2008

Population Estimates for Utah

Methods Documentation

April 2009

Population Estimates for Utah 2008

Demographic and Economic Analysis
Governor's Office of Planning and Budget
State of Utah

Utah State Capitol, Suite 150
Salt Lake City, Utah 84114

www.governor.utah.gov/dea
Phone: (801) 538-1027
Fax: (801) 538-1547

April 2009

Overview

Utah's population reached 2,757,779 in 2008, according to the Utah Population Estimates Committee (UPEC). This 2.2% increase from 2007 represents an increase of 58,225, comparable to adding approximately the population of Taylorsville, Utah. With the national population increasing by an estimated 0.9% during 2008, the pace of population growth in Utah is more than double the nation's. Utah's population ranks 34th, as it has for almost two decades. In 2008, the Census Bureau ranked Utah as the nation's fastest growing state.[1] Compared to the rest of the country, Utah's population growth is characterized by a high birth rate and a low death rate.

Utah's growth in 2008 continued the trend of a large number of births compared to relatively few deaths. The state's record natural increase was 41,577, which is the number of births minus deaths. Births were a record 55,357 and deaths were a record 13,780. The record high number of births continued a trend of yearly record births that started in 1997, was broken briefly in 2005, and resumed in 2006. Net migration during 2008 was 16,648, below the post-World War II record of 44,252 set in 2007. Indicators such as employment, wages, income, and sales demonstrated Utah's economic growth slowed during 2008. Demographic indicators such as school enrollment, LDS Church membership, tax exemptions, building permits, and utility connections suggest population growth was strong, due to both record natural increase and net migration.

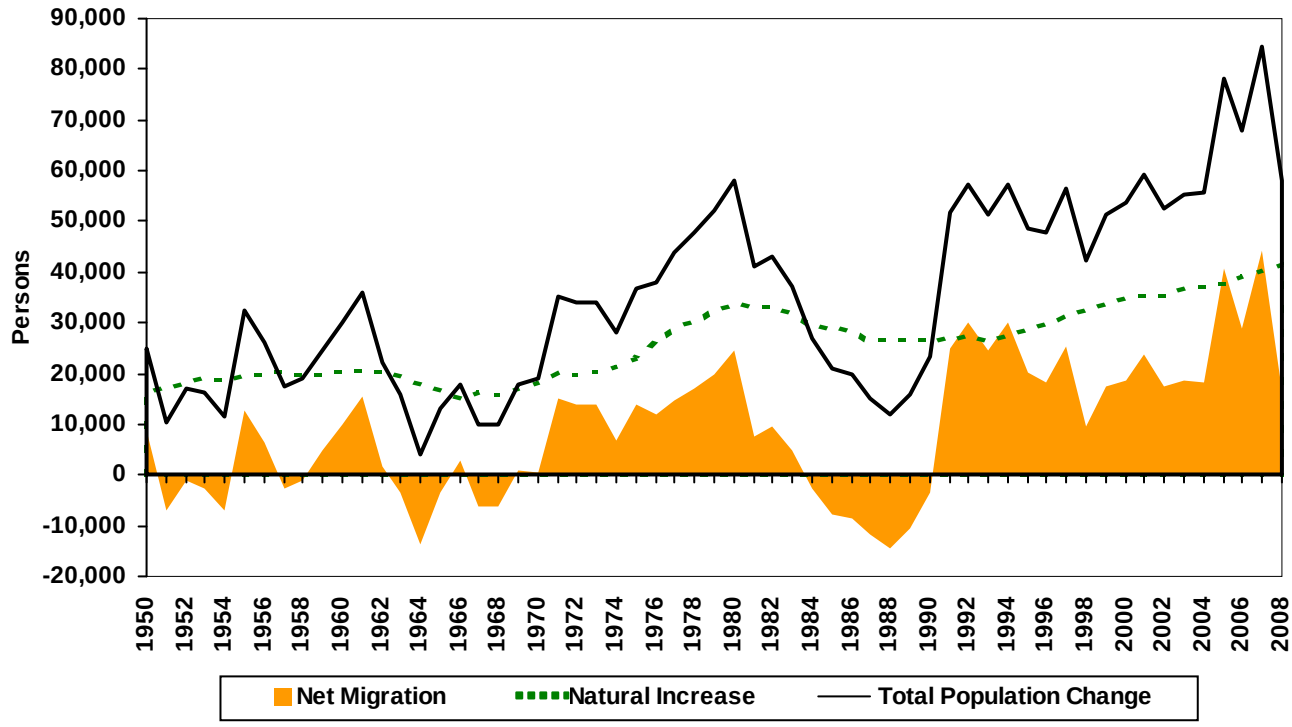
This paper presents the official population estimate for the state, multi-county districts (MCDs) and counties, and discusses the method used to develop the estimates. The 2008 estimates and the historical context of Utah's population growth are discussed. Details are provided on the components of population change, as well as the methods used to prepare these estimates. The final section describes the methods used by the U.S. Census Bureau and the resulting estimates.

2008 Estimates

As Table 1 and Figure 1 show, Utah has now experienced 18 consecutive years of net in-migration. During this period, the number of people moving into the state is estimated to have exceeded the number moving out by over 427,300, which is about 90,000 fewer people than live in Utah County. Even with this large net in-migration, over

1 This is based on U.S. Census Bureau national and state population estimates, online: http://www.census.gov/popest/states/states.html.

Figure 1
State of Utah Components of Population Change



Source: Utah Population Estimates Committee

Table 1
Utah Population Estimates and Components of Population Change

Year	July 1st Population	Percent Change	Increase	Net Migration	Net Migration as a Percent of Previous Year's Population	Natural Increase	Fiscal Year Births	Fiscal Year Deaths
1960	900,000	3.5%	30,100	10,047	1.2%	20,053	26,011	5,958
1961	936,000	4.0%	36,000	15,371	1.7%	20,629	26,560	5,931
1962	958,000	2.4%	22,000	1,817	0.2%	20,183	26,431	6,248
1963	974,000	1.7%	16,000	-3,317	-0.3%	19,317	25,648	6,331
1964	978,000	0.4%	4,000	-13,863	-1.4%	17,863	24,461	6,598
1965	991,000	1.3%	13,000	-3,553	-0.4%	16,553	23,082	6,529
1966	1,009,000	1.8%	18,000	2,810	0.3%	15,190	21,953	6,763
1967	1,019,000	1.0%	10,000	-6,350	-0.6%	16,350	23,030	6,680
1968	1,029,000	1.0%	10,000	-6,029	-0.6%	16,029	22,743	6,714
1969	1,047,000	1.7%	18,000	798	0.1%	17,202	24,033	6,831
1970	1,066,000	1.8%	19,000	612	0.1%	18,388	25,281	6,893
1971	1,101,150	3.3%	35,150	14,966	1.4%	20,184	27,400	7,216
1972	1,135,100	3.1%	33,950	14,046	1.3%	19,904	27,146	7,242
1973	1,168,950	3.0%	33,850	13,810	1.2%	20,040	27,562	7,522
1974	1,196,950	2.4%	28,000	6,621	0.6%	21,379	28,876	7,497
1975	1,233,900	3.1%	36,950	13,897	1.2%	23,053	30,566	7,513
1976	1,272,050	3.1%	38,150	11,761	1.0%	26,389	33,773	7,384
1977	1,315,950	3.5%	43,900	14,824	1.2%	29,076	36,707	7,631
1978	1,363,750	3.6%	47,800	17,220	1.3%	30,580	38,289	7,709
1979	1,415,950	3.8%	52,200	19,868	1.5%	32,332	40,216	7,884
1980	1,474,000	4.1%	58,050	24,536	1.7%	33,514	41,645	8,131
1981	1,515,000	2.8%	41,000	7,612	0.5%	33,388	41,509	8,121
1982	1,558,000	2.8%	43,000	9,662	0.6%	33,338	41,773	8,435
1983	1,595,000	2.4%	37,000	4,914	0.3%	32,086	40,555	8,469
1984	1,622,000	1.7%	27,000	-2,793	-0.2%	29,793	38,643	8,850
1985	1,643,000	1.3%	21,000	-7,714	-0.5%	28,714	37,664	8,950
1986	1,663,000	1.2%	20,000	-8,408	-0.5%	28,408	37,309	8,901
1987	1,678,000	0.9%	15,000	-11,713	-0.7%	26,713	35,631	8,918
1988	1,690,000	0.7%	12,000	-14,557	-0.9%	26,557	35,809	9,252
1989	1,706,000	0.9%	16,000	-10,355	-0.6%	26,355	35,439	9,084
1990	1,729,227	1.4%	23,227	-3,480	-0.2%	26,707	35,830	9,123
1991	1,780,870	3.0%	51,643	24,878	1.4%	26,765	36,194	9,429
1992	1,838,149	3.2%	57,279	30,042	1.7%	27,237	36,796	9,559
1993	1,889,393	2.8%	51,244	24,561	1.3%	26,683	36,738	10,055
1994	1,946,721	3.0%	57,328	30,116	1.6%	27,212	37,623	10,411
1995	1,995,228	2.5%	48,507	20,024	1.0%	28,483	39,064	10,581
1996	2,042,893	2.4%	47,665	18,171	0.9%	29,494	40,495	11,001
1997	2,099,409	2.8%	56,516	25,253	1.2%	31,263	42,512	11,249
1998	2,141,632	2.0%	42,223	9,745	0.5%	32,478	44,126	11,648
1999	2,193,014	2.4%	51,382	17,584	0.8%	33,798	45,434	11,636
2000	2,246,553	2.4%	53,539	18,612	0.8%	34,927	46,880	11,953
2001	2,305,652	2.6%	59,099	23,848	1.1%	35,251	47,688	12,437
2002	2,358,330	2.3%	52,678	17,299	0.8%	35,379	48,041	12,662
2003	2,413,618	2.3%	55,288	18,568	0.8%	36,720	49,518	12,798
2004	2,469,230	2.3%	55,612	18,367	0.8%	37,245	50,527	13,282
2005	2,547,389	3.2%	78,159	40,647	1.6%	37,512	50,431	12,919
2006	2,615,129	2.7%	67,740	28,730	1.1%	39,010	52,368	13,358
2007	2,699,554	3.2%	84,425	44,252	1.7%	40,173	53,953	13,780
2008	2,757,779	2.2%	58,225	16,648	0.6%	41,577	55,357	13,780

Note: In 1996, the Utah Population Estimates Committee changed its convention on rounded estimates so that it now publishes unrounded estimates. Accordingly, the revised estimates for 1990 and thereafter are not rounded.

Source: Utah Population Estimates Committee

60% of Utah's population growth since 1990 has come from natural increase. Since 1990 natural increase is almost 630,000, while total population growth is almost 1,029,000.

As shown in Table 2 and Figure 2, the most rapid growth in Utah occurred in counties along the Wasatch Back and in the Uintah Basin area of the State, as well as in counties adjacent to larger population centers.

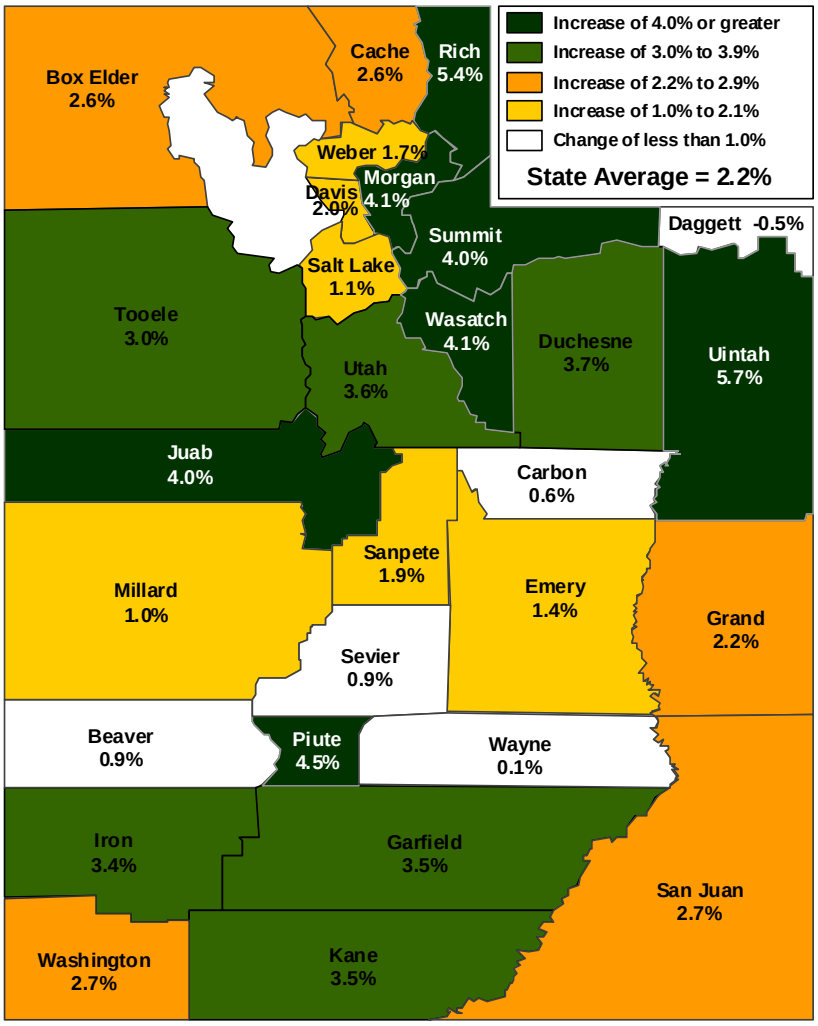
For 2008, the following counties had the highest population growth rates:

Uintah	5.7%	Summit	4.0%
Rich	5.4%	Juab	4.0%
Piute	4.5%	Uintah	3.8%
Morgan	4.1%	Duchesne	3.7%
Wasatch	4.1%	Utah	3.6%

For 2008, the following counties had the largest population increases:

Utah	18,185	Weber	3,755
Salt Lake	11,615	Cache	2,819
Davis	5,886	Tooele	1,678
Washington	3,802	Uintah	1,640

Figure 2
Utah Population Growth Rates by County: 2007 to 2008



Source: Utah Population Estimates Committee

Expanding Urban Area

This year, the most rapid regional growth rates occurred in counties along the Wasatch Back and in the Uintah Basin area of the State, as well as in counties adjacent to larger population centers. The populations in Uintah, Rich, Piute, Wasatch, Morgan, Summit, and Juab counties are all expanding rapidly. These counties enjoy close proximity to urban services, but still provide many desirable characteristics found in a suburban or rural setting.

To a large extent, the growth in the counties on the urban periphery results from the expansion of the Wasatch Front urban area. While these peripheral areas will retain their rural character for the foreseeable future, their growth will be increasingly tied to the urban core. The growth in these outlying areas is often referred to as a "doughnut effect," and this phenomenon is clearly visible in Figure 2.

County Highlights

Utah County. Utah County had the largest amount of population growth, over 18,000. Since Utah County is half the size of Salt Lake County, it is remarkable that its amount of growth is larger than its neighbor to the north. The county's high birth rate resulted in record natural increase of more than 10,500. The truly stunning part of its growth, however, was that almost 7,500 more people moved in than moved out, ranking it first among the counties in net migration. Utah County has ranked first in net migration in 10 of the past 12 years.

Washington County. Washington County has averaged over 6% population growth for four decades. Until 2007, its growth rate was 5.8% or greater in every year after 2000. In 2007, however, the recent boom decelerated, with population growing 4.5%. In 2008, growth in Washington County of 2.7% was above the state average, but down significantly from the peak this decade of 8.4%.

Table 2
Components of Population Change in Utah by County and Multi-County District

County	July 1 Population 2007	July 1 Population 2008	Population Change 2007-08 Numerical	Population Change 2007-08 Percent	Components of Change 2007-08 Births	Deaths	Natural Increase	Net Migration
Beaver	6,466	6,523	57	0.9%	143	48	95	-38
Box Elder	47,491	48,712	1,221	2.6%	964	311	653	568
Cache	109,022	111,841	2,819	2.6%	2,419	407	2,012	807
Carbon	19,730	19,841	111	0.6%	306	214	92	19
Daggett	969	964	-5	-0.5%	8	4	4	-9
Davis	296,029	301,915	5,886	2.0%	6,121	1,379	4,742	1,144
Duchesne	16,163	16,765	602	3.7%	426	103	323	279
Emery	10,461	10,610	149	1.4%	194	90	104	45
Garfield	4,872	5,044	172	3.5%	63	29	34	138
Grand	9,125	9,326	201	2.2%	112	55	57	144
Iron	44,813	46,341	1,528	3.4%	984	261	723	805
Juab	9,654	10,039	385	4.0%	234	59	175	210
Kane	6,440	6,663	223	3.5%	84	65	19	204
Millard	13,414	13,550	136	1.0%	215	89	126	10
Morgan	9,265	9,645	380	4.1%	154	49	105	275
Piute	1,385	1,447	62	4.5%	24	17	7	55
Rich	2,162	2,278	116	5.4%	35	8	27	89
Salt Lake	1,018,904	1,030,519	11,615	1.1%	19,605	5,374	14,231	-2,616
San Juan	14,807	15,206	399	2.7%	181	57	124	275
Sanpete	26,464	26,960	496	1.9%	427	157	270	226
Sevier	20,442	20,619	177	0.9%	341	186	155	22
Summit	38,412	39,951	1,539	4.0%	533	128	405	1,134
Tooele	56,536	58,214	1,678	3.0%	1,163	274	889	789
Uintah	28,806	30,446	1,640	5.7%	669	199	470	1,170
Utah	501,447	519,632	18,185	3.6%	12,464	1,871	10,593	7,592
Wasatch	21,951	22,845	894	4.1%	413	79	334	560
Washington	140,908	144,710	3,802	2.7%	2,732	834	1,898	1,904
Wayne	2,635	2,637	2	0.1%	36	18	18	-16
Weber	220,781	224,536	3,755	1.7%	4,307	1,415	2,892	863
MCD								
Bear River	158,675	162,831	4,156	2.6%	3,418	726	2,692	1,464
Five County	203,499	209,281	5,782	2.8%	4,006	1,237	2,769	3,013
Mountainland	561,810	582,428	20,618	3.7%	13,410	2,078	11,332	9,286
Six County	73,994	75,252	1,258	1.7%	1,277	526	751	507
Southeast	54,123	54,983	860	1.6%	793	416	377	483
Uintah Basin	45,938	48,175	2,237	4.9%	1,103	306	797	1,440
Wasatch Front	1,601,515	1,624,829	23,314	1.5%	31,350	8,491	22,859	455
State of Utah	2,699,554	2,757,779	58,225	2.2%	55,357	13,780	41,577	16,648

Source: Utah Population Estimates Committee

Salt Lake County. Salt Lake County's population passed 1 million in 2007. Almost 38% of the state resides in the county. With a weakened construction industry, net migration was approximately -2,600. Natural increase of 14,200 combined to give Salt Lake County the second largest amount of growth, over 11,600 new residents, after Utah County.

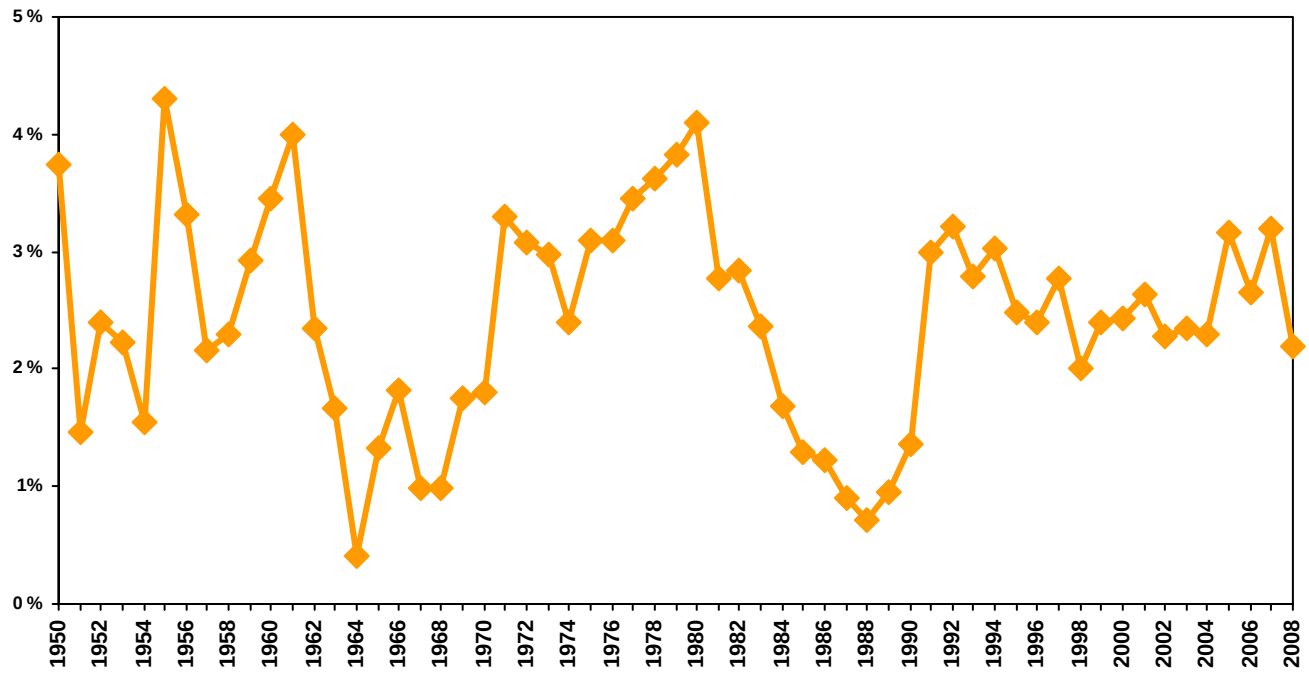
Historical Context

Utah's population reached 1 million during 1966 and 2 million during 1996, 30 years later. Table 3 presents the population estimates for the state, Multi County Districts (MCD), and counties since 1940 for selected years. During this period, the state's fastest growth occurred during the 1970s, when the population increased at a 3.3% average annual rate. During the 1940s and 1950s, the state's population increased about 2.5% per year, which contrasts with the 1960s and 1980s, when the population increased less than 2.0% per year. At 2.7% per year, the 1990s growth rates represent a return to the relatively high rates of growth seen during the 1940s and 1950s, although they are still substantially below the growth of the 1970s. With growth averaging 2.6% per year, the 2000s are on track to repeat the growth of the 1990s.

Reflecting the fact that it has almost half of Utah's population, Salt Lake County's growth pattern most closely mirrors the state. As with the state as a whole, Salt Lake County experienced fairly rapid growth during the 1940s, 2.7% per year; even more rapid growth during the 1950s, 3.3% per year; a slowdown in the 1960s, 1.8% per year; rapid growth during the 1970s, 3.1% per year; another slowdown in the 1980s, 1.5% per year; and an increase in growth during the 1990s, 2.2% per year. Salt Lake County deviated slightly from the state in that the growth of the 1950s was relatively more rapid compared to other periods.

A number of counties have had growth patterns substantially different from the state's. While Utah's population grew strongly in both the 1940s and the 1950s, 12 counties actually had declining populations in both decades. Juab County's population had the greatest percentage decline during this period, about 2.5% per year, from 7,400 in 1940 to 4,500 in 1960. During 1996, Juab's population finally surpassed the 1940 level. In contrast to Juab, the current populations in Garfield and Piute counties continue to be lower than in 1940. Although the 1960s and 1980s were slow growth periods for the state as a whole, some counties still grew extremely rapidly during these two decades. During the 1960s, Davis and Morgan counties grew at more than twice the state average, 4.3% and 3.8% per year, respectively, while Washington and Summit counties grew at more than twice the state average during the 1980s, 6.4% and 4.2% per year, respectively.

Figure 3
Utah Population: Annual Percent Change



Source: Utah Population Estimates Committee

Table 3
Population Estimates for Utah by County and Multi-County District

County	July 1 Population Estimates										Average Annual Growth Rates for the Period							
	1940	1950	1960	1970	1980	1990	2000	2006	2007	2008	1940s	1950s	1960s	1970s	1980s	1990s	2000-08	2007-08
Beaver	4,900	4,800	4,300	3,850	4,400	4,800	6,023	6,428	6,466	6,523	-0.2%	-1.1%	-1.1%	1.3%	0.9%	2.3%	1.0%	0.9%
Box Elder	18,900	19,800	25,500	28,150	33,500	36,500	42,860	45,987	47,491	48,712	0.5%	2.6%	1.0%	1.8%	0.9%	1.6%	1.6%	2.6%
Cache	29,900	33,600	36,100	42,550	57,700	70,500	91,897	105,671	109,022	111,841	1.2%	0.7%	1.7%	3.1%	2.0%	2.7%	2.5%	2.6%
Carbon	18,700	24,800	21,200	15,750	22,400	20,200	20,396	19,504	19,730	19,841	2.9%	-1.6%	-2.9%	3.6%	-1.0%	0.1%	-0.3%	0.6%
Daggett	600	400	1,200	650	750	700	933	949	969	964	-4.0%	11.6%	-5.9%	1.4%	-0.7%	2.9%	0.4%	-0.5%
Davis	15,500	31,200	65,600	99,600	148,000	188,000	240,204	286,547	296,029	301,915	7.2%	7.7%	4.3%	4.0%	2.4%	2.5%	2.9%	2.0%
Duchesne	8,700	8,100	7,200	7,400	12,700	12,600	14,397	15,585	16,163	16,765	-0.7%	-1.2%	0.3%	5.5%	-0.1%	1.3%	1.9%	3.7%
Emery	7,000	6,300	5,500	5,150	11,600	10,300	10,782	10,438	10,461	10,610	-1.0%	-1.3%	-0.7%	8.5%	-1.2%	0.5%	-0.2%	1.4%
Garfield	5,300	4,100	3,500	3,150	3,700	3,950	4,763	4,772	4,872	5,044	-2.5%	-1.6%	-1.0%	1.6%	0.7%	1.9%	0.7%	3.5%
Grand	2,200	1,900	6,400	6,600	8,250	6,600	8,537	9,024	9,125	9,326	-1.5%	12.9%	0.3%	2.3%	-2.2%	2.6%	1.1%	2.2%
Iron	8,400	9,700	10,900	12,300	17,500	20,900	34,079	43,424	44,813	46,341	1.4%	1.2%	1.2%	3.6%	1.8%	5.0%	3.9%	3.4%
Juab	7,400	5,900	4,500	4,600	5,550	5,800	8,310	9,315	9,654	10,039	-2.2%	-2.7%	0.2%	1.9%	0.4%	3.7%	2.4%	4.0%
Kane	2,600	2,300	2,700	2,450	4,050	5,150	6,037	6,294	6,440	6,663	-1.2%	1.6%	-1.0%	5.2%	2.4%	1.6%	1.2%	3.5%
Millard	9,700	9,300	7,900	7,050	9,050	11,300	12,461	13,230	13,414	13,550	-0.4%	-1.6%	-1.1%	2.5%	2.2%	1.0%	1.1%	1.0%
Morgan	2,600	2,500	2,800	4,050	4,950	5,550	7,181	8,888	9,265	9,645	-0.4%	1.1%	3.8%	2.0%	1.2%	2.6%	3.8%	4.1%
Piute	2,200	1,900	1,400	1,150	1,350	1,250	1,436	1,373	1,385	1,447	-1.5%	-3.0%	-1.9%	1.6%	-0.8%	1.4%	0.1%	4.5%
Rich	2,000	1,700	1,700	1,600	2,150	1,750	1,955	2,121	2,162	2,278	-1.6%	0.0%	-0.6%	3.0%	-2.0%	1.1%	1.9%	5.4%
Salt Lake	213,700	279,000	387,800	461,500	625,000	728,000	902,777	996,374	1,018,904	1,030,519	2.7%	3.3%	1.8%	3.1%	1.5%	2.2%	1.7%	1.1%
San Juan	4,600	5,300	8,900	9,700	12,400	12,600	14,360	14,647	14,807	15,206	1.4%	5.3%	0.9%	2.5%	0.2%	1.3%	0.7%	2.7%
Sanpete	15,900	13,800	11,100	11,000	14,800	16,300	22,846	25,799	26,464	26,960	-1.4%	-2.2%	-0.1%	3.0%	1.0%	3.4%	2.1%	1.9%
Sevier	12,300	12,000	10,600	10,150	14,900	15,400	18,938	19,984	20,442	20,619	-0.2%	-1.2%	-0.4%	3.9%	0.3%	2.1%	1.1%	0.9%
Summit	8,600	6,700	5,700	5,900	10,400	15,700	30,048	36,871	38,412	39,951	-2.5%	-1.6%	0.3%	5.8%	4.2%	6.7%	3.6%	4.0%
Tooele	8,800	15,000	18,000	21,600	26,200	26,700	41,549	54,375	56,536	58,214	5.5%	1.8%	1.8%	1.9%	0.2%	4.5%	4.3%	3.0%
Uintah	10,000	10,300	11,700	12,800	20,700	22,200	25,297	27,747	28,806	30,446	0.3%	1.3%	0.9%	4.9%	0.7%	1.3%	2.3%	5.7%
Utah	56,900	83,000	108,300	139,300	220,000	266,000	371,894	475,425	501,447	519,632	3.8%	2.7%	2.5%	4.7%	1.9%	3.4%	4.3%	3.6%
Wasatch	5,800	5,500	5,300	5,950	8,650	10,100	15,433	21,053	21,951	22,845	-0.5%	-0.4%	1.2%	3.8%	1.6%	4.3%	5.0%	4.1%
Washington	9,200	9,800	10,400	13,900	26,400	49,100	91,104	134,899	140,908	144,710	0.6%	0.6%	2.9%	6.6%	6.4%	6.4%	6.0%	2.7%
Wayne	2,300	2,200	1,700	1,450	1,950	2,150	2,515	2,535	2,635	2,637	-0.4%	-2.5%	-1.6%	3.0%	1.0%	1.6%	0.6%	0.1%
Weber	57,100	85,000	112,100	126,700	145,000	159,000	197,541	215,870	220,781	224,536	4.1%	2.8%	1.2%	1.4%	0.9%	2.2%	1.6%	1.7%
MCD																		
Bear River	50,800	55,100	63,300	72,300	93,350	108,750	136,712	153,779	158,675	162,831	0.8%	1.4%	1.3%	2.6%	1.5%	2.3%	2.2%	2.6%
Five County	30,400	30,700	31,800	35,650	56,050	83,900	142,006	195,817	203,499	209,281	0.1%	0.4%	1.1%	4.6%	4.1%	5.4%	5.0%	2.8%
Mountainland	71,300	95,200	119,300	151,150	239,050	291,800	417,375	533,349	561,810	582,428	2.9%	2.3%	2.4%	4.7%	2.0%	3.6%	4.3%	3.7%
Six County	49,800	45,100	37,200	35,400	47,600	52,200	66,506	72,236	73,994	75,252	-1.0%	-1.9%	-0.5%	3.0%	0.9%	2.5%	1.6%	1.7%
Southeast	32,500	38,300	42,000	37,200	54,650	49,700	54,075	53,613	54,123	54,983	1.7%	0.9%	-1.2%	3.9%	-0.9%	0.8%	0.2%	1.6%
Uintah Basin	19,300	18,800	20,100	20,850	34,150	35,500	40,627	44,281	45,938	48,175	-0.3%	0.7%	0.4%	5.1%	0.4%	1.4%	2.2%	4.9%
Wasatch Front	297,700	412,700	586,300	713,450	949,150	1,107,250	1,389,252	1,562,054	1,601,515	1,624,829	3.3%	3.6%	2.0%	2.9%	1.6%	2.3%	2.0%	1.5%
State of Utah	552,000	696,000	900,000	1,066,000	1,474,000	1,729,000	2,246,553	2,615,129	2,699,554	2,757,779	2.3%	2.6%	1.7%	3.3%	1.6%	2.7%	2.6%	2.2%

Notes:
1. Before 1995, the Utah Population Estimates Committee rounded its population estimates
2. The average annual growth rate for a period is based on a discrete compounding formula which is available from The Governor's Office of Planning and Budget

Source: Utah Population Estimates Committee

Components of Population Change
Population change is comprised of two components: natural increase and net migration. In turn, both of these have two components as well. Natural increase is the number of births less the number of deaths. Net migration is in-migration less out-migration, or the number of people moving into a place less the number of people moving out. Table 1 and Figure 1 present the components of Utah's population change from 1960 to 2008 and from 1950 to 2008, respectively, as of July 1 each year. Table 2 presents the components of population change from 2007 to 2008 for the counties and MCDs.

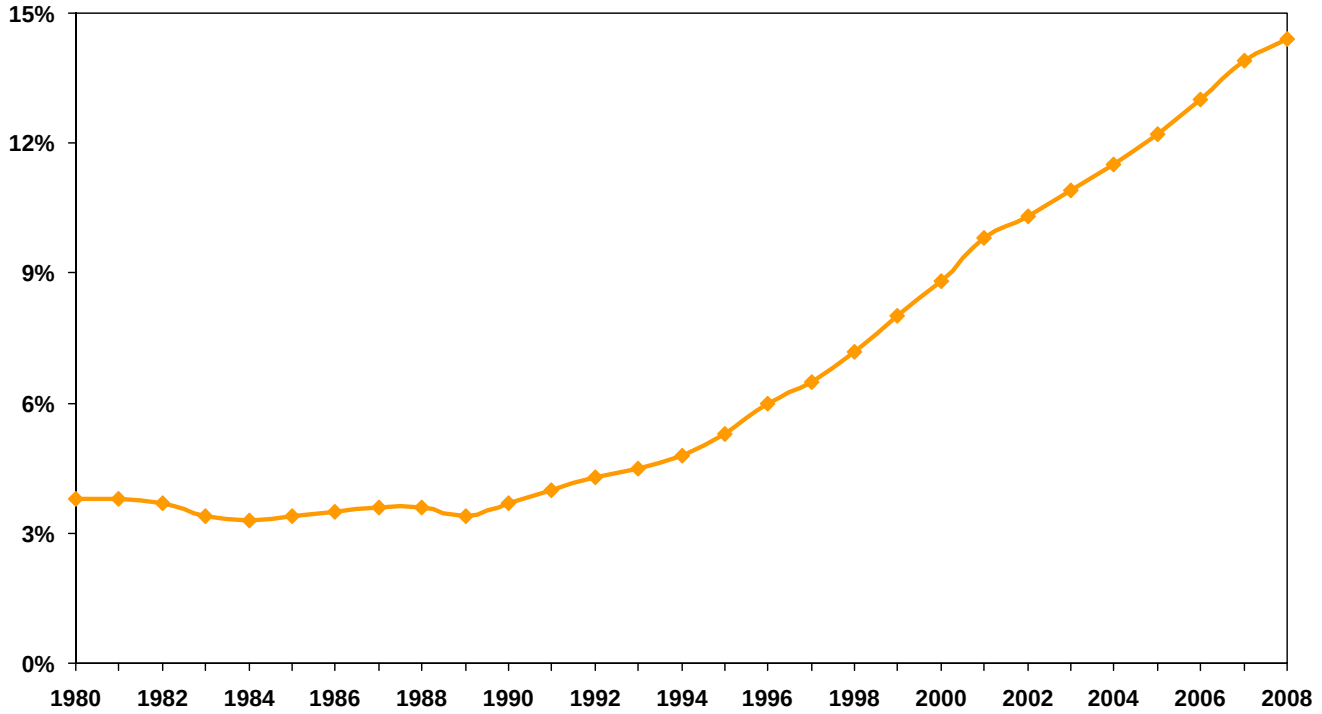
Natural Increase. Natural increase is computed from records maintained by the Utah Department of Health. As presented in Table 1, natural increase in Utah during 2008 was the largest ever, 41,577, which was the difference between 55,357 births and 13,780 deaths. Both births and deaths were at record high levels during 2008. The number of births will vary as fertility changes and as the number of women in their child-bearing years changes. The number of deaths, however, tends to increase slowly and steadily.

Net Migration. Net migration is positive when in-migration exceeds out-migration and negative when out-migration exceeds in-migration. When net migration is positive, net in-migration has occurred and when net migration is negative, net out-migration has occurred. In the population estimates developed by the Utah Population Estimates Committee, net migration is not estimated directly. Rather, net migration is computed as the implied difference between estimated population change and natural increase as computed from the records maintained by the Department of Health. No attempt is made to estimate net migration directly. In addition, no attempt is made to estimate the components of net migration, in-migration and out-migration.

Thus far, the 2000s have been a period of sustained net in-migration. While this has been a period of high absolute in-migration, migration rates (net migration as a percent of the base or previous year population), were higher during the 1970s, as well as a few years in the 1950s and 1960s. During 2008 net migration was 16,648, down from 2007 net migration of 44,252, the highest level since World War II.

Though it is not known for sure where the recent migrants came from, IRS tax return data on county to county address changes highlights some interesting points. California dominates the flow of interstate migration to and from

Figure 4
Latino School Enrollment: Percent of Total



Source: Utah State Office of Education

Utah. The extended Salt Lake area has strong migration ties with the major metropolitan areas south and/or west of Utah, such as Los Angeles, Phoenix, Portland, Seattle, and Las Vegas.

The slowing of in-migration to Utah can be explained by the slowdown in the economy. School records suggest a strong Latino, possibly foreign born, element to the recent migration wave. As depicted in Figure 4, the Latino share of enrollment increased 0.9 percentage points from 2006 to 2007, from 13.0% to 13.9%. If this 0.9% is viewed as a migration rate applicable to the entire population, it implies about 24,000 migrants, or about 55% of estimated migration during 2007.

Utah Population Estimates Committee

The Utah Population Estimates Committee develops the official population estimates for Utah and the 29 counties in the state. Coordination and staffing of the Committee is the responsibility of the Demographic and Economic Analysis Section of the Governor's Office of Planning and Budget (GOPB). Membership includes representatives from state government, universities, and other organizations with knowledge of the data used in making population estimates. A list of members is at the back of this report.

The Committee has been preparing estimates for a half century.[2] During most of this time, UPEC operated as an interagency committee, with select members included from outside state government. Governor Leavitt officially sanctioned the Committee and clarified its purposes and responsibilities in 1997 by issuing an Executive Order. The Committee is also recognized in state statute as the source for population estimates used in state funding formulas when U.S. Census Bureau estimates are unavailable.

In addition to staffing UPEC, GOPB represents the state in the Federal-State Cooperative for Population Estimates. This program, administered by the U.S. Census Bureau, facilitates the exchange of data used in making population estimates. The program also provides a forum for dialog that can improve the quality of state and county estimates made by both parties. Census Bureau population estimates by county are discussed later in this article.

Methods

Over the years, the various methods and data used by the Committee share many similarities with national standards of the time, but also include some differences. UPEC, like the Census Bureau, has always relied heavily on the component method of population estimation. This method follows the standard demographic accounting equation of:

$$P_t = P(t-1) + B_t - D_t + M_t$$

where P = population
B = births
D = deaths
M = net migration
t = time

For example, in one widely used version of the component method, migration is estimated by comparing the actual and expected school-age population and relating this difference to the total population and total migration.[3] In Utah, this is known as the school enrollment method and is a slightly modified version of what is commonly referred to in the literature as the component II method.[4]

UPEC develops population estimates using a combination of the component II or school enrollment method, a method based on membership in the Church of Jesus Christ of Latter Day-Saints (LDS), a method based on tax return data from the Internal Revenue Service (IRS), and a method based on housing units. Table 4 presents the population estimates and implied net migration resulting from each method. For the 2007 population estimate, the methods ranked:

1. IRS, 2,857,482
2. School, 2,767,145
3. Housing, 2,758,274
4. LDS, 2,742,616

School Enrollment Method

The school enrollment method uses changes in school enrollment as an indicator of net migration. This method compares a county's survived enrollment (calculated by applying a survival rate of 99.98% to the enrollment count), in grades 1 to 8 for the year prior to the estimate year, to enrollment in grades 2 to 9 for the estimate year.

---

2 For more information on the history and methods of the Utah Population Estimates Committee, see Governor's Office of Planning and Budget, Population Estimates: The Utah Experience (Salt Lake City, Natalie Gochnour, Chair, Utah Population Estimates Committee, September 1999).

3 The Census Bureau currently uses a component method based on administrative records such as birth and death records, tax returns, and Medicare enrollment.

4 The fundamental characteristic of the component II method is that migration of the total population is estimated based on (1) a comparison of the actual and the expected (survived) school-age population; and, (2) the historical relationship between school-age migration and total migration. There are many varieties of this fundamental method, including detailed estimation for subgroups of the population such as the population under age 65, population age 65 and over, and special military and institutional population groups. Utah's method is modified in the sense that it employs a level of detail (i.e. components) and input data (i.e. target grades and survival rate) that reflect Committee input.

Table 4
Utah Population Estimates by County and Multi-County District: An Average of Three Methods with Judgment in Selected Counties

County	July 1, 2007 Population	Natural Increase	School Enrollment July 1, 2008 Population	School Enrollment Implied Net Migration	LDS July 1, 2008 Population	LDS Implied Net Migration	IRS July 1, 2008 Population	IRS Implied Net Migration	Housing July 1, 2008 Population	Housing Implied Net Migration	Average of Four Methods July 1, 2008 Population	Average of Four Methods Implied Net Migration	Estimate Based on Judgement in Select Counties July 1, 2008 Population	Estimate Based on Judgement in Select Counties Implied Net Migration
Beaver	6,466	95	6,581	20	6,404	-157	6,884	323	6,583	22	6,613	52	6,523	-38
Box Elder	47,491	653	48,936	792	48,461	317	50,927	2,783	48,740	596	49,266	1,122	48,712	568
Cache	109,022	2,012	112,216	1,182	111,523	489	117,513	6,479	111,785	751	113,259	2,225	111,841	807
Carbon	19,730	92	19,592	-230	19,684	-138	20,128	306	19,959	137	19,841	19	19,841	19
Daggett	969	4	973	0	942	-31	1,023	50	976	3	979	6	964	-9
Davis	296,029	4,742	300,834	63	302,910	2,139	311,040	10,269	302,001	1,230	304,196	3,425	301,915	1,144
Duchesne	16,163	323	17,063	577	16,593	107	17,635	1,149	16,638	152	16,982	496	16,765	279
Emery	10,461	104	10,666	101	10,608	43	10,997	432	10,555	-10	10,707	142	10,610	45
Garfield	4,872	34	4,872	-34	4,963	57	5,263	357	5,078	172	5,044	138	5,044	138
Grand	9,125	57	9,503	321	9,062	-120	9,982	800	9,414	232	9,490	308	9,326	144
Iron	44,813	723	46,802	1,266	45,753	217	47,919	2,383	46,469	933	46,736	1,200	46,341	805
Juab	9,654	175	10,229	400	9,860	31	10,240	411	9,825	-4	10,039	210	10,039	210
Kane	6,440	19	6,627	168	6,380	-79	7,010	551	6,633	174	6,663	204	6,663	204
Millard	13,414	126	13,681	141	13,460	-80	14,018	478	13,510	-30	13,667	127	13,550	10
Morgan	9,265	105	9,767	397	9,585	215	9,615	245	9,614	244	9,645	275	9,645	275
Piute	1,385	7	1,519	127	1,401	9	1,481	89	1,385	-7	1,447	55	1,447	55
Rich	2,162	27	2,279	90	1,908	-281	2,360	171	2,196	7	2,186	-3	2,278	89
Salt Lake	1,018,904	14,231	1,037,611	4,476	1,022,341	-10,794	1,070,975	37,840	1,031,605	-1,530	1,040,633	7,498	1,030,519	-2,616
San Juan	14,807	124	15,357	426	15,274	343	16,187	1,256	14,986	55	15,451	520	15,206	275
Sanpete	26,464	270	26,980	246	26,830	96	28,174	1,440	27,069	335	27,263	529	26,960	226
Sevier	20,442	155	20,434	-163	20,644	47	21,823	1,226	20,778	181	20,920	323	20,619	22
Summit	38,412	405	39,388	571	38,354	-463	40,143	1,326	40,321	1,504	39,552	735	39,951	1,134
Tooele	56,536	889	58,094	669	58,351	926	60,186	2,761	58,198	773	58,707	1,282	58,214	789
Uintah	28,806	470	30,488	1,212	29,575	299	31,399	2,123	30,323	1,047	30,446	1,170	30,446	1,170
Utah	501,447	10,593	520,733	8,693	519,175	7,135	539,875	27,835	518,988	6,948	524,693	12,653	519,632	7,592
Wasatch	21,951	334	22,773	488	22,345	60	23,324	1,039	22,938	653	22,845	560	22,845	560
Washington	140,908	1,898	144,035	1,229	143,733	927	145,201	2,395	145,870	3,064	144,710	1,904	144,710	1,904
Wayne	2,635	18	2,562	-91	2,593	-60	2,712	59	2,682	29	2,637	-16	2,637	-16
Weber	220,781	2,892	226,550	2,877	223,904	231	233,448	9,775	223,155	-518	226,764	3,091	224,536	863
MCD														
Bear River	158,675	2,692	163,431	2,064	161,892	525	170,800	9,433	162,721	1,354	164,711	3,344	162,831	1,464
Five County	203,499	2,769	208,917	2,649	207,233	965	212,277	6,009	210,633	4,365	209,765	3,497	209,281	3,013
Mountainland	561,810	11,332	582,894	9,752	579,874	6,732	603,342	30,200	582,247	9,105	587,089	13,947	582,428	9,286
Six County	73,994	751	75,405	660	74,788	43	78,448	3,703	75,249	504	75,973	1,228	75,252	507
Southeast	54,123	377	55,118	618	54,628	128	57,294	2,794	54,914	414	55,489	989	54,983	483
Uintah Basin	45,938	797	48,524	1,789	47,110	375	50,057	3,322	47,937	1,202	48,407	1,672	48,175	1,440
Wasatch Front	1,601,515	22,859	1,632,856	8,482	1,617,091	-7,283	1,685,264	60,890	1,624,573	199	1,639,946	15,572	1,624,829	455
State of Utah	2,699,554	41,577	2,767,145	26,014	2,742,616	1,485	2,857,482	116,351	2,758,274	17,143	2,781,379	40,248	2,757,779	16,648

Note: In most counties, the estimate is the average of the estimates produced from each of the four methods. Table 5 details the procedure used to develop the estimate when the average of the four methods was not used.

Source: Utah Population Estimates Committee

The difference between these two enrollment totals is taken to be net student migration for the county. Total net migration from the school enrollment method for the county is then derived by multiplying the county's student migration estimate by the county specific total population to student ratio. This ratio is defined as the total population estimate of the county for the prior year divided by the same year's enrollment in grades 1 to 8.

Utah's implementation of the component II method is strengthened by the quality of the state's school enrollment data. Utah's public school system is unique in that it serves an unusually high percentage of the total kindergarten through 12th grade enrollment. During 2004, for instance, 96.9% of total enrollment in Utah was public, second highest among states, compared with 90.4% nationwide.[5] In addition, the public school system encompasses a large percentage of the total population. Utah ranks first among the states with 21.2% of its population ages 5-17, compared to 17.6% nationwide. Moreover, the public school system receives independent audits of enrollment data due to the state's equalized education funding mechanism.

LDS Membership Method

The Committee's second method is called the LDS membership method. This method simply applies the growth rate in LDS membership in a particular county to the previous year's population estimate for the county. The growth in LDS membership, then, is an indicator of population growth. The membership records of the Church of Jesus Christ of Latter-Day Saints (frequently called LDS or Mormons) are a data source uniquely relevant to Utah. The LDS Church graciously provides this data in aggregate form enabling a count of members by county. Individual member information such as names and addresses are not provided.

The Committee is very fortunate to have access to the LDS membership data for estimating purposes. About 60% of Utah's population is included in the membership counts of the LDS Church. These counts include every member of record, including children. The counts are not limited to those who attend church regularly. Rather, they include any member assigned to a local unit (church or ward) regardless of a given member's involvement with the organization.

In addition to the broad coverage, the utility of the data is strengthened by its timeliness and quality. The originating file is a current file and an extract can be taken at any time. For estimation purposes, this means that there is essentially no delay or lag time between when the data are released and the reporting period. The accuracy of the data is ensured by the careful record keeping of church officials. Within the LDS faith, leaders from each local unit (church or ward) have ecclesiastical responsibility for the individuals assigned. Hence, there is a religious stewardship that accompanies each membership record. This improves the accuracy of the aggregate data.

Internal Revenue Service Tax Exemption Method

Since 1996, the Committee has used the Internal Revenue Service tax exemption method. This method uses the growth in exemptions as reported on tax returns filed with the IRS as an indicator of population change. The growth rate in exemptions for the previous calendar year is applied to the previous fiscal year population to estimate the current fiscal year population. The Committee developed the method in the mid-1990s after realizing that the School Enrollment and LDS Membership Methods were yielding unrealistically low population estimates during a time of significant economic expansion. Committee members felt that the estimates would be more accurate by incorporating a more economically sensitive methodology. This method is relatively accurate as long as the tax code is stable and the percent of the population filing tax returns does not vary dramatically from year to year. A change in tax laws, for example, affected returns filed during 2003. Therefore, the Committee did not use the IRS method in making its 2004 estimates. Despite its limitations, adding the IRS method significantly increased UPEC's estimates during the 1990s, thereby improving their accuracy. Indeed, if UPEC had relied solely on the IRS method during the 1990s, it would have been just 12,000 people below the 2000 decennial census enumeration, as compared to the 82,000 it was actually under.

Housing Unit Method

In 2004, the Committee added the housing unit method, which it had been testing on an experimental basis since the late 1990s. The main reason was to supplement the estimate with a viable method given the IRS method would be flawed in years with significant tax changes. Building permits have been collected from local governments by the Bureau of Economic and Business Research at the University of Utah for decades. As with LDS membership and IRS tax exemptions, housing growth is used as an indicator of population growth. The method starts with the April 1, 2000 housing enumeration from the Census and updates the estimate with building permit data. The housing stock is estimated for July 1, using the previous calendar year's permit data. This allows a six month lag for the completion of permitted housing units. A fac-

5 Calculated from data provided by the U.S. Department of Education, Institute of Education Sciences. These calculations were published in *State Rankings 2007*, Morgan Quinto Press.

tor of 0.98 is applied to the permit data to account for units that are permitted but not completed, and to account for units that are demolished. The growth rate in the housing stock is applied to the previous year's July 1 estimate to develop the current year July 1 estimate.

Identifying Outliers with the Q-Statistic

UPEC has traditionally identified outliers among its various methods in a given county during a given estimate year and excluded the method from its consideration. Until the 1990s outliers were identified in an informal manner during Committee deliberations. Various formal techniques were used during the 1990s, but none worked well and at one point UPEC dispensed with formal outlier analysis altogether. In 2005, the Committee began using what is known as the Q-statistic or Dixon's Q.[6] Most simply, Q is the ratio of the range of methods with the outlier excluded to the initial range based on all methods. While Q can be applied as a hypothesis test assuming a probability distribution, UPEC has used it less rigidly as a means to reduce the range of the methods in a given county. Using a critical value of 0.5, UPEC has decided that identifying a specific method as an outlier among the four methods must reduce the range in the remaining three methods by 50% of the initial four methods. Q had a significant impact on the

6 A thorough discussion of the Q-statistic is in Rorabacher, "Statistical Treatment for Rejection of Deviant Values: Critical Values of Dixon's 'Q' Parameter and Related Subrange Ratios at the 95% Confidence Level," Analytical Chemistry, 1991, volume 63, pages 139-146.

Table 5
Utah Population Estimates by County and Multi-County District: Outlier Analysis of Estimates Produced with Four Methods

			July 1, 2008 Population Estimate				Outlier Analysis				Estimate Based on Judgement in Select Counties	
County	July 1, 2007 Population	Natural Increase	School	LDS	IRS	Housing	School	LDS	IRS	Housing	July 1, 2008 Population	Implied Net Migration
Beaver	6,466	95	6,581	6,404	6,884	6,583	6,581	6,404	High	6,583	6,523	-38
Box Elder	47,491	653	48,936	48,461	50,927	48,740	48,936	48,461	High	48,740	48,712	568
Cache	109,022	2,012	112,216	111,523	117,513	111,785	112,216	111,523	High	111,785	111,841	807
Carbon	19,730	92	19,592	19,684	20,128	19,959	19,592	19,684	20,128	19,959	19,841	19
Daggett	969	4	973	942	1,023	976	973	942	High	976	964	-9
Davis	296,029	4,742	300,834	302,910	311,040	302,001	300,834	302,910	High	302,001	301,915	1,144
Duchesne	16,163	323	17,063	16,593	17,635	16,638	17,063	16,593	High	16,638	16,765	279
Emery	10,461	104	10,666	10,608	10,997	10,555	10,666	10,608	High	10,555	10,610	45
Garfield	4,872	34	4,872	4,963	5,263	5,078	4,872	4,963	5,263	5,078	5,044	138
Grand	9,125	57	9,503	9,062	9,982	9,414	9,503	9,062	High	9,414	9,326	144
Iron	44,813	723	46,802	45,753	47,919	46,469	46,802	45,753	High	46,469	46,341	805
Juab	9,654	175	10,229	9,860	10,240	9,825	10,229	9,860	10,240	9,825	10,039	210
Kane	6,440	19	6,627	6,380	7,010	6,633	6,627	6,380	7,010	6,633	6,663	204
Millard	13,414	126	13,681	13,460	14,018	13,510	13,681	13,460	High	13,510	13,550	10
Morgan	9,265	105	9,767	9,585	9,615	9,614	9,767	9,585	9,615	9,614	9,645	275
Piute	1,385	7	1,519	1,401	1,481	1,385	1,519	1,401	1,481	1,385	1,447	55
Rich	2,162	27	2,279	1,908	2,360	2,196	2,279	Low	2,360	2,196	2,278	89
Salt Lake	1,018,904	14,231	1,037,611	1,022,341	1,070,975	1,031,605	1,037,611	1,022,341	High	1,031,605	1,030,519	-2,616
San Juan	14,807	124	15,357	15,274	16,187	14,986	15,357	15,274	High	14,986	15,206	275
Sanpete	26,464	270	26,980	26,830	28,174	27,069	26,980	26,830	High	27,069	26,960	226
Sevier	20,442	155	20,434	20,644	21,823	20,778	20,434	20,644	High	20,778	20,619	22
Summit	38,412	405	39,388	38,354	40,143	40,321	39,388	Low	40,143	40,321	39,951	1,134
Tooele	56,536	889	58,094	58,351	60,186	58,198	58,094	58,351	High	58,198	58,214	789
Uintah	28,806	470	30,488	29,575	31,399	30,323	30,488	29,575	31,399	30,323	30,446	1,170
Utah	501,447	10,593	520,733	519,175	539,875	518,988	520,733	519,175	High	518,988	519,632	7,592
Wasatch	21,951	334	22,773	22,345	23,324	22,938	22,773	22,345	23,324	22,938	22,845	560
Washington	140,908	1,898	144,035	143,733	145,201	145,870	144,035	143,733	145,201	145,870	144,710	1,904
Wayne	2,635	18	2,562	2,593	2,712	2,682	2,562	2,593	2,712	2,682	2,637	-16
Weber	220,781	2,892	226,550	223,904	233,448	223,155	226,550	223,904	High	223,155	224,536	863
Total	2,699,554	41,577	2,767,145	2,742,616	2,857,482	2,758,274	2,767,145	2,702,354	298,876	2,758,274	2,757,779	16,648

Note: An estimate was classified as an outlier based on the value of the Q-statistic, described in text, and the judgment of the Utah Population Estimates Committee.

Source: Utah Population Estimates Committee

estimates in 2005 and 2007. In 2007, the school enrollment method was identified as a high outlier using Q. Excluding this method lowered the estimate in Utah County by about 3,000. In 2007, the LDS method was identified as a low outlier in Salt Lake County. Excluding LDS raised the estimate in Salt Lake County by over 6,000. For the most part, however, UPEC uses Q in the smaller counties to reduce the likelihood unrepresentative data will unduly influence the estimate.

For the 2008 estimates, UPEC's approach to considering the combination of the school enrollment, IRS, LDS, and housing methods are presented in Table 5. The Committee decided not to include the estimate generated with a particular method based on the Q-statistic. As presented in Table 5, UPEC used the average of the four methods in only nine of Utah's 29 counties. In the remaining 20 counties, the estimate was the average of three methods. The net effect of the outlier analysis was to decrease the state total estimate by 23,600 people below the average of the four methods. The particular methods used in the counties where an outlier was identified are the following:

- The LDS method was determined to be an outlier using the Q statistic and was not used in Rich and Summit counties. The school, IRS, and housing methods were used to determine the estimate.

- The IRS method was determined to be an outlier using the Q statistic and was not used in Beaver, Box Elder, Cache, Daggett, Davis, Duchesne, Emery, Grand, Iron, Millard, Salt Lake, San Juan, Sanpete, Sevier, Tooele, Utah, and Weber counties.

U.S. Census Bureau Population Estimates

The U.S. Census Bureau, Population Estimates Branch, prepares post-2000 census population estimates for states, counties and sub-county areas. These estimates use different methods and, in some cases, different base data than UPEC. Since estimates prepared by the Committee generally include more recent data, consider a variety of methods and information sources, and incorporate the informed judgment of local people who are familiar with local indicators of population growth, they are widely used in Utah.

Estimates prepared by the Census Bureau, however, may be preferred in applications that require comparisons with other states or when state statute or federal grant applications require their use. Utah statute explicitly states that U.S. Census Bureau estimates be used in calculating the state spending limit and allocating local option sales taxes and class B and C road monies. Census Bureau estimates are also used by other federal data agencies and are currently the only statewide source of city estimates.

The estimates prepared by the Census Bureau and UPEC have been diverging as the time since the 2000 Census increases. For 2008, the Census estimate for Utah's population, 2,736,424, was about 21,400, or 0.8%, less than UPEC's. The main differences in the two estimates are the timing of input data and method. UPEC uses more current birth and death data and draws from local data sources on school enrollment, LDS membership, and housing unit permits. The Census Bureau methods rely heavily on IRS tax return data as an indicator of domestic migration, American Community Survey results to indicate international migration, and Medicare and group quarters data.[7]

There is a fairly significant difference in the estimation process of the Census Bureau and UPEC. The Census Bureau first develops a total U.S. population estimate using national vital records and migration estimates. The national population estimate includes detail by single year of age, sex, and race. Separately from the national estimate, an estimate for each county in the nation is developed. (The Census Bureau county estimate methodology is described in more detail below.) In a typical estimate year, in a typical county, estimates at the county level are developed for the population under age 65 and 65 and over. The totals of the 3,000 plus individual county population estimates for these two age groups are used to develop control factors. These control factors are then applied to each county estimate so the total of the controlled estimates equals the national population estimates for the two age groups. The process of controlling county population estimates to a separately determined national population estimate can introduce error to the estimating process.

In contrast to the Census Bureau, UPEC examines data at the county level for its methods. The state estimate is then simply the sum of the independently produced county estimates.

The Census Bureau recently revised state population estimates for 2000 through 2007 and produced new estimates for 2008. A comparison of the Census Bureau estimates for 2006 through 2008 with UPEC's estimates is presented in Table 6. Among the counties in 2008, the largest percent difference between the Census and UPEC was 12.2%

7 U.S. Census Bureau group quarters data is collected from places where people live or stay other than the usual house, apartment, or mobile home and it is collected by the state and by the Bureau.

in Millard County, a growing rural county of over 13,000 by UPEC's estimate, but not growing by the Census Bureau estimate. Other counties with a large percent difference between the estimates are Morgan (11.3%), Summit (10.7%), Wasatch (8.4%), and Garfield (8.3%).

U.S. Census Bureau Methods

The Census Bureau "develops county population estimates with an administrative records component of population change method in which the household and group quarters population are estimated independently. State population estimates are simply the sum of all county population estimates within each state." This procedure relies on federal income tax data to estimate the net inter-county migration of the resident population under 65 years old; results from the American Community Survey to estimate net foreign migration; reported resident birth and death statistics to estimate natural change; and data on Medicare enrollees to estimate the population 65 years and older. Estimates for the population living outside of households are based on the decennial census and data provided by each state. People living outside households are known as the group quarters population. This population includes military personnel living in barracks, college students living in dormitories, inmates of correctional facilities, persons living in nursing homes or assisted care facilities, and others.

Table 6
Comparison of Census Bureau and Utah Population Estimates Committee

	Utah Population Estimates Committee			Census Bureau			Numeric Difference			Percent Difference		
County	2006	2007	2008	2006	2007	2008	2006	2007	2008	2006	2007	2008
Beaver	6,428	6,466	6,523	6,090	6,061	6,162	338	405	361	5.6%	6.7%	5.9%
Box Elder	45,987	47,491	48,712	46,695	47,793	49,015	-708	-302	-303	-1.5%	-0.6%	-0.6%
Cache	105,671	109,022	111,841	106,399	108,995	112,616	-728	27	-775	-0.7%	0.0%	-0.7%
Carbon	19,504	19,730	19,841	19,188	19,608	19,549	316	122	292	1.6%	0.6%	1.5%
Daggett	949	969	964	936	922	938	13	47	26	1.4%	5.1%	2.8%
Davis	286,547	296,029	301,915	278,759	287,751	295,332	7,788	8,278	6,583	2.8%	2.9%	2.2%
Duchesne	15,585	16,163	16,765	15,433	16,187	16,861	152	-24	-96	1.0%	-0.1%	-0.6%
Emery	10,438	10,461	10,610	10,280	10,369	10,510	158	92	100	1.5%	0.9%	1.0%
Garfield	4,772	4,872	5,044	4,396	4,528	4,658	376	344	386	8.6%	7.6%	8.3%
Grand	9,024	9,125	9,326	9,257	9,422	9,589	-233	-297	-263	-2.5%	-3.2%	-2.7%
Iron	43,424	44,813	46,341	41,746	43,453	44,540	1,678	1,360	1,801	4.0%	3.1%	4.0%
Juab	9,315	9,654	10,039	9,112	9,568	9,983	203	86	56	2.2%	0.9%	0.6%
Kane	6,294	6,440	6,663	6,395	6,506	6,577	-101	-66	86	-1.6%	-1.0%	1.3%
Millard	13,230	13,414	13,550	11,893	11,898	12,082	1,337	1,516	1,468	11.2%	12.7%	12.2%
Morgan	8,888	9,265	9,645	8,017	8,335	8,669	871	930	976	10.9%	11.2%	11.3%
Piute	1,373	1,385	1,447	1,338	1,336	1,404	35	49	43	2.6%	3.7%	3.1%
Rich	2,121	2,162	2,278	2,006	2,089	2,205	115	73	73	5.7%	3.5%	3.3%
Salt Lake	996,374	1,018,904	1,030,519	987,035	1,005,245	1,022,651	9,339	13,659	7,868	0.9%	1.4%	0.8%
San Juan	14,647	14,807	15,206	13,998	14,457	15,055	649	350	151	4.6%	2.4%	1.0%
Sanpete	25,799	26,464	26,960	23,954	24,578	25,520	1,845	1,886	1,440	7.7%	7.7%	5.6%
Sevier	19,984	20,442	20,619	19,288	19,643	20,014	696	799	605	3.6%	4.1%	3.0%
Summit	36,871	38,412	39,951	34,867	35,377	36,100	2,004	3,035	3,851	5.7%	8.6%	10.7%
Tooele	54,375	56,536	58,214	52,352	54,740	56,941	2,023	1,796	1,273	3.9%	3.3%	2.2%
Uintah	27,747	28,806	30,446	27,818	28,978	29,885	-71	-172	561	-0.3%	-0.6%	1.9%
Utah	475,425	501,447	519,632	482,047	513,263	530,837	-6,622	-11,816	-11,205	-1.4%	-2.3%	-2.1%
Wasatch	21,053	21,951	22,845	19,861	20,442	21,066	1,192	1,509	1,779	6.0%	7.4%	8.4%
Washington	134,899	140,908	144,710	127,073	133,447	137,589	7,826	7,461	7,121	6.2%	5.6%	5.2%
Wayne	2,535	2,635	2,637	2,477	2,515	2,589	58	120	48	2.3%	4.8%	1.9%
Weber	215,870	220,781	224,536	216,445	221,419	227,487	-575	-638	-2,951	-0.3%	-0.3%	-1.3%
MCD												
Bear River	153,779	158,675	162,831	155,100	158,877	163,836	-1,321	-202	-1,005	-0.9%	-0.1%	-0.6%
Five County	195,817	203,499	209,281	185,700	193,995	199,526	10,117	9,504	9,755	5.4%	4.9%	4.9%
Mountainlands	533,349	561,810	582,428	536,775	569,082	588,003	-3,426	-7,272	-5,575	-0.6%	-1.3%	-0.9%
Six County	72,236	73,994	75,252	68,062	69,538	71,592	4,174	4,456	3,660	6.1%	6.4%	5.1%
Southeast	53,613	54,123	54,983	52,723	53,856	54,703	890	267	280	1.7%	0.5%	0.5%
Uintah Basin	44,281	45,938	48,175	44,187	46,087	47,684	94	-149	491	0.2%	-0.3%	1.0%
Wasatch Front	1,562,054	1,601,515	1,624,829	1,542,608	1,577,490	1,611,080	19,446	24,025	13,749	1.3%	1.5%	0.9%
State of Utah	2,615,129	2,699,554	2,757,779	2,585,155	2,668,925	2,736,424	29,974	30,629	21,355	1.2%	1.1%	0.8%

Source: Utah Population Estimates Committee and the U.S. Census Bureau

Tax data for two successive years are used to determine the number of persons whose county of residence changed during the period. From this series a net migration rate is calculated and applied to the household population base under age 65. The resulting estimates of net migration are combined with independent estimates of the population 65 years and over, the group quarters population, and the other components of population change (resident births and deaths, international migration, and net movement of military barracks personnel to the civilian population) to yield an estimate of total population.

Conclusion

This article has provided a historical and current description of the significant features of population change in Utah. Utah's high birth rates, low death rates, and migration trends have been highlighted, as have the patterns of population change in 2008 among Utah's multi-county districts and counties. To make data users more familiar with how population estimates are developed in Utah, UPEC and its methods have been discussed. The population estimates prepared by the Census Bureau and the methods it uses have also been described, with a brief comparison of how the Bureau's population estimates differ from those prepared by UPEC.

Utah Population Estimates Committee

Michael Mower, Chair
State Planning Coordinator, Governor's Office of Planning and Budget

Juliette Tennert
Governor's Office of Planning and Budget

Walt Busse
Governor's Office of Planning and Budget

Brian Carver
Bear River Association of Governments

Shawn Eliot
Mountainland Association of Governments

Scott Festin
Wasatch Front Regional Council

Bill Johnson
Uintah Basin Applied Technology College

Mark Knold
Utah Department of Workforce Services

Barry Nangle
Utah Department of Health

Pam Perlich
Bureau of Economic and Business Research, University of Utah

Randy Raphael
Utah State Office of Education

Ken Sizemore
Five County Association of Governments

Dave Landward
Questar Gas

Jesse Soriano
Ethnic Group Affairs, Department of Community and Culture

Farah Thompson
Utah State Board of Regents

Mike Toney
Utah State University

Tom Williams
Utah State Tax Commission