

BROWARD-by-the-NUMBERS

Broward's Population through the Year 2035

Revised Population Forecasts from the Planning and Redevelopment Division show little change now; but, Population Growth regains momentum during the 2010-20 decade.

The Forecast Methodology.

The Broward County Population Forecast Model has been updated and extended to the year 2035. Since these forecasts are the basis for long-range public infrastructure projects (with investments totaling into the billions of dollars), revisiting the forecasts is important for appropriate priority-setting and sizing of the projects. This task assumes increased importance during periods of unusual growth (high or low) by shifting the community's focus from the unlikely or unsustainable short-term trend to a more reasonable long-term scenario.

The Model is a version of the Cohort-Survival Method. This Method ages the population each year and produces forecasts of births, deaths, in-migration, and out-migration primarily on the basis of the County's demographic characteristics.

The Impact of the Current Economic Slump.

Though the current economic slump curtailed population growth, the actual slowdown began earlier in the decade as housing costs sky-rocketed. Larger numbers of in-migrants always fuel Broward County's rapid population growth. Excessively high housing costs earlier, now followed by diminishing job opportunities, reduced in-migration and population growth to its smallest level in sixty years.

This affects the long-term forecast in two ways. First, the short-term forecasts display lesser populations than they would without the economic downturn. Since each forecast year's population is based on the previous year's population, a current lesser population tends to lessen the long-term population. Over the course of 25 to 30 years this impact tends to erode. Past recessions did not have a long-term impact on in-migration and there is no indication that this recession is any different. The second impact occurs with the modeling of the in- and out-migration. The additional years of data (with reduced in-migration and elevated out-migration) have the effect of closing the gap between in- and out-migration, reducing the County's primary source of population growth through 2035.

The Forecast.

Table 1 displays the Broward County population for years 1970 through 2035 and compares the forecast growth rates to historical rates. Though the forecasts anticipate continued population growth; it is modest in comparison to the population growth of the 1970's and 1990's. For the 35-year period from 1970 to 2005, Broward's population expanded by

1,120,000 people. For the 35-year period from 2000 to 2035, Broward County should expect a 675,000-person increase. As important as total population is, Broward County's future will be determined as much by its changing demographics as it is by a simple changing of the population total.

	Year	Population	5-Year Growth	Ann. Avg. Growth	Ave. Ann. % Growth
Historic	1970	620,100	--	--	--
	1975	876,690	256,590	51,318	8.28%
	1980	1,018,257	141,567	28,313	3.23%
	1985	1,124,791	106,534	21,307	2.09%
	1990	1,255,531	130,740	26,148	2.32%
	1995	1,428,708	173,177	34,635	2.76%
	2000	1,623,018	194,310	38,862	2.72%
	2005	1,739,487	116,469	23,294	1.44%
	Ave.	--	159,912	31,982	3.26%
Forecast	2010	1,772,060	32,573	6,515	0.37%
	2015	1,876,261	104,201	20,840	1.18%
	2020	2,000,888	124,627	24,925	1.33%
	2025	2,114,586	113,698	22,740	1.14%
	2030	2,214,420	99,834	19,967	0.94%
	2035	2,298,006	83,586	16,717	0.75%
	Avg.	--	93,087	18,617	0.95%

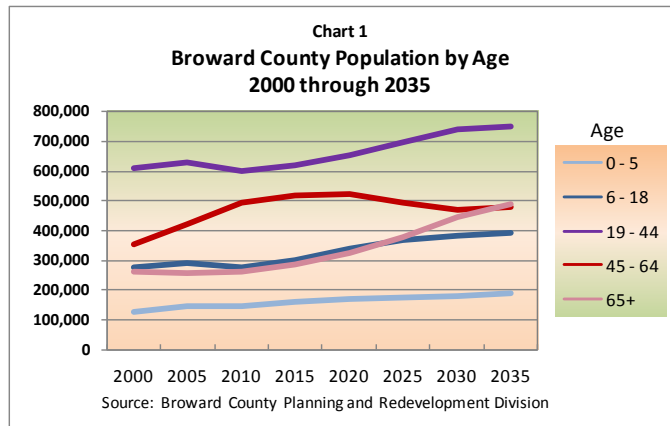
Source: 1970, 1980, 1990, and 2000 -- U.S. Bureau of the Census
1975, 1985, and 1995 -- University of Florida (BEBR)
2005 through 2035 -- Broward Co. Planning & Redevelopment Div.

Each age-cohort has a different perspective and represents a different requirement or contribution to the local economy. Broward County's expected age distributions are displayed in Table 2 and in Chart 1 (More detail is found in Appendix 1.)

Year/Age	0 - 5	6 - 18	19 - 44	45 - 64	65+	Total
2000	124,394	276,890	608,437	352,188	261,109	1,623,018
2005	142,009	289,765	630,830	421,742	255,141	1,739,487
2010	144,714	274,883	600,681	491,183	260,599	1,772,060
2015	156,637	298,142	619,372	519,226	282,884	1,876,261
2020	166,757	336,861	652,427	522,592	322,251	2,000,888
2025	174,261	365,580	699,917	495,621	379,207	2,114,586
2030	181,038	379,983	740,189	466,877	446,333	2,214,420
2035	188,586	390,619	751,050	477,172	490,579	2,298,006

Source: Broward County Population Forecast Model, 2009
Broward County Planning and Redevelopment Division

Ages 0 – 5. The change in this age group reflects births, which generally change with the size of the 18 - 34 years olds. The importance of this group’s size is not lost on school administrators, as changes in the 0 – 5 group ripple through the school system within a few years. Though this group increases through 2035, its rise is very gradual, growing most during 2011 through 2020 and slowing during the later years.



Ages 6 – 18. This is the “school-age” population; which alone identifies the importance of this cohort. Challenges and burdens abound whenever school enrollments change. Both declines and increases cause a shuffling of resources to meet educational demands. Beyond education, the ability for parks and recreation programs to accommodate the needs of this group also may stress the availability of public revenues. This age group is in a current period of slight decline. By 2015, their numbers will enter a period of more rapid growth which plateaus at the year 2030.

Ages 19 – 44. This is most mobile (and consequently with the most volatile growth rates) and the most likely to form new households of any of the age groups. During the early part of the decade, this group displayed the most rapid rate of growth. Currently their numbers are declining more rapidly because more are moving out than moving in and the numbers of “Baby-Boomers” exiting this age group are larger than the “post-Boomer” population entering the cohort. Between 2010 and 2015, the combination of housing costs declines and a rebounding job market will renew the migration to Broward in numbers greater than those moving out.

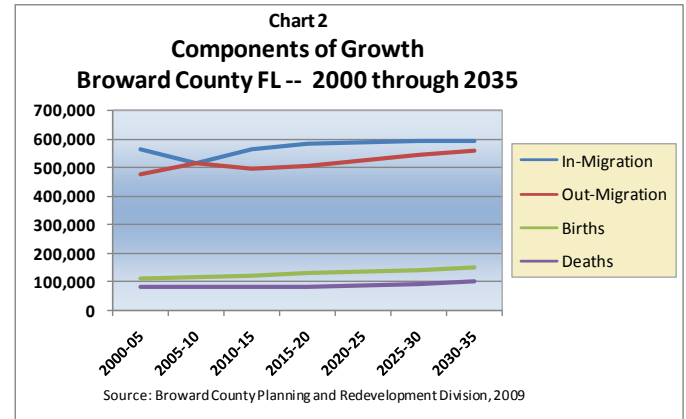
Ages 45 – 64. The “Baby-Boom Generation” increases this age group through 2020. Born between 1946 and 1964, the last of this generation enters this age group by 2009. Growth slows thereafter to the point where numbers begin to decline after 2020. Peak earnings occur during this age span, which should keep the local economy churning through 2020. After 2020, the labor force may be challenged to the meet the demand for management-level personnel as this group’s size decreases.

Ages 65+. During the early part of the forecast period, this group declines slightly. By 2011, the “Baby-Boom Generation” enters into this group. Retirement-aged population numbers will grow, not as a result of Broward County becoming a “retirement haven” again; but rather as a result of the size of this age group nation-wide. “Aging in place” and the magnitude of this national phenomenon will cause the group to balloon through a combination of “locals”

aging into the category and larger numbers of retirement-aged in-migrants, even though the migration rates may remain stable.

Demographic Explanation of Broward’s Growth.

The four basic forces that cause population change are in- and out-migration, births, and deaths. Chart 2 and Table 3 present two views of these forces in Broward County. A quick glance at Chart 2 reveals the magnitude of migration’s impact on Broward County. Its numbers dwarf the number of births and deaths. One consequence of these large in- and out-migration numbers; their “closeness” means that a small change in either can have a dramatic impact on population change. This is evident from reviewing the data in Table 3.



Migration. The current economic environment produced an 8% in-migration decline and an 8% out-migration increase during 2005 to 2010 compared to 2000 to 2005. This changes Broward’s net migration from positive to negative for the first time in the post-WW II era. After 2010, in-migration returns to its 2000 to 2005 level and begins a gradual increase that plateaus at 591,000 persons (about 118,000 annually). Out-migration dips slightly from 2010 to 2015; but is greater than the 2000 to 2005 level. It continues to increase, growing to an annual average of 111,000 during 2030 to 2035.

	Population	5 - Year									
		Births - Deaths =		Net Natural Growth	Migration						
		In -	Out =	Net	In -	Out =	Net				
2000:	1,623,018										
+ net change:	116,467	112,460	80,430	32,031	561,052	476,615	84,437				
2005:	1,739,487										
+ net change:	32,572	115,345	82,306	33,039	515,289	515,756	-467				
2010:	1,772,060										
+ net change:	104,200	119,270	81,933	37,338	561,141	494,278	66,863				
2015:	1,876,261										
+ net change:	124,627	128,554	82,613	45,942	581,962	503,276	78,686				
2020:	2,000,888										
+ net change:	113,699	135,303	85,471	49,833	588,611	524,744	63,867				
2025:	2,114,586										
+ net change:	99,838	141,531	90,907	50,624	591,683	542,469	49,214				
2030:	2,214,424										
+ net change:	83,584	148,463	100,369	48,093	591,977	556,487	35,490				
2035:	2,298,003										

Source: Broward County Planning and Redevelopment Division, 2009

As the number of out-migrants grew faster than the in-migrant counterparts; net migration during the last five forecast years shrank to only 42% of the size of the net migration during the

first five years. By the end of the forecast period, when the annual average net migration has fallen to 7000 from its initial average of 17000, population growth becomes less a function of net migration and more of net natural growth.

While the number of migrants is driven by the local, national, and international economies, the number of births and deaths are a function of the size of the county's age cohorts. Because in-migration replaces 30% of the population during the average 5-year period; there is potential for significant change in the County's age characteristics. That change is unlikely since the age distribution of the in-migrants is relatively stable throughout the forecast period. Unless a larger percentage of the retiring "Baby-Boomers" decides to relocate Broward County, the 19 to 44 year olds will continue to account for more than 50% of in-migrants through 2035.

Births and Deaths. The numbers of births grow at a slightly slower pace than the population simply because the 19 to 44 year olds do not grow as rapidly as the 45 and older groups. Average births rise by nearly a third, from 22,000 in year 2000 to 29,000 per year by 2035. Deaths increase as the "Baby-Boom" generation ages. Though the current period sees a slight pause because of the declining numbers of the 80+ population, the annual average number of deaths rises by 25% from 16,000 to 20,000. These combined changes cause the net natural increase to grow from an initial annual average of 6,000 to an average of 9,000.

The 35-year net natural increase total of 296,000 could not occur without migration. If out-migration and in-migration were equal (age characteristics remaining unchanged), the 35-year net natural increase would be reduced to 195,000. With no in- or out-migration, the increase would drop to 112,000. In both instances, the net natural increase represents the total population growth; highlighting the importance of migration to the 690,000 population increase from 2000 to 2035.

Comparison Forecasts.

There are two forecasts that warrant comparison to this forecast: the previous (2005) Broward County Population Forecast and the recent release of the Bureau of Economic and Business Research (BEBR) projections. Comparing and explaining the difference between the two forecast versions produced by the Planning and Redevelopment Division staff is appropriate since the new version represents something more than a simple update. A comparison to the BEBR forecast is appropriate since it is the default forecast for counties not producing their own. Table 4 compares the three forecasts.

Broward County 2005 Version. Broward County's 2005 edition of population forecasts displayed more early-year population growth. Houses were being built and jobs were being created at a pace that seemed to support the earlier forecast. Comparative analysis of the 2005 model's births and school-age population to current data, however, could not support the earlier forecasts. As previously mentioned, the downward impact of additional data on migration decreased the net-migration forecast beginning in 2001. Since that alone could not bring into accord the forecasts of births and school-age population with recorded birth and public school enrollment; migration rates were calibrated to bring those benchmarks into agreement. Adjustments began in forecast

year 2005; they peaked in 2008; and by 2014 migration numbers returned to a more routine level.

Table 4
Broward County Population Forecasts

Year/Age	Broward Co. Population Forecast Model			BEBR Forecast	BEBR - 2009 Model
	from 2005	from 2009	Difference		
	Total	Total			
2000	1,623,018	1,623,018	0	1,623,018	0
2005	1,765,855	1,739,487	-26,368	**	**
2010	1,905,271	1,772,060	-133,211	1,745,600	-26,460
2015	2,038,381	1,876,261	-162,120	1,787,200	-89,061
2020	2,159,926	2,000,888	-159,038	1,835,000	-165,888
2025	2,264,855	2,114,586	-150,269	1,880,000	-234,586
2030	2,348,552	2,214,420	-134,132	1,921,200	-293,220
2035	N/A	2,298,006	**	1,958,900	-339,106

Source: Broward Co. Population Forecast Model 2005 and 2009, Broward County Planning and Redevelopment Division
BEBR, Bureau of Economic and Business Research, University of Florida
Projections of Florida Population by County, 2008-2035

BEBR Broward County Projections. Until this year, the BEBR-generated population projections for Broward County were similar to the Broward County-generated forecasts. This past "similarity" was both surprising and comforting because, rather than using a cohort-survival method; BEBR employs a technique that combines different growth equations with 5-, 10-, and 15-year growth rates to arrive at an average of selected equations. The individual county projections are then adjusted to assure that the sum of the 67 county projections equals the State population forecast.

The departure (BEBR reduced Broward's projection for 2035 by 325,000 persons) arose from two changes to the BEBR Model. First, the population for the State is forecast to be 1.5 million persons less for 2035 than last year's forecast. Since Broward County is home to 10% of Florida's population, this accounts for 150,000 of the reduction in BEBR's 2035 Broward projection. The other change affects the growth rates used to generate their projections. Until this year, BEBR's 5-, 10-, and 15-year growth rates were based on the most recent population estimate; e.g., last year's 5-year growth rate was calculated using the difference between 2002 and 2007. For the recent forecasts, the base year was changed to a 2010 projection. That projection for Broward County is less than its own 2006 population estimate for Broward, causing a suppression of the County's growth rates. For example, this reduced Broward's 5-year growth from 60,000 (already the smallest growth recorded since 1950) to 4,600. Since this modification to the base year affected each equation in its model, BEBR's 2035 projection for Broward County used growth rates substantially smaller than any growth rates seen in Broward County since 1950.

The Bottom Line.

The state of the economy, with its disruption of short-term migration trends, should initiate forecast revisions. Previously accepted models should be modified to reflect the short-term nature of the current, unusual period...unless there is evidence that supports a real, long-term change in the forces of population growth. Absent that evidence, this version of the Broward County Population Forecast Model presents a reasonable expectation for Broward County's future.

Appendix 1.
Population by Age
Broward County, FL
2000 through 2035

Year/Age	0-5	6-14	15-18	19-24	25-44	45-64	65-79	80+	Total
2000	124,394	197,921	78,969	99,026	509,411	352,188	173,393	87,716	1,623,018
2001	128,270	200,976	83,091	104,196	509,664	364,065	169,694	89,732	1,649,688
2002	131,555	202,735	85,004	110,667	505,573	376,030	166,067	91,339	1,668,970
2003	136,468	204,779	87,506	119,530	504,635	389,719	163,326	92,778	1,698,741
2004	141,141	205,477	89,553	128,188	501,239	403,077	160,823	93,841	1,723,339
2005	142,009	199,439	90,326	137,789	493,041	421,742	160,172	94,969	1,739,487
2006	141,780	194,296	90,899	144,213	483,477	438,287	159,443	95,758	1,748,153
2007	140,446	190,315	90,216	148,477	474,088	454,233	159,510	95,987	1,753,272
2008	140,706	188,654	89,733	149,157	463,377	467,153	161,234	96,073	1,756,087
2009	141,850	187,468	87,461	149,737	455,784	480,729	163,355	95,901	1,762,285
2010	144,714	188,771	86,112	149,060	451,621	491,183	164,982	95,617	1,772,060
2011	147,501	191,384	85,192	148,426	450,431	500,712	167,105	94,916	1,785,667
2012	150,030	195,647	84,335	148,303	452,081	506,870	171,948	94,009	1,803,223
2013	152,257	201,569	83,330	148,863	456,269	511,292	178,272	92,994	1,824,846
2014	154,499	208,752	82,484	149,748	462,830	515,583	184,844	91,873	1,850,613
2015	156,637	215,745	82,397	149,622	469,750	519,226	191,627	91,257	1,876,261
2016	158,720	221,895	83,641	148,536	476,877	522,719	198,873	90,535	1,901,796
2017	160,802	227,314	86,116	147,049	484,366	525,069	206,504	89,892	1,927,112
2018	162,863	232,487	89,192	145,457	492,163	525,775	214,563	89,592	1,952,092
2019	164,866	237,475	92,175	144,345	500,224	525,118	223,003	89,491	1,976,697
2020	166,757	242,069	94,792	144,270	508,157	522,592	232,387	89,864	2,000,888
2021	168,497	246,033	97,286	145,346	515,779	519,333	241,846	90,493	2,024,613
2022	170,091	249,253	100,175	147,266	522,983	515,193	251,473	91,425	2,047,859
2023	171,559	251,854	103,473	149,924	529,774	509,838	260,786	93,452	2,070,660
2024	172,940	254,051	106,747	153,421	536,145	503,491	270,349	95,761	2,092,905
2025	174,261	256,051	109,529	157,671	542,246	495,621	280,985	98,222	2,114,586
2026	175,594	257,956	111,569	162,382	548,202	487,328	291,985	100,692	2,135,708
2027	176,920	259,779	112,905	167,078	553,569	479,801	301,879	104,324	2,156,255
2028	178,250	261,537	113,780	171,544	557,625	473,827	310,867	108,791	2,176,221
2029	179,635	263,264	114,453	175,773	559,951	469,500	319,714	113,311	2,195,601
2030	181,038	264,892	115,091	179,615	560,574	466,877	328,243	118,090	2,214,420
2031	182,473	266,412	115,766	182,913	560,197	466,202	335,680	122,832	2,232,475
2032	183,958	267,829	116,514	185,481	559,686	467,417	341,386	127,596	2,249,867
2033	185,476	269,188	117,296	187,286	559,682	470,037	345,077	132,544	2,266,586
2034	187,016	270,553	118,030	188,496	560,408	473,494	346,981	137,639	2,282,617
2035	188,586	271,951	118,668	189,372	561,678	477,172	347,342	143,237	2,298,006

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