

## Births and Deaths in Rockville

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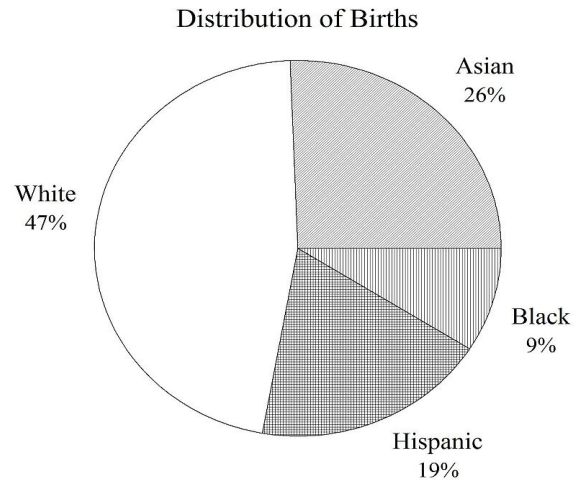
The population of Rockville is constantly changing. These changes affect the turnover of houses, voting patterns, and student levels among other things. The age distribution of the population determines all these factors and is different for the major ethnic groups that make up the city. These age groups are available from the American Community Surveys that are done by the Census Bureau. In addition one can obtain the birth rates and death rates as a function of age to determine birth and death data for the city. The table below shows the results for the year 2010.

	Births		Elm. School		Total		Deaths	
		'%		%		%		%
Asian	246	26	1387	27	12545	21	79	12
Black	87	9	707	14	5680	9	31	5
Hispanic	181	19	943	19	8780	14	45	7
White	448	47	2065	40	32320	53	485	76
<b>Total</b>	<b>962</b>		<b>5102</b>		<b>61181</b>		<b>640</b>	

I have also included the elementary school enrollment and the total population distribution of the city. Note that absolute values as well as percentage of the total in that column. It is interesting that total births exceed total deaths by about 320 for the total population but it is only the white population that has more deaths than births.

The % values shown above are quite dynamic and will change in time. Consider the Births column which shows different percentages than the Total column. The difference is due to differences in the fertility of the different ethnic groups and the different age distributions of the ethnic groups. The relative fertility differences are cultural and will not rapidly even out. One study found the relative fertility of the different ethnic groups shown in the following table. A value of 2.1 children per couple is required to maintain a population.

Asian	2.3
Black	2.2
Hispanic	3.0
White	1.8



It is generally conceded that the White population of the United States is not maintaining its numbers and that the nation is dependent on the ethnic contributions to maintain the population. Rockville, itself, seems to be in that situation also.

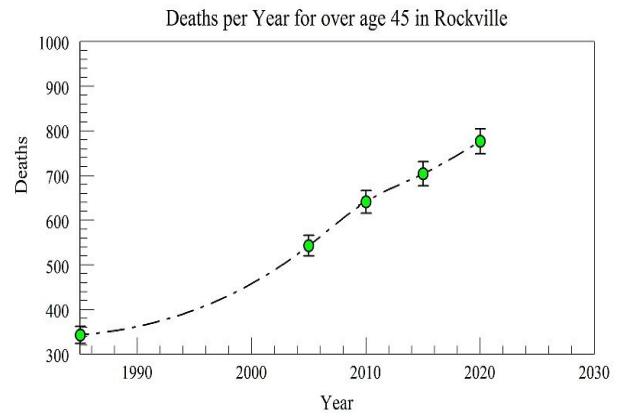
School records show that 888 children entered the first grade this year in the nine elementary schools that cover Rockville. But we know that 23% come from outside the city limits so that would mean about 680 children from Rockville families. These children were born in 2004. The birth calculation shown above is for six years later. Of the 962 births, assume 15% go to private school in 2016 and the remaining 85% (818) go to an elementary school in Rockville. This implies a growth rate of about 30 per year which is what we now see. The natural reproduction rate is thus adequate to explain the

student population growth without any additional growth from migration or new housing construction..

Expected deaths per year for the over age 45 population is shown in the following graph.

The deaths for those under 45 has not been included because a death at such an age may be too young to be a home owner. The ethnic distribution of the deaths predicted by the graph is shown in the pie chart below it.

The overwhelming majority ( 76%) of the deaths are



expected to occur for the white population. This is the remnant of the great baby boom rush of parents that hit Rockville from 1950 to 1970. While many left earlier, many remained who enjoyed the community they had helped build. At this point most are empty-nesters and their deaths will mean that any surviving spouse may find continued living in their home infeasible. Thus, out of the expected 485 deaths one may expect to see 400 homes on the market. This excess of white deaths in the city will continue for the next 10 to 20 years until all the original baby boomers have died. The ethnic distribution of deaths will then tend to be more representative of the total population of the city.

The death rate in the city will become a continually increasing source of homes for sale with the strong probability now that the homes will be occupied by young couples starting new families. This will in turn lead to an increased student load for the city schools. It seems ironic that the increasing death rate in the city will in turn lead to an increase in the student population.

