

District of Columbia

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DC's Population Change: Role of Births and Deaths

Introduction

This report takes you behind the numbers on the DC population growth trends since Census 2000. It examines selective correlates, namely births and deaths, to determine their contribution to the changing population trends in the District.

Births

The changing birth trends in the District are not only a matter of numbers but a combination of other factors like the mother's race, age, education and physical location. The total number of births to District residents annually has been on the increase for the last ten years. Births in 2002 numbered 7,494 and the most current data available for 2012 shows births to District residents at 9,370, some 1,876 or 25 percent more than in 2002 (Table 1).

Births by race show that the percentage of births to Black mothers has declined nine percentage points from 60.5 percent in 2002 (4,532 of 7,494) to 51.4 percent in 2012 (4,816 of 9,370) (Table 1). On the other hand, the percentage of births to white mothers increased over the same period from 24 to 31.7 percent of total births. This trend mirrored the population change by race as the District moved from being a black majority with 59.5 percent of the population in 2002, to merely maintaining that majority with blacks comprising 50.1 percent of the total District population in

2012. For whites, their population increased from 35.6 percent in 2002 to 42.9 percent in 2012.

Examining births by age of mother showed two significant changes. There was a lower percentage of births to women under 20 years old and a higher percentage of births to women 30-34 years old. According to the District's Department of Health, in 2002, 12.8 percent of all live births to District residents were to women under 20 years old; by 2012 this number had dropped to 8.5 percent (Table 2). On the other hand, from 2007 through 2012, the percentage of births to women 30-34 years increased (Figure 1). Births to unmarried women 30-34 years increased from 13 percent in 2007 to 15.3 percent in 2012, while births to married women 30-34 years increased from 37.5 percent to 41 percent over the same period. This supports findings elsewhere that young families are staying in the District and starting or expanding their families.

Table 1. Annual Live Births by Race/Ethnicity and Education of Mother

(Calendar Year)	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012*
All Races Total**	7,494	7,616	7,937	7,940	8,522	8,870	9,134	9,008	9,156	9,289	9,370
Black	4,532	4,566	4,684	4,575	4,848	4,926	5,031	4,847	4,940	4,903	4,816
White	1,808	1,925	2,115	2,171	2,312	2,370	2,494	2,655	2,635	2,843	2,974
Asian & Pacific Islander	193	225	225	165	182	215	220	298	365	420	437
Other	925	881	881	1,009	1,164	1,330	1,361	904	622	612	788
Hispanic Origin***											
Hispanic	1,000	975	1,028	1,132	1,344	1,487	1,527	1,498	1,351	1,358	1,370
Non-Hispanic	6,494	6,641	6,909	6,806	7,175	7,383	7,596	7,305	7,805	7,931	8,000
Education of Mother (Percent)											
Primary & Secondary	50.1	49.8	48	47.8	48.2	50	50	46.3	46.5	45.5	44.2
Post-Secondary (College)	40.9	43.9	44	43	42.9	42.8	45.6	51.2	51.8	53.1	55.8

*Preliminary data.

** Numbers may not add to total due to missing or unreported information.

***Persons of Hispanic origin may be of any race.

Source: DC Office of Planning State Data Center using data from the Department of Health, Center for Policy, Planning, and Evaluation

Table 2. Births to DC Resident Women by Marital Status, 2002-2012

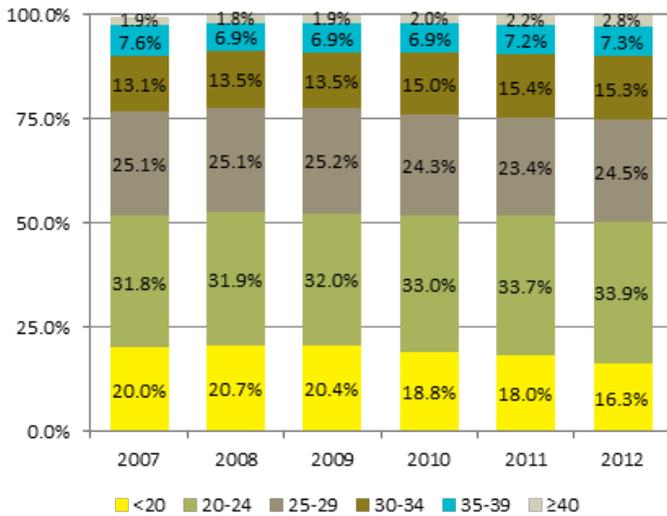
Year	Total Number of Births	Births to Unmarried Women		Births to Married Women		Births to Women <20 Years	
		Number of Births	Percent	Number of Births	Percent	Number of Births	Percent
2012*	9,370	4,788	51.4	4,537	46.6	796	8.5
2011	9,289	4,963	53.6	4,290	46.4	908	9.8
2010	9,156	5,008	55.0	4,093	45.0	967	10.6
2009	9,008	4,995	55.8	3,950	44.2	1,057	11.7
2008	9,134	5,278	57.8	3,846	42.2	1,114	12.2
2007	8,870	5,190	58.5	3,679	41.5	1,075	12.1
2006	8,521	4,908	57.6	3,613	42.4	1,021	12.0
2005	7,940	4,448	56.0	3,492	44.0	875	11.0
2004	7,937	4,442	56.0	3,495	44.0	887	11.2
2003	7,616	4,093	53.7	3,523	46.1	865	11.4
2002	7,494	4,233	56.5	3,261	43.5	956	12.8

*Preliminary data.

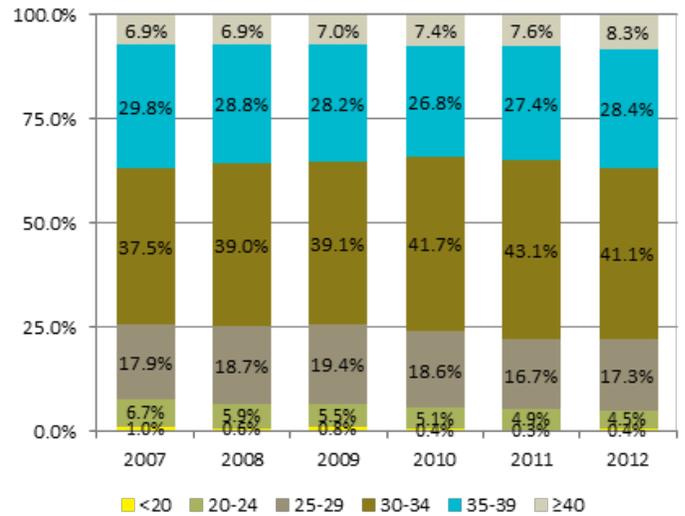
Source: DC Department of Health

Figure 1. Births to DC Resident Women by Age and Marital Status, 2007-2012

Births to Unmarried Women, 2007-2012



Births to Married Women, 2007-2012



Source: Data Management and Analysis Division, Center for Policy, Planning, and Evaluation, DC Department of Health

Given the fact that the District’s population is one of the most highly educated in the nation with over half (53 percent) attaining a bachelor’s degree or higher, and that 52 percent of District females falls into that group in 2012, the common expectation is that average births will be lower for these females. A 1994 study by the National Center for Health Statistics, and other later studies, found a direct relationship between years of education and birth rates, with the highest rates among women with lowest educational attainment. This finding was supported in the District prior to 2009 which favored higher numbers of births to women who attained primary and secondary educational levels and lower numbers of births to women who attained post-secondary or college degrees. However, more recent data from 2009 to 2012 show a reversal of this trend (Table 1). For instance, in 2002 of the 7,494 births to District residents, 50 percent were to women with primary or secondary education and 41 percent to women with post-secondary or college degrees. In 2009, 46.3 percent of all births was to women with primary and secondary education while the majority, 51.2 percent, was to women with post-secondary or college education. By 2012, of the 9,370 births, only 44.2 percent were to women with primary or secondary education, while the majority (55.8 percent) was to women with post-secondary or college

degrees. If this trend continues, with higher proportion of births to women with post-secondary education, and given that they represent the majority of women in the District, this will boost fertility rates and thereby contribute positively to population growth in the District.

The distribution of births by geography, namely District wards, has shown changes in ranking in the decade from 2002 through 2012 (Table 3). While Ward 8 occupied the top spot for the highest number of births each year except 2005 and 2006, Ward 4 has since displaced Ward 1 for the second highest number of births since 2007. The suggested reason behind this growing number of births in Ward 4 points to the movement of a large number of Hispanics from Ward 1 to Ward 4. During the ten year period from 2000 to 2010, the Ward 1 Hispanic population decreased by 2,282 persons while the Ward 4 Hispanic population grew by 4,923 persons. Although the total Ward 4 population did not change significantly from 2000 to 2010, the loss in Ward 4 traditional population was balanced by the influx of Hispanics who traditionally have larger average family sizes than non-Hispanics, according to the Census Bureau’s data. The pull factor seems to have been the relatively lower price of housing in Ward 4, with greater square footage and yard space to raise children, as compared to Ward 1.

Table 3. Annual Live Births by Ward, District of Columbia 2002-2012

(Calendar Year)	2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012*	
	#	Rank																				
All Ward Total**	7,494		7,616		7,937		7,940		8,522		8,870		9,134		9,008		9,156		9,289		9,370	
Ward 1	1,126	2	1,053	2	1,141	2	1,123	3	1,262	2	1,243	3	1,306	3	1,227	3	1,219	3	1,174	5	1,191	4
Ward 2	757	8	759	8	763	8	799	8	846	8	634	8	682	8	693	8	691	8	601	8	632	8
Ward 3	921	4	956	4	1,013	4	936	6	913	6	796	7	786	7	765	7	801	7	842	7	810	7
Ward 4	1,001	3	1,034	3	1,088	3	1,196	1	1,316	1	1,460	2	1,467	2	1,441	2	1,324	2	1,423	2	1,470	2
Ward 5	787	7	791	7	854	7	839	7	898	7	1,041	5	1,085	5	1,099	5	1,067	6	1,089	6	1,104	6
Ward 6	850	5	834	6	946	5	949	4	991	5	939	6	998	6	1,067	6	1,118	5	1,245	3	1,266	3
Ward 7	822	6	932	5	898	6	945	5	1,015	4	1,210	4	1,222	4	1,162	4	1,218	4	1,218	4	1,143	5
Ward 8	1,221	1	1,252	1	1,231	1	1,150	2	1,249	3	1,545	1	1,583	1	1,521	1	1,635	1	1,667	1	1,619	1

*Preliminary data.

** Numbers may not add to total due to missing or unreported information.

Source: DC Department of Health, Center for Policy, Planning, and Evaluation, Data Management Division

After 2010, Ward 6 has entered the picture in third place for the highest number of births but the reason here seems different from Ward 4. While Ward 4 did not change much in total population from 2000 to 2010, Ward 6 experienced the second highest population growth by adding 8,500 people over the decade. The number of family households in Ward 6 increased from 6,285 in 2000 to 13,280 in the 2007-2011 periods, more than doubled. Births have increased from 850 in 2002 to an annual average of 1,266 in 2007-2011. The pull factor for families to Ward 6 points to better public school choices and performance stemming from the impact of universal Pre-K.

Deaths

The factor most overlooked in recent population analyses of the District is the role of resident deaths in shaping population changes. What have we learned over the last ten years about deaths to District residents? Looking at total deaths to District residents on an annual basis since 2002, the picture appears positive since deaths have declined consistently from 5,779 deaths in 2002 to 4,574 deaths in 2012 (Table 4). However, a closer look at who is dying sheds a different light. Deaths by race showed that while blacks in the District comprised 59.5 percent of the total population in 2002, they accounted for 79.8 percent of all deaths. On the other hand, while the white population represented 35.6 percent of the total population in 2002, they contributed 19 percent of all deaths. By 2012, blacks represented 50.1 percent of the total District population and accounted for 76.3 percent of all deaths. Whites

in 2012 represented 43 percent of the total population and contributed 21 percent of all deaths. In summary, a disproportionate number of blacks were dying annually.

However, the more important questions were whether more blacks were dying than were being born, and what factor made the largest contribution to the loss in the Black population in the District. Table 5 shows that in 2002, more blacks died than were born, resulting in a natural increase (births minus deaths) of negative 77. From 2003 through 2012, natural increase became positive as there were more black births than black deaths, but the numbers were significantly less than the annual natural increase for whites. The white population natural increase went from positive 707 people in 2002 to 2,020 people in 2012. The analogy to the District population growth was that whites were adding more to the net population increase through natural increase than were blacks, even though blacks outnumbered whites in the total population.

On the question of which factor is making the largest contribution to the loss of black population in the District, the analysis is as follows. Given total black births of 52,558 over the period 2002-2012, and total black deaths of 43,580, the resulting natural increase is 9,088. However, the total black population showed a loss of 24,825, meaning that net black migration must be negative at 33,913, that is:

$$52,558 (\text{births}) - 43,580 (\text{deaths}) - 33,913 (\text{migration}) = -24,825 (\text{population change})$$

Table 4. DC Resident Deaths by Race: 2002-2012

Year	Total Deaths	Blacks Deaths		White Deaths		Other Deaths	
		Number	Percent	Number	Percent	Number	Percent
2002	5,779	4,609	79.8	1,101	19.1	69	1.2
2003	5,478	4,350	79.4	1,064	19.4	64	1.2
2004	5,359	4,200	78.4	1,095	20.4	64	1.2
2005	5,476	4,180	76.3	1,193	21.8	104	1.9
2006	5,289	4,035	76.3	1,172	22.2	83	1.6
2007	5,168	3,936	76.2	1,159	22.4	73	1.4
2008	5,124	3,983	77.7	1,059	20.7	82	1.6
2009	4,817	3,746	77.8	982	20.4	89	1.8
2010	4,670	3,546	75.9	1,016	21.8	71	1.5
2011	4,582	3,507	76.5	935	20.4	89	1.9
2012	4,574	3,488	76.3	954	20.9	113	2.5

Source: DC Office of Planning using data from the DC Department of Health

In summary, 56 percent of the decline in the black population (43,580 of 77,493) is attributed to black deaths and the other 44 percent to black out-migration. Thus, the loss of blacks in the city should not only be looked at as a migration factor but as a result of a disproportionate amount of blacks dying than any other race in the city.

Table 5. DC Residents Births, Deaths and Natural Increase by Race: 2002-2012

Year	Total Births	Births (Black)	Births (White)	Births (Other)	Total Deaths	Deaths (Black)	Deaths (White)	Deaths (Other)	Natural Increase (Total)	Natural Increase (Black)	Natural Increase (White)
2002	7,494	4,532	1,808	1,118	5,779	4,609	1,101	69	1,715	-77	707
2003	7,616	4,566	1,925	1,106	5,478	4,350	1,064	64	2,138	216	861
2004	7,937	4,684	2,115	1,106	5,359	4,200	1,095	64	2,578	484	1,020
2005	7,940	4,575	2,171	1,174	5,476	4,180	1,193	104	2,464	395	978
2006	8,522	4,848	2,312	1,346	5,289	4,035	1,172	83	3,233	813	1,140
2007	8,870	4,926	2,370	1,545	5,168	3,936	1,159	73	3,702	990	1,211
2008	9,134	5,031	2,494	1,581	5,124	3,983	1,059	82	4,010	1,048	1,435
2009	9,008	4,847	2,655	1,202	4,817	3,746	982	89	4,191	1,101	1,673
2010	9,156	4,940	2,638	981	4,670	3,546	1,016	71	4,486	1,394	1,622
2011	9,289	4,903	2,843	1,032	4,582	3,507	935	89	4,707	1,396	1,908
2012	9,370	4,816	2,974	1,225	4,574	3,488	954	113	4,796	1,328	2,020
Total	94,336	52,668	26,305	13,416	56,316	43,580	11,730	901	38,020	9,088	14,575

Source: DC Office of Planning using data from the DC Department of Health

Table 6. District of Columbia Population by Race and Ethnicity: 2002-2012

Race/Ethnicity	2002		2012		Change 2002-2012	
	Number	Percent	Number	Percent	Number	Percent
Total Population	573,158	100.0	632,323	100.0	59,165	10.3
White	204,051	35.6	271,323	42.9	67,272	33.0
Black	341,307	59.5	316,482	50.1	-24,825	-7.3
American Indian and Alaska Native	2,209	0.4	3,488	0.6	1,279	57.9
Asian	16,435	2.9	24,034	3.8	7,599	46.2
American Indian and Alaska Native	508	0.1	1,131	0.2	623	122.6
Two or More Races	8,648	1.5	15,865	2.5	7,217	83.5
Hispanic	47,054	8.2	62,726	9.9	15,672	33.3

*Preliminary data.

Source: DC Department of Health

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