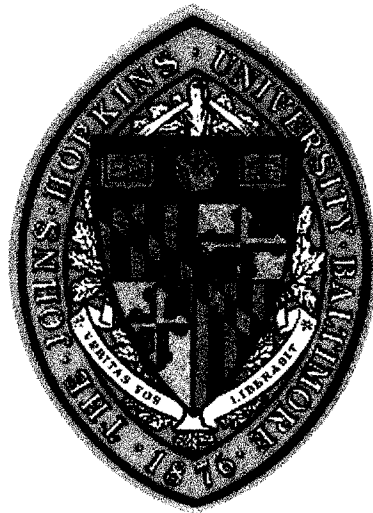


AN ANALYSIS OF HOME-BUYING AND SMART GROWTH



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I. Introduction

The purpose of this paper is to examine the relationship between the home-buyer and “Smart Growth.” Presently there appears to be some disconnect between the home-buying consumer’s preferences and the transit-oriented development form of smart growth. The goal of exploring consumer preferences and their relationship with smart growth is to recommend housing product types and zoning that will bridge the current gap between the smart growth ideal and reality.

The majority of homebuyers in the United States have traditionally preferred single-family houses in suburban settings. However, the single-family house has been the greatest contributor to suburban sprawl. The past half-century expansion of suburbia has lead to a sprawl of metropolitan areas that is seen by many to be un-sustainable. Some suburban jurisdictions have developed zoning initiatives in response to suburban sprawl that have promoted smart growth in the form of transit-oriented development. Transit-oriented development promotes high-density development near mass transit hubs. Dense development makes good sense for urban core and edge city locations, but in suburban settings the home-buying consumer’s preference is still for the single-family house and therefore not directly aligned with the urban high-density housing product.

The most straightforward way to value a housing product choice is to evaluate the worth of a product based upon price and absorption rates into the market. Absorption of any real estate product though is also a function of timing. Timing in the market case of first product to market as well as timing in the business cycle of the macro market is crucial. In many respects the macro cycle can reward ill-conceived products in good markets and punish feasible products in poor markets.

This paper is composed of five major sections. The first section starts with a comparison of the single-family house, the condominium, and the townhouse residential product types and, most crucially, current consumer trends for these product types. Next is an overview of the principle of smart growth and an examination of the development community's recent interpretation of it. Following is an introduction to Montgomery County, Maryland, the setting of this paper's two case examples, and a review of the methodology used to study these two cases. The methodology will cover census data, existing homes sales data, new housing development, zoning, and the illustration of smart growth by the case examples. The following two sections present the case examples of the master planned community of King Farm in Rockville, Maryland, and the White Flint area of North Bethesda, Maryland. In conclusion, a review of home-buying, smart growth, and the two case examples is provided along with examples of how transit-oriented development does not always fulfill all the principles of smart growth.

II. Home-buying

It is important to note that housing as opposed to other real estate assets is a commodity that is a basic necessity. Whereas all other real estate asset types of office buildings, retail centers, hotels and rental apartment buildings are purchased with revenue streams and return yields as the two key drivers, a primary home is usually the single largest investment asset an individual or family will own. The housing market is comprised of three submarkets: a market for housing services; another market for housing capital (houses, apartment buildings, etc.); and finally, the market for land on which to build the housing capital. (Potepan: 1996: 224) Roughly 68 percent of U.S. households own their home. (Census: 2008) Moreover, the average U.S. household has 70 percent of its wealth invested in its home. (Wallace: 1996: 34) Typically, home-buying consumers pay three times their annual incomes for a primary residence. Homebuyers, in the context of a conversation about smart growth and real estate development, are silent partners in the long-term planning of their environment, especially since their purchase or investment in the housing product has such a significant impact on their individual financial standing.

Home-buying decisions are not made on purely financial and economic terms. It is important to recognize that emotion plays a key role in home buying and that demographic and psychological variables function in valuation of a property. (Nelson: 1988: 138) Key factors in housing diversification are size, age and design. Also, like all other types of real estate assets, housing is fixed to a specific location. Further, as real estate, homeownership is considered less liquid than other investments instruments in that it takes more time to market and sell due to complicated transaction procedures and

timing. In addition, housing is also considered to be a durable long-term asset that depreciates with time.

There are three general types of housing product available for a home-buyer to purchase in Montgomery County and the general Washington, DC Metropolitan Statistical Area (MSA). These are the single-family house, the condominium unit in a multifamily apartment building, and the attached townhouse. The single-family house is in the perspective of most American consumers the home product of choice. The detached single-family house is still the preference of the typical American residential consumer. (Fanning: 2005: 346) For most Americans, the concept of owning land and a home is fundamental to their sense of success and worth. Further, it is often the case with today's immigrants that they too want a piece of the American Dream and aspire to home-ownership in the form of a single-family house.

The single-family house is seen for a number of reasons to be the most appropriate housing option. Traditionally, the vast majority of housing was for the family unit, which historically included two or more generations. The single-family house is usually found in suburban areas, with lawns for children to play on, proximity to other families in similar stages of life, and located only a short distance from schools and shopping facilities. Additionally, these homes are perceived to have better air quality than other housing types by being located outside congested urban areas.

Condominiums or condos are general terms used to describe multi-unit apartment-type buildings owned by their individual unit occupants through condominium subdivision law. Housing in the form of an individually-owned apartment in a multi-unit building is often seen as a viable solution to housing needs in urban areas. In historically-large American cities such as New York and Chicago, apartment living in

large multi-unit buildings has long been thought of as an acceptable form of home-ownership and lifestyle. Traditionally, individual unit ownership had been done through cooperative stock in the building, but has evolved predominantly to mortgage finance-friendly condominium ownership. The condominium is an ancient Roman form of ownership that was introduced to American use by the Congressional Housing Act of 1961 and its authorization of Federal Housing Administration (FHA) mortgage insurance. (Ring: 1972: 59)

As a home-ownership option, the condominium has undergone substantial growth in recent years in the Washington MSA. The past five years have witnessed the construction of a number of successful condominium developments in urban infill areas and clustered around edge city Metro Stations in the Washington region. We have also seen the development of condominium communities at suburban sites that traditionally were developed as for rent apartment communities or other uses. This is of interest because suburban sites developed as condominiums were often thought to be conforming to the smart growth philosophy, most especially if it was developed in conjunction with proximity to a Metro Station. A leading factor in this type of development has been construction lending that promoted such development in conjunction with zoning boards and developers who embraced these smart growth product types because they were thought to be the highest and best use.

The townhouse, prevalent in the Washington MSA, is a third housing type that in many ways is a hybrid of the single-family house and the condominium. The townhouse shares with the single-family house the features of a private entrance, front and rear lawns and similar design features: private roof, brick facade, porches, multiple floors, private garage, etc. Yet townhouses are often owned through the same legal constructs as

condominiums through subdivision law and also have the benefits of low levels of maintenance. The townhouse is also a viable housing product for urban infill and edge city development sites.

Condominiums demonstrate marketing difficulties for developers and unit owners different from single-family houses. They are more susceptible to price swings due to micro and macro economic conditions in large part because of their interdependent relationship with one another. Condominiums when being developed have a greater burden of absorption than single-family houses and townhouses. In contrast, single-family houses are more widely dispersed given their design, and they are in some ways more insulated from direct competition with each other. Additionally, condominium communities are generally large developments that take a long time to plan and build in comparison to the single-family house and for that matter the townhouse. As a result, construction of condominiums cannot simply be stopped once started and run the risk of inventory over supply if delivered in a down market, whereas single-family house and townhouse developments can be slowed down to more closely match the market supply needs.

Another factor that most acutely affects condominiums is their conversion to and from rental product. During the height of the most recent real estate peak, a large number of rental buildings were converted to condominiums, and now, in a downturn, we are seeing a number of condominiums being switched to rental properties, or for that matter “switched-back” to rental. This phenomenon leads to inefficiency in part because a rental product requires less expensive finishes, less detailed layouts, and fewer square feet.

Condominiums and townhouses offer different lifestyle choices than the single-family house does. Condominiums offer the comfort of expanded amenities such as pools, concierge services and spas; whereas the single-family house often has a burden of maintenance that often runs counter to the young professional's concept of preferred time management. Moreover, this burden is often seen to be less desirable for aging baby boomers who would rather simplify their lifestyle with one-floor dwelling they can age into. On the other hand consumers considering townhouse usually value extra space over the amenities of a condominium while preferring the low maintenance that townhouses also provide.

A survey conducted by the National Association of Home Builders (NAHB) in 2007 found that nearly half of all condominium buyers choose their new homes without considering any other style of housing and that lifestyle and affordability were the top factors driving condominium sales. Additionally, it was determined that the primary buyers of condominiums were comprised of two types: young, well-paid professionals (singles or couples) choosing their first home based on proximity to urban amenities, and older homeowners who wanted to remain in a suburban setting while escaping the burden of house maintenance. (NAHB: 2007)

The American household is experiencing demographic change, with single-person households and single-parent households representing a growing percentage of the overall American population. American consumers are purchasing their first home earlier in life and often staying single longer than previous generations. Also, constrained by income and affordability, first-time home-buyers are often unable to purchase a single-family house and are instead turning to other options. The condominium and townhouse generally offer themselves as affordable alternatives to the

single-family house and are expected to benefit from the shifting American demographics. However, many of the condominiums reaching the market today are laden with amenities geared to affluent singles and empty nesters and are financially out of reach for first time home buyers. (Fanning: 2005: 347)

Recent trends are showing that despite the rise of childless households, which might seem as a boon for urban areas, suburban locations remain the primary choice for residential living. (Riche: 2001: 2) Suburbanites are also as a general rule more often going to be home owners in comparison to urbanites. This is in part due to urbanites being more likely to rapidly change their employment or lifestyle. Roughly half of households in cities own their residences, while three quarters of households in suburbia are owners. (Riche: 2001: 2)

The overall population, based upon the 2000 Census, is seeing the decreasing of family sizes and increasing of those who reach old age due to lowering of mortality rates, thus turning the U.S. population pyramid shape to more of a population pillar. (Riche: 2001: 4) The American population and therefore the home-buying consumer is shifting and therefore requiring a different choice in housing. A large portion of suburban housing product has aged to the point that it is now approaching obsolescence. The development and planning community is in a position to best funnel new housing development as long as it meets consumer tastes. Edge and satellite cities developed as employment centers during the 1980s and 1990s offer themselves as prime locations for traditional urban housing products like condominiums.

New immigrants to the United States are entering the American home buying market with their own housing preferences. With the increased immigration of households from outside the United States, many families who are moving to the largest

MSAs are purchasing condominiums in light of their familiarity with that form of housing from their country of origin. The Washington MSA is experiencing more housing consumers who are moving from major international urban population centers like Seoul, Hong Kong, Shang-hai, Moscow or Tehran, where condominium ownership has long been considered an acceptable life style. Moreover, for many immigrant groups, condominium living is considered to be more desirable than the single-family house because of its urban lifestyle. In other parts of the world, urbanites do not look favorably on maintaining, lawns, trees, gardens and other features of a rural agricultural way of life. Further immigrants also look to the townhouse because it offers them the same freedoms from maintenance as the condominium while offering them a piece of the American Dream.

In America, New York City has in the recent past been a population origin center feeding into the migration to the Washington MSA. New York City is one of only a few American population centers where multifamily housing has been widely accepted for generations and is often seen as desirable in the form of condominiums in Washington. Both the domestic migration from city's like New York and from major international metropolitan centers to the Washington MSA may forecast a new demand for condominiums or townhouses that may test the traditional market segments percentages for the over all housing market. Though, quantifying actual unit sales based upon these new tastes may be more anecdotal at this time.

As a result of the growth in the demographic segments of empty nesters and singles many condominiums have been built at a rate that exceeds traditional demand levels. In the same report that the NAHB discussed the condominium buyer profile it also pointed out that near half of all multifamily construction-starts in 2005 were

condominiums rather than the traditional and sustainable third of the multifamily market that condominiums usually occupy. One oversight in the overdevelopment of condominiums was the presumed notion that there was a large market of empty nesters preparing to down-size to condominiums. It is true that the fastest growing household type per the 2000 census is empty nesters who are most likely to own homes in suburbia. (Riche: 2001: 2) Though, many empty nesters are choosing to age in place, which has been re-enforced by the recent down market and the re-pricing of the home equity lower, which many were thought to be using to purchase the new condominiums.

III. Smart Growth

The principle of smart growth is based on the opinion that the current development patterns of metropolitan areas of sprawl are not in our collective best interest nor sustainable. The smart growth principle evolved as a generally accepted philosophy in the early 1970s by various government officials and urban planners here in the United States as well as the United Kingdom. Suburban sprawl, the main concern of smart growth, can be linked to the flight of urban dwellers to the suburbs in the 1950s and 1960s, the result of, but not exclusively, aging housing stock, newly-installed highway infrastructure, and urban ethnic tensions. The expansion of suburban development can also be attributed to the real estate consumer's demand for suburban land. Suburban sprawl can also be associated with the passing of Euclidean zoning. Euclidean zoning enforced the separation of real estate asset types from one another. The main purpose of Euclidean zoning had been to separate housing neighborhoods from industrial areas and was widely implemented though out the United States. In part a result was an abandonment of the urban model of mixed use, such as buildings with residential above retail. Nonetheless, once suburbia was established as the major destination for American population growth, the benefits of the efficiencies of urban infrastructure and planning were abandoned for the horizontal expansion that has resulted in what is generally thought to be an inefficient and un-sustainable development pattern. Builders of new homes, in the case of the Washington MSA, have expanded the suburban area into Loudon and Fauquier Counties in Virginia, Fredrick County in Maryland, and as far as neighboring West Virginia and Pennsylvania. We are now seeing the effects of suburban sprawl: overstressed infrastructure, car dependence, and congestion.

The two key issues smart growth strives to change are the environmental impact of our metropolitan areas engulfing rural areas and the abandonment or underutilization of our preexisting urban and suburban infrastructure. According to Smart Growth Online the ten principles of smart growth are:

1. Creating a range of housing opportunities and choices
2. Creating walkable communities
3. Encouraging community and stakeholder collaboration
4. Fostering distinctive, attractive communities with a strong sense of place
5. Making development decisions predictable, fair and cost effective
6. Mixing of land uses
7. Preservation of open spaces, farmland, natural beauty, and critical environmental areas
8. Providing a variety of transportation choices
9. Strengthening and directing development toward existing communities
10. Taking advantage of compact building design

Smart Growth Online is a service provided by the Smart Growth Network. The Smart Growth Network was formed in 1996 by the U.S. Environmental Protection Agency along with various non-profit and government organizations. (SGO: 2008) Smart growth as a principle has been embraced by many in the development and planning communities. Now it is being implemented in multiple forms through master planned communities or through zoning changes that encourage increased density at transit stations. The goal of encouraging high-density development around mass transit hubs is often described on macro or regional terms to be smart growth. The mixing of real estate uses (housing, office, and retail) has re-emerged as a development strategy, with the goal being the creation of communities that incorporate all the uses in dense locations while reducing automobile dependency. Ultimately, the consumer will be the determining factor as to whether or not smart growth is implemented successfully.

The Urban Land Institute (ULI), a leading association of developers, has been a proponent of smart growth development. Often it sees the condominium building built above a retail center in a transit-oriented location to be of demand:

“Core urban markets with mass transportation alternatives to the car solidify their advantages over far-flung car-dependant suburban areas, and more investors and developers target infill locations for future mixed-use residential projects, especially near transit stops.” (ULI/PWC: 2008: 7)

“Increasingly, (consumers) seek greater convenience by locating closer to urban cores and infill locations – not only because of mounting suburban congestion on aging, inadequate road systems, but also because the cost equation is changing in favor of less-car dependant lifestyles.” (ULI/PWC: 2008: 27)

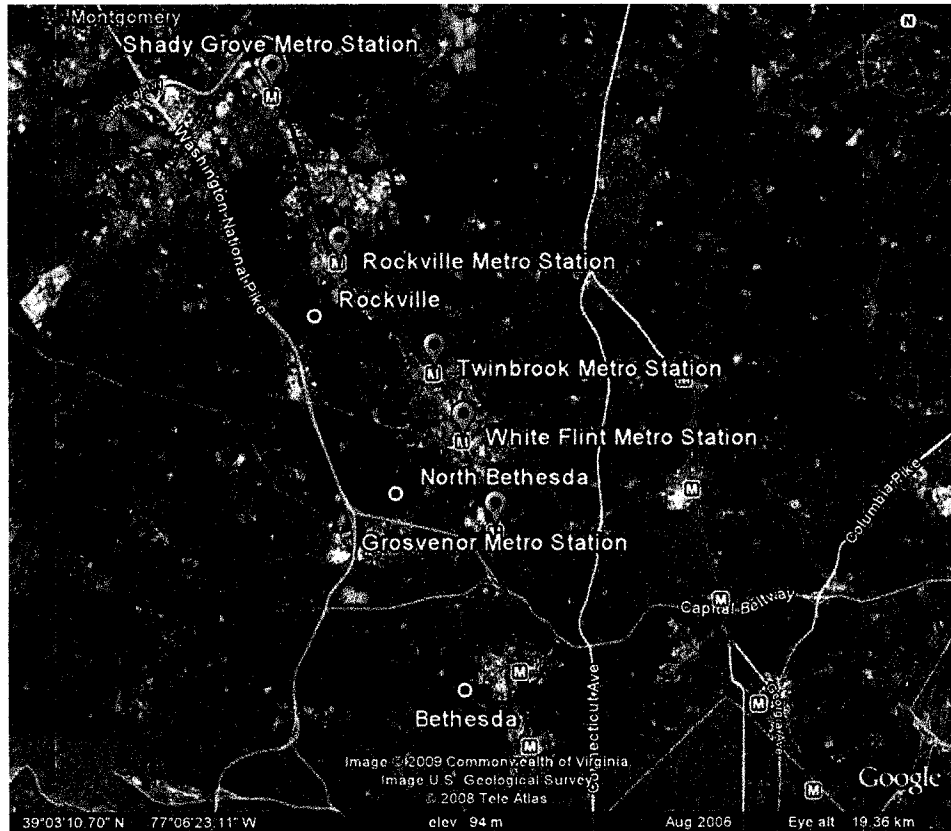
To what extent the general public has embraced the lifestyle of smart growth in the form of mixed use remains to be tested. The third component of the housing market, land, carries a greater cost in transit-oriented locations due to the other real estate types competing for uses of the same land. Furthermore, the principles of smart growth such as compact housing need to be tested against consumer’s preference. Planners and developers may need to re-evaluate how best to develop suburban locations to provide the most density while also offering housing products that meet the home-buying consumer’s preference.

IV. Introduction of Case Study Examples

For the purpose of exploring home-buying choices and the implementation of smart growth, two locations have been studied in Montgomery County, Maryland. Montgomery County is a suburban setting located to the immediate northwest of the District of Columbia with an estimated population of 930,813. (MNCPPC: 2008) Montgomery County offers a useful framework for an analysis of smart growth because it possesses many of the key variables needed for smart growth. The Washington MSA is of interest to a study of smart growth especially because of the recent population growth resulting from a recent employment boom. In the seven-year period between 2000 and 2007, the Washington MSA generated a total of 436,000 new jobs. Montgomery County is the region's second largest population center, with a well-established highway and metro rail infrastructure, as well as multiple edge city locations. Montgomery County has also been at the forefront of emphasizing zoning that promotes transit-oriented development and green field preservation.

Two locations within central Montgomery County along the Interstate 270 (I-270) corridor sub-market are provided as case examples. The two areas studied are located in Rockville and North Bethesda. (See Exhibit 1) These two areas are presented because they are located just outside the Capital Beltway along the two major north-south highways of I-270 (Washington National Pike) and Route 355 (Rockville Pike), which serve as the main arteries of the county; they have suburban settings; and they are located just north of the edge city of Bethesda. Additionally, Rockville and North Bethesda together are home to five Metro Stations, a feature of note in the case of smart growth because of the principle of transportation choice. These five Metro Stations are on the Red Line that runs parallel to Route 355 from the District of Columbia to Rockville.

Exhibit 1: Map of Montgomery County



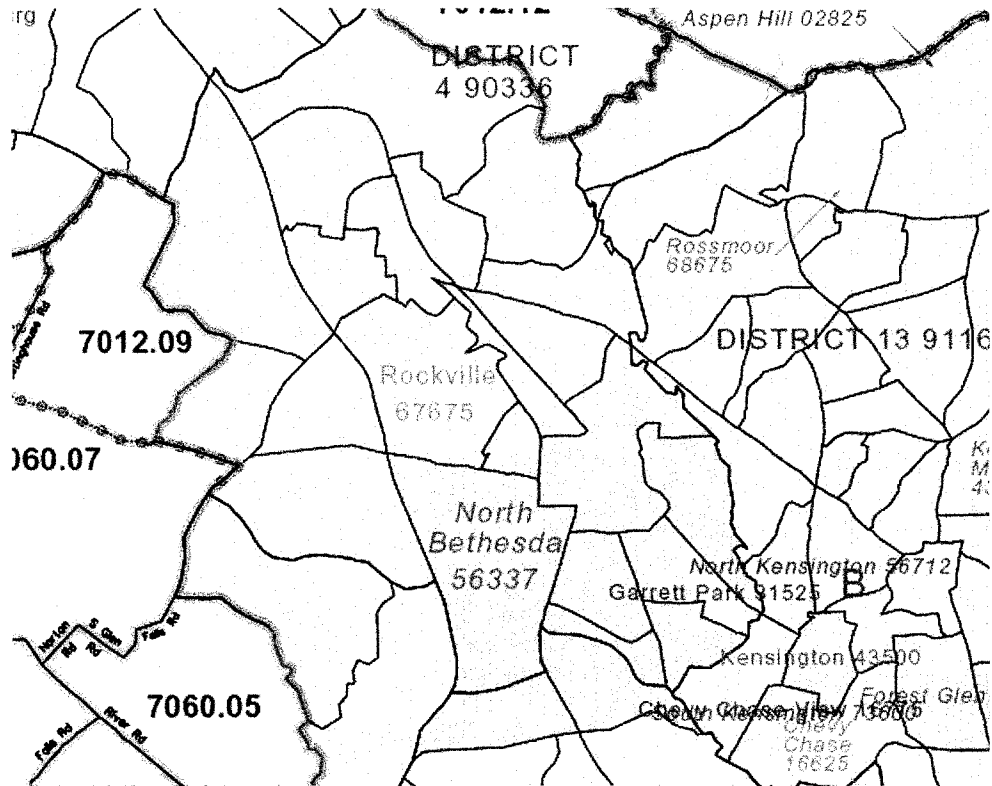
According to the 2005 Census Survey Update of the 350,000 households in Montgomery County, 51 percent live in single-family houses, 18 percent live townhouses, and 31 percent reside in multifamily (condominium and apartment) housing. Of the multifamily housing roughly 30 percent is owned by the unit occupants with the remainder being rental. (MNCPPC: 2008) According to the Metropolitan Regional Information System (MRIS), Montgomery County's existing homes sales are 51 percent single-family houses, 26 percent townhouse, and 23 percent condominium. (MRIS: 2008)

The Rockville case study example of smart growth is specifically the master planned community of King Farm, which is situated at the Shady Grove Metro Station. The North Bethesda case study example focuses on recent housing development in the area near the White Flint Metro Station. These case examples will start with census and

existing homes sales data from their general sub-markets to ascertain pre-existing supply and demand trends. The census data is used to ascertain the current housing stock inventories and is compared with the existing sales data to determine demand trends. Following is an overview of the new housing development, and how well they match up in the context of the existing trends. Additionally, the zoning for King Farm and White Flint will be summarized as well as a review of the ten smart growth principles each case illustrates. Each section will close with observations from the case example.

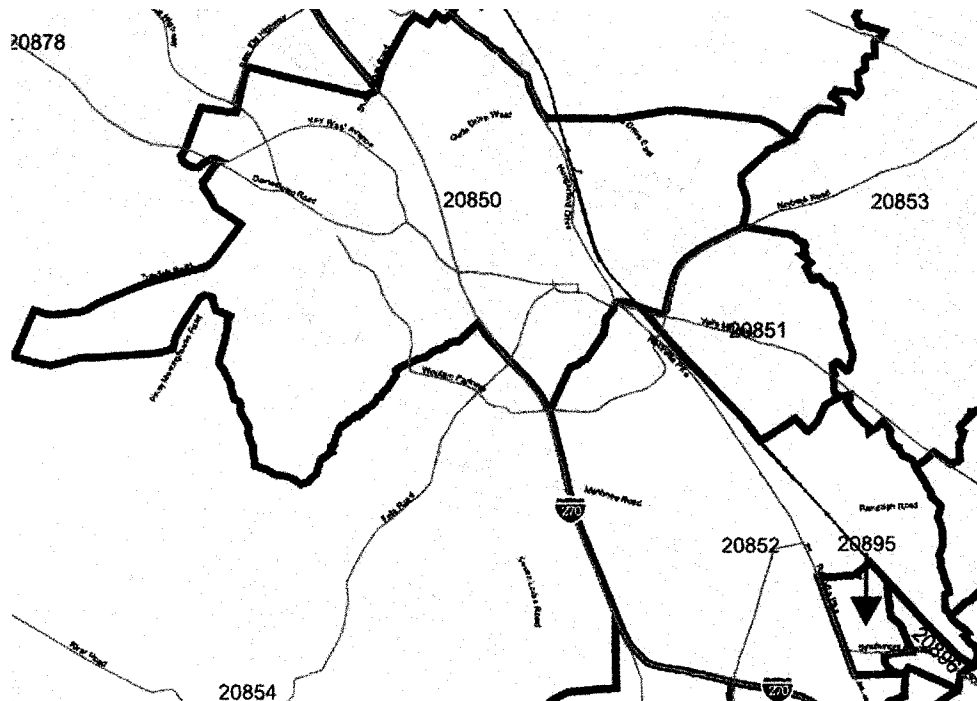
The most current census data available in Montgomery County is the 2005 estimates provided by the Maryland National Capital Park and Planning Commission (MNCPPC). The MNCPPC provides census data at the planning area level. For the purpose of this paper the planning areas of Rockville and North Bethesda are used as the general markets of the two case examples. (See Exhibit 2) The Rockville area is comprised of the multiple adjoining green areas in the center and upper left corner of the census map. The North Bethesda area is comprised of the multiple adjoining pink areas in the center and lower part of the census map. The existing home sales data is provided by the MRIS. The MRIS provides existing home sales data by zip code. The areas included in the zip codes in the two case examples do not have the same boundary lines as the census planning areas but do overlap essentially large portions of the same area. (See Exhibit 3) Though census information from 2000 is provided by the zip code the 2005 census data was determined to be more important for the purpose of this paper. Furthermore, the existing homes sales data is provided by averaging the past five years starting in October 30th 2003 to October 30th 2008.

Exhibit 2: Census Map



*Rockville in green (center and upper left), North Bethesda in pink (center).

Exhibit 3: Zip Code Map



V. King Farm

The King Farm community is a master planned development located in the northern section of Rockville, Maryland. Rockville is the county seat of Montgomery County and an incorporated city. The King Farm community is approximately two miles north of downtown Rockville and is bordered by Route 355 (Fredrick Road) as its eastern boarder and I-270 as its western boarder.

Rockville Market

According to the Rockville Planning Area 2005 census update survey results, the City of Rockville consists of 11,110 single-family houses, 3,815 townhouses, and 6,970 multifamily units of which 20 percent are owned by the unit occupants. (MNCPPC: 2008) (See Exhibit 4) Based upon ownership percentages of the three housing types (garden apartments and high-rises will be combined together in the condominium averages) the averages of the homeowner market in Rockville are 65 percent for single-family house, 21 percent for townhouses, and 13 percent for condominiums. For the purpose of this paper these homeownership percentages are represented as the house market supply.

Exhibit 4: Rockville Census Data

Product type	Total Units	% Housing Market	% Ownership	% Homeowner Market
Single-family house	11,110	50.7	92.9	65.1
Townhouse	3,815	17.4	89.6	21.6
Garden Apartment	5,305	24.3	33.7	11.3
High-rise	1,665	7.6	19.6	2.0

*Maryland-National Capital Park and Planning Commission June 2006

Rockville's 2003 through 2008 existing home sales based on the zip codes of 20850 and 20851 have seen 2,025 single-family houses traded over the past five years,

1,259 townhouses, and 572 condominiums. (See Exhibit 5) Of the existing home sales market 52 percent have been single-family houses, 33 percent have been townhouses, and 15 percent have been condominiums. Townhouses in Rockville have been absorbed at a faster rate than the single-family house or condominium during this period. Of note in assessing Rockville housing based on zip code data is that parts of Rockville are found in zip codes that are mainly Potomac or North Bethesda zip codes, while mainly Rockville zip codes cover parts of neighboring areas of Potomac, Travilah, and North Potomac. All of these neighboring areas are affluent and may skew the average sales prices higher. Furthermore, a one mile radius of the Shady Grove Metro Station was searched in MRIS of the same data points to determine whether or not the consumer is paying more for access to mass transit.

Exhibit 5: Rockville Existing Home Sales Five Year Averages

Product type	Units Sold	Avg. price	Avg. Age	% of Market
Single-family house	2,025	\$550,455	47	52
Townhouse	1,259	\$511,673	37	33
Condominium	572	\$354,464	27	15
1 Mile Radius of Shady Grove Metro Station				
Single-family house	198	\$691,517	40	24
Townhouse	433	\$517,025	34	52
Condominium	199	\$428,314	27	24

*Metropolitan Regional Information System November 30th 2003 to November 30th 2008

In comparing the percentage numbers of the census data versus the existing home sales data the townhouse appears to be capturing a greater percentage of the sales market than it is due if based on overall market supply. The single-family house is 65 percent of the market supply while receiving 52 percent of the sales market activity. Whereas the townhouse is 21 percent of the market supply and 33 percent of the sales market activity. The condominium is 13 percent of the market supply and 15 percent of the sales market

activity. The townhouse in the case of the Rockville market looks to be capturing a percentage advantage at the cost of the single-family house. Two reasons for high average trade volume of townhouse could be new townhouse development coming up for its first trade and single-family house owners choosing to hold their residences for longer time periods. Nonetheless, even with a 10 percent adjustment across all the data sources for the census areas and zip codes not matching up exactly, the townhouse as a potential housing product type appears to have a growing demand in the Rockville market. Additionally, the average sales price for homes within one mile of the Shady Grove Metro Station are higher and most especially the condominium and single-family house are achieving a 20 percent premium in this circumstance.

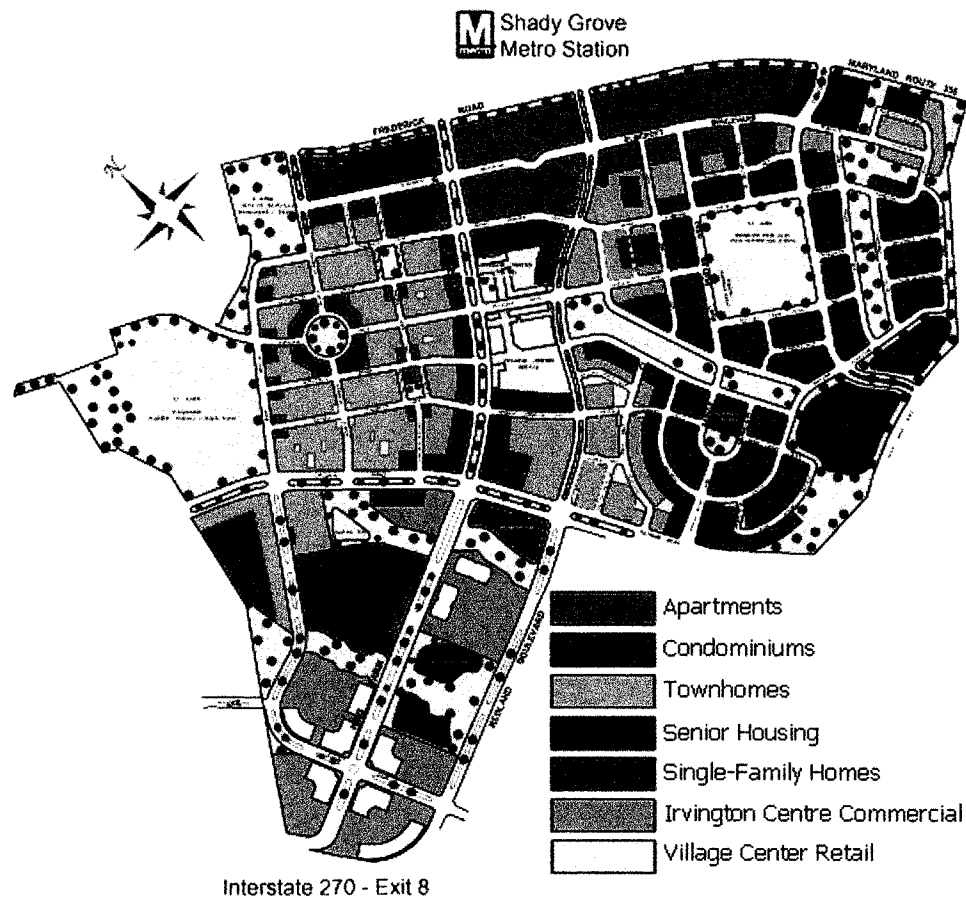
New Development

The King Farm development occupies a 430-acre site, with 120,000 square feet of retail, 3,600 housing units, and two million square feet of office space. The Shady Grove Metro Station is located just across Fredrick Road from King Farm and is serviced by a shuttle that runs throughout the community. The gross residential density of King Farm is three times that of the city of Rockville. (EPA: 2008) King Farm abuts established office park developments on its southern and northern borders. To further examine the King Farm case example interviews with the master developer (The Penrose Group), the community realtor office (Long and Foster), a new home owner, and the sales office of the senior living development (Ingleside) were conducted as well as a review of real estate tax records.

The housing product found in King Farm is a combination of single-family house, townhouse, and multifamily (both rental and condominium). Its main artery (King Farm Road) runs east-west through the site, from Fredrick Road through to a connection to I-

270, along which the retail and multifamily components are found. (See Exhibit 6) Just beyond the main access road are located the townhouses, with the single-family houses found the farthest from the retail predominantly along the southern edge of the community. Of particular note is that the single-family houses are built very close together with little lawn area but within good proximity to common parks. On average, the multifamily units tend to be closest to the Metro Station, the single-family houses the farthest.

Exhibit 6: Map of King Farm



According to Mark Gregg of The Penrose Group (the master developer for King Farm) the community was phased in over the course of approximately ten years by the master developer and builders. In the effort to develop the community at a high velocity, multiple builders per product type were used. In the case of multifamily housing, two

builders were used, whereas with single-family houses and townhouses, six builders were used for each. This strategy allowed the development to be built quickly and to provide consumers different types of housing products. Each of the product types were priced as to not compete with one another, and each saw healthy absorption rates. In some cases, extra-wide townhouses were built to appeal to traditional single-family home-buyers. No one product was viewed by Greg as inappropriate at the time, but given today's market, a greater mix of townhouses and single-family houses would be better received today.

(Gregg: 2008)

The housing mix for for-sale product of King Farm was originally 392 single-family houses, 943 townhouses, and 665 condominiums. (See Exhibit 7) Recently an additional 200 senior living units have been added with the community Ingelside. The townhouse percentage seems to be well focused at 42 percent based on the Rockville market demand trend of 33 percent, where as the condominium on the other hand does seem to be out of line with market demand indicators with 30 percent of the total development and only 15 percent of the demand. Moreover, the townhouse achieves the highest price per square foot of the three housing types at \$205 ppsf.

Exhibit 7: King Farm New Developments

Project	Product Type	Units Sold	Units Unsold	Avg. Price	Avg. SF	PPSF	Age	Dist. to Metro	% of Project
Five Builders	Single-family house	392	0	\$453K	3,000	\$151	6	4K ft	19
Five Builders	Townhouse	943	0	\$398K	1,944	\$205	7	3.5K ft	47
Two Builders	Condominium Mid-rise	665	0	\$292K	1,571	\$186	5	3K ft	33

*Project unit data provided by King Farm and master architect Torti Gallas

**Average sales price/sf/age based on averages of a sampling of Maryland real estate tax records (MDAT: 2009)

***No new projects are delivering SFH or TH in King Farm

A safe assumption is that re-sales within the King Farm community are represented in the existing home sales data since the community started delivering in the late 1990s and continued up to the mid-2000s. In the past year the King Farm re-sale market is experiencing a 10 percent decline in value for all three housing types. (MRIS: 2008) In large part the health of the real estate market of the early and mid 2000s provided King Farm ample allowance to test the demand market for housing in a smart growth community. The most notable recent development at King Farm has been the re-zoning of 200,000 square feet from commercial use to senior-living multifamily housing (the Ingelside), of which 80 percent is pre-sold. (See Exhibit 7) The Ingelside, though priced higher than the other housing types, is not a similar example to the other King Farm new housing product because the pricing also includes healthcare, is not conveyed by deed, has not delivered as of yet, and is being marketed multiple years after the other types.

King Farm Zoning

The Rockville City Mayor and City Council are the final authority over the Rockville Planning Commission for planning. King Farm was annexed into the City of Rockville and zoned by the resolution of July 1996 for the Planned Development Zone for mixed-use residential and commercial development. King Farm is zoned with a mixture of a historic site, mixed-use employment, multi-unit residential, single-unit attached or townhouse dwellings, single-unit attached, and mixed-use neighborhood commercial zones. The Rockville City master plan was revised November 2008 with no revision for the King Farm Planned Development Zone.

Smart Growth Illustrated

King Farm was built as a “walkable” community and was recognized by the US Congress in 2001 for a Charter Award for New Urbanism based upon the EPA’s smart growth principles. (EPA: 2008) King Farm illustrates seven of the ten principles of smart growth. (See Exhibit 8) Most notably King Farm provides a mixture of real estate uses, a good blend of housing type choices, and transportation choices.

Exhibit 8: King Farm Illustration of Smart Growth

Smart Growth Principles	Illustrated
Create range of housing opportunities and choices	Yes
Creating walkable communities	Yes
Encourage community and stakeholder collaboration	No
Fostering distinctive, attractive communities with a strong sense of place	Yes
Make development decisions predictable, fair and cost effective	No
Mix land uses	Yes
Preserve open space, farmland, natural beauty and critical environmental areas	Yes
Provide a variety of transportation choices	Yes
Strengthen and direct development toward existing communities	No
Take advantage of compact building design	Yes
Illustration Ratio	7 of 10

*Based upon EPA smart growth principles illustrated by King Farm for Charter Award

Additionally, King Farm provides a sense of place with both a town center with retail and common parks among the single-family houses and townhouses. King Farm on the other hand is known as not accomplishing the three smart growth principles of stakeholder collaboration, predictable development decisions, and strengthening of existing communities. Arguably by building for-sale housing product the developer has encouraged stakeholder collaboration for future development and the site was a pending development along existing infrastructure.

Observations

King Farm has given us an example of a suburban infill location with transit-oriented development in conjunction with smart growth development. We learned through a supply and demand review that the Rockville housing market is showing a preference for the townhouse through both a lower days on the market average and a higher ppsf average. Secondly, we observed that with a healthy real estate market and a good mix of housing product types smart growth development can be successfully implemented in a suburban location.

VI. White Flint

White Flint is an area found within North Bethesda. North Bethesda is an amorphous area located in an area of Montgomery County that has over the years been referred to as Rockville, Bethesda, Kensington, Garret Park, and White Flint. North Bethesda has been designated as the area north of Bethesda and I-495, and the area south of the municipal border of The City of Rockville. North Bethesda comprises an area that has three Metro Stations and multiple concentrations of dense retail, residential, and office developments. For the purpose of this case example, the area around the White Flint Metro Station or White Flint will be the focus. The White Flint Metro Station is located parallel to Route 355 (Rockville Pike) near its intersection with Route 187 (Old Georgetown Road). The immediate area around the Metro Station is a mixture of high-rise office and residential development and of strip center retail.

North Bethesda Market

According to the North Bethesda/Garret Park Planning Area 2005 census update survey results, the North Bethesda neighborhood consists of 6,565 single-family houses, 1,915 townhouses, and 10,520 multifamily units. (MNCPPC: 2008) (See Exhibit 9) Based upon ownership percentages of the three housing types (garden apartments and high-rises will be combined together in the condominium averages) the averages of the homeowner market in North Bethesda are 51 percent for single-family house, 13 percent for townhouses, and 34 percent for condominiums. For the purpose of this paper these homeownership percentages are represented as the house market supply.

Exhibit 9: North Bethesda Census Data

Product type	Total Units	% Housing Market	% Ownership	% Homeowner Market
Single-family house	6,565	34.6	93.8	51.2
Townhouse	1,915	10.1	87.5	13.9
Garden Apartment	7,020	36.9	36.1	21.1
High-rise	3,500	18.4	47.3	13.8

*Maryland-National Capital Park and Planning Commission June 2006

North Bethesda's 2003 through 2008 existing home sales based on the zip codes of 20852, 20895, and 20896 have seen 2,155 single-family houses traded over the past five years, 634 townhouses, and 1,554 condominiums. (See Exhibit 10) Of the existing home sales market 50 percent have been single-family houses, 14 percent have been townhouses, and 36 percent have been condominiums. Townhouses and condominiums are being absorbed faster in to the market with an average of 32 days on the market versus the 38 days on the market being achieved by the single-family house. Of note in assessing North Bethesda housing based on zip code data is that part of North Bethesda is found in zip codes that are mainly Bethesda, while mainly North Bethesda zip codes cover part of neighboring Rockville. The area not included in North Bethesda's zip codes but rather Bethesda has a concentration of single-family houses and may skew the averages lower on the single-family houses total portion of the market. Furthermore, a one mile radius of the White Flint Metro Station was searched in MRIS of the same data points to determine whether or not the consumer is paying more for access to mass transit.

Exhibit 10: North Bethesda Existing Home Sales Five Year Averages

Product type	Units Sold	Avg. price	Avg. Age	% of Market
Single-family house	2,155	\$577,198	50	50
Townhouse	634	\$590,813	21	14
Condominium	1,554	\$329,129	26	36
1 Mile Radius of White Flint Metro Station				
Single-family house	336	\$582,072	49	21
Townhouse	252	\$612,434	20	16
Condominium	1015	\$359,804	22	63

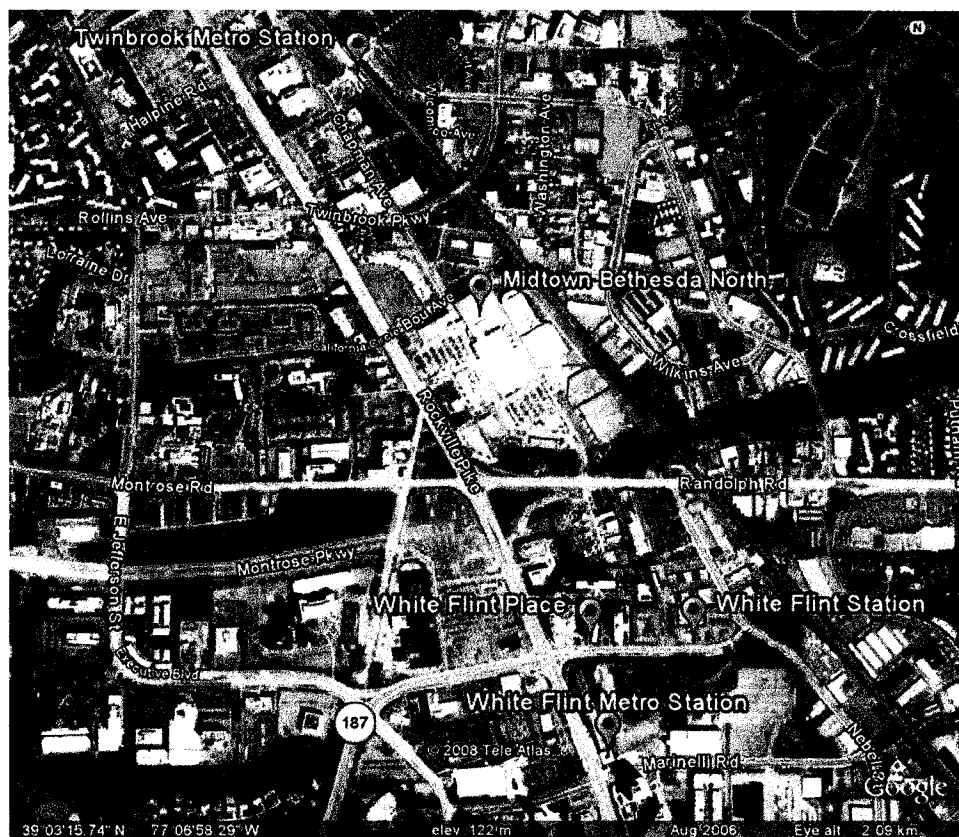
*Metropolitan Regional Information System November 30th 2003 to November 30th 2008

In comparing the percentage numbers of the census data versus the existing home sales data no one product appears to be capturing a greater percentage of the sales market than it is due if based on overall market supply. The single-family house is 51 percent of the market supply while receiving 50 percent of the sales market activity. Whereas the townhouse is 13 percent of the market supply and 14 percent of the sales market activity. The condominium is 34 percent of the market supply and 36 percent of the sales market activity. Though no one product type appears to be performing at any great growth rate the condominium appears to be making a small gain at the cost of the single-family house. The condominium as a potential housing product types appears to be a possible prospect for new development for White Flint because of it's higher than general average market share and slight growing demand, though with a 10 percent adjustment for the census areas and zip code data sources not matching up exactly, the housing choices may be holding static. Additionally, the average sales prices for homes within one mile of the White Flint Metro Station are not substantially higher but for the condominium which is achieving a modest 9 percent premium in this circumstance.

New Development

During the most recent residential real estate boom, three major condominium developments were brought to market in the immediate area around the White Flint Metro Station, with mixed results. The three developments introduced a total of 1128 new condominiums into the North Bethesda Market in the communities of White Flint Place (WF Place), White Flint Station (WF Station), and Midtown Bethesda North (Midtown). (See Exhibit 11) In the same immediate area no new single-family house or townhouse products have been brought to market, and therefore a full range of housing choices are not being offered in this transit-oriented location.

Exhibit 11: Map of North Bethesda



To further examine the North Bethesda/White Flint case example interviews with the developers and the sales offices of new developments (WF Place, WF Station and

Midtown), local realtors and new home owners were conducted as well as a review of real estate sales tax records.

White Flint Place, of the three new condominium developments in North Bethesda, is proving to be the best case example of success. WF Place is a two phase project of three sixteen story concrete construction high-rise towers marketed under the names of the Sterling and The Gallery by Donohoe Development. Donohoe Development purchased the land numerous years ago and was also the general contractor for the development. WF Place delivered 58 percent of the total units built amongst the three new developments with 653 total units and is approximately 700 feet from a metro. (See Exhibit 12) WF Place has achieved 100 percent absorption and the highest average price of the three developments with \$454 ppsf. The two highest variables in WF Place's success are proximity to the Metro Station and construction type. The two other developments have seen measured success, and consideration must be given to the relatively late timing of their delivery in a difficult market. By having these three developments delivering in relatively the same market under differentiating circumstances, we are provided a good case example of what comprises the best condominium product.

The WF Station development though of roughly the same distance from the metro as WF Place, is of mid-rise construction and has been determined by the consumer to be of lesser value. In part this is due to the consumer's perception that the construction of the building is less likely to be of concrete and more likely of wood construction and therefore sooner to become obsolescent. Also of consideration is the inability of the mid-rise building to provide the consumer with desirable views. WF Station delivered 22 percent of the total units built amongst the three new developments with 245 total units

and is approximately 1,100 feet from a metro. (See Exhibit 12) WF Station was originally an apartment building built by JPI numerous years ago that has been converted to condominium from rental and remarketed by Toll Brothers. Toll Brothers contribution to re-marketing WF Station as a condominium was to upgrade all the interior unit finishes to a higher level than found in WF Place. Though WF Station was marketed at relatively the same prices as WF Place and the Midtown their average settled price is \$423 ppsf and only 54 percent sold. (See Exhibit 12)

The Midtown, though located nearer to the next closest Metro Station to the north (Twinbrook Metro Station), was in direct competition with the other two developments and therefore determined to be of the same sub-market. The Midtown is an eighteen story concrete construction high-rise built adjacent to a retail strip center and the big box store Target. The location is surrounded by unattractive views of a number of parking lots and the roofs of the neighboring retail stores. The Midtown delivered 20 percent of the total units built amongst the three developments with 230 total units and is approximately 2,000 feet from a Metro Station. (See Exhibit 12) Of considerable note is that while the Midtown was priced relatively close to WF Place, the option while having exceptionally higher finishes and amenities was still trumped by its less desirable location in relation to the metro by WF Place based upon overall absorption. The Midtown achieved the lowest prices with \$415 ppsf though has sold 70 percent.

Exhibit 12: North Bethesda New Developments

Project	Product Type	Units Sold	Units Unsold	Avg. Price	Avg. SF	PPSF	Age	Dist. to Metro	% of Submrkt
WF Place	Condominium High-rise	653	0	\$475K	1,047	\$454	4	.7K ft	58
WF Station	Condominium Mid-rise	132	113	\$404K	956	\$423	3	1.1K ft	22
Midtown	Condominium High-rise	161	69	\$515K	1,242	\$415	2	2K ft	20
NA	Single-family house	0	0	NA	NA	NA	NA	NA	0
NA	Townhouse	0	0	NA	NA	NA	NA	NA	0

*Project unit data provided by sales centers November 2009

**Average sales price/sf/age based on averages of Maryland real estate tax records (MDAT: 2009)

***No new projects are delivering SFH or TH in the White Flint vicinity

Zoning

The Montgomery County Council is the final authority over the Montgomery County board of the Maryland-National Capital Park and Planning Commission. The White Flint area of North Bethesda is zoned according to the July 1992 North Bethesda/Garrett Park Master Plan under the White Flint Sector Plan and was amended from the 1978 Nicholson Lane Sector Plan. The 1992 plan recommends a mix of uses for development on vacant land in close proximity to a rapid-rail station. The recommendation is for employment uses east of Route 355 and housing west of Route 355 with the tallest buildings adjacent to Route 355 and stepping down in height to the east and west. Additionally, a system of small blocks to alleviate 355 of local traffic and pedestrian-friendly streets within a walking distance to a Metro Station are recommended. The recommendation is for Transit Station either Residential or Mixed development in floating zones of primarily a FAR of 2.4. The sector plan for White Flint is currently being updated by the Montgomery County Planning Department, with

proposals for a Transit Mixed zone with a FAR of up to 4.0 in closest proximity to the Metro Station

Smart Growth Illustrated

North Bethesda and specifically the White Flint area are an interesting case example when discussing smart growth because though it has not been developed with the smart growth principles in mind by one developer it has been zoned as a high density area because of its transit-oriented development potential. North Bethesda is a proposed location for a future edge city. It offers the advantages of proximity to the Bethesda Central Business District (CBD), representing a less expensive alternative to Bethesda; a Metro Station; and - of greatest importance - a large envelope of retail centers with large parking lots that can be built on to provide a greater area than the Bethesda CBD while staying a clear distance from neighboring single-family house neighborhoods.

Exhibit 13: White Flint Illustration of Smart Growth

Smart Growth Principles	Illustrated
Create range of housing opportunities and choices	No
Creating walkable communities	Yes
Encourage community and stakeholder collaboration	Yes
Fostering distinctive, attractive communities with a strong sense of place	No
Make development decisions predictable, fair and cost effective	Yes
Mix land uses	Yes
Preserve open space, farmland, natural beauty and critical environmental areas	No
Provide a variety of transportation choices	Yes
Strengthen and direct development toward existing communities	No
Take advantage of compact building design	Yes
Illustration Ratio	6 of 10

*Modeled from King Farm illustrated principles

Using the model from the King Farm smart growth illustration of the ten principles of smart growth White Flint currently achieves a ratio of six out of ten. (See Exhibit 13) White Flint does have transportation choice with a Metro Station, compact

building design (condo), and an existing mix of land uses in the form of office, retail, and housing.

Though, the North Bethesda area provides a very good example of difficulties smart growth has with transit-oriented locations that do not allow for all of the principles to be implemented. The immediate area around the Metro Station has been zoned for high density and has incurred higher land prices than are not feasible for developers to build alternate housing choices to promote smart growth. Additionally, White Flint has no existing sense of place. North Bethesda currently has multiple high-rise developments and in use retail developments that impede the principles of smart growth from being fully implemented.

Observations

North Bethesda and White Flint have given us an example of a suburban setting with transit-oriented development with minimal smart growth development. We learned that the condominium as a product has a higher than general average proportion of the North Bethesda housing market. Secondly, we observed that proximity to a Metro Station and type of construction proved to be the two key variables in this example of varying condominium products. To be more specific, proximity to a Metro Station will favor a property of similar construction type even if of lower finish and amenity package. On the other hand, a metro location will favor a mid-rise when it is in competition with a less desirably-located high-rise.

VII. Conclusions

This paper has presented an analysis of home-buying and the smart growth principle, showcasing the single-family house as the premier preferred house purchase product and considering the secondary home-buying product choices of townhouse and condominium. Attention has been given to the American consumer's preference for suburban over urban areas in regard to homeownership.

Montgomery County, Maryland, and the case examples of King Farm in Rockville and the White Flint area in North Bethesda have been described and compared in regard to housing products and smart growth. Based on county census and existing homes sales data, the single-family house possesses 50 percent (or greater) of the home ownership market. King Farm shows that smart growth can be successfully implemented if an appropriate mix of housing choices is provided, and North Bethesda demonstrates that in condominium development, proximity to a transit station and construction type are key variables to success, while unit size and finish level are of less importance. Both case examples reveal that the third component of the metropolitan area housing market, land value, plays a major role in transit-oriented locations.

This paper's initial objective was to question the smart growth concept and the interlinked principle of transit-oriented development and more specifically the merit of promoting high-density residential products at suburban locations. Further, the notion of potential increased demand for condominium (compact) living in suburban locations has yet to be expressed.

First, creating a range of housing opportunities and choices is not accomplished when transit-oriented development encourages high-density mix-use developments which provide only multifamily housing. The crux of the problem, especially in the case of a

location such as North Bethesda, is that high-rise residential development has been successfully accomplished at a suburban transit station, and that all other participants in the surrounding sub-market have now marked the value of their property to values that correspond to future high-rise development. In such a case, future development of a range of housing that meets suburban home-buying consumer's preferences of single-family houses and to a lesser extent townhouses will not be realized.

Secondly, the smart growth principle of encouraging community and stakeholder collaboration cannot be best accomplished in an environment where the housing product is overwhelmingly multifamily. For consumers to be stakeholders in any future development, it must be recognized this can be best achieved through homeownership. As we learned in our case examples, condominium ownership can range from 13 to 34 percent of a given suburban homeownership market and may not be a deep enough market to foster a stakeholder environment at transit-oriented locations.

Land at transit-oriented locations has become relatively too expensive and has proven to be the key variable that disallows smart growth to be implemented to its fullest extent. Given the assumption that smart growth is the best approach and that therefore encouragement should be given to future development that provides locations that have walkable environments with alternate transportation choices like mass transit; developers should provide a mix of for-sale housing choices for consumers. As displayed by our case examples the suburban consumer is willing to pay a 9 to 20 percent premium for a transit-oriented location.

In closing, two recommendations are proposed: (1) Developers of less dense transit-oriented housing development, such as townhouses, be extended greater development incentives that encourage them to increase the variety of housing product

choices in a given sub-market and allow purchasers of these TDRs to be able to exceed their by right development FAR and building height; and (2), new housing alternatives should include more townhouse (or single-family house) components into mixed-use developments.

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