

ITEM #1: LAND USE DEVELOPMENT LEVEL AND CAPACITY

Staff Recommendation: Approve the Public Hearing Draft or Worksession 2 Scenarios for the following reasons:

- Traffic congestion is comparable to Bethesda/Chevy Chase ACI standards.
- Elementary school needs can be met with one new school site.
- Park needs can be met with proposed Jeremiah Park. Additional park sites are difficult to find.
- The net density of proposed development is comparable to CBD-1 and CBD-2 development.
- Proposed number and mix of unit types serves a range of incomes and households. More units will shift the balance of unit types, reducing diversity of households.
- Total units potentially may increase if development options for MPDU bonus units and I-3 housing options are pursued.

The Planning Board asked staff to explore higher levels of development and their impact on public facilities. Staff evaluated three development alternatives: the Public Hearing Draft's 4,000 units, the 4,600 units presented at Worksession 2, and the 5,400 units of the Town Center 2 alternative, against five criteria: transportation, schools, parks, comparable Metro areas, and unit type/urban design.

PUBLIC HEARING DRAFT

Description

The Public Hearing Draft's 4,000 additional units and 1.38 million square feet of additional commercial double the planning area's population from 7,236 to 15,250 residents. It also generates a total of 6,860 jobs in the Shady Grove Policy Area. While that number exceeds the 5,566 jobs assumed in the County Council's Transportation Policy Report, it achieves a 1.6 jobs/housing ratio within the Metro Neighborhoods, the Council's target for a balance of jobs and housing.

Analysis

This level of development increases traffic congestion and creates demand for new public facilities as follows:

Transportation

- The Plan exceeds the .57 ACI standard for the Derwood Policy Area with a level of .70 ACI. This level is comparable to the .73 ACI standard for Bethesda/Chevy Chase.
- The Plan exceeds transportation standards at four intersections unless additional intersection widening is assumed or stronger TMD is required (see PM Level of Service Map and Transportation Analysis Appendix).

Schools

- The Plan's 4,000 new units can potentially generate 953 new students: 511 elementary students, 233 middle school students, and 209 high school students (see School Analysis Appendix). School needs can be met by one elementary school proposed at Casey at Mill Creek and in middle and high schools outside the planning area.

Parks

- The scenario doubles the population in Shady Grove and will create a need for three additional ball fields, one large multi-use court and three new playgrounds.
- These needs can be met within the planning area with the provision of a new local park, neighborhood park, school site and the proposed urban open spaces.
- Urban recreation is also needed given the nature of the new community, but such recreation is not specifically identified in the PROS Plan.

Fire and Rescue Service

- Will require a Class II fire station to serve the increased service needs.

Unit Mix

- Within the Metro Neighborhoods, 4,000 new units creates a mix of 86 percent multi-family, 13.5 percent single-family attached, and .5 percent single-family detached, a range that can accommodate diverse incomes and household types.

Urban Design

- Building heights step up from four stories at the edges to eight stories at the Metro station, creating a pyramid form.
- Net FARs are comparable to CBD-1 and CBD-2 development levels because the amount of new streets and open space is considerable. In Metro West, 37 percent of land area will be developed with streets and public space, resulting in a 1.73 FAR on the buildable area of the neighborhood, comparable to CBD-1 level of development.

WORKSESSION 2 SCENARIO

Description

This alternative's 4,636 new units and 1.46 million square feet of new commercial development more than doubles the population to 16,140 residents. The total number of 7,524 jobs in the Shady Grove Policy area is considerably more than the 5,566 jobs assumed in the Council's Transportation Policy Report. The jobs/housing ratio in the Metro Neighborhoods is 1.7.

Analysis

This level of development increases traffic congestion and creates demand for new public facilities as follows:

Transportation

- A full transportation analysis of this scenario has not been completed, but another 636 units and 74,000 square feet of commercial area will add more vehicle trips. This scenario is estimated to achieve a .71 ACI continuing to exceed the .57 ACI standard for the Derwood Policy Area.
- Like the Public Hearing Draft, the scenario will result in at least four failing intersections unless additional intersection widening is assumed or stronger TMD is required (see PM Intersection Level of Service Map).

Schools

- This scenario has the potential to generate 949 new students: 522 elementary students, 225 middle school students, and 202 high school students (see School Analysis Appendix). School needs can be met with the one proposed elementary school at Casey at Mill Creek. Middle and high school needs can be met by the future middle school at King Farm and a future high school in the Gaithersburg Vicinity planning area.

Parks

- More than doubling the population continues to generate demand for three additional ball fields, one large multi-use court and three playgrounds (see Parks Analysis Appendix). Additional urban recreation such as community gyms and rooftop swimming pools should be provided as the apartment population increases.
- These recreation needs should be met within the planning area with the provision of a new local park, a neighborhood park, school site and some additional urban recreation above the level proposed in the Public Hearing Draft.

Fire and Rescue Service

- Will require a Class II fire station to serve the increased service needs.

Unit Mix

- Within the Metro Neighborhoods, this scenario creates a mix of 87 percent multi-family, 12.5 percent single-family attached, and .5 percent single-family detached, a range that can accommodate diverse incomes and household types.

Urban Design

- Building heights step up from four to five stories at the edges to 12 stories at the Metro station, creating a pyramid form.
- Net FARs are comparable to CBD-1 and CBD-2 development levels. Metro West has a 2 FAR on the buildable area of the neighborhood, comparable to a CBD-2 development level.

TOWN CENTER 2 SCENARIO

Description

This scenario achieves up to 5,400 new units with 1.5 million square feet of new commercial development, increasing the population to 17,292 residents, a 58 percent increase for the planning area. Town Center 2 results in 7,633 jobs in the Shady Grove Policy Area, exceeds the 5,566 jobs assumed in the Council's Transportation Policy Report. The jobs/housing ratio is 1.48 within the Metro Neighborhoods.

This level of development creates an unacceptable increase in traffic congestion, lacks a good unit mix and diversity of household types, and generates building heights that fill out the blocks at 12 stories.

Analysis

This level of development increases traffic congestion and creates demand for new public facilities as follows:

Transportation

- This scenario increases traffic congestion, exceeding the area's .57 ACI standard. Adding 1,400 units and another 116,950 commercial square feet above the Public Hearing Draft proposal will result in a forecasted .71 ACI.
- Like the Public Hearing Draft, the scenario will result in at least four failing intersections unless widening or additional TMD is assumed. Although a CLV analysis has not been completed, it appears that Redland Road and Crabbs Branch Way might be a fifth failing intersection.

Schools

- The Town Center 2 scenario has the potential to generate 988 new students: 554 elementary students, 230 middle school students, and 204 high school students (see School Analysis Appendix). School needs can be met with the proposed elementary school at Casey at Mill Creek. Middle and high school needs can be met with a future middle school at King Farm and a future high school in the Gaithersburg Vicinity planning area.

Parks

- Town Center 2 continues to create demand for three additional ball fields, one large multi-use court and three playgrounds (see Parks Analysis Appendix). Increasing the population 1,400 units above the Public Hearing's 4,000 units does not generate need for additional facilities such as ball fields, playgrounds and multipurpose courts.
- The recreation needs can be met with one local park, a neighborhood park and a school site.
- Additional urban recreation in the form of community meeting rooms, gyms, rooftop swimming pools and other informal leisure space, should be provided as the apartment population increases.

Fire and Rescue Service

- Will require a Class II fire station to serve the increased service needs.

Unit Mix

- Within the Metro Neighborhoods, Town Center 2 creates a mix of 89.5 percent multi-family, 10 percent single-family attached, and less than .5 percent single-family detached, almost 90 percent multi-family units, a reduced range of unit types.

Urban Design

- Building heights step from four to six stories at the edges to 12 stories at the Metro station by filling in block with 12 full stories.
- Net FARs in this scenario are comparable to CBD-2 development levels, with a 2.14 FAR in Metro West on the buildable area of the neighborhood. This is comparable to CBD-2 or CBD-R2 development level.

Housing and Commercial Density Table (Worksession #3)

Metro Neighborhood	Public Hearing Draft Housing (4000 du) and Commercial SF		Proposed 70% Housing and 30% Commercial SF w/ 1.25 FAR		Town Center Potential 70% Housing (5400 du) and 30% Commercial SF	
	Housing Units	Com. SF	Housing Units	Com. SF	Housing Units	Com. SF
Metro West	1200	600,000 SF	1435	614,900 SF	1550	664,500 SF
Metro South	550	205,000 SF	695	299,500 SF	734	314,200 SF
WMATA	500	26,000 SF	500*	26,000 SF	720	26,000 SF
Metro East/ Old Derwood	312	0	318*	0	318	0
Subtotal	2562	831,000 SF	2948*	940,400 SF*	3322	1,004,700 SF

* The proposed 70%/30% land use applies only to Metro West and Metro South. Unit yields from the other areas would remain unchanged from Public Hearing Draft.

MD 355 South: Potential Housing (Worksession #3)

Area	Public Hearing Draft Proposed Housing		Proposed Housing and Commercial SF		Town Center Potential Housing	
	Housing Units	Com. SF	Housing Units	Com. SF	Housing Units	Com. SF
North of Gude	0	NA	250	NA	250	NA
South of Gude	0	NA	NA	NA	0	NA
Subtotal	0		250		250	

Planning Areas: Housing and Commercial Square Footage (Worksession #4)

Metro Neighborhood	Public Hearing Draft Housing (4000 du) Commercial SF		Proposed Housing and Commercial SF (to be determined)		Potential Housing (5000 du) and Commercial SF (to be determined)	
	Housing Units	Com. SF	Housing Units	Com. SF	Housing Units	Com. SF
Metro North						
DPW&T	1000	40,000 SF	1000	40,000 SF	1000	40,000 SF
Food Service	30	0	30	0	30	0
Jeremiah Park						
MCPS	110	0	110	0	500	0
M-NCPPC	175	0	175	0	175	0
The Grove	123	NA*	123	NA*	123	NA
Subtotal	1438	40,000 SF	1438	40,000 SF	1828	40,000 SF

*The Grove's commercial SF is not considered part of the Metro Neighborhoods but the potential senior housing should be factored into the overall housing counts.

TOTAL	4000	871,000 SF	4636	980,400 SF	5400	1,044,700 SF
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ANALYSIS OF ALTERNATIVE SCENARIOS

Transportation

The Public Hearing Draft results in a forecasted .70 ACI. This is approaching the same ACI level as the current Master Plan with its .72 ACI. The standard for the Derwood Policy area is .57 ACI. For comparison, the Bethesda/Chevy Chase ACI standard is .73. While a higher congestion level in proximity to Metro should be considered, a key objective of the Plan is to lower traffic congestion through land use changes. The Shady Grove Metro area is an end of the line station and traffic in this central part of the County should not be as congested as Bethesda/Chevy Chase.

The Planning Board asked staff to determine how much more land use could be found acceptable within traffic standards. Assuming predominantly high-rise units, up to 9,300 units could be achieved within the .72 ACI associated with the current Master Plan. This number of units will result in redevelopment of Old Derwood with high-rise apartments and increased building heights throughout the Metro Neighborhoods. It will reduce the range of units and lower the diversity of households. It also would require an additional elementary school and result in more demand for recreation facilities. Staff does not support creating an all high-rise community.

Under all scenarios, at least four intersections exceed current CLV standards. The Plan recommends improvements to MD 355 and Gude Drive and further study of the intersection at Mid County and Shady Grove Road awaiting the outcome of the State Highway's DEIS for the Intercounty Connector. The remaining intersections will achieve compliance with standards through the subdivision process. If the Plan contains higher levels of development above the amount recommended in the Worksession 2 Draft, there is an increased risk that additional development cannot be approved due to traffic congestion.

Schools

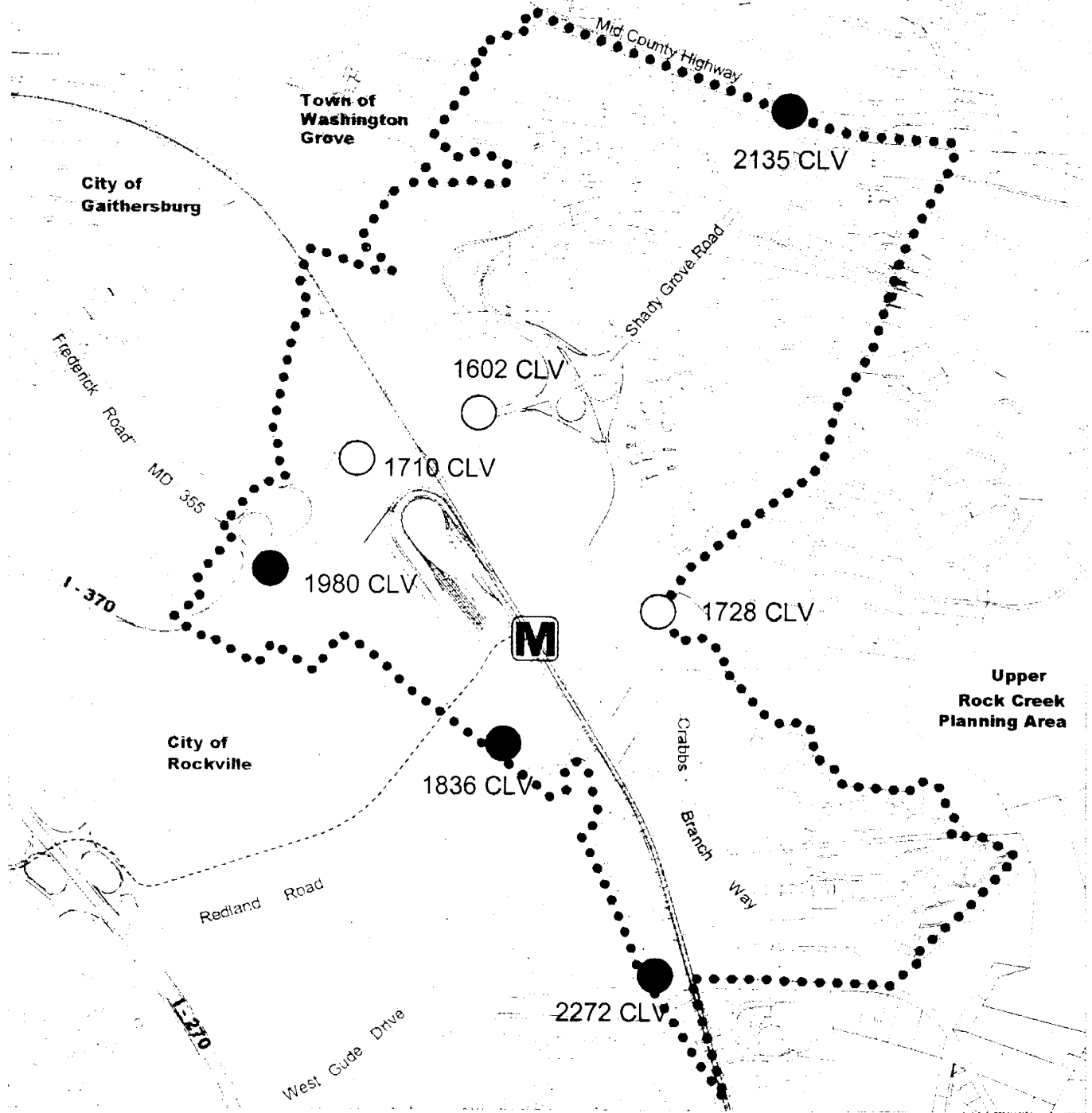
All three scenarios will need to provide new schools because the capacity of existing schools is already constrained. The school clusters serving the planning area are: Magruder, Richard Montgomery, and Gaithersburg.

School Capacity is Limited

School Cluster	Elementary Schools	Middle Schools	High Schools
Magruder	+37	+278	-20
Richard Montgomery	-20	+64	+31
Gaithersburg	+34	+187	+43

*Source: Enrollment Projections by Montgomery County Public Schools, October 2002

Public Hearing Draft PM Intersection Level of Service



●●●●● Shady Grove Sector Plan Boundary

----- Corridor Cities Transitway



0 2200'

At all levels except middle schools, projected school capacity is insufficient to accommodate the proposed scenarios. Elementary school capacity is limited in Magruder and Gaithersburg, and there is no capacity in Richard Montgomery. At the middle school level, there is capacity to accommodate the scenarios in the Magruder Cluster. Also, the middle school site reserved at the King Farm will add future capacity. At the high school level, there is limited capacity in Magruder and Richard Montgomery and no capacity in the Gaithersburg Cluster.

Projected Student Generation for Alternative Scenarios

Alternatives	# Units	Elementary	Middle	High School	Total
Public Hearing Draft (4,000)	3,700*	511	233	209	953
Worksession 2 (4,636)	4,336*	522	225	202	949
Town Center 2 (5,400)	5,100*	554	230	204	988

*Deducted 300 elderly housing units

*Student generation rates based upon countywide standards.

All three scenarios generate enough elementary students to require one new elementary school with some reserve capacity. This is a good idea given that additional housing units with students may be generated by potential development options such as bonus MPDUs and housing in the I-3 Zone. These potential development options have not been factored into the unit yield analysis because there is no certainty that such options will be pursued. MCPS staff believes that it is beneficial to factor in some reserve capacity to handle potential over-crowding.

Analysis shows that it will take approximately 8,400 to 8,700 new units to fill up one 750 student-sized elementary school depending upon the unit mix. This number of units will result in redevelopment of Old Derwood with apartments, and townhouses and high-rise apartments throughout the Metro Neighborhoods. A new community at the Metro station should not result in eliminating an old one, especially Old Derwood that contains the area's cultural history. Protecting existing communities is one of the Plan's goals. Adding more units to fill a 750 student-sized elementary school undermines the other goals of the Sector Plan.

Parks and Recreation

All three scenarios can meet their recreation needs within the planning area with the proposed local park and preservation of existing parks such as Blueberry Hill Park and Redland Park. The incremental increases in population will not result in additional parks beyond those recommended in the Plan. Additional urban recreation, however, is needed especially if apartment density is increased beyond what is recommended in the Plan.

The Shady Grove planning area is part of the Gaithersburg Planning Area (PA) 20 as identified in the PROS Plan. To provide convenient local recreation, Shady Grove should provide its own pro-rata share of local parks and recreation within the planning area. Currently, the PROS Plan identifies a deficit for recreation facilities within PA 20 (see Park and Recreation Analysis).

Recreation need is based on population estimates. The planning area's current population is approximately 7,200 residents. This population will more than double under the proposed scenarios:

- Public Hearing Draft 15,250 residents (+8,014 new residents)
- Worksession 2 16,140 residents (+8,904 new residents)
- Town Center 2 17,290 residents (+10,056 new residents)

Analysis shows that the area will need at a minimum three ball fields, one large multi-use court, and three playgrounds. These needs can be met by providing one additional local park and one school site with ball fields. Additional ball fields may be needed in the future at Blueberry Hill Park to help meet future recreation needs within Shady Grove and PA 20. There are few opportunities to increase recreation facilities in other areas of PA 20.

All of the alternative scenarios result in a significant amount of new multi-family units, from the Public Hearing Draft's 3,440 units up to Town Center 2's 4,835 units. Urban recreation such as nearby playgrounds, urban parks, informal leisure space, indoor exercise rooms, meeting rooms, and roof top swimming pools are important in an urban environment. Such recreation should be provided as private recreation in new housing developments. If density increases beyond the Public Hearing Draft, guidelines in the Plan should increase the amount of private recreation recommended.

Staff continues to support the Public Hearing Draft and Worksession 2 development levels because their recreation needs can be met within the planning area and do not create additional demand on the already limited facilities in PA 20. Existing facilities are already being used at their capacity. Increasing density will exacerbate the existing deficit in the vicinity of PA 20.

Fire and Rescue Service

All three scenarios result in the need for a new fire station serving the area. The Fire and Rescue Commission recommends a new service area be created to serve the Upcounty area north of Rockville. This service area would be classified "first due" for the Shady Grove area and portions of I-270 to relieve stations in Germantown and Gaithersburg.

A Class II fire station of approximately 15,000 square feet (approximately 3-5 acres) would serve the existing and future population contained in the Draft Shady Grove Sector Plan. The Fire and Rescue Commission applies a general factor of .156 incidents per person per year to evaluate the need for future facilities. The effective range for "first due" calls by a Class II station is 2500 incidents per year. The estimated call volume for new residents within the Shady Grove Sector Plan planning area would be:

Public Hearing Draft	4,000 units	8,014 new residents	1250 calls
Worksession 2	4,636 units	8,904 new residents	1389 calls
Town Center 2	5,400 units	10,056 new residents	1568 calls

Fire and rescue needs can be met for all alternative scenarios with the proposed Class II-sized station recommended for the Casey 3 site at MD 355 and Shady Grove Road. The threshold for increased fire and rescue services of 2500 calls per year would not be reached under any of the alternative scenarios evaluated.

Metro Station Comparison

The proposed scenarios achieve CBD levels of development on a net basis comparison and are comparable to other Metro station developments along the Metro Red Line in number of units and building heights. Staff compared the size, total amount of development, and FAR levels of neighboring stations and found that despite variables, redevelopment proposed at Shady Grove is comparable to CBD developments.

Shady Grove is comparable to and in some cases larger than many Metro station areas:

- Shady Grove Metro Neighborhoods 182 acres
- Rockville Town Center 60 acres (15 acres-1st phase)
- Twinbrook Planning Area 172 acres
- White Flint 200 acres
- Grosvenor Planning Area 247 acres
- Bethesda CBD 162 acres
- Friendship Heights CBD 37.5 acres

Metro West, under all three scenarios, is the most intensely developed of the Metro Neighborhoods. It is comparable to development levels at neighboring Metro stations. The following chart indicates that all the scenarios provide a comparably high number of dwelling units, and that Worksession 2 and Town Center 2 achieve mid-range levels of total development.

**Proposed Scenarios are Comparable With
Other Metro Station Areas**

Name	Land area (acres)	FAR	Building heights	Dwelling units	Commercial	Total development (millions)
Metro West Shady Grove	37.5	1.25 P H Draft	4-8	1,200	600,000 sf	1.8m sf
		1.25 Wksession2	4-12	1,435	614,900 sf	2.0m sf
		1.25/1.5 TC 2	4-12	1,550	664,500 sf	2.2m sf
Twinbrook Commons	16.32	1.9	4-14	1,114	140,000 sf	1.36m sf
LCOR White Flint	32.4	2.0	20	1,400	1.4m sf	2.8m sf
Rockville Town Center	60	1-6	4-19	700-1,200	1.9m sf	3.15m sf

Note: Dwelling units size is assumed at 1,000 square feet.

CBD/FAR Comparisons

Metro West and Metro South, with the highest densities in all scenarios, have development levels comparable to CBD-2/CBD-R2 and CBD-1 developments based upon net densities. In Metro West, approximately 37 percent of the gross lot area will be occupied with streets, park area, and bus facilities. Other Metro stations have existing public street networks to accommodate redevelopment. Since the existing roadway network is not in place, the net density on a block-by-block basis, is analogous to CBD developments.

Metro West Net Density Comparisons

- Public Hearing Draft 1.75 FAR
- Worksession 2 2 FAR
- Town Center 2 2.15 FAR
- CBD-2 development 2-5 FAR
- CBD-R2 development 1-5 FAR

Because a Red Line station comparison indicates that the development levels proposed for Shady Grove are comparable to a CBD-2 development level with net densities, staff continues to recommend the Public Hearing Draft or the Worksession 2 Draft.

Unit Mix and Urban Design

The three scenarios all provide a range of unit types intended to accommodate a range of incomes and households. Adding additional units increases the number of apartment units and shifts the balance of unit types.

There is a well-documented need for housing variety in the Planning Board's *Housing Montgomery* initiative, by the HOC, and by other County agencies. Workforce housing, family-sized units, and affordable units in particular are needed to serve the County. Decreasing housing diversity by creating a dominant unit type through increases in multi-family units is unwise.

Another way to achieve a mix of households is to ensure a range of unit sizes within multi-family units. This can be achieved by approving an FAR that is slightly higher than would typically be generated from the number of proposed dwelling units. For example, if the unit number was held to 5,000 but the FAR was allowed up to 1.5 in the core area, this would encourage family-sized units with three or even four bedrooms. Guidelines in the Plan's housing chapter support this approach.

Increasing Multi-family Units Decreases the Range of Housing in the Greater Shady Grove Area*

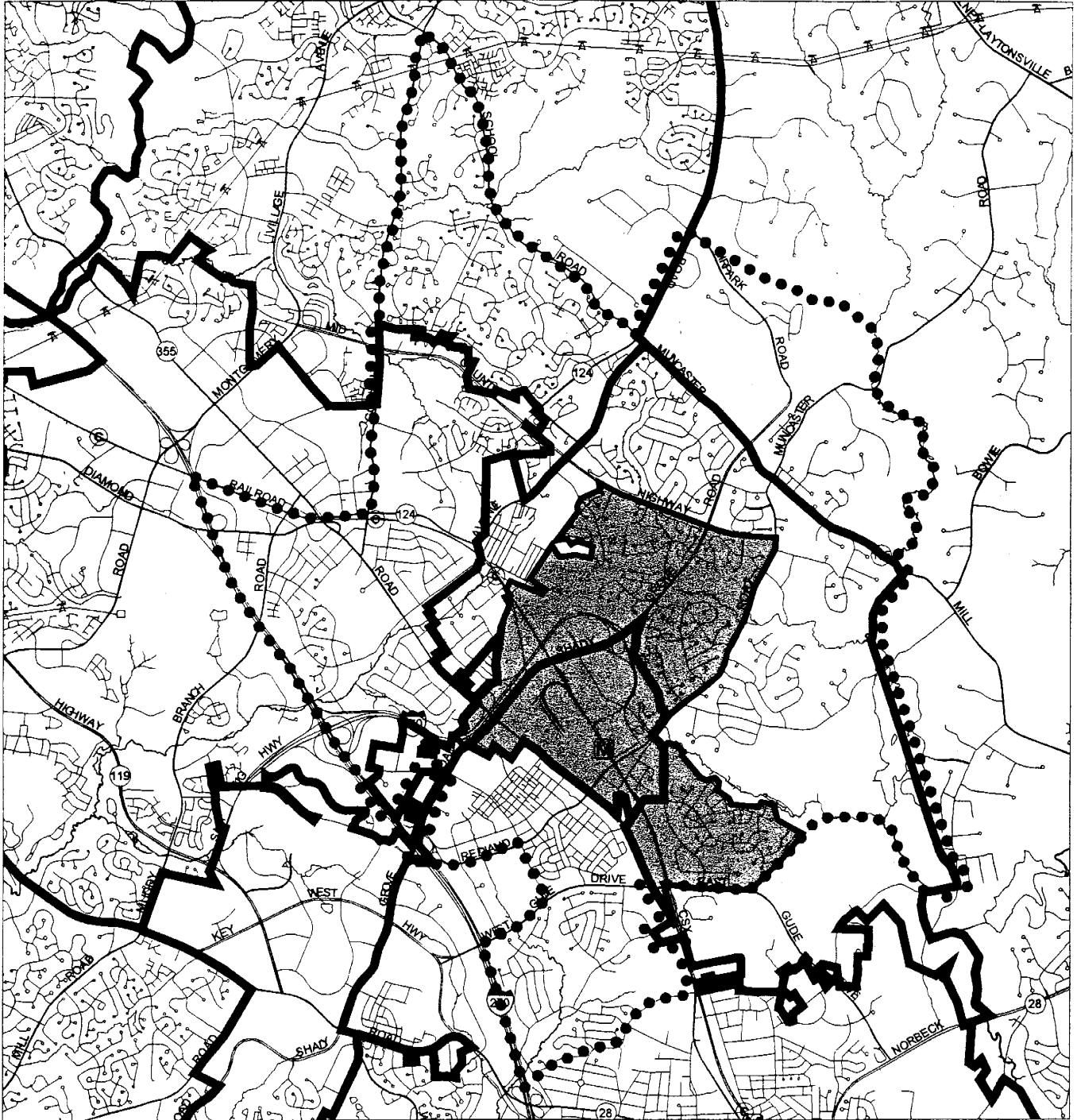
Scenarios	Multi-family Units		Townhouse Units		Single-Family Detached Units		Total Units
	Count	Percentage	Count	Percentage	Count	Percentage	
Public Hearing Draft (4,000 units)	10,424	40.0%	6,999	26.8%	8,665	33.2%	26,088
Worksession 2 Draft (4630 units)	11,054	41.3%	7,005	26.2%	8,671	32.4%	26,730
Town Center 2 Draft (5400 units)	11,818	43%	7,005	25.4%	8,671	31.5%	27,494


*See Greater Shady Grove Vicinity Map


Analysis shows that with more than 8,000 new units, the number of multi-family units exceeds 50 percent. In such a scenario, multi-family units would be experienced as the dominant unit type. Also, this number of units would result in the redevelopment of Old Derwood with apartments and townhouses to find space for this level of development.

Staff continues to recommend the proposed mix of unit types in the Public Hearing Draft or Worksession 2 Draft to offer a more balanced mix of household choices and avoid impacts upon existing communities.

Greater Shady Grove Vicinity



 Shady Grove Sector Plan Boundary

 Greater Shady Grove Vicinity



0 5280'

Potential New Housing Units from Development Options

The proposed new mixed-use zone will include an MPDU bonus. This bonus density has the potential to increase unit yield if developers take advantage of the provision. Also, the I-3 Zone recommended for properties in the Shady Grove Technology Corridor has a housing option that potentially yields up to 12.5 percent new units if MPDUs are provided. The potential increase in units is not factored into the scenario analysis because bonus density is optional.

The potential increase in units due to MPDU density bonuses and I-3 Zone housing options will further increase traffic congestion and take advantage of the reserve capacity in the elementary school. It will not result in additional ball fields because the incremental increase in population is not sufficient to generate additional recreation fields.

CONCLUSION

The Public Hearing Draft and Worksession 2 Draft offer the most acceptable level of traffic congestion, a student population that can be met with proposed new schools, a level of recreation demand that can be met within the planning area, and a balanced range of unit types.

The Town Center 2 and other scenarios that yield a higher number of units create an undesirable community in terms of traffic congestion, potentially over-crowded schools, crowded recreation facilities, and a limited range of unit types.