Exhibit 13: Northwest Branch Option B

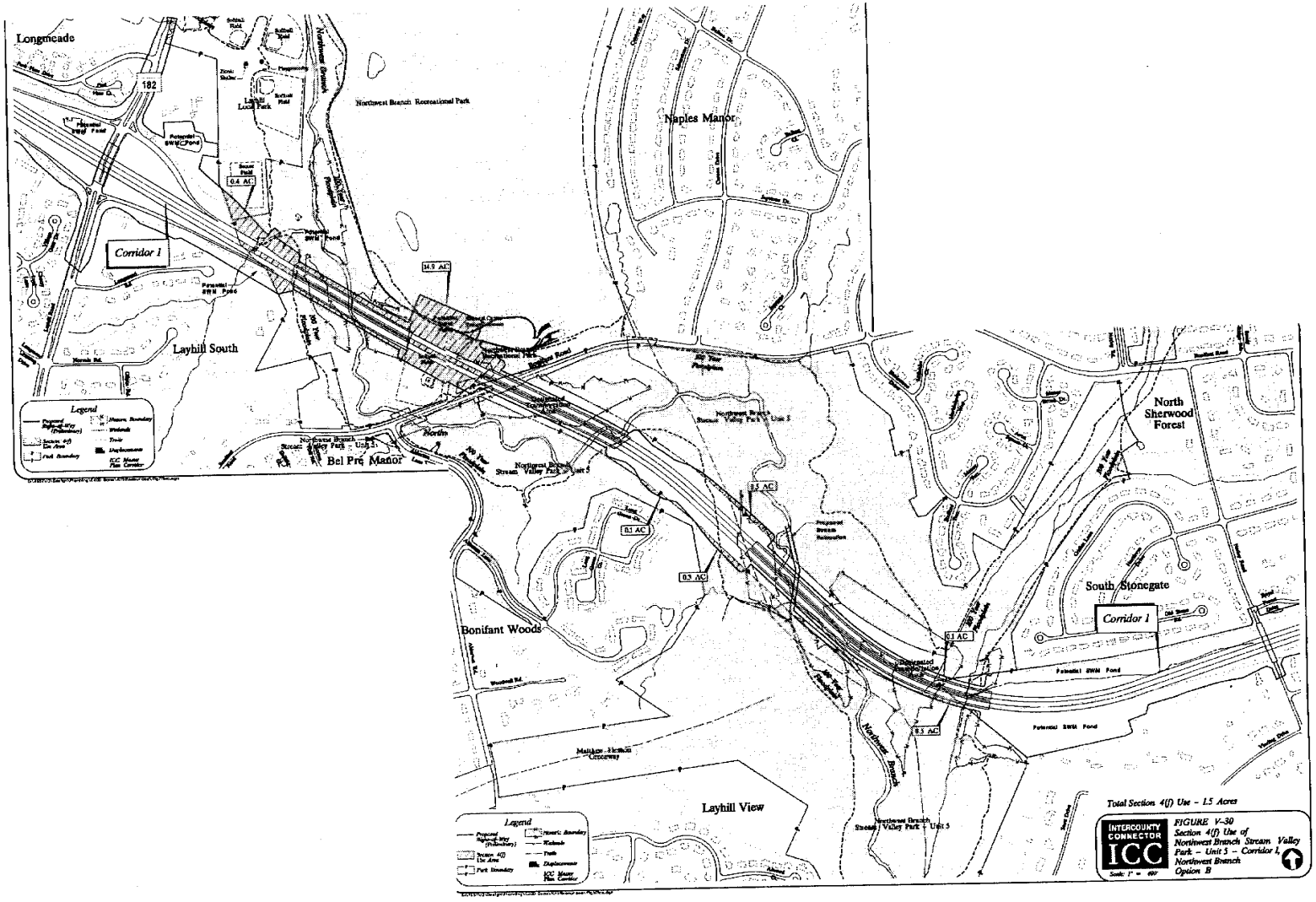


Exhibit 14. Northwest Branch Option Differences in DEIS Table S-3

Resource	Option A with Interchange at Layhill Road	Option B with Interchange at Layhill Road (Master Plan)
Business and Community Facility Displacements (No.)	2	**1**
Total Right-of-way (Acres)	168.8	**150.1**
Noise Impacted Areas (No. Residences / No. Noise Sensitive Areas)	**31**/3	47/3
Wetlands	1.6	**1.4**
Streams (No./Linear Feet)	10/2,958	**9/2,238**
Floodplain (Acres)	**8.0**	9.7
Forest (Acres)	58.5	**48.3**
Construction Cost ($M)	**189**	271
Right-of-Way Cost ($M)	35	**32**
Total Cost ($M)	**224**	303

The overall difference between the two options is difficult to ascertain from a mere tabular review of the quantitative information. Even within the natural environmental features, the shorter master plan alternative (Option B) appears to minimize impacts to wetlands, streams, and forest, whereas Option A is only better in terms of floodplain impacts.

The basic difference between the two options, however, is that Option B (the Master Plan alignment) runs more parallel to the Northwest Branch stream valley, whereas Option B shifts from side to side across the stream valley. Both options necessarily cross the Northwest Branch mainstem three times (as well as several tributaries). The more significant mainstem stream crossings are at skewed angles in Option B, but nearly perpendicular in Option A, a preferred approach.

Option A also has lesser impacts on the Northwest Branch–Bonifant Floodplain Ecologically Sensitive Area. This 95 acre area, described on DEIS page II-127, contains known habitat for butternut and wooly sedge, two Maryland DNR rare/watchlist species. Option A impacts 6.2 acres along the northern edge of the Northwest Branch–Bonifant Floodplain Ecologically Sensitive area and Option B impacts 16.8 acres as it traverses the Ecologically Sensitive Area.

The more perpendicular stream crossings in Option A also result in shorter bridge lengths, and therefore substantially lower capital costs. In summary, staff finds that Northwest Branch Option A, despite its greater length, has fewer overall impacts to the natural environment than Option B. Staff notes that the preference for Option A appears to be the consensus of the federal, state, and local environmental resource agencies on the ICC study team (and in fact may be unanimous). Therefore **Northwest Branch Option A should be selected.**

4. ICC TRUNCATION AT I-95

The DEIS includes options to truncate the ICC at I-95 or extend the ICC eastward to US 1. Staff finds that the I-95 truncation has minimal impact on Montgomery County including a reduction in ICC volumes by about 4,000 Average Daily Traffic in the eastern part of Montgomery County and by about 1,000 ADT across Rock Creek. Montgomery County planning staff is not particularly familiar with the qualitative value of the natural resources or the values of the residential and business communities affected by the ICC in Prince George's County between I-95 and US 1. In summary, the relative value of the I-95 Truncation is therefore an issue for Prince George's County to address. Staff therefore recommends that **the Montgomery County Planning Board and County Council defer recommendation on the I-95 truncation option to Prince George's County.**

C. TRANSPORTATION MODIFICATIONS

Staff recommends the Planning Board support the following substantive changes to the proposed transportation network in the DEIS:

- Removal of the DEIS ramps at Old Columbia Pike and retention of the DEIS ramps at Briggs Chaney Road
- Construction of portions of the shared-use path along the ICC alignment and commitment to fund remaining segments

1. US 29 INTERCHANGE

The DEIS design of the US 29 interchange includes additional, non-master-planned ramps as the ICC crosses Old Columbia Pike and Briggs Chaney Road. The ramp configuration is described as a "split diamond" configuration, because the access to the ICC is split between ramps to and from the west only at Old Columbia Pike and ramps to and from the east only at Briggs Chaney Road. The interchange concept is shown schematically in Exhibit 15 and a mosaic of DEIS Appendix A plates 27 through 31 is shown in Exhibit 16.

The purpose of these ramps is to provide direct access to and from the ICC for those Fairland residential and business communities located north of Randolph Road and south of Briggs Chaney Road. MDOT has found that the master plan vision for interchanges along US 29 is not feasible, so the choice is now between:

- accepting additional community impacts beyond those already planned to maintain planned accessibility
- accepting lesser accessibility than planned and retaining the impacts envisioned in the master plan.

The Fairland Master Plan vision for interchanges along US 29 is shown in Exhibit 17. The Master Plan recommends that ultimately, all at grade intersections (traffic signals and stop signs) be removed from US 29 in the Fairland Master Plan, although the plan does contain a caveat that the interchanges should be phased so that the effects of the first few interchanges can be assessed before proceeding with the remaining interchanges.

When planned interchanges are closely spaced, as they are along portions of US 29, there are generally three ways to accommodate all movements between the US 29 mainline and the ramps to and from adjacent cross streets:

- Develop "weaving areas" where all movements cross each other in a short, wide section of several lanes. Such weaving areas, common in highway design several decades ago, are now highly undesirable due to safety concerns based on motorist confusion and error. A local example of a relatively short, high-volume weaving area is on northbound I-95 approaching the Capital Beltway in Springfield, Virginia, where the primary purpose of the $600M Springfield Interchange project is to remove weaving areas. The ICC DEIS Corridor 1 interchange with US 29 has one weaving area along southbound US 29 between Briggs Chaney Road and the ICC, where the distance is long enough to provide safe operations because the Briggs Chaney Road on-ramp enters US 29 via a loop ramp north of the cross street (where the temporary construction roadway is currently located). This location is the only one in the Briggs Chaney and Fairland Road interchange designs where sufficient space permitted the construction of a loop ramp.
- Develop "braided ramps" where separate roadways that cross each other on bridge structures are constructed for each of the weaving movements. The primary disadvantage of this technique is that the interchange design gets both higher and wider. The ICC DEIS applies some ramp braiding to accommodate the following movements between cross streets along the US 29 complex:
  - The northbound on-ramp from Fairland Road to US 29 is braided across the northbound off-ramp from US 29 to the ICC
  - The northbound on-ramp from the ICC to US 29 is braided across the northbound off-ramp from US 29 to Briggs Chaney Road
  - The southbound on-ramp from the ICC to US 29 is braided across the southbound off-ramp from US 29 to Fairland Road.
- Disallow some of the desired movements between adjacent roadways. The ICC DEIS does not provide for the following movements along US 29 (movements served by the Old Columbia Pike and Briggs Chaney Road ramps):
  - From the eastbound ICC to Fairland Road
  - From the westbound ICC to either Briggs Chaney or Fairland Road
  - From Fairland Road to either the eastbound or westbound ICC

The entire complex of master-planned interchanges along US 29 was reviewed by the Planning Board in a series of agenda items as part of the mandatory referral reviews for the three interchanges now under construction. From north to south, the current status of the interchanges shown in Exhibit 15 is as follows:

- At Spencerville Road (MD 198), the interchange is under construction with an estimated completion date of summer 2005.
- At Briggs Chaney Road, the interchange is under construction with an estimated completion date of 2007.
- At the ICC, the interchange is in project planning.

- At Fairland Road, the interchange is in project design (the step after planning) but no funding has been committed for construction.
- At Musgrove Road, the interchange has not yet begun project planning. It is likely that a full movement interchange will not be feasible at this location.
- At Randolph Road, the interchange is under construction with an estimated completion date of summer 2005.
- At Industrial Road, the interchange has not yet begun project planning.
- At Tech Road, the interchange has not yet begun project planning.

During the mandatory referral reviews, the state did not plan to construct the ICC. Therefore the designs for the adjacent US 29 interchanges at Fairland Road and at Briggs Chaney Road were approved with a lesser intermediate interchange connecting to an "Eastern Parkway" that connected US 29 to I-95 and US 1 in the ICC right-of-way, but did not continue west from US 29.

The concern regarding these closely spaced interchanges is not new to the 2004 version of the ICC. The 1997 ICC DEIS Master Plan Alternative included a full interchange at Briggs Chaney Road to address similar connectivity concerns along US 29.

The DEIS does not specifically analyze the travel demand effects of removing individual ramps in the US 29 interchange complex. Working in conjunction with the ICC study team, however, staff estimates that in 2030 approximately 11,000 vehicles per day would use the Old Columbia Pike ramps and approximately 15,000 vehicles per day would use the Briggs Chaney Road ramps. If either set of ramps were removed, some of the traffic that would benefit from the ramps would still use those local roads to access the ICC via those ICC-access movements allowed at Briggs Chaney Road and the Randolph Road interchanges. MDOT analysis suggests that the rerouted local traffic associated with ramp removal may cause the signalized intersection at Briggs Chaney Road and the US 29 northbound ramps to exceed congestion standards. Staff review of the material indicates that the intersection performance would be degraded by the removal of the Briggs Chaney Road ramps (forcing auto park traffic, for instance, west along Briggs Chaney Road through the referenced intersection toward US 29 rather than east toward the ICC). Staff estimates that removing the Old Columbia Pike ramps would have less of an effect on this intersection.

Staff recommends that the DEIS Corridor 1 interchange at Briggs Chaney Road should be retained in the selected alternative but that DEIS Corridor 1 interchange at Old Columbia Pike should be deleted from the selected alternative. Staff support for changing the master plan to incorporate an ICC interchange at Briggs Chaney Road but retaining the master plan for no interchange at Old Columbia Pike is based on the following findings:

- As northern Prince George's County becomes more developed, connections between Fairland and the I-95 / US 1 corridor will be more important than connections to communities to the west. This finding is evidenced by comparing the Corridor 1 Average Daily Traffic (ADT) west of US 29 (66,600) to that east of US 29 (85,800).

- The commercial and residential land uses along Briggs Chaney Road between US 29 and the ICC are more intensive than those along Old Columbia Pike, thereby both generating more travel demand and being less susceptible to the qualitative effects of additional traffic volumes.

- Briggs Chaney Road is classified as a four-lane arterial roadway, an appropriate designation for a freeway interchange, whereas Old Columbia Pike is classified as a two-lane primary residential roadway, an inappropriate designation for a freeway interchange.

- The Briggs Chaney Road ramps appear to be more instrumental in preserving adequate local roadway intersection levels of service than the Old Columbia Pike ramps.

- The Briggs Chaney Road ramps require one residential displacement, whereas the Old Columbia Pike ramps require seven residential displacements.

Exhibit 15: Location of Interchange Ramps in US 29 Vicinity

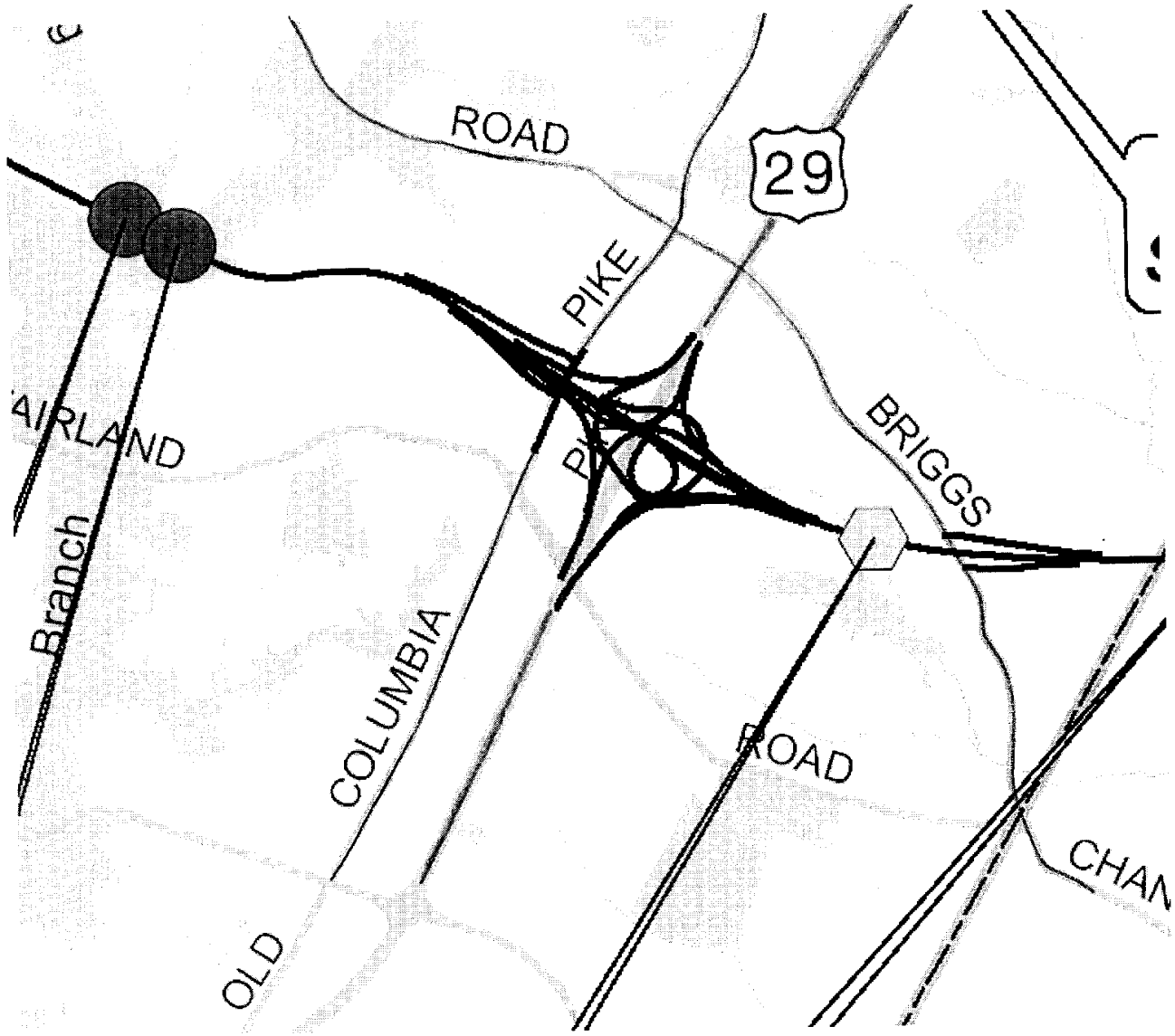
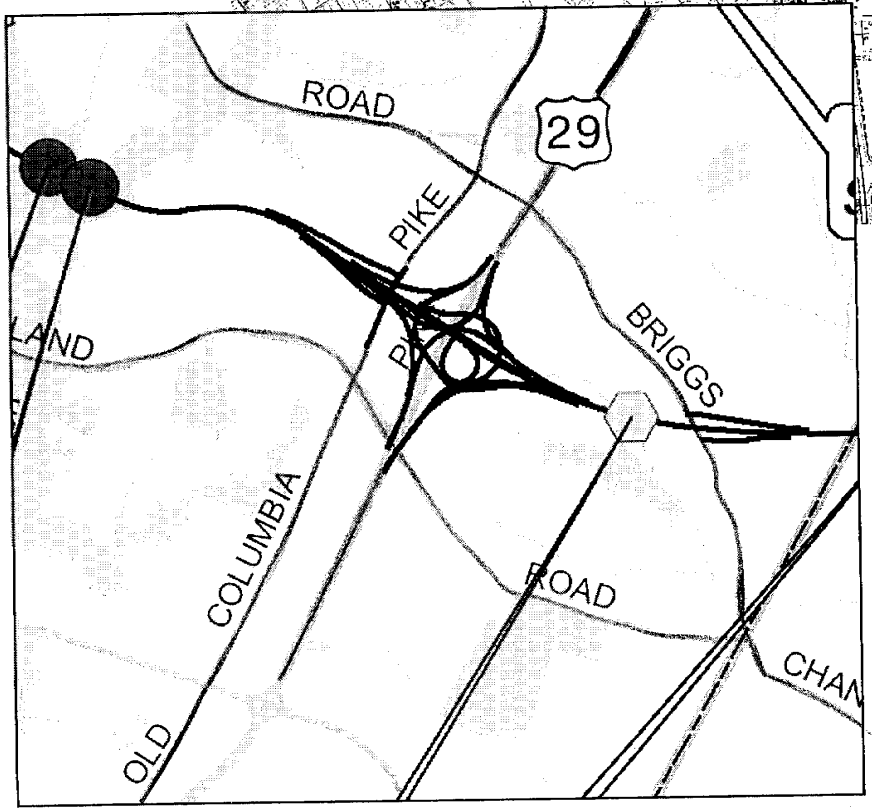
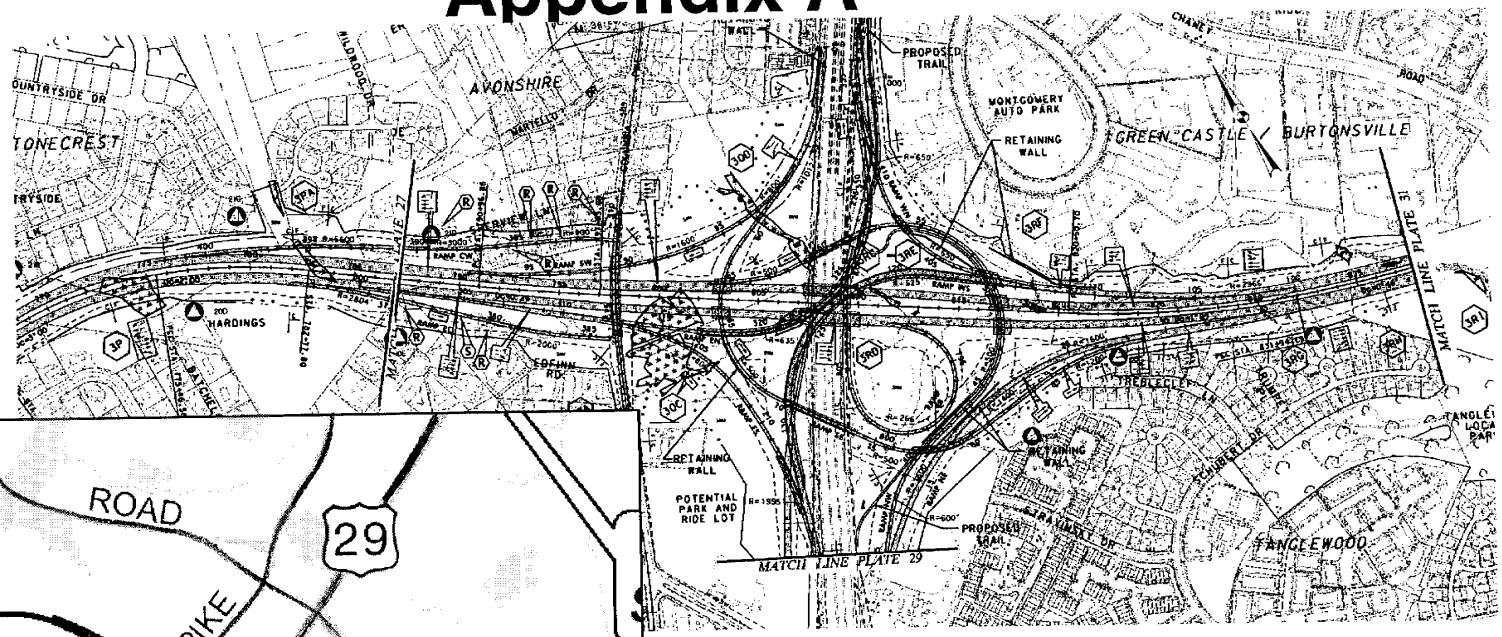


Exhibit 16: US 29 Interchanges in DEIS Appendix A





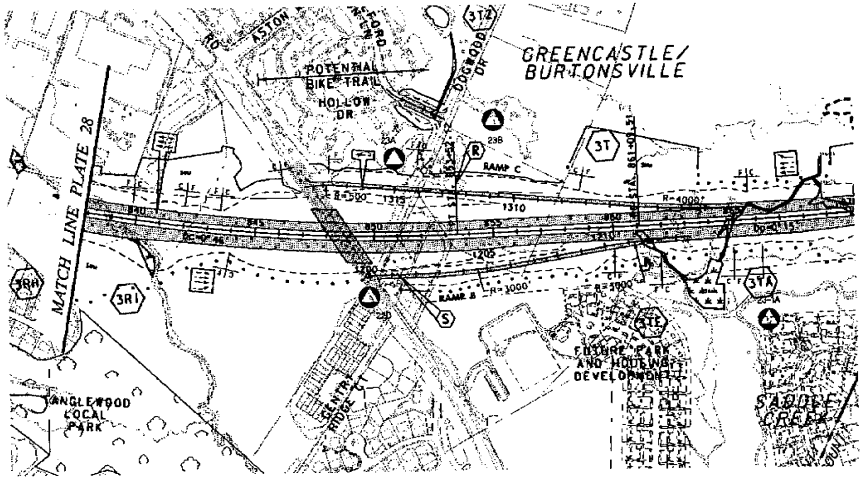
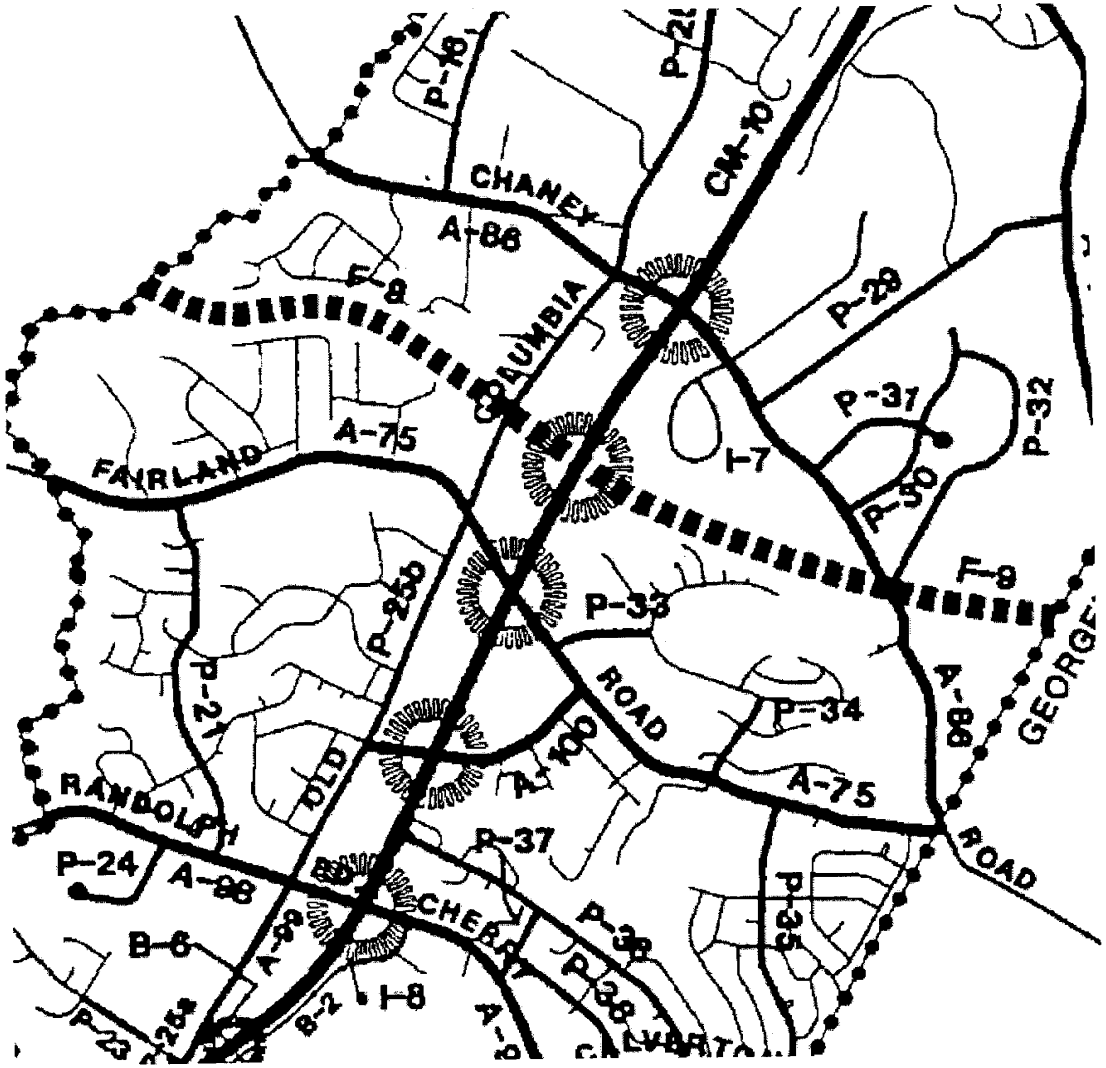


Exhibit 17: Master Plan for Interchanges Along US 29



2. CONTINUOUS SHARED-USE PATH (HIKER-BIKER TRAIL)

The continuous, 18-mile, shared-use path (hiker-biker trail) along the ICC alignment forms a backbone for the paved trail network in eastern Montgomery County. The DEIS indicates that the SHA proposal for non-motorized accommodation in Corridor 1 consists of the following elements, as shown in Exhibit 18:

- Physical provisions such as grading and structures, but not paving for sections totaling approximately 7.7 miles along the ICC alignment. This segmentation leaves the following notable gaps:
  - Shady Grove Road to Needwood Road
  - Emory Lane to Georgia Avenue
  - Northwest Branch Park
  - Paint Branch Park
  - Section east of Paint Branch Park to Briggs Chaney Road
- Reliance on future bikeways to be provided by others on parallel roads for network connectivity.

Throughout the planning process, state and federal partners in the MDOT study team have expressed skepticism that the continuous shared-use path is a desirable element of the ICC project, citing four basic concerns:

- Incremental capital costs
- Incremental natural environmental impacts
- Incremental Section 4(f) impacts
- Potential project delays based on detailed bike path design and coordination

None of these concerns were adequately addressed in the DEIS. Subsequent to DEIS publication, MDOT provided partial information on the incremental capital costs and natural environmental impacts of constructing the 7.7-mile series of segments as described in the staff's January 7, 2005 memorandum to the Planning Board. MDOT has not provided substantive justification for their decision to abandon the remainder of the shared-use path.

Exhibit 18: MDOT Bike Path Proposal

(Corridor 1, Montgomery County)

Shady Grove Road to Redland Road:

None

Needwood Road to Emory Lane:

Plan for path along ICC

Georgia Avenue to Layhill Road:

Plan for path along ICC

Northwest Branch Park to New Hampshire Avenue:

Plan for path along ICC

Briggs Chaney Road to County line:

Plan for path along ICC

Shady Grove Metro to ICC via Needwood Road:

Assume path built by others along existing roads

Emory Lane to Georgia Avenue:

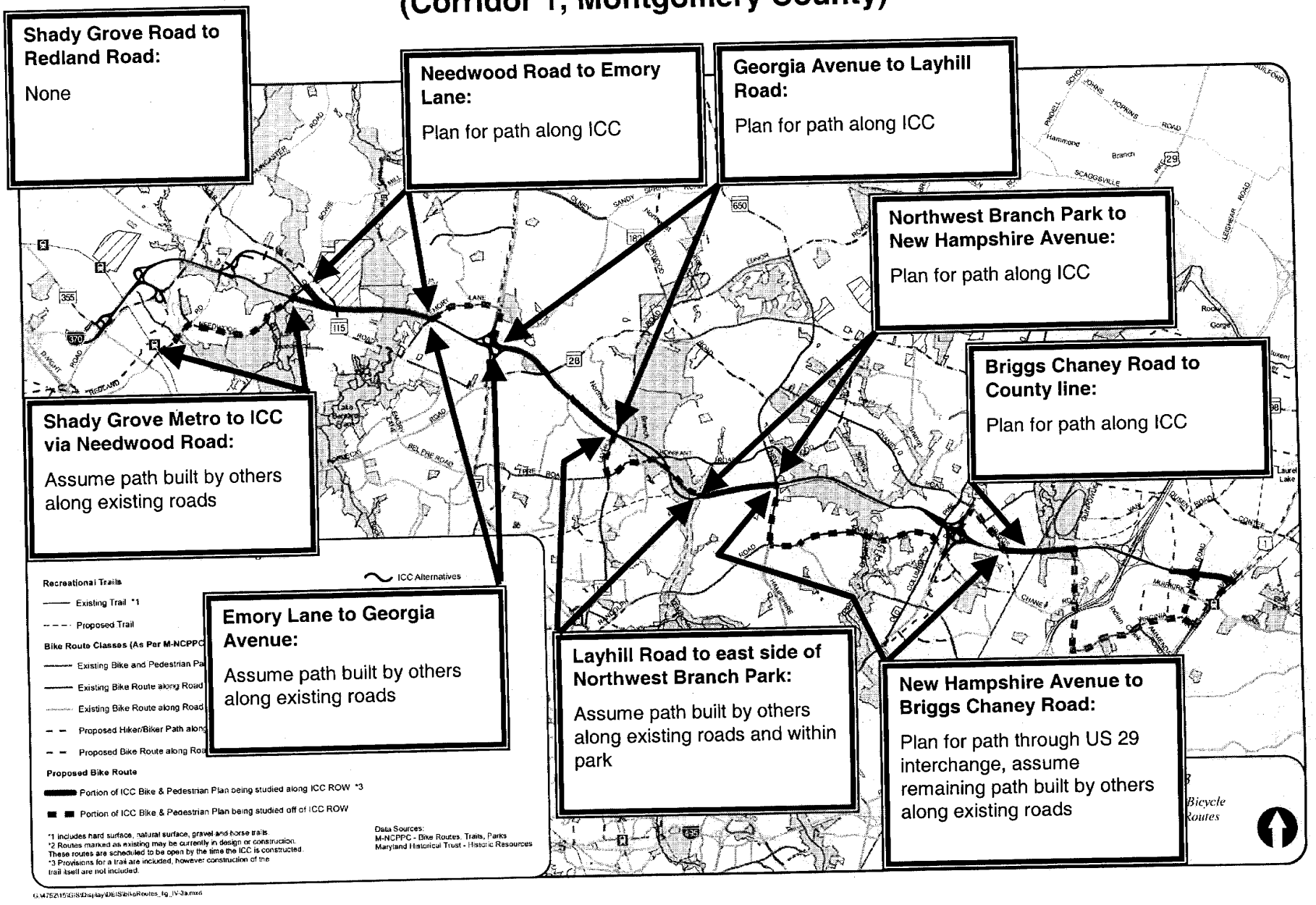
Assume path built by others along existing roads

Layhill Road to east side of Northwest Branch Park:

Assume path built by others along existing roads and within park

New Hampshire Avenue to Briggs Chaney Road:

Plan for path through US 29 interchange, assume remaining path built by others along existing roads



Incremental Costs

Staff finds that several anecdotal statements have been made in public forums that suggest that incremental cost-effectiveness is not a substantive rationale for dropping the bike path from the ICC project:

- MDOT has suggested that the estimated incremental capital cost of constructing the full 18-mile bike path as described along Corridor 1 in the 1997 DEIS (in that design, the path was not continued through the complex I-95 interchange) would be about $100M or generally about $5.5M per mile

- MDOT indicated at the January public meetings that providing for but not paving the 7.7-mile segments of the future bike path in Corridor 1 would be about $35M, an amount included in the total DEIS cost for Corridor 1.

- Staff estimates that paving for the 7.7-mile segments of the future bike path being provided for, but not paved, in the MDOT Corridor 1 concept is about $5M.

- The cost of implementing the 7.7-mile segments of the future bike path might therefore be estimated as about $40M or about $5.2M per mile.

Staff suggests that the difference between the $5.2M per mile that MDOT is considering including and the $5.5M per mile that MDOT is excluding is not significant. Therefore, cost effectiveness is generally not a logical basis for abandoning the continuous bike path concept.

Incremental Environmental Effects

Staff is sympathetic to the MDOT statement regarding incremental environmental effects of the shared-use path. From a big-picture perspective, it is not at all persuasive to suggest that ten feet of bike path would be the straw that breaks the back of this six-lane highway. However, staff continues to work diligently with MDOT and the federal and state permitting agencies to obtain agreements on design elements such as longer roadway bridges and stormwater management concepts. In a sense, the MDOT position to eliminate the bike path is a logical response to repeated requests to truly minimize environmental impacts.

In the same general time period that MDOT has struggled with this concern, staff has worked to find alternative non-park, alignments for two sections of paved paths in the Countywide Park Trails Plan:

- The Planning Board Draft of the Olney Master Plan recommends removing a proposed half-mile section of paved trail in the North Branch of Rock Creek between the ICC and Muncaster Mill Road (MD 115), instead diverting the user to paths along the ICC, Emory Lane, and Muncaster Mill Road, a distance of about 1.2 miles.

- The staff recommendation of the Indian Spring subdivision case scheduled for Planning Board review in February is likely to suggest that a proposed one-mile section of paved trail in the Northwest Branch Stream Valley Park be moved west, out of the floodplain, onto non-park property.

In both cases, staff finds that the intent of the Countywide Park Trails Plan to provide access to and connectivity between different resources in the parks system has been fulfilled.

Without more detailed information from MDOT, staff recommends that the Upper Paint Branch Special Protection Area (SPA) is the one location where the Planning Board should conclude that the bike path, indeed, is the straw that could break the project's back. This recommendation is based on two elements:

- The Upper Paint Branch SPA is the only location in the Corridor 1 study area where impervious surface is both a sound technical and legal basis for evaluating impacts and mitigation. A ten-foot-wide bike path running through the SPA for a mile (about the length of Corridor 1 through the SPA) translates to 52,800 square feet of impervious surface, or about 1.2 acres.

- The Cloverly and Fairland Master Plans are the only master plans in which the bike path recommendation is conditional upon the findings of the ICC EIS process.

Staff concludes that the alternative route along New Hampshire Avenue, Randolph Road, and Fairland Road is a logical location for a shared-use path to avoid the Upper Paint Branch SPA. The Countywide Park Trails Plan should similarly be amended to make the current Fairland Road trail terminus, rather than the ICC bike path, the northern extent of the hard surface trail in the Paint Branch Stream Valley Park.

Staff also concurs with SHA that the bike path connection from Fairland Road to the north along US 29 and then eastward along the planned Briggs Chaney Road shared-use path is logical, for the following reasons:

- The complexity of the Corridor 1 / US 29 interchange makes bike path connections difficult. DEIS Appendix A Plate 28 demonstrates how the US 29 bike path will traverse the interchange, passing on or under eight different structures. An eastward connection would require at least two additional ramp-crossing structures.

- The Corridor 1 right-of-way in the 0.8 mile segment between US 29 and Briggs Chaney Road is constrained by a pinch point between the Tanglewood community and Montgomery Auto Park that already requires retaining walls and by the parallel Tanglewood Tributary of the Little Paint Branch.

- The Briggs Chaney Road alternative is only approximately 0.3 miles longer and would entail a limited number of crossings (estimated to be seven) of side streets and driveways.

Incremental Impacts to Land Owned by M-NCPPC

MDOT has included the North Branch Stream Valley Park crossing of the North Branch of Rock Creek within the 7.7-mile segments of future bike path provisions. With this exception, none of the 7.7-mile segments proposed by MDOT are located in the Montgomery County park system. This position is undoubtedly influenced by sensitivity to the acreage of parkland impacts in the Section 4(f) analysis. The Planning Board and County Council have repeatedly stressed that our master plans envision the ICC coexisting with the stream valley parks through which it passes. Despite this influence, we do not yet know whether the Federal Highway Administration will concur with this local agency position as it evaluates both the quantity and quality of impacted Section 4(f) resources.

Potential Project Delays

The detailed design of the shared-use path will entail several considerations, including:

- Where the bike path will be located in relation to other typical section elements including noise walls and security or deer fences
- Where connections should be made to adjacent communities and institutional uses
- How connections should be made to the Countywide Park Trails network, particularly in locations where the ICC roadway would cross above the stream valley trails on long structures but where a shared-use path should connect to the park trails in the stream valleys.

The ICC study team has expressed concern that resolving these design details will hinder project implementation. Staff reminds MDOT that our Memorandum of Understanding (MOU) with SHA is designed to resolve, not ignore, such issues during detailed design and construction. Nevertheless, staff recognizes that, particularly within the park system, there are two primary advantages to deferring the completion of the park trail system to M-NCPPC control:

- M-NCPPC staff can perform a more deliberative and inclusive analysis of park trail planning than MDOT intends to provide.
- M-NCPPC staff can consider converting temporary ICC roadway construction access roadways to future park trails to enhance park accessibility.

SHA Concept Deviation from Master Plan Alignment

As previously described, the DEIS concept deviates significantly from the ICC alignment in five areas. Staff suggests that the deviations described above can appropriately satisfy the intent of the Countywide Park Trails Plan and the Countywide Bikeways Functional Master Plan. Staff believes MDOT should amend their concept for two of the sections, however, as described below:

- **Shady Grove Road to Needwood Road:** The SHA proposal to connect to the Shady Grove Metrorail station via Needwood and Redland Roads is logical. However, the abandonment of the shared-use path extension along M-83 creates a significant gap in the shared-use path network between Olney and Gaithersburg, including paths on Midcounty Highway, Airpark Road, and Woodfield Road. Staff concurs that neither the ICC Option A (due to environmental resources) nor Option C (due to limited right-of-way through the Winters Run community) are appropriate shared-use path extensions for the ICC bike path. Muncaster Mill Road (MD 115) provides the most logical connection for the shared-use path.

- The provision of bike paths and on-road bikeways along Muncaster Mill Road has been the subject of substantial study and discussion during the past two years, with on-road and off-road bikeways alternatively being recommended in the Upper Rock Creek Master Plan, the Olney Master Plan, and the Countywide Bikeways Functional Master Plan. The current master plan Muncaster Mill Road bikeway designation is on-road (Class II) due in part to the proximity of the ICC and M-83 shared-use bikeways. **Staff finds that without the ICC bikeway completion, the Muncaster Mill Road bikeway designation should be changed to a shared-use path (Class I) only for the 1.5-mile section between Needwood Road and Redland Road.**

- **Emory Lane to Georgia Avenue:** SHA staff has indicated that the proposal to route the ICC bike path along Georgia Avenue and Emory Lane is based primarily on concerns regarding bicyclists crossing Georgia Avenue. Staff finds that such a crossing would not be extraordinarily difficult, as the interchange will have one fully signalized intersection and a second "half-signal" that could be converted to full signalization. The right-of-way and natural resources in the one-mile segment of Corridor 1 between Emory Lane and Georgia Avenue should not present unusually adverse conditions for bike path implementation. Conversely, while the Emory Lane shared-use path is a valuable connection to Olney Manor Recreational Park, it is about a half-mile longer and has many more (estimated at two dozen) driveways and intersections. **Therefore, MDOT should restore this "missing segment" in the ICC bike path concept.**