of people in this age group will make fundamentally different housing choices than previous generations as they age and have families. It seems likely that they will choose to rent when they are under 30 years, most frequently an attached or multifamily unit. This choice may be made from preference but is likely to be necessitated by lower income.

As they establish their careers, increase their incomes, and they form families, it seems likely that a large share of people in this age group in Anchorage will choose to live in an owner-occupied single family house. Some may prefer to rent or own a multifamily unit in or near Anchorage's urban core. Recent articles suggest that those who prefer single-family units may prefer (or only be able to afford) smaller single-family units.

Anchorage has a large suburban market, with urban amenities that may appeal to people in this age group who prefer not to live in a large city. The Anchorage Bowl's suburbs are in the southern parts of the Anchorage Bowl, Chugiak-Eagle River and Mat-Su. Some people in this age group may choose to live in suburban neighborhoods nearer to Anchorage's urban core, rather than in Mat-Su, if housing in Anchorage is affordable.

- **Anchorage is becoming more ethnically diverse.** Anchorage's population is growing more diverse, with growth in Alaska Native and Hispanic populations. To the extent that in-migrating households have lower than average income, and that minority households constitute a substantial share of in-migration, then in-migration of ethnic groups will increase demand for housing affordable to low- and moderate-income households relative to demand for other types of housing.

The types of housing that are most likely to be affordable to these households are compact housing types, such as duplex, two-family, townhouse, and some types of multifamily housing types. These households are more likely to be renters, especially when they first

move to Anchorage. The pro forma describes the types of compact housing that may be affordable.

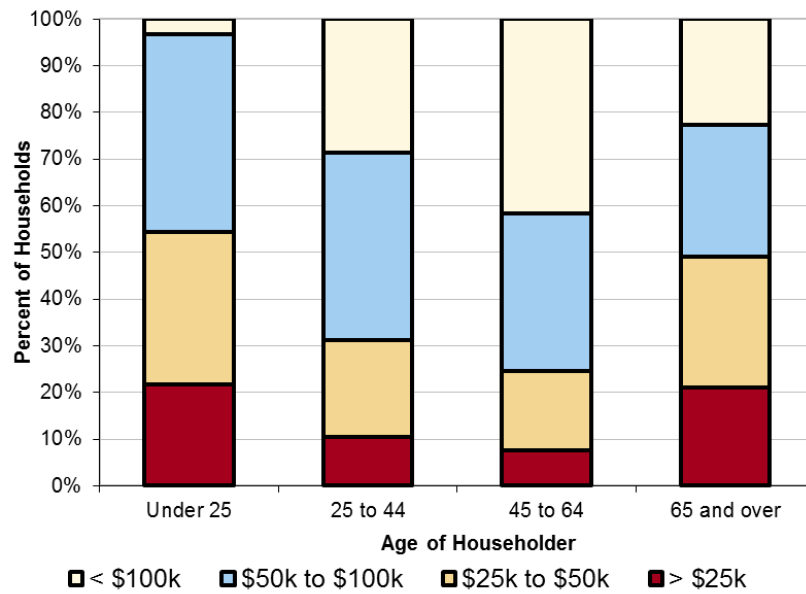
- **Change in composition of households may result in demand for different types of dwelling units.** Households with children typically make different choices about the types of housing they live in (e.g., single-family detached housing with a yard) than single-person households (e.g., smaller single-family housing, condominium, or apartment). If Anchorage's share of households without children and single-person households continues to increase, there may be increased demand for a range of types of compact housing.

3.3 HOUSEHOLD PURCHASING POWER

Income is an important determinant of housing choice. Income is closely related to the type of housing a household chooses (e.g., single-family detached, duplex, or a building with more than five units) and to household tenure (e.g., rent or own). Appendix C.1 describes the relationship between income and age with housing choice and Appendix C.3 presents information about this relationship in Anchorage. A review of Census data shows that as income increases, households are more likely to choose single-family detached housing. Consistent with the relationship between income and housing type, higher income households are also more likely to own than rent.

- **Income in Anchorage is higher than State or national averages.** The median income in Anchorage in 2009 was \$72,832, compared to a State median of \$66,953 or a national median of \$50,221.
- **Income is not projected to grow substantially over the 20-year period.** ISER projects that per capita personal income will remain relatively flat over the 20-year period, increasing from about \$40,196 per person in 2010 to \$40,832 in 2030 (in 2009 dollars).
- **Income varies by the age of households.** Figure 3-2 shows that, in general, younger and older people have lower income than working-age people.

Figure 3-2. Household income by age of householder, Municipality of Anchorage, 2009



Source: American Community Survey 2009 B19037

- About half of households under 25 years and those older than 64 years had income of less than \$50,000 in 2009. In comparison, to fewer than 30% of households ages 25 to 64 years had income of less than \$50,000.
- More than 40% of households 45 to 64 years had income of \$100,000 or more, compared to less than 5% of households under 25 years and less than 25% of households 65 years and older

3.3.1. IMPLICATIONS OF HOUSEHOLD PURCHASING POWER FOR FORECASTING ANCHORAGE'S HOUSING DEMAND

- **Lack of growth in income may increase demand for compact housing.** ISER's forecast of change in income over the 20-year period shows little change in income. To the extent that compact housing is less expensive than larger housing types, the slow growth in income will increase demand for compact housing.
- **Declines of income for older households will disproportionately affect lower-income older households.** Although income declines for households over 65 years old, these households typically have greater accumulated wealth (e.g., housing equity or investments) than younger households. Older households with lower-income to begin with may be more affected by declines in income if they do not have non-income wealth. Growth in lower-income and less wealthy older households is likely to increase demand for compact attached or multifamily rental housing.

3.4 HOUSING PREFERENCES

The McDowell Group conducted two surveys to assess housing preferences of people currently living in Anchorage: (1) a telephone survey that assessed overall housing preference and (2) an on-line survey that assessed compact housing preferences. The purpose of the surveys was to describe demand for compact/urban housing within the Anchorage Bowl and Chugiak-Eagle River. The methods and limitations of the surveys are summarized in Appendix C.3 and described in detail in McDowell Group reports.

The surveys described the characteristics of respondents who were willing to consider compact housing.

- About half of residents are willing to accept a smaller home in the right location.
- About one-fifth are “highly likely” candidates for compact housing and are: (1) willing to consider living in a multifamily unit over a single-family home, and (2) prefer a smaller home and shorter commute over a larger home and longer commute, and (3) prefer to be located closer to stores and restaurants over a larger yard.
- The “highly likely” candidates for compact housing are a little older and less likely to have children living at home than other survey respondents.
- The “highly likely” candidates for compact housing have a slight preference for closer proximity to trails and open space and grocery stores. They are slightly less concerned about having access to play space for children, a large yard, or in storage space for recreational equipment.
- Respondents willing to consider compact housing seem willing to accept less interior living space but want private outdoor space.

3.4.1. IMPLICATIONS OF HOUSING PREFERENCE FOR FORECASTING ANCHORAGE’S HOUSING DEMAND

- **Some households are willing to consider compact housing but want private outdoor space.** The results of the survey suggest that one-fifth of Anchorage’s population are willing to consider living in compact housing but that people want access to private outdoor

space. This suggests that respondents are more likely to prefer less dense types of compact housing, such as duplex or townhouses, where private outdoor spaces could be available.

- **Not all households who say they will consider compact housing will choose to live in compact housing.** It is important to note that the survey measures the stated housing preferences of respondents. Stated preferences may be different from the housing choice a respondent may make because there are so many factors that affect housing choice. For example, a household may prefer to live in a small single-family detached house in a particular neighborhood but if that housing type is not available or not affordable, the household may make a different housing choice.

3.5 PRICES AND COSTS OF HOUSING

Households have money to pay for housing, and preferences about the kind of housing they want to pay for. Prices tell them how much of what they want they can afford to get. Development costs describe the costs of building a house, including construction costs, land costs, and public services and infrastructure. Costs are strongly related to prices, but are not identical. For example, in a strong market with excess demand, a developer may be able to command a price that is in excess of development costs and a standard rate of return. In addition, certain advances in the technology of building housing or infrastructure may reduce costs.

Potential homeowners or renters typically evaluate housing costs based on the price of the entire dwelling unit. By this measure, single-family housing types may be higher priced than multifamily housing. Another way to evaluate housing prices and costs is on a cost per square foot basis. Single-family housing often has lower construction costs per square foot than multifamily housing. Land costs per square foot of build space are often higher for single-family housing than for multifamily housing.

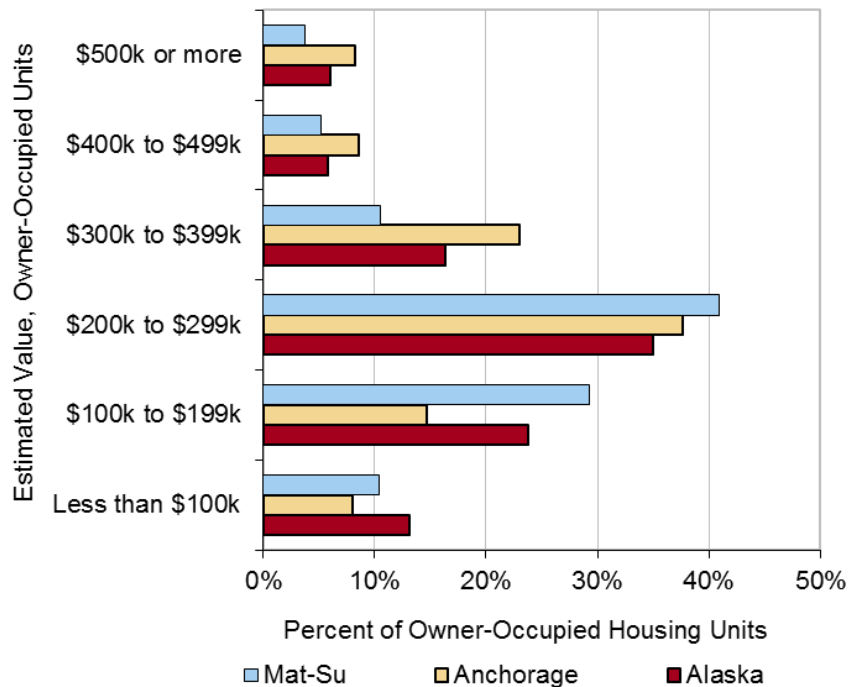
The pro forma in the financial feasibility paper describes the prices and costs of compact housing. The results of the pro forma and implications for Anchorage's housing market are described in the main body of the report.

This section presents information about ownership and rental costs based on the U.S. Census American Community Survey, sales from the Multiple Services Listing, and other local sources.

- **Homeownership is generally more expensive in Anchorage than in Mat-Su or the State average.** The median value of owner-occupied dwellings in 2009 was \$267,300 in Anchorage, compared with \$218,800 in Mat-Su or the State average of \$232,900.
- **The majority of Anchorage's owner-occupied dwellings were valued at between \$200,000 to \$399,999.** Figure 3-3 shows that in 2009, more than one-third of owner-occupied dwellings had a value between \$200,000 and \$299,999. Nearly one-quarter of owner-occupied dwellings had a value between \$300,000 and \$399,999.
- **As a percent of total housing, Anchorage has a larger share of higher cost housing when compared with Mat-Su or the State average.** In 2009, Anchorage had a larger share of units valued at \$400,000 or more (17%) than Mat-Su (9%) or the State average (12%).

Anchorage had a smaller share of units valued at \$200,000 or less (23%) than Mat-Su (40%) or the State average (37%).

Figure 3-3. Value of owner-occupied dwelling units, Alaska, Municipality of Anchorage, and Matanuska-Susitna Borough, 2009



Source: U.S. Census, 2009 American Community Survey, Table B25075

- Housing sales prices for new and existing housing increased between 2001 and 2010**, with the largest increases in prices occurring before 2008, as shown in Table 3-6. Between 2008 and 2010, average sales prices were relatively flat.

 - Single-family units.** Over the 10-year period, average sales price increased by about \$121,800 or 59%. About 2,900 single-family units were sold annually on average.
 - Condominiums.** Over the 10-year period, average sales price increased by about \$76,400 or 66%. About 1,300 condominiums were sold annually on average.

Table 3-6. Single-family residential and condominium average and median sales price, Municipality of Anchorage, 2001 to 2010

Year	Single-Family Sales			Condominium Sales		
	Number Sold	Average Sales Price	Median Sale Price	Number Sold	Average Sales Price	Median Sale Price
2001	3,302	\$ 207,120	\$ 184,500	1,312	\$ 115,020	\$ 117,000
2002	3,175	\$ 222,522	\$ 199,900	1,386	\$ 127,745	\$ 125,450
2003	3,328	\$ 235,916	\$ 214,000	1,445	\$ 140,610	\$ 142,000
2004	3,337	\$ 259,856	\$ 230,000	1,442	\$ 147,710	\$ 141,350
2005	3,272	\$ 292,352	\$ 258,500	1,699	\$ 171,076	\$ 169,500
2006	3,069	\$ 315,523	\$ 277,450	1,539	\$ 181,505	\$ 176,900
2007	2,762	\$ 327,069	\$ 287,000	1,369	\$ 187,692	\$ 179,999
2008	2,498	\$ 325,921	\$ 287,000	1,160	\$ 190,720	\$ 181,000
2009	2,449	\$ 321,025	\$ 286,000	997	\$ 195,958	\$ 189,500
2010	2,298	\$ 328,922	\$ 295,050	999	\$ 191,407	\$ 186,000
Total Units Sold 2001 to 2010						
Number	29,490			13,348		
Annual Average	2,949			1,335		
Change in Average Sales Price 2001 to 2010						
Amount		\$121,802	\$110,550		\$76,387	\$69,000
Percent Change		59%	60%		66%	59%

Source: Multiple Services Listing (MLS)

Note: Single-family sales includes sale of all dwelling units located on an individual lot but excludes sales of mobile homes.

Note: Condominiums includes sale of dwelling units located on a common lot, such as site condos of all housing types or traditional condominiums located in a multifamily structure.

- **The cost of rent increased between 2000 and 2010 but by a smaller percentage than sales prices.** Rent (including utilities) increased from \$724 in 2000 to \$1,042 in 2010, an increase of more than \$300 or 44% between 2000 and 2010.
- **Rental costs were higher in Anchorage than in Mat-Su.** Table 3-7 shows that in 2010, rent (including utilities) in Mat-Su was \$865, more than \$175 less than rent in Anchorage.
- **Rental costs were higher for single-family units.** Rent (including utilities) for a single-family unit in Anchorage was \$1,780, more than \$400 more than rent in Mat-Su (\$1,348) in 2010. Rent (including utilities) for an apartment in Anchorage was \$1,081 or nearly \$200 more than rent in Mat-Su (\$887).

Table3-7. Median contract and adjusted rent, by housing type, Municipality of Anchorage and Matanuska-Susitna Borough, 2010

	Anchorage	Mat-Su	Difference between Anchorage and Mat-Su	
			Amount	Percent
All housing types				
Median Contract Rent	\$950	\$795	\$155	16%
Median Adjusted Rent	\$1,042	\$865	\$177	17%
Single-family				
Median Contract Rent	\$1,535	\$1,141	\$394	26%
Median Adjusted Rent	\$1,780	\$1,348	\$432	24%
Apartments				
Median Contract Rent	\$989	\$796	\$193	20%
Median Adjusted Rent	\$1,081	\$887	\$194	18%

Source: Alaska Housing Finance Corporation, Alaska Housing Market Indicators, Rental Market Survey, 2010

- **Homeownership costs grew faster than income, making homeownership less affordable in Anchorage.** In 1989, median housing value was 2.5 times median household income. By 2009, median housing value was 2.9 times median household income. In comparison, median housing value increased from 1.8 times median household income in Mat-Su in 1989 to 3.1 by 2009. The State average increased from 2.3 in 1989 to 2.8 in 2009.

3.5.1. IMPLICATIONS OF HOUSING PRICE AND COSTS FOR FORECASTING ANCHORAGE’S HOUSING DEMAND

- **Continued increases in housing costs may increase demand for compact housing.** To the extent that compact housing is more affordable than larger housing types, continued increases in Anchorage’s housing cost will increase demand for compact housing. The pro forma describes the relative costs of different types of compact housing.
- **Lower housing costs make Mat-Su an attractive place to live for people working in Anchorage.** On average, home values in Mat-Su are about 80% of home values in Anchorage. Rental costs in Mat-Su are about 83% of rental costs in Anchorage. These lower housing costs make Mat-Su an attractive place for people working in Anchorage who are able to commute to work.

3.6 PRICES OF HOUSING SUBSTITUTES

In a standard econometric model of housing demand, it is common to find some variables for “the price of substitutes” for the good or services being investigated. For example, if one is trying to estimate the demand for new sport utility vehicles, those vehicles are competing not only against themselves (one model or manufacturer versus another), but also against substitutes for those new models like (1) other new models (e.g., mini-vans, light trucks, or sedans), (2) used models, and (3) alternative types of transportation (e.g., transit and bikes).

There is a case to be made that housing is different: everyone needs a place to live, so the only substitute is homelessness. But households can and do make decisions to purchase less housing than they want or than government standards might suggest they need. When they do that they are substituting less expensive services for some of the ones bundled in housing.

The fundamental trade-off is quantity and quality for price. People buy less than what they would like: less square footage, smaller lots, fewer amenities, lower quality, less desirable neighborhoods. All those considerations get bundled up into “lower price” which more often than not means a choice of used housing rather than new housing. It is well understood by analysts of housing markets that the price of new housing is set more by the price of existing housing than it is by the cost of building new housing.

Nonetheless, lower-priced housing is still housing. In that sense, the trade-off just described does not reduce the demand for total housing stock, but it probably changes the composition of that stock. Some common examples of how consumer responses to high prices for housing can be influenced by the availability of substitutes are: changes in travel behavior, larger household size, and more remodeling of existing dwellings.

- **Changes in travel behavior.** Households and business would like to be close to places where they work, shop, learn, and recreate, but land in central places is more expensive for exactly that reason. And the higher cost means that even relatively wealthy households most tradeoff space for central locations. And for lower-income households, the same effect works in the opposite direction: they often choose housing in suburban and rural locations to get more space for the price, but accept in the bargain more time and cost in travel. That tradeoff is embedded in the term “drive to qualify” (for a mortgage: farther out, cheaper housing).

If travel is a partial substitute for part of the housing bundle, then changes in the cost of travel will change housing choices. Two obvious examples are increases in congestion (and travel time) and increases in fuel price. The direction of the effects is unambiguous; their magnitudes, however, are harder to predict.

The data for Anchorage illustrate the location pattern that results from these considerations. Eighty-one percent of workers in Anchorage lived within the Municipality. About 11% commuted from Mat-Su and 4% commuted from the Kenai Peninsula. In summary:

- If you are going to work in Anchorage, there is an 80% chance that you will live in Anchorage. A big part of the reason is that the distances are so large and the commuting is not that easy, especially during the winter.
- But one out of every five workers is willing to make the commute. That is a big number: over 20,000 employees. Some of that number may be the result of poor data, and some is certainly “captive workers” (e.g., people who had their job locations change, or households with dual workers), but the majority is probably people making the choice that the location and structure at an affordable price is worth the extra time and cost spent commuting.
- The average cost of commuting from Mat-Su to Anchorage on a monthly basis is about \$800 to \$1,100, including the cost of operating and maintaining an automobile and travel time costs.¹³ The average cost of homeownership in Anchorage is about \$1,900 per month and \$1,600 per month in Mat-Su.¹⁴ Monthly commuting costs for households within the Anchorage Bowl or Chugiak-Eagle River are in the range of \$250 to \$400, depending on locations within Anchorage.

¹³ The cost estimate uses the following assumptions: (1) the cost of driving per mile is \$0.51, based on IRS 2011 Standard Mileage Rates, which include fuel, maintenance costs, insurance, vehicle depreciation, and other costs, (2) 2010 average wage of about \$40.20 per hour in Anchorage, (3) the standard assumption in transportation economics that, on average, drivers value time at about half their wage rate (sometimes higher ratios are used) for both work and non-work trips, (4) the distance from destinations in Anchorage to Mat-Su varies from about 30 to 55 miles, depending on the destination (e.g., the distance from downtown Anchorage to Wasilla is about 45 miles), and (5) parking costs average about \$6.50 per day in downtown but there are no parking costs in most other parts of Anchorage.

¹⁴ These estimates are based on 2009 American Community Survey data and are consistent with approximate owner costs for average housing value (from the ACS) and sales price (from the MLS).

- **Larger household size.** The average household size in Anchorage in 2000 was 2.67 persons per household. White population was the only racial or ethnic group with smaller than average household size (2.67 persons per household). Household size for minority populations varied from 2.81 persons per household for African Americans to 4.31 for Pacific Islanders. The household sizes for the largest minority groups in Anchorage was 2.85 persons per household for Alaska Natives and 3.15 for Hispanic households.

Much has been written about cultural differences in attitudes toward family and density. But many economists see decisions to have a large household size (i.e., to have less square footage per person) as primarily an economic one. Research of immigrant households found that second-generation immigrant households made about the same housing choices as average households once income was controlled for.

One can see the income effect in non-immigrant housing decisions as well. For example, the anecdotal evidence is that more people aged 20 to 35 are living with parents. Though viewed as a temporary solution (e.g., “until I find a job; while I save for a place of my own”), tougher economic times mean it happens more and lasts longer.

Public policy does not have much affect on decisions to increase the number of people in a dwelling unit. Policy does not address the number of children a family can have, or whether grandparents, uncles, or friends can move in. Overcrowding as a health issue is rarely used as a justification for public action. Nuisance laws may come into play occasionally: for example, parking restrictions may create some obstacles to having many individuals of working age living together.

- **More remodeling.** With higher prices for new housing units, households owning homes and wanting more housing space or amenity will look to making do with their existing dwelling unit. Remodeling can handle demand for upgrades, but it does not add new units to deal with population growth and an increase in the number of households.

Building permit data shows that the Municipality issued more than 20,000 building permits for renovations between 2005 and 2010, averaging about 3,400 permits issued annually. The number of building permit issued was highest in 2009 and 2010, at about 4,000 permits issued annually, and was lowest in 2007, with about 2,000 permits issued.

3.6.1. IMPLICATIONS OF THE PRICE OF HOUSING SUBSTITUTES FOR FORECASTING ANCHORAGE'S HOUSING DEMAND

- **Commuting from outside of Anchorage may continue to be a substitute for housing in Anchorage.** The housing substitute that public policy has the greatest change of affecting is commuting. The number of households living in Mat-Su and commuting to Anchorage increased over the past decade.

If households working in Anchorage and living in Mat-Su moved to Anchorage, monthly commuting costs would decrease by \$400 or more because of the shorter drive. This decrease would make up for the difference in monthly ownership costs, suggesting that households are choosing to locate in Mat-Su for reasons other than simply housing costs, such as availability of larger dwellings and private yards in Mat-Su compared with Anchorage. Increases in commuting costs, such as substantial increases in fuel costs, may cause commuters from Mat-Su to Anchorage to reconsider the economic feasibility of commuting.

Increases in commuting costs (primarily, in fuel price, parking price, and congestion) would result in increased housing demand in Anchorage, including demand for compact housing. Substantial increases in those costs would tilt the demand even more toward compact housing, which presumably could be functional with fewer automobiles (and lower transport cost) per household.

- **Remodeling will continue to be a substitute for new housing.** Some households will choose to remodel their existing house, rather than purchase a new house. Households that prefer a different housing type (e.g., downsize from a large single-family house with a large yard to a townhouse with a small yard) may prefer compact housing over remodeling their existing house.

3.7 ANCHORAGE'S HOUSING POLICY

The Municipality's housing policy related to compact housing can be divided into two categories: (1) growth management policies related to efficient use of residential land, and (2) affordable housing policies. These two categories of policy are both related to demand for compact housing. This section presents a summary of Anchorage's growth management and housing affordability policies that affect compact housing in separately below.

An evaluation of the effects of Municipality housing policy is outside the scope of this project. The Municipality is in the process of revising the ordinances that implement the policies from the *Anchorage 2020: Anchorage Bowl Comprehensive Plan*. Most notably, the Anchorage Assembly has provisionally adopted changes to the Anchorage Bowl zoning ordinance, Title 21. The Municipality is currently evaluating potential effects of the proposed changes to Title 21. If Title 21 is implemented, the regulatory changes in housing policy may change the housing market in Anchorage.

3.7.1. GROWTH MANAGEMENT

In 2001 the Municipality adopted the *Anchorage 2020: Anchorage Bowl Comprehensive Plan*, which concluded that demand for new houses over the 2000 to 2020 period was for an additional 31,600 dwelling units in the Anchorage Bowl but that the capacity for vacant land was for 20,700 additional dwelling units. The conclusion of the Anchorage Bowl Comprehensive Plan was that the Municipality would need to provide opportunities for more efficient use of remaining vacant and underdeveloped land. The Anchorage Bowl Comprehensive Plan identified the following strategies to increase land-use efficiencies:

- Requiring minimum density for housing units on parcels zoned and developed for multi-family housing;
- Redeveloping dilapidated or obsolete housing;
- Redeveloping obsolete or under-used commercial and industrial property for housing;
- Building higher density housing with transit-supportive development corridors, major employment centers, redevelopment/mixed use areas, and town centers;
- Avoiding the loss of new housing capacity from rezoning of residential land for other uses;

- Protecting the integrity and quality of housing in existing residential neighborhoods; and
- Encouraging mixed-use development to include residential units in commercial areas.

The Municipality is in the process of adopting updates to the ordinances that implement the Anchorage Bowl Comprehensive Plan policies (e.g., zoning, subdivision, and some development standards), referred to as “Title 21.” This process began in 2002 and is not completed, with discussions continuing about changes to Title 21.

3.7.2. HOUSING AFFORDABILITY

The Anchorage Bowl Comprehensive Plan includes the following policies and implementation strategies related to both compact housing and housing affordability:

- The Anchorage Bowl Comprehensive Plan should guide development of the Consolidated Plan in terms of location and density of housing development.
- Encourage more affordable housing, including home ownership opportunities for low-income residents, such as mobile home parks or co-ops.
- Consider implementing inclusionary zoning regulations that require or provide incentives regarding the construction of more diverse and economical housing to meet the needs of low- and moderate-income families.
- Establish minimum density requirements for multi-family properties.

The Municipality’s “Consolidated Plan 2008-2012” describes the Municipality’s strategies to meet the housing needs of Anchorage’s low- and moderate-income households. The affordable housing strategies described in the Consolidated Plan that relate to compact housing focus on expanding affordable housing opportunities through:

- Reducing conversion of residential land to other uses, especially commercial uses.
- Allowing accessory dwelling units in a wider range of residential zones with fewer restrictions.
- Changing regulations to allow and encourage denser development, such as small-lot single-family, townhouses, and to allow two single-family homes to be built on land zoned for duplex.

- Reducing the parking requirements for multi-family housing.
- Encouraging redevelopment projects, especially those that emphasize mixed-income housing development.
- Allowing inclusionary housing requirements, which would require a mixture of affordable housing in market-rate developments.

The main report describes the implications of the current housing policy for the forecast of Anchorage's housing demand.

Housing Demand in Anchorage, 2010 to 2030

Chapter 2 described the methods for forecasting housing demand in Anchorage that are used in this chapter. The starting point is a baseline forecast of growth in all housing based on forecasts of population growth, household size, and vacancy rates. That forecast gets disaggregated by type of housing and location based on the current housing stock and changes in the housing stock by structure type that occurred over the 1998 to 2010 period. It then adjusts that forecast to create a new one based on several of the factors described previously in this report, including recent housing surveys.

4.1 BASELINE HOUSING DEMAND

The analysis in Chapter 3 and Appendix C.3 leads to a baseline forecast of new housing units likely to be built in the Municipality during the 2010 to 2030 period. Table 4-1 shows an estimate of that housing in the Anchorage Bowl and Chugiak-Eagle River for the 2010 to 2030 period, based on recent data. The forecast is based on the following assumptions:

- Population will increase by 53,900 people from 2010 to 2030, with 43,400 additional people in the Anchorage Bowl and 9,000 additional people in Chugiak-Eagle River.
- The average household size will decrease to 2.53 persons per household in the Anchorage Bowl and 2.87 persons per household in Chugiak-Eagle River, as described in Appendix C.4.
- Vacancy rates for all housing types will be 6.0% in 2030, based on recent vacancy rates in the Municipality.

Based on the assumptions shown in Table 4-1, the Anchorage Bowl will need 18,184 new dwelling units and Chugiak-Eagle River will need to add 3,324 new dwelling units to accommodate population growth between 2010 and 2030. The total new dwellings added in the Municipality would be 21,222 over the 20-year period.¹⁵

¹⁵ The forecast of new units does not account for dwellings that will be demolished. This analysis does not factor those units in; it assumes they will be replaced at the same site and will not create additional demand for residential land.

Table 4-1. Forecast of new dwelling units, Anchorage Bowl and Chugiak-Eagle River, 2010 to 2030

	Estimate of Housing Units (2010-2030)	
	Anchorage Bowl	Chugiak- Eagle River
Change in persons	43,400	9,000
Average household size	2.53	2.87
New occupied DU	17,155	3,136
<i>times</i> Aggregate vacancy rate	6%	6%
<i>equals</i> Vacant dwelling units	1,029	188
Total new dwelling units (2010-2030)	18,184	3,324
Annual average new dwelling units	909	166

Source: ECONorthwest

The results suggest that the Municipality will need to issue permits for 909 new dwelling units annually in the Anchorage Bowl, an increase from the average of 841 dwelling units approved annually in the Anchorage Bowl between 2005 to 2010.

The growth in Table 4-1 would result in an increase from 97,660 dwelling units in the Anchorage Bowl in 2010 to 115,844 dwelling units in 2030. In Chugiak-Eagle River, the number of dwelling units would increase from 12,707 units in 2010 to 16,031 dwelling units in 2030.

Table 4-2 presents a baseline forecast of new dwelling units by structure type based on the current distribution of housing stock in the Anchorage Bowl and Chugiak-Eagle River (see Table C.3-1). The forecast in Table 4-2 assumes that the current housing conditions and recent trends continue over the next 20 years.

Table 4-2. Baseline forecast of new dwelling units by structure type, Anchorage Bowl and Chugiak-Eagle River, 2010 to 2030

Dwelling Units by Structure Type	Estimate of Housing by Structure Type (2010-2030)	
	Anchorage Bowl	Chugiak-Eagle River
Total new dwelling units (2010-2030)	18,184	3,324
Dwelling units by structure type		
Large Lot Single-Family		
Percent large lot single-family	4%	25%
<i>equals</i> Total new large lot single-family DU	726	831
Single-Family		
Percent single-family	38%	52%
<i>equals</i> Total new single-family DU	6,912	1,729
Two Family/Duplex		
Percent two family/duplex	16%	12%
<i>equals</i> Total two family/duplex DU	2,909	399
Townhouse		
Percent townhouse	5%	1%
<i>equals</i> Total townhouse DU	909	33
Multifamily and other		
Percent multifamily and other	37%	10%
<i>equals</i> Total multifamily and other DU	6,728	332
Total new dwelling units	18,184	3,324

Source: ECONorthwest

If trends in tenure continue, about 60% of new dwelling units will be owner-occupied (nearly 11,000 units in the Anchorage Bowl and nearly 2,000 units in Chugiak-Eagle River) and 40% will be renter-occupied (more than 7,000 units in the Anchorage Bowl and more than 1,300 units in Chugiak-Eagle River). The majority of large-lot single-family and single-family will be owner-occupied. The majority of attached and multifamily units will be renter-occupied.

4.2 VARIATIONS IN DEMAND FOR COMPACT HOUSING

The factors described in Chapter 3 – household demographics, household purchasing power, housing preferences, prices and costs of housing, cost of housing substitutes, and housing policy – are ones that can cause the housing market in Anchorage to change from the trends it evidenced over the last 20 years. This section assesses how potential changes these factors might change demand for compact housing in Anchorage relative to historical demand.

The Municipality's database of housing shows the composition of housing stock in the Anchorage Bowl and Chugiak-Eagle River (Table C.3-1):

- **Anchorage Bowl.** 38% of housing in the Anchorage Bowl is single-family, 37% is multifamily and other, 15% is duplex and two-family, 5% is townhouse, and 4% is large-lot single-family: an overall single-family / multifamily split of 42% / 57%.
- **Chugiak-Eagle River.** 52% of housing in the Chugiak-Eagle River is single-family, 25% is large-lot single-family, 12% is duplex and two-family, 10% is multifamily and other, and 1% is townhouse: an overall single-family / multifamily split of 77% / 23%.

That baseline forecast of housing demand by type of housing is only a starting point. The variation holds population growth, household size, and vacancy assumptions constant from the baseline forecast to examine how demand for compact housing types of housing may vary. The variation assumes, as does the baseline forecast, that there will be demand for about 18,184 new dwelling units in the Anchorage Bowl and 3,324 new dwelling units in Chugiak-Eagle River.

The future is inherently uncertain, so any single forecast of long-run social phenomenon (like housing production) is unlikely to prove correct over time. The forecast that follows adjusts the baseline forecast shown in Table 4-2 based on an assessment of expected variation in some of the key factors that affect housing demand:

- **Population.** The population factors that have the most potential to affect demand for compact housing are changes in the total population and changes in demographics.
 - ISER developed three projections for population growth in Anchorage. The baseline uses the base case projection, as described in Appendix C.4. If population grows faster than ISER's base projection, additional population growth should

increase housing price (decreasing housing affordability) in Anchorage, assuming that Anchorage has a constrained land supply as described in the Anchorage Bowl Comprehensive Plan . If population grows faster than ISER's base projection, there will be more demand for all types of housing. The price effect of that increased demand would move in the direction of increasing demand disproportionately for more affordable housing, which would be correlated with more compact housing.

The variation for compact housing assumes ISER's base projection (same as baseline) and that Anchorage will grow by 53,900 people over the 20-year period.

- Future demand for compact housing will be affected by changes in demographics, especially changes in age and growth in Alaska Native and Hispanic populations. In general, Anchorage's population will grow older, with the most growth in people over 65 years and between 20 and 39 years. Minorities are likely to account for a larger share of Anchorage's population in the future, with the largest growth in Alaska Native and Hispanic populations.

These changes suggests an increase in demand for compact housing types.

- **Purchasing Power.** Housing choices are strongly influenced by household purchasing power. If household purchasing power increases substantially in relation to the inflation rate over the next 20 years, households may choose to purchase or rent larger houses on larger lots, if possible (a standard effect predicted by economic theory and observed in reality). If purchasing power decreases, households may choose to more affordable smaller houses on smaller lots.

ISER's projection for change in real household income is that income will remain stable over the 20-year period, without substantially increasing or decreasing. **The lack of growth in household income suggests that, if real housing costs increase (as discussed below), housing may become less affordable and demand for compact housing may increase.**

- **Preferences.** The forecast of demand for compact housing should take into account preferences of new residents and of existing residents who will move to different dwellings within Anchorage over the planning period. The survey of housing preferences in Anchorage shows that respondents lived at their current residence for about eight year, suggesting that, on average, most households

will move two or more times over the 20-year period. The survey of housing preferences of existing residents suggest the following about demand for compact housing.

- About half of residents are willing to accept a smaller home in the right location.
- About one-fifth are “highly likely” candidates for compact housing and are: (1) willing to consider living in a multifamily unit over a single-family home, and (2) prefer a smaller home and shorter commute over a larger home and longer commute, and (3) prefer to be located closer to stores and restaurants over a larger yard.
- The highly-likely candidates for compact housing are a little older and less likely to have children living at home than other survey respondents.
- The highly-likely candidates for compact housing have a slight preference for closer proximity to trails and open space and grocery stores. They are slightly less interested in play space for children, a large yard, or in storage space for recreational equipment.
- Respondents willing to consider compact housing seem willing to accept less interior living space but want private outdoor space.

The results of the survey suggest that the types of compact housing most likely to be in higher demand are lower-density multifamily housing types, such as duplexes or townhouses.

- **Prices and costs of housing.** The price of homeownership and renting increase over the last decade or longer. Some indicators that illustrate the increase in housing prices and cost include:
 - Between 1989 and 2009, growth in homeownership costs outpaced growth in income. In 1989, median housing value was 2.5 times median household income. By 2009, median housing value was 2.9 times median household income.
 - Average sales prices for single-family units increased by 59% (\$121,800) and 66% for condominiums (\$76,400) between 2001 and 2010.
 - Contract rental costs increased by \$275 or 41% between 2000 and 2010.
 - Homeownership is generally more expensive in Anchorage than in Mat-Su or the State on average. The median value of owner-

occupied dwellings in 2009 was \$267,300 in Anchorage, compared with \$218,800 in Mat-Su or the State average of \$232,900.

These changes suggest that housing costs may continue to increase over the 20-year period, as a result of increases in the factors that determine housing price (e.g., costs of construction, materials, land, or labor). If purchasing power does not grow at the same rate, then housing will become less affordable over time. As housing prices increase, some households may choose smaller dwellings, which may be more expensive on a per-square-foot basis but will be more affordable than larger housing types. **Decreases in housing affordability suggest increased demand for compact housing.**

- **Prices of housing substitutes.** The most common housing substitute is commuting from a lower cost housing market (e.g., Mat-Su) to Anchorage. The factors that have the greatest chance of substantially increasing commuting costs are increases in fuel cost or parking cost. Increases in commuting costs (primarily, in fuel price, parking price, and congestion) would result in increased housing demand in Anchorage, including demand for compact housing. Substantial increases in those costs would tilt the demand even more toward compact housing, which presumably could be functional with fewer automobiles (and lower transport cost) per household.
- **Policy.** Changes in Municipality housing policy have potential for changing the supply of compact housing, which could increase or decrease the price of compact housing. For example, if the Municipality allowed small-lot single-family detached units (e.g., on 3,000 square foot lots), households may choose to purchase or rent these more compact single-family dwellings. The implications of the demand analysis for Anchorage's housing policy are discussed in the main body of the report.

In addition to the factors described above, availability of land will affect demand for compact housing. The Anchorage Bowl Comprehensive Plan documented capacity for fewer than 108,000 dwelling units in 1998. The forecast of 115,800 dwelling units by 2030 exceeds the capacity of vacant land (in 1998) to accommodate new dwellings, suggesting that Anchorage will need to implement policies to increase land use efficiency and produce more compact housing. The deficit of buildable land suggests an increase in demand for compact housing types. This issue is discussed in the main report document.

In the opinion of ECONorthwest, the bulk of the data described in this report support the conclusion that compact housing in Anchorage, as a

share of total new housing, is more likely to increase than to decrease over the next 20 years. New housing will shift in the direction of higher densities and more multifamily housing types, which are typically more affordable because land costs are lower, the amount of space per dwelling unit is less, and service costs for multifamily are spread out over multiple units.

Table 4-3 shows a variation to housing mix for new housing in the Anchorage Bowl and Chugiak-Eagle River. There are dozens of ways that housing mix in the Anchorage Bowl and Chugiak-Eagle River could vary over the 20-year period. Table 4-3 assumes:

- **Large-lot single family.** The percentage of new dwelling units in Anchorage and Chugiak-Eagle River that are large-lot single family is more likely to decrease than to increase. If housing affordability decreases and the amount of buildable residential land is constrained, then demand for new large-lot single-family may be limited in Anchorage.
 - In the Anchorage Bowl, large-lot single-family currently accounts for a small share of housing stock (4%). The variation in Table 4-3 projects that demand for large-lot single-family will decrease to 2% of new housing stock.
 - Large-lot single-family housing accounts for one-quarter of housing stock in Chugiak-Eagle River. The variation in Table 4-3 projects that demand for large-lot single-family will decrease to 20% of new housing stock.
- **Single-family.** Single family housing is the most common housing type in Anchorage. The percentage of new single-family housing more likely to decrease than to increase, given changes in demographics (with more older, single-person households), decreases in housing affordability, and potential constraints of buildable residential land. The minimum lot size for single-family housing, 6,000 square feet, does not allow for particularly compact single-family housing.
 - In the Anchorage Bowl, single-family currently accounts for a more than one-third of housing stock. The variation in Table 4-3 projects that demand for single-family will decrease to 33% of new housing stock.
 - In Chugiak-Eagle River, single-family housing accounts for more than half of housing stock. The variation in Table 4-3 projects that demand for single-family will decrease to 50% new housing stock.

- **Two-family/duplex.** Two-family and duplex housing accounted for 16% of housing in Anchorage and 12% of housing in Chugiak-Eagle River in 2010. Demand for this type of low-density multifamily housing may increase based on the increase share of older, smaller households, and decreases in housing affordability. This type of compact housing provides opportunities for private outdoor space, a factor that is important to survey respondents willing to consider compact housing. Table 4-3 projects that two-family and duplex housing will account for 19% of new housing in the Anchorage Bowl and 15% of new housing in Chugiak-Eagle River.
- **Townhouse.** Townhouses were relatively uncommon in Anchorage in 2010, accounting for 5% of housing in Anchorage and 1% of housing in Chugiak-Eagle River. Demand for this type of low-density multifamily housing may increase based on the increase share of older, smaller households, and decreases in housing affordability. This type of compact housing provides opportunities for private outdoor space, a factor that is important to survey respondents willing to consider compact housing. Table 4-3 projects that townhouses will account for 8% of new housing in the Anchorage Bowl and 4% of new housing in Chugiak-Eagle River.
- **Multifamily and other.** Multifamily and other housing types include multifamily structures with three or more units, mobile homes in parks, institutional housing, and other types of housing. Multifamily and other accounted for 37% of housing in Anchorage and 10% of housing in Chugiak-Eagle River in 2010. Demand for this type of low-density multifamily housing may increase based on the increase share of older, smaller households, increases demand for institutional housing for seniors (e.g., assisted living facilities), and decreases in housing affordability. This type of compact housing does not provide opportunities for private outdoor space, a factor that makes it less appealing to many survey respondents. Table 4-3 projects that multifamily and other will account for 38% of new housing in the Anchorage Bowl and 11% of new housing in Chugiak-Eagle River.

In the Bowl, the expected continued decline in the number of dwelling units in mobile home parks is expected to hold the overall increase in percent of new housing in the “multifamily and other” category, as the mobile home parks are replaced by a combination of compact housing types.

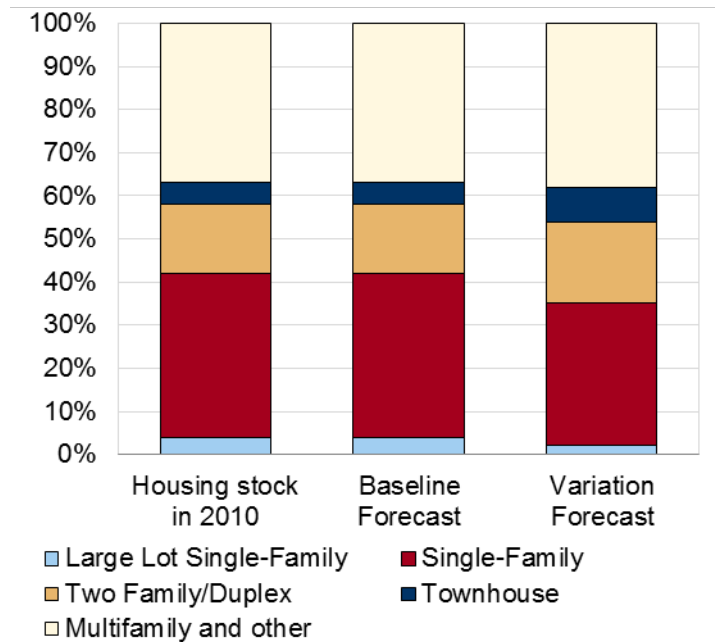
Table 4-3. Variation to the forecast of new dwelling units by structure type, Anchorage Bowl and Chugiak-Eagle River, 2010 to 2030

Dwelling Units by Structure Type	Estimate of Housing by Structure Type (2010-2030)	
	Anchorage Bowl	Chugiak-Eagle River
Total new dwelling units (2010-2030)	18,184	3,324
Dwelling units by structure type		
Large Lot Single-Family		
Percent large lot single-family	2%	20%
<i>equals</i> Total new large lot single-family DU	362	665
Single-Family		
Percent single-family	33%	50%
<i>equals</i> Total new single-family DU	6,003	1,663
Two Family/Duplex		
Percent two family/duplex	19%	15%
<i>equals</i> Total two family/duplex DU	3,455	499
Townhouse		
Percent townhouse	8%	4%
<i>equals</i> Total townhouse DU	1,455	132
Multifamily and other		
Percent multifamily and other	38%	11%
<i>equals</i> Total multifamily and other DU	6,909	365
Total new dwelling units	18,184	3,324

Source: ECONorthwest

Figure 4-1 shows a comparison of the mix of housing types for the Anchorage Bowl in the 2010 housing stock, the baseline forecast, and the variation forecast. Figure 4-1 shows that the mix of housing types is the same in the 2010 housing stock and the baseline forecast. The mix of housing in the variation forecast shows a decrease in the percent of large-lot single-family and single-family housing from 42% of housing in 2010 and the baseline to 35% of housing in the variation forecast. Figure 4-1 shows an increase in the percent of attached and multifamily housing from 58% of housing in 2010 and the baseline to 65% of housing in the variation forecast..

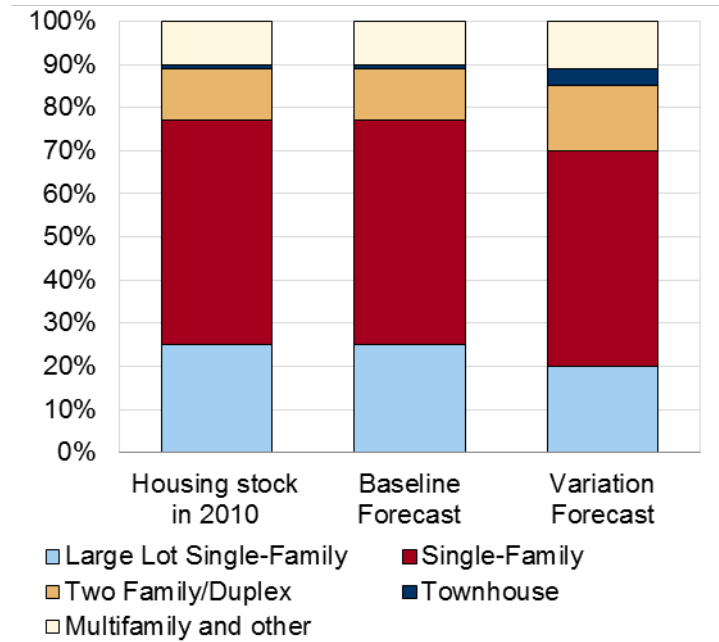
Figure 4-1. Comparison of the mix of housing types, Housing Stock in 2010, Baseline Forecast, and Variation Forecast, Anchorage Bowl



Source: ECONorthwest

Figure 4-2 shows a comparison of the mix of housing types for Chugiak-Eagle River in the 2010 housing stock, the baseline forecast, and the variation forecast. Figure 4-2 shows that the mix of housing types is the same in the 2010 housing stock and the baseline forecast. The mix of housing in the variation forecast shows a decrease in the percent of large-lot single-family and single-family housing from 77% of housing in 2010 and the baseline to 70% of housing in the variation forecast. Figure 4-2 shows an increase in the percent of attached and multifamily housing from 23% of housing in 2010 and the baseline to 30% of housing in the variation forecast.

Figure 4-1. Comparison of the mix of housing types, Housing Stock in 2010, Baseline Forecast, and Variation Forecast, Chugiak-Eagle River



Source: ECONorthwest

4.3 ALLOCATION OF THE VARIATION OF COMPACT HOUSING DEMAND TO SUB-AREAS

Table 4-4 shows an allocation of housing demand shown in Table 4-3 to the five planning subareas in the Bowl. We allocated housing demand to the subareas based on the assumptions about neighborhood housing allocation in the *Anchorage 2020* plan, on page 59. *Anchorage 2020* assumed the following allocation of housing: 28% of housing would locate in Northwest, 20% in Northeast, 20% in Central, 17% in Southeast, and 17% in Southwest. Table 4-4 uses the same assumptions.

Anchorage 2020 did not use the same housing types used in this study. As a result, we combined the single-family and two-family/ duplex into one category and the townhouse and multifamily into another category.

Table 4.2. Allocation of housing demand to Anchorage Bowl neighborhoods, 2010-2030

	Northwest	Northeast	Central	Southeast	Southwest
Large Lot Single Family	-	15	-	323	24
Single Family (SF and 2Fam/Duplex)	539	462	1,617	2,649	4,190
Multifamily (Townhouse and MF)	3,151	2,204	1,872	569	569
Total	3,690	2,681	3,489	3,541	4,783

Source: Overall housing demand is from Table 4-3 in the report "Anchorage Forecast for Housing Demand 2010 to 2030," dated April 2011; Assumptions about housing allocation are from page 59 in *Anchorage 2020*.

Anchorage Market Housing Analysis

Forecasting Housing Demand:

Appendix C.1 Framework and Methods

Housing demand is affected by population growth, housing preferences, housing prices, economic growth and income, interest rates, transportation costs, and potentially another dozen or two important factors. Modeling future housing demand is complicated by the number and interactions of the factors. This appendix describes the most important factors and interactions, and their implications for the methods used in this study to forecast the long-run demand for new housing demand for Anchorage.

FACTORS THAT AFFECT HOUSING MARKETS AND HOUSING CHOICE

MANY FACTORS AFFECT DEMAND

Economists view housing as a bundle of services for which people are willing to pay some price: shelter certainly, but also proximity to other attractions (jobs, shopping, recreation), amenities (type and quality of fixtures and appliances, landscaping, views), prestige, and access to public services (quality of schools).

Because it is impossible to maximize all these services and simultaneously minimize costs, households must, and do, make tradeoffs. What they can get for their money is influenced by both economic forces and government policy. Different households will value what they can get differently. They will have different preferences, which in turn are a function of many factors like income, age of the head of the household, number of people and children in the household, number of workers and job locations, number of automobiles, and so on.

These points explain why forecasting what types of housing will be built is so complex and uncertain:

- The housing choices of individual households are influenced by dozens of factors.
- Those factors interact in complex ways.

- Individual households may weight (value) the factors in very different ways. Those preferences may be correlated with certain socioeconomic and demographic characteristics, but they are not dictated by them.
- What people say they want and what they can and will actually pay may be very different.
- Housing demand in a given region is the result of the individual decisions of thousands of households.

The complexity of a housing market is a reality, but it does not obviate the need for some type of forecast of future housing demand, and of the implications of that housing demand for land demand and consumption. Such forecasts are inherently uncertain. Their usefulness for public policy often derives more from the explanation of their underlying assumptions about the dynamics of markets and policies than from the specific estimates of future demand and need. This section attempts to provide such an explanation.

HOUSING AS A BUNDLE OF GOODS

Starting broadly, residential choice means the choice of both a housing *location* and a housing *type*. Factors relating to location include travel times (to work, shopping, recreation, education), views, neighborhood characteristics, quality of public services (especially, for many families, schools), and tax rates. Housing type comprises many attributes, the most important of which are structure type (e.g., single-family, multi-family) and size, lot size, quality and age, price, and tenure (own/rent). All of these attributes – what real estate economists refer to as the *bundle of goods* that one purchases when making a housing choice – affect residential choice.

Consider in more detail some of the location and structure characteristics that households evaluate:

- **Access to work.** For a large majority of U.S. households, at least one member of each household, and often two members, commutes to work daily. Fundamental to early and (to a significant extent) prevailing theories of urban economics and location theory is the tradeoff between travel time and land value (which for households means residential land value). There is no doubt other factors influence location decisions, or that the auto gives households considerable flexibility in choosing a location, but access to work remains an important determinant of household location.
- **Access to shopping, recreation, friends.** About 70% of all household travel in the U.S. is for non-work purposes. People travel from their

homes to shopping, recreation, education, and other neighborhoods. Households value access to a variety of destinations.

- **Public services.** Households value a variety of public services, some of which vary by location. The quality and price of water, sewer, drainage, and power service typically vary little within a metropolitan area. The quality of other public services, especially schools and public safety (police and fire protection) can often vary substantially, and can have a large impact on a household's location decision.
- **Neighborhood characteristics.** Characteristics of residential neighborhoods – character of development, income, age, and size of households, environmental quality – vary substantially within a metropolitan area, and are important to households. Most households have had the experience of settling for a smaller, less-well maintained unit in order to get housing they can afford in a location they (and others) desire.
- **Land and improvements.** As with businesses, the desire for space varies by household, and households are willing to trade-off space for other attributes, such as accessibility and amenities. Some families, for example, are willing to pay more for space, and use less of it, in areas with especially good schools.

SIX CATEGORIES OF FACTORS THAT DETERMINE THE TYPE AND AMOUNT OF NEW HOUSING

At ECONorthwest, we combined our knowledge of economic theories about housing demand with practical experience with local housing markets and policies to identify six categories of factors that affect the amount and type of housing built in a community and can be summarized into six categories (which we refer to as “the six P’s”):

- **Population.** Even if none of the subsequent factors changed, housing demand will change, all else being equal, if population (i.e., the number of households) changes. Population grows either when people move to a region (in-migration) or through natural increase (births minus deaths). The demographic characteristics (e.g., age) of new population affect housing demand.
- **Purchasing power.** Even without population growth, if an existing population were to suddenly get richer, it would spend more on housing – housing demand would increase. The amount that a household can spend on housing is predominantly dependent on household income and wealth, but the availability of mortgage financing also affects housing choice.

- **Preferences.** Households have preferences about: (1) types of housing (e.g., single-family detached or apartments), (2) housing amenities (e.g., fireplaces or multiple-car garages), (3) and locational amenities (e.g., distance from work, quality of schools, or access to shopping). Housing preferences are linked to demographic characteristics and purchasing power.
- **Prices (and costs) of housing.** Households have money to pay for housing, and preferences about the kind of housing they want to pay for. Prices tell them how much of what they want they can afford to get. If there are reasons to believe, for example, that the real price of residential land or housing construction will be rising, then one would expect housing developers and purchasers to begin to economize on lot size (land) or built space. Development costs describe the costs of building a house, including construction costs, land costs, and public services and infrastructure. Costs are strongly related to prices, but are not identical. For example, in a strong market with excess demand, a developer may be able to command a price that is in excess of development costs and a standard rate of return. In addition, certain advances in the technology of building housing or infrastructure may reduce costs.
- **Prices of housing substitutes.** One important substitute for housing is transportation. For example, choices to purchase housing in suburban locations was influenced by the price of travel: if it had been very much higher, fewer households could have afforded to move to suburban locations. Telecommunications is a substitute for proximity and is a technology whose prices have dropped substantially in the last three decades.
- **Policy.** Governments affect the housing market through policies and actions that encourage or discourage development of certain types of housing in certain locations.

THE RELATIVE IMPORTANCE OF DIFFERENT FACTORS

The literature is inconclusive on the relative weight of site and structure characteristics in housing location choice in the U.S. Based on a household survey, Wachs, et. al. (1993) concluded "...commuting distance is likely to be a secondary consideration in choosing where to live; housing costs, quality of schools, and safety from crime were anticipated generally to play a much larger role." Geographic scale plays a large role in the appropriateness of this statement. If one is looking at neighborhoods that represent an overall difference of five minutes in travel time, service and housing attributes will probably dominate residential locational choice.

Within a larger metropolitan region travel time will play a much more substantial role.

Levine (1998) concluded commute time was a dominant determinant of residential location at the regional scale, and that provision of affordable housing near employment concentrations can influence residential location decisions for low-to-moderate income single-worker households. He noted, however, that the jobs-housing balance does not decrease travel times or increase travel speeds, but that relaxation of suburban regulation intended to lead to improved matches between home and workplace is seen as enhancing the range of households' choices about residence and transportation.

The relative importance of many of these factors to different households is different. Some like the excitement, diversity, and opportunities of an urban location; others like the quiet and security of a suburban cul-de-sac. Some may want a big yard; some want no maintenance responsibilities. Children and pets make a difference. Similar tradeoffs apply for own vs. rent; close-in vs. far out; amount of space and quality vs. price.

CONSIDERATIONS IN MODELING FUTURE HOUSING DEMAND

DEFINITIONS: DEMAND, ABSORPTION, NEED, COMPACT HOUSING

The term "demand" gets used to mean two different but related things, which can create confusion analytically and in public discussion. In economic text books, "demand" is the ubiquitous downward-sloping demand curve: the estimated amount of some good or services that consumers will purchase at different prices. The greater the price, the less they purchase. But "demand" gets used commonly and in the press to mean not the demand curve, but the intersection of supply and demand curves at some quantity for a given price. In real estate, that use of the term demand would be equivalent to the term "absorption."¹

Sometimes analysts introduce yet a third variation: "potential demand," which is a very squishy term. It is not the demand that one observes historically in the market place or that one expects to observe in the future.

¹ Further definitions: absorption is similar but not identical to "new construction." New construction is probably the variable of primary interest. Over the longer run, absorption and new construction will be approximately equal. In the short run, units can get built but not sold (absorbed). Building permit data is directly about new construction and indirectly and approximately about absorption.

Rather, it is some bigger amount of demand – not predicted to occur necessarily – but apparently out there potential under some set of demand and supply conditions that are not specified.

In the context of housing markets, what one observes when looking at past and current housing conditions is *the intersection of the forces of housing supply and demand at prevailing prices*: in other words, absorption. As noted in Section A.1, there are many factors that go into determining that intersection. Analysts will often divide these, as we do here, into factors that tend to have more influence on the demand side (e.g., growth in population, households, and income), and those that tend to have more influence on the supply side (e.g., the cost of materials, construction, and land).

Thus, in this report we use the term “demand” in two ways: (1) to refer to a category of factors that influence the amount of housing, by type, that has been or is likely to be absorbed in the Anchorage market, and (2) the historical and forecasted amount of that absorption.

Consistent with the first use of the term, we discuss characteristics of households that create or are correlated with *preferences* for different types of housing, and *the ability to pay* for that housing (the ability to exercise those preferences in a housing market by purchasing or renting housing; in other words, income or wealth).

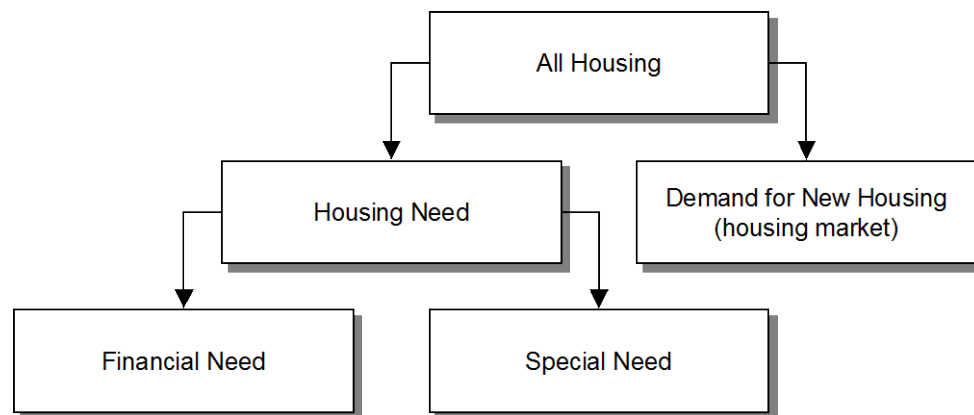
The ability to pay is essential to the definition of housing demand. Housing market analysis often do not make a clear distinction between *demand* and *need*:

- *Housing need* can be defined broadly or narrowly. At its broadest, all households need shelter. For analysis, however, most studies use narrower definitions that distinguish between: (1) households that are financially able to purchase or rent housing at an “affordable” price, consistent with the requirements of their household characteristics, and (2) households that cannot find and afford such housing. Households in the second category have *need*: they are either unhoused, in housing of substandard condition, overcrowded, or paying more than their income and federal, state, or local standards say they can afford.
- *Housing market demand* is what households demonstrate they are willing to purchase in the market place. Growth in population means growth in the number of households and implies an increase in demand for housing units. That demand is met, to the extent it is, primarily by the construction of new housing units by the private

sector based on its judgments about the types of housing that will be absorbed by the market.

Figure C.1-1 distinguishes between housing needs that are unmet and those that are met via market transactions. Housing need is the total number of housing units required to shelter the population. In that sense, housing need is approximately the number of households: every household needs a dwelling place. Some housing need is met through market transactions without much government intervention because households have the income to *demand* (purchase) housing services (as owners or renters). That demand is shown in the box on the right. Other households, however, have needs unmet, usually because they lack the resources to purchase housing services (financial need), but also because of special needs (though, even here, the issue is still one of financial resources).

Figure C.1-1. Relationship between housing need and housing demand



Further confusing the discussion is that most households with needs (ones that do not have the financial resources to purchase or rent what society deems as minimally acceptable housing) are actually part of the effective demand overall: they are being housed somewhere. Most, however, are not part of the effective demand for *new* housing units (though a few are because they either receive income supplements or housing cost and price are reduced by other government programs).

The focus of the entire project is estimating potential demand for **compact housing** in Anchorage. The “compactness” of housing is defined by multiple characteristics: the structure type (detached or attached), the size of the dwelling unit, and the size of the lot the dwelling is located on. Compact housing may have a locational component, with the type of compact housing found in a downtown being different from the type of

compact housing found in a suburban area. Compact housing can be either ownership or rental housing.

For the purposes of this study, we define compact housing as including:

- *Small-lot single-family detached housing* on individual parcels of land smaller than 6,000 square feet.² This category could include single-family detached units on individual lots or single-family detached site condos on a common lot. Small-lot single-family housing is most appropriately located in medium density areas within the Municipality, including some suburban areas.
- *Attached housing* of all types. Some types of attached housing are more compact than other types of attached housing because they are developed at higher densities (more units per acre). Attached housing can be divided into two groups:
 - *Less-compact attached housing*, which includes townhouses, two-family, and duplexes. Less compact attached housing might be more likely to locate in medium density areas within the Municipality, including some suburban areas.
 - *More-compact attached housing*, which includes structures with 3 or 4 units and structures with five or more units. These housing types are likely to locate in medium and higher density areas within the Municipality.

While compact housing may be less expensive than non-compact housing, as a result of lower land costs from smaller lots and dwelling units with less floor area, compact housing is not necessarily the same thing as affordable or workforce housing. A separate report, about financial feasibility of developing compact housing in the Municipality, will address the potential costs of selected types of compact housing.

FORECASTING DEMAND BASED ON COMPONENT FACTORS

A simple way to forecast new housing units (i.e., units built or absorbed, one definition of demand) is to project historical trends into the future. That technique gets criticized as “driving by looking in the rear-view mirror,” but for long-run forecasting it can be equally or more reliable than much more sophisticated forecasting techniques. Why?

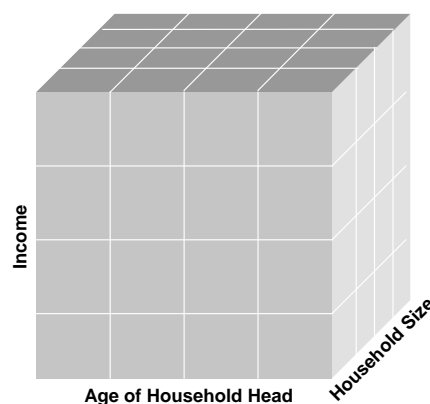
² A 6,000 square foot lot size is large for compact housing. This lot size was chosen to conform with existing Municipality policies. The policy analysis in the main report discusses policies about reducing minimum lot size for single-family detached housing.

For growing metropolitan areas (Anchorage is in this class), it is typical to see long-run, average growth rates for population and employment in the range of 1.0% to 1.5%. Since housing stock is highly correlated with population, it is not surprising that new housing gets added annually at the rate of about 1% of total housing stock. In any given year, these numbers can vary in the aggregate and by type of housing. But over a 20-year forecasting period, the historical data typically show a long-run (secular) upward trend containing short-run (cyclical) peaks and troughs.

The other way to forecast new housing construction / absorption is as a function of the factors that cause it to occur (like the ones discussed in Section A.1). If one could do the measurement fine enough, one might find that every household has a unique set of preferences for housing. But no regional housing analysis can expect to build from the preferences of individual households.³ Thus, most housing market analyses that get to this level of detail try to describe *categories* of households on the assumption that households in each category will share characteristics that will make their preferences similar.

Three household characteristics are strongly correlated with choices about residential location and housing type: age of the household head, size of the household, and income. Even if these were the only three significant variables influencing housing preferences (they are not), and if they each only had four subcategories (e.g., age of head 18-30, 31-40, 41-55, 55+) they would lead to 64 different household types ($4*4*4$). This idea is illustrated in Figure C.1-2.

Figure C.1-2. Illustration of combinations of factors influencing housing choice



³ Not only could one not measure the preferences of all existing households; one could not know what specific households would be migrating to the region.

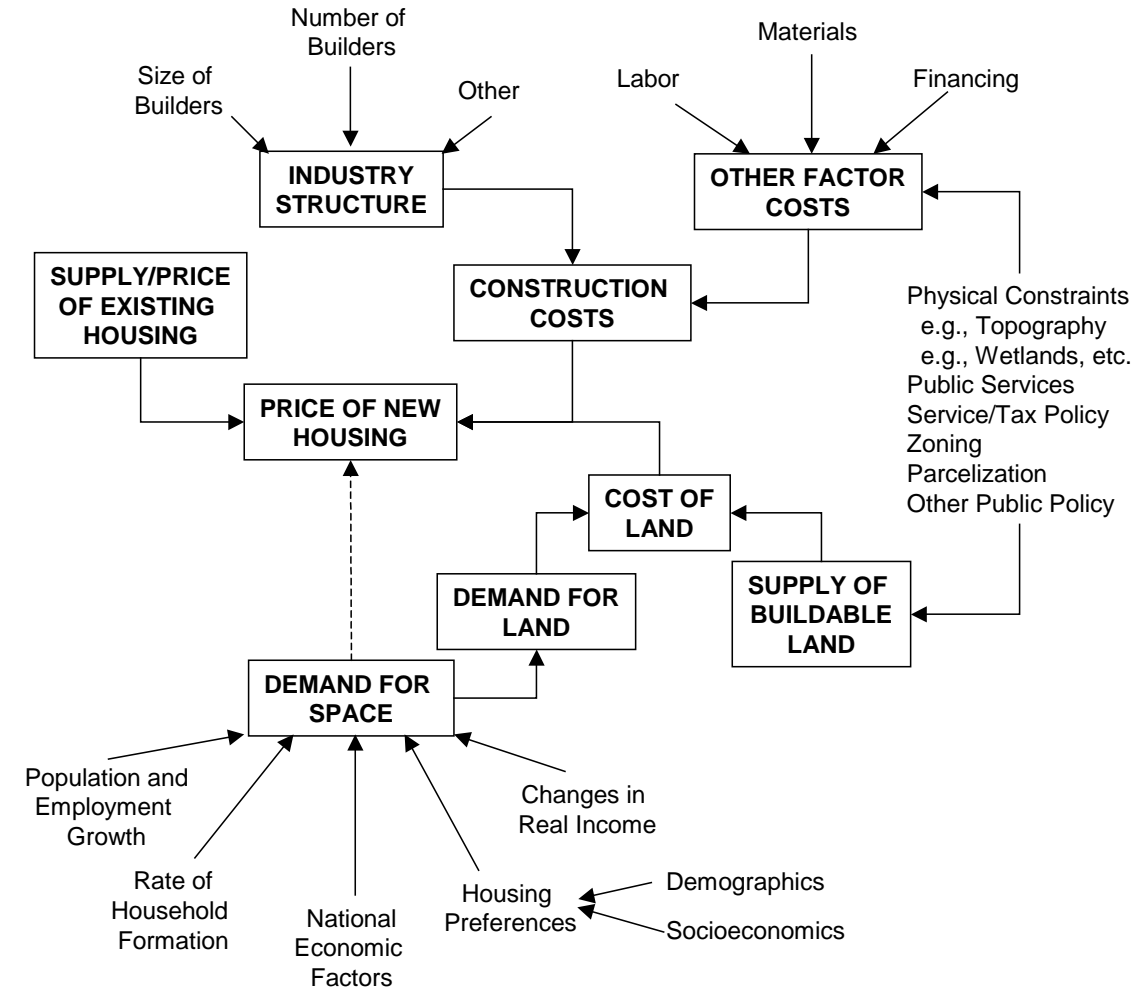
It is difficult, at best, to allocate households to each of the 64 different housing types. Simpler forecasting techniques allow a reasonable estimate of the total number of housing units that will be needed based on expected population increases and the basic relationships between the variables shown in Figure C.1-2.

More rigorous specifications of factors that drive housing choice are also possible. Economists have developed what they refer to as *hedonic price models* of the housing market, which is jargon for models that try to estimate the contribution of each key component in a house's bundle of services to its market price. The housing demand variables in a hedonic price model are typically price of housing, price of other goods and services (because some of them are substitutes for goods and services in the housing bundle: e.g., auto and transit travel is a substitute for residential locations next to trip destinations), the financial resources of consumers (income and wealth), preferences, and the number of households.⁴ The model must also account for housing supply variables, such as the price of desirable housing characteristics.

Figure C.1-3 shows factors that influence housing cost. A more complete model would have to be disaggregated by type of housing product (e.g., single-family dwelling, multi-family), and type of household with effective demand for those products (e.g., by household size, age of household head, income).

⁴ Complicating the picture further is that for a large percentage of households, housing is not only a consumption good, but also an investment. Thus, housing choice depends also on one's assessment of future capital gains in the housing market.

Figure C.1-3. Factors affecting housing price



Source: ECONorthwest

The purpose of the discussion so far has been to give some background on the kinds of factors that influence housing choice, and in so doing, to convey why the number and interrelationships among those factors ensure that any generalization about housing choice will be wrong, at least in part. Given that caveat, we proceed to make some of those generalizations.

Figure C.1-4 illustrates a common pattern for how one's life cycle intersects with housing choice. Many other patterns exist, but the one shown is common. The point is that housing needs and preferences change for a person or a household over time, and, on average, they change in predictable ways.

The main demographic and socioeconomic variables that may affect housing choice and preference for compact housing are: age of householder, household composition (e.g., married couple with children or single-person household), size of household, ethnicity, race, household income, or accumulated wealth (e.g., real estate or stocks). The literature

about housing markets identify the following household characteristics so those most strongly correlated with housing choice are: age of the householder, size of the household, and income.⁵

- **Age of householder** is the age of the person identified (in the Census) as the head of household. Householder age affects housing type and tenure. Households make different housing choices at different stages of life. Mobility is substantially higher for people aged 20 to 34. People in that age group will also have, on average, less income and fewer children than people in the next older age bracket. All of these factors mean that younger households are much more likely to be renters. Renters are more likely to be in multi-family housing. Figure C.1-5 shows this general pattern and also shows that it is not absolute: some young people own single-family houses and some old people rent. This trend holds true for Anchorage.
- **Size of household** is the number of people living in the household. The size of the household is related to the age of the householders. Younger and older people are more likely to live in single-person households and people in their middle years are more likely to live in multiple person households (often with children). In Anchorage, households older than 55 years are more likely to be single-person households (about 25% to 50% of households older than 55 years). Households between age 15 and 44 years are equally likely to be single-person households (about 20% of households in this age range).
- **Income** is the household income. Income is probably the most important determinant of housing choice. Income is strongly related to the type of housing a household chooses (e.g., single-family detached, duplex, or a building with more than five units) and to household tenure (e.g., rent or own). Figure C.1-6 shows how age and income relate to housing type and tenure in the U.S. (1990). It illustrates a substantial preference for single-family housing and ownership when incomes allow that choice, regardless of age. A review of census data that analyzes housing types by income in most cities will show that as income increases, households are more likely to choose single-family detached housing types. Consistent with the relationship between income and housing type, higher income households are also more likely to own than rent. This trend appears to hold true for Anchorage

⁵ See the end of this appendix for citations to some of the literature supporting these generalizations.

Figure C.1-4. The intersection of life cycles and housing careers

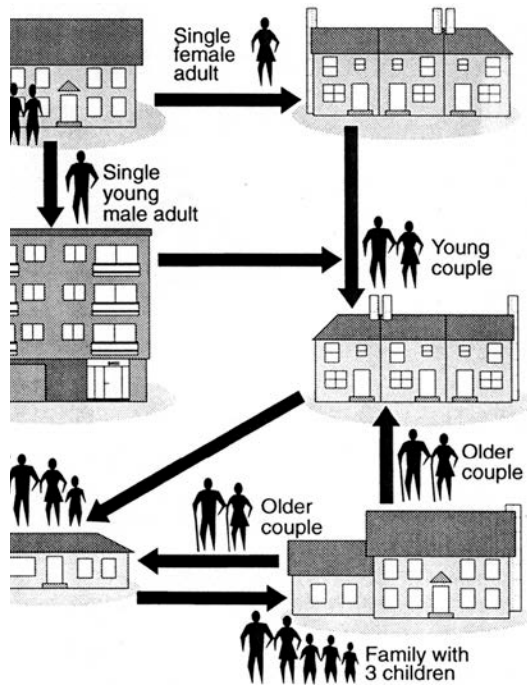
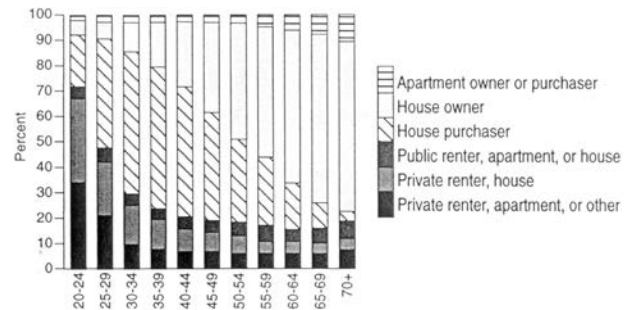
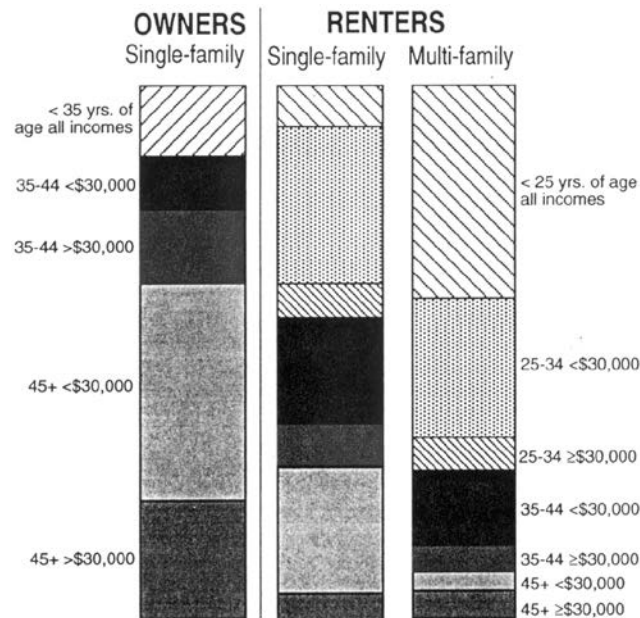


Figure C.1-5. Tenure and household type by age of household head



Source: Reprinted from Clark, William A.V. and Frans M. Dieleman. 1996. *Households and Housing*. New Brunswick, NJ: Center for Urban Policy Research.

Figure C.1-6: Composition of owner and renter tenures for U.S. households, 1990



Source: Reprinted from Clark, William A.V. and Frans M. Dieleman. 1996. *Households and Housing*. New Brunswick, NJ: Center for Urban Policy Research.

In summary, the data illustrate what more detailed research has shown and what most people understand intuitively:

- Household life cycles and housing choice interact in ways that are predictable in the aggregate.
- Age of the household head is correlated with household size and income.
- Household size and age of household head affect housing preferences.
- Income affects the ability of a household to afford a preferred housing type.

Thus, simply looking at the long wave of demographic trends can provide good information for estimating future housing demand. The connection between socioeconomic and demographic factors, on the one hand, and housing choice, on the other, is often described informally by giving names to households with certain combinations of characteristics: the "traditional family," the "never-marrieds," the "dinks" (dual-income, no kids), the "empty nesters."

FORECASTING METHODS USED IN THIS STUDY

OVERVIEW

The preceding section described the factors that affect demand for all housing. This section describes how these factors affect potential demand for compact housing. Demand for compact housing is a sub-set of demand for all housing. The six Ps described in the preceding section affect demand for compact housing. The six Ps affect potential demand for compact housing in the following ways:

- **Population.** Population growth and demographic changes will drive demand for compact housing. The review of literature about housing demand suggests that younger and older households may choose compact housing.
- **Purchasing power.** Household income peaks for households between age 25 and 64. Younger and older households have lower average income in Anchorage. It is reasonable to assume that many of these households have less income to spend on housing than households at the peak of their earning potential.

- **Preferences.** Housing preferences are linked to demographic characteristics and purchasing power. The *Anchorage Housing Preference Survey* shows that the people who may consider living in compact housing are older and have a smaller household than the general population.
- **Prices (and costs) of housing.** The pro forma describes the prices and costs of compact housing, as described in the main body of the report.
- **Prices of housing substitutes.** The *Anchorage Housing Preference Survey* shows that some households would prefer: (1) to live in a smaller dwelling and have a shorter commute, or (2) to live closer to stores than to have a larger yard, or (3) both. These households may prioritize shorter commutes over housing size.
- **Policy.** Anchorage’s housing policy affects opportunities for development of compact housing, through regulation of residential land. Policies that may encourage development of compact housing include: zoning land for multifamily development, lowering impact fees for compact housing, or subsidizing development of government housing. Policies that may discourage or create obstacles to compact housing include: allowing single-family detached units in zones designated for higher density housing or large parking requirements in densely developed areas where surface parking is not viable.

SPECIFIC STEPS

The projection of housing demand will consider information from the six P’s described in the previous sections. Figure C.1-7 shows an overview of the steps for projecting Anchorage’s housing demand for the 20-year period. The forecast of housing in the Municipality is separated into two broad parts: (1) forecasting a baseline demand for all types of housing in the Municipality over the 20-year period and (2) forecasting a variation of housing demand by type of housing over the 20-year period. The steps to forecasting housing demand in the Municipality are:

1. **Forecast the total number of new dwelling units in the Anchorage Bowl and Chugiak-Eagle River.** This starting forecast was an aggregate forecast in two senses: it is a forecast of new housing units (1) in total, not disaggregated by all types, and (2) for the entire region, not disaggregate by sub-area. The basis of the forecast is the forecast of population growth developed by ISER. Population was converted to households and demand for new dwelling units through estimates of future average household size, which results in future occupied dwellings. Average vacancy rates were used to convert occupied housing to total new housing. Building permit information was used to compare past absorption of dwelling units

to forecast for population growth, to assess the differences between the forecast for housing development with past trends in housing absorption.

2. **Disaggregate the forecast of total dwelling units into a forecast of dwelling units by structure type.** The Municipality has records about each dwelling unit in the Anchorage Bowl and Chugiak-Eagle River, which can be used to categorize the housing stock into housing types (e.g., single-family, townhouse, multifamily with more than five units, etc.). The baseline forecast assumed that the share of housing by housing type will remain the same over the 20-year period, based on the current housing stock and changes in the housing stock by structure type that occurred over the 1998 to 2010 period. The result is a forecast of the number of new dwelling units by structure type in the Anchorage Bowl and Chugiak-Eagle River.
3. **Forecast variation in demand for the types of housing.** Dozens of variations are possible to describe demand for compact housing in the Municipality over the 20-year period. This step involved forecasting one variation of the baseline demand for compact housing using results of the housing preference survey and demographic trends.
4. **Revisit demand for compact housing based on results of the financial feasibility and buildable lands analysis.** The relationship between the demand analysis and the financial feasibility and buildable lands inventory was revisited on completion of these three analyses. The main body of the report discusses the implications of the results of the three analyses.
5. **Allocate units to the five sub-areas in the Anchorage Bowl for the variation.** The final step in forecast is to allocate the new dwelling units to the five sub-areas within the Anchorage Bowl, based on assumptions for *Anchorage 2020*.

Figure C.1-7. Methods for forecasting demand for housing in the Municipality of Anchorage, 2010-2030

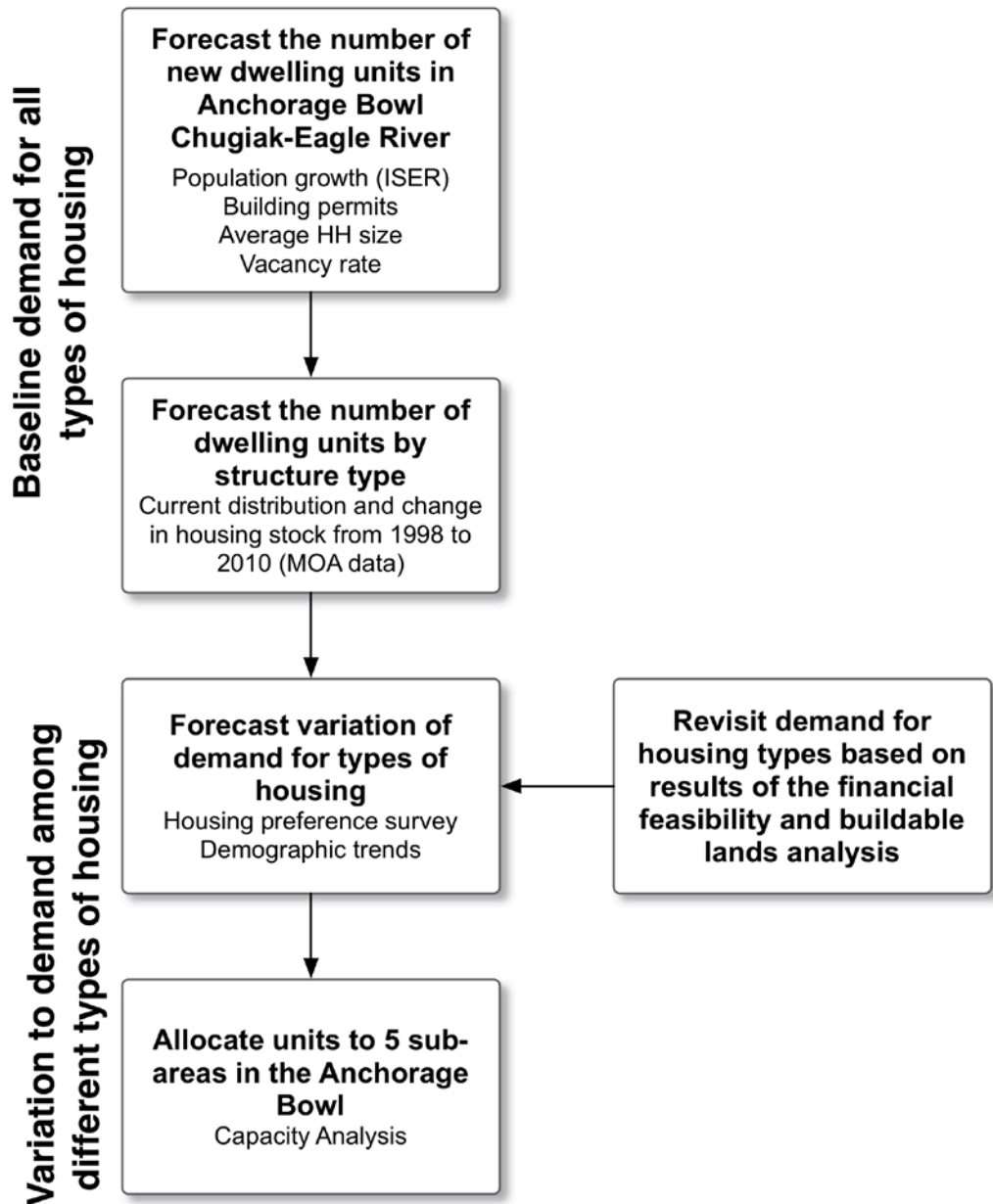


Table C.1-1 shows the data ECO used to model Anchorage’s housing demand, organized by the six P’s.

Table C.1-1. Modeling the factors that affect housing demand

	Why Important	How it has been operationalized	Main data sources	Data manipulation	How it fits in the analytical model
1. Population					
Number of Households (HH)	Even if there were no changes in the preferences or purchasing power of individual households, aggregate housing demand will change if the number of HH changes	Household growth is a function of population growth and household formation. Population growth is a function of natural increase (births minus deaths) and in-migration. HH formation is a function of preferences and demographic characteristics.	ISER population forecast (Table C.3-9). Alaska Department of Labor and Workforce Development and Municipality of Anchorage information about household sizes (Table C.3-15)	ISER population projections for Anchorage were converted to households based on an average household size	Used in the forecast for housing demand. Household growth, by type of HH, is the foundation of the demand analysis. Each household requires a dwelling unit of some type.
Age of HH head	Age is correlated to lifecycle changes and is a primary determinant of housing preference	Population trends and forecasts will be divided into age groups based on type of housing preferred by group	Population trends and forecasts from the Alaska Department of Labor and Workforce Development for all population by age (Table C.3-10)	Households will be grouped by age of householder and the percent of each group will be calculated.	Age data was considered in the variation compact housing demand.
Building permits	Historical information about building permits issued for new dwellings is an indicator of housing absorption in the recent past.	Number and type of building permits issued annually	Municipality of Anchorage Building Safety Report (Table C.3-2)	Average and percent of all building permits issued and permits by type of housing	Permit information was used to compare past absorption of dwelling units to forecast for population growth, to assess the differences between the forecast for housing development with past trends in housing absorption.

	Why Important	How it has been operationalized	Main data sources	Data manipulation	How it fits in the analytical model
2. Purchasing Power					
Household income	Household income is a primary determinant of housing choice	Households were divided into income categories.	U.S. Census (Figure C.3-8) ISER	Households will be grouped by income and the percent of each group will be calculated.	Household income data was considered in the variation compact housing demand.
3. Preferences					
Housing type	The purpose of the analysis is to project demand by type of housing	Structure type based Municipality of Anchorage categorization of existing DU	U.S. Census Municipality of Anchorage GIS data about existing housing. (Tables C-1, C-3, C-4, and C-5)	Housing were grouped by structure type and the percent of each structure type was calculated.	Used in the forecast for housing demand. Housing type was a key factor to show the variations for compact housing demand
Housing vacancy	Housing vacancies are an expected variable in a housing market. Housing vacancy rates vary over time.	The average percent of Anchorage's housing that has been vacant over time.	U.S. Census (Table C.3-7) Alaska Housing Finance Corporation Verification from interviews with local real estate professionals	An average vacancy rate for all types of housing was used to estimate vacant housing.	The demand analysis estimated the number of vacant dwellings for the 20-year period.

	Why Important	How it has been operationalized	Main data sources	Data manipulation	How it fits in the analytical model
Tenure	Households own or rent housing. Trends in tenure affect the type of housing produced because some housing types tend to be ownership (or renter) products most frequently. Tenure and housing type are distinct variables. For example, a condo could be a duplex or an apartment but it is generally an ownership product.	Whether the structure is occupied by owners or renters	U.S. Census (Table C.3-6)	Households were grouped by tenure and the percent of each category will be calculated.	Tenure was considered in the variation compact housing demand.
Location of Households	The sub-area allocation of housing demand is important for determining which parts of the Municipality of Anchorage have sufficient land to accommodate growth.	As a percent of total housing demand based on existing allocation of housing in the Municipality of Anchorage.	Municipality of Anchorage GIS data about distribution of housing by subarea Figures (C-1 and C-2) Municipality of Anchorage data about analysis of capacity of each subarea to accommodate new housing.	This step is not completed	Housing demand will be allocated to subareas as one of the later steps in the demand analysis.

	Why Important	How it has been operationalized	Main data sources	Data manipulation	How it fits in the analytical model
4. Prices and costs of housing and new housing development					
For-sale unit prices (owner costs) and achievable rents Completed as part of the financial feasibility analysis	Housing prices reflect market demand, and are one indication of the willingness and ability to pay for housing. Both new construction and existing housing must be considered. New construction is only feasible if it can be produced at a price point that competes with existing housing.	Owner and renter prices will be collected as a variable in the pro forma.	MLS data about historical housing sales prices (Table C.3-20) U.S. Census data about rental costs (Table C.3-21) Alaska Housing Finance Corporation Rental Survey Interviews with real estate brokers Assessor's data	In the pro forma analysis, assumptions about cost escalation will project costs into the future.	Results of the financial feasibility analysis may be used as part of the variations for compact housing demand.
5. Prices of housing substitutes					
Travel behavior	A household may choose to purchase a lower cost home that is further from their work or activities.	Percent of households living and working within Anchorage and outside of the Municipality.	U.S. Census Longitudinal Employer-Household Dynamics (Tables C-25 and C-26)	Calculate the percent of workers living in Anchorage and those not living in Anchorage.	Commuting was considered in the variation compact housing demand.
6. Housing Policy					
Municipal Housing Policy	Housing policy affects housing demand and housing supply (the type of housing built). The discussion of housing policy will be central to the final product of the project.		Municipality of Anchorage policy documents, such as the Anchorage Bowl Comprehensive Plan and zoning ordinance, as well as reports and other data sources about Municipality of Anchorage housing policy		The baseline housing demand model will assume that there is no change in housing policy. The variations to housing demand may assume changes to housing policy, related to the production of compact housing types.

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U.S. Census data for 1990, 2000, and American Community Survey data.

Appendix C.2 National Housing Trends

The overview of national, state, and local housing trends builds from previous work by ECO, Urban Land Institute (ULI) reports, and conclusions from *The State of the Nation's Housing, 2010* report from the Joint Center for Housing Studies of Harvard University. The Harvard report summarizes the national housing outlook for the next decade as follows:

“Even as the worst housing market correction in more than 60 years appeared to turn a corner in 2009, the fallout from sharply lower home prices and high unemployment continued. By year’s end, about one in seven homeowners owed more on their mortgages than their homes were worth, seriously delinquent loans were at record highs, and foreclosures exceeded two million. Meanwhile, the share of households spending more than half their incomes on housing was poised to reach new heights as incomes slid. The strength of job growth is now key to how quickly loan distress subsides and how fully housing markets recover.”

The national housing market continues to suffer from high loan delinquencies and high foreclosure rates. The eventual recovery of the national housing market is dependent on near-term resolution of outstanding foreclosures and long-term job growth and expansion of the economy.

RECENT TRENDS IN HOME OWNERSHIP AND DEMAND

Since 2007, the national housing market has made a significant departure from the recent housing boom that had lasted for 13 consecutive years (1992-2005). While strength in early 2005 pushed most national housing indicators into record territory, the market began to soften and sales slowed in many areas in the latter half of 2005. By 2006, higher prices and rising interest rates had a negative impact on market demand. Investor demand, home sales and single-family starts dropped sharply. Growth in national sales prices also slowed. By 2007 and early 2008, housing market problems had reached the rest of the economy, resulting in a nationwide economic slowdown and recession.

Conditions that had previously bolstered the housing market and promoted homeownership weakened in 2005 and eroded further in 2006 and 2007. Increasing interest rates and weakening housing prices combined to slow the housing market.

From 2000 to 2005 housing starts and manufactured home placements appeared to have been roughly in line with household demand. In 2005, with demand for homes falling but construction coming off record levels, the surplus of both new and existing homes was much higher than in recent years. Between July 2006 and January 2009, the number of new homes for sale fell by 41% and demand dropped even faster and the supply of new homes for sale reached 12.4 months, the highest in U.S. history. This resulted in a strong buyer's market, leaving many homes lingering on the market and forcing many sellers to accept prices lower than what they were expecting. Home sales showed strong growth in 2009 due to falling prices, the federal tax credit, and Federal Reserve activity. This increase was temporary, however, as sales slowed towards the end of 2009 and into 2010. Home sales fluctuated wildly throughout the first eight months of 2010, and the market is currently uncertain.

The Joint Center for Housing Studies predicts the oversupply will eventually balance as housing starts continue to fall, lower prices motivate unforeseen buyers, and the rest of the economy begins to recover. Housing starts are down 28% since 2008 and fell below 500,000 in 2009, compared to just under 1 million in 2008, 1.5 million in 2007, 1.9 million in 2006, and 2.2 million in 2005.

The Joint Center for Housing Studies concludes that the cooling housing market in 2006 and the foreclosure crisis have had an immediate impact on homeownership. Homeownership peaked at 69.9% in 2005. After 13 successive years of increases, the national homeownership rate slipped in each year from 2005 to 2009 and is currently 67.4%, although the number of homeowners grew from in 2009 for the first time since 2006.

The number of delinquent loans or home foreclosures continues to increase. The share of severely delinquent loans ranged from 5.1% of prime fixed-rate mortgages to 42.5% of subprime adjustable rate mortgages in the first quarter of 2010. Delinquencies and foreclosures are concentrated by state, with more than one-quarter of delinquent loans and more than one-third of loans in foreclosure in California and Florida. Between early 2007 and the first quarter of 2010, 6.1 million foreclosure notices were issued on first-lien loans. In early 2010, the number of loans in the foreclosure process was 2.1 million, which was nearly four times the number of foreclosures in process three years earlier.

Since 2008, foreclosures have contributed to sharp decrease in housing prices, leaving nearly 5 million homeowners underwater on their mortgages (where the value of the house is less than the owner's mortgage).

Home prices will have to increase by about 25% before these homes are worth as much as the amount owed on the mortgage.

LONG RUN TRENDS IN HOME OWNERSHIP AND DEMAND

The long-term market outlook shows that homeownership is still the preferred tenure. While further homeownership gains are likely during the next decade, they are not assured. Additional increases depend, in part, on the effect of foreclosures on potential owner's ability to purchase homes in the future, as well as whether the conditions that have led to homeownership growth can be sustained. The Urban Land Institute forecasts that homeownership will decline to the low 60 percent range by 2015.⁶

The Joint Center for Housing Studies indicates that demand for new homes could total as many as 17 million units nationally between 2010 and 2020. The location of these homes may be different than recent trends, which favored lower-density development on the urban fringe and suburban areas. The Urban Land Institute identifies the markets that have the most growth potential are "global gateway, 24-hour markets," which are primary costal cities with international airport hubs (e.g., Washington D.C., New York City, or San Francisco). Development in these areas may be nearer city centers, with denser infill types of development.⁷

The Joint Center for Housing Studies also indicates that demand for higher density housing types exists among certain demographics. They conclude that because of persistent income disparities, as well as the movement of the echo boomers into young adulthood, housing demand may shift away from single-family detached homes toward more affordable multifamily apartments, town homes, and manufactured homes.

⁶John McIlwain, "Housing in America: The Next Decade," Urban Land Institute

⁷Urban Land Institute, "2011 Emerging Trends in Real Estate"

DEMOGRAPHIC TRENDS IN HOME OWNERSHIP

The demographic changes likely to affect the housing market and homeownership are:

- Immigrants and their descendants, who are a faster growing group than other households in the U.S.
- The aging of the baby boomers, the oldest of whom are in their mid-60's in 2010.
- Housing choices of younger baby boomers, who are in their late 40's and early 50's in 2010.
- The children of baby boomers, called the echo boomers, who range from their late teens to early 30's in 2010.⁸

According to the Joint Center for Housing Studies, immigration will play a key role in accelerating household growth over the next 10 years. Household growth between 2005 and 2009 fell below what would be expected mainly due to a drop in immigration. Immigrants have traditionally comprised a growing share of young adults and children in the United States, but the number of foreign-born households under the age of 35 decreased by 338,400 between March 2007 and March 2009, compared to just 2,100 native-born households. The difficulty in assessing immigration during a recession results in an unclear picture of future housing demand.

The Joint Center for Housing Studies suggests that an aging population, and of baby boomers in particular, will drive changes in the age distribution of households in all age groups over 55 years. A recent survey of baby boomers showed that more than a quarter plan to relocate into larger homes and 5% plan to move to smaller homes.

The younger baby boomers face challenges resulting from the decrease in housing values, which has left many households with mortgages that are higher than the worth of the house. It may take years for the value of these houses to equal or exceed the value of the mortgage. Second home demand among upper-income homebuyers of all ages also continues to grow, many of whom may be younger baby boomers. The ability to purchase second homes may be negatively affected by diminished earnings and lack of equity in primary homes.

⁸ Urban Land Institute, "2011 Emerging Trends in Real Estate"

People prefer to remain in their community as they age.⁹ The challenges that seniors face as they age in continuing to live in their community include: changes in healthcare needs, loss of mobility, the difficulty of home maintenance, financial concerns, and increases in property taxes.¹⁰ Not all of these issues can be addressed through housing or land-use policies. Communities can address some of these issues through adopting policies that:

- Diversify housing stock to allow development of smaller, comparatively easily maintained houses in single-family zones, such as single story townhouses, condominiums, and apartments.
- Allow commercial uses in residential zones, such as neighborhood markets.
- Allow a mixture of housing densities and structure types in single-family zones, such as single-family detached, single-family attached, condominiums, and apartments.
- Promote the development of group housing for seniors that are unable or choose not to continue living in a private house. These facilities could include retirement communities for active seniors, assisted living facilities, or nursing homes.
- Design public facilities so that they can be used by seniors with limited mobility. For example, design and maintain sidewalks so that they can be used by people in wheel chairs or using walkers.

It is unclear what housing choices the echo boomers will make. Some studies suggest that their parents' negative experience in the housing market, with housing values dropping so precipitously and so many foreclosures, will make echo boomers less likely to become homeowners. In addition, high unemployment and underemployment may decrease echo boomers' earning power and ability to save for a down payment. It is not clear, however, that echo boomers' housing preferences will be significantly different from their parents over the long run.

⁹ A survey conducted by the AARP indicates that 90% of people 50 years and older want to stay in their current home and community as they age. See <http://www.aarp.org/research>.

¹⁰ "Aging in Place: A toolkit for Local Governments" by M. Scott Ball.

HOME RENTAL TRENDS

Nationally, the rental market continues to experience growth, adding 3 million rental households from 2005 to 2009. Despite rapid growth in rental households, the rental vacancy rate increased from 9.6% in 2007 to 10% in 2008 and 10.5% in 2009. Rents fell the furthest in the West, particularly San Jose, Seattle, Salt Lake City, Oakland, and Las Vegas.

Over the longer term, the Joint Center for Housing studies expects rental housing demand to grow by 1.8 million households over the next decade. Minorities will be responsible for nearly all of this increased demand. The foreign-born share of renter-occupied households increased from 17.4% in 2000 to 19.6% in 2009 and the number of Hispanic renters has increased from 1.9 million in 1980 to 7.0 million in 2009. Demographics will also play a role. Growth in young adult households will increase demand for moderately priced rentals, in part because echo boomers will reach their mid-20s after 2010. Meanwhile growth among those between the ages of 45 and 64 will lift demand for higher-end rentals. Given current trends in home prices and interest rates, conditions will become increasingly favorable for rental markets in the coming years.

Despite decades of growth, nominal rents have flattened, resulting in the decline of inflation-adjusted rent. Between the peak in late 2008 and April 2010, inflation-adjusted rents fell by 2.9%. Although falling rents show signs of a weak rental housing market, they do help to alleviate pressure on low-income households struggling to pay their rent.

TRENDS IN HOUSING AFFORDABILITY

House prices have declined since the height of the housing bubble. Between October 2005 and March 2010, the median house price decreased by 26 percent. The price declines were about 50% greater than price declines at the high end of the housing market. The median home sales price dropped from 4.7 times the median household income in 2005 to 3.4 times median household income in 2009.

Despite widespread falling house prices, affordability problems have not improved significantly. A median-priced single-family home under conventional terms in 2007 (10% down payment and 30-year fixed rate loan) only costs \$76 per month and \$1,000 down payment less than a house bought in 2006, the year in which the sales prices of single-family homes were at their highest real price in history. Only 17 of the 138 National

Association of Realtors-covered metropolitan areas have lower costs in 2007 than they did in 2003 when interest rates were bottomed out.

With low-wage jobs increasing and wages for those jobs stagnating, affordability problems will persist even as strong fundamentals lift the trajectory of residential investment. In 2009, more than one-third of American households spent more than 30% of income on housing, and 16% spent upwards of 50%.¹¹ The number of severely cost-burdened households (spending more than 50% of income on housing) increased by 7.4 million households from 2000 to 2008, to a total of nearly 18 million households in 2008. Nearly 40% of low-income households with one or more full-time workers are severely cost burdened, and nearly 60% of low-income households with one part-time worker are severely cost burdened.

The Joint Center for Housing Studies points to widening income disparities and decreasing federal assistance as two factors exacerbating the lack of affordable housing. While the Harvard report presents a relatively optimistic long-run outlook for housing markets and for homeownership, it points to the significant difficulties low- and moderate-income households face in finding affordable housing, and preserving the affordable units that do exist.

According to the Joint Center for Housing Studies, these statistics understate the true magnitude of the affordability problem because they do not capture the tradeoffs people make to hold down their housing costs. For example, these figures exclude the 2.5 million households that live in crowded or structurally inadequate housing units. They also exclude the growing number of households that move to locations distant from work where they can afford to pay for housing, but must spend more for transportation to work. Among households in the lowest expenditure quartile, those living in affordable housing spend an average of \$100 more on transportation per month than those who are severely housing cost-burdened. With total average monthly outlays of only \$1,000, these extra travel costs amount to 10 percent of the entire household budget.

¹¹ 2009 American Community Survey, Table B25091 and Table B25070.

TRENDS IN HOUSING CHARACTERISTICS

The U.S Bureau of Census Characteristics of New Housing Report presents data that show trends in the characteristics of new housing for the nation, state, and local areas. Several long-term trends in the characteristics of housing are evident from the New Housing Report:

- Larger single-family units on smaller lots. Between 1990 and 2009 the median size of new single-family dwellings increased 12%, from 1,905 sq. ft. to 2,135 sq. ft. nationally and 8% in the western region from 1,985 sq. ft. to 2,140 sq. ft. Moreover, the percentage of units under 1,400 sq. ft. nationally decreased from 16% in 1999 to 13% in 2009. The percentage of units greater than 3,000 sq. ft. increased from 17% in 1999 to 23% of new one-family homes completed in 2009. In addition to larger homes, a move towards smaller lot sizes is seen nationally. Between 1990 and 2009 the percentage of lots under 7,000 sq. ft. increased from 27% of lots to 32% of lots.
- Larger multifamily units. Between 1999 and 2008, the median size of new multiple family dwelling units increased by 10% nationally and 13% in the western region. The percentage of multifamily units with more than 1,200 sq. ft. increased from 28% in 1999 to 41% in 2009 nationally and from 26% to 45% in the western region.
- More household amenities. Between 1990 and 2009 the percentage of single-family units built with amenities such as central air conditioning, fireplaces, 2 or more car garages, or 2 or more baths all increased. The same trend in increased amenities is seen in multiple family units.

Over the last two years, the trend towards larger units with more amenities declined. Between 2007 and 2009, the median size of new single-family units has decreased by 6% nationally to 2,227 square feet. The western region has also seen a 6% decrease in median size of new single-family units, to a median of 2,2286 square feet. In addition, the share of new units with amenities (e.g., central air conditioning, fireplaces, 2 or more car garages, or 2 or more bath) all decreased by a percentage or two.

It is unclear if these changes in unit size and amenities signal a long-term change in demand for housing or if these changes are a response to the current housing market turmoil. Numerous articles and national studies suggest that these changes may indicate a long-term change in the housing market, resulting from a combination of increased demand for rental units

because of demographic changes (e.g., the aging of the baby boomers, new immigrants, and the echo-boomers), as well as changes in personal finance and availability of mortgages.¹²

These studies may be correct and the housing market may be in the process of a long-term change. On the other hand, long-term demand for housing may not be substantially affected by the current housing market. The echo-boomers and new immigrants may choose single-family detached housing and mortgages may become easier to obtain.

Studies and data analysis have shown a clear linkage between demographic characteristics and housing choice. This is more typically referred to as the linkage between life-cycle and housing choice and is documented in detail in several publications. Analysis of data from the Public Use Microsample (PUMS) in the 2000 Census helps to describe the relationship between selected demographic characteristics and housing choice. Key relationships identified through this data include:

- Homeownership rates increase as income increases;
- Homeownership rates increase as age increases;
- Choice of single-family detached housing types increases as income increases;
- Renters are much more likely to choose multiple family housing types than single-family; and
- Income is a stronger determinate of tenure and housing type.

¹² These studies include "Hope for Housing?" by Greg Filsram in the October 2010 issue of Planning and "The Elusive Small-House Utopia" by Andrew Rice in the New York Times on October 15, 2010.

Factors that Affect Housing Demand in Anchorage

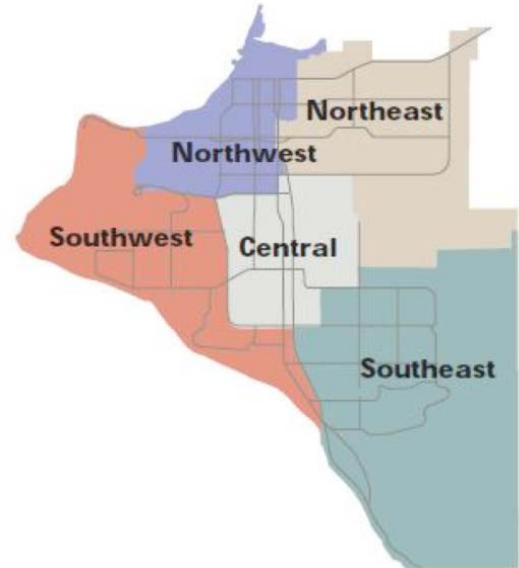
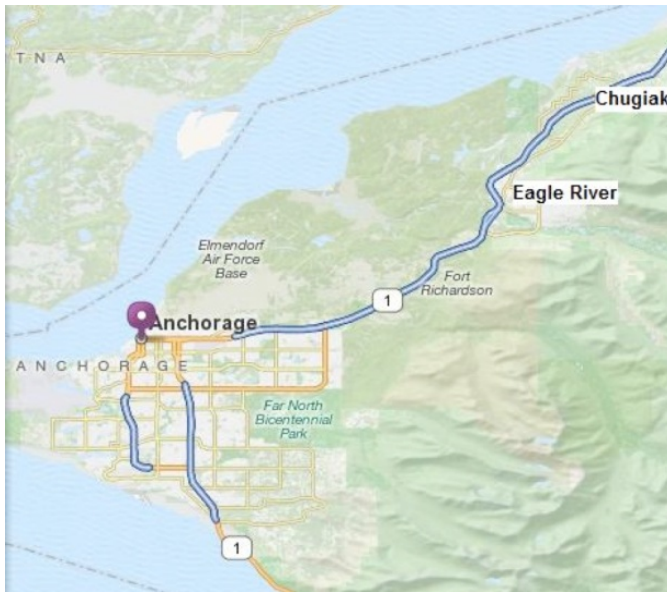
Appendix C.3

This appendix presents the factors that affect housing demand in Anchorage region. It presents a forecast of housing demand in Anchorage for the 2010 to 2030 period. This appendix is based on data from a variety of sources, including the following data sources:

- Alaska Department of Labor and Workforce Development
- University of Alaska Anchorage's Institute of Social and Economic Research (ISER)
- Municipality of Anchorage Planning Division
- U.S. Census 1990 and 2000 Decennial Census and the 2009 American Community Survey
- Alaska Multiple Services Listing
- Alaska Housing Finance Corporation
- Other data sources as noted

The study area covered in this report is the entire Municipality of Anchorage, excluding Girdwood and Turnagain Arm. Through this report, the terms Municipality of Anchorage, the Municipality, and Anchorage are used interchangeably to refer to this geographic area. This report refers to the following sub-areas: (1) the Anchorage Bowl, the urbanized area in the western part of the Municipality, and (2) the community of Chugiak-Eagle River, a suburban community located northeast of the Anchorage Bowl along the Glenn Highway. Map C.3-1 shows five sub-areas within the Anchorage Bowl: Northeast, Northwest, Central, Southwest, and Southeast.

Map C.3-1. Municipality of Anchorage and sub-areas within the Anchorage Bowl



Source: McDowell Group

This appendix describes the factors that affect housing demand, focusing on the six P's. This section begins with a discussion of residential development in Anchorage. The remainder of the appendix is organized by the six P's, as follows:

- Residential development in Anchorage
- Population, household, and demographic trends and forecasts
- Household purchasing power
- Housing preference
- Prices and costs of housing
- Prices of housing substitutes
- Anchorage's housing policy

RESIDENTIAL DEVELOPMENT IN ANCHORAGE

HOUSING TYPE

The housing mix by type (i.e., percentage of single family and multi-family) is an important variable in a housing needs assessment. Distribution of housing types is influenced by a variety of factors, including the cost of new home construction, area economic and employment trends,

demographic characteristics, and amount of land zoned to allow different housing types and densities.

For the purposes of this study, ECONorthwest grouped housing types based on: (1) whether the structure is stand-alone or attached to another structure, (2) the number of dwelling units in each structure, and (3) the compactness of multifamily housing types. The housing types used in this analysis are:

- **Single-family.** Single-family detached dwellings on lots smaller than 40,000 square feet or site condos with single-family detached dwellings on common lots
- **Large-lot single-family.** Single-family detached dwellings on lots larger than 40,000 square feet in large-lot (rural) zoning districts
- **Two-family and duplex.** A single-family dwelling attached to one other unit on an adjacent parcel or a single structure containing two units on one parcel or site condos on common or adjacent parcels
- **Townhouse.** A single-family dwelling attached to two or more other units on an adjacent parcel or on a common parcel
- **Multifamily and other.** Multifamily with three or four units, multifamily with five or more units, dwellings in mobile home parks, dwellings in mixed-use buildings, and institutional housing

Some of these housing types could be on an individual lot (e.g., single-family detached or a duplex with one dwelling on a single lot). Most of these housing types could also be on a common lot, as part of a site-condo development (except for large lot single-family).

Table C.3-1 shows housing stock by housing type in the Anchorage Bowl and Chugiak-Eagle River.¹³ Table C.3-1 shows:

- **Anchorage Bowl.** Thirty-eight percent of housing in the Anchorage Bowl is single-family, 37% is multifamily and other, 15% is duplex and two-family, 5% is townhouse, and 4% is large lot single-family.
- **Chugiak-Eagle River.** Fifty-two percent of housing in the Chugiak-Eagle River is single-family, 25% is large lot single-family, 12% is duplex and two-family, 10% is multifamily and other, and 1% is townhouse.

¹³ The reason that percentages represented in tables throughout the report may not add to 100% correctly is rounding error. For example, in Table C-1, the percent of housing types in the Anchorage Bowl adds to 99% because each type of housing has a small remainder that is less than 0.5%.

Table C.3-1. Housing stock by housing type, Anchorage Bowl and Chugiak-Eagle River, 2010

Housing Type	Anchorage Bowl		Chugiak-Eagle River	
	Dwelling		Dwelling	
	Units	Percent	Units	Percent
Single-family	37,314	38%	6,670	52%
Large lot single-family	4,047	4%	3,127	25%
Duplex and Two-family	15,137	15%	1,464	12%
Townhouse	4,859	5%	148	1%
Multifamily and other	36,303	37%	1,298	10%
Total	97,660	100%	12,707	100%

Source: Municipality of Anchorage Planning Division

Note: Table C.3-1 includes housing for the entire Municipality of Anchorage, except for housing stock in Girdwood-Turnagain Arm.

Figure C.3-1 shows the distribution of housing stock by housing type among the five sub-areas of the Anchorage Bowl. Figure C.3-2 shows the share of housing stock by housing type within each of the sub-areas of the Anchorage Bowl. The sub-areas are shown on Map C.3-1.

- **Central.** Nineteen percent of housing in the Anchorage Bowl is located in the Central sub-area. Within the sub-area, housing stock is predominantly: single-family (37%), multifamily and other (37%), and duplex and two-family (19%).
- **Northeast.** Thirty-two percent of housing in the Anchorage Bowl is located in the Northeast sub-area. Within the sub-area, housing stock is predominantly: multifamily and other (42%), single-family (34%), and duplex and two-family (17%).
- **Northwest.** Twenty-four percent of housing in the Anchorage Bowl is located in the Northwest sub-area. Within the sub-area, the housing stock is predominantly: multifamily and other (57%), single-family (23%), and duplex and two-family (16%).
- **Southeast.** Nine percent of housing in the Anchorage Bowl is located in the Southeast sub-area. The majority of large lot single-family in the Anchorage Bowl is located in the Southeast sub-area. Within the sub-area the predominant housing types are single-family (59%) and large lot single-family (37%).
- **Southwest.** Sixteen percent of housing in the Anchorage Bowl is located in the Southwest sub-area. Within the sub-area, the majority of housing is single-family (58%), multifamily and other (18%), and duplex and two-family (15%).

Figure C.3-1. Distribution of housing stock by housing type, sub-areas of the Anchorage Bowl, 2010

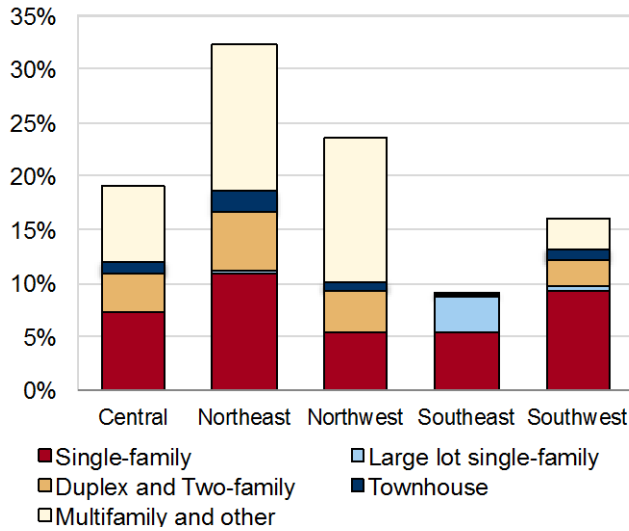
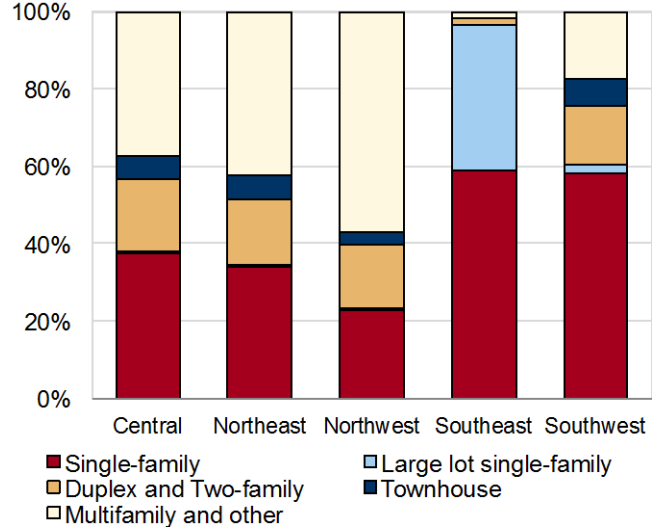


Figure C.3-2. Housing stock by housing type within sub-areas of the of Anchorage Bowl, 2010



Source: Municipality of Anchorage Planning Division, Analysis by ECONorthwest.

RESIDENTIAL DEVELOPMENT

Growth in residential development can be measured through information from multiple sources, including building permits and long-term changes in housing stock. This section presents information from multiple sources about change in Anchorage’s housing stock. The data from all the sources show that Anchorage’s housing stock has grown at about 1% annually over the last decade, consistent with Anchorage’s population growth rate of a little over 1% annually over the last decade.

Building permits are one indicator of residential development. Although not all building permits result in development the year issued, in general most building permits eventually result in residential development because of the costs involved with getting a building permit. Research by Municipality staff suggest that the majority of building permits issued in Anchorage since 2005 have resulted in residential development.

Table C.3-2 shows building permits for new dwellings issued in the Municipality between 2005 and 2010 for the Anchorage Bowl, excluding parts of Anchorage Hillside. During the six-year period, the Municipality issued 5,047 permits, with an annual average of 841 permits. Forty-four percent of the permits issued were single-family, 46% were multifamily, and 9% were duplex.

During 2005 and 2006, the Municipality issued more than 1,000 permits annually. The number of permits decreased to 421 permits issued in 2010. This trend is consistent with the general decline in the U.S. housing market,

although the decline in the Anchorage market was less than the national housing market decline.

Table C.3-2. Building permits for new dwellings by type, parts of the Anchorage Bowl, 2005 to 2010

Year	Single-family	Duplex	Multifamily	Total
2005	673	188	673	1,534
2006	525	72	701	1,298
2007	309	85	382	776
2008	225	43	217	485
2009	232	32	269	533
2010	276	47	98	421
Total	2,240	467	2,340	5,047
Percent of Total	44%	9%	46%	100%
Average Annual	373	78	390	841

Source: Municipality of Anchorage Building Safety Activity Reports

Note: Building permit data does not include permits for Chugiak-Eagle River and parts of the Anchorage Hillside.

Note: Single-family includes single-family site condos, duplex includes two-family site condos, and multifamily includes structures with three or more units and site condos.

Table C.3-3 shows the change in housing stock in the Anchorage Bowl between 1998 to 2010. Anchorage's housing stock grew by nearly 11,000 dwellings over the 12-year period, a 13% increase at about 1.0% average annual growth rate (AAGR).

The distribution of the housing stock by housing type remained relatively similar between 1998 and 2010, with single-family and large lot single-family accounting for 38% and 4% of housing stock respectively in 1998 and 2010. The share of duplex and two-family housing increased from 13% to 15% over the 12-year period and the share of multifamily and townhouse decreased from 44% to 42%.

Table C.3-3. Change in Housing stock by housing type, Anchorage Bowl, 1998-2010

Housing Type	1998 Inventory		2010 Inventory		Change 1998 to 2010			
	Dwelling		Dwelling		Dwelling Percent			
	Units	Percent	Units	Percent	Units	Change	Share	AAGR
Single-family	33,264	38%	37,314	38%	4,050	12%	-0.1%	1.0%
Large lot single-family	3,477	4%	4,047	4%	570	16%	0.1%	1.3%
Duplex and Two-family	11,498	13%	15,137	15%	3,639	32%	2.2%	2.3%
Multifamily and Townhouse	38,528	44%	41,162	42%	2,634	7%	-2.3%	0.6%
Total	86,767	100%	97,660	100%	10,893	13%		1.0%

Source: Municipality of Anchorage Planning Division

Note: Change in Share is change in the percentage of a housing type. For example, the share of duplex and two-family increased from 13% to 15%, a 2% change in share.

Note: AAGR is average annual growth rate.

Table C.3-4 shows the change in housing stock in Chugiak-Eagle River between 1998 to 2010. Chugiak-Eagle River's housing stock grew by more

than 2,800 dwellings over the 12-year period, a 29% increase. Housing stock grew at about 2.1% average annual growth rate (AAGR), faster than the Municipality's 1.1% average annual population growth over the 1998 to 2009 population growth.

The distribution of the housing stock by housing type changed over the 1998 and 2010 period. All types of housing added stock over the 12-year period, with more than 1,000 new single-family houses and more than 600 new large lot houses. Duplex and two-family housing added about 675 new units. Multifamily and townhouse added more than 550 new units.

While all types of housing grew over the 12-year period, multifamily housing stock grew faster than single-family housing stock. The share of single-family housing decreased from 57% of all housing in 1998 to 52% of housing in 2010 and large lot single-family decreased from 26% of housing to 25%. Duplex and two-family housing grew from 8% of housing in 1998 to 12% in 2010. Multifamily and townhouse grew from 9% to 11% of housing.

Table C.3-4. Change in Housing stock by housing type, Chugiak-Eagle River, 1998-2010

Housing Type	1998 Inventory		2010 Inventory		Change 1998 to 2010			
	Dwelling		Dwelling		Dwelling Percent			
	Units	Percent	Units	Percent	Units	Change	Share	AAGR
Single-family	5,663	57%	6,670	52%	1,007	18%	-4.9%	1.4%
Large lot single-family	2,521	26%	3,127	25%	606	24%	-0.9%	1.8%
Duplex and Two-family	790	8%	1,464	12%	674	85%	3.5%	5.3%
Multifamily and Townhouse	892	9%	1,446	11%	554	62%	2.3%	4.1%
Total	9,866	100%	12,707	100%	2,841	29%		2.1%

Source: Municipality of Anchorage Planning Division
 Note: AAGR is average annual growth rate.

Table C.3--5 shows change in housing stock in the Municipality of Anchorage for 2000 to 2009, based on U.S. Census data. The information in Table C.3-5 is different from Table C.3-3 and Table C.3-4 in the following ways: (1) it includes the entire Municipality (including Girdwood and Turnagain Arm), (2) it is for a nine-year period, rather than a 12-year period, and (3) the Census uses different (and less precise) definitions of housing type than the Municipality Planning Division.

Table C.3-5 shows that housing stock in the Municipality increased by nearly 12,000 dwelling units over the nine-year period, an increase of 12%. Table C.3-5 shows that the share of single-family housing increased from 46% to 47%. Table C.3-5 shows growth in all types of multifamily housing, except for duplex and two-family housing, which decreased by 215 units.

Table C.3-5. Change in Housing stock by housing type, Municipality of Anchorage, 2000-2009

	2000		2009		Change 2000-2009			
	Dwelling Units	Percent	Dwelling Units	Percent	Dwelling Units	Percent Change	Share	AAGR
Single-family	46,529	46%	53,223	47%	6,694	14%	1.1%	1.5%
Duplex and Two-family	6,178	6%	5,963	5%	-215	-3%	-0.8%	-0.4%
Multifamily and Townhouse	47,661	47%	53,063	47%	5,402	11%	-0.2%	1.2%
Total	100,368	100%	112,249	100%	11,881	12%		1.3%

Source: U.S. Census 2000 Table H30, 2009 American Community Survey Table B25024

Note: The number of dwelling units in the Municipality shown in Tables C-1 through C-4 are different from Table C.3-5 through C-6 because they are based on different geography (the Municipality excluding Girdwood and Turnagain Arm) different sources of information: (1) the Municipality's database of housing stock and (2) U.S. Census estimates about housing stock.

HOUSING TENURE

Table C.3-6 shows changes in the Municipality of Anchorage's tenure for occupied units from 2000 to 2009. Anchorage had a 2% increase in homeownership over the nine-year period. About 62% of housing in the Municipality was owner-occupied in 2009, up from 60% in 2000. The Municipality's homeownership rate was lower than the State average of 65%.

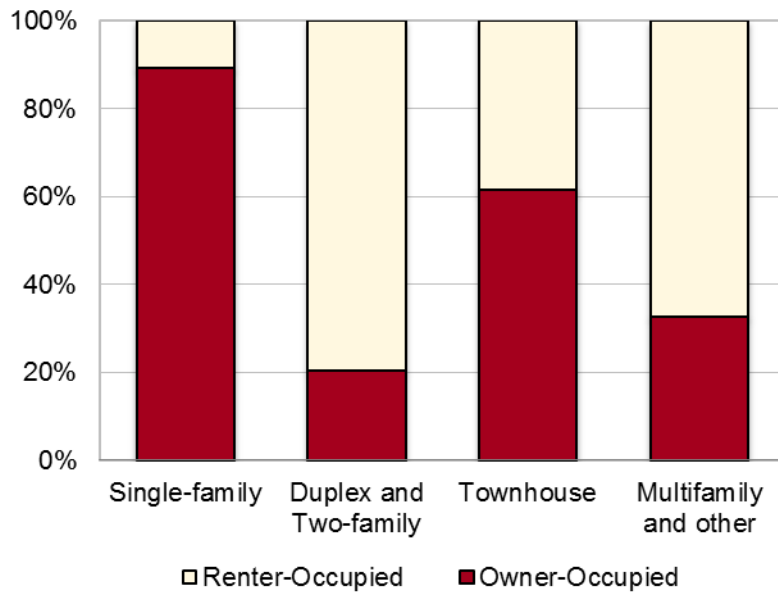
Table C.3-6. Change in tenure, occupied units, Alaska and Municipality of Anchorage, 1990 and 2009

	2000		2009		Change 2000 to 2009	
	Units	Percent	Units	Percent	Units	Percent
Alaska						
Owner Occupied	138,509	63%	154,337	65%	15,828	11%
Renter Occupied	83,091	37%	82,260	35%	-831	-1%
Anchorage Municipality						
Owner Occupied	56,953	60%	64,697	62%	7,744	14%
Renter Occupied	37,869	40%	39,859	38%	1,990	5%

Source: U.S. Census 1990 SF3 H008, American Community Survey 2009 B25003

Figure C.3-3 shows tenure by structure type in the Municipality in 2009. Figure C.3-3 shows that more than 80% of single-family housing is owner-occupied and about 60% of townhouses are owner-occupied. Overall, about 70% of attached and multifamily housing types are renter-occupied. About 80% of duplex and two-family housing are renter-occupied. About two-thirds of multifamily and other units are renter-occupied, with about 80% of multifamily structures renter-occupied and three-quarters of manufactured homes owner-occupied.

Figure C.3-3. Tenure by type of unit, occupied units, Municipality of Anchorage, 2009



Source: American Community Survey 2009 B25032

VACANCY RATES

Vacancy rates are cyclical and represent the lag between demand and the market’s response to demand in additional dwelling units. Vacancy rates for rental and multiple family units are typically higher than those for owner-occupied and single-family dwelling units. Table C.3-7 shows the average vacancy rate for the Municipality of Anchorage. The vacancy rate in 1990 was 12.2%, 5.5% in 2000, and 6.9% in 2009. In comparison, Alaska’s vacancy rates were about 15% in 2000 and 17% in 2009.

Table C.3-7. Average vacancy rate, Municipality of Anchorage, 2000 and 2009

	2000	2009
Housing Units	100,368	112,249
Occupied	94,822	104,556
Vacant	5,546	7,693
Vacancy Rate	5.5%	6.9%

Source: U.S. Census 2000 SF1 H3, American Community Survey 2005-2009 B25002

According to a survey by the Alaska Housing Finance Corporation Rental vacancy rates were generally below 5% between 2000 and 2010.

POPULATION, HOUSEHOLD, AND DEMOGRAPHIC TRENDS AND FORECASTS

POPULATION GROWTH

Population in Alaska fluctuates with economic cycles, with increases in population resulting from increases in economic activity. Historically, Alaska and Anchorage's populations increased as a result of petroleum-related activity, such as construction of the Trans-Alaska Pipeline. As Anchorage's economy has diversified beyond oil production, population change has become more stable, with population growing steadily over time.

Table C.3-8 shows population change in Alaska and the Municipality of Anchorage between 1990 and 2010. Over the 20-year period, the Municipality of Anchorage added almost 65,500 people, a 29% increase in population, at an average annual rate of 1.3%. The Municipality grew at about the same rate (1.3% per year) as the State (1.3% per year), and faster than the U.S. average (1.1% per year).

Table C.3-8 shows growth in Matanuska-Susitna Borough (Mat-Su) over the 20-year period. Mat-Su grew from nearly 40,000 people in 1990 to nearly 89,000 people in 2010, more than doubling the Borough's population. While the absolute growth in Mat-Su (49,000 people) was smaller than Anchorage's growth (65,500 people), Mat-Su grew at a much faster average annual rate (4.0%) than Anchorage (1.3%).

Table C.3-8. Population change, Alaska, Municipality of Anchorage, and Matanuska-Susitna Borough, 1990 to 2010

Area	Population			Change 1990 to 2010		
	1990	2000	2010	Number	Percent	AAGR
U.S.	248,709,873	281,421,906	308,745,538	60,035,665	24%	1.1%
Alaska	550,043	626,931	710,231	160,188	29%	1.3%
Anchorage Municipality	226,338	260,283	291,800	65,462	29%	1.3%
Matanuska-Susitna Borough	39,683	59,322	88,995	49,312	124%	4.1%

Source: U.S. Census 1990 SF1 P001, U.S. Census 2000 SF1 P1, Alaska Department of Labor and Workforce Development
Note: AAGR is average annual growth rate.

The majority of people moving to the Anchorage/Mat-Su region have located in Mat-Su. According to the Department of Labor and Workforce Development, 96% of population growth in Anchorage between 2000 and 2009 was from natural increase (births minus deaths) and 4% was from net

migration (people moving to Anchorage). In Mat-Su, 26% of population growth was from natural increase and 74% was from net migration.¹⁴

Migration between Mat-Su and Anchorage is common. The population flows both ways, from Anchorage to Mat-Su but also from Mat-Su to Anchorage. Between 2000 and 2008, about 14.5% of people moving away from Anchorage moved to Mat-Su. About 8% of people moving into Anchorage came from Mat-Su. The number of people moving from Anchorage peaked around 2005 to 2006 and has decreased slightly since. In addition, the number of people moving from Mat-Su to Anchorage each year increased slightly since 2005 to 2006¹⁵

It is clear, however, that the flow of households is predominantly from Anchorage to Mat-Su. ISER estimates that population growth in Anchorage may have approached 300,000 people by the middle of the 2000's if not for this shift in the location of new population growth to Mat-Su.¹⁶ Data about commuting shows that nearly half of workers living in Mat-Su commuted to Anchorage for work in 2009 and that commuting from Mat-Su to Anchorage has increased over the last decade.¹⁷ This commuting pattern supports the idea that some people have chosen to live in Mat-Su, rather than in Anchorage.

The University of Alaska Anchorage's Institute of Social and Economic Research (ISER) projects population and employment growth in Alaska and the Greater Anchorage Area. Table C.3-9 presents the base case ISER forecast for population change within the Municipality of Anchorage and an allocation to sub-areas within the Municipality. Appendix C.3 discusses the basis and use of the ISER forecast, as well as the allocation of population to sub-areas within the Municipality.

Table C.3-9 shows that the Municipality of Anchorage is forecast to grow by about 53,900 people over the 20-year planning period. The majority of the growth is projected to occur in the Anchorage Bowl (43,400 people), with growth of about 9,000 people in Chugiak-Eagle River. Population growth in Girdwood and Turnagain Arm (1,500 people) is excluded from the projection of housing demand in this report because it is

¹⁴ The Alaska Department of Labor and Workforce Development, "Alaska Population Digest 2009 Estimates" reports the components of population changes based, in part, on vital statistics.

¹⁵ Alaska Department of Labor and Workforce Development, *Alaska Economic Trends*, February 2010.

¹⁶ Institute of Social and Economic Research (ISER), University of Alaska Anchorage, *Anchorage at 90: Changing Fast, with More to Come*, June 2005

¹⁷ Based on data from the U.S. Census Longitudinal Employment-Households Dynamics

outside of the project study area. Population at the Joint Base Elmendorf Richardson (JBER) military base is projected to hold steady at 13,900 people over the planning period.¹⁸

Table C.3-9. Population forecast, Municipality of Anchorage and selected areas within the Municipality, 2010 to 2030

	Anchorage Municipality	Anchorage Bowl	Chugiak-Eagle River	JBER	Girdwood - Turnagain Arm
2010	291,800	240,300	35,000	13,900	2,600
2030	345,700	283,700	44,000	13,900	4,100
Change 2010 to 2030					
Number	53,900	43,400	9,000	-	1,500
Percent	18%	18%	26%	0%	58%
AAGR	0.85%	0.8%	1.2%	0.0%	2.3%
Percent of Muni in 2030	N/A	82%	16%	4.0%	1.2%

Source: U.S. Census 1990 SF1 P001, U.S. Census 2000 SF1 P1, 2010 Decennial Census

Note: AAGR is average annual growth rate.

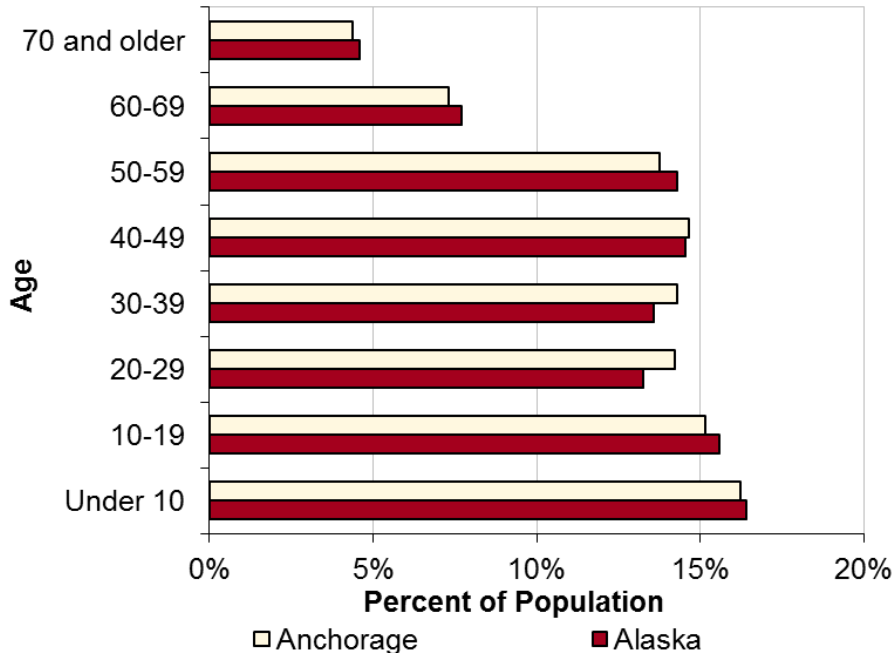
Note: JBER is the Joint Base Elmendorf Richardson

¹⁸ The projection for population at JBER is based on conversations with JBER personnel and Municipality staff (Carol Wong). The military projects housing demand on a five to seven year basis because of need for flexibility in potential military deployments or base realignment.

AGE CHANGE

Figure C.3-4 shows the age distribution in the Municipality of Anchorage, compared to the State in 2009. The Municipality of Anchorage has a higher proportion of its population aged 20-39 (29%) than the State (27%). The Municipality has comparatively fewer residents above age 50 (25%) than the State (27%).

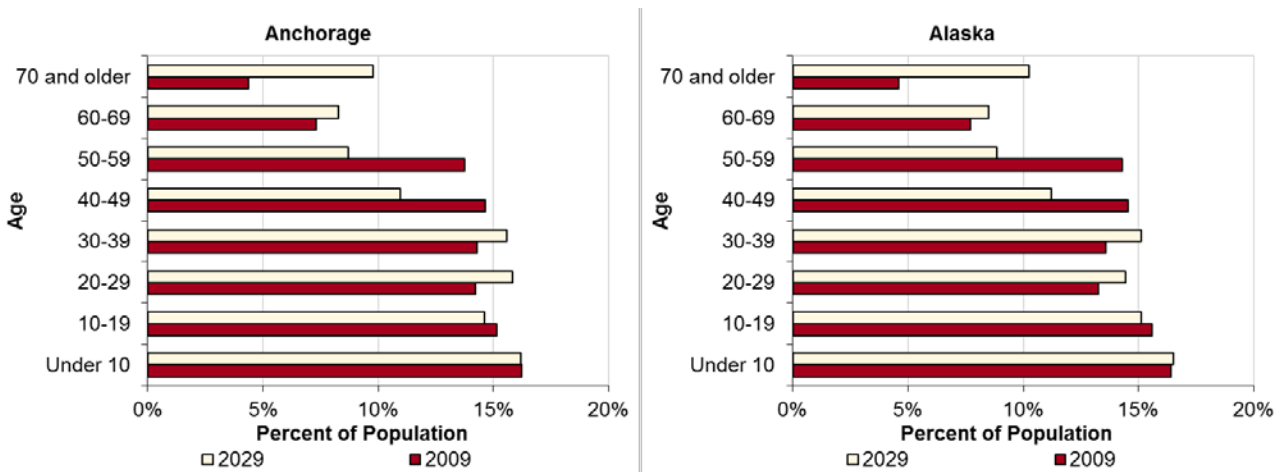
Figure C.3-4. Population distribution by age, Alaska and Municipality of Anchorage, 2009



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section, Demographics Unit, "Alaska Population by Age and Sex and Components of Change, 2009-2034"

Figure C.3-5 shows the State's projection of population distribution by age for Alaska and Anchorage for 2009 and 2029. Figure C.3-5 shows that Anchorage's age distribution's projected change is similar to Alaska: most growth will be in people aged 60 and older and people 20 to 39 years old.

Figure C.3-5. Projected population distribution by age, Alaska and Municipality of Anchorage, 2009 to 2029



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section, Demographics Unit, "Alaska Population by Age and Sex and Components of Change, 2009-2034" "

Table C.3-10 shows projected change in population by age for the Municipality of Anchorage for 2009 and 2029. Table C.3-10 shows:

- Eighteen percent of Anchorage’s population is projected to be aged 60 or older by 2029, up from 12% of the population in 2009. Growth in this age group (of more than 29,000 people) will account for 49% of population growth in Anchorage over the 20-year period.
- People aged 20 to 39 are projected to account for 46% of Anchorage’s growth (more than 27,000 people), and 31% of the projected total population in 2029 – up from 29% of the population in 2009.
- The share of people between 40 to 59 years will decrease from 28% in 2009 to 20% in 2029. The share of people under age 20 will remain about the same in 2029 as in 2009.
- These trends are consistent with projected trends in Alaska.

Table C.3-10. Projected population by age, Municipality of Anchorage, 2009 to 2029

Age Group	2009		2029		Change 2009 to 2029		
	Number	Percent	Number	Percent	Number	Percent	Share
Under 10	47,178	16%	56,744	16%	9,566	20%	0%
10-19	44,036	15%	51,252	15%	7,216	16%	-1%
20-29	41,380	14%	55,508	16%	14,128	34%	2%
30-39	41,500	14%	54,686	16%	13,186	32%	1%
40-49	42,600	15%	38,503	11%	-4,097	-10%	-4%
50-59	39,981	14%	30,550	9%	-9,431	-24%	-5%
60-69	21,234	7%	28,993	8%	7,759	37%	1%
70 and older	12,679	4%	34,333	10%	21,654	171%	5%
Total	290,588	100%	350,569	100%	59,981	21%	

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section, Demographics Unit, "Alaska Population by Age and Sex and Components of Change, 2009-2034"

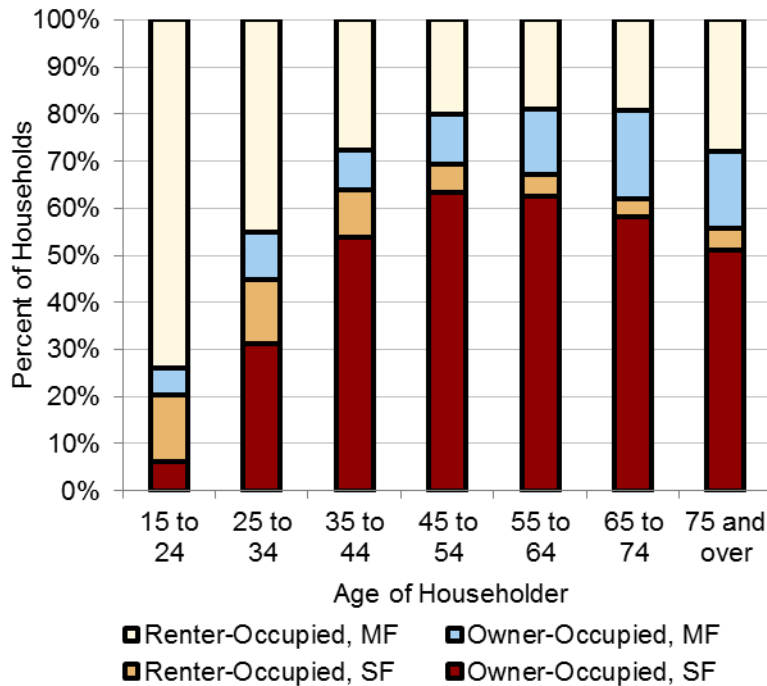
Note: Share is the change in percentage. For example, people 20 to 29 increased from 14% of population in 2009 to 16% in 2029, an increase in the share of population of 2%.

Figure C.3-6 shows the relationship between household age, tenure, and housing type in 2000.¹⁹ Householders younger than 34 years and older than 64 years were more likely to live in rental, multifamily units. Nearly three-quarters of householders 24 years and younger lived in renter-occupied multifamily attached housing.

Householders between 35 and 64 years old were more likely to live in owner-occupied single-family detached housing. The share of owner-occupied single-family detached housing increases from 6% of householders younger than 24 years to 63% of householders 45 to 64 years. It decreases to about 50% by age 75 years and older.

¹⁹ The most current data that shows this relationship is from the 2000 Decennial Census. It is likely that more recent data will not show fundamental changes in the relationships shown in Figure C.3-6.

Figure C.3-6. Housing tenure and structure type by householder age, Municipality of Anchorage, 2000



Source: U.S. Census 2000 HCT4

Note: MF is all types of attached multifamily housing and SF is single-family detached housing.

RACE AND ETHNICITY

Table C.3-11 shows the Municipality of Anchorage’s population by race for 1990 and 2009. All races added population over the 19-year period. Anchorage’s white population grew by about 26,000 people but its share of total population decreased over the 19-year period, from 82% to 73%. Native Americans grew by 12,700 people, from 7% to 9% of population.

Table C.3-11. Population by Race, Municipality of Anchorage, 1990 and 2009

	1990		2009		Change 1990-2009		
	Number	Percent	Number	Percent	Number	Percent	Share
White	185,601	82%	211,616	73%	26,015	14%	-9.2%
Black or African American	14,801	7%	17,117	6%	2,316	16%	-0.6%
Native American	14,780	7%	27,487	9%	12,707	86%	2.9%
Asian and Pacific Islander	11,156	5%	19,569	7%	5,669	51%	1.8%
Two or More Races	NA		14,799	5%	NA	NA	NA
Total	226,338	100%	290,588	100%	64,250	28%	

Source: 1999 and 2009 *Alaska Population Digest*, Alaska Department of Labor and Workforce Development

The Municipality of Anchorage has grown more ethnically diverse since 1990. Table C.3-12 shows the number of persons of Hispanic or Latino

origin for Alaska and the Municipality of Anchorage for 1990, 2000, and 2009. In 2009, the Municipality's population was 7% Hispanic/Latino, compared with 5% of residents across the State. The municipality's Hispanic/Latino population grew by 107% between 1990 and 2009, adding 9,919 new Hispanic/Latino residents. During the same period, the State's Hispanic/Latino population grew by 93%.

Table C.3-12. Persons of Hispanic or Latino origin, Alaska and Municipality of Anchorage, 1990, 2000, and 2009

	Alaska	Anchorage Municipality
1990		
Total Population	550,043	226,338
Hispanic or Latino	17,803	9,258
Percent Hispanic or Latir	3%	4%
2000		
Total Population	626,932	260,283
Hispanic or Latino	25,852	14,799
Percent Hispanic or Latir	4%	6%
2009		
Total Population	629,314	290,588
Hispanic or Latino	34,400	19,177
Percent Hispanic or Latir	5%	7%
Change 1990 to 2009		
Hispanic or Latino	16,597	9,919
Percent Hispanic or Latir	93%	107%

Source: U.S. Census 1990 STF1 P009, U.S. Census 2000 P4, 2009 from *Alaska Population Digest, 2009 Estimates*, Alaska Department of Labor and Workforce Development

Immigrants, including Hispanic, Asian, Pacific Islander, and other immigrants, are a growing part of Anchorage's population. Applications to the Permanent Fund from non-citizens increased by 26% between 1995 and 2004.²⁰ It is likely that immigration to Anchorage continued at comparable levels until Anchorage's economic growth slowed with the national recession and employment decreased slightly or remained stable between 2009 and 2011.

HOUSEHOLD COMPOSITION

Table C.3-13 shows household composition in Alaska and the Municipality of Anchorage. The Municipality's household composition in 2009 is comparable to State trends. Thirty-five percent of Anchorage's households had children, compared to 34% of Alaska's households.

²⁰ Institute of Social and Economic Research, University of Alaska Anchorage, *Anchorage at 90: Changing Fast, with More to Come*, June 2005

Twenty-three percent of Anchorage and Alaska households are single-person households.

Table C.3-13. Household composition, Alaska and Municipality of Anchorage, 2009

Household Type	Anchorage Municipality		Alaska	
	Households	Percent	Households	Percent
Households with children	37,111	39%	88,831	40%
Married-couple	64,231	68%	64,231	29%
Single-parent	24,600	26%	24,600	11%
Households without children	57,711	61%	132,769	60%
Married-couple	22,590	24%	53,387	24%
Other families	4,653	5%	10,769	5%
Single-person households	22,201	23%	52,073	23%
Other households with 2+ persons	8,267	9%	16,540	7%
Total Households	94,822	100%	221,600	100%
Average Household Size	2.86		2.69	

Source: U.S. Census 2000 P12, American Community Survey 2009 B01001

The share of Anchorage households with children decreased from 39% in 2000 to 35% in 2009. The share of single-person households increased from 21% in 2000 to 23% in 2009. These trends are similar to Statewide trends.

Table C.3-14 shows average household size in Alaska and the Municipality of Anchorage for 2000. The 2000 Census estimated that the average household size was 2.67 persons per household, with larger owner-occupied households and smaller renter-occupied households.

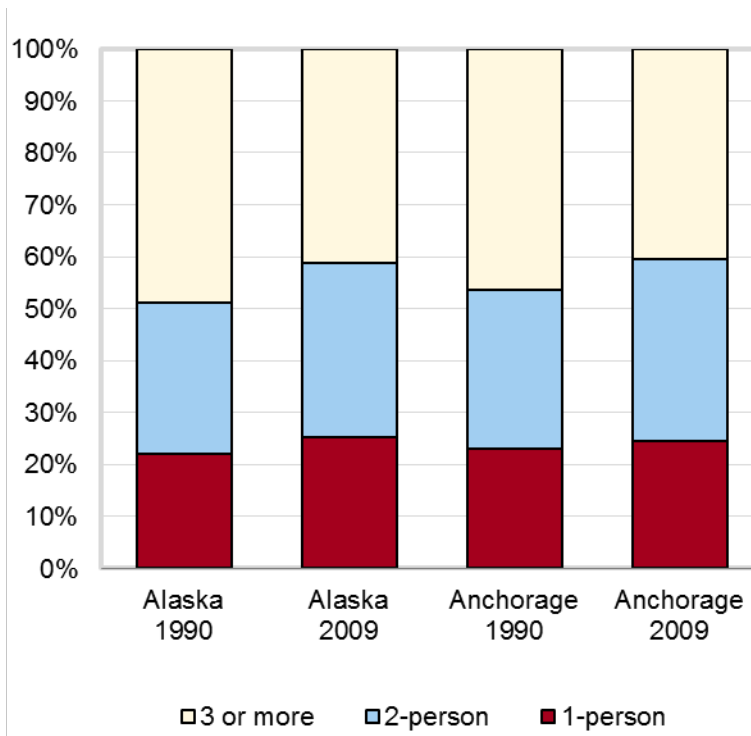
Table C.3-14. Average household size, Alaska and Municipality of Anchorage, 2000

	Alaska	Anchorage Municipality
2000		
Average household size	2.74	2.67
Owner-occupied units	2.89	2.81
Renter-occupied units	2.49	2.46

Source: U.S. Census 2000 H12, American Community Survey 2009 B25010

Figure C.3-7 shows household size in Alaska and the Municipality of Anchorage for 1990 and 2009. The share of one-person households in Anchorage increased slightly from 23% in 1990 to 25% in 2009 and the share of three-person households decreased in the Municipality from 47% to 41%. These trends are consistent with State trends in household size.

Figure C.3-7. Household size, Alaska and Municipality of Anchorage, 1990 and 2009



Source: U.S. Census 1990 P027, U.S. Census 2000 H15, American Community Survey 2005-2009, B25009

Anchorage’s household size decreased over time from 3.4 persons per household in 1970 to 2.67 persons per household in 2000. Table C.3-15 shows average household size in the Municipality of Anchorage, the Anchorage Bowl, and Chugiak-Eagle River for 2000 (Census data), 2010 and 2030. Appendix C.4 describes the basis for the 2010 estimated household size and 2030 projected household size. The average household sizes for 2030 are used in the projection of housing demand in Anchorage.

Table C.3-15. Estimated and projected average household size, Municipality of Anchorage, Anchorage Bowl, and Chugiak – Eagle River, 2000, 2010, and 2030

Year	Anchorage Municipality	Anchorage Bowl	Chugiak – Eagle River
2000	2.67	2.64	2.99
2010	2.62	2.59	2.93
2030	2.56	2.53	2.87

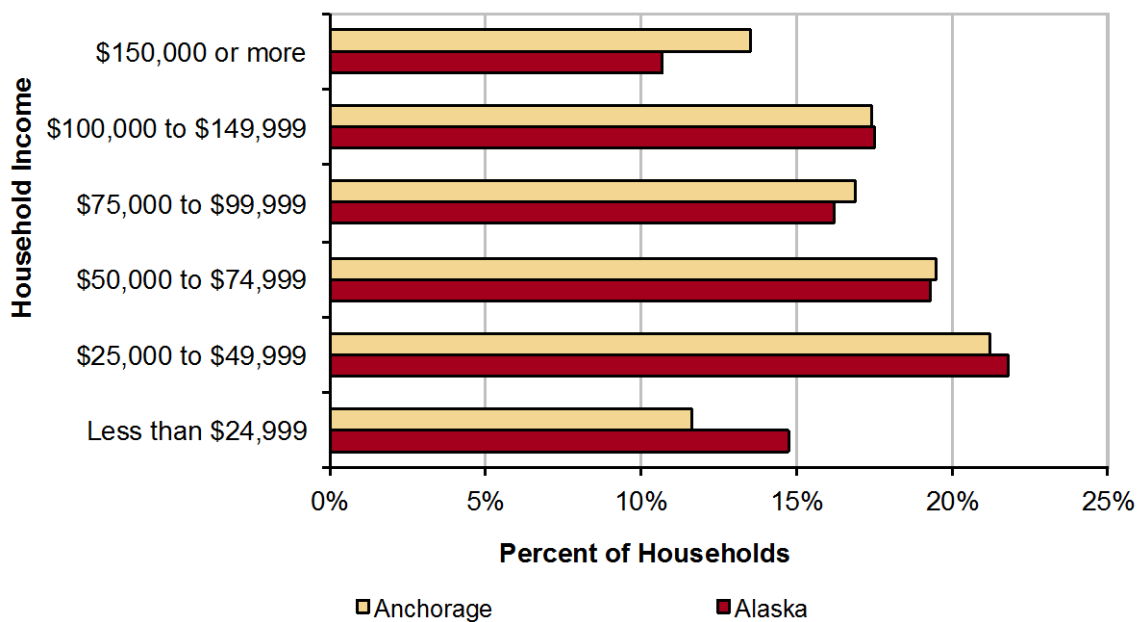
Source: U.S. Census 2000 H12
 2010 and 2030 household size are based on information from the Municipality of Anchorage Planning Division
 2010 estimate is based on data from the Alaska Department of Labor and Workforce Development

HOUSEHOLD PURCHASING POWER

Income in Anchorage is higher than State or national averages. The median income in Anchorage in 2009 was \$72,832, compared to a State median of \$66,953 or a national median of \$50,221.

Figure C.3-8 shows the distribution of household income in Alaska and the Municipality of Anchorage for 2009. Anchorage generally has a larger share of households with income of more than \$100,000 (31%) than the State (28%). The Municipality has a smaller share of households earning \$50,000 or less (33%) than the State (36%).

Figure C.3-8. Household Income, Alaska and Municipality of Anchorage, 2009



Source: American Community Survey 2009 B19001

ISER projects that per capita personal income will remain relatively flat over the 20-year period. ISER projects an increase from about \$40,196 per person in 2010 to \$40,832 in 2030 (in 2009 dollars).²¹

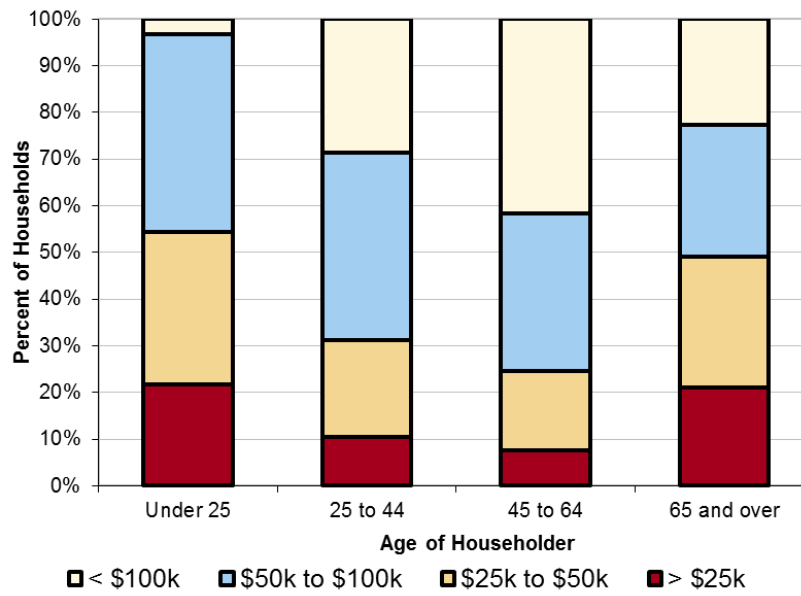
Income varies by the age of households. Figure C.3-9 shows household income by the age of householder²² in Anchorage in 2009. Younger and older people have lower income than working-age people. About half of

²¹ ISER, *Economic and Demographic Projections for Alaska 2010-2035*, December 2009.

²² The U.S. Census defines the head of household as the "householder." The head of household is self-identified by respondents to the Census.

households under 25 years and over 65 years have income of less than \$50,000, compared to fewer than 30% of households ages 25 to 64 years. More than 40% of households 45 to 64 years had income of \$100,000 or more, compared to less than 5% of households under 25 years and less than 25% of households 65 years and older.

Figure C.3-9. Household income by age of householder, Municipality of Anchorage, 2009



Source: American Community Survey 2009 B19037

HOUSING PREFERENCES

PURPOSE AND METHODOLOGY

As components of primary research of the Municipality of Anchorage Housing Demand Market Analysis, McDowell Group conducted two survey research projects – one by phone, the other online. This section presents the McDowell Group’s summary the results of the survey related to compact housing.

The telephone survey was designed to collect a wide range of housing and housing-preference data from a statistically representative sample of residents in the target area of the Anchorage Bowl and Chugiak-Eagle River.

The online survey, which included a Discrete Choice Exercise, is a supplement to the telephone survey and provides additional insight into the target area population’s preferences for compact housing. The online survey was designed to test the attractiveness of certain neighborhood amenities in comparison to specified price, location, square footage and outdoor space alternatives. Specifically, the Discrete Choice Exercise is a conjoint analysis that quantifies market demand based on how respondents trade off different factors such as amenities, size and location.

TELEPHONE SURVEY

McDowell Group completed 814 telephone surveys between January 5 and January 14, 2011 with residents of the Anchorage Bowl and Chugiak-Eagle River. This sample size produces a maximum sampling error of +/- 3.5 percent at the 95 percent confidence level for the sample as a whole. The survey sample is demographically similar to the Anchorage and Chugiak-Eagle River population with a few exceptions. The most significant difference is that respondents were older, on average, than the population as a whole. Survey results were statistically weighted to adjust for this under-representation of younger households. Respondents also were more likely to be female than the population as a whole. Females tended to place somewhat more importance on school and child amenities than male respondents, but their answers are similar in most other respects. Other demographic differences were minor and would not be expected to affect the representativeness of the survey results. Some differences were noted between military and non-military respondents.

ONLINE SURVEY

The online survey was fielded between February 4th and 13th, 2011 using a stratified sample designed to represent the Anchorage Bowl and Chugiak-Eagle River population, particularly with respect to age and income. The survey sample was purchased from a nationally known, online panel provider. A total of 406 complete survey responses were obtained; 298 of these respondents expressed a willingness to consider compact housing. The Discrete Choice Exercise portion of the survey was completed by only these 298 respondents. The maximum sampling error for a random sample of these sizes is +/- 4.9 percent (general questions answered by 406 respondents) and +/- 5.7 percent (discrete choice exercise completed by 298 respondents). The most significant demographic difference between the online sample and the general population is that the educational achievement of the sample is significantly higher.

The online survey consisted of three main parts: screening and demographic questions, questions about existing and preferred housing, and a discrete choice (forced-choice/trade-off) exercise examining preferences with respect to compact housing.

General questions addressed the following:

- Reasons and time frame for moving
- Location preferences
- Home structure preferences
- Neighborhood amenities preferences
- Attitudes toward compact housing
- Commuting behavior

The trade-off exercise included five attributes:

- Neighborhood amenities – different combinations of neighborhood characteristics
- Home size -- in square feet calculated based on the individual respondent's current home size
- Monthly payment – calculated by multiplying home size by cost per square foot
- Location -- based on a map showing five subareas of Anchorage, Eagle River and Chugiak
- Amount of private outdoor space – ranging from none to a medium-size yard

SUMMARY OF THE RESULTS OF THE TELEPHONE SURVEY RELATING TO GENERAL HOUSING PREFERENCE

Table C.3-16 summarizes respondent demographics and responses to questions about general housing preference. The results are presented for the total sample, as well as a breakout of responses from owners and renters.

Table C.3-16. Summary of Selected Survey Responses

	Total	Renters	Owners
Housing tenure		32%	68%
Demographics <i>(Demographics shown are for respondents and may not be identical to those of the general population)</i>			
Median age	43	32	48
Percent white ethnicity	72%	60%	78%
Average household income	\$80,000	\$46,000	\$99,000
Average number of children per household	0.9	1.1	0.8
Percent with a household member in the military	15%	28%	8%
Housing			
Average length of residency in MOA (years)	19.8	12	23.8
Average years in current home	8.6	2.9	11.4
Average number of bedrooms	3.1	2.5	3.4
Percent who occupy a detached, single-family house	59%	17%	80%
Percent whose homes include a garage	66%	40%	79%
Percent satisfied or very satisfied with current	92%	85%	96%
Future Housing Preference			
Percent likely or very likely to move within 5	54%	81%	41%
Percent likely to rent, rather than buy, their next home	17%	39%	6%
Percent likely to move outside Alaska	30%	64%	22%
Interest in Future Compact Housing			
Willingness to accept a smaller home	48%	48%	48%
Willingness to consider a multi-unit apartment or condominium complex over a single-family	22%	26%	20%
Choose a larger home and longer commute over a smaller home and short commute	46%	58%	40%
Larger yard over location close to stores, restaurants and other businesses	60%	61%	60%

Source: Anchorage Housing Demand Market Analysis: Household Telephone Survey Results

PREFERENCES FOR NEXT HOME

Table C.3-17 shows home and neighborhood characteristics that differ in importance to renters and owners with respect to their next choice of homes. Some of these differences undoubtedly reflect the lower median age and household income of renters.

Table C.3-17. Level of Importance (percent saying “important” or “very important”) for Neighborhood Amenities and Housing Features in Future Home

	% of Total	% of Renters	% of Owners
Neighborhood Amenities			
Near a grocery store	54	61	51
Sidewalks in the immediate neighborhood	54	64	49
Near trails or open space	52	48	54
Near children’s preferred school	49	56	46
Near work	46	55	42
Near children’s play areas	41	51	36
Near restaurants and entertainment	26	34	23
Near bus stops	24	34	19
Housing Features			
An energy-efficient design	90%	87%	91%
A garage that holds at least two cars	74	68	77
Covered parking	68	64	70
A guest bedroom or office	67	60	71
A large yard	63	64	63
Space to store recreational equipment, such as snow machines, small boats, or 4-wheelers	42	36	45

Source: Anchorage Housing Demand Market Analysis: Household Telephone Survey Results

“HIGHLY LIKELY CANDIDATES” FOR COMPACT HOUSING

One way to think about the respondents who are most likely to consider smaller homes in the future is to group together those who stated they:

- Are likely to consider a smaller home in the future *and*
- Prefer a smaller home and shorter commute rather than a larger home and longer commute *and*
- Prefer being close to restaurants, stores and entertainment to having a large yard.

Table C.3-18 shows a comparison of respondents who are most likely to consider compact housing with all survey respondents. Approximately 18 percent (140 individuals) of all respondents answered all three questions in this manner. For this subgroup, the maximum sampling error at the 95 percent confidence level is +/- 8.3 percent. This group is somewhat older (median age 49) and, partly as a result, less likely to have children living in their households.

In other demographics, the highly likely candidates for compact housing do not differ significantly from respondents as a whole. They are also similar in regard to the square footage and number of bedrooms in their current home, current housing structure (for example, detached single family, multi-unit apartment), current housing tenure (rent or own), household income, ethnicity, and level of satisfaction with current housing.

The highly likely candidates, in most respects, value neighborhood amenities similarly to respondents as a whole. However, they are somewhat more likely to consider proximity to trails and open space, and also to grocery stores as important, and they show slightly less interest in play space for children (understandably because they have fewer children in the household). They also do not place as high a value on a large yard or the need for storage space for their recreational equipment.

Table C.3-18. Summary of Selected Survey Results for “Most Likely Candidates” for Compact Housing

	% of Highly Likely Candidates (n=140)	% of Total (n=814)
Demographics		
Between the age of 18 and 44	42%	54%
Median age (years)	49	43
Household size – 2 or less	63%	43%
No children in the household	74	53
Important or Very Important Neighborhood Amenities in Future Home		
Near a grocery store	71%	54%
Sidewalks in the immediate neighborhood	65	54
Near trails or open space	63	52
Near work	53	46
Near children’s preferred school	32	49
Near children’s play areas	25	41
Near restaurants and entertainment	41	26
Near bus stops	36	24
Important or Very Important Housing Features in Future Home		
A large yard	28%	63%
Space to store recreational equipment, such as snow machines, small boats, or 4-wheelers	23	42

Source: Anchorage Housing Demand Market Analysis: Household Telephone Survey Results

SUMMARY OF THE RESULTS OF THE SUPPLEMENTAL ONLINE SURVEY RELATING TO COMPACT HOUSING PREFERENCE

Table C.3-19 summarizes respondent demographics from the on-line survey. The results are presented for the total sample, as well as a breakout of respondents completing the discrete choice exercise.

Table C.3-19. Summary of Online Survey Respondent Demographics

	DCE Sub-sample n=298	Total Online Sample n=406	Anchorage Population Data*
Age			
18 to 34 years	35%	32%	38%
35 to 54 years	41	43	40
55 years and older	24	25	22
Annual Household Income			
Less than \$50,000	37%	31%	34%
\$50,000 to \$100,000	34	36	35
More than \$100,000	29	33	31
Household Size			
Average household size (#)	2.6	2.6	2.7
Housing Tenure			
Rent	32%	29%	38%
Own	64	68	62
Educational Attainment			
High School, GED or less	7%	6%	29%
Some college	27	26	28
One year or more of technical certification	4	4	na
Associates or 2-year degree	7	7	9
Bachelors or 4-year degree	31	34	21
Masters or Doctorate	23	23	12
Ethnicity			
White	85%	86%	69%
Alaska Native/American Indian	7	7	6
Asian/Pacific Islander	7	6	8
Hispanic	4	3	8
African American	4	3	6
Other	2	2	2

Source: Anchorage Housing Demand Market Analysis: Household Telephone Survey Results

*Note: Anchorage population data is from the U.S. Census American Community Survey for 2009

COMMUTING

The survey asked questions were asked regarding respondents' commuting habits.

- Three-quarters of all respondents commute an average of five times a week.
- Median commute time one-way is fifteen minutes.
- 90 percent of the commuters travel by car.
- 90 percent of all respondents never take buses.
- 40 percent of all respondents would take buses at least once a month “if they were regular, affordable, and traveled between respondent’s neighborhood and other major areas of Anchorage (including Eagle River/Chugiak).”

INTEREST IN COMPACT HOUSING

Compact Housing was defined for the respondents as, “this type of housing includes different structures (single-family detached houses, townhouses and apartments)...It has a wide selection of designs, but for the same price it provides less space than homes in more suburban locations.”

- 41 percent indicated they are willing to consider compact housing.

When the question was altered to include a mix of neighborhood amenities:

- 55 percent of respondents indicated they are willing to consider compact housing IF it is located in an area of Anchorage they find appealing AND it includes the right mix of neighborhood amenities for their lifestyle (the percentage is similar to that found in the telephone survey).

As people learn more about the relationship between compact housing and neighborhood amenities, they become somewhat more amenable to locations in the central city, especially Northwest and Central Anchorage. However, roughly a third of all respondents are firmly opposed to compact housing, either because they want the largest home they can afford or because they object to nearby neighbors and/or urban environments.

DISCRETE CHOICE EXERCISE RESULTS

LOCATIONAL PREFERENCE

After completing the discrete choice exercise, the following Anchorage locations are preferred for compact housing, in descending popularity:

1. Southwest

2. Northwest
3. Central
4. Suburban
5. Northeast

AMOUNT OF PRIVATE OUTDOOR SPACE

All 298 respondents who participated in the Discrete Choice Exercise expressed a willingness to accept somewhat less interior home space than what they currently have. They nevertheless want private outdoor space, and the more the better, within the bounds of the survey choices.

NEIGHBORHOOD AMENITIES

The attribute of “amenities” is a relatively small factor in the purchase decision, given the attributes tested Location is most important factor. Among amenities, the most desirable are proximity to grocery stores, trails and parks. Of the five neighborhood amenity packages, the Recreation package (health club, walking/bike paths and a park) was the most popular regardless of what area of Anchorage it was paired with. In Northwest Anchorage, the Entertainment package (restaurants, nightclubs, shopping and theater) was also highly desirable.

PRICES AND COSTS OF HOUSING

Households have preferences about the kind of housing they want, and prices tell them what preferences they can afford. Development costs describe the costs of building a house, including construction costs, land costs, and public services and infrastructure. These costs are strongly related to prices, but are not identical. For example, in a strong market with excess demand, a developer may be able to command a price that is in excess of development costs and a standard rate of return. In addition, certain advances in the technology of building housing or infrastructure may reduce costs.

This section presents information about ownership and rental costs based on the U.S. Census American Community Survey, sales from the Multiple Services Listing, and other local sources. The pro forma in the financial feasibility paper describes the prices and costs of compact housing, as described in Appendix D and the main report.

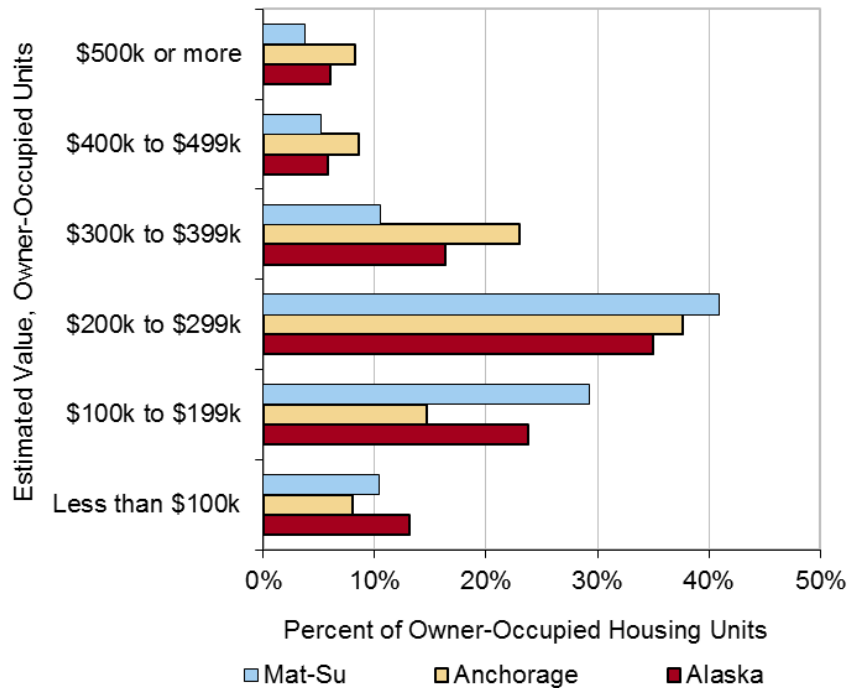
OWNERSHIP COSTS

Homeownership is generally more expensive in Anchorage than in Mat-Su or the State average. The median value of owner-occupied dwellings in 2009 was \$267,300 in Anchorage, compared to \$218,800 in Mat-Su or the State average of \$232,900.

Figure C.3-10 shows the value of owner-occupied dwelling units in Alaska and the Municipality in 2009. Figure C.3-10 shows that the majority of Anchorage's owner-occupied dwellings are valued between \$200,000 to \$399,999. More than one-third of Anchorage's owner-occupied dwellings had a value between \$200,000 and \$299,999 and about one-quarter had a value between \$300,000 and \$399,999 in 2009.

In general, Anchorage had a larger share of units valued at \$400,000 or more (17%) than Mat-Su (9%) or the State average (12%). Anchorage had a smaller share of units valued at \$200,000 or less (23%) than Mat-Su (40%) or the State average (37%).

Figure C.3-10. Value of owner-occupied dwelling units, Alaska, Municipality of Anchorage, and Matanuska-Susitna Borough, 2009



Source: U.S. Census, 2009 American Community Survey, Table B25075

Table C.3-20 shows the average and median sales price for single-family dwellings and condominiums sold between 2001 and 2010. In general, sales prices increased over the 10-year period, with the largest increases in prices occurring before 2008. Between 2008 and 2010, average sales prices were relatively flat.

- Single-family units.**²³ Over the 10-year period, average sales price increased by about \$121,800 or 59%. The median sales price increased by about \$110,500 or 60%. An average of more than 2,900 single-family units were sold annually. Single-family units accounted for two-thirds of the units sold over the 10-year period.
- Condominiums.**²⁴ Over the 10-year period, average sales price increased by about \$76,400 or 66%. The median sales price increased by about \$69,000 or 59%. An average of more than 1,300 condominiums were sold annually.

²³ The Multiple Services Listing (MLS) defines single-family as dwelling units located on an individual lot, such as single-family detached, duplex, two-family, or townhouses.

²⁴ The MLS defines condominiums as dwelling units located on a common lot, which includes site condos of all housing types, such as single-family detached units, duplex, two-family, townhouses, and multifamily structures on a common lot.

Table C.3-20. Single-family residential and condominium average and median sales price, Municipality of Anchorage, 2001 to 2010

Year	Single-Family Sales			Condominium Sales		
	Number Sold	Average Sales Price	Median Sale Price	Number Sold	Average Sales Price	Median Sale Price
2001	3,302	\$ 207,120	\$ 184,500	1,312	\$ 115,020	\$ 117,000
2002	3,175	\$ 222,522	\$ 199,900	1,386	\$ 127,745	\$ 125,450
2003	3,328	\$ 235,916	\$ 214,000	1,445	\$ 140,610	\$ 142,000
2004	3,337	\$ 259,856	\$ 230,000	1,442	\$ 147,710	\$ 141,350
2005	3,272	\$ 292,352	\$ 258,500	1,699	\$ 171,076	\$ 169,500
2006	3,069	\$ 315,523	\$ 277,450	1,539	\$ 181,505	\$ 176,900
2007	2,762	\$ 327,069	\$ 287,000	1,369	\$ 187,692	\$ 179,999
2008	2,498	\$ 325,921	\$ 287,000	1,160	\$ 190,720	\$ 181,000
2009	2,449	\$ 321,025	\$ 286,000	997	\$ 195,958	\$ 189,500
2010	2,298	\$ 328,922	\$ 295,050	999	\$ 191,407	\$ 186,000
Total Units Sold 2001 to 2010						
Number	29,490			13,348		
Annual Average	2,949			1,335		
Change in Average Sales Price 2001 to 2010						
Amount		\$121,802	\$110,550		\$76,387	\$69,000
Percent Change		59%	60%		66%	59%

Source: Multiple Services Listing (MLS)

Note: Single-family sales includes sale of all dwelling units located on an individual lot but excludes sales of mobile homes.

Note: Condominiums includes sale of dwelling units located on a common lot, such as site condos of all housing types or traditional condominiums located in a multifamily structure.

RENTER COSTS

Table C.3-21 shows the median contract rent for Alaska and the Municipality of Anchorage. Median contract rent in Anchorage was \$978 in 2009, compared with the State's \$903. Rent increased from 2000 to 2009 by \$282 (41%) in the Municipality of Anchorage, and \$239 (36%) across the State.

Table C.3-21. Median contract rent, Alaska and Municipality of Anchorage, 2000 to 2009

	Alaska	Anchorage
2000	\$664	\$696
2005	\$764	\$810
2006	\$813	\$864
2007	\$843	\$910
2008	\$863	\$914
2009	\$903	\$978
Change 2000 to 2009		
Amount	\$239	\$282
Percent	36%	41%

Source: U.S. Census 2000 SF3 H56,

American Community Survey 2005, 2006, 2007, 2008, 2009 B25058

The Alaska Housing Finance Corporation conducts an annual rental market survey. Table C.3-22 shows contract and adjusted rent (which

includes utilities) for Anchorage and Mat-Su in 2010. The median contract rent in Anchorage was \$950 and the adjusted rent was \$1,042. Median contract rent in Mat-Su was \$795 and adjusted rent was \$865, more than \$150 less than rent in Anchorage.

Median contract rent for a single-family unit in Anchorage was \$1,535, nearly \$400 more than rent in Mat-Su (\$1,141). Median contract rent for an apartment in Anchorage was \$989 or nearly \$200 more than rent in Mat-Su (\$796).

Table C.3-22. Median contract and adjusted rent, by housing type, Municipality of Anchorage and Matanuska-Susitna Borough, 2010

	Anchorage	Mat-Su	Difference between Anchorage and Mat-Su	
			Amount	Percent
All housing types				
Median Contract Rent	\$950	\$795	\$155	16%
Median Adjusted Rent	\$1,042	\$865	\$177	17%
Single-family				
Median Contract Rent	\$1,535	\$1,141	\$394	26%
Median Adjusted Rent	\$1,780	\$1,348	\$432	24%
Apartments				
Median Contract Rent	\$989	\$796	\$193	20%
Median Adjusted Rent	\$1,081	\$887	\$194	18%

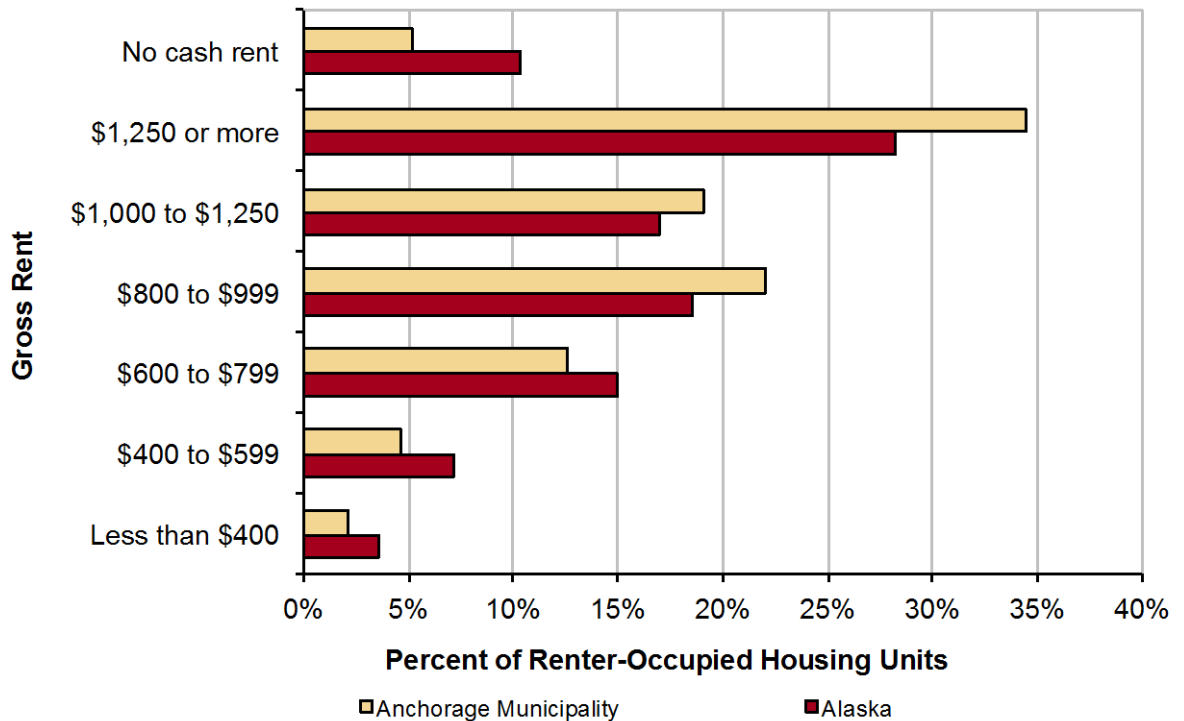
Source: Alaska Housing Finance Corporation, Alaska Housing Market Indicators, Rental Market Survey, 2010

Contract rent in Anchorage increased from \$724 in 2000 to \$1,042 in 2010, an increase of more than \$300 or 44% between 2000 and 2010. This change is consistent with the changes in contract rent shown in Table C.3-21. Rental vacancy rates were generally below 5% between 2000 and 2010.

Figure C.3-11 shows a comparison of gross rent²⁵ for renter-occupied housing units in Alaska and the Municipality of Anchorage in 2009. The Municipality of Anchorage had a smaller share of rental units costing less than \$800 per month (19%) than the State (26%). The Municipality had a larger share of rental units costing between \$800 and \$1,250 per month (41%) than the State (36%).

²⁵ The U.S. Census defines gross rent as “The amount of the contract rent plus the estimated average monthly cost of utilities (electricity, gas, and water and sewer) and fuels (oil, coal, kerosene, wood, etc.) if these are paid for by the renter (or paid for the renter by someone else).”

Figure C.3-11. Gross rent, renter-occupied housing units, Alaska and Municipality of Anchorage, 2009



Source: American Community Survey, 2009; Table B25063

HOUSING AFFORDABILITY

The terms affordable, low-income, or workforce housing are often used interchangeably. These terms, however, have different meanings:

- Affordable housing* refers to a household’s ability to find housing within its financial means. A number of indicators exist that can be used to determine whether housing is affordable. One indicator is cost burden: households that spend more than 30% of their income on housing and certain utilities are considered to experience *cost burden*.²⁶ Any household that pays more than 30% experiences cost burden and does not have *affordable* housing. Thus, affordable housing applies to all households in the community.

²⁶ Cost burden is a concept used by HUD. Utilities included with housing cost include electricity, gas, and water, but do not include telephone expenses. All of the indicators ECO has reviewed, including cost burden, have limitations that can distort results. Cost burden does not consider the impact of household size or accumulated assets. As a result a single-person household with an annual income of \$20,000 and accumulated assets of \$500,000 would be in the same category as a family of seven with an annual income of \$20,000 and no accumulated assets.

- *Low-income housing* refers to housing for “low-income” households. HUD considers a household low-income if it earns 80% or less of median family income. In short, low-income housing is targeted at households that earn 80% or less of median family income.
- *Workforce housing* refers to housing for households earning between 60% and 120% of median family income. Many households in this group do not qualify for federal programs but do not have enough income for adequate housing.

These definitions mean that any household can experience cost burden²⁷ and that affordable housing applies to all households in an area. Low-income housing targets low-income households. In other words, a community can have a housing affordability problem that does not include only low-income households.

Many (maybe most) households that experience cost burden are composed of people who have jobs. A household earning 80% of median family income in Anchorage earns about \$66,900 annually – or about \$32.00 per hour for a full-time employee. Based on HUD affordability standards, the maximum affordable purchase price for a household earning \$66,900 annually is about \$200,700.

In summary, any household can face housing affordability problems. Because they have more limited financial means, the incidence of cost burden is higher among low-income households.

This section presents some information about housing affordability in Anchorage. For additional information about housing affordability in Anchorage, see the *Anchorage Housing Fact Book, August 2009* or products from the Housing and Neighborhoods Taskforce.

According to the U.S. Census, about 37,600 households in Alaska – almost 32% – paid more than 30% of their income for housing expenses in 2009. Table C.3-23 shows housing costs as a percent of income by tenure for the Municipality of Anchorage in 2009. The data show that about 37% of the Municipality’s households experienced cost burden in 2009. The rate was much higher for renters (45%) than for homeowners (32%).

²⁷ A typical standard used to determine housing affordability is that a household should pay no more than a certain percentage of household income for housing, including payments and interest or rent, utilities, and insurance. HUD guidelines indicate that households paying more than 30% of their income on housing experience “cost burden” and households paying more than 50% of their income on housing experience “severe cost burden.”

Table C.3-23. Housing cost as a percentage of household income, Municipality of Anchorage, 2009

Percent of Income	Owners		Renters		Total	
	Number	Percent	Number	Percent	Number	Percent
Less than 20%	28,402	44%	10,447	28%	38,849	38%
20% - 24%	8,791	14%	6,158	16%	14,949	15%
25% - 29%	6,371	10%	4,291	11%	10,662	10%
30% - 34%	5,973	9%	4,487	12%	10,460	10%
35% or more	14,852	23%	12,360	33%	27,212	27%
Total	64,389	100%	37,743	100%	102,132	100%
Cost Burden	20,825	32%	16,847	45%	37,672	37%

Source: American Community Survey 2009 B25070 B25091

In comparison, 32% of the State’s households were cost burdened during 2009, with 41% of renter households cost burdened and 27% of owner households cost burdened.

While cost burden is a common measure of housing affordability, it does have some limitations. Two important limitations are:

- A household is defined as cost burdened if the housing costs exceed 30% of their income, regardless of actual income. The remaining 70% of income is expected to be spent on non-discretionary expenses, such as food or medical care, and on discretionary expenses. Households with higher income may be able to pay more than 30% of their income on housing without impacting the household’s ability to pay for necessary non-discretionary expenses.
- Cost burden compares income to housing costs and does not account for accumulated wealth. As a result, the estimate of how much a household can afford to pay for housing does not include the impact of accumulated wealth a household’s ability to pay for housing. For example, a household with retired people may have relatively low income but may have accumulated assets (such as profits from selling another house) that allow them to purchase a house that would be considered unaffordable to them based on the cost burden indicator.

Cost burden is only one indicator of housing affordability. Another way of exploring the issue of financial need is to review wage rates and housing affordability, and determine the wages necessary to rent or purchase a house. Table C.3-24 shows an illustration of the wage necessary to affordably rent a two-bedroom apartment. Figure C.3-12 shows a comparison of the wages necessary to purchase a home in Anchorage. Both illustrations assume that a household has one worker. Many households, however, have more than one person in the workforce.

Table C.3-24 shows illustrates an affordable housing wage and rent gap for households in the Municipality of Anchorage at different percentages of median family income (MFI). The data are for a typical family of four with one wage earner. The results indicated that a household must earn \$19.83 an hour to afford a two-bedroom unit according to HUD's market rate rent estimate.

Table C.3-24. Illustration of affordable housing wage and rent gap by HUD income categories for a two-bedroom rental unit, Municipality of Anchorage, 2010

Value	Minimum Wage	30% MFI	50% MFI	80% MFI	100% MFI	120% MFI
Annual Hours	2080	2080	2080	2080	2080	2080
Derived Hourly Wage	\$7.75	\$12.06	\$20.10	\$32.15	\$40.19	\$48.23
Annual Wage At Minimum Wage	\$16,120	\$25,080	\$41,800	\$66,880	\$83,600	\$100,320
Annual Affordable Rent	\$4,836	\$7,524	\$12,540	\$20,064	\$25,080	\$30,096
Monthly Affordable Rent	\$403	\$627	\$1,045	\$1,672	\$2,090	\$2,508
HUD Fair Market Rent (2 Bedroom)	\$1,031	\$1,031	\$1,031	\$1,031	\$1,031	\$1,031
Is HUD Fair Market Rent Higher Than The Monthly Affordable Rent?	Yes	Yes	No	No	No	No
Rent Paid Monthly OVER 30% of Income	\$628	\$404	na	na	na	na
Rent Paid Annually OVER 30% of Income	\$7,536.00	\$4,848	na	na	na	na
Percentage of Income Paid OVER 30% of Income for Rent	47%	19%	na	na	na	na
Total Spent on Housing	77%	49%	30%	18%	15%	12%
For this area what would the "Affordable Housing Wage" be?	\$19.83	\$19.83	\$19.83	\$19.83	\$19.83	\$19.83
The Affordable Housing Wage Gap IS:	\$12.08	\$7.77	na	na	na	na

Source: U.S. Department of Housing and Urban Development, <http://www.huduser.org/DATASETS/il/il09/index.html>, <http://www.huduser.org/datasets/fmr.html>

MFI: Median family income, FMR: Fair market rent

Figure C.3-12 compares wages needed to afford to purchase a home to median wages in Anchorage, from the *Anchorage Housing Fact Book*. This comparison shows that the wages of people in occupations such as cashier, executive assistant, nurse, teacher, or police officer do not rise to the wage necessary to afford a resale condominium, which requires an annual average wage of \$67,500. A civil engineer's wage is not high enough to afford an average resale residential dwelling, which requires an average wage of \$98,100.

Figure C.3-12. Wage needed to afford a resale home compared to median wages paid, Municipality of Anchorage, 2008

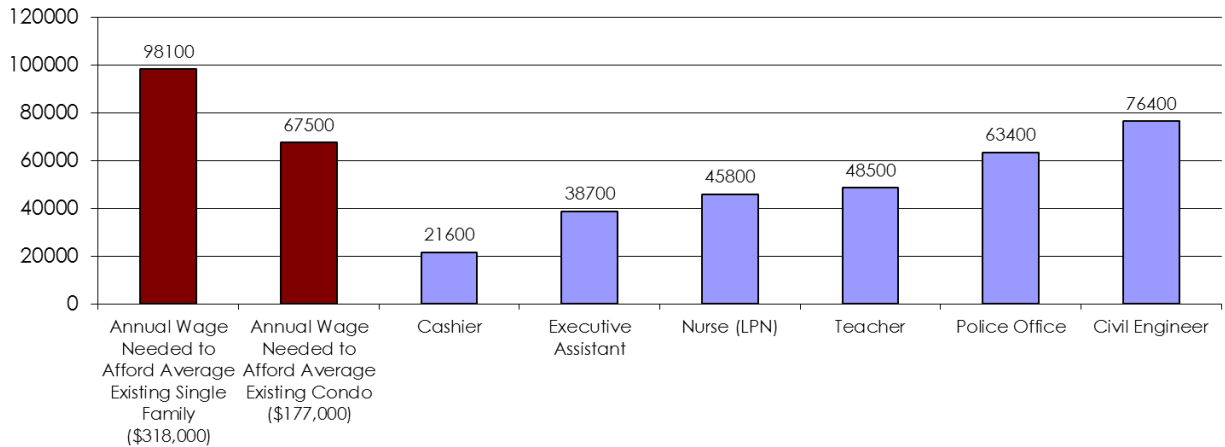


Image Source: Anchorage Housing Fact Book, 2009.

Data Source: Alaska Department of Labor and Workforce Development, May 2007

Note: Affordable mortgage assumes 28% housing ratio, 3% down, mortgage insurance included, 5.9% interest rate.

HOUSING PRICE AND COST SUMMARY

The implications of the data shown above are that ownership costs are increasing faster than rents and incomes. Table C.3-25 shows this trend for the Municipality of Anchorage. Between 1990 and 2000, incomes increased about 26% while median owner value increased 46%. Rents increased 30%. Since 2000, housing costs have increased with incomes, with a 31% increase in median household income, compared to a 33% increase in median rents and a 30% increase in median owner value. Finally, the results show that the median owner value was 2.5 times median household income in 1989 – a figure that increase to 2.9 by 2009.

Table C.3-25. Comparison of income, housing value, and gross rent, Municipality of Anchorage, 1990, 2000 and 2009

Indicator	1989	1999	2009	Change	
				1989-1999	1999-2009
Median HH Income	\$ 43,946	\$ 55,546	\$ 72,832	26%	31%
Median Family Income	\$ 50,098	\$ 63,682	\$ 82,574	27%	30%
Median Owner Value	\$ 109,800	\$ 160,700	\$ 208,700	46%	30%
Median Gross Rent	\$ 564	\$ 736	\$ 978	30%	33%
Percent of Units Owned	53%	60%	62%		
Ratio of Housing Value to Income					
Median HH Income	2.5	2.9	2.9		
Median Family Income	2.2	2.5	2.5		

Source: U.S. Census 1990 SF1 P080A P107A P114A P117, SF3 H008 H043A H061A, U.S. Census 2000 SF1 P53 P77 P82 P87, SF3 H7 H63 H76, American Community Survey 2009 B19013 B19113 B19301 B17001 B25003 B25064 B25077

A similar comparison of income with housing value in Mat-Su shows Mat-Su's ownership costs increased at a faster rate than income or rental

costs. The median owner value increased from 1.8 times median household income in 1989 to 3.1 by 2009. In comparison, the State median owner value increased from 2.3 times median household income in 1989 to 3.8 in 2009.

PRICES OF HOUSING SUBSTITUTES

In a standard econometric specification of a demand function, it is common to find some variables for “the price of substitutes” for the good or services being investigated. For example, if one is trying to estimate the demand for new sport utility vehicles, those vehicles are competing not only against themselves (one model or manufacturer versus another), but also against substitutes for those new models like (1) other new models (e.g., mini-vans, light trucks, or sedans), (2) used models, and (3) alternative types of transportation (e.g., transit and bikes).

There is a case to be made that housing is different: everyone needs a place to live, so the only substitute is homelessness. But households can and do make decisions to purchase less housing than they want or than government standards might suggest they need. When they do, they are substituting less expensive services for those bundled in housing.

The fundamental trade-off is quantity and quality for price. People buy less than what they would like: less square footage, smaller lots, fewer amenities, lower quality, less desirable neighborhoods. All those considerations get bundled up into “lower price” that more often than not means a choice of used housing rather than new housing. It is well understood by analysts of housing markets that the price of new housing is set more by the price of existing housing than it is by the cost of building new housing.

Nonetheless, lower-priced housing is still housing. In that sense, the housing trade-off does not reduce the demand for total housing stock, but changes the composition of that stock. Some common examples of how consumer responses to high prices for housing can be influenced by the availability of substitutes are: changes in travel behavior, larger household size, and more remodeling of existing dwellings.

CHANGES IN TRAVEL BEHAVIOR

All models of urban location decision have as a fundamental principle of the tradeoff between land price and travel cost. Households and business would like to be close to places where they work, shop, learn, and recreate, but land in central places is more expensive for exactly that reason. The higher cost means that even relatively wealthy households must tradeoff

space for central locations. The same effect works in the opposite direction for lower-income households: they often choose housing in suburban and rural locations to get more space for the price, accepting more time and cost in travel. That tradeoff is embedded in the term “drive to qualify” (for a mortgage: farther out, cheaper housing).

If travel is a partial substitute for part of the housing bundle, then changes in the cost of travel will change housing choices. Two obvious examples are increases in congestion (and travel time) and increases in fuel price. The direction of the effects is unambiguous; their magnitudes, however, are harder to predict.

A variation on transportation is telecommunications: one can substitute electronic trips for physical ones as telecommunications cost decrease and transportation costs increase. Telecommunications is a substitute for proximity and is a technology whose prices have dropped substantially in the last three decades. Thus, continued reductions in the cost of telecommunications and acceptance of flexible work schedule and telecommunicating for many occupations will work to offset the centralizing effects of higher transportation costs.

The data for Anchorage illustrate the location pattern that results from these considerations. Table C.3-26 and Figure C.3-13 show where workers in Anchorage lived in 2009. Eighty-one percent of workers in Anchorage lived within the Municipality. About 11% commuted from Mat-Su and 4% commuted from the Kenai Peninsula. In summary:

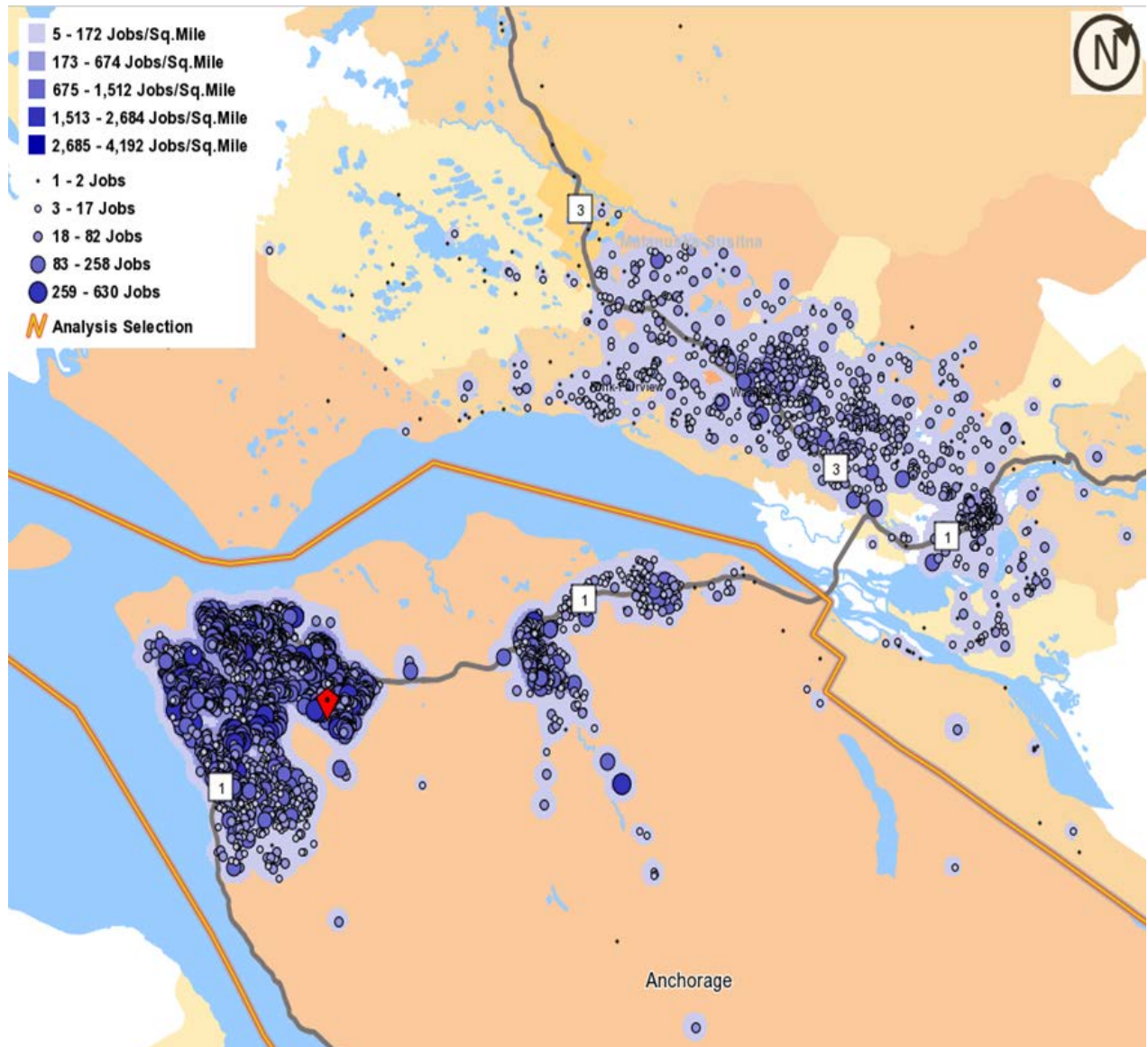
- There is an 80% chance that people working in Anchorage will live in Anchorage. A main reason for this is commuting is not easy between Boroughs, especially during the winter.
- One out of every five workers is willing to commute to Anchorage. That is a big number: over 20,000 employees. While a portion of this number may be the result of poor data, or the capturing of “captive workers” (e.g., job locations changes, or households with dual workers), the majority of this number is people making the choice that the location and structure at an affordable price is worth the extra time and cost spent commuting.

Table C.3-26. Where workers in Anchorage live, 2009

	Jobs	Percent
Anchorage Municipality	108,031	91%
Matanuska-Susitna Borough	3,578	3%
Kenai Peninsula Borough	2,422	2%
Fairbanks North Star Borough	2,072	2%
Valdez-Cordova Census Area	817	1%
All Other Areas	1,963	2%

Source: U.S. Census Longitudinal Employer-Household Dynamics, 2010

Figure C.3-13. Where workers in Anchorage live, 2009



Source: U.S. Census Longitudinal Employer-Household Dynamics, 2010

Table C.3-27 shows where residents in Anchorage worked in 2009. Now the odds go up: if you live in Anchorage, there are 9 chances in 10 that you will work in Anchorage also. Since Anchorage is the central city, more people commute *into* Anchorage for work than *out of* Anchorage for work.

Table C.3-27. Where residents in Anchorage work, 2009

	Jobs	Percent
Anchorage Municipality	108,031	81%
Matanuska-Susitna Borough	14,248	11%
Kenai Peninsula Borough	5,597	4%
Fairbanks North Star Borough	2,295	2%
Valdez-Cordova Census Area	784	1%
All Other Areas	2,883	2%

Source: U.S. Census Longitudinal Employer-Household Dynamics, 2010

The average cost of commuting from Mat-Su to Anchorage on a monthly basis is about \$800 to \$1,100, including the cost of operating and maintaining an automobile and travel time costs.²⁸ The average cost of homeownership in Anchorage is about \$1,900 per month and \$1,600 per month in Mat-Su.²⁹ Monthly commuting costs for households within the Anchorage Bowl or Chugiak-Eagle River are in the range of \$250 to \$400, depending on locations within Anchorage.

If households working in Anchorage and living in Mat-Su moved to Anchorage, monthly commuting costs would decrease by \$400 or more. This decrease would make up for the difference in monthly ownership costs, suggesting that households are choosing to locate in Mat-Su for reasons other than simply housing costs, such as availability of larger dwellings and private yards in Mat-Su compared with Anchorage. Increases in commuting costs, such as substantial increases in fuel costs, may cause commuters from Mat-Su to Anchorage to reconsider the economic feasibility of commuting.

²⁸ The cost estimate uses the following assumptions: (1) the cost of driving per mile is \$0.51, based on IRS 2011 Standard Mileage Rates, which include fuel, maintenance costs, insurance, vehicle depreciation, and other costs, (2) 2010 average wage of about \$40.20 per year in Anchorage, (3) the standard assumption in transportation economics that, on average, drivers value time at about half their wage rate (sometimes higher ratios are used) for both work and non-work trips, (4) the distance from destinations in Anchorage to Mat-Su varies from about 30 to 55 miles, depending on the destination (e.g., the distance from downtown Anchorage to Wasilla is about 45 miles), and (5) parking costs average about \$6.50 per day in downtown but there are no parking costs in most other parts of Anchorage.

²⁹ These estimates are based on 2009 American Community Survey data and are consistent with approximate owner costs for average housing value (from the ACS) and sales price (from the MLS).

LARGER HOUSEHOLD SIZE

The average household size in Anchorage in 2000 was 2.67 persons per household. White population was the only racial or ethnic group with smaller than average household size (2.67 persons per household). Household size for minority populations varied from 2.81 persons per household for African Americans to 4.31 for Pacific Islanders. The household sizes for the largest minority groups in Anchorage were 2.85 persons per household for Native Alaskans and 3.15 for Hispanic households.

Much has been written about cultural differences in attitudes toward family size and density. Many economists see household decisions to have less square footage per person as primarily economic. Myers, in an extensive longitudinal study of immigrant households in California, found that second-generation immigrant households made about the same housing choices as average households, once income was controlled for.³⁰

One can also see this income effect in non-immigrant housing decisions. For example, anecdotal evidence shows more people aged 20 to 35 living with parents. Tougher economic times have increased the occurrence and duration of what is typically viewed as a temporary solution.

Public policy does not have much affect on decisions to increase the number of people in a dwelling unit. Policy does not address the number of children a family can have, or whether grandparents, uncles, or friends can move in. Overcrowding, as a health issue, is rarely used as a justification for public action. Nuisance laws may come into play occasionally (e.g. parking restrictions may create some obstacles to having many individuals of working age living together.)

MORE REMODELING

As prices for new housing units increase, homeowners desiring more space or amenities will consider the option of upgrading their existing dwelling unit. Remodeling can handle demand for upgrades, but it does not add new units to meet the demands of population growth and an increase in the number of households.

³⁰ Myers, Dowell and Lee, Seong Woo. "Immigration cohorts and residential overcrowding in southern California," *Demography*, Volume 33, Number 1, February 1996.

Building permit data shows that the Municipality issued more than 20,000 building permits for renovations between 2005 and 2010, averaging about 3,400 permits issued annually. The number of building permits issued was highest in 2009 and 2010, at about 4,000 permits issued annually, and was lowest in 2007, with about 2,000 permits issued.

ANCHORAGE'S HOUSING POLICY RELATED TO COMPACT HOUSING

The Municipality's housing policy related to compact housing can be divided into two categories: (1) growth management policies related to efficient use of residential land and (2) affordable housing policies. These two categories of policy are both related to demand for compact housing. This section presents a summary of Anchorage's growth management and housing affordability policies that affect compact housing separately below.

GROWTH MANAGEMENT

In 2001 the Municipality adopted the *Anchorage 2020: Anchorage Bowl Comprehensive Plan*, which concluded that demand for new houses over the 2000 to 2020 period was for an additional 31,600 dwelling units in the Anchorage Bowl, but that the vacant land capacity was for 20,700 additional dwelling units. The Plan concluded that the Municipality would need to provide opportunities for more efficient use of remaining vacant and underdeveloped land. The Anchorage Bowl Comprehensive Plan's preferred growth scenario promoted higher residential densities and a compatible mixture of uses in Downtown and Midtown. The Anchorage Bowl Comprehensive Plan identified the following strategies to increase land-use efficiencies:

- Require minimum density for housing units on parcels zoned and developed for multi-family housing;
- Redevelop dilapidated or obsolete housing;
- Redevelop obsolete or under-used commercial and industrial property for housing;
- Build higher density housing with transit-supportive development corridors, major employment centers, redevelopment/mixed use areas, and town centers;
- Avoid the loss of new housing capacity from rezoning of residential land for other uses;
- Protect the integrity and quality of housing in existing residential neighborhoods; and

- Encourage mixed-use development to include residential units in commercial areas.

The Anchorage Bowl Comprehensive Plan includes the following policy statements to encourage more efficient use of residential land:

- Urban residential density, defined as greater than one dwelling unit per acre, is the optimum standard in the urban services area; and rural density residential, ad defined as equal to or less than 1 primary dwelling unit per acre, is the optimum standard in the rural services area.
- New residential development located within ¼ mile of the major street at the center of a Transit-Supportive Development Corridor shall achieve an overall average of equal to or greater than eight dwelling units per acre. Individual lot densities shall be further defined through development of implementation strategies.
- Mixed-use development is encouraged within Major Employment Centers, Mixed-Use Redevelopment Areas, Town Centers, and Neighborhood Centers. Strategies for mixed-use development include housing needs, compatible non-residential uses, public and open spaces, and multi-modal access.
- Mixed-density residential development shall be permitted in identified zoning districts provided the development maintains or improves the functional and aesthetic characteristics of the surrounding development and maintains or improves adjacent transportation access and traffic flow.
- New higher density residential development, including that within Transit-Supportive Development Corridors, shall be accompanied by the following:
 - Building and design standards;
 - Access to multi-modal transportation, to include transit, and safe pedestrian facilities; and
 - Adequate public or private open space, parks or other public recreational facilities located on site or in close proximity to the residential developments.
- Conservation of residential lands for housing is a high community priority. New residential development at densities less than identified in the Neighborhood or District Plans is discouraged. No regulatory action under Title 21 shall result in a conversion of dwelling units or residential zoned property into commercial or industrial uses unless consistent with an adopted plan.

- Accessory housing units shall be allowed in certain residential zones.
- Adopt standards to ensure that new residential development provides for a variety of lot sizes and housing types for a range of households and age groups.
- Provide incentives for lot consolidation in infill/redevelopment areas in order to improve the design and compatibility of multi-family housing.

The Municipality is in the process of adopting updates to the ordinances that implement the Anchorage Bowl Comprehensive Plan policies (e.g., zoning, subdivision, and some development standards), referred to as “Title 21.” This process began in 2002 and is not completed due to continuing discussions about changes to Title 21. The demand analysis in this report presents two forecasts for demand for housing in Anchorage: (1) a baseline forecast that assumes that recent housing trends continue into the future under the current policy framework and (2) a variation to the baseline forecast that assumes that future housing demand will be different from recent housing trends under the policy framework described in the Anchorage Bowl Comprehensive Plan with revised implementing ordinances.

In 2006, the Municipality adopted the Chugiak-Eagle River Comprehensive Plan Update. The updated articulated the following policies related to growth management:

- In municipal land use regulations, support residential development in urban and suburban areas that occurs at densities consistent with the Comprehensive Plan and the availability of supporting utilities, services, transportation systems and other infrastructure components.
- In municipal land use regulations, support residential development in rural areas that occurs at low densities related to natural limitations and/or distance from suburban support facilities and services, in accordance with the Comprehensive Plan.
- In municipal land use regulations, support multi-family housing in areas around employment centers and commercial and public buildings where public sewer and water services are available and where convenient access to major transportation corridors and recreational facilities is provided.

HOUSING AFFORDABILITY

The Anchorage Bowl Comprehensive Plan defines affordable housing differently for renters and owners: (1) for renters, rent and utilities should

cost no more than 30% of a family's gross monthly income and (2) for owners, mortgage, utilities, taxes, interest and insurance should cost no more than 38% of a families gross monthly income. The Anchorage Bowl Comprehensive Plan includes the following policies and implementation strategies related to both compact housing and housing affordability:

- The Anchorage Bowl Comprehensive Plan should guide development of the Consolidated Plan in terms of location and density of housing development.
- Encourage more affordable housing, including home ownership opportunities for low-income residents, such as mobile home parks or co-ops.
- Design attractive affordable housing that is suited to its environs.
- Remove regulatory impediments that increase housing costs without a clear and convincing public benefit.
- Consider implementing inclusionary zoning regulations that require or provide incentives regarding the construction of more diverse and economical housing to meet the needs of low- and moderate-income families.
- Establish minimum density requirements for multi-family properties.

The Municipality of Anchorage Consolidated Plan 2008-2012 describes the Municipality's strategies to meet the housing needs of Anchorage's low- and moderate-income households. The affordable housing strategies described in the Consolidated Plan that relate to compact housing focus on expanding affordable housing opportunities through:

- Reducing conversion of residential land to other uses, especially commercial uses.
- Allowing accessory dwelling units in a wider range of residential zones with fewer restrictions.
- Changing regulations to allow and encourage denser development, such as small-lot single-family, townhouses, and to allow two single-family homes to be built on land zoned for duplex.
- Reducing the parking requirements for multi-family housing.
- Encouraging redevelopment projects, especially those that emphasize mixed-income housing development.
- Allowing inclusionary housing requirements, which would require a mixture of affordable housing in market-rate developments.

Additional Information about Population Growth and Household Size

Appendix C.4

This appendix presents supporting information about key assumptions in the demand analysis: (1) the use of ISER's population forecast, (2) the methodology to allocate population growth between the Anchorage Bowl and Eagle River-Chugiak, and (3) projected change in household size in Anchorage.

EVALUATION OF ISER'S POPULATION FORECAST FOR THE MUNICIPALITY OF ANCHORAGE

The following section presents an evaluation of the population forecast for the Municipality of Anchorage used in this project. This evaluation was written by staff from the McDowell Group.

SOURCES OF LONG-TERM POPULATION PROJECTIONS

Population dynamics are obviously a key component in assessing future housing demand. The University of Alaska Anchorage's Institute of Social and Economic Research (ISER) projects that Anchorage's population will be 345,700 by 2030.³¹ The Alaska Department of Labor and Workforce Development's (ADOL) most recent projection is for a slightly higher number by 2029: 350,569.³²

Both ISER and ADOL project population growth by examining trends in natural increase (births minus deaths) and net migration (in-migration minus out-migration). ISER's projections also consider Anchorage's economic drivers (e.g., the oil and gas industry, the military, federal spending, etc.) and the most likely scenarios for those drivers and other large economic forces over the projection timeline.

³¹ Economic and Demographic Projections for Alaska and Greater Anchorage, 2010-2035, December 2009 (base case projection).

³² *Alaska Economic Trends*, December 2010. The Department of Labor projections are made in five year increments beginning in 2014, so 2029 is the closest year available to 2030.

WHY ISER'S PROJECTIONS WERE SELECTED

ISER's projections were generated using its Man-in-the-Arctic Program Model (MAP) that was created in 1975 as part of an effort to investigate the impacts of oil development in Alaska. The model has been used regularly since then and is almost certainly the most sophisticated and comprehensive tool available for projecting the long term economic, demographic, and fiscal conditions in the state.

Other than ISER, the only other regular source for long-term projections is ADOL, which publishes long-term projections for the state and its boroughs and census areas every few years. The most recent projections from ADOL cover the period from 2010 to 2034.

ISER's projections were selected for use in the housing demand model for two basic reasons. First, ADOL projections focus primarily on statewide numbers and do not look as closely at Anchorage and the greater Anchorage area (including Mat-Su) as do the ISER projections. Second, the ISER projections are explicit in naming the assumptions on which the projections are based.³³

Whether the projections are more accurate – and there is no clear evidence that either ISER or ADOL is more accurate than the other on a consistent basis – is less important in this respect than understanding the assumptions made in the projections so that as time passes and certain developments appear more or less likely, the effect those changes have on the projections will be more transparent. For example, knowing that ISER's base case projections assume that a gas pipeline will be constructed and operational by 2019 is important to knowing the effect on the projections if construction of the pipeline is delayed.

STRENGTHS, WEAKNESSES, AND PROPER USE OF LONG-TERM PROJECTIONS

There are differing levels of uncertainty in the different component parts that make up population projections. Fertility and mortality rates have changed only marginally in recent years and, absent something large and unforeseen occurring, are not expected to change significantly between now and 2030. In other words, the aggregated change to Anchorage's

³³ The Alaska Department of Labor projections use sophisticated modeling techniques for examining population cohorts (age groups), mortality and fertility, and migration rates, but the projections make no assumptions as to what economic developments will occur that might change historical trends.

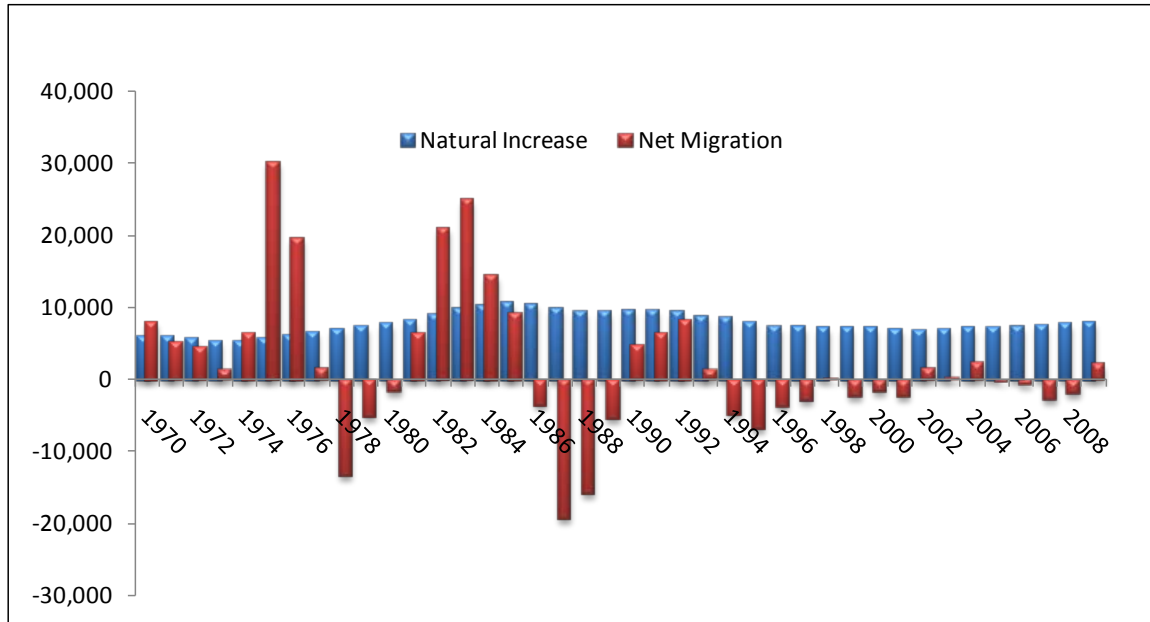
population in the next 20 years would be relatively simple to project if it were only a matter of determining the number of births and the number of deaths that will likely occur. (See chart below and note the relative consistency of population growth in Alaska attributable to natural increase.)

Less certain is what will happen economically in Alaska and the U.S. and the effect that will have on the flow of people in and out of Anchorage. This migration component is substantially more variable, especially in Alaska where migration flows are larger on a percentage basis than for any other state in the U.S. (Figure C.4-1 shows a comparison of population growth resulting from natural increase (births minus deaths) and net migration. Since Anchorage accounts for more than 40% of Alaska's population, it is reasonable to assume that the components of Anchorage's population change follow similar patterns as the State.

In the early 1970s, for example, the construction of the Trans-Alaska Pipeline System attracted tens of thousands of people to Alaska and population growth rates soared. After the pipeline was completed and some of the workers returned to their home states (though not nearly as many as had come), the population fell briefly as a result of the migration losses.

Then in the early 1980s, when the U.S. economy was in a deep recession, Alaska and Anchorage were again magnets for job seekers, this time drawn by a booming oil-fueled economy that the pipeline had made possible. Robust spending and unsustainable growth eventually led to a harsh statewide recession in the second half of the 1980s and significant numbers were lost to out migration.

Figure C.4-1. Components of Alaska Population Change, 1970-2009



Source: Alaska Department of Labor

Total net migration fluctuated from 19,351 in the 1970s, to 11,072 in the 1980s, to -2,809 in the 1990s. From 2000 to 2009, Anchorage gained about 1,200 people from migration, largely due to an increase in net migration during the recession (before 2009, net migration since 2000 had been negative). One of the important demographic questions in the coming years is how members of the large baby boom population cohort (those born from 1946 to 1964) will behave when they reach retirement. A large proportion of previous generations have left Alaska when they retired. The question is what share of Baby Boomers will remain in Alaska after retirement.

The migratory choices of Baby Boomers have the potential to affect population trends and housing demand in Alaska. If a large share of Baby Boomers leave Alaska, the demand for housing may decrease as a result in the supply of housing available from Baby Boomers leaving. If a large share of Baby Boomers stay in Alaska, demand for housing and services needed by the elderly (e.g., medical services, assisted living, and related services) will increase over time.

The significant uncertainty involved in projecting migration numbers over several decades is the most obvious weakness of long-term population projections. In hindsight, events like Alaska's deep recession in the 1980s and the global recession from which economies are still recovering may look predictable, but the future is always cloudy with a multitude of possibilities.

The proper use, then, of long-term population projections is as a guide rather than as a precise road map. It would be a mistake, for example, to assume that once a number has been settled on as a projection for 2030, there is no need to revisit the issue between now and 2030. The analogy of a road that appears headed in a certain direction, but is clouded in fog beyond the first few miles is apt. Once the first few miles are traveled, there will be a new section that is now clear that was not before and new conclusions to be drawn about where the road is headed in the still-clouded distance.

Similarly, long-term population projections are made as often as every few years as new information becomes available and trends change, whether dramatically or marginally. ISER, for instance, published long-term population projections in 2005 for the period from 2005 to 2030. Compared to those projections, ISER's current base case projections call for less population growth as a result of changed assumptions about the ratio of population to employment, among other things.

USE OF ISER'S "BASE CASE" PROJECTIONS

In addition to the base case population projections, ISER (and ADOL) regularly make "high case" and "low case" projections. According to ISER, the base case projection "is driven by a set of assumptions that together represent a likely future scenario for employment and population growth," while the high and low cases are driven "by a set of assumptions that together represent the range of possible outcomes around the likely base case."

ISER's assumptions in their base case projections - which extend from 2010 to 2035 - include high oil prices (\$95 per barrel in inflation-adjusted 2009 dollars), the construction of a natural gas pipeline, and oil and gas development on the Outer Continental Shelf resulting in new oil production by 2021. The base case assumes that construction of the Knik Arm Bridge will begin in 2013 and that the bridge will open in 2015.

The high case projections assume significantly higher world oil price averages (\$163 in constant 2009 dollars compared to \$95 in the base case), more rapid development of oil production on the Outer Continental Shelf, and faster development of other large projects such as the Pebble Mine. The high case assumptions also include faster growth in the retirement population and more job growth in basic sector industries, which include oil, tourism, seafood, military, air cargo, and mining, among others. The high case also assumes construction of the Knik Arm Bridge.

Low case projections assume \$50 world oil prices, slower oil and gas development, slower growth of other economic drivers, and a weaker national economy. Construction of a gas pipeline is delayed for 10 years under the low case projections with gas sales not beginning until 2029. The low case also assumes some mining development (Livengood and Donlin Creek), but no successful development of the Pebble prospect. The low case assumes that the Knik Arm Bridge will not be constructed by 2035.

Obviously, not all of the stated assumptions in ISER's base case projections will become realities over the projection timeline - and unforeseen developments will occur - but ISER's base case projections represent an estimate of the most likely scenario based on the information that was available when the projections were made.

FREQUENCY AND ACCURACY OF ISER'S LONG-TERM PROJECTIONS

In addition to the 2010-2035 and 2005-2030 long-term projections discussed above, ISER made long-term projections in 1998 for the period from 1997-2020. Compared to Anchorage's actual 2009 population of 290,588, the 1997 base case projections were for a 2009 Anchorage population of 297,500, a difference of 2.4 percent. Comparatively, the high case projection was 370,000 and the low case projection was 271,000.

ISER's 2005-2030 projections determined that Anchorage's 2009 population would be 295,400, 1.7 percent above the actual 2009 population, although from 2005 to 2009 is a short enough span to be of limited relevance in assessing the accuracy of the long-term projections.

Because ISER's long-term projections are often tied to specific economic development questions - development of the Seward Highway to Glenn Highway Connection in 2009; the Knik Arm Bridge in 2005; transportation demand in 1998 - it is uncertain how often additional projections will be made over the next few decades. Judging from the recent past, however, ISER is likely to publish two or three additional sets of long term projections between now and 2030. Long-term projections from ADOL will also be available every few years over that same period.

ALLOCATING POPULATION TO AREAS WITHIN THE MUNICIPALITY

The following section presents the population projection for Anchorage and an allocation of anticipated future population growth to sub-areas

within Anchorage. It summarizes an analysis by staff at the Planning Division of the Municipality of Anchorage.

According to the 2010 Census, the population for the Municipality was 291,800. Table C.4-1 presents the population of Anchorage by subarea as reported by the 1990, 2000, and 2010 Census. Between 2000 and 2010, the population for the entire Municipality grew 12%. However, population growth has not been even across the Municipality. The Bowl grew by 11%, Chugiak- Eagle River grew by nearly 17% and Girdwood- Turnagain arm grew by 24% during the last ten years.

The growth rate for the Municipality declined when comparing the growth rate of 15% for 1990-2000 to the growth rate of 12% for 2000-2010. The growth rate declined for all sub-areas except for Joint Base Elmendorf-Richardson.

Table C.4-1. Historical Population Growth, Municipality of Anchorage and selected areas within the Municipality, 1990 to 2010

	1990	2000	2010	Percent Change	
				1990-2000	2000-2010
Anchorage Municipality	226,300	260,300	291,800	15%	12%
Anchorage Bowl	184,600	216,200	240,300	17%	11%
Chugiak Eagle River	25,300	29,900	35,000	18%	17%
JBER	15,100	12,100	13,900	-20%	15%
Girdwood/Turnagain Arm	1,400	2,100	2,600	50%	24%

Source: Source: US census 1990 SF1 P001, U.S Census 2000 Sf1 P1, 2010 Census GCT- PL2
 Note: JBER is the Joint Base Elmendorf Richardson

Table C.4-2 presents the base case ISER forecast for population change within the Municipality of Anchorage for 2010 - 2030, as well as an allocation of this growth to sub-areas within the Municipality. ISER estimated that the population for Anchorage in 2010 would be 289,200- a difference of 2,600 from the 2010 Census. After consulting with the author of the ISER report on how to account for this difference, the Municipality added the difference of 2,600 to ISER’s total projected population for 2030. Since the ISER projections were for 2010-2035, the updated 2010 Census data provides a more accurate starting point. The amount of population growth (53,900) is still an accurate projection.

Table C.4-2 shows that according to ISER the Municipality of Anchorage is projected to grow by 53,900 people over the 20-year planning period. Based on a review of relative growth rates in different parts of the Municipality since 1990, as well as current and anticipated trends, municipal planners project that a majority of this growth will occur in the Anchorage Bowl (approximately 43,400 people). Most of the remaining share of growth within the Municipality is projected to occur in Chugiak-

Eagle River (approximately 9,000 people). This carries forward the somewhat higher growth rate that Chugiak – Eagle River has experienced relative to the rest of the Municipality during the past two decades. Population at the Joint Base Elmendorf Richardson (JBER) military base is projected to hold steady over the planning period.

Table C.4-2. Population forecast, Municipality of Anchorage and selected areas within the Municipality, 2010 to 2030

	Anchorage Municipality	Anchorage Bowl	Chugiak-Eagle River	JBER	Girdwood - Turnagain Arm
2010	291,800	240,300	35,000	13,900	2,600
2030	345,700	283,700	44,000	13,900	4,100
Change 2010 to 2030					
Number	53,900	43,400	9,000	-	1,500
Percent	18%	18%	26%	0%	58%
AAGR	0.85%	0.8%	1.2%	0.0%	2.3%
Percent of Muni in 2030	N/A	82%	16%	4.0%	1.2%

Source: U.S. Census 1990 SF1 P001, U.S. Census 2000 SF1 P1, 2010 U.S. Census

Note: AAGR is average annual growth rate.

Note: JBER is the Joint Base Elmendorf Richardson

The remainder of this section discusses allocation of population to sub-areas within Anchorage.

CHUGIAK – EAGLE RIVER

Historically, with the greater availability of land for single family homes, the growth rate has been higher in Chugiak/Eagle River than in the Anchorage Bowl. The projection of future population distribution assumes a continuation of this comparative trend. Table C.4-3 shows that between 2000 and 2010, the average annual growth rate (AAGR)³⁴ for the Municipality was 1.2%. Chugiak/ Eagle Rivers AAGR was higher at 1.7% and the Bowl's was lower at 1.1%. By comparing the recent historical growth rate of Chugiak/ Eagle River to the growth rate of the Municipality, one can calculate that the relative growth rate for Chugiak Eagle River has been about 40% higher.

³⁴ Average annual growth rate is calculated by dividing the percentage of growth by the number of years. For example, between 2000 and 2010, Chugiak/ Eagle River grew by 17.1%. 17.1% divided by 10 years results in an average annual growth rate of 1.7%.

Table C.4-3. Population Change, Municipality of Anchorage, Chugiak-Eagle River, and Anchorage Bowl, 2000 to 2010

	2000 Population	2010 Population	Change 2000-2010			
			Number	Percent	AAGR	Growth Relative to Growth in the Municipality
Anchorage Municipality	260,300	291,800	31,500	12%	1%	100%
Chugiak/ Eagle River	29,900	35,000	5,100	17%	2%	140%
Anchorage Bowl	216,200	240,300	24,100	11%	1%	92%

Source: U.S. Census 2000 SF1 P1, 2010 U.S. Census

Municipal planners then projected this same relative growth rate for Chugiak-Eagle River into the future. According to the ISER projection of 345,700 people, the AAGR for the entire Municipality will be 0.9%. This is slower than the AAGR of 1.2% during 2000-2010. With the assumption that the growth rate for Chugiak/Eagle River will be approximately 40% faster than the growth rate for the Municipality overall, it was assumed that the AAGR in Chugiak/Eagle River will be 1.3%. As a result, it is projected that Chugiak/ Eagle River will add approximately 9,000 people and have a population of 44,000 by 2030. According to this allocation, Chugiak/ Eagle River will have nearly 13% of the Municipality's population by 2030, up from its 12.0% share in 2010.

JOINT BASE ELMENDORF – RICHARDSON

JBER reported a total of 37,500 personnel and dependents as of March 2011: 21,100 US Army personnel and dependents; 14,300 US Air Force personnel and dependents; and 2,100 civilian agency employees. In addition, these figures do not include the personnel from the former Kulis Air National Guard Base who have recently been transferred to a facility on JBER.

The majority of this population does not actually live on the base, but rather in Anchorage, Chugiak-Eagle River, or in the Mat-Su Valley. Some personnel are deployed overseas and their dependents often live at home with family in other parts of the country.

JBER does not foresee an increase of personnel or resident population over the next five years, due to projected budget decreases in its five year development plan. ISER assumes that Statewide basic military employment will increase by 1% annually through 2014 and then remain constant. If JBER reflects this long term statewide trend, then the number of personnel at JBER would remain stable over the long term as well.

JBER also believes that the portion of the military population that will live on-base will remain stable. It does not expect to see a greater percentage of the base population shift to living off-base.

For these reasons, the Planning Division, projects that the resident population at JBER will remain constant and therefore projected that the population in 2030 will be the same as the population reported in the 2010 Census, or 13,900.

GIRDWOOD AND TURNAGAIN ARM

The 2010 population in Girdwood and the Turnagain Arm communities³⁵ was approximately 2,600. This represents a growth rate of 54% during the 1990's and a growth rate of 23% from 2000-2010. The average annual rate of growth for 2000-2010 was 2.3%. Several emerging factors are likely to contribute to a moderate increase in the rate of population growth along the Turnagain Arm during the 2010 – 2030 planning horizon. These include: anticipated greater availability of new buildable lots; ongoing improvements to the Seward Highway, trails and other infrastructure and community facilities; and ongoing expansion of the resort and other employment and attractions in Girdwood. Therefore, municipal planners projected an increase in the average annual growth rate (AAGR) by 25%, to yield an AAGR of 2.9% for the 2010-2030 period. As a result, the total population of Girdwood and the Turnagain Arm Communities is projected to reach 4,100 by 2030.

ANCHORAGE BOWL AS THE REMAINING PORTION OF THE MUNICIPALITY OVERALL

Anchorage Bowl comprises the remaining share of the overall municipal population that does not live in Turnagain Arm, Girdwood, Chugiak-Eagle River, and JBER. Municipal planners allocated a share of the projected future population growth in the Municipality to the Bowl by deducting the projected 2030 populations of the other communities in the Municipality from the ISER projection of overall municipal population in 2030. It is anticipated that the Bowl will add an additional 43,400 residents. By 2030, the population in the Bowl is projected to grow much slower (18%) compared to Chugiak/ Eagle River (26%). Using this method the Anchorage Bowl will continue to have an AAGR of 0.9%, lower than the AAGR of the Municipality (0.92%) and lower than Chugiak/ Eagle River

³⁵ The Turnagain Arm communities include Rainbow, Indian, Bird Creek, and Portage.

(1.3%). This is consistent with the Anchorage Bowl's historical growth rate relative to the overall Municipality since 1990.

ESTIMATE OF FUTURE HOUSEHOLD SIZE IN THE MUNICIPALITY OF ANCHORAGE

This section presents analysis about average household size in Anchorage and Chugiak-Eagle River for 2010 to 2030 developed by staff in the Anchorage Planning Division about future household size.

In its 2009 report Economic Projections for Alaska and Greater Anchorage, the Institute for Social and Economic Research (ISER) summarized the anticipated continuation of the long-term national and local decline in household size:

The average household size has been declining in Alaska – as it has in the rest of the nation – due to the increase in the proportion of single-parent households, non-related adult households, and elderly households. In addition, Native household size has declined substantially, partly in response to increased availability of housing, higher incomes, and urbanization. We assume, consistent with national expectations, that average household size will continue to decline, but at a much slower rate than in the past. (ISER, 2009, p. 11)

The State Department of Labor estimates that, for the Municipality, average household size was 2.62 persons per household in 2009. This is compatible with ISER estimates of average household size in 2010 of 2.65 persons per household, because Anchorage has a smaller household size than the State overall. The Alaska Department of Labor estimate would indicate that, for the Municipality as a whole, there was a 1.87% decline in average household size from 2000 to 2009. The chart below applies a 1.87% decline in average household size to the Municipality, Anchorage bowl, and Chugiak-Eagle River. American Community Survey data was not used to calculate the 2010 household size because there were significant discrepancies in the one-year averages including the average household size being reported as 2.9 and because the State has extremely well documented data regarding household size through Permanent Fund Dividend data.

Statewide, ISER forecasts a 2.264% decrease in the average number of persons per household 2010-2030 (from 2.65 in 2010 to 2.57 in 2030). This

statewide rate of decline in household size is assumed to be applicable to the Municipality. Based on the State Department of Labor projection model, the State and the Municipality of Anchorage are projected to experience similar demographic and household trends through 2029 (for median age, total population, selected age groups, etc.). Therefore, this analysis applies the statewide rate of decrease in household size to the Municipality and the sub areas. The military base also has its own rate, based on ISER’s statewide military household data, however JBER household size data is not considered in this study.

By applying ISER’s projection of a 2.264% decline in household size for the period 2010 – 2030, the average household size in 2030 is projected to be 2.56 for the Municipality, 2.53 for the Anchorage Bowl, and 2.87 for Chugiak-Eagle River.

Table C.4-4. Average Household Size in Anchorage and Chugiak-Eagle River, 2000 - 2030

Year	All Municipality	Anchorage Bowl	Chugiak – Eagle River
2000 (Census)	2.67	2.64	2.99
2010 (Est.)	2.62	2.59	2.93
2030 (Proj.)	2.56	2.53	2.87

Source: Municipality of Anchorage Planning Division