SUMMARY

A. Administrative Action

(X) Final Environmental Impact Statement (FEIS)
( ) Environmental Assessment
( ) Finding of No Significant Impact
(X) Final Section 4(f) Evaluation

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This Final Environmental Impact Statement (FEIS) / Final Section 4(f) Evaluation has been prepared by the Maryland State Highway Administration (SHA) and the Maryland Transportation Authority (MdTA) for the Federal Highway Administration (FHWA) and the Maryland Department of Transportation (MDOT) to fulfill the requirements set forth in the National Environmental Policy Act of 1969 (NEPA) and Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966 (49 USC § 303). SHA, MdTA, FHWA, and MDOT are the Intercounty Connector (ICC) study's Lead Agencies. The FEIS also complies with the regulations established by the President's Council on Environmental Quality (CEQ) (40 CFR § 1500-1508), the USDOT (DOT Order 5610.1C), and the FHWA's Environmental Impact and Related Procedures (23 CFR § 771).

The U.S. Army Corps of Engineers (USACE) and the Maryland Department of the Environment (MDE) are concurring agencies in the preparation of this FEIS. The USACE is the permitting agency for the Clean Water Act Section 404 Permit, which will be required for this project. Accordingly, the USACE performs its alternatives review for the Section 404 permit process (Section 404 [33 USC §

1344] of the Clean Water Act [33 USC § 1251-1387]). The USACE regulates discharges of dredged or fill material into Waters of the United States, including wetlands. The USACE regulates these discharges following the Section 404(b)(1) Guidelines of the Clean Water Act, Specification of Disposal Sites for Dredged or Fill Material (40 CFR § 230), first published in 1980. These discharges require permits from the USACE. The ICC study also satisfies the alternative analysis requirements of the Maryland Nontidal Wetlands Protection Act for proposed impacts to nontidal wetlands. In addition, a water quality certification, pursuant to Section 401 of the Clean Water Act and a nontidal wetlands and waterways permit would be required from the MDE.

The USACE, MDE and the U.S. Environmental Protection Agency (EPA) are cooperating agencies in the preparation of this FEIS. A cooperating agency is any public agency with jurisdiction by law over any portion of a project or with special expertise. The EPA has discretionary veto authority over the Section 404 Permit under Section 404(c) and special expertise with respect to the Clean Water Act Section 404(b)(1) guidelines.

This FEIS presents information gathered from other technical documents prepared for this project. In accordance with recommendations set forth by the CEQ, the technical information summarized in the FEIS / Final Section 4(f) Evaluation is provided in detail in the following reports:

- *Draft Environmental Impact Statement (DEIS)/Draft Section 4(f) Evaluation (web-site accessible)*
- *Natural Environmental Technical Report (web-site accessible)*
- *Socioeconomic and Land Use Technical Report (web-site accessible)*
- *Air Quality Technical Report (web-site accessible)*
- *Noise Quality Technical Report (web-site accessible)*
- *Initial Site Assessment*
- *Archeological Survey of the Intercounty Connector Project*
- *Archeological Survey of the Intercounty Connector Project Addendum*
- *Impact Assessment Technical Report, I-270 to US 1 (Cultural) (web-site accessible)*
- *Supplemental Impact Assessment Technical Report, I-270 to US 1*
- *Environmental Stewardship Technical Report (web-site accessible)*
- *Secondary & Cumulative Effects Analysis Technical Memorandum (web-site accessible)*
- *Travel Analysis Technical Report (web-site accessible)*
- *University of Maryland Economic Impact Study (web-site accessible)*
- *Upper Paint Branch Baseflow and Temperature Monitoring Study Summary (See **Appendix D**)*
- *Water Resource Hazard Assessment at the Rocky Gorge Reservoir*

Additional technical support data have been compiled, and include, but are not limited to, the following topics: project purpose and need, public and agency involvement, noise, air quality, farmlands, preliminary engineering, traffic, potentially contaminated areas, socioeconomic resources, natural resources, and cultural resources. The FEIS summarizes the detailed technical data, incorporates that information by reference, and provides the information necessary to make an informed decision. Readers desiring more information about this data and the methodologies employed are encouraged to review the technical support data.

Copies of the technical support data are available for public review (upon request) at the SHA Headquarters, located at 707 North Calvert Street, Baltimore, Maryland 21202 or via the project website at www.iccstudy.org. In addition, any person with special needs, such as English language deficiency or Braille, will be accommodated by the Lead Agencies. The FEIS/Final Section 4(f) Evaluation/Section 404 Permit Application consists of three volumes, as follows:

Volume 1 *Preface*
Summary
Chapter I: Purpose and Need
Chapter II: Affected Environment
Chapter III: Alternatives Considered
Chapter IV: Environmental Consequences
Chapter V: Final Section 4(f) Evaluation
Chapter VI: Environmental Stewardship
Chapter VII: Preferred Alternative
Chapter VIII: Agency Coordination and Public Involvement
Chapter IX: List of Preparers
Chapter X: Distribution List
Chapter XI: References

Volume 2 *Document Figures and Appendices*

Volume 3 *Appendices*

C. Planning History in the Study Area

1. Land Use and Transportation Vision

a. The Maryland-National Capital Park and Planning Commission

The Maryland-National Capital Park and Planning Commission (M-NCPPC) is a bi-county agency empowered by the State of Maryland in 1927 to acquire, develop, maintain and administer a regional system of parks within Montgomery and Prince George's Counties, and to prepare and administer a General Plan, Area Master Plans, and Functional Master Plans for the physical development of the two counties. M-NCPPC staff of career employees includes planners, park and recreation administrators, park police and administration staff. In addition, seasonal workers staff numerous park and recreation programs.

M-NCPPC consists of ten Board Members; five appointed by Montgomery County and five appointed by Prince George's County. M-NCPPC coordinates and acts on matters of land use interest to both counties, and meets at least once a month. The members of M-NCPPC from each county serve as separate Planning Boards that meet at least once a week to review, regulate, and plan for land use matters affecting their respective counties. M-NCPPC administers a park system of more than 54,000 acres, which is composed of stream valley parks, large regional parks, neighborhood parks and park-school recreation areas. See ***Figure S-1*** in *Volume 2* to review the park system, land development pattern and proposed ICC alignments in the study area.

b. 1964 General Plan of Montgomery and Prince George's Counties

In 1964, M-NCPPC released *On Wedges and Corridors, A General Plan for the Maryland-Washington Regional District* (M-NCPPC, 1964), which adopted the planning concept for wedges of open space and rural land between corridors of urban development radiating into Montgomery and Prince George's Counties from an urban core. The 1964 *General Plan* recognized the District of Columbia as the center of geographic, economic, and cultural activities in the region and described radial "Corridors" leading from it to channel growth into development corridors. Wedges of open space, farmland, and low-density residential uses are preserved between the corridors.

c. Montgomery County and Prince George's Counties' General and Master Plans

The 1964 *General Plan*, refined in 1993, envisioned the communities along I-270 in Montgomery County as Corridor Cities and the communities in the southern and eastern portions of the county as part of an Urban Ring around the District of Columbia. The Corridor Cities and Urban Ring were planned to be relatively dense, compact centers. Abutting them are moderately dense suburban communities. The Residential and Agricultural Wedges are located in the northwestern and northeastern portions of the County. The Agricultural Wedge covers about one third of the County. Subsequent Montgomery County master plans and land use laws and policies have reinforced this plan.

The *General Plan* for Prince George's County was updated in 2002. The overall concept is based on the "On Wedges and Corridors" concept, but employs a more refined three-tier land use system. The three tiers are: Developed, Developing, and Rural Tiers. This system uses concentric tiers of development density surrounding an urban core around the District of Columbia. Development and future growth is generally focused around the northern and western portions of the County, and rural land is preserved in the eastern and southern portions. The Rural Tier covers about one third of the County. See ***Figure S-2*** in *Volume 2.*

The concept of an ICC has been included in Master Plans for the study area for over 50 years. The National Capitol Planning Commission (NCPC) first introduced the concept of an east-west highway in the current study area in the 1950s as part of a larger Outer Beltway around Washington, DC. This highway was included in M-NCPPC's 1953 *Master Plan of Highways* (M-NCPPC, 1953), the 1957 Montgomery County *General Plan* (M-NCPPC, 1957), and in the 1964 *General Plan* (M-NCPPC, 1964).

d. Historic Locations of the ICC

The concept of an Outer Beltway was dropped from planning documents in 1968 after extensive coordination between the MDOT and Montgomery and Prince George's Counties. However, the segment between the I-270 Corridor and the I-95 / US 1 Corridor was retained in planning documents because there was a recognized need for improved east/west mobility and access between those two north/south corridors. The retained section became known as the ICC and has remained in numerous master plans since. The ICC was dropped from Prince George's County Master Plans with the adoption of the 1982 Prince George's County General Plan, but was re-introduced in Prince George's County in 1990 with the *Subregion I Plan* (M-NCPPC, 1990).

In 1972, the Montgomery County Planning Board recommended, and the Montgomery County Council approved, the alignment of a new highway east of I-270 and north of Rockville to the eastern border of Montgomery County, which is currently the Master Planned alignment of the ICC. This changed the previously planned alignment between Northwest Branch Stream Valley Park and the I-270 Corridor. The planned alignment east of Northwest Branch Stream Valley Park remained in the same location. The former ICC alignment south of Rockville has become the proposed alignment of the Matthew Henson trail planned by M-NCPPC.

2. Past Project Planning Studies

a. 1983 and 1997 ICC NEPA Studies

The first NEPA analysis of an ICC commenced in 1979, and a DEIS was published on July 8, 1983. MDOT identified preference for the alternative following the Montgomery County Master Plan in 1987. Subsequently, several Federal reviewing agencies expressed concern about the impact on the natural environment, and MDOT became concerned that much of the socioeconomic data and traffic forecasts, upon which the need and design of the ICC were based, were becoming outdated since preparation of the 1983 DEIS.

After consultation with Montgomery and Prince George's Counties, MDOT announced initiation of a new ICC planning study in 1991. A DEIS was published on March 3, 1997, but no final decisions were made in the study due to political controversy regarding location of the highway and related environmental impacts.

b. Transportation Solutions Group

In 1998, a blue ribbon committee of national and local experts on transportation and land use was appointed by Former Governor Parris Glendening as the Transportation Solutions Group (TSG). This group was asked to develop recommendations for multi-modal transportation approaches, consistent with Smart Growth principles and other regional goals, in order to relieve congestion and improve mobility in the Montgomery and Prince George's Counties' portions of the Washington metropolitan area. The group developed transportation and land use recommendations to be implemented on a local, regional and state level. Recommendations were developed for land use, travel management, and transportation network enhancements.

The TSG confirmed that there is no "silver bullet" that could solve the transportation challenges in Montgomery and Prince George's Counties, and concluded that a combination of policies, services, and facilities would each play a role in creating more travel choices to meet the mobility needs of this growing community. The TSG recommended the following specific strategies to improve and maintain the area's quality of life:

- Promote Smart Growth by reducing barriers to, and providing incentives for, infill development in priority growth areas
- Improve the competitiveness of transit and expand the transit network
- Adopt innovative transportation pricing techniques

- Manage infrastructure more efficiently and encourage intermodal trip making through greater use of Intelligent Transportation System (ITS) technology
- Make selective road network improvements, including congestion relief and community building initiatives, Constrained Long Range Plan (CLRP) implementation, and a new east-west, value-priced, limited access highway connecting Montgomery and Prince George's Counties

3. Transportation Initiatives in the Project Area

a. Congestion Relief Intersection Improvement Studies

Based in part on the TSG's recommendations, MDOT had initiated a congestion relief intersection improvement study to identify and improve areas of congestion in the region. The Congestion Relief Study was initiated in 1997 by MDOT to address short and long term traffic congestion in Montgomery and Prince George's counties. The study resulted in construction improvements to some of the highest volume, poorly operating intersections with minimal disruptions to the environment and the community. Many of these intersections had been identified in the 1997 ICC NEPA study. The status of the Congestion Relief Intersection Improvement Study can be seen in ***Figure S-3*** in *Volume 2*.

b. Transportation Systems Management / Travel Demand Management

Transportation Systems Management (TSM)/Travel Demand Management (TDM) measures were identified by TSG and the 1997 ICC NEPA study as helpful when combination with other build alternatives. Alone, they are not sufficient to meet the ICC's stated Purpose and Need because these measures alone would not reduce travel demand, do not substantially affect mobility and safety beyond localized improvements, do not provide sufficient highway capacity as needed to accommodate movement of goods and people to and from economic centers, and do not provide a reliable alternate east-west route for emergency response situations.

Many TDM measures are included in the region's travel models and are therefore, included in projections of need and benefit for this project. Likewise for TSM improvements, SHA has made many intersection upgrades and continue to construct improvements to transit service would be included with any proposed build alternative. Additional TSM/TDM discussions can be reviewed in ***Chapter III***, *Alternatives Considered*.

c. Expanded Transit

MDOT, through the Maryland Transit Administration (MTA), is in the planning stage for two major New Starts transit projects in Montgomery and Prince George's Counties. See ***Figure S-4*** in *Volume 2* for a map of MTA's major planning studies including the Corridor Cities Transitway (CCT) and the Bi-County Transitway (formerly known as the Purple Line). These projects expand upon the Metrorail, Metrobus, MARC Rail, and the Counties' bus systems.

The 14-mile CCT extends from the Shady Grove Metro Station at the north end of Metrorail's Red Line through Germantown to Clarksburg. This project was established in Montgomery County Master

Plans in the early 1970s, and right-of-way has been preserved through the development process. The CCT would be built as either light rail transit (LRT) or bus rapid transit (BRT) on a reserved alignment. The project also includes the possibility of expanded premium bus service along the I-270 High Occupancy Vehicle (HOV) lane extension or express toll lanes.

The 14-mile Bi-County Transitway would provide high capacity transit along an east/west corridor between Bethesda in Montgomery County and New Carrollton in Prince George's County. The transitway would provide direct connections between the two branches of the Metrorail Red Line as well as the Green and Orange Lines and other community stations. LRT or BRT alternatives along several alignment options are being evaluated by MTA.

d. Transportation Policy Report Task Force

The M-NCPPC and Montgomery County Planning Board established the Transportation Policy Report Task Force (TPR-2) in 2000 to analyze Montgomery County's role in the region and to recommend changes that might include the option of new policies as well as modifications to existing ones. M-NCPPC has recommended new policies to encourage more balanced land use. Two land use alternatives were considered by the TPR-2 for 2025 and 2050: Master Plan Land Use and Alternative Land Use. Both alternatives assumed the same numbers of projected households and jobs in Montgomery County in 2025 and 2050, but a balanced land use alternative redistributed jobs and households in an attempt to place jobs and households even closer together. A more detailed discussion on the Alternative Land Use scenario, or Balanced Land Use Alternative, can be found in ***Chapter III***, *Alternatives Considered, Section B.5*.

4. Maryland Smart Growth Laws

a. 1992 Planning Act

In 1992, the Maryland General Assembly enacted the Maryland Economic Growth, Resource Protection, and Planning Act. The Planning Act of 1992 establishes seven guiding "Visions" for growth and conservation in Maryland, requires update of all local plans to comply with the specific provisions of the Act, requires consistency of State and local capital projects with local plans, and establishes the Economic Growth, Resource Protection, and Planning Commission to oversee land use planning coordination in Maryland.

b. 1997 Smart Growth Initiatives

In 1997, the Maryland General Assembly enacted a series of laws called the Smart Growth Initiatives. The basic goals of these laws are to preserve and protect resources, support existing communities, and save taxpayers from spending on unnecessary infrastructure related to sprawl. The legislation includes Priority Funding Areas (PFA), which are county-designated and State-approved geographic areas where State infrastructure spending is to be focused. The Montgomery County PFA is based on the Wedges and Corridors concept and the Prince George's County PFA is based on the boundaries of the Developed and Developing Tiers.

c. 2003 Priority Places Executive Order

The Priority Places Executive Order was signed by the Maryland Governor Robert Ehrlich, Jr. in July 2003 to develop long-term solutions to the complicated issues of economic growth, community revitalization and resource conservation; to focus revitalization efforts on existing communities, and to maximize the efforts of agencies and programs to achieve the best public return on State investments. Priority Places builds on the Smart Growth Initiatives to support sound planned development projects.

D. Initiation of Current Study

In the late 1990s, legislation and administrative reforms aimed at improving the Federal review process and planning for transportation projects occurred. These include the following:

1. Environmental Streamlining

a. Transportation Equity Act for the 21st Century (TEA-21)

TEA-21 was passed by Congress in 1998 and authorizes the Federal surface transportation programs for highways, highway safety, and transit. Section 1309 of TEA-21 emphasizes interagency cooperation through full and early agency participation, negotiated timeframes, dispute resolution, improved decision-making, and project review. These streamlining objectives can be achieved through mechanisms that coordinate agency efforts. Programmatic Agreements, State and local initiatives, flexible and creative mitigation, and environmental streamlining research are implementation tools that, when used effectively, would lead to improved stewardship and process.

b. Executive Order 13274

In September 2002, Executive Order (EO) 13274 was signed by President George W. Bush requiring Federal agencies to take appropriate actions to promote environmental stewardship in the Nation's transportation system and better coordinate environmental reviews of high-priority transportation infrastructure projects. The EO also created a new “Transportation Infrastructure Streamlining Task Force” to more closely coordinate Federal reviews on projects while simultaneously stressing the importance of improved environmental stewardship at all levels of government.

Under EO 13274, the USDOT requested priority project nominations from Governors, metropolitan planning organizations (MPOs), transit and airport authorities, and State DOTs. Projects chosen for priority review were required to demonstrate regional or national importance and contain stewardship elements and innovative approaches. Then - Maryland Congressman Robert Ehrlich, Jr. and Montgomery County Executive Douglas Duncan separately nominated the ICC as a priority project under the EO 13274. In February 2003, U.S. Secretary of Transportation Norman Mineta selected the ICC as one of 13 pilot priority projects under EO 13274.

The current ICC study includes environmental streamlining and stewardship measures. Environmental streamlining and stewardship are key components of both EO 13274 and Section 1309 of the TEA-21. EO 13274 requires that transportation and environmental review processes become more effective and efficient through interagency partnerships and communication. Specifically, EO 13274 directs Federal

agencies to work together to promote environmental stewardship and process efficiency by identifying priority projects for oversight and priority review.

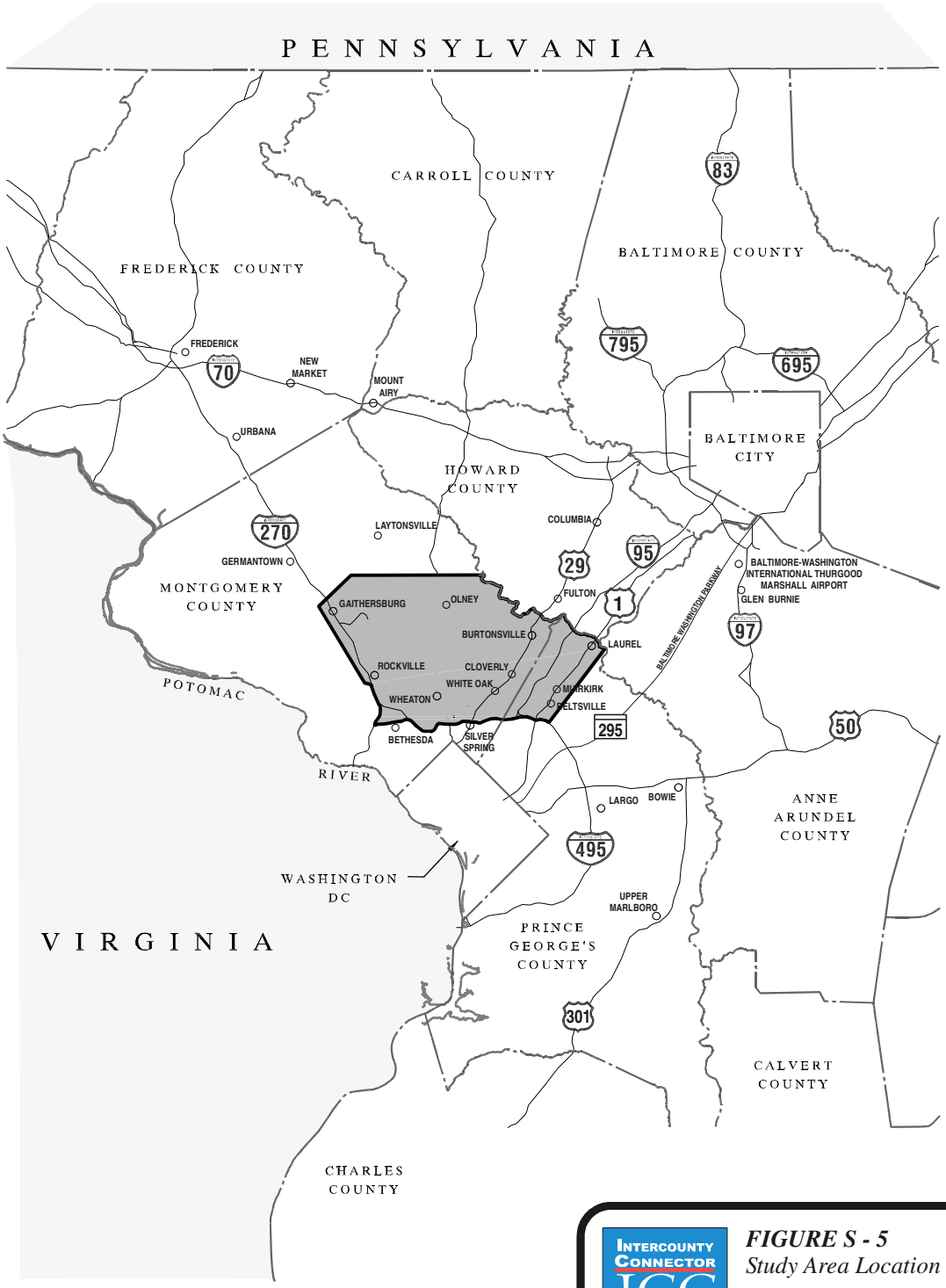
2. 2004 ICC NEPA Study

In response in part to TEA-21 and EO 13274 as well as the land use plans and policies of the two counties and the State; the Lead Agencies re-initiated planning efforts on the current ICC study with an Interagency Workshop at the University of Maryland in June of 2003. The ICC study area is located in Montgomery and Prince George's counties, north of Washington, D.C., extending from the I-270 Corridor to the I-95/US 1 Corridor, and from the I-495 Corridor (the Capital Beltway) to the Patuxent River. See ***Figure S-5*** for a map of the study area location and ***Figure S-6*** for the study area map.

3. Adapted Process and Agency Coordination

The ICC study team initiated coordination with Federal, State, and local agencies to develop a planning process to ensure that interagency coordination occurs early and throughout the study process, to meet the project schedule and to facilitate the regulatory requirements of the regulatory agencies. The adapted process allows for a streamlined project planning process that is compatible with USACE's Section 404 permit decision and MDE's nontidal wetlands and waterways permit, including the Water Quality Certification (WQC) decision. The adapted process included joint NEPA, Section 404, and State Nontidal Wetlands Hearings.

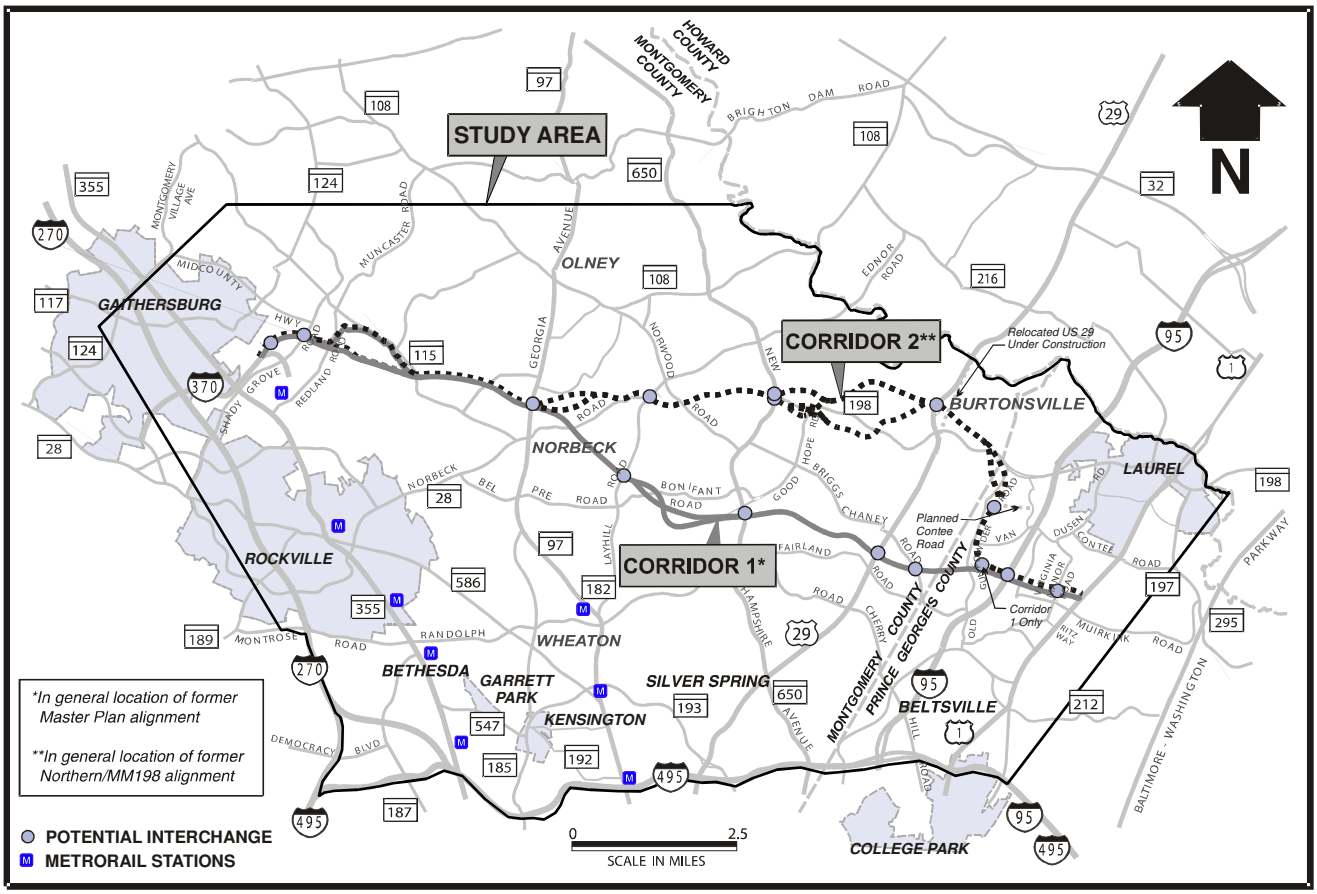
A Principals (+1) group and an Interagency Working Group (IAWG) were established to guide the study team through the study process. The purpose of the Principals (+1) group is to seek consensus on issues of policy related to key project milestones and on the components of the FEIS and related issues. The purpose of the IAWG is to provide input and technical expertise and to advise on the preparation of information in the environmental documents and permit applications for the ICC. Combined, these groups have convened for 35 meetings since June of 2003 to review avoidance and minimization alternatives, mitigation and environmental stewardship opportunities, and to address specific agency information and requirements associated with the project. Agency representatives also participated in many field view meetings and reviewed Preliminary DEIS and technical report documents.



INTERCOUNTY CONNECTOR ICC

FIGURE S - 5
Study Area Location

Figure S-6
Study Area Map

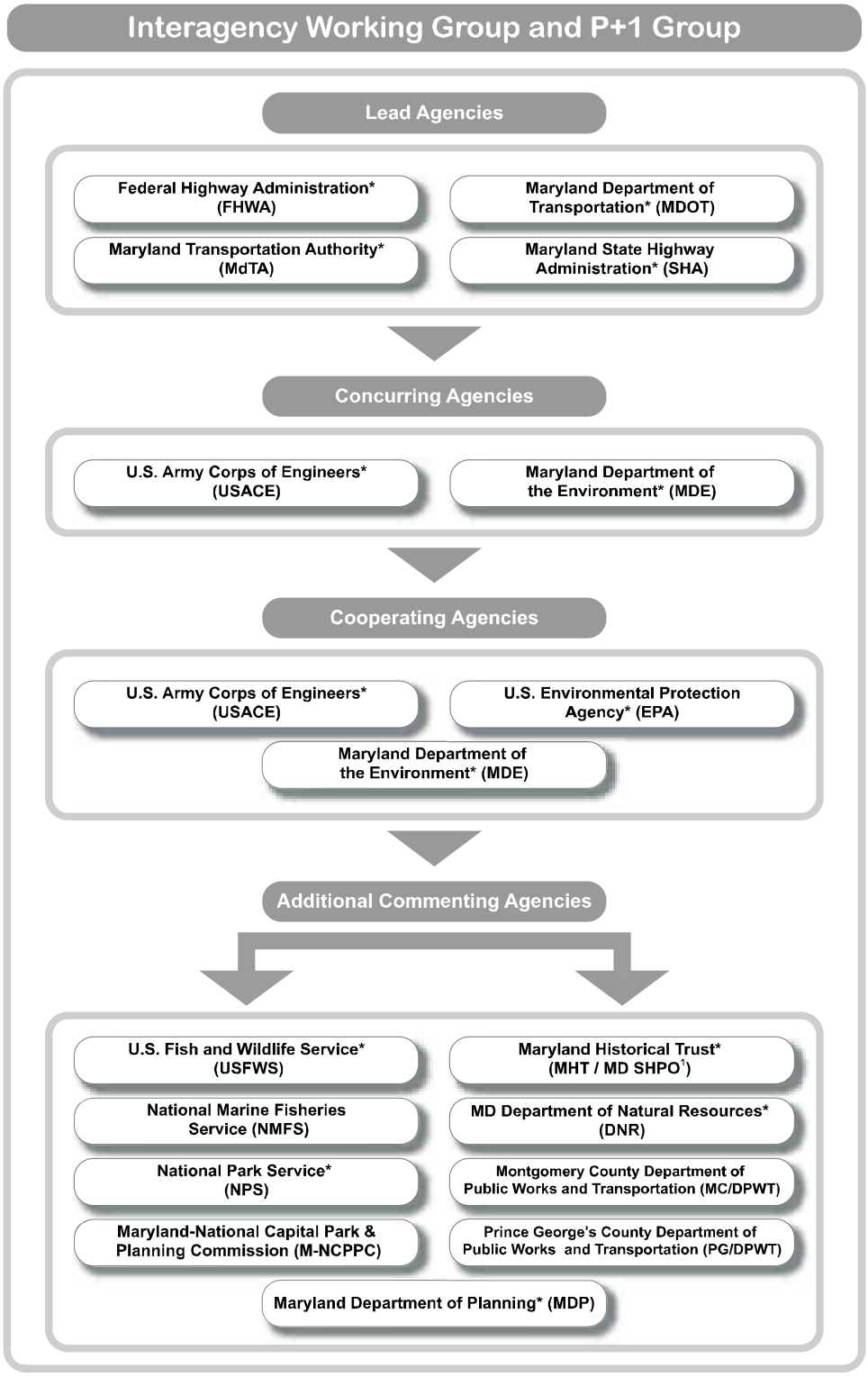


See ***Figure S-7*** for an overview of agency involvement and coordination. All the identified agencies participated in the IAWG. Principals (+1) representatives are also identified on ***Figure S-7*** with the asterisk. More detailed discussion on the IAWG and Principal (+1) group is located in ***Chapter VIII***, *Agency Coordination and Public Involvement.*

4. Identification of New Data Needs

Where still relevant, the current ICC study applies information from the 1997 ICC study. However, the current study reflects new regulatory requirements and procedures that have been legislated and adopted since 1998. Therefore, the current ICC NEPA process identified gaps within the then existing data. This is often referred to as the "Gap Analysis" in the current ICC study. The new study is being used to fill those gaps.

Figure S-7
Agency Involvement and Coordination



[1] - State Historic Preservation Officer
* - included in P+1 (Principals Plus One) group

The Gap Analysis was conducted to define information gaps for those resources where the existing data is insufficient to provide the basis for a complete characterization of the resource and/or an accurate calculation of potential impacts. Additional research and field investigations occurred to address new information needs. In cooperation with the regulatory agencies, the ICC Study Team developed and implemented methods to eliminate gaps, update changing information and meet current regulatory and procedural requirements.

5. Major Differences between the 1997 and current FEIS Planning Studies and the Final Section 4(f) Evaluations

This FEIS/Final Section 4(f) Evaluation includes much additional information that reflects the new studies not included in the 1997 DEIS/Draft Section 4(f) Evaluation, changes to the ICC proposal, new developments and growth, and new regulatory requirements and policies. Substantial differences between the 1997 DEIS/Draft Section 4(f) Evaluation and the 2005 FEIS/Final Section 4(f) Evaluation are summarized below.

a. Purpose and Need

The Washington metropolitan area has continued to experience considerable growth in population and employment since the 1997 DEIS. From 1990 to present, the population in the ICC study area has increased from about 322,101 to 412,045, an increase of 27.9%. Additionally, the I-95/US 1 and I-270 corridors in Prince George's and Montgomery Counties are two of the most intensive employment, residential and transportation corridors in the State. The I-270 corridor extends from the Capital Beltway through Clarksburg. Montgomery County areas along the I-270 Corridor include North Bethesda, Rockville, Gaithersburg, Germantown, and Clarksburg. Prince George's County areas along the largely commercial I-95/US 1 Corridor include Beltsville and Laurel.

The proposed action includes the construction of an access controlled, multi-modal roadway linking I-270 and I-95/US 1 along one of two corridors within numerous alignment alternatives (***Figure S-6***). Corridor 1 follows the general alignment proposed for the ICC by Montgomery and Prince George's counties in their Master Plans. The alternative extends from I-370/I-270 near the Shady Grove Metrorail Station southeast to I-95/US 1 south of Laurel. Corridor 2 extends from I-370/I-270 near the Shady Grove Metrorail Station east then south to I-95/US 1 south of Laurel. However, at MD 97, it curves to the east and continues to the north side of MD 198, crossing to the south of MD 198 near the Montgomery/Prince George's County line and rejoining Corridor 1 on the west side of I-95. From the west side of I-95 to US 1, Corridor 2 is identical to Corridor 1.

The 2005 FEIS includes a revised Purpose and Need chapter. The new Purpose and Need chapter includes Goals; Objectives and Measures of Effectiveness; Historic Background; Agency Concurrence and Cooperation; and Information on Project Needs. Additionally, traffic projections have been reassessed using the Metropolitan Washington Council of Governments' (MWCOGs') updated land use projections. The following sections have been added: Historical Background; Agency Concurrence; Supplemental Information on Existing and Future Traffic including Travel Forecasts; Accidents; Employment and Commuting Patterns; Goods Movement; Land Use and Master Plans; Natural, Community, and Cultural Environmental Stewardship; and Homeland Security/Emergency Response.

The following needs have been identified for this project:

- Increase community mobility and safety in the developed portions of Montgomery and northwestern Prince George's counties
- Facilitate the movement of goods and people to and from economic centers in an east-west direction north of the Capital Beltway
- Provide cost-effective transportation infrastructure to serve existing and future development patterns reflecting local land use planning objectives
- Practice environmental stewardship by developing alternatives in an environmentally sensitive manner using state-of-the-art measures to avoid, minimize and mitigate impacts. Alternatives would also include appropriate environmental restoration and enhancements to help bring about improvements to natural, cultural and human conditions from past development
- Advance homeland security by providing additional capacity for military access, population evacuation and emergency vehicle access in and around the National Capital region

A detailed discussion of the project's purpose and need is presented in ***Chapter I***, *Purpose and Need*.

b. Environmental Stewardship

Context Sensitive Solutions (CSS), or "Thinking Beyond the Pavement", is a relatively new concept in the Maryland transportation development process that was adopted after the 1997 DEIS. Maryland's SHA joined four other states to develop a national pilot CSS program for FHWA. CSS requires a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic, and environmental resources, while maintaining safety and mobility. CSS is an approach that considers the total context within which a transportation improvement project would exist. CSS has established a foundation for Environmental Stewardship (ES) measures.

In addition to CSS, the current ICC project also incorporates specific Environmental Stewardship projects. While the project has already incorporated sound environmental stewardship in the development of its project alternatives, the project sponsors noted the need and desire to also identify opportunities to restore and enhance environmental resources within the ICC study area that are above and beyond compensatory mitigation required for the project.

The process of identifying specific Environmental Stewardship projects was initiated with the contact of various Federal, State, and local agencies to request their input on developing an inventory list of the natural and community/cultural ES needs and opportunities. These needs were then prioritized in each sub-watershed for natural environmental resources and by each community area for human resources. The prioritization was based on both agency and public input as well as a preliminary determination of effectiveness in improving current environmental conditions. The initial inventory identified approximately 950 natural and community/cultural environment sites. Additional screening and field investigations were conducted with the resource agencies to narrow the sites now being considered for ES. The selection criteria for the sites were based on environmental benefit, other

environmental resources impacted, severity of need, agency and public comments, feasibility, cost, and relevance to the ICC Corridor.

The ES approach that has been added into the current study would include, for those resources affected, state-of-the-art enhancement efforts focused on enhancing, restoring or recreating resource functions and values degraded by decades of private and public development. Opportunities to restore or enhance natural, cultural, and human resources may include, but are not limited to: water quality improvements; stream habitat restoration; bicycle and pedestrian trails; park improvements; cultural resource preservation; increased acreage of wetlands and forests; and highway beautification.

Table S-1 provides a summary of the number of community/cultural resource sites, stream restoration, wetland, stormwater management retrofit, Special Protection Area (SPA) Best Management Practices (BMPs), and fish blockage removal sites selected as candidate sites for further consideration. ES sites were selected for each Corridor based on additional studies and criteria. Agency and property owner coordination would continue throughout the assessment and design process. The next step in the process is to conduct detailed site assessments. It is during this phase of the process that sites may be dropped from consideration due to potential issues. If a site is dropped from consideration, a site from the backup list would be brought forward for the same analysis.

More information about ES can be reviewed in ***Chapter VI***, *Environmental Stewardship*.

Table S-1
Environmental Stewardship Candidate Sites Selected For Further Consideration

ES Site Type	No. of Sites unique to Corridor 1	No. of Sites unique to Corridor 2	No. of Sites Shared in Both Corridors
Community	2	2	3
Cultural Resource	0	2	2
Stream Restoration	13	0	13
Wetland Creation	0	0	2
Stormwater Management Retrofit	2	2	14
SPA BMP	0	0	21
Fish Blockage Removal	0	0	0
Total	**17**	**6**	**55**

c. Alternatives

A summary of alternatives considered for the ICC project since 1997 is provided, including the preliminary alternatives screening process, which began during the 2003 scoping phase of the current study. The study team improved upon the analysis and alternatives from the previous study, identifying and screening hundreds of possible solutions. Descriptions of all alternatives considered and reasons for dismissal or continuation into detailed studies are provided. Basic design elements of the build alternatives have been added including discussions of pedestrian/bicycle routes, tolls, major drainage crossings and stormwater management (SWM). The build alternatives Corridor 1 and

Corridor 2 are discussed in more detail in ***Chapter III***, *Alternatives Considered*, including discussions of various alignments, options, interchanges, transit, park and ride lots, and ES.

d. "Draft" Aesthetic Design Guidelines

The ICC "Draft" Aesthetic Design Guidelines for Section Engineers (SHA, 2004) was added to the 2004 study to promote visual continuity and context-sensitive design throughout a corridor. The ICC study team convened an Aesthetics Working Group (including Federal, State and local agencies) that provided input into the "Draft" Aesthetic Design Guidelines. The document has been used by the Project Team Engineers to provide general guidance in the decision-making process during the planning stage. The "Draft" Aesthetic Design Guidelines are based on CSS principles, highway safety, functionality, ES, and accepted visual preferences to help design a highway that is compatible with local aesthetics. See ***Volume II, Appendix H, Typical Landscape Details*** for examples of aesthetic treatments proposed for the ICC.

e. Engineering Alterations Since the 1997 Study

The FEIS includes a number of design elements based on the *"Draft" Aesthetic Design Guidelines* (SHA, 2004) including CSS principles, highway safety, functionality, ES, and visual character that eliminate or reduce many impacts compared to the previous study. These include: reduced roadway footprint (as compared to the limited-access alternatives considered in the 1997 DEIS) due to the use of variable median widths (possibly less than 30 feet in especially sensitive areas); a lower roadway profile (as compared to the previous study) by building the road below ground level where practicable to reduce visual impacts to adjacent communities; shifting alignments to avoid communities and sensitive resources; limiting forest clearing; avoiding parallel stream crossings; minimizing construction impacts in park areas by using minimal cuts; using longer bridges at major stream crossings; variable treatments for stormwater management; trails where appropriate to complement nearby existing planned trails, either along the ICC or nearby; noise barriers and screening where warranted; ITS, such as variable message signs; landscaping; electronic toll collection; and the express bus routes along the ICC as well as improved feeder bus service if approved by agencies with responsibility for transit service.

f. Socioeconomic Analysis

An integrated Community Impact Assessment and public involvement process has been completed for the 2005 FEIS to provide a more thorough and detailed socioeconomic analysis compared to the 1997 DEIS. The 1997 DEIS used study area related planning areas for demographic characterizations whereas the 2005 FEIS uses more detailed Census data. Updates of U.S. Census data, Environmental Justice and local land use plans and policies have been incorporated into the current FEIS, as have the policies of the 1997 Maryland Smart Growth and Neighborhood Conservation Law.

g. Cultural Resources

The FEIS includes an executed Memorandum of Agreement (MOA) for the ICC project, prepared in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations at 36 CFR § 800. The executed MOA can be reviewed in ***Appendix J***.

Properties that now meet the +50 year criterion for potential eligibility for listing on the National Register of Historic Places (NRHP) are evaluated in the Addendum Chapter to the 1997 Historic Context Report. Additionally, the actions proposed as part of this project have been coordinated with the plans and goals of Certified Heritage Areas within the study area in accordance with the Maryland Heritage Area Authority Law (MHAA). The law is designed to promote historic preservation and areas of natural beauty in order to stimulate economic development through tourism.

h. Natural Resources

The natural resources inventory has been updated from 1997 to reflect changes in the landscape and changes in regulations. Many wetland boundaries in the current environmental studies are different than those shown in previous studies. The most noticeable differences are in the area of the proposed I-95 interchange where previous mining activities have occurred. Previous studies found that these areas were exempt from wetland jurisdiction due to ongoing mining operations. However, the current guidance from the USACE and MDE require many of these areas to be counted as jurisdictional wetlands. These wetlands, created incidental to mining activities, are now included and constitute between approximately 63 to 64 percent of the total potential impacts to vegetated wetlands for Corridor 1 and between approximately 62 to 66 percent of the total vegetated wetland impacts for Corridor 2. Other differences have been noted in areas where wetlands were field mapped during previous studies and have been field surveyed for the current effort using a Global Positioning System (GPS) unit capable of precise location of wetland boundaries and a more accurate assessment of wetland impacts.

Forest stand boundaries were digitized based on data collected in the field. Field data was linked to a GPS point and transferred to Geographic Information System (GIS) based mapping for a more accurate assessment of stand conditions and impacts. Wildlife assessments in the current study involved a more detailed deer vehicle collision analysis and an expanded evaluation of wildlife crossings, including culverts and bridges and vernal pool assessment. Numerous species have been dropped from the Maryland Department of Natural Resources (DNR) RTE list due to either an update of the DNR rare, threatened and endangered (RTE) species database or through de-listing. Bog turtle and amphipod studies were completed during appropriate sampling periods to assist in the impact analysis. A more detailed assessment of unique and sensitive areas within the study area was conducted due to changes in the Special Protection Areas (SPAs) and sensitive area designations associated with certain watersheds.

i. Secondary and Cumulative Effects Analysis

A new secondary and cumulative effects analysis (SCEA) was conducted involving the assessment of past, present, and reasonably foreseeable future impacts and in accordance with the *Maryland SHA SCEA Guidelines* (SHA, 2000). Past resource impacts and resource impacts expected to occur in the present time frame were assessed. An Expert Land Use Panel (ELUP) was established for the ICC project SCEA as an advisory committee to help estimate future 2030 population and employment allocations for each of the ICC Build Alternatives and the No-Action Alternative. Future land use scenarios for each of the ICC alternatives were suggested based on these estimates and used in the SCEA. Reasonably foreseeable future impacts were also assessed in the SCEA by integrating

estimates from the ELUP within the context of county land use laws, plans, policies, zoning, and Smart Growth laws.

j. Final Section 4(f) Evaluation

A new Final Section 4(f) Evaluation was prepared for the current study in accordance with 23 CFR § 771.135 and 49 USC § 303 (c) and is included as ***Chapter V***, *Final Section 4(f) Evaluation*. A total of 14 Section 4(f) resources, including 10 public parks and four historic sites, have the potential for Section 4(f) use by the ICC Build Alternatives depending on alignment and design options. This is a reduction from the 22 potential Section 4(f) impacts identified in the 1997 DEIS. The reduction is a result of the engineering and planning that has occurred to avoid and minimize Section 4(f) uses in the current study. The options were developed as a balance between impacts on environmental and community resources and use of Section 4(f) resources.

k. Public Coordination

Extensive public coordination has taken place as part of the current study (see ***Chapter VIII,*** *Agency Coordination and Public Involvement).* Public involvement for the ICC study utilized a variety of outreach methods to reach as many members of the public as possible. These methods included an interactive project website, ICC Information and Map Centers throughout the study area, project newsletters and a toll-free ICC information telephone line. Additionally, the public involvement outreach efforts included three Open House public meetings, six public workshops, four public hearings and over 60 meetings with communities and other interested organizations. The ICC study team, through these activities, was able to continually disseminate information to and receive feedback from the public throughout the planning process.

l. Tolls

The current study includes a more detailed explanation of issues related to toll collection on the ICC. In the 1997 study, it was assumed that the ICC would be tolled and that all tolls would be collected electronically. Tolling was considered as a feature of the ICC in the 1997 DEIS. However, the issue of tolling received relatively little discussion in that study. In the current study, the ICC Build Alternatives again include fully electronic toll collection. However, by comparison to the previous study, this study contains additional details regarding potential toll rates; toll collection methods; the effects of tolls on traffic volumes on both the ICC and local roads; and the potential effects of tolls on environmental impact calculations. For an overview of tolling issues, refer to ***Chapter III***, *Section E, Alternatives Retained for Detailed Study*. For an explanation of how tolls were considered in traffic forecasts, refer to ***Chapter IV***, *Section J, Effects on Transportation*.

E. Modifications to the 2004 DEIS for the 2005 FEIS

Modifications have been made to this FEIS as a result of engineering refinements, additional studies, and comments made during the public comment period. Over 3,800 pieces of correspondence were received in the form of testimony, comment cards, letters, e-mails, and web comments from citizens, elected officials, and agencies. The correspondence generated numerous individual comments about the DEIS. Comments were received from Federal, State, county, and local agencies; Federal, State,

county, and local governments; organizations and coalitions; businesses and industries; private citizens; environmental special interest groups; and others. Each comment has been reviewed and taken into consideration for the decision making process. A matrix of all agency and public comments with responses can be viewed in ***Appendix R***.

F. Description of Alternatives

The Scoping Process conducted in 2003 asked Federal, State and local agencies and the public to identify alternatives that might satisfy the purpose and need for this ICC study. Through this process, 18 potential alternatives were identified.

- Midcounty Highway-Maryland 198 (MM198) Alternative (Arterial Alternatives)
- Upgrade Existing Roads Alternative (UERA)
- Transit-Only Alternative
- Howard County Connection Alternatives
- Balanced Land Use Alternative
- Combined Land Use and Transit Alternative
- M-NCPPC Board and Staff Hybrid Alternatives
- Improve I-495 Alternative
- Auto-Train Route Alternative
- Extend ICC west of I-270 and/or east of US 1
- Construct a roadway from I-270/Falls Road to the Master Plan Alternative at MD 97 in lieu of building Master Plan Alignment between I-370 and MD 97
- Move the ICC south of all other alternatives
- Build I-95 to continue through the District of Columbia
- TSM/TDM Alternative
- Construct two separate east and west highway links
- Corridor 1 Alternative (similar to the Master Plan Alternative, as identified in previous studies)
- Corridor 2 Alternative (similar to the Northern Alternative, as identified in previous studies)
- No-Action

The agency representatives and public were cognizant of the more than 300 suggested alternatives that were reviewed as part of prior studies, and considered past studies and the current project Purpose and Need. Many of the suggested alternatives were grouped together. The study team then screened those 18 alternatives to determine if they met the Purpose and Need. With input from IAWG and the public, alternatives that did not meet Purpose and Need were dropped from further consideration. As a result, 15 of these 18 alternatives did not satisfy the Purpose and Need. Three alternatives were determined to warrant detailed study. These are the No-Action, Corridor 1, and Corridor 2 Alternatives, including numerous alignment and interchange options. Members of the IAWG agreed that Corridor 1 and Corridor 2, with their various alignment options, as well as the No-Action Alternative would be further retained for detailed study.

No-Action, Corridor 1, and Corridor 2, including the alignment options, received concurrence as Alternatives Retained for Detailed Study (ARDS) from USACE and MDE. Comments on ARDS were also received from IAWG participants and the Principals (+1) Group. IAWG coordination is described in ***Chapter VIII***, *Agency Coordination and Public Involvement*. ***Chapter III***, *Alternatives Considered* includes discussion of all alternatives considered in the previous study as well as the preliminary alternatives and Build Alternatives carried forward in the current study.

1. No-Action

The No-Action (or No-Build) Alternative serves as a baseline scenario to compare with the Build Alternatives. The No-Action Alternative assumed only those improvements included in the National Capital Region Transportation Planning Board's (TPB) 2004 CLRP. The CLRP is a comprehensive plan of transportation projects and strategies that the TPB realistically anticipates can be implemented over the next 25 years. The CLRP consists of over 750 highway and transit projects, including major construction projects as well as intersection, interchange, and roadway improvements to address localized problems, routine maintenance projects, and measures to reduce travel demand (TDM). The ICC is one of several new construction projects included in the current CLRP.

The No-Action Alternative also assumes implementation of the TDM measures such as more transit and vanpool incentives included in the CLRP. These measures apply throughout the Washington metropolitan area.

The improvements included in the No-Action Alternative are assumed to be in place in 2030 regardless of the ICC alternatives being considered. Other major actions that are independent from the ICC study are either being studied or are underway in the study area and would be included in the No-Action Alternative. Each of these studies has its own unique project Purpose and Need and is separate from the ICC study. The major roadway and transit elements of the CLRP in the study area include:

- I-95/Contee Road interchange
- I-270 Improvement: I-370 to I-70
- US 1 widening to 6 lanes: Cherry Hill Road to I-495
- US 29 upgrade (to expressway): MD 650 to Howard County Line (currently under construction)
- MD 28/MD 198 upgrade and widening: MD 97 to I-95
- MD 28/MD 97 interchange
- MD 212 Relocated: US 1 to I-95
- MD 355/Montrose Road/Randolph Road interchange
- Montrose Parkway: Existing Montrose Road to Old Georgetown Road
- Bi-County Transitway: Bethesda to Silver Spring
- Corridor Cities Transitway: Shady Grove Metrorail Station to Clarksburg

Please refer to the *Travel Analysis Technical Report* (SHA, 2004) for a complete listing of the highway and transit elements of the CLRP.

2. Build Alternatives

a. Common Design Elements

The basic design elements of the ICC Build Alternatives are based on current context-sensitive design principles, highway safety, functionality, environmental stewardship, visual character, and transit.

b. Corridor 1

The Corridor 1 Alternative extends approximately 18 miles from I-370/I-270 near the Shady Grove Metrorail Station to I-95 and US 1 south of Laurel. Approximately 16 of the 18 miles are located in Montgomery County and approximately 2 miles are in Prince George's County. Alignment options are being considered in the vicinity of Rock Creek and Northwest Branch. These are described below and illustrated on ***Figure S-9*** at the end of this Chapter.

Corridor 1 includes six interchanges and two optional interchanges. Corridor 1 interchanges would be provided at MD 355, Shady Grove METRO Access Road, MD 97 (Georgia Avenue), MD 182 [Layhill Road (optional)], MD 650 (New Hampshire Avenue), Old Columbia Pike/US 29/Briggs Chaney Road, and Virginia Manor Road (optional). An at-grade intersection with US 1 is an option being considered. A truncated option that would terminate the ICC at I-95, with no connection to US 1 and thus no interchange with Virginia Manor Road or intersection with US 1, is also under consideration. The Truncated Option would reduce the length of Corridor 1 in Prince George's County by about one mile.

c. Corridor 2

The Corridor 2 Alternative extends approximately 20 miles from I-370/I-270 near the Shady Grove Metrorail Station to I-95/US 1 south of Laurel. Approximately 16 of the 20 miles are located in Montgomery County and approximately 4 miles are in Prince George's County. Alignment options, as described below, are in the vicinity of Rock Creek, Norbeck (just east of MD 97), Spencerville, Burtonsville and Fairland (MD 198 near the Montgomery County/Prince George's County line). These are described below and illustrated on (***Figures S-9*** and ***S-9a*** at the end of this Chapter).

Corridor 2 includes seven interchanges along with two optional interchanges, and would displace the 2.5 miles on Norbeck Road Extended between MD 28 and MD 198. Corridor 2 interchanges would be provided at MD 355, Shady Grove Metro Access Road, MD 97 (Georgia Avenue), MD 182 (Layhill Road-optional), MD 650 (New Hampshire Avenue), US 29, Contee Road, I-95 and Virginia Manor Road (optional). An at-grade intersection would be provided at US 1. As with Corridor 1, an option to truncate the ICC at I-95 is also being considered. The Truncated Option would reduce the length of Corridor 2 in Prince George's County to about three miles.

d. Alignment Options

Alignment options are evaluated (including an option to truncate the ICC at I-95). The alignment options are similar to those presented at the Alternatives Public Workshops in November 2003 (***Figures S-9*** and ***S-9a*** at the end of this Chapter). The options were developed in coordination with the IAWG to achieve a balance between environmental and socioeconomic impacts as discussed below:

- **Rock Creek Options A and C**

In the vicinity of Rock Creek, two alignment options are evaluated: Rock Creek Option A and Rock Creek Option C. Rock Creek Option A follows the general alignment identified for the ICC in Montgomery County's Master Plan. Rock Creek Option C was developed as a minimization option for wetlands, floodplain, and parkland impacts compared with the 1997 Rock Creek Option B which was dropped from the current study as agreed to by the resource agencies. Along Rock Creek Option C, there are also two options under consideration for the crossing of Olde Mill Run: a grade-separated crossing with the ICC under Olde Mill Run or an at-grade crossing with cul-de-sacs on Olde Mill Run north and south of the proposed ICC.

Both Rock Creek Options A and C would impact one Section 4(f) resource, Rock Creek Regional Park. However, Rock Creek Option A crosses the park at a much wider location than Option C, resulting in a larger Section 4(f) use at this location. Rock Creek Option C would require a substantially smaller Section 4(f) use; however, the alignment shift necessary to cross Rock Creek Regional Park at a narrower location would impact several communities and require 17 residential displacements compared to three for Option A.

Rock Creek Option A would also result in more impacts to wetlands than would Option C.

- **Northwest Branch Options A and B**

Along Corridor 1, in the vicinity of Northwest Branch, two alignment options are evaluated. These include Northwest Branch Option A and Northwest Branch Option B. Northwest Branch Option B follows the general alignment identified for the ICC in Montgomery County's Master Plan and utilizes a corridor previously reserved for transportation use. Northwest Branch Option A was developed as an option to minimize impacts to streams, wetlands, and floodplains associated with Northwest Branch Option B.

Also under consideration is an optional interchange at MD 182 (Layhill Road) located at the western end of the Northwest Branch Options. Impacts associated with both of the Northwest Branch Options would differ slightly as a result of the inclusion or exclusion of the MD 182 (Layhill Road) interchange.

- **Norbeck Options A and B**

Along Corridor 2, east of the proposed MD 97 interchange, two alignment options are evaluated: Norbeck Option A and Norbeck Option B. Norbeck Option A was developed to avoid impacts to the Trotters Glen Golf Course, but would instead impact residences along Mt. Everest Lane. Conversely, Norbeck Option B would avoid the residences along Mt. Everest Lane, but would impact the Trotters Glen Golf Course.

- **Spencerville Options A, B, C and D**

Along Corridor 2, east of the proposed MD 650 (New Hampshire Avenue) interchange, four alignment options are evaluated: Spencerville Option A, Spencerville Option B, Spencerville Option C and

Spencerville Option D. Spencerville Option A was developed to avoid Spencerville Korean Church and Edgewood II, but would impact residences along Upland Drive. Spencerville Option B would avoid Edgewood II and the residences along Upland Drive, but would impact the Spencerville Korean Church. Spencerville Option C would avoid the Spencerville Korean Church and the residences along Upland Drive, but would impact Edgewood II. Spencerville Option D would avoid the Spencerville Korean Church, Edgewood II and the residences along Upland Drive, but would incur additional residential impacts north of MD 198.

- **Burtonsville Options A, B, and X**

Along Corridor 2, west of the proposed US 29 interchange, three alignment options were considered, including two in DEIS and one for additional Section 4(f) avoidance and minimizations studies after publication of the DEIS: Burtonsville Option A and Burtonsville Option B are evaluated in the DEIS. Burtonsville Option A was developed to minimize stream impacts in the T. Howard Duckett (Rocky Gorge) Reservoir watershed, but would have impacts to Paint Branch and the historic Free Methodist Church Camp Meeting Ground. Burtonsville Option B would avoid Paint Branch and the Free Methodist Church Camp Meeting Ground, but would have greater impacts to streams in the Rocky Gorge Reservoir watershed. Since the DEIS, further analysis along Option A has identified an option that avoids the previously identified constructive use of the Free Methodist Church Camp Meeting Ground. This option is referred to as Burtonsville Option X and veers slightly south of Burtonsville Option A in the vicinity of the Free Methodist Church Camp Meeting Ground.

- **Fairland Options A and B**

Along Corridor 2, east of the proposed US 29 interchange, two alignment options are evaluated: Fairland Option A and Fairland Option B. Fairland Option A was initially developed as an alternative to Fairland Option B to minimize wetland impacts. Fairland Option A would have an adverse impact on the Isaac Burton House.

- **I-95/US 1 Options**

At the eastern terminus of the proposed ICC, two alignment options are evaluated. These include the option to terminate the ICC at I-95 or the option to terminate the ICC at US 1. The option to terminate the ICC at I-95 was developed as a measure to reduce costs associated with the project and concerns of some Prince George's County officials.

- **MD 182 (Layhill Road) Interchange**

The study team has carried the MD 182 (Layhill Road) interchange as an option. MD 182 is a north-south oriented roadway that serves the communities in the center of the study area. It connects MD 97 (Georgia Avenue) near the Glenmont Metro Station and MD 108 through the center of the study area. It is a four-lane road between MD 97 and Bel Pre Road, and a two-lane road for the remainder. If an interchange with the ICC were not provided, local motorists would need to travel a substantial distance to access the ICC via either the MD 97 (Georgia Avenue) or MD 650 (New Hampshire Avenue) interchanges. This additional travel would be made along some of the east-west local roadways and associated intersections that would have the greatest amount of traffic reduction afforded by the ICC.

Therefore, as a result of the technical studies performed as part of this study, the study team has preliminarily concluded that providing the MD 182 interchange, with both Build Alternatives, is needed to provide safe and efficient traffic operations and to greatly enhance community mobility and safety. The MD 182 Interchange and 100-space Park and Ride Lot would increase adverse visual impacts on the Holland Store and James Holland House. The widening of MD 182 to three lanes would not cause an adverse impact to Woodlawn Manor.

Please see ***Table S-4*** at the end of this chapter for a comparison of environmental resource impacts per each alternative.

G. Preferred Alternative

During the alternatives analysis, various options for Corridors 1 and 2 were examined to select the best possible option combinations for each Corridor. Decisions were made to best balance the natural, cultural, and socioeconomic impacts of the options while best meeting the project Purpose and Need. The following is a summary of the preferred options and the reasoning behind those decisions concerning how the preferred options meet the project's Purpose and Need:

- Rock Creek Option C - Grade Separation was identified as the Preferred Rock Creek Option because it would minimize impacts to communities and maintain current traffic patterns when compared to the cul-de-sac option, would require substantially less parkland acquisition (8.1 acres) than Rock Creek Option A (33.4 acres); was recommended by M-NCPPC, DOI, and EPA due to its ability to minimize harm to natural resources; and would minimize the potential for additional impacts to Rock Creek Regional Park and the surrounding communities associated with the potential for a second planned roadway crossing in the park (Mid-County Highway).
- Northwest Branch Option A with an interchange at Layhill Road was identified as the Preferred Northwest Branch option because it would minimize harm to important natural resources, minimize harm to park resources, be lower in cost, and the interchange would better meet the Purpose and Need without resulting in additional impacts to wetlands, streams, or NSAs, and would not require additional displacements. It does have an increase use of park acreage but all resource agencies have advocated that it is preferable from a park perspective as well.
- Norbeck Option A was identified as the Preferred Option although it would have greater impacts to streams, forests, and floodplains than Option B, those impacts would be outweighed by its ability to avoid adverse impacts to Woodburn and reduce impacts to Willow Grove, which are both historic resources.
- An interchange at Layhill Road for Corridor 2 was identified as the Preferred Option because it would better meet the Purpose and Need of providing increased community mobility, which would outweigh the additional costs necessary to provide this mobility improvement.
- Spencerville/Burtonsville Options AX and DB were both carried forward as Preferred Options. Option AX represented the best combination with a northern Burtonsville link, to

reduce impacts to historic resources, businesses, community facilities, and natural resources. Option DB had the lowest impact to communities of those options that combined with the Burtonsville Option B. Therefore Options AX and DB were carried forward.

- Fairland Option A was identified as the Preferred Option because although it would have an adverse impact on a historic resource and would result in additional impacts to streams, forests, and NSAs when compared to Option B, its reduced intrusion on the higher quality forested wetland complex and lower costs were considered to outweigh those impacts.

- Termination at US 1 was identified as the Preferred Option because although extending the ICC to US 1 would increase costs as well as impacts to the natural and socioeconomic environment, it would improve overall transportation and connections within Montgomery and Prince George's Counties, which was found to outweigh the additional environmental/social impacts and increase costs.

Based on these analyses, three end-to-end Corridors were carried forward for comparison including Corridor 1, Corridor 2AX, and Corridor 2DB, which consisted of the following options:

Corridor 1	***Corridor 2AX***	***Corridor 2DB***
Rock Creek Option C	Rock Creek Option C	Rock Creek Option C
Northwest Branch Option A	Norbeck Option A	Norbeck Option A
Interchange at Layhill Road	Interchange at Layhill Road	Interchange at Layhill Road
Termination at US 1	Spencerville A to Burtonsville X	Spencerville D to Burtonsville B
	Fairland Option A	Fairland Option A
	Termination at US 1	Termination at US 1

These three alternatives were then compared for each of three analysis categories: Transportation; Socioeconomic/Land Use; and Environment. Federal, State, and local agency comments were also considered in reaching a decision on the Preferred Alternative.

The selection of the ICC Preferred Alternative has not been made solely on a quantitative basis comparing the alternatives. The qualitative factors that describe the potential impacts or benefits are an important consideration in meeting the project Purpose and Need. It is only by considering the qualitative factors that the balance of natural resources and community impacts and mobility improvements can be measured against the project Purpose and Need. The Lead Agencies believe that no one factor is determinant in making the choice for the Preferred Alternative. For many factors, including impacts to the natural environment, neither alternative is clearly better, nor is the magnitude of difference between the alternatives great enough to make it a determining factor. Instead, an accumulation of important factors where one Corridor is better than the other (albeit by varying degrees of magnitude) leads to the selection of the Preferred Alternative.

After considering in great detail the comparable advantages and disadvantages of the alternatives, Corridor 1 has been identified as the Preferred Alternative.

1. Environmental Impacts

The following is a summary of the impacts, quantitatively ***(Table S-2)*** and qualitatively, associated with the total Corridor 1 and total Corridor 2 Alternatives, based on the preferred options selected for each alternative.

- In total, Corridor 1 would result in adverse impacts to fewer historic properties than Corridor 2AX or 2DB (two adversely impacted by Corridor 1 versus ten and nine adversely impacted by Corridors 2AX and 2DB, respectively). Most of these adverse impacts would result from noise and visual impacts. Corridors 2AX and 2DB would each require property acquisition from two of the adversely impacted historic resources: The James Holland House and the Alloway Site and Cemetery. Corridor 1 would not require property acquisition from any historic resource. Although the adverse impacts to historic properties can be minimized and somewhat mitigated, the property taken by Corridors 2AX and 2DB is not replaceable.
- There are 29 residential displacements common to all corridors. Where the corridors diverge, Corridor 1 would have substantial community impacts to 20 percent of the neighborhoods impacted resulting in 23 total displacements in these communities (Longmead, Colesville, and Avonshire). In comparison, Corridors 2AX and 2DB would have substantial impacts to 55 percent (72 total displacements in the Norbrook Village, Patuxent watershed, Allanwood/ Norbeck Knolls/Stape Estates, Norwood, Cloverly/Spencerville, and Peach Orchard/Good Hope Estates/Fairland Acres communities) and 27 percent (28 total displacements in the Patuxent watershed, Norwood, and Cloverly/Spencerville communities) of the impacted neighborhoods, respectively.
- Wetland impacts associated with Corridors 2AX and 2DB would be larger in acreage than those of Corridor 1. The wetlands impacted by Corridor 1 would generally be of higher quality in terms of functions and values.
- Corridor 1 would have the greatest potential direct impacts to the water quality of the Paint Branch. Corridor 2AX would minimize that impact, although it would cross the Upper Paint Branch watershed including sensitive headwaters and tributaries. Corridor 2DB would avoid this watershed.
- Only Corridors 2AX and 2DB would have wetland, stream, and floodplain impacts in the Rocky Gorge watershed, with Corridor 2DB having more direct and proximate impacts to the watershed and to the Rocky Gorge Reservoir.
- Corridor 2AX and Corridor 2DB would have greater direct and indirect impacts to farmland than Corridor 1. Corridor 2AX and Corridor 2DB would also cross a portion of Montgomery County's Agricultural Wedge, while Corridor 1 would avoid it to the south.
- The parkland used by all corridors is replaceable, both in terms of acreage and the natural resource functions and values.

Table S-2. Corridor 1 (with Preferred Options) vs. Corridor 2 (with Preferred Options)			
Resource	**Corridor 1**	**Corridor 2 AX**	**Corridor 2 DB**
Socioeconomic/Cultural Resources			
Adversely Affected National Register of Historic Places (NRHP) Eligible Properties (No.) [A]	2	10	9
Business and Community Facility Displacements* (No.) [B]	11	12	12
Residential Displacements (No.) [C]	52	101	57
Total Right of Way (Acres)	1,391.8	1,444.5	1,401.9
Natural Environmental Resources			
Wetlands (Acres) [D]	47.47	50.51	53.57
Streams (Linear Feet) [D]	37,961	33,442	37,438
Floodplain (Acres) [D]	32.4	41.5	44.3
Forest (Acres)	745.9	630.9	636.6
Parkland (Acres) [E]	83.4	29.8	45.3
FIDS (Acres direct impact/acres indirect impact/total acres impacted))	88.1/196.4/283.9	36.4/81.0/117.4	33.9/91.7/125.6
Estimated Costs (2004 Dollars)			
Construction Cost [F] ($ Billion)	1.53	1.41	1.37
Right of Way Cost ($ Billion)	0.39	0.43	0.39
Sub-Total Cost ($ Billion)	1.93	1.84	1.76
Other Cost [G] ($ Billion)	0.22	0.22	0.22
Total Cost ($ Billion)	2.15	2.06	1.98

[A] Cashell Farm (Corridor 1, Corridor 2AX, Corridor 2DB); Willow Grove (Corridor 1, Corridor 2AX, Corridor 2DB); Woodburn (Corridor 2 AX and 2DB); Amersley (Corridor 2AX and 2DB); Holland Store and James Holland House (Corridor 2AX and 2DB); Llewellyn Fields (Corridor 2AX and 2DB) Alloway Site and Cemetery (Corridor 2AX and 2DB); Columbia Primitive Baptist Church (Corridor 2AX and 2DB); Isaac Burton House (Corridor 2AX and 2DB); Free Methodist Church Camp Meeting Ground (Corridor 2AX)

[B] Lawn Wright, Inc (All Preferred Options); Hydro Conduit Plant (All Preferred Options); PIM Trucking (All Preferred Options); Abandoned restaurant (All Preferred Options); Abandoned unknown business (All Preferred Options); Layhill Learning Center (Corridor 1); National Capital Trolley Museum (Corridor 1); Ecno Line Service Station (Corridor 1); Braids Inc. (Corridor 1); Verizon (Corridor 1); Produce stand (All Preferred Options) Exxon gas station (Corridor 2AX and 2DB); Children's Center (Corridor 2AX and 2DB); R.P. Patton and Sons, Inc., Landscaping (Corridor 2 AX); Rosetta Landscape Management (Corridor 2 DB); Meadows Farm Nursery (Corridor 2AX and 2DB), Sarem Farm Market (Corridor 2AX and 2DB); Shemin Nursery (Corridor 2AX and 2DB)

[C] Redland (18 Corridor 1, Corridor 2AX, Corridor 2DB), Mayfair/Muirkirk (3 Corridor 1, Corridor 2AX, Corridor 2DB), Muncaster Mill View (3 Corridor 1, Corridor 2AX, Corridor 2DB), Sycamore Acres (5 Corridor 1, Corridor 2AX, Corridor 2DB), Longmead (4 Corridor 1); Colesville (8 Corridor 1), Spring Oak Estates (1 Corridor 1), Fairland (1 Corridor 1), Avonshire (3 Corridor 1), Greencastle-Burtonsville (2 Corridor 1, 1 Corridor 2AX, 1 Corridor 2DB), Greencastle Manor (4 Corridor 1); Norbrook Village (4 Corridor 2AX, 4 Corridor 2DB), Allanwood/Norbeck Knolls/Stape Estates (9 Corridor 2AX, 9 Corridor 2DB), Cloverly/Spencerville (15 Corridor 2AX, 6 Corridor 2DB), Peach Orchard/Good Hope Estates/Fairland Acres (25 Corridor 2 AX), Patuxent Watershed (12 Corridor 2AX, 1 Corridor 2DB), Burtonsville (4 Corridor 2AX, 4 Corridor 2DB), Blackburn Village (2 Corridor 2AX)

[D] Upper Rock Creek watershed (Corridor 1, Corridor 2AX, Corridor 2DB); Northwest Branch watershed (Corridor 1, Corridor 2AX, Corridor 2DB); Paint Branch watershed (Corridor 1 and Corridor 2AX); Little Paint Branch watershed (Corridor 1, Corridor 2AX, Corridor 2DB); Rocky Gorge watershed (Corridor 2AX and Corridor 2DB); Indian Creek watershed (Corridor 1, Corridor 2AX, Corridor 2DB)

[E] Mill Creek Stream Valley Park (Corridor 1, Corridor 2AX, Corridor 2DB); Rock Creek Regional Park (Corridor 1, Corridor 2AX, Corridor 2DB); North Branch Stream Valley Park (Corridor 1, Corridor 2AX, Corridor 2DB); Northwest Branch Recreational Park (Corridor 1); Layhill Local Park (Corridor 1); Northwest Stream Valley Park - Unit 5 (Corridor 1); Upper Paint Branch Stream Valley Park (Corridor 1); Red Door Store Historical/Cultural Park (Corridor 2AX and 2DB); Hampshire Greens Golf Course (Corridor 2AX and 2DB); Patuxent River Watershed Conservation Park (Corridor 2DB); T. Howard Duckett Watershed Property (Corridor 2DB)

[F] Construction costs include design, construction, and contingencies

[G] Other costs include Toll Facilities, Maintenance Facilities, Transit Capital Cost, Intelligent Transportation System, Design Build Stipends, Incentives, Environmental Stewardship Package, and Hazardous Materials Mitigation

- The Maryland Department of Planning (MDP) studied the ICC and prepared an in-depth "White Paper on Intercounty Connector Alternative Selection and Compliance with the Maryland Planning Act and the Smart Growth Regulations" (Appendix I). The MDP concluded that while both Corridors 1 and 2 would connect PFAs (at the proposed termini at I-270 and either I-95 or US 1) Corridor 1 is more compatible with the intent of the Smart Growth Act. The MDP found that Corridor 1 lies approximately 64 percent within designated PFAs and is generally compatible with local master plans. Corridor 2, by contrast, only lies within a PFA for 38 percent of its length, is generally inconsistent with local master plans, would encourage more unplanned development and would encourage development in rural areas not planned for growth. Overall, MDP concluded in the White Paper (and MDOT agreed) that Corridor 2 would have more negative smart growth impacts than would Corridor 1.

After considering in great detail the comparable advantages and disadvantages of the alternatives, Corridor 1 is believed to best meet the Purpose and Need of the project while balancing impacts to the natural, cultural, and socioeconomic environment, and has, therefore, been identified as the Preferred Alternative.

Construction-related impacts will be evaluated in detail for the Preferred Alternative. The IAWG members will participate with the study team in reaching consensus on any construction-related impacts and the avoidance, minimization, or mitigation efforts that will be employed during the construction phase.

2. Corridor 1 Preferred Alternative

The Corridor 1 Alternative would extend approximately 18 miles from I-370/I-270 near the Shady Grove Metrorail Station to US 1 south of Laurel. Approximately 16 of the 18 miles are located in Montgomery County, and approximately two miles are in Prince George's County. The alignment options being recommended for inclusion with the Preferred Alternative are Rock Creek Option C Grade Separation and Northwest Branch Option A with an interchange at Layhill Road.

The Preferred Alternative would include eight interchanges, located at MD 355, Shady Grove METRO Access/Shady Grove Road, MD 97 (Georgia Avenue), MD 182 (Layhill Road), MD 650 (New Hampshire Avenue), US 29/Briggs Chaney Road, I-95, and Virginia Manor Road, as well as an at-grade intersection with US 1. In addition, Corridor 1 would include park-n-ride lots at the southwest quadrant of ICC/MD 97, the northeast quadrant of ICC/MD 182, and the southwest quadrant of ICC/US 29, and would include an ICC bus route with potential express bus service pick-up/drop-offs at the existing Shady Grove Metrorail Station, the nearby Glenmont Metrorail Station, the proposed MD 97, MD 182, and US 29 interchanges, and at the proposed US 1 intersection (and thereby the Muirkirk MARC Station). The Corridor 1 Alternative would also include a bicycle/pedestrian route, and a package of ESO.

3. Mitigation

Mitigation has been proposed and developed for various impacts associated with the Preferred Alternative.

- Compensatory mitigation planning has been coordinated with the USACE, MDE, USFWS, EPA, and other resource agencies. Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts to wetlands and other waters. Compensatory mitigation is being evaluated in accordance with State and Federal regulations and guidance and focuses on the replacement of the functions provided by an aquatic resource or wetland, in addition to the acreage affected. A subset of the IAWG was formed to assist in the compilation of the final conceptual mitigation package, and the final conceptual mitigation plan ***(Chapter VII)*** has been prepared and proposed to offset the unavoidable impacts associated with each alternative.

- The Waters of the U.S. mitigation site selection process focuses on locating streams with the greatest need for restoration within the watersheds potentially affected by the project. Emphasis is placed on first and second order streams in need of restoration in subwatersheds crossed by or adjacent to those crossed by the proposed corridors. All potential sites considered for Compensatory Mitigation of Waters of the U.S. have been developed with input from various Federal, State, and local agencies or have been proposed in previously published documents, such as previous mitigation site searches and watershed studies. Only projects that have not been built and those that are not currently under design or construction were considered in the site screening process. In addition to traditional stream restoration projects, fish blockage removal and SWM retrofits originally identified by Federal, State, and local resources agencies are included in the current compensatory mitigation package. These types of sites were added in order to provide an ecosystem based approach to compensatory mitigation while addressing the resource needs of the watersheds where ICC-related impacts are proposed to occur.

- Parkland replacement is being proposed to mitigate for parkland impacts to help preserve undeveloped land in sensitive watersheds and provide additional reforestation, while effectively replacing the functions and values of the impacted park area. In accordance with Federal and State regulations, measures to mitigate impacts to environmental resources including wetlands, Waters of the U.S., and forests are being implemented. These mitigation efforts, as well as Environmental Stewardship projects proposed within these parks, would enhance the functions and values of streams, wetlands, floodplains, and forests within the parklands. The replacement sites have been selected based on their proximity to the area of impact, overall environmental quality, and the ability to replace the functions lost in impacted parkland. The parkland mitigation package has been coordinated with M-NCPPC, NPS, USFWS, USACE, and other local, State, and Federal agencies. The parkland mitigation package for Corridor 1 would include 719.8 acres of replacement parkland. In addition, the Lead Agencies have committed to ensuring the conversion of the unused portions of the Designated Transportation Area adjacent to Northwest Branch Stream Valley Park and Upper Paint Branch Stream Valley Park from transportation use to parkland.

- Consultation has been conducted with the MHT/MD SHPO, FHWA, the Advisory Council on Historic Preservation (ACHP), and other consulting parties to resolve the project's adverse effects on historic properties pursuant to 36 CFR §800.6. The consultation included adequate opportunities to involve relevant consulting parties, including the Certified Heritage Areas and representatives and the public in the process. The resolution of adverse effects has resulted in the execution of the MOA, which includes stipulations that specify the negotiated mitigation measures for specific resources, as well as the process for ongoing consultation to assess effects to historic properties from the ancillary actions and to resolve effects on archeological sites pending the completion of the identification and evaluation studies. The executed MOA is included in ***Appendix J***.

- Compensatory Mitigation is required for unavoidable impacts to forested land and is regulated under either the Maryland Reforestation Law or the Maryland Forest Conservation Act. The primary approach to mitigating forest loss associated with the ICC would be through compliance with the Maryland Reforestation Law because of its linear nature. Potential publicly owned sites were identified, and agencies (WSSC, DNR, M-NCPPC, and Maryland Department of Environmental Protection) were contacted and coordination continues on potential reforestation sites on public land located within the immediate project area. Ongoing reforestation efforts have also been discussed with other members of the IAWG. Although the Maryland Reforestation Law directs State agencies to reforest within publicly or State owned property, some private sites were included based on suggestions by local governmental agencies. Reforestation credit also exists within Montgomery and Prince George's Counties from SHA banking or other projects. Approximately 750 acres of mitigation are required based on current engineering concepts and Maryland Reforestation Law Criteria. The Lead Agencies have identified approximately 893 to 1,018 acres with a high reforestation potential. As the project evolves, correspondence with appropriate agencies will continue and sites will be confirmed.

4. Environmental Stewardship

Chapter VI provides a summary of the Human and Natural Resource Environmental Stewardship features proposed for the Corridor 1 Alternative. These Environmental Stewardship features include activities intended to improve the existing cultural, community, and natural resources within the ICC study area, which have been impacted by past development, in order to help improve the relationship between transportation and the environment. The Environmental Stewardship features were developed in coordination with the IAWG. Since the DEIS, further feasibility studies have been conducted resulting in refinement of the proposed list of features for each alternative. The list shown in ***Tables VI-1 through VI-4*** are the current commitments for features associated with each alternative. If any of the identified Environmental Stewardship features is found not to be feasible in the future, the Lead Agencies will replace that feature with another item or items of similar functional value. These replacement features will be taken in order of priority from the list of "back-up" sites that has been developed throughout the study and identified in the DEIS and technical reports. The use of any specific back-up site would need to be further evaluated to insure it provides appropriate benefits and be coordinated fully with the IAWG.

H. Tolls

Electronic toll collection is a basic design element of both Build Alternatives. As defined in this study, the electronic toll collection system would involve a system of overhead gantries, which would collect tolls electronically while allowing traffic to flow at full speed. All users would pay tolls electronically, either through the use of a transponder (e.g., EZPass) or through a system known as video tolling, in which the vehicle's license plate is photographed and then used to identify and bill the owner of the vehicle. There would be no toll plazas and no cash payment.

FHWA approval is needed to establish the ICC as a tolled highway, because the project would use Federal funds. This approval is known as a "Section 129 Agreement" because it is granted under Section 129 of Title 23 of the United States Code, which allows FHWA to approve tolling on federally funded highways under certain conditions.

The toll rates to be charged on the ICC would be determined by the MdTA, which is responsible for operating all tolled highways, bridges, and tunnels in Maryland. MdTA's decision regarding toll rates would not be made as part of this study. Instead, MdTA would set toll rates after this study is completed. Toll rates would be established in order to achieve a blend of various goals, including: (1) generating adequate revenue to cover operating costs and, at a minimum, a portion of its capital cost, and, ultimately, to contribute to the funding available for the MdTA's consolidated system of toll facilities, and (2) managing traffic demand and congestion on the ICC roadway.

For planning purposes in this study, a toll rate has been assumed. Traffic forecasts have been developed based on this assumed toll rate, which is $0.17 per mile during the peak period and $0.13 per mile during the off-peak period (as expressed in 2004 dollars). This assumed toll rate is referred to as the "baseline toll rate."

In addition to considering the baseline toll rate, the study team also conducted a sensitivity analysis to determine the potential effects of lower or higher toll rates. The lower toll considered in this analysis was $0.13 peak and $0.08 off-peak. The higher toll was considered in this analysis was $ 0.25 peak and $0.17 off-peak. The study team considered the effects of the higher and lower toll rates on traffic volumes on the ICC itself, by segment. The team also considered the effects of those higher and lower toll rates on traffic volumes on local roads. The sensitivity analysis showed that tolling could effectively manage congestion on the ICC, without significantly affecting traffic volumes on local roads.

For additional information regarding tolling, please refer to:

- ***Chapter III,*** *Section E, Alternatives Retained for Detailed Study*, includes a subsection that specifically describes the electronic toll collection element of the Build Alternatives. This section describes the toll collection methods that are anticipated to be used on the highway.
- ***Chapter IV,*** *Section J, Effects on Transportation*, includes a subsection that explains how tolls were considered in the traffic modeling and also presents the results of the toll sensitivity analysis (that is, the consideration of potentially higher or lower tolls than the baseline toll).

Toll-related impacts are addressed elsewhere in ***Chapter IV***, *Environmental Consequences*, as appropriate. These include Section B.2, *Environmental Justice*; Section B.3, *Community Impact Assessment*; Section G, *Noise Impacts*; and Section H, *Air Quality Impacts*.

I. Effects on Transportation

This study relies on measures of increased mobility as well as measures of reduced traffic congestion. ICC project alternatives have been evaluated to determine if they meet certain elements of the Purpose and Need, which include: improving community mobility and safety, facilitating the movement of goods and people to and from economic centers, and supporting homeland security measures. The high levels of regional and study area population and employment growth predicted in the study would lead to significant growth in vehicle miles of travel, increased congestion on the roadway network, and growing lack of mobility.

As discussed in ***Chapter I***, *Purpose and Need*, the study area residents and businesses already suffer from a severe lack of mobility and accessibility. Even with the tremendous investment associated with the projects in the CLRP for the future 2030 No-Action Alternative, travel conditions would continue to deteriorate. People cannot easily, and often opt not to travel within portions of the study area or through the area because of delay, unreliable travel times, congested conditions, and safety concerns. These conditions and restrictions on mobility would continue to increase.

An ICC would provide choices for the people who live, work, and recreate in the study area. An ICC utilizing baseline toll rates would increase mobility and accessibility throughout the study area. The ICC is expected to provide increased mobility for as many as 300,000 people per day. These trips would be made on a high quality, relatively congestion-free multi-modal expressway that is estimated to have a significantly lower crash rate than many of the older, narrower, and clogged roads currently serving this travel market. Moreover, this transportation choice would extend to the residents of the study area the opportunity to reach more jobs within a reasonable commute time. The traffic studies show that in addition to providing this choice for study area travelers, an ICC would help to alleviate and minimize some of the study area's growing traffic congestion on the local network.

J. Summary of Environmental Impacts

The proposed ICC's potential impacts on both the human and natural environments within the study area are described below and are summarized in ***Tables S-2*** and ***S-3*** provided at the end of this Summary.

1. Section 4(f) Resources

A Final Section 4(f) Evaluation has been prepared in accordance with 23 CFR § 771.135 and 49 USC § 303 (c) and is included as ***Chapter V***, *Final Section 4(f) Evaluation*. A total of 14 Section 4(f) resources, including 10 public parks and four historic sites, have the potential for Section 4(f) use by the ICC Build Alternatives depending on alignment and design options. This is a reduction from the 22 potential Section 4(f) impacts identified in the 1997 DEIS. The reduction is a result of the engineering and planning that has occurred to avoid and minimize Section 4(f) uses in the current

study. The options were developed as a balance between impacts on environmental and community resources and use of Section 4(f) resources.

Corridor 1, depending on the options, would require Section 4(f) uses at seven publicly owned parks, but no historic resources. The public parkland resources include Mill Creek Stream Valley Park, Rock Creek Regional Park, North Branch Stream Valley Park, Layhill Local Park, Northwest Branch Recreational Park, Northwest Branch Stream Valley Park - Unit 5, and Upper Paint Branch Steam Valley Park. The affected areas of these resources are mostly forested land with natural features such as streams, wetlands and floodplains. In addition, certain design options would displace athletic fields and the National Capital Trolley Museum.

Corridor 2 would require Section 4(f) uses at six to nine publicly owned parks and historic sites, due to the various combinations of design options currently under consideration. The public parklands include Mill Creek Stream Valley Park, Rock Creek Regional Park, North Branch Stream Valley Park, Hampshire Greens Golf Course, Patuxent River Watershed Conservation Park, and T. Howard Duckett Watershed Property. The historic sites include the Holland Store and James Holland House, Alloway Site and Cemetery, Edgewood II and Free Methodist Church Camp Meeting Ground.

In general, the Section 4(f) use areas within parks are mostly forested land with natural features such as streams, wetlands and floodplains. The affected areas of the historic sites are generally undeveloped portions of each property and are mostly open space or forested.

A preliminary determination of which alternative causes the least harm to Section 4(f) resources has been made in the Final Section 4(f) Evaluation. This preliminary determination has been made by FHWA and considers input from the US Department of the Interior (DOI). FHWA, SHA and the jurisdictional officials have agreed to the proposed mitigation for each Section 4(f) resource. Final approval of the Section 4(f) Evaluation will be made in the Record of Decision.

2. Cultural Resources

a. Historic Standing Structures

In consultation with the Maryland Historical Trust (MHT) in its capacity as the Maryland State Historic Preservation Officer (MD SHPO), FHWA, SHA and MdTA have identified 28 historic properties within the ICC's Area of Potential Effects (APE) including one Historic District listed on the National Register of Historic Places (NRHP), and 27 historic standing structures which have been determined to be eligible for listing on the NRHP. Pursuant to the requirements of Section 106 of the National Historic Preservation Act (NHPA) as amended and it's implementing regulations found at 36 CFR Sections § 800.2(c)(3-5) and 36 CFR § 800.2(d), SHA and MdTA have sought to identify consulting parties and their representatives and request their participation in identifying historic preservation and heritage area issues as they relate to the ICC project and to seek and consider the views of the public. The ICC study area includes two Maryland Certified Heritage Areas, the Montgomery County Heritage Area and the Anacostia Trails Heritage Area.

b. Effects Determination

Corridor 1 would have an adverse impact to two historic properties, Cashell Farm and Willow Grove whereas Corridor 2 alignments would have an adverse impact on seven to twelve resources, depending on the options. These would include Alloway Site and Cemetery (all Spencerville Options), Amersley, Isaac Burton Jr. House (Fairland Option A), Cashell Farm, Columbia Primitive Baptist Church (Burtonsville Options A and B), Drayton (Spencerville Options B and C), Edgewood II (Spencerville Options B and C), Free Methodist Church Camp Meeting Ground (Burtonsville Option A, X and Y), Holland Store and James Holland House, Llewellyn Fields, Willow Grove (Norbeck Options A and B) and Woodburn (Norbeck Option B).

Appendix J in *Volume 2* of the FEIS includes an Memorandum of Agreement (MOA) executed for the ICC project, prepared in accordance with Section 106 of the NHPA of 1966, as amended, and its implementing regulations at 36 CFR § 800.6. The executed MOA represents a detailed, annotated outline of the agreement that has been negotiated and executed between FHWA, SHA, MdTA, MHT/MD SHPO, and other relevant consulting parties and representatives to resolve the project's adverse effects on historic properties, pursuant to 36 CFR § 800.6, should a Build Alternative be selected. Certified Heritage Areas are addressed in the executed MOA. As a result, under Title 13, Subtitle 11, Section 13 of the Annotated Code of Maryland, the requirements of the law has been met.

c. Archaeological Resources

Archaeological investigation and testing have also been undertaken for this project in compliance with Section 106 of the NHPA as amended. Approximately, 439 acres of high potential area were identified and surveyed in the archeological APE for Corridors 1 and 2 (133 acres by others; 202 acres by Bedell et al. 2004; and 104.8 acres by Bedell and LeeDecker 2005). Archeological identification investigations were completed for the archeological APE on both corridors. A total of 42 archeological sites have been identified in or adjacent to the APE. Thirty-six of these sites do not require additional investigations because they are not eligible for listing in the NRHP, have been destroyed, or are outside the APE. Six sites (18MO444, 18MO448, 18MO451, 18MO570, 18MO595, and 18MO609) are potentially significant within the archeological APE and warrant additional evaluation if impacted by the Preferred Alternate. The evaluations will be carried out in accordance with the specifications of the executed MOA included in ***Appendix J*** in *Volume 2* of the FEIS. As specified in the MOA, SHA would continue consultations with MHT/MD SHPO and other interested parties regarding appropriate treatment of archaeological resources.

3. Socioeconomic Resources and Land Use

The assessment of socioeconomic and land use effects demonstrates that communities in the ICC study area would experience both benefits and adverse impacts. These effects would vary according to alternative and location in the study area. The No-Action Alternative would not result in impacts such as property acquisition, conversion of land use to transportation use, or changes in the visual environment, but it would result in increased traffic congestion and decreased mobility.

Changes in community cohesion, access and mobility, visual character, conversion of various types of land use to transportation use, and regional and local economic conditions are projected to occur under

either of the Build Alternatives. Residential displacements range from 35 to 52 properties for Corridor 1, depending on selected options. Residential displacements for Corridor 2 would vary between 39 and 101, depending on the options selected. Corridor 1 would displace six to ten businesses. Corridor 2 would displace eight to 15 businesses. For the purpose of this study, displacements that are buildings with both business and residential use are counted as businesses. Along Corridor 1, Northwest Branch Option A would displace a portion of the National Capital Trolley Museum which planned on relocating. Spencerville Option B for Corridor 2 would displace two community facilities, including a church and school that had planned to relocate prior to the initiation of the current planning study.

Corridor 1 with Rock Creek Option A and either Northwest Branch Option A or B would have the least number of residential displacements (35), while Corridor 1 with Rock Creek Option C and either Northwest Branch Option A or B would have the greatest number of displacements (52). A concentration of displacements for Corridor 1 or Corridor 2 would occur due to Rock Creek Option C, where 18 residences would be displaced, and accounting for approximately one-third of the total residential displacements for Corridor 1.

Corridor 2 with Rock Creek Option A, either Norbeck Option, Spencerville Option D, Burtonsville Option B, and Fairland Option B would have the least number of residential displacements (39), while Corridor 2 with Rock Creek Option C, either Norbeck Option, Spencerville Option A, Burtonsville Option X, and Fairland Option A would have the greatest number of displacements (101). Spencerville Options A or B to Burtonsville Option X would account for a large concentration of residential displacements for Corridor 2. These options would displace more than one-half of all residential displacements for Corridor 2.

Based on the results of the technical studies conducted for this project, it has been determined that all areas that contain environmental justice populations would experience benefits or changes similar to those of the overall study area population. Analysis of displacements indicated that there is no potential for disproportionately high and adverse effects for displacements under Corridor 1 or 2. Of the 35 to 52 displacements associated with Corridor 1, a maximum of 17 would be from areas identified as potential environmental justice populations.

For Corridor 2, a maximum of four of the 39 to 101 residential displacements would be from areas identified as environmental justice populations. However, it was determined that displacements were evenly distributed across the corridor and no environmental justice populations would bear a disproportionate share of the acquisitions. Full and fair participation for all potentially affected environmental justice communities was ensured in the planning process through multiple tailored outreach strategies.

A substantial portion of Corridor 1 is in the same general location as the master plan alignment shown in several master plans throughout the study area. Along Corridor 1, most development was set back a distance from the Corridor 1 right-of-way because the majority of the proposed alignment and interchanges were established on the area master plans. Thus, direct adverse impacts to communities would be less for Corridor 1, as compared to Corridor 2, where the proposed highway would traverse, at times closely, through existing communities not planned around the ICC.

Both Build Alternatives would impact park and recreation facilities in the study area. Corridors 1 and 2 would both impact Mill Creek Stream Valley Park, Rock Creek Regional Park and, North Branch Stream Valley Park. Corridor 1 would also impact Layhill Local Park, Northwest Branch Recreational Park, Northwest Branch Stream Valley Park – Unit 5, and Upper Paint Branch Stream Valley Park. Options within Corridor 2 would also impact the Patuxent River Watershed Conservation Park, Hampshire Greens Golf Course, and the T. Howard Duckett Watershed Property.

Maryland's Smart Growth Initiatives, several laws enacted by the 1997 General Assembly, direct State funding for growth related projects to areas designated by local jurisdictions as Priority Funding Areas (PFAs). Smart Growth seeks to guide development to existing towns, neighborhoods, and business areas by directing State infrastructure improvements into these places. As the centerpiece of Maryland's Smart Growth legislation, the PFA law provides a legal framework to guide the investment of State-funded transportation projects that are located inside PFAs, except in extraordinary circumstances. In cases where proposed projects are not fully proposed within PFA boundaries but connect PFAs, approval from the Board of Public Works is required. Corridors 1 and 2 both link two key PFAs along the I-270 and I-95/US 1 corridors; however, portions of both corridors are outside of a PFA. Approximately 64 percent of Corridor 1 lies within a PFA, and approximately 35 percent of Corridor 2 lies within a PFA. On August 31, 2005, the Maryland Board of Public Works determined that the project serves to "Connect Priority Funding Areas," and approved the exception for the Corridor 1 Alternative under the Maryland's Smart Growth - Priority Funding Area Law, thereby permitting the State to provide state funding for the construction of the ICC. Corridor 1 was determined to be preferable to Corridor 2 from a Smart Growth perspective.

4. Effects on Regional Business Activities

The potential economic impact of this project, under different possible alternative configurations, is a major consideration in assessing its overall desirability as well as the relative merit of the contemplated alternatives. An economic impact study performed by the Maryland Transportation Initiative (MTI) at the University of Maryland addressed the two Build Alternatives (Corridors 1 and 2). Its principal objectives were to (1) estimate the travel efficiency savings likely to accrue to facility users as well as to residents and businesses of the affected communities, and (2) assess the type and magnitude of the economic development impacts that may occur due to the construction of an ICC and resulting travel efficiencies. The main findings of the study are summarized below.

- User benefits resulting from the ICC were evaluated for different modes, trip purposes, and time periods. Projected travel timesavings are derived by comparing total travel times under the ICC alternatives to the No-Action Alternative. These projected travel timesavings are then translated into annual economic benefits by multiplying the change in travel time by the value of that time. Estimated annual travel time savings are valued at nearly $203 million for Corridor 1 and $172 million for Corridor 2 for trips originating or destined to the ICC impact area in 2010. Likewise in 2030, Corridor 1 would also provide greater travel time savings benefits ($250 million) than Corridor 2 ($210 million).
- While the PFAs account for only 65 percent of the traffic analysis zones in the ICC impact area, they accrue about 75 percent of the total travel timesavings. The benefits from

investment in the ICC would accrue in greater proportion to the designated PFAs, thereby reinforcing the adopted public policy goals.

- Annual vehicle operating cost savings are estimated at $11 million in 2010 and $15 million in 2030 for Corridor 1; corresponding savings for Corridor 2 are $9 million and $14 million.
- The improved reliability due to an ICC for travel to or from the ICC impact area results in quantifiable benefits that are estimated to be approximately $100 million annually. Corridor 1 benefits ($104 million) are estimated to be higher than those for Corridor 2 ($87 million).
- Total user benefits are estimated to exceed $300 million in 2010 and $370 million in 2030 in the ICC impact area for Corridor 1; corresponding benefits for Corridor 2 are $255 million and $310 million.

Both Build Alternatives would generate considerable economic activity. If Corridor 2 is selected, the study has concluded that new business establishments would generate about 16,850 new jobs in the ICC area of influence, with about 10,460 in Montgomery County and about 6,300 in Prince George's County. Corridor 1 is projected to generate jobs at a similar level, with an estimated number at about 14,200. Depending on the alternative and options selected, about 85% to 90% of the road would be in Montgomery County and 10% to 15% of the road would be in Prince George's County.

5. Natural Environmental Resources

Impacts to natural resources within the ICC study area were assessed in accordance with applicable laws and regulations for each of the environmental resources evaluated.

The options considered in ***Chapter IV***, *Environmental Consequences* include all sub-options being evaluated for both Corridor 1 and Corridor 2. Impact calculations for these options have been completely revised for the FEIS based upon design changes made since completion of the DEIS, and include estimates of temporary impacts associated with construction. This summary chapter provides an overview of the revised permanent impact calculations for all environmental resources. Estimated temporary impacts can be found in ***Chapter IV***, *Environmental Consequences*.

Groundwater impacts from major construction projects such as the ICC would occur as quantity and/or quality alterations. There is no appreciable difference in potential quantity impacts between the two ICC corridors. Impacts to groundwater quality from either of the corridors would likely be negligible because roadway pollutants would be of low concentrations and would likely be retained in vegetation found in stormwater management facilities, and thus not enter the groundwater system at harmful levels.

Direct impacts to the study area stream channels would result from the placement of culverts or other structures at drainage crossings. Most of the larger streams would be bridged, thereby avoiding direct impacts. Depending upon the options, Corridor 1 would result in an approximate range of 32,667 to 39,158 linear feet of direct impacts to perennial and intermittent streams, and Corridor 2 would result in between about 24,525 and 37,584 linear feet of direct impacts to streams. The Northwest Branch watershed would have the greatest amount of direct stream impacts under Corridor 1 (10,351 to 11,548

linear feet). The Rocky Gorge watershed (6,806 to 11,331 linear feet) and Indian Creek watershed (5,827 to 10,843 linear feet) would have the greatest impact under Corridor 2.

Many of the proposed bridge lengths are well in excess of minimum size required for safely conveying flood flows. Corridor 1 would result in filling of approximately 29.4 to 42.4 acres of the 100-year floodplain, depending upon which options are selected. Corridor 2 would result in filling of about 35.7 to 48.3 acres of the 100-year floodplain, depending upon which options are selected. These impact calculations are based on all options being considered.

To address nonpoint source pollution, all State and Federal projects in Maryland exceeding 5,000 square feet of disturbance are required by State law and regulation to meet *MDE Erosion and Sediment Control (ESC)* and MDE's *2000 Stormwater Design Manual* requirements, and gain construction plan approval from MDE prior to starting work. The ICC would provide redundant ESC devices in sensitive areas identified as the Patuxent River watershed and the Montgomery County designated Special Protection Areas (Upper Rock Creek and Upper Paint Branch).

To address water quality, MDE's *2000 Stormwater Design Manual* generally requires applicants to demonstrate treatment of 90 percent of all rainfall events (1 inch or less of rainfall) using Best Management Practices (BMPs) or stormwater credits identified in the manual. For the ICC, MDE's minimum requirements would be exceeded by treating 95 percent of all rainfall events (1.5 inches of rainfall) using a combination of BMPs and credits, and constructing BMPs which address Montgomery County SPA water quality requirements. These BMPs are state-of-the-art designs and effective in treating typical highway pollutants such as sediments, metals, and oil and grease.

These constructed facilities would be inspected and maintained so that water quality treatment is effectively provided through the life cycle of these facilities. This is supported by SHA's Stormwater Facilities Program, which emphasizes long-term commitments for cyclical inspection, maintenance and remediation measures to meet SHA's water quality goals.

National Pollutant Discharge Elimination System (NPDES) Permits for stormwater discharges are likely to contain requirements related to the Total Maximum Daily Loads (TMDL) provisions of the Clean Water Act. EPA regulatory requirements for TMDLs in NPDES-regulated stormwater discharges are set forth in 40 CFR § 130.2, and are further addressed in EPA's policy guidelines entitled *Establishing TMDL Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs* (EPA, 2002). SHA anticipates that future NPDES permit requirements for stormwater discharges associated with the ICC project would address TMDLs and require conformance with them, specifically in the form of BMP implementation as set forth by EPA's TMDL Stormwater Policy (EPA, 2002).

In the Patuxent River watershed, some of the ICC alternatives drain to tributaries to the Rocky Gorge Reservoir, managed by the Washington Suburban Sanitary Commission (WSSC). In addition to providing treatment of 1.5 inches of rainfall, in the Rocky Gorge watershed, SHA is committed to providing an additional 10,000 gallons of stormwater storage and isolation valves in each stormwater treatment pond. The additional storage and valve(s) are designed to provide containment in the event of a hazardous material spill on the highway during a rainfall event, preventing deleterious material from moving downstream to the reservoir.

In addition to direct impacts, the Build Alternatives also have the potential to indirectly affect stream channels and their chemical water quality. Effects during project construction and those associated with the use of the road after construction are mainly based on the potential for contamination of surface waters by run-off, physical disturbances or alterations, accidental spills and sediments releases, and from new impervious roadway surfaces. Any of the Build Alternatives would result in an increase in impervious surfaces within the study area. Increases in impervious surfaces have been linked to increases in hydrologic, physical, water quality, and biological impacts in streams.

Direct impacts from the ICC that could affect the Paint Branch brown trout are primarily related to stream crossings. Potential impacts to trout habitat are of particular concern to resource agencies and local interests. Corridor 1 would impact about 1,478 linear feet of stream channel in the Paint Branch watershed, while Corridor 2 would impact approximately 1,144 linear feet, under C2AX. While direct impacts to trout habitat are relatively small due to the bridging of most of the watershed's water resources, indirect impacts have the greatest potential to negatively affect the trout. Both ICC Corridors 1 and 2 would introduce new impervious surfaces into the Paint Branch watershed. Corridor 1 has the greatest potential to negatively affect the critical spawning and nursery habitat of the Good Hope tributary, and to a lesser degree, Gum Springs tributaries. While new impervious areas under Corridor 2 also have the potential to measurably raise the impervious percentages in Paint Branch tributary subwatersheds and impact the quality of the resource, potential impacts to the trout population are substantially less than those possible under Corridor 1. C2DB would not cross the Paint Branch.

Impacts to streams in the Rocky Gorge watershed from the ICC project could potentially affect water quality in the Rocky Gorge Reservoir. The Reservoir provides drinking water to between 550,000 and 650,000 people and additional backup supply to the Washington, D.C. region in the case of an emergency. The reservoir is especially sensitive to water quality impacts as pollutant loads that reach the reservoir are retained in the impoundment for long periods of time. The reservoir's inability to regularly flush sediments and harmful pollutants and the fact that construction of new reservoirs is prohibitive in today's regulatory climate make the Rocky Gorge Reservoir a nonrenewable resource. Corridor 1 does not cross the Rocky Gorge tributaries and consequently would not directly impact the reservoir. For Corridor 2, direct impacts to streams in the Rocky Gorge watershed could include between about 6,806 and 11,331 linear feet of stream channel alteration, depending on which options are selected. The greatest impact to reservoir tributaries would be from any Corridor 2 configuration that includes Burtonsville Option B due to its proximity to the reservoir.

While it is assumed that impacts to stream channels in the watershed could negatively affect reservoir water quality to some degree, basic pollutant load modeling compared annual pollutant loads for pre- and post-construction land uses for the right of way under both Build Alternatives. While it was determined that construction along either Corridor 1 or Corridor 2 would not appreciably change water quality within the right of way, construction along Corridor 2 within the Rocky Gorge watershed would change existing water quality in the watershed due to projected changes in land use. A study of the risk to the Rocky Gorge Reservoir and regional water supply from Corridor 2 concluded that while the probability of a hazardous materials spill is low (Corridor 2 may experience one serious hazardous material spill over a 20 year period), even a single event could substantially impact the ability to use the reservoir as drinking water supply. Temporary loss of the Rocky Gorge Reservoir as a source of

drinking water would have a serious impact on water supply resources in the region for the duration of any closure and potentially have a longer-term impact on treatment operations.

Build Alternatives for the ICC would directly and permanently impact wetlands and Waters of the U.S. due to filling. These impacts associated with Corridor 1 and all its options could range from a total of 45.13 to 48.32 acres of wetlands. The range of impacts associated with Corridor 2 and its options would vary from 47.50 to 54.96 acres of wetlands.

Within the Indian Creek watershed lies a large gravel mine site comprised of both actively mined and abandoned lands. There are wetlands created incidental to mining scattered throughout this area in various successional stages. These wetlands originated from excavation or other mining disturbances and are generally of lower diversity and quality than the natural systems in the ICC study area. While some of the smaller and older wetlands created incidental to mining have begun to develop some vegetative diversity and limited habitat and water quality functions, greater than 85 percent of these impacts are associated with two very large areas that were created as wash ponds for mining operations. These wash ponds have developed into wetlands and are considered jurisdictional. However, they are relatively recently abandoned and are dominated by a monotypic stand of *Phragmites spp.*, resulting in a low functional capacity. The wetlands provide some water quality benefits to the downstream portions of Indian Creek from attenuation of sediment and pollutants in the impoundments. Even this function is limited, however, by the fact that there is little remaining capacity for additional sediment attenuation in the ponds. Based on the various corridor options, the wetlands incidental to mining, including these wash pond wetlands, make up between 28.83 and 30.35 acres of the total wetland impacts presented above for Corridor 1 and 31.53 to 33.94 acres of the total impacts for Corridor 2, which constitutes 63 to 64 percent of the total potential impacts to wetlands for Corridor 1 and 62 to 66 percent of the total wetland impacts for Corridor 2.

Corridor 1 has greater impacts to forests than Corridor 2. The majority of Corridor 1 forest impacts are within parklands (both 4(f) and Designated Transportation Areas (DTA). The impacts within both corridors (Corridor 1: 672.4 to 747.2 acres; Corridor 2: 532.1 to 650.1 acres) include a predominance of mature forest with an average size class of 11 to 29.9 inches diameter at breast height (dbh).

Effects on animals and birds resulting from the Build Alternatives could be in the form of habitat fragmentation, habitat loss or degradation, or the restriction of movement between habitats. While Corridors 1 and 2 would have a similar amount of total habitat loss, Corridor 1 would have the higher amount of forest habitat loss. The Build Alternatives for the ICC would affect reptiles and amphibians through the loss of habitat. These affected habitats include vernal pools, wetlands, forests, and stream habitats.

6. Noise Quality

A total of 53 noise sensitive areas (NSAs) were identified within the study area, with 203 individual receptor sites used to model the existing and future noise environment within the 53 NSAs. Prediction modeling was conducted to assess projected 2030 design year noise levels and to assess noise abatement options, using FHWA Traffic Noise Model (TNM) Version 2.1.

An evaluation of the study area predicted that the Federal noise abatement criteria, which states that noise levels that exceed or approach 67 decibels (dBA) at sensitive noise receptors, would be reached for 44 NSAs. Impacted NSAs were examined in accordance with SHA's Sound Barrier Policy to determine whether or not noise barriers would be feasible and reasonable for each individual NSA. Preliminary analysis indicates that barriers are reasonable and feasible at 34 NSAs.

Of the 44 NSAs where the Federal noise abatement criteria was approached or exceeded, 25 to 26 of these NSAs would be impacted by highway traffic noise from Corridor 1. Of these 25 to 26 NSAs, barriers were found to be reasonable and feasible for 22 NSAs along Corridor 1. A total of 29 NSAs would be impacted by all options considered in Corridor 2. 18 to 25 NSAs would be impacted by highway traffic noise for a single alignment along Corridor 2, depending on the options selected. Of these 18 to 25 NSAs, barriers were found to be reasonable and feasible for 18 to 20 NSAs along Corridor 2. Each NSA found to be reasonable and feasible would be recommended for further consideration for noise abatement during the design phase of the project. More information about the Noise Analysis can be reviewed in ***Chapter IV,*** *Environmental Consequences.*

7. Air Quality

A microscale air quality analysis was prepared in accordance with EPA, FHWA, and SHA guidelines. Carbon monoxide (CO) impacts were analyzed as the accepted indicator of vehicle generated air pollution.

The EPA's CAL3QHC dispersion model was used to predict CO concentrations at air quality sensitive receptors. Two hundred eighteen air quality receptor locations were selected to represent air quality sensitive locations, including 67 sites for Corridor 1, 84 sites for Corridor 2, and 67 sites for areas where Corridors 1 and 2 coincide. In addition 26 signalized intersections were analyzed using 437 air quality receptors. The CO concentrations at all receptors are below the State and National Ambient Air Quality Standards (S/NAAQS) for the one-hour and eight-hour analyses of 35 ppm and 9 ppm, respectively.

Since the project is located in an ozone non-attainment and CO maintenance areas, conformity to the State Implementation Plan (SIP) is determined through regional air quality conformity determined by USDOT based on regional air quality analysis conducted by the TPB on the regional Transportation Improvement Program (TIP). In April 2004, TPB approved the inclusion of the ICC in the air quality analysis that is a requirement for amending the 2004 CLRP and the Fiscal Years 2005-2010 TIP. Both corridors were modeled in the conformity determination. Approval of the amended 2004 CLRP and FY 2005-2010 TIP by TPB occurred in November, 2004.

8. Hazardous Waste

An Initial Site Assessment (ISA) was prepared for the ICC in accordance with the *Hazardous Waste Guide for Project Development* published by the AASHTO to assess the potential existence of hazardous materials, wastes, or petroleum products in project area and to assess associated risks to the project. At the conclusion of the ISA, 53 sites were deemed to have potential hazardous materials severe enough to warrant additional investigation beyond the standard criterion for an ISA. To accomplish this additional information, a Preliminary Site Investigation - Screening and Analysis Plan

(PSI-Screening) was developed that would allow rapid deployment and a site-specific investigation for each site. The purpose of the PSI-Screening was to verify the findings of the ISA, to estimate the nature and extent of contamination of a particular site, to provide guidance on additional investigations that may be necessary, and to provide recommendations on the potential cost and time frames for potential remediation activities.

Based on the results of the PSI-Screening, no further action was recommended for 40 of these sites because they were determined to present minimal risk. Four of the sites were determined to present slightly more elevated risk, so optional investigative procedures, and remediation options and costs were developed for them. It was ultimately determined that nine sites should be considered for cleanup if they ultimately fall on the final selected alternative, so additional investigative procedures, remediation options, and costs were also developed for these sites. These impact scores and rankings were derived from the combined results of the ISA and PSI, and were developed to allow cross-corridor comparisons of the potential risks from hazardous materials, wastes, or petroleum. The results are summarized below:

- Corridor 1 has fewer total impacts than Corridor 2 to potential sites
- Option A appears to minimize potential impacts for the Rock Creek, Northwest Branch, Norbeck, and Burtonsville Options
- Option B appears optimal for the Fairland Alignment
- Option C appears optimal for the Spencerville Alignment

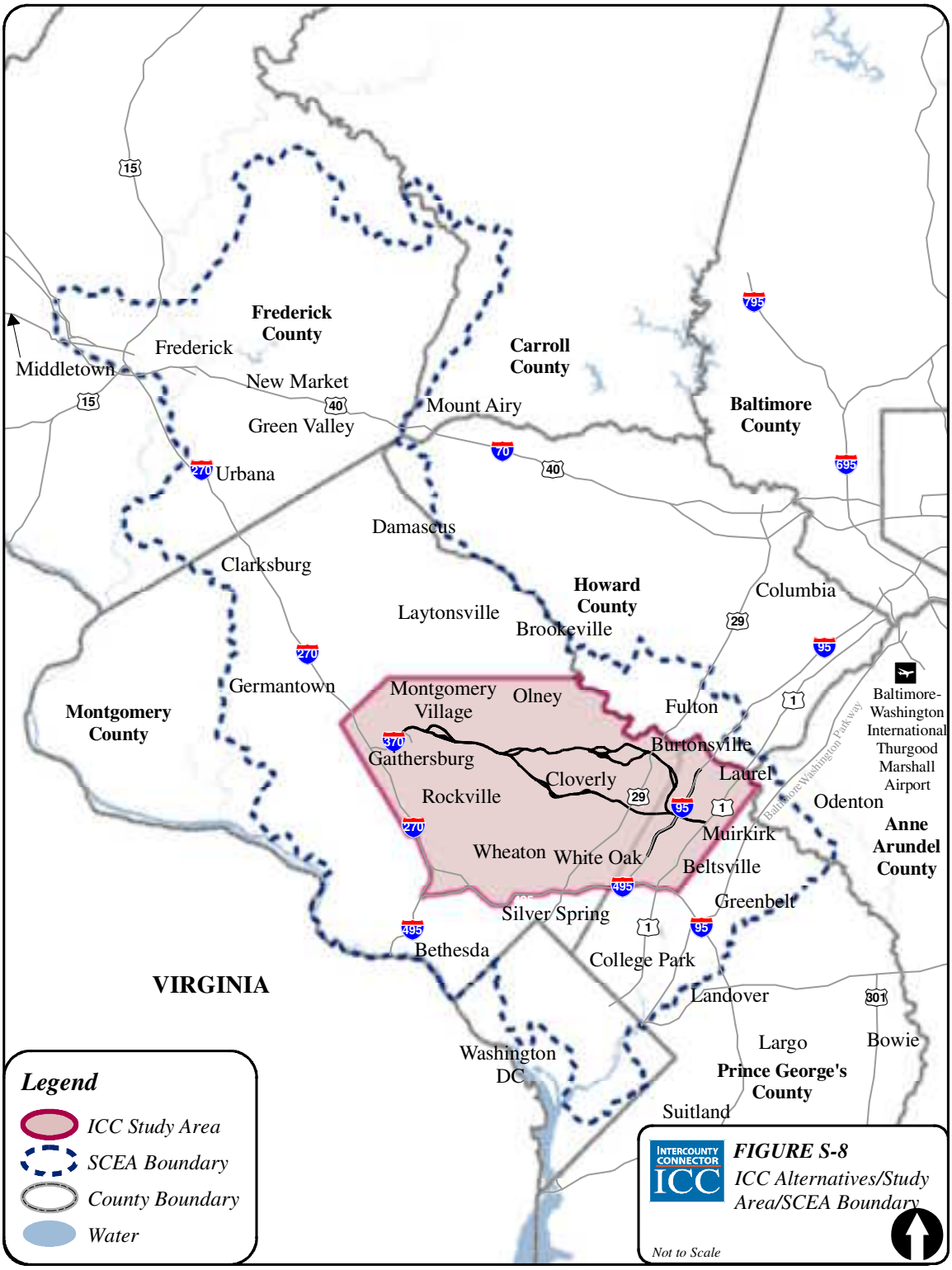
More information about hazardous waste can be reviewed in ***Chapter IV,*** *Environmental Consequences.*

9. Secondary and Cumulative Effects

A Secondary and Cumulative Effects Analysis (SCEA) was conducted to assess the impacts of the proposed action in the context of past, present, and reasonably foreseeable future impacts within the ICC SCEA Area boundaries (***Figure S-8***). The ICC secondary and cumulative effects analysis was conducted in accordance with the Maryland State Highway Administration's June 2000 *SCEA Guidelines for Environmental Impact Statements and Environmental Assessments* (SHA, 2000). The time frame established for this SCEA was 1964 through the future time frame of 2030.

Past resource impacts were assessed primarily through overlay of past and present land use and resource maps to identify changes in land use, and the implications of those land use changes on resources. Resource impacts expected to occur in the present time frame involved overlay of existing land use/resources with planned/pipeline projects/developments as identified in the CLRP, in county Master Plans and through coordination with county planners. The assessment of present impacts considers projects expected to occur within the next five to six years (through 2010).

The approach for assessing secondary or induced growth impacts integrates estimates from an advisory ELUP. The ELUP process is included as part of SHA's *SCEA Guidelines for Environmental Impact Statements and Environmental Assessments* (SHA, June 2000) for selected projects. The purpose of an ELUP is to estimate future land use scenarios, particularly for projects that are especially complex or if local jurisdictions, agencies or special interest groups disagree that a particular land use would or


Frederick County
Carroll County
Baltimore County
Howard County
Montgomery County
Anne Arundel County
Prince George's County
VIRGINIA
Middletown
Frederick
New Market
Mount Airy
Green Valley
Urbana
Damascus
Clarksburg
Laytonsville
Brookeville
Columbia
Germantown
Montgomery Village
Olney
Fulton
Gaithersburg
Burtonsville
Cloverly
Laurel
Rockville
Odenton
Muirkirk
Wheaton
White Oak
Beltsville
Silver Spring
Greenbelt
Bethesda
College Park
Landover
Largo
Bowie
Washington DC
Suitland
Baltimore-Washington International Thurgood Marshall Airport
Baltimore Washington Parkway
Legend
ICC Study Area
SCEA Boundary
County Boundary
Water
FIGURE S-8
ICC Alternatives/Study Area/SCEA Boundary
Not to Scale

would not occur. The ELUP for this project estimated future 2030 population and employment allocations for each of the ICC Build Alternatives and the No-Action Alternative for 34 forecast zones surrounding the ICC study area. M-NCPPC coordinates and acts on matters of land use for both counties, and M-NCPPC facilitates, reviews, and regulates land use matters within each county. The General Plan, Functional Master Plans, and Area Master Plans serve as critical tools to guide development and land use and act to balance land use and transportation needs. Zoning is used as a tool to implement planning principles set forth in approved and adopted master plans.

The Maryland Smart Growth Initiatives of 1997 are also in place to help channel and manage development pressures and to conserve critical resources. The Smart Growth Initiatives were built upon the foundation of the 1992 Planning Act. Maryland's nationally renowned Smart Growth laws help ensure that land inside PFAs are efficiently used in order to reduce the amount of growth outside of PFAs.

The future 2030 secondary impact assessment is based on future secondary development. Secondary impacts to specific resources are based on the location and extent of future secondary development expected within the SCEA boundary and associated with each of the ICC Build Alternatives.

The ELUP estimated that the No-Action alternative could anticipate about 2,512 acres of additional development. The No-Action alternative was prepared by the ELUP as a baseline from which to compare both Build Alternatives indicating that the ELUP anticipates additional development even without an ICC alternative. Please note that this development does not contribute to the overall secondary development impacts associated with Corridors 1 and 2. Based on the ELUP estimates, Corridor 1 could anticipate about 4,945 acres of secondary development in addition to the No-Action scenario. Based on ELUP's allocations, approximately 1,144 acres of undeveloped land could potentially be rezoned in order to accommodate the additional ELUP allocations for Corridor 1. Small areas of secondary residential development could potentially occur under the Corridor 1 scenario that would likely not develop under a Corridor 2 scenario. If Corridor 1 is selected, that could open up available residential land parcels along the proposed Corridor 2 alignment.

Based on the ELUP's estimates, Corridor 2 could anticipate approximately 5,546 acres of secondary development in addition to the No-Action scenario. Forecast zones that most substantially contribute to this total are similar to Corridor 1 with several notable exceptions. Corridor 2 anticipates greater amounts of secondary development in several areas. Based on ELUP's allocations, approximately 1,578 acres of undeveloped land could potentially be rezoned in order to accommodate the additional ELUP allocations for Corridor 2. A Corridor 2 selection would also open up Corridor 1 lands previously planned for an ICC to other uses.

According to M-NCPPC planning officials, who have deep experience in regional land use issues, additional development pressures on land would be likely with the selection of the northern Corridor 2 alignment (as compared with the southern Corridor 1 alignment) because settled expectations from Master Plans, zoning and land uses contemplate the ICC in the lower Corridor 1 area. Montgomery County officials have also expressed the likelihood with a Corridor 2 selection of development in rural locations not planned for such through rezonings in the northern area of the county.

Cumulative effects include impacts on the environment that would conceivably result from the incremental impact of the ICC project when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions. Therefore, cumulative effects would include all past impacts that have occurred within the ICC SCEA study area, impacts associated with the ICC project, impacts associated with present/near future pipeline projects and impacts associated with anticipated future 2030 projects. In addition, secondary impacts are considered a component of cumulative effects. As such, cumulative effects are the summation of all past, present and anticipated future impacts within the ICC SCEA study area, including impacts associated with secondary induced growth. Detailed discussions including secondary and cumulative effects per resource are included at the end of ***Chapter IV***, *Environmental Consequences*.

K. Regulatory Compliance

As a result of the high level of agency and public involvement that has occurred throughout the early stages of this study, numerous issues have been identified and addressed in the FEIS process. The Lead Agencies intend to reach an agreement on unresolved issues through continuation of public and agency coordination on the following:

1. Section 4(f) of the U.S. Department of Transportation Act of 1966

Section 4(f) of the U.S. Department of Transportation Act of 1966, 49 USC § 303(c), states that the use of land from a significant publicly-owned public park, recreation area, or wildlife and waterfowl refuge, or any significant historic site (as determined by the officials having jurisdiction over the resource) as part of a Federally-funded or approved transportation project is permissible only if there is no feasible and prudent alternative to the use and that the proposed action includes all possible planning to minimize harm to the property. Explanation of prudence and feasibility are provided in the Final Section 4(f) Evaluation. A Least Harm Analysis is included in the Final Section 4(f) Evaluation which considers the uses of Section 4(f) resources, mitigation of Section 4(f) uses, and public and agency comments (including those of the Jurisdictional Officials) on the Final Section 4(f) Evaluation. A preliminary determination of the Least Harm alternative is included in the Final Section 4(f) Evaluation. Final approval of the Section 4(f) Evaluation will occur in the ROD.

2. Section 106 of the National Historic Preservation Act

In compliance with Section 106 of the National Historic Preservation Act as amended, SHA and FHWA would continue consultations with the MHT/MD SHPO and other interested parties regarding appropriate mitigation treatment of adversely impacted historic standing structures and Maryland Certified Heritage Areas, and treatment of archeological resources. FHWA, MHT/MD SHPO and others would enter into an MOA to be executed prior to issuance of the FEIS. The MOA would identify specific measures for mitigating adverse effects on historic properties including historic standing structures and archeological resources, and specify the procedures for ongoing consultation to resolve historic preservation issues as project planning proceeds.

3. Section 404 of the Clean Water Act

Considerable effort to avoid and minimize potential direct impacts has taken place throughout the planning process to date and would continue as the project moves forward to more detailed stages of design. SHA has worked closely with the regulatory agencies and resource managers to identify sensitive aquatic resources and determine potential minimization techniques. Engineering designs would continue to be refined to address avoidance and minimization of impacts as the feasibility and effectiveness of using measures such as retaining walls, steeper fill slopes, and reduced roadway sections are evaluated. This process would continue through all phases of design and construction planning. A compensatory mitigation package would be designed to fulfill the mitigation requirement, as well as meet the resource protection goals of the natural resource agencies and the SHA. The types of mitigation sites under consideration are nontidal wetland establishment, restoration, enhancement, and preservation.

4. Section 109(h) of the Federal-Aid Highway Act

Section 109(h) of the Federal-Aid Highway Act of 1970 required the FHWA to promulgate guidelines "designed to assure that possible adverse economic, social, and environmental effects relating to any proposed project . . . have been fully considered in developing such project, and that the final decisions on the project are made in the best overall public interest.." See 23 U.S.C. § 109(h). This provision goes on to describe the necessary balancing of the need for fast, safe and efficient transportation with eliminating or minimizing adverse impacts to natural, man-made and socio-economic resources. The FHWA's regulations concerning Environmental Impact and Related Procedures at 23 C.F.R. § 771 memorialize Section 109(h) as the policy of the agency when conducting NEPA review. See 23 C.F.R. § 771.105(b). The essence of the process leading up to preparation of a Final EIS is to compile and assess data necessary to balance the interests identified in Section 109(h) and the FHWA NEPA regulations. Chapter IV of the FEIS includes a complete analysis of the possible environmental and socio-economic impacts of the reasonable and feasible build alternatives and the No-Action Alternative. Chapter VII provides a detailed comparison of the effects of all project alternatives. The final decision regarding selection of an alternative, which will be made in a Record of Decision, will consider all this information to ensure that a decision is made in the best overall public interest.

L. State and Federal Permits and Approvals Required

Construction of this project would require the following Federal and State actions:

- U.S. Army Corps of Engineers - Section 404 Permit
- Maryland Department of the Environment- Approved Sediment and Erosion Control Plan
- Maryland Department of the Environment- Approved Stormwater Management Plan
- Maryland Department of the Environment- Water Quality Certification
- Maryland Department of the Environment- Nontidal Wetland and Waterways Permit
- Maryland Department of the Environment - Coastal Zone Management Program Federal Consistency Determination
- Maryland Department of Natural Resources- Scenic and Wild Rivers Approval
- Maryland Department of Natural Resources- Approved Reforestation Plan

- Maryland Department of Natural Resources- Roadside Tree Permit
- State Board of Public Works- Priority Funding Areas law compliance

M. Summary Figures

Table S-3, Figures S-9 and ***S-9a*** and ***Table S-4*** presented on the following pages provide a summary of the socioeconomic, cultural and natural resource impacts and costs associated with all possible option combinations for Corridors 1 and 2.

The options considered in ***Chapter IV***, *Environmental Consequences* and the *Natural Environmental Technical Report* (SHA, 2004) do not include all sub-options, but include options that are representative of all the options being considered. The table below considers all options, including the I-95 Truncated Option (I-95 Option B). Impact calculations for these options may have slight variations than what is presented in this Summary. Any differences in overall impact numbers would be negligible. More detailed impact calculations would be completed upon refinement of these options during the FEIS.

N. Environmental Assessment Form

Featured in ***Appendix S*** in *Volume 3* is an Environmental Assessment Form (EAF), pursuant to the Maryland Environmental Policy Act and MDOT Order 11.01.06.02.

Table S-3: Corridors 1 and 2 Range of Environmental Impacts and Costs		
Resources	Corridor 1	Corridor 2
Socioeconomic/Cultural Environmental Resources		
Section 4(f) Use (No. of Resources)	7	6-9
Adversely Affected National Register of Historic Places (NRHP) Eligible Properties (No.)	2	7 - 12
Business and Community Facility Displacements[1] (No.)	6 - 11	8 - 15
Residential Displacements (No.)	35-52	39- 101
Total Right of Way (Acres)	1,197.9 - 1,392.6	1,211.5 - 1,455.1
Noise Impacted Areas (No. Residences/No. Noise Sensitive Areas)	592/25 - 578/26	289/18 - 309/25
Natural Environmental Resources		
Wetlands (Acres) / Wetlands Created by Mining[2] (Acres)	16.30 – 17.97 / 28.83 – 30.35	15.97 – 21.02 / 31.53 – 33.94
Streams (Linear Feet)	32,667 – 39,158	24,525 – 37,584
Floodplain (Acres)	29.4 – 42.4	35.7 – 48.3
Forest (Acres)	672.4 – 747.2	532.1 – 650.1
FIDS Habitat (Acres Direct Impact / Acres Indirect Impact)	83.2 - 98.9 / 191.7 - 228.1	32.0 - 51.4 / 64.0 – 122.9
Cost Estimate (Expressed in 2004 Dollars)		
Construction Cost[3] ($ Billion)	1.378-1.615	1.211-1.440
Right of Way Cost ($ Billion)	0.338-0.390	0.332-0. 471
Other Cost[4] ($ Billion)	0.217-0.219	0.216-0.218
Total Cost ($ Billion)	1.933-2.224	1.759-2.129

[1] Business and Community Facility Displacements also includes displacements for properties that are both Business and Residential.

[2] A series of lower-quality, emergent wetlands created by mining occurs throughout the abandoned portion of the mined lands in the vicinity of I-95. When deriving the high and low ranges for Total Wetlands, the high and low ranges for Wetlands Created by Mining and Wetlands categories must first be summed.

[3] Construction costs include construction, engineering and contingencies

[4] Other costs include Toll Facilities, Maintenance Facilities, Transit Capital Cost, Intelligent Transportation System, Design Build Stipends, Incentives, Environmental Stewardship Package, and Hazardous Materials Mitigation.

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

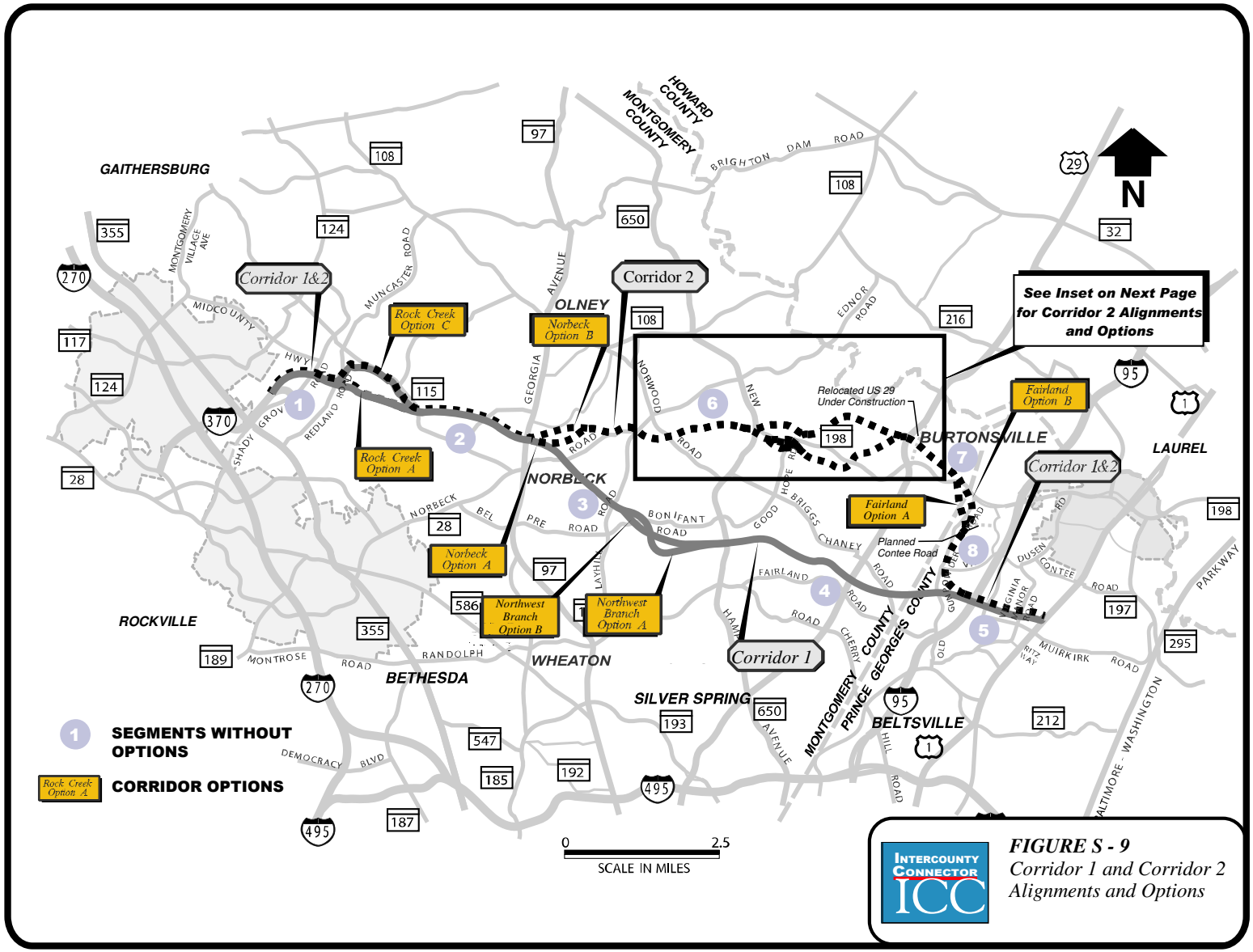


FIGURE S - 9
Corridor 1 and Corridor 2 Alignments and Options

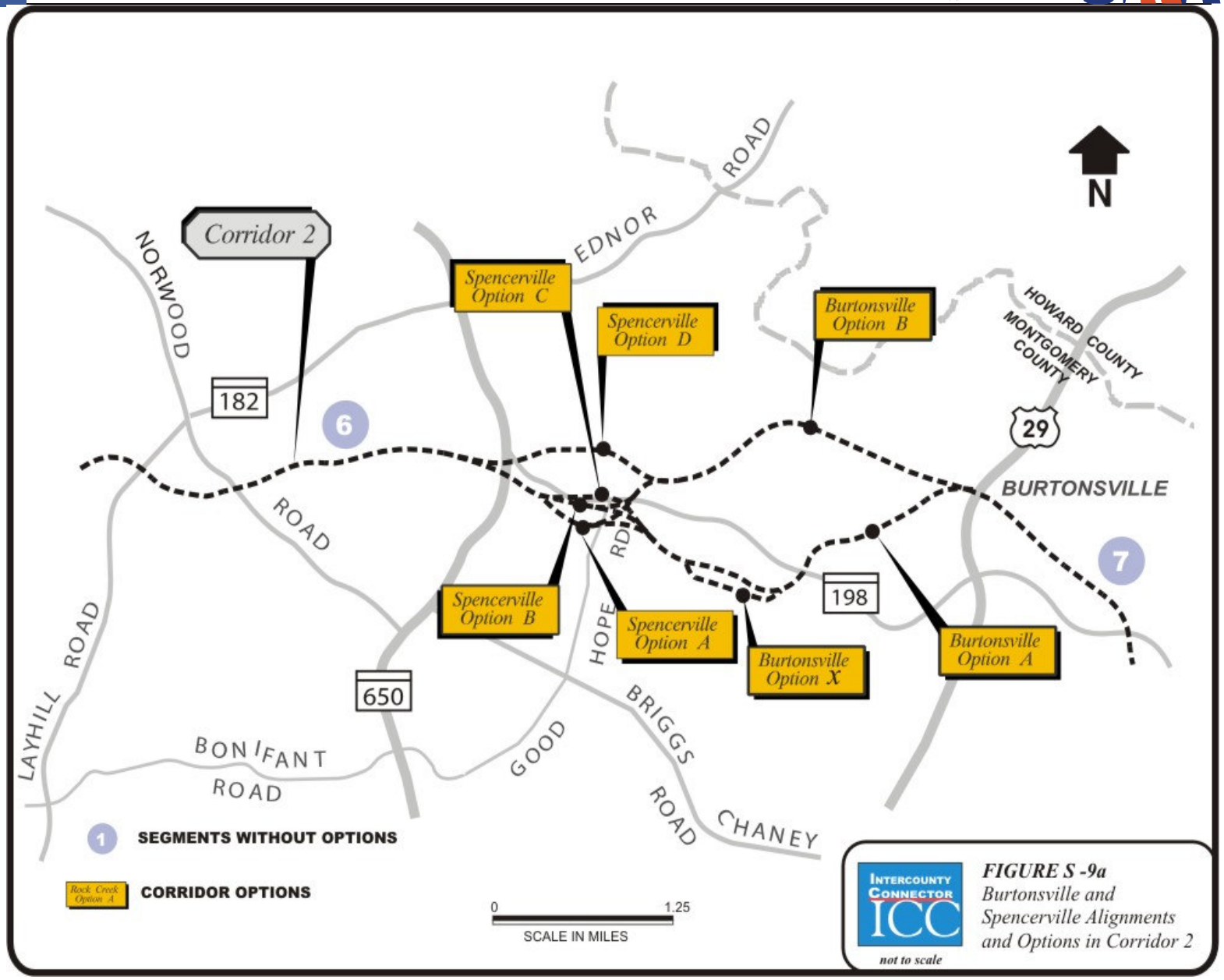


FIGURE S -9a
Burtonsville and Spencerville Alignments and Options in Corridor 2

Table S-4: Corridors 1 and 2 from I-270 to MD 97 *(see **Figure S-9**)*

Resource	Segment 1 from I-370 to west of Redland Road	Rock Creek Options			Segment 2, from west of MD 115 to MD 97
		Rock Creek Option A	Rock Creek Option C - Olde Mill Run Grade Separation	Rock Creek Option C - Olde Mill Run Cul-de-Sac	
Socioeconomic/Cultural Environment Resources					
Section 4(f) Use (No.)	1	1	1	1	1
Adversely Affected National Register of Historic Places (NRHP) Eligible Properties (No.)	0	1	1	1	0
Business and Community Facility Displacements[1] (No.)	0	0	1	1	0
Residential Displacements (No.)	0	3	18	18	8
Total Right of Way (Acres)	62.5	103.7	122.3	123.1	134.5
Noise Impacted Areas (No. Residences/No. Noise Sensitive Areas)	151/3	14/3	44/2	56/2	18/3
Natural Environmental Resources					
Wetlands (Acres)	3.3	0.95	0.40	0.40	1.56
Streams (Linear Feet)	4,396	1,303	1,919	1,639	1,645
Floodplain (Acres)	7.8	5.1	1.1	1.7	7.7
Forest (Acres)	51.1	48.5	47.2	44.7	57.1
FIDS Habitat (Acres Direct Impact / Acres Indirect Impact)	0.0 / 0.0	13.8 / 39.7	3.0 / 12.9	3.0 / 8.6	17.2 / 39.2
Cost Estimate (Expressed in 2004 Dollars)					
Construction Cost[2] ($ Million)	156	88	131	101	108
Right of Way Cost ($ Million)	41	25	38	41	44
Sub-Total Cost[3] ($ Million)	197	113	169	142	152

[1] Business and Community Facility Displacements also includes displacements for properties that are both Business and Residential.
[2] Construction costs include construction, engineering and contingencies
[3] Does not include "Other Costs" as shown in Table S-3

Table S-4, Continued: Corridor 1 from MD 97 to East of I-95 (see *Figure S-9*)						
Resource	Segment 3, from MD 97 to Northwest Branch Options	Northwest Branch Options				Segment 4, from east of Northwest Branch Options to west of I-95
		Northwest Branch Option A with Interchange at Layhill Road	Northwest Branch Option A without Interchange at Layhill Road	Northwest Branch Option B with Interchange at Layhill Road	Northwest Branch Option B without Interchange at Layhill Road	
Socioeconomic/Cultural Environment Resources						
Section 4(f) Use (No.)	0	3	3	3	3	1
Adversely Affected National Register of Historic Places (NRHP) Eligible Properties (No.)	1	0	0	0	0	0
Business and Community Facility Displacements[1] (No.)	2	1	1	0	0	3
Residential Displacements (No.)	4	2	2	2	2	17
Total Right of Way (Acres)	195.0	140.5	137.2	118.7	115.6	302.6
Noise Impacted Areas (No. Residences/No. Noise Sensitive Areas)	169/2	31/3	31/3	47/3	47/3	171/10
Natural Environmental Resources						
Wetlands (Acres)	2.38	0.96	0.95	1.26	1.26	5.94
Streams (Linear Feet)	6,123	2,534	2,534	3,731	3,731	10,458
Floodplain (Acres)	0	5.8	5.8	11.8	11.8	2
Forest (Acres)	102.2	57.1	55.9	49.6	48.8	220
FIDS Habitat (Acres Direct Impact / Acres Indirect Impact)	1.5 / 5.0	24.8 / 48.3	24.8 / 48.3	19.9 / 45.4	19.9 / 45.4	41.0 / 90.8
Cost Estimate (Expressed in 2004 Dollars)						
Construction Cost[2] ($ Million)	141	189	180	271	261	456
Right of Way Cost ($ Million)	39	35	35	32	32	82
Sub-Total Cost[3] ($ Million)	180	224	215	303	293	538

[1] Business and Community Facility Displacements also includes displacements for properties that are both Business and Residential.
[2] Construction costs include construction, engineering and contingencies
[3] Does not include "Other Costs" as shown in Table S-3

Table S-4, Continued: Corridor 2 from MD 97 to Spencerville (see *Figure S-9*)

Resource	Norbeck Options			Segment 6 with Interchange at Layhill Road	Segment 6 without Interchange at Layhill Road
	Norbeck Option A	Norbeck Option B with Willow Grove Access Over ICC	Norbeck Option B with Willow Grove Access at Mt. Everest Lane		
Socioeconomic/Cultural Environment Resources					
Section 4(f) Use (No.)	0	0	0	2	2
Adversely Affected National Register of Historic Places (NRHP) Eligible Properties (No.)	1	2	2	3	3
Business and Community Facility Displacements[1] (No.)	1	1	1	0	0
Residential Displacements (No.)	4	4	4	9	9
Total Right of Way (Acres)	169.5	155.3	156.0	87.3	80.1
Noise Impacted Areas (No. Residences/No. Noise Sensitive Areas)	14/1	8/2	8/2	26/4	26/4
Natural Environmental Resources					
Wetlands (Acres)	2.45	2.14	2.02	1.34	0.99
Streams (Linear Feet)	4,482	1,529	1,918	932	980
Floodplain (Acres)	2.6	1.2	0.6	10.5	9.7
Forest (Acres)	102.9	90	90.1	39.5	39.4
FIDS Habitat (Acres Direct Impact / Acres Indirect Impact)	10.6 / 11.0	14.8 / 15.4	14.8 / 15.4	0.0 / 0.0	0.0 / 0.0
Cost Estimate (Expressed in 2004 Dollars)					
Construction Cost[2] ($ Million)	107	101	100	120	109
Right of Way Cost ($ Million)	36	84	86	20	19
Sub-Total Cost[3] ($ Million)	143	185	186	140	128

[1] Business and Community Facility Displacements also includes displacements for properties that are both Business and Residential.
[2] Construction costs include construction, engineering and contingencies
[3] Does not include "Other Costs" as shown in Table S-3

Table S-4, Continued: Corridor 2 Spencerville and Burtonsville Options (see *Figure S-9*)

Resource	Spencerville and Burtonsville Options									
	Spencerville Option A to Burtonsville Option X	Spencerville Option A to Burtonsville Option A	Spencerville Option A with Relocated Good Hope Road to Burtonsville Option B	Spencerville Option A with ICC over Good Hope Road to Burtonsville Option B	Spencerville Option B to Burtonsville Option A	Spencerville Option B to Burtonsville Option X	Spencerville Option B to Burtonsville Option B	Spencerville Option C to Burtonsville Option A	Spencerville Option C to Burtonsville Option B	Spencerville Option D to Burtonsville Option B
Socioeconomic/Cultural Environment Resources										
Section 4(f) Use (No)	1	2	3	3	2	1	3	3	4	3
Adversely Impacted National Register of Historic Places (NHRP) Properties (No.)	3	3	2	2	5	5	4	5	4	2
Business and Community Facility Displacements[1] (No.)	4	5	5	5	8	7	8	5	5	4
Residence Displacements (No.)	52	37	19	19	33	48	15	32	14	8
Total Right of Way (Acres)	232.8	222.3	200.4	197.2	232.6	237.5	199.9	224.7	195.5	190.2
Noise Impacted Areas (No. Residences / No. Noise Sensitive Areas)	59/5	69/5	28/3	31/3	67/7	70/7	49/5	61/6	38/5	42/4
Natural Environmental Resources										
Wetlands (Acres)	3.29	3.55	5.92	5.75	3.46	3.36	5.12	3.69	5.12	6.35
Streams (Linear Feet)	3,806	3,494	7,900	7,846	3,829	4,137	7,720	4,337	7,492	7,802
Floodplain (Acres)	3.8	3.8	6.6	6.6	3.8	3.8	6.6	3.8	6.6	6.6
Forest (Acres)	66.4	62.9	84.3	82.5	60.9	65.1	80.9	60.9	71.9	72.1
FIDS Habitat (Acres Direct Impact / Acres Indirect Impact)	3.1 / 2.5	3.1 / 3.7	0.6 / 13.2	0.6 / 13.2	3.1 / 3.7	3.1 / 2.5	0.6 / 13.2	3.1 / 3.7	0.6 / 13.2	0.6 / 13.2
Cost Estimate (Expressed in 2004 Dollars)										
Construction Cost[2] ($ Million)	196	192	167	173	198	202	161	218	161	152
Right of Way Cost ($ Million)	83	65	45	46	70	88	48	68	45	40
Sub-Total Cost[3] ($ Million)	279	257	212	219	268	290	209	286	206	192

[1] Business and Community Facility Displacements also includes displacements for properties that are both Business and Residential.
[2] Construction costs include construction, engineering and contingencies
[3] Does not include "Other Costs" as shown in Table S-3

Table S-4, Continued: Corridor 2 from Burtonsville to East of I-95 (see *Figure S-9*)

Resource	Segment 7, from east Burtonsville Options to west of Fairland Options	Fairland Options		Segment 8, from east of Fairland Options to west of I-95
		Fairland Option A	Fairland Option B	
Socioeconomic/Cultural Environment Resources				
Section 4(f) Use (No.)	0	0	0	0
Adversely Affected National Register of Historic Places (NRHP) Eligible Properties (No.)	0	1	0	0
Business and Community Facility Displacements[1] (No.)	2	0	1	0
Residential Displacements (No.)	3	3	2	1
Total Right of Way (Acres)	143.4	85.9	91.0	26.0
Noise Impacted Areas (No. Residences/No. Noise Sensitive Areas)	0	7/1	0	0
Natural Environmental Resources				
Wetlands (Acres) / Wetlands Created by Mining [3] (Acres)	0.59 / 0	2.05 / 0.53	1.9 / 1.52	0 / 0.66
Streams (Linear Feet)	4,226	996	976	154
Floodplain (Acres)	0	0	0	0
Forest (Acres)	24.1	28.4	13.9	6.8
FIDS Habitat (Acres Direct Impact / Acres Indirect Impact)	0.0 / 0.0	1.9 / 10.3	0.0 / 0.0	0.0 / 0.0
Cost Estimate (Expressed in 2004 Dollars)				
Construction Cost[2] ($ Million)	118	61	74	63
Right of Way Cost ($ Million)	20	24	29	5
Sub-Total Cost[4] ($ Million)	138	85	103	68

[1].Business and Community Facility Displacements also includes displacements for properties that are both Business and Residential.
[2] Construction costs include construction, engineering and contingencies
[3] A series of lower-quality, emergent wetlands created by mining occurs throughout the abandoned portion of the mined lands in the vicinity of I-95. When deriving the high and low ranges for Total Wetlands, the high and low ranges for Wetlands Created by Mining and Wetlands categories must first be summed.
[4] Does not include "Other Costs" as shown in Table S-3

Table S-4, Continued: Corridors 1 and 2 from East of I-95 to US 1(see Figure S-9)				
Resource	Corridor 1 Segment 5, I-95 Interchange Option A (terminate ICC at US 1)	Corridor 1 Segment 5, I-95 Interchange Option B (terminate ICC at I-95)	Corridor 2 Segment 5, I-95 Interchange Option A (terminate ICC at US 1)	Corridor 2 Segment 5, I-95 Interchange Option B (terminate ICC at I-95)
Socioeconomic/Cultural Environmental Resources				
Section 4(f) Use (No.)	0	0	0	0
Adversely Affected National Register of Historic Places (NRHP) Eligible Properties (No.)	0	0	0	0
Business and Community Facility Displacements[1] (No.)	4	1	4	1
Residential Displacements (No.)	3	1	3	1
Total Right of Way (Acres)	434.4	284.0	380.3	229.9
Noise Impacted Areas (No. Residences/No. Noise Sensitive Areas)	8/2	8/2	8/2	8/2
Natural Environmental Resources				
Wetlands (Acres) / Wetlands Created by Mining [3] (Acres)	2.58 / 30.35	1.77 / 28.83	2.58 / 31.76	1.77 / 30.34
Streams (Linear Feet)	10,886	6,208	10,886	5,870
Floodplain (Acres)	8	5	8	5
Forest (Acres)	211.2	148.5	207.4	144.1
FIDS Habitat (Acres Direct Impact / Acres Indirect Impact)	0.6 / 5.1	0.6 / 2.7	0.6 / 5.1	0.6 / 2.7
Cost Estimate (Expressed in 2004 Dollars)				
Construction Cost[2] ($ Million)	352	249	352	249
Right of Way Cost ($ Million)	115	73	120	79
Sub-Total Cost[4] ($ Million)	467	322	472	328

[1] Business and Community Facility Displacements also includes displacements for properties that are both Business and Residential.
[2] Construction costs include construction, engineering and contingencies
[3] A series of lower-quality, emergent wetlands created by mining occurs throughout the abandoned portion of the mined lands in the vicinity of I-95. The high and low ranges for Total Wetland impacts is the sum of the impacts for both the 'Wetlands' and the 'Wetlands Created by Mining' categories.
[4] Does not include "Other Costs" as shown in Table S-3