

Conclusion

Objectives

This Sage Policy Group, Inc. (Sage) analysis focused upon the anticipated influx of jobs in and around Fort George G. Meade (FGGM) as a result of the most recently completed base realignment and closure (BRAC) process and associated impacts on the housing markets in Anne Arundel and Howard counties and the City of Laurel.

The first chapter reviewed information regarding the number of jobs that are projected to be relocated to FGGM and the resulting implications for housing demand in Central Maryland. The focus of that report, and all subsequent reports, was the impacts of BRAC at FGGM on Anne Arundel and Howard counties and the City of Laurel.

The second chapter was concerned with the supply of housing in Anne Arundel County, Howard County, and Laurel that would be available to meet this housing demand. These three jurisdictions collectively are projected to be the preferred location for at least 55 percent of those seeking housing as a result of projected BRAC job increases at FGGM.

The third chapter looked at the stratification of housing demand and housing supply, primarily by price, but also by type of housing and whether housing is owner-occupied or renter-occupied. That report also looked at the availability of housing based on recent housing sales and rental vacancy rates and the demands that BRAC households will place on the housing market.

The fourth chapter analyzed unconstrained demand for housing. Unconstrained was defined primarily as housing demand that is likely to be associated with job growth in Anne Arundel and Howard counties. Because this unconstrained demand significantly exceeds forecasted supply, continued upward pressure on housing prices in the two counties is expected. Given that this demand will likely exacerbate existing problems with the availability of more affordable housing, this report also surveys strategies and practices that may facilitate the provision of an adequate supply of such housing.

In the fifth chapter, Sage examined with the overlap of demand for housing created by BRAC at FGGM and at Aberdeen Proving Ground (APG), where virtually all BRAC related impacts in Maryland will occur. Given the very modest expected impacts of housing demand in Anne Arundel and Howard counties generated by BRAC activities at APG, the overlap in demand is not expected to have a significant impact the housing market in the two counties.

The sixth chapter focused upon the housing gaps that have been identified by the study team and recommends specific strategies to address them, including those that relate to workforce housing and housing affordability generally.

Key Findings

Remarkably, almost half of the BRAC households will likely be priced out of the housing market in Anne Arundel and Howard counties despite the recent downturn in housing prices in Central Maryland. This unsatisfied demand will be satisfied elsewhere, including in the City of Laurel which has a relatively healthy supply of available workforce housing now and into the future. The displacement will also translate into longer commutes in Central Maryland, a chronic problem that will worsen unless meaningful policy shifts are implemented.

Given that land prices are unlikely to change radically going forward, the only policy option for making land more affordable per housing unit is to increase permissible housing density. Housing developed at six units or 16 units per acre by definition creates more options for workforce/affordable housing than housing that uses one or two acres per home. Thus, the first major impediment to more affordable housing is economic--the price of land--and this can be addressed by reducing the amount of land used per housing unit.

Workforce/affordable housing has been a concern of the planning and housing community for decades. Maryland has been a pioneer along this dimension. For instance, inclusionary zoning was first implemented in Montgomery County, Maryland in 1974 requiring that 15 percent of new developments of over 50 housing units be affordable to low-income households in return for density increases of up to 20 percent. Since that effort, hundreds of communities across the nation have adopted similar zoning ordinances. Dozens of other strategies have also been developed since that time.

The City of Laurel presents a sharp contrast to Anne Arundel and Howard counties with respect to the availability of workforce housing. While some of this can be attributed to historic differences between Laurel and the counties, it is also true that Laurel in recent years has continued to authorize expansions of its stock of housing that have typically kept pace with or exceeded the growth of the city's population. Vacancy rates indicate an adequate supply of housing. This relative abundance of housing helps to support greater affordability. Moreover, recently authorized and anticipated construction favors townhomes and multifamily housing, both housing types that tend toward affordability. Often, Howard and Anne Arundel counties are viewed as representing models for other communities. In this instance, it may be that Laurel is a model for them.

Appendices

Table of Contents

Appendix A: Translating Employment Growth into New Demand for Housing ...2

Appendix B: Methodology4

Appendix C: Projecting Household Personal Income8

Appendix D: Broad price brackets for FAZs in Anne Arundel County
and by Zip code in Howard County10

Appendix E: Maps25

Appendix F: Baltimore Metropolitan Council Forecast Particulars28

Appendix A: Translating Employment Growth into New Demand for Housing

Any economic analysis is based on at least a few assumptions, and this BRAC analysis is no different. Some of the assumptions the study team has made are explained in the main body of the report to promote comprehension. The following discussion explains the rationale for converting increases in employment to increases in housing demand.

Jobs per household. The estimated number of jobs per household is used to translate expected increases in employment into a concomitant number of new households. These households, in turn, form the basis for estimating population, demand for public services, and other regional impacts. The estimate is based on employment in Maryland and the number of households assumed to be participating in the labor force.

The number of households assumed to be participating in the labor force is defined as all households headed by persons under the age of 65. The number of households headed by persons 65 years or older is estimated on the basis of the known population of persons 65 years or older and the known number of householders living alone who are 65 years or older. The remaining population of persons 65 years or older is assumed to live in households of two persons. As a result, the estimated number of households headed by persons 65 years or older is shown in Exhibit A-1. Given that not all older Marylanders are likely to be living independently, this estimate may overstate the number of households headed by persons 65 years or older.

Exhibit A-1: Households headed by persons 65 years or older

Population of persons 65 years and over	609,450
Householders 65 years or older living alone	171,337
Households of 2 people	219,057
Estimated households of persons 65 years or older	390,394
Source: U.S. Census, 2005	

Exhibit A-2 presents the estimated employment per household for households headed by persons under 65 years of age. This estimate is calculated by comparing civilian and armed forces employment to the number of households headed by persons under 65 years of age. As noted above, the estimated number of households headed by persons over 65 years may be too high. On the other hand, some proportion of households headed by younger persons does not participate in the labor force. These include those who retire before age 65 as well as those not participating in the labor force for other reasons. In estimating 1.64 jobs per household, there are potential errors in both directions due to uncertainties associated with the number of households that participate in the labor force. If in fact more households participate in the labor force, then the number of jobs per household will be lower. If fewer households participate in the labor force, the number of jobs per household will be greater. These changes in the ratio would in turn affect the number of households associated with BRAC-related jobs, the resulting population, and its demands for public services, housing, and other goods and services.

Exhibit A-2: Employment per household

Employed, civilian and armed forces	2,785,036
Total households	2,085,647
Estimated households for persons 65 years or older	390,394
Estimated households for persons under 65 years	1,695,254
Employed/household with persons under 65 years	1.64
Source: U.S. Census, 2005	

Appendix B: Methodology

Purpose

Throughout the body of this report, Sage discusses methodological issues. This appendix puts into one place these methodological discussions.

Assessing Total Housing Unit Demand

This analysis addresses prospective BRAC-related impacts on Maryland counties and Baltimore City. Indeed, estimates of demand can be made for virtually all Maryland counties as well as the District of Columbia, Virginia, Pennsylvania, West Virginia, and Delaware. It is expected that the lion's share of FGGM-related impacts, however, will fall within a handful of jurisdictions in Central Maryland.

The principal data sources for the analysis include a series of reports that have investigated the likely effects of BRAC on Maryland. These reports generally rely upon data provided by individual Maryland jurisdictions. In other words, much of the data used to support the analysis are from official government sources. Data provided by the jurisdictions to support this analysis were supplemented by:

- data from the Maryland Department of Planning;
- data from the Baltimore Metropolitan Council;
- the U.S. Census Bureau; and
- miscellaneous other sources.

To examine possible BRAC effects, the analysis generated three scenarios defined by different levels of economic activity that might be created by BRAC. These scenarios include the mid-case—assumed to be the most likely scenario—and a low and high case. The scenarios are defined primarily by the extent to which direct BRAC-related employment triggers additional employment creation among firms under contract with new FGGM entities: this is the so-called contractor-tail. Scenarios have been designed to address the policy uncertainties that surround the likely effects of BRAC, one of the key purposes of the analysis.

The analysis also addresses two points in time. The first—initial demand—occurs when jobs are first transferred to FGGM and a sizeable share of workers holding the transferred jobs are expected to choose to stay in their present homes and commute relatively long distances to the new location of their jobs (i.e. commute to FGGM). The second—“steady state” demand—occurs at some future date when these commuters have retired or changed jobs and are replaced by workers who will, with minor exception, seek housing in Maryland, particularly Central Maryland, rather than commute from more distant locations. The “steady state” model reflects housing demand expectations on an annual, permanent basis.

Particular and specific aspects of the methodology used in this analysis are also described in the text and footnotes of the report. The Appendix and References at the end of the report provide additional information on sources and methods.

- Assumptions

The assumptions made in this analysis are identified in the text and many are also discussed in detail in the Appendix. Among the most important assumptions is that most of the jobs relocating to FGGM and the associated defense contractor-tail will, for the most part, neatly translate into labor force and population growth over time. While current residents will fill a significant portion of the jobs associated with BRAC, the region's relatively low unemployment rate implies that BRAC will trigger labor force expansion to both backfill vacated jobs and fill direct BRAC openings. This assumption has been made with respect to both the direct jobs at FGGM and the associated contractor-tail.

This assumption, however, is prone to imprecision. As an example, Baltimore City has relatively greater unemployment and underemployment than Howard and Anne Arundel counties. For city residents, BRAC represents an expansion in employment opportunities and this may induce present or latent labor force members to expand their supply of labor to the marketplace. To the extent that this occurs, the analysis will have overestimated population increases and related economic and fiscal effects. Of course, the assumption as it stands is also a reflection of likely skill mismatches between current unemployed and underemployed residents and the requirements of BRAC-associated jobs. Surveys also indicate that a significant share of workers will commute to FGGM from their current homes, particularly those associated with new FGGM functions that had previously been located in Northern Virginia. This will reduce the initial BRAC impacts on Maryland jurisdictions. Over the long run, however, as these commuters retire or change jobs, the full effects of BRAC changes at FGGM will be realized.

Another key Sage assumption revolves around likely commuting patterns. Many of those likely to transfer to FGGM and relocate to Maryland have indicated that their current commutes and the maximum time they are willing to commute are significantly longer than the average commuting times of Marylanders. While commutes of 45 minutes or more are familiar to many who live and work in Central Maryland, the average commute in Maryland is closer to 30 minutes according to Census data. This analysis assumes that new workers at FGGM will choose to seek housing in a pattern similar to that of current workers at FGGM, a commuting pattern more aligned with traditional Maryland behavior than those suggested by the DISA survey.

The study team has generated estimates that reflect both current experience of FGGM worker commutes and trends of commuting times, but as with virtually any analytical assumption, these may prove to be inaccurate. Many new FGGM workers may choose the longer commutes they have endured of late and create a much more geographically diffused housing demand. Alternatively, given the remarkable changes wrought by \$4 gasoline in just the past year, long-distance commuting may increasingly become a historical curiosity. For now, however, the study team has chosen to pay homage to historical commuting patterns of those who actually work at FGGM.

Finally, this analysis assumes that the current economic distress will not be in effect when BRAC impacts occur at FGGM. These are expected to occur in 2010 and thereafter, sufficiently distant

in the future that the current downturn will likely have passed. Recent events, however, have sharply weakened the national and regional economies. Sage presently expects this weakness to begin to evaporate by mid- or late-2009. Should this not occur, the effects of the current downturn would have consequences for BRAC-related housing demand. Specifically, more homes and apartments would be available in 2010 and beyond than is currently envisioned.

- Net changes in jobs at FGGM and associated employment impacts

This analysis relies on a 2006 estimate that was developed in conjunction with a series of BRAC-related studies under the general guidance of the Maryland Department of Business and Economic Development. BRAC, in terms of direct, indirect and induced employment estimates is assumed in the employment forecasts of each of the jurisdictions that have sponsored this report.

- Use of zip code data

A zip code breakdown of current FGGM workers' residences is the most precise source identified that can be used to determine allocation of housing demand. Using this dataset to assess allocation allows Sage to eliminate the analytical steps involved in estimating commuting drive times and the existing demand within those commuting bands. Given that this allocation of demand is based on empirical data for current FGGM workers, it is considered more reliable than allocations based on estimated commuting behavior using travel time to work data. As a result, this allocation is used to analyze future BRAC-related housing demand. By summarizing the number of workers by zip code and adjusting for zip codes that cross jurisdictional boundaries, the allocation of current housing location choices by FGGM workers can be estimated by jurisdiction.

- Households and population associated with BRAC positions at FGGM

The transfer of jobs to FGGM and the consequent creation of jobs in Anne Arundel County and the surrounding region will drive the BRAC-related housing demand that the region will experience. The first step in estimating that demand is to understand the relationship between employment and household formation. Based on recent experience in Maryland, it is estimated that there are 1.64 jobs per household for households likely to be participating in the labor force. Based on average household size in Maryland, it is estimated that there are an average of 2.61 persons per household.

By using these estimates of jobs per household and household size, the increase in households and population attributable to BRAC changes at FGGM can be projected.

- Commuting patterns

Sage first reviewed behavior patterns of commuters as measured by the U.S. Census Bureau, which routinely collects data on travel time to work. Second, the May 2008 survey of DISA/JTP-GNO workers affected by the relocation of positions to FGGM included information

on the current commuting experience of workers likely to relocate as well as their estimate of the maximum time they would consider commuting.

Establishing Characteristics of Housing Demand

The broad outlines of housing demand can be characterized based on the expected income of those expected to be buying or renting and on the responses to a survey of DISA/JTP-GNO workers. These factors allow for an estimation of demand by the value of housing and for differentiation between demand for owned versus rental housing.

Sage estimates that household income for all positions generated by BRAC is 130 percent of the income of those positions. That is, if a job relocated to FGGM paid \$100,000, on average the household of that worker would have an income of \$130,000. Most of the additional 30 percent of income would be derived from the employment of spouses.

Estimates of typical compensation for the indirect and induced jobs created by the activities of on-base and contractor-tail workers are based on economic conditions and labor markets in central Maryland from Harford County to Howard County to Anne Arundel County and apply to BRAC changes at both APG and FGGM.

The housing purchasing power of these incomes can be estimated by assuming that 25 percent of income is devoted to the principal and interest payments of a mortgage. Affordable mortgages can be estimated assuming 30-year fixed loans at 6.5 percent for 90 percent of the price of housing for sale.

For those opting to rent rather than buy, Sage estimated affordable monthly rent based on devoting a maximum of 30 percent of total household income to rent. The share of demand assumes an equal propensity to rent for all types of workers.

Further, the allocation of housing demand presented earlier can be disaggregated into a demand for purchased housing and rental housing. The estimated allocation assumes that induced and indirect workers have the same preferences for owned versus rented housing as do the on-base and contractor-tail workers.

Appendix C: Projecting household personal income

Decision Data projects household personal income over a 5-year period. The most recent projection is for 2013. Compared with the estimated household personal income for 2008, average household income will increase from 13 percent to 18 percent in the three jurisdictions, as shown in Exhibit C-1. On an annual basis, the highest rate of increase was 3.4 percent for Anne Arundel County; the lowest was 2.6 percent for Howard County and Laurel. These estimates of income are in current dollars, that is, the 2013 values are in 2013 dollars which because of inflation cannot be directly compared to 2008 dollars.

Exhibit C-1: Household personal income in current dollars

<i>Jurisdiction</i>	<i>2008</i>	<i>2013</i>	<i>Total change 2008-2013</i>		<i>Average annual change 2008-2013</i>
			<i>Number</i>	<i>Percent</i>	
Anne Arundel County	\$100,465	\$118,775	\$18,310	18.2%	3.4%
Howard County	\$122,032	\$138,439	\$16,407	13.4%	2.6%
City of Laurel	\$85,342	\$97,038	\$11,696	13.7%	2.6%

Source: Decision Data, Sage

Because this analysis expresses monetary values in constant dollars, it is useful to convert the 2013 dollars in Exhibit C-1 into constant 2008 dollars. To estimate the future change in household personal income in real terms, historic trends in personal income were examined. Exhibit C-2 lists per capita personal income in the United States from 1998 through 2008, both in current and in chained or constant 2000 dollars.

Exhibit C-2: Per capita personal income

<i>Type of dollar</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>
Current	23,161	23,968	25,473	26,243	27,183	28,076	29,592	30,611	32,263	33,706	34,946
Chained (2000)	24,131	24,564	25,473	25,704	26,253	26,588	27,302	27,434	28,134	28,648	28,741

Source: U.S. Bureau of Economic Analysis

Exhibit C-3 looks at the changes in per capita personal income over time from a variety of perspectives, both for current and constant dollars. On an annual basis per capita income has varied significantly from year to year.

Exhibit C-3: Changes in per capita personal income

Type of dollar	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Annual change from prior year										
Current	3.5%	6.3%	3.0%	3.6%	3.3%	5.4%	3.4%	5.4%	4.5%	3.7%
Chained (2000)	1.8%	3.7%	0.9%	2.1%	1.3%	2.7%	0.5%	2.6%	1.8%	0.3%
5-year rolling CAGR *										
Current					3.9%	4.3%	3.7%	4.2%	4.4%	4.5%
Chained (2000)					2.0%	2.1%	1.5%	1.8%	1.8%	1.6%
Difference					2.0%	2.2%	2.2%	2.4%	2.6%	2.9%
10- year rolling CAGR										
Current										4.2%
Chained (2000)										1.8%
Difference										2.4%
5- year total change										
Current					21.2%	23.5%	20.2%	22.9%	24.0%	24.5%
Chained (2000)					10.2%	11.1%	7.7%	9.5%	9.1%	8.1%
10-year total change										
Current										50.9%
Chained (2000)										19.1%
Note: * CAGR = compound annual growth rate. Sources: U.S. Bureau of Economic Analysis, Sage										

To gain a longer-term perspective, the 5-year average growth rate and 10-year average growth rate were calculated. In current dollars, the 5-year average growth rate ranged from 3.7 percent to 4.5 percent on an annual basis, while over 10 years, the average annual rate was 4.2 percent. All these annual rates are above—generally well above—the rates that are forecasted for the three jurisdictions from 2008 to 2013. Similarly, the total change for recent 5-year periods ranged from 20.2 percent to 24.5 percent, well above the 13.4 percent to 18.2 percent projected for the three jurisdictions.

In real terms the annual growth rate over 5-year periods has tended to decline over time. For the 5-year period ending 2003, the annual real growth rate was 2.0 percent. By 2008, the annual real growth rate over the preceding five years had dropped to 1.6 percent, the lowest annual growth rate of any five-year period calculated. Over the 10 year period ending in 2008 the annual real growth rate was 1.8 percent.

These numbers suggest that in recent years a real annual rate of adjustment for personal income might be in the range of 1.5 percent to 2.0 percent. The current dollar annual rate of increase in the Decision Data projection, however, ranged from 2.5 percent to 3.4 percent, lower than any current dollar annual growth rate over the past decade. This suggests that the real rate of increase for personal income in the future may be lower than recent history suggests.

Given the current sluggishness in the economy and the very low current dollars projections for future household income in the three jurisdictions, this analysis assumes that the real rate of increase for household income will be 1.0 percent. This is significantly lower than recent real increases in per capita income and may prove to be conservative. Nevertheless, the very modest Decision Data projections for increases in household income and the present high levels of unemployment seem to argue in favor of very modest real gains in income.

Appendix D: Broad price brackets for FAZs in Anne Arundel County and by ZIP code in Howard County

On the following pages are the more detailed data from which the bar charts were created. The tables include more detailed sales price data as well as sales data by housing type.

Exhibit D-1: Annapolis FAZ, Anne Arundel County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	1	0	0	0	1	0.2%
\$100,000-\$149,999	2	4	0	0	6	0.9%
\$150,000-\$199,999	5	14	6	0	25	3.8%
\$200,000-\$249,999	5	22	19	0	46	7.0%
\$250,000-\$299,999	14	44	27	1	86	13.1%
\$300,000-\$349,999	34	48	16	1	99	15.0%
\$350,000-\$399,000	40	6	6	1	53	8.1%
\$400,000-\$449,999	23	10	6	0	39	5.9%
\$450,000-\$499,999	26	5	9	0	40	6.1%
\$500,000-\$599,999	38	10	10	0	58	8.8%
\$600,000-\$699,999	25	9	15	0	49	7.4%
\$700,000-\$799,999	28	1	20	0	49	7.4%
\$800,000-\$899,999	12	2	18	0	32	4.9%
\$900,000-\$999,999	14	3	8	0	25	3.8%
\$1,000,000-2,499,999	26	13	8	0	47	7.1%
\$2,500,000-4,999,999	3	0	0	0	3	0.5%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	296	191	168	3	658	100.0%
Sources: MDP, Sage						

Exhibit D-2: East FAZ, Anne Arundel County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	1	0	0	0	1	0.0%
\$100,000-\$149,999	12	0	1	0	13	0.5%
\$150,000-\$199,999	23	5	22	0	50	2.0%
\$200,000-\$249,999	53	54	40	0	147	5.9%
\$250,000-\$299,999	106	149	64	0	319	12.8%
\$300,000-\$349,999	190	88	40	0	318	12.8%
\$350,000-\$399,000	227	68	12	0	307	12.3%
\$400,000-\$449,999	181	46	28	0	255	10.2%
\$450,000-\$499,999	125	41	8	0	174	7.0%
\$500,000-\$599,999	240	24	2	0	266	10.7%
\$600,000-\$699,999	207	10	0	0	217	8.7%
\$700,000-\$799,999	118	3	0	0	121	4.9%
\$800,000-\$899,999	95	0	0	0	95	3.8%
\$900,000-\$999,999	56	0	0	0	56	2.2%
\$1,000,000-2,499,999	139	0	0	0	139	5.6%
\$2,500,000-4,999,999	13	0	0	0	13	0.5%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	1,786	488	217	0	2,491	100.0%
Sources: MDP, Sage						

Exhibit D-3: North FAZ, Anne Arundel County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	4	12	0	0	16	0.8%
\$100,000-\$149,999	15	46	3	0	64	3.1%
\$150,000-\$199,999	61	72	48	0	181	8.8%
\$200,000-\$249,999	241	123	62	0	426	20.7%
\$250,000-\$299,999	398	285	1	3	687	33.3%
\$300,000-\$349,999	339	41	0	0	380	18.4%
\$350,000-\$399,000	137	12	0	0	149	7.2%
\$400,000-\$449,999	47	3	0	0	50	2.4%
\$450,000-\$499,999	38	0	0	0	38	1.8%
\$500,000-\$599,999	30	1	0	0	31	1.5%
\$600,000-\$699,999	26	0	0	0	26	1.3%
\$700,000-\$799,999	13	0	0	0	13	0.6%
\$800,000-\$899,999	1	0	0	0	1	0.0%
\$900,000-\$999,999	0	0	0	0	0	0.0%
\$1,000,000-2,499,999	0	0	0	0	0	0.0%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	1,350	595	114	3	2,062	100.0%
Sources: MDP, Sage						

Exhibit D-4: South FAZ, Anne Arundel County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	3	0	0	0	3	0.8%
\$100,000-\$149,999	2	0	0	0	2	0.5%
\$150,000-\$199,999	11	0	0	0	11	2.8%
\$200,000-\$249,999	28	0	0	0	28	7.2%
\$250,000-\$299,999	45	0	0	0	45	11.5%
\$300,000-\$349,999	47	0	0	0	47	12.1%
\$350,000-\$399,000	38	1	0	0	39	10.0%
\$400,000-\$449,999	37	0	0	1	38	9.7%
\$450,000-\$499,999	23	0	0	0	23	5.9%
\$500,000-\$599,999	37	0	0	0	37	9.5%
\$600,000-\$699,999	31	0	0	0	31	7.9%
\$700,000-\$799,999	28	0	0	0	28	7.2%
\$800,000-\$899,999	16	0	0	0	16	4.1%
\$900,000-\$999,999	7	0	0	0	7	1.8%
\$1,000,000-2,499,999	35	0	0	0	35	9.0%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	388	1	0	1	390	100.0%
Sources: MDP, Sage						

Exhibit D-5: West FAZ, Anne Arundel County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	1	2	1	0	4	0.2%
\$100,000-\$149,999	1	11	0	0	12	0.5%
\$150,000-\$199,999	2	53	1	0	56	2.4%
\$200,000-\$249,999	22	132	34	1	189	8.1%
\$250,000-\$299,999	38	276	68	1	383	16.3%
\$300,000-\$349,999	107	365	13	0	485	20.7%
\$350,000-\$399,000	148	257	8	0	413	17.6%
\$400,000-\$449,999	96	140	4	1	241	10.3%
\$450,000-\$499,999	91	40	0	1	132	5.6%
\$500,000-\$599,999	224	20	0	0	244	10.4%
\$600,000-\$699,999	107	4	0	0	111	4.7%
\$700,000-\$799,999	53	0	0	0	53	2.3%
\$800,000-\$899,999	16	0	0	0	16	0.7%
\$900,000-\$999,999	1	0	0	0	1	0.0%
\$1,000,000-2,499,999	4	0	0	0	4	0.2%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	911	1,300	129	4	2,344	100.0%
Sources: MDP, Sage						

Exhibit D-6: ZIP code 20723, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	0	0	0	0	0.0%
\$100,000-\$149,999	0	0	0	0	0	0.0%
\$150,000-\$199,999	0	0	0	0	0	0.0%
\$200,000-\$249,999	0	36	0	0	36	8.9%
\$250,000-\$299,999	1	47	0	0	48	11.9%
\$300,000-\$349,999	4	63	0	0	67	16.6%
\$350,000-\$399,000	14	29	0	0	43	10.6%
\$400,000-\$449,999	14	18	0	0	32	7.9%
\$450,000-\$499,999	22	27	0	0	49	12.1%
\$500,000-\$599,999	35	10	0	0	45	11.1%
\$600,000-\$699,999	39	9	0	0	48	11.9%
\$700,000-\$799,999	18	7	0	0	25	6.2%
\$800,000-\$899,999	4	1	0	0	5	1.2%
\$900,000-\$999,999	2	0	0	0	2	0.5%
\$1,000,000-2,499,999	4	0	0	0	4	1.0%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	157	247	0	0	404	100.0%
Sources: MDP, Sage						

Exhibit D-7: ZIP code 20759, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	0	0	0	0	0.0%
\$100,000-\$149,999	0	0	0	0	0	0.0%
\$150,000-\$199,999	0	0	0	0	0	0.0%
\$200,000-\$249,999	0	0	0	0	0	0.0%
\$250,000-\$299,999	0	0	0	0	0	0.0%
\$300,000-\$349,999	0	0	0	0	0	0.0%
\$350,000-\$399,000	1	0	0	0	1	1.9%
\$400,000-\$449,999	1	0	0	0	1	1.9%
\$450,000-\$499,999	1	0	0	0	1	1.9%
\$500,000-\$599,999	4	0	0	0	4	7.4%
\$600,000-\$699,999	3	7	0	0	10	18.5%
\$700,000-\$799,999	2	5	0	0	7	13.0%
\$800,000-\$899,999	10	3	0	0	13	24.1%
\$900,000-\$999,999	3	2	0	0	5	9.3%
\$1,000,000-2,499,999	10	2	0	0	12	22.2%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	35	19	0	0	54	100.0%
Sources: MDP, Sage						

Exhibit D-8: ZIP code 20763, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	0	0	0	0	0.0%
\$100,000-\$149,999	0	0	0	0	0	0.0%
\$150,000-\$199,999	0	1	0	0	1	6.3%
\$200,000-\$249,999	0	0	0	0	0	0.0%
\$250,000-\$299,999	1	4	0	0	5	31.3%
\$300,000-\$349,999	4	4	0	0	8	50.0%
\$350,000-\$399,000	0	0	0	0	0	0.0%
\$400,000-\$449,999	2	0	0	0	2	12.5%
\$450,000-\$499,999	0	0	0	0	0	0.0%
\$500,000-\$599,999	0	0	0	0	0	0.0%
\$600,000-\$699,999	0	0	0	0	0	0.0%
\$700,000-\$799,999	0	0	0	0	0	0.0%
\$800,000-\$899,999	0	0	0	0	0	0.0%
\$900,000-\$999,999	0	0	0	0	0	0.0%
\$1,000,000-2,499,999	0	0	0	0	0	0.0%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	7	9	0	0	16	100.0%
Sources: MDP, Sage						

Exhibit D-9: ZIP code 20777, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	0	0	0	0	0.0%
\$100,000-\$149,999	0	0	0	0	0	0.0%
\$150,000-\$199,999	0	0	0	0	0	0.0%
\$200,000-\$249,999	0	0	0	0	0	0.0%
\$250,000-\$299,999	0	0	0	0	0	0.0%
\$300,000-\$349,999	0	0	0	0	0	0.0%
\$350,000-\$399,000	0	0	0	0	0	0.0%
\$400,000-\$449,999	1	0	0	0	1	4.8%
\$450,000-\$499,999	1	0	0	0	1	4.8%
\$500,000-\$599,999	7	0	0	0	7	33.3%
\$600,000-\$699,999	2	0	0	0	2	9.5%
\$700,000-\$799,999	3	0	0	0	3	14.3%
\$800,000-\$899,999	3	0	0	0	3	14.3%
\$900,000-\$999,999	2	0	0	0	2	9.5%
\$1,000,000-2,499,999	2	0	0	0	2	9.5%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	21	0	0	0	21	100.0%
Sources: MDP, Sage						

Exhibit D-10: ZIP code 20794, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	0	0	0	0	0.0%
\$100,000-\$149,999	0	0	0	0	0	0.0%
\$150,000-\$199,999	0	0	0	0	0	0.0%
\$200,000-\$249,999	0	0	0	1	1	1.6%
\$250,000-\$299,999	2	6	0	0	8	13.1%
\$300,000-\$349,999	7	15	0	1	23	37.7%
\$350,000-\$399,000	13	2	0	0	15	24.6%
\$400,000-\$449,999	6	0	0	0	6	9.8%
\$450,000-\$499,999	1	0	0	0	1	1.6%
\$500,000-\$599,999	6	0	0	0	6	9.8%
\$600,000-\$699,999	1	0	0	0	1	1.6%
\$700,000-\$799,999	0	0	0	0	0	0.0%
\$800,000-\$899,999	0	0	0	0	0	0.0%
\$900,000-\$999,999	0	0	0	0	0	0.0%
\$1,000,000-2,499,999	0	0	0	0	0	0.0%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	36	23	0	2	61	100.0%
Sources: MDP, Sage						

Exhibit D-11: ZIP code 21029, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	0	0	0	0	0.0%
\$100,000-\$149,999	0	0	0	0	0	0.0%
\$150,000-\$199,999	0	0	0	0	0	0.0%
\$200,000-\$249,999	0	0	0	0	0	0.0%
\$250,000-\$299,999	0	0	2	0	2	1.5%
\$300,000-\$349,999	0	0	5	0	5	3.8%
\$350,000-\$399,000	1	0	9	0	10	7.6%
\$400,000-\$449,999	3	1	3	0	7	5.3%
\$450,000-\$499,999	1	9	0	0	10	7.6%
\$500,000-\$599,999	11	8	0	0	19	14.4%
\$600,000-\$699,999	20	1	0	0	21	15.9%
\$700,000-\$799,999	19	0	0	0	19	14.4%
\$800,000-\$899,999	18	0	0	0	18	13.6%
\$900,000-\$999,999	4	0	0	0	4	3.0%
\$1,000,000-2,499,999	17	0	0	0	17	12.9%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	94	19	19	0	132	100.0%
Sources: MDP, Sage						

Exhibit D-12: ZIP code 21036, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	0	0	0	0	0.0%
\$100,000-\$149,999	0	0	0	0	0	0.0%
\$150,000-\$199,999	0	0	0	0	0	0.0%
\$200,000-\$249,999	0	0	0	0	0	0.0%
\$250,000-\$299,999	0	0	0	0	0	0.0%
\$300,000-\$349,999	0	0	0	0	0	0.0%
\$350,000-\$399,000	0	0	0	0	0	0.0%
\$400,000-\$449,999	1	0	0	0	1	5.6%
\$450,000-\$499,999	1	0	0	0	1	5.6%
\$500,000-\$599,999	2	0	0	0	2	11.1%
\$600,000-\$699,999	3	0	0	0	3	16.7%
\$700,000-\$799,999	5	0	0	0	5	27.8%
\$800,000-\$899,999	2	0	0	0	2	11.1%
\$900,000-\$999,999	0	0	0	0	0	0.0%
\$1,000,000-2,499,999	4	0	0	0	4	22.2%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	18	0	0	0	18	100.0%
Sources: MDP, Sage						

Exhibit D-13: ZIP code 21042, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	0	0	0	0	0.0%
\$100,000-\$149,999	1	0	0	0	1	0.2%
\$150,000-\$199,999	0	0	1	0	1	0.2%
\$200,000-\$249,999	0	1	8	0	9	1.9%
\$250,000-\$299,999	1	5	22	1	29	6.0%
\$300,000-\$349,999	2	10	1	0	13	2.7%
\$350,000-\$399,000	11	21	0	0	32	6.7%
\$400,000-\$449,999	33	3	0	0	36	7.5%
\$450,000-\$499,999	35	5	0	0	40	8.3%
\$500,000-\$599,999	104	13	0	0	117	24.3%
\$600,000-\$699,999	78	2	0	0	80	16.6%
\$700,000-\$799,999	46	0	0	0	46	9.6%
\$800,000-\$899,999	21	0	0	0	21	4.4%
\$900,000-\$999,999	10	0	0	0	10	2.1%
\$1,000,000-2,499,999	45	0	0	0	45	9.4%
\$2,500,000-4,999,999	1	0	0	0	1	0.2%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	388	60	32	1	481	100.0%
Sources: MDP, Sage						

Exhibit D-14: ZIP code 21043, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	0	1	0	1	0.2%
\$100,000-\$149,999	0	0	0	0	0	0.0%
\$150,000-\$199,999	0	1	1	0	2	0.3%
\$200,000-\$249,999	3	0	53	0	56	8.4%
\$250,000-\$299,999	7	6	54	0	67	10.1%
\$300,000-\$349,999	6	65	26	0	97	14.6%
\$350,000-\$399,000	25	97	1	0	123	18.6%
\$400,000-\$449,999	27	12	1	0	40	6.0%
\$450,000-\$499,999	23	14	0	0	37	5.6%
\$500,000-\$599,999	56	14	0	0	70	10.6%
\$600,000-\$699,999	74	1	0	0	75	11.3%
\$700,000-\$799,999	44	1	0	0	45	6.8%
\$800,000-\$899,999	25	0	0	0	25	3.8%
\$900,000-\$999,999	18	0	0	0	18	2.7%
\$1,000,000-2,499,999	7	0	0	0	7	1.1%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	315	211	137	0	663	100.0%
Sources: MDP, Sage						

Exhibit D-15: ZIP code 21044, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	0	0	0	0	0.0%
\$100,000-\$149,999	0	1	3	0	4	0.7%
\$150,000-\$199,999	0	0	41	0	41	6.7%
\$200,000-\$249,999	2	14	59	0	75	12.2%
\$250,000-\$299,999	0	42	31	0	73	11.9%
\$300,000-\$349,999	3	90	11	0	104	17.0%
\$350,000-\$399,000	16	52	4	0	72	11.7%
\$400,000-\$449,999	26	29	2	0	57	9.3%
\$450,000-\$499,999	33	4	0	0	37	6.0%
\$500,000-\$599,999	48	10	4	0	62	10.1%
\$600,000-\$699,999	39	7	2	0	48	7.8%
\$700,000-\$799,999	15	0	3	0	18	2.9%
\$800,000-\$899,999	14	0	1	0	15	2.4%
\$900,000-\$999,999	4	0	0	0	4	0.7%
\$1,000,000-2,499,999	3	0	0	0	3	0.5%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	203	249	161	0	613	100.0%
Sources: MDP, Sage						

Exhibit D-16: ZIP code 21045, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	1	0	0	1	0.1%
\$100,000-\$149,999	0	0	8	0	8	1.2%
\$150,000-\$199,999	0	1	51	0	52	7.5%
\$200,000-\$249,999	2	23	21	0	46	6.7%
\$250,000-\$299,999	4	84	9	0	97	14.1%
\$300,000-\$349,999	23	102	13	1	139	20.2%
\$350,000-\$399,000	65	80	4	0	149	21.6%
\$400,000-\$449,999	48	15	9	0	72	10.4%
\$450,000-\$499,999	40	15	4	1	60	8.7%
\$500,000-\$599,999	33	26	1	0	60	8.7%
\$600,000-\$699,999	4	1	0	0	5	0.7%
\$700,000-\$799,999	0	0	0	0	0	0.0%
\$800,000-\$899,999	0	0	0	0	0	0.0%
\$900,000-\$999,999	0	0	0	0	0	0.0%
\$1,000,000-2,499,999	0	0	0	0	0	0.0%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	219	348	120	2	689	100.0%
Sources: MDP, Sage						

Exhibit D-17: ZIP code 21046, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	0	0	0	0	0.0%
\$100,000-\$149,999	0	0	0	0	0	0.0%
\$150,000-\$199,999	0	0	0	0	0	0.0%
\$200,000-\$249,999	0	3	14	0	17	7.2%
\$250,000-\$299,999	0	28	17	0	45	19.1%
\$300,000-\$349,999	0	53	1	0	54	23.0%
\$350,000-\$399,000	6	31	0	0	37	15.7%
\$400,000-\$449,999	19	10	1	0	30	12.8%
\$450,000-\$499,999	26	1	0	0	27	11.5%
\$500,000-\$599,999	25	0	0	0	25	10.6%
\$600,000-\$699,999	0	0	0	0	0	0.0%
\$700,000-\$799,999	0	0	0	0	0	0.0%
\$800,000-\$899,999	0	0	0	0	0	0.0%
\$900,000-\$999,999	0	0	0	0	0	0.0%
\$1,000,000-2,499,999	0	0	0	0	0	0.0%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	76	126	33	0	235	100.0%
Sources: MDP, Sage						

Exhibit D-18: ZIP code 21075, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	1	0	0	1	2	0.4%
\$100,000-\$149,999	2	0	0	4	6	1.1%
\$150,000-\$199,999	1	1	1	1	4	0.7%
\$200,000-\$249,999	8	9	33	0	50	9.2%
\$250,000-\$299,999	25	75	15	3	118	21.6%
\$300,000-\$349,999	22	75	12	1	110	20.1%
\$350,000-\$399,000	37	80	10	0	127	23.3%
\$400,000-\$449,999	20	11	2	0	33	6.0%
\$450,000-\$499,999	14	0	0	0	14	2.6%
\$500,000-\$599,999	22	0	0	0	22	4.0%
\$600,000-\$699,999	50	0	0	0	50	9.2%
\$700,000-\$799,999	8	0	0	0	8	1.5%
\$800,000-\$899,999	2	0	0	0	2	0.4%
\$900,000-\$999,999	0	0	0	0	0	0.0%
\$1,000,000-2,499,999	0	0	0	0	0	0.0%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	212	251	73	10	546	100.0%
Sources: MDP, Sage						

Exhibit D-19: ZIP code 21076, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	0	0	0	0	0.0%
\$100,000-\$149,999	0	0	0	0	0	0.0%
\$150,000-\$199,999	1	0	0	0	1	5.6%
\$200,000-\$249,999	0	0	0	0	0	0.0%
\$250,000-\$299,999	3	0	0	0	3	16.7%
\$300,000-\$349,999	0	0	0	0	0	0.0%
\$350,000-\$399,000	1	0	0	0	1	5.6%
\$400,000-\$449,999	4	0	0	0	4	22.2%
\$450,000-\$499,999	5	0	0	0	5	27.8%
\$500,000-\$599,999	3	0	0	0	3	16.7%
\$600,000-\$699,999	0	0	0	0	0	0.0%
\$700,000-\$799,999	0	0	0	0	0	0.0%
\$800,000-\$899,999	1	0	0	0	1	5.6%
\$900,000-\$999,999	0	0	0	0	0	0.0%
\$1,000,000-2,499,999	0	0	0	0	0	0.0%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	18	0	0	0	18	100.0%
Sources: MDP, Sage						

Exhibit D-20: ZIP code 21104, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	0	0	0	0	0.0%
\$100,000-\$149,999	0	0	0	0	0	0.0%
\$150,000-\$199,999	0	0	0	0	0	0.0%
\$200,000-\$249,999	0	0	0	0	0	0.0%
\$250,000-\$299,999	0	0	0	0	0	0.0%
\$300,000-\$349,999	0	0	0	0	0	0.0%
\$350,000-\$399,000	1	0	0	0	1	5.3%
\$400,000-\$449,999	1	0	0	0	1	5.3%
\$450,000-\$499,999	3	0	0	0	3	15.8%
\$500,000-\$599,999	1	0	0	0	1	5.3%
\$600,000-\$699,999	1	0	0	0	1	5.3%
\$700,000-\$799,999	4	0	0	0	4	21.1%
\$800,000-\$899,999	4	0	0	0	4	21.1%
\$900,000-\$999,999	4	0	0	0	4	21.1%
\$1,000,000-2,499,999	0	0	0	0	0	0.0%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	19	0	0	0	19	100.0%
Sources: MDP, Sage						

Exhibit D-21: ZIP code 21163, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	0	0	0	0	0.0%
\$100,000-\$149,999	0	0	0	0	0	0.0%
\$150,000-\$199,999	0	0	0	0	0	0.0%
\$200,000-\$249,999	0	0	1	0	1	0.7%
\$250,000-\$299,999	0	0	8	0	8	5.5%
\$300,000-\$349,999	0	0	25	0	25	17.2%
\$350,000-\$399,000	0	2	7	0	9	6.2%
\$400,000-\$449,999	3	19	0	0	22	15.2%
\$450,000-\$499,999	0	19	0	0	19	13.1%
\$500,000-\$599,999	0	30	0	0	30	20.7%
\$600,000-\$699,999	9	4	0	0	13	9.0%
\$700,000-\$799,999	7	1	0	0	8	5.5%
\$800,000-\$899,999	6	0	0	0	6	4.1%
\$900,000-\$999,999	1	0	0	0	1	0.7%
\$1,000,000-2,499,999	3	0	0	0	3	2.1%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	29	75	41	0	145	100.0%
Sources: MDP, Sage						

Exhibit D-22: ZIP code 21723, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	0	0	0	0	0.0%
\$100,000-\$149,999	0	0	0	0	0	0.0%
\$150,000-\$199,999	0	0	0	0	0	0.0%
\$200,000-\$249,999	0	0	0	0	0	0.0%
\$250,000-\$299,999	0	0	0	0	0	0.0%
\$300,000-\$349,999	0	0	0	0	0	0.0%
\$350,000-\$399,000	0	0	0	0	0	0.0%
\$400,000-\$449,999	2	0	0	0	2	22.2%
\$450,000-\$499,999	0	0	0	0	0	0.0%
\$500,000-\$599,999	0	0	0	0	0	0.0%
\$600,000-\$699,999	2	0	0	0	2	22.2%
\$700,000-\$799,999	2	0	0	0	2	22.2%
\$800,000-\$899,999	1	0	0	0	1	11.1%
\$900,000-\$999,999	1	0	0	0	1	11.1%
\$1,000,000-2,499,999	1	0	0	0	1	11.1%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	9	0	0	0	9	100.0%
Sources: MDP, Sage						

Exhibit D-23: ZIP code 21737, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	0	0	0	0	0.0%
\$100,000-\$149,999	0	0	0	0	0	0.0%
\$150,000-\$199,999	0	0	0	0	0	0.0%
\$200,000-\$249,999	0	0	0	0	0	0.0%
\$250,000-\$299,999	0	0	0	0	0	0.0%
\$300,000-\$349,999	0	0	0	0	0	0.0%
\$350,000-\$399,000	0	0	0	0	0	0.0%
\$400,000-\$449,999	0	0	0	0	0	0.0%
\$450,000-\$499,999	2	0	0	0	2	16.7%
\$500,000-\$599,999	0	0	0	0	0	0.0%
\$600,000-\$699,999	2	0	0	0	2	16.7%
\$700,000-\$799,999	4	0	0	0	4	33.3%
\$800,000-\$899,999	0	0	0	0	0	0.0%
\$900,000-\$999,999	0	0	0	0	0	0.0%
\$1,000,000-2,499,999	4	0	0	0	4	33.3%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	12	0	0	0	12	100.0%
Sources: MDP, Sage						

Exhibit D-24: ZIP code 21738, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	0	0	0	0	0.0%
\$100,000-\$149,999	0	0	0	0	0	0.0%
\$150,000-\$199,999	0	0	0	0	0	0.0%
\$200,000-\$249,999	0	0	0	0	0	0.0%
\$250,000-\$299,999	0	0	0	0	0	0.0%
\$300,000-\$349,999	0	0	0	0	0	0.0%
\$350,000-\$399,000	0	0	0	0	0	0.0%
\$400,000-\$449,999	2	0	0	0	2	6.5%
\$450,000-\$499,999	0	0	0	0	0	0.0%
\$500,000-\$599,999	7	0	0	0	7	22.6%
\$600,000-\$699,999	6	0	0	0	6	19.4%
\$700,000-\$799,999	4	0	0	0	4	12.9%
\$800,000-\$899,999	2	0	0	0	2	6.5%
\$900,000-\$999,999	3	0	0	0	3	9.7%
\$1,000,000-2,499,999	7	0	0	0	7	22.6%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	31	0	0	0	31	100.0%
Sources: MDP, Sage						

Exhibit D-25: ZIP code 21771, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	0	0	0	0	0.0%
\$100,000-\$149,999	0	0	0	0	0	0.0%
\$150,000-\$199,999	0	0	0	0	0	0.0%
\$200,000-\$249,999	0	0	0	0	0	0.0%
\$250,000-\$299,999	1	0	0	0	1	5.6%
\$300,000-\$349,999	2	0	0	0	2	11.1%
\$350,000-\$399,000	0	0	0	0	0	0.0%
\$400,000-\$449,999	2	0	0	0	2	11.1%
\$450,000-\$499,999	2	0	0	0	2	11.1%
\$500,000-\$599,999	2	0	0	0	2	11.1%
\$600,000-\$699,999	4	0	0	0	4	22.2%
\$700,000-\$799,999	1	0	0	0	1	5.6%
\$800,000-\$899,999	4	0	0	0	4	22.2%
\$900,000-\$999,999	0	0	0	0	0	0.0%
\$1,000,000-2,499,999	0	0	0	0	0	0.0%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	18	0	0	0	18	100.0%
Sources: MDP, Sage						

Exhibit D-26: ZIP code 21784, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	0	0	0	0	0.0%
\$100,000-\$149,999	0	0	0	0	0	0.0%
\$150,000-\$199,999	0	0	0	0	0	0.0%
\$200,000-\$249,999	0	0	0	0	0	0.0%
\$250,000-\$299,999	0	0	0	0	0	0.0%
\$300,000-\$349,999	1	0	0	0	1	8.3%
\$350,000-\$399,000	0	0	0	0	0	0.0%
\$400,000-\$449,999	0	0	0	0	0	0.0%
\$450,000-\$499,999	0	0	0	0	0	0.0%
\$500,000-\$599,999	2	0	0	0	2	16.7%
\$600,000-\$699,999	3	0	0	0	3	25.0%
\$700,000-\$799,999	1	0	0	0	1	8.3%
\$800,000-\$899,999	1	0	0	0	1	8.3%
\$900,000-\$999,999	2	0	0	0	2	16.7%
\$1,000,000-2,499,999	2	0	0	0	2	16.7%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	12	0	0	0	12	100.0%
Sources: MDP, Sage						

Exhibit D-27: ZIP code 21794, Howard County housing sales, 2007

<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	0	0	0	0	0.0%
\$100,000-\$149,999	0	0	0	0	0	0.0%
\$150,000-\$199,999	0	0	0	0	0	0.0%
\$200,000-\$249,999	0	0	0	0	0	0.0%
\$250,000-\$299,999	0	0	0	0	0	0.0%
\$300,000-\$349,999	0	0	0	0	0	0.0%
\$350,000-\$399,000	0	0	0	0	0	0.0%
\$400,000-\$449,999	0	0	0	0	0	0.0%
\$450,000-\$499,999	2	0	0	0	2	11.8%
\$500,000-\$599,999	0	0	0	0	0	0.0%
\$600,000-\$699,999	1	0	0	0	1	5.9%
\$700,000-\$799,999	6	0	0	0	6	35.3%
\$800,000-\$899,999	1	0	0	0	1	5.9%
\$900,000-\$999,999	2	0	0	0	2	11.8%
\$1,000,000-2,499,999	5	0	0	0	5	29.4%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	17	0	0	0	17	100.0%
Sources: MDP, Sage						

Exhibit D-28: ZIP code 21797, Howard County housing sales, 2007

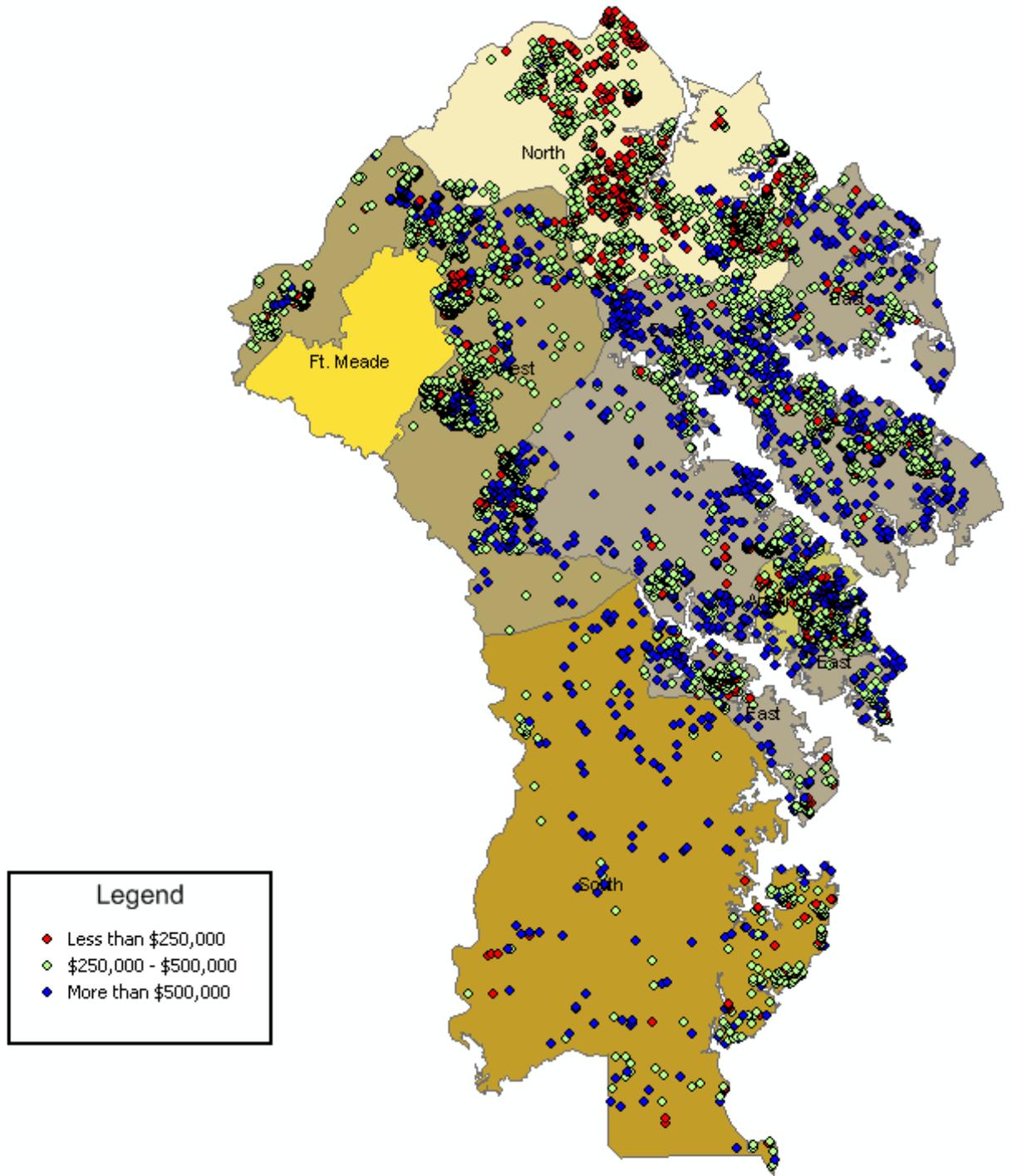
<i>Price class</i>	<i>Single family</i>	<i>Townhouse</i>	<i>Condo</i>	<i>Other</i>	<i>Total sales</i>	
Under \$100,000	0	0	0	0	0	0.0%
\$100,000-\$149,999	0	0	0	0	0	0.0%
\$150,000-\$199,999	0	0	0	0	0	0.0%
\$200,000-\$249,999	0	0	0	0	0	0.0%
\$250,000-\$299,999	1	0	0	0	1	2.4%
\$300,000-\$349,999	2	0	0	0	2	4.8%
\$350,000-\$399,000	2	0	0	0	2	4.8%
\$400,000-\$449,999	4	0	0	0	4	9.5%
\$450,000-\$499,999	0	0	0	0	0	0.0%
\$500,000-\$599,999	7	0	0	0	7	16.7%
\$600,000-\$699,999	11	0	0	0	11	26.2%
\$700,000-\$799,999	1	0	0	0	1	2.4%
\$800,000-\$899,999	10	0	0	0	10	23.8%
\$900,000-\$999,999	3	0	0	0	3	7.1%
\$1,000,000-2,499,999	1	0	0	0	1	2.4%
\$2,500,000-4,999,999	0	0	0	0	0	0.0%
\$5,000,000 & Over	0	0	0	0	0	0.0%
Totals	42	0	0	0	42	100.0%
Sources: MDP, Sage						

Appendix E: Maps

Exhibit E-1: Anne Arundel County FAZ's, Howard County Zip Codes



Exhibit E-3: Anne Arundel County Home Sales by Fiscal Analysis Zone (FAZ)



Appendix F: Baltimore Metropolitan Council Forecast Particulars

The Baltimore Metropolitan Council (BMC) publishes forecasts of population, households, and employment for the six jurisdictions that participate in the BMC. The table on following page (Exhibit F-1) presents the latest forecast published on the BMC web site. These BMC forecasts are compilations of data provided by the individual jurisdictions.

Several characteristics of these forecasts are worth mentioning.

- Population forecasts include all persons expected to reside in the jurisdictions, including those in group quarters. To quote the U.S. Bureau of the Census,

A group quarters is a place where people live or stay, in a group living arrangement, that is owned or managed by an entity or organization providing housing and/or services for the residents. This is not a typical household-type living arrangement. These services may include custodial or medical care as well as other types of assistance, and residency is commonly restricted to those receiving these services. People living in group quarters are usually not related to each other. Group quarters include such places as college residence halls, residential treatment centers, skilled nursing facilities, group homes, military barracks, correctional facilities, and workers' dormitories.¹

- Household forecasts, at least in the case of Anne Arundel and Howard counties, are based on each jurisdiction's expectations of the future new construction of housing. As such they are closely aligned with the housing stock. This is a reasonable and logical basis for projecting the growth in the number of households over time. However, households are not the same as housing stock. The latter is defined in terms of dwellings, while households are people. To again quote the Census Bureau,

A household includes all the persons who occupy a housing unit. A housing unit is a house, an apartment, a mobile home, a group of rooms, or a single room that is occupied (or if vacant, is intended for occupancy) as separate living quarters. Separate living quarters are those in which the occupants live and eat separately from any other persons in the building and which have direct access from the outside of the building or through a common hall. The occupants may be a single family, one person living alone, two or more families living together, or any other group of related or unrelated persons who share living arrangements.²

This link between new construction and future households creates a forecast constrained by local growth and housing policy. As discussed in this report, unconstrained demand provides another perspective on the housing market in Anne Arundel and Howard counties.

¹ U.S. Census Bureau. 2008 American Community Survey/Puerto Rico Community Survey Group Quarters Definitions.

² U.S. Census Bureau. State & County QuickFacts.

Exhibit F-1. Round 7a forecasts for the Baltimore region

	2000	2005	2010	2015	2020	2025	2030	2035
Anne Arundel County								
Population	489,656	513,700	532,790	546,517	556,579	565,594	574,265	581,609
HHs	178,670	192,450	202,314	210,888	217,782	223,822	229,368	234,335
Jobs	297,000	318,435	339,012	361,961	384,441	403,190	418,775	433,501
Pop/HH	2.74	2.67	2.63	2.59	2.56	2.53	2.50	2.48
Jobs/HH	1.66	1.65	1.68	1.72	1.77	1.80	1.83	1.85
Baltimore City								
Population	651,154	648,700	659,000	670,400	677,300	683,400	687,400	687,600
HHs	257,996	257,100	266,300	274,600	279,200	282,800	285,200	286,200
Jobs	460,600	441,100	451,100	461,700	471,300	479,900	481,600	482,500
Pop/HH	2.52	2.52	2.47	2.44	2.43	2.42	2.41	2.40
Jobs/HH	1.79	1.72	1.69	1.68	1.69	1.70	1.69	1.69
Baltimore County								
Population	754,292	793,800	821,200	835,700	842,600	846,200	849,000	850,700
HHs	299,877	316,000	330,400	336,100	339,600	341,600	343,100	343,800
Jobs	452,500	490,700	510,600	524,500	530,400	532,000	533,700	534,300
Pop/HH	2.52	2.51	2.49	2.49	2.48	2.48	2.47	2.47
Jobs/HH	1.51	1.55	1.55	1.56	1.56	1.56	1.56	1.55
Carroll County								
Population	150,897	169,200	179,600	188,200	196,400	203,300	210,700	216,700
HHs	52,503	59,400	63,500	67,300	71,200	74,700	77,400	79,800
Jobs	68,300	76,300	84,300	86,800	88,300	89,300	90,300	91,300
Pop/HH	2.87	2.85	2.83	2.80	2.76	2.72	2.72	2.72
Jobs/HH	1.30	1.28	1.33	1.29	1.24	1.20	1.17	1.14
Harford County								
Population	218,590	237,200	257,000	274,300	277,000	279,000	282,100	285,100
HHs	79,667	88,500	97,000	105,600	108,000	110,300	112,700	115,100
Jobs	96,000	112,400	129,700	142,300	151,200	158,100	163,500	165,000
Pop/HH	2.74	2.68	2.65	2.60	2.56	2.53	2.50	2.48
Jobs/HH	1.21	1.27	1.34	1.35	1.40	1.43	1.45	1.43
Howard County								
Population	250,800	272,000	287,700	301,800	312,900	318,400	324,100	327,600
HHs	90,950	100,300	109,729	117,734	125,047	130,200	132,998	135,067
Jobs	160,000	176,800	196,382	214,854	231,167	247,358	260,244	264,539
Pop/HH	2.76	2.71	2.62	2.56	2.50	2.45	2.44	2.43
Jobs/HH	1.76	1.76	1.79	1.82	1.85	1.90	1.96	1.96
Baltimore region								
Population	2,515,389	2,634,600	2,737,290	2,816,917	2,862,779	2,895,894	2,927,565	2,949,309
HHs	959,663	1,013,750	1,069,243	1,112,222	1,140,829	1,163,422	1,180,766	1,194,302
Jobs	1,534,400	1,615,735	1,711,094	1,792,115	1,856,808	1,909,848	1,948,119	1,971,140
Pop/HH	2.62	2.60	2.56	2.53	2.51	2.49	2.48	2.47
Jobs/HH	1.60	1.59	1.60	1.61	1.63	1.64	1.65	1.65
Source: Baltimore Metropolitan Council								

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