

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION
Montgomery County Department of Park and Planning

January 7, 2005

MEMORANDUM

TO: Montgomery County Planning Board

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Community-Based Planning Division

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SUBJECT: Work Session No. 2: Damascus Master Plan Transportation and
Connectivity, Parks and Trails, Legacy Open Space, and Environment

RECOMMENDATIONS

This is the second Work Session on the Damascus Master Plan. The items to be addressed in this Work Session include:

Item No. 1: Transportation and Connectivity

- Approve the Transportation recommendations

Item No. 2: Parks and Trails

- Approve Park, Trails, and Recreation recommendations
- Amend the Countywide Park Trails Plan as recommended

Item No. 3: Legacy Open Space

- Approve the Legacy Open Space Recommendations
- Amend the Legacy Open Space Master Plan as recommended

Item No. 4: Environment

- Approve the Environment Recommendations

INTRODUCTION

The tentative schedule for Damascus Work Sessions includes:

- Public Hearing November 4, 2004
- Work Session No. 1: December 23, 2004
Housing, Sewer, Schools and Community
Facilities, and Historic Preservation
- Work Session No. 2: January 13, 2005
Transportation and Connectivity, Parks and
Trails, Legacy Open Space
- Work Session No. 3: January 27, 2005
Town Center Land Use
- Work Session No. 4: February 17, 2005
Transitional Area Properties Land Use
- Work Session No. 5: March 10, 2005
Rural Area Land Use/Hamlets
Wrap-up and Transmit to County Council

STAFF RECOMMENDATIONS AND DISCUSSION

ITEM NO. 1: TRANSPORTATION AND CONNECTIVITY

Staff Recommended Planning Board Actions:

- Approve the Transportation recommendations

Staff Recommendations

The staff supports the transportation recommendations of the Plan, including the re-examination of traffic trends two years after the completion of Woodfield Road Extended to determine if an alternate commuter road (bypass) is warranted. In summary, the staff believes that the Plan provides adequate capacity for the 20-year timeframe of this Master Plan, but recognizes the need for resolution of longer term policy issues regarding the appropriate balance between local and regional transportation needs.

The major Transportation recommendations in this Plan include:

- Using context-based street design techniques to address safety and community character issues in the Town Center, and entry street segments of Ridge Road, Woodfield Road and Damascus Road.
- Retain the existing two-lane roadway network outside the Town Center to protect the rural and agricultural character of the area, and evaluate modifications to improve the efficiency of the network through operational, design, and classification changes.
- Confirm a Business District Street in the Town Center along the route formerly called Damascus Boulevard, designed to be a narrow street generally for local use.
- Remove two unbuilt primary residential roadways now considered not viable, and include a classification for several previously unclassified roadways reflecting their current function in the roadway network.
- Increase the recommended right-of-way for designated portions of Ridge Road from 80 feet to 100 feet to improve flexibility in future roadway design treatments.
- Support a thorough analysis of the potential for an alternate commuter route "Bypass" around Damascus, after the completion of Woodfield Road Extended.
- Support a multi-jurisdictional study of regional traffic issues in the near term.
- Improve connectivity of the *pedestrian system* through a network of sidewalks within the Town Center with extensions to key civic destinations in the Plan Area.
- Improve the *bikeway system* through a network of shared-use pathways oriented toward the Town Center and Magruder Branch Trail connecting to area parks and the county trail systems, and on-road cyclist accommodations along arterial roadways.
- Improve *transit access* by considering an additional park-and-ride lot north of the Town Center to intercept long distance commuters.

Discussion

Location in Master Plan: Transportation Chapter (Page 49)

Existing Master Plan Recommendations

The 1982 Master Plan, and the 1985 and 1993 Master Plan Amendments all addressed one major transportation issue: a dramatic increase in peak hour travel within the Damascus business area and vicinity. Although some operational road improvements in the business area were recommended in each plan, the potential need for an eventual bypass or other type of roadway to redirect through traffic from adjacent counties continues to be a primary transportation issue in the community.

The current Master Plan (which also incorporates the roadway functional classification changes made in the 1996 Rustic Roads Functional Master Plan) features the following elements. These elements provide the basis for most of the public hearing testimony:

- A specific recommendation to not build a Damascus Bypass.
- A network of Business District Streets within the Town Center, including portions of Ridge Road (MD 27) and Main Street (MD 108).
- A network consisting primarily of two-lane arterial roadways outside the Town Center. The sole exception to the two-lane network recommendation is Woodfield Road (MD 124) that the Plan recommends can be from two to five lanes wide, including its northern extension to Ridge Road.

Summary of Testimony at Public Hearing

Much of the Public Hearing testimony reflected the community concern that rising traffic congestion levels in Damascus were not sufficiently addressed in this Amendment process. Residents stated that although the current Plan recommendations focus on short-term congestion issues, traffic levels will continue to worsen in the future and the need for an alternate commuter route (bypass) should have been recommended in this Plan. Suggestions for alternate routes included:

- A two-lane road that extends Kings Valley Road across Bethesda Church Road to Ridge Road near the Woodfield Road Extended intersection.
- A "Limited Access Parkway" similar to the Alternate C alignment considered in the 1993 Master Plan Amendment.
- An improved road system along Clarksburg Road for commuters that would preserve the character and scale of the Damascus Community.

Some community residents were also concerned about the completion of the new Business District Street (B-2) that connects Ridge Road to Woodfield Road south of Main Street. The residents suggested that a road of this nature could potentially cause traffic issues, such as turning problems, shortened sight distance and the misalignment with New Church Street. Others believed that this street should also provide access to additional parking for Suntrust Bank and other businesses on Main Street.

Additional comments focused on safety, resident parking and traffic signal installation issues that should be addressed after Valley Park Drive is completed. Concerns were also expressed that the Plan should recommend additional sidewalks along portions of Kings Valley Road and Woodfield Road.

State Highway Administration Comments

The Maryland State Highway Administration (SHA) submitted comments on the Draft Plan in a December 23, 2004 letter included as Attachment 1. The SHA

correspondence raises two substantive concerns that conflict with the Draft Plan recommendations:

- SHA has identified the need to widen both MD 27 and MD 124 in their statewide Highway Needs Inventory
- The M-NCPPC should consider preserving right-of-way for a future Damascus bypass.

The conflict between the state Highway Needs Inventory and the county plans are not new and also occur in other planning areas.

At the time of this memo production, staff has not yet received detailed comments on the transportation recommendations from the County Executive, but understands that the Department of Public Works and Transportation (DPWT) generally shares the interests and concerns of SHA. The staff response to these comments is incorporated in the analysis sections below.

Staff Analysis

The staff analysis described below addresses the testimony in the following categories:

- A. Through traffic Recommendations
- B. Ridge Road and Woodfield Road Improvements and Capacity
- C. Valley Park Drive Completion
- D. Damascus Lane
- E. Sidewalk Extensions

A. Through Traffic Recommendations

The transportation element of this Plan provides a balance between land use and transportation consistent with the county's master planning practices during the past two decades. The historic development of the roadway network plan provides a useful context for understanding the current recommendations. This discussion reviews the three analytic studies that led to the Plan recommendations:

- The alternative roadway network analysis conducted for the 1982 Plan
- The Damascus "Bypass" analysis conducted for the 1993 Plan
- The roadway network adequacy analysis conducted for the current Plan

1982 Plan

The 1982 Plan included a discussion and comparison of a series of bypass alignments. The need for an alternate route around the business area was first recommended in the 1966 Master Plan. By 1982, the Damascus population had not grown as expected and it was evident that congestion levels did not warrant a bypass route. Instead, the Master Plan recommended selected widening of existing roads and a series of road improvements to the business area. It also indicated that a bypass could be necessary at some point in the future. In light of that decision, four road alternatives, outlined below, were evaluated to relieve traffic pressures along the major arterials.

| Road Alternatives | Description | Planning Board Comments |
|-------------------|--|--|
| Alternative 1 | A bypass of the town to the west, and an extension of Woodfield Road to MD 27 at Faith Lane. | <i>Bypass not recommended</i> due to environmental constraints, encroachment on Agriculture Reserve, and because traffic congestion would not be fully relieved by a western bypass. Woodfield Road extension recommended. |
| Alternative 2 | Widening MD 27 to a 4-lane divided highway from Kings Valley Road north to Claggettsville. | <i>Not recommended</i> , and noted that it should not be considered until traffic load indicated substantial need for additional capacity. |
| Alternative 3 | Rebuilding MD 27 as a divided highway, building a new Magruder Branch crossover, and improving or widening Woodfield Rd. north of the crossover. Completing Woodfield Road extended. | <i>Only extension of Woodfield to MD 27 north recommended</i> , determined that through traffic would be distributed in the business area over two routes, thereby reducing congestion. |
| Alternative 4 | Alternative 3 and widening Route 27 as a divided highway north of Faith Lane. | <i>Not recommended</i> , although this alternative reflects the 1980 State Highway Administration's 20-year needs inventory listing of MD 27. |

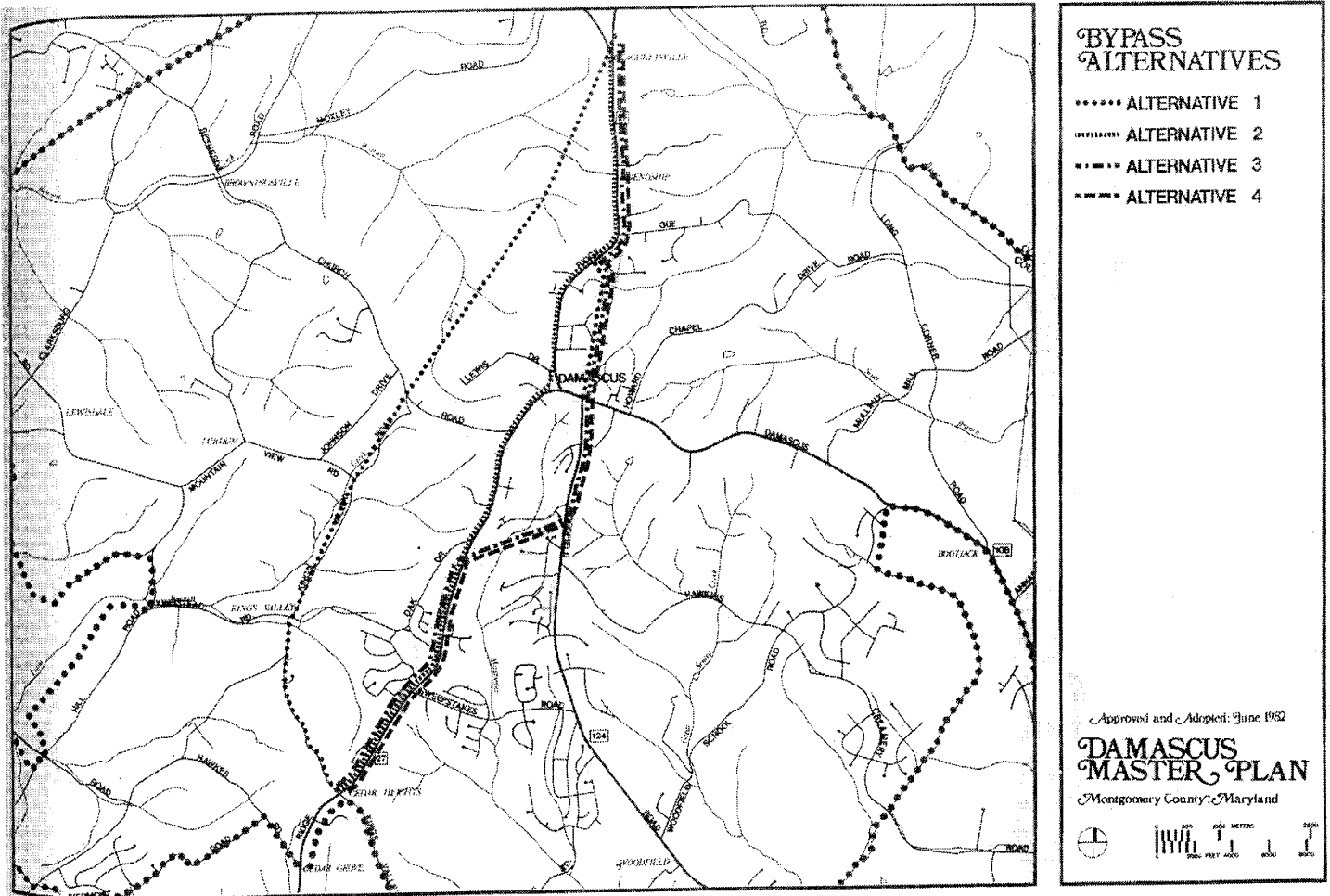
The Planning Board did not endorse Alternatives 1 and 2 because of the potential environmental impacts to numerous stream valleys and steep slopes. Also, the Agriculture Reserve would be greatly impacted as the desire lines for the alignments pass through important natural and agricultural resources – and the Rural Density Transfer Zone. *Ultimately, the 1982 Plan removed the eastern bypass indicated in the 1966 Plan, and no alternate bypass route was recommended.* The Plan retained the two-lane arterial classification for most of MD 27, only the southernmost section, from Oak Drive to Cedar Grove, was classified as a four-lane to six-lane major highway; and it recommended a two-lane to five-lane arterial classification for MD 124.

1993 Plan

In 1988, SHA conducted a feasibility study of a highway bypass around Damascus which concluded that by 2010 expected increases in traffic (primarily from outside the county) would burden the existing and programmed roadway networks. The SHA study recommended that the M-NCPPC revise the Damascus Master Plan to identify a bypass alignment for reservation purposes. The Planning Board requested a detailed study of the alignments proposed in this study for the 1993 Master Plan Amendment.

For the 1993 Master Plan Amendment, consultants, Rummel, Klepper and Kahl, conducted the first in depth look at the bypass issue. The study evaluated six alignments, which were ultimately narrowed down to three alternatives by the Planning Board for further study to address four specific areas of concern:

**FIGURE 1:
1982 Damascus Bypass Alternatives**



- How would the impact of the alternate routes affect the character of the Damascus community?
- Would the natural environment be negatively impacted?
- Would the cost of building a new road be feasible?
- How would the impact of through traffic affect the Damascus?

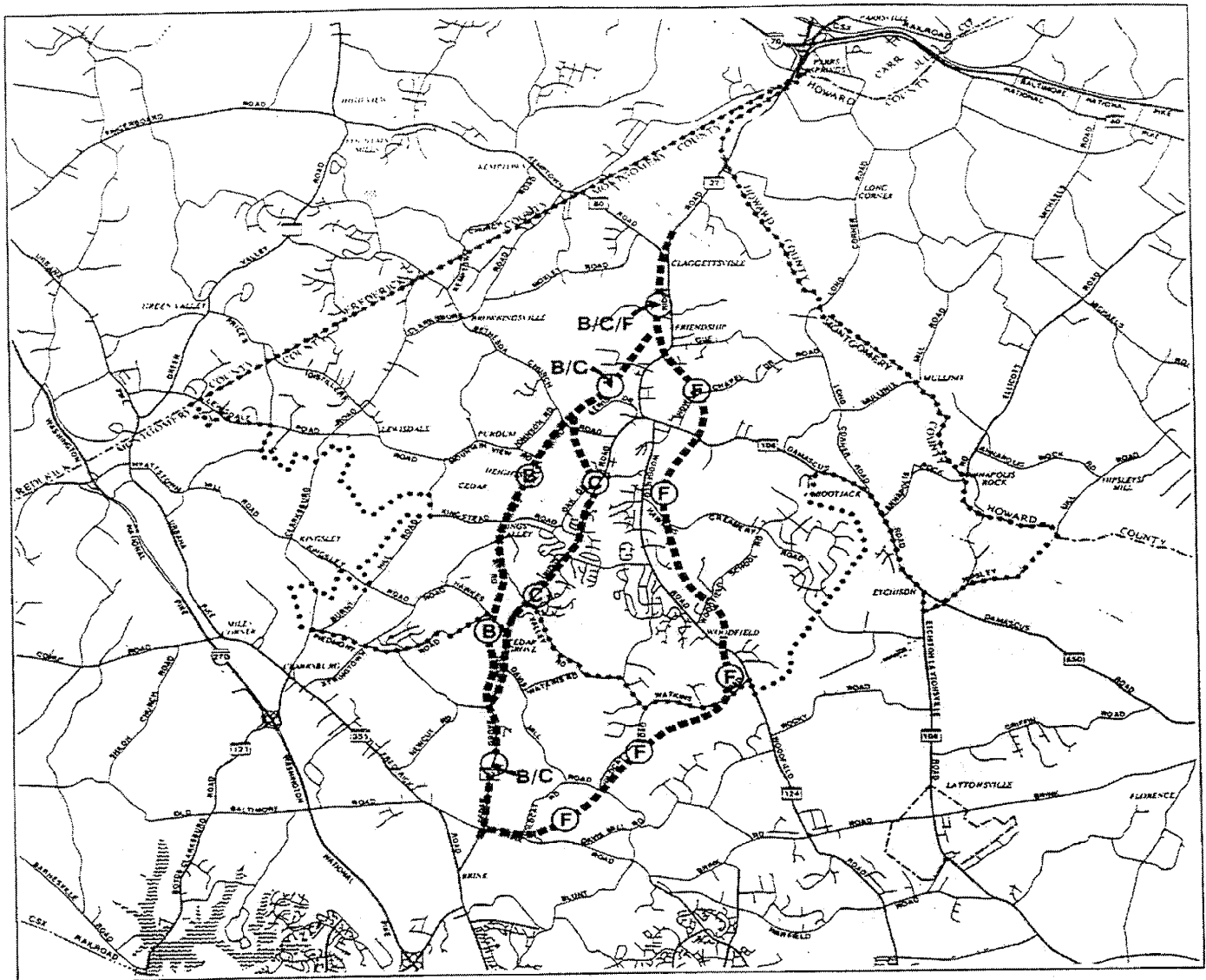
The final alternatives reviewed included:

| Road Alternatives | Description | Research Comments |
|--------------------------|---|---|
| Alternate B | A western bypass that would extend north from Skylark Road, follow the Kings Valley Road alignment, continue northward across Bethesda Church Road, and tie into Route 27 near Route 80. | Environmental concerns relate to Ovid Hazen Wells Park, wetlands and floodplains along Bennett Creek. |
| Alternate C | A western bypass similar to Alternate B but with Route 27 made a six-lane divided highway from the south to Oak Drive as a two-lane highway to the northwest to meet Alternate B at the Kings Valley/Bethesda Church Road intersection. | Same Bennett Creek concerns as with Alternate B, plus up to 35 building displacements would be needed associated largely with MD 27 widening. |
| Alternate F | Beginning at Brink Road and running to the east of Route 124 and north towards Route 27 to Route 80. | The alignment would pass through the Agriculture Reserve, the Patuxent Watershed, and the Goshen-Woodfield-Cedar Grove area. |

The consultants concluded that if a bypass were to be considered, Alternate C would have the least overall impact and was the most appropriate route. The northern section of this alternate passed primarily through the Rural Density Transfer Zone and in its southern section replaced much of the existing MD 27 with a six-lane highway. Although Alternate C was found to be the least intensive, the evaluation concluded that the “linear residential neighborhood” that would have to be displaced along Ridge Road is an important part of what makes Damascus a separate and unique “rural community”, as described in the 1982 Plan. It was also noted that if a bypass of this nature were considered, compliance with federal and state environmental regulations and permits for construction in environmentally sensitive areas could be problematic.

Ultimately, the 1993 Plan Amendment concluded that providing additional transportation capacity to primarily serve through travelers would be inconsistent with county priorities for the environmental and community resources in Damascus and the surrounding rural communities. The Planning Board and County Council both concluded that no bypass should be included in the Damascus Master Plan. It generally retained the roadway network from the 1982 Plan, except that a short portion of MD 27 classified as a four-to-six lane major highway was reclassified as a two-lane arterial.

**FIGURE 2:
1993 Damascus Bypass Alternate Alignments**



DAMASCUS

**BYPASS
ALTERNATE ALIGNMENTS**

----- ALIGNMENTS B (MODIFIED), C, & F

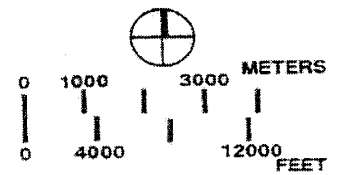


Figure 6

DAMASCUS Master Plan Amendment / Montgomery County, Maryland

Current Plan

The current Plan analysis considered the effect of retaining the basic two-lane roadway network in the Damascus Master Plan, the effect of implementing limited capacity enhancements by providing turning lanes at critical intersections, and the effect of widening MD 27 and MD 124. Since the concerns that led to the “no-build” recommendation in the 1993 Amendment remain valid, and Woodfield Road Extended had not been completed (although it is soon to begin construction), no bypass study was contemplated for this Plan.

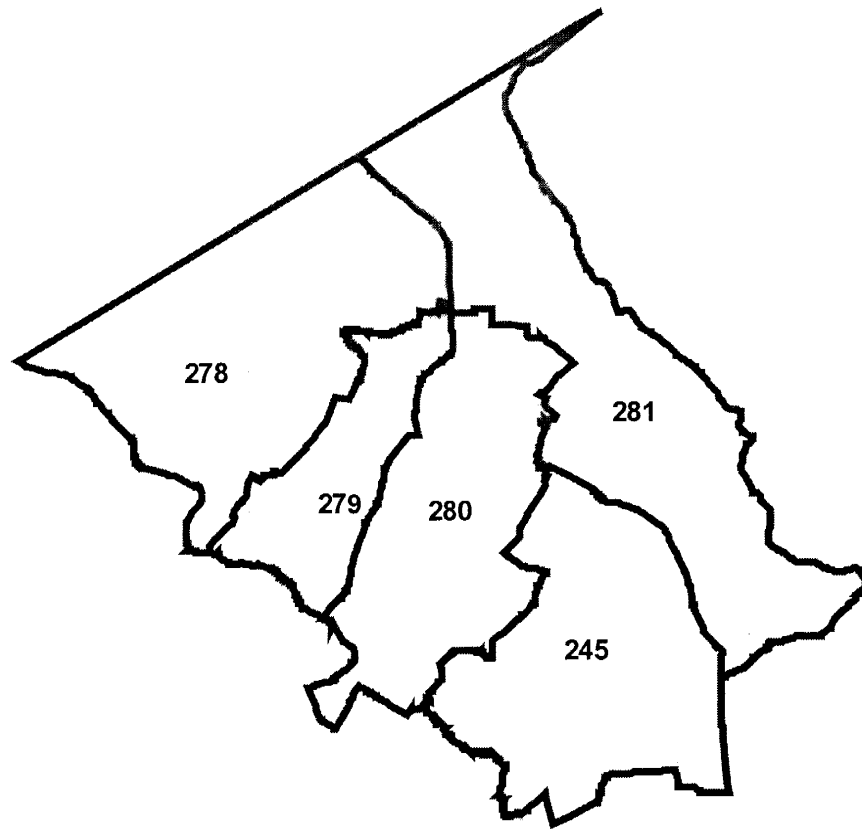
Average Congestion Index

For Master Plans conducted during the past several years, the primary determinant of transportation system adequacy is a tool called the Average Congestion Index (ACI). The ACI is a tool that has been applied as part of the county’s Policy Area Transportation Review to determine development staging ceilings as part of the Annual Growth Policy. The ACI is a measure of average roadway congestion on roadway links within each of the county’s 27 policy areas. The ACI is calculated as the average volume-to-capacity experienced by all peak hour traffic, weighted by vehicle-miles of travel. The ACI is sensitive to the addition of major pieces of transportation infrastructure such as new or widened freeways and arterial highways and grade-separated interchanges. The ACI is not sensitive to individual intersection improvements such as the addition of turning lanes.

This review of policy areas was part of the Annual Growth Policy (AGP) beginning in 1982. During that time, the ACI has also been used in the development of master plans to determine whether or not the end-state land use and transportation recommendations of the master plan are “in balance”. The FY 2005 AGP eliminated the use of Policy Area Review (and therefore ACI) from the development review process. Planning Board and County Council staff believe the tool remains useful in assessing Master Plan transportation adequacy.

The Damascus Master Plan area consists of five Transportation Analysis Zones (TAZ) shown in Figure 3. The Damascus Policy Area is defined as the two TAZs labeled 279 and 280, incorporating the Damascus Town Center and most of the adjacent residential development. The remaining three TAZs are in the Goshen Policy Area, one of the County’s five rural policy areas where ACI standards were not assigned as the land use was controlled by zoning and water and sewer constraints rather than transportation constraints. The ACI standard for the Damascus Policy Area is an ACI of 0.57. Currently, the observed ACI is better than the standard, at 0.48. *The forecast year 2025 ACI is, at 0.57, equal to the ACI standard.*

**FIGURE 3:
DAMASCUS TRANSPORTATION ANALYSIS ZONES**



** The Damascus Policy Area consists of TAZ 279 and 280*

The staff recognizes that the ACI is not the sole determinant of transportation system adequacy. Typically, transportation system performance is constrained at roadway intersections rather than links, and the performance is evaluated during the development review process using the Critical Lane Volume (CLV) technique described in the Planning Board's Local Area Transportation Review (LATR) guidelines.

Table 1 provides a comparison of the existing and forecasted year 2025 intersection CLV values for 14 intersections staff analyzed as part of the Damascus Master Plan effort. For each intersection, the corresponding CLV standard is listed. Intersections within the Damascus Policy Area have a CLV standard of 1450; intersections in the rural policy areas have a CLV standard of 1400. Locations where intersections fail to meet the CLV standard are listed in bold text.

Table 1. Intersection Critical Lane Volumes

Damascus Master Plan
Comparison of Existing and 2025 Forecast Intersection Congestion

| | Congestion Standard | Existing | | 2025 Baseline | | 2025 With improvements | |
|--|---------------------|----------|-------------|---------------|-------------|------------------------|------|
| | | AM | PM | AM | PM | AM | PM |
| Ridge (MD 27) at Main (MD 108) | 1450 | 892 | 909 | 674 | 641 | | |
| Woodfield (MD 124) at Main (MD 108) | 1450 | 677 | 910 | 885 | 1087 | | |
| Main (MD 108) at Howard Chapel | 1450 | 382 | 486 | 623 | 834 | | |
| Ridge (MD 27) at Woodfield Extended | 1450 | | | 1138 | 1305 | | |
| Ridge (MD 27) at Kemptown (MD 80) | 1400 | 1203 | 1410 | 1547 | 1816 | 1384 | 1137 |
| Ridge (MD 27) at Bethesda Church | 1450 | 1129 | 1308 | 1340 | 1560 | 1340 | 1436 |
| Woodfield (MD 124) at Bethesda Church | 1450 | 822 | 1119 | 1217 | 1702 | 892 | 1067 |
| Woodfield (MD 124) at Valley Park | 1450 | 584 | 826 | 1193 | 1509 | 844 | 1215 |
| Ridge (MD 27) at Sweepstakes | 1450 | 1332 | 1411 | 1605 | 1722 | 1489 | 1360 |
| Woodfield (MD 124) at Sweepstakes | 1450 | 1128 | 1076 | 1633 | 1498 | 1292 | 1388 |
| Woodfield (MD 124) at Hawkins Creamery | 1450 | 624 | 957 | 959 | 1459 | 845 | 1338 |
| Damascus (MD 650) at Laytonsville (MD 108) | 1400 | 677 | 659 | 1056 | 1038 | | |
| Ridge (MD 27) at Valley Park / Oak | 1450 | 1056 | 1061 | 1276 | 1392 | | |
| Ridge (MD 27) at Oak (south) | 1450 | 1213 | 1151 | 1492 | 1422 | 1340 | 1278 |

The two columns under the “existing” heading provide current morning and evening peak hour CLV values. Currently, only the intersection of Ridge Road (MD 27) and Kemptown Road (MD 80) fails to meet current congestion standards.

The two columns under the heading “2025 Baseline” describe forecast conditions with year 2025 traffic volumes and those transportation system improvements planned to be in place by 2025, most notably the completion of Woodfield Road Extended and Valley Park Drive Extended. Other than these improvements, the “baseline” scenario presumes that no additional turn lanes are constructed at the intersections studied. As indicated by the bold text, eight of the 14 intersections are forecasted to fail to meet congestion standards in the 2025 baseline scenario.

The two columns under the heading “2025 With Improvements” describe forecast conditions with additional turning lanes assumed at those intersections, which failed to meet congestion standards in the baseline scenario. In each case, the turning lanes are limited to a single lane per movement (such as the addition of a single right-turn lane or a left-turn lane). Because the proposed roadway system is essentially a network of two-lane roadways, no “dual” turn lanes are considered in Table 1.

As indicated in Table 1, the addition of independent left turn and right turn lanes can have a substantial effect on intersection CLV. The addition of turning lanes is forecasted to satisfactorily address failing traffic conditions at all but one location. The intersection of Ridge Road (MD 27) and Sweepstakes Road is forecast to have a year 2025 CLV of 1489, slightly higher than the 1450 congestion standard, even if single lanes are provided for all critical turning movements.

The Plan supports evaluation and implementation of turn lanes and operational improvements on a case-by-case basis; and it does not explicitly recommend or preclude any specific improvements. For two reasons Master Plans typically do not recommend individual intersection improvements such as turn lanes to achieve current LATR congestion standards. First, the intersection forecasting methodology used is most appropriate for identifying short-term, localized improvements rather than programming 20-year needs on an intersection-specific basis. The evaluation, design, and implementation of individual turn lanes will be implemented during the next several years during either the LATR review of development proposals or specific State or County improvement studies. Second, changes to the congestion standards could be adopted during the Master Plan time frame. The most recent change to the congestion standards became effective July 1, 2004, when both the Damascus Policy Area standards and Rural Policy Area standards were reduced by 50 CLV.

The Plan supports a reliance on the existing network of two-lane roadways, with certain turning improvements. The Plan also supports alternative routes to MD 27 and MD 124, such as Clarksburg Road, Bethesda Church Road, Long Corner Road, and Annapolis Rock Road.

Testimony included a suggestion to construct an extension of Kings Valley Road northward from Bethesda Church Road to MD 27 at Woodfield Road Extended. This proposal would require a new crossing of Bennett Creek headwaters. *The staff maintains that local road connections with substantial stream-valley crossings are not likely to be among the county's funding priorities; a fact that has influenced the removal or realignment of several primary residential roads in recent or pending Master Plan amendments.* These include Willowbrook Drive (Potomac), Cherry Valley Drive Extended (Upper Rock Creek/Olney), Appomattox Avenue (Olney), and "P-2" in the Damascus Town Center. Such a proposed roadway would provide desirable local connectivity as a primary residential street but would only be cost-effective if incorporated into a broader program of geometric improvements and reclassification of Kings Valley Road as a de-facto bypass for longer distance trips.

The staff remains committed to developing this Plan without consideration of a Damascus Bypass, for the reasons described above and in the Purpose and Outreach Strategy Report. The staff believes the transportation improvements recommended in the Plan are consistent with County policies on land use and public facility adequacy. To address this concern, the Plan recommends, that two years after the completion of Woodfield Road Extended, the M-NCPPC will begin an evaluation of current traffic conditions and work with the community to determine whether a Master Plan Amendment process is warranted to evaluate the need for a bypass type road.

B. Ridge Road (MD 27) and Woodfield Road (MD 124) Improvements and Capacity

As described above, the staff concludes that the overall transportation system, with recommended improvements, is adequate to support the proposed land uses throughout the twenty-year Master Plan timeframe. The staff forecasts that through the year 2025, the addition of turning lanes will be sufficient to accommodate forecasted traffic growth on the two-lane master planned roadway network.

The staff recognizes that traffic volumes and congestion are forecast to increase during the Plan timeframe, resulting in a forecast year 2025 Average Congestion Index (ACI) of 0.57, equal to the most recent congestion standard for the Damascus Policy Area (as noted above, Policy Area Transportation Review is no longer county policy, yet staff finds the tools useful for master plan development). The lack of “wobble room” in this forecast implies that substandard transportation conditions could result from continued development within Damascus beyond the twenty-year Master Plan timeframe or an accelerated rate of development either within Damascus or in adjacent planning areas including Howard, Frederick, and Carroll Counties.

During the development of the Master Plan recommendations, the staff considered the benefits and impacts of potential widening along both Ridge Road (MD 27) and Woodfield Road (MD 124). Widening either of these roadways from a two-lane roadway to a four-lane divided roadway would result in three fundamental changes:

- Adverse impact on adjacent properties
- An increase in through traffic resulting from latent demand
- A positive effect on the average congestion index

Currently, both MD 27 and MD 124 are classified as Business District Streets within the Damascus Town Center and as Arterial (or County Arterial) roadways outside the Town Center. This classification scheme dates to the 1982 Damascus Master Plan and was confirmed in the 1993 Master Plan Amendment. Many state highways are classified as Major Highways, recognizing their primary function to carry through traffic. The use of the Arterial and Business Street classifications in the Damascus plan area recognizes that while these roads carry through traffic, their primary intended function is integral to the local land uses within the Town Center and its adjacent, historic, linear development patterns. For this reason the staff believes that the 1993 Plan functional classifications remain appropriate.

The 1993 Damascus Plan recommends that Ridge Road (MD 27) remain a two-lane roadway outside the Town Center within an 80' recommended right-of-way. It also recommends that Woodfield Road (MD 124) and Woodfield Road Extended could be widened up to five lanes (two lanes in each direction plus a center left turn lane). *The current Plan removes that recommendation and instead recommends that MD 124 remain a two-lane road*

From a safety perspective, undivided multi-lane roadways are significantly less safe than either two-lane undivided or four-lane divided roadways. SHA statewide data indicate that four-lane and five-lane undivided roadways have crash rates (number of vehicle crashes divided by vehicle miles of travel) about 2.4 times that of two-lane undivided roadways.

From a design perspective, a four-lane undivided roadway with poor access control (such as individual driveways for each property) provides the motorist with an unclear sense of whether either travel lane is for turning or through travel. Adding a center turn lane to create a five-lane undivided roadway provides some clarity of purpose for left turn movements and reduces fatal crash rates (by separating through traffic and reducing the odds of a head-on collision). A five-lane undivided roadway does not substantially improve overall safety as the sharing of left-turn movements in the common lane results in low-speed crashes at a rate similar to that of a four-lane undivided roadway.

Also from a design perspective, a five-lane roadway in an 80' right-of-way would require either narrower lane widths or a reduction in the area available for sidewalks, bike paths, and landscape panels. The staff considers this may be an acceptable trade-off in the small town setting of Damascus, as narrower lanes themselves will generally slow travel speeds. In some cases, such as semi-urbanized settings, such designs provide the best available solution. In general, though, the County is moving away from 4-lane and 5-lane undivided designs in suburban settings.

For the reasons outlined above, staff does not support further consideration of either a four-lane or five-lane undivided roadway as a uniform treatment along MD 124, although including turning lanes at selected segments is supported. If total widening to four-lanes were ever to be pursued along either MD 27 or MD 124, the staff would recommend a minimum 100' wide right-of-way to provide a divided roadway.

As noted elsewhere, widening MD 27 or MD 124 to a divided roadway would have adverse effects on adjacent properties, but the direct impacts would be greater along MD 124 as existing development along MD 124 is generally located closer to the roadway than development along MD 27. The staff estimates that expanding the recommended right-of-way from 80' to 100' outside the Town Center would result in setback violations for approximately 6% of the parcels along MD 27, but for approximately 15% of the parcels along MD 124.

Because MD 27 is the most direct "desire line" to I-270 for both local and through travel, widening MD 124 would not eliminate traffic congestion on MD 27. The staff estimates that average daily traffic volumes on MD 27 will be higher in the year 2025 than they are today, regardless of whether or not MD 124 is widened. Currently, MD 27 has an average daily traffic (ADT) volume of 20,700 vehicles between Oak Drive and Sweepstakes Road. Staff estimates that the ADT on a two-lane MD 27 will increase to 23,600 by 2025 even if MD 124 is widened to four lanes (compared with an ADT of 24,400 if MD 124 is retained as a two-lane roadway).

Table 2 presents existing and forecast year 2025 total vehicle miles of travel (VMT) and Average Congestion Index (ACI) results for the Damascus Policy Area, considering both MD 27 as either a two-lane or a four-lane roadway.

Table 2. Effect of Widening MD 27 on Transportation Performance

| Scenario | Damascus Policy Area Peak Hour Vehicle Miles of Travel (VMT) | Damascus Policy Area Average Congestion Index (ACI) (0.57 = standard) |
|---------------------------|--|---|
| Current | 9,200 | 0.48 |
| 2025 with two-lane MD 27 | 12,400 | 0.57 |
| 2025 with four-lane MD 27 | 15,000 | 0.55 |

As indicated in Table 2, widening MD 27 from two lanes to four lanes throughout the Damascus Plan area would be expected to improve accessibility through Damascus between Clarksburg and Carroll County (including Frederick County commuters). This improved accessibility would result in increased travel demand along MD 27, due to both shifting of traffic from alternate routes such as Clarksburg Road and MD 108 as well as a change in trip distribution. Even with the increase in total VMT, the average congestion index would be reduced.

The travel demand forecasting process incorporates and reflects the phenomenon that travel behavior is capacity-constrained. This phenomenon is described by several closely related terms, including “induced travel” or “latent demand” and is summarized in the cliché “if you build it they will come”. In the travel demand forecasting process, the latent demand is addressed by a speed-feedback loop, which adjusts trip distribution, mode split, and trip assignment to reflect changing system options.

A primary question to be addressed is whether or not increasing accessibility is consistent with the county’s broader policy goals. For many roadway projects, particularly those in the I-270 Corridor or the suburban ring, serving latent demand with increased capacity is part of the county’s objective. In the county’s Agricultural Reserve, the prevailing county policy is to preserve natural resources even at the expense of potentially limiting accessibility. The county’s policies favoring preservation over accessibility in the Reserve are mirrored by the Maryland’s Smart Growth initiatives that foster growth in Priority Funding Areas (PFAs). In fact, the State Highway Administration notes in their December 23 correspondence that, should a Damascus bypass outside the PFA be pursued as part of future local plans, state funds may not be available to construct the bypass.

The staff recognizes the concerns expressed to implement operational improvements along MD 27 and MD 124 as well as to preserve the long-term ability to increase the capacity for travel through Damascus beyond the timeframe of the Master Plan. *To address these concerns, the Plan recommends increasing the recommended right-of-way along MD 27 outside the Town Center from 80’ to 100’.* The impact of this recommendation would only be directly evident should redevelopment occur along the road. It would facilitate implementation of Plan recommendations for sidewalks, bike

paths, turn lanes, and landscaping features. Should redevelopment occur, the wider right-of-way recommendation would provide additional flexibility for future Plan amendments to consider capacity increases along these roadways. Even with the 100' right-of-way proposed outside the Town Center in this Plan, a subsequent Master Plan Amendment would be needed to authorize widening MD 27 to four lanes.

C. Valley Park Drive Completion

The staff supports the need for recommendations of the Plan to improve safety and access improvements on Valley Park Drive. The staff does not support the implementation of speed humps on this arterial road. The Plan supports the need for slower vehicular speeds on Valley Park Drive and other streets within the Master Plan boundary by improving context-based roadway designs such as visual cues, narrower travel lanes and street trees to enhance the pedestrian and bicycle environment. (P. 58).

The portion of Valley Park Drive already constructed generally consists of a 26-foot wide pavement and 5-foot wide sidewalks. Due to its narrow pavement width, on-street parking is not allowed along this roadway. The Plan recommends establishment of an off-road shared use (Class I) bicycle path along Valley Park Drive to provide an east-west connection between the Magruder Branch Trail and activity centers along MD 27 (such as the Damascus Recreation Center) and MD 124 (such as Woodfield Elementary School).

D. Damascus Lane

The staff supports the completion of a new Town Center Business District Street (B-2). This street was in the 1966 Plan, and partially built. It was removed in the 1982 Plan due to environmental concerns, but was re-included as "Damascus Boulevard" in the 1993 Plan at the request of the Montgomery County Department of Housing and Community Development. They believed that the road would greatly benefit pedestrian and vehicular circulation within the business area. It was included as a "non-standard" business street with a 40-foot ROW that would provide the desired benefits without excessive grading and impact to the Magruder Branch headwaters. It was also felt that completing this road would alleviate the problems of dumping that had emerged in the area, which would benefit Magruder Branch.

This Plan also supports a Business District Street at this location. It is to be a lane, not a "boulevard", and to provide access to the underutilized areas behind the buildings on the south side of Main Street. It is proposed to serve as an access point for the Magruder Branch Trailhead Park and provide an on-road bikeway. The Plan specifically notes that this street should be designed not as a thoroughfare, but as a lane that would ensure slower, safer travel speeds. And to minimize environmental impacts, the street is not envisioned to include on-street parking.

Some testimony indicated concern with the intersection of this road with Woodfield Road. The staff finds that the planned T-intersection of B-2 with Woodfield Road is appropriate. The offset along Woodfield Road between B-2 and the Damascus United Methodist Church entrance and parking lot (known as New Church Street, but not a

public street) is not a fatal flaw. The Town Center Plan envisions the Magruder Branch Trail crossing Damascus Lane and continuing north to Main Street giving both roadways some potential trailhead value.

E. Sidewalk Extensions

The Plan recommends a network of sidewalks and bike paths that foster connections to the Town Center and the Countywide Park Trails system. These sidewalk recommendations are intended to provide policy guidance to implementing agencies that the safety and accessibility value of sidewalks in these locations outweighs concerns regarding rural roadway ambience. The Plan does not explicitly recommend sidewalks along either Kings Valley Road or the portion of Woodfield Road south of Woodfield Elementary School due to the lower density of adjacent land uses and the relative distance from the Town Center. An explicit plan recommendation is not required for sidewalk implementation along Primary and Arterial roadways, and civic requests for sidewalks elsewhere in the Plan area would still be considered by the County on a case-by-case basis.

Alternative Scenarios – Implications and Consequences

The staff considered two primary, yet related, alternative transportation scenarios in response to testimony:

- Study of comprehensive widening of portions of MD 27 and MD 124
- Study of a Damascus Bypass

As described in the analysis sections above, the staff considered the relative value of widening MD 27 and MD 124 and concluded that widening the extent of MD 124 in the Plan area would result in either an undesirably narrow roadway design or unacceptable impacts to the linear development pattern along its edges. The MD 27 widening would have fewer impacts, yet would result in additional through traffic volume with a fairly limited effect on overall roadway congestion.

The staff did not conduct an analysis of the Damascus Bypass, based upon the direction established in the Plan's Purpose and Outreach Strategy Report. The Plan recommends a study of the Bypass options after the completion of Woodfield Extended, as well as inter-jurisdictional study and coordination to address future land use and transportation planning in conjunction with Carroll, Frederick, and Howard Counties. These studies could investigate alternative roadways, including new bypass alignments or comprehensive programs of spot safety and capacity improvements along local roads. Studies of this type require two to three years to complete.

ITEM NO. 2: PARKS AND TRAILS

Staff Recommended Planning Board Actions:

- **Approve the Park and Trail recommendations**
- **Amend the Countywide Park Trails Plan to reflect the recommendations of this Plan.**

The staff supports the major park recommendations to provide additional active recreation activities for the community at existing parks, to convert any surplus school site(s) into parks, and to improve east-west trail connectivity throughout the Planning Area. The Parks and Trails recommendations in this Plan include:

- Develop or improve facilities at Seneca Springs Local Park, Woodfield Local Park, Damascus Recreational Park, and completing the Magruder Branch trail northward to a terminus in the Town Center and provide a Trailhead Park. Also add designated properties in the Little Bennett Creek Watershed Headwaters and the stream valley of the Western Tributary of Seneca Creek as parkland.
- Amend the Countywide Park Trail Plan to reflect the east-west natural surface trail corridor being added to link the Seneca Trail to the west to the Little Bennett Trail system to the east, and provide a sidewalk or bike path along Valley Park Drive including access to the Magruder Branch trail and special treatment at the Ridge Road intersection to ensure safety.
- Protect designated properties as Natural Resource sites through parkland acquisition (in the Little Bennett watershed) and easements (in the Bennett Creek Headwaters and Upper Patuxent River Forest Area).

Discussion

Location in Master Plan: Community Facilities Chapter (Page 71)

Existing Master Plan Recommendation

The 1982 Damascus Master Plan recommendations focused on addressing the recreation needs of the Damascus population by fully developing existing undeveloped local recreation sites. Since the population growth was not expected to reach the anticipated levels suggested by the 1966 Master Plan, it recommended that existing resources be directed towards improving undeveloped sites (either existing undeveloped park sites or surplus school sites) that were more likely to address the local recreation needs of the community. Park sites such as Moyer Road Park and Damascus Regional Park were recommended to be further developed into recreation sites.

Trail connectivity to major activity centers such as the Damascus Town Center, Damascus Regional Park, Moyer Local Park and Oak Ridge Conservation Park were also emphasized in the 1982 Plan. The 1994 Master Plan Amendment did not address park issues.

The 1998 Park Recreation and Open Space Master Plan recommended that by 2010, the community of Damascus would need an additional three ballfields, two tennis courts, and six playgrounds, with more facilities needed after that date. The goal of that Plan was to provide recommendations on the demand for recreation facilities and programs within the County's park system.

The 1998 Countywide Park Trails Plan guides trail planning in the County and identified Damascus within the Upcounty Trail Corridor where the plan objective is to provide a hard surface recreational trail to serve the existing and future residents of Germantown, Clarksburg and Damascus. The Countywide Park Trails Plan distinguishes between hard surface trails (such as the Magruder Branch asphalt and boardwalk trail) and natural surface trails (typically narrow tread and dirt surfaces).

Summary of Testimony at Public Hearing

There were no outstanding issues in the Public Hearing testimony regarding the Park and Trails recommendations of the Plan.

Staff Analysis

The Parkland, Trails and Recreation goals of this Plan provide a network of local and countywide parks that offer recreational activities, support an interconnected trail system, protect important natural features, and create attractive settings for cultural and historical resources. In accomplishing that goal, the staff analysis focused on the following major issues:

- Providing adequate recreation opportunities on a local level for the community of Damascus.
- Preserving important natural resource areas, including Legacy Open Space sites.
- Providing greenway trail corridors that could improve trail connectivity between the Potomac and the Patuxent Rivers.
- Identifying historical and cultural sites that should be preserved as park features.

A. Parks and Recreation Recommendations

A future recreation needs survey was completed in 2003 indicated that trails are by far the most popular recreational activity in Damascus. The survey results identified that additional recreational opportunities could be addressed by improving undeveloped natural parkland (for conservation and nature enjoyment), adding new trails and more connectivity with existing trails. Additional desired recreational activities such as swimming pools and athletic fields could be addressed by utilizing existing undeveloped facilities as indicated in the Plan.

This Plan also recommends establishing small urban parks within the Damascus Town Center to address recreation needs and to enhance the small town feeling of the community.

Three undeveloped school sites were recommended in this Plan as important sites for providing additional recreation facilities, either in conjunction with developed schools, or as parks if they are not needed for educational purposes. Additional housing opportunities were also considered for these sites in this Plan. Because of infrastructure limitations, park and recreation resources would be more suitable.

B. Natural Resource Conservation and Protection Recommendations

Damascus contains some of the most precious environmental resources in the County. The goal of this Plan is to protect these resources through a number of resource protection strategies. In this section of the Plan, resources with environmental features proposed for preservation include the Little Bennett Creek Watershed Headwaters and the western tributary of Seneca Creek Stream Valley.

C. Trails

As indicated in the Countywide Parks and Trails Plan, most of the county's natural surface trails are located in the more densely populated areas in the down county. This Plan focuses on establishing improved trail connectivity from these areas to the upcounty, which would create a unified and connected "network of green" throughout the county. Emphasis for this concept began with the Magruder Branch trail, which is one of the oldest and most heavily used natural surface trails in the Damascus area. Completion of the trail with a trailhead in the Damascus Town Center area is a primary goal of this section. Attention to safe road crossing throughout the trail system is further emphasized in these recommendations. The trail recommendations of the Plan will amend the Countywide Parks and Trail Plan.

D. Parkland Historic and Cultural Settings

Three potential historic resources that are adjacent to existing and proposed parkland are recommended for protection. Strategies for protecting these sites may include incorporating part of the setting into the park system. The following resources are recommended for historic resources: Elisha Warfield house, Kingstead Farm and the Ira Jones Farm.

Alternative Scenarios – Implications and Consequences

The staff does not recommend additional or alternative scenarios at this time.

ITEM NO. 3: LEGACY OPEN SPACE

Staff Recommended Planning Board Actions:

- Approve the Legacy Open Space recommendations
- Amend the Legacy Open Space Plan

Staff Recommendation

The Legacy Open Space recommendations in this Plan include protecting the following sites:

- The Little Bennett Creek Headwaters Area through parkland acquisition
- The Bennett Creek Headwaters Area through easements
- The Upper Patuxent River Forest Area through easements

The Legacy Open Space Master Plan originally classified the following two sites as important natural resource areas for protection (Class III sites in the Technical Appendix D): Little Bennett Creek Headwaters and Bennett Creek Headwaters areas. Further study during the Master Plan process was needed to determine if these sites warranted protection. The third site, the Upper Patuxent River Forest Area, was recommended in the Legacy Open Space Plan to be classified within the water supply and farmland protection categories. Of these sites, only the Little Bennett Creek watershed headwaters are recommended for parkland acquisition. This Plan's recommendations will amend the Legacy Open Space Plan recommendations.

Discussion

Location in Master Plan: Community Facilities Chapter (Page 79)

Existing Master Plan Recommendation

This program did not exist at the time of the 1982 Master Plan.

Summary of Testimony at Public Hearing

Three comments supporting the Legacy Open Space recommendations were received during the Public Hearing.

Staff Analysis

This Plan's Legacy Open Space recommendations are to protect a broad range of valuable open space resources through easements or parkland acquisition. These sites were deemed to be extraordinary environmental resources that, if not protected, could significantly reduce the quality of the Patuxent reservoirs and the large forested areas and scenic vistas that contribute to the rural character of Damascus. The following analysis supports these sites for protection in the Master Plan.

- Little Bennett Creek Headwaters Area

This site is a large forested area along the main stem of Little Bennett Creek between the existing Little Bennett Regional Park and Oak Ridge Conservation Park. The site contains high quality upland and riparian forest and contributes to the protection of water quality in Little Bennett Creek, designated as State Use III trout waters. Given

the size and significance of the resource and the location of the resource adjacent to existing parkland, the Master Plan recommends protecting this site through parkland acquisition, either as part of the development review process or directly.

- Bennett Creek Headwaters Area

This site is a very large area of contiguous forest that covers most of the headwaters of Bennett Creek, including many small streams, wetlands, and springs. This 1,000+ acre forest contains large stands of mature forest in both upland and riparian locations and is critical to the water quality of Bennett Creek. The site is recommended for protection through the development review process or through conservation easements.

- Upper Patuxent River Forest Area

The Upper Patuxent River Forest Area is an important forest that buffers a tributary to the Patuxent River. The area is already identified in Legacy Open Space as a part of the Water Supply and Rural Open Space target areas, but is recommended in this Plan as a Natural Resource site to provide added protection during the development review process.

ITEM NO. 4: ENVIRONMENT

Staff Recommended Planning Board Actions:

- Approve the Environment recommendations

Staff Recommendations

The major environmental recommendations of this Plan include:

- Protect existing forest corridors and reforestation stream valleys
- Protect high priority forest stands
- Encourage development techniques that minimize imperviousness and forest fragmentation and promote connectivity in existing forest stands
- Use cluster development, forest mitigation and green technology.

Discussion

Location in Master Plan: Environment Chapter (Page 63)

Existing Master Plan Recommendation

The goals of the 1982 Master Plan include a range of environmental policies to encourage watershed protection that have since become institutionalized through the county's Stream Protection Strategy and the adoption of the 1993 Functional Master Plan for the Patuxent River Watershed. Areas of emphasis include the sensitive headwaters that drain away from the Town Center area in steeply sloped stream valleys, and other sensitive areas such as wetlands and forests. The Plan also endorses the use of conservation easements to encourage the protection of large contiguous forests and forested stream valleys, particularly in the Patuxent River watershed. Also clustering of development is encouraged to limit imperviousness and protect open space.

Summary of Testimony at Public Hearing

There were no specific comments regarding Environmental recommendations.

Staff Analysis

The July 2003 *Damascus and Vicinity Environmental Resources Inventory* provides a detailed description of the existing environmental conditions for Damascus and the surrounding watersheds. The protection of the Patuxent River watershed is a major recommendation in this Master Plan. This has been achieved through allowing limited additional development in and near the Town Center, promoting open space and forest protection in new residential areas and down-zoning much of the rest of this watershed's RE-2 Zone to Rural Cluster.

Other environmental recommendations are strongly related to the sewer policy, and development recommendations for individual properties. There will be further of these issues with the developing properties in the transition areas discussions at a later Work Session.

CONCLUSION

This staff report provides the basis for certain recommendations within the Damascus Master Plan. It discusses the overall testimony received during the Public Hearing regarding the Plan recommendations for Transportation, Park, Trails, Legacy Open Space and Recreation, and Environment. The staff recommendations to the Planning Board reflect the desire to approve the recommendations indicated in this memo.

The next Work Session (scheduled for January 27) will begin the discussion of Land Use recommendations, within the Town Center area. Subsequent Work Sessions will discuss the land use recommendations for Transitional Areas and Rural Areas.

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| Attachment 1: | SHA Letter |
| Attachment 2: | Public Hearing Digest |
| Attachment 3: | Damascus and Vicinity Environmental Resource Inventory |