

**State of Utah  
Long Term  
Projections  
2005-2050**

# **2005 Baseline Highlights**



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**Demographic and Economic Analysis  
Governor's Office of Planning and Budget  
April 2005**

# **State of Utah Economic and Demographic Projections**

## **2005 Baseline Highlights**

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## Introduction

The Governor's Office of Planning and Budget (GOPB) recently released the 2005 Baseline long-term economic and demographic projections series. This Highlights Report is intended to emphasize the major demographic and economic trends that will impact Utah over the next five decades.

The Governor's Office of Planning and Budget publishes these long-term projections biennially. The primary purpose of the projections is to improve decision making and planning coordination in state government by providing a uniform set of population and employment projections. In order to make educated decisions about how to allocate scarce resources to competing demands it is necessary for decision-makers to have the best possible information about what the future may hold. These forecasts help frame the debate of how we plan for the future, and allow the analysis of future periods given historical trends.

This Highlights Report presents many of the economic and demographic trends anticipated to impact Utah over the projections period, places these findings in a historical context, and makes comparisons with national data. Historically, Utah has had a distinctive demographic profile. The state's population is younger, and women tend to have more children in comparison to other states. The projections indicate that the distinctive demographic features (i.e. the youthful and rapidly growing population) will continue, however, Utah will increasingly become more like the nation, in terms of fertility and household size. Utah's population and employment growth rates are projected to continue to out-pace those of the nation for the next three decades.

**Table 1**  
**Utah Economic and Demographic Summary**

Year	Total Population		School-Age Population (Ages 5-17)		Total Employment		Households		
	Total	Growth Rate	Total	Growth Rate	Total	Growth Rate	Total	Growth Rate	Average Size
2000	2,246,553	na	509,092	na	1,392,577	na	706,978	na	3.12
2005	2,528,926	2.4%	538,492	1.1%	1,482,410	1.3%	827,150	3.2%	3.01
2010	2,833,337	2.3%	608,071	2.5%	1,697,725	2.7%	943,143	2.7%	2.96
2020	3,486,218	2.1%	763,907	2.3%	2,084,097	2.1%	1,179,874	2.3%	2.91
2030	4,086,319	1.6%	862,532	1.2%	2,493,070	1.8%	1,417,632	1.9%	2.83
2040	4,701,369	1.4%	967,828	1.2%	2,946,187	1.7%	1,657,488	1.6%	2.78
2050	5,368,567	1.3%	1,097,703	1.3%	3,452,532	1.6%	1,914,879	1.5%	2.75

Notes:

1. All numbers are dated July 1.
2. The 2000 number for total employment is actually a 2001 number. The 2000 number is not available in a NAICS consistent format
3. Employment in a given year is computed as the annual average of 12 monthly observations and is the number of wage and salary jobs plus the numbers of sole proprietorships and of members of partnerships except for limited partners.



## State Level Population Projections

Utah's population, which was 1.7 million in 1990, reached 2.2 million in 2000, and is projected to reach 2.8 million in 2010, 3.5 million in 2020, 4.1 million in 2030, 4.7 million in 2040, and 5.4 million in 2050. Although the projected average annual growth rate

decelerates from 2.4% per year in the 1990s to 1.3% per year in the 2040s, these growth rates are more than twice the projected rates for the nation as a whole. The average annual rate of change from 2000 to 2050 is 1.8%, well above the national average of 0.8%.

**Table 2**  
**Population and Components of Change**

Year	Population	Births	Deaths	Net Migration	Natural Increase	Population Increase
2000	2,246,553	46,880	11,953	18,612	34,927	53,539
2001	2,305,652	47,688	12,437	23,848	35,251	59,099
2002	2,358,330	48,041	12,662	17,299	35,379	52,678
2003	2,413,618	49,518	12,798	18,568	36,720	55,288
2004	2,469,230	50,527	13,282	18,367	37,245	55,612
2005	2,528,926	51,349	13,604	21,951	37,745	59,696
2006	2,582,371	52,135	13,892	15,202	38,243	53,445
2007	2,642,046	53,001	14,134	20,808	38,867	59,675
2008	2,703,841	54,129	14,391	22,057	39,738	61,795
2009	2,767,745	55,237	14,648	23,315	40,589	63,904
2010	2,833,337	56,365	14,903	24,130	41,462	65,592
2011	2,899,802	57,225	15,178	24,418	42,047	66,465
2012	2,966,929	58,211	15,448	24,364	42,763	67,127
2013	3,034,158	59,423	15,727	23,533	43,696	67,229
2014	3,100,771	60,325	16,010	22,298	44,315	66,613
2015	3,166,498	61,182	16,297	20,842	44,885	65,727
2016	3,231,472	61,755	16,605	19,824	45,150	64,974
2017	3,295,822	62,438	16,909	18,821	45,529	64,350
2018	3,360,002	63,473	17,228	17,935	46,245	64,180
2019	3,423,463	64,376	17,556	16,641	46,820	63,461
2020	3,486,218	65,026	17,902	15,631	47,124	62,755
2021	3,548,095	65,982	18,270	14,165	47,712	61,877
2022	3,609,332	66,610	18,649	13,276	47,961	61,237
2023	3,670,075	67,447	19,040	12,336	48,407	60,743
2024	3,730,643	68,548	19,445	11,465	49,103	60,568
2025	3,790,984	69,419	19,865	10,787	49,554	60,341
2026	3,850,721	70,397	20,311	9,651	50,086	59,737
2027	3,909,750	71,380	20,765	8,414	50,615	59,029
2028	3,968,660	72,358	21,233	7,785	51,125	58,910
2029	4,027,293	73,265	21,708	7,076	51,557	58,633
2030	4,086,319	74,304	22,195	6,917	52,109	59,026
2031	4,145,745	75,338	22,706	6,794	52,632	59,426
2032	4,205,594	76,244	23,226	6,831	53,018	59,849
2033	4,265,875	77,262	23,746	6,765	53,516	60,281
2034	4,326,612	78,307	24,279	6,709	54,028	60,737
2035	4,387,814	79,365	24,810	6,647	54,555	61,202
2036	4,449,499	80,367	25,355	6,673	55,012	61,685
2037	4,511,680	81,379	25,909	6,711	55,470	62,181
2038	4,574,377	82,340	26,460	6,817	55,880	62,697
2039	4,637,603	83,316	27,007	6,917	56,309	63,226
2040	4,701,369	84,439	27,535	6,862	56,904	63,766
2041	4,765,680	85,368	28,087	7,030	57,281	64,311
2042	4,830,532	86,308	28,625	7,169	57,683	64,852
2043	4,895,928	87,227	29,154	7,323	58,073	65,396
2044	4,961,851	87,986	29,678	7,615	58,308	65,923
2045	5,028,316	88,907	30,181	7,739	58,726	66,465
2046	5,095,309	89,666	30,695	8,022	58,971	66,993
2047	5,162,833	90,627	31,195	8,092	59,432	67,524
2048	5,230,888	91,592	31,695	8,158	59,897	68,055
2049	5,299,467	92,542	32,181	8,218	60,361	68,579
2050	5,368,567	93,519	32,657	8,238	60,862	69,100

Note: All populations are dated July 1.

### Natural Increase

Natural increase, which is the amount by which births exceed deaths, will account for 79.0% of Utah's population growth over the next 45 years. This is a slight increase from the period of 1950 to 2000, when natural increase accounted for 78.4% of population increase. Utah's population growth is characterized by a high growth rate and a low death rate. In 2004, annual births were at a record level at 50,500, causing an all time high natural increase of 37,245 as well. This trend will continue throughout the projections period. The number of births per year is projected to average 50,900 in the 2000s, 60,500 in the 2010s, 69,000 in the 2020s, 78,800 in the 2030s, and 88,500 in the 2040s. This compares to projected annual average deaths of 13,400 in the 2000s, 16,200 in the 2010s, 19,700 in the 2020s, 24,600 in the 2030s, and 29,900 in the 2040s.

### Net Migration

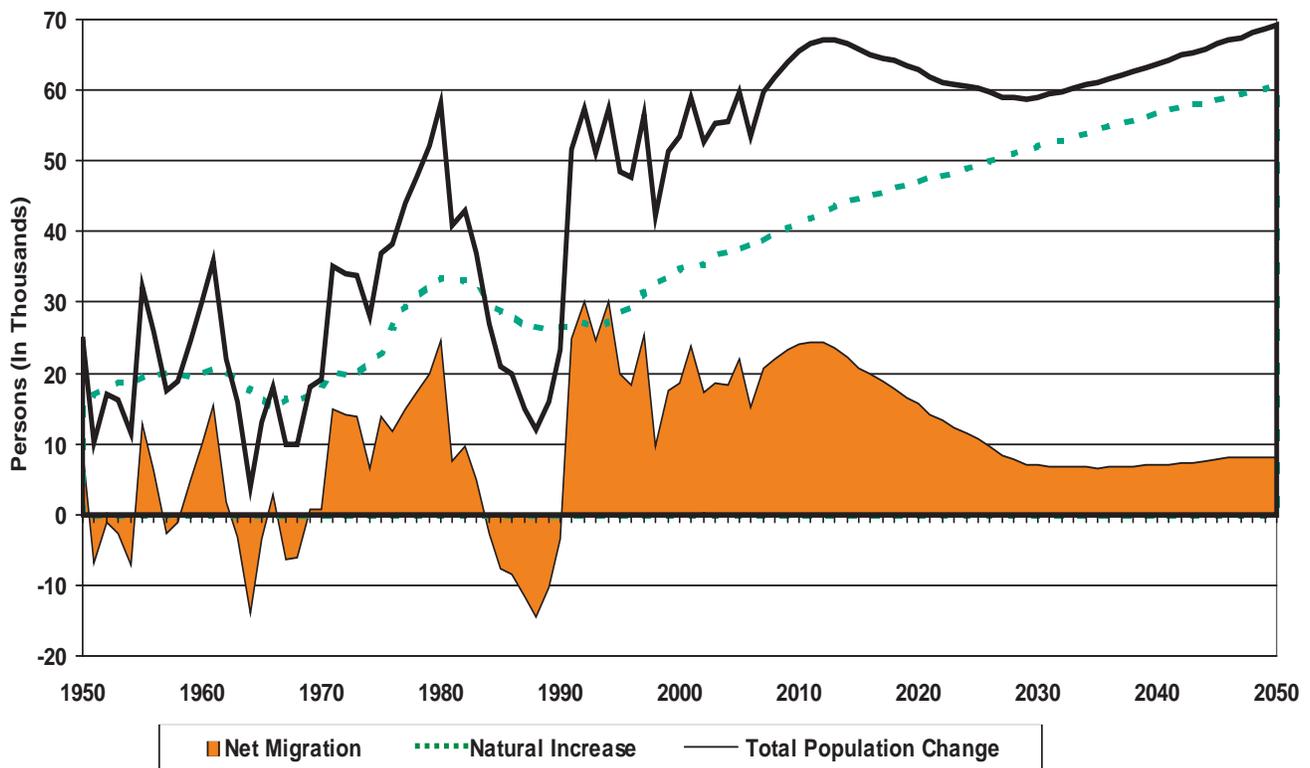
Net migration is gross in-migration less gross out-migration. Positive net migration occurs when more people move into an area than move out of an area for a given period of time. Net migration is projected to

occur in the State of Utah over the next five decades. Approximately 399,500 of the 2.9 million population increase over the 45 year projection period can be attributed to net in-migration, meaning migration accounts for about 21% of the projected increase.

Net migration will fluctuate throughout the next 45 years, but it is projected to remain positive. In the 2000s, net migration is projected to average 20,000 a year, 21,300 in the 2010s, 11,000 in the 2020s, 6,800 in the 2030s, and 7,600 in the 2040s. Net migration is projected to peak in 2012 at around 43,000, but is not expected to dip below the low mark of around 7,000 in 2035.

Net in-migration occurs when 1) there is enough job creation to accommodate residents who are new entrants to the labor force, and 2) there is additional job creation, such that in-migration is necessary to satisfy labor demand within the state. The sustained net in-migration is projected because job creation is also projected to be relatively rapid over the next three decades.

**Figure 1**  
**State of Utah Components of Population Change**



**Table 3**  
**Population by Selected Age Group**

Age	2000	2005	2010	2020	2030	2040	2050
0-4	212,172	249,960	274,564	319,883	361,961	411,826	458,120
5-17	509,092	538,492	608,071	763,907	862,532	967,828	1,097,703
18-29	499,544	547,219	525,553	568,051	685,700	768,969	858,218
30-39	300,677	348,282	458,897	497,720	497,802	591,742	665,868
40-64	533,956	632,391	721,003	962,474	1,146,904	1,263,686	1,330,475
65+	191,112	212,582	245,249	374,183	531,420	697,318	958,183
15-44	1,072,904	1,170,569	1,271,973	1,504,362	1,616,339	1,830,933	2,071,539
16-64	1,417,564	1,607,235	1,787,693	2,138,213	2,457,441	2,764,213	3,013,631
60+	254,031	292,870	353,155	526,475	695,695	958,992	1,191,065
Total	2,246,553	2,528,926	2,833,337	3,486,218	4,086,319	4,701,369	5,368,567
Median Age	27.2	28.5	30.2	31.9	32.5	33.3	34.0

Note: All populations are dated July 1.

**Table 4**  
**Population by Selected Age Group as Percent of Total**

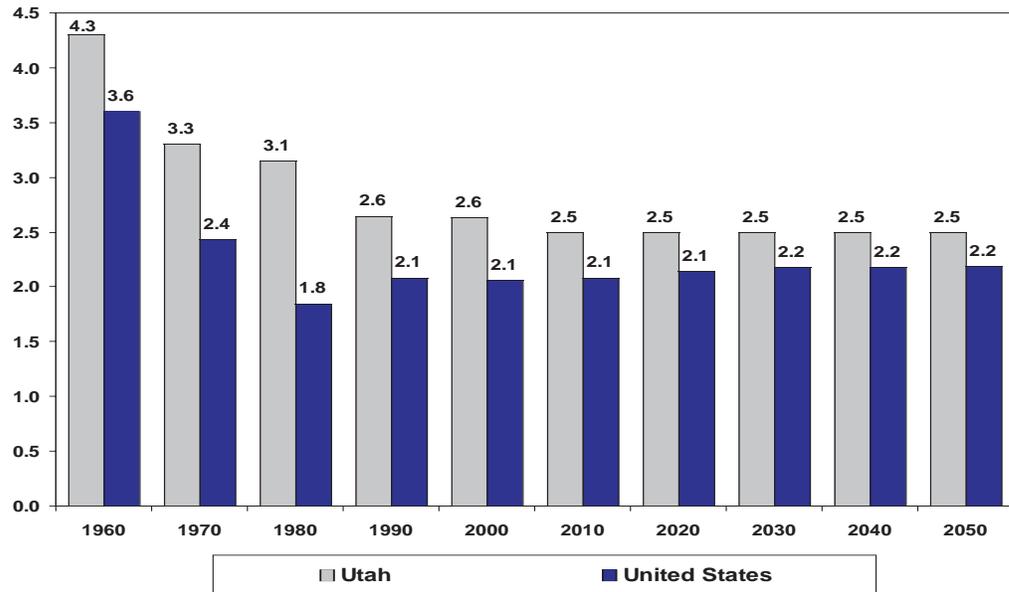
Age	2000	2005	2010	2020	2030	2040	2050
0-4	9.4%	9.9%	9.7%	9.2%	8.9%	8.8%	8.5%
5-17	22.7%	21.3%	21.5%	21.9%	21.1%	20.6%	20.4%
18-29	22.2%	21.6%	18.5%	16.3%	16.8%	16.4%	16.0%
30-39	13.4%	13.8%	16.2%	14.3%	12.2%	12.6%	12.4%
40-64	23.8%	25.0%	25.4%	27.6%	28.1%	26.9%	24.8%
65+	8.5%	8.4%	8.7%	10.7%	13.0%	14.8%	17.8%
15-44	47.8%	46.3%	44.9%	43.2%	39.6%	38.9%	38.6%
16-64	63.1%	63.6%	63.1%	61.3%	60.1%	58.8%	56.1%
60+	11.3%	11.6%	12.5%	15.1%	17.0%	20.4%	22.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: All populations are dated July 1.

**Figure 2**  
Fertility Rates for Utah and the U.S.

**Age Structure and Fertility**

Utah's population is relatively young when compared to that of the nation. Consequently, a greater proportion of the state's females are in their childbearing years than the U.S. Therefore, even if Utah's fertility rate (children per woman) was equal to that of the nation, more children would be born in Utah relative to the size of the population.

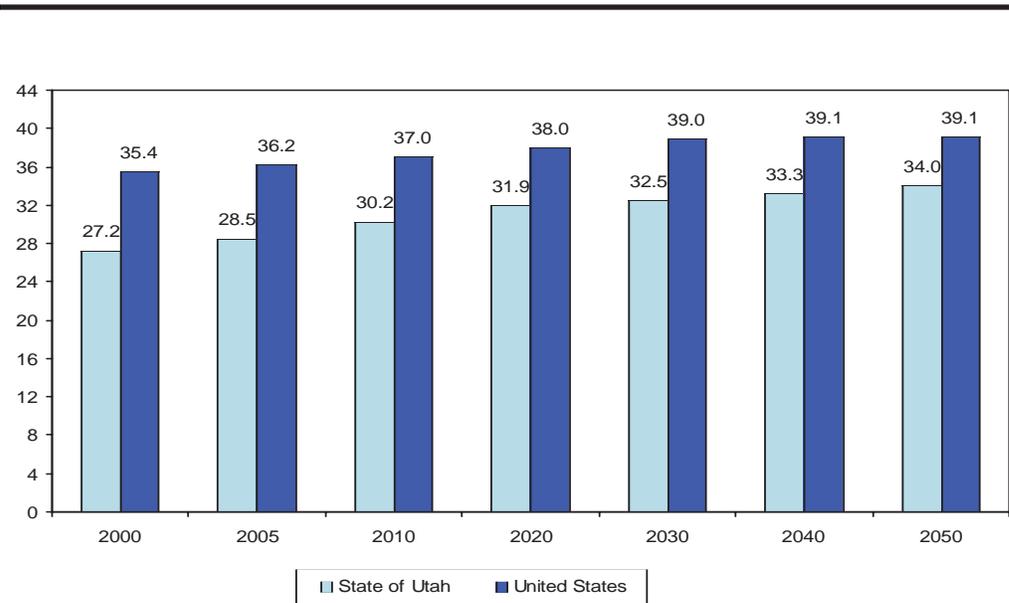


In addition to the young population, Utah's women have higher fertility rates, ranking the state first in the nation. For the projection period, Utah's fertility rate is projected to remain constant at 2.5 children per woman of childbearing age. At the national level, the fertility rate is projected to increase from 2.01 in 2000 to 2.19 in 2050. Further contributing to the rapid rate of natural increase is the fact that Utahns tend to have longer life expectancies (mortality rates at any given age are lower) compared to the nation.

an age is projected to increase from 27.2 years in 2000 to 34.0 years by the year 2050. Over the same period, the U.S. median age is projected to increase from 35.4 to 39.1. The increasing median ages in both cases are largely the result of the aging of the baby boomers over

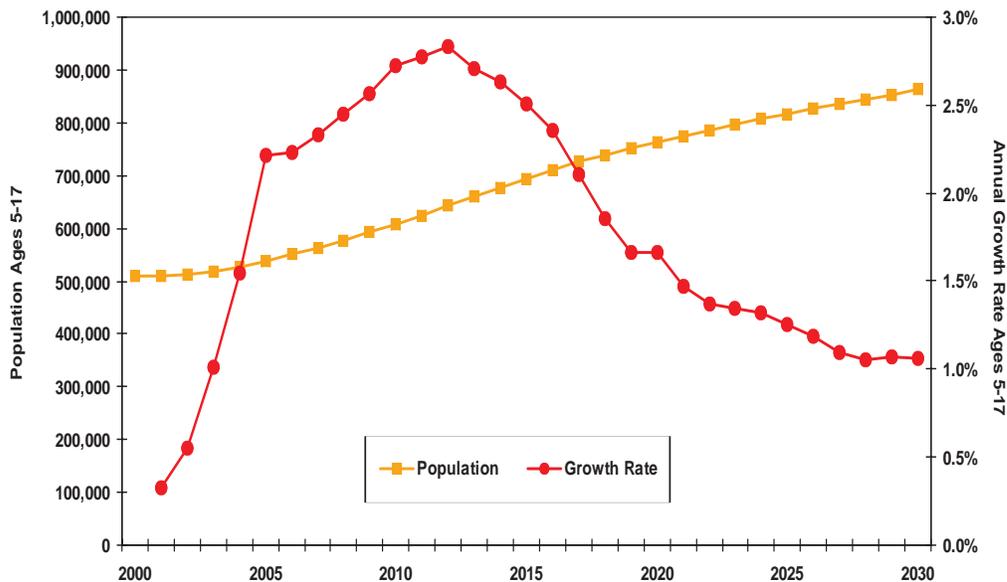
The median age is the age that divides the age distribution of a given population into two equal groups--one that is younger than the median and one that is older than the median. Utah's medi-

**Figure 3**  
Projected Median Age for Utah and the United States



**Figure 4**  
**Growth of School-Age Population: 2000 to 2030**

time. The difference in median ages reflects the cumulative effect of Utah's higher fertility rate and the interaction of this high fertility rate with the younger population profile of the state. As Utah women in child-bearing years continue to have more children on average than women nationally, the younger age groups continue to be relatively larger as a portion of the population than is the case for the U.S. as a whole.



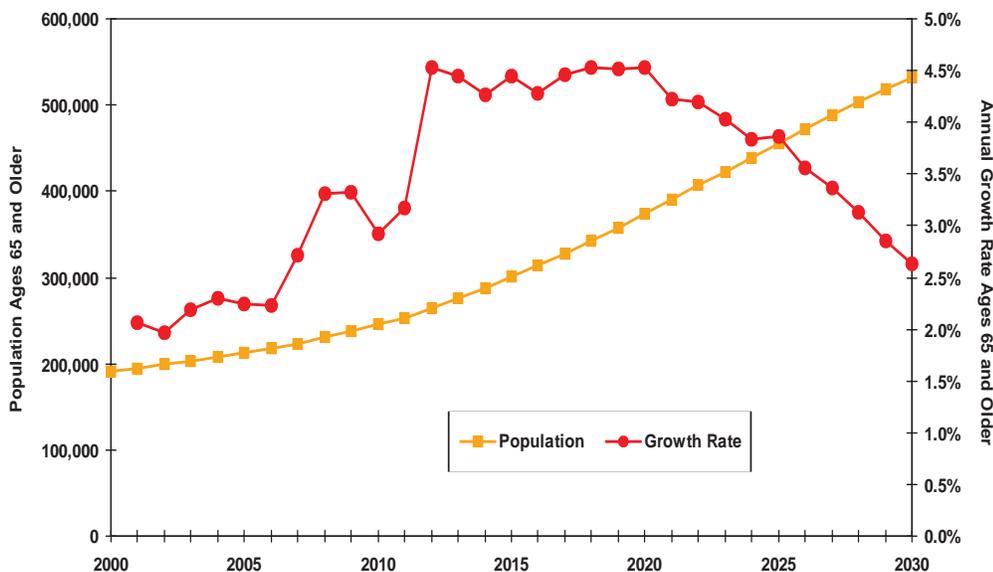
**School-Age Population**

A significant portion of Utah's growth will occur in the school-age (ages 5 to 17) population. The State of

Utah is projecting an increase of nearly 156,000 people in the school-age population over the next decade. It is important to note that this increase is not mainly fertility-driven or migration-driven. Rather, the growth in

this age group is a consequence of the fact that the grandchildren of the baby boomers are now entering the school-age years.

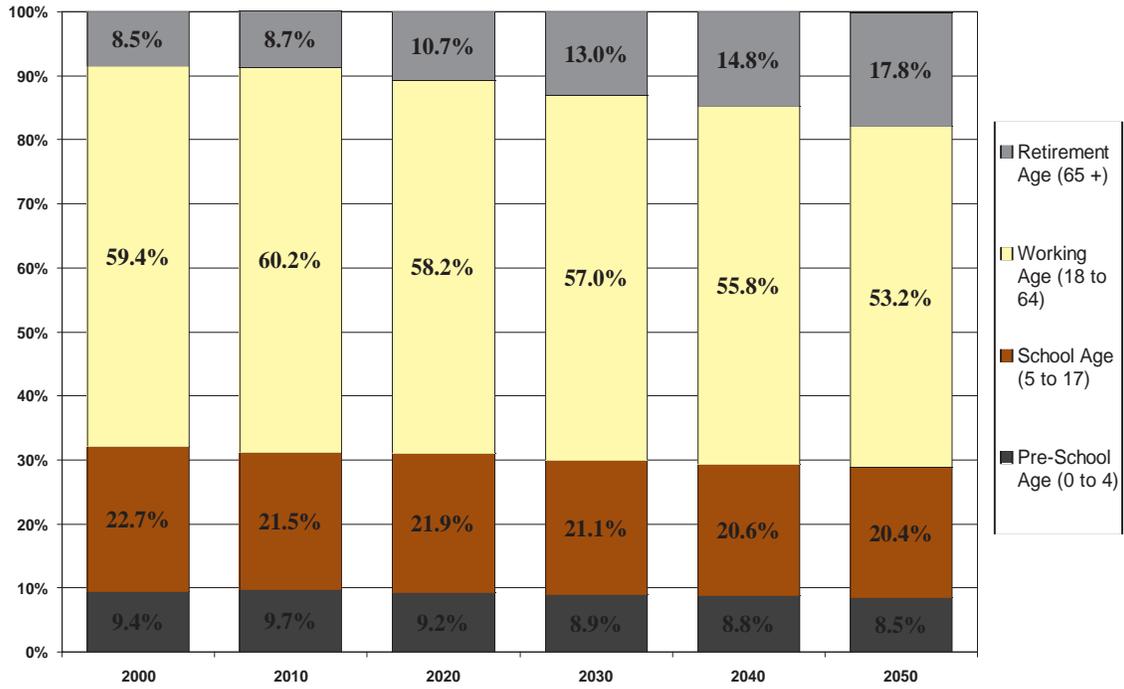
**Figure 5**  
**Growth of Retirement-Age Population: 2000 to 2030**



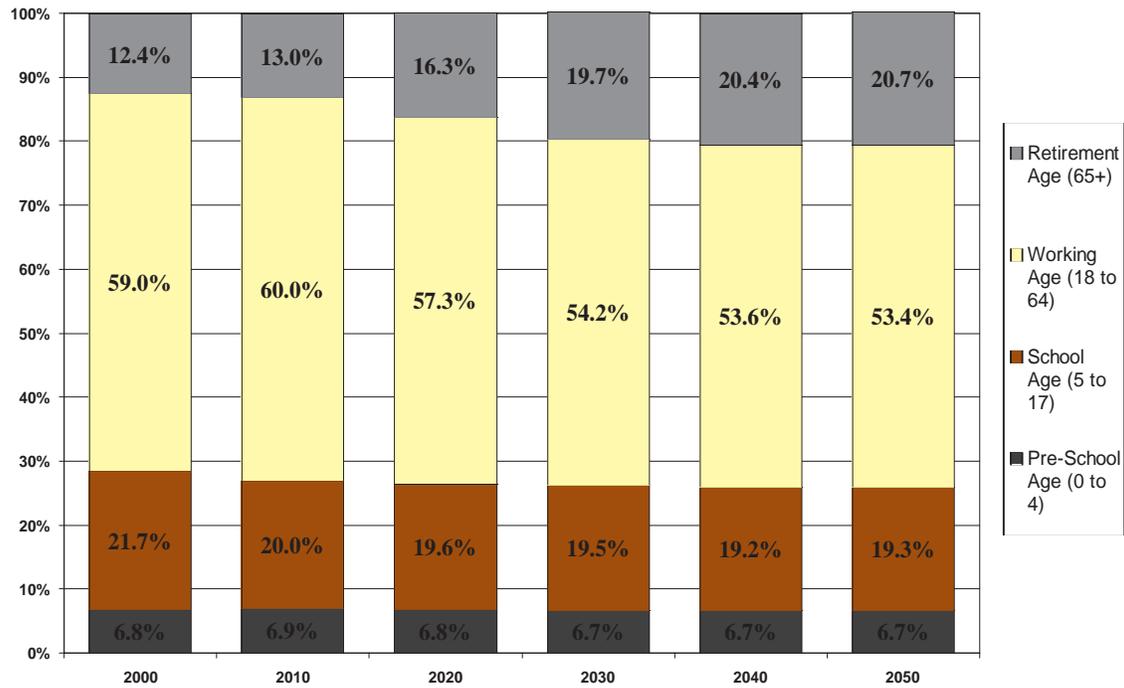
**Retirement-Age Population**

While the growth of the school-age population will be an important factor in Utah's overall growth, another important factor will be the growth of the retirement-age (65 years and older) population. This age group is projected to grow at an annual rate of around 4.5% for nearly ten years, begin-

**Figure 6**  
Utah Proportion of Population Projections by Age Group



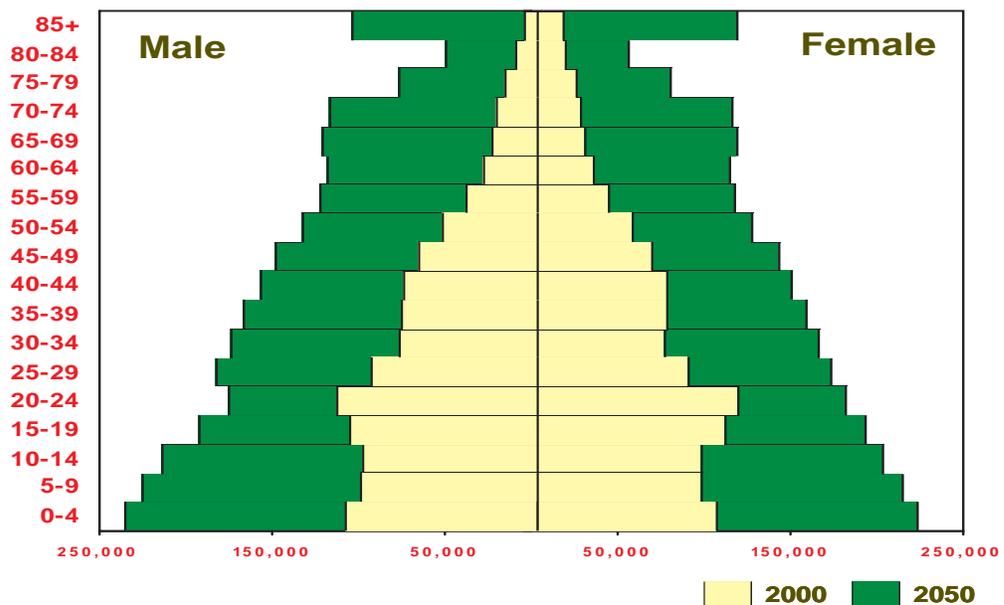
**Figure 7**  
U.S. Proportion of Population Projections by Age Group



**Figure 8**  
Utah's Changing Age Structure

ning in the year 2012. In 2000 the retirement-age population made up 8.5% of Utah's population, but by 2050 it is projected to grow to 17.8% of the population. This increase is slightly higher than the national trend, in which the retirement age population will increase from composing 12.4% of the population in 2000, to 20.7% in 2050.

The retirement-age population will be the only age group that will grow at a faster average annual rate than the state during the projections period. At 3.3% it will not only nearly double the state's annual average rate of change, but also the average growth rate of the national retirement age population, which will grow about 1.8% annually.

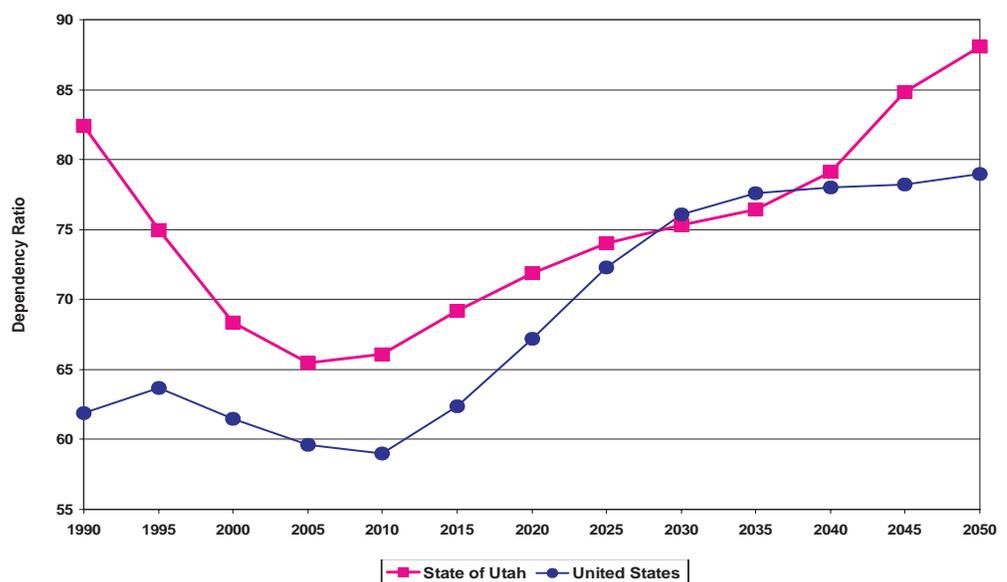


population have been substantial relative to its total population. In 1970, Utah's dependency ratio was 90 while the nation's was 79. In 2000, the dependency ratio for the state fell to 69 while the nation's fell to 63. This decline occurred, in both cases, primarily because the baby boomers reached working age.

### Utah's Dependency Ratio

One summary measure of a population's age structure is the dependency ratio. This ratio is defined as the number of non working age persons (younger than 18, and 65 years and over) per 100 working age persons (ages 18 through 64). Utah's dependency ratio has historically been significantly higher than that of the nation. This has occurred because the pre-school and school-age portions of Utah's

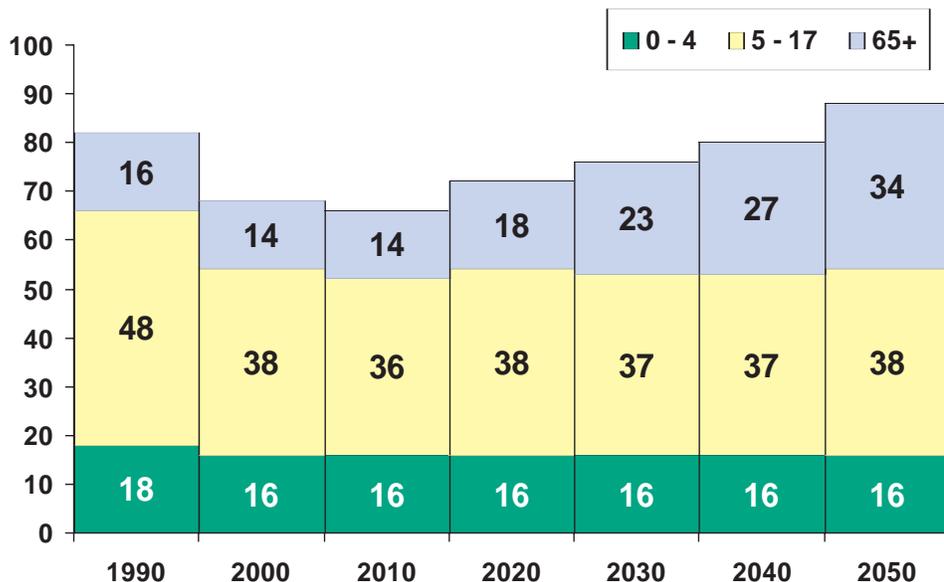
**Figure 9**  
Dependency Ratios for Utah and the U.S.



**Figure 10**  
Utah Dependency Ratios

Utah's age structure is projected to continue to be characterized by a relatively high dependency ratio. The state's dependency ratio is projected to drop below that of the nation, beginning around 2030. However, this anomaly is not expected to last more than a few years, and Utah's dependency ratio will once again rise above the nation's around 2040. The trend of converging, then crossing dependency ratios is primarily

because the working age proportion of Utah's population is projected to increase while that of the nation is projected to decline. The aging of the baby boomers affects the age structure of both Utah and the U.S. However, the aging and retirement of the baby boomers will have a larger effect on the national dependency

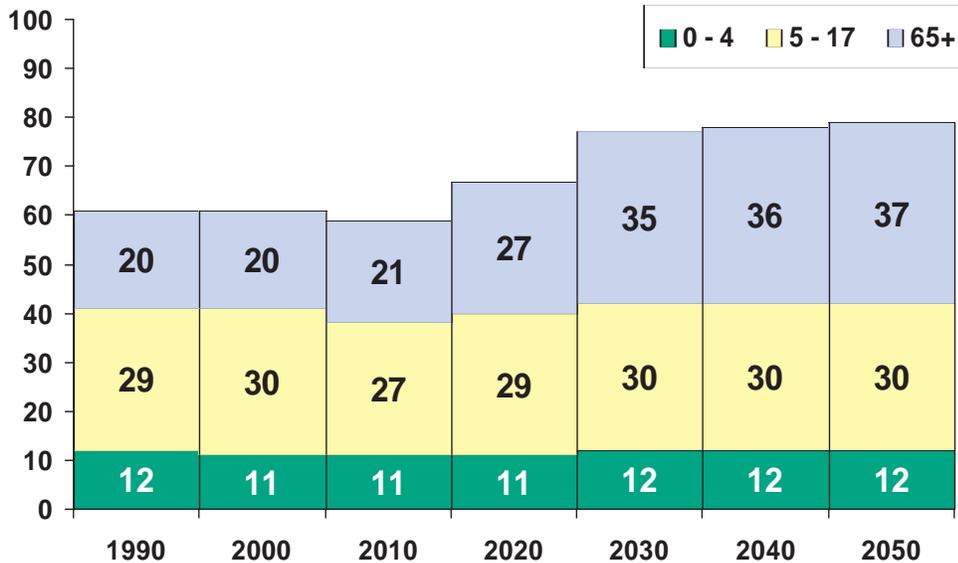


ratio because the younger age groups in Utah's population will increase more rapidly than those of the nation throughout the entire period.

**Utah's Share of U.S. Population**

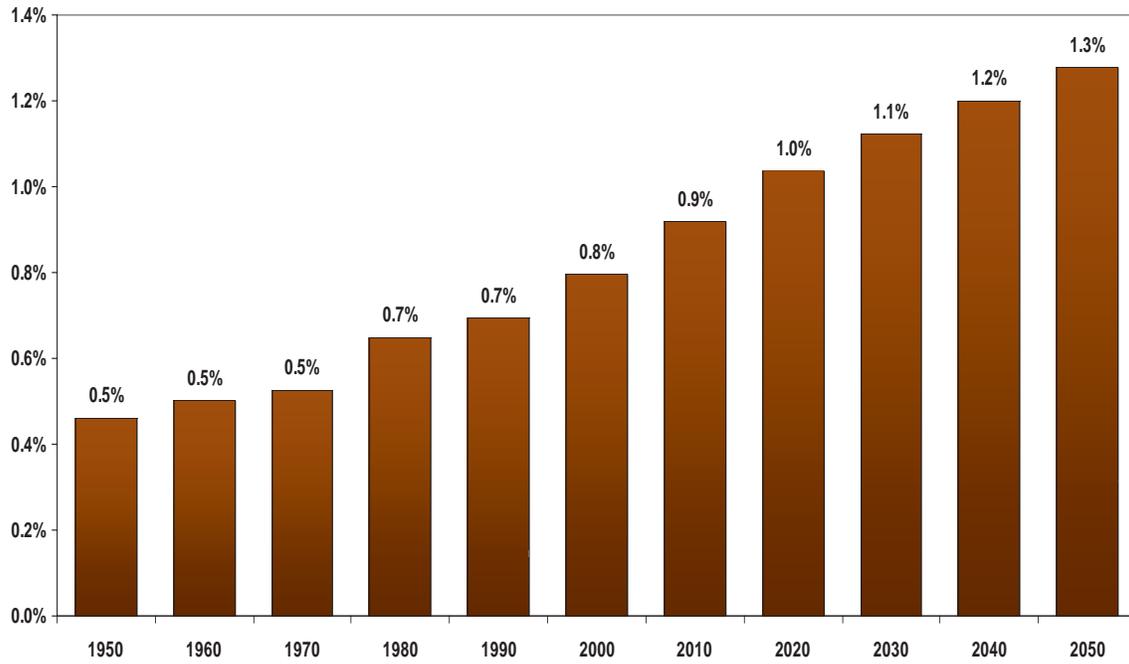
As Utah's population growth continues to outpace that of the U.S., Utah will increase its share of the national population. In 1950 Utah made up 0.5% of the total population, this proportion has slowly increased to 0.8% in 2000. It is projected that Utah's population as a percent of total U.S. population will continue to increase, reach 0.9% in 2010, 1.0% in 2020, 1.1% in 2030, 1.2% in 2040, and 1.3% in 2050.

**Figure 11**  
U.S. Dependency Ratios



**Figure 12**  
**Utah Population as a Percent of Total U.S. Population**

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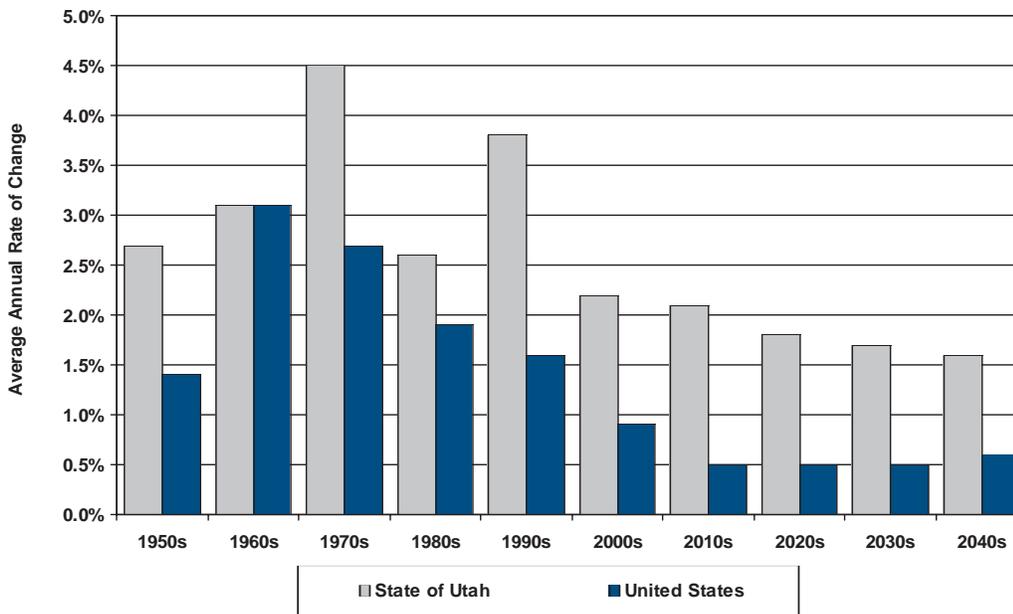


## State Level Employment Projections

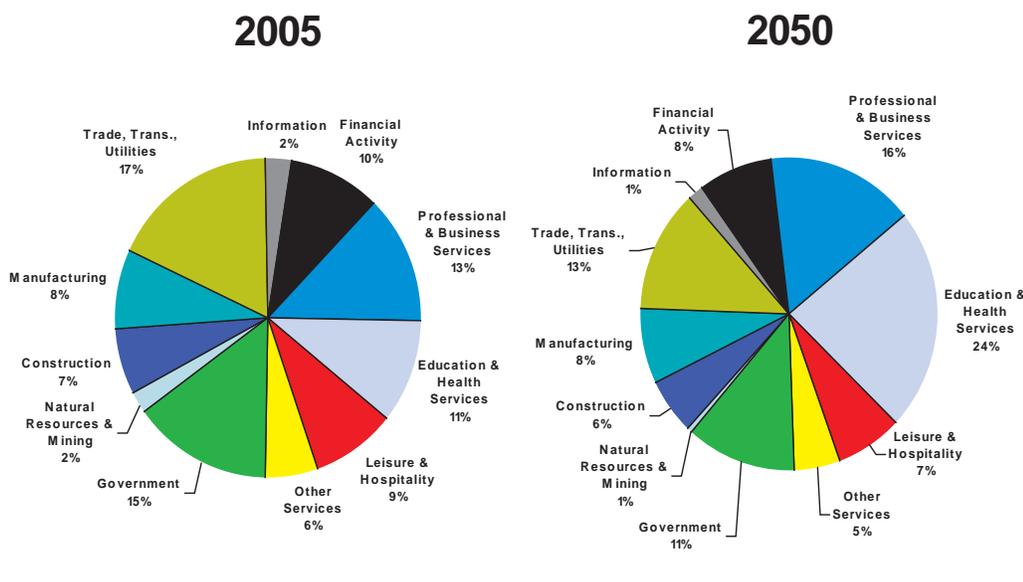
Utah's total employment is projected to increase from 1.4 million in 2001 to 3.5 million in 2050. This is an increase of over two million jobs over the projections period. The State of Utah's average annual growth rate in employment for the projections period is 1.8%, while the corresponding growth rate for the U.S. is

projected to be about half that of Utah. The employment concept in the 2005 Baseline is the same as the federal Bureau of Economic Analysis and is roughly 30% higher than that reported by the Utah Department of Workforce Services. Employment in a given year is computed as the annual average of 12 monthly observations and is the number of wage and salary jobs plus the number of sole non-proprietorships and members of partnerships except for limited partners.

**Figure 13**  
Total Employment Growth by Decade for Utah and the U.S.



**Figure 14**  
Utah Employment by Industry as a Share of Total State Employment



### Employment

Over the next five decades, employment growth is projected for every major industry except mining and natural resources in Utah. Further, average annual growth in every industry is projected to be higher than for those same industries at the national level. National projections indicate that four of the 11 major industries will experience net declines in employment levels. The four industries are natural resources and mining; manufacturing; trade, transportation, and utilities; and information. In Utah, of the 11 major industries, education and health services is projected to have the highest average annual growth rate over the next five decades. The projected average annual rate

**Table 5**  
**Employment by Major Industry**

Industry	2001	2005	2010	2020	2030	2040	2050
Natural Resources & Mining	32,282	31,459	29,895	28,228	27,576	27,983	29,463
Construction	95,869	98,937	114,959	141,999	161,705	183,430	198,791
Manufacturing	127,828	123,039	131,677	150,920	180,666	218,190	266,491
Trade, Trans., Utilities	259,741	271,735	305,185	342,687	378,185	414,519	452,827
Information	36,535	33,770	38,134	41,166	44,025	47,416	51,711
Financial Activity	130,519	143,752	163,555	194,359	221,565	246,804	271,310
Professional & Business Services	181,034	199,315	236,776	301,647	374,448	457,369	556,671
Education & Health Services	134,218	156,429	191,684	294,044	430,409	596,484	801,429
Leisure & Hospitality	115,490	125,644	146,355	175,690	201,267	226,142	248,618
Other Services	72,467	81,394	93,441	113,366	133,925	155,601	178,493
Government	206,594	216,936	246,064	299,991	339,299	372,249	396,728
<b>Total</b>	<b>1,392,577</b>	<b>1,482,410</b>	<b>1,697,725</b>	<b>2,084,097</b>	<b>2,493,070</b>	<b>2,946,187</b>	<b>3,452,532</b>

Notes:

1. The 2000 number is not available in a NAICS consistent format.
2. Employment in a given year is computed as the annual average of 12 monthly observations and is the number of wage and salary jobs plus the numbers of sole proprietorships and of members of partnerships except for limited partners.

**Table 6**  
**Location Quotients and Hachman Index**

Industry	2001	2005	2010	2020	2030	2040	2050
Natural Resources & Mining	0.79	0.77	0.71	0.64	0.59	0.57	0.56
Construction	1.17	1.17	1.19	1.18	1.15	1.16	1.14
Manufacturing	0.90	0.95	0.99	1.07	1.16	1.23	1.29
Trade, Trans., Utilities	1.01	0.98	0.97	0.97	0.98	0.98	0.98
Information	1.09	0.99	0.98	0.95	0.93	0.91	0.89
Financial Activity	1.17	1.17	1.17	1.18	1.20	1.22	1.24
Professional & Business Services	0.99	1.00	1.01	1.01	1.03	1.04	1.05
Education & Health Services	0.86	0.90	0.89	0.89	0.89	0.89	0.88
Leisure & Hospitality	0.98	0.97	0.97	0.97	0.98	1.00	1.01
Other Services	0.97	1.01	1.01	1.01	1.02	1.03	1.04
Government	1.07	1.04	1.02	1.00	0.97	0.95	0.94
<b>Hachman Index</b>	<b>0.98</b>	<b>0.98</b>	<b>0.98</b>	<b>0.98</b>	<b>0.98</b>	<b>0.97</b>	<b>0.97</b>

Notes:

1. Location Quotients are measures of relative shares. The share of a given industry in the subject area (Utah) is compared to that of the reference region (United States). A location quotient greater than one indicates specialization in a subject region relative to the reference region.
2. The Hachman Index measures how closely the employment distribution of the subject region (Utah) resembles that of the reference region (United States). As the value of the index approaches one, this means that the subject region's employment distribution among industries is more similar to that of the reference region.
3. The 2000 number is not available in a NAICS consistent format.

**Table 7**  
**Hachman Index by County**

County	2001	2005	2010	2020	2030	2040	2050
Beaver	0.35	0.36	0.39	0.45	0.50	0.53	0.54
Box Elder	0.59	0.59	0.58	0.57	0.56	0.54	0.52
Cache	0.81	0.81	0.81	0.79	0.77	0.75	0.73
Carbon	0.79	0.82	0.85	0.87	0.88	0.89	0.90
Daggett	0.37	0.35	0.36	0.37	0.37	0.35	0.34
Davis	0.65	0.67	0.71	0.77	0.80	0.82	0.84
Duchesne	0.31	0.31	0.34	0.38	0.40	0.40	0.40
Emery	0.33	0.34	0.36	0.40	0.43	0.43	0.42
Garfield	0.39	0.41	0.43	0.47	0.49	0.51	0.53
Grand	0.56	0.56	0.57	0.59	0.59	0.58	0.58
Iron	0.86	0.87	0.87	0.86	0.87	0.88	0.88
Juab	0.69	0.70	0.73	0.76	0.78	0.79	0.79
Kane	0.56	0.55	0.55	0.54	0.52	0.49	0.47
Millard	0.36	0.38	0.41	0.47	0.53	0.56	0.59
Morgan	0.53	0.53	0.58	0.64	0.68	0.71	0.71
Piute	0.13	0.12	0.12	0.14	0.16	0.17	0.18
Rich	0.31	0.31	0.35	0.44	0.51	0.57	0.61
Salt Lake	0.93	0.93	0.93	0.94	0.93	0.93	0.92
San Juan	0.62	0.65	0.69	0.73	0.75	0.74	0.73
Sanpete	0.59	0.62	0.64	0.67	0.68	0.68	0.67
Sevier	0.64	0.66	0.69	0.73	0.75	0.76	0.77
Summit	0.52	0.54	0.54	0.54	0.53	0.52	0.51
Tooele	0.61	0.63	0.68	0.74	0.76	0.77	0.77
Uintah	0.22	0.19	0.19	0.19	0.20	0.19	0.18
Utah	0.79	0.80	0.81	0.80	0.79	0.79	0.79
Wasatch	0.75	0.76	0.75	0.74	0.74	0.72	0.69
Washington	0.84	0.83	0.84	0.85	0.87	0.87	0.87
Wayne	0.40	0.41	0.45	0.54	0.60	0.65	0.67
Weber	0.86	0.85	0.87	0.88	0.90	0.90	0.90

**Note:**

1. The subject region is each individual county, and the reference region is the United States.
2. The 2000 number is not available in a NAICS consistent format.

of change for 2001 through 2050 for Utah's education and health services sector is 3.6%. Other major industries in Utah that are projected to have strong employment growth (around 2.0% per year on average) for the 2001 to 2050 period are professional and business services (2.3%), and other services (1.8%). Slower growing industries include construction (1.5%), manufacturing (1.5%), financial activity (1.5%), leisure and hospitality (1.5%), government (1.3%), trade, transportation, and utilities (1.1%), and information (0.7%).

Currently, the three largest industries (in terms of employment) in Utah are: trade, transportation, and utilities; government; and professional and business services. Looking forward, the number of jobs in these industries is expected to more than double, increasing from 647,400 in 2001 to 1.4 million in 2050, an increase of nearly 760,000 jobs. Despite this large growth, education and health services will still outpace every other sector, increasing from 156,400 jobs in 2000, to 801,400 in 2050. This growth will make edu-

cation and health services jump from the fourth largest industry in 2000, to the largest in 2050.

### **Diversification**

The State of Utah is becoming more economically diverse, and hence its economic structure is becoming more like the nations, as measured by the Hachman Index<sup>1</sup>. There are specific counties that are very different from the U.S., and this is not necessarily bad. For example, if the natural resources and mining industry moved out of Duchesne County, the economic structure of the county would score higher on the Hachman Index, meaning it would now be more representative of the economic base of the nation. However, the county's economy would not be better off. Although the direction of shifts in composition of employment by industry are projected to be similar for Utah and the U.S., the projected 2005 and 2050 distributions of employment by industry are different for Utah and the U.S. In 2001, the most significant differences between the industrial composition of Utah and the U.S. were the large concentration of employment in the construction and the financial activity sectors, as well as the somewhat large employment concentration in the information and government sectors. The concentration of employment in the trade, transportation, and utilities sector was slightly higher in Utah when compared to the nation. The Utah industries with smaller proportions of the overall employment than their national counterparts included professional and business services, leisure and hospitality, other services, manufacturing, education and health services, and natural resources mining.

The most significant differences between the employment shares for the projected industrial composition in 2050 of Utah and the U.S. are the relatively larger concentration of Utah's employment in the manufacturing, financial activity, and construction sectors, and the relatively smaller share of Utah's employment in natural

resources and mining. When compared to the nation, Utah is also projected to have a slightly larger share of employment in: professional and business services; other services; and leisure and hospitality. It is projected to have a slightly smaller share of employment in: trade, transportation, and utilities; government; information; and education and health services. This is the combined result of the differential shifts in industrial composition between Utah and the U.S. in the projections period, and the initial differences in the composition of employment between the two.

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<sup>1</sup> This is an index of similarity that measures how closely the employment distribution of the subject region resembles that of the reference region. The value of the index is between zero and one. As the value of the index approaches one, this means that the subject region's employment distribution among industries is more similar to that of the reference region. If the reference region is the nation, and, given the assumption that the nation's economy is diversified, a larger value of the Hachman Index relative to the nation means that a subject region is more diversified.

# County Level Population and Employment Projections

## Population

The average annual rate of change for Utah's population from 2000 to 2050 is projected to be 1.8%. The most rapid growth will occur in counties within or adjacent to the northern metropolitan region, and in the southwestern portion of the state. Washington County is projected to be the fastest growing county in the state, with an average annual growth rate of 3.9%.

About 1.9 million, or 61%, of the 3.1 million population increase projected for the state between 2000 and 2050 will be concentrated in the counties of Salt Lake, Utah, Davis, and Weber. This is somewhat less than the 76% share of the state's population in these counties in 2000. Therefore, the projected share of the state's population in these four counties in 2050 will decline slightly to 67%.

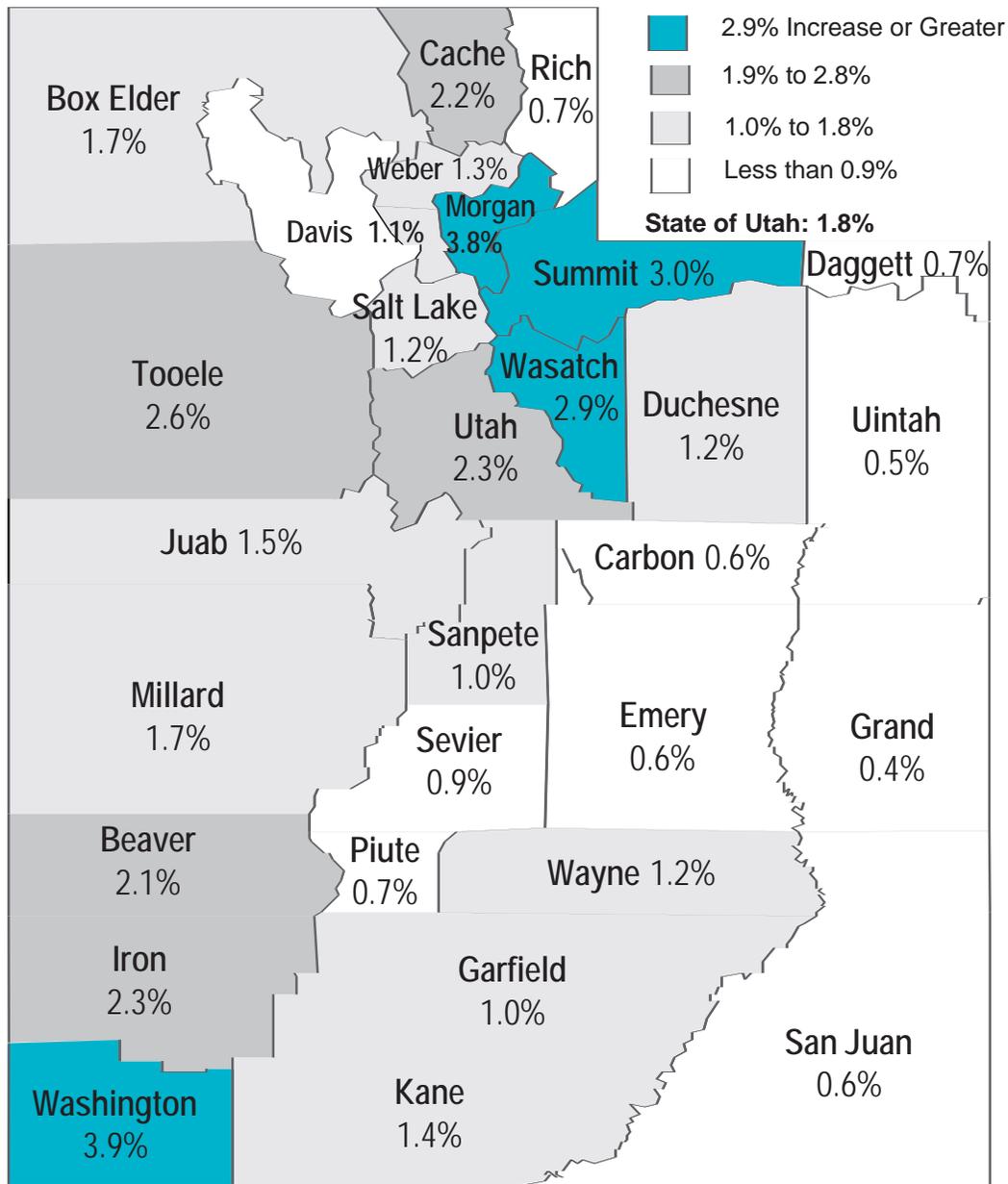
**Table 8**  
**Population by County and Multi-County District**

County	2000	2005	2010	2020	2030	2040	2050	AARC 2000- 2050
Beaver	6,023	6,335	7,575	11,549	13,761	15,535	17,373	2.1%
Box Elder	42,860	45,142	49,254	61,675	73,833	85,455	97,789	1.7%
Cache	91,897	102,477	114,304	147,776	183,989	223,185	266,711	2.2%
Carbon	20,396	19,205	19,023	20,982	23,188	25,118	27,039	0.6%
Daggett	933	967	1,024	1,141	1,209	1,258	1,305	0.7%
Davis	240,204	276,374	304,502	352,320	382,219	404,170	424,177	1.1%
Duchesne	14,397	15,043	15,897	19,021	21,497	23,516	25,543	1.2%
Emery	10,782	10,492	10,346	11,359	12,536	13,396	14,240	0.6%
Garfield	4,763	4,645	4,955	5,973	6,747	7,356	7,966	1.0%
Grand	8,537	8,691	9,039	9,751	10,129	10,403	10,661	0.4%
Iron	34,079	40,212	48,772	65,607	77,493	90,268	103,920	2.3%
Juab	8,310	8,917	10,112	12,798	14,546	16,067	17,611	1.5%
Kane	6,037	6,093	6,618	8,359	9,783	11,033	12,327	1.4%
Millard	12,461	13,305	14,199	18,386	22,439	25,726	29,179	1.7%
Morgan	7,181	8,525	10,183	16,200	24,595	34,290	46,596	3.8%
Piute	1,436	1,356	1,503	1,790	1,797	1,913	2,026	0.7%
Rich	1,955	2,086	2,147	2,447	2,636	2,724	2,809	0.7%
Salt Lake	902,777	970,748	1,053,258	1,230,817	1,381,519	1,521,926	1,663,994	1.2%
San Juan	14,360	14,444	14,481	15,419	16,910	18,269	19,620	0.6%
Sanpete	22,846	25,447	27,904	32,902	35,181	36,866	38,492	1.0%
Sevier	18,938	19,494	21,038	24,855	26,892	28,337	29,738	0.9%
Summit	30,048	36,417	44,511	65,001	85,660	107,554	132,681	3.0%
Tooele	41,549	51,835	67,150	95,696	112,722	130,092	148,486	2.6%
Uintah	25,297	26,317	27,071	29,289	30,641	31,614	32,538	0.5%
Utah	371,894	453,977	527,502	661,319	804,112	964,893	1,147,333	2.3%
Wasatch	15,433	20,138	25,516	37,082	46,193	55,179	65,010	2.9%
Washington	91,104	125,010	162,544	251,896	353,922	472,355	607,334	3.9%
Wayne	2,515	2,527	2,764	3,469	3,943	4,292	4,640	1.2%
Weber	197,541	212,707	230,145	271,339	306,227	338,579	371,429	1.3%
<b>MCD</b>								
Bear River	136,712	149,705	165,705	211,898	260,458	311,364	367,309	2.0%
Central	66,506	71,046	77,520	94,200	104,798	113,201	121,686	1.2%
Mountainland	417,375	510,532	597,529	763,402	935,965	1,127,626	1,345,024	2.4%
Southeast	54,075	52,832	52,889	57,511	62,763	67,186	71,560	0.6%
Southwest	142,006	182,295	230,464	343,384	461,706	596,547	748,920	3.4%
Uintah Basin	40,627	42,327	43,992	49,451	53,347	56,388	59,386	0.8%
Wasatch Front	1,389,252	1,520,189	1,665,238	1,966,372	2,207,282	2,429,057	2,654,682	1.3%
State of Utah	2,246,553	2,528,926	2,833,337	3,486,218	4,086,319	4,701,369	5,368,567	1.8%

**Notes:**

1. AARC is average annual rate of change.
2. All populations are dated July 1.

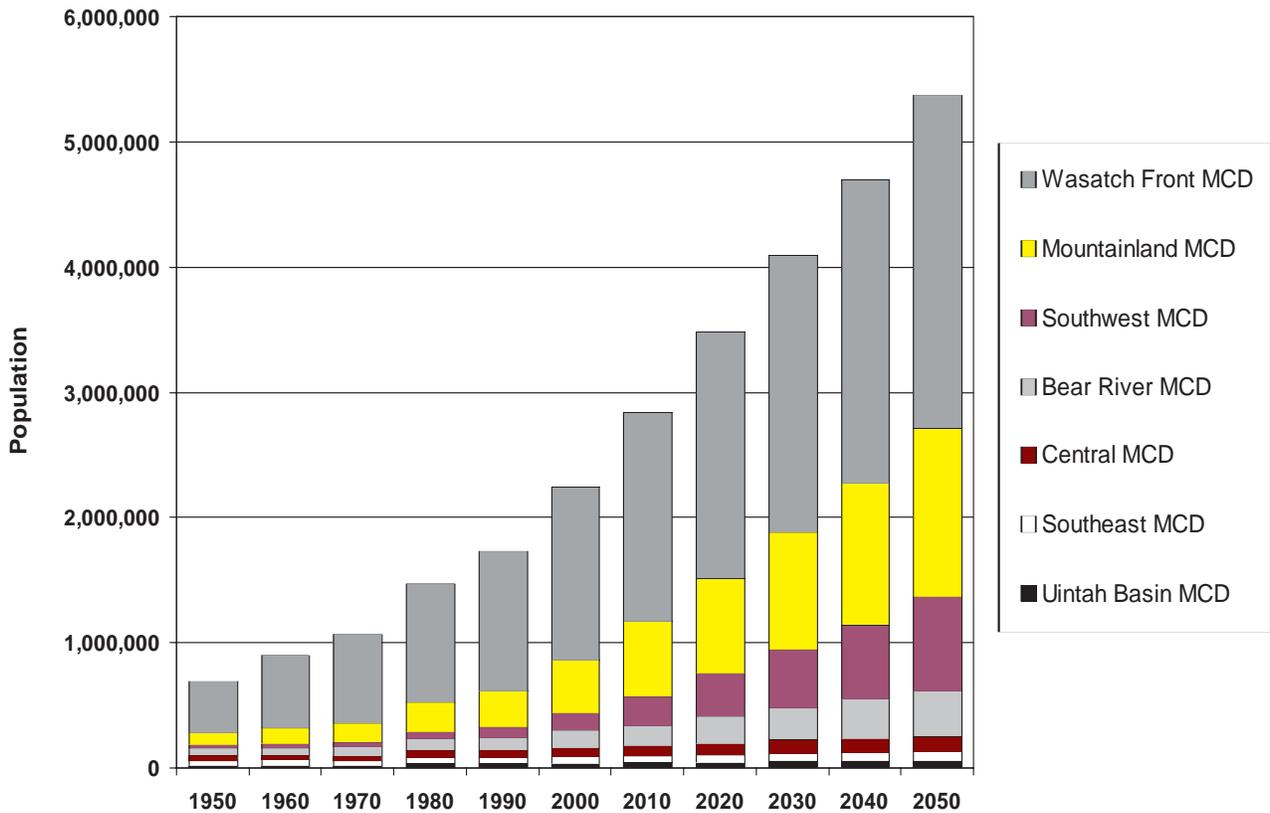
**Figure 15**  
**Utah Population Annual Average Rate of Change by County: 2000 to 2050**



The counties with the highest projected average annual rates of growth over the 2000 to 2050 period are Washington (3.9%), Morgan (3.8%), Summit (3.0%), Wasatch (2.9%), Tooele (2.6%), Utah (2.3%), Iron (2.3%), Cache (2.2%), and Beaver (2.1%). These growth rates are all in excess of the state growth rate of 1.8%. Thus, these counties will gain in terms of their shares of the state's total population.

Utah County will experience the largest numerical gain during the projections period, with an increase of 775,400 people. It will be followed by Salt Lake (761,200), Washington (516,230), Davis (184,000) and Cache (174,800) counties. The growth in these five counties will account for 77.2% of Utah's total population increase for the projections period.

**Figure 16**  
**Population by Multi-County District**



**Employment**

Of the 2.1 million net employment creation projected for the state from 2001 to 2050, 1.4 million jobs (67%) are expected to be within the Wasatch Front metropolitan area, including Salt Lake, Utah, Davis, and Weber counties. Among these, Utah is the only county projected to have average annual growth rates of employment in excess of that of the state as a whole, with a rate of 2.6%.

The counties with the most rapid rates of projected employment growth are also those counties with rapid rates of projected population growth. Rapid employment growth makes it possible for a region to support more people. Population growth reinforces economic expansion as well. The counties with the most rapid rates of projected employment growth from 2001 to 2050 are Morgan (4.2%), Washington (4.0%), Wasatch (2.8%), Utah (2.6%), Cache (2.6%), Summit (2.5%), Iron (2.4%), and Beaver (2.0%).

Four of the same five counties that will experience the largest population growth will also see the largest gain in employment. Salt Lake will see the largest increase in employment with a gain of 676,900 jobs, followed by Utah (509,800), Washington (268,000), Cache (136,300) and Weber (107,968). The employment growth in these five counties will make up 82.5% of the state's total job growth.

**Table 9  
Employment by County and Multi-County District**

Area	2001	2005	2010	2020	2030	2040	2050	AARC 2000- 2050
Beaver	3,092	3,060	3,605	5,236	6,139	7,127	8,132	2.0%
Box Elder	24,006	23,761	26,267	32,353	39,214	47,549	56,487	1.8%
Cache	54,484	59,694	69,416	90,961	118,862	152,239	190,782	2.6%
Carbon	11,220	10,959	11,399	12,744	14,325	16,688	19,286	1.1%
Daggett	608	570	596	614	618	633	646	0.1%
Davis	125,288	136,174	152,866	174,133	190,234	206,067	220,495	1.2%
Duchesne	8,113	7,888	8,189	9,333	10,437	11,615	12,929	1.0%
Emery	5,147	5,105	5,423	6,099	6,917	8,225	9,489	1.3%
Garfield	3,074	2,915	3,120	3,714	4,278	4,999	5,618	1.2%
Grand	5,788	5,446	5,704	6,084	6,465	7,023	7,523	0.5%
Iron	19,114	21,038	25,714	34,297	42,119	51,665	62,103	2.4%
Juab	3,870	3,748	4,160	5,098	5,956	7,020	8,112	1.5%
Kane	4,061	3,989	4,558	5,497	6,433	6,988	7,257	1.2%
Millard	6,137	6,258	6,693	8,294	10,168	12,585	14,870	1.8%
Morgan	3,012	3,392	4,236	6,833	10,630	16,235	23,353	4.3%
Piute	482	472	527	600	589	631	674	0.7%
Rich	1,127	1,148	1,222	1,305	1,410	1,584	1,689	0.8%
Salt Lake	666,674	687,439	775,094	934,300	1,074,747	1,202,626	1,343,534	1.4%
San Juan	5,314	5,954	6,580	7,734	8,578	8,770	9,211	1.1%
Sanpete	10,340	10,899	12,144	14,155	15,705	17,836	19,791	1.3%
Sevier	10,118	9,983	10,823	12,358	13,615	15,089	16,455	1.0%
Summit	24,392	25,135	28,993	36,821	48,086	64,195	85,142	2.6%
Tooele	15,857	15,597	18,293	22,975	25,979	30,056	34,585	1.6%
Uintah	14,188	14,071	14,534	15,394	16,216	17,256	18,349	0.5%
Utah	201,177	231,985	278,125	349,972	449,859	573,282	711,013	2.6%
Wasatch	7,727	8,788	11,081	15,543	19,607	24,554	29,958	2.8%
Washington	48,986	62,328	80,503	118,966	171,256	238,797	317,040	3.9%
Wayne	1,662	1,502	1,569	1,820	2,042	2,273	2,522	0.9%
Weber	107,519	113,112	126,291	150,864	172,586	192,580	215,487	1.4%
<b>MCD</b>								
Bear River	79,617	84,603	96,905	124,619	159,486	201,372	248,958	2.4%
Wasatch Front	918,350	955,714	1,076,780	1,289,105	1,474,176	1,647,564	1,837,454	1.4%
Mountainland	233,296	265,908	318,199	402,336	517,552	662,031	826,113	2.6%
Central	36,670	36,851	40,474	47,822	54,508	62,422	69,681	1.3%
Southwest	74,266	89,341	112,942	162,213	223,792	302,588	392,893	3.5%
Uintah Basin	22,909	22,529	23,319	25,341	27,271	29,504	31,924	0.7%
Southeast	27,469	27,464	29,106	32,661	36,285	40,706	45,509	1.0%
State of Utah	1,392,577	1,482,410	1,697,725	2,084,097	2,493,070	2,946,187	3,452,532	1.9%
United States	166,908,200	171,552,146	180,345,404	190,297,150	200,158,484	210,240,557	222,120,265	0.6%

Note: Employment in a given year is computed as the annual average of 12 monthly observations and is the sole proprietorships and of members of partnerships except for limited partners.

# Process, Assumptions & Models

## PROCESS

The process used to develop the 2005 Baseline is uniquely tailored to Utah. While the REMI model and certain assumptions played an integral part, no less important was the critical review of various state government agencies, Associations of Government, and local government experts. This Utah process will continually evolve and the circle of review for the projections will expand.

## ASSUMPTIONS

### Fertility

State level birth probabilities by age of mother are assumed to remain constant at their estimated 2004 levels to 2050. The resulting total fertility rate is 2.5 for the state.

### Survival

State-level survival rates by age and sex are assumed for the state. Survival rates are assumed to increase along with projected U.S. Survival rates to 2050. This assumption yields an increase in life expectancy of 7.0 years, from 75.5 years in 2000 to 82.5 years in 2050 for males. For females the similar increase is 6.7 years, from 81.9 in 2000 to 88.6 in 2050.

These rates will remain above the national life expectancy rates, which are projected to increase 7.1 years for males, from 74.5 years in 2000 to 81.6 years in 2050. The increase for females is projected to be 6.9 years, from 80.2 years in 2000 to 87.1 years in 2050. Utah's projected higher than the national average fertility and survival rates will contribute to maintaining Utah's distinctive demographic profile.

### Employment Growth

The underlying assumption in the production of employment projections is that industry shares of growth will remain constant over time. Therefore, the process of creating long-term employment projections involved extrapolating employment by industry based on a trend analysis of that industry's share of national employment. For instance, if a Utah industry constituted 1% of national industry employment in 1980, 2% in 1990, and 3% in 2000, that industry would be projected to constitute 4% in 2010, 5% in 2020, and 6% in 2030. This procedure was performed for all major industries and for all counties in Utah.

## MODELS

The State of Utah has a long history of producing detailed and accurate long-term projections. The UPED model enabled analysts to consider various scenarios in order to evaluate the future ramifications of actions taken today. The adoption of the REMI model will ensure that Utah's official long-term projections maintain their high standards of quality and accuracy for many years to come.

### The UPED Model

The UPED model is a combination of a three-component cohort population model and an economic base employment model. It produces pro-

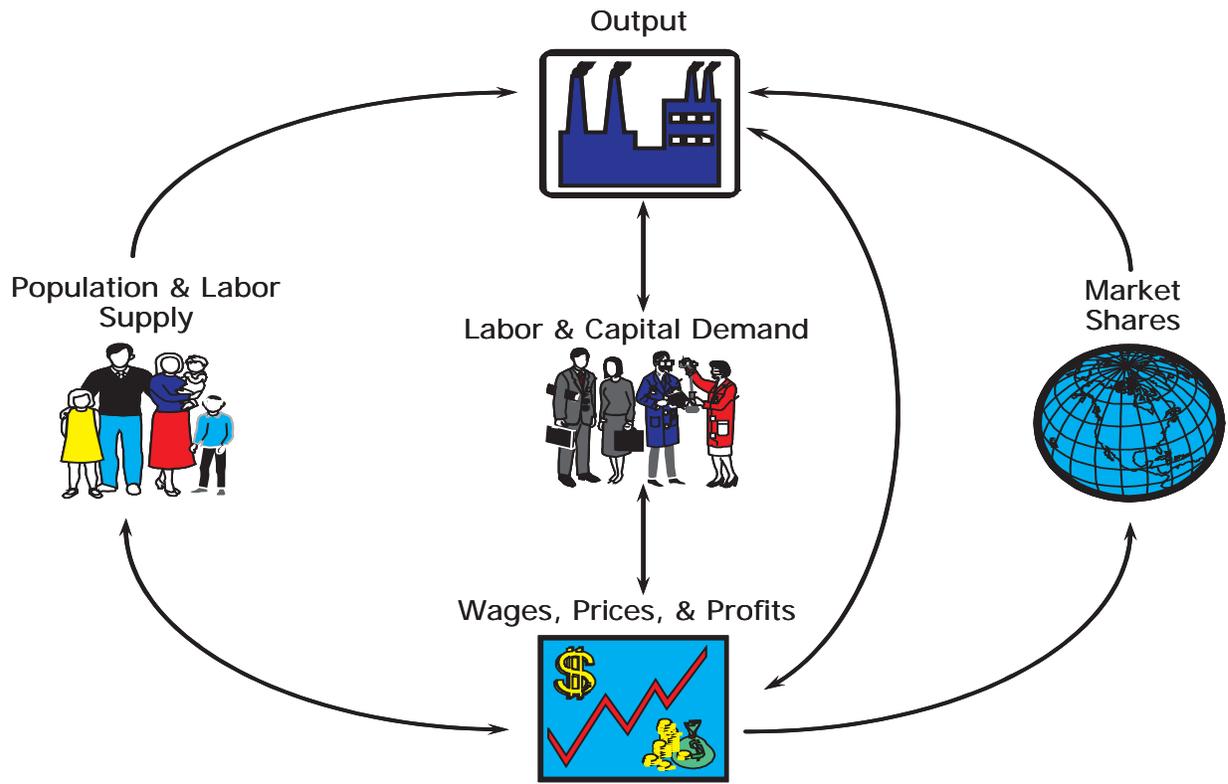
**Table 10**  
**Historical and Projected Life Expectancies for Utah and the U.S.**

Year	Utah			U.S.		
	Male	Female	Total	Male	Female	Total
1970	69.5	76.6	73.0	67.0	74.6	70.8
1980	72.4	79.2	75.8	70.1	77.6	73.9
1990	74.9	80.4	77.7	71.8	78.8	75.3
2000	75.5	81.9	78.7	74.5	80.2	80.2
2010	77.2	83.1	80.1	75.8	81.7	81.7
2020	78.2	84.5	81.4	77.1	83.3	83.3
2030	79.7	86.2	82.9	78.6	84.5	84.5
2040	81.0	87.7	84.3	80.1	85.8	85.8
2050	82.5	88.6	85.5	81.6	87.1	87.1

Sources: National Center for Health Statistics, Vital Statistics of the United States, Decennial Life Tables; Governor's Office of Planning and Budget



**Figure 18**  
**REMI Model Structure**



Source: REMI Users Guide, Version 5.1

considering all the issues related to updating the UPED model, the Steering Committee recommended that GOPB switch to the REMI model for the production of the official long-term projections for the State of Utah.

**The REMI Model**

The model produced by Regional Economic Models Inc. (REMI) is very similar to the UPED model, in that it combines economic and demographic components in order to produce a complete picture of the complex relationships that exist in a society. Its ability to capture these complex relationships makes REMI fairly unique among models of economic and demographic growth. This detail is also why REMI is one of the most widely used custom models in the nation. REMI's clients include a variety of federal government agencies, as well as state and local governments, and private users.

The REMI model has been extensively documented and widely tested over the years. It has been analyzed to test its technical abilities, and the documentation of

the model has been subject to peer review. The REMI model is a structural model, which means that it includes cause-and-effect relationships among the different parts. The basic assumptions underlying the model are that households maximize utility and that producers maximize profits. It has foundations in many modeling approaches, including input-output, economic base, neoclassical general equilibrium, Keynesian, macro-modeling, economic geography, segmented labor market analysis, econometric modeling, and cohort-component modeling<sup>4</sup>.

There are five basic model blocks in the REMI model. The major blocks are: (1) output and demand; (2) labor and capital demand; (3) population and labor force; (4) wages, prices and costs; and (5) market shares. These

4 Treyz, G. I. (1980). "Design of a multiregional policy analysis model." *Journal of Regional Science*. 20(2).

Treyz, G. I., Rickman, D. S., and Shao, G. (1992). "The REMI Economic-Demographic Forecasting and Simulation Model." *International Regional Science Review*. 14(3).

blocks provide the foundation upon which the model linkages are built. The interaction of all the parts of the model come together to provide the basis for preparing baseline forecasts and for conducting alternative scenario analysis based on differences from the baseline. Furthermore, because of the model's dynamic properties, it has the ability to reflect changes that either increase or decrease over time. This is especially helpful when conducting scenario analysis of alternative futures.

The models GOPB uses to produce the official baseline long-term projections for the State of Utah and its counties were custom designed by REMI. Not only do they incorporate regional data from national sources such as the U.S. Bureau of Economic Analysis, the U.S. Bureau of Labor Statistics, and the U.S. Census Bureau, the models also specifically include locally produced data. For instance, historical population data is from the Utah Population Estimates Committee, and birth and death data is from the Utah Department of Health. Furthermore, even though the official REMI model does not include data on households, because this information is important to Utah data users REMI incorporated it into Utah's model.

#### **Additional Information**

For additional information on historical as well as projected economic and demographic data, including methods, procedures, and assumptions, visit the web site: [www.governor.utah.gov/dea/people.html](http://www.governor.utah.gov/dea/people.html).

#### **Electronic Access**

This report is available on the Governor's Office of Planning and Budget's Internet web site at <http://www.governor.utah.gov/dea>.

#### **Glossary**

Terms and definitions used in this report are available on the Governor's Office of Planning and Budget web site at the address listed above.

#### **Suggestions and Comments**

Users of the Highlights Report are encouraged to write or call with suggestions that will improve future editions. Suggestions and comments for improving the coverage and presentation of data and quality of research and analysis should be sent to the Governor's Office of Planning and Budget, State Capitol Complex Suite E210, Salt Lake City, Utah 84114. The telephone number is (801) 538-1027.