

Intercounty Connector Study

Montgomery County
Department of Park and Planning
Staff Recommendations

Presented at

Planning Board Session # 6
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PART I: STAFF RECOMMENDATIONS

This report provides the recommendations of the Montgomery County Department of Park and Planning staff on the Intercounty Connector (ICC). The recommendations are described in five categories, in the following order:

- A. Alternatives (**staff recommends Corridor 1**)
- B. Significant Options (**staff recommends Rock Creek Option C with Olde Mill Run Grade Separation, inclusion of the Layhill Road interchange, and Northwest Branch Option A**)
- C. Transportation Modifications (**staff recommends removing the Old Columbia Pike ramps shown in the DEIS and implementing a continuous shared-use path (hiker-biker trail)**)
- D. Other design changes, and
- E. Environmental Stewardship.

A. ALTERNATIVES

Staff recommends selecting among the three alternatives first. The three are: No-Action, Corridor 1 or Corridor 2. Corridors 1 and 2 are the same from Shady Grove at I-370 to Georgia Avenue. From Georgia Avenue east, Corridor 1 follows the master plan alignment toward the southeast while Corridor 2 heads eastward toward Burtonsville.

1. NO-ACTION ALTERNATIVE

The No-Action Alternative serves as a baseline scenario to compare with the build alternatives. This alternative assumes only those improvements included in the 2004 Constrained Long Range Plan (CLRP) as well as measures such as more transit and vanpool incentives.

The purpose and need for an ICC build alternative have been well documented in several studies during the past decade, including:

- The County Council's 1993 General Plan Refinement for Montgomery County
- The SHA 1997 ICC DEIS
- Governor Glendening's Transportation Solutions Group (TSG) report in 1998
- The Planning Board's Transportation Policy Report in 2002
- The current Maryland Department of Transportation (MDOT) ICC DEIS

The Planning Board has had a role in either preparing or reviewing each of the studies above, and to date has concluded in each case that an ICC is needed and should be constructed in the Master Plan alignment if found feasible and permissible by the implementing agencies. The Planning Board and County Council commitment to the Master Plan alignment for the ICC is further demonstrated by the several Master Plans developed during the same timeframe:

- Aspen Hill (1994)
- Cloverly (1997)
- Fairland (1997)
- Sandy Spring/Ashton (1997)
- White Oak (1997)
- Upper Rock Creek (2000)
- Olney (Planning Board Draft Plan 2004)
- Shady Grove (Planning Board Draft Plan 2004)

As described in the January 7, 2005, staff memorandum to the Planning Board, the current DEIS demonstrates that the build ICC alternatives fulfill the EIS Purpose and Need and significantly improve accessibility within the study area as envisioned by the County's planning documents. **Staff therefore finds that the information in the DEIS confirms the County's position that an ICC build alternative should be selected.**

2. COMPARISON OF CORRIDOR 1 AND CORRIDOR 2

DEIS Table S-2, reprinted below as Exhibit 1, describes the quantitative range of impacts associated with the optional alignments within Corridor 1 and Corridor 2. Staff presented additional supporting information on quantitative and qualitative impacts in the referenced January 7, 2005 memorandum. Staff finds that the impacts can be summarized according to the characteristics described in Exhibit 2.

Within the first two characteristics, parklands and historic resources are Section 4(f) resources for which the federal government is required to consider feasible and prudent alternatives to avoid such use and minimize harm to the protected property resulting from use if avoidance options are not feasible and prudent. The DEIS describes the analysis of avoidance and minimization. Some potential mitigation strategies are identified in the DEIS, but a full mitigation package will only be developed for the selected alternative, if a build alternative is selected.

The mitigation package will be described in the Final Environmental Impact Statement (FEIS) scheduled for release in the spring of 2005. If a build alternative is selected, a mitigation package will be developed appropriate to the impacts. In March, MDOT will develop a conceptual mitigation package. We will hold MDOT to meeting its obligations to the park system under our Memorandum of Understanding (MOU). We will continue to use forest interior loss to define environmental equivalencies.

Compensatory mitigation strategies are required for several environmental resources beyond those covered under Section 4(f). The staff evaluation of impacts in Corridor 1 and Corridor 2 therefore reflects the impacts of the alternatives as described in the DEIS prior to mitigation.

Exhibit 1. DEIS Summary Table S-2

Table S-2: Corridors 1 and 2 Range of Environmental Impacts		
Resources	Corridor 1	Corridor 2
Socioeconomic/Cultural Environmental Resources		
Section 4(f) Use (No. of Resources)	7	7-11
Adversely Affected National Register of Historic Places (NRHP) Eligible Properties (No.)	2	7 - 10
Business and Community Facility Displacements (No.) *	5 - 9	8 - 18
Residential Displacements (No.)	43 - 57	45 - 87
Total Right of Way (Acres)	1,252.6 - 1,397.6	1,254.2 - 1,538.1
Noise Impacted Areas (No. Residences/No. Noise Sensitive Areas)	562/26 - 621/26	246/19 - 352/24
Natural Environmental Resources		
Wetlands (Acres)	22.3 - 30.1	25.6 - 38.2
Wetlands Created by Mining** (Acres)	37.4	37.1
Streams (No./ Linear Feet)	63/39,251 - 69/46,204	52/35,517 - 62/48,920
Floodplain (Acres)	47.9 - 59.4	54.6 - 68.7
Forest (Acres)	737.0 - 794.1	588.9 - 685.7
Cost Estimate (Expressed in 2004 Dollars)		
Construction Cost*** (\$ Billion)	1.378-1.615	1.211-1.440
Right of Way Cost (\$ Billion)	0.338-0.390	0.332-0.471
Other Cost**** (\$ Billion)	0.217-0.219	0.216-0.218
Total Cost (\$ Billion)	1.933-2.224	1.759-2.129

* Business and Community Facility Displacements also includes displacements for properties that are both Business and Residential.

** A series of low-quality, emergent wetlands created by mining occurs throughout the abandoned portion of the mined lands in the vicinity of I-95. These account for an additional 37.1 to 37.4 acres of wetland impacts.

*** Capital costs include construction, engineering and contingencies

**** Other Cost includes Toll Facilities, Maintenance Facilities, Transit Capital Cost, Intelligent Transportation System, Design Build Stipends, Incentives, Weigh-In-Motion Technology, Environmental Stewardship Package, and Hazardous Materials Mitigation.

Note: The lower range of cost estimate assumes termination of the ICC at I-95.

**Exhibit 2. Staff Perspective Matrix on Corridors
(Lighter shading indicates superior performance)**

Characteristic	Corridor 1	Corridor 2
Direct Impact to Land in M-NCPPC Ownership *		
Historic Resources		
Natural Environment		
Communities		
Smart Growth		
Transportation		

* Staff finds impact to land in M-NCPPC ownership can be compensated in either corridor.

Land in M-NCPPC Ownership

Staff finds that Corridor 1 has substantially greater impacts to land owned by M-NCPPC than Corridor 2. There are two primary means by which staff reaches this conclusion: the acreage of land owned by M-NCPPC and the acreage of interior forest loss.

The bulk of the impact to the land owned (or managed) by M-NCPPC is not a Section 4(f) impact. The largest portion of land was purchased as advanced land acquisition for the purpose of a highway. Even before the advent of ALARF in 1973, land was being purchased by M-NCPPC under the footprint of a master-planned highway. There is certainly more M-NCPPC land in Corridor 1, but there was an expectation the land would be a highway.

Historic Resources

As indicated in Exhibit 1, Corridor 1 will have adverse effects to two properties eligible for the National Register of Historic Places (NRHP). Corridor 2 will have adverse effects to between seven and ten NRHP eligible properties (including the same two properties affected by Corridor 1).

Three of the properties in the Corridor 2 alignment are of particular concern to staff. As described in the staff's July 15, 2004, memorandum to the Board, Drayton and Edgewood II are very important historic sites and the Free Methodist Church Camp Meeting Ground is one of the last functioning historic camp meetings in the state of Maryland.

Staff finds that the qualitative value of historic property impacts in Corridor 2 is greater than the sum of individual property impacts. The historic communities in the northern portion of eastern Montgomery County have a distinctive "sense of place" embodied in their historic

buildings, traditions, and natural features. It is this sense that led to the designation of significant portions of Olney, Sandy Spring, and Cloverly to be designated as Montgomery County Heritage Areas as shown in DEIS Figure II-10.

Staff finds that Corridor 2 is significantly more detrimental to historic resources in the study area for the following reasons:

- The number of individual properties impacted is far greater in Corridor 2 than in Corridor 1.
- The impacts to the properties located only in Corridor 2 are generally more severe than the impacts to those properties located in both Corridors 1 and 2 (west of Georgia Avenue).
- Three particular properties in Corridor 2 have very high value.
- Even with mitigation applied to particular sites, Corridor 2 would adversely affect the sense of place reflected in the Heritage Areas designation for most of the Corridor 2 alignment between Georgia Avenue and US 29.

Natural Environment

Both Corridor 1 and Corridor 2 have significant impacts to the natural environment. Staff has the following findings on natural resource impacts:

- As indicated in Exhibit 1, Corridor 1 and Corridor 2 have overlapping ranges of impacts, depending upon which of the optional alignments and treatments are selected within each corridor.
- Selection of an option that minimizes the impact to one particular resource generally increases the impact to other resources.
- None of the optional alignments avoid impacts to both the Upper Paint Branch and Patuxent watersheds. The roadway in the Upper Paint Branch increases the risk to naturally reproducing brown trout. The roadway in the Patuxent increases the risk to human drinking water. In both watersheds, the construction of a roadway increases the risk of degraded water quality and in either case the design and construction would need to incorporate extraordinary measures to prevent water quality degradation due to either normal stormwater runoff or a hazardous materials spill event.

Staff therefore concludes that neither Corridor 1 nor Corridor 2 provides clearly superior performance regarding impacts to the natural environment.

Community Impacts

Staff finds that Corridor 1 has an overall positive impact on communities within the ICC study area and Corridor 2 has a significant negative impact on communities within the ICC study area for the following reasons:

- Both Corridor 1 and Corridor 2 would require the acquisition of both commercial and residential properties. The DEIS indicates that Corridor 1 has fewer total residential and business displacements (48 to 66) than Corridor 2 (53 to 105).
- Both Corridor 1 and Corridor 2 would have adverse noise and visual impacts to some properties in the vicinity of the right-of-way. The DEIS indicates that Corridor 1 would affect up to 621 residents in 26 noise sensitive areas. Corridor 2, an area planned for much lower density development, would affect up to 352 residents in 24 noise sensitive areas. In either corridor, noise mitigation devices such as berms or walls would need to be investigated further and documented in the FEIS.
- Both Corridor 1 and Corridor 2 would reduce traffic volumes on many east-west area roadways resulting in greater accessibility and improved local roadway safety for local residents and businesses. As described in the transportation analyses, Corridor 1 provides superior accessibility compared to Corridor 2.
- Staff finds that a greater weight should be given to negative impacts in Corridor 2 than those in Corridor 1, simply because the impacts in Corridor 1 have been considered in the County's master planning efforts for decades. Some communities, such as Longmead, will be divided by the ICC in Corridor 1. These communities, however, were planned, developed, and built with the expectation that they would be divided by the ICC.
- Perhaps most importantly, the implementation of Corridor 1 would provide resolution to an issue that has caused significant unease in all affected communities throughout the current ICC planning study and those of the 1980s and 1990s. Selection of Corridor 1 would affirm the community reliance on the master planning process. Selection of Corridor 2 would perpetuate community concern, as the County would need to reconsider the land use, transportation, and environmental tenets of the General Plan in response to state action.

Smart Growth

Montgomery and Prince George's Counties have practiced the concept of smart growth, with lower-case letters, for decades. This concept, embodied in the 1963 General Plan entitled *On Wedges and Corridors*, concentrates development where existing and planned infrastructure is most robust while preserving environmental and agricultural resources.

The state of Maryland has had a formal Smart Growth program for slightly more than ten years. The primary metric for examining smart growth consistency of transportation projects is the evaluation of the degree with which the proposed project either lies within, or serves, areas designated as Priority Funding Areas. Exhibit 3 indicates the relationship between the ICC corridors and the Priority Funding Areas. Both corridors connect the I-270 corridor in Montgomery County with the I-95 corridor in Prince George's County. However, they get there in very different ways. Corridor 1 serves the more densely developed communities of the suburban ring, whereas Corridor 2 traverses the agricultural and low-density residential areas of eastern Montgomery County. In summary:

- Roughly two-thirds of the Corridor 1 alignment is within a Priority Funding Area
- Roughly one-third of the Corridor 2 alignment is within a Priority Funding Area

Staff therefore finds that Corridor 1 is consistent with smart growth principles and Corridor 2 is inconsistent with those principles.

Transportation

Section IV of the DEIS describes the effects of the ICC alternatives on a variety of transportation measures of effectiveness. Staff characterizes these measures of effectiveness as falling into one of four categories described as improved accessibility, improved mobility, improved safety, and secondary land use and economic effects. Staff concludes that both ICC Corridor 1 and Corridor 2 provide benefits in all four categories.

Overall, staff concludes that Corridor 1 provides substantially better transportation performance than Corridor 2. This finding is based on the fact that Corridor 1 provides far greater accessibility than Corridor 2. In the other three categories, the relative performance of the two corridors is similar.

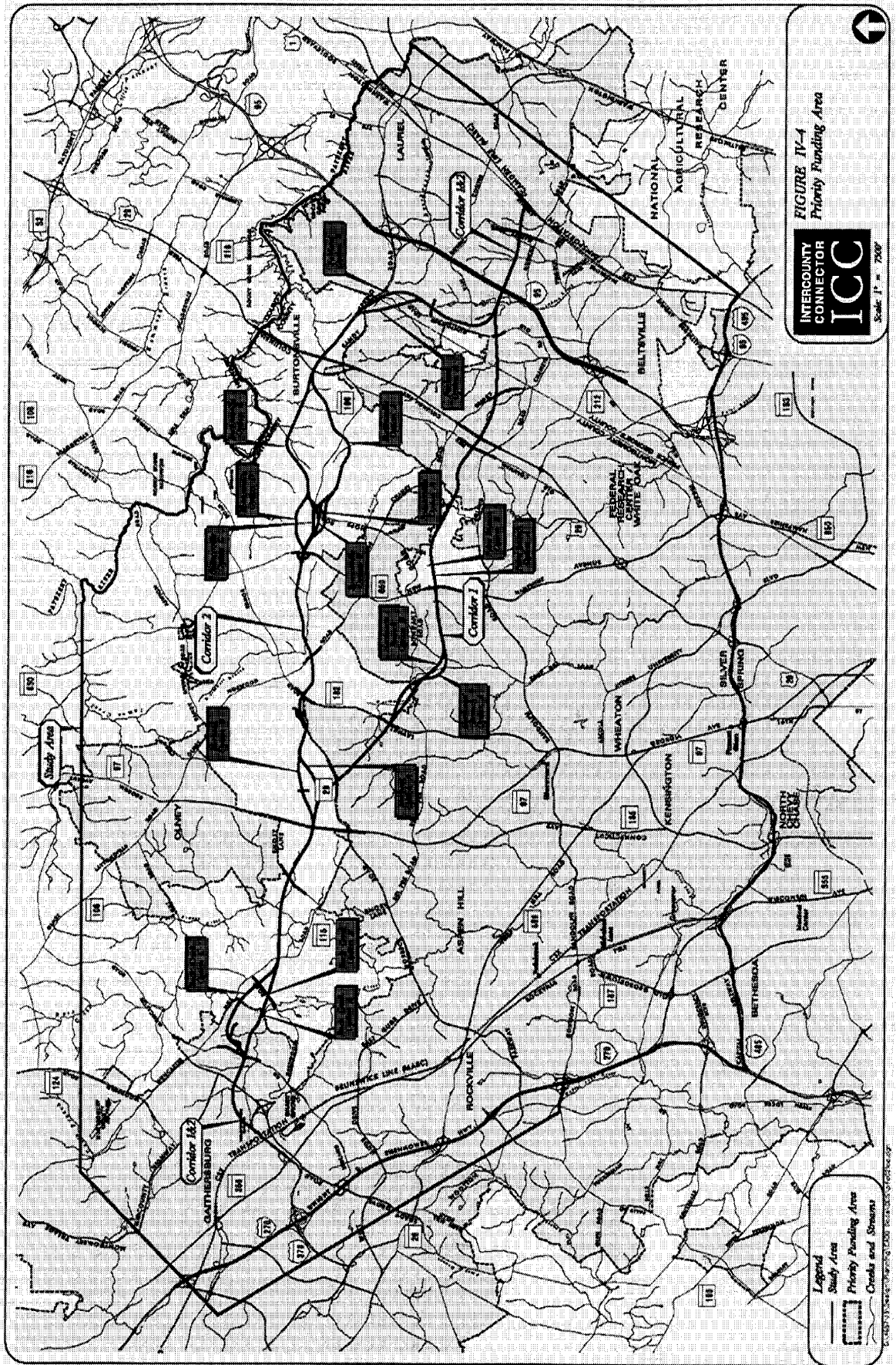
Staff provided detailed analysis of the relative transportation performance between the No-Action, Corridor 1, and Corridor 2 alternatives in the January 7, 2005 memo to the Planning Board. The highlights of that analysis are summarized below:

- Both Corridor 1 and Corridor 2 provide motorists with the option to travel on a safer travel facility, as access is limited to interchanges and no at-grade intersections or driveways are permitted.

The primary benefits of Corridor 1 are greater performance in providing people with quick connections between activity centers (for each evaluation metric below, both Corridor 1 and Corridor 2 were superior to the No-Action alternative):

- Corridor 1 provides significantly greater reductions in travel time between the origin-destination pairs described in the DEIS.
- Corridor 1 provides significantly greater access to jobs.

Exhibit 3. Priority Funding Areas



- Corridor 1 better addresses latent demand for east-west travel, particularly crossing Rock Creek, a natural feature identified as the County's most capacity-constrained screenline in the Planning Board's 2002 Transportation Policy Report.
- Corridor 1 results in a greater economic benefit to the typical user as identified by the University of Maryland study.

Corridor 2 performs better than Corridor 1 in two categories (for both categories, Corridor 1 also performed better than the No-Action alternative):

- Corridor 2 results in more study area intersections operating below capacity.
- Corridor 2 results in more new jobs created as identified by the University of Maryland study.

Construction Cost

Both Corridor 1 and Corridor 2 have comparable construction costs. As indicated in Exhibit 1, the Corridor 1 cost estimates range from \$1.9B to \$2.2B and the Corridor 2 cost estimates range from \$1.8B to \$2.1B. The difference in cost is therefore contingent upon the options selected within each corridor. Assuming either the most or least costly options (including alignment and interchange options, environmental stewardship options, and compensatory mitigation packages), the difference between the two corridors is, at \$0.1B, generally about 5% of the total project cost. **Staff finds that, given the differences in options, cost should not be a factor in selecting between Corridor 1 and Corridor 2.**

B. SIGNIFICANT OPTIONS

Staff recommends that the Planning Board and County Council support the following significant options within Corridor 1 as itemized below and described in the following paragraphs:

- Rock Creek Option C – Olde Mill Run Grade Separation
- Layhill Road interchange
- Northwest Branch Option A
- Deferral of a recommendation on "ICC truncation at I-95" to Prince George's County Government

1. ROCK CREEK

The Rock Creek alignment options represent, in microcosm, the basic tradeoffs between natural environmental impacts, community impacts, and capital costs. The first figure below shows the location of the Rock Creek Options A (the master plan alignment for the ICC) and C (which includes a portion of the master plan alignment for Midcounty Highway Extended, or M-83). Option C includes two suboptions to address access to the southern half of the Winters Run community:

- A grade-separated option with a depressed ICC roadway beneath Olde Mill Run drive and an adjacent roadway deck.
- A cul-de-sac option with existing Olde Mill Run Drive turned into a cul-de-sac and a new access roadway connected via Garrett Road to Redland Road.

Exhibit 4 identifies the location of Rock Creek Option A and the two Option C alignments. Exhibits 5 through 7 provide a mosaic of DEIS Appendix A plates 3 through 11.

Exhibit 4. Location of Rock Creek Optional Alignments

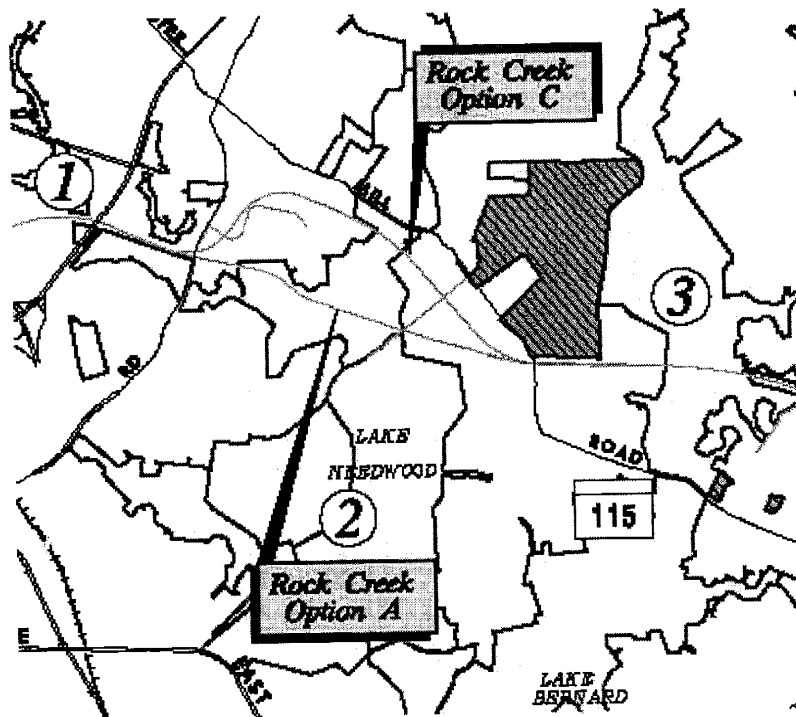


Exhibit 5. Rock Creek Option A

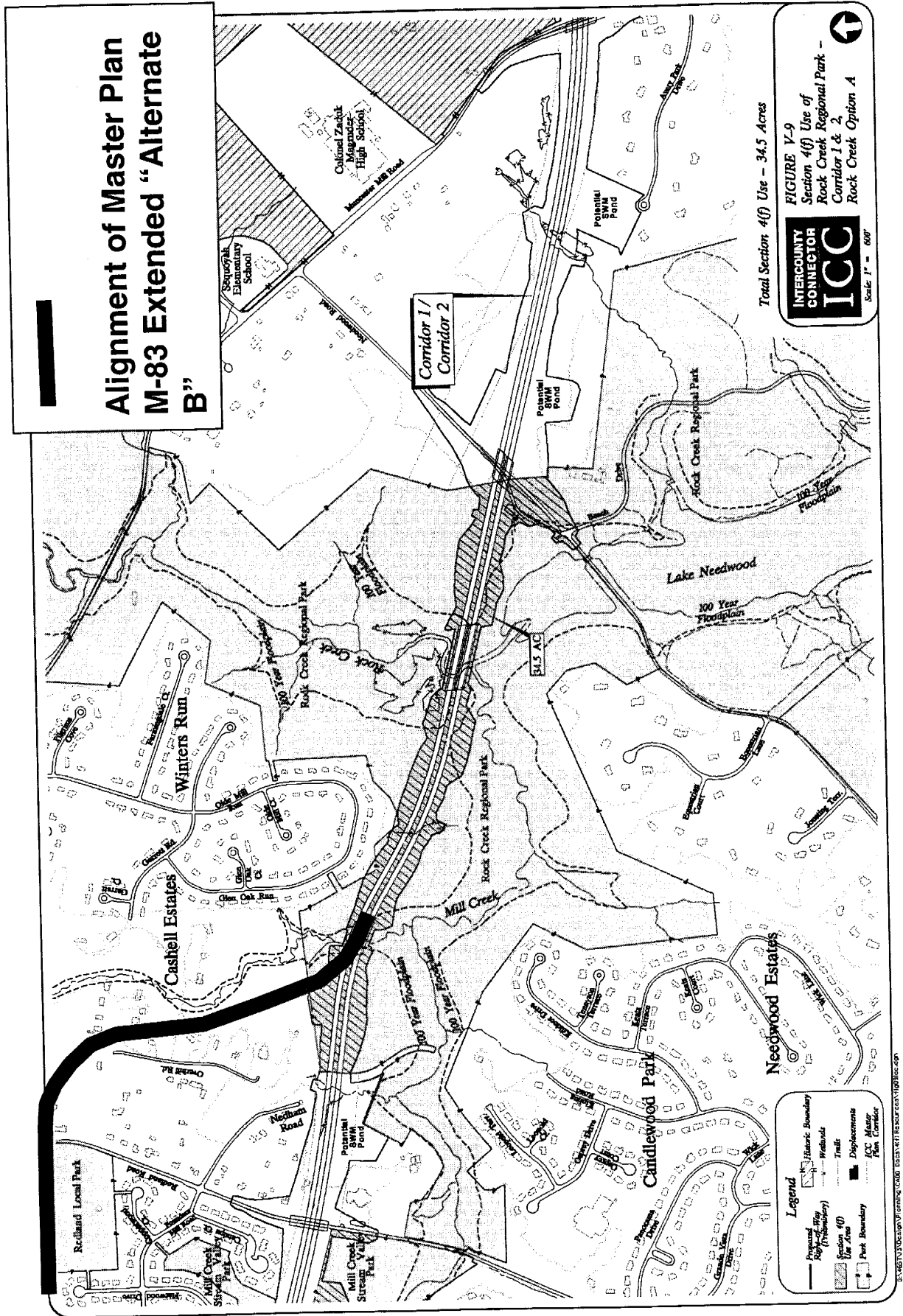


Exhibit 7: Rock Creek Option C

With Olde Mill Run Cul-de-sac

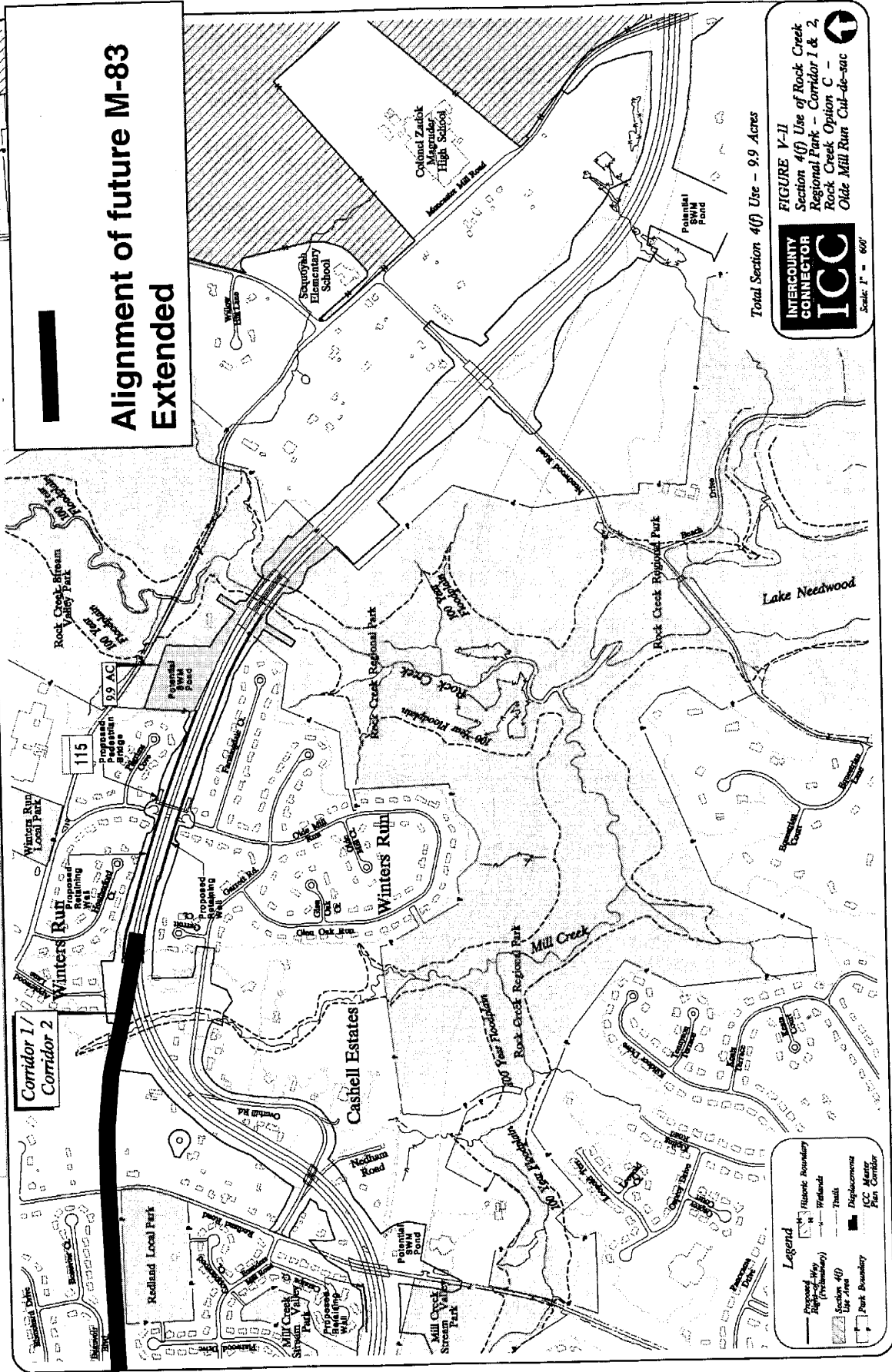


Exhibit 8. Master Plan Alignment Alternatives for M-83

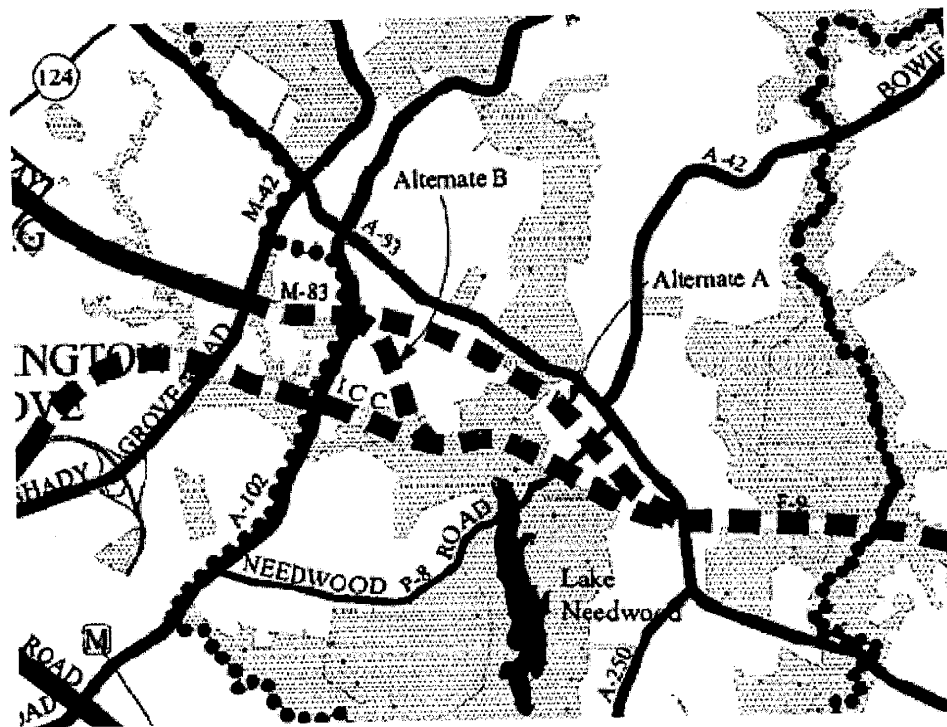


Exhibit 8 shows the roadway designations and alignments in the current Upper Rock Creek master plan for the area. The current master plan envisions the ICC along the Option A alignment and preserves two options for the future extension of Midcounty Highway (M-83):

- M-83 Alternative A traverses the Winters Run community on the historic “MD 115 Relocated” alignment with a new crossing of the mainstem of Rock Creek.
- M-83 Alternative B, added to the 1985 Upper Rock Creek Plan, turns south through the Cashell Estates community to join the ICC west of the mainstem of Rock Creek, thereby limiting new roadways to a single stream crossing.

Staff finds that, if MDOT selects Option A for the Rock Creek area, the M-83 Alternative A alignment should be removed from the Master Plan of Highways. If Option A for the ICC were selected, then M-83 Alternative B, utilizing the ICC stream crossing of Rock Creek, would be the preferred M-83 alignment. If Option C for the ICC is selected, then it utilizes nearly all the M-83 Alternative A right-of-way.

The DEIS notes that additional right-of-way in Option C and bridge widening in Option A would be necessary to implement M-83. **Staff recommends that these impacts be included in the selected alternative and incorporated into the roadway design.**

From a regional transportation perspective, the three DEIS options are essentially equivalent. The differences in roadway design, length, and access points would not materially affect roadway capacity. Staff notes that the Option C design includes a relatively sharp reverse

horizontal curve that would be similar to those on the Capital Beltway in the vicinity of the Mormon temple from the driver's experience and may require advisory speed signing. Staff does not find these curves, however, to be important enough to carry weight in the decision-making process.

Exhibit 9 summarizes the information in DEIS Table S-3 that compares the impacts of the three Rock Creek options for those measures where the results are different. For each resource, the option with lower impacts is shown in bold text.

Exhibit 9. Rock Creek Option Differences in DEIS Table S-3

Resource	Option A (Master Plan)	Option C with Olde Mill Run Grade Separation	Option C with Olde Mill Run Cul-de-Sac
Business and Community Facility Displacements (No.)	0	1	1
Residential Displacements	3	17	17
Total Right-of-way (Acres)	108.5	122	121
Noise Impacted Areas (No. Residences / No. Noise Sensitive Areas)	14/3	45/3	57/3
Wetlands	0.9	0.6	0.6
Streams (No./Linear Feet)	4/1,669	5/2,050	4/1,833
Floodplain (Acres)	5.8	1.7	2.3
Forest (Acres)	51.7	50.4	47.8
Construction Cost (\$M)	88	131	101
Right-of-Way Cost (\$M)	25	38	41
Total Cost (\$M)	113	169	142

In the case of the Rock Creek Options, the Master Plan alignment has the greatest quantitative environmental impacts. Staff feels in this case, however, that the relative natural environmental impacts in Option A are even greater than reflected in the table for several reasons:

- The forest acreage in Option A is primarily high-quality interior forest whereas the forest along Option C (although only 3 to 4 fewer total acres) encompasses lower quality stands including some forested remnants within the 150-foot-wide M-83 right-of-way.

- Option A traverses the Redland Spring Ecologically Sensitive Area along the Mill Creek tributary. The Redland Spring Ecologically Sensitive Area contains known habitat for American chestnut and bashful bulrush, two DNR rare/watchlist species. This resource, described on DEIS page II-127, has been one particular focus of concern among civic testimony received to date by MDOT. Option C does not have direct impacts to the Redland Spring Ecologically Sensitive Area.
- Option A traverses the northern tip of Lake Needwood, causing concern regarding impacts to the natural environment as well as the park user experience.

MDOT developed Option C to avoid the resources in the Master Plan alignment. Staff has balanced the natural environmental advantages of Option C with the substantially more adverse community impacts. In addition to those quantified in the table above, Option C creates the following issues and concerns:

- Whereas the Winters Run community is already bisected by a master-planned highway alignment (M-83), it is not a facility with the same expected function and traffic volumes as the proposed ICC. Furthermore, M-83 would provide improved access to the community via an at-grade intersection, likely to be controlled by a traffic signal, whereas the limited-access ICC would preclude both vehicle and pedestrian access to Winters Run.
- Option C is more expensive for SHA to construct, but would provide the shortest and therefore least expensive option for any agency to complete the M-83 extension. Staff estimates that the future M-83 extension costs between Shady Grove Road and the ICC would be approximately \$6M lower with ICC Option C than with ICC Option A (and M-83 Alternative B).
- While Option A avoids direct impacts to the Winters Run and Cashell Estates communities, either one of those communities would be impacted by the eventual completion of M-83, either along M-83 Alternative A (Winters Run) or M-83 Alternative B (Cashell Estates). Option C includes several residential displacements not envisioned in the Master Plan.

In evaluating the options, staff first found that Option C – Olde Mill Run Cul-de-sac was unacceptable from the perspective of both property and accessibility impacts on the Winters Run community; these impacts are mitigated to a substantial degree by the maintenance of Olde Mill Run Drive and depression of the ICC below grade in the Option C – Olde Mill Run Grade Separation Option.

**Exhibit 10. Staff Perspective Matrix on Rock Creek Options
(Lighter shading indicates superior performance)**

Characteristic	Option A (Master Plan)	Option C with Olde Mill Run Grade Separation	Option C with Olde Mill Run Cul-de-Sac
Parkland Acquisition			
Park User Experience			
Redland Springs Ecologically Sensitive Area			
Mill Creek Stream Valley Interior Forest			
Community Displacements			
Community Proximity Effects			

Staff finds that to confirm support for revising the Master Plan of Highways to the Option C - Olde Mill Run Grade Separation alignment, three questions need to be answered in the affirmative:

1. **Is this option fair to the affected communities?** Staff finds that the answer is yes, based on the following factors:
 - The Winters Run community exchanges a planned freeway in their back yard (some 6 homes within 300 feet of the ICC roadbed and another 14 homes within 300 feet of the future M-83 Alternative B alignment) for a freeway generally depressed beneath their community (some 24 homes within 300' of the roadbed beyond the decked section).
 - The Cashell Estates community will ultimately be affected by construction of a new roadway; either Option C of the ICC or M-83 Alternative B. Option C of the ICC would require displacement of 13 residences and one business. M-83 Alternative B has not been evaluated in detail by MDOT, but would likely require five to seven residential displacements based on the conceptual alignment shown in DEIS Appendix A Plate 4.
2. **Since the ICC has been master planned to coexist with the parklands through which it passes, what conditions warrant deviating from the master plan parklands alignment and impacting communities here, but not elsewhere?**

- The relatively small scale of the deviation from the master plan: The selection of Corridor 1 versus Corridor 2 east of Georgia Avenue involves a deviation of roughly two miles from the master plan alignment for approximately 10 miles in distance. The selection of Rock Creek Option A versus Option C involves a deviation of approximately one-half mile from the master plan alignment for roughly one mile in distance. The two communities which are, indisputably, adversely impacted by Option C are the same communities which are only slightly less impacted by the master plan alignment in Option A.
- Total preservation of a unique natural resource: Selection of Option C allows the Redland Springs Ecologically Sensitive Area to be preserved in its entirety.
- Preservation of the Lake Needwood park user experience: Rock Creek Regional Park is one of the more actively used parks and the peace and serenity of the park is one of the attractions for both boating activities on Lake Needwood as well as activities along the Lake Needwood shoreline. Balloon tests indicate that Option A of the ICC would not be visible from the primary park activities located on the eastern lake shoreline. Option A would likely be visible, however, by boaters in the northern portion of the lake.

3. *Is the preservation of resources in the Rock Creek stream valley worth \$50M?*

Staff recognizes that the MDOT budget is constrained, but that the ICC project provides an opportunity for all public agencies to collaborate on a first-class project. Staff is requesting four discrete elements, each of which may come attached with a price tag of several tens of millions of dollars. They are, in staff's general order of priority:

- A commitment to find replacement parkland sites that replace interior forest loss
- A commitment to fund a continuous east-west bicycle path connection
- Preservation of the Redland Springs Ecologically Sensitive Area and the Lake Needwood park user experience
- Selection of a package of worthy environmental stewardship features

2. LAYHILL ROAD INTERCHANGE

The MDOT public hearing brochure indicates that the study team has preliminarily concluded that providing the optional Layhill Road (MD 182) interchange is needed to enhance community mobility and safety. The location of the Layhill Road interchange is at the western edge of the Northwest Branch optional alignments and shown in the exhibits included in the subsequent discussion of those optional alignments. **Staff concurs that the Layhill Road interchange should be included in the selected alternative** for the following reasons:

- The interchange is in the master plan.
- The use of the interchange by approximately 30,000 vehicles per day demonstrates purpose and need.

- The incremental cost of the interchange is only \$9M.
- The incremental impacts of the interchange are minimal (a total of 2.5 acres of additional right-of-way including 1.4 acres of forest and 0.2 acres of floodplain).

3. NORTHWEST BRANCH

The figure below shows the two Northwest Branch alignment options. Northwest Branch Option B (the straighter alignment of the two) is the master-planned alignment and the 300-foot-wide right-of-way has already been established through a portion of the park. Northwest Branch Option A is a more curvilinear alignment that was developed to minimize impacts on environmental resources, despite the fact that it is longer and requires more designated parkland. It may also accelerate the planned Trolley Museum relocation. Exhibit 11 identifies the location of the Northwest Branch optional alignments and Exhibits 12 and 13 provide mosaics of DEIS Appendix A plates 19, 20, 23, and 24.

Exhibit 14 summarizes the information in DEIS Table S-3 that compares the impacts of the two Northwest Branch options for those measures where the results are different. (In both cases, the table references the options that include the Layhill Road interchange). For each resource, the option with lower impacts is shown in bold text.

Exhibit 11. Location of Northwest Branch Optional Alignments

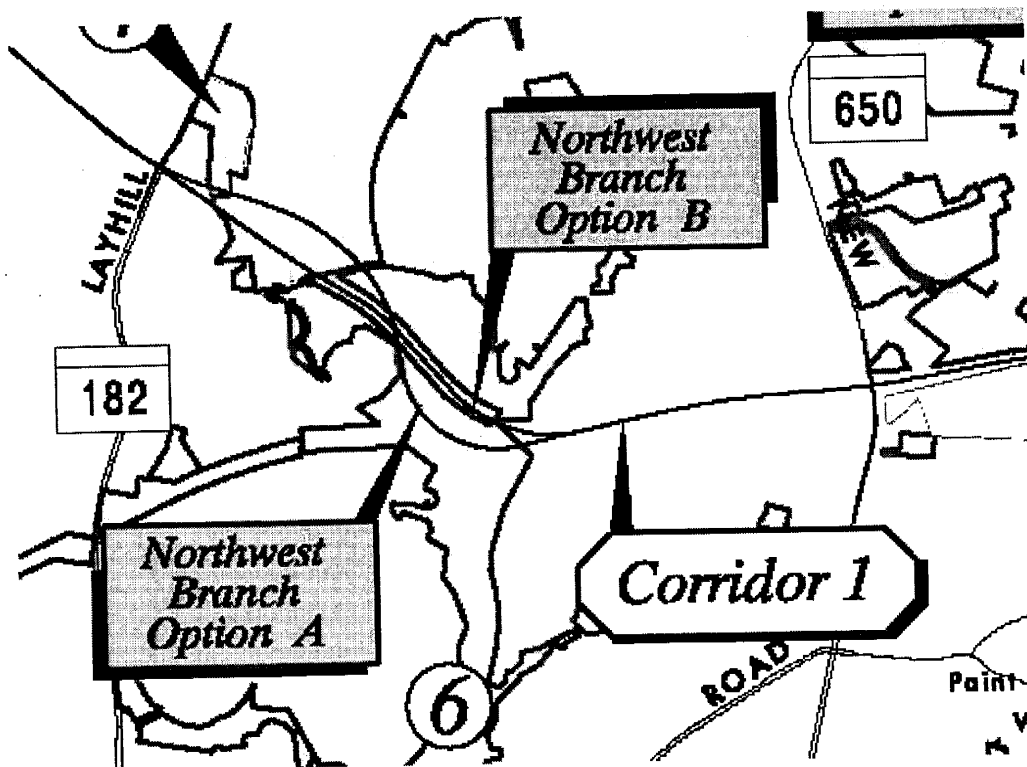


Exhibit 12: Northwest Branch Option A

