

# **Greater Wasatch Area Housing Analysis**

Prepared for

Envision Utah

by

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# Preface

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This report was prepared by ECONorthwest: Terry Moore, Bob Parker, and David Helton are its principal authors. Roland Robison of Free and Associates assisted with various aspects of the research, authored the appendix on development barriers, and provided information about specific developments and trends in the Greater Wasatch Area.

This report would not have been possible without the substantial assistance of others. D.J. Baxter of the Coalition of Utah's Future, and Scenario Manager for Envision Utah, kept us on track throughout the project, and managed all aspects of local review and meetings. Natalie Gochnour of the Governor's Office of Planning and Budget provided background reports on Utah's economy and population projections, and made sure we had access to the resources at the State of Utah. Pam Perlich of the Governor's Office of Planning and Budget answered our many questions about the methods behind the population and demographic projections and reviewed a draft of this report. Stuart Challender, at the State's Automated Geographic Reference Center, quickly provided detailed assessment data on residential property characteristics. Jim Wood at the Bureau of Economic Business Research at the University of Utah provided building permit data. Greg Naccarato of the Wasatch Front Regional Multiple Listing Service provided residential sales data.

Despite all the assistance, some errors are sure to remain in the document. Errors of fact are relatively easy to correct once they are found. But some data sources are inherently limited by the way data can be collected. Any data-intensive analysis has to make decisions about the appropriate relationship between analytical detail and cost.

Moreover, even accurate information about past and existing conditions does not ensure that the future will look like the forecasts contained in this report. The future is, by definition, uncertain. We have made a special effort to be clear about our definitions, assumptions, and methods. We have produced a forecast that meets or exceeds the professional standards for studies of this type. Though it provides a solid basis for a 20-year planning analysis, different assumptions could lead to different conclusions.

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# Summary

## Housing in the Greater Wasatch Area, 2020

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**Abstract:** This report examines trends that will affect the future housing market in the Greater Wasatch Area. The analysis leads to the development of two different simulations of the distribution of housing in 2020: a baseline simulation based on a continuation of trends in the 1990s, and an alternative simulation that reflects expectations about the way housing demand will shift in response to projected demographic shifts in the Greater Wasatch Area.

In both simulations, an average of almost 20,000 housing units per year are needed between now and 2020 to keep up with the forecasted growth in households. In the baseline simulation, over 70% of new housing is single-family. In the alternative simulation, the single-family share drops to about 60%, with a corresponding increase in the multi-family share; and the number of smaller lot (less than 5,000 square foot) single-family units increases by an average of about 500 units per year.

The more detailed breakdowns of housing type by county provided a market-driven check on the assumptions used to allocate population to different development types in the Quality Growth Strategy. The conclusion of those working on the development of the Quality Growth Strategy is that its allocations are consistent with the Alternative Simulation of housing types.

### WHY A REPORT ON HOUSING?

Salt Lake City and the region around it will grow. Earlier this year citizens of the Greater Wasatch Area (which comprises 10 counties centered on Salt Lake City) discussed the four scenarios for accommodating that growth. In the Fall of this year Envision Utah will be presenting its synthesis of public opinion and additional analysis in a single scenario called the *Quality Growth Strategy*.

Envision Utah wanted to ensure that the Quality Growth Strategy responded to likely market forces, in particular to the need and demand for new housing. It hired ECONorthwest and Free and Associates to describe, at a regional level, what kind of housing exists now, and what kind of new housing is likely to be demanded in the next 20 years, given likely changes in demographics, market forces, and public policy.

### HOW DOES THIS REPORT APPROACH HOUSING MARKET FORECASTING?

This report takes a long-run perspective on housing. It looks at long-run trends and tends to downplay short-run cycles. That approach is shared by the Governor's Office of Planning and Budget when it prepares the official state and county population forecasts. By using the official population forecasts as the basis for our analysis of housing demand, we implicitly consider many of the key demographic and economic variables that influence those forecasts.

Economists view housing as a bundle of services that people are willing to pay for: shelter certainly, but also proximity to other attractions, amenity, prestige, and access to public services. Because it is impossible to maximize all these services and simultaneously minimize costs, households must, and do, make tradeoffs.

Different households will value what they can get differently: they will have different preferences. Substantial research confirms what most people understand intuitively: demographic and economic characteristics such as income, age of household head, and family size affect the residential choices people make. Thus, simply looking at the long wave of demographic trends can provide good information for estimating future housing demand.

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 for some assessment of the implications of that forecast for regional households and urban form. Such forecasts are inherently uncertain. Their usefulness for public policy often derives more from the explication of their underlying assumptions about the dynamics of markets (demand and supply conditions) and policies than from the specific estimates of future demand. That is the perspective that this report takes.

## **HOW DOES THIS REPORT EVALUATE THE REGIONAL HOUSING MARKET?**

This report focuses on long-run demographic change and new housing between now and 2020. The long run focus of this report means that we can ignore short run events such as business cycles, changes in interest rates, vacancy rates, lease rates, projects in the pipeline, and so on. We assume that the region's official long-run population forecast is at least approximately correct. Thus, our task is to make defensible predictions about the amount and characteristics of new dwelling units that will be built to accommodate projected increases in population. The main steps in our analysis are:

- Define the study area (10 counties centered on Salt Lake City)
- Describe current and forecasted demographic and socioeconomic characteristics that have an affect on the amount and type of housing that consumers will demand and the market will build.
- Analyze the current housing market (type of housing existing and being constructed).
- Describe how changing economic and demographic trends are expected to impact the future housing market.
- Identify public policy barriers that prevent the market from meeting current housing demand and barriers that may prevent the market from meeting future demand.



- Simulate demand by housing types and lot size, by county, from now to 2020.

## **POPULATION: MORE PEOPLE MEAN MORE HOUSES**

The population of the Greater Wasatch Area reached 1.7 million in 1998, over 80% of Utah's total population. By 2020, the Greater Wasatch Area is expected to grow by about a million people, reaching almost 2.7 million, almost a 60% increase over the 1998 level. That growth rate is two to three times the expected average for the U.S.

Almost 70% of the population growth in the Greater Wasatch Area will be from natural increase (births less deaths), the rest comes from net migration (more in migration than out migration). This is much more growth from natural increase than that of other growing metropolitan areas in the west.

Compared to the United States, the Greater Wasatch Area has a younger population, and this condition is expected to continue through 2020. Between 2000 and 2020 all age groups are projected to grow. The biggest absolute gains are in the 0–14 age group but bigger relative increases occur for the groups aged 45-59 and 60+.

The age distribution in the Greater Wasatch Area will affect the composition of housing demand and the types of housing provided. Compared to the United States, the Greater Wasatch Area will have a smaller share of households in the retirement phase of their lifetime, and a larger share of young singles, young couples, and families. Given the propensities of these classes of households, one should expect (all else being equal) the regional market to build a larger share of multi-family rental housing, affordable housing for first-time homebuyers, and single-family housing for couples with children than national averages for similar sized regions.

## **HOUSEHOLD SIZE**

The Greater Wasatch Area has a larger share of families with children than the United States. Though demographic and cultural trends suggest that the area will continue to have a larger average household size than most metropolitan areas in the US, the trend for the region is for household size to decrease. Average household size in the Greater Wasatch Area was 3.15 in 1990; it is projected to decline steadily through the forecast period to 2.78 in 2020.

Several things are happening to make household size decrease: more younger households, single or without children; more retirement-age households without children; and some decrease in the size of traditional families. Though these factors are expected to decrease household size, Utah will continue to have the highest percent of nuclear families in the nation: 64% of all two-person households in Utah are married couples.

Other things being equal, the trend of decreasing household size should increase aggregate demand for housing units (for a given population increase, more new units will be needed when household size is decreasing because there are more households), and increase demand for smaller single-family housing and for units in multi-family structures (because of lower space needs and less income per household).

## **AGE OF HOUSEHOLD HEAD**

The number of households in all age groups grows, but the greatest growth is among households with a head aged 60+, which is expected to grow by 134,000 and increase its share of households from 21% in 2000 to 27% in 2020. The next largest amount of growth is expected in the 30–44 age group: the age at which households have families, larger household size, and needs for more space. Other things being equal, growth in this age group would be associated with more demand for larger homes and lots, single-family units, and suburban locations. But the percent of households with a head aged 30–44 declines from 34% to 31%. Thus, while single-family construction will continue to have the largest share of the housing market, this share will probably decline over the next twenty years.

## **HOUSEHOLD INCOME**

Utah's level of per capita income has been and will continue to be only about 80% the U.S. average. But aggregate figures and comparisons to US averages do not answer questions about the ability of households in the Greater Wasatch Area to purchase housing. For example, a combination of land constraints, public policy, and stronger than expected growth could lead to real increases in housing price. The simplest and best assumption about income for a long-run housing forecast for the Greater Wasatch Area is that real incomes and the real price of housing will remain constant.

# **THE REGIONAL HOUSING MARKET: WHERE IT'S HEADED AND WHY**

## **INDICATORS OF PAST AND CURRENT HOUSING MARKET PERFORMANCE**

### **NUMBER AND TYPE OF DWELLING UNITS**

In 1990, the Greater Wasatch Area had 484,900 dwelling units. About 70% of the dwelling units in 1990 were single-family; 4% were mobile or manufactured homes, and the remaining 26% percent were multiple family units. Analysis of 1990 Census data by county show:

- A strong preference in the suburban and rural areas for single-family housing.
- Counties with larger populations and larger cities have more and higher percentages of multiple-family housing. Moreover, the percent of units in larger complexes (20 or more units) is higher in larger counties.

- Rural counties tend to have a higher proportion of housing in mobile or manufactured homes. Tooele, Juab, Wasatch, and Box Elder Counties had the highest percentages of mobile and manufactured homes in 1990.
- Summit County had the highest percentage of single-family attached housing and apartments with 50 or more units in 1990. This reflects the County's recreational amenities and tourism industry.
- About two-thirds of households in the Greater Wasatch Area were homeowners in 1990. Small rural counties tended to have higher ownership rates than larger, more urbanized counties.
- Households in higher income categories, regardless of household size or age of household head, have higher home ownership rates.
- Households with heads aged 15-24 are more likely to rent than to own, unless their income is over \$45,000. Homeownership rates increase for those households with three or more members.
- Homeownership tends to increase with age up to age 65, regardless of household size or income. By age 65, homeownership rates stabilize or decrease slightly.

Nearly 120,000 building permits were issued in the Greater Wasatch Area between 1990 and 1998. Single-family units dominated new construction: 73% of building permits issued between 1990 and 1998 in the 10-county area were for single-family units. Analysis at the county level, however, shows variation. Permits for single-family units made up more than 90% of total residential permits in Morgan and Juab Counties, but less than 70% of total residential permits in Utah and Summit Counties. Other trends are evident in the building permit data:

- Single-family dwellings accounted for a larger share of all development between 1990 and 1998 than they did of housing that existed in 1990. In other words, the recent trend has been to relatively more single-family housing.
- Single-family attached units (condominiums, row houses, and townhouses) accounted for a slightly larger share of development between 1990 and 1998 than they did of housing that existed in 1990.
- The percentage of permits issued for apartments decreased slightly between 1990 and 1998 when compared with units that existed in 1990.
- The percentage of permits issued for mobile and manufactured homes between 1990 and 1998 decreased in all counties compared to existing housing in 1990.

Despite some shifts in the percentage of individual housing types built between 1990 and 1998 (compared to the composition of total housing stock in 1990), the magnitude of the shifts has not significantly affected the overall distribution of the housing stock by type—the relative shares of different housing types in 1999 are not very different from the shares in 1990.

Updating 1990 Census data with building permit data, ECONorthwest estimates that the Greater Wasatch Region had 604,385 dwelling units as of January 1999. This is a 25% increase in dwelling units between 1990 and 1998, or a 2.5% average annual growth rate for the area.

## **DENSITY (LOT SIZE) OF DWELLING UNITS**

Assessment data for Davis, Salt Lake, Utah, and Weber Counties<sup>1</sup> shows the four-county area had an overall net density of 3.3 dwelling units per net residential acre. Analysis of a large sample of existing single-family development in the four-county area by lot size shows that almost 50% of existing single-family homes are on lots between 5,000 and 10,000 square feet; about 11% of single-family units are on lots smaller than 5,000 square feet; and about 11% are on lots greater than 20,000 square feet.

Overall single-family densities are higher in the more urbanized counties. Salt Lake County had the highest single-family residential density of the four counties: 4.7 dwelling units per net residential acre. MLS data for the Greater Wasatch Area shows an overall trend of increasing home size, with a large increase for units built in the 1990s. This finding is consistent with national trends.

Average dwelling unit size (in square feet) has increased consistently since the 1940s. Based on assessment data, the average size of a single-single family dwelling unit was about 1,080 sq. ft. in the 1940s; it increased to 1,902 sq. ft. in the 1990s. The largest increase in dwelling unit size (21%) occurred between the 1980s and 1990s, in large part because Utah's large baby-boom cohort reached peak child-rearing ages during these years.

## **FACTORS AFFECTING FUTURE HOUSING PRODUCTION IN THE REGION**

Most long-run housing forecasts start with an implicit assumption that future relationships will be like past relationships and the future housing market will change at the margin in ways that it has been observed to change the recent past. Implicit in the forecast is that housing consumers, producers, and regulators will behave about how they have in the past. In this study we are adjusting explicitly for demographic shifts: the simulations in the next section are driven by shifts in household composition. But other factors will affect housing production as well:

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<sup>1</sup> The only counties for which complete data were available. Together, these counties account for almost 93% of the population in the 10-county Greater Wasatch Area.

- *Physical factors.* Physical limits on the supply of buildable land lead to increases in land and housing prices. At a regional scale, the Greater Wasatch Area is constrained by the Wasatch Mountains to the east, and the Great Salt Lake and Utah Lake to the west. However, there appears to be ample room for urbanization for the forecasted growth for 2020. None of the four growth scenarios evaluated earlier this year found that growth could not be accommodated due to a lack of land.
- *Economic factors.* Most Utah economists agree that Utah's broad-based economy will continue to perform well in the foreseeable future. Thus, at a regional level there is no strong reason to believe that the state or regional economy will fail in ways that will cause households to experience significant drops in real income and modify their housing choice.
- *Industry factors.* First, if the area were dominated by a few large builders that only wanted to build to a standard pattern, innovation on housing types may be low. Alternatively, if the industry consisted of many small builders, none may have the financial resources or risk-taking capacity to build either innovative or large developments. Our analysis found no reason to believe that either of these conditions exist. Second, what is often identified as a lack of education among builders about alternative housing types is often an economic decision about risk. The building a different housing type has potential economic rewards, but it also has risks. Thus, the composition of housing that gets built each year changes slowly. The evidence is beginning to accumulate in the Greater Wasatch Area that communities offering open space and amenities are obtaining premium values. Increased public awareness regarding environmental constraints and public service costs should support a continued shift in the future.
- *Regulatory factors.* Our interviews suggest that the greatest barrier to different (denser) housing types is not a lack of interest by developers and builders, but constraints of local policy. Many municipalities restrict housing types that the market would otherwise provide; many areas of the region have permitted only low-density units in the last two years.

## **IMPLICATIONS OF THE ANALYSIS FOR SIMULATIONS OF THE FUTURE HOUSING MARKET**

The possible combinations of changes in variables that will affect housing are infinite. The key issue for this study and for the evaluation of the market reality of the Quality Growth Strategy is whether the future housing market will produce housing in the next 20 years of types and in quantities that look like today's housing products, or whether it will shift. Following is our summary of the impacts on housing production and absorption.

- *Number of housing units.* The economic forecasts are for growth—the Greater Wasatch Area will have to provide housing for an additional 363,000 households over the next 20 years.
- *Type of housing structures.* The expected growth in income does not necessarily mean households will purchase more large-lot dwellings. The expectation nationally is that the money will go into larger single-family and multi-family units with more amenities but on smaller lots.

The main demographic changes—migration of mobile young adult and elderly households to the west, smaller household size, and increasing average age of the population—all argue for a shift toward smaller units and more multi-family units.

While the large amount of potentially buildable land in the region suggests that land prices can stay relatively low and average lot size can stay relatively high, it is certainly possible that public policy in this area could change for a number of reasons, including public concerns about sprawl, congestion, and natural resources; and increasing fiscal pressure of trying to serve expansive development while providing infrastructure and maintaining environmental quality.

In response to all these forces, we expect more planned-unit developments in the future, which could include mixed uses, a mix of housing types, smaller lot sizes for single family units, and overall increases in housing and site amenity.

Housing affordability will continue to be a problem in this region as it is elsewhere. As in the past, the public sector will be unable to supply resources to have much effect on the problem. Our expectation is that consumers will be more willing to give up lot size than built space, and will make various choices regarding tradeoffs between built space and amenity. The implication is a shift toward smaller lots, multifamily units, and manufactured housing.

- *Housing tenure.* The evidence is clear that increasing incomes and increasing age of household head correlate with increasing home ownership, and that single family detached homes have been the preferred form of home to own. The big question here is whether the economic forecast of increasing average real income will hold up, and how that income will be distributed. For example, if real income increases are driven largely by large increases in the upper 10% of all households, than there might be little effect on tenure: those households already own homes.

## RESULTS FOR HOUSING MARKET SIMULATION

No amount of analysis is likely to make the long-run future any more certain: the purpose of the housing simulations is to get an approximate idea about the long run so policy choices can be made today.

The Base Simulation is based on trends exhibited in the Greater Wasatch Area between 1990 and 1999, primarily as evidenced in building permits for that period. This simulation is intended to provide a baseline for the area assuming continuation of past trends. In the Base Simulation the Greater Wasatch Region adds 381,642 new dwelling units between 2000 and 2020: about 76% would be single family; 79% would be owner-occupied units, 19% would be renter-occupied, and 2% would be manufactured homes.

A continuation of past trends is useful for providing a baseline for analysis, but many factors point to a shift in the type of new housing that will be built in the Greater Wasatch Area between 2000 and 2020. An Alternative Simulation that accounts for these factors predicts declining shares of single-family dwellings in most counties, primarily because of declining average household size and increasing average age of household head. The trend of decreasing household size should increase aggregate demand for housing units (for a given population increase, more new units will be needed when household size is decreasing because there are more households), and increase demand for smaller single-family housing and for units in multi-family structures. Multiple family dwellings account for nearly 40% of new housing built between 2000 and 2020 in the Alternative Simulation. That change in housing type implies a shift in housing tenure: a bigger share of multi-family units will reduce ownership rates, other things being equal. In the Alternative Scenario, home-ownership rates decrease to 67%—the level recorded in the 1990 Census.

Table S-1 shows that the main difference between the Base and Alternative Simulations is a shift in the composition of new housing development of about 15% from single-family units to multi-family units during the period from 2000 to 2020.

The Alternative Simulation is driven largely by expected demographic shifts. Other factors, however, can affect the distribution of housing by type and density:

- Public policy can play a key role in housing types and densities through land use designations, capital improvement plans, and other policy tools.
- Total land supply does not appear to be a constraining factor in the region for the next 20 years. But other factors (e.g., local water supply, public service policies, or public service costs) could lead to some reductions in the relatively availability of buildable, serviceable land, which would in turn increase land prices and housing costs.

**Table S-1. Distribution of housing by type, actual and predicted, Greater Wasatch Area**

Housing Type	Actual			Predicted			
	1990 Total	Change 1990-1999	1999 Total	Base Simulation		Alternative Simulation	
				Change 2000-2020	2020 Total	Change 2000-2020	2020 Total
Single Family	66%	73%	67%	74%	70%	59%	64%
Multiple Family	29%	25%	29%	24%	27%	40%	33%
Mobile/Manuf	5%	2%	4%	2%	3%	1%	3%

Source: US Census (1990), BEBR (1990-1999), ECONorthwest (2000-2020, 2020)

- Long-term income trends suggest an increase in real income region-wide. But a recession or real increases in housing cost could eliminate or counter real increase in income. Moreover, expected income increases will not affect all households equally: the region will still have low-income households looking for affordable housing.
- The ability to sustain the expected rate of development over the next 20 years may be affected by air quality, congestion, or other environmental constraints.



## BACKGROUND AND PURPOSE: WHY THIS REPORT?

Salt Lake City and the region around it will grow. That growth has benefits of many types for many different types of households and businesses. But it also will place pressures on infrastructure, transportation, housing, schools, water and other facilities to adequately accommodate growth. Many people in the region are concerned about the amount, location, and form of that growth, all of which will affect the quality of life in the region.

Several groups—both in government and the private sector— have recently begun discussions about growth and its impacts. Among the most visible of these discussions is the one being facilitated by *Envision Utah*, a project conceived and managed by The Coalition of Utah's Future, a non-profit organization. Envision Utah is non-partisan community partnership bringing together citizens, business leaders, and policy-makers from the public and private sectors to develop a broadly supported strategy for managing growth.

Envision Utah has spent thousands of hours and significant resources in developing awareness, information, and four possible futures (referred to as *scenarios*) regarding how the 10-county region centered on Salt Lake City (referred to as the Greater Wasatch Area in the rest of this report) might look given certain decisions about settlement patterns, transportation investments, and the geographical distribution of growth. Earlier this year citizens of the Greater Wasatch Area discussed the four scenarios for accommodating growth—four different physical forms of development that would provide the office, industrial, commercial, residential, and public space that forecasted population and employment growth would probably require. In the Fall of this year Envision Utah will be presenting its synthesis of public opinion and additional analysis in a single scenario called the *Quality Growth Strategy*.

The Quality Growth Strategy will be shaped by what citizens have said they want, and by what experts in urban and environmental planning think is necessary to respond to the public's desires, accommodate growth, and protect social and natural resources that contribute to quality of life. In addition, Envision Utah wanted to ensure that the Quality Growth Strategy responded to likely market forces, in particular to the need and demand for new housing.

The purpose of this report is to describe, at a regional level, what kind of housing exists now, and what kind of new housing is likely to be demanded in the next 20 years, given likely changes in demographics, market forces, and public policy. The intent is that description is primarily to provide information relevant to the assumptions being made by other consultants building the model for the preferred alternative. In other words, the

information in this report provides an independent check on whether the assumptions in the modeling of the preferred alternative about housing type and density, by county, are reasonable in the light of information contained in this report about the possible futures for housing markets in the Greater Wasatch Area.

## **FRAMEWORK: HOW DOES THIS REPORT APPROACH HOUSING MARKET FORECASTING?<sup>1</sup>**

Economists view housing as a bundle of services that people are willing to pay for: shelter certainly, but also proximity to other attractions (job, 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. They make these tradeoffs by making purchases of housing that balances their demand (which a function of preferences and income) with supply (cost, which is a function of land price, construction price, financing, regulation, and so on) at some price for some type of housing in some location.

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. While one cannot expect to predict the housing type and location choices of any particular family based on just a little information about its demographic and economic characteristics (e.g., income, age of household head, family size, number of workers and job locations, number of automobiles) substantial research confirms what most people understand intuitively: those kinds of factors affect the residential choices people make. Though one cannot use these variables to state with confidence what housing choice any particular household will make, one can use them to make general predictions about the average kinds of residential choices that large collections of households will make.

Thus, it is no less true for being trite that housing choices of individual households are influenced in complex way by dozens of these types of factors, and that the housing market in Wasatch Region is the artifact of the individual decisions of hundreds of thousands of households. Moreover, other factors besides demographics and socioeconomic characteristics on the housing-delivery side of the equation influence what housing gets built and purchased: escalation of land and construction costs, financing, and public policies that affect cost such as those related to construction design, ADA, energy efficiency, and building codes. Closer to home, political decisions regarding land use and planning commissions have also greatly influenced the location and type of housing produced in the region.

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<sup>1</sup> Chapter 3 provides more detail on a framework for how housing markets operate.

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 for some assessment of the implications of that forecast for regional households and urban form. Such forecasts are inherently uncertain. Their usefulness for public policy often derives more from the explication of their underlying assumptions about the dynamics of markets (demand and supply conditions) and policies than from the specific estimates of future demand. That is the perspective that this report takes.

## **METHODS: HOW DOES THIS REPORT EVALUATE THE REGIONAL HOUSING MARKET?**

All of the previous points have influenced the structure of our research and of this report, as well as a few others. The schedule for this project required that report be completed in less than two months; the budget was scaled accordingly. A typical housing market analysis is for a few specific residential products at a specific site; in this study we must look at all housing types over 20 years. These considerations led us to look for ways to simplify the analysis. Among those simplifications are:

- Use official forecasts of population growth by county to drive our estimates of housing starts. In other words, we do not make independent estimates of population growth by county, and do not comment on the validity or reliability of the ones that have been made: we simply accept them as the best available, as has the rest of the Envision Utah planning process.<sup>2</sup>
- Consolidation of data by regional sub-markets, which are defined as aggregations of counties and are shown in Figure 1-1:
  - South-West Sub-Market: Utah, Juab, Tooele
  - Central Sub-Market: Salt Lake
  - North Sub-Market: Morgan, Davis, Weber, Box Elder
  - East Sub-Market: Wasatch, Summit

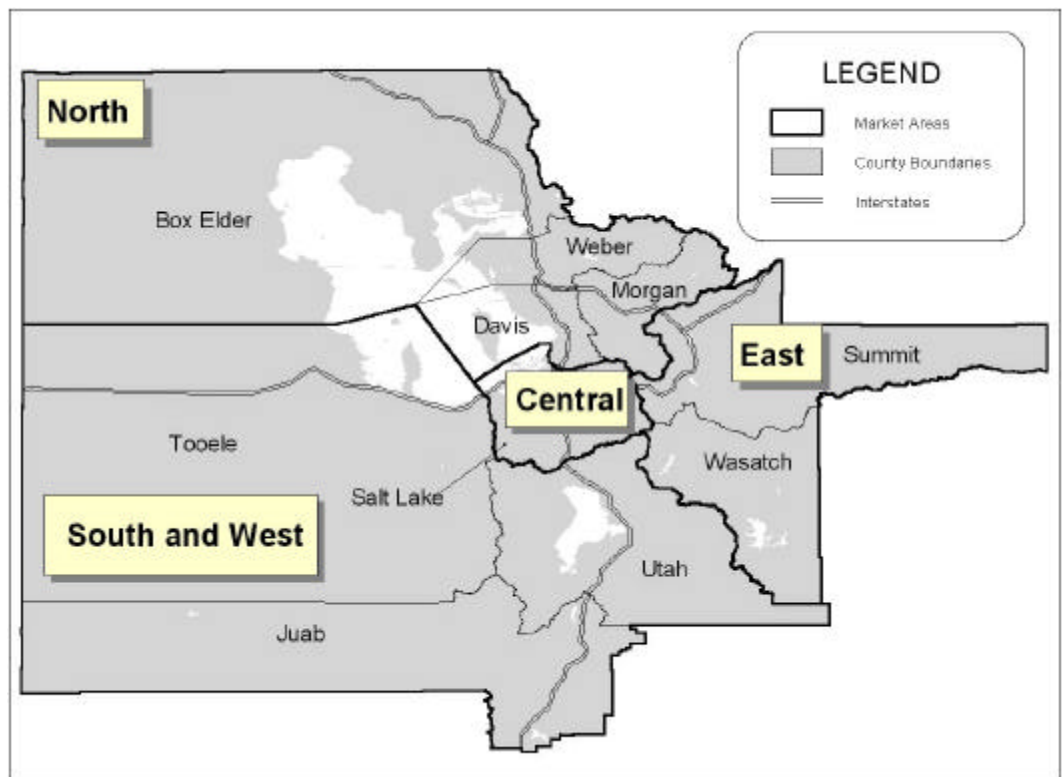
Salt Lake County, which covers the central urbanized area, is its own sub-market because of its size and central city. For some counties (e.g., Box Elder, Tooele, Juab) only the very eastern portion has significant urbanization: thus, though the county boundaries are large, the county information on population and housing will be heavily weighted toward the small eastern part of those counties that is relevant to this study. Because more detailed data are available for Salt Lake, Utah, Davis, and Weber Counties, we sometimes have to

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<sup>2</sup> Several indicators of economic growth (including population) peaked in the mid-1990s and then tapered off. There are several ways to interpret this—that Utah peaked and is not in a period of decline, that Utah peaked and current conditions are a plateau, or that the downturn is merely a correction and that Utah will continue to grow at a rate faster than the U.S. The latter is the assumption behind the population and economic forecasts produced by the State of Utah.

generalize to the region from data for just those counties. Such generalizations are reasonable: collectively those four counties contain almost 93% of the population in the 10-county Greater Wasatch Area.

**Figure 1-1: Sub-markets of the Greater Wasatch Area**



- Focus on long-run demographic change, new housing, and 2020. This report is not the kind of market analysis that would go to a financial institution to justify a loan on a specific project to be built in the next year. It is long run. That focus means that we can ignore short run events that plague those types of analyses: business cycles, changes in interest rates, vacancy rates, lease rates, projects in the pipeline, and so on. The assumption is that the long-run population forecast (and the economic forecast that underlies it) is at least approximately correct—in fact, that it could not be correct unless housing were being built to accommodate that population. Thus, our task is to make defensible predictions about the amount and characteristics of new dwelling units that will be built to accommodate projected increases in population.

The main steps in our analysis are:

- Describe current and forecasted demographic and socioeconomic characteristics that have an affect on the amount and type of housing that consumers will demand and the market will build.
- Analyze the current housing market by sub-area (type of housing existing and being constructed).

- Describe how changing economic and demographic trends are expected to impact the future housing market. That description includes more than just regional data; it looks, for example, at national trends as well, since the region will be influenced by the same forces that are creating those trends. Given this study's focus on getting information useful to the evaluation of the assumptions in the Quality Growth Strategy, we focus on describing *housing change* (i.e., new construction) between now and 2020.
- Identify barriers that prevent the market from meeting current housing demand and barriers that may prevent the market from meeting future demand. We developed the list of barriers based on our understanding of the full range of barriers that can exist, and the knowledge of Free and Associates about regulatory issues in the major jurisdictions of the region.

## ORGANIZATION: WHAT DOES THIS REPORT CONTAIN?

**Chapter 2** describes conditions and forecasts for underlying economic conditions that drive the demand for housing, particularly household growth and change in household composition. A forecast of the amount and characteristics of population growth is important in any long-run regional market analysis. It is particularly important in this one because the growth for the Greater Wasatch Area, unlike that for most rapidly growing metropolitan regions, comes primarily from natural increase (births minus deaths) rather than migration. That condition makes forecasting housing demand a little more reliable because the natural increase component of growth is more stable and predictable than the migration component.

**Chapter 3** provides a theoretical and national framework for residential demand and supply analysis to set a context for the discussion of the housing market in the Greater Wasatch Area. It then examines several sources of data about demand and supply conditions in local housing markets, and discusses the implications of those data for future housing.

**Chapter 4** provides our estimates of housing absorption by type and location in the region over the next 20 years. That information will be compared by others working with Envision Utah to the housing types that come out of the modeling of the Quality Growth Strategy to test its vision of development against our assessment of how the regional housing markets are likely to perform. The hope is that the Quality Growth Strategy will result in a mix of housing types not significantly different from the ones described in this report, or, short of that, that reasons for the differences between the Quality Growth Strategy and this market analysis can be identified and justified.

**Appendix A** provides detailed tables on housing characteristics that provide a basis for some of the summary tables in Chapter 3.

**Appendix B** provides an analysis of some of the reasons that some local governments in the region have policies that are barriers to certain types of housing products.

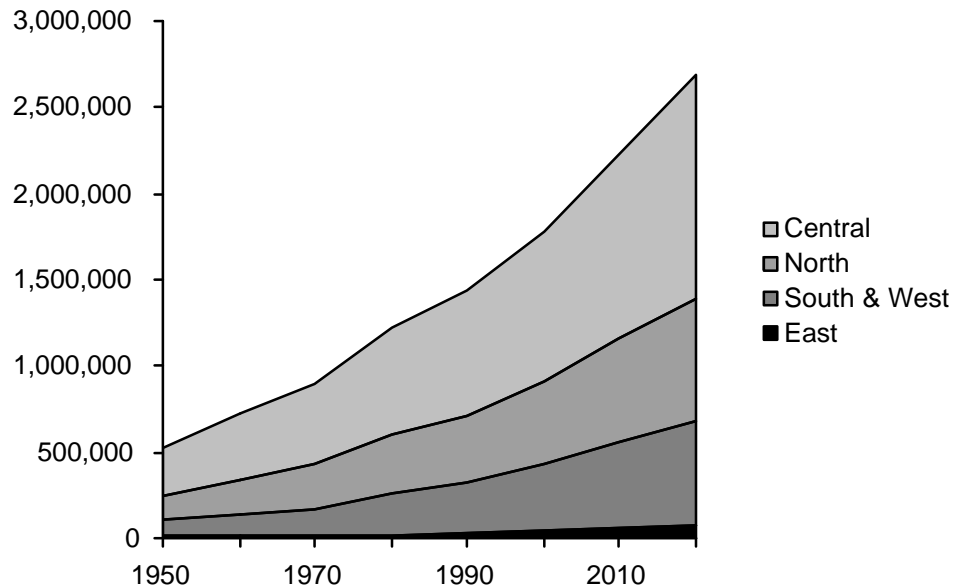


# Socioeconomic and Demographic Profile of the Region

## POPULATION: MORE PEOPLE MEAN MORE HOUSES

The population of the Greater Wasatch Area reached 1.7 million in 1998, over 80% of Utah's total population. Over half of the population in the Greater Wasatch Area is in the Central sub-market; the North and South-West sub-markets each have about a quarter of the area's population, and the East sub-market has 2–3% share. Figure 1 shows population in the Greater Wasatch Area by sub-market for the 1950–2020 period. The area grows by about half a million people, reaching 2.7 million by 2020, a 57% increase over the 1998 level. That growth rate is 2–3 times the expected average for the U.S. The share of population in each sub-market does not change substantially in this seventy-year period.

**Figure 2-1: Population in the Greater Wasatch Area, 1950–2020**

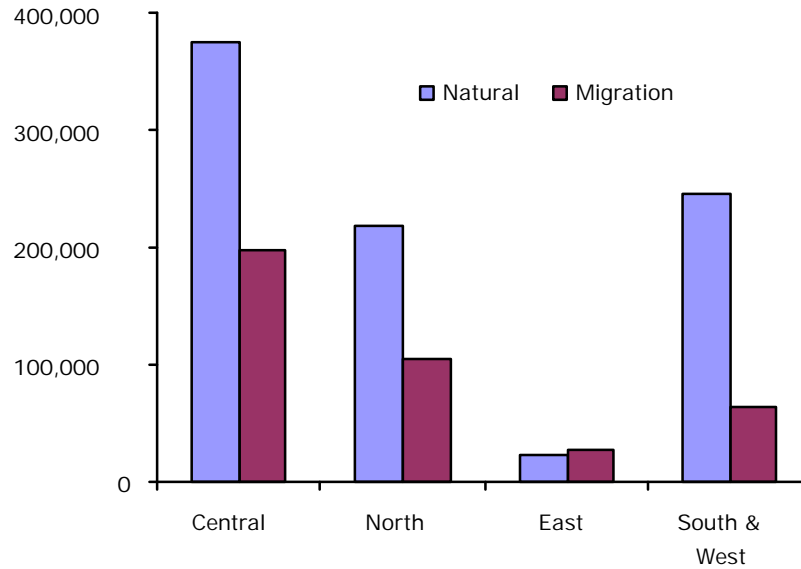


Sources: U.S. Department of Commerce, Bureau of the Census. *Population of Counties by Decennial Census: 1900–1990*. State of Utah, Governor's Office of Planning and Budget. 1997. *State of Utah Long-Term Economic and Demographic Projections*.

Figure 2-2 breaks that growth out into its components. Almost 70% of the population growth in the Greater Wasatch Area will be from natural increase (births less deaths), the rest comes from net migration (more in migration than out migration). This is much more growth from natural

increase than is found in other growing metropolitan areas in the west.<sup>1</sup> Figure 2-2 shows that both the amount and sources of population growth differs among market areas.

**Figure 2-2: Components of population growth in the Greater Wasatch Area by sub-market, 1991–2020**



Source: State of Utah, Governor's Office of Planning and Budget. 1997. *State of Utah Long-Term Economic and Demographic Projections*.

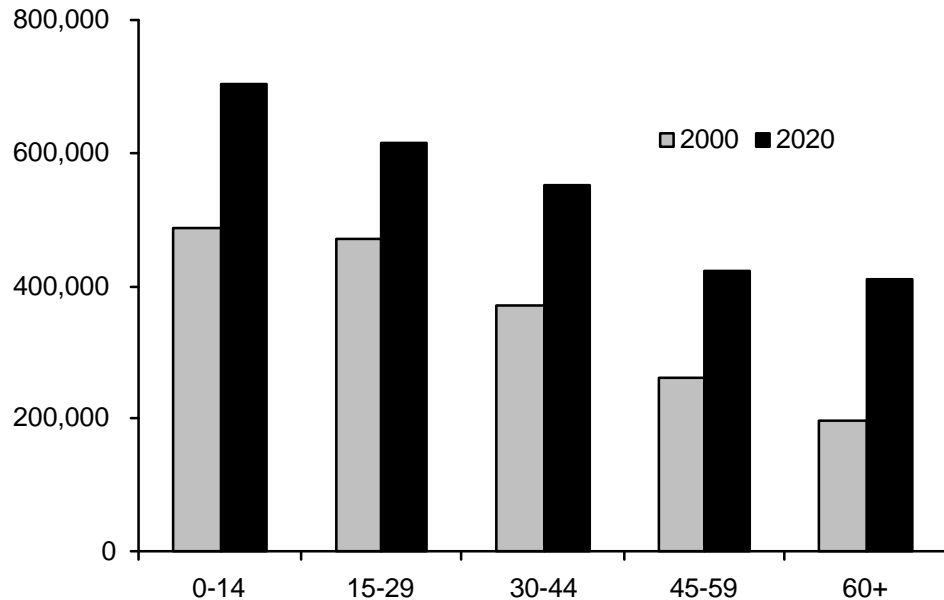
Figure 2-3 shows how the large component of natural increase affects the age distribution of the population. The age groups 0–14 and 15–29 will grow primarily from natural increase. In contrast, any growth in all other age categories must come from migration: in 20 years, none of the other age groups can grow from births into that age group.

Between 2000 and 2020 all groups grow, but by different amounts. The 0–14 age group is projected to experience the largest amount of growth, about 219,000, but its share of total population *decreases* from 27% in 2000 to 26% in 2020. The 45–59 and 60+ age groups are each expected to have less growth in absolute numbers, but they will increase in their share of total population from 15% to 16% (45–59) and from 11% to 15% (60+). The 15–29 age group is projected to have the least amount of growth (145,000) and decline in share of population from 26% to 23%. Compared to the United States, the Greater Wasatch Area has a younger population and this condition is expected to continue through 2020, with the Greater Wasatch Area maintaining a larger share of population in the 0–14 and 15–29 age groups.

<sup>1</sup> For comparison, in the Willamette Valley of Oregon, an area about the size and population of the Greater Wasatch Area, only 30% of the growth is expected to come from natural increase.



**Figure 2-3: Population by age cohort in the Greater Wasatch Area in 2000 and 2020**



Sources: State of Utah, Governor's Office of Planning and Budget. 1997. *State of Utah Long-Term Economic and Demographic Projections*. Population summarized by sub-market area by ECONorthwest.

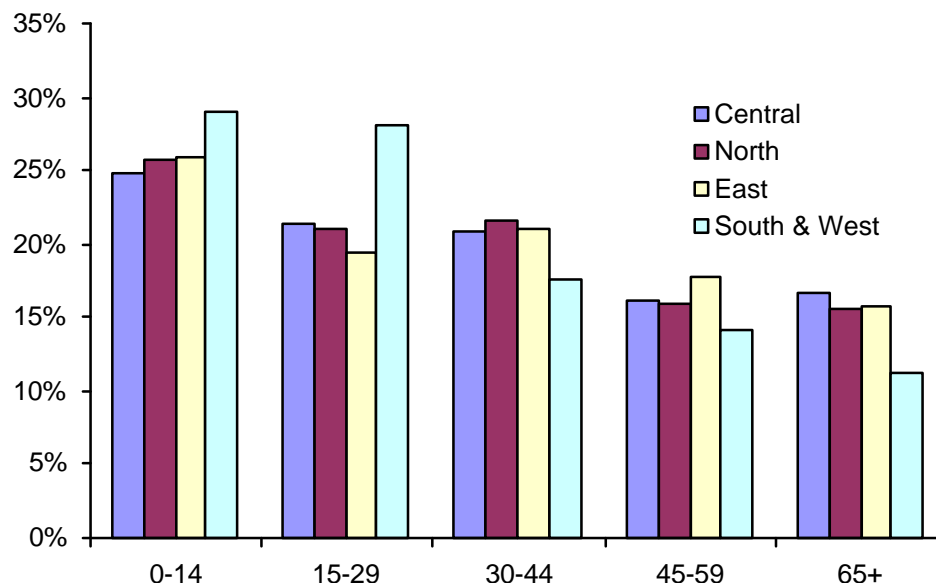
Figure 2-4 shows the projected 2020 distribution of population by age by sub-market in the Greater Wasatch Area. The age distribution is expected to be relatively similar among the sub-markets, with the exception of the South & West market, which has a larger share of population in the 0–14 and 15–29 age groups. Those demographics suggest relatively more families in that sub-market, and a more suburban pattern of development.

Utah's pattern of births has been quite different from the nation's. The U.S. and Utah experienced a post-war baby boom beginning in 1946, but Utah's baby boom extended two decades beyond the national boom, which ended in 1964. The number of births in Utah peaked in 1982, and declined for five years before resuming an upward path in 1988. Consequently, Utah's population is relatively younger, and the generation traditionally termed the Baby Boom (currently aged 35 to 53) is a smaller share of the Utah's population, compared to the national average.<sup>2</sup>

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<sup>2</sup> Utah State Data Center. 1998. "Tracking the Baby Boom." *Utah Data Guide* (Spring/Summer).

**Figure 2-4: Distribution of population by age cohort in the Greater Wasatch Area in 2020**



Source: State of Utah, Governor's Office of Planning and Budget. 1997. *State of Utah Long-Term Economic and Demographic Projections*. Distribution calculated by ECONorthwest.

The age distribution in the Greater Wasatch Area will affect the composition of housing demand and the types of housing provided. Compared to the United States, the Greater Wasatch Area will have a smaller share of households in the retirement phase of their lifetime, and a larger share of young singles, young couples, and families. Given the propensities of these types of households, one should expect (all else being equal) the regional market to show a larger share of multifamily rental housing, affordable housing for first-time homebuyers, and single-family housing for couples with children than national averages for similar sized regions.

## HOUSEHOLD CHARACTERISTICS: DEMOGRAPHICS AND SOCIOECONOMICS INFLUENCE HOUSING CHOICE

Expected population growth in the Greater Wasatch Area is the primary driver of demand for housing. But the type of housing people will want is influenced by their characteristics. This section discusses some key ones: household size, family type, age of household head, and household income.<sup>3</sup>

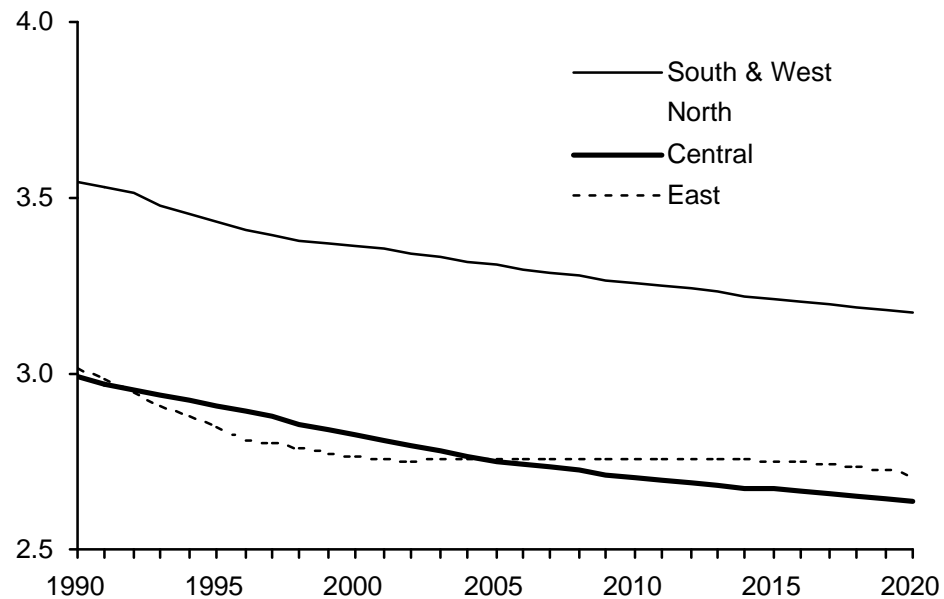
### HOUSEHOLD SIZE

Average household size in the Greater Wasatch Area was 3.15 in 1990, and household size is projected to decline steadily through the forecast period

<sup>3</sup> Chapter 3 discusses the relationship of some of these variables to housing choices.

to 2.78 in 2020. Figure 2-5 shows average household size is expected to decline in every sub-market of the Greater Wasatch Area over the 1990–2020 period. Household size in the North sub-market closely corresponds to the average for the Greater Wasatch Area as a whole. While household size in the South & West area declines over the forecast period, it remains higher than in other sub-markets.

**Figure 2-5: Average household size in the Greater Wasatch Area by sub-market, 1990–2020**

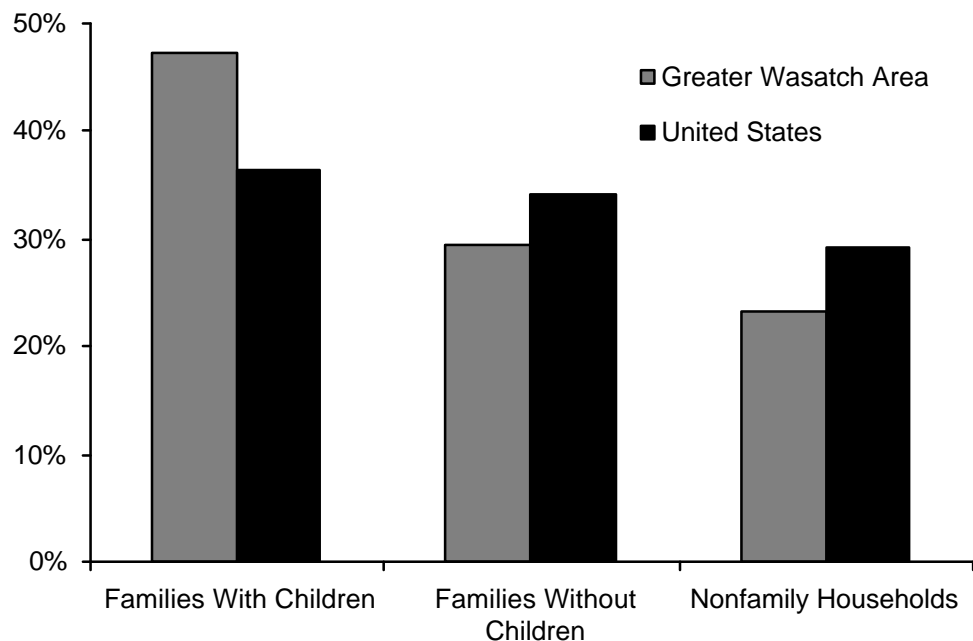


Source: State of Utah, Governor's Office of Planning and Budget. 1997. *State of Utah Long-Term Economic and Demographic Projections*.

By itself, the trend of decreasing household size should increase aggregate demand for housing units (for a given population increase, more new units will be needed when household size is decreasing because there are more households), and increase demand for smaller single-family housing and for units in multi-family structures (because of lower space needs and less income per household). As we note elsewhere in this report, however, average trends are just that: they do not apply to all households. The region will still have many large households, as Figure 2-6 demonstrates.

Figure 2-6 shows that the Greater Wasatch Area has a larger share of families with children than the United States. Demographic and cultural trends suggest that situation will continue.

**Figure 2-6: Households by family type in the Greater Wasatch Area and the United States in 1990**



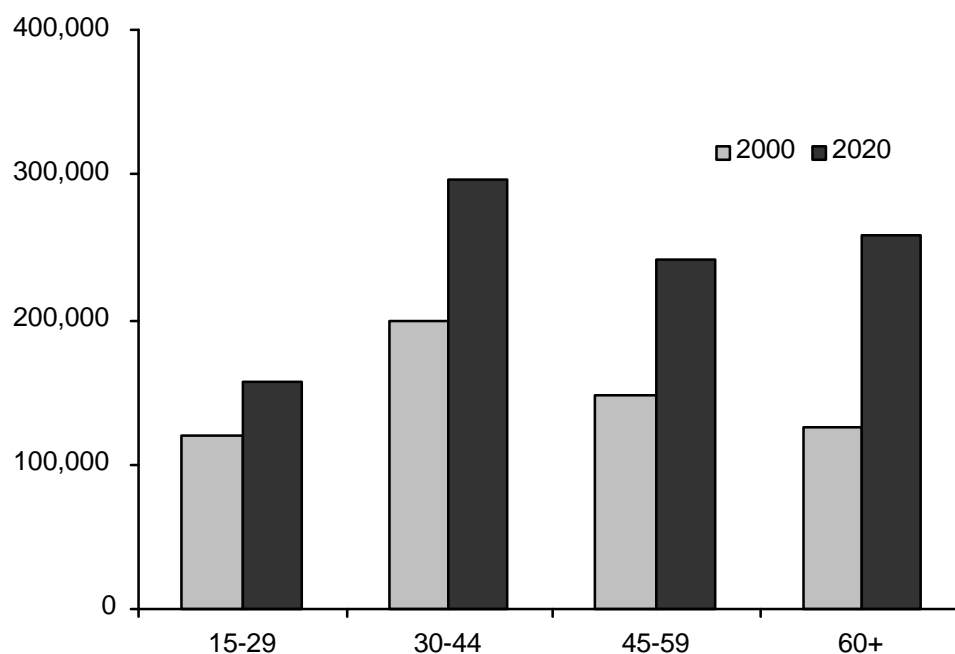
Source: Claritas, Inc. 1999. *1990 Household Profiles Report*.

A larger share of family households with children, by itself, would increase demand for single-family homes in suburban locations. But the relevant comparison for our forecasting is not the Greater Wasatch Area distribution as a percent of the US, but the current situation in the area with the future situation. In that comparison, decreasing household size tells the story best: the area may continue to have significantly more and larger families than the US average, but several things are happening to make household size decrease: more younger households, single or without children; more retirement-age households without children, and some decrease in the size of traditional families.

## AGE OF HOUSEHOLD HEAD

Figure 2-7 shows the number of households in the Greater Wasatch Area by age of household head. The number of households in all age groups grows, increasing demand for every housing type. The greatest growth is among households with a head aged 60+, which is projected to grow by 134,000 and increase its share of population from 21% in 2000 to 27% in 2020. The next-largest amount of growth is in the 30–44 group: the age at which households have families, larger household size, and needs for more space. Other things being equal, growth in this age group would be associated with more demand for larger homes and lots, single-family units, and suburban locations. But the share of households with a head aged 30–44 declines from 34% to 31%. Thus, though single-family construction will continue to have the largest share of the market, its share of all new residential construction might decrease.

**Figure 2-7: Greater Wasatch Area households by age of household head, 2000 and 2020**



Source: State of Utah, Governor's Office of Planning and Budget. 1997. *State of Utah Long-Term Economic and Demographic Projections*. Households summed by age and area by ECONorthwest.

## HOUSEHOLD INCOME

Total personal income data for the U.S. and State of Utah shows that Utah's level of per capita income was 75% of the U.S. average in 1990, and climbed to near 80% of the U.S. average by 1998. A projection of personal income for Utah shows per capita income in the state is expected to remain at around 80% of the national average through 2045.<sup>4</sup>

These aggregate figures and comparison to US averages are not very useful, however, in answering questions about the ability of households in the Greater Wasatch Area to purchase housing. At the most basic level, the economy and real incomes are expected to grow in the area, so (all else being equal) the average household will have more income to purchase housing services. But that analysis is admittedly superficial and assumes away or otherwise does not address several key questions. For example, could a combination of land constraints, public policy, and stronger than expected growth lead to real increases in housing price? And though incomes may be growing on average, what is the distribution of that income and the implication for who will be buying what type of new housing?

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<sup>4</sup> U.S. Department of Commerce, Bureau of Economic Analysis. 1995. *BEA Regional Projections to 2045*. July.

What is needed to answer these questions quantitatively is some kind of model that links a regional economic forecast to a forecast of income, price levels, and housing price by type. Few such models exist; none is available for the Greater Wasatch Area, nor could it be developed given the budget and schedule for this project. Thus, we are left with making some type of qualitative assessment of the impacts of changes in household income on future housing production and absorption. We make this assessment in Chapter 3.

# The Greater Wasatch Area Housing Market

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## CONTEXT: HOW HOUSING MARKETS WORK<sup>1</sup>

A 20-year forecast requires many assumptions about the future. The purpose of this section is to provide a context for the assumptions we will make about factors that influence the housing market in the Greater Wasatch Area. This section first identifies those factors, their relative importance, and the relationships among them. It then describes some long-run national trends and forecasts for these factors.

## THEORY: KEY FACTORS INFLUENCING CONSUMER HOUSING CHOICE

Our model for forecasting housing demand in the Greater Wasatch Area is based on a few key variables.<sup>2</sup> Population is forecasted outside the model, as are households (which derive from population by making assumptions about persons in group quarters and average household size). Households get converted to needed housing units through assumptions about vacancy rates. Implicit in that simple relationship are multiple assumptions about the interactions among demographic, socioeconomic, and price variables, and their influence on future demand for housing by type.

The myriad of factors that affect larger inter-regional location decisions are already considered by the forecasters (either explicitly or implicitly) in long-run population and employment forecasts. Thus, the primary question is:

Given the estimated number of households (population) that is forecasted for the region and each county in the region, what factors will most strongly influence the type of structure (tenure, size, price) those households choose, and how can knowledge of those relationships be used to predict the future mix of structure types and tenure for counties in the Greater Wasatch Area?

One way to forecast housing demand is with detailed demographic and socioeconomic variables. No regional housing analysis can expect to build from the preferences of individual households—one could not measure the preferences of all existing households or know what specific households would

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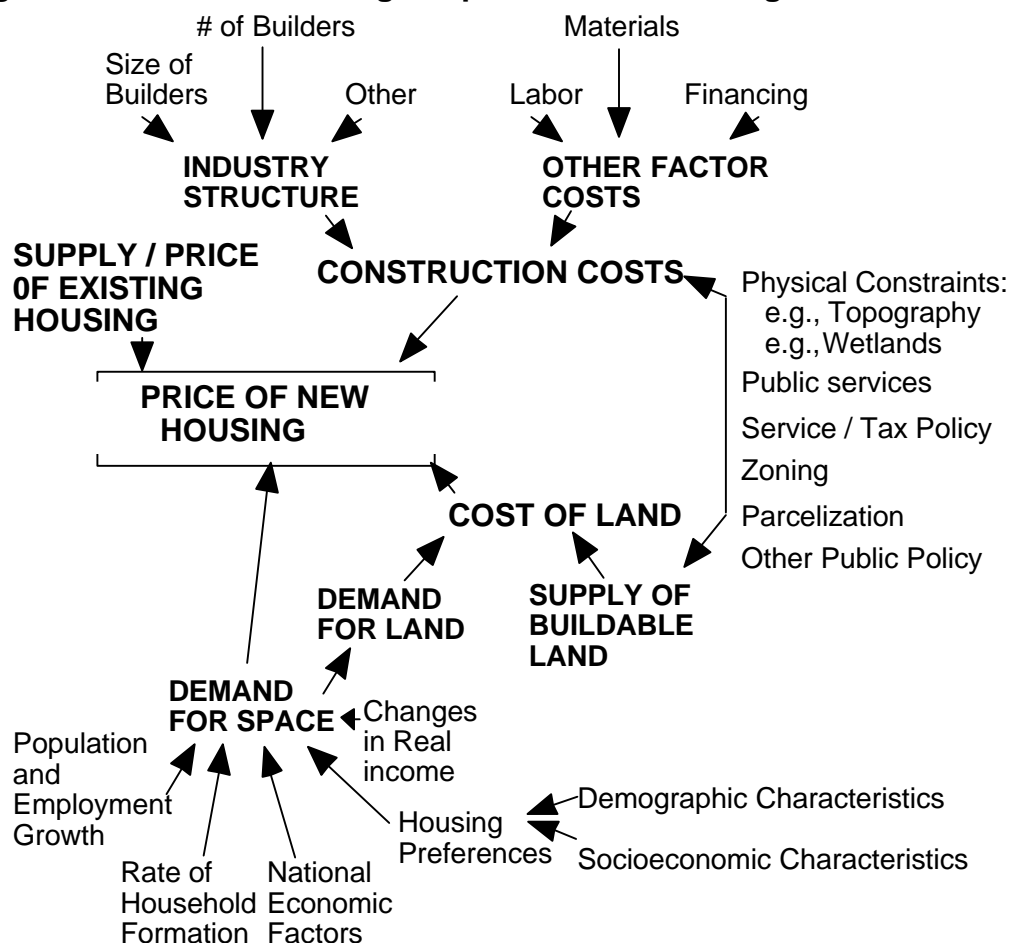
<sup>1</sup> This section draws heavily on previous work done by ECONorthwest.

<sup>2</sup> By *model* we mean primarily a way of thinking about relationships between key variables that theory and empirical work suggest influence most strongly the amount and type of housing that will be demanded, built, and absorbed over the next 20 years in the Greater Wasatch Area. Our model is based on standard microeconomic and market principles and findings, and is consistent with many similar models found in the professional literature. We did not develop a computer model for forecasting 20-year housing demand.

be migrating to the region. Thus, most housing market analyses use *categories* of households on the assumption that households in each category will share characteristics that will make their housing preferences similar. While households that share general characteristics do not all behave identically, they can be shown to have statistically reliable propensities to choose certain housing types and locations. Three household characteristics strongly influence choices about residential location and housing type: age of the household head, size of the household, and income.

Attempts to categorize housing preferences are working on the demand side of the equation only—there is also a supply side: what desirable housing characteristics are available at what price? Figure 3-1 gives an example of the complexity of the interaction in an urban land market. It shows factors that influence the cost of housing. A more complete model would have to be disaggregated by type of product within each use (e.g., single-family dwelling, multi-family) and type of household with effective demand for those uses (e.g., by household size, age of household head, income), and would include a feedback between land/housing price and accessibility/transportation costs (typically measured as a function of travel time to job and shopping centers).

**Figure 3-1: Factors affecting the price of new housing**



Source: ECONorthwest, from previous work ECO has done for the City of Eugene, Oregon and the Governor's Task Force on Growth in Oregon.



The demand and supply variables in Figure 3-1 affect housing price and, therefore, housing choice. The relationships in Figure 3-1 address a request from members of the Technical Advisory Group for this study: namely, that we make an estimate of what they variously referred to as "raw" or "naked", demand, by which they mean an estimate of what housing people would purchase given their preferences and income *independent of any constraints imposed by public policy on the markets ability to supply that housing, or of any shortsightedness on the part of housing producers.*

Households have housing preferences (that are correlated with household characteristics that strongly influence those preferences—primarily age of household head and household size, but many others as well) and households have income with which they can try to purchase housing consistent with preferences. Preferences and income both affect housing choice: for example, large families may prefer large houses on large lots, but low income may constrain their ability to find such housing. The concern about "raw" demand stems from the belief that public land use policy (specifically, large-lot zoning that limits smaller single-family housing and multifamily housing in some jurisdictions) constrains the supply of denser housing types that household preferences and incomes suggest they would purchase if more were available.

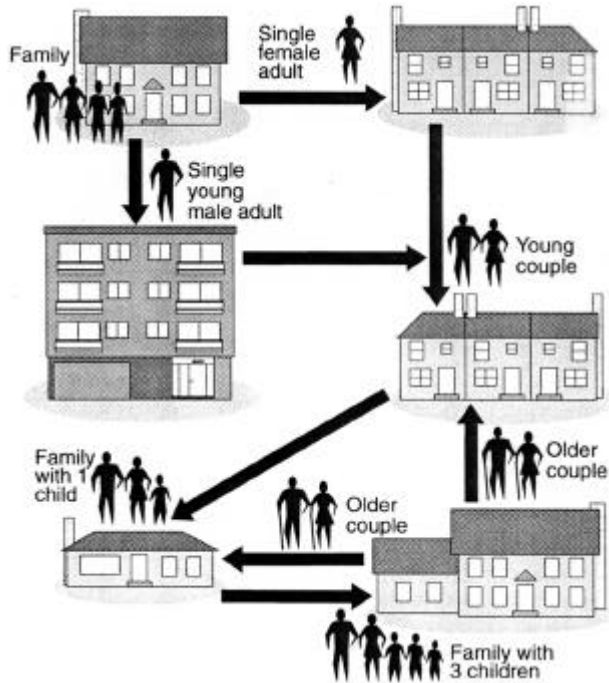
Households make tradeoffs. They do not get the housing that preferences unconstrained by budgets would suggest they would select. Their incomes and wealth forces many to take housing that is not their first choice, may not meet all their needs, and may even be substandard. But other things may constrain choice as well. Figure 3-1 shows many variables (relating not only to public policy, but to general economic conditions and the structure of the building industry) that affect that type, cost, and quality of housing that gets produced. We interpret the Advisory Group's request about raw demand to mean that we should try to estimate what would happen if land use policies that restrict density and mixed uses were eliminated, *holding all other factors that influence the supply and price of housing constant* (i.e., all the other factors in Figure 3-1).

Our scope did not include the development of an econometric model that would allow us to make such estimates rigorously. To get an approximate estimate, however, we built a simple multiple regression model to predict housing type on the basis demographic characteristics (household size, household income, and age of household head). We describe that model and the results later in this chapter.

Figure 3-1 illustrates why the number and interrelationships among factors that influence housing choice ensure that any generalization about housing choice will be wrong, at least in part. Given that caveat, we risk some generalizations:

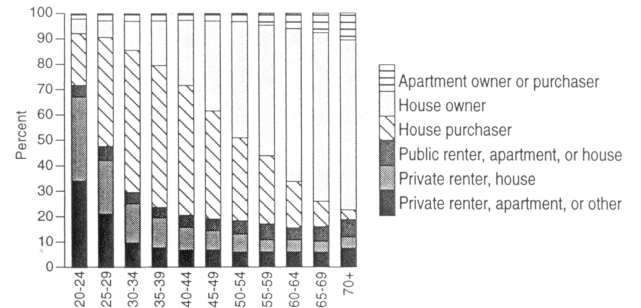
- Figure 3-2 illustrates the most common intersections of life cycle and housing career. Others are possible. The point is that housing needs and preferences change for a person or a household over time, and, on average, they change in predictable ways.

**Figure 3-2: The intersection of life cycles and housing careers**



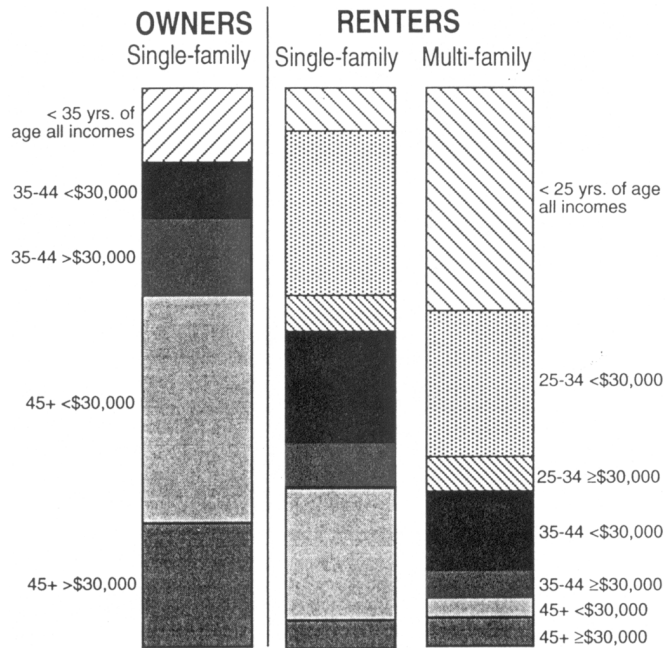
Source: Reprinted from Clark, Willam A.V. and Frans M. Dieleman. 1996. *Households and Housing*. New Brunswick, NJ: Center for Urban Policy Research.

**Figure 3-3: Tenure and household type by age of household head**



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

**Figure 3-4: Composition of owner and renter tenures for U.S. households, 1990**



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

- Age affects housing type and tenure. Mobility is substantially higher for people aged 20 to 34. People in that age group will also have, on average, less income than people who are older. They are less likely to have children (at least in the younger half of the group). All of these factors mean that younger households are much more likely to be renters than older households; renters are more likely to be in multi-family housing. Figure 3-3 shows this general pattern and also shows that it is not absolute: many young people own single-family houses, and many old people rent.
- Income affects the choice of housing type and tenure. Figure 3-4 shows how age and income related to housing type and tenure in the U.S. in 1990. It illustrates a substantial preference for single-family housing and ownership when incomes allow that choice, regardless of age.

The data illustrate what more detailed research has shown and what most people understand intuitively: life cycle 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."

Is any of this information useful for evaluating future housing need in the Greater Wasatch Area? Yes, provided one understands the limitations. What follows is a logical way to apply the information.

- Population is expected to grow in the Greater Wasatch Area. Historically, about 70% of growth has been from natural increase.
- If additional people are going to be housed, either more people have to live in existing housing, or new housing must be built. One way that more people could live in existing housing would be if a large amount of that housing were currently vacant: it is not. Moreover, the long-run trend has been to fewer people per household, not more. Thus, if one accepts the population forecast for the region, one must also accept that new housing will be built so that the growing population has some place to live.<sup>3</sup>

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<sup>3</sup> Alternatively, someone with a different perspective about growth could probably construct assumptions and analyses to illustrate that the population forecasts used for the Quality Growth Strategy are too large because a combination of economic downturn and restrictive public policies will increase the average price of housing relative to average incomes,

What kind of housing will the additional households want and be able to afford? The answer is not as simple as looking at the housing preferences of in-migrants to the Greater Wasatch Area. Consider that:

- It is not the case that new residents to an area are the predominant buyers of new housing.
- The housing choices of in-migrants are much more closely correlated to their life cycle variables (age, household size, and income) than they are to their newness to the community.
- Population growth from natural increase means existing households are in transition. Single people marry; couples have children; spouses die.

Thus, even without in-migration, housing would be traded, new houses would be built (because some people could afford to purchase a new house), and households would move.

Migration is relevant to housing demand only to the extent that migration brings in a disproportionate number of certain types of households whose propensity to migrate correlates with other life cycle variables that affect housing preferences. Exactly who is migrating to a region depends on the reasons for migration:

- In the past, and probably now, a majority of people migrate primarily for economic reasons: they come for a job. Thus, the forecast of employment is related to the forecast of housing type.
- Many people move for reasons related to quality of life. The age, household size, and incomes of these quality-of-life movers is diverse. One can imagine single college-age people moving to Utah for school and the environment; families moving to Utah for schools and to escape the stress of life in California; and retirees moving for climate or to return to their roots, family, and friends. In the first two cases, however, there has to be the opportunity for employment to make a move for quality of life economically feasible. In the last case, retirees can bring their own income.

The relationships between demographic characteristic and housing choice seem so strong that many planners and policymakers expect that one should be able to predict future housing choice based on changes in demographics. In fact, very few residential market analyses are based on explicit models of those relationships. The fundamental reasons for that fact are that the number of possible combinations of demand side variables (factors relating to preferences and ability to pay) and supply side costs is large, and that in the

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with the combined effect being less population growth. For the Greater Wasatch Area, with its high rate of natural increase, those assumptions would have to include a substantial out-migration of people aged 20 to 40.

best case one can only talk about probabilities of certain choices, not certainties. Thus, few long-run models for regional housing markets exist, and those that do are complicated to develop.

The scope for this project did not include the development of a regional model. We have presented the key variables that such a model would contain to illustrate the inherent complexity and uncertainty of such long-run forecasts, and to provide a context for the assumptions we must make about choices households will make in future housing markets.

## **CORROBORATION OF THE THEORY: EXPECTATIONS FOR NATIONAL HOUSING MARKETS**

The report *Emerging Trends in Real Estate 1999*, published by PricewaterhouseCoopers and Lend Lease Real Estate Investments, is based on interviews with 150 leading commercial real estate investors, and describes conditions that may affect commercial real estate markets in the coming year.<sup>4</sup> This report describes several long-run national trends that may affect the real estate market in the Greater Wasatch Area:

- *Cities should continue to benefit from demographic trends.* Both Generation Xers and aging baby boomers are migrating back to urban cores—young people for excitement and empty nesters for convenience and amenities. The suburbs are less attractive to these groups because single family homes are more trouble to maintain than apartments, and suburban traffic congestion has become more aggravating.
- *Increased demand for senior housing.* An aging population will increase demand for independent living residences, which cater to health seniors, and assisted-living centers, which have care facilities for residents who become ill or begin to fail.
- *People want to live closer to where they work and play.* Hectic lifestyles demand convenience. Whatever the orientation, commercial real estate markets will thrive if they have attractive adjacent residential districts. Areas cut off from good neighborhoods, or showing residential deterioration, will suffer.
- *Lifestyle trends will encourage redevelopment of obsolete or underutilized space in desirable core city or inner-ring suburban areas.* More developers will convert dinosaur malls into multi-use projects with urban features—apartments, stores, restaurants, office—or turn past-its-prime CBD office into lofts and condominiums. Some 1960s-era corporate campus sites may be rebuilt. Smart local governments should encourage this activity with tax and other incentives, fostering environments that meld residential seamlessly with commercial uses.

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<sup>4</sup> A copy of this report can be found at <http://www.lendleaserei.com>.

- *Investors see fast-growing Sunbelt markets with limited growth controls as chancier investment plays in the current real-estate cycle.* Fewer barriers to new construction leads to greater overbuilding risk, which makes these markets more volatile.

The Joint Center for Housing Studies of Harvard University analyzes the ways in which housing policy and practices are shaped by economic and demographic trends. *The State of the Nation's Housing* is the Center's annual report that identifies and analyzes demographic, economic and social trends that affect housing.<sup>5</sup>

According to the Center, the important demographic trends that will shape housing demand over the next decade are the increasing diversity of the population, the aging of the baby boomers, the higher propensity of people to live alone, and the growth in the elderly population. Specifically:

- Where migrating households choose to settle usually has a bigger effect on the rate and composition of local population growth than natural increase. Most of these mobile households are young adults, although the elderly also make up a substantial share. In keeping with long-term geographic shifts, young adult households and the elderly will migrate on net to the South and West from the Northeast and Midwest.
- States that traditionally attract retirees—Arizona, Utah, Nevada, New Mexico, Colorado, Washington, Oregon, Georgia, North Carolina, and South Carolina—will see especially fast growth in their over-65 populations.
- The aging population, and aging baby boomers in particular, will drive changes in the age distribution of households. As the leading edge of the baby boom enters the 55-to-64 age range, the number of households in this age group will grow by about 7 million. Meanwhile, the trailing edge of the baby boom will add approximately 3.5 million households to the population of 45-to-54 year-olds. And with life expectancies rising, the number of 65-to-74 year-old household heads will increase by about 2 million, and the number of over-75 household heads by more than 1 million.
- Baby boomers now reaching their 50s have moved, or are about to move, into the "empty nest" stage of life when their children leave home. As a result, couples without children under the age of 18 will be the fastest-growing family type in the years ahead. Assuming that the share of households aged 45 to 64 without children at home remains constant, the number of empty nester households will increase by about 3.2 million over the next decade.

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<sup>5</sup> A copy of the annual report can be found on-line at <http://www.gsd.harvard.edu/jcenter/Publications>.

- The number of people living alone will also increase. The average age at first marriage continues to increase, and the share of single-person households with persons born after 1940 is climbing. The number of single-person households age 65 and over will grow by 1.7 million. At the same time, the number under the age of 45 will decline by over a quarter million as the baby-boom generation moves into its late 40s and early 50s.
- Single-parent households are headed for a slowdown. With the number of women in their mid-20s to mid-30s declining by nearly 2 million between 1995 and 2005, growth of this household type will decrease before picking up again after 2005.
- Married couples with children under the age of 18 will also decrease in number, both because fewer women will be in their late 20s and early 30s, and because the last of the baby boomers will be leaving their childbearing years.
- With the over-85 population growing by 1.3 million during the first decade of the 21st century, housing suited to the health-related needs of the frail elderly will be increasingly in demand. By the time people reach their late 60s and 70s, about one in ten of those living in the community (outside of nursing homes and group quarters) requires assistance in performing the activities of daily life. As they advance into their 80s and 90s, disabilities become much more common and the share needing help increases to one in three.
- An overwhelming majority of seniors want to remain in their existing home. A large number of households with a disabled senior have a need for structural modifications to their homes to make them function safely and comfortably, such as handrails, ramps, and modifications to the bathroom and kitchen. An aging population will increase demand for home modifications in the future, and demand for these features in new residential construction.

These demographic trends have important implications for housing markets at the national level. According to the Center, household growth should average close to 1.1 to 1.2 million annually over the next decade—about the same as in the 1990s. Because the number of households is the primary determinant of housing demand, the expected stability of household growth should translate into residential construction rates that are roughly comparable to today's rates.

The Center also identifies an aging housing stock as an issue. Over the past decade, lower levels of housing construction and a greater emphasis on conservation have pushed the average age of the stock from 23 years in 1985 to 28 years.

Although it is difficult to predict how housing demand will sort itself out by structure type, the age and regional distribution of the population suggest

gains in the multifamily and manufactured housing shares. With demand for multifamily and manufactured housing strengthening, the single-family share of new construction is likely to decrease slightly in the years ahead.

We reviewed data from the U.S Bureau of Census *Current Construction Reports* to identify national trends in the characteristics of new housing. Nationally, several shifts in the characteristics of housing are evident:

- *Larger single family units on smaller lots.* Between 1987 and 1997 the median size of new single family dwellings increased 13%, from 1605 sq. ft. to 1,975 sq. ft. During the same period, the median lot size decreased 2%, from 9,295 sq. ft. to 9,100 sq. ft. Moreover, the percentage of units under 1,200 sq. ft. decreased from 13% in 1987 to 8% in 1997. The percentage of units greater than 2,500 sq. ft. increased from 26% in 1987 to 31% in 1997.
- *Larger multifamily units.* Between 1987 and 1997, the median size of new multiple family dwelling units increased 15%, from 920 sq. ft. to 1,055 sq. ft. Moreover, the percentage of units with less than 600 sq. ft. decreased from 8% to 5%, while the percentage with more than 1,200 sq. ft. increased from 18% to 27%.
- *More household amenities.* Between 1987 and 1997 the percentage of single family units built with amenities such as central air conditioning, fireplaces, brick exteriors, 2 or more car garages, or 2 or more baths increased. The same trend is seen in multiple family units: the percentage of units with two or more bathrooms increased from 39% to 49% between 1987 and 1997.

There has been a national movement over the past 15 years promoting higher-density housing in mixed-use development patterns as an alternative to typical suburban development and the problems those patterns are alleged to generate. This alternative development pattern is known by a variety of names: neo-traditional development, new urbanism, transit-oriented development, and traditional neighborhood development. While the different names refer to differences in design and setting, these development share some common characteristics:

- Higher-density housing: building and lot size are smaller than typical development, and there is a larger share of multi-family housing
- Narrow streets that link residential areas to mixed-use commercial centers
- Emphasis on walkability and alternatives to the automobile
- Traditional design
- Transit orientation
- Mixed-use commercial centers.



In the 1990s this type of development has moved from concept to reality with the construction of numerous projects around the nation. These projects range in scale from single buildings to entire communities, and occur in a variety of settings: urban infill, suburban subdivisions, transit rail stations, and ex-urban greenfields. The *New Urban News* tracks the number of traditional neighborhood developments—large-scale developments with residential areas and a commercial center—that are planned, under construction, or built in the United States. Its last survey included almost 100 projects built or under construction, and another 100 projects in the planning phase.<sup>6</sup> Some examples:

- *Northwest Landing* is a suburban greenfield development near Tacoma, Washington. Plans for this 3,000-acre development call for 4,300 homes, businesses, stores, and parks to be developed over 20 years. Northwest Landing currently has more than 550 occupied homes and apartments, and 200 new homes were sold in 1998, making it the best-selling new-home neighborhood in Pierce County. Several large employers have located in Northwest Landing, including Intel with 1,200 employees and State Farm Insurance with 750 employees.<sup>7</sup>
- *East Bay at Sloan Lake* is a dense infill development of single-family homes near downtown Denver. These homes were built with 10-foot setbacks (with porches allowed to encroach) on narrow lots (40 feet by 65 feet), on relatively narrow 35' wide streets. The result was a total of 111 homes on 13 acres, or a gross density of 8.5 units/acre. Home sizes were 1,150 to 1,776 sq. ft., and sales opened in 1995 at prices of \$130,000 to \$150,000. The homes sold at a pace of three per week, making this one of the hottest subdivisions in the Denver market.<sup>8</sup>
- *Orenco Station* is a transit-oriented development near a light rail station in suburban Portland, Oregon. When fully built, this 190-acre development will have 1,834 residential units and 500,000 sq. ft. of commercial space in the town center and office district. Since opening in 1997, the developer has sold 8–10 units/month, and units are selling at a significant premium compared to competing developments.<sup>9</sup>
- *Pleasant View Gardens* in Baltimore, is a HUD-funded urban infill development with 228 townhomes and 110 apartments for the elderly. This development used 19<sup>th</sup> century Baltimore townhomes as the model for the basic housing units, and includes a central green,

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<sup>6</sup> Steuteville, Robert. 1998. "Year of growth for New Urbanism." *New Urban News* 3 (5): 1-7.

<sup>7</sup> New Urban News. 1999. "New Urban Update." *New Urban News* 4 (1): 23. Shaw, Linda. 1998. "Small-town USA." *Seattle Times*, April 4.

<sup>8</sup> New Urban News. 1998. "Denver Project Sells Quickly." *New Urban News* 3 (4): 6.

<sup>9</sup> Halloran, Sean. 1999. "Transit Villages Coming On Line Nationwide." *New Urban News* 4 (4): 5.

community building, and relatively narrow streets with wide sidewalks. Pleasant View Gardens was built under the HUD Hope VI program that seeks to replace high-rise super-block style projects with more human-scale development that incorporates many elements of new urbanism.<sup>10</sup>

Like any real estate product, the success of TNDs varies with implementation. Requirements for a successful project include good design, savvy market research, efficient implementation, timely project approval without major compromises, a strong real estate market, and good judgement on the part of the developer.<sup>11</sup> Home and lot sales in TNDs often start out slow but pick up as the projects mature, offering more amenities in place and improved streetscapes.<sup>12</sup>

Developers have found that more affordable units are more popular, and have adjusted their development plans to provide more smaller houses on smaller lots, reducing their cost.<sup>13</sup> Affordability is critical for TNDs because they must compete for sales with typical subdivisions, which are cheaper to build. TNDs are more expensive because they usually include neighborhood greens, town squares, alleys, front porches, and quality detailing of facades. Successful developers of TNDs focus on the advantages offered by TND designs to reduce costs. The primary advantage is that not having an attached garage allows designers to simplify the design of interior space. Developers can lower costs by sticking with simple designs and applying the production techniques used by typical developments, rather than a custom-built approach. But developers cannot sacrifice quality to reduce costs, because TND marketing often emphasizes high-quality construction to offset the smaller lot size and living space.<sup>14</sup>

## **THE REGIONAL HOUSING MARKET: WHERE IT'S HEADED AND WHY**

### **INDICATORS OF PAST AND CURRENT HOUSING MARKET PERFORMANCE**

#### **NUMBER AND TYPE OF DWELLING UNITS**

In 1990, the Greater Wasatch Area had 484,900 dwelling units. About 70% of the dwelling units in 1990 were single-family; 4% were mobile or

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<sup>10</sup> New Urban News. 1998. "Hope VI: Emerging Examples of Inner City New Urbanism." *New Urban News* 3 (1): 1-7.

<sup>11</sup> Steuteville, Robert. 1998. "Year of growth for New Urbanism." *New Urban News* 3 (5): 1-7.

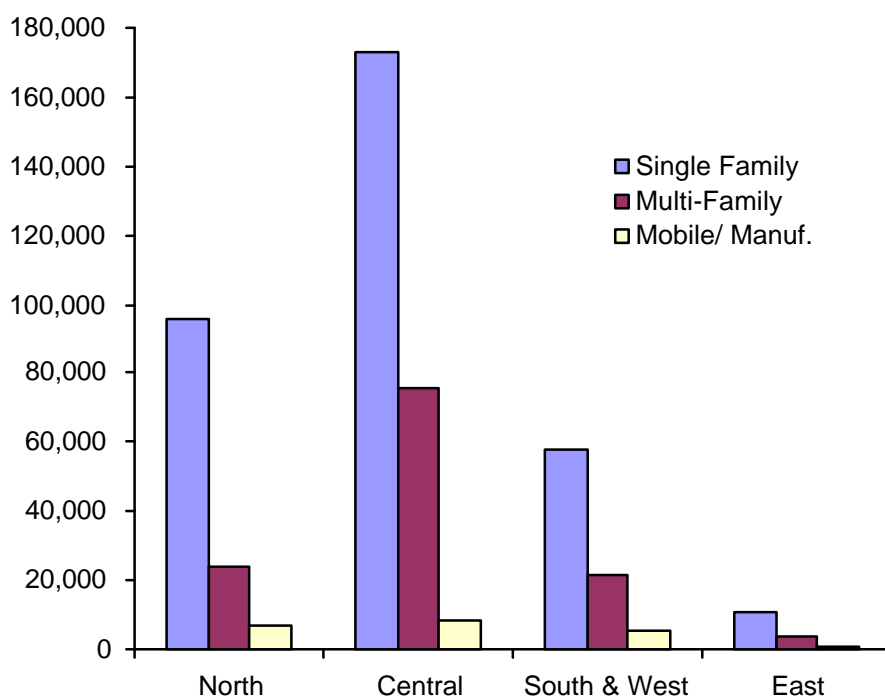
<sup>12</sup> New Urban News. 1998. "New Urbanist Projects Post Solid Sales." *New Urban News* 3 (4).

<sup>13</sup> New Urban News. 1998. "Tweaking Lot Sizes to Meet Consumer Demand." *New Urban News* 3 (4).

<sup>14</sup> New Urban News. 1998. "Taking Advantage of TND Efficiencies to Add Quality." *New Urban News* 3 (1).

manufactured homes, and the remaining 26% percent were multiple family units.<sup>15</sup> Figure 3-5 shows dwelling units by sub-market and type in 1990.

**Figure 3-5: Dwelling units by sub-market by type, 1990**



Source: U.S. Bureau of Census, Census of Population and Housing, 1990

Analysis of 1990 Census data by sub-market shows that counties in the North region have a higher percentage of single-family units than the average (78%), while the Central region has a lower percentage (67%). Some counties have a very high percentage of housing in single-family units: Morgan (92%), Wasatch (86%), Juab (83%), and Box Elder (82%). These data suggest a strong preference in the suburban and rural areas for single-family housing.<sup>16</sup> Other findings include:<sup>17</sup>

<sup>15</sup> Because this report uses data from several sources, some of which have different definitions of housing types, one needs to interpret the numbers as approximations or read the definitions in Appendix A carefully. The main confusion results from the census definition of "single-family attached," which is primarily multi-family structure type with ownership tenure.

<sup>16</sup> Because the data are all at the county level, it masks differences between cities and unincorporated areas. To provide a structure for describing these differences, we categorized counties as either Urban, Suburban, or Rural. Salt Lake County is the urban center for the Greater Wasatch Area and is classified as the only Urban County. Counties surrounding Salt Lake County that have satellite communities were considered suburban: Davis, Weber, and Utah counties. All other counties in the study area were considered Rural: Box Elder, Morgan, Juab, Tooele, Wasatch, and Summit. Obviously, both the Suburban and Rural counties contain urban areas—the classification is a rough one to characterize the role of each county in the regional housing market.

<sup>17</sup> Tables A-1 and A-2 in the Appendix provide more detail on housing in the Greater Wasatch Area in 1990.

- Counties with higher populations and larger cities have more and higher percentages of multiple-family housing. Moreover, the percent of units in larger complexes (20 or more units) is higher in larger counties.
- Summit County had the highest percentage of single-family attached housing and apartments with 50 or more units in 1990. This reflects the County's recreational amenities and tourism industry.
- Rural counties tend to have a higher proportion of housing in mobile or manufactured homes. Tooele, Juab, Wasatch, and Box Elder Counties had the highest percentages of mobile and manufactured homes in 1990.

About two-thirds of households in the Greater Wasatch Area were homeowners in 1990. Homeownership rates ranged from a low of 64% in the South and West sub-market, to a high of 73% in the North and East sub-markets. The homeownership rate in the Central sub-market was 65% in 1990. Homeownership rates at the county level show more variation. The smaller rural counties tended to have higher ownership rates than the larger, more urbanized counties.

The 1990 Census data for the Greater Wasatch Area underscore the relationship between income, size of household, age, and housing tenure<sup>18</sup>:

- Households in higher income categories, regardless of household size or age of household head, have higher home ownership rates.
- With the exception of households with incomes over \$45,000, households with household heads aged 15-24 are more likely to rent than to own. Homeownership rates increase for those households with three or more members.
- Homeownership tends to increase with age up to age 65, regardless of household size or income. By age 65, homeownership rates stabilize or decrease slightly.

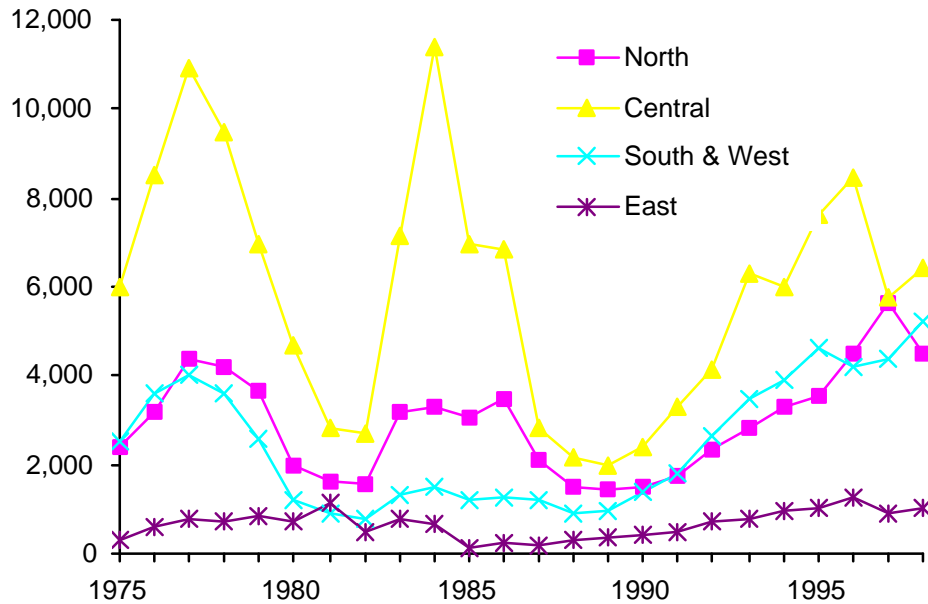
While the 1990 Census is perhaps the most accurate data source for housing characteristics, it is nearly 10 years old. ECONorthwest reviewed building permit data to supplement Census data. Figure 3-6 shows residential building permits issued for all new residential construction by sub-market for the period between 1975 and 1998. This figure includes permits for single-family, multi-family, and mobile/manufactured home residences. It illustrates the cyclical nature of the building industry (a trough during the high interest rates and recession of the early 1980s; a small boom in some counties, fueled in part by tax policies encouraging multi-family housing in the mid-1980s; a drop as overbuilding leads to high vacancy rates

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<sup>18</sup> See Table A-18 for the cross-correlation of income, household size, age, and tenure in 1990.

in the late 1980s; and relatively steady growth in the growing economy of the 1990s).

**Figure 3-6: Permits issued for new residential construction by sub-market, 1975-1998**



Source: Bureau of Economic and Business Research, University of Utah.

Note: Includes permits for single-family, multi-family, and mobile/manufactured home residences.

Figure 3-7 shows permits issued for new residential construction by type between 1990 and 1998 in the Greater Wasatch Area. Nearly 120,000 building permits were issued in the Greater Wasatch Area between 1990 and 1998.<sup>19</sup> More than 42% of the building permits issued between 1990 and 1998 were in the Central sub-market.

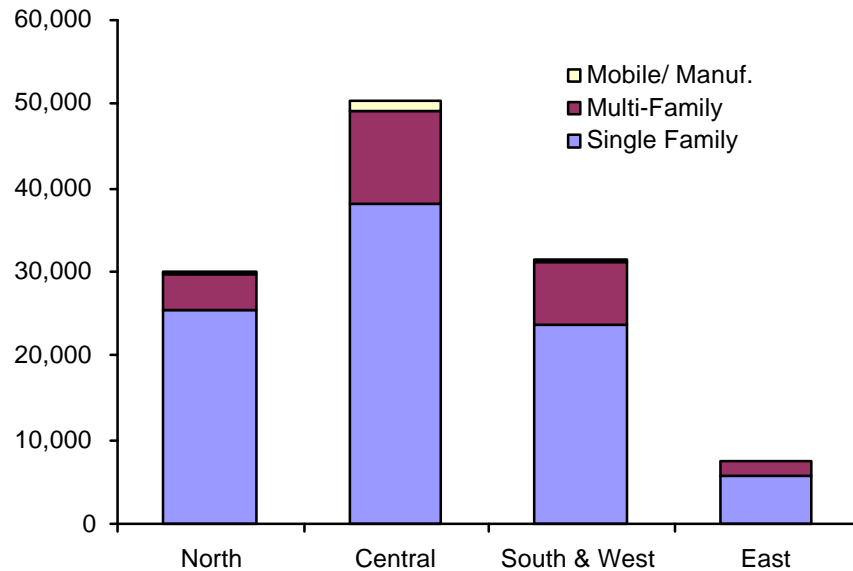
Single-family permits have dominated new construction: 73% of building permits issued between 1990 and 1998 in the 10-county area were for single-family attached units. Analysis at the county level, however, shows variation. Permits for single-family units made up more than 90% of total residential permits in Morgan and Juab Counties, but less than 70% of total residential permits in Utah and Summit Counties. Other trends are evident in the building permit data:

- Single-family dwellings accounted for a larger share of all development between 1990 and 1998 than housing that existed in 1990.

<sup>19</sup> Tables A-3 and A-4 provide a breakdown of building permits issued for new residential construction by type of unit between 1990 and 1998 in the Greater Wasatch Area.

- Single-family attached units (condominiums, row houses, and townhouses) accounted for a slightly larger share of development between 1990 and 1998 than existed in 1990. Single-family attached units accounted for 10% of permits issued in Utah County, and 12% of permits issued in Summit County.

**Figure 3-7: Building permits issued by region and type, 1990-1998**



Source Bureau of Economic and Business Research, University of Utah

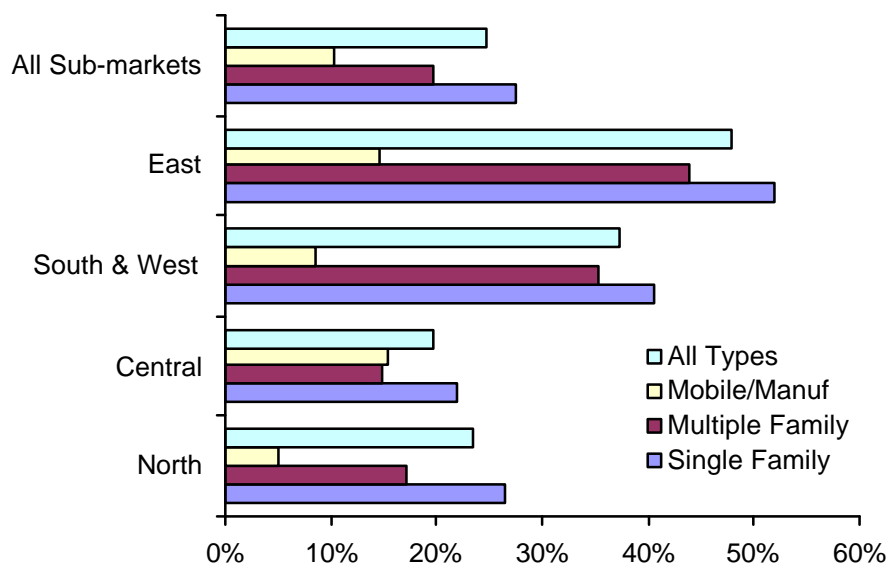
- The percentage of permits issued for apartments decreased slightly between 1990 and 1998 when compared with units that existed in 1990. This is primarily a result of a decrease in permits issued for apartments with 3 or 4 units.
- The percentage of permits issued for mobile and manufactured homes between 1990 and 1998 decreased in all counties compared to existing housing in 1990.

Despite some shifts in the percentage of individual housing types built between 1990 and 1998 (compared to the percentage of total housing stock each of these types accounted for in 1990), the magnitude of the shifts has not significantly affected the overall distribution of the housing stock by type. In other words, the relative shares of different housing types in 1999 are not very different from the shares in 1990. This finding supports our assertion elsewhere in this report that the future often looks a lot like the past, if for no other reason than that the existing housing stock is usually large relative to the new stock expected during a forecast period.

Figure 3-8 shows the percent increase in dwelling units by type and sub-market between 1990 and 1998. The percent increase for single-family was

higher than for other housing types in all sub-markets. In other words, in the 1990s, the percentage of housing in the region that is single-family increased.

**Figure 3-8: Change in dwelling units by type and sub-market, 1990-98**



Source: Bureau of Economic and Business Research, University of Utah

Using 1990 Census data and building permit data,<sup>20</sup> ECONorthwest estimates that the Greater Wasatch Region had 604,385 dwelling units as of January 1999. This is a 25% increase in dwelling units between 1990 and 1998, or a 2.5% average annual growth rate for the area. The percentage of single-family units increased 1% to 3% per year in every sub-market between 1990 and 1999. Table 3-1 shows the details.

## DENSITY (LOT SIZE) OF DWELLING UNITS

Analysis of other housing characteristics such as dwelling unit and lot size are important for developing a forecast of new housing in the Greater Wasatch Area. ECONorthwest analyzed two databases that contained information on dwelling unit and lot size: tax lot data from county assessment records for Davis, Salt Lake, Utah, and Weber Counties; and Multiple Listing Service (MLS) sales data for the Greater Wasatch Area.

Figure 3-9 shows density of development by housing type based on assessment data for Davis, Salt Lake, Utah, and Weber Counties.<sup>21</sup> Density is measured as *dwelling units per net residential acre*, which means that only the acreage in an actual residential lot is included in the denominator (i.e., no

<sup>20</sup> See Appendix A for a discussion of methods and limitations of the estimates.

<sup>21</sup> The results are based on records for about 424,000 dwelling units, about 77% of the dwelling units in the four counties.

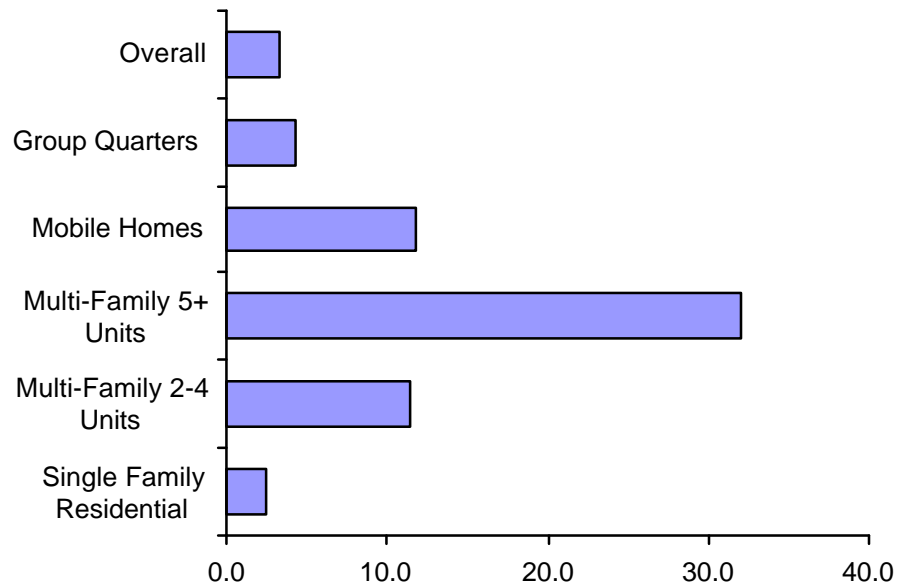
non-residential land is included).<sup>22</sup> This data source shows the four-county area had an overall density of 3.3 dwelling units per net residential acre.

**Table 3-1: Estimate of dwelling units by sub-market and type, 1999**

Region	Single-Family Detached	Single-Family Attached	Duplex	3-4 Units	5 + Units	Mobile/Mfg.	Total
North	115,596	5,825	5,620	7,471	15,186	7,425	157,123
Central	199,331	12,019	14,059	13,165	59,413	9,833	307,820
South & West	76,210	5,532	7,084	6,961	14,731	5,680	116,198
East	14,385	2,582	799	681	3,724	1,073	23,244
<b>Total</b>	<b>405,522</b>	<b>25,958</b>	<b>27,562</b>	<b>28,278</b>	<b>93,054</b>	<b>24,011</b>	<b>604,385</b>
North	74%	4%	4%	5%	10%	5%	100%
Central	65%	4%	5%	4%	19%	3%	100%
South & West	66%	5%	6%	6%	13%	5%	100%
East	62%	11%	3%	3%	16%	5%	100%
<b>Total</b>	<b>67%</b>	<b>4%</b>	<b>5%</b>	<b>5%</b>	<b>15%</b>	<b>4%</b>	<b>100%</b>

Source: U.S. Bureau of Census, 1990 Census of Population and Housing; BEBR, Utah State University, 1999; estimates by ECONorthwest, 1999.

**Figure 3-9: Density (dwelling units per net residential acre) by housing type, Davis, Weber, Salt Lake, and Utah Counties, 1999**



Source: State of Utah, Automated Geographic Reference Center. 1999. Parcel-Level Data Provided by Stuart Challenger.

<sup>22</sup> Thus, the measure can be converted directly into average lot size by dividing it into 43,500 square feet per acre (e.g., a density of 5 units per net residential acre converts to an average lot size of about 9,000 square feet).



Analysis of single-family development in the four-county area by lot size shows that 46% of single family homes are on lots between 10,000 and 20,000 square feet.<sup>23</sup> About 11% of single-family units are on lots smaller than 5,000 square feet, while about 22% of the units are on lots between 5,000 and 10,000 square feet. Other observations regarding density of single family development:

- A long-run analysis of single-family residential densities by year built shows no clear trends. Single-family residential densities ranged from a low of 2.2 dwelling units per net acre in the 1930s, to a high of 3.5 dwelling units per net acre in the 1920s. In the 1990s, single-family densities averaged 2.9 dwelling units per net acre, compared to 3.4 dwelling units per net acre in the 1980s.
- The distribution of lot size by year built shows an increasing preference for lots between 5000 and 20000 square feet. Before the 1930s, lots under 5000 square feet typically accounted for more than one-quarter of all lots; after 1940, lots under 5000 square feet accounted for less than 10% of all lots. The share of lots of 20000 square feet or more has not changed substantially over time.
- Overall single-family densities are higher in the more urbanized counties. Salt Lake County had the highest single-family residential density of the four counties: 4.7 dwelling units per net acre. Davis and Weber Counties had single-family densities of 2.7 dwelling units per net acre and 2.6 dwelling units per net acre. Utah county had a single-family density of 1.3 dwelling units per net acre.

Figure 3-10 shows the average size of single-family dwelling units by year built based on assessment data for Davis, Salt Lake, Weber, and Utah Counties, and MLS data for the Greater Wasatch Area. The size of dwelling units indicated by MLS sales data is substantially higher than the size based on assessment data,<sup>24</sup> but both data sources show an overall trend of increasing home size, with a large increase for units built in the 1990s. This finding is consistent with national trends.

Table 3-2 shows an assessment of lot sizes from another data source for a more recent period. It shows lot sizes from the recording of plats (for the last nine quarters up to the first quarter of 1999) in Davis, Salt Lake, Utah, and Tooele counties.<sup>25</sup> These data are probably the best for estimating recent trends in housing size and type.

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<sup>23</sup> See Table A-9 in Appendix A.

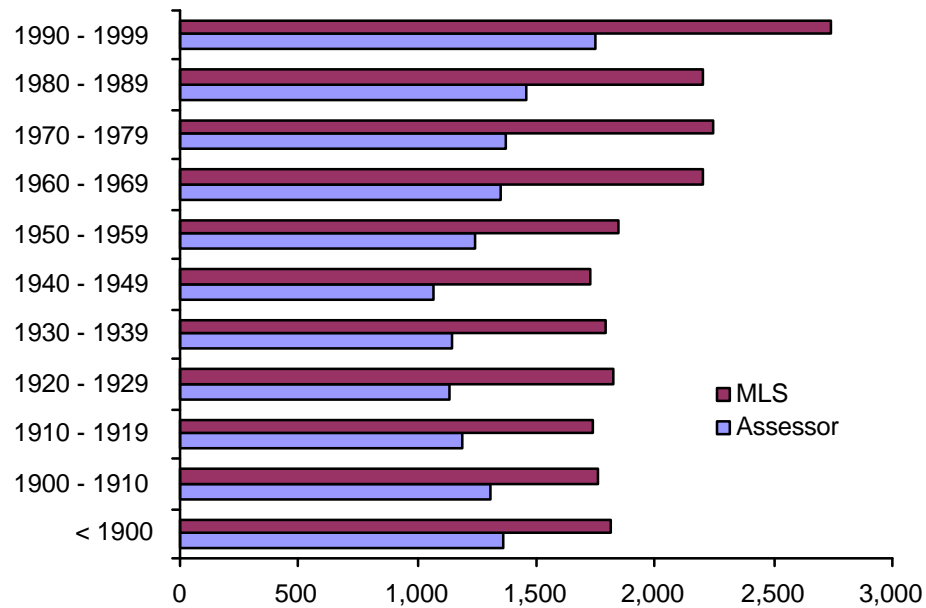
<sup>24</sup> One explanation is that there are some systematic differences in the way dwelling unit size is reported in the two data sets. Alternatively, if the data are comparable and accurate, the best (perhaps only) explanation for the difference is that bigger houses are disproportionately represented in MLS sales data.

<sup>25</sup> From The Meyers Report, summarized by Free and Associates. Estimates are for the only counties covered by the Meyers Report. Estimates are based on zoning and minimum lot size, so they may underestimate average lot size.

Other findings concerning dwelling unit size include:

- Based on analysis of MLS data, lot sizes increase with dwelling unit size up to lot sizes of between 0.5 and 1 acre. The average dwelling unit size was 1,521 square feet for lots under 5000 square feet; the dwelling unit size increased to 3,177 square feet for lots between 0.5 and 1 acre. Average dwelling unit sizes decreased to 3,061 square for lots between one and five acres, and to 2,099 square feet for lots over five acres.

**Figure 3-10: Average size of single-family dwelling units by year built**



Source: State of Utah, Automated Geographic Reference Center. 1997. Assessor data provided by Stuart Challenger; Greater Wasatch Multiple Listing Service.

**Table 3-2: Percent of new units by type and lot size, by county, 1997-1999**

	Davis	Salt Lake	Tooele	Utah
<b>Multi-Family</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
Stacked Flats	43%	59%	15%	61%
Twinhomes	57%	41%	85%	39%
<b>Single-Family</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
< 6,000 sq. ft.	10%	12%	16%	14%
6,000-10,000 sq. ft.	50%	60%	70%	54%
10,000-16,000 sq. ft.	31%	22%	7%	17%
16,000-20,000 sq. ft.	3%	1%	0%	5%
>20,000 sq. ft.	7%	5%	7%	10%

Source: Units from recorded plats assembled by Free and Associates from *The Meyers Reports*

- Average dwelling unit size (in square feet) has increased consistently since the 1940s. Based on assessment data, the average size of a

single-single family dwelling unit was about 1,080 sq. ft. in the 1940s; it increased to 1,902 sq. ft. in the 1990s. The largest increase in dwelling unit size (21%) occurred between the 1980s and 1990s, in large part because Utah's large baby-boom cohort reached peak child-rearing ages during these years and increased real income from the state's economic expansion.

## **FACTORS AFFECTING FUTURE HOUSING PRODUCTION IN THE REGION**

The point of describing the trends in the previous section is to provide a basis for estimating what might happen in the future. The section on how housing markets work at the beginning of this chapter make it clear that many economic, demographic, cost, and policy variables affect housing preferences, income for purchasing housing, housing price, and, ultimately, the kind of housing that gets built and absorbed.

Most long-run housing forecasts start with an implicit assumption that the future will be like the past or, more accurately, that future relationships will be like past relationships and the future housing market will change at the margin in ways that it has been observed to change the recent past. Implicit in the forecast is that housing producers and regulators will behave about how they have in the past.

Those assumptions do not account for big shifts in the determinants of housing choice. In this study we are adjusting explicitly for demographic shifts: the simulations in the next section are driven by shifts in household composition. But what about changes in other key variables? This section discusses some of those variables, and comes to conclusions about how we might adjust our simulations in Chapter 3 to account for possible shifts in those variables. The focus in this section is on the supply-side (cost) variables,<sup>26</sup> and particularly on those that can be influenced by public land use policies.<sup>27</sup>

## **DEMOGRAPHIC AND SOCIOECONOMIC FACTORS**

Chapter 2 describes these factors. We summarize their implications for housing forecasts in the next section.

## **PHYSICAL FACTORS**

Physical limits on the supply of buildable land will lead to increases in land and housing prices. At a regional scale, the Greater Wasatch Area is constrained by the Wasatch Mountains to the east, and the Great Salt Lake and Utah Lake to the west.

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<sup>26</sup> Because public policy barriers on the demand side are typically outside the scope of land use policy (e.g., economic development, business recruitment, job training, education, family planning: all the things that affect the key demand variables of income and preferences).

<sup>27</sup> This section draws from a more detailed discussion of some of these variables in Appendix B.

Soil conditions along the Wasatch Front and Wasatch Back are typically very good, with no problems related to collapsible or expansive soils. Other typical constraints are steep slopes, flood ways, and wetlands. But even when land with these constraints is backed out of the inventory of buildable, there appears to be ample room for urbanization for the forecasted growth for 2020. None of the four growth scenarios evaluated earlier this year found that growth could not be accommodated due to a lack of land.

Physical constraints overlap with economic and regulatory constraints: land that appears buildable can be constrained by public policy or an inability to get services economically; land that appears unbuildable because of slopes can actually develop if someone is willing to pay the cost. We discuss public service issues under the heading of regulatory factors, below.

## **ECONOMIC FACTORS**

After experiencing some of the nation's highest levels of job growth through the middle of this last decade, economic activity is now moderating. Most Utah economists, however, agree that Utah's broad-based economy will continue to perform well in the foreseeable future. The housing forecasts used in this study are linked to employment forecasts that assume long-run growth.

Thus, at a regional level there is no strong reason to believe that the state or regional economy will fail in ways that will cause households to experience significant drops in real income and modify their housing choice. That said, business cycles are a fact of life and economic recessions can occur. We do not try to incorporate them into the simulations that follow.

## **INDUSTRY FACTORS**

Housing markets do a relatively good job of meeting many of economists' requirements for efficient markets: there are many well-informed buyers and sellers. The question this section addresses is whether the characteristics of the development industry in the Greater Wasatch area is such that it systematically fails to provide certain types of housing.

One such characteristic would be the number and size of builders. If the area were dominated by a few large builders that only wanted to build to a standard pattern, innovation on housing types may be low. Alternatively, if the industry consisted of many small builders, none may have the financial resources or risk-taking capacity to build either innovative or large developments. From our review of a list of Wasatch Front general contractors, and Free and Associates knowledge of the building industry in the area, there is no reason to believe that either of these conditions exist: there are over a dozen single-family home builders that build over 100 homes a year, and over 175 that build more than 10.

A second concern often heard is that developers and builders are not educated about alternative housing types. Our experience is that what is

often identified as a lack of education is really an economic decision about risk. Developers and builders know that smaller houses can be built on smaller lots, and that they can provide more amenity in subdivisions that might be more than offset by higher housing prices. But they can also observe what kind of houses are currently selling and feel relatively confident that if they build more of the same, theirs will sell also. The building a different housing type has potential economic rewards, but it also has risks.

Thus, the composition of housing that gets built each year changes slowly. A few builders will push the envelop, they will have success, and others will then have the evidence they need to risk following. The evidence is beginning to accumulate in the Greater Wasatch Area that communities offering open space and amenities are obtaining premium values. Increased public awareness regarding environmental constraints and public service costs should support a continued shift in the future.

## **PUBLIC POLICY FACTORS**

There are at least two distinct categories of policies to consider: those relating to public infrastructure and services, and those relating to the regulation of land use.

Policies relating to public infrastructure and services can clearly have big impacts on the location, rate, type, and cost of development. The scope of this study did not include an evaluation of those factors. To some extent they have already been considered in other parts of Envision Utah. For example, the GOPB considered constraints on water supply when making the population forecasts that are driving the demand for housing in this study. Implicitly, those forecasts also consider what is probably the most important public service in housing choice: transportation.<sup>28</sup>

At the cursory level of our analysis, there are no obvious problems with major public facilities—roads, water, and sewer. The planning and modeling for the Envision Utah project did not find evidence of constraints that would preclude development (with the exception of water in some areas of some counties). As a practical matter, the population allocations by county that drive our housing allocation are a given: though they probably did not explicitly consider service constraints, implicitly they did. In other words, the population forecasts and allocations implicitly assumed that things like land supply, water supply, congestion, and housing prices would be no bigger problems in the future than they have been in the past. For the purposes of our long-run forecasts, there is not reason to adjust those forecasts based on service constraints.

Regarding land use regulation, our interviews suggest that the greatest barrier to different (denser) housing types is not a lack of interest by

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<sup>28</sup> For urban economist, the fundamental dynamic of residential location choice is the tradeoff between more accessible (usually, central) locations with higher land costs, and less accessible locations with lower land costs.

developers and builders, but constraints of local policy. A common lament of developers and builders throughout the US is that though they would be interested in trying different development patterns and structures, zoning and subdivision ordinances and building codes will not allow it, and fighting for variances costs more than it is worth.

Local governments can adopt policies to affect housing on either the demand or supply side of the housing market. Direct demand-side policies for housing, however, are limited, as are programs that directly increase effective demand by stimulating jobs and higher wages. The great majority of public housing policy aims at the supply side. Most directly, some public agencies add to supply directly by building housing. Most policies, however, affect only some aspect of the cost of housing production: e.g., the supply and pricing of infrastructure; low-interest loans for lower-income housing; federal and state programs to reduce housing cost by subsidizing rents; and rezoning policies that change the supply (and, potentially, the price) of buildable land for different housing types.

The impact of federal and state housing on the regional supply of housing is relatively small. By far the biggest impact that local housing policies can have is on housing markets is through land use and public facilities.

Our interviews suggest that many municipalities restrict housing types that the market would otherwise provide. The tables at the end of Appendix B provide anecdotal corroboration, showing that many areas of the region have permitted only low-density units in the last two years.

The pattern of land ownership in Utah has typically consisted of farms being divided and handed down to subsequent generations over many years. As a result, most land parcels are now less than 20 acres in size, making it very difficult to achieve the economies of scale necessary to master plan large open space and common area amenities. This condition presents particular challenges to national production builders who depend on the high level of perceived value generated by large master planned communities. For this reason, many of the larger master planned communities are being developed outside the normal development corridors, in areas where large land parcels are still available. Such communities include Saratoga Springs, Eagle Mountain and The Ranches at Eagle Mountain, all of which are located in northwestern Utah County, at least twenty miles from any major employment centers.

## **SIMULATIONS: POSSIBLE FUTURES FOR HOUSING DEVELOPMENT IN THE GREATER WASATCH AREA**

### **IMPLICATIONS OF THE ANALYSIS FOR SIMULATIONS OF THE FUTURE HOUSING MARKET**

One way to simulate the future is to assume that it will replicate the past. For short-run forecasting economic and housing variables for large regions,

that assumption is reasonable place to start. The smaller the region and long the forecasting period, however, the greater the possibility that growth can move off the trend line.

Moreover, the variables driving the trends in housing can change. Some, like demographics, are relatively predictable and change slowly. Others, like economic growth and public policy, can change substantially over a five-year period. The Technical Advisory Group's concern with "raw" demand implies a belief that public policy and market conditions can change in ways that make the composition of future housing construction look different from its composition in the recent past.

The possible combinations of changes in variables that will affect housing are infinite. The key issue for this study and for the evaluation of the market reality of the Quality Growth Alternative is whether the future housing market will produce housing in the next 20 years of types and in quantities that look like today's housing products, or whether it will shift. Following is our summary of the impacts on housing production and absorption.

- *Number of housing units.* The evidence here is relatively solid. The economic forecasts are for growth. The demographic forecasts are consistent with the economic forecasts and relatively predictable: the population will grow primarily from natural increase, which means that the population will age; household size will decrease; and overall, the Greater Wasatch Area will have to provide housing for an additional 363,000 households over the next 20 years.
- *Type of housing structures.* The long-run and recent trends for the area are consistent: roughly 70% of the dwelling units are single-family detached.

Expected changes in economics and demographics have different effects on housing demand. Expected growth in real income means that, on average, households will be able to spend relatively more on housing than they do now. On the one hand, the evidence is strong both nationally and regionally that such increases in income have manifested themselves in choices of single-family units and increasingly larger dwelling-unit square footage. On the other hand, average lot size has remained relatively stable. Thus, the expected growth in income does not necessarily mean households will purchase more large-lot dwellings. The expectation nationally is that the money will go into larger single-family and multi-family units with more amenities, but on smaller lots.

The main demographic changes—migration of mobile young adult and elderly households to the west, smaller household size (relatively more people living alone and as couples without children), and increasing average age of the population (less need for and ability to maintain large units and lots, more need for assisted living)—all argue for a

shift in the distribution of housing types toward smaller units and lot sizes, and more multi-family units.

Other factors also have mixed effects on housing choice. On the one hand, the large amount of potentially buildable land in the region suggests that (other things being equal) land prices can stay relatively low and average lot size can stay relatively high. Current restrictions in many localities on smaller lots and multi-family dwelling have the same effect on average lot size. On the other hand, it is certainly possible that public policy in this area could change for a number of reasons that are in evidence in other parts of the country, including public concerns about sprawl, congestion, and natural resources; and increasing fiscal pressure of trying to serve expansive development while providing infrastructure and maintaining environmental quality.

In response to all these forces, we expect more planned-unit developments in the future, which could include mixed uses, a mix of housing types, smaller lot sizes for single family units, and overall increases in housing and site amenity. A few projects have come on the market in recent months offering cluster housing with open space, walkable site plans, and generous amenities, creating a strong sense of community: Kayscreek Estates in Layton, Copper Creek Estates in South Jordan, Rosecrest in Herriman, Saratoga Springs, Eagle Mountain, and The Ranches at Eagle Mountain. Not only have these communities been successful, but have been able to realize significant value premiums, ranging from 5 to 15 percent over their competition, while maintaining comparable or superior absorption rates, primarily because of their appeal to large-production builders with strong marketing programs.

At the lower end, housing affordability will continue to be a problem in this region as it is elsewhere. As in the past, the public sector will be unable to supply resources to have much effect on the problem.

One obvious solution to the problem, beyond the scope of this study, is to provide more subsidies for housing construction to lower its cost to certain consumers. Another is to lower cost housing. Our expectation is that consumers will be more willing to give up lot size than built space, and will make various choices regarding tradeoffs between built space and amenity. The implication is a shift toward smaller lots, multifamily units, and manufactured housing.

- *Housing tenure.* The evidence is clear that increasing incomes and increasing age of household head correlate with increasing home ownership, and that single family detached homes have been the preferred form of home to own. The big question here is whether the economic forecast of increasing average real income will hold up, and how that income will be distributed. For example, if real income increases are driven largely by large increases in the upper 10% of all



households, than there might be little effect on tenure: those households already own homes.

While real income is generally expected to grow in Utah, there is no forecast from the State of Utah or other sources that indicates the expected distribution of income growth among households over the next twenty years. There is evidence that income inequality has been increasing in Utah over the last decade—a recent report<sup>29</sup> indicates that between the mid-1980s and mid-1990s the average income of the poorest fifth of families increased by \$2,190, by \$3,040 for the middle fifth, and by \$19,110 for the richest fifth. In other words, the evidence is that past increases in real incomes have been disproportionately increases for upper-income households.

We use the previous conclusions in the next section to adjust a baseline simulation. The baseline simulation is based on past trends. It is in no sense a preferred or most likely forecast: it is simply a reasonable place to start. As a first approximation, the next five years, and maybe the first 10 years, of residential growth will look a lot like the past five years. This results, in part, from inertia in housing markets: customer expectations, lending policies, existing land use and transportation policies, and residential development projects under review. Using the past trends and current composition of housing as a first approximation of the composition of new housing is reasonable.

We then prepare a second simulation that moves in the direction of the kind of development that citizens who participated in the evaluation of growth scenarios said they wanted. *That simulation is still market driven.* Housing production is determined by both market factors and public policy. In the next 20 years, both set of factors will change: the trick is predicting the direction and magnitude of the changes. In the second simulation we push the previous conclusions slightly more in the direction of the Quality Growth Strategy. In our judgment, the result is a plausible future: one that could result from plausible changes in market conditions and public policy.

The most important factor for housing is the likely decrease in family size. Average household size in the Greater Wasatch Area was 3.21 in 1990, and household size is projected to decline steadily through the forecast period to 2.89 in 2020. Smaller households mean more housing units. By itself, the trend of decreasing household size should increase aggregate demand for housing units (for a given population increase, more new units will be needed when household size is decreasing because there are more households), and increase demand for smaller single-family housing and for units in multi-family structures.

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<sup>29</sup> Center on Budget and Policy Priorities. 1997. *Pulling Apart: A State-by-State Analysis of Income Trends*. Utah Fact Sheet. <http://www.cbpp.org/pa-ut-htm>.

No amount of analysis is likely to make the long-run future any more certain: the purpose of the housing simulations is to get an approximate idea about the long run so policy choices can be made today. It is axiomatic among economic forecasters that any economic forecast more than three (or at most five) years out is highly speculative. At one year a forecast is protected from being disastrously wrong by the shear inertia of the economic machine. But trouble with the Asian economy or with petroleum supplies in the Middle East, the inevitable business cycle that will at least slow down the biggest peacetime economic boom in our nation's history, a downturn in the software industry, or any number of international, national, or regional events could cause growth forecasts to be substantially different.

## **METHODS FOR HOUSING MARKET SIMULATION**

ECONorthwest developed a spreadsheet application to simulate the distribution of housing by type, tenure, and density. The simulator uses the state's household forecasts (the ones used in Scenario B, the Baseline) as its basis. The simulator calculates the number of new households by County, and then applies an overall residential vacancy assumption to derive the number of new dwelling units ( $\text{new DU} = \text{households}/(1 - \text{vacancy rate})$ ).

It then allocates new housing units by type and tenure. To estimate the percentage of dwelling units that would be expected to be single-family, ECONorthwest conducted a regression analysis using the Public Use Micro Sample data from the 1990 Census of Population and Housing. That regression analysis estimated the percentage of housing that would be single-family based on factors that we have argued are theoretically linked to the choice of housing type including household size, age of household head, income, and number of workers in the household. The regression specification for 1990 was able to explain about 80% of the variation in structure type.

The regression model requires the distribution of households by size, age of household heads, and income to predict the ratio of single-family units in 2020. Because income projections were unavailable, and household size was only available as an average, we analyzed the relationship between the three variables to develop an expected distribution for 2020 of household sizes and incomes based on age of household head and average household size.

The simulation based on this method is our answer to the question about "raw demand." In particular, it illustrates how changes in demographic variables known to influence housing preference might influence housing demand. Implicitly, the simulation assumes that the housing market between now and 2020 will be no more constrained by public policy (in terms of the type, mix, and density of housing units) than it was up to 1990. For the final allocation of new housing between 2000 and 2020 by type, tenure, and density, we made judgments based on the information reported previously in this report.

Thus, we developed two simulations: the Base Simulation assumes a continuation of trends observed between 1990 and 1998 in the Greater

Wasatch Area. The Alternative Simulation modifies the baseline scenario to account for projected demographic shifts in the population and assumptions about the effect of reasonable changes in public policy.

Note that both simulations are trying to get a general idea about housing development over a large area in the long run. They are driven by long-run trends and do not explicitly consider business cycles or potential changes to public policy.

The simulations report new housing units by housing type and tenure. Single-family housing is further broken down by lot size because land consumption by residential development is a key consideration for defining and evaluating the Quality Growth Strategy. Multi-family is broken down into four sub-categories: Duplex, Row House, Garden Apartments (also called walk-up apartments: usually no more than three stories, no elevator, and at-grade parking), and Urban Apartments (greater than three stories, and include high-rise apartments). Duplex refers to two units in a single structure, and Row House refers to three or more units in a single structure (also known as townhomes). Duplexes and Row Houses are distinguished from apartments by units that are side-to-side rather than stacked.

Multi-family housing is clearly more diverse than the four categories show. It includes, for example, condominiums, retirement communities, and assisted-care housing. This study does not do allocations to that level of detail.

## RESULTS FOR HOUSING MARKET SIMULATION

ECONorthwest developed two simulations of new housing by type and tenure in the Greater Wasatch Area between 2000 and 2020.

Table 3-3 shows first simulation (Base Simulation). It is based on trends exhibited in the Greater Wasatch Area between 1990 and 1999, primarily as evidenced in building permits for that period.<sup>30</sup> This simulation is intended to provide a baseline for the area assuming continuation of past trends. The Greater Wasatch Region will add 381,642 new dwelling units between 2000 and 2020. In the Base Simulation about 76% of the new housing would be single family;<sup>31</sup> 79% of the new units would be owner-occupied units, 19% would be renter-occupied, and 2% would be manufactured homes.

A continuation of past trends is useful for providing a baseline for analysis, but many factors point to a shift in the type of new housing that will be built in the Greater Wasatch Area between 2000 and 2020. Key factors include decreasing household size, increasing ages, and increasing average

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<sup>30</sup> The forecast of growth for housing units is slightly greater than the forecast of growth for households because of vacancy rates (considered explicitly in the model) and demolition of existing units (not considered explicitly).

<sup>31</sup> Based on building permit information, between 1990 and 1999, single-family units (including manufactured homes, but not including what the US Census refers to as single-family-attached homes) were about 75% of all permits.

real incomes. Table 3-4 shows an Alternative Simulation that accounts for these factors.

Table 3-4 uses our regression analysis to predict the percentage of new units that would be single-family or mobile/manufactured from expected demographic shifts. The model predicts declining shares of single-family dwellings in most counties (in other words, the percentage of single-family housing that gets built in the next 20 years will be lower than the current (1999) percentage of total housing that single-family housing composes), primarily because of declining average household size and increasing average age of household head. Multiple family dwellings account for nearly 40% of new housing built between 2000 and 2020 in the Alternative Simulation. This is a significant shift from trends experienced between 1990 and 1999.

**Table 3-3. Base Simulation: New housing units by type and tenure, 2000-2020, Greater Wasatch Area**

Housing Structure Type	Owner-Occupied	Renter-Occupied	Manu-factured	Total	Percent of Total
<b>Single Family by lot size (sq ft)</b>					
< 5000	15,659		7,263	22,922	6%
5000-9999	141,487		405	141,892	37%
10000-19999	94,708		0	94,708	25%
>20,000 (1/2 acre+)	30,739		0	30,739	8%
Subtotal	282,593		7,668	290,261	76%
<b>Multi-Family by Type</b>					
Duplex	1,590	7,719		9,309	2%
Row House	12,871	10,463		23,334	6%
Garden Apartment	4,432	42,452		46,884	12%
Urban	818	11,036		11,854	3%
Subtotal	19,712	71,670		91,381	24%
<b>TOTAL</b>	<b>302,305</b>	<b>71,670</b>	<b>7,668</b>	<b>381,642</b>	<b>100%</b>

Source: ECONorthwest, 1999

**Table 3-4. Alternative Simulation: New housing units by type and tenure, 2000-2020, Greater Wasatch Area**

Housing Structure Type	Owner-Occupied	Renter-Occupied	Manu-factured	Total	Percent of Total
<b>Single Family by lot size (sq ft)</b>					
< 5000	24,800		4,623	29,423	7.7%
5000-9999	128,784		360	129,144	33.8%
10000-19999	58,551		103	58,654	15.4%
>20,000 (1/2 acre+)	13,183		51	13,234	3.5%
Subtotal	225,319		5,137	230,456	60.4%
<b>Multi-Family by Type</b>					
Duplex	2,492	11,953		14,445	3.8%
Row House	20,012	16,255		36,267	9.5%
Garden Apartment	7,847	72,228		80,075	21.0%
Urban	1,373	19,026		20,399	5.3%
Subtotal	31,724	119,463		151,187	39.6%
<b>TOTAL</b>	<b>257,043</b>	<b>119,463</b>	<b>5,137</b>	<b>381,642</b>	<b>100.0%</b>

Source: ECONorthwest, 1999

Note that the shift in share from single-family to multi-family housing demand is driven entirely by demographics. We have not made any additional for other factors like decreased land supply, or increased price of land or public services.

That change in housing type implies a shift in housing tenure: a bigger share of multi-family units will reduce ownership rates, other things being equal. The only available data that allowed analysis of tenure by housing type was the Census Bureau's Public Use Micro Sample. The Alternative Scenario mechanically applies the 1990 relationships between type and tenure to the housing growth by type between 2000 and 2020 to arrive at a distribution of new housing by type and tenure between 2000 and 2020. Home-ownership rates decrease to 67%—the level recorded in the 1990 Census. Home ownership rates increased in the Greater Wasatch Area between 1990 and 1999 due to favorable interest rates, a strong economy, and other factors.

Which of these simulations is our prediction of the future? Neither. We have noted at several places in this report that no project with the scope, budget, and schedule of this one can expect to build a rigorous explanatory model of housing markets that will generate detailed estimates of housing type and tenure by sub-area for 20 years in the future. Too many variables—demographic, economic, and policy—interact to make any single prediction very likely. What we are trying to do is put some reasonable bounds around the likely futures. Tables 3-3 and 3-4 start to establish those bounds.

Table 3-5 summarizes the changes between 1990, 1999, and 2020 based on Census data, building permit data, and the simulations. The results show the actual shifts in housing type that occurred between 1990 and 1999, and the expected shifts under the Base and Alternative Simulations. The main difference between the two simulations is a shift in the composition of new

housing development of about 15% from single-family units to multi-family units during the period from 2000 to 2020.

**Table 3-5. Distribution of housing by type, actual and predicted, Greater Wasatch Area**

Housing Type	Actual			Predicted			
	1990 Total	Change 1990- 1999	1999 Total	Base Simulation		Alternative Simulation	
				Change 2000- 2020	2020 Total	Change 2000- 2020	2020 Total
Single Family	66%	73%	67%	74%	70%	59%	64%
Multiple Family	29%	25%	29%	24%	27%	40%	33%
Mobile/Manuf	5%	2%	4%	2%	3%	1%	3%

Source: US Census (1990), BEBR (1990-1999), ECONorthwest (2000-2020, 2020)

The Alternative Simulation is driven largely by expected demographic shifts. Other factors, however, can affect the distribution of housing by type and density:

- Public policy can play a key role in housing types and densities through land use designations, capital improvement plans, and other policy tools. For example, restrictive zoning policies can reduce the number of multiple family dwellings that are built, or lead to larger overall lot sizes for single-family dwellings. Public policy can also lead to more compact growth and a different housing mix through things as simple as removing or reducing minimum lot sizes where market demand is encouraging developers to build denser, to policies that are more complicated (politically if not technically) like minimum density zoning, urban growth boundaries, or incentives for public housing (e.g., extending the period that a redevelopment agency can capture tax increment if it provides a certain percentage of housing as part of its redevelopment projects).
- Total land supply does not appear to be a constraining factor in the region for the next 20 years. The region appears to have plenty of land that is unconstrained physically (e.g., steep slopes, wetlands, floodplains). But other factors (e.g., local water supply, public service policies, or public service costs) could lead to some reductions in the relatively availability of buildable, serviceable land, which would in turn increase land prices and housing costs.
- Long-term income trends suggest an increase in real income regionwide. All other things being equal, increases in income mean more single-family dwellings, larger dwellings, and higher home ownership rates. But other factors can offset the impact of increased incomes. For example, a recession or real increases in housing cost could eliminate or counter real increase in income. Moreover, expected

income increases will not affect all households equally: the region will still have low-income households looking for affordable housing.

- The ability to sustain the expected rate of development over the next 20 years may be affected by air quality, congestion, or other environmental constraints. These factors have negatively affected other communities in the United States, though they do not appear to be critical constraints for the Greater Wasatch Areas yet.

These factors are not accounted for in the Alternative Simulation. For this project there is no way that such considerations can be incorporated as independent variables into a computer model that will generate tables like those above. A more practical method is to use the simulations in Tables 3-3 and 3-4 as a point of departure for discussions among local housing professionals.

Those discussions occurred in meetings on 25 and 30 August 1999. Of the 23 developers, builders, lenders, and realtors who attended a work session on the draft of this report, 83% thought the estimates presented in Table 3.5 were reasonable. Review by staff at the Governor's Office of Planning and Budget led to some useful but minor changes: the staff has approved our use of their data and the general conclusions we draw from it. The Technical Advisory Group for this project also had comments on the draft, all of which have been included in this report, and none of which changed the estimates in Table 3.5. A presentation to the Steering Committee for the Envision Utah project led to some interesting discussion of the implications of the findings, but no direction to change them.

Table 3.5 is a summary of a detailed, county-by-county allocation of housing demand to housing types. That detailed analysis was provided to the consultant working on developing the Quality Growth Strategy, Fregonese-Calthorpe and Associates (FCA). At the time of the printing of this report, FCA had reviewed the forecasts and was using them as a market check on the strategy they were developing.

# Housing Data

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Chapter 3 summarizes housing characteristics for the Greater Wasatch Area and the four sub-areas. ECONorthwest used five primary data sources to describe housing characteristics in the Greater Wasatch Area:

- 1990 Census of Population and Housing, US Bureau of Census—basic housing data for the Greater Wasatch Area in 1990
- Public Use Microdata Sample data, 5% sample, US Bureau of Census—relationship of demographic characteristics to housing type and tenure, 1990
- Parcel-level data provided by Stuart Challender, State of Utah, Governor's Office of Planning & Budget, 1999—size and density of housing in Davis, Salt Lake, Utah, and Weber Counties in 1999.
- Multiple listing data, Greater Wasatch Multiple Listing Service—sales of single family residences between August 1995 and July 1999.
- Building permit data, BERB, Utah State University—characteristics of new residential construction between 1975 and 1998.

The data tables presented in this appendix are presented without interpretation. Refer to Chapter 3 for a discussion of the implications of the housing data. This appendix contains the following tables:

- Table A-1. Dwelling units by area by type, 1990
- Table A-2. Percent of dwelling units by area by type, 1990
- Table A-3. Building permits issued by county and type, 1990-1998
- Table A-4. Percent of building permits issued by dwelling unit type, 1990-1998
- Table A-5. Estimate of dwelling units by county and type, 1999
- Table A-6. Estimate of dwelling units by county and type, percent by type, 1999
- Table A-7. Change in dwelling units by location and type, 1990-1999
- Table A-8. Dwelling Units, Acres, and Density, by County and Housing Type, 1999
- Table A-9. Single-Family Dwelling Units by County and Lot Size, 1999



- Table A-10. Tax Lots, Dwelling Units, Acres, and Density by Decade Built, Single-Family Dwelling Units, Davis, Salt Lake, Utah, and Weber County, 1999
- Table A-11. Single-Family Dwelling Units by Decade Built and Lot Size, Davis, Salt Lake, Utah, and Weber County, 1999
- Table A-12. Single-Family Sales by Decade Structure Built, Greater Wasatch Area, Sales Between August 1995-July 1999
- Table A-13. Single-Family Sales by Lot Size, Greater Wasatch Area, Sales Between August 1995-July 1999
- Table A-14. Single-Family Sales by Dwelling Unit Size, Greater Wasatch Area, Sales Between August 1995-July 1999
- Table A-15. Single-Family Sales by Decade and Lot Size, Greater Wasatch Area, Sales Between August 1995-July 1999
- Table A-16. Single-Family Sales by House Size and Lot Size, Greater Wasatch Area, Sales Between August 1995-July 1999
- Table A-17. Crosstabulation of Income, Household Size, Age, and Housing Type, Greater Wasatch Area, 1990
- Table A-18. Crosstabulation of Income, Household Size, Age, and Tenure, Greater Wasatch Area, 1990

Readers should be aware of limitations that exist with some of the data sources and estimates. To estimate the number of dwelling units by type in the Greater Wasatch Area in 1999, we added building permits issued for new residential construction to the dwelling unit count from the 1990 Census. This approach uses building permits as a proxy for actual units on the ground. Differences in definitions between the two data sets are a problem. Following are definitions of housing types from the US Census.

- 1-Unit, Detached. This is a 1-unit structure detached from any other structure, that is, with open space on all four sides. Such structures are considered detached even if they have an adjoining shed or garage. A one- family house which contains a business is considered detached as long as the building has open space on all four sides. Mobile homes or trailers to which one or more permanent rooms have been added or built are also included.
- 1-Unit, Attached. This is a 1-unit structure which has one or more walls extending from ground to roof separating it from adjoining structures. In row houses (sometimes called townhouses), double houses, or houses attached to nonresidential structures, each house is a separate, attached structure if the dividing or common wall goes from ground to roof.

- 2 or More Units. These are units in structures containing 2 or more housing units, further categorized as units in structures with 2, 3 or 4, 5 to 9, 10 to 19, 20 to 49, and 50 or more units.
- Mobile Home or Trailer. Both occupied and vacant mobile homes to which no permanent rooms have been added are counted in this category. Mobile homes or trailers used only for business purposes or for extra sleeping space and mobile homes or trailers for sale on a dealer's lot, at the factory, or in storage are not counted in the housing inventory.
- Other. This category is for any living quarters occupied as a housing unit that does not fit the previous categories. Examples that fit this category are houseboats, railroad cars, campers, and vans.

The Bureau of Economic and Business Research (BEBR) at the University of Utah uses slightly different groupings for some housing types. The BEBR groups duplexes and twin homes into one category. The Census classifies twin homes as single family detached.

To develop our estimate, we added the duplexes and twin homes from the BEBR permit data to duplexes from the 1990 Census. Building permits for condominiums from the BEBR were added to single-family attached from the Census. All other categories used consistent definitions.

The tax lot and MLS data sources all provide information on different aspects of the housing market in the Greater Wasatch Area. These data sets, however, are not generally comprehensive. For example, ECONorthwest used the databases to calculate average densities for single-family dwellings. These estimates are based only on those records that included acreage data. Similar limitations existed with year built and dwelling unit size data.

**Table A-1. Dwelling units by area by type, 1990**

Sub-Market/County	Single Family Detached	Single-Family Attached	Duplex	3-4 Units	5-9 Units	10-19 Units	20-59 Units	50+ Units	Mobile/Manuf.	Other	Total
<b>North</b>											
Box Elder County	9,584	102	364	446	218	209	31	0	872	64	11,890
Davis County	40,039	2,484	1,510	3,105	1,387	2,229	1,564	241	2,926	292	55,777
Morgan County	1,498	18	37	30	17	0	0	0	32	49	1,681
Weber County	39,910	2,386	3,165	3,182	1,803	1,881	1,968	730	2,427	399	57,851
North Subtotal	91,031	4,990	5,076	6,763	3,425	4,319	3,563	971	6,257	804	127,199
<b>Central</b>											
Salt Lake County	162,435	10,895	13,297	12,447	11,283	17,230	14,239	6,983	6,454	2,076	257,339
Central Subtotal	162,435	10,895	13,297	12,447	11,283	17,230	14,239	6,983	6,454	2,076	257,339
<b>South &amp; West</b>											
Juab County	1,891	12	55	55	34	33	0	0	203	28	2,311
Utah County	46,993	2,306	5,096	5,090	2,534	3,532	2,805	735	3,065	664	72,820
Tooele County	6,384	540	425	425	162	224	76	0	1,201	73	9,510
South & West Subtotal	55,268	2,858	5,576	5,570	2,730	3,789	2,881	735	4,469	765	84,641
<b>East</b>											
Wasatch County	3,729	91	73	64	74	1	27	0	349	57	4,465
Summit County	5,611	1,733	228	457	519	607	607	963	470	61	11,256
East Subtotal	9,340	1,824	301	521	593	608	634	963	819	118	15,721
<b>Total</b>	<b>318,074</b>	<b>20,567</b>	<b>24,250</b>	<b>25,301</b>	<b>18,031</b>	<b>25,946</b>	<b>21,317</b>	<b>9,652</b>	<b>17,999</b>	<b>3,763</b>	<b>484,900</b>

Source: 1990 Census of Population and Housing, US Bureau of Census

**Table A-2. Percent of dwelling units by area by type, 1990**

Sub-Market/County	Single Family Detached	Single-Family Attached	Duplex	3-4 Units	5-9 Units	10-19 Units	20-59 Units	50+ Units	Mobile/Manuf.	Other	Total
<b>North</b>											
Box Elder County	81%	1%	3%	4%	2%	2%	0%	0%	7%	1%	11,890
Davis County	72%	4%	3%	6%	2%	4%	3%	0%	5%	1%	55,777
Morgan County	89%	1%	2%	2%	1%	0%	0%	0%	2%	3%	1,681
Weber County	69%	4%	5%	6%	3%	3%	3%	1%	4%	1%	57,851
North Subtotal	72%	4%	4%	5%	3%	3%	3%	1%	5%	1%	127,199
<b>Central</b>											
Salt Lake County	63%	4%	5%	5%	4%	7%	6%	3%	3%	1%	257,339
Central Subtotal	63%	4%	5%	5%	4%	7%	6%	3%	3%	1%	257,339
<b>South &amp; West</b>											
Juab County	82%	1%	2%	2%	1%	1%	0%	0%	9%	1%	2,311
Utah County	65%	3%	7%	7%	3%	5%	4%	1%	4%	1%	72,820
Tooele County	67%	6%	4%	4%	2%	2%	1%	0%	13%	1%	9,510
South & West Subtotal	65%	3%	7%	7%	3%	4%	3%	1%	5%	1%	84,641
<b>East</b>											
Wasatch County	84%	2%	2%	1%	2%	0%	1%	0%	8%	1%	4,465
Summit County	50%	15%	2%	4%	5%	5%	5%	9%	4%	1%	11,256
East Subtotal	59%	12%	2%	3%	4%	4%	4%	6%	5%	1%	15,721
<b>Total</b>	<b>66%</b>	<b>4%</b>	<b>5%</b>	<b>5%</b>	<b>4%</b>	<b>5%</b>	<b>4%</b>	<b>2%</b>	<b>4%</b>	<b>1%</b>	<b>484,900</b>

Source: 1990 Census of Population and Housing, US Bureau of Census

**Table A-3. Building permits issued by county and type, 1990-1998**

Sub-Market/County	Single Family Units	Duplexes and Twin Homes	Condominiums	Apartments - 3 or 4 units	Apartments - 5 or more (up to three floors)	Apartments - 5 or more (more than three floors)	Mobile/Manufactured Homes	Total
<b>North</b>								
Box Elder County	1,614	92	84	47	33	0	129	1,999
Davis County	14,322	168	380	255	1,525	413	38	17,101
Morgan County	227	0	3	4	0	0	7	241
Weber County	8,402	284	368	402	921	16	190	10,583
North Subtotal	24,565	544	835	708	2,479	429	364	29,924
<b>Central</b>								
Salt Lake County	36,896	762	1,124	718	7,414	2,264	1,303	50,481
Central Subtotal	36,896	762	1,124	718	7,414	2,264	1,303	50,481
<b>South &amp; West</b>								
Juab County	333	2	0	0	0	0	32	367
Utah County	17,841	1,408	2,652	1,241	3,814	599	285	27,840
Tooele County	2,768	98	22	150	183	0	129	3,350
South & West Subtotal	20,942	1,508	2,674	1,391	3,997	599	446	31,557
<b>East</b>								
Wasatch County	1,087	134	0	28	94	0	22	1,365
Summit County	3,958	364	758	132	501	331	114	6,158
East Subtotal	5,045	498	758	160	595	331	136	7,523
<b>Total</b>	<b>87,448</b>	<b>3,312</b>	<b>5,391</b>	<b>2,977</b>	<b>14,485</b>	<b>3,623</b>	<b>2,249</b>	<b>119,485</b>

Source Bureau of Economic and Business Research, University of Utah

**Table A-4. Percent of building permits issued by dwelling unit type, 1990-1998**

Sub-Market/County	Single Family Units	Duplexes and Twin Homes	Condominiums	Apartments - 3 or 4 units	Apartments - 5 or more (up to three floors)	Apartments - 5 or more (more than three floors)	Mobile/Manufactured Homes	Total
<b>North</b>								
Box Elder County	81%	5%	4%	2%	2%	0%	6%	1,999
Davis County	84%	1%	2%	1%	9%	2%	0%	17,101
Morgan County	94%	0%	1%	2%	0%	0%	3%	241
Weber County	79%	3%	3%	4%	9%	0%	2%	10,583
North Subtotal	82%	2%	3%	2%	8%	1%	1%	29,924
<b>Central</b>								
Salt Lake County	73%	2%	2%	1%	15%	4%	3%	50,481
Central Subtotal	73%	2%	2%	1%	15%	4%	3%	50,481
<b>South &amp; West</b>								
Juab County	91%	1%	0%	0%	0%	0%	9%	367
Utah County	64%	5%	10%	4%	14%	2%	1%	27,840
Tooele County	83%	3%	1%	4%	5%	0%	4%	3,350
South & West Subtotal	66%	5%	8%	4%	13%	2%	1%	31,557
<b>East</b>								
Wasatch County	80%	10%	0%	2%	7%	0%	2%	1,365
Summit County	64%	6%	12%	2%	8%	5%	2%	6,158
East Subtotal	67%	7%	10%	2%	8%	4%	2%	7,523
<b>Total</b>	<b>73%</b>	<b>3%</b>	<b>5%</b>	<b>2%</b>	<b>12%</b>	<b>3%</b>	<b>2%</b>	<b>119,485</b>

Source Bureau of Economic and Business Research, University of Utah

Note: Rows add to 100%

**Table A-5. Estimate of dwelling units by county and type, 1999**

Sub-Market/County	Single Family Detached	Single-Family Attached	Duplex	3-4 Units	5 or More Units	Mobile/Manuf.	Total
<b>North</b>							
Box Elder County	11,198	186	456	493	491	1,065	13,889
Davis County	54,361	2,864	1,678	3,360	7,359	3,256	72,878
Morgan County	1,725	21	37	34	17	88	1,922
Weber County	48,312	2,754	3,449	3,584	7,319	3,016	68,434
North Subtotal	115,596	5,825	5,620	7,471	15,186	7,425	157,123
<b>Central</b>							
Salt Lake County	199,331	12,019	14,059	13,165	59,413	9,833	307,820
Central Subtotal	199,331	12,019	14,059	13,165	59,413	9,833	307,820
<b>South &amp; West</b>							
Juab County	2,224	12	57	55	67	263	2,678
Utah County	64,834	4,958	6,504	6,331	14,019	4,014	100,660
Tooele County	9,152	562	523	575	645	1,403	12,860
South & West Subtotal	76,210	5,532	7,084	6,961	14,731	5,680	116,198
<b>East</b>							
Wasatch County	4,816	91	207	92	196	428	5,830
Summit County	9,569	2,491	592	589	3,528	645	17,414
East Subtotal	14,385	2,582	799	681	3,724	1,073	23,244
<b>Total</b>	<b>405,522</b>	<b>25,958</b>	<b>27,562</b>	<b>28,278</b>	<b>93,054</b>	<b>24,011</b>	<b>604,385</b>

Source: U.S. Bureau of Census, 1990 Census of Population and Housing; BEBR, Utah State University, 1999; estimates by ECONorthwest, 1999

**Table A-6. Estimate of dwelling units by county and type, percent by type, 1999**

<b>Sub-Market/County</b>	<b>Single Family Detached</b>	<b>Single-Family Attached</b>	<b>Duplex</b>	<b>3-4 Units</b>	<b>5 or More Units</b>	<b>Mobile/Manuf.</b>	<b>Total</b>
<b>North</b>							
Box Elder County	81%	1%	3%	4%	4%	8%	13,889
Davis County	75%	4%	2%	5%	10%	4%	72,878
Morgan County	90%	1%	2%	2%	1%	5%	1,922
Weber County	71%	4%	5%	5%	11%	4%	68,434
North Subtotal	74%	4%	4%	5%	10%	5%	157,123
<b>Central</b>							
Salt Lake County	65%	4%	5%	4%	19%	3%	307,820
Central Subtotal	65%	4%	5%	4%	19%	3%	307,820
<b>South &amp; West</b>							
Juab County	83%	0%	2%	2%	3%	10%	2,678
Utah County	64%	5%	6%	6%	14%	4%	100,660
Tooele County	71%	4%	4%	4%	5%	11%	12,860
South & West Subtotal	66%	5%	6%	6%	13%	5%	116,198
<b>East</b>							
Wasatch County	83%	2%	4%	2%	3%	7%	5,830
Summit County	55%	14%	3%	3%	20%	4%	17,414
East Subtotal	62%	11%	3%	3%	16%	5%	23,244
<b>Total</b>	<b>67%</b>	<b>4%</b>	<b>5%</b>	<b>5%</b>	<b>15%</b>	<b>4%</b>	<b>604,385</b>

Source: U.S. Bureau of Census, 1990 Census of Population and Housing; BEBR, Utah State University, 1999; estimates by ECONorthwest, 1999



**Table A-7. Change in dwelling units by location and type, 1990-1999**

Sub-Market/County	Single Family			Multi-Family			Mobile/ Manuf.			Total		
	New DU, 1990-98	Percent Increase	Change in Share by Type	New DU, 1990-98	Percent Increase	Change in Share by Type	New DU, 1990-98	Percent Increase	Change in Share by Type	New DU, 1990-98	Percent Increase	Change in Share by Area
<b>North</b>												
Box Elder County	1,698	18%	1%	172	14%	-1%	129	14%	0%	1,999	17%	0%
Davis County	14,702	35%	2%	2,361	24%	-1%	38	1%	-1%	17,101	31%	1%
Morgan County	230	15%	1%	4	5%	3%	7	9%	0%	241	14%	0%
Weber County	8,770	21%	2%	1,623	13%	-2%	190	7%	0%	10,583	18%	-1%
North Subtotal	25,400	26%	2%	4,160	17%	-5%	364	5%	-1%	29,924	24%	0%
<b>Central</b>												
Salt Lake County	38,020	22%	1%	11,158	15%	-1%	1,303	15%	0%	50,481	20%	-2%
Central Subtotal	38,020	22%	1%	11,158	15%	-6%	1,303	15%	0%	50,481	20%	-2%
<b>South &amp; West</b>												
Juab County	333	17%	1%	2	1%	3%	32	14%	0%	367	16%	0%
Utah County	20,493	42%	2%	7,062	36%	-3%	285	8%	-1%	27,840	38%	2%
Tooele County	2,790	40%	3%	431	33%	2%	129	10%	-2%	3,350	35%	0%
South & West Subtotal	23,616	41%	2%	7,495	35%	-6%	446	9%	-1%	31,557	37%	2%
<b>East</b>												
Wasatch County	1,087	28%	-1%	256	107%	3%	22	5%	-2%	1,365	31%	0%
Summit County	4,716	64%	4%	1,328	39%	-3%	114	21%	-1%	6,158	55%	1%
East Subtotal	5,803	52%	2%	1,584	44%	0%	136	15%	-1%	7,523	48%	1%
<b>Total</b>	<b>92,839</b>	<b>27%</b>	<b>2%</b>	<b>24,397</b>	<b>20%</b>	<b>-6%</b>	<b>2,249</b>	<b>10%</b>	<b>-1%</b>	<b>119,485</b>	<b>25%</b>	<b>0%</b>

Source: U.S. Bureau of Census, 1990 Census of Population and Housing; Bureau of Economic and Business Research, University of Utah, 1999; estimates by ECONorthwest, 1999

**Table A-8. Dwelling Units, Acres, and Density, by County and Housing Type: Davis, Salt Lake, Utah, and Weber Counties, 1999**

County/Housing Type	Number of Tax Lots	Number of Units	Total Acres	Density (DU/Net Acre)
<b>Davis</b>				
Single Family Residential	49,433	49,433	18,615	2.7
Multi-Family 2-4 Units	269	813	131	6.2
Multi-Family 5+ Units	166	6,366	253	25.2
Mobile Homes	117	4,772	402	11.9
Group Quarters	2	20	2	9.5
<b>Subtotal</b>	<b>49,987</b>	<b>61,404</b>	<b>19,404</b>	<b>3.2</b>
<b>Salt Lake</b>				
Single Family Residential	129,513	129,513	27,434	4.7
Multi-Family 2-4 Units	5,859	17,577	1,173	15.0
Multi-Family 5+ Units	1,104	52,410	1,204	43.5
Mobile Homes	690	5,795	509	11.4
<b>Subtotal</b>	<b>137,166</b>	<b>205,295</b>	<b>30,321</b>	<b>6.8</b>
<b>Utah</b>				
Single Family Residential	67,388	67,388	53,670	1.3
Multi-Family 2-4 Units	2,387	5,862	831	7.1
Multi-Family 5+ Units	452	9,737	355	27.4
Mobile Homes	388	9,210	780	11.8
Group Quarters	34	340	87	3.9
<b>Subtotal</b>	<b>70,649</b>	<b>92,537</b>	<b>55,723</b>	<b>1.7</b>
<b>Weber</b>				
Single Family Residential	55,225	55,225	21,372	2.6
Multi-Family 2-4 Units	181	3,185	424	7.5
Multi-Family 5+ Units	925	2,469	190	13.0
Mobile Homes	55	3,889	326	11.9
Group Quarters	12	120	23	5.3
<b>Subtotal</b>	<b>56,398</b>	<b>64,888</b>	<b>22,333</b>	<b>2.9</b>
<b>Four County Total</b>				
Single Family Residential	301,559	301,559	121,091	2.5
Multi-Family 2-4 Units	9,440	26,721	2,325	11.5
Multi-Family 5+ Units	1,903	71,698	2,236	32.1
Mobile Homes	1,250	23,666	2,017	11.7
Group Quarters	48	480	112	4.3
<b>Total</b>	<b>314,200</b>	<b>424,124</b>	<b>127,781</b>	<b>3.3</b>

Source: State of Utah, Governor's Office of Planning & Budget. 1999. Parcel-Level Data Provided by Stuart Challender, GOPB.

Note: Includes only tax lots that had acreage data

**Table A-9. Single-Family Dwelling Units by County and Lot Size:  
Davis, Salt Lake, Utah, and Weber Counties, 1999**

County/Lot Size (sq ft)	Number of Units	Total Acres	Density (DU/Net Acre)
<b>Davis</b>			
< 5000 sf	670	60	11.2
5000 - 10000 sf	20,387	3,817	5.3
10000 - 20000 sf	21,019	6,175	3.4
>20000 sf	7,357	8,564	0.9
<b>Subtotal</b>	<b>49,433</b>	<b>18,615</b>	<b>2.7</b>
<b>Salt Lake</b>			
< 5000 sf	18,277	1,167	15.7
5000 - 10000 sf	81,725	13,978	5.8
10000 - 20000 sf	24,510	6,851	3.6
>20000 sf	5,001	5,439	0.9
<b>Subtotal</b>	<b>129,513</b>	<b>27,434</b>	<b>4.7</b>
<b>Utah</b>			
< 5000 sf	6,939	310	22.4
5000 - 10000 sf	24,418	4,545	5.4
10000 - 20000 sf	23,389	6,857	3.4
>20000 sf	12,642	41,958	0.3
<b>Subtotal</b>	<b>67,388</b>	<b>53,670</b>	<b>1.3</b>
<b>Weber</b>			
< 5000 sf	6,795	418	16.2
5000 - 10000 sf	24,792	4,292	5.8
10000 - 20000 sf	14,172	4,210	3.4
>20000 sf	9,466	12,452	0.8
<b>Subtotal</b>	<b>55,225</b>	<b>21,372</b>	<b>2.6</b>
<b>Four County Total</b>			
< 5000 sf	32,681	1,955	16.7
5000 - 10000 sf	151,322	26,631	5.7
10000 - 20000 sf	83,090	24,093	3.4
>20000 sf	34,466	68,412	0.5
<b>Total</b>	<b>301,559</b>	<b>121,091</b>	<b>2.5</b>

Source: State of Utah, Governor's Office of Planning & Budget. 1999. Parcel-Level Data Provided by Stuart Challenger, GOPB.

Note: Includes only tax lots that had acreage data

**Table A-10. Single-Family Dwelling Units, Acres, and Density by Age of Dwelling Unit: Davis, Salt Lake, Utah, and Weber Counties, 1900-1999**

Age of DU (year built)	Number of DU	Total Acres	Density (DU/Net Acre)	Average DU Size (sq ft)
< 1900	1%	1%	2.7	1,358
1900 - 1910	2%	2%	3.0	1,303
1910 - 1919	3%	2%	3.2	1,187
1920 - 1929	4%	3%	3.5	1,134
1930 - 1939	2%	3%	2.2	1,143
1940 - 1949	7%	5%	3.4	1,064
1950 - 1959	15%	10%	3.8	1,239
1960 - 1969	9%	8%	2.9	1,348
1970 - 1979	19%	15%	3.1	1,375
1980 - 1989	12%	9%	3.4	1,456
1990 - 1999	12%	10%	2.9	1,746
No year built data	14%	33%	1.1	563
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>2.5</b>	<b>1,254</b>

Source: State of Utah, Governor's Office of Planning & Budget. 1999. Parcel-Level Data Provided by Stuart Challenger, GOPB.

Note: Includes only tax lots that had both acreage and year built data

**Table A-11. Single-Family Dwelling Units by Age of Dwelling Unit and Lot Size: Davis, Salt Lake, Utah, and Weber Counties, 1999**

Age of DU (year built)	Lot Size				Total
	< 5000 sf	5001 - 10000 sf	10001 - 20000 sf	>20000 sf	
<b>Number of Single Family Dwelling Units by Decade by Lot Size</b>					
< 1900	878	1,665	731	429	3,703
1900 - 1910	2,058	3,326	1,097	650	7,131
1910 - 1919	2,580	4,723	1,344	778	9,425
1920 - 1929	3,117	5,724	1,553	892	11,286
1930 - 1939	746	3,637	1,506	855	6,744
1940 - 1949	1,269	14,707	4,365	1,979	22,320
1950 - 1959	1,266	28,033	11,731	2,903	43,933
1960 - 1969	667	14,598	9,330	3,121	27,716
1970 - 1979	2,421	30,571	17,657	6,185	56,834
1980 - 1989	3,049	19,169	10,524	3,358	36,100
1990 - 1999	1,811	16,338	12,282	4,398	34,829
No Data	12,819	8,831	10,970	8,918	41,538
<b>Total</b>	<b>32,681</b>	<b>151,322</b>	<b>83,090</b>	<b>34,466</b>	<b>301,559</b>
<b>Percent of Single Family Dwelling Units by Age of Dwelling Unit by Lot Size</b>					
< 1900	24%	45%	20%	12%	100%
1900 - 1910	29%	47%	15%	9%	100%
1910 - 1919	27%	50%	14%	8%	100%
1920 - 1929	28%	51%	14%	8%	100%
1930 - 1939	11%	54%	22%	13%	100%
1940 - 1949	6%	66%	20%	9%	100%
1950 - 1959	3%	64%	27%	7%	100%
1960 - 1969	2%	53%	34%	11%	100%
1970 - 1979	4%	54%	31%	11%	100%
1980 - 1989	8%	53%	29%	9%	100%
1990 - 1999	5%	47%	35%	13%	100%
No Data	31%	21%	26%	21%	100%
<b>Total</b>	<b>11%</b>	<b>50%</b>	<b>28%</b>	<b>11%</b>	<b>100%</b>

Source: State of Utah, Governor's Office of Planning & Budget. 1999. Parcel-Level Data Provided by Stuart Challenger, GOPB.

Note: Includes only tax lots that had acreage data

**Table A-12. Single-Family Sales by Age of Dwelling Unit, Greater Wasatch Area, Sales Between August 1995-July 1999**

Age of DU (year built)	Number of Sales	Total Acres	Average Lot Size (Acres)	Average Sales Price	Average DU Size
<1900	1,086	413	0.38	118,898	1,816
1900-1909	1,285	341	0.27	116,164	1,754
1910-1919	1,871	449	0.24	110,735	1,733
1920-1929	2,324	614	0.26	125,706	1,829
1930-1939	1,236	404	0.33	130,923	1,789
1940-1949	3,649	934	0.26	120,849	1,730
1950-1959	6,337	1,931	0.30	127,104	1,845
1960-1969	4,674	1,425	0.30	140,583	2,198
1970-1979	12,747	5,493	0.43	138,792	2,248
1980-1989	10,970	5,431	0.50	146,644	2,204
1990-1999	18,915	28,236	1.49	190,106	2,736
No data	36	6	0.18	158,097	2,280
<b>Total</b>	<b>65,130</b>	<b>45,677</b>	<b>0.70</b>	<b>150,813</b>	<b>2,255</b>

Source: Greater Wasatch Multiple Listing Service

**Table A-13. Single-Family Sales by Lot Size, Greater Wasatch Area, Sales Between August 1995-July 1999**

Lot Size	Number of Sales	Total Acres	Average DU/Acres	Average Sales Price	Average DU Size
<5000 sq ft	8,875	444	0.05	112,575	1,521
5000-10000 sq ft	31,715	5,547	0.17	129,433	2,006
10000-20000 sq ft	18,584	5,249	0.28	181,736	2,777
.5 - 1 acre	3,687	2,240	0.61	226,001	3,177
1-5 acres	1,751	2,829	1.62	245,368	3,061
5 or more	518	29,368	56.69	150,774	2,099
<b>Total</b>	<b>65,130</b>	<b>45,677</b>	<b>0.70</b>	<b>150,813</b>	<b>2,255</b>

Source: Greater Wasatch Multiple Listing Service

**Table A-14. Single-Family Sales by Dwelling Unit Size, Greater Wasatch Area, Sales Between August 1995-July 1999**

DU Size (square feet)	Total Sales	Total Acres	Average Lot Size (sf)	Average Lot Size (Ac)	Average Sales Price	Average Square Feet
<1000	3,843	3,295	37,347	0.86	80,840	785
1000-1499	9,372	3,028	14,076	0.32	99,242	1,250
1500-1999	17,536	4,958	12,315	0.28	118,021	1,769
2000-2499	14,576	4,325	12,925	0.30	140,168	2,216
2500-2999	7,477	2,910	16,952	0.39	165,956	2,717
3000-3499	4,954	2,143	18,842	0.43	198,019	3,222
3500-3999	3,004	22,556	327,070	7.51	236,435	3,722
4000 sf or more	4,368	2,463	24,564	0.56	351,856	4,892
<b>Total</b>	<b>65,130</b>	<b>45,677</b>	<b>464,092</b>	<b>10.65</b>	<b>150,813</b>	<b>2,255</b>

Source: Greater Wasatch Multiple Listing Service

**Table A-15. Single-Family Sales by Age of Dwelling Unit and Lot Size, Greater Wasatch Area, Sales Between August 1995-July 1999**

Age of DU (year built)	Lot Size						Total
	<5000 sf	5000- 10000 sf	10000- 20000 sf	.5 - 1 acre	1-5 acres	5 or more	
<1900	237	448	254	88	47	12	1,086
1900-1909	400	588	190	67	36	4	1,285
1910-1919	565	939	242	78	42	5	1,871
1920-1929	689	1,209	276	102	35	13	2,324
1930-1939	132	698	271	81	47	7	1,236
1940-1949	217	2,519	641	196	62	14	3,649
1950-1959	162	4,199	1,641	242	83	10	6,337
1960-1969	350	2,451	1,477	246	131	19	4,674
1970-1979	1,897	6,210	3,433	652	396	159	12,747
1980-1989	2,262	5,042	2,757	511	268	130	10,970
1990-1999	1,955	7,397	7,390	1,424	604	145	18,915
No data	9	15	12				36
<b>Total</b>	<b>8,875</b>	<b>31,715</b>	<b>18,584</b>	<b>3,687</b>	<b>1,751</b>	<b>518</b>	<b>65,130</b>
<b>Percent of Sales by Age of Dwelling Unit</b>							
<1900	22%	41%	23%	8%	4%	1%	100%
1900-1909	31%	46%	15%	5%	3%	0%	100%
1910-1919	30%	50%	13%	4%	2%	0%	100%
1920-1929	30%	52%	12%	4%	2%	1%	100%
1930-1939	11%	56%	22%	7%	4%	1%	100%
1940-1949	6%	69%	18%	5%	2%	0%	100%
1950-1959	3%	66%	26%	4%	1%	0%	100%
1960-1969	7%	52%	32%	5%	3%	0%	100%
1970-1979	15%	49%	27%	5%	3%	1%	100%
1980-1989	21%	46%	25%	5%	2%	1%	100%
1990-1999	10%	39%	39%	8%	3%	1%	100%
No data	25%	42%	33%				100%
<b>Total</b>	<b>14%</b>	<b>49%</b>	<b>29%</b>	<b>6%</b>	<b>3%</b>	<b>1%</b>	<b>100%</b>

Source: Greater Wasatch Multiple Listing Service



**Table A-16. Single-Family Sales by House Size and Lot Size, Greater Wasatch Area, Sales Between August 1995-July 1999**

Dwelling Unit Size	Lot Size						No Data	Total
	<5000 sf	5000-10000 sf	10000-20000 sf	.5 - 1 acre	1-5 acres	5 or more		
<b>Number of Single-Family Sales</b>								
<1000 sf	1,862	1,307	358	120	75	121	2,696	6,539
1000-1499 sf	3,206	4,501	1,126	255	157	127	2,762	12,134
1500-1999 sf	2,023	11,912	2,863	461	206	71	1,077	18,613
2000-2499 sf	1,025	8,467	4,143	549	332	60	637	15,213
2500-2999 sf	470	3,020	3,188	499	262	38	426	7,903
3000-3499 sf	199	1,434	2,682	426	180	33	224	5,178
3500-3999 sf	55	630	1,742	399	157	21	113	3,117
4000 sf or more	35	444	2,482	978	382	47	109	4,477
<b>Total</b>	<b>8,875</b>	<b>31,715</b>	<b>18,584</b>	<b>3,687</b>	<b>1,751</b>	<b>518</b>	<b>8,044</b>	<b>73,174</b>
<b>Percent of Single-Family Sales</b>								
<1000 sf	28%	20%	5%	2%	1%	2%	41%	100%
1000-1499 sf	26%	37%	9%	2%	1%	1%	23%	100%
1500-1999 sf	11%	64%	15%	2%	1%	0%	6%	100%
2000-2499 sf	7%	56%	27%	4%	2%	0%	4%	100%
2500-2999 sf	6%	38%	40%	6%	3%	0%	5%	100%
3000-3499 sf	4%	28%	52%	8%	3%	1%	4%	100%
3500-3999 sf	2%	20%	56%	13%	5%	1%	4%	100%
4000 sf or more	1%	10%	55%	22%	9%	1%	2%	100%
<b>Total</b>	<b>12%</b>	<b>43%</b>	<b>25%</b>	<b>5%</b>	<b>2%</b>	<b>1%</b>	<b>11%</b>	<b>100%</b>

Source: Greater Wasatch Multiple Listing Service

**Table A-17. Crosstabulation of Income, Household Size, Age, and Housing Type, Greater Wasatch Area, 1990**

Household Income Categories	Household Size Code		Housing Type				Total	
			Single Family	2-4 Units	5 or More Units	Mobile/Manufactured		
<\$17,500	1	Under 15	0%	0%	0%	0%	100%	
		15-24	3%	8%	13%	1%	100%	
		Age Categories	25-54	27%	16%	32%	1%	100%
		55-64	59%	10%	19%	1%	100%	
		65 and over	63%	6%	15%	1%	100%	
	Total		41%	9%	19%	1%	100%	
	2	Age Categories	15-24	18%	36%	45%	1%	100%
			25-54	45%	22%	31%	2%	100%
			55-64	84%	7%	7%	2%	100%
			65 and over	90%	3%	6%	1%	100%
		Total		65%	14%	20%	1%	100%
	3	Age Categories	15-24	25%	29%	45%	1%	100%
			25-54	47%	23%	29%	1%	100%
			55-64	85%	6%	9%	0%	100%
			65 and over	89%	4%	2%	5%	100%
		Total		46%	22%	30%	1%	100%
	4	Age Categories	15-24	21%	31%	48%	0%	100%
			25-54	69%	16%	14%	1%	100%
			55-64	92%	5%	3%	0%	100%
			65 and over	86%	5%	5%	5%	100%
Total			65%	17%	17%	1%	100%	
\$17,500-\$29,999	1	15-24	19%	16%	65%	0%	100%	
		25-54	45%	16%	38%	1%	100%	
		Age Categories	55-64	67%	6%	23%	4%	100%
		65 and over	69%	6%	23%	2%	100%	
		Total		54%	12%	33%	2%	100%
	2	Age Categories	15-24	27%	33%	39%	2%	100%
			25-54	56%	20%	23%	0%	100%
			55-64	90%	4%	5%	1%	100%
			65 and over	90%	4%	6%	0%	100%
		Total		73%	12%	15%	1%	100%
	3	Age Categories	15-24	44%	30%	26%	0%	100%
			25-54	69%	16%	15%	0%	100%
			55-64	96%	2%	2%	0%	100%
			65 and over	92%	3%	2%	2%	100%
		Total		71%	15%	14%	0%	100%
	4	Age Categories	15-24	42%	14%	43%	0%	100%
			25-54	85%	7%	7%	0%	100%
			55-64	94%	4%	1%	0%	100%
			65 and over	93%	3%	0%	3%	100%
		Total		83%	8%	9%	0%	100%

Source: Public Use Microsample Data, 1990, US Bureau of Census

**Table A-17 Continued**

Household Income Categories	Household Size Code		Housing Type				Total	
			Single Family	2-4 Units	5 or More Units	Mobile/Manufactured		
\$30,000-\$44,999	1	Age Categories	15-24	25%	0%	75%	0%	100%
			25-54	53%	14%	32%	1%	100%
			55-64	66%	6%	25%	4%	100%
			65 and over	60%	4%	31%	4%	100%
		Total	55%	11%	31%	2%	100%	
	2	Age Categories	15-24	40%	31%	27%	2%	100%
			25-54	72%	11%	17%	0%	100%
			55-64	93%	1%	5%	0%	100%
			65 and over	92%	1%	6%	1%	100%
		Total	82%	6%	11%	1%	100%	
	3	Age Categories	15-24	46%	24%	28%	2%	100%
			25-54	82%	6%	11%	1%	100%
			55-64	92%	3%	5%	0%	100%
			65 and over	93%	2%	5%	0%	100%
		Total	83%	6%	10%	0%	100%	
	4	Age Categories	15-24	45%	19%	35%	1%	100%
25-54			93%	3%	4%	0%	100%	
55-64			91%	4%	4%	1%	100%	
65 and over			95%	3%	2%	0%	100%	
Total		92%	4%	4%	1%	100%		
\$45,000 or more	1	Age Categories	15-24	67%	0%	33%	0%	100%
			25-54	57%	8%	34%	1%	100%
			55-64	66%	10%	24%	0%	100%
			65 and over	63%	5%	33%	0%	100%
		Total	59%	8%	32%	1%	100%	
	2	Age Categories	15-24	50%	7%	43%	0%	100%
			25-54	81%	5%	13%	1%	100%
			55-64	92%	3%	5%	1%	100%
			65 and over	85%	3%	11%	1%	100%
		Total	85%	4%	10%	1%	100%	
	3	Age Categories	15-24	83%	8%	8%	0%	100%
			25-54	89%	4%	7%	1%	100%
			55-64	96%	1%	3%	0%	100%
			65 and over	93%	6%	1%	0%	100%
		Total	91%	3%	5%	0%	100%	
	4	Age Categories	15-24	73%	9%	18%	0%	100%
25-54			96%	1%	2%	0%	100%	
55-64			96%	2%	2%	0%	100%	
65 and over			96%	1%	3%	0%	100%	
Total		96%	1%	2%	0%	100%		

Source: Public Use Microsample Data, 1990, US Bureau of Census

**Table A-18. Crosstabulation of Income, Household Size, Age, and Tenure, Greater Wasatch Area, 1990**

Household Income Categories	Household Size	Age Categories	Owner-Occupied	Renter-Occupied	Total	
<\$17,500	1	15-24	7%	93%	100%	
		Age Categories	25-54	31%	69%	100%
		55-64	66%	34%	100%	
		65 and over	76%	24%	100%	
		Total	58%	42%	100%	
	2	15-24	8%	92%	100%	
		Age Categories	25-54	35%	65%	100%
		55-64	85%	15%	100%	
		65 and over	93%	7%	100%	
		Total	62%	38%	100%	
	3	15-24	11%	89%	100%	
		Age Categories	25-54	31%	69%	100%
		55-64	75%	25%	100%	
		65 and over	89%	11%	100%	
		Total	32%	68%	100%	
	4	Age Categories	15-24	12%	88%	100%
25-54		46%	54%	100%		
55-64		69%	31%	100%		
65 and over		92%	8%	100%		
Total		44%	56%	100%		
\$17,500-\$29,999	1	15-24	19%	81%	100%	
		Age Categories	25-54	47%	53%	100%
		55-64	83%	17%	100%	
		65 and over	79%	21%	100%	
		Total	60%	40%	100%	
	2	15-24	13%	87%	100%	
		Age Categories	25-54	49%	51%	100%
		55-64	92%	8%	100%	
		65 and over	94%	6%	100%	
		Total	71%	29%	100%	
	3	15-24	34%	66%	100%	
		Age Categories	25-54	56%	44%	100%
		55-64	96%	4%	100%	
		65 and over	96%	4%	100%	
		Total	61%	39%	100%	
	4	15-24	27%	73%	100%	
Age Categories		25-54	72%	28%	100%	
55-64		86%	14%	100%		
65 and over		93%	7%	100%		
Total		70%	30%	100%		

Source: Public Use Microsample Data, 1990, US Bureau of Census

**Table A-18 Continued**

Household Income Categories	Household Size	Age Categories	Owner-Occupied	Renter-Occupied	Total	
\$30,000-\$44,999	1	15-24	20%	80%	100%	
		Age Categories	25-54	59%	41%	100%
		55-64	87%	13%	100%	
		65 and over	74%	26%	100%	
		Total	64%	36%	100%	
	2	15-24	29%	71%	100%	
		Age Categories	25-54	65%	35%	100%
		55-64	96%	4%	100%	
		65 and over	98%	2%	100%	
		Total	80%	20%	100%	
	3	15-24	36%	64%	100%	
		Age Categories	25-54	75%	25%	100%
		55-64	92%	8%	100%	
		65 and over	91%	9%	100%	
		Total	77%	23%	100%	
	4	15-24	36%	64%	100%	
Age Categories		25-54	85%	15%	100%	
55-64		92%	8%	100%		
65 and over		96%	4%	100%		
Total		84%	16%	100%		
\$45,000 or more	1	15-24	67%	33%	100%	
		Age Categories	25-54	70%	30%	100%
		55-64	90%	10%	100%	
		65 and over	90%	10%	100%	
		Total	77%	23%	100%	
	2	15-24	29%	71%	100%	
		Age Categories	25-54	82%	18%	100%
		55-64	97%	3%	100%	
		65 and over	96%	4%	100%	
		Total	89%	11%	100%	
	3	15-24	69%	31%	100%	
		Age Categories	25-54	87%	13%	100%
		55-64	97%	3%	100%	
		65 and over	97%	3%	100%	
		Total	90%	10%	100%	
	4	15-24	52%	48%	100%	
Age Categories		25-54	93%	7%	100%	
55-64		94%	6%	100%		
65 and over		99%	1%	100%		
Total		93%	7%	100%		

Source: Public Use Microsample Data, 1990, US Bureau of Census

**Table A-19. Alternative Scenario: new housing units 2000-2020, by county**

Sub-market/County	Single Family by Lot Size (square feet)					Multiple Family					Total
	<5000	5000-10000	10000-20000	20000 or more	Single Family Total	Duplex	Row House	Garden Apartment	Urban	Multiple Family Total	
<b>North</b>											
Box Elder County	583	2,236	1,736	496	5,051	494	704	177	0	1,375	6,426
Davis County	4,120	16,708	11,004	2,339	34,171	1,130	4,272	10,260	2,779	18,441	52,613
Morgan County	147	561	436	125	1,269	0	178	0	0	178	1,446
Weber County	2,910	11,212	8,704	2,489	25,315	1,900	5,152	6,163	107	13,322	38,638
<b>North Subtotal</b>	<b>7,760</b>	<b>30,717</b>	<b>21,880</b>	<b>5,449</b>	<b>65,807</b>	<b>3,525</b>	<b>10,306</b>	<b>16,600</b>	<b>2,886</b>	<b>33,316</b>	<b>99,123</b>
<b>Central</b>											
Salt Lake County	15,001	68,962	21,215	3,200	108,379	5,183	12,528	50,425	15,398	83,533	191,912
<b>Central Subtotal</b>	<b>15,001</b>	<b>68,962</b>	<b>21,215</b>	<b>3,200</b>	<b>108,379</b>	<b>5,183</b>	<b>12,528</b>	<b>50,425</b>	<b>15,398</b>	<b>83,533</b>	<b>191,912</b>
<b>Southwest Region</b>											
Juab County	162	618	480	137	1,397	274	0	0	0	274	1,672
Utah County	4,198	19,708	9,665	2,866	36,437	4,161	11,503	11,270	1,770	28,704	65,141
Tooele County	1,054	4,418	1,751	533	7,756	523	918	976	0	2,417	10,173
<b>Southwest Subtotal</b>	<b>5,414</b>	<b>24,744</b>	<b>11,895</b>	<b>3,537</b>	<b>45,591</b>	<b>4,957</b>	<b>12,421</b>	<b>12,246</b>	<b>1,770</b>	<b>31,395</b>	<b>76,985</b>
<b>East</b>											
Wasatch County	373	1,436	1,115	319	3,242	401	84	281	0	765	4,007
Summit County	875	3,285	2,549	729	7,438	380	929	523	345	2,177	9,615
<b>East Subtotal</b>	<b>1,248</b>	<b>4,720</b>	<b>3,664</b>	<b>1,048</b>	<b>10,680</b>	<b>781</b>	<b>1,013</b>	<b>804</b>	<b>345</b>	<b>2,942</b>	<b>13,622</b>
<b>Total</b>	<b>29,423</b>	<b>129,144</b>	<b>58,654</b>	<b>13,234</b>	<b>230,456</b>	<b>14,445</b>	<b>36,267</b>	<b>80,075</b>	<b>20,399</b>	<b>151,187</b>	<b>381,642</b>

Source: ECONorthwest, 1999

# Appendix B **Wasatch Front Development Barriers**<sup>1</sup>

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Development barriers for the Wasatch Front include geographic, economic and political issues. Geographic barriers consist of topographical constraints posed by the Wasatch Mountains to the east of Utah's most populated areas, the Great Salt Lake and Utah Lake to the west, and other typical constraints, such as wetlands, high water tables, etc. Soil conditions along the Wasatch Front and Wasatch Back are typically very good, with no problems related to collapsible or expansive soils.

With Utah's broad-based economy and overall good fiscal responsibility, economic barriers are related primarily to the state's ability to compete with other states (especially California) for businesses that will spur job growth. After experiencing some of the nation's highest levels of job growth through the middle of this last decade, economic activity is now moderating. However, most Utah economists agree that Utah's economy will continue to perform well in the foreseeable future.

Utah's most serious barriers to responsible development practices fall under the political realm. Land use policies established by local municipalities have typically resisted urbanization and promoted sprawl. The following list represents some of the primary reasons for this:

1. Cultural Perspectives
2. Perceptions of Abundant of Land Resources
3. Lack of Consistent Growth
4. Lack of Education Regarding Sustainable Planning Practices
5. Land Ownership Patterns
6. Development Industry Restraints

## **CULTURAL PERSPECTIVES**

At least a portion of Utah's aversion to urbanization can probably be traced to its pioneer heritage. Not only did Utah's pioneers migrate to Utah for agricultural and economic opportunities, but to escape persecutions. As a result, many Utahns tend to see the ideal life style as living on a large tract of land where their family can learn the meaning of hard work, and where they can be protected. Hence, to a large extent, urbanization represents a threat to many Utahns, especially to those who have never lived outside the state and have misconceptions regarding the ramifications of urbanization.

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<sup>1</sup> This appendix was prepared by Roland Robison of Free and Associates.

With the obvious impracticality of everybody owning a farm, many Utahns opt for large lots on which they can grow gardens and hold family activities. While Utahns tend to be very social open space, common areas and shared amenities are often perceived to not offer the security and privacy that is important to many of them. As a result, these concepts have not been well received in the past. However, there is concrete evidence in the market that these perceptions have begun to change in recent years and that communities offering open space and amenities are obtaining premium values. This subject will be addressed in more detail later in this report.

High density housing seems to represent a particularly acute threat in the minds of many Utahns. The perceived de-emphasis of a family oriented life style inherent in high density housing, as well as traffic congestion and social problems associated with low income housing tend to represent the epitome of negative conditions created by urbanization in the minds of many Utahns. This misconception has contributed significantly to problems of urban sprawl and an acute lack of affordable housing. This is illustrated by a comparison of the town of Bluffdale, which requires minimum lot sizes of one acre and a development immediately adjacent to Bluffdale called The Foothills, which offers lots 10,000 to 12,000 square feet in size priced from \$45,000 to \$47,000 and homes priced from \$134,000 to \$180,000. According to The Meyer's Report, the entire town of Eagle Mountain absorbed 64 homes over the past year, while The Foothills alone absorbed 155 homes.

## **PERCEPTIONS OF ABUNDANT LAND RESOURCES**

Utah's land resources in reality are not abundant. With the Wasatch Mountains on the east and two large lakes (The Great Salt Lake and Utah Lake) on the west, the majority of development in the counties of Utah, Davis and Weber has been squeezed into a strip of land not more than ten miles wide in most places. However, despite these geographical constraints land has been viewed as abundant in the past, due to the relatively small population and moderate growth rate of the Wasatch Front. As a result, most Utahns have failed to understand that land is a finite resource that can eventually be exhausted if it is not used wisely.

The lack of concern over efficient use of land resources has created a reckless approach to land planning on the part of municipal officials, not only allowing, but indeed promoting urban sprawl through arbitrary large-lot zoning ordinances. While developers have recognized the economic benefit of higher density housing, they have not become educated as to the environmental benefits and as a result, have not been able to effectively argue their case for higher densities. On the other hand, Utah's recent growth is creating a new awareness as to the need for efficient land utilization.

## **LACK OF CONSISTENT GROWTH**

In spite of its relatively broad-based economy, Utah's growth has been somewhat erratic, booming during the 70s, suffering a severe recession



during the 80s, then rebounding during the 90s. This lack of consistent growth has contributed to the problem of inconsistent planning and land use policies on the part of local municipalities, allowing large volumes of agricultural and natural land resources to be developed inefficiently. With projections for a more stable growth pattern in the future, it is important that municipalities now become more consistent and responsible in their zoning policies and land use planning.

## **LACK OF EDUCATION REGARDING SUSTAINABLE PLANNING PRACTICES**

Partly because of Utah's relative remoteness and partly because of the circumstances described above, local municipalities and developers have failed to become educated as to the important concepts of environmental sustainability. Indeed, many Utahns have actually felt that large-lot development practices enhance and preserve the desired rural life style, when in fact they are simply creating text book sprawl. Envision Utah's efforts have been effective in beginning the education process that is so important to understanding sustainability. However, these efforts to date have been met with significant levels of skepticism on the part of planning commissions, city councils and developers, many of whom consider themselves to have done well under the old system and are resistive to change.

On the other hand, a small nucleus of progressive municipalities and developers have begun to see the vision of sustainable development practices. A few new projects have come on the market in recent months offering cluster housing, open space, walkable site plans and generous amenities, creating a strong sense of community. These communities include such projects as Kayscreek Estates in Layton, Copper Creek Estates in South Jordan, Rosecrest in Herriman, Saratoga Springs, Eagle Mountain and The Ranches at Eagle Mountain. Not only have these communities been successful, but have been able to realize significant value premiums, ranging from 5 to 15 percent over their competition, while maintaining comparable absorption rates.

Not only does the success of these communities demonstrate that the Wasatch Front housing market is receptive to these concepts, but they have caught the attention of other developers and municipalities who are now beginning to understand the advantages of these concepts. Nevertheless, much additional work is needed to move forward with the education process.

## **LAND OWNERSHIP PATTERNS**

The pattern of land ownership in Utah has typically consisted of farms being divided and handed down to subsequent generations over many years. As a result, most land parcels are now less than 20 acres in size, making it very difficult to achieve the economies of scale necessary to master plan large open space and common area amenities. This condition presents particular challenges to national production builders who depend on the high level of

perceived value generated by large master planned communities. For this reason, many of the larger master planned communities are being developed outside the normal development corridors, in areas where large land parcels are still available. Such communities include Saratoga Springs, Eagle Mountain and The Ranches at Eagle Mountain, all of which are located in northwestern Utah

## DEVELOPMENT INDUSTRY RESTRAINTS

In past decades Utah's development industry has been largely isolated from the progressive influences of national builders and lenders. As a result, the majority of Utah's developers have not provided products that offered the perceived value and a sense of community of Planned Unit Developments and Master Planned Communities. This has created challenges for large builders such as Ryland Homes and Pulte Homes, who depend on these types of communities to promote their products and have consequently left the Utah market for the time being. As the increased values of this approach to development become more evident, it is probable that this problem will be somewhat resolved. On the other hand, the land ownership problems discussed earlier may continue to present challenges in this area.

## MUNICIPAL PERFORMANCE

The following tables analyze the historical performance of densities allowed within individual municipalities by tabulating new recordings by minimum lot size as of the end of 1997, 1998, and first quarter 1999. Each submarket is then rated as to estimated gross densities of housing being approved within its boundaries, based on a tabulation of minimum lot sizes. The information for this analysis is extracted from the First Quarter 1999 issue of the Meyers Report. To calculate approximate land usage by submarket, density assumptions were made as follows:

<u>Product Description</u>	<u>Assumed Average Gross Density</u>
Stacked Flats	20 Units/Acre
Townhomes	12 Units/Acre
Detached - Under 6,000 sf	8 Units/Acre
Detached - 6,000 to 8,000 sf	6 Units/Acre
Detached - 8,000 to 10,000 sf	4 Units/Acre
Detached - 10,000 to 12,000 sf	3.5 Units/Acre
Detached - 12,000 to 14,000 sf	3.0 Units/Acre
Detached - 14,000 to 16,000 sf	2.75 Units/Acre
Detached - 16,000 to 18,000 sf	2.50 Units/Acre
Detached - 18,000 to 20,000 sf	2.25 Units/Acre
Detached - 20,000 to 25,000 sf	2.00 Units/Acre
Detached - 25,000 to 40,000 sf	1.50 Units/Acre
Detached - 1 to 2 Acres	.75 Units/Acre
Detached - 2+ Acres	.25 Units/Acre

Using the above assumptions to analyze the number of units approved and recorded by submarket through 1998, (see tables), results in the following land resource consumption rates by municipality, listed from highest efficiency to lowest:

<u>Submarket</u>	<u>County</u>	<u>Municipalities</u>	<u>1998 Plat Recordings (Units)</u>	<u>Land Density (Units per Gross Residential Acre)</u>
North Salt Lake	Salt Lake	North Salt Lake	218	15.35
Clearfield	Davis	Clearfield	93	15.12
Orem	Utah	Orem	241	11.09
Sandy	Salt Lake	Sandy	129	10.54
Salt Lake City	Salt Lake	Salt Lake City	241	10.46
Murray	Salt Lake	Murray	311	10.37
Provo	Utah	Provo	204	6.78
West Valley City	Salt Lake	West Valley City	767	6.31
Tooele	Tooele	Tooele	1,046	6.25
Payson	Utah	Payson	374	6.01
Springville	Utah	Springville	171	5.62
Draper	Salt Lake	Draper	404	5.30
Centerville	Davis	Centerville	74	5.09
Spanish Fork	Utah	Spanish Fork	269	5.04
West Jordan	Salt Lake	West Jordan	265	4.84
American Fork	Utah	American Fork	148	4.34
Kearns	Salt Lake	Area of SL Cnty	212	4.30
West Layton	Davis	Portion of Layton	225	4.25
Clinton	Davis	Clinton	177	4.13
South Jordan	Salt Lake	South Jordan	282	4.06
West Point	Davis	West Point	42	4.00
Woods Cross	Davis	Woods Cross	27	4.00
Stansbury Park	Tooele	Tooele County	95	3.88
Pleasant Grove	Utah	Pleasant Grove	245	3.69
Riverton	Salt Lake	Riverton	82	3.62
Salem	Utah	Salem	26	3.25
Syracuse	Davis	Syracuse	248	2.97
Kaysville	Davis	Kaysville	155	2.94
East Layton	Davis	Portion of Layton	116	2.91
Grantsville	Tooele	Grantsville	221	2.68
Bountiful	Davis	Bountiful	32	2.43
Alpine	Utah	Alpine	31	2.26
Highland	Utah	Highland	20	2.24
Lehi <sup>2</sup>	Utah	Lehi, Saratoga Sprgs, Eagle Mt., Portions of Utah County	1,560	2.06
Lindon	Utah	Lindon	62	1.63
Mapleton	Utah	Mapleton	61	1.39
Farmington	Davis	Farmington	116	1.10
Bluffdale <sup>3</sup>	Salt Lake	Bluffdale	0	N/A

<sup>2</sup> This submarket includes Cedar Pass Ranch, a subdivision with a 5-acre minimum lot size that is not located within the city of Lehi and was initially recorded in unincorporated Utah County. The newly incorporated towns of Eagle Mountain and Saratoga Springs are also located within this submarket.

<sup>3</sup> Bluffdale had no lot recordings in 1998, however minimum lot size in Bluffdale is 1 acre

County Totals:

<u>County</u>	<u>1998 Plat Recordings</u>	<u>Land Consumption Rate</u>
Salt Lake	2,693 Units	5.87 Units/Acre
Tooele	1,362 Units	4.99 Units/Acre
Davis	1,523 Units	3.44 Units/Acre
Utah	3,412 Units	2.92 Units/Acre