

The Future of Rockville

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Overview

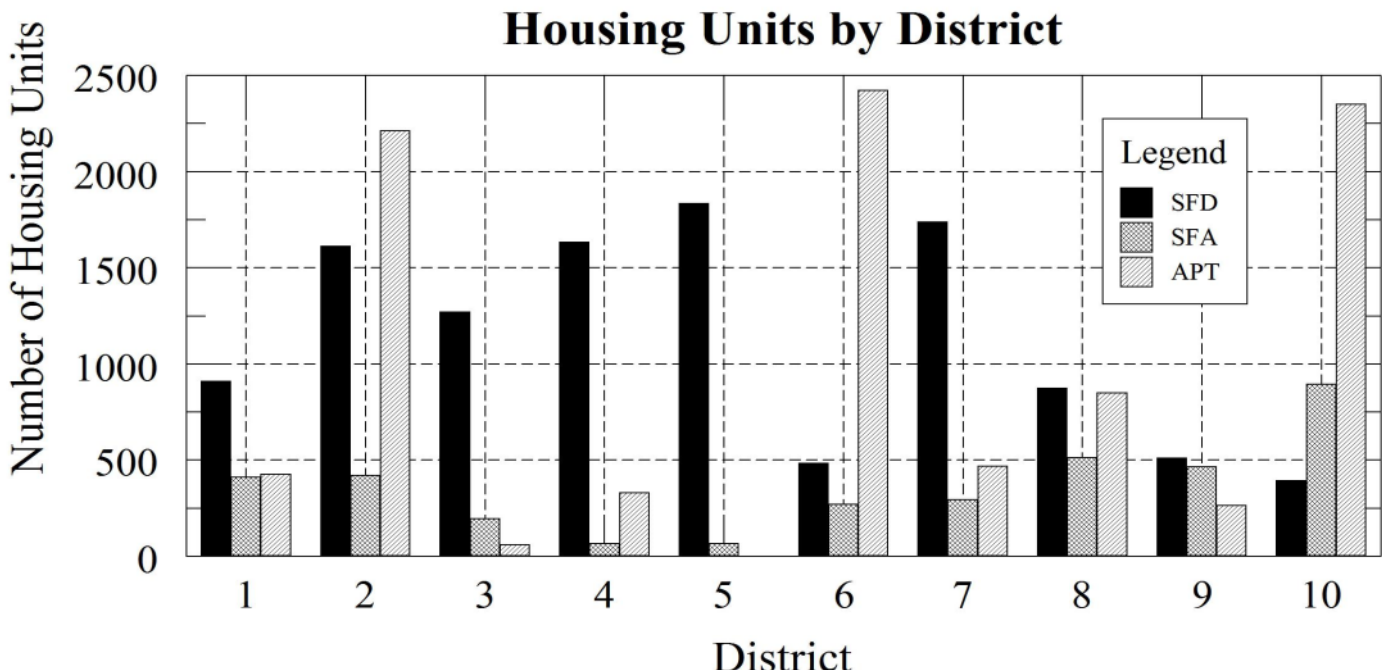
This report will show the current data for housing and ethnic composition for the ten election districts of Rockville. This data has never before been available. The election results show that the relative voter participation fraction for each district varies from 0.08 in district 6 to 0.23 in district 9. The pattern of these participation fractions remains roughly the same from one election to the next. The origin of this pattern will be shown to be the housing and ethnic composition unique to each district. This information will then be used to predict the future based on Rockville city projections of population, ethnic fraction, and housing unit growth in the city for the next twenty years. The result is unsettling. Our projected participation of voters in twenty years will drop to 11%. The basic cause of this is the failure to integrate all members of the community into our civic life.

Housing

Rockville started to grow from a small county seat in 1950 when the G. I. Bill financed a rapid growth in affordable housing. For the most part the housing was Single Family Detached homes that were owner occupied. As land became more expensive, other housing forms were built, Single Family Attached (townhouses), apartments, and in two cases, garden apartments. In many cases apartments (multi-family housing) were rented. When sold to the resident, units in multi-family housing are called condominiums. The following table shows an inventory of housing compiled by the city in June 2011.

Type	Groups	Units	Residents
Single Family Detached (SFD)	11,259	11,259	32,841
Single Family Attached (SFA)	3,555	3,555	8,789
Apartments	42	8,951	18,660
Garden Apartments	2	427	863

In addition to the residents shown above, there are 1,708 living in retirement communities. Garden apartments will be combined with apartments in future calculations. The data in the city publication were used to develop the bar graph below showing how housing categories are distributed in the 10 voting districts of the city. A map of the city election districts is included as the last page of this report. This is the first time the following data has been available.



Note that the major apartment sources are Town Center (2), Congressional towers (6), and King Farm (10). Of the current 8951 apartment units, only a small minority have been built in the last 5 years.

There is very little vacant land left in Rockville and land prices in general are such that almost no single family detached or single family attached homes will be built in the future. Almost all future housing in the city will be in multi-family buildings in Town Center, Twinbrook Commons, and along Rockville Pike.

In an attempt to estimate future student and voting populations in the city, the following table estimates the current sources of these populations from different housing types. The number of **Housing Units**, **Population per Unit**, **School Children per Unit**, and **Children per Unit** were obtained from the city and the Montgomery County Public schools. These values were then used to calculate the number of **Adults per Unit**. The census value for population 18 and over is 48,062 in good agreement with our value shown here of 48,345. The number of registered voters in the 2011 election was 36,840. This is 76% of the eligible population. The national average was 71% in the 2008 election.

Type	Units	Pop/U	SC/U	C/U	A/U	Adults
SFD	11,259	2.915	.58	.8	2.1	23,644
SFA	3,555	2.597	.27	.37	2.2	7,821
Med Rise Apts	9,378	2.095	.20	.27	1.8	16,880
High Rise Apts	0	2.095	.11	.16	1.9	
Total						48,345

Is there any difference in voting participation between Single Family Detached (SFD) and Single Family Attached (SFA or Townhouses)? A study was made of the registration and voting patterns of Single Family Detached and Single Family Attached households in groups that are similar in socio-economic level in the New Mark Commons subdivision. There are 185 Single Family Detached homes and 202 Single Family Attached homes in New Mark Commons. The voter list showed relative registration levels of 95 and 97% for the two types of homes. Voter participation (votes/registered voters) and the associated statistical uncertainties for the 2011 election are respectively $0.32 \pm .04$ and $0.25 \pm .04$. They are in statistical agreement and about twice the city average of 0.17 for non-apartments. The city average participation is 0.10 for apartments. In the future no distinction will be made between SFD and SFA. They will both be considered under the heading of single family residences or houses.

It is interesting to also compare the participation levels between rental apartments and owned apartments called condominiums. There is usually no difference physically between the two types. A builder that constructs a multi-family unit usually tries to sell them at first. If there is no market for the units, he will rent them. Just as New Mark commons is an upscale subdivision with higher than average voter participation, so too is King Farm where there is a good collection of both apartments and condominiums close together. The following table shows the results for apartments, condominiums, and single family homes (both SFA and SFD), in King Farm.

Type	Registration	Vote in 2011	V/R
Single Family Homes	3118	401	0.13
Condominiums	332	50	0.22
Apartments	1073	199	0.19

The results are unusual in that the voter participation (V/R) for apartment and condominium residents is about twice as high as expected for the rest of the city and the participation of homeowners is lower than average. In any case, the participation results for apartment renters and apartment owners are well within statistical uncertainties. Until better data are obtained, it will be assumed that there is no difference in voter participation because of ownership for residents in multi-family units.

The wave of the future may be seen in multi-family developments in the last few years. Representative of these are the Fitz, The Alaire, The Crest, and the Westchester. They are located near Metro stations; they are upscale in price and designed to appeal to younger people. The following table shows the data. Type indicates **C**ondominium (owned) or **A**partment (rental). Subsequent columns show the number of **units** in the development, the resident **population**, the number of **registered** voters, and the number of **votes** from that development in the 2011 election.

Name	Type	Units	Pop.	Reg.	Votes
The Fitz	C	221	463	214	5
Alaire	A	279	585	131	1
The Crest	A	146	306	102	4
The Westchester	A	192	402	171	0
Total		838	1756	618	10

Only 35% of the residents are registered, compared to over 76% for the general population.

The voter participation is only 1.6%, less than 1/10 of that for the rest of the population in the 2011 election. These are young people on the go, not interested in settling down and starting families. The elementary school yield of these apartments is 3 per 100 units, a little below the value the Montgomery County Public School system expects from high rise multi-family units. There is high demand now for this type of housing and this will represent most of our new population in the years ahead. The data shown above will be used to show how this will affect the political life of the city.

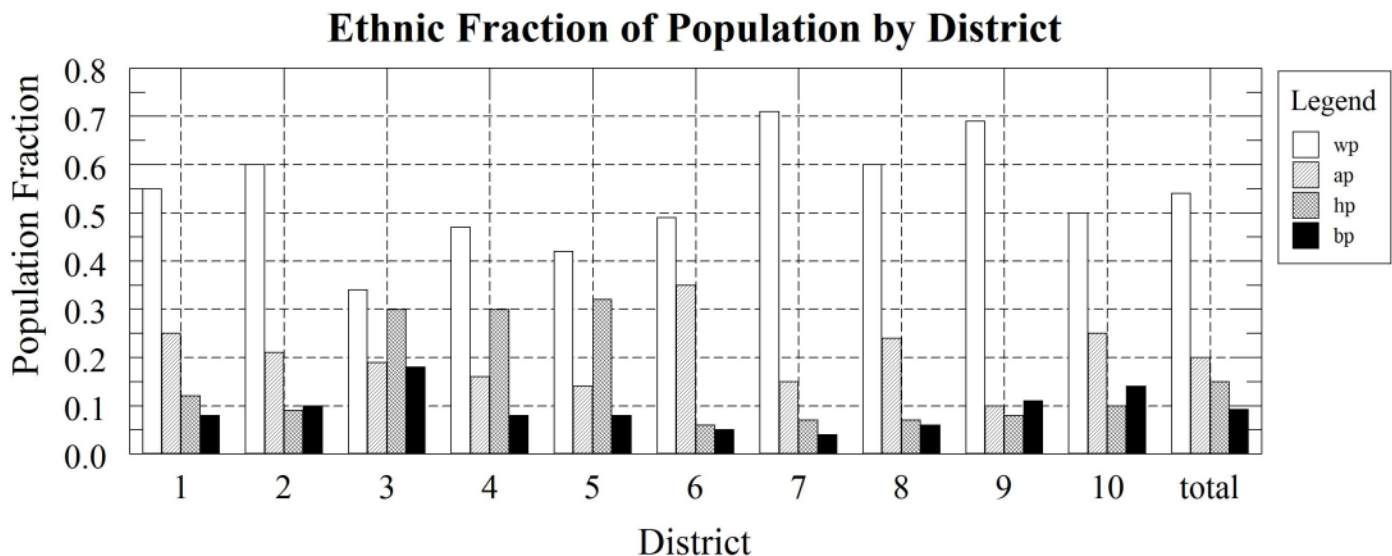
Ethnic composition

The 2010 census showed the continuing increase in Rockville's ethnic population going from 26% to 45 % in the last 20 years.

The 2010 census tells us the present relative fractions of the four main ethnic groups, **White**, **Asian**, **Hispanic**, and **Black**:

W	.55
A	.21
H	.14
B	.10

The bar chart below shows the ethnic composition in 2010 for the 10 districts of Rockville. There are four bars for each district. The first non-shaded bar is for the White or Non-Ethnic population, the second the Asian population, the third bar for the Hispanic population, and the fourth bar for the Afro-American or Black population. The final group marked total shows the overall value for Rockville. These values were derived from data in the demographics section of the city website and are the results of the 2010 census. This is the first time the following data has been available.



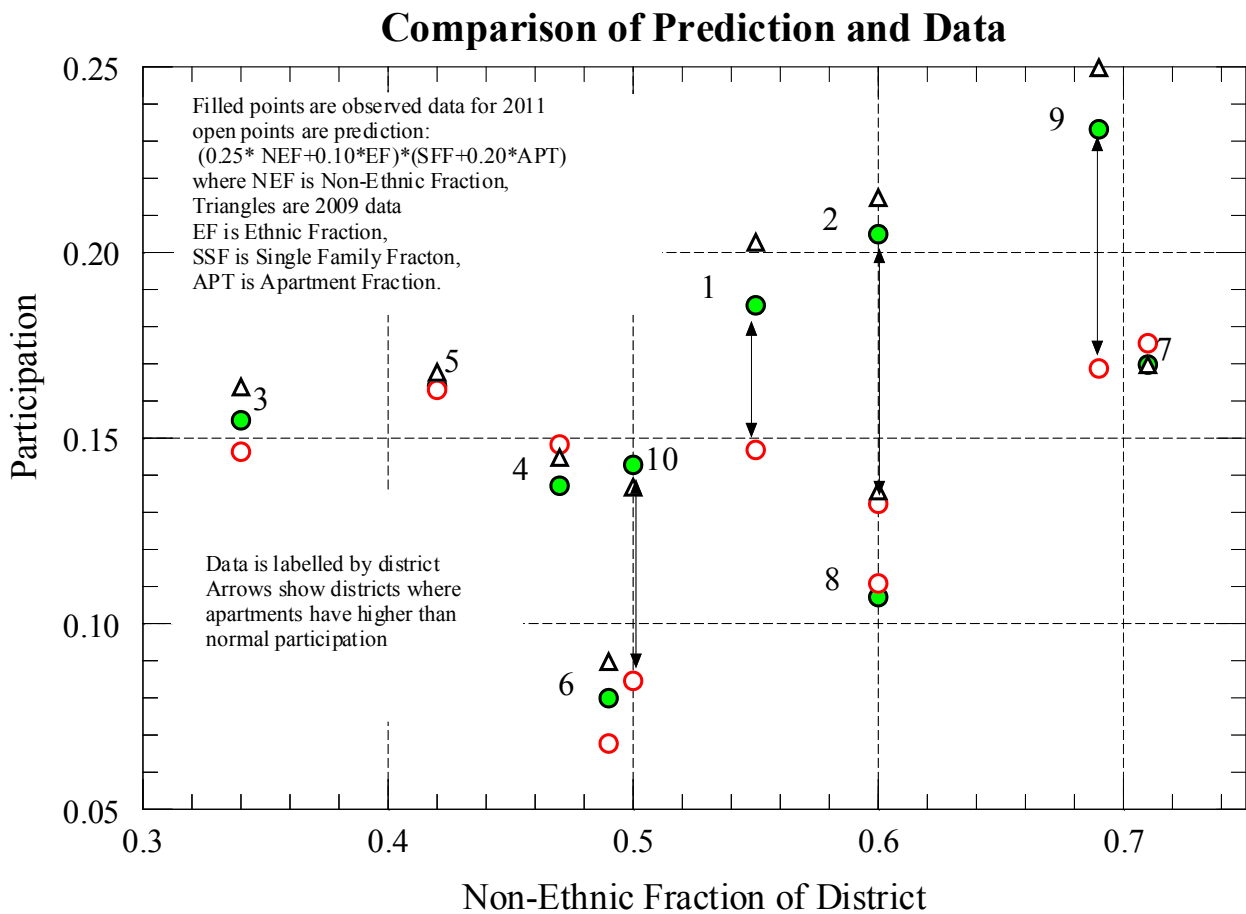
The Asian and Hispanic fractions have strong growth rates and in the future and for most districts there will be no overall growth in population because of fixed number of housing units available thus there will be a redistribution, mainly at the expense of the White or Non-Ethnic population. New construction of upscale apartments in districts 2, 5, and 6 will be the only districts with a major change in the population size

The Participation Puzzle

As mentioned in the overview, the pattern of participation in the ten different districts and the persistence of the pattern has long been a mystery. The ability to understand and calculate the voter participation for each district rests on the data on housing and ethnic distribution that have been discussed in the previous parts of this report. A key to understanding the process is to realize that the final value of the participation is a product of the participation probability related to ethnic factors times the participation probability due to housing factors. The solution presented is possible only because it was possible to make some simplifying, but valid assumptions. That the assumptions were valid in most cases is attested to by the amazingly good agreement obtained for most districts between observed and calculated participation values.

At the top of the next page the plot shows the voter participation plotted against the relative number of white (non-ethnic) voters in the district. The district number is shown next to the filled data values. Three sets of data are shown, the 2011 election results (filled circles), 2009 (open triangles) and a prediction for 2011 (open circles) based on a formula shown on the plot. In some cases the plotted points are on top of one another (as in districts 5 and 7) so all the data points are not visible. The first thing to notice is that the data for 2009 and 2011 are usually within about

5% of one another showing that there are characteristics of each district that do not change greatly from one election to another. Note that the participation values have a strong correlation with white (non-ethnic) voter population.



There are a large number of variables that could influence the participation of a voter. Among them: gender, age, wealth, children, ethnic group, type of residence, owned or rented, etc., etc. Some are much more important than others. In the beginning of the report housing types were discussed and evidence was presented that housing type was important and it was shown that housing could be reduced to two types, single family homes (where the resident directly pays his real estate taxes to the city) and residents of multi-family buildings which are called apartments (whether or not they are owner occupied) where the taxes are paid indirectly through rent or a condominium fee.

Likewise, all ethnic groups have been lumped together in distinction to non-ethnic (or white). Using only these two categories with two choices in each, the formula predicts the participation of voters quite well for 6 districts out of the 10. It is too much to expect one formula to cover all districts. As was pointed out earlier King Farm (district 10) shows very unusual characteristics in that apartment participation is greater than single family home participation. Other districts may have other unusual differences.

The formula assumes that ethnic participation is only 40% of the participation of the white population. This means that a targeted program to encourage ethnic participation could double the level of city wide participation. The formula also indicates that apartment dwellers currently contribute, on average, about 20% of the number of votes they could. The case is even worse for the new upscale apartments that appeal to young adults.

Understanding the present situation is helpful in predicting the future. The report will now take what we have learned and using some guesses about the future population try to show the participation levels that can be expected if current trends continue

The Future

As has been pointed out, there will be virtually no new single family residences constructed in Rockville. The graph on the left is based on predictions of future housing growth made by the city but here explicitly shown as apartments in multi-family buildings. The graph also shows the number of single family homes having no growth after 2010. The graph and the city prediction both assume that the current moratorium on residential construction will soon be dropped.

The next graph on the right shows the rise of the ethnic population and its projected continued rise in the future. The ethnic population in the school system and birth rates indicate that this continued rise can be assumed without further immigration. From the graph it can be seen that in less than five years the ethnic population will be in the majority.

The data from these two graphs can then be used in the formula that was shown to work quite well in predicting the district participation levels to make predictions for the future.

The bottom graph on the right shows the end result. The graph line marked "votes" shows that in future elections the absolute number of ballots cast in the elections will drop. Likewise the participation levels will also drop. By 2030 the participation levels will drop to 11%. That this result is independent of whether or not the moratorium is dropped can be inferred from the low participation of residents in the new upscale apartments.

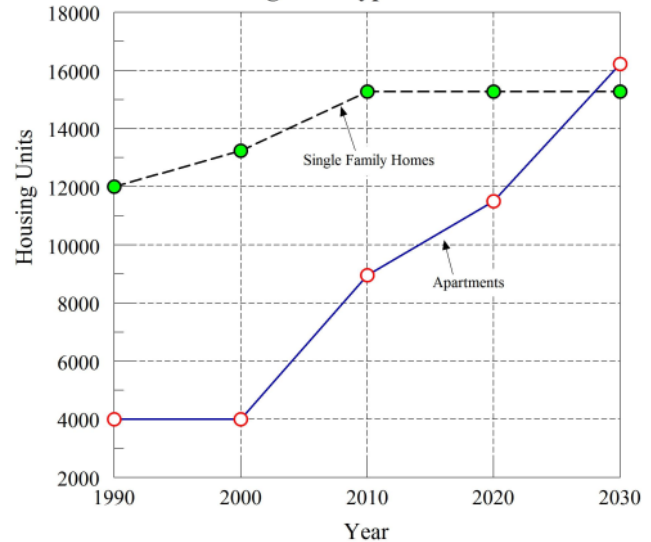
These drops in votes and participation will take place despite new residential construction simply because of the change in composition of the population that will inhabit the currently existing single family homes.

The limitation on the growth in the number of single family homes is beyond city control. There is just not the land available at a price that can be afforded. The change in ethnic population of the city is beyond city control.

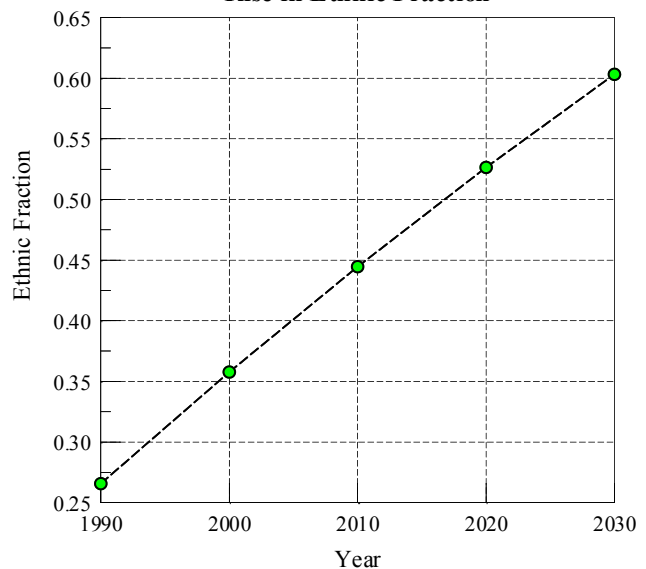
But the city can improve city accommodation to the needs of our ethnic communities and be more inclusive of them in our civic life. That inclusion will gradually improve the probability of voting by ethnic minorities.

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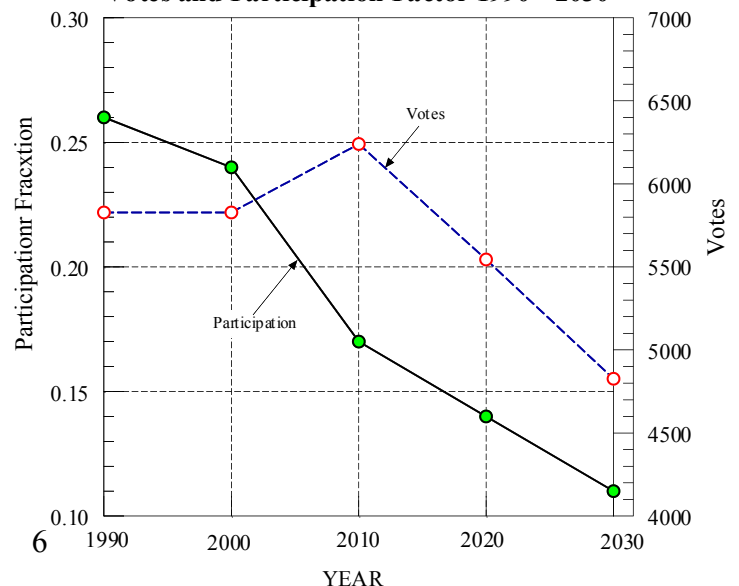
Housing Unit Types in Rockville



Rise in Ethnic Fraction



Votes and Participation Factor 1990 - 2030





**City of Rockville
Voting Districts
2011
Comicios Electorales
de la Ciudad de Rockville**

