K. Secondary and Cumulative Effects Analysis

An additional study has been conducted in order to supplement the Secondary and Cumulative Effects Analysis since the release of the November 22, 2004 DEIS. The Lead Agencies have conducted additional analyses to more thoroughly assess the potential impacts to the Rocky Gorge Reservoir. This would include modeling pollutant loads from future development to more quantitatively assess the water quality impact on the reservoir. Additional information on this analysis can be found in the Reservoir section in *Section K.8.b*.

In addition to the consideration of a project's "direct" impacts, the Council on Environmental Quality (CEQ) regulations also require that the secondary and cumulative effects of a project be examined (40 CFR § 1508.25 (c)). Secondary (indirect) effects are defined as, "Effects which are "caused" by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems" (40 CFR § 1508.8(b)). Cumulative effects are defined as, "Impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions" (40 CFR § 1508.7).

Detailed information regarding this analysis is provided in the *ICC Secondary and Cumulative Effects Analysis Technical Memorandum, I-270 to US 1*.

1. Overview

The ICC Secondary and Cumulative Effects Analysis (SCEA) was conducted in accordance with the SHA's June 2000 *SCEA Guidelines for Environmental Impact Statements and Environmental Assessments* (SHA, 2000). The assessment of secondary and cumulative effects involves the assessment of the potential impacts of the proposed action in the context of past, present and reasonably foreseeable future impacts. The time frame established for this SCEA was 1964 through 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 National Capital Region Transportation Planning Board's (TPB) Constrained Long Range Plan (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 reasonably foreseeable future impacts integrated estimates from an expert land use panel (ELUP) advisory group. The ELUP process is included as part of SHA's *SCEA Guidelines* (SHA, 2000) for select projects. Due to the complexity of the project, an advisory panel was selected to identify future land use scenarios since there were differing viewpoints among local jurisdictions, agencies and special interest groups. The ELUP estimated

differences in the amount and location of future households and jobs among the ICC alternatives, including the No-Action alternative. The estimates were then converted into future land use scenarios for use in assessing reasonably foreseeable future impacts.

2. Summary

A SCEA is a comprehensive, long-term look at how the construction of an ICC and other past, present and future planned development and transportation projects might result in additional resource impacts. In general, resources within the SCEA boundary have experienced negative cumulative effects during the SCEA time frame primarily due to the pressures caused by the large population growth that the area has experienced. It is expected that these trends will continue with additional growth in the present/near future and future time frames although not always at the same rate due to current laws and regulations that could reduce the rate and extent to which resources are affected. The resources that have been analyzed as part of the ICC SCEA include residential/business communities, parkland and recreational facilities, cultural resources, minority and low income communities, floodplains, surface water/aquatic habitat, wetlands, farmland, forests/terrestrial habitat, groundwater, rare, threatened and endangered species, impervious area and reservoirs.

The ELUP expects additional development to occur for each of the ICC alternatives within the SCEA boundary. Resource impacts would occur in those areas of anticipated development. Specific development quantities are listed below for each of the ICC 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 for which to compare both Build Alternatives indicating that the ELUP anticipates additional development even without an ICC alternative.

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.

Corridor 2 could anticipate approximately 5,546 acres of secondary development in addition to the No-Action scenario. 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 open up Corridor 1 lands planned for an ICC to other uses.

3. Methodology

a. Secondary Effects

As previously mentioned, secondary effects include indirect impacts that are caused by the action (i.e., construction of an ICC Build Alternative), and are later in time or farther removed in distance, but are still reasonably foreseeable. Secondary effects may include growth-inducing

effects and other effects related to induced changes in the pattern of land use, population density or growth rate. The time frame used for the assessment of reasonably foreseeable secondary impacts was 2030, which is the design year for the project (and also the time frame for which ELUP allocations were projected).

The secondary impacts analysis involved assessing impacts associated with growth-inducing effects of the ICC project. As such, land use scenarios for each of the ICC Alternatives Retained for Detailed Study (ARDS), including the No-Action, were generated based on the ELUP's 2030 household and employment estimates. Land use maps were generated for each of the ICC ARDS, highlighting areas that could potentially accommodate the ELUP estimates (see ***Section K.6.b***, for details). The future 2030 land use maps were then overlaid with environmental resources to assess resource impacts associated with secondary induced growth that might result from construction of the ICC.

The ELUP estimates suggest that secondary growth is likely for both Corridors 1 and 2. As a result of the projected induced growth, associated secondary environmental impacts would also be likely for both Corridors 1 and 2. Based on the ELUP's estimates, the extent of secondary induced growth would be similar between the two ICC build corridors, with slightly greater induced growth and associated secondary impacts expected under a Corridor 2 scenario.

Secondary impacts were assessed quantitatively whenever possible; however, many resources were assessed qualitatively. Quantitative impacts were calculated for certain resources (e.g., wetlands, floodplains, farmlands, streams and forests) when GIS data was readily available. It was not practical to conduct quantitative analyses for all resources; therefore, secondary impacts were assessed qualitatively for resources such as residential/business communities, parklands, and cultural resources.

For the quantitative assessments, growth areas for the No-Action, Corridor 1 and Corridor 2 were overlaid with environmental resources GIS data to quantitatively assess potential impacts to resources. It should be noted that the areas identified for secondary growth were based on the ELUP estimates, and should be viewed more as a projection of general development trends rather than specific predictors of potential development. The impact quantities are not based on field delineated resources or specific project site plans, and do not consider local, State and Federal environmental laws and regulations that would likely reduce the extent of impact. In addition to GIS overlay, other methods used to draw secondary and cumulative effects conclusions for this project include trends analysis and the use of matrices. These analysis tools are among CEQ's recommended methodologies for conducting secondary and cumulative effects analysis (CEQ, 1997).

b. Cumulative Effects

Cumulative environmental effects relate to the incremental impact of the ICC project in the context of other past, present and reasonably foreseeable future actions whether they are public or private actions. Therefore, cumulative effects take into account all past impacts that have occurred within the ICC SCEA boundary, impacts associated with the ICC project itself, impacts associated with present/near future pipeline projects, and impacts associated with anticipated

future 2030 projects. Secondary impacts are considered a component of cumulative effects. As such, cumulative effects under the Corridor 1 or Corridor 2 scenarios include the summation of all past, present and anticipated future impacts within the ICC SCEA boundary, including impacts associated with secondary induced growth. Cumulative effects were assessed quantitatively as much as possible; however, a qualitative assessment was applied in many circumstances. This was because specific data were not always available to quantitatively assess resource impacts. Therefore, cumulative effects were assessed both quantitatively and qualitatively to fully document resource trends from the past to the reasonably foreseeable future time frame (see *Section K.8*, for details).

4. Scoping

SCEA scoping was conducted in accordance with the SHA's June 2000 *SCEA Guidelines for Environmental Impact Statements and Environmental Assessments* (SHA, 2000). Scoping activities include the following and define the parameters for conducting the resource analysis:

- Defining resources to be analyzed in the SCEA
- Establishing the SCEA geographical boundary
- Establishing the SCEA past and future time frames

The scope of the secondary and cumulative effects analysis was determined in coordination with the Interagency Working Group (IAWG), including representatives from the regulatory and resource agencies. The three parameters were presented to the agencies in November 2003.

a. Resources

The following resources were assessed in the secondary and cumulative effects analysis:

- Residential/Business Communities
- Farmlands
- Parks/Recreational Facilities
- Forests/Terrestrial Habitat
- Low-Income/Minority Populations
- Rare, Threatened, and Endangered Species (RTE)
- Floodplains
- Surface Water/Aquatic Habitat
- Wetlands
- Cultural Resources

b. Geographical Boundaries

Geographic limits were first identified in which the secondary and cumulative effects analysis would be conducted. The SCEA boundary covers sufficient area to allow for flexibility in the development of alternatives and encompasses all areas that may be directly affected. Secondary and cumulative effects could be further removed from the project alternatives than direct

impacts; therefore, it was assumed that the geographic limits for the analysis of secondary and cumulative effects reach beyond the defined project study area.

Multiple resource boundaries were reviewed to determine appropriate SCEA sub-boundaries using the environmental resources that may be directly affected by the project. Established sub-boundaries were overlaid onto one composite map to determine the outermost boundary extent (***Figure IV-20, Volume II***). The outermost extent of all sub-boundaries comprises the overall SCEA boundary. The sub-boundaries considered in establishing the SCEA boundary are listed below.

- Alternatives/Study Area Boundary
- Area of Traffic Influence
- Natural Resources (e.g., Watersheds)
- Public Sewer and Water Service Areas
- Census Tracts
- Expert Land Use Panel Boundary

c. Time Frames

The SCEA must consider past, present and reasonably foreseeable future actions. The past time frame of 1964 was chosen based on two significant events that occurred within the SCEA boundary; the opening of the Capital Beltway (I-495) as well as the adoption by M-NCPPC of *On Wedges and Corridors: A General Plan for the Maryland-Washington Regional District* (M-NCPPC, 1964). The opening of the Capital Beltway and later Metrorail (the first Maryland station opened in 1978 in Silver Spring) were important factors influencing development patterns in both Montgomery and Prince George's Counties. Coupled with the local planning philosophy of wedges, corridors and centers, the stage was set for channeling and managing of the development that would occur as a result of the substantial population growth since World War II.

It was determined that five years from present (2010) would adequately assess the present/near future time frame. Commencement of construction of an ICC would be within the 2010 time frame.

The future time frame 2030 was chosen primarily based on the project's design year, 2030, and is derived from future land use assumptions. In addition, population projections are available through 2030, allowing a more accurate depiction of the future population within the SCEA boundary. The Washington Suburban Sanitary Commission (WSSC) has indicated that the 25-year time frame selected for this analysis is not long enough and a longer time frame would be more appropriate to effectively analyze impacts to the reservoir. However, because this is a transportation study following the Federal guidelines for the NEPA process, standard transportation planning time frames were used to set the SCEA temporal boundaries with Federal agency concurrence.

5. Land Use Policies

Montgomery and Prince George's Counties and the State of Maryland have in place well-known and rigorous land use plans, policies and laws, with the express purpose of channeling growth and public facilities into appropriate locations at an appropriate pace. The counties' general and master plans since the 1960's have provided the planning basis for their zoning, growth management, and land use restrictions, and ensure a balance between land use and transportation. In addition, beginning in the 1990's, the State enacted several laws, called the Smart Growth Initiatives, designed to direct State funding for major projects toward areas of existing and planned growth. Maryland law applies an unusually high burden for individual rezoning of land that do not agree with local plans and zoning. The impact of these zoning and land use laws on secondary and/or cumulative effects is inherently uncertain and depends, in large part, on judgments concerning future political decisions. Indeed, participants in this SCEA process, including ELUP advisory group members and county planning officials, reached somewhat differing conclusions regarding how these laws may or may not influence future growth. Even so, these subjective factors play an important role in the development of this SCEA and the consideration of the resource impact estimates described below.

a. Local Planning and Zoning

Public plans, policies and laws are critical in reviewing and contemplating potential future land use for each of the ICC alternatives. One of the most important factors is the influence of State and local development policies. Montgomery and Prince George's Counties have had very strict planning and regulatory frameworks in place to guide the location, pattern and pace of growth for each county over the past 75 years. M-NCPPC is a nationally famous bi-county agency established by the Maryland General Assembly in 1927 to acquire, develop, maintain and administer the local and regional park system within Montgomery and Prince George's Counties, and to develop and guide land use planning for the physical development of the two counties through comprehensive land use regulation.

M-NCPPC coordinates and acts on matters of land use interest to both counties. Members of the Commission from each county serve as separate Planning Boards to facilitate, review and regulate the land use matters affecting their respective counties. As a result, it is the responsibility of M-NCPPC to protect and steer land use and development in a way that safeguards resources vital to the counties.

The General Plan, Functional Master Plans and Area Master Plans are used as a critical tool by the counties to guide development and land use. The General Plan outlines the overall goals and objectives for land use, transportation and the environment as well as a general pattern of development. Functional master plans are prepared for specific elements that require countywide planning such as highways, bikeways and watersheds. Area master plans are comprehensive and multi-disciplinary and incorporate the main parts of functional plans, refining the application of functional plans area by area and identifying land uses in detail, based on the General Plan and projected needs for housing, environmental protection, public facilities and economic development. Most importantly, county plans balance land use and transportation.

They play an important role in the lives of community residents in that the plans provide a documented agreement between citizens and the counties so it is clear what development and conservation areas are recommended and anticipated for specific areas within the respective counties over a 10 to 20 year time frame. For decades, development has been centered around the counties' urban ring, suburban communities, designated transportation corridors, and designated town and transit centers. Designated agricultural and rural districts (one third of each county) have been concentrated in northern and western Montgomery County and eastern and southern Prince George's County. The citizens of the counties depend on the General Plan and Master Plan process, and make housing, business, job, school, and overall life choices based on the plans. Plans take several years of extensive public involvement, including drafting, advisory committees, public hearings and forums, and work sessions, before approval by the respective County Council and adoption by M-NCPPC. Officials and citizens alike closely adhere to them.

M-NCPPC plans are then implemented through comprehensive zoning, subdivision regulation, project plan hearings, adequate public facility ordinances, growth management controls, and capital improvement programs. The link between master planning and zoning is especially critical. Zoning controls are based on sound planning principles as set forth in the approved and adopted plans of both counties.

Under the strict Maryland Change or Mistake Rule, standard rezoning for a parcel of land can only be considered where there was a mistake in the existing zoning or a substantial change in the character of the neighborhood has occurred. This rule reinforces the authority of the Master Plan and its comprehensive zoning. According to M-NCPPC officials, who have substantial experience with land use in this region, a choice of the No-Action or Corridor 2 Alternatives would likely be deemed "a substantial change in the character of the neighborhood," opening up areas never planned for development.

b. State Smart Growth Laws

State "Smart Growth" policies are also in place to help channel and manage development pressures and conserve critical areas. They serve to reinforce county plans and regulations. Since 1974, the Maryland Department of Planning (MDP) can participate in any State, local or land use proceeding in order to communicate the State's views to decision-makers and to encourage the decision-maker to take action consistent with the general welfare of the State and its citizens. The State's 1992 Economic Growth, Resource Protection, and Planning Act requires that local jurisdictions address several planning visions that are centered around concentrating development in suitable areas, protecting sensitive areas, and establishing funding mechanisms to achieve these visions. The 1997 Maryland General Assembly built upon the 1992 Planning Act, and enacted five pieces of legislation and budget initiatives to promote smart growth in Maryland, including the Priority Funding Areas (PFA) Act. This legislative package is known collectively as the Smart Growth Initiatives. A key intent of Smart Growth is to direct State funding for growth related projects to areas designated by local jurisdictions as PFAs. PFAs are existing and planned communities and other locally designated places as determined by local jurisdictions in accordance with Smart Growth Guidelines. Encouraging growth within a designated PFA ensures that communities are guaranteed a high quality of life and that critical

resources existing outside a PFA are protected through land conservation (see ***Figure IV-4, Volume II*** for PFA locations). MDP is responsible for coordinating land use and related efforts of State agencies and helping developers and local officials bring smart growth projects to fruition, as well as educate and inform the public.

Maryland's nationally recognized Smart Growth laws help ensure that land inside PFAs is used efficiently in order to reduce the amount of sprawl outside PFAs. This is commonly referred to as "Making Smart Growth Smarter". Additionally, there are over 80 other State programs that contribute to Smart Growth goals, including supporting existing communities by targeting resources to support development in areas where infrastructure exists or is planned; preserving and protecting valuable natural resources; and saving taxpayers from the high costs associated with sprawl development. Numerous programs were established prior to 1997 and were either already consistent with the Smart Growth initiatives or redirected to be more supportive of the Smart Growth philosophy. The State Smart Growth program applies to State-funded projects, and its goals are paralleled through the strict planning, zoning, growth management and preservation policies employed by M-NCPPC and its two counties for decades.

Corridors 1 and 2 both link two key PFA boundaries along I-270 and I-95; however, portions of both corridors fall outside of a PFA boundary, substantially more of Corridor 2 than of Corridor 1 (***Figure IV-4, Volume II***). In cases where proposed projects are not fully proposed within PFA boundaries but connect PFAs, approval from the Board of Public Works is required. 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. Of the proposed 18-mile Corridor 1 alignment, three sections fall outside of a PFA. One section extends from just east of the I-370/Shady Grove Road interchange to just east of MD 97/Georgia Avenue interchange, a distance of approximately four miles. The second is within the Northwest Branch Recreational Park, a distance of approximately 0.5 mile. The third section is located along Upper Paint Branch Stream Valley Park, from MD 650/New Hampshire Avenue to west of US 29/Columbia Pike, a distance of approximately 1.6 miles. In total, approximately 6.5 miles, or 36 percent, along Corridor 1 falls outside of a PFA. MD 97/Georgia Avenue is the only interchange along Corridor 1 that is completely outside of a PFA (though it lies between two nearby PFAs). The MD 650/New Hampshire Avenue interchange is partially outside of a PFA. At this location the area west of MD 650 is within a PFA, and the area east of MD 650 is outside of a PFA.

Of the proposed 20-mile Corridor 2 alignment, one main section falls outside of a PFA boundary. This section is approximately 13 miles in length, or 65 percent of Corridor 2, and extends from just east of the I-370/Shady Grove Road interchange to east of US 29 at Sandy Spring Road. Several proposed interchanges along Corridor 2 fall outside of a PFA boundary, including MD 97 (Georgia Avenue), MD 182 (Layhill Road), MD 650 (New Hampshire Avenue), and US 29 (Columbia Pike). The 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 U.S. 1) Corridor 1 is more compatible with the intent of the Smart Growth Act. Overall, MDP concluded in the White Paper (and the Maryland Department of Transportation agreed) that Corridor 2 would have more negative smart growth impacts than would Corridor 1.

Importantly, a comparison was also made for the length and percentage of alignment outside of a PFA for those sections that diverge between Corridors 1 and 2. The alignments diverge just east of the MD 97 interchange and converge again just west of I-95. Of that 10-mile section along Corridor 1, three miles, or 30 percent, fall outside of a PFA. Of that 12-mile section along Corridor 2, nine miles, or 75 percent, fall outside of a PFA.

6. Developing Secondary Impact Scenarios

a. ELUP Advisory Group

The ELUP was established as an advisory group for the ICC project to estimate differences in the amount and location of future households and jobs (secondary development) for the ARDS, including the No-Action Alternative. The ELUP process is included as part of SHA's *SCEA Guidelines* (SHA, 2000) for select projects. Due to the complexity of the project, an advisory panel was selected to identify future land use scenarios since there were differing viewpoints among local jurisdictions, agencies and special interest groups. The results of the panel's estimates were then used in developing future land use maps for use in the SCEA. The selection process for panel members was conducted through nominations by Federal, State and local agencies, a credential review and through a series of interviews by the panel's facilitator. The ELUP convened six times, from November 2003 through May 2004.

The ELUP used a well-developed research technique known as the Delphi process to estimate future land use impacts associated with each of the ICC ARDS. This process is a highly structured technique in which participants provide their individual assessment of likely future events. The use of expert panels and the Delphi process are widely recognized methods for analyzing transportation and land use alternatives (NCHRP Project 8-326, 2002; NCHRP Project 8-32(3), 1998; FHWA – Toolbox for Regional Policy Analysis, 2002).

This process was administered through each panelist completing iterative rounds of questions, and having a moderator tally and summarize the results of each round to provide overall results. Panelists were asked to allocate estimates of households and employment within 34 forecast zones surrounding the ICC study area and for three different scenarios: No-Action, Corridor 1 and Corridor 2. ***Appendix P, P-1*** identifies each forecast zone and the corresponding planning areas and place names within these zones. This table is necessary because in some cases the name of the forecast zone is not always representative of the surrounding area. Each panel member was provided with Metropolitan Washington Council of Government's/Baltimore Metropolitan Council (MWCOG/BMC) Round 6.3 2030 household and employment forecasts. Additionally, the panel was provided information regarding the details of the ARDS. Descriptions of each corridor along with specific interchange locations and the fact that the roadway would be a six-lane, multi-modal, controlled access facility were all presented to the panel.

Prior to integrating estimates from the ELUP, a base future 2030 land use map was prepared. It was assumed that the base map is consistent with the Metropolitan Planning Organization (MPO) 2030 household and employment projections. The base map included future 2030 projects/developments as identified in the CLRP, in county Master Plans and through coordination with county planners. Household and employment allocations were then compared between the MPO forecasts and ELUP's estimates. In some areas, the differences between the MPO projections and greater ELUP estimates suggested that additional development would be likely beyond what is currently planned for by the counties. In these areas, the future land use maps were adjusted accordingly to accommodate the ELUP allocations. The No-Action Alternative estimates served as the baseline for comparison with Corridor 1 and Corridor 2 allocations. A comparison of future land use between each of the ARDS was then evaluated, and future secondary resource impacts were assessed.

Although the overall future land use maps were prepared according to ELUP's suggested allocations, and resource impacts were assessed based on these land use scenarios, it must be noted that there are other factors to consider (e.g., local planning and zoning laws, Smart Growth laws, etc.) that will affect future land use that may or may not have been considered by the ELUP as a whole. The ELUP was comprised of 15 individuals, all of whom had their own viewpoints and opinions. For the purposes of the SCEA, estimates from all 15 individuals were processed into one representative estimate per forecast zone (one household and one employment) using a statistical average. This statistical average does not always allow for individual panelist viewpoints and opinions to be clearly represented.

b. Development of Secondary Land Use Mapping

Based on ELUP's estimates, future 2030 secondary land use scenarios were developed for Corridors 1 and 2 to depict induced growth areas. These maps show potential secondary development growth areas consistent with ELUP's suggested allocations for Corridors 1 and 2. Resource impacts associated with induced growth would constitute secondary resource impacts.

Potential secondary growth areas were first identified based on existing zoning and land use. Land zoned to accommodate future development (i.e. residential, commercial) and current undeveloped land use (i.e. open space, agricultural, forested) was identified first as areas likely to accommodate secondary future development.

The amount of available land for future secondary development was then assessed to determine if the ELUP's allocations could be accommodated within the identified areas. Dwelling units per acre were used to calculate the number of households that could potentially be accommodated based on land acreage zoned as residential. For commercial/industrial-zoned lands, Floor Area Ratio (FAR) was used to calculate the number of employees that could potentially be accommodated within the areas identified as available for future secondary development.

If it was determined that undeveloped and adequately zoned lands were not available to accommodate ELUP's estimates, then it was assumed that rezoning of undeveloped lands may occur in areas that are not currently suited to accommodate development based on their existing

zoning designation or protective status. Identification of lands that could potentially be rezoned was coordinated with individual counties. It must be noted that any lands identified as having the potential for rezoning would require extensive coordination and approval within the counties, and policy changes and Master Plan amendments by the counties.

It should be noted that the mapped secondary development areas do not represent specific projects or any development approvals from the counties or any other agencies. They are possible scenarios. The future secondary land use maps accommodate ELUP's suggested projections and are only intended to depict potential future secondary land use scenarios and assess potential secondary resource impacts. Potential development acreages that were derived from the ELUP estimates are to be viewed more as projections of general development trends, rather than as specific predictors of potential development.

7. Secondary Impacts (Induced Growth)

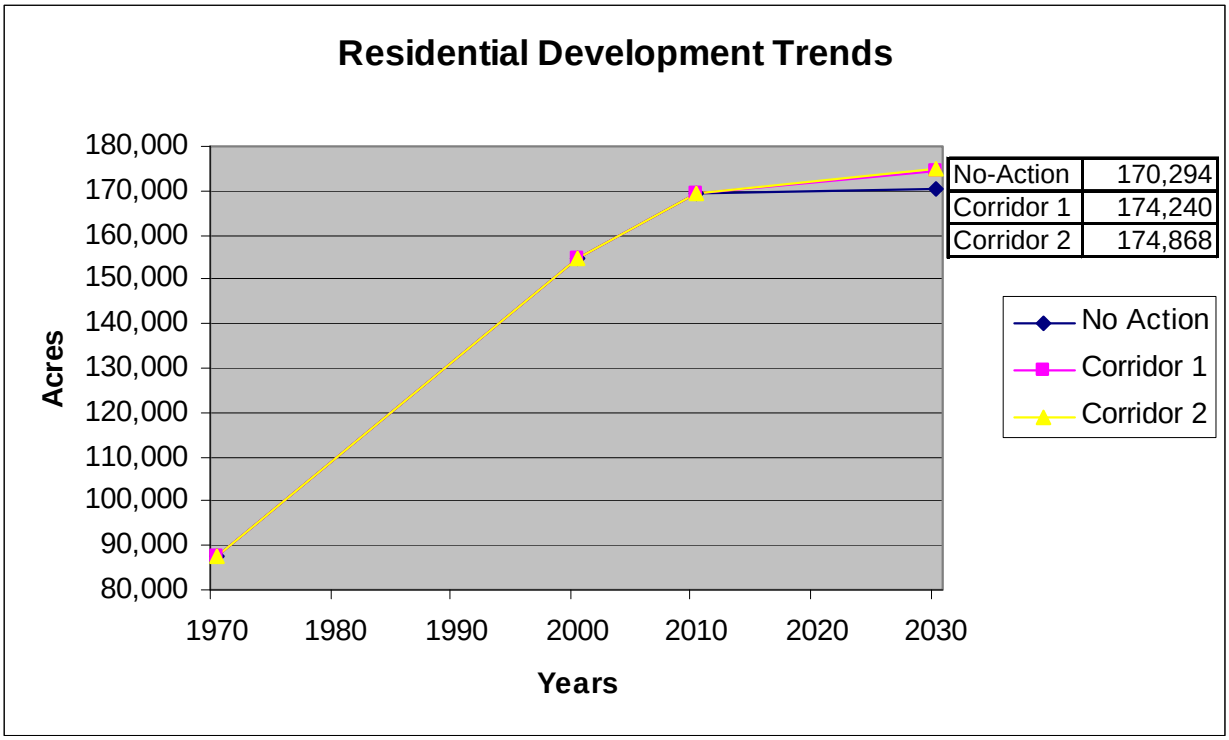
a. Existing and Projected Land Use Trends

The ICC SCEA boundary primarily consists of residential, forested/undeveloped, and commercial/industrial land uses. Both residential and commercial development has steadily increased within the SCEA boundary since the early 1970's, as depicted on ***Figures IV-21*** and ***IV-22, Volume II***. With the steady rise in population within the SCEA boundary, the most substantial development that has occurred within the SCEA boundary consists of residential growth (***Figure IV-22, Volume II***).

As illustrated on ***Figure IV-23, Volume II***, this general trend is not unlike development trends that have surrounded the Maryland Suburban/Baltimore area, which have also experienced substantial growth, primarily residential, over the past several decades. Prior to the 1970's, development in the Maryland Suburban/Baltimore area was mostly suburban in nature and focused more around growth centers in Baltimore and Washington. Over the past several decades, however, development has spread farther outward from these centers, and has grown between Washington and Baltimore. Since the early 1990's, additional planned residential (and commercial) development has occurred throughout this region. These areas have become more prominent in scale. ***Figure IV-23, Volume II*** graphically depicts residential growth that has occurred throughout this region and within the ICC SCEA boundary from 1973 to 2000 (based on MDP Land Use/Land Cover data, MDP 1973 and 2000).

Figure IV-24 illustrates projected future residential growth associated with each of the ICC alternatives, and based on household estimates established by the ELUP. This graph shows that the projected trend for residential growth from the present to the future 2030 time frame is consistent with past trends, and does not substantially differ among the ICC alternatives. As depicted, from 1973 to 2000, residential development has increased at a rate of approximately three percent per year. Based on planned/pipeline residential development projects through 2010, residential development is expected to increase by ten percent per year from 2000 to 2010. Based on household estimates from the ELUP for the future 2030 time frame, residential growth is expected to increase approximately five percent per year for any of the ICC alternatives. ***Figure IV-25, Volume II*** graphically outlines the future land use scenario highlighting anticipated residential development based on the ELUP's estimates.

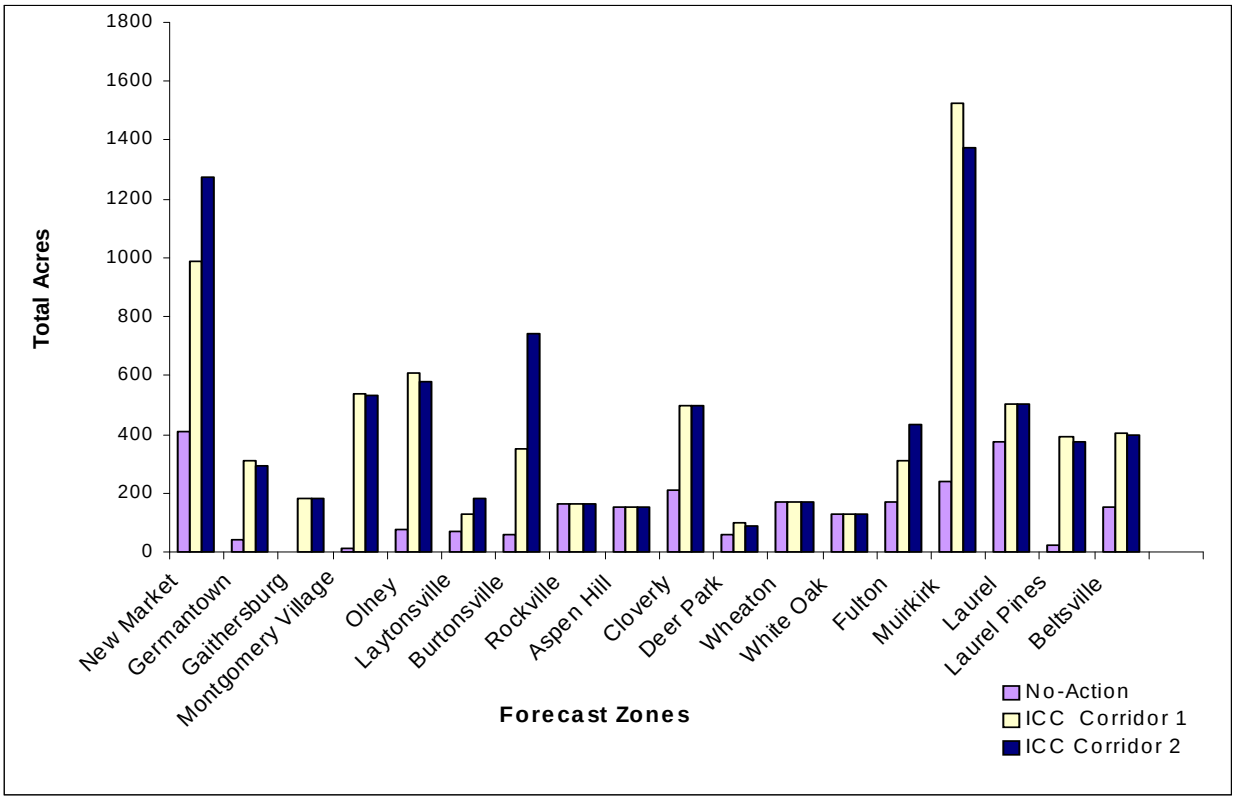
Figure IV-24
Residential Development Trends



These future 2030 projections show that an ICC Build Alternative would not encourage extensive residential growth that would be inconsistent with past growth trends. Overall, no substantial difference in the amount of future development would occur between the No-Action and Build Alternatives. However, there are more dramatic differences between Corridors 1 and 2 regarding the location of that development.

Figure IV-26 highlights the total amount of development (residential and commercial) expected in the future time frame per forecast zone for the No-Action, Corridor 1 and Corridor 2 alternatives, based on the ELUP's estimates. The forecast zones where development differed by more than 100 acres, between the No-Action and either Build Alternative, include New Market, Germantown, Gaithersburg, Montgomery Village, Olney, Burtonsville, Aspen Hill, White Oak, Muirkirk, Laurel and Laurel Pines. The forecast zone where Corridor 1 was substantially higher than Corridor 2 includes Muirkirk by 152 acres. Forecast zones where Corridor 2 was substantially higher than Corridor 1 include New Market by 283 acres, Burtonsville by 393 acres and Fulton by 125 acres.

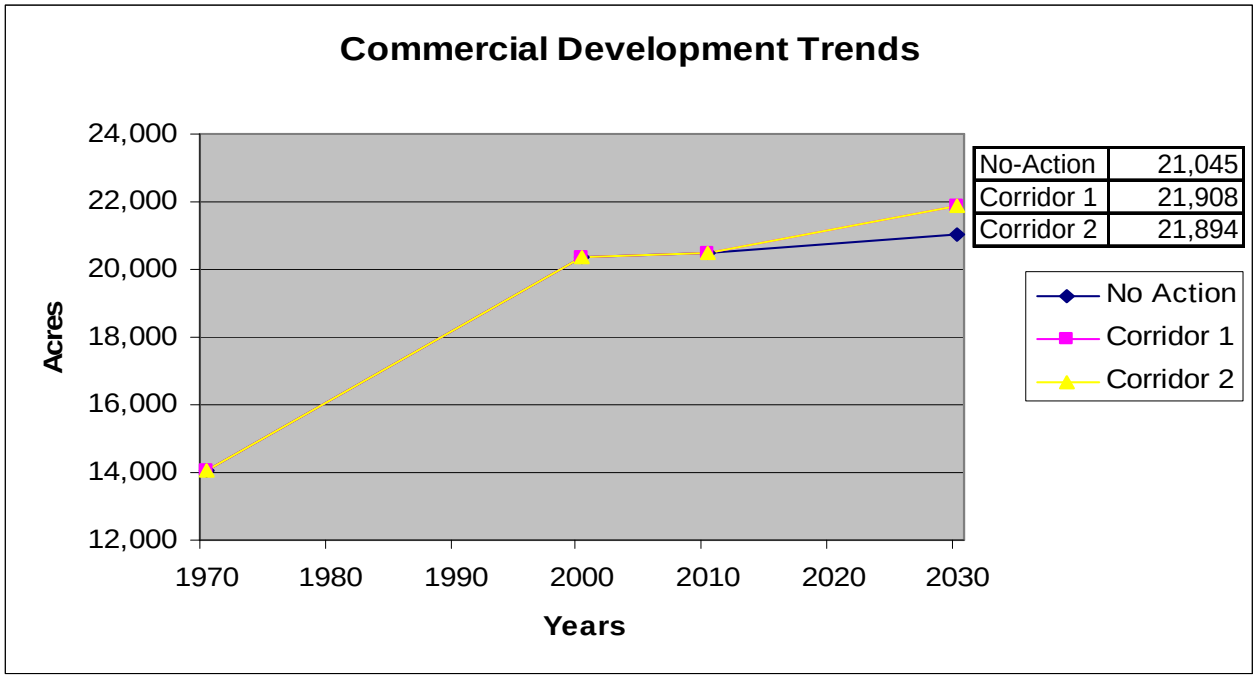
Figure IV-26
Total Acres of Development per Forecast Zone



The projected trends regarding commercial development are similar to trends described for residential growth. ***Figure IV-27*** illustrates projected future commercial growth associated with each of the ICC alternatives, and based on employment estimates established by the ELUP. This graph shows that the projected trend for commercial growth from the present to the future 2030 time frame is consistent with past trends and does not substantially differ among the ICC alternatives. As depicted, from 1973 to 2000, commercial development has increased at a rate of approximately three percent per year. Based on planned/pipeline commercial development projects through 2010, commercial development is expected to increase by ten percent per year from 2000 to 2010. Based on employment estimates from the ELUP for the future 2030 time frame, commercial growth is expected to increase five percent per year for any of the ICC alternatives (***Figure IV-27***).

These future 2030 projections show that an ICC Build Alternative would not encourage extensive commercial growth that would be inconsistent with past growth trends or would substantially differ between the No-Action and Build Alternatives.

Figure IV-27
Commercial Development Trends



b. Future Secondary Development (as predicted by the ELUP)

Secondary impacts associated with Corridor 1 and Corridor 2 alternatives were quantitatively assessed based on the ELUP's estimates. ***Appendix P, P-2*** contains the estimated acreage of planned development associated with the No-Action Alternative and potential secondary development (associated with Corridors 1 and 2) based on the ELUP suggested estimates. Secondary development acreages were computed by forecast zones, counties and for the entire SCEA boundary.

The ELUP established allocations for both Corridor 1 and Corridor 2 Alternatives, which were then compared to the No-Action allocations ***(see Section A.5.c.2, of the ICC Secondary and Cumulative Effects Analysis Technical Memorandum, I-270 to US 1).*** The difference between ELUP's suggested build allocations and No-Action allocations represents household and employment secondary growth that could potentially occur if an ICC Build Alternative is selected. Therefore, the additional household and employment growth would occur "but for" construction of the ICC.

No-Action

Based on the ELUP estimates, the No-Action alternative could anticipate approximately 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.

Impacts associated with the No-Action alternative are discussed in the Cumulative Impacts section, ***Section K.8.b.***

Corridor 1

Based on the ELUP estimates, Corridor 1 could anticipate approximately 4,945 acres of secondary development. Forecast zones that most substantially (greater than 250 acres) contribute to this total include: New Market, Germantown, Montgomery Village, Olney, Burtonsville, Cloverly, Muirkirk, Laurel Pines and Beltsville. ***Table IV-118*** is a summary of the ELUP land use estimates per corridor. The following forecast zones do not sufficiently accommodate all of ELUP's Corridor 1 allocations (for either households or employment) and, therefore, rezoning may potentially occur within these areas: Gaithersburg, Olney, Laytonsville, Burtonsville, Aspen Hill, Cloverly, Deer Park, White Oak, Laurel and Beltsville. 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 (***Appendix P, P-2***). Forecast zones that would likely require some redevelopment include Gaithersburg, Aspen Hill, Cloverly, Deer Park, White Oak, Laurel and Beltsville.

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 that could become developed, such as evident just west of US 29 in the Cloverly area. In addition, the Muirkirk area could experience some additional secondary residential development under the Corridor 1 scenario, as could Germantown.

Corridor 2

Based on the ELUP's estimates, Corridor 2 could anticipate approximately 5,546 acres of secondary development. Forecast zones that most substantially contribute to this total are similar to Corridor 1 with a few exceptions. Corridor 2 anticipates greater amounts of secondary development within New Market, Germantown, Montgomery Village, Olney, Burtonsville, Cloverly, Fulton, Muirkirk and Laurel Pines (***Table IV-118***). Zoning within the New Market, Germantown, Montgomery Village, Fulton, Muirkirk and Laurel Pines zones appear to be sufficient in accommodating the additional potential secondary development under the Corridor 2 scenario. The following zones do not sufficiently accommodate all of ELUP's Corridor 2 allocations (for either households or employment) and, therefore, rezoning may potentially occur within these areas: Gaithersburg, Olney, Laytonsville, Burtonsville, Aspen Hill, Cloverly, Deer Park, White Oak, Laurel and Beltsville. 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 (***Appendix P, P-2***). Forecast zones that would likely require some redevelopment include Gaithersburg, Aspen Hill, Cloverly, Deer Park, White Oak, Laurel and Beltsville. A Corridor 2 selection would open up Corridor 1 lands planned for an ICC to other unknown uses.

Table IV-118
Summary of Advisory ELUP Land Use Estimates

Greatest Areas of Secondary Development (Acres)		
Forecast Zones	**Corridor 1**	**Corridor 2**
Frederick County		
New Market	580	863
Montgomery County		
Burtonsville	292	685
Montgomery Village	530	520
Olney	536	506
Cloverly	288	287
Germantown	270	250
Prince George's County		
Beltsville	255	245
Laurel Pines	365	348
Muirkirk	1,280	1,130
Howard County		
Fulton	140	265
Greatest Difference in Secondary Development between Corridors 1 and 2 (Acres)		
Frederick County		
New Market	580	863
Howard County		
Fulton	140	265
Montgomery County		
Burtonsville	292	685
Laytonsville	61	112
Prince George's County		
Muirkirk	1,280	1,130
Areas with the Greatest Potential for Rezoning (Acres)		
Montgomery County		
Burtonsville	272	685
Olney	276	246
Laytonsville	61	112
Cloverly	287	287
Prince George's County		
Laurel	81	81
Beltsville	130	130
Areas where existing zoning appears sufficient in accommodating Secondary Development		
Frederick County		
New Market		
Howard County		
Fulton		
Montgomery County		
Germantown, Montgomery Village		
Prince George's County		
Muirkirk, Laurel Pines		
Areas where Redevelopment may be likely in order to support Secondary Development:		
Montgomery County		
Gaithersburg, Aspen Hill, Cloverly, Deer Park, White Oak		
Prince George's County		
Laurel, Beltsville		

Comparison Between Corridor 1 and Corridor 2

Based on the ELUP estimates, potential secondary development is likely for both Corridors 1 and 2 throughout the SCEA boundary. According to the ELUP estimates, for either corridor, both residential and commercial secondary development would be most prominent in the western portion of Prince George's County, in the vicinity of Laurel and Muirkirk. In Montgomery County, according to the estimates, secondary development is more likely within the central portions of the county in the vicinity of Burtonsville, Olney, Montgomery Village and Cloverly, and within the New Market forecast zone in Frederick County.

The most significant difference between the two corridors, according to the ELUP's estimates, would be within the Burtonsville zone. Approximately 685 acres of secondary development is likely under the Corridor 2 Alternative as compared to approximately 292 acres with Corridor 1. New Market, Laytonsville, Fulton and Muirkirk would also require a much greater amount of secondary development for Corridor 2 in order to accommodate the ELUP Corridor 2 allocations (see ***Table IV-118***).

The areas where the ELUP's suggested allocations are substantially different between the two alternatives, and where there is existing available land zoned to accommodate growth, are consistent with the areas that would experience more (or less) secondary development. If it was thought that undeveloped and adequately zoned lands were not available to accommodate ELUP's suggested build allocations, then it was assumed that rezoning of undeveloped lands or redevelopment may occur in those areas.

According to Montgomery County planning officials and leaders, 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, growth management controls, and land uses contemplate the ICC in the Corridor 1 area. Montgomery County and M-NCPPC officials have also expressed the likelihood for additional development pressures along Corridor 2 through rezoning in the northern area of the county.

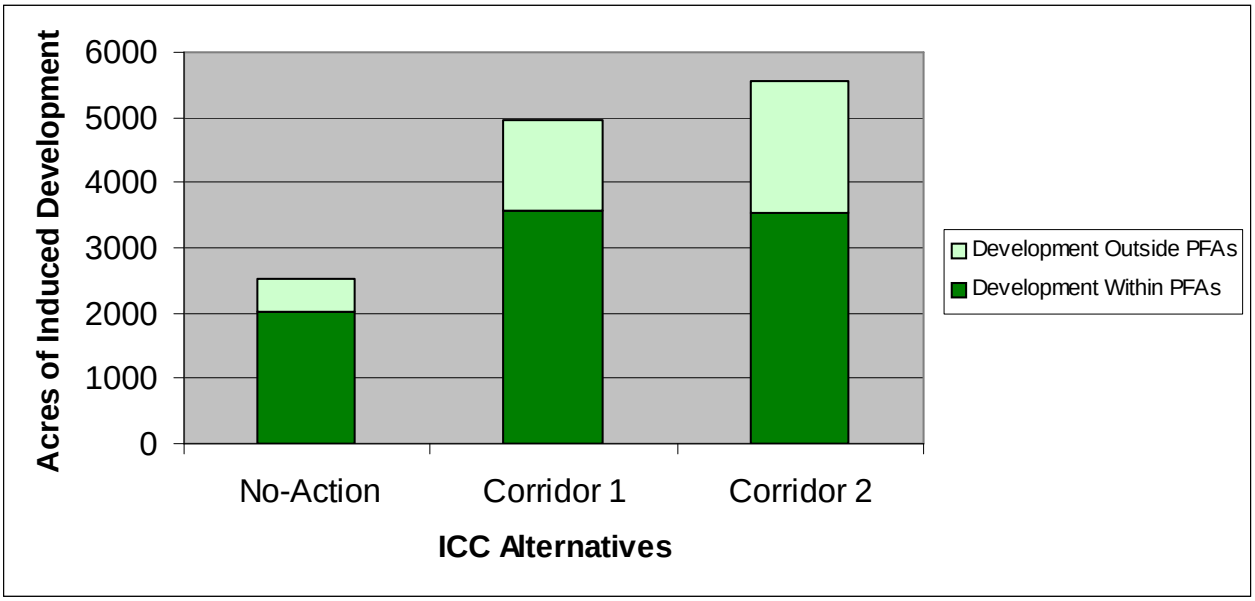
Under Maryland zoning law's Change or Mistake Rule, rezoning of individual parcels is justified where there was a mistake in the existing zoning or a substantial change in the character of the neighborhood has occurred. The selection of Corridor 1 would not likely be deemed a substantial change in the neighborhood because the existing Master Plans contain this alignment and surrounding land uses contemplate it. Potential changes could arise, for example, where interchange locations in the vicinity of US 29 are different from those in the Master Plan, or if the Rock Creek Option C is chosen, as it deviates from the Master Plan.

However, selection of Corridor 2 would likely be deemed a "substantial change in the character" of the neighborhoods it would traverse. If Corridor 2 is selected, additional development in the northern area of the county may very well occur beyond the existing control of Montgomery County since it would be inconsistent with the Master Plans and related existing zoning. Montgomery County officials acknowledge that a Corridor 2 alignment would likely lead to greater development pressures in the northern area of the county given the planning disruption.

Corridor 2 secondary development would likely occur in areas outside of PFA boundaries, in locations not currently served by community water and sewer facilities. Any development that would occur outside PFAs would incur additional costs to the county to provide the necessary public facilities required to handle development. By comparison, Corridor 1 development would allow for the continued maintenance of land use policies within areas currently served (or planned for service) by adequate public facilities (as well as within PFAs).

Referring to all three alternatives, based on the ELUP's No-Action estimates, an additional 2,512 acres of potential development is likely beyond what is currently planned/projected by the MPO and counties. Of this potential additional development under a No-Action alternative, approximately 81 percent would fall within a PFA. Based on the ELUP's Corridor 1 estimates, approximately 4,945 acres of potential secondary development is likely. Approximately 72 percent of the potential Corridor 1 development would fall inside a PFA. Under Corridor 2, approximately 5,546 acres of potential secondary development is likely. Of this, approximately 64 percent falls within a PFA (***Figure IV-28***).

Figure IV-28
Total Acres of Development within or outside of a PFA



Overall, looking at the Build Alternatives there is a greater potential for induced development with Corridor 2 than there is with Corridor 1. Specifically, the ELUP estimated that Corridor 2 would cause approximately 12 percent more secondary development than Corridor 1. This percentage takes into account only the total acreage of induced development; it does not reflect the *location* of that development in relation to PFAs ***(Table IV-119)***.

Table IV-119
Breakdown of Development Within or Outside of a PFA per ICC Alternative

	Corridor 1	Corridor 2	Difference
Development within a PFA	3,560	3,549	-0.3 %
Development outside a PFA	1,385	1,997	44%
Total Secondary Development	4,945	5,546	12%

The location of secondary development is critical because, in general, development within PFAs is consistent with the State's Smart Growth policies, whereas development outside PFAs is inconsistent with those policies, as described previously. The amount of secondary development within a PFA between the two build corridors is similar, a difference of less than one percent**.** But the amount of secondary development outside a PFA is substantially different. Corridor 1 anticipates 1,385 acres outside of a PFA as compared with 1,997 acres for Corridor 2, a difference of 44 percent (***Table IV-119***). Please refer to ***Appendix I*** to review MDP's in depth "White Paper on Intercounty Connector Alternative Selection and Compliance with the Maryland Planning Act and the Smart Growth Regulations." MDP concluded that while both Corridors 1 and 2 would connect PFAs (at the proposed termini at I-270 and either I-95 or U.S. 1) Corridor 1 is more compatible with the intent of the Smart Growth Act. Overall, DOP concluded in the White Paper (and the Maryland Department of Transportation agreed) that Corridor 2 would have more negative smart growth impacts than would Corridor 1.

The following four forecast zones within the SCEA boundary contribute to substantially more development outside of a PFA with Corridor 2: Burtonsville, New Market, Fulton and Laytonsville. Of these four forecast zones, all potential secondary development associated with Corridor 2 for Burtonsville (685 acres) and Laytsonville (112 acres) would fall outside of a PFA. The remaining two forecast zones anticipate a portion of secondary development outside of a PFA. Fulton anticipates 101 acres, or 38 percent, of secondary development outside of a PFA while New Market anticipates 734 acres, or 85 percent, of secondary development outside of a PFA.

If either the No-Action or Corridor 2 alternative is selected, it would likely trigger a full master plan amendment for all area and functional plans where the selected alternative is significantly different from the existing Master Plans. The Master Plan process would then evaluate the availability of (or potential for) extending community water and sewer and other infrastructure. Similarly, the validity of functional master plans, such as the Preservation of Agricultural and Rural Open Space and their supporting policies, would also need to be reviewed and revised.

If the Corridor 2 alternative is chosen, the appropriate zoning for the former master plan right-of-way along Corridor 1, planned interchanges and intersections, and the effect on properties surrounding both corridors would all have to be evaluated. Significant legal pressures from landowners to rezone along both corridors with the selection of Corridor 2 should be anticipated. Corridor 2 vastly increases accessibility to northern areas where such accessibility was not planned. Landowners would likely request rezoning that takes the greatest advantage of this new accessibility.

All of the long-standing land use factors mentioned above are worthy of noting when contemplating future land use scenarios among the ICC alternatives. The ELUP's suggested allocations provide a framework from which to work as it relates to the secondary and cumulative effects analysis. The ELUP was established as an advisory committee, and their work has been integrated into the SCEA as one means of assessing future resource impacts. There are numerous opinions and viewpoints regarding future land use within the SCEA boundary, all of which should be factored into consideration when contemplating the likelihood of future development pressures.

c. Future Secondary Impacts

The future 2030 secondary impact assessment is based on future secondary development estimates. Secondary impacts to specific resources are based on the location and extent of future secondary development scenarios within the SCEA boundary and associated with each of the ICC Build Alternatives. Secondary impacts to resources generally correlate to the areas that may experience the greatest land use changes/secondary development. This is because greater development often coincides with increased population, which can lead to community impacts relating to decreased mobility and quality of life impacts. In addition, development can impact forests and other wildlife habitat areas and increase the amount of impervious surface within watersheds. Increased impervious surface has the potential to diminish the quality of watersheds, including water quality and wildlife and fisheries habitat.

The ELUP's estimates suggest that secondary growth is likely for both Corridors 1 and 2. As a result of the projected induced growth, associated secondary environmental impacts would also be likely for both Corridors 1 and 2. Based on the ELUP's estimates, the extent of secondary induced growth would be generally similar between the two ICC corridors, with slightly greater overall induced growth and associated secondary impacts expected under a Corridor 2 scenario. However, certain locations within the SCEA boundary would likely experience differing substantial land use changes as between Corridors 1 and 2. Therefore, these areas would also likely experience the most dramatic impact differences for certain resources.

The ELUP's estimates also indicate that future growth is likely under the No-Action alternative beyond what is projected and planned for by the local jurisdictions. Therefore, environmental impacts associated with additional No-Action development are also likely. Based on the ELUP's household and employment estimates, the amount of additional development under the No-Action scenario is approximately 2,512 acres. Based upon these estimates, areas that would be impacted the most include New Market (Lower Monocacy Subwatershed) and Laurel (Rocky Gorge and Upper Patuxent River Subwatersheds), at 410 acres and 375 acres of additional potential development, respectively. The additional development under the No-Action alternative would likely contribute to greater environmental impacts within these areas.

Based on the ELUP's household and employment estimates, the amount of secondary development associated with construction of an ICC Build Alternative would range from approximately 4,945 acres for Corridor 1 to 5,546 acres for Corridor 2. In general, based on ELUP's estimates, the areas that would undergo the most substantial secondary development for either Corridor 1 or 2 include New Market in Frederick County (Lower Monocacy

Subwatershed), Burtonsville (Rocky Gorge Subwatershed), Montgomery Village, Olney, Laytonsville and Cloverly (Rock Creek, Rocky Gorge and Paint Branch Subwatersheds) in Montgomery County, and Beltsville and Muirkirk in Prince George's county (Little Paint Branch and Indian Creek Subwatersheds). It is expected that secondary development would be greater for Corridor 2 in the New Market area, with approximately 283 acres of more development estimated, which may contribute to greater environmental impacts in that area as compared to Corridor 1. Similarly, the Burtonsville area is expected to undergo greater secondary development within the Rocky Gorge watershed under the Corridor 2 Alternative as compared to Corridor 1 (685 acres for Corridor 2 and 292 acres for Corridor 1). The difference of approximately 395 acres in this area would likely contribute to greater environmental impacts. It should be noted that this area is currently not highly developed and is not zoned to absorb substantial development today. The anticipated future development is based on suggested allocations from the ELUP, and if this development occurs, the Rocky Gorge watershed would undergo impacts to wildlife and fisheries habitat, and may potentially impact water quality by the decrease of forested lands and the increase of impervious area. Corridor 2 would also be more impactive to the Laytonsville area, which is also within the Rocky Gorge watershed (61 acres for Corridor 1 compared to 112 acres for Corridor 2).

The Human Environment

Parklands and Recreational Facilities

Potential secondary impacts to parks and recreational facilities would be similar under the Corridor 1 or Corridor 2 scenario. Secondary impacts are expected to be minimal for both Corridor 1 and Corridor 2. No significant displacement of parkland is anticipated due to potential secondary development. Most secondary impacts would occur in central Montgomery County and northwestern Prince George's County. Parks and recreational facilities in close proximity to these secondary development areas include: Laytonsville Golf Course, North Branch Stream Valley Park, Upper Paint Branch Stream Valley Park, Norbeck Meadows Nature Preserve, Little Paint Branch Stream Valley Park, Snowden Oaks Park, Patuxent River Park, Montpelier Park, Airy Hill Local Park, Fairland Regional Park, and Chestnut Hills Neighborhood Park. Potential secondary impacts to these parks and recreational facilities include increased use, impacted natural resources, and reduced air and noise qualities.

Land along the existing MD 28/MD 198 Corridor near Browns Corner has been identified as a potential secondary residential development area under the Corridor 1 scenario only. This area is the only potential secondary development area that differs between Corridors 1 and 2 that may minimally affect secondary impacts to parklands between the build scenarios. Parklands and recreational facilities in this vicinity include the Hampshire Greens Golf Course and the Browns Corner Neighborhood Conservation Area, which may experience increased use.

Rezoning of land may occur in Gaithersburg, Olney, Laytonsville, Burtonsville, Rockville, Cloverly and Laurel forecast zones. Rezoning within these areas is anticipated to be nearly the same under each build scenario. Parklands and recreational facilities in the vicinity of these areas of rezoning include Seneca Creek State Park, Olney Manor Recreational Park, Red Door

Store Historical/Cultural Park, Upper Paint Branch Stream Valley Park, Browns Corner Neighborhood Conservation Area, Hampshire Greens Golf Course, Woodlawn Cultural Special Park, T. Howard Duckett Watershed Property, Patuxent River Watershed Conservation Park, Ednor Local Park, Patuxent River State Park, Upper Paint Branch Park and Spencerville Local Park. No parklands are anticipated to be rezoned due to Federal, State and local laws and policies dedicated to the preservation of parklands. All parklands and recreational facility impacts would be indirect and would be minimized and mitigated due to laws and regulations that protect these resources.

Low Income and Minority Communities

Secondary impacts to low-income/minority communities would be similar for both Corridor 1 and Corridor 2. Secondary development in both Corridors 1 and 2 could potentially impact low-income or minority census tracts in Gaithersburg (residential), Rockville (residential and/or commercial), and Laurel (residential). Potential secondary development in these areas may cause impacts such as: increased congestion, increased noise levels, air pollution, potential displacements and reduced access to community parks/recreational facilities.

Secondary development is not expected to displace residents in nearby low-income/minority census tracts. Potential secondary development in the vicinity of low-income/minority census tracts is nearly identical for both the ICC Build Alternatives, with one area of exception. Potential secondary developments in the Laurel vicinity areas differ between Corridor 1 and Corridor 2. For both alternatives, however, nearby low-income and/or minority census tracts may experience increased daily traffic volumes on local roadways, as well as noise and air pollution.

Potential secondary development could affect low-income and/or minority census tracts near Rockville and Greenbelt. Should lands in these areas become rezoned they may directly impact already developed low-income tracts in these areas. Although specific impacts would be dependent on individual projects these impacts all have the potential to be similar in all of the surrounding communities and consist of an increase in local congestion, air and noise pollution.

Positive secondary impacts are also likely for both Corridors 1 and 2. *The Economic Impact Study of the ICC* prepared by the Maryland Transportation Initiative at the University of Maryland indicates that both Build Alternatives would generate economic opportunity in the study area, including service industry jobs (MTI, 2004). Corridors 1 and 2 would provide easier accessibility to these employment opportunities and to affordable housing areas. It is possible that low-income and/or minority persons may fill some of these service jobs. It is also possible that if these jobs become available along with affordable housing, then low-income and/or minority populations may increase in these census tracts due to easier accessibility to service jobs.

Residential and Business Communities

Under a Corridor 1 scenario, approximately 4,945 acres (for Corridor 1) of land has been identified that could potentially support either residential or commercial secondary development

based on ELUP's estimates. This takes into account the number of acres that would potentially need to be rezoned; however, it does not account for areas that may require redevelopment in order to accommodate ELUP's estimated growth. Please see to ***Table IV-120*** for a summary of secondary impacts to residential/business communities within the SCEA boundary.

Table IV-120
Summary of Corridor 1 Secondary Impacts to Residential/Business Communities

County	Communities		Type of Secondary Impact
Montgomery/Prince George's – I-95/ICC Corridor 1 Interchange)	Laurel Saddle Creek South Laurel	Mayfield/Muirkirk Calverton	Large areas of residential/commercial development in and around Konterra would increase in traffic congestion on nearby roads (e.g., US 1 and Old Gunpowder Rd)
Montgomery – Western Portion of study area	Manor Woods Manor Village Longmead Sycamore Acres	Muncaster Manor/Bowie Mill Estates Olney Acres/Cashell Manor	Small areas of residential development may add congestion on existing local roadways, remove forested buffers, potential visual quality impacts
Frederick County	Silver Manor Estates Maryland Manor	Green Valley Kemptown	Small areas of residential development would likely increase traffic, remove forested buffers
Montgomery	Spencerville Burtonsville		Four residential in-fill areas and one commercial would accommodate smaller amounts of secondary development

Under a Corridor 2 scenario, approximately 5,546 acres of land has been identified by ELUP that could potentially support either residential or commercial secondary development. This takes into account the number of acres that would potentially require rezoning, however does not include the acreage to account for redevelopment. There are two areas adjacent to the proposed Corridor 1 alignment that would likely handle residential in-fill type development if Corridor 2 was selected: Colesville and Avonshire. Other additional areas would likely be developed under the Corridor 2 Alternative to fully accommodate projected growth and would likely experience rezoning pressures and secondary development. Communities affected by this additional development would likely exist within the Patuxent Watershed and include Burtonsville and Spencerville Knolls. This would increase traffic congestion and could take away from the visual quality that exists for other communities within this rural area.

In sum, secondary development as a result of construction of Corridor 1 or 2 would add additional impacts to residential and business communities. Secondary development is anticipated by the ELUP for both build scenarios (as well as the No-Action scenario), although anticipated growth areas differ. Corridor 1 anticipates growth to occur within the southern portion of the ICC study area, which would rely in part on redevelopment. Corridor 2 is more likely to experience secondary development within the northern portion of the ICC study area, relying mostly on rezoning. The Corridor 2 alternative would have a greater impact on communities within the area because Corridor 2, which is within a more rural area, is not consistent with county planning objectives. Therefore, communities and facilities within this area have not planned for the existence of such a facility, which would cause great disruptions to settled community expectations and uses. The Corridor 1 alternative would be potentially less

impactive to residences and businesses due to its comporting with county planning objectives. County zoning and land use policies have been developed and implemented based upon the inclusion of this facility further south.

Based on the ELUP's Corridor 1 estimates, approximately 4,945 acres of potential secondary development is possible. Approximately 72 percent of the potential development would fall inside a PFA. Under Corridor 2, approximately 5,546 acres of potential secondary development is possible. Of this, approximately 64 percent falls within a PFA.

Cultural Resources

With Corridors 1 and 2, potential secondary development is most likely within central Montgomery and northwestern Prince George's Counties. Cultural resources located in close proximity to potential secondary development areas are evident in twelve locations throughout the SCEA boundary, most of which are located in central Montgomery and northwestern Prince George's Counties. Cultural resources were identified immediately adjacent to potential secondary development areas in Kemptown, Gaithersburg, Rockville, Mount Zion, Laurel, Fairland, Beltsville, Montpelier, Greenbelt and Contee; therefore, these areas may experience some degree of secondary impacts to cultural resources under both Corridors 1 and 2 scenarios. As previously mentioned, potential secondary impacts to cultural resources are expected to be similar between Corridors 1 and 2, however, there are areas that may experience slightly greater secondary impacts under both Corridors. Potential secondary development identified under a Corridor 1 scenario may occur in Clarksburg and Browns Corner, in the vicinity of existing cultural resources. Under the Corridor 2 scenario greater potential secondary impacts to cultural resources could occur in the Sandy Spring/Ashton area. It is anticipated that this area could expect twice the amount of secondary development (800 acres compared to 360 acres) compared to Corridor 1. All other potential secondary impacts to cultural resources are anticipated to be similar between Corridors 1 and 2. Impacts to cultural resources for both Corridors 1 and 2 are anticipated to be minimized due to Federal, State and local planning ordinances that now protect many of these resource

The Natural Environment

Secondary impacts to natural resources within the ICC SCEA boundary have been determined based upon qualitative and quantitative analysis. For select natural resources for which there was readily available data, a GIS overlay analysis was applied to compute quantitative impacts (***Table IV-121***). This involved overlaying the potential secondary development associated with each of the ICC Build Alternatives and the select natural resource layers, including farmlands, forest, floodplains, wetlands, RTE, and streams. These impacts are estimations based upon the occurrence of the potential secondary development in the same locations as the select natural resources. These calculations are not based upon specific site plans nor do they consider laws or regulations that could limit impacts. The additional impervious area that could potentially be added due to the secondary development was also quantified for the entire ICC SCEA boundary, including reservoir subwatersheds.

Table IV-121
Potential Secondary Effects to Select Natural Resources

Resource	*Corridor 1*	*Corridor 2*
Farmland[1]	1,319	1,565
Forest[1]	2,213	2,236
Floodplain[2]	253	251
Wetlands[3]	160	166
RTE[4]	33	33
Stream[5]	78,803	80,794
Impervious Area[6]	2,500	2,818
Reservoirs[7]	313	659

Notes:

[1]*Based on GIS overlay with MDP Land Use Data (Acres)*
[2]*Based on GIS overlay with FEMA 100 Year Floodplain (Acres)*
[3]*Based on GIS overlay with NWI Wetlands (Acres)*
[4]*Based on GIS overlay with Sensitive Species Project Review Areas (Acres), SSPRA's are not a definitive boundary of RTE habitat, they merely represent a general location of documented RTE species.*
[5]*Based on GIS overlay with Statewide Stream Layer (Linear Feet)*
[6]*Acres of Impervious area added by secondary development, Impervious data was calculated from the Near Future land use data that was modified to include planned future transportation/development (2030), including the ICC project for the build alternatives, and the potential development associated with each alternative.*
[7]*Acres of Impervious area added by secondary development to the reservoir subwatersheds (Rocky Gorge Dam and Brighton Dam), Impervious data was calculated from the Near Future land use data that was modified to include planned future transportation/development (2030), including the ICC project for the build alternatives, and the potential development associated with each alternative.*
Impacts are estimations based upon overlaying potential secondary development with natural resources layers and do not take into consideration specific site plans nor development regulations that could limit impacts.

For most resources, the difference between Corridor 1 and Corridor 2 is relatively minimal. Overall, secondary impacts to natural resources are expected to be greater for Corridor 2 than for Corridor 1.

The secondary impacts to floodplains and RTE habitat are expected to be nearly identical for both Build Alternatives. The secondary impacts to wetlands are expected to be close in acreage with slightly more (six acres) with a Corridor 2 scenario. Secondary impacts to forests are expected to be slightly greater for Corridor 2 by approximately 20 acres. Impacts to Maryland's Green Infrastructure (GI) hubs and corridors were also assessed. The secondary impacts to GI hubs by the Build Alternatives could result in approximately 240 acres of impacts associated with each build alternative. The secondary impacts to GI corridors could be slightly greater for Corridor 1, with approximately 380 acres, compared to 350 acres of impacts associated with Corridor 2 (***Appendix P, P-3***). Secondary impacts to streams are expected to be approximately 2,000 linear feet greater for Corridor 2 than for Corridor 1. For both impervious area and reservoirs, secondary impacts associated with Corridor 2 would be approximately 300 acres greater than Corridor 1.

The secondary impacts to farmland within the entire SCEA boundary would be approximately 250 acres greater for Corridor 2 than Corridor 1. The secondary impacts to farmland within the entire SCEA boundary would be approximately 250 acres greater for Corridor 2 than Corridor 1. It is also important to note that a substantial amount of secondary development would occur within Montgomery County's Agricultural Wedge for either of the Build Alternatives. The Agricultural Wedge is an area identified in the County's General Plan for agricultural and low-

density residential use with large areas of open space and small rural centers. Corridor 2 would result in 441 more acres of secondary development within the Agricultural Wedge than Corridor 1 (1,397 acres for Corridor 2 vs. 956 acres for Corridor 1). Of the 956 acres of secondary development within the Agricultural Wedge for Corridor 1, 482 acres would impact farmland. In comparison with Corridor 2, 796 of the 1,397 acres of the secondary development within the Agricultural Wedge would impact farmland.

The only resource for which a quantitative analysis was not completed is groundwater. The secondary impacts to groundwater could occur in the areas in which potential secondary development associated with the ICC Build Alternatives is expected to occur. This additional development could result in secondary impacts to groundwater through reduced infiltration due to increased impervious area as a result of the secondary development. The greater amounts of secondary development and impervious area associated with Corridor 2 could result in greater secondary impacts to groundwater in the Corridor 2 scenario.

These quantitative impacts were also calculated for each subwatershed within the SCEA boundary as shown in ***Appendix P, P-4.*** The subwatersheds with the greatest amount of impacts to natural resources by secondary development are the Anacostia River, Lower Monocacy River and Rocky Gorge Dam subwatersheds. For most natural resources the secondary impacts are only slightly greater for Corridor 2 as compared to Corridor 1. Within the Rocky Gorge Dam, however, there is a significant difference between Corridor 1 and Corridor 2 due to the large amount of secondary development identified in the Burtonsville area associated with the Corridor 2 alternative.

8. Cumulative Impacts

Cumulative effects include impacts on the environment which 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 boundary, impacts associated with the ICC project itself, impacts associated with present/near future pipeline projects, and impacts associated with anticipated future 2030 projects, including government-funded as well as private development 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 boundary, including impacts associated with secondary induced growth.

a. Other Actions in the Near Future and Future Time Frame

Numerous other significant actions slated to occur regardless of the ICC have been identified within the SCEA boundary for both the near future and future time frames. These projects have been identified through Master Plans, the CLRP and through coordination with county planners.

Within the near future time frame, over 1,000 development projects and over 60 transportation projects are currently planned regardless of the ICC project. These projects alone total more than 23,600 acres of new development within the near future time frame (***Appendix P, P-5***).

Although a large amount of planned development is anticipated within the SCEA boundary in the near future time frame the overall density of this development varies. Development densities are dependent on the established county zoning codes in place. Areas with lower development densities include the eastern portion of Montgomery County (specifically Laytonsville, Burtonsville and Cloverly) and smaller portions of Frederick and Prince George's Counties. Lower development densities would include 0.2 to 5 dwelling units per acre. Areas with higher development densities include portions throughout Montgomery County (specifically Germantown, Gaithersburg, Deer Park, White Oak, Wheaton and Bethesda) and smaller portions throughout Prince George's County. Higher development densities would include 6 to 100 dwelling units per acres. These areas have a more urban feel with more intense development.

In addition, over 50 development projects and over 40 transportation projects are planned to occur in the future 2030 time frame independent of the ICC project. These future planned projects total over 7,660 acres of new development regardless of the ICC project (***Appendix P, P-2***). Note that future 2030-planned development does not account for future unforeseen private development projects (especially residential) since these types of projects typically require shorter planning periods. It is likely that because of population growth, residential development will continue in the future 2030 time frame, however, the extent, location and size of these projects is not known since planning for these types of projects has not yet initiated.

Some of the larger planned development and transportation projects slated to occur in the near future and future time frames are described below. Please note that any resource impacts associated with these planned projects will occur regardless of an ICC selected alternative since none of these projects are dependent on construction of the ICC. Any impacts associated with these projects, along with all other past, present/near future and future projects will contribute to overall cumulative effects to resources.

Some of the larger/major planned development and/or transportation projects slated to occur in the near future time frames are described below.

I-95/ Contee Road Improvement Study

The I-95/ Contee Road Improvement Study is in the project planning phase. This study examines a series of alternates that stretch from Old Gunpowder Road across I-95 to Van Dusen Road. Increased traffic is expected for this area within Prince George's County. The purpose of this proposed roadway is to provide adequate capacity for the anticipated increases in travel demand.

Konterra

Konterra is located on either side of I-95, stretching as far south as the planned ICC Corridors and as far north as MD 198. This proposed mixed-use Regional Center would be comprised of commercial, retail, residential and transportation-oriented uses. An industrial site along Sweitzer Lane and a business campus are two components within the Konterra area that will be completed prior to 2010. The development of the Villages at Wellington, also part of Konterra, is also expected to be completed within the near future time frame and will consist of residential development. The proposed town center and regional upscale mall proposed within Konterra are

contingent upon the development of additional transportation facilities, for example, the ICC, and therefore are not included in the future planned development. However, they are considered as secondary development as a direct result of the ICC.

Fairland Golf Course Community

The Fairland Golf Course Community is a public/private partnership initiative with the purpose, in part, of fulfilling the recommendations of the Fairland Area Master Plan to provide additional community facilities and residential development at this site. This community would also consist of an 11-acre elementary school site. The golf course community is located in both Montgomery and Prince George's Counties, northwest of Old Gunpowder Road and south of MD 198, bordered to the west by Cedar Creek Drive. The site is approved for development and is projected to be open to the public in 2008. This development would include expanding on the already existing Gunpowder Golf Course including the construction of over 500 dwelling units and additional golf course facilities.

FDA Headquarters

The Food and Drug Administration (FDA) is relocating several of its laboratories and offices to its new headquarters in the White Oak area of Silver Spring. This 130-acre site is accessed from New Hampshire Avenue and was the former site of the Naval Surface Warfare Center (NSWC). According to the 1997 White Oak Master Plan, this facility could also accommodate additional Federal agencies in the future by further expansion.

Clarksburg Town Center

The goal for development within the Clarksburg Town Center is to promote a wide range of community and economic resources by enhancing and increasing residential, commercial, retail and transit-oriented areas in this I-270 corridor city. The 635-acre town center is bordered to the west by I-270 and to the east by Mid-county Highway, with MD 355 as the Main Street through the town providing access to the community facilities, homes and employment centers. The estimated time for completion is between the years 2010 and 2030, future time frame.

Urbana

Development for the Urbana area, within Frederick County, consists of a variety of planned resources including community facilities, expanded corporate centers, an enhanced town center and increased residential space. The existing Villages of Urbana, located east of MD 355, will expand to include 75 acres of additional residential development. The Urbana Highlands, another residential development, located further east and just north of MD 80, also has plans to increase the amount of residential development. Other developments proposed within Urbana include the proposed elementary school and middle school on either side of MD 80. In addition to community resources, Urbana also plans to expand on economic opportunities by creating additional retail and commercial office space in both the Urbana Town Center and Urbana Corporate Center, both adjacent to I-270.

Pines of Laurel

This planned retirement community, planned for the near future SCEA time frame, is to be built on an area currently zoned for industrial use. However, through a special exception, this area will become residential. The retirement community, already under construction, will span 105 acres, and is located in Prince George's County's Developing Tier, off of US 1.

Cherokee Property

The Cherokee Property is a light industrial development to be built along US 1, an area that is geared towards increasing economic resources in the future. Located in Prince George's County's Developing Tier, the property will span slightly over 96 acres and will be occupied by 13 or more commercial office buildings. If built, the proposed Contee Road could provide additional access to this development.

In addition, there are several other transportation studies and planned transportation projects slated to occur in both the near future and future time frames within the ICC study area. These include: MD 28/MD 97 Improvement Study, MD 355 – Montrose Road/Randolph Road Intersection Improvement Study, MD 97/Randolph Road Intersection Improvement Study, MD 28/MD 198 Corridor Improvement Study, MD 97 Brookeville Transportation Study, I-270 Interchange at Watkins Mill Road Extended, US 1/MD 201 Corridor Study, I-270/US 15 Multi-Modal Corridor Study, US 29 Improvements Project, I-495 Capital Beltway Study, Bi-County Transitway (formerly Purple Line and Georgetown Branch), and Corridor Cities Transitway: Shady Grove to Metropolitan Grove.

b. Environmental Resources

The Human Environment

Parklands and Recreational Facilities

No-Action

Throughout the SCEA time frame, impacts to parklands and recreational facilities predominately occurred in the past time frame, prior to the enactment of Federal, State, and local regulations that protect these resources. Furthermore, due to increasing populations since the 1960s it became more important to establish additional parklands (e.g., local and regional parks) to provide recreational facilities for new communities. During this time, Program Open Space (POS) added nearly 60,000 acres to Maryland's State park holdings. In the 1990s, an increasing awareness of environmental conservation prompted parkland preservation as well as additional Federal, State and local regulation during the park development process. An example of this is in Montgomery County, where parklands have been steadily increasing since the 1960s, and parkland acreages are projected to continue to increase into the future time frame (47 percent of the County has been designated "Forever Green" which includes parkland reserve, agricultural reserve, homeowner association greenspace, forested roadside buffers and other conservation areas). M-NCPPC parkland in Montgomery County alone accounts for 32,600 acres, a number that has been increasing even as development has increased.

According to overlay analyses, several planned transportation projects have the potential to impact public parklands/recreational facilities in the SCEA area in the present/near future time frame (***Figure IV-29, Volume II***). Widening or reconstruction projects such as MD 28/198, are anticipated to have fewer impacts to surrounding parklands/recreational facilities than new construction of roadways, such as the Mid-county Highway. Please refer to ***Table IV-122*** for transportation projects that have the potential for impacting parklands/recreational facilities. All US DOT transportation projects are required to comply with Section 4(f) of the 1966 Department of Transportation (DOT) Act; therefore, parkland impacts will likely be avoided, minimized and/or mitigated.

Other planned projects, primarily residential, in the near future time frame occur within the vicinity of northeastern Montgomery County. Parklands that may be impacted by residential development in this area include, but are not limited to: Northwest Branch Recreational Park, Woodlawn Cultural Special Park, Northwest Branch Stream Valley Park, Patuxent River Watershed Conservation Park, T. Howard Duckett Watershed Property, Upper Paint Branch Park, Upper Paint Branch Stream Valley Park and the East Norbeck Local Park. Please refer to ***Table IV-123*** for other parks that may potentially be impacted by near future development projects.

In addition to those impacts to parklands in the past and present time frames, it was also necessary to assess parkland impacts in the future time frame (2010-2030) (***Table IV-124***). According to the overlay analysis, most parklands/recreational facilities impacted by future planned development are located in Montgomery or Prince George's Counties (***Figure IV-30, Volume II***). Many future projects, such as the I-270/US 15 Multimodal Corridor Study and the I-495 Capital Beltway Study, are slated to occur on already existing roadway alignments, regardless of the ICC project. In most cases these roadways would be widened, potentially requiring "slivers" of land along the roadway alignment and be considered minimal in relation to the overall size of the park or recreational facility.

Realignment of existing roadways or newly constructed roadway alignments would have greater impacts on parklands/recreational facilities in the SCEA area. The bisection of parklands may require a larger area of required ROW, as well as impact vegetation, water quality and access among park amenities. Impacts to parklands or recreational facilities from future development projects would likely be in the form of increased use due to increased access or surrounding population, or to natural resources due to increased impervious areas in the vicinity. A decrease in air quality and an increase in noise levels are also possible due to increased traffic near parklands. Parklands and recreational facilities potentially impacted in eastern Montgomery County and northern Prince George's County includes: Northwest Branch Park, Bel Pre Park, Little Paint Branch Park, Little Paint Branch Stream Valley Park, Fairland Regional Park and Snowden Oaks Park.

Table IV-122
Planned Transportation Projects in the Near Future Time Frame (Present –2010) with Potential to Directly Impact Adjacent Parklands/Recreational Facilities in the SCEA Boundary

Planned Project	***Description***	***Parks Potentially Impacted***	***County***
Reichs Ford Road	Reconstruction	• Monocacy Pine Cliff Park	Frederick
Midcounty Highway/ Middlebrook Road	Construction	• Great Seneca Park • North Germantown • Seneca Creek State Park	Montgomery
Middlebrook Road	Extension	• Germantown East Local Park	Montgomery
MD 115 Muncaster Mill Road	Widen	• Laytonia Recreational Park • Rock Creek Regional Park • Muncaster Recreational Park • Rock Creek Stream Valley Park • North Branch Stream Valley Park	Montgomery
Goshen Facility	Widen	• Stewartown Local Park • Cabin Branch Stream Valley Park	Montgomery
Longdraft Road	Widen	• Seneca Creek State Park	Montgomery
Briggs Chaney Road	Widen	• Upper Paint Branch Stream Valley Park • Spencerville Park • Airy Hill Local Park • Cross Creek Park • Little Paint Branch Stream Valley Park • Old Gun Powder Road Community Park	Montgomery
US 29	Upgrade	• Upper Paint Branch Stream Valley Park • Spencerville Park • Airy Hill Local Park • Cross Creek Park • Little Paint Branch Stream Valley Park • Old Gun Powder Road Community Park • Sligo Creek Stream Valley Park • Northwest Branch Park • Paint Branch Stream Valley Park • T. Howard Duckett Watershed Property	Montgomery
Greencastle Road	Widen	• Fairland Recreational Park	Montgomery
Cherry Hill Road	Widen	• Paint Branch Stream Valley Park • Cherry Hill Road Community Park	Prince George's
US 1/ MD 201	Corridor Study	• Snowden Oaks Park	Prince George's
Contee Road	Widen	• Montpelier Forest Neighborhood Park	Prince George's
Snouffer School Road	Widen	• Cabin Branch Stream Valley Park • Hunters Woods Neighborhood Conservation Area	Montgomery

Table IV-123
Planned Development Projects in the Near Future Time Frame That May Potentially Impact Parks/Recreational Facilities

Parkland/Recreational Facility	Area(s)	Type of Development	Direct/Indirect Impact
Montgomery County			
Muddy Branch Park	North Potomac	Development on adjacent property	Indirect (increased use)
Seneca Creek State Park	Gaithersburg	Mixed Use facility near the I-270/Watkins Mill Road	Direct (a parcel of the forested region of the park may be acquired)
Green Park Fields Road Local Park	Rockville	Development near Shady Grove Adventist Hospital	Direct (sliver of land adjacent to Hospital)
Woottons Mill Park, Glenora Park, Upper Watts Branch Park		Residential Development	Indirect (increased use)
Black Hills Regional Park	Germantown	Residential Development near I-270/West Old Baltimore Road interchange	Indirect (increased use)
Ovid Hazen wells Recreation Park	Poolesville	Development of Rocky Hill Middle School	Indirect (increased use, increased access)
Green Farm Conservation Park	Montgomery Village	Development of Mixed-use facility	Indirect (increased use)
North Branch Stream Valley Park		Norbeck Community College	Direct (narrow strip of land along the eastern side of the Park)
Howard County			
County-owned open space	Columbia	Johns Hopkins University Applied Physics Laboratory improvements	Indirect (noise/air pollution)

The following planned development projects may impact parks/recreational facilities in the future time frame:

- Fortune Parc - located near Potomac Woods Park along I-270 south of Rockville. Parkland use may increase due to increased residence.
- Bio-Tech Park Research Center - Planned on WSSC-owned property along Paint Branch Park near the Montgomery/Prince George's County boundary. An area of forested land may be acquired from the Paint Branch Park for construction of the Research Center.
- FDA headquarters may directly impact the White Oak Golf Course with the acquisition of some land.
- Human Genome Sciences, Inc. – located in Travilah, just west of Big Pines Local Park. No direct impacts are anticipated; however, recreational use may increase.

Table IV-124
Planned Transportation Projects in the Future Time Frame (2010–2030) with Potential to Directly Impact Adjacent Parklands/Recreational Facilities in the SCEA Boundary

Planned Project	Parks Potentially Impacted	County
MD 28/MD 198[2]	East Norbeck Local Park Northwest Branch Recreational Park Burtonsville Local Park	Montgomery/ Prince George's
MD 97/Brookeville[1]	Reddy Branch Stream Valley Park	Montgomery
Midcounty Highway Extended[1]	Seneca Crossing Local Park North Germantown Greenway Stream Valley Park Great Seneca Park	Montgomery
Montrose Parkway West[1]	Tildenwoods Park	Montgomery
Bi-County Transitway[2]	Silgo Creek Stream Valley Park Northwest Branch Park Northwest Branch Stream Valley Park Paint Branch Little Paint Branch Rock Creek Park	Montgomery/ Prince George's
Corridor Cities Transitway (transit portion of the I-270/US 15 Multimodal Corridor Study)[2]	Seneca Creek State Park	Montgomery/ Frederick
I-270 Interchange @ Watkins Mill Road[2]	Great Seneca Park	Montgomery
North-South Parallel Road[1]	Monocacy Pine Cliff Park Monocacy National Battlefield	Frederick
I-270/US 15 Multimodal Corridor Study[2]	Urbana Community Park Baker Park Monocacy National Battlefield Park Black Hills Regional Park Middlebrook Hill Park Seneca Creek State Park Malcolm King Park	Montgomery/Frederick
I-495 Capital Beltway Study[1]	Cabin John Regional Park Rock Creek Regional Park Sligo Creek Park Northwest Branch Park Paint Branch Park	Montgomery/Prince George's

[1] Based on overlay analysis only
[2] Based on received documentation referenced in *Table IV-116* of the SCEA Technical Memorandum

Due to Federal, State and local laws and regulations preserving parklands, it is not anticipated that parklands and recreational facilities would be significantly impacted within the SCEA boundary in the present to 2030 time frame. Section 4(f) of the USDOT Act of 1966 does not permit approval of a project if there are "prudent or feasible" alternatives to using parkland and requires that "all possible planning" be conducted to minimize harm to parkland resulting from the use of Section 4(f) resources for any transportation project.

Corridors 1 and 2

Cumulative effects under Corridors 1 and 2 include past impacts, present/near future impacts associated with pipeline projects, and future secondary impacts. Please refer to previous section

(Section K.6.c.) for parks that would potentially be impacted by development under the No-Action Alternative. These impacts would also occur under a Corridor 1 or Corridor 2 scenario. The majority of impacts expected, regardless of the ICC, would occur in eastern Montgomery County and northern Prince George's County. The cumulative effects of Corridors 1 and 2 also include the secondary impacts as discussed in ***Section K.6.c.*** Secondary impacts would primarily occur in central Montgomery County and northeastern Prince George's County. Cumulative effects under the Corridor 1 and 2 alternatives are nearly identical, and primarily include the following: increased use, increased impervious areas in the surrounding area, air and noise quality impacts and increased traffic surrounding the parklands. Parkland impacts are expected to occur primarily in Montgomery County, located in the areas of North Potomac, Gaithersburg, Rockville, Germantown, Poolesville, and Montgomery Village. Parkland near the MD 28/MD 198 near Browns Corridor (the Hampshire Greens Golf Course and the Browns Corner neighborhood Conservation Area) may potentially be impacted by secondary development under the Corridor 1 scenario only. Other parkland impacts are scattered throughout Prince George's, Frederick and Howard Counties. M-NCPPC has approved a Section 4(f) mitigation package for Corridor 1 that replaces parkland acquired for the ICC with new parkland at an 8.5 to 1 replacement ratio.

Low Income and Minority Communities

No-Action

An overlay analysis of low-income/minority census tracts with near future and future planned development projects was conducted to assess impacts. None of these projects are dependent on construction of one ICC alternative, and are expected to occur regardless of an ICC selected alternative. Planned future development can be seen in ***Appendix P, P-6 and P-7, and Figure IV-25, Volume II***. Please refer to the ***SCEA Technical Memorandum*** for detailed information regarding impacts to low-income/minority communities. Please refer to ***Table IV-125*** for a summary of impacts to low-income/minority communities in the near future and future time frames.

In general, Environmental Justice (EJ) census tracts within the SCEA boundary will not experience disproportionately high or adverse impacts due to planned development from the present through 2030 time frame. Any impacts from projects in the near future or future time frames are anticipated to have equal potential to effect surrounding communities, and therefore would not be considered disproportionate.

Specific project impacts (both near future and future) to low-income/minority populations within these census tracts were not possible based on data availability; therefore, further environmental justice outreach for each project would be necessary to determine if these impacts would be disproportionate. Ensuring that impacts are not disproportionate is a critical step and a major component of the Executive Order. Low-income and minority communities will be given opportunity to provide meaningful input through a comprehensive and continuous public outreach process during the development of transportation projects.

Table IV-125
Summary of Potential Impacts to Low-income/Minority Communities (Near Future and Future Time Frames)

	Type/Description	County	Potential Impact (Census Tract)
Near Future	Upgrade East Street Construct Monocacy Blvd Construct Schifferstadt Road I-70 Improvements	Frederick (City of Frederick)	1 low-income
	I-270/US 15 Corridor Study Goshen Facility Widening Reconstruct I-270/MD 117	Montgomery	1 low-income
	Residential and Commercial Development	Montgomery (Wheaton-Glenmont)	3 low-income
	US 1/MD 201 Widening Greenbelt Metro Access Study	Prince George's	3 low-income
	Fire Station Construction US 1/MD 201	Prince George's (Laurel)	3 minority
Future	North-South Parallel Road Construct mixed-use facility East Street Community Park Construct Police Station Construct airpark	Frederick (City of Frederick)	1 low-income
	Montrose Parkway East	Montgomery (Wheaton-Glenmont)	1 low-income
	Montrose Parkway West	Montgomery (Rockville)	1 low-income
	I-495 Corridor Metzerott Road widening Bi-County Transitway Study US 1 Improvements Rhode Island Avenue widening Good Luck Road improvements	Montgomery and Prince George's (College Park, Greenbelt, Bladensburg, New Carrollton)	Potential to impact several low-income and/or minority census tracts
	Residential Development	Montgomery (Rockville)	1 low-income
	Various development	Prince George's (College Park, Greenbelt, Takoma Park)	Several low-income
	Various development	Prince George's (near AA/Howard County line)	3 minority

Corridors 1 and 2

Cumulative effects to low-income/minority communities under Corridors 1 and 2 alternatives include past impacts, present/near future impacts associated with pipeline projects, and future secondary impacts. Impacts described above for the No-Action Alternative would also apply under the Corridor 1 and Corridor 2 scenarios. Impacts to EJ communities under the No-Action alternative are scattered throughout the SCEA Boundary, but are primarily expected to occur in Montgomery, Prince George's and Frederick Counties. ***Table IV-125*** lists those projects that would potentially impact low-income/minority communities under the No-Action Alternative,

which would also apply to the Corridor 1 and Corridor 2 scenarios. Proposed projects under the No-Action Alternative are anticipated to have equal potential to effect surrounding communities and are not considered to be disproportionate. The cumulative effects of Corridors 1 and 2 also include the secondary impacts as discussed in ***Section K.6.c.*** Secondary impacts are expected to be similar for both Corridor 1 and Corridor 2, and would occur primarily in Montgomery and Prince George's Counties. Potential secondary effects include the following: increased congestion, increased noise/air pollution, reduced access to community parks/recreational facilities, potential displacements, increased use, increased impervious areas in the surrounding area.

Residential and Business Communities

No-Action

Cumulative impacts to residential/business communities in the past time frame are the result of numerous large development and transportation projects within the SCEA boundary. Many key transportation facilities were constructed along with opening/expansions of large employers such as National Security Agency (NSA) and BWI Thurgood Marshall Airport. Town centers, such as Columbia, became more populated, and many communities emerged during this time. Together, these transportation improvements along with the residential and commercial growth this area experienced helped to build a stronger business community and improve the local economy. In addition, many of the established communities that exist today were established during this past time frame. Some of the most notable projects that helped to form the communities and businesses that are in place today include:

- Opening/expansion of I-495, I-95 (in Prince George's County) I-270 (Montgomery and Frederick County), I-97 (Anne Arundel County), I-70 (Frederick County)
- Opening/expansion of Metrorail lines into Montgomery and Prince George's Counties
- Emergence of the NSA –Anne Arundel County
- Expansion of BWI Thurgood Marshall Airport (formally called Friendship Airport)
- Opening of Arundel Mills Mall near BWI Thurgood Marshall Airport
- Development within the city of Columbia – Howard County
- Adoption of Carroll County's Master Plan and first Water and Sewer Master Plan

Under the No-Action alternative, approximately 33,800 total acres of projects/developments is expected from the present through the future 2030 time frame. This includes planned near future and future transportation projects as well as known private development projects. This acreage also includes additional development likely (though not currently planned) under a No-Action alternative based on ELUP's estimates.

Table IV-126 highlights the near future and future transportation projects within the SCEA boundary. This table also summarizes residential and business impacts in terms of the approximate number of displacements anticipated per project.

Table IV-126
Potential Impacts to Residential/Business Communities (Near Future and Future Time Frames)

	County	Project	Build Year	Displacements
Near Future	Prince George's	I-95/I-495 Greenbelt Metro Access Study	2010	0
	Montgomery	MD 28/ MD 97	2010	0 Residential 3 Commercial
	Frederick	US 15/ MD 26	2010	Unknown
	Montgomery	MD 115, Muncaster Mill Road	2010	6-16 Residential, 0-2 Commercial*
	Prince George's	I-495/I-95 at Arena Drive	2010	0 Residential 0 Commercial
	Howard	MD 216 Relocated	2005	0 Residential 0 Commercial
	Prince George's	Blue Line Extension - 3.1-mile extension of the Blue Line of the Metrorail system	Unknown	Unknown
Future	Montgomery & Prince George's	MD 28/MD 198 Corridor Improvement Study	2025	3-26 Residential 5-7 Business 1 Church
	Montgomery	MD 97 – Brookeville Transportation Study	2015	0
	Prince George's	I-95/Contee Road Transportation Improvement Study	2015	0
	Montgomery	MD 28/Rockville Town Center	Unknown	12-22 Residential 0-1 Commercial*
	Montgomery	I-270/ Interchange at Watkins Mill Road Extended	2025	0 Residential 0 Commercial
	Montgomery	MD 355 Montrose Road/Randolph Road	2015	0 Residential 22 Business (6 Buildings)
	Prince George's	US 1/MD 201 Corridor Study	Unknown	5-11 Residential 1-29 Commercial*
	Montgomery	Goshen Road South	Unknown	Potentially Impacted
	Frederick/ Montgomery	I-270/US 15 Multimodal Corridor Study, with Corridor Cities Transitway	2025	59-385-Residential 2-11 Commercial*
	Montgomery/Prince George's	Bi-County Transitway - 14-mile corridor extends from the Bethesda Metrorail Station to the New Carrollton Metrorail Station	Unknown	Unknown

** Dependant on Alternatives Selected*

Near future residential development has been identified throughout the SCEA boundary, but the majority of this residential development is concentrated in Germantown, Clarksburg and northeastern Montgomery County, specifically within the Burtonsville, Cloverly and Olney forecast zones. In Frederick County large amounts of near future residential development has been identified in the New Market forecast zone.

The majority of near future business development is slated to occur in concentrated, small pockets throughout the SCEA boundary. The larger areas of business development exist within the Germantown, Gaithersburg, Rockville, and Clarksburg areas, which generally follow the I-270 Corridor up through Frederick County. Additional areas exist within Howard County and throughout Montgomery County. As these areas increase in the number of jobs it is likely that the local economy would benefit from that increase.

Traffic volumes would most likely increase through local communities because of the region's population increase, which leads to additional residential development. In total, approximately 23,600 acres of near future planned development is expected under a No-Action alternative. Transportation improvements to serve planned development are foreseeable through existing local master plans. Near future planned development will have an affect on residential and business communities within the SCEA boundary by altering access/mobility and in some cases, increasing noises levels and decreasing visual quality.

Planned future transportation and development projects would have a minimal impact on residential or business communities throughout the SCEA boundary ***(Appendix P, P-8 and P-9 and Figure IV-30, Volume II).*** In total, approximately 7,700 acres of future planned development is expected under a No-Action alternative. Major proposed transportation projects in the future time frame include:

- I-270/US 15 Multi-Modal Corridor Study
- Bi-County Transitway
- Corridor Cities Transitway
- I-495 Capital Beltway Study
- Improvements to the MD 28/ MD 198 Corridor

These are projects that could support the additional travelers anticipated from the major employment areas. Quantitative impacts for additional transportation projects were assessed when impact calculations were available through NEPA documentation and can be found in ***Table IV-127***. Although residential and business displacements are anticipated with a number of these projects, the overall SCEA boundary will generally continue to experience both residential and employment growth.

Future planned development projects mainly consist of public facilities and mixed-use development. A large portion of development is expected within Frederick County. Public facilities within Frederick County include thirteen schools, a police station, a fire station, a conference center and a homeland security facility. An industrial airpark is also proposed within the county.

Future mixed-use planned development is mainly concentrated within Montgomery County and, for example, consists of Fortune Parc, Shady Grove Life Sciences Center, Clarksburg Town Center and around Metro Stations. Montgomery County also is proposing a substantial amount of commercial development including the Gateway 270 Corporate Park and the FDA Headquarters at White Oak. Howard County is proposing four residential developments. These projects would also have beneficial cumulative effects, such as increasing employment opportunities within the SCEA boundary.

Table IV-127
Transportation Projects Within the SCEA Boundary and Their Potential Associated Impacts

County	Project	Build Year	Wetlands (Acres)	Woodlands (Acres)	Floodplains (Acres)	Streams (Stream Crossings/Linear Feet)	Displacements	Parkland Impacts	Cultural Resources (Archeological/ Historical)	Low-Income/Minority Populations
Near Future Transportation Projects (Present to 2010)										
Prince George's	I-95/I-495 Greenbelt Metro Access Study	2010	2.0-2.1*	4.7-5.8*	2.8-4.2*	2 Stream Crossings	0	0	1 – BARC (No Adverse Effect) 0.30-0.80 ac. *	0
Montgomery	MD 28/ MD 97	2010	0.2	8.9	0	320 l.f.	0 Residential 3 Commercial	0	1 Adverse Effect (White's Hardware Store Complex)	0
Frederick	US 15/ MD 26	2010	80 l.f (removing a culvert to improve wetland)	0	0	0	0	0	0	0
Montgomery	MD 115, Muncaster Mill Road	2010	0.1-2.1*	1.8-29.3*	1.0-1.4*	6-8 Stream Crossings*	6-16 Residential, 0-2 Commercial*	3.9-11.1 acres*	1-4 Historic Properties*	Unknown
Prince George's	I-495/I-95 at Arena Drive	2010	0-5.4*	0	0-1.1*	2-7 Stream Crossings*	0 Residential 0 Commercial	0	0	0
Howard	MD 216 Relocated	2005	2.0	35.0	4.0	5 Stream Crossings	0 Residential 0 Commercial	0	Unknown	Unknown

* *Dependent on Alternative Selected*

Table IV-127
Transportation Projects Within the SCEA Boundary and Their Potential Associated Impacts

County	Project	Build Year	Wetlands (Acres)	Woodlands (Acres)	Floodplains (Acres)	Streams (Stream Crossings/Linear Feet)	Displacements	Parkland Impacts	Cultural Resources (Archeological/ Historical)	Low-Income/Minority Populations
Future Transportation Projects (2010 to 2030)										
Prince George's	I-95/Contee Road Transportation Improvement Study	2015	1.3-2.7	7.9-20.9*	0-0.10*	162-308 *	0	0	Potential for archeological resources are present.	Unknown
Montgomery	MD 28/Rockville Town Center	Unknown (only funded through planning)	0.2	0	0	0	12-22 Residential 0-1 Commercial*	0	0	0
Montgomery	I-270/ Interchange at Watkins Mill Road Extended	2025	0.76	30.9	6.4	1,730	0 Residential 0 Commercial	1 -Great Seneca Park	0	EJ Impacts – but not adverse or disproportionate
Montgomery	MD 355 Montrose Road/Randolph Road	2015	0	9.00	0	0	0 Residential 22 Business (6 Buildings)	0	0	0
Prince George's	US 1/MD 201 Corridor Study	Unknown	0.4-17.5*	4.6-38.9*	4.8-34.8 *	367-6,524*	5-11 Residential 1-29 Commercial*	0-0.41 acres*	4 Historic Properties	Potential EJ Impacts*
Montgomery	Goshen Road South	Unknown	Yes	Yes	Yes	Yes	Potentially Impacted	4 Parks	0	0
Frederick/ Montgomery	I-270/US 15 Multimodal Corridor Study , with Corridor Cities Transitway	2025	0.5-11.6	180-199	3-24	13,407-16,331*	59-385- Residential 2-11 Commercial*	0-48 acres*	0-7* Historic Properties Potential for archeological resources are present.	EJ Impacts – but not adverse or disproportionate
Montgomery /Prince George's	Bi-County Transitway	Environmental impacts are unknown at this time.								

* *Dependent on Alternative Selected*

The majority of future proposed development would benefit the local economy by increasing the employment opportunities within the SCEA boundary. Frederick and Montgomery Counties are proposing large employment areas that would provide jobs in this area. Although planned residential development does not appear extensive outside of the I-270 corridor within the future 2030 time frame, it is important to note that private development projects (especially residential) typically require shorter planning periods and, therefore, do not account for future unforeseen private development projects for the No-Action future 2030 time frame. It is likely that residential development will continue in the future 2030 time frame, however, the extent, location and size of these projects is not precisely known since planning for these types of projects has not yet initiated. The rate at which this development could occur is also dependant on how beneficial travel timesavings are with implementation of the ICC.

Within the SCEA boundary, approximately 2,660 acres of land has been identified that could potentially support residential or commercial development under the No-Action Alternative (beyond what is currently planned) based on ELUP allocations. This also includes areas that would potentially require rezoning, however does not include areas that may require redevelopment in order to fully accommodate anticipated growth. Communities that anticipate the greatest amounts of additional potential development beyond what has been currently planned by the counties, include:

- Muirkirk
- Rockville
- West Laurel
- Shady Grove
- Laurel
- Urbana (Frederick County)

The majority of the development identified is smaller areas of residential development. In most cases, these areas are adjacent to existing communities. Therefore, these potential development areas would fit in with the surrounding existing land uses, and associated impacts would be minimal.

Areas that would potentially require rezoning under the No-Action alternative, according to the ELUP, mainly exist in the eastern portion of Montgomery County. These areas are very rural and are in close proximity to the Patuxent River. Areas that may require redevelopment exist within areas such as Rockville, Gaithersburg, Springbrook, Calverton and Cloverly.

Redevelopment in these areas would be required to fully accommodate ELUP's No-Action growth projections since available land for new development is currently limited in these areas.

Communities affected by redevelopment would likely have added congestion on existing roadways. With no major transportation improvements anticipated, additional vehicles throughout residential communities within the immediate study area would affect local roads, thus deteriorating mobility throughout the study area under a No-Action alternative. In general, areas further removed from the immediate ICC study area but within the SCEA boundary would not experience the effects of increased traffic to the same extent. In addition, cumulative impacts under the No-Action Alternative would contribute to additional residential and business development. This would lead to mobility and safety issues within existing communities and business centers. Existing public facilities close to the study area may also feel increased growth pressures by increasing residential and business areas throughout the study area.

Based on development and transportation improvement projects slated to occur, it is likely that the area within the SCEA boundary would closely resemble conditions as they exist today. No major improvements are expected so any type of major benefit to the area is not foreseeable. The local roadway network will however continue to experience congestion and other traffic related issues by increasing the amount of vehicles using local roads.

Corridor 1

Under the Corridor 1 scenario assumed by the ELUP, approximately 4,945 acres of secondary development has been estimated (compared to approximately 2,512 acres under the No-Action Alternative). Numerous proposed projects are anticipated to occur, primarily in Montgomery and Prince George's Counties. Several transportation projects are proposed regardless of an ICC selected alternative, and the impacts associated with these projects will therefore contribute to cumulative effects under all three ICC alternatives scenarios. Projects such as I-270/US 15 Multimodal Corridor Study, MD 28/MD 198, and MD 115 are anticipated to have displacements that could cumulatively impact residential/business communities. However, access and mobility is expected to improve throughout the SCEA boundary under a Corridor 1 alternative.

Corridor 1 anticipates growth to occur within the southern portion of the ICC study area, which would rely in part on redevelopment. The Corridor 1 alternative would be potentially less impactive to residences and businesses because of its inclusion in county master plans. County planning and zoning policies and land uses have been developed based upon the inclusion of this ICC build alternative in the county plans.

It is anticipated that with the planned development and transportation projects slated to occur along with construction of Corridor 1, communities within the SCEA boundary would likely improve in access and mobility throughout the area. Most communities adjacent to this alignment have built around the reserved transportation corridor knowing that a planned ICC would eventually be constructed. Communities within this area could potentially be impacted by noise and visual impacts associated with construction of a new roadway; however, these types of impacts would be considered minimal since these properties were planned around the reserved transportation corridor.

Corridor 2

Under Corridor 2, approximately 5,546 acres of land could be required for potential secondary development according to the ELUP. ELUP assumed secondary development within the northern portion of the ICC study area, relying mostly on rezoning. This would have a greater impact on communities within this area because Corridor 2 is not consistent with county planning objectives. In addition, more of the Corridor 2 alignment falls outside of PFA boundaries as compared to the Corridor 1 alignment (65 percent versus 36 percent). And 36 percent of potential secondary development also outside of PFA boundaries (as compared to 28 percent falling outside under a Corridor 1 scenario).

Cumulative impacts for Corridor 2 would likely have a much greater impact on communities within the SCEA boundary than the Corridor 1 Alternative. Corridor 2 is not consistent with county planning objectives, communities and facilities within this more rural area have not planned for the existence of the facility causing great disruption to settled community

expectations and land uses. Communities, which exist within close proximity to Corridor 2, would suffer from major community cohesion issues, numerous residential displacements and access issues. The large amount of development, which is slated to occur within eastern Montgomery County, would put increased development pressures within this area and further impact existing communities. This, coupled with the construction of an ICC in the northern area of Corridor 2, would cumulatively impact communities in this northern area.

Cultural Resources

No-Action

Cumulative impacts to cultural resources were more substantial in the past time frame, prior to the enactment of several pieces of legislation protecting these resources such as the National Historic Preservation Act of 1966 and the appointment of a Historic District Commission. Data was not readily available on specific resources lost within the past time frame; therefore specific cumulative impacts in the past time frame are not available.

Cumulative impacts from planned near future developments have the potential for impacting cultural resources within the SCEA boundary. Most planned development is anticipated in eastern Montgomery County, near the Howard and Prince George's County boundaries in the vicinity of the ICC alignments. Please refer to ***Table IV-128*** for potentially impacted cultural resources in the near future (and future) time frames.

Smaller, isolated areas of cultural resources are located in northern Montgomery and Prince George's Counties. Limited impacts are anticipated from near future development in these locations. The majority of impacts from other near future transportation projects would occur along the MD 115/Muncaster Mill Road in Montgomery County and the I-95/I-495 (Greenbelt Metro Access Study) in Prince George's County.

In addition to the cultural resources impacts that may occur in the near future time frame (through 2010), additional development planned for the future time frame (2010-2030) will also contribute to cumulative effects to cultural resources under the No-Action alternative. Please refer to ***Table IV-128*** for proposed projects that may potentially impact cultural resources in the future time frame.

Additional cultural resources impacts under the No-Action alternative may occur in Potomac, Brookeville, Rockville, Twinbrook, Sandy Spring, Silver Spring, Ashton and Laurel. These resources include the Glenview Farm Area, Layhill and Atwood Road Houses, Ashton Historic District, Sandy Spring Historic District, Mount Zion United Methodist Church, Union Cemetery, Ivy Hill Cemetery and the Beltsville Agricultural Research Center (BARC). Impacts at all of these locations are anticipated to be indirect and minimal.

Table IV-128
Potentially Impacted Cultural Resources within the Near Future and Future Time Frames

	County	Development	Cultural Resource Impacts
Near Future	Frederick (New Market, Linganore, Urbana)	Residential	New Market Historic District, Urbana Survey District and Dixon-Dudderer Houses
	Montgomery (Clarksburg, Veirs Mill, Potomac, Bethesda and Silver Spring)	Residential/Commercial development	Various cultural resources
	Montgomery (Clarksburg)	Clarksburg Town Center	Clarksburg Historic District
	Montgomery (Veirs Mill)	Montrose Crossing Shopping Center	Wilkins Estate (Parklawn Cemetery)
	Montgomery (Potomac Village)	Residential Development	Potomac Historic District
	Montgomery (Bethesda/Silver Spring)	Commercial/Residential Development	Stoney Quarriew, Granger Estate (Holton-Arms School), Stone Ridge (Country Day School), Old Silver Spring Commercial Area and Jesup Blair House-Local Park.
	Prince George's	I-95/I-495 Greenbelt Metro Access Study	BARC
	Montgomery	MD 28/MD 97	White's Hardware Store Complex
Future	Frederick	I-270/US 15 Multimodal Corridor Study, I-70, East Street Project, East Street Community Park	Frederick Historic District
	Frederick	I-270/US 15 Multimodal Corridor Study	Monocacy Battlefield
	Frederick	New Market Collector	New Market Historic District
	Montgomery	Clarksburg Town Center, Kingstead Farm, Warfield Property (residential development), Corridor Cities Transitway and Burdette Farm (residential development)	Clarksburg Historic District, Purdum Historic District or Damascus Historic District,
	Montgomery	MD 28/MD 198	Drayton, Edgewood II, George Bennett House, William Phair property, Archeological Site #18MO441, Free Methodist Church Camp Meeting Ground, Spencer/Carr House and Union Cemetery
	Prince George's	I-495 Capital Beltway Study, US 1 and Rhode Island Avenue	BARC, Daniels Park Historic Community, College Lawn Station, and Old Hyattsville Commercial Survey District

Cultural resources on a large scale are protected throughout the SCEA boundary through various degrees of zoning and planning restrictions placed by the county and State. Transportation projects under USDOT would be required to follow guidelines for Section 4(f) of the 1966 Department of Transportation Act and Section 106 of the Historic Preservation Act. Montgomery and Prince George's Counties' Historic Preservation Commissions, M-NCPPC's Department of Park and Planning Archeology Program, and Frederick County's Historical Preservation, in conjunction with state and Federal regulations, are anticipated to minimize impacts to cultural resources in the future time frame.

Corridors 1 and 2

Impacts under the Corridor 1 and 2 scenarios are anticipated to be nearly identical within the SCEA boundary. Potential secondary impacts to cultural resources as discussed in ***Section K.6.c., Secondary Impacts,*** will contribute to overall cumulative effects. Secondary impacts would primarily occur in central Montgomery County and northeastern Prince George's County. Cultural resources adjacent to potential secondary development areas (either Corridor 1 or 2) occur in Kemptown, Gaithersburg, Rockville, Mount Zion, Laurel, Fairland, Beltsville, Montpelier, Greenbelt and Contee. Cumulative impacts have the potential for impacting cultural resources within the SCEA boundary; however, county preservation laws and regulations would help minimize the loss of resources from secondary and cumulative effects by ensuring that proposed projects and developments are in compliance with Federal, State and local laws as well as County Preservation Ordinances.

The Natural Environment

In general, natural resources within the SCEA boundary have experienced negative cumulative effects during the SCEA time frame primarily due to the pressures caused by the large population growth that the area has experienced. It is expected that these trends will continue with additional growth in the present/near future and future time frames although not always at the same rate due to current laws and regulations that could reduce the rate and extent to which natural resources are affected. The natural resources that have been analyzed as part of the ICC SCEA include floodplains, surface water/aquatic habitat, wetlands, farmland, forests/terrestrial habitat, groundwater, rare, threatened and endangered species, impervious area and reservoirs.

Cumulative impacts to natural resources within the ICC SCEA boundary have been determined based upon qualitative and quantitative analysis. For select natural resources for which there was readily available data, a GIS overlay analysis was applied to compute quantitative impacts (***Table IV-129)***. This involved overlaying the near future/future development and the secondary development associated with each of the ICC build alternatives with the select natural resource layers, including farmlands, forest, floodplains, wetlands, RTE and streams (***Figures IV-29 and IV-30, Volume II***). These impacts are estimations based upon the occurrence of the development in the same locations as the select natural resources. These calculations are not based upon specific site plans nor do they consider laws or regulations that could limit impacts. The additional impervious area that could potentially be added due to development was also quantified for the entire ICC SCEA boundary, including the reservoir subwatersheds.

Table IV-129

Potential Secondary and Cumulative Impacts of Select Natural Resources within the SCEA Boundary

Resource	*No-Action*			*Corridor 1*		*Corridor 2*	
	Near Future Development Impacts (2010)	Future Development Impacts (2030)	Cumulative Impact of No-Action	Secondary Impact of Corridor 1 Potential Development	Cumulative Impact of Corridor 1	Secondary Impact of Corridor 2 Potential Development	Cumulative Impact of Corridor 2
Farmland (Acres)[1]	7,764	2,434	10,197	1,319	11,516	1,565	11,763
Forest (Acres)[1]	9,000	2,365	11,364	2,213	13,578	2,236	13,600
Floodplain (Acres)[2]	1,169	431	1,600	253	1,853	251	1,851
Wetland (Acres)[3]	615	128	743	160	903	166	909
RTE (Acres)[4]	520	62	582	33	614	33	614
Stream (Acres)[5]	287,656	92,520	380,177	78,803	458,980	80,794	460,971
Impervious Area (Acres)[6]	7,225	2,315	9,540	2,500	12,040	2,818	12,358

Notes:

[1]Based on GIS overlay with MDP Land Use Data

[2]Based on GIS overlay with FEMA 100 Year Floodplain

[3]Based on GIS overlay with NWI Wetlands

[4]Based on GIS overlay with Sensitive Species Project Review Areas, SSPRA's are not a definitive boundary of RTE habitat, they merely represent a general location of documented RTE species.

[5]Based on GIS overlay with Statewide Stream Layer (Linear Feet)

[6]Based on additional impervious area added by planned/secondary development. Determined from impervious percentage of MDP land use categories.

Impacts are estimations based upon overlaying development with natural resources layers and do not take into consideration specific site plans nor development regulations that could limit impacts.

Floodplains

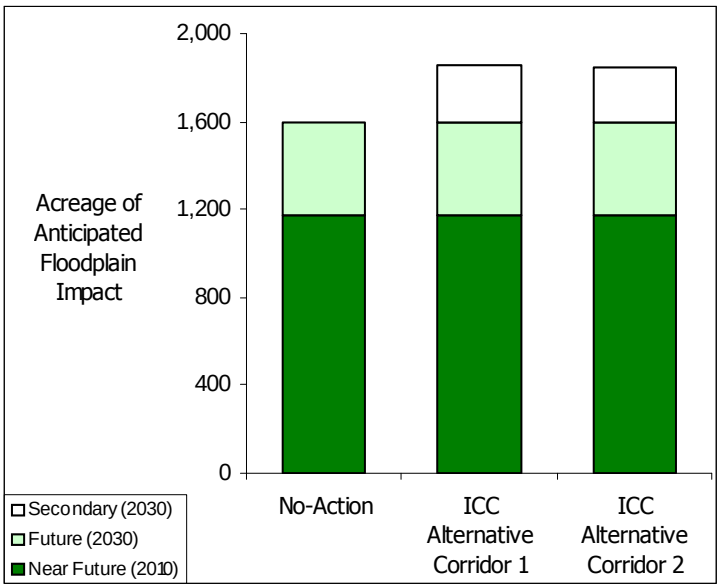
Floodplains provide important natural functions and values including temporary storage of floodwaters, moderation of peak storm flows, maintenance of water quality, groundwater recharge, and prevention of erosion. Floodplains also provide important habitat for plants and wildlife as well as recreation opportunities and aesthetic benefits (MDE 2004).

No-Action

Floodplains have been historically impacted by development within the SCEA boundary. These impacts to floodplains primarily occurred in areas throughout the SCEA boundary where substantial development has occurred. Past stresses in the SCEA boundary have included reducing the floodplain area with artificial drainage, altering the flood elevation as a result of construction within the floodplains, and the impacts of storm drainage structures and increasing impervious area with no quantity control.

As shown in ***Table IV-129*** and ***Figure IV-31*** approximately 1,200 acres of floodplains could be impacted by Near Future development. These impacts could be primarily due to the large amount of additional residential development that has been identified in the near future time frame**.** ***Figure IV-29, Volume II*** shows the near future development overlaid with floodplains.

Figure IV-31
Acreage of Anticipated Floodplain Impact



Future development could impact approximately 430 acres of floodplains. The total cumulative impact for the No-Action alternative could be approximately 1,600 acres (***Table IV-129*** and ***Figure IV-31***). ***Figure IV-30, Volume II*** shows the future development overlaid with floodplains. All development is required to abide by local, county and State laws and regulations that protect floodplains, which could reduce the cumulative impacts.

Corridors 1 and 2

The direct impacts associated with the ICC build alternatives will impact floodplains. Corridor 1 could impact about 29.4 to 42.4 acres depending on options and Corridor 2 could impact about 35.7 to 48.3 acres. The build alternatives will avoid longitudinal crossings, wherever possible, since these impacts would involve floodplain filling and affect conveyance. The Environmental Stewardship component of the ICC project includes opportunities for retrofitting existing stormwater management facilities, which could benefit the floodplains/floodflows associated with the build alternatives (See ***FEIS Section IV.F.3*** for more details).

The options considered in ***Section IV.F***. of this Chapter do not include all sub-options, but include options that are representative of all the options being considered. Impact calculations for these options may have slight variations than what is presented in this section. Any differences in overall impact numbers would be negligible. More detailed impact calculations will be completed upon refinement of these options during the design process.

As previously discussed secondary impacts associated with the ICC build alternatives are expected to occur. Approximately 250 acres of floodplains could be impacted by development for residential and employment for both Corridor 1 and Corridor 2 (***Figure IV-31***). The cumulative impact of the ICC build alternatives would be approximately 1,850 acres (***Table IV-129 and Figure IV-31***). ***Figure IV-30, Volume II*** shows the secondary development overlaid with floodplains. All development is required to abide by county and State laws and regulations that protect floodplains, therefore cumulative impacts would likely be reduced.

Surface Water/Aquatic Habitat

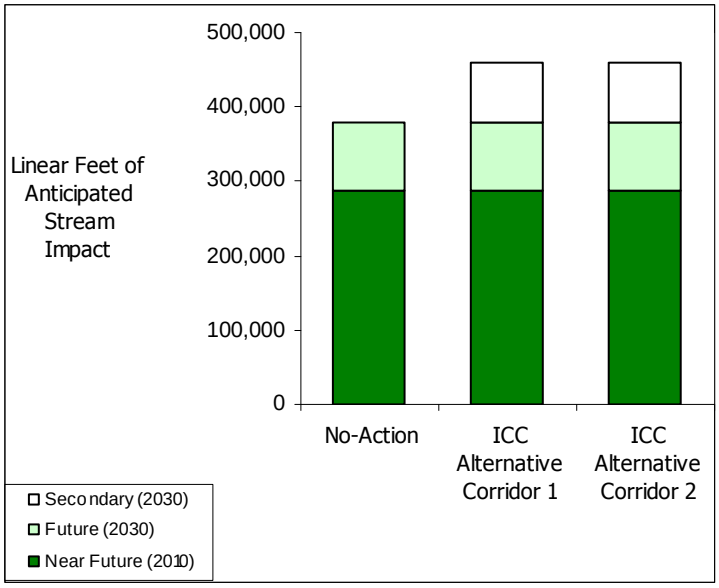
Surface Water is a vital resource to the natural and human environment. Surface water supports balanced and diverse populations of aquatic plants and wildlife. It provides a water supply for agricultural and industrial uses and provides opportunities for recreation fishing and hunting which are vital to Maryland's economy.

No-Action

Past stresses to surface water/aquatic habitat within the SCEA boundary have included: agricultural runoff, stormwater runoff, sediment/siltation and channelization of waterways. In recent years due to increased regulation, protection and restoration, conditions for some indicators of water quality have been improved, but future stresses will continue to be detrimental to improving the water quality.

Planned development projects for the present/near future time frame could have negative impacts to surface water/aquatic habitat. Based upon an overlay analysis of near future development and a Statewide stream layer, approximately 288,000 linear feet of streams could potentially be impacted by near future development (***Table IV-129 and Figure IV-32***). ***Figure IV-29, Volume II*** shows the near future development overlaid with streams. These impacts would be primarily from the large amount of near future residential development identified in the SCEA boundary.

Figure IV-32
Linear Feet of Anticipated Stream Impact



As shown in ***Table IV-129 and Figure IV-32,*** approximately 93,000 linear feet of streams could potentially be impacted by future development. The total cumulative impact of the No-Action alternative is approximately 380,000 linear feet. ***Figure IV-30, Volume II*** shows the future development overlaid with streams. These future impacts could result in increased stresses to surface water/aquatic habitat through sedimentation/siltation as a result from soil erosion/disturbance due to residential and commercial development and increased stormwater runoff from developed areas which could increase nutrient and pollutant runoff. Laws and regulations that protect surface water/aquatic habitat could reduce the cumulative impacts.

Corridors 1 and 2

Water quality impacts are anticipated to occur as a direct and indirect result of the build alternatives. Direct impacts to perennial and intermittent streams for Corridor 1 range from 32,667 to 39,158 linear feet depending on options, and for Corridor 2 they range from 24,525 to 37,584 linear feet depending on options. These impact ranges are based on all options being considered.

The Lead Agencies have committed to implementing Stormwater Management (SWM) facilities that will exceed the requirements of MDE and redundant Erosion and Sediment Control (ESC) devices in sensitive areas will minimize these direct impacts. Accidental spills will be controlled through special measures put in place and the Lead Agencies commitment of exceeding MDE's minimum requirements for SWM (See ***FEIS Section IV.F.7*** for more details). The Environmental Stewardship component of the ICC project includes opportunities for retrofitting existing stormwater management facilities, and the creation/enhancement of wetland areas, which could benefit the surface water/aquatic habitat.

As previously discussed, secondary impacts associated with the ICC build alternatives could potentially impact surface water/aquatic habitat. Corridor 1 secondary development could result in approximately 79,000 linear feet of secondary impacts. Corridor 2 could result in approximately 81,000 linear feet of secondary impacts (***Table IV-129 and Figure IV-32***). ***Figure IV-30, Volume II*** shows the secondary development overlaid with streams. These secondary impacts would contribute to the cumulative impacts for Corridor 1 and Corridor 2, which could be approximately 459,000 and 461,000 linear feet, respectively (***Table IV-129 and Figure IV-32***).

Wetlands

Wetlands are important natural resources that provide numerous functions and values to society including fish and wildlife habitat, flood protection, erosion control and water quality maintenance. Wetlands are also recognized as important habitat for waterfowl, migratory birds and wildlife (Tiner and Burke 1995).

No-Action

Wetlands within the SCEA boundary have declined over time. This decline has been the result of the development and agricultural activities that have occurred in the area. Current laws and regulations have slowed this decline and the goal of no net loss of wetlands has been set for the future.

As shown in ***Table IV-129*** and ***Figure IV-33,*** near future development could potentially impact approximately 615 acres of wetlands. This calculation is based upon a GIS overlay of the near future development and National Wetlands Inventory (NWI) wetlands. These impacts to wetlands could be primarily from the large amount of near future residential development identified in the near future time frame. ***Figure IV-29, Volume II*** shows the near future development overlaid with NWI wetlands.

Future development could impact approximately 128 acres of wetlands, which along with the near future impacts, would result in approximately 743 acres of cumulative impacts associated with the No-Action alternative (***Table IV-129 and Figure IV-33***). ***Figure IV-30, Volume II*** shows the future development overlaid with NWI wetlands. These impacts could result in negative effects to wetlands resulting in loss of stormwater/floodflow retention, decreased groundwater recharge/discharge, reduced water quality toxic retention/nutrient removal, decreased sediment stabilization/retention and decrease in terrestrial and aquatic habitat and diversity. These affects could be reduced due to current laws and regulations that have been put into place to protect wetlands.

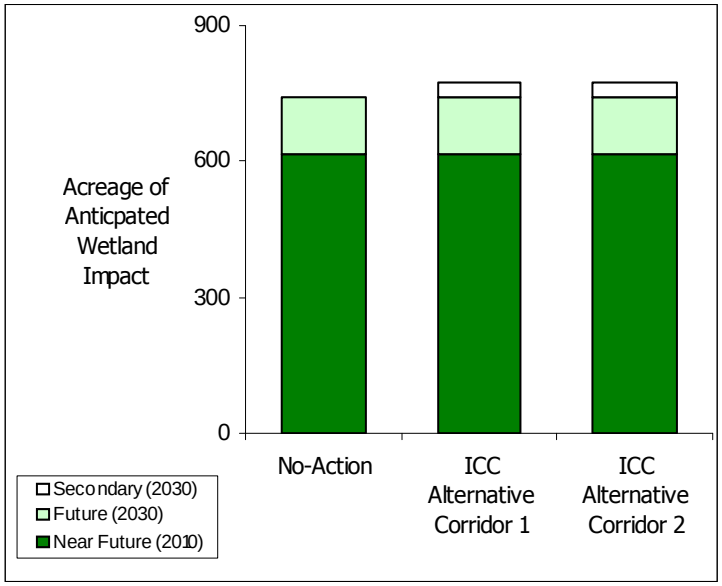
Corridors 1 and 2

The ICC build alternatives would result in direct impacts to wetlands. Impacts to wetlands would occur from filling, shading, roadway runoff, sedimentation and other direct and indirect effects. These impacts would lead to a decrease in available wetland and waterway habitat within the study area and ultimately a possible decrease in plant and animal species that inhabit these areas. Corridor 1 (and associated options) could impact approximately 16.30 to 17.97 acres of wetlands, approximately 28.83 to 30.35 acres of lower-quality, emergent wetlands associated with mining in the area of the I-95 interchange, and 32,667 to 39,158 linear feet of Waters of the US. The range

of impacts associated with Corridor 2 and all its options would vary from 15.97 to 21.02 acres of wetlands, approximately 31.53 to 33.94 acres of lower-quality, emergent wetlands associated with mining in the area of the I-95 interchange, and 24,525 to 37,584 linear feet of Waters of the US. Of course, Federal and State laws will require mitigation or wetland replacement for wetlands that cannot be avoided. In addition the Environmental Stewardship component of the ICC project includes additional opportunities for the creation/enhancement of wetland areas not impacted by an ICC (see ***FEIS Section IV.F.7*** *for details*).

Secondary development could result in impacts to wetlands. As shown in ***Table IV-129 and Figure IV-33,*** secondary impacts associated with Corridor 1 could be approximately 160 acres. Corridor 2 secondary impacts could be slightly greater, estimated at approximately 166 acres. ***Figure IV-30, Volume II*** shows the secondary development overlaid with NWI wetlands. These secondary impacts could result in cumulative impacts of approximately 903 and 909 acres for Corridor 1 and Corridor 2, respectively. Cumulative impacts would result in negative effects to the functions and values of wetland systems throughout the SCEA boundary, but would be mitigated under Federal, State and county laws and regulations. Although replacement would occur it could take decades for newly planted land to function exactly like the system that was lost did.

Figure IV-33
Acreage of Anticipated Wetland Impact



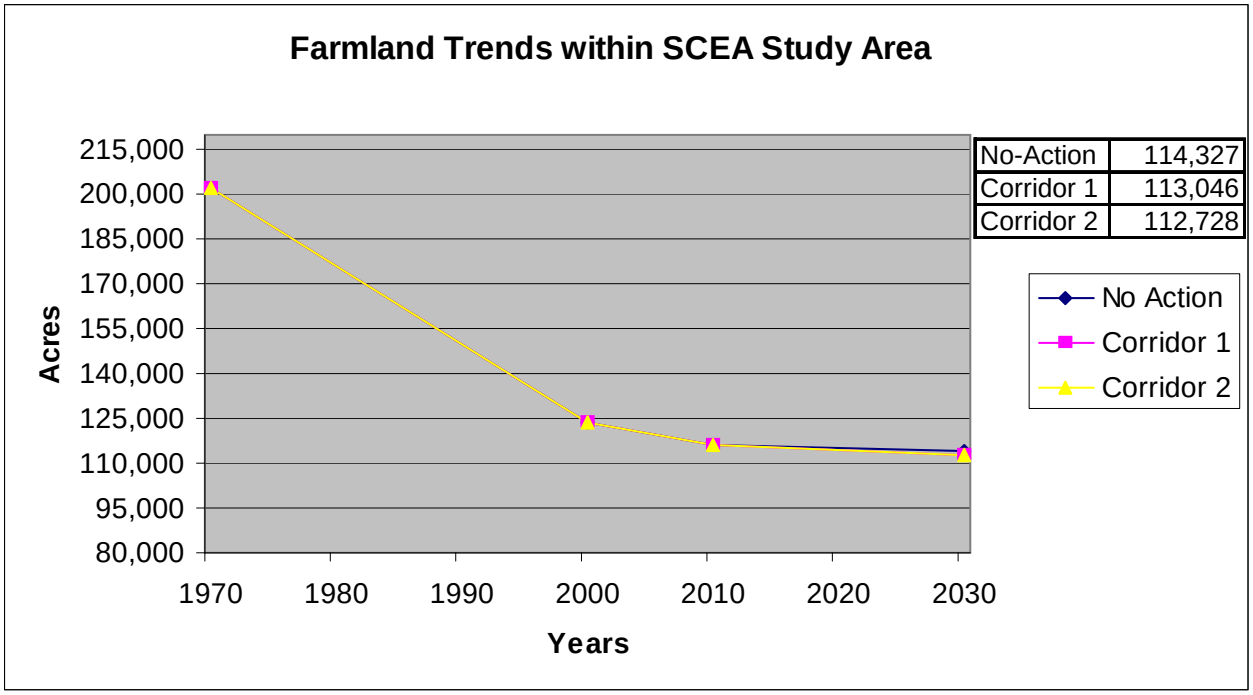
Farmland

Farmland is an important resource that is vital to the State's economy. Farming and associated industries are an important and viable way of life for many people within the SCEA boundary. The agricultural sector is important to Maryland in terms of goods and services provided as well as the preservation of the rural nature of many areas within the SCEA boundary.

No-Action

The number and total land area of farmlands in both the State and within the SCEA boundary has declined during the past time frame. This decrease in farmland is due to the increased residential and commercial growth that has resulted from the increased population. ***Figure IV-34*** shows the decline in farmland during the SCEA time frame. The graph shows the decrease of farmland from 1973 to 2030. This data was derived from MDP land use data, and shows the land use change that could result for each ICC alternative. At the same time, approximately one-third of Montgomery County has been placed in a designated Agricultural Reserve and of Prince George's County in a designated Rural Tier.

Figure IV-34
Farmland Trends within SCEA boundary

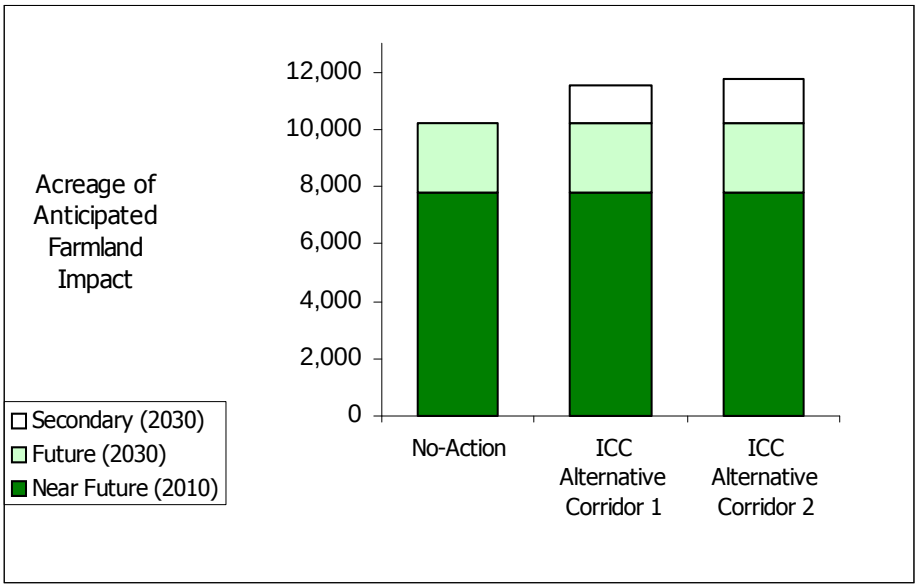


During the present/near future time frame there is the potential for farmland to be impacted by near future planned development. Approximately 7,800 acres of farmland could be impacted by near future development (***Table IV-129*** and ***Figure IV-35***). ***Figure IV-29, Volume II*** shows the near future development overlaid with farmland. These impacts would occur primarily as a result of conversion of farmland to residential use.

As shown in ***Table IV-129*** and ***Figure IV-35,*** future development could result in approximately 2,400 acres of impact to farmland. ***Figure IV-30, Volume II*** shows the future development overlaid with farmland. These future impacts combined with the near future impacts could result in approximately 10,200 acres of cumulative impact for the No-Action alternative (***Table IV-129 and Figure IV-35***). These cumulative impacts could result in loss of agricultural land, reduction

in the farming sector of the economy and the loss of the rural nature of portions of the SCEA boundary. Impacts to farmlands could be reduced by Federal, State and local regulations along with agricultural land preservation by public and private organizations.

Figure IV-35
Acreage of Anticipated Farmland Impact



Corridors 1 and 2
Direct impacts to existing farmland properties are anticipated to occur as a result of the build alternatives. The largest amount of impacts to farmlands properties would occur in the Rocky Gorge watershed. Corridor 1 could impact between 61.6 and 66.2 acres of farmland properties, and Corridor 2 between 105.2 and 123.1 acres (See ***FEIS Section IV.F.4*** for more details).

As previously discussed in the secondary impacts section and as shown in ***Table IV-129*** and ***Figure IV-35***, secondary impacts associated with the Corridor 1 alternative could result in approximately 1,300 acres, and Corridor 2 approximately 1,600 acres of secondary impacts. ***Figure IV-30, Volume II*** shows the secondary development overlaid with farmland. These secondary impacts combined with the near future and future development impacts could result in approximately 11,500 and 11,800 acres for Corridor 1 and Corridor 2, respectively (***Table IV-129 and Figure IV-35***). Cumulative impacts could result in negative effects to farmland but these impacts could be reduced by Federal, State and local regulations along with agricultural land preservation by public and private organizations. These include but are not limited to the Federal Farmland Protection Act, the Federal Farm and Ranch Lands Protection Program and the Maryland Land and Water Conservation Act.

Forests/Terrestrial Habitat

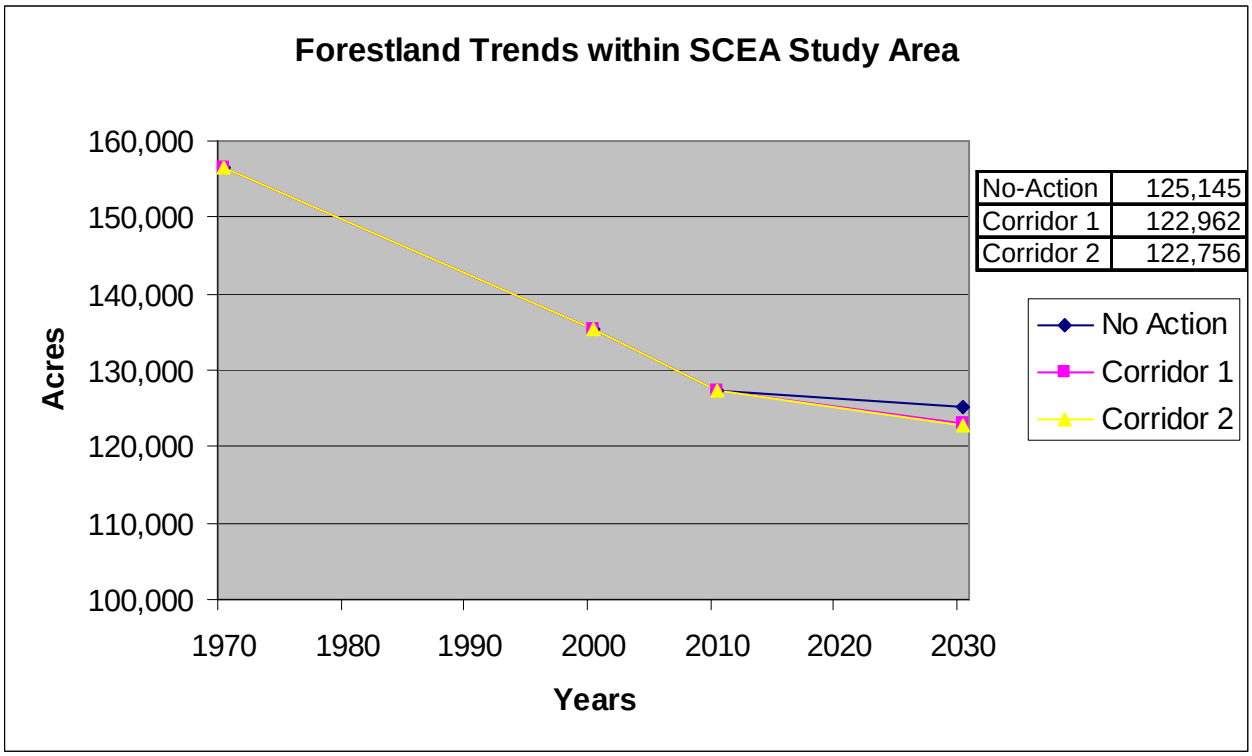
Forests are an integral part of Maryland's environment and economy. Forestland provides habitat for many species of plants and wildlife including Forest Interior Dwelling Species (FIDS), whose

habitat is limited to forest interiors. Forests are important resources for protecting water quality and clean air. Forestland is also vital to the State's economy by providing forest products and recreational opportunities. Maryland and Montgomery and Prince George's Counties have forest preservation laws in place, requiring reforestation and aforestation for new development.

No-Action

Within the SCEA time frame, forestland has declined since the past time frame due to agriculture and development pressures from the population growth that has occurred. Forestland not only decreased in amount of total area but just as significantly, fragmentation of forests has occurred over time. This fragmentation decreases the value of the forestland to wildlife. ***Figure IV-36*** shows the decline in forestland during the SCEA time frame. The graph shows the decrease of forestland from 1973 to 2030. This data was derived from MDP land use data, and shows the land use change that could result for each ICC alternative.

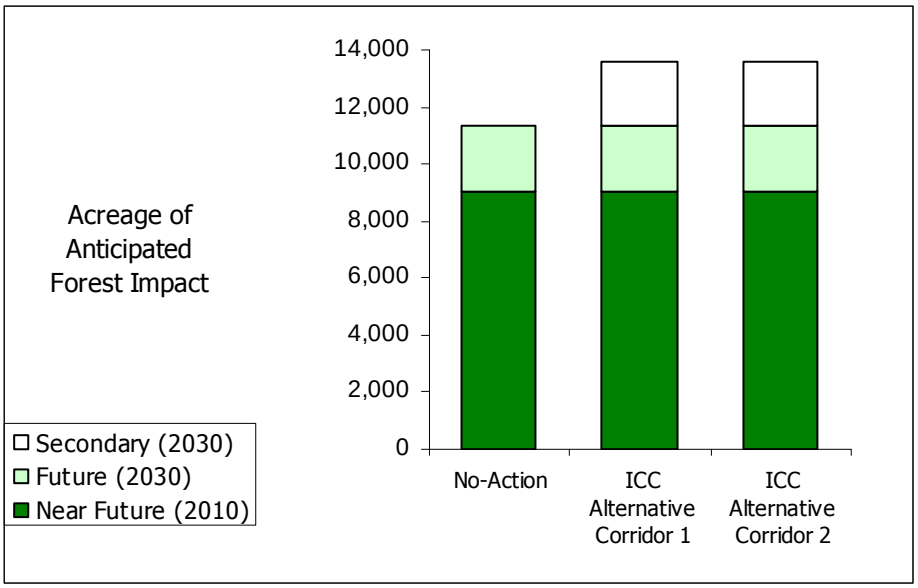
Figure IV-36
Forestland Trends within SCEA boundary



Quantitative impacts were calculated for forestland through a GIS overlaying MDP land use with near future, future and secondary development. Near future development could potentially impact approximately 9,000 acres of forestland (***Table IV-129*** and ***Figure IV-37***). ***Figure IV-29, Volume II*** shows the near future development overlaid with forestland. These impacts would be primarily a result of the large amount of residential identified for the near future time frame.

As shown in ***Table IV-129*** and ***Figure IV-37***, future development could impact approximately 2,400 acres of forestland. This future development along with the impacts associated with the near future development could result in approximately 11,400 acres of cumulative forest impacts. ***Figure IV-30, Volume II*** shows the future development overlaid with forestland. These impacts could result in decreased habitat through direct loss of forest and increased fragmentation of the remaining forestland, making it less suitable for many types of forest inhabiting species especially FIDS for which interior forest habitat is vital. DNR has developed a tool called the Green Infrastructure Assessment that is used to identify undeveloped land that is vital, to the State's numerous ecological resources. This tool identifies and prioritizes the States Green Infrastructure (GI). Maryland's GI is a network of undeveloped land that serves as the primary natural support system for the State's numerous ecological resources. GI is made up of two important types of resource lands the first of which are the "hubs". These "hubs" are unfragmented areas hundreds to thousands of acres in size and are vital to maintaining the State's ecological health. The second type of GI are the "corridors," which are linear remnants of natural land that ensure the long-term survival and continued diversity of plants and wildlife (DNR, Maryland's Green Infrastructure Assessment). The GI hubs and corridors were overlaid with near future, future and secondary development to determine the impacts that the ICC alternatives could have on Maryland's GI. ***Figures IV-38*** and ***IV-39, Volume II*** show the GI overlaid with near future and future development. Impacts to forestland could be reduced by Federal, State and local reforestation and aforestation regulations along with forestland preservation by public and private organizations.

Figure IV-37
Acreage of Anticipated Forest Impact



As shown in ***Appendix P, P-3,*** near future development could impact approximately 2,500 acres of hubs and 2,700 acres of corridors. Future development could impact approximately 90 acres of hubs and 1,100 acres of corridors. The combination of the near future and future impacts could result in approximately 2,600 acres of cumulative impact to hubs and 3,900 acres of impact to

corridors associated with the No-Action alternative. The cumulative impacts to GI are indicators that the near future and future development could result in both direct loss of existing GI hubs and the increased fragmentation of the remaining hubs due to impacts to the corridors that connect the hubs.

Corridors 1 and 2

For the build alternatives, impacts to some forest resources would be unavoidable (See ***FEIS Section IV.F.8*** for details). Impacts range from 672.4 to 747.2 acres for Corridor 1 (depending on option) and 532.1 to 650.1 acres for Corridor 2 (depending on option).

As shown in ***Table IV-129*** and ***Figure IV-37,*** the secondary impact associated with the ICC build alternatives could result in impacts of approximately 2,200 acres of forestland. ***Figure IV-30, Volume II*** shows the secondary development overlaid with forestland. The Corridor 2 alternate could impact approximately 30 more acres of forestland. The secondary impacts to GI hubs by the build alternatives could result in approximately 240 acres of impacts associated with each build alternative. The secondary impacts to GI corridors could be slightly greater for Corridor 1, with approximately 380 acres, compared to 350 acres of impacts associated with Corridor 2 (***Appendix P, P-3***). The cumulative impacts of the build alternatives on forestland could be approximately 13,600 acres for each alternative. The cumulative impacts to GI could be approximately 2,800 acres of impact to hubs and approximately 4,200 acres of impacts to corridors for each alternative. As with the No-Action alternative, these cumulative impacts could result in loss of forest habitat value and function, but these impacts could be reduced by Federal, State and local reforestation and aforestation regulations along with forestland preservation by public and private organizations. Although replacement would occur, it could take decades for newly planted land to function like a mature ecosystem.

Groundwater

Groundwater is one of the most important natural resources; it replenishes our streams and wetlands, provides fresh water for irrigation and drinking water for many citizens.

Groundwater quality is affected by surface water quality and quantity controls. Stormwater management using best management practices creates infiltration, which allows for recharge of groundwater. The addition of impervious surface would lead to a decrease in infiltration, which would reduce the rate of groundwater recharge. A sustainable aquifer cannot have a recharge rate that is less than its withdrawal rate. The same regulatory measures that protect surface water can protect groundwater.

No-Action

Near future development could impact groundwater through the addition of impervious area (***Appendix P, P-10***). As shown in ***Appendix P, P-10,*** approximately 23,617 acres of near future development has been identified to occur throughout the SCEA boundary. ***Figure IV-29, Volume II*** shows the near future development overlaid with environmental resources.

Future development could add additional negative effects to groundwater; approximately 10,161 acres of future development has been identified. ***Figure IV-30, Volume II*** shows the future

development overlaid with environmental resources. As shown in ***Appendix P, P-2***, for the No-Action alternative approximately 33,778 acres of cumulative development has been identified. Much of the SCEA boundary is served by public water and sewer, therefore this additional development would not have a significant effect on the drinking water, but in areas where groundwater is the source of drinking water this additional development could negatively impact groundwater.

Corridors 1 and 2

Groundwater impacts from the build alternatives would occur as quantity and/or quality alterations. The build alternatives have the potential for reducing infiltration into shallow portions of aquifers, reducing or redirecting available hydrology for wetlands and streams. There is no appreciable difference in potential quantity impacts between Corridor 1 and Corridor 2. Water quality impacts to groundwater would likely be minimal with both alternatives since roadway pollutants would be of low concentrations and would likely be retained in vegetation found in SWM facilities.

As shown in ***Appendix P, P-2***, secondary development associated with the ICC build alternatives could result in additional impacts to groundwater throughout the SCEA boundary. Corridor 1 could add approximately 4,945 acres of secondary development. Corridor 2 could add 5,546 acres of secondary development. ***Figure IV-30, Volume II*** shows the secondary development overlaid with environmental resources. The cumulative development associated with the build alternatives could be approximately 37,594 acres for Corridor 1 and 38,643 acres for Corridor 2. As for the No-Action alternative this additional development could negatively effect groundwater but due to current laws and regulations these effects would likely be reduced.

Rare, Threatened and Endangered (RTE) Species

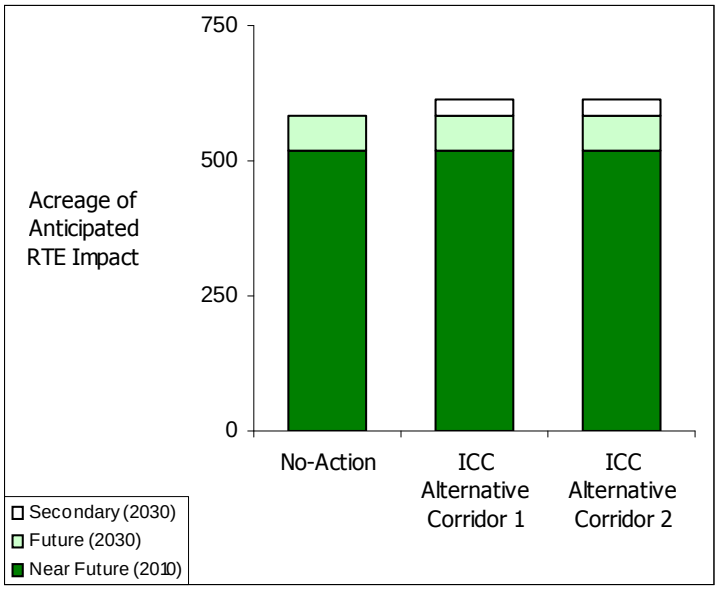
No-Action

Past effects to RTE species include loss of habitat from land conversion activities (e.g. wetland and forest clearing as part of development), mortality from development pressures or human activity (vehicular collisions). Additional effects as a result of the growth in the area during the past time frame can include human disturbance, especially during sensitive life cycle periods such as breeding, changes in drainage or hydrology in general, forest or habitat fragmentation, and noise pollution. During the past time frame the Endangered Species Act was passed (1973) which decreased the rate of decline of RTEs throughout the nation, likely paralleling similar declines within the SCEA boundary.

RTE impacts were estimated by overlaying near future/future and secondary development with Sensitive Species Project Review Areas (SSPRA). These estimated impacts may not be representative of loss of actual RTE habitat; the SSPRA's merely represent the general location of documented RTE species. ***Figure IV-40, Volume II*** shows these designated areas that include various types of regulated areas under the Critical Area Criteria and other areas of concern, including: Natural Heritage Areas, Listed Species Sites, Other or Locally Significant Habitat Areas, Colonial Waterbird Sites, Waterfowl Staging and Concentration Areas, Nontidal Wetlands of Special State Concern and Geographic Areas of Particular Concern. These areas represent state-regulated and designated areas involving sensitive and listed species.

As shown in ***Table IV-129*** and ***Figure IV-41,*** near future development could impact approximately 520 acres of SSPRA's throughout the SCEA boundary. ***Figure IV-29, Volume II*** shows the SSPRA areas within the SCEA boundary and proposed near future land development. These impacts could be primarily from residential development and transportation improvements. Future development could impact approximately 62 acres of SSPRA's. The total cumulative impact to SSPRA's by the No-Action alternative could be approximately 580 acres (***Table IV-129*** and ***Figure IV-41***). ***Figure IV-30, Volume II*** shows the SSPRA areas within the SCEA boundary and proposed future land development. Endangered and threatened species are protected and regulated by the 1973 Federal Endangered Species Act, the Maryland Endangered Species Act of 1973, and the 1975 Maryland Nongame and Endangered Species Conservation Act. In addition, Federal and State permitting programs (e.g., wetlands) require the review of public development applications before the development is permitted. Given the existing regulatory framework to protect rare, threatened, and endangered species, and assuming planned development within the SCEA boundary has been reviewed to address these requirements, cumulative impacts to State-listed species within the SCEA boundary are not anticipated to change significantly over any current trend.

Figure IV-41
Acreage of Anticipated RTE Impact



Corridors 1 and 2

Direct impacts of the ICC build alternatives could occur to State endangered or threatened species, specifically trailing stichwort, halberd-leaved greenbrier, and rough-leafed aster. Featherbells are not expected to be impacted directly but Spencerville Options A, B and C to Burtonsville A could affect the surrounding habitat. It is anticipated that Corridor 1 would encroach upon 13.2 to 31.4 acres of ecologically significant areas (ES Areas) (depending on the option) and Corridor 2 would encroach upon 17.6 to 40.2 acres, depending on option ***(See FEIS Section IV.F.10 for details).***

As previously discussed in the Secondary impacts section, the ICC build alternatives could impact approximately 33 acres of SSPRA's for each alternative. These secondary impacts combined with the near future and future development could result in approximately 615 acres of cumulative impact to SSPRA's by the ICC build alternatives (***Table IV-129 and Figure IV-41***). ***Figure IV-30, Volume II*** shows the SSPRA areas within the SCEA boundary and proposed future land development. As for the No-Action alternative, cumulative impacts to State-listed species within the SCEA boundary are not anticipated to change significantly over any current trend, due to current laws and regulations.

Impervious Area

An assessment of impervious area is included as a component in the SCEA analysis as it relates to both direct and indirect effects on the natural resources within the study area. Aside from actual displacement / loss of a resource by a new impervious footprint, potential effects include: reduced infiltration to groundwater table, increased runoff and subsequent erosion, flooding, and increases in surface water temperatures of receiving streams. These effects may result in negative impacts to the surrounding environment.

No-Action

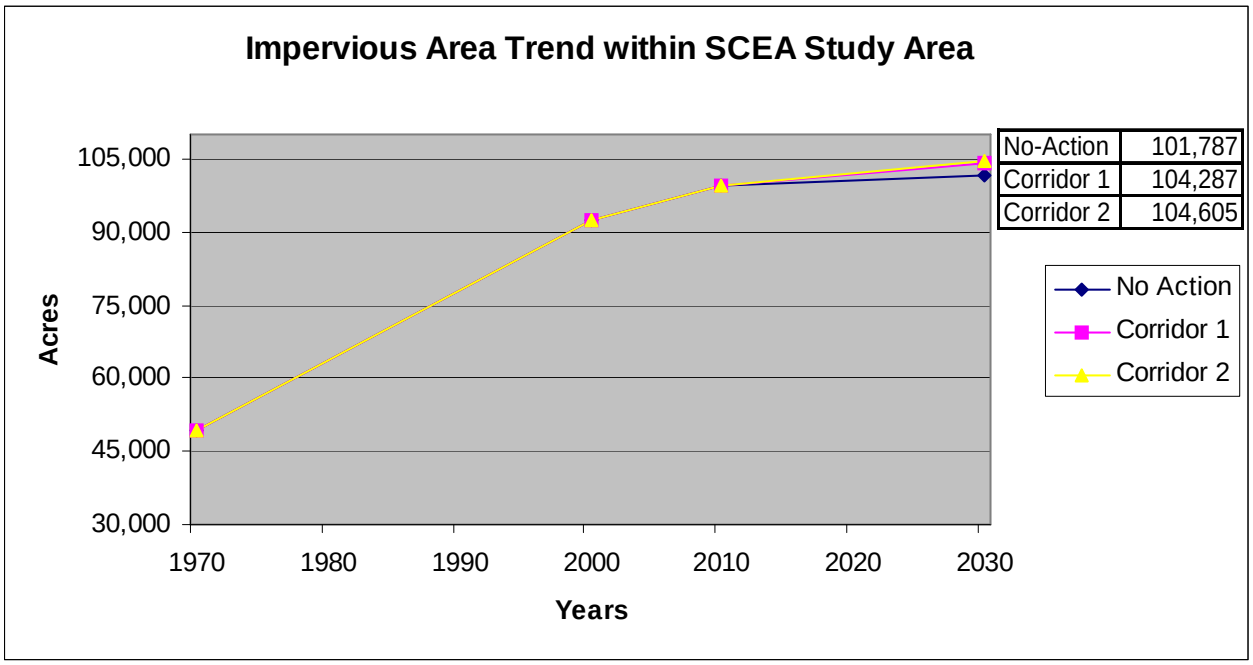
As the population increased within the SCEA boundary, the development associated with the growth increased the impervious area due to the land use change that occurred throughout the area. Additional increases as a result of the planned development will occur in the present/near future and future time frame.

MDP Land use data was used to estimate the trend in impervious area for the entire SCEA area. The method used to estimate the impervious area was based upon DNR's *Surf Your Watershed Percent Impervious Surface Indicator* (DNR 2004). The impervious surface was calculated for MDP land use categories including residential (low, medium and high), commercial, industrial, institutional, barren land and transportation. The amount of acres of each land use type per watershed was multiplied by the percent of impervious surface of each land use type. The percent impervious surface for each land use type was based on the US Soil Conservation Services TR-55 Manual.

Based upon the 1973 MDP land use data the amount of impervious area for the entire SCEA boundary was 10.1 percent. ***Appendix P, P-10*** shows the percent impervious surface by subwatershed and Special Protection Areas within the SCEA boundary. ***Figure IV-42*** shows the increase in impervious area from 1973 to 2030. Based on the 2000 MDP land use data the amount of impervious area for the entire SCEA boundary increased to 18.9 percent. This increase is attributed to the addition of residential and commercial development that has occurred throughout the SCEA boundary, as shown in ***Figures IV-23*** and ***Figure IV-30, Volume II.***

Near Future development could result in approximately an 8 percent change from 2000 to 2010, resulting in 20.4 percent impervious cover for the entire SCEA boundary (***Appendix P, P-10***). This increase could be attributed to the large amount of residential development identified during the near future time frame.

Figure IV-42
Impervious Area Trends within the SCEA Boundary



Future development could result in approximately a 2.3 percent change from 2010 to 2030, resulting in 20.9 percent impervious cover for the entire SCEA boundary under the No-Action scenario (***Appendix P, P-10***). As previously stated, these increases in imperviousness could result in reduced infiltration to groundwater table, increased runoff and subsequent erosion, possible flooding, and increases in surface water temperatures of receiving streams. As new development occurs, county agencies will require new stormwater controls and reserve stream buffer areas to offset the impacts of the altered land surface on increased surface runoff, runoff quality, and groundwater replenishment. The goal of the stormwater controls and related site planning, stream buffer, and forest conservation and reforestation requirements is to minimize the extent of necessary impervious surfaces associated with approved land uses, capture and slow down runoff peak flows to mimic predevelopment flows to the extent feasible, and reduce pollutants in runoff.

Corridors 1 and 2

Direct impacts from the construction of an ICC build alternative would result in the addition of impervious surface. Corridor 1 would result in approximately 340.5 to 391.9 acres of new impervious surface. Corridor 2 would result in approximately 361.2 to 408.9 acres of new impervious surface. This addition of impervious area as a result of a build alternative would be minimized and mitigated by the Lead Agencies implementation of SWM that exceeds MDE's requirements (See ***FEIS Section IV.F.5*** for details).

Secondary development associated with the build alternatives could result in additional increases in impervious area. Corridor 1 secondary development could result in approximately a 4.8 percent change from 2010 to 2030, resulting in 21.38 percent impervious cover for the entire SCEA boundary under the Corridor 1 scenario. Corridor 2 secondary development could result in

a 5.2 percent change from 2010 to 2030, resulting in 21.44 percent impervious cover for the entire SCEA boundary under the Corridor 2 scenario.

Reservoirs

There are two WSSC reservoirs within the SCEA boundary: the Triadelphia Reservoir and the Rocky Gorge Reservoir (also known as the T. Howard Duckett Reservoir). These reservoirs are vital to the drinking water supply throughout much of the SCEA boundary, especially within Montgomery, Prince George's and the District of Columbia. In addition to drinking water supply these reservoirs provide aesthetic value and recreational opportunities. Both are located within the Patuxent River Watershed; the Triadelphia Reservoir is located in the Brighton Dam subwatershed and the Rocky Gorge Reservoir is located in the Rocky Gorge subwatershed. Both reservoirs were created prior to 1964. Up to that time, development within the subwatersheds in which these reservoirs are located was minimal.

No-Action

As shown in ***Appendix P, P-10,*** the percent impervious area within the reservoir subwatersheds increased from 0.7 percent to 2.2 percent and from 3.6 percent to 9.7 percent from 1973 to 2000, for Brighton Dam and Rocky Gorge Dam, respectively.

Near future development could result in approximately 50 percent change for Brighton Dam from 2000 to 2010, resulting in 3.2 percent impervious cover. For Rocky Gorge Dam near future development could result in approximately 20 percent change from 2000 to 2010, resulting in 11.6 percent impervious cover (***Appendix P, P-10***). This additional development is primarily the result of near future residential development within these watersheds.

Future development could result in approximately a 3 percent change from 2010 to 2030, resulting in 3.3 percent impervious cover for Brighton Dam and a 2 percent change from 2010 to 2030 for Rocky Gorge Dam, resulting in 11.9 percent impervious cover (***Appendix P, P-10***). This addition of impervious area as a result of new development within the reservoir watersheds would continue to add negative pressures to the drinking water supply through pollution runoff, sedimentation/siltation, possible accidental spills and decreased surface/ground water quality. Laws and regulations could reduce the negative effects of the additional development.

Corridors 1 and 2

Future direct impacts of an ICC alternative on the reservoirs would be from Corridor 2, which would cross several tributaries to the Rocky Gorge Reservoir and could potentially have a range of impacts to water quality. The direct impacts to the streams range from 8,441 to 13,468 linear feet of impacts within the reservoir watershed. In addition to the stream impacts, between 54.7 acres and 86.6 acres of new impervious surface could be added by Corridor 2. These direct impacts would be minimized by the Lead Agencies' implementation of SWM that exceeds MDE's requirements and redundant ESC measures within the Rocky Gorge subwatershed. In addition to exceeding MDE's SWM requirements, within the Rocky Gorge subwatershed the Lead Agencies are committed to providing an additional 10,000 gallons of stormwater storage and isolation valves in each stormwater treatment pond (***FEIS Chapter IV-E.5.c***).

Secondary development associated with the ICC build alternatives could result in additional impervious area being added to the Rocky Gorge Dam subwatershed. Corridor 1 could result in approximately 10 percent change from 2010 to 2030, resulting in 12.8 percent impervious cover for the Rocky Gorge Dam. Corridor 2 could result in an approximately 19 percent change from 2010 to 2030, resulting in 13.8 percent impervious cover for the Rocky Gorge Dam (***Appendix P, P-10***). There is no additional impervious area as a result of secondary development within the Brighton Dam subwatershed. As with the No-Action alternative, the cumulative effects to the reservoir watersheds could be reduced due to current laws and regulations.

The Lead Agencies have voluntarily undertaken development of a spreadsheet based nonpoint source (NPS) pollutant load model for the purpose of estimating and comparing annual pollutant loads for a variety of NPS pollutants for pre- and post-ICC land use conditions. Two analyses were performed: 1) to compare pollutant loads from roadway build alternatives by analyzing the strip right of way, and 2) to understand the effects that an ICC on Corridor 2 would have on the Rocky Gorge watershed. The first analyses performed focus on the strip of land anticipated to be the ICC right of way (assuming a "build" alternative is selected) and summarize the NPS pollutant loads for each of the major watersheds crossed by the build alternatives, including the Rock Creek, Anacostia River, and Patuxent River. Analyses of the right of way strip were performed using representative alignments under study for Corridor 1 and Corridor 2. To better understand the cumulative effects of NPS pollution impacts resulting from highway construction within the Rocky Gorge Reservoir watershed, an analysis was performed to determine the effects of land use change within the SCEA boundary.

The Lead Agencies performed non-point source stormwater pollutant load analyses to determine the effects of potential ICC construction on receiving watersheds. The pollutant load analyses computations were performed using custom designed spreadsheets that incorporate different nationally recognized modeling approaches and land use associated pollutant loads. Different scenarios were modeled including the effects of land use change within the right of way strip for three potential alternative combinations. Additionally, scenarios were modeled within the Rocky Gorge watershed based on the SCEA boundary and the potential secondary and cumulative affects within.

The analysis indicates ICC construction along either Corridor 1 or Corridor 2 would not significantly change existing water quality when compared to existing land use within the right of way strips and for the pollutants being studied. Additional information on this analysis can be found in ***Section IV.F.5.c***. However, construction of Corridor 2 could potentially have an effect on water quality within the Rocky Gorge watershed when considering the pollutants chosen for study and the future SCEA land use scenario in the watershed. Of the six pollutants studied five of them increased in the future time frame, Fecal Coliform, Total Nitrogen, Total Phosphorous, Total Copper and Total Zinc. The projected increases in annual loads for these pollutants are higher based on the increase in area of medium density residential and institutional land uses. Total suspended solid annual loads are predicted to decrease because of the conversion from agricultural land use to other land uses. ***Table IV-130*** highlights the change in pollutant loads from the existing to future time frame. Please refer to the ***Comparative Water Resource Hazard Assessment*** conducted in July 2005 for more details.

Table IV-130
Modeled Pollutant Loads to the Rocky Gorge Reservoir from the ICC Corridor 2 and the SCEA

Pollutant	Annual Pollutant Load (lbs./year)		
	Existing	Future	Change
Fecal Coliform[1]	397,554	559,635	162,085
Total Suspended Solids	1,282,297	1,263,009	-19,288
Total Nitrogen	58,974	63,236	4,262
Total Phosphorous	4,957	5,774	817
Total Copper	85	156	71
Total Zinc	571	1,044	473

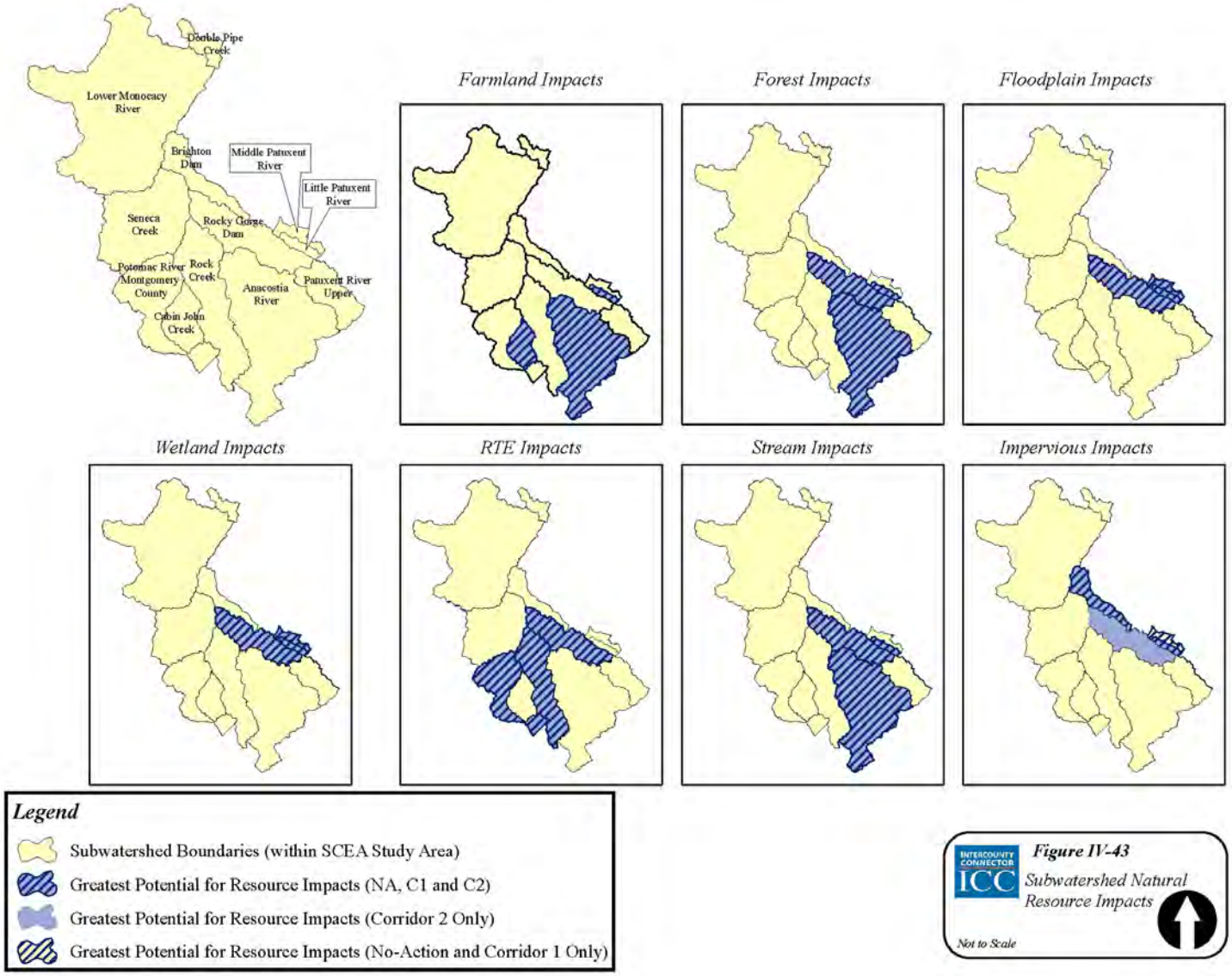
Source: SHA, ICC Pollutant Load Study, July 2005, Rev. September 2005Note: Modeling was conducted for representative alignments of Corridor 1 and Corridor 2 rather than all options and configurations.
[1]Fecal Coliform is expressed in billion colonies/year. All other parameters are in lbs/year.

These increases in pollutant loads in the Rocky Gorge watershed should not implicate human health as WSSC is required to meet drinking water standards through treatment practices currently in place. Increases in non point source loads to the reservoir may exacerbate existing water quality conditions (which may impact aquatic life) and require WSSC to augment treatment practices but this will not change what they are required to produce in terms of safe drinking water.

Subwatershed Cumulative Impacts

Cumulative impacts were also assessed at the subwatershed level for select natural resources. The subwatersheds with the greatest potential impact were selected and highlighted on both ***Figure IV-43*** and ***Appendix P, P-4***.

The subwatersheds with the greatest potential cumulative impact were selected by determining which subwatersheds fall in the 80th percentile of resource impact as a percent of the total resource quantity for each alternative (No-Action, Corridor 1 and Corridor 2). For example, as shown in ***Appendix P, P-4***, the greatest cumulative impact to farmland under all the ICC alternatives is the same. The Little Patuxent River, Anacostia River and the Cabin John Creek subwatersheds all exceed the 80th percentile of resource impacts as a percent of the total resource quantity. The Little Patuxent River subwatershed contains a total of 1,577 acres of farmland and expects a cumulative impact of 926 acres (58.7 percent) under the No-Action, and 992 acres (62.9 percent) under Corridor 1 and Corridor 2 scenarios, which all exceed the 80th percentile for cumulative resource impacts (***Figure IV-43***). The Anacostia River subwatershed contains a total of 2,096 acres of farmlands and anticipates a cumulative impact of 1,025 acres (48.9 percent) under the No-Action scenario, 1,348 acres (64.3 percent) under the Corridor 1 scenario and 1,259 acres (60.1 percent) under the Corridor 2 scenario. Cabin John Creek subwatershed contains a total of 128 acres of farmland and anticipates a cumulative impact of 53 acres (41.2 percent) for all of the ICC alternatives. Please refer to ***Figure IV-43*** and ***Appendix P, P-4*** for additional impacts at the subwatershed to Forests, Floodplains, Wetlands, RTE species, Streams and Impervious Areas.


Double Pipe Creek
Lower Monocacy River
Brighton Dam
Middle Patuxent River
Little Patuxent River
Seneca Creek
Rocky Gorge Dam
Potomac River
Rock Creek
Montgomery County
Anacostia River
Patuxent River Upper
Cabin John Creek
Farmland Impacts
Forest Impacts
Floodplain Impacts
Wetland Impacts
RTE Impacts
Stream Impacts
Impervious Impacts
Legend
Subwatershed Boundaries (within SCEA Study Area)
Greatest Potential for Resource Impacts (NA, C1 and C2)
Greatest Potential for Resource Impacts (Corridor 2 Only)
Greatest Potential for Resource Impacts (No-Action and Corridor 1 Only)
INTERCOUNTY CONNECTOR ICC
Figure IV-43
Subwatershed Natural Resource Impacts
Not to Scale

L. Energy

There are no notable differences in energy usage requirements anticipated between the two build alternatives. Initially, the No-Action Alternative would require the least amount of expended energy as compared to the construction of a build alternative. However, in the long-term, the energy expended due to projected traffic congestion in the design year as a result of selecting the No-Action Alternative is likely to exceed the initial energy expenditure for construction of one of the build alternatives.

M. Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity

Each of the project alternatives would have local short-term effects on the surrounding environment. In addition, the effects of the build alternatives, while similar to each other, would likely be greater than those of the No-Action Alternative. However, the need for the proposed transportation improvements is based upon local planning, which has considered the need for present and future traffic requirements within the context of present and future land use development. Therefore, the short-term effects of this project are considered to be consistent with the maintenance and enhancement of long-term productivity for the local area.

N. Irreversible and Irretrievable Commitments of Resources

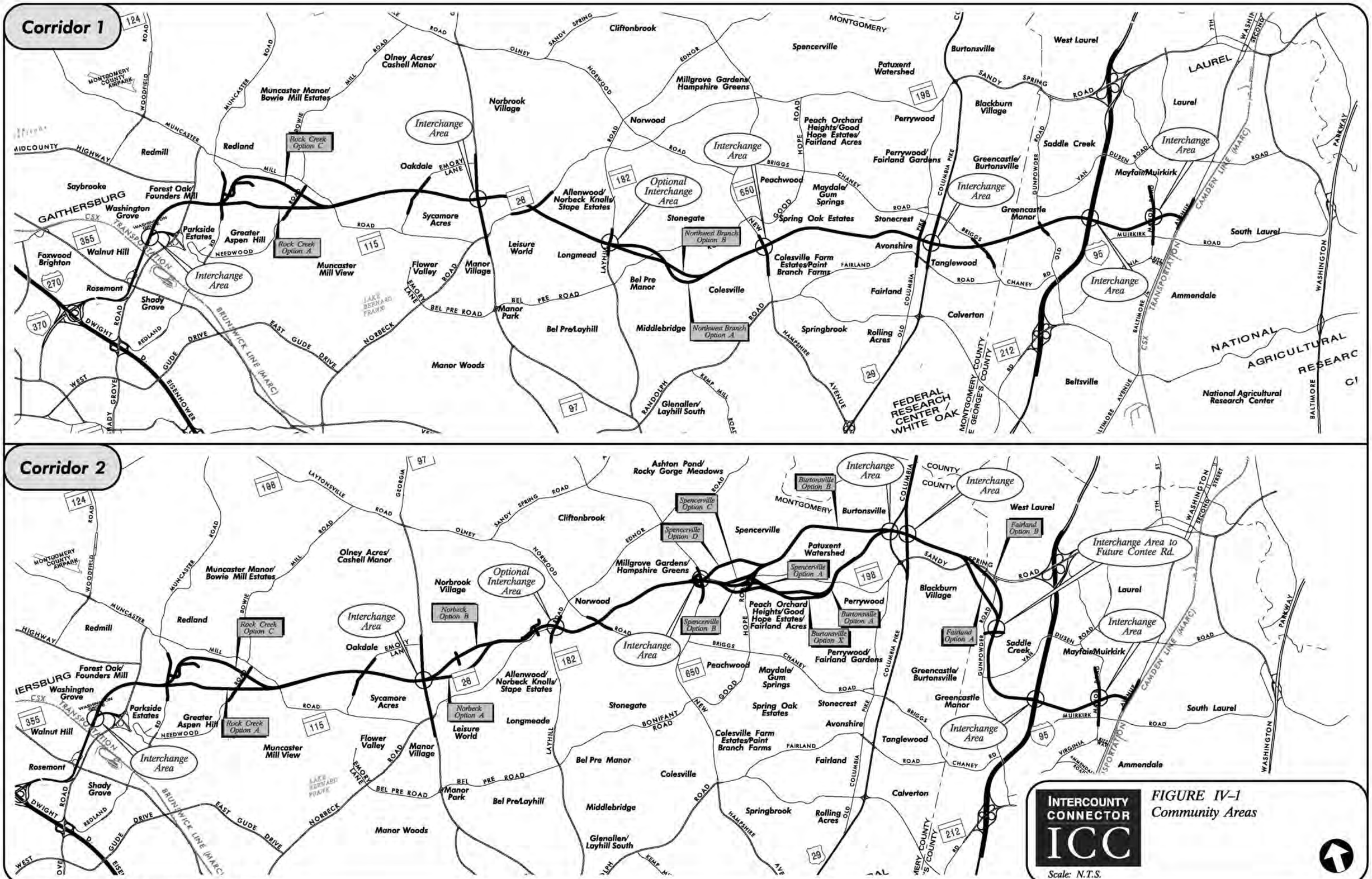
The construction of any of the build alternatives would involve the irreversible and irretrievable commitment of various natural, human and fiscal resources. The commitment of resources associated with the No-Action Alternative would be substantially less than that which would be necessary for the build alternatives.

Both the Corridor 1 and Corridor 2 Alternatives would require a similar commitment of land for new highway construction. The land used is considered an irreversible commitment during the time period that the land is used for a highway facility. However, if a greater need arises for use of the land or if the highway is no longer needed, the land can be converted to another use. At present, there is no reason to believe that such a conversion will be desirable or necessary.

In addition, fossil fuels, labor and construction materials would be used in considerable quantities for the construction of the proposed highway. Large amounts of labor and natural resources are used in the fabrication and preparation of construction materials. These materials are generally not retrievable. However, they are not in short supply and their use would not have an adverse effect upon continued availability of these resources. Any construction would also require a one-time expenditure of both State and Federal funds that would not be retrievable.

Selection of a build alternative would require an irretrievable commitment of funds for right of way acquisition, materials, and construction. Funds for maintenance would also be required. The loss of tax revenues from private land taken for highway use would also be an irretrievable revenue loss.

The commitment of these resources is based on the understanding that residents in the immediate area, State and region would benefit by the improved quality of the transportation system. These benefits would consist of improved accessibility and safety, enhanced environmental resources, and greater homeland security. It is anticipated that these benefits would outweigh the commitment of these resources.



INTERCOUNTY CONNECTOR ICC

FIGURE IV–1
Community Areas

Scale: N.T.S.

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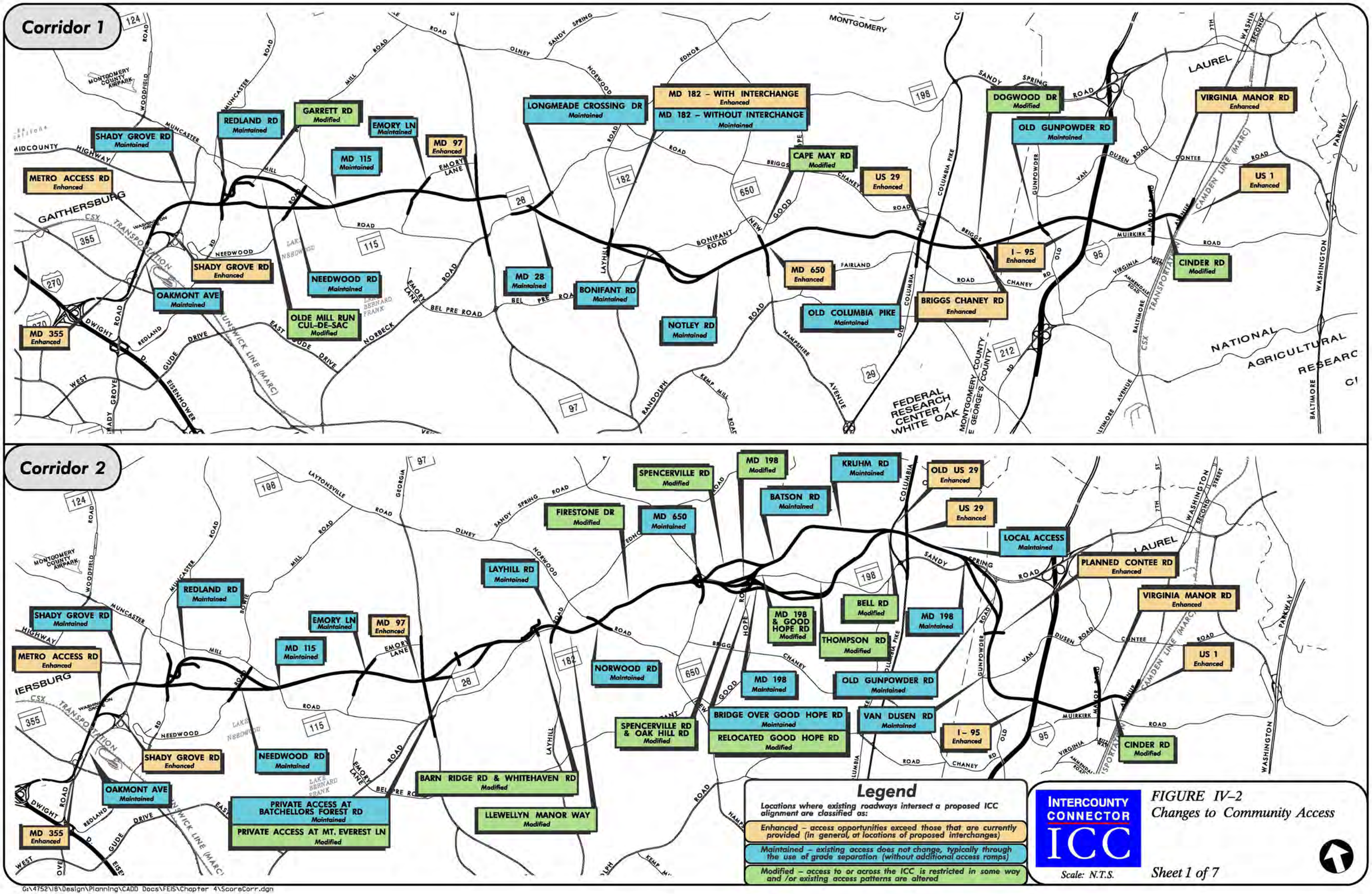
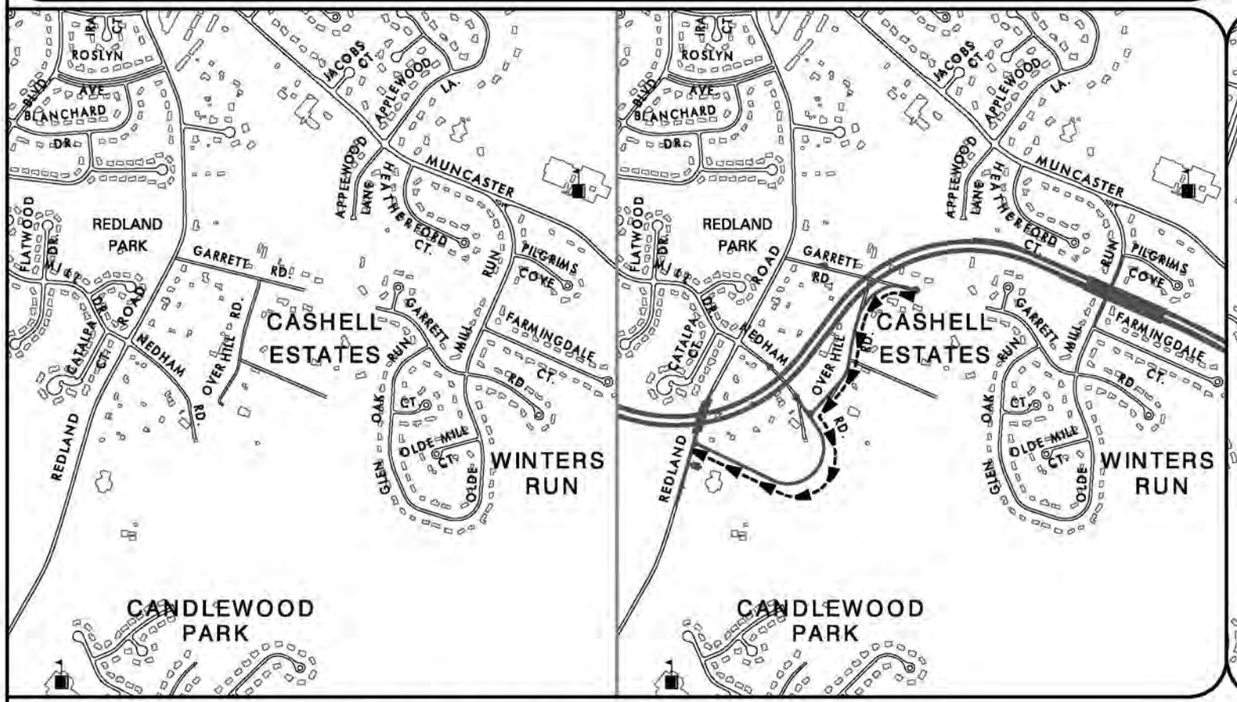

Corridor 1
METRO ACCESS RD
Enhanced
SHADY GROVE RD
Maintained
REDLAND RD
Maintained
GARRETT RD
Modified
EMORY LN
Maintained
MD 97
Enhanced
MD 115
Maintained
LONGMEADE CROSSING DR
Maintained
MD 182 – WITH INTERCHANGE
Enhanced
MD 182 – WITHOUT INTERCHANGE
Maintained
CAPE MAY RD
Modified
US 29
Enhanced
DOGWOOD DR
Modified
OLD GUNPOWDER RD
Maintained
VIRGINIA MANOR RD
Enhanced
US 1
Enhanced
SHADY GROVE RD
Enhanced
NEEDWOOD RD
Maintained
OAKMONT AVE
Maintained
MD 355
Enhanced
OLDE MILL RUN CUL-DE-SAC
Modified
MD 28
Maintained
BONIFANT RD
Maintained
NOTLEY RD
Maintained
MD 650
Enhanced
OLD COLUMBIA PIKE
Maintained
BRIGGS CHANEY RD
Enhanced
I – 95
Enhanced
CINDER RD
Modified
GAITHERSBURG
LAUREL
MONTGOMERY
FEDERAL RESEARCH CENTER / WHITE OAK
NATIONAL AGRICULTURAL RESEARC
Corridor 2
METRO ACCESS RD
Enhanced
SHADY GROVE RD
Maintained
REDLAND RD
Maintained
EMORY LN
Maintained
MD 97
Enhanced
MD 115
Maintained
LAYHILL RD
Maintained
FIRESTONE DR
Modified
SPENCERVILLE RD
Modified
MD 650
Maintained
MD 198
Modified
KRUHM RD
Maintained
BATSON RD
Maintained
OLD US 29
Enhanced
US 29
Enhanced
LOCAL ACCESS
Maintained
PLANNED CONTEE RD
Enhanced
VIRGINIA MANOR RD
Enhanced
US 1
Enhanced
NORWOOD RD
Maintained
MD 198 & GOOD HOPE RD
Modified
BELL RD
Modified
THOMPSON RD
Modified
MD 198
Maintained
OLD GUNPOWDER RD
Maintained
VAN DUSEN RD
Maintained
BRIDGE OVER GOOD HOPE RD
Maintained
RELOCATED GOOD HOPE RD
Modified
SPENCERVILLE RD & OAK HILL RD
Modified
SHADY GROVE RD
Enhanced
NEEDWOOD RD
Maintained
OAKMONT AVE
Maintained
MD 355
Enhanced
BARN RIDGE RD & WHITEHAVEN RD
Modified
PRIVATE ACCESS AT BATCHELLORS FOREST RD
Maintained
PRIVATE ACCESS AT MT. EVEREST LN
Modified
LLEWELLYN MANOR WAY
Modified
I – 95
Enhanced
CINDER RD
Modified
Legend
Locations where existing roadways intersect a proposed ICC alignment are classified as:
Enhanced – access opportunities exceed those that are currently provided (in general, at locations of proposed interchanges)
Maintained – existing access does not change, typically through the use of grade separation (without additional access ramps)
Modified – access to or across the ICC is restricted in some way and /or existing access patterns are altered
INTERCOUNTY CONNECTOR
ICC
Scale: N.T.S.
FIGURE IV–2
Changes to Community Access
Sheet 1 of 7
G:\4752\18\Design\Planning\CADD Docs\FEIS\Chapter 4\ScoreCorr.dgn

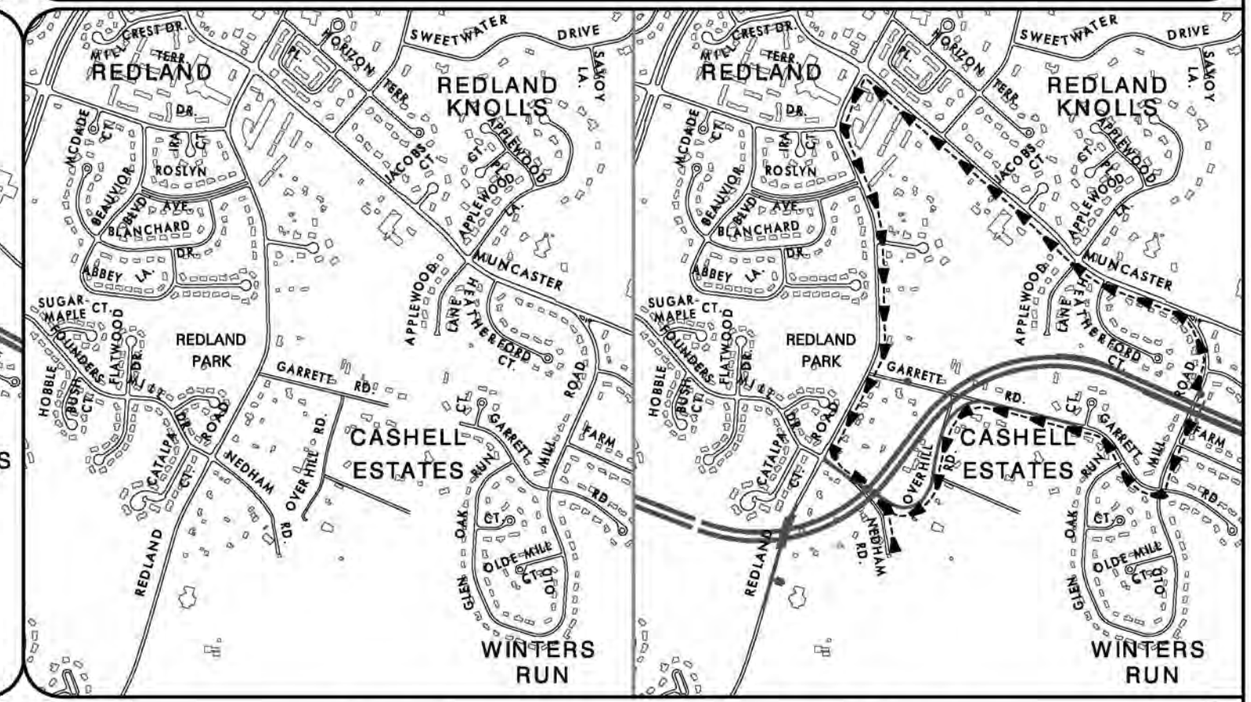
CORRIDOR 1 ROCK CREEK OPTION C – GARRETT ROAD MODIFIED

Existing | *Proposed*



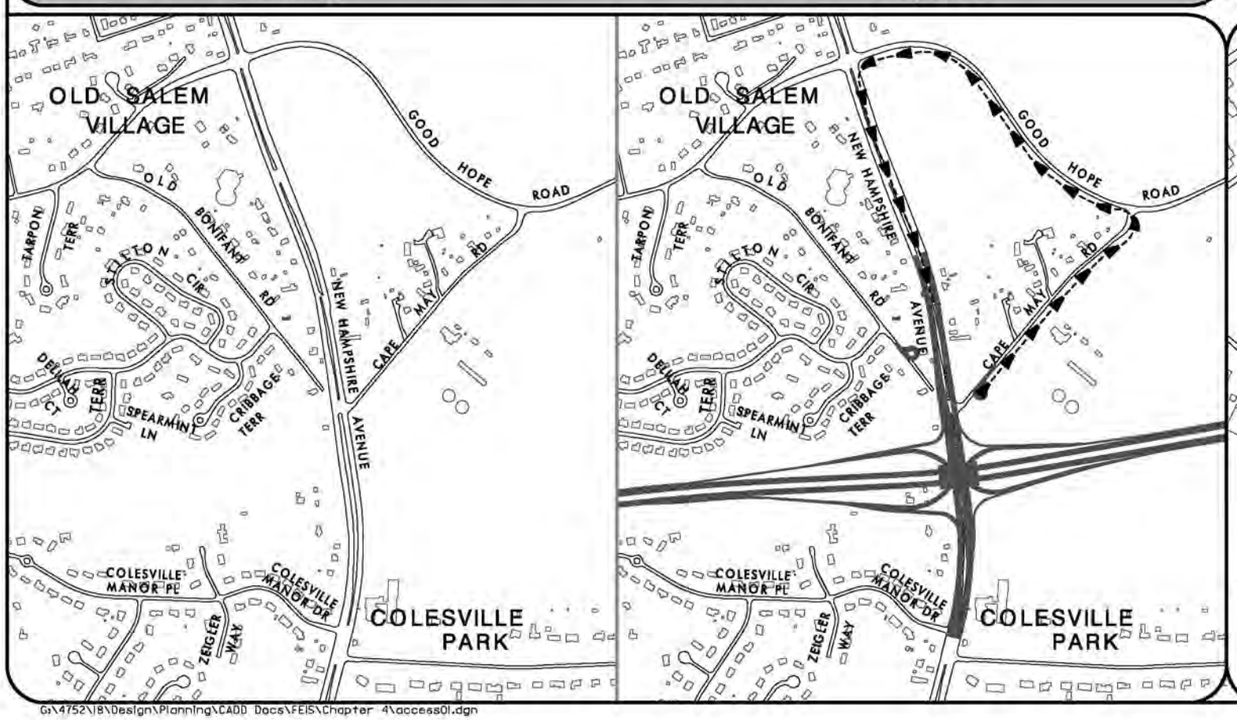
CORRIDOR 1 ROCK CREEK OPTION C – OLDE MILL RUN – CUL-DE-SAC MODIFIED

Existing | *Proposed*



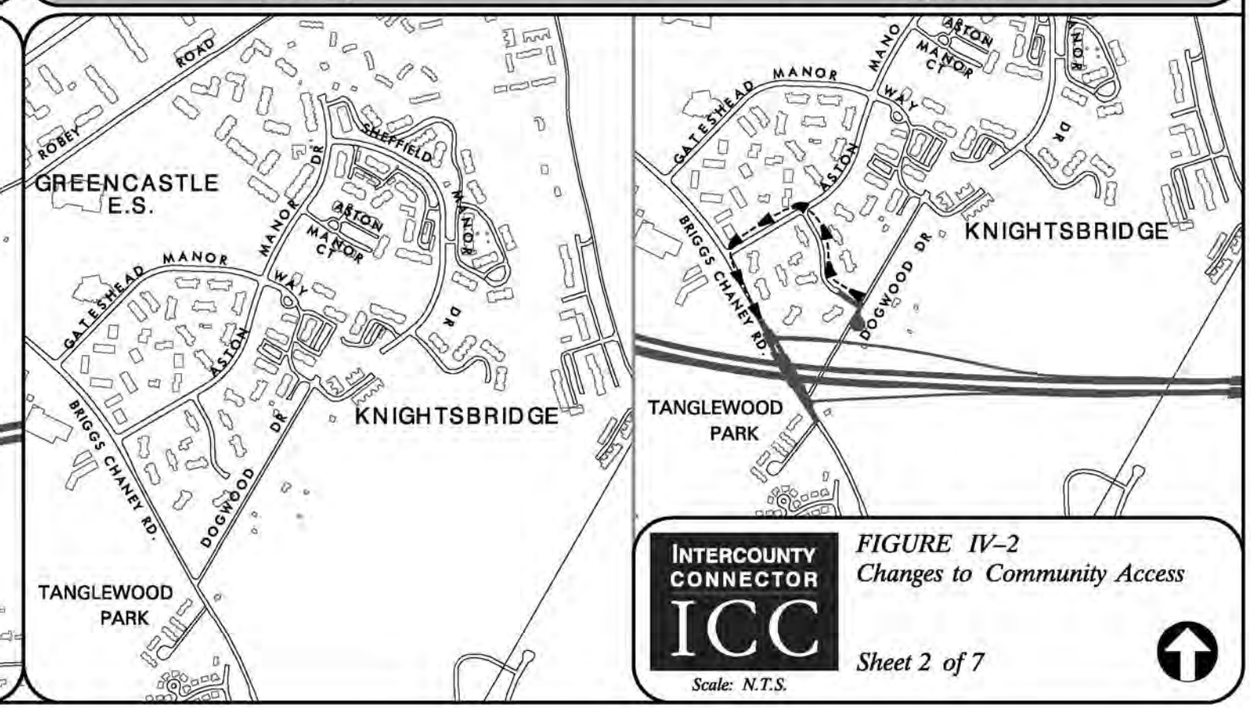
CORRIDOR 1 CAPE MAY ROAD MODIFIED

Existing | *Proposed*



CORRIDOR 1 DOGWOOD DRIVE MODIFIED

Existing | *Proposed*



INTERCOUNTY CONNECTOR ICC

FIGURE IV–2
Changes to Community Access

Sheet 2 of 7

Scale: N.T.S.

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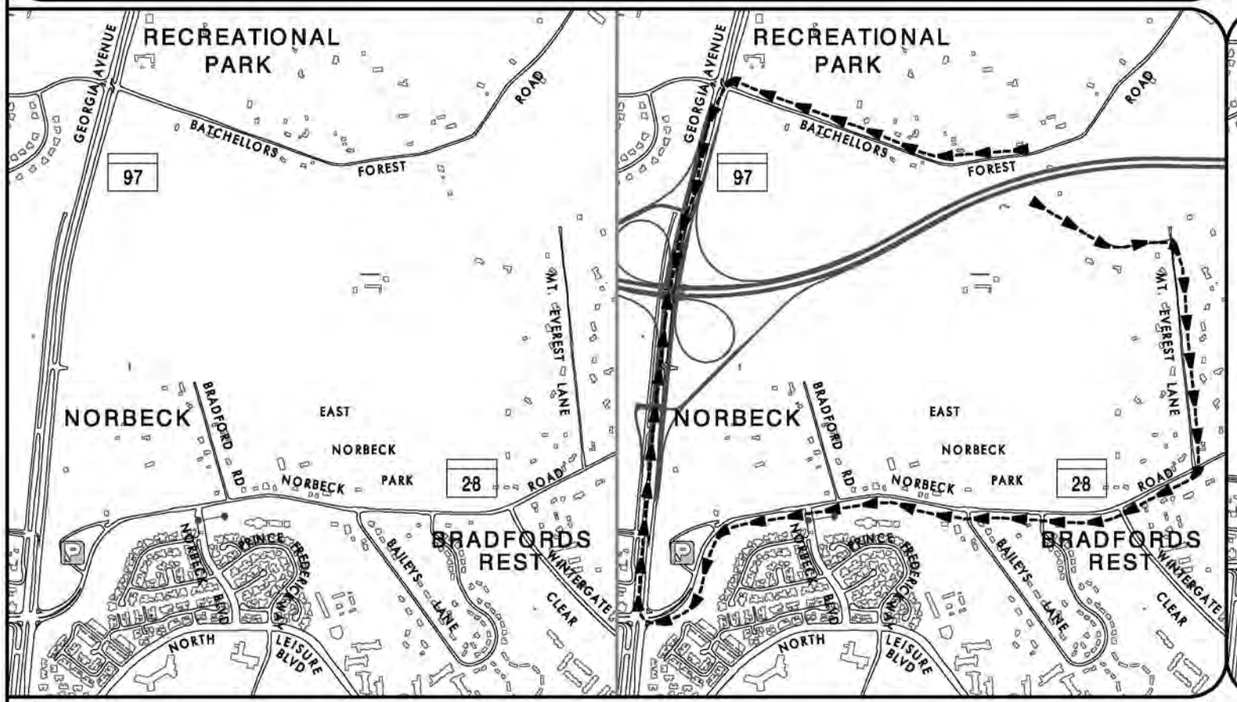
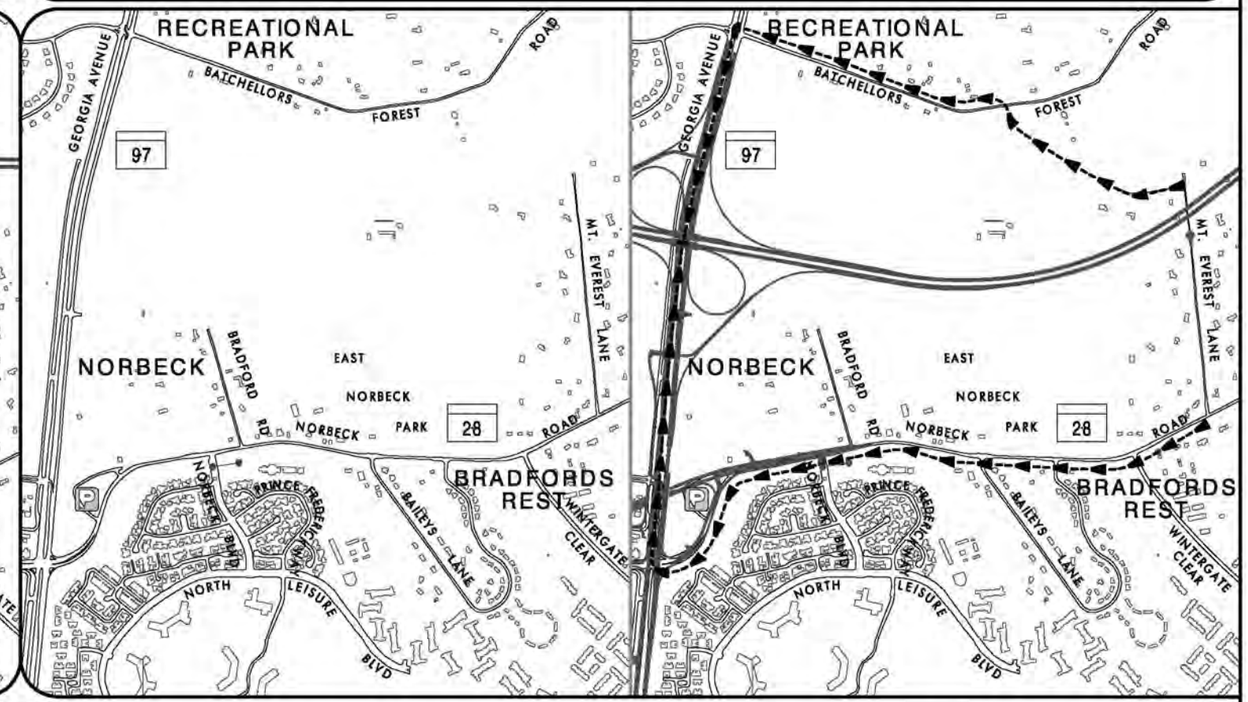
CORRIDOR 2 NORBECK OPT. B – PRIVATE ACCESS AT MT. EVEREST LN. MODIFIED

Existing | *Proposed*



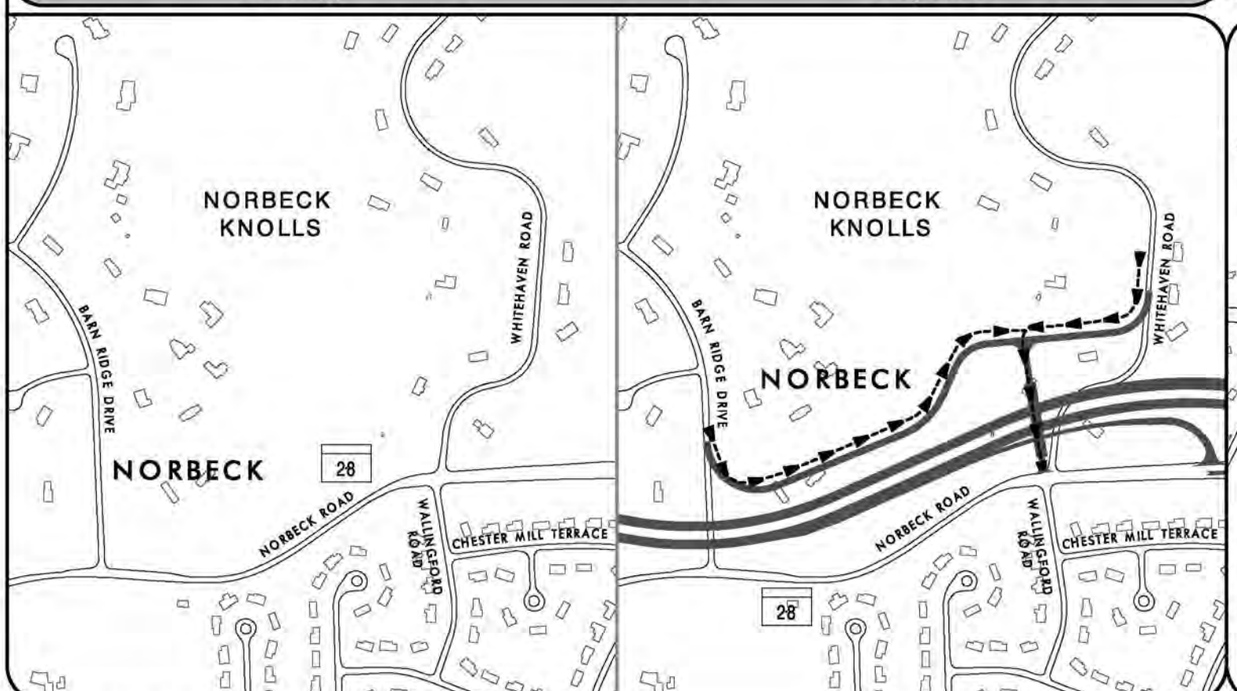
CORRIDOR 2 NORBECK OPT. A – PRIVATE ACCESS AT MT. EVEREST LN. MODIFIED

Existing | *Proposed*



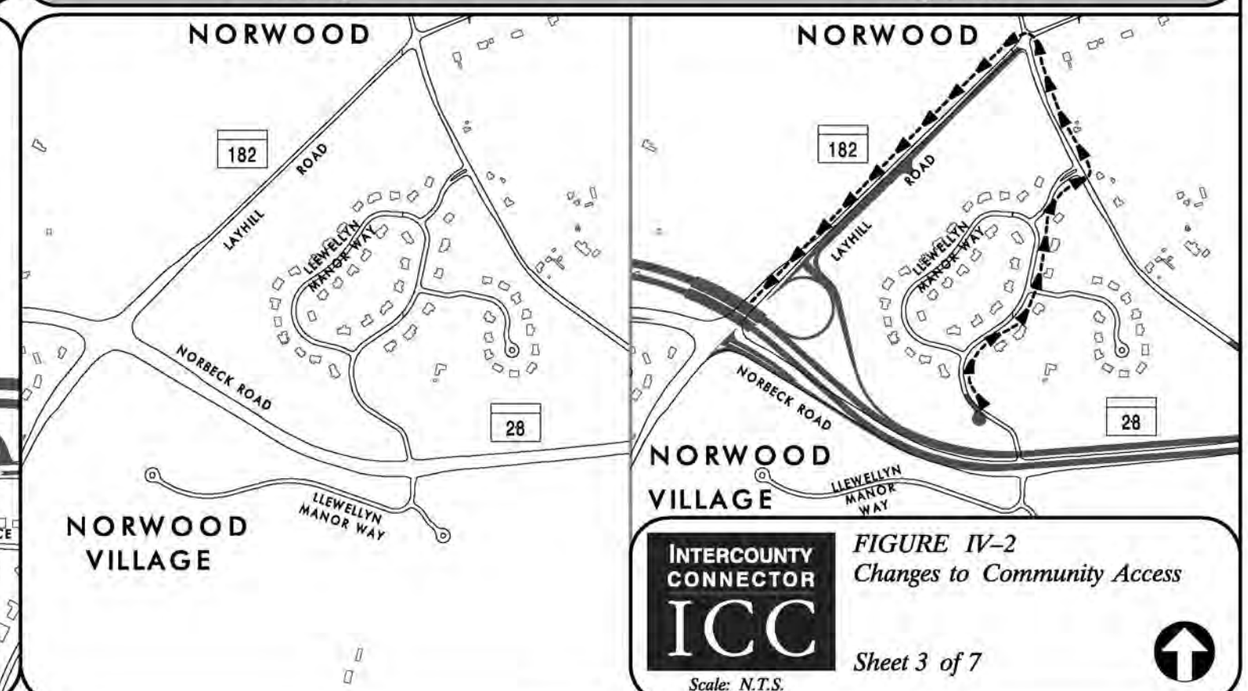
CORRIDOR 2 – BARN RIDGE RD & WHITEHAVEN RD MODIFIED

Existing | *Proposed*



CORRIDOR 2 – LLEWELLYN MANOR WAY MODIFIED

Existing | *Proposed*



INTERCOUNTY CONNECTOR ICC

Scale: N.T.S.

FIGURE IV–2
Changes to Community Access

Sheet 3 of 7

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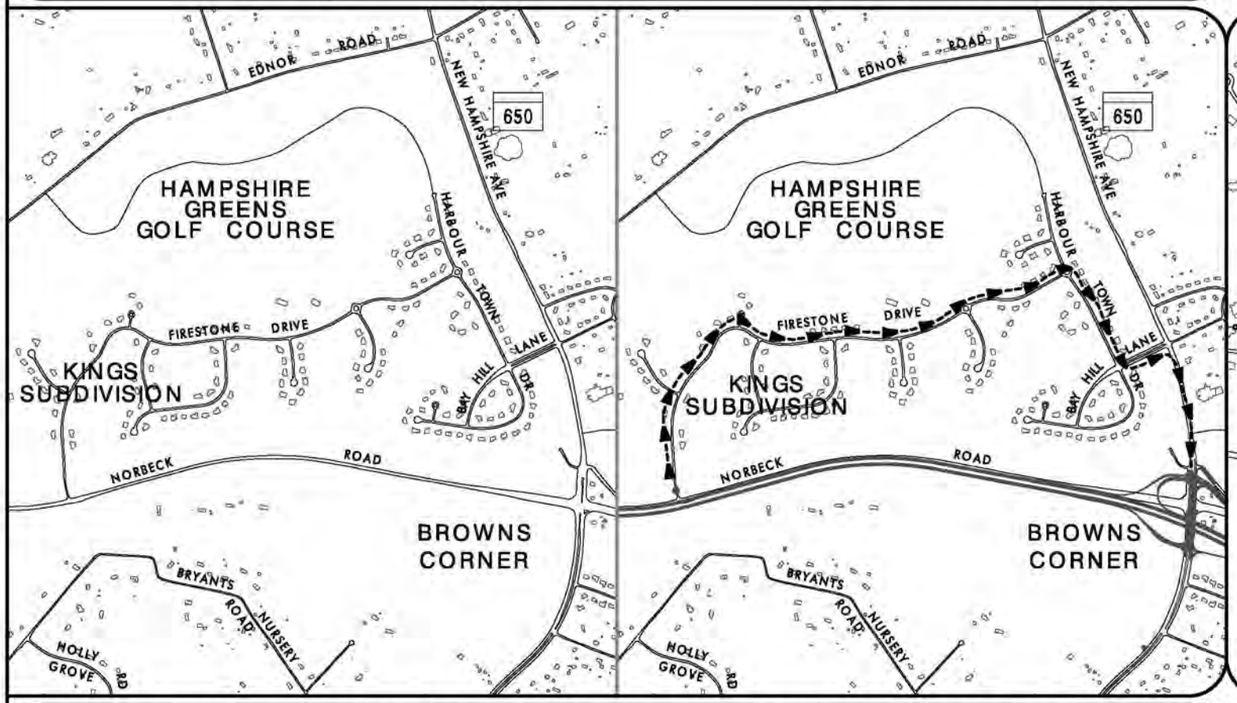
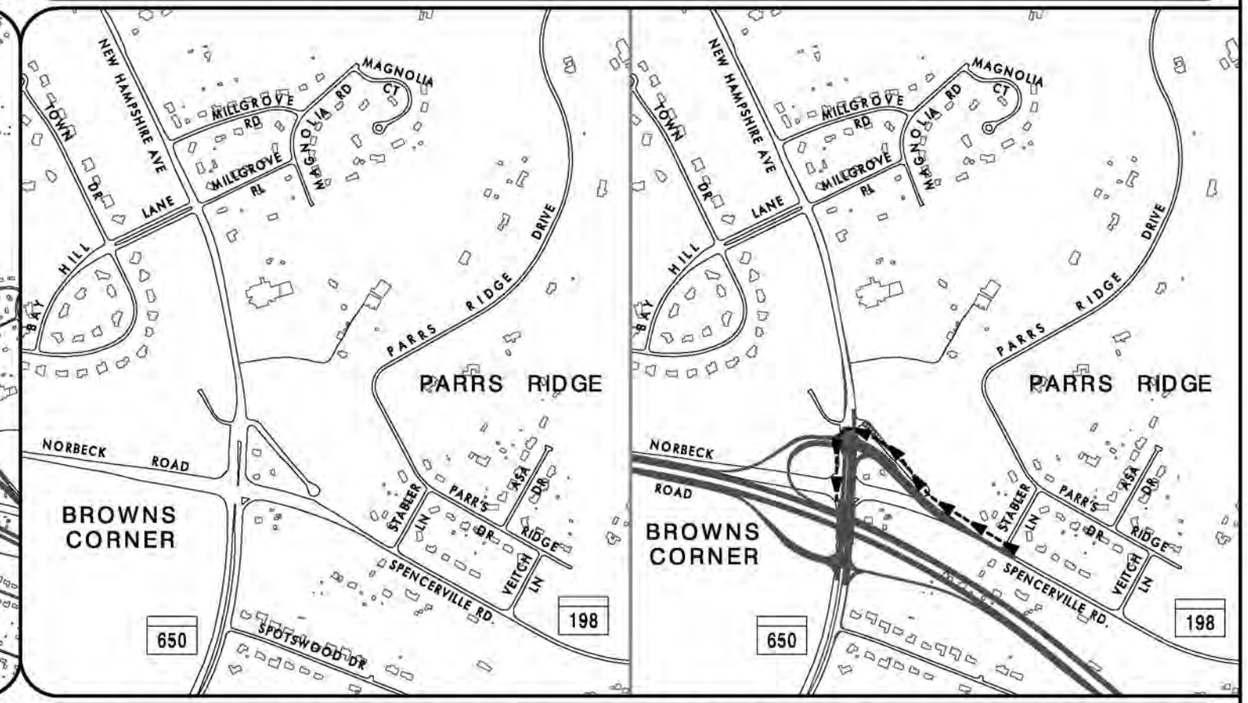
CORRIDOR 2 – FIRESTONE DRIVE MODIFIED

Existing | *Proposed*



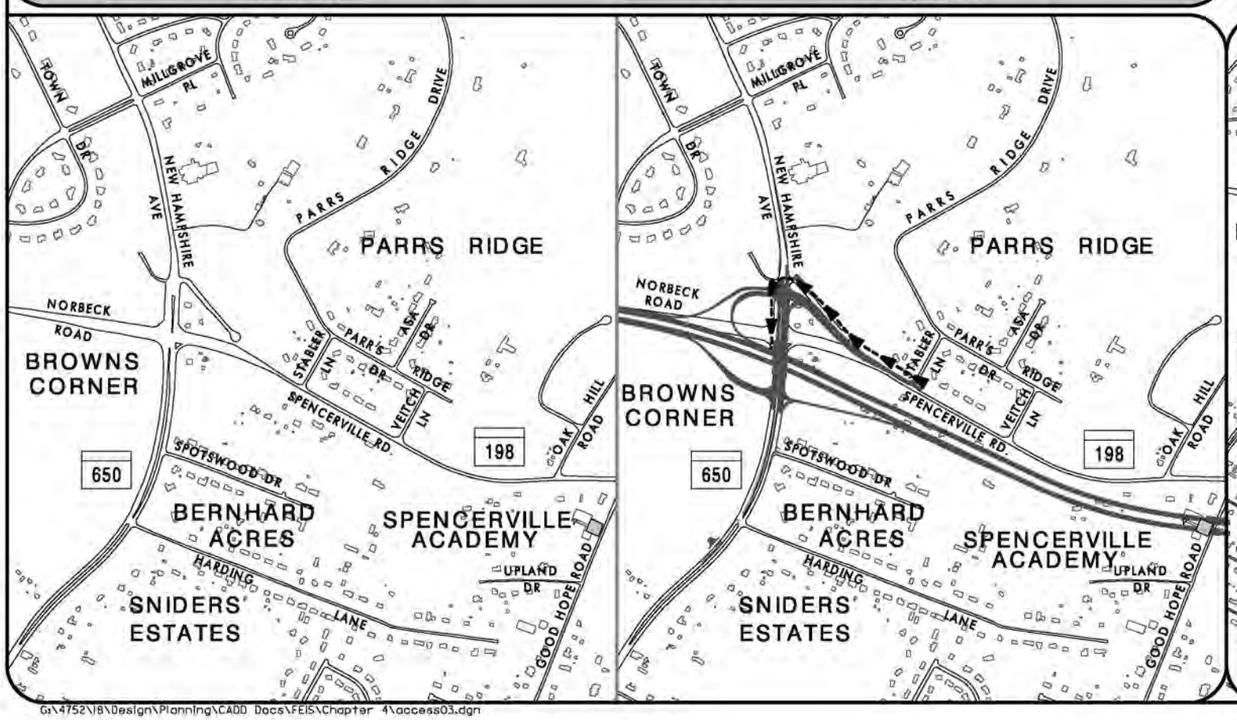
CORRIDOR 2 SPENCERVILLE OPTION A – SPENCERVILLE ROAD MODIFIED

Existing | *Proposed*



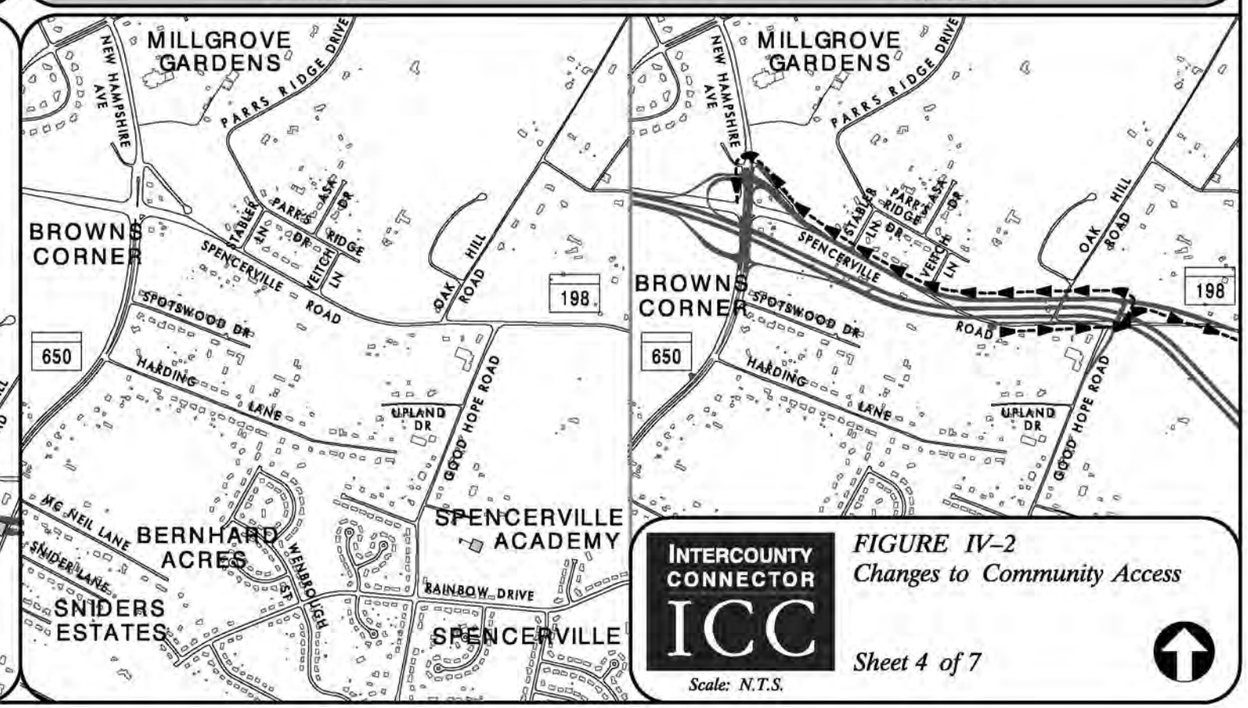
CORRIDOR 2 SPENCERVILLE OPTION B – SPENCERVILLE ROAD MODIFIED

Existing | *Proposed*



CORRIDOR 2 SPENCERVILLE OPT. C – SPENCERVILLE RD & PRIVATE ACCESS MOD

Existing | *Proposed*



INTERCOUNTY CONNECTOR ICC

FIGURE IV–2
Changes to Community Access

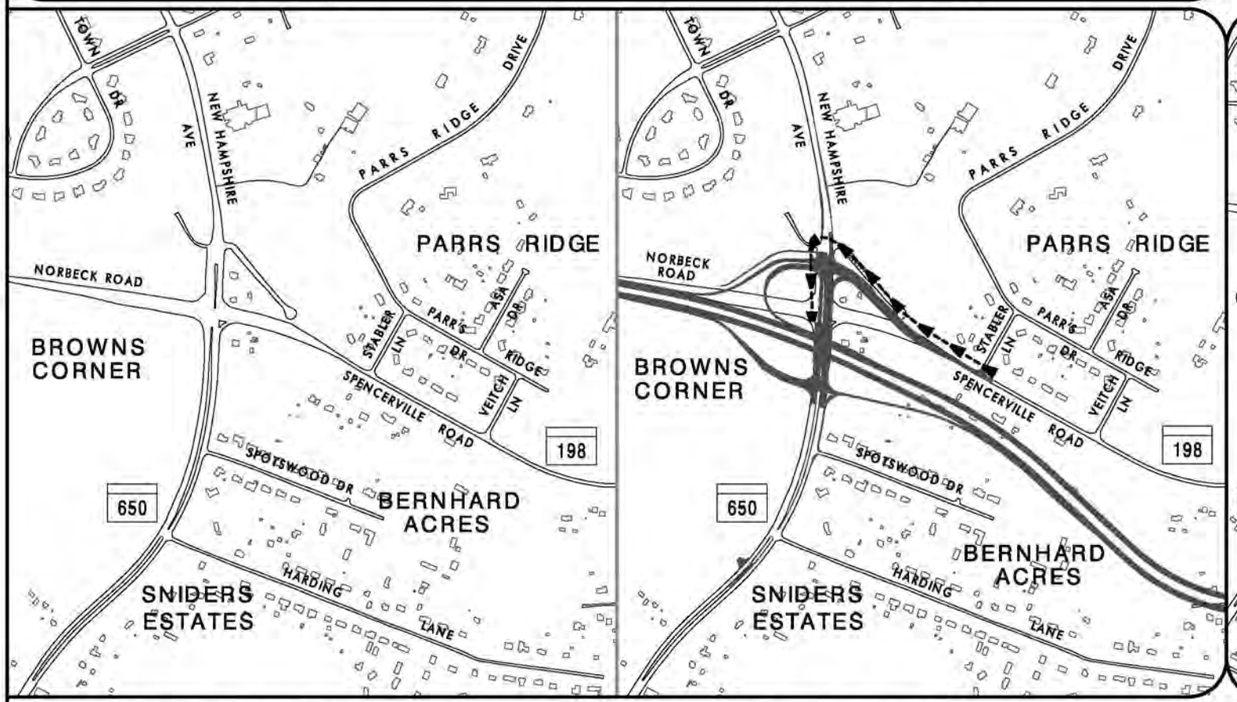
Sheet 4 of 7

Scale: N.T.S.

G:\4752\18\Design\Planning\CADD Docs\FEIS\Chapter 4\access03.dgn

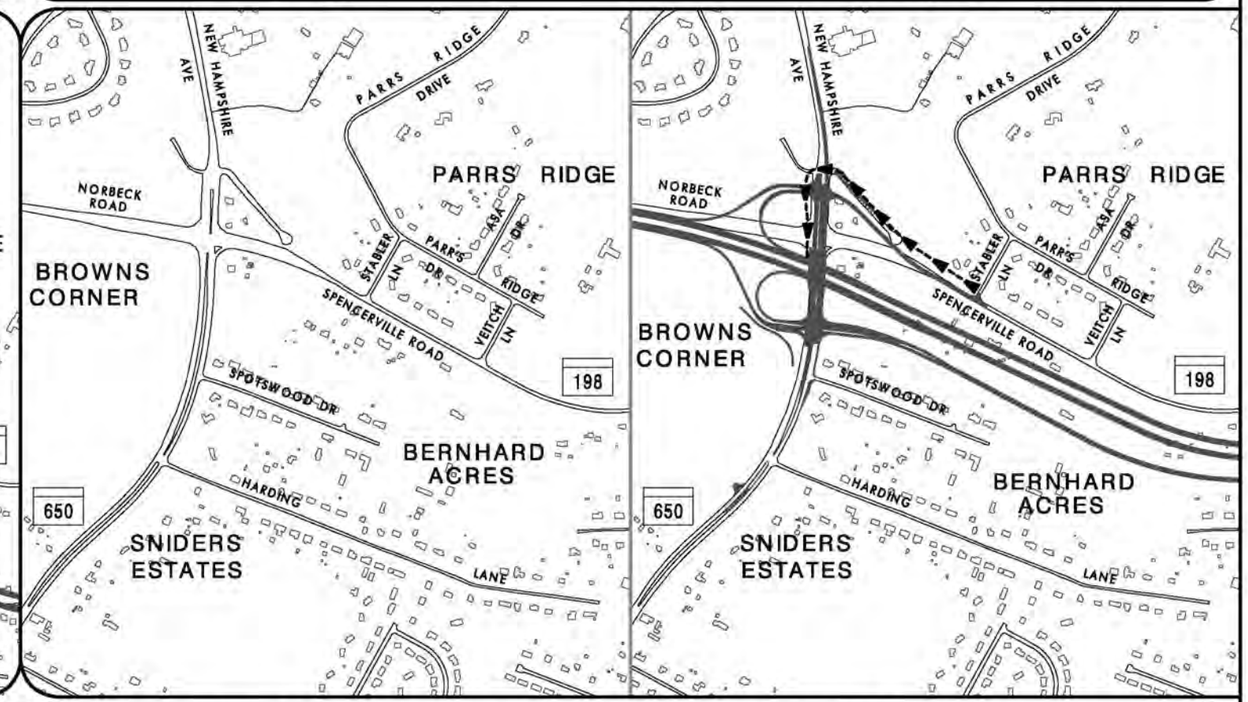
CORRIDOR 2 SPENCERVILLE OPTION A – SPENCERVILLE ROAD MODIFIED

Existing | *Proposed*



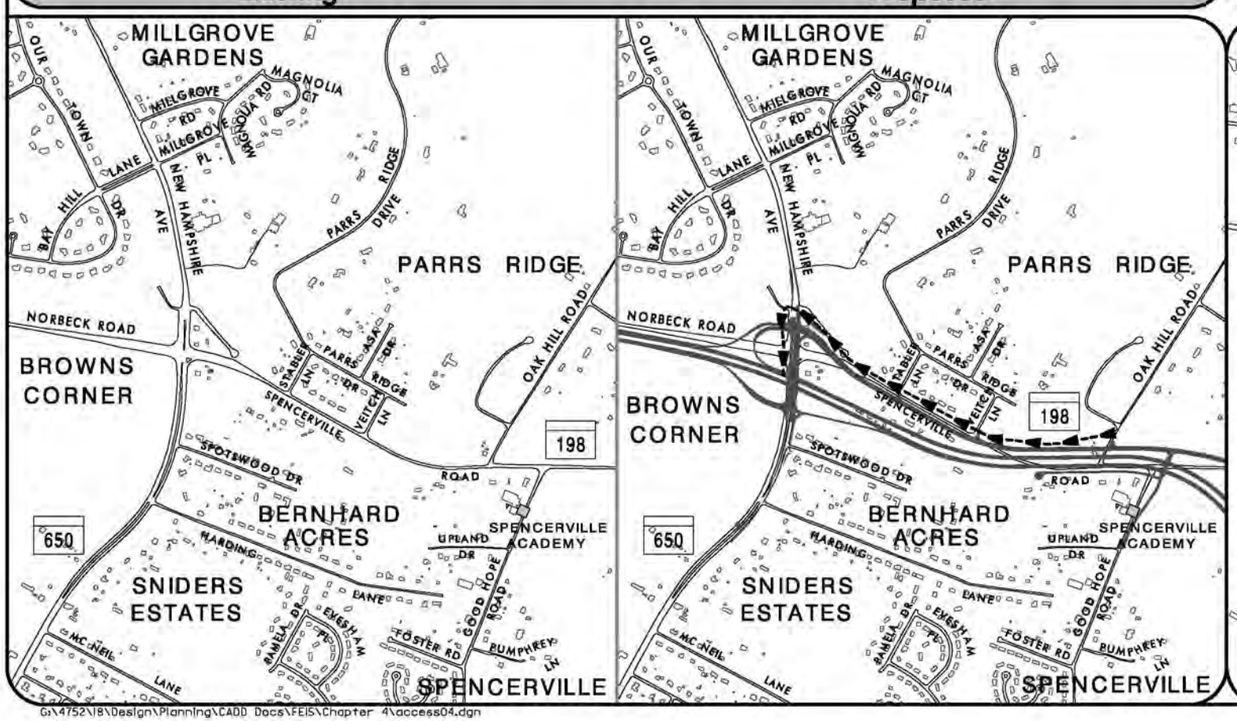
CORRIDOR 2 SPENCERVILLE OPTION B – SPENCERVILLE ROAD MODIFIED

Existing | *Proposed*



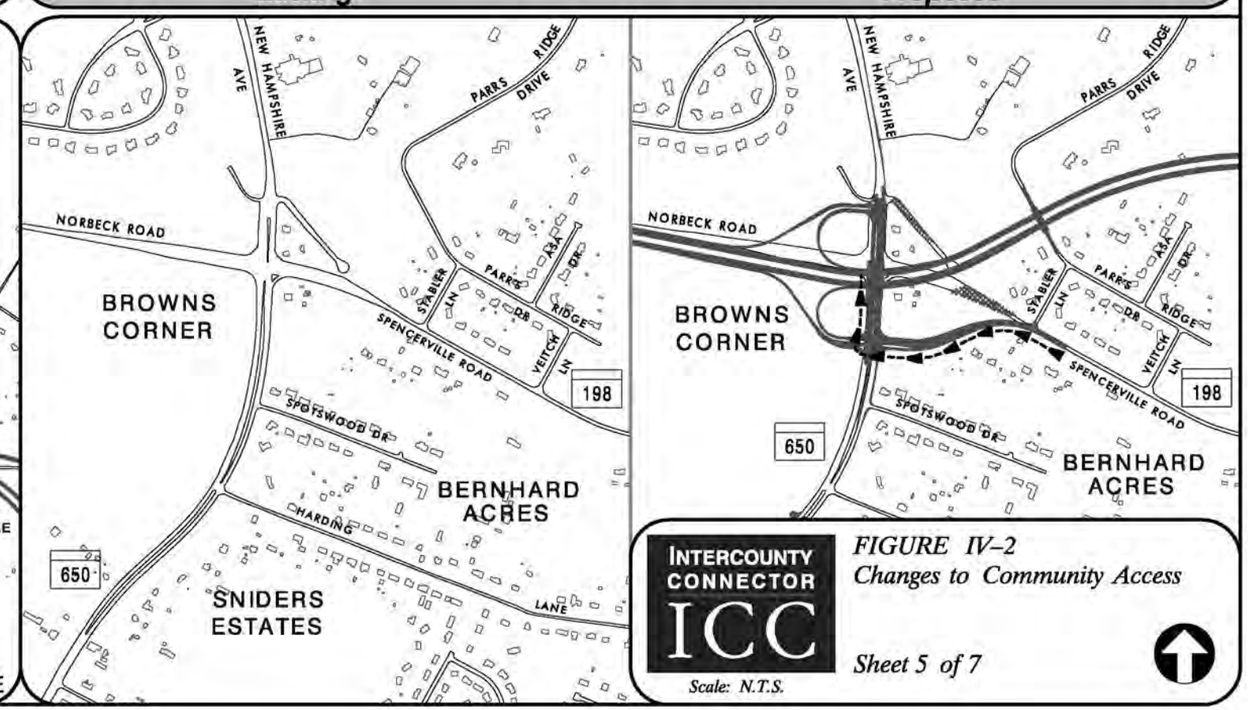
CORRIDOR 2 SPENCERVILLE OPT C – SPENCERVILLE RD & OAK HILL RD MOD

Existing | *Proposed*



CORRIDOR 2 SPENCERVILLE OPTION D – SPENCERVILLE ROAD MODIFIED

Existing | *Proposed*



INTERCOUNTY CONNECTOR ICC

FIGURE IV–2
Changes to Community Access

Sheet 5 of 7

Scale: N.T.S.

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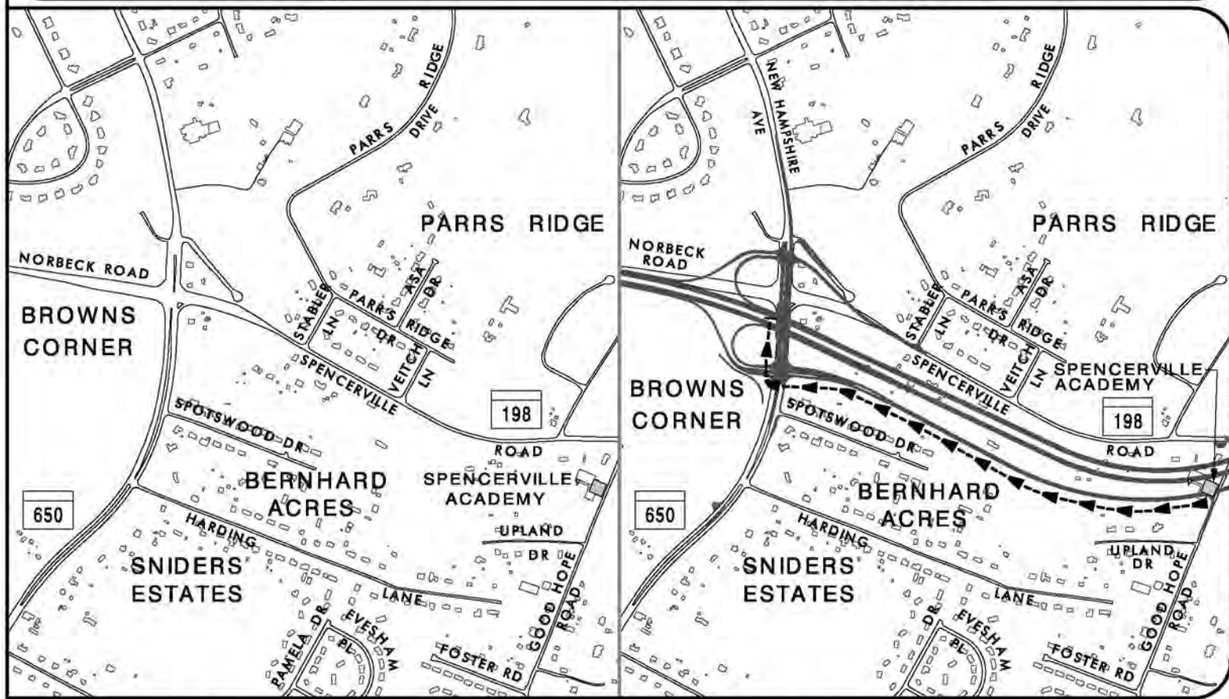
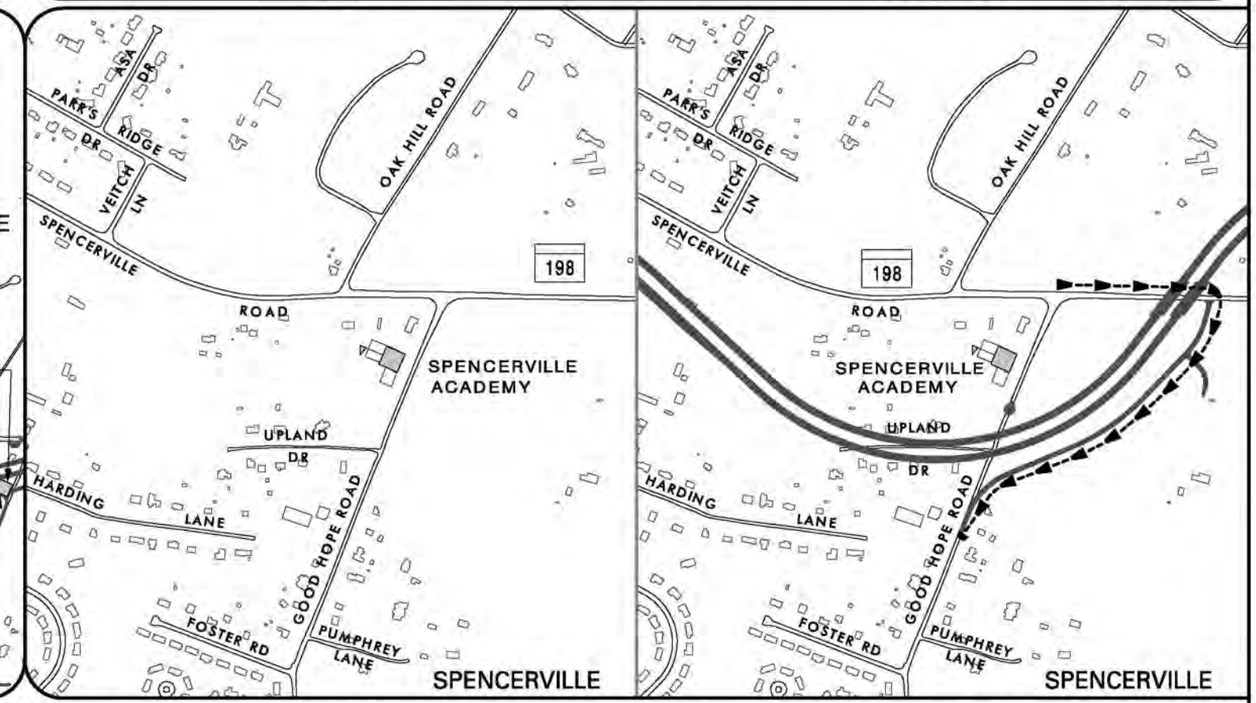
CORRIDOR 2 SPENCERVILLE OPTION C – MD 198 MODIFIED

Existing | *Proposed*



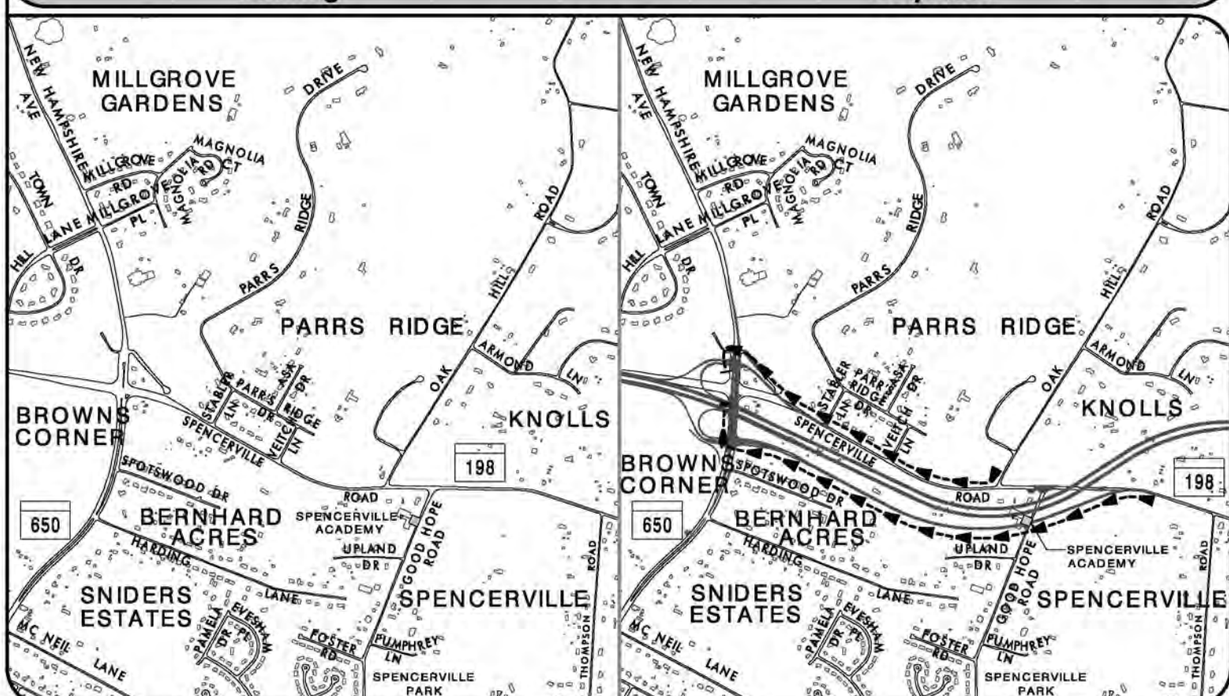
CORRIDOR 2 BURTONSVILLE OPT A – RELOCATED GOOD HOPE RD MOD

Existing | *Proposed*



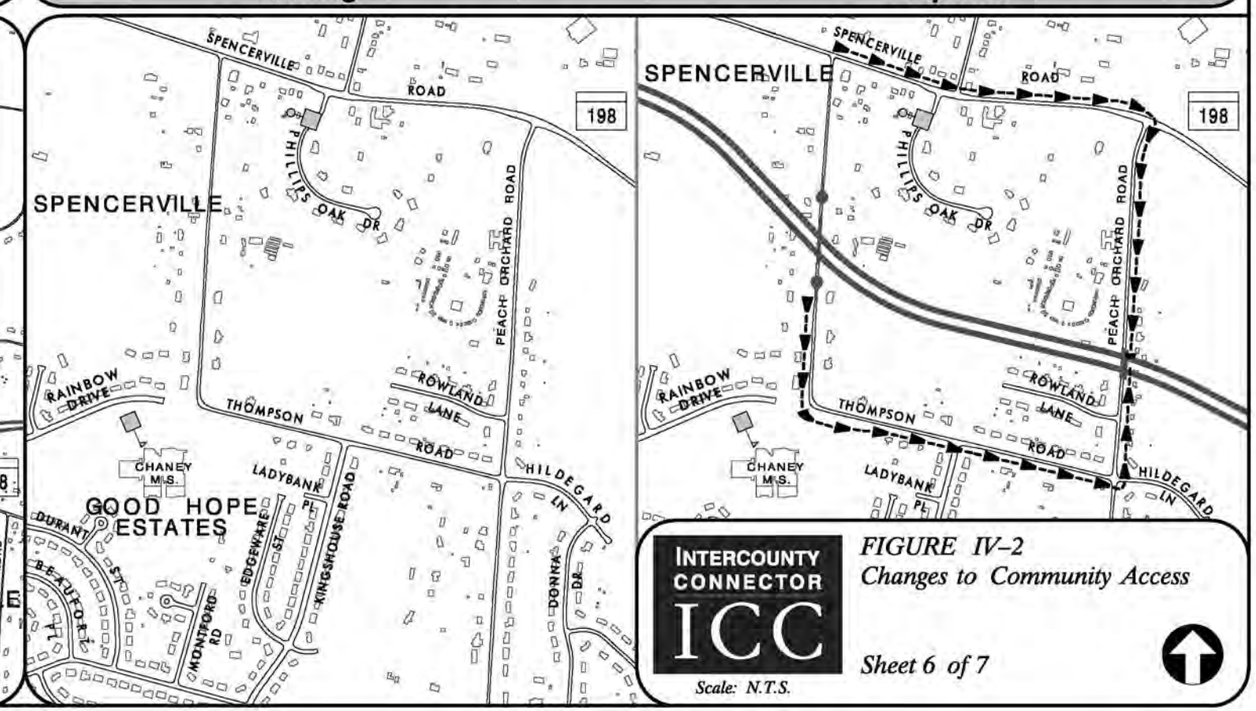
CORRIDOR 2 BURTONSVILLE OPT B – MD 198 & GOOD HOPE RD MOD

Existing | *Proposed*



CORRIDOR 2 BURTONSVILLE OPTION A – THOMPSON ROAD MODIFIED

Existing | *Proposed*



INTERCOUNTY CONNECTOR ICC

FIGURE IV–2
Changes to Community Access

Sheet 6 of 7

Scale: N.T.S.

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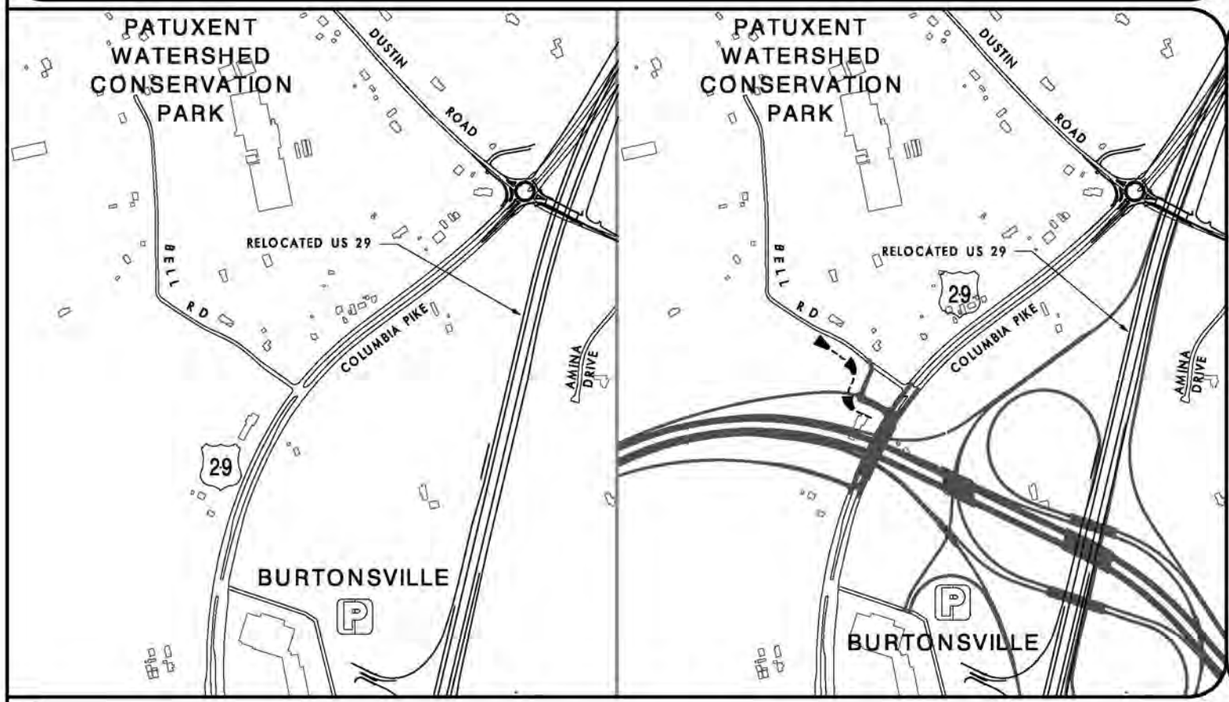
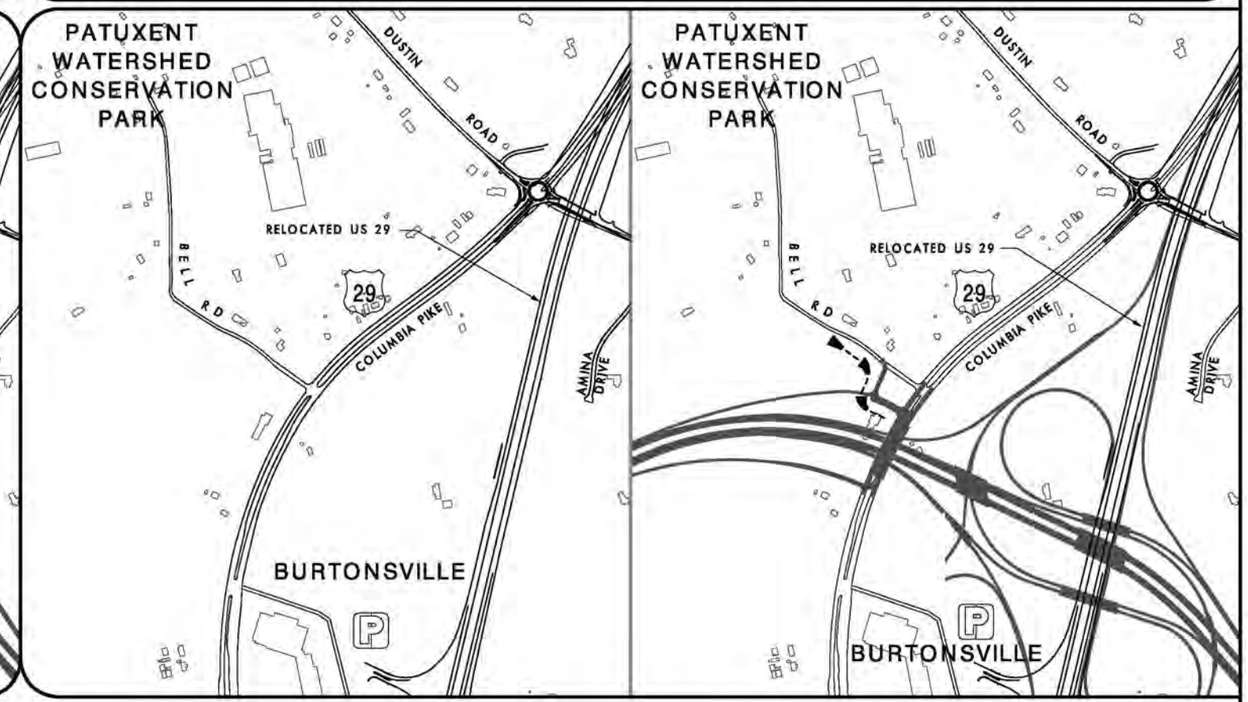
CORRIDOR 2 BURTONSVILLE OPTION A – BELL ROAD MODIFIED

Existing | *Proposed*



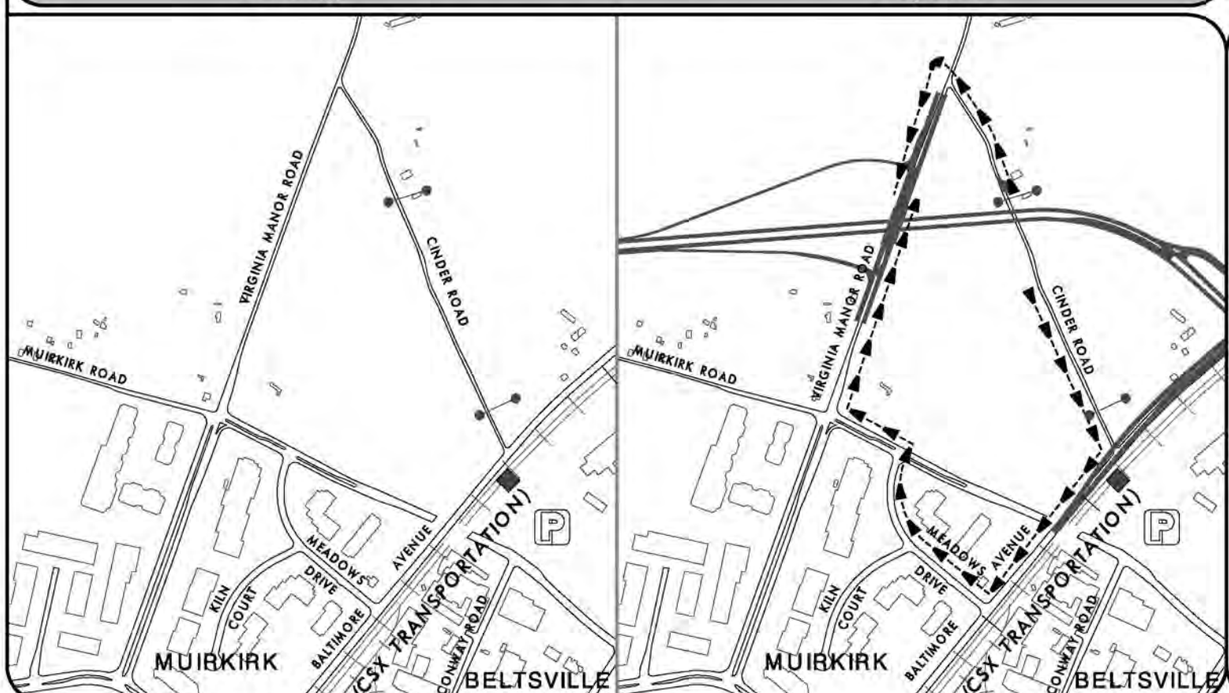
CORRIDOR 2 BURTONSVILLE OPTION A – BELL ROAD MODIFIED

Existing | *Proposed*



CORRIDOR 1 AND 2 – CINDER ROAD MODIFIED

Existing | *Proposed*



INTERCOUNTY CONNECTOR ICC

Scale: N.T.S.

FIGURE IV–2
Changes to Community Access

Sheet 7 of 7

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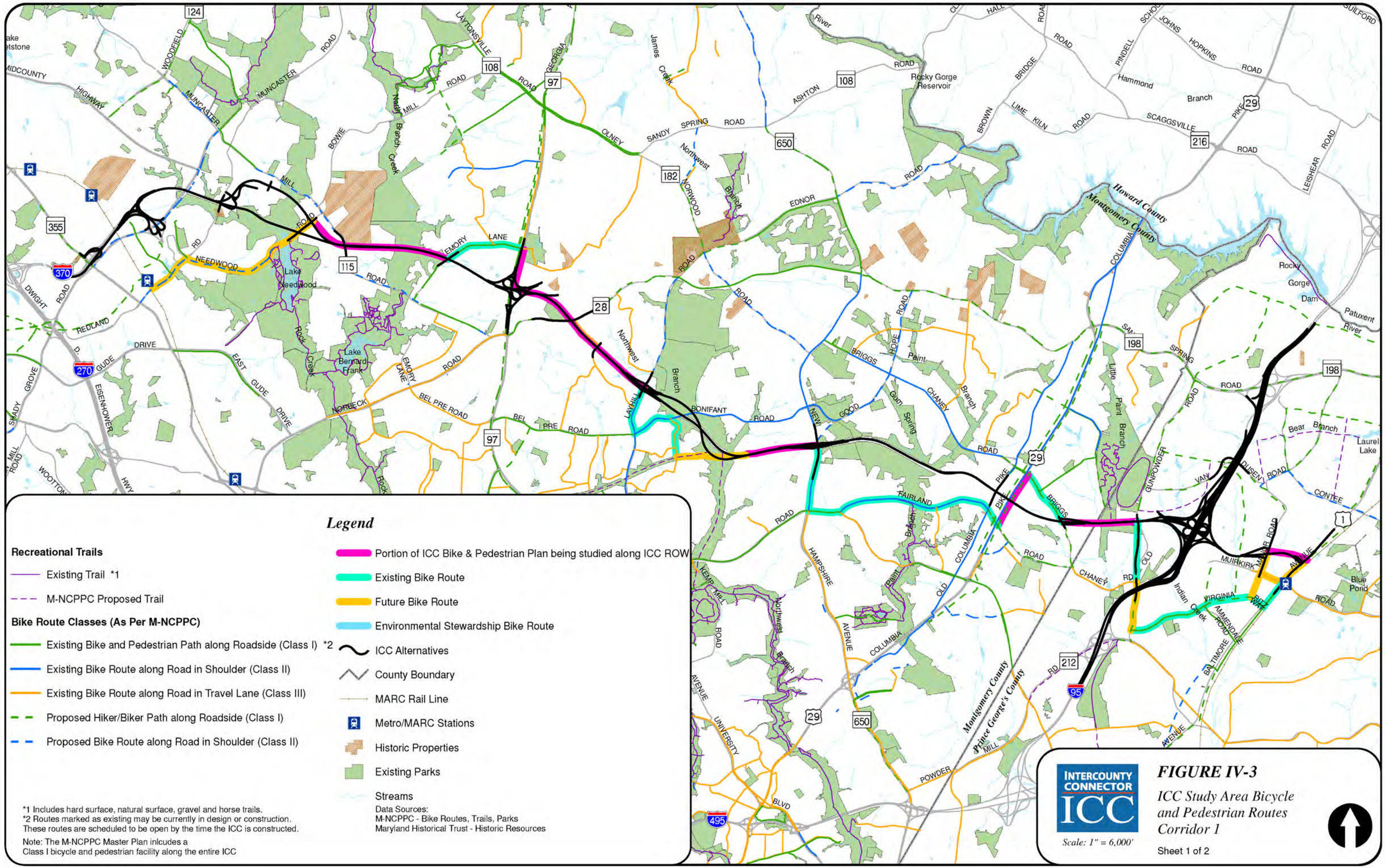


FIGURE IV-3

ICC Study Area Bicycle and Pedestrian Routes Corridor 1

G:\4752\18\GIS\Displays\bikeRoutes_fig_IV-3a.mxd

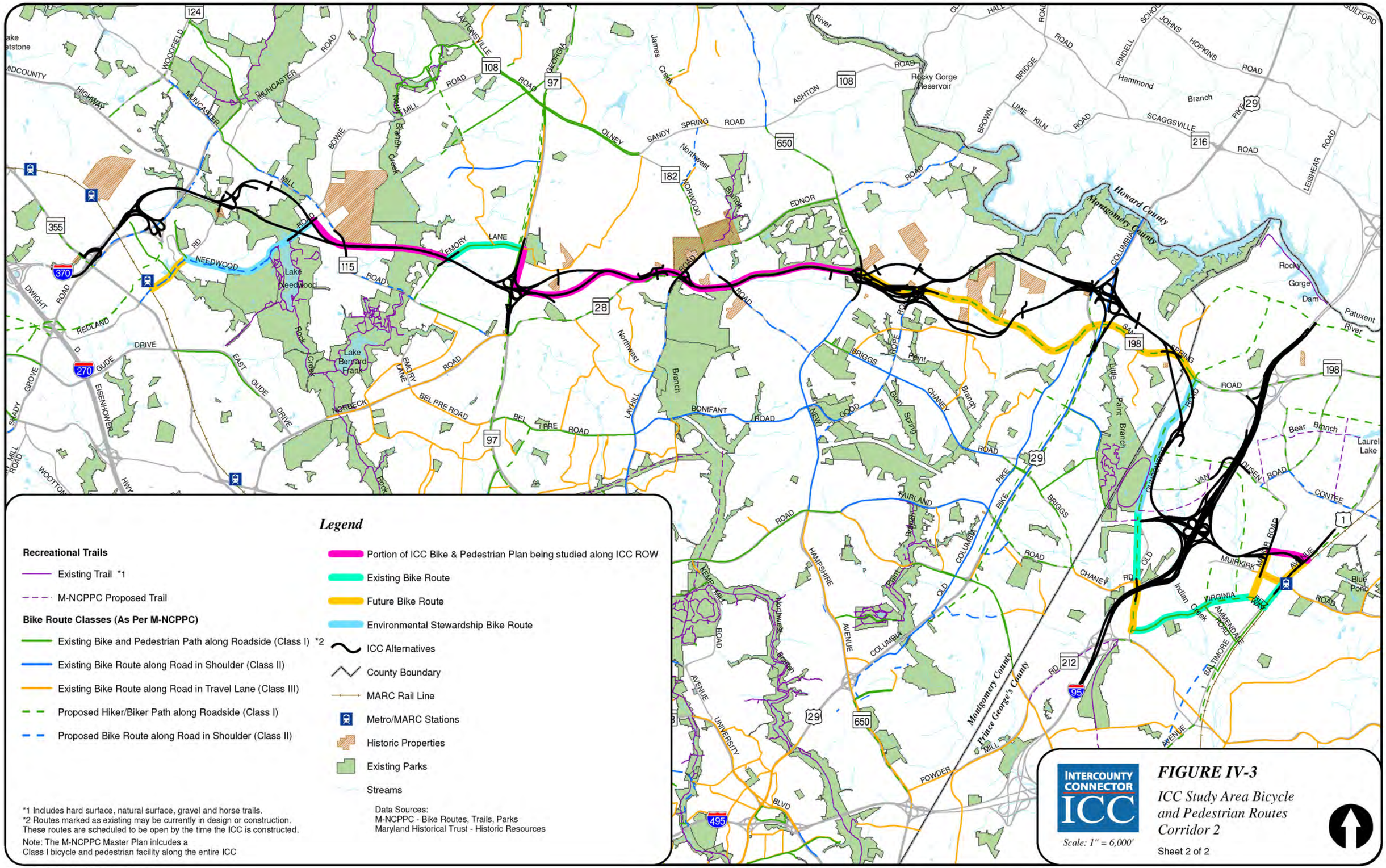


FIGURE IV-3

ICC Study Area Bicycle and Pedestrian Routes Corridor 2

G:\4752\18\GIS\Displays\bikeRoutes_fig_IV-3b.mxd

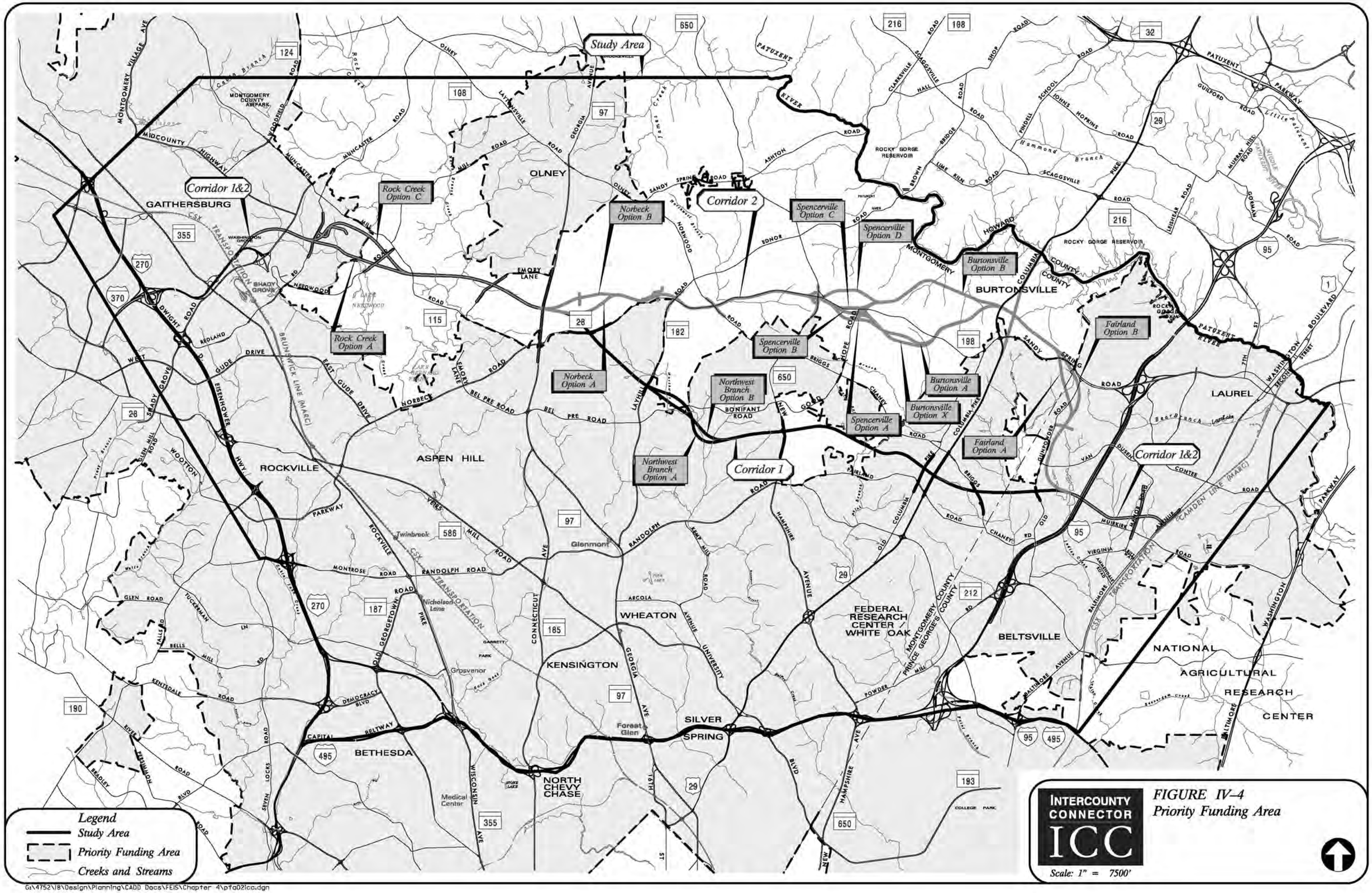
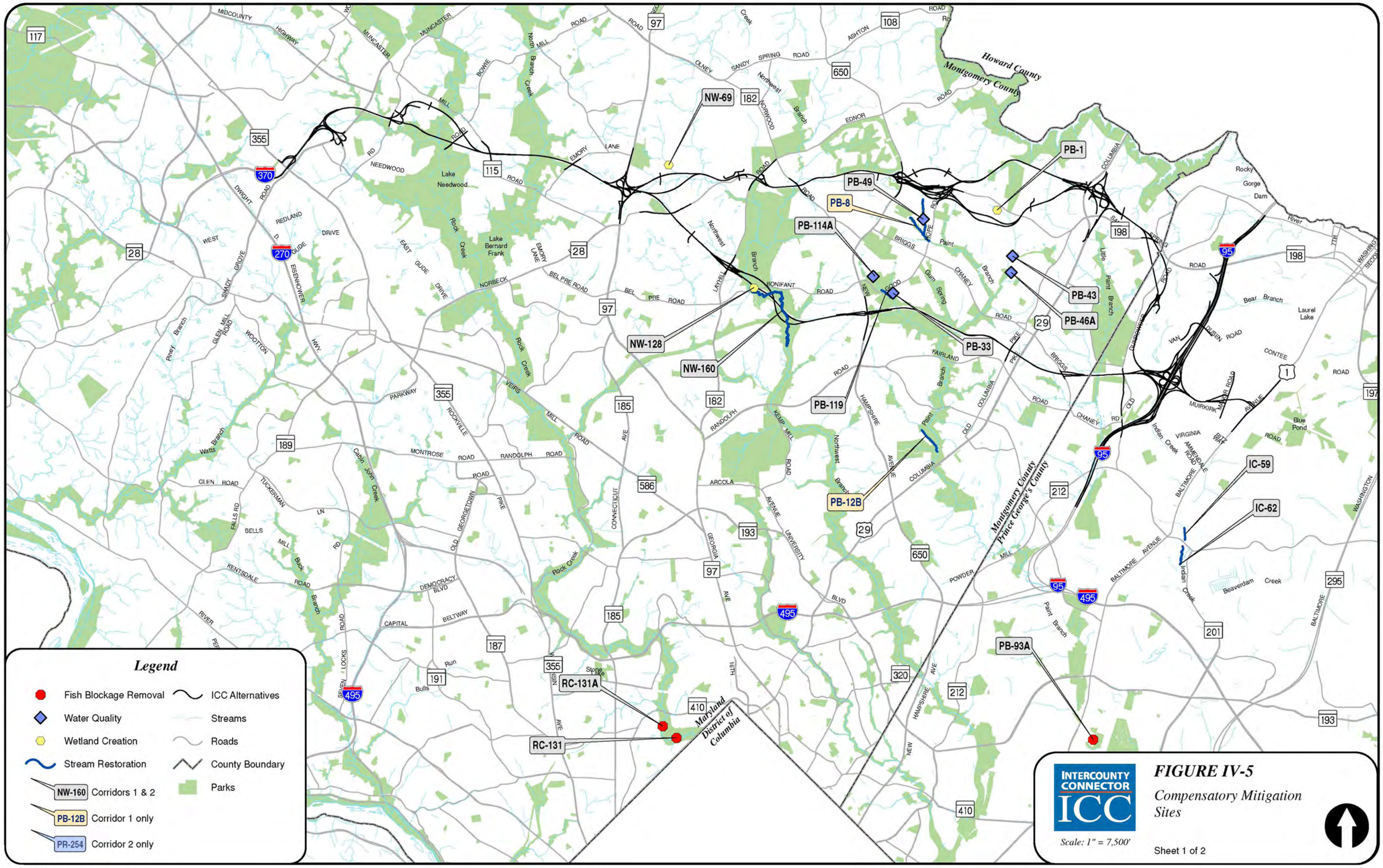
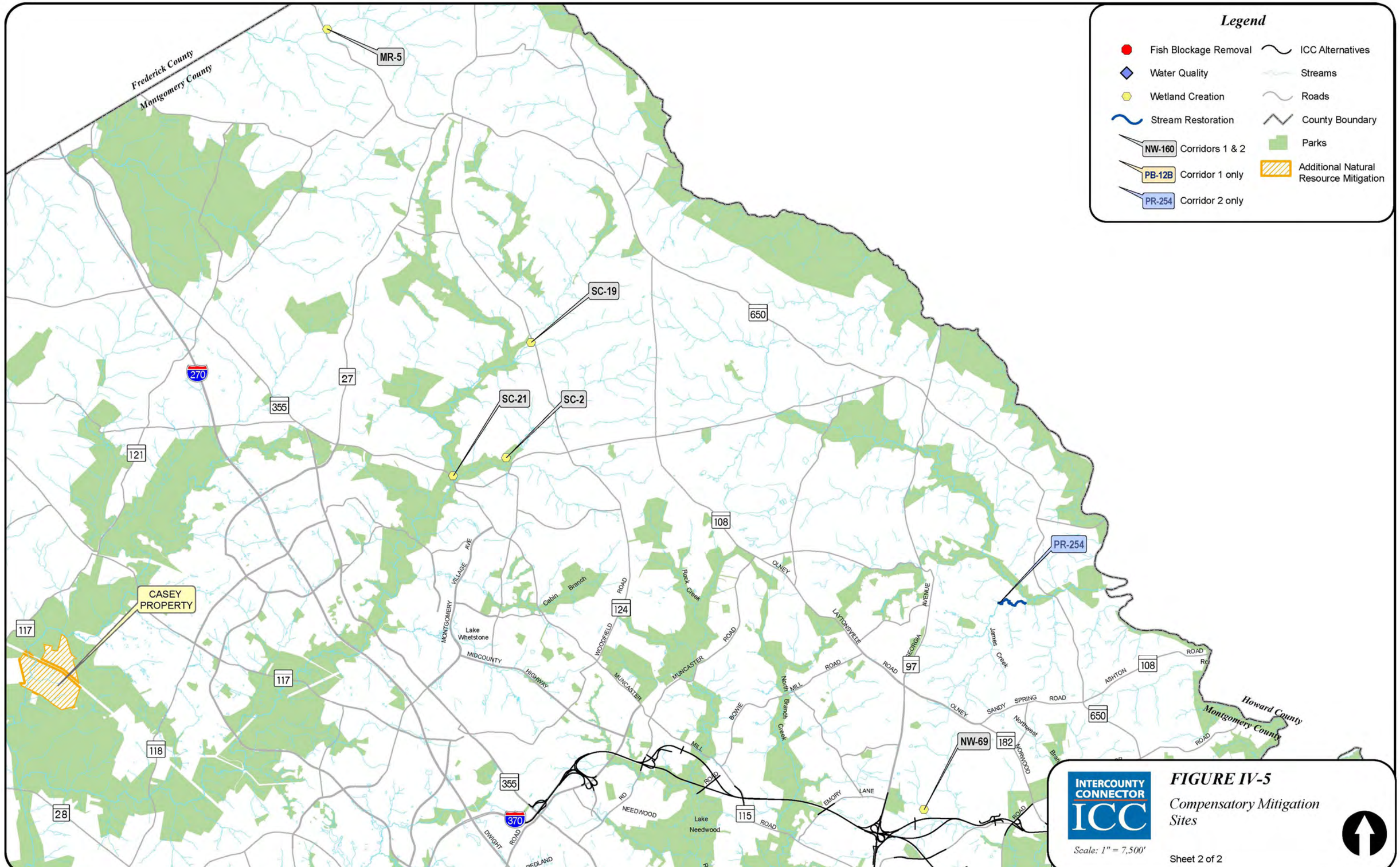


FIGURE IV–4
Priority Funding Area

G:\4752\18\Design\Planning\CADD Docs\FEIS\Chapter 4\pfa02icc.dgn



G:\4752\18\GIS\Display\CM_fig_IV-5a.mxd



INTERCOUNTY CONNECTOR ICC

Scale: 1" = 7,500'

FIGURE IV-5

Compensatory Mitigation Sites

Sheet 2 of 2

G:\4752\18\GIS\Display\CM_fig_IV-5b.mxd

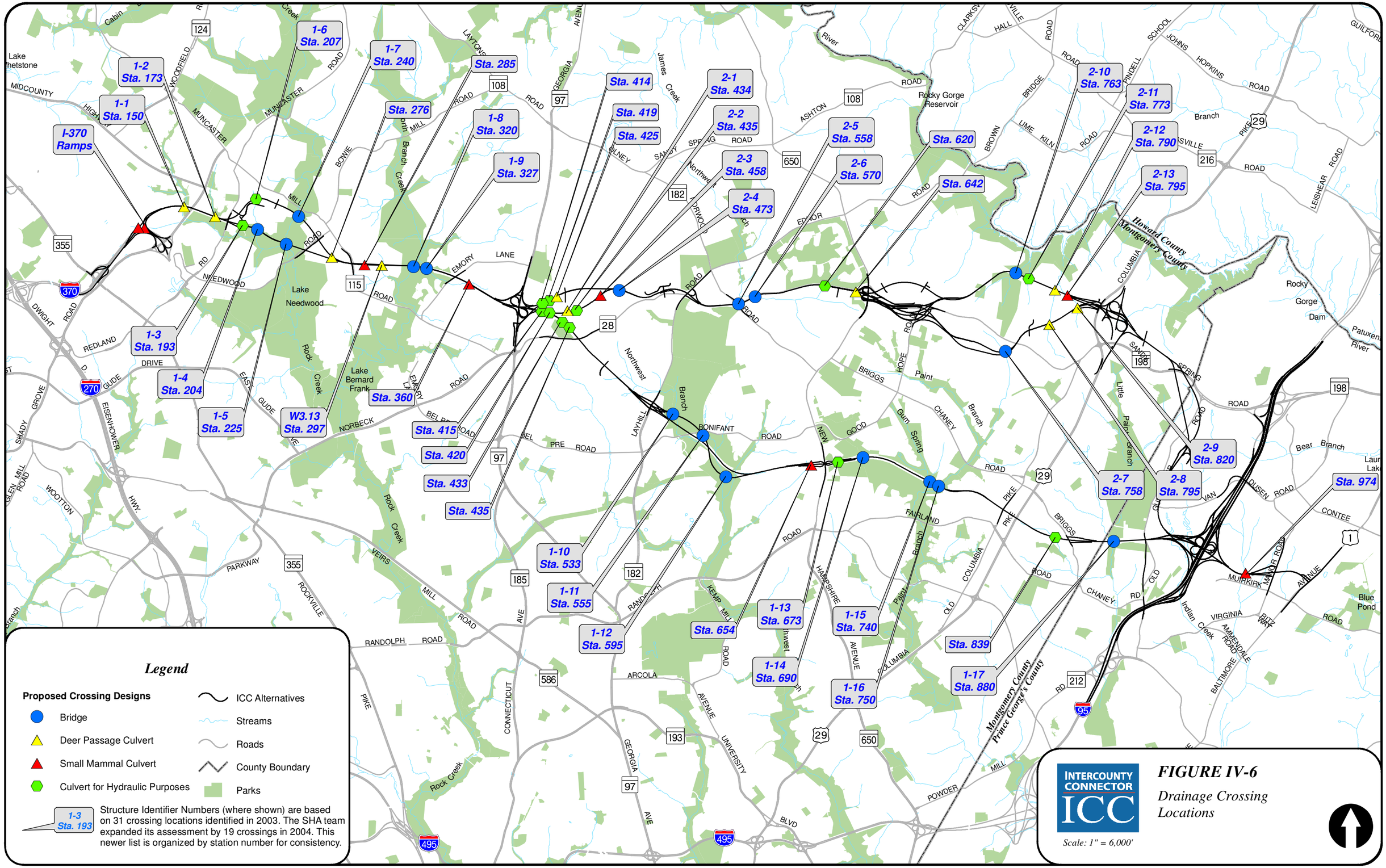


FIGURE IV-6

Drainage Crossing Locations

G:\4752\18\GIS\Display\drainageCross_fig_IV-6.mxd

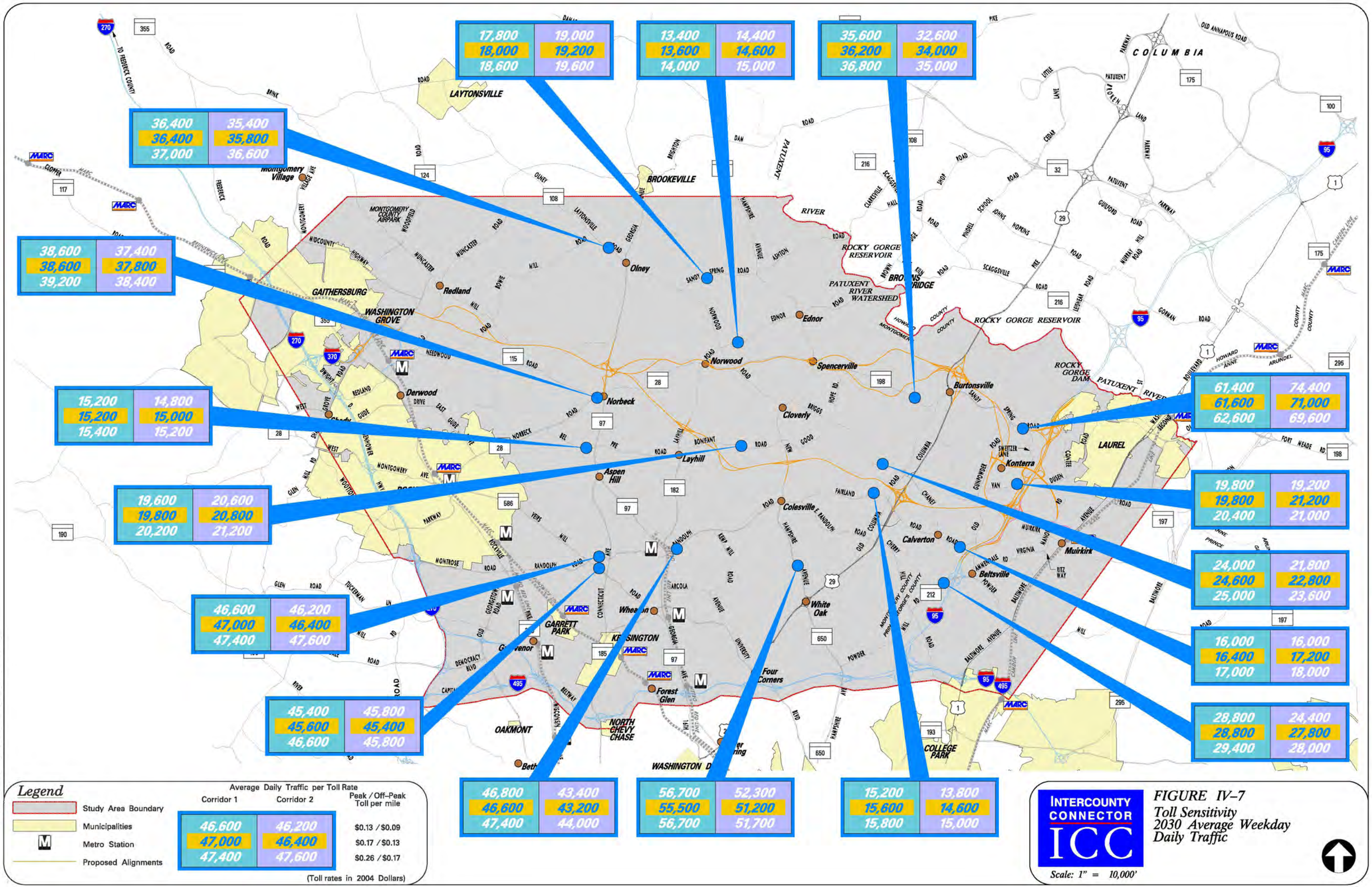


FIGURE IV–7
Toll Sensitivity
2030 Average Weekday
Daily Traffic

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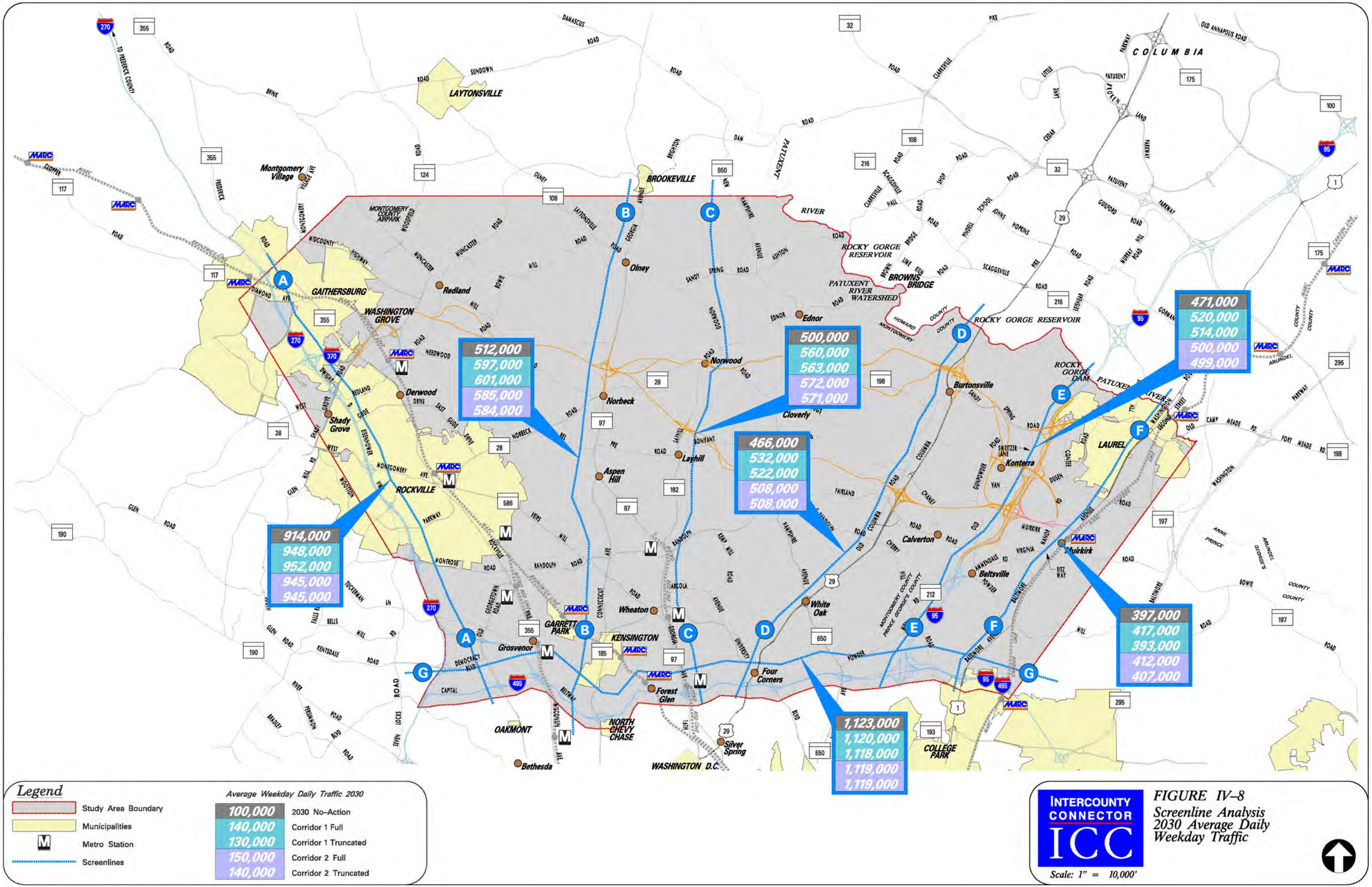
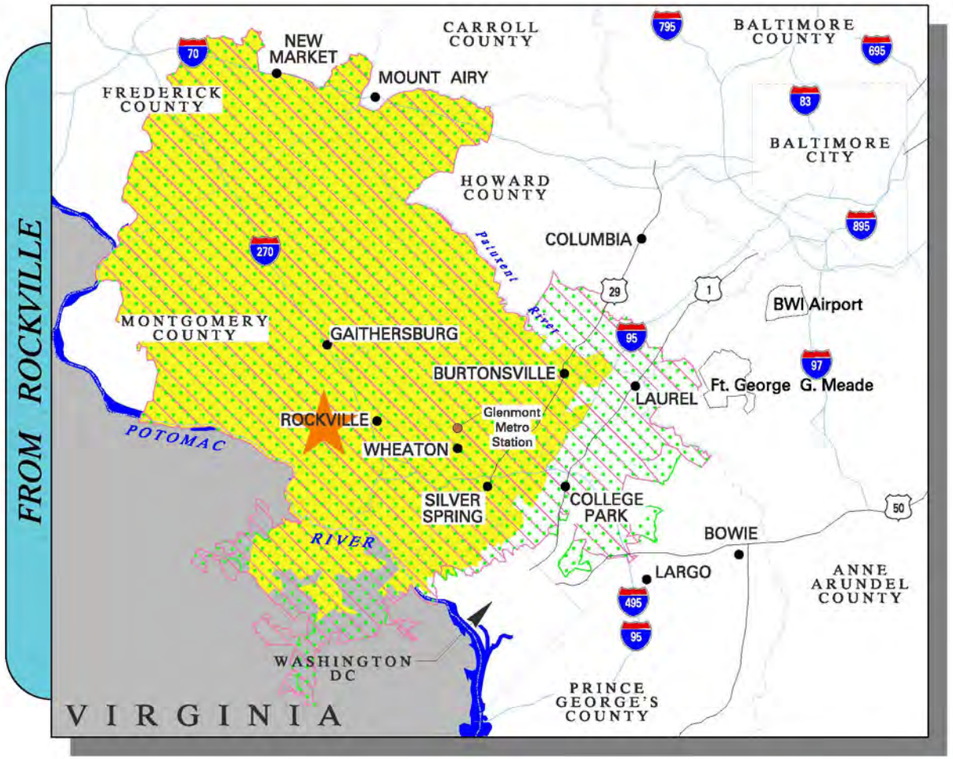
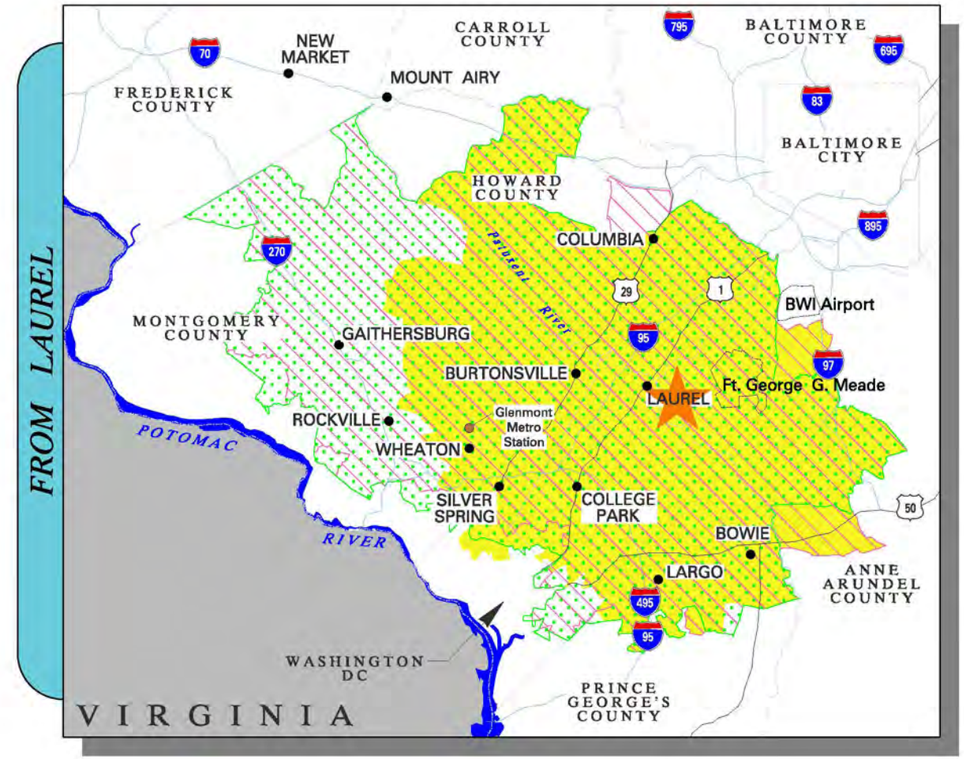
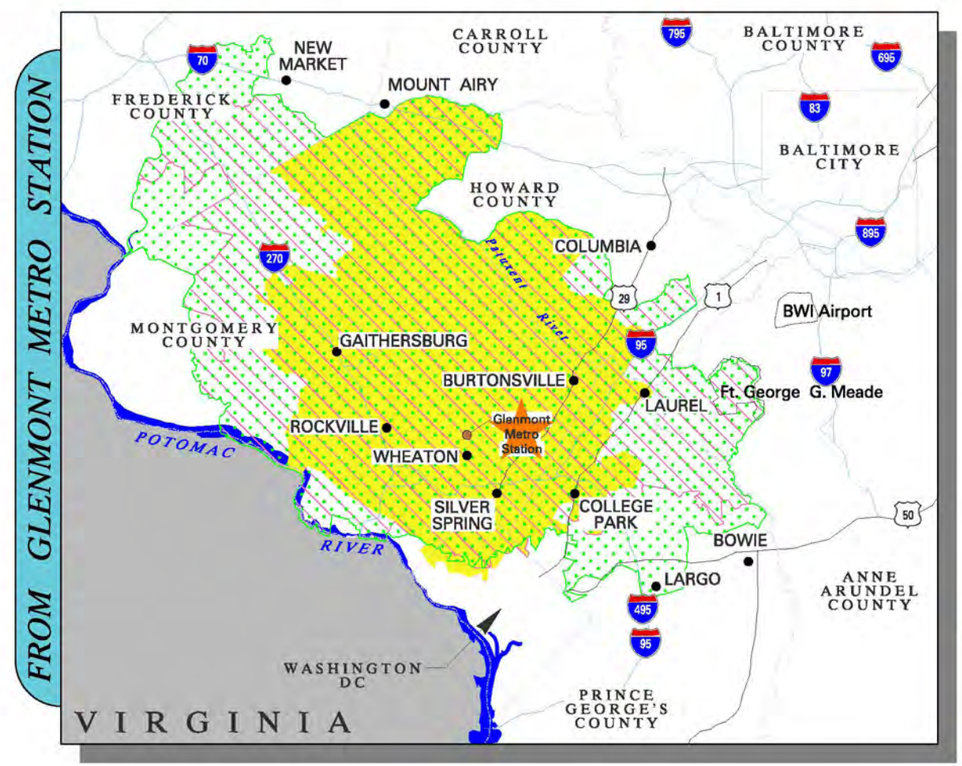


FIGURE IV–8
Screenline Analysis
2030 Average Daily
Weekday Traffic







2030 Accessibility Comparison

	No–Action	Corridor 1	Corridor 2
Total Number of Job Opportunities Within 45 Minutes Reachable By Study Area Households	585,640	741,584	692,282

Legend

Center of Accessibility Area

Areas Reachable from Centroid Within 45 minutes (in 2030 AM Peak Hour)

- No–Action
- Corridor 1
- Corridor 2

5 0 5 10
SCALE IN MILES

INTERCOUNTY CONNECTOR ICC

FIGURE IV–9
Comparison of Accessibility to Jobs Reachable Within 45 Minutes (2030 AM Peak Period)

Scale: 1"=50,000'

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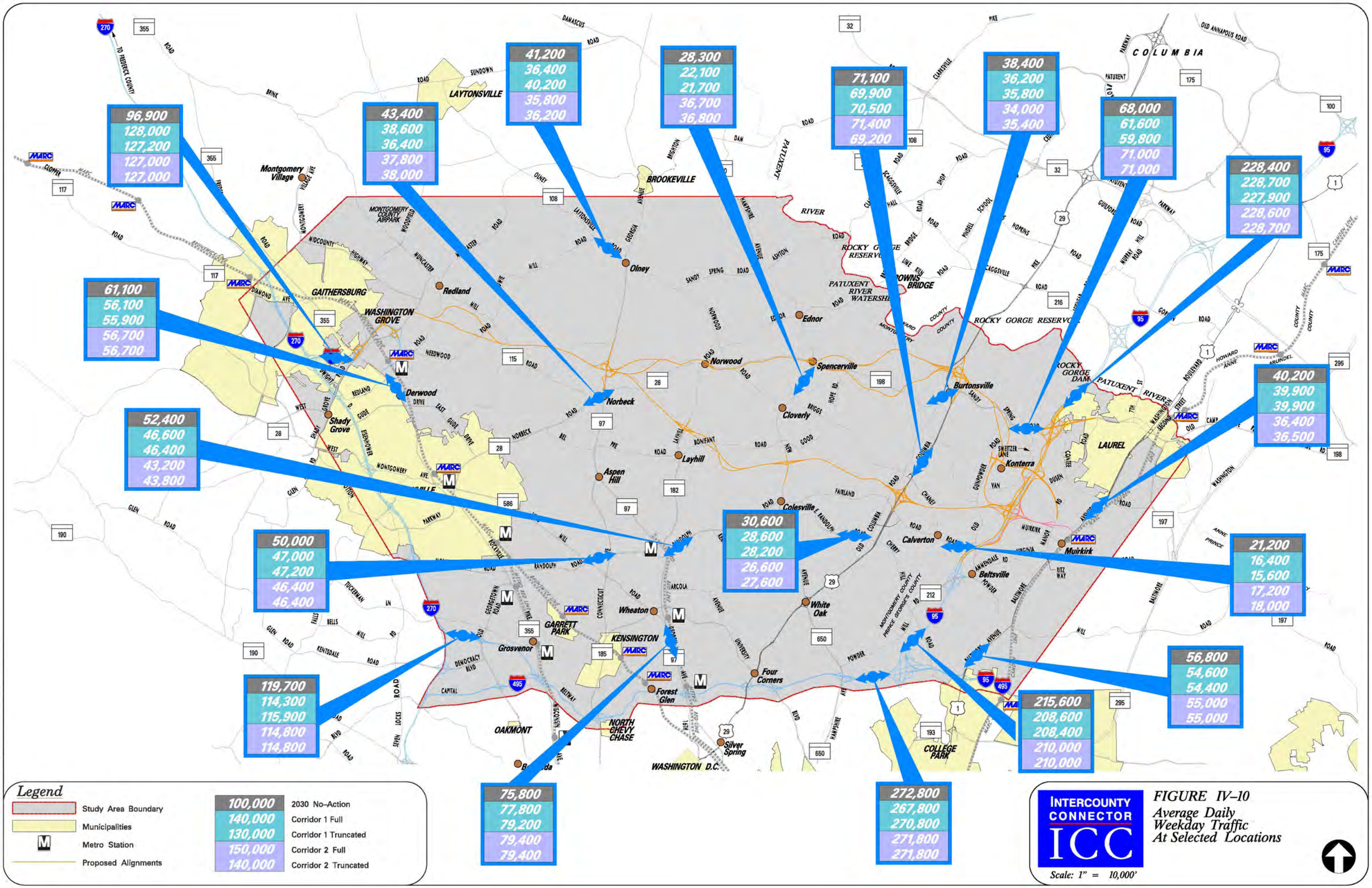
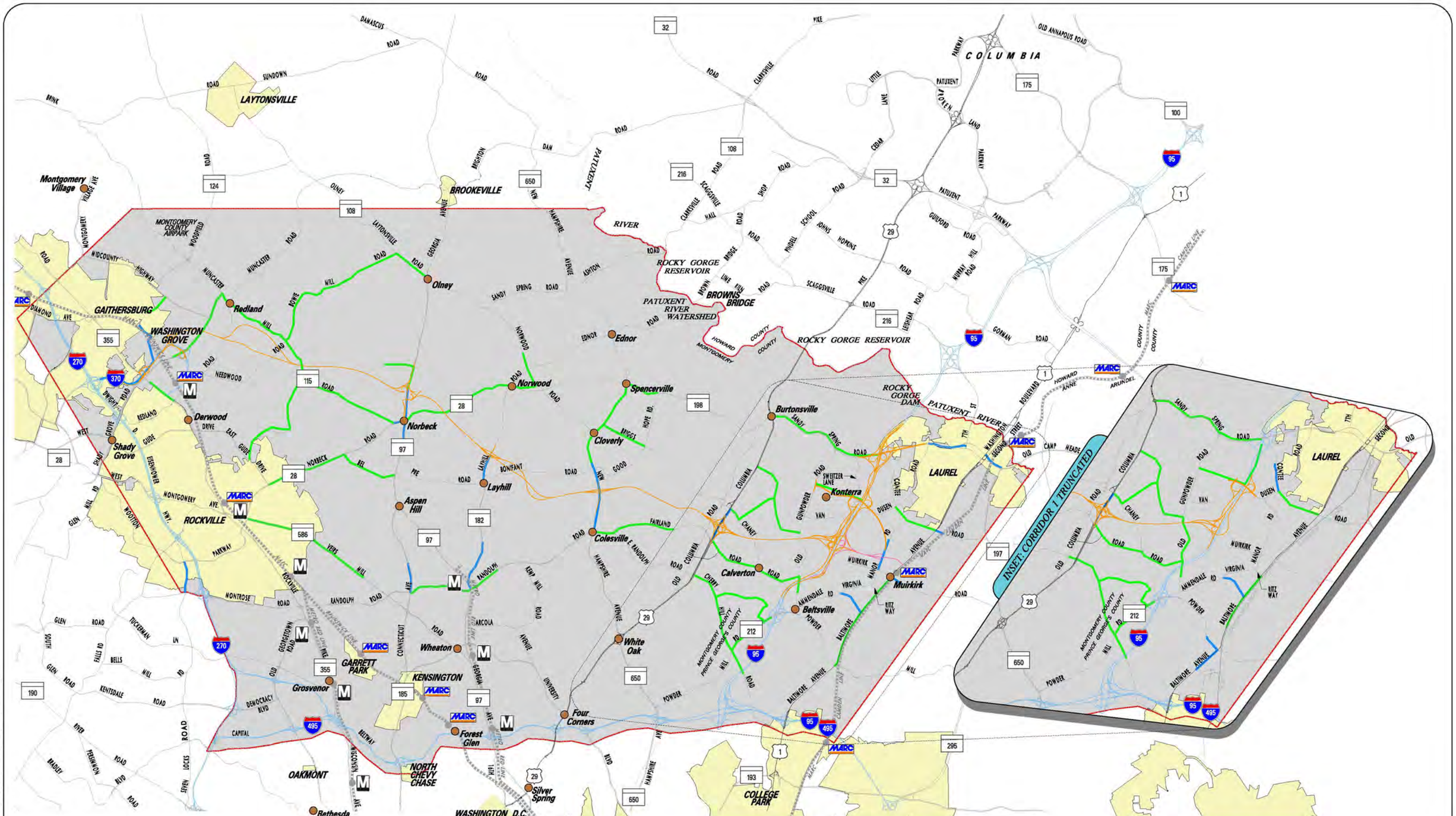


O:\20828666\CAD\Figures-Report\FEIS\FEIS-Fig4-10icc.dgn



Legend

- Study Area Boundary
- Municipalities
- Metro Station
- Corridor 1 Alignment
- ADT Decreases more than 10% (Compared to No-Action)
- ADT Increases more than 10% (Compared to No-Action)

INTERCOUNTY CONNECTOR ICC

FIGURE IV-11
Changes in 2030 Average Daily Weekday Traffic Corridor 1 / No-Action

Scale: 1" = 10,000'

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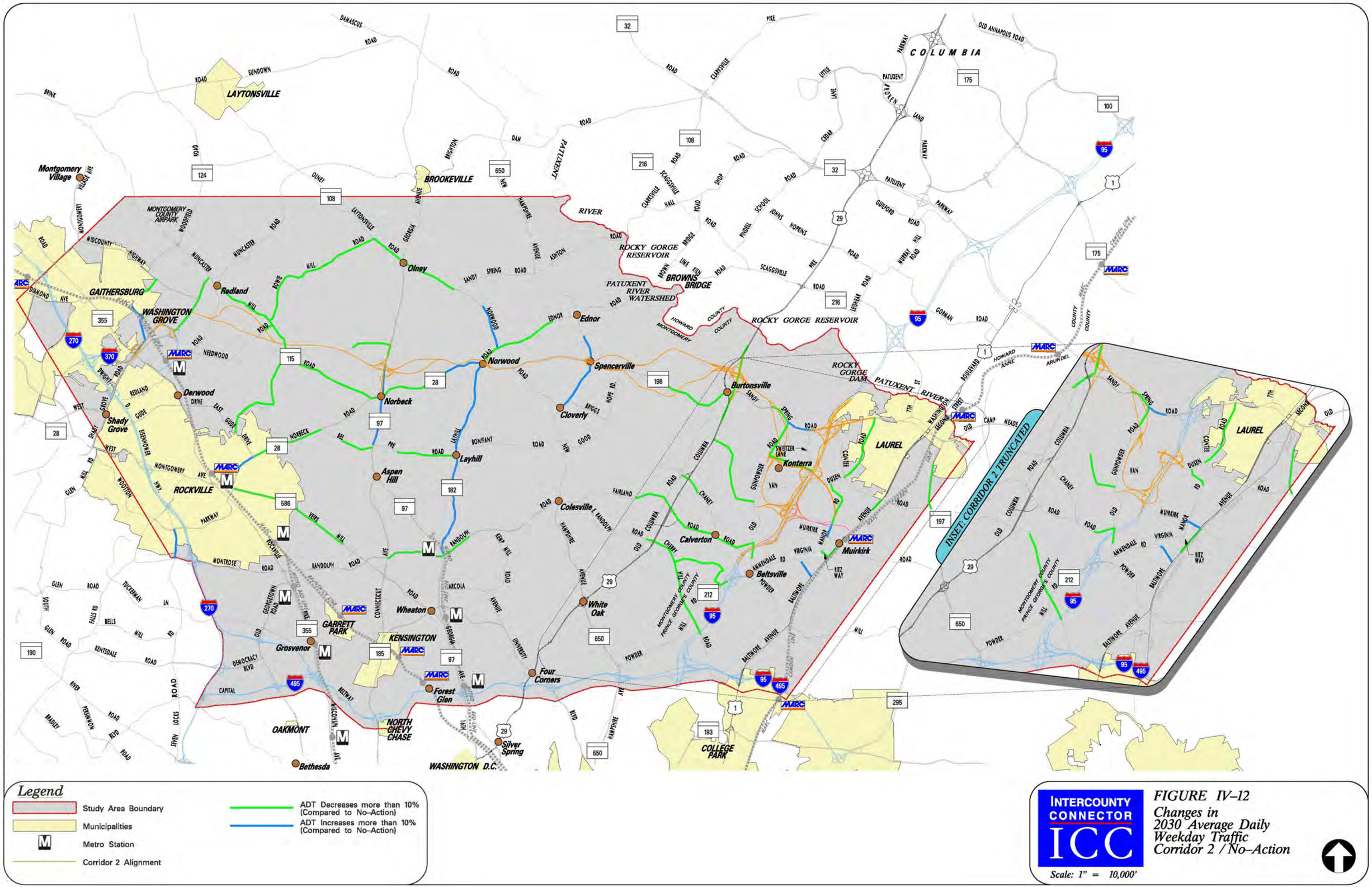

FIGURE IV–12
Changes in 2030 Average Daily Weekday Traffic Corridor 2 / No–Action

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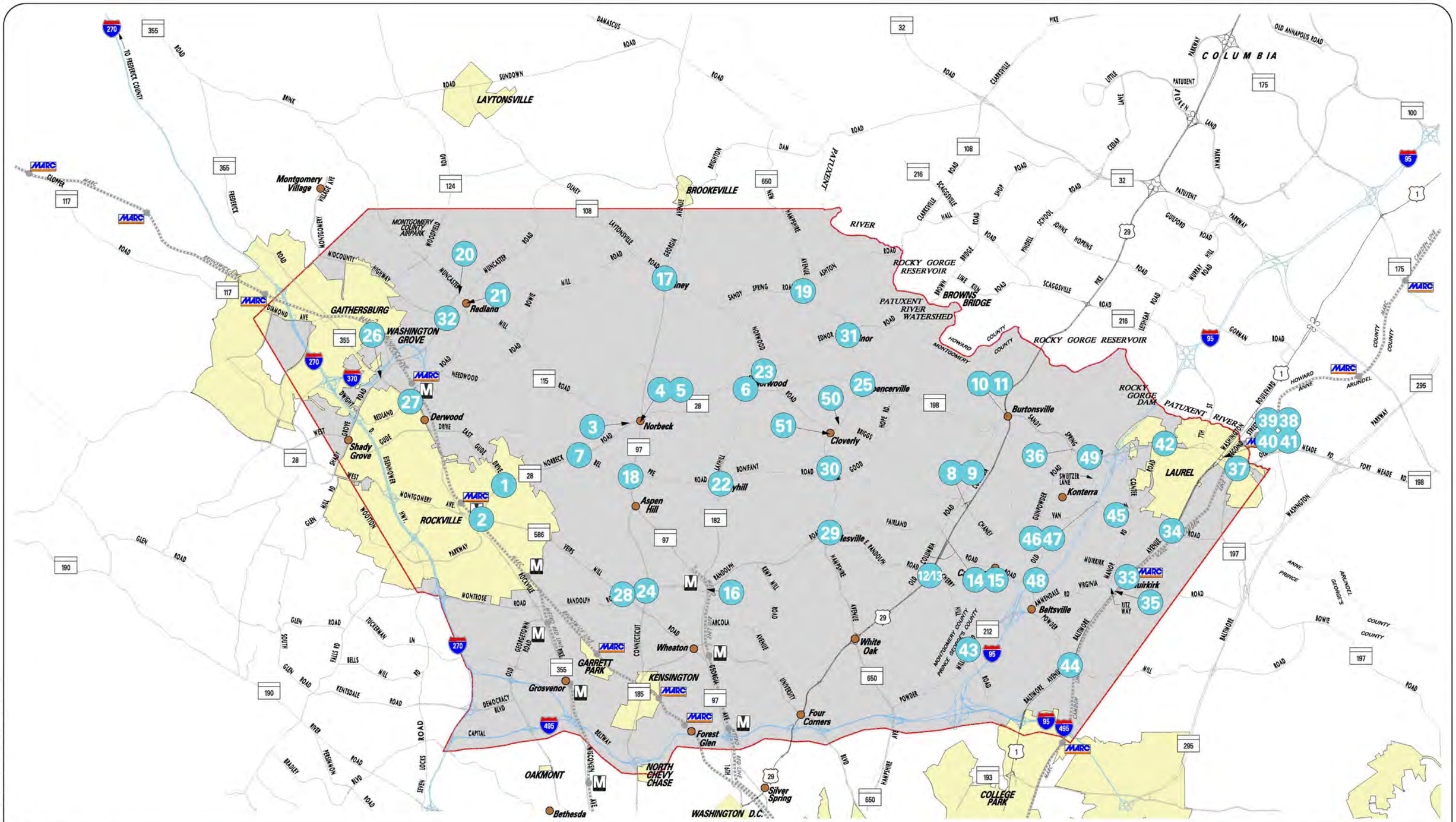
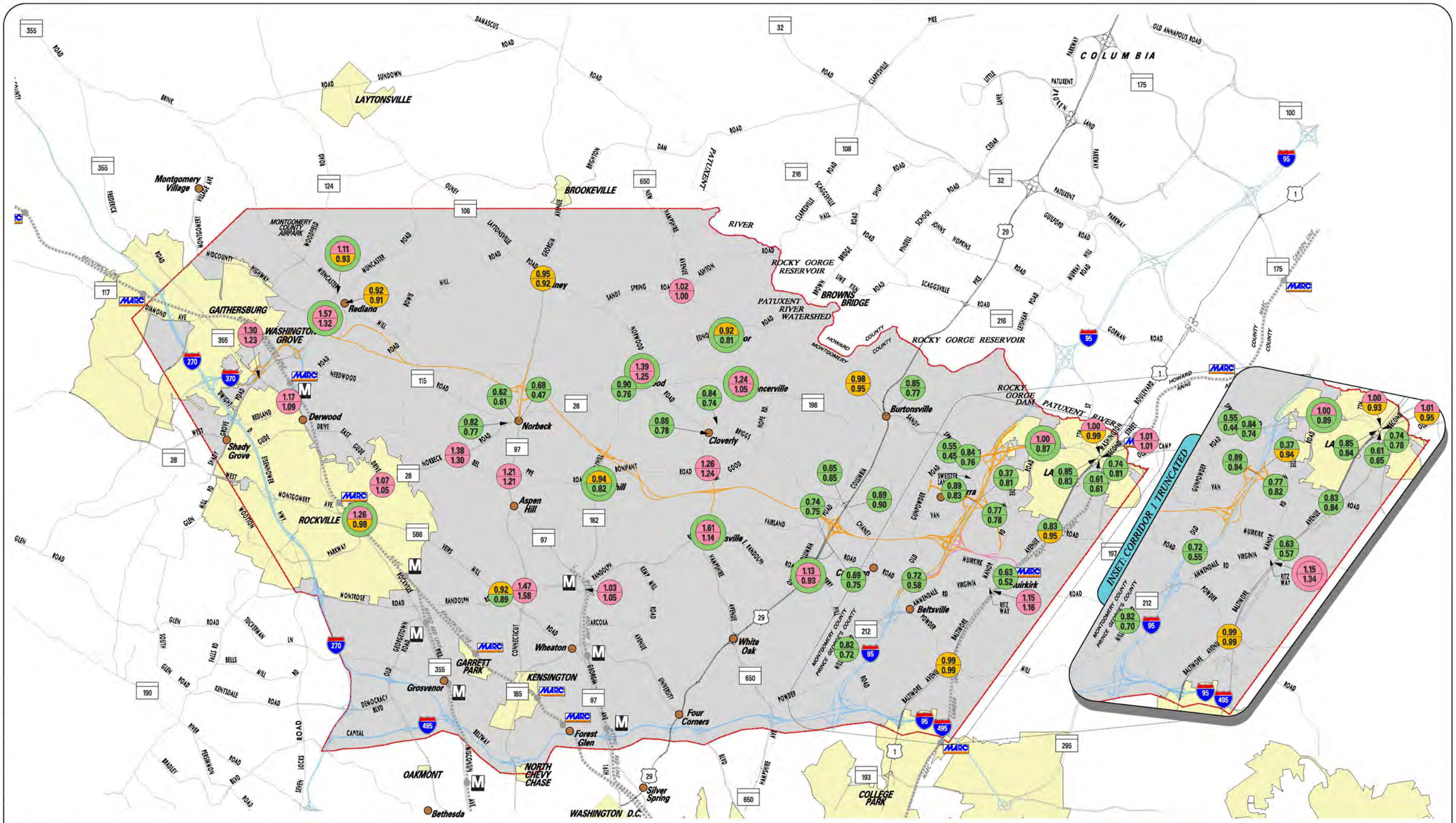


FIGURE IV-13
Study Area Intersections Key Map

G:\20828666\CAD\Figures-Report\FEIS\FEIS-Fig4-13icc.dgn



INTERCOUNTY CONNECTOR ICC

FIGURE IV–14
Corridor 1 (Full and Truncated)
2030 Intersection Operations
AM Peak Hour

Scale: 1" = 10,000'

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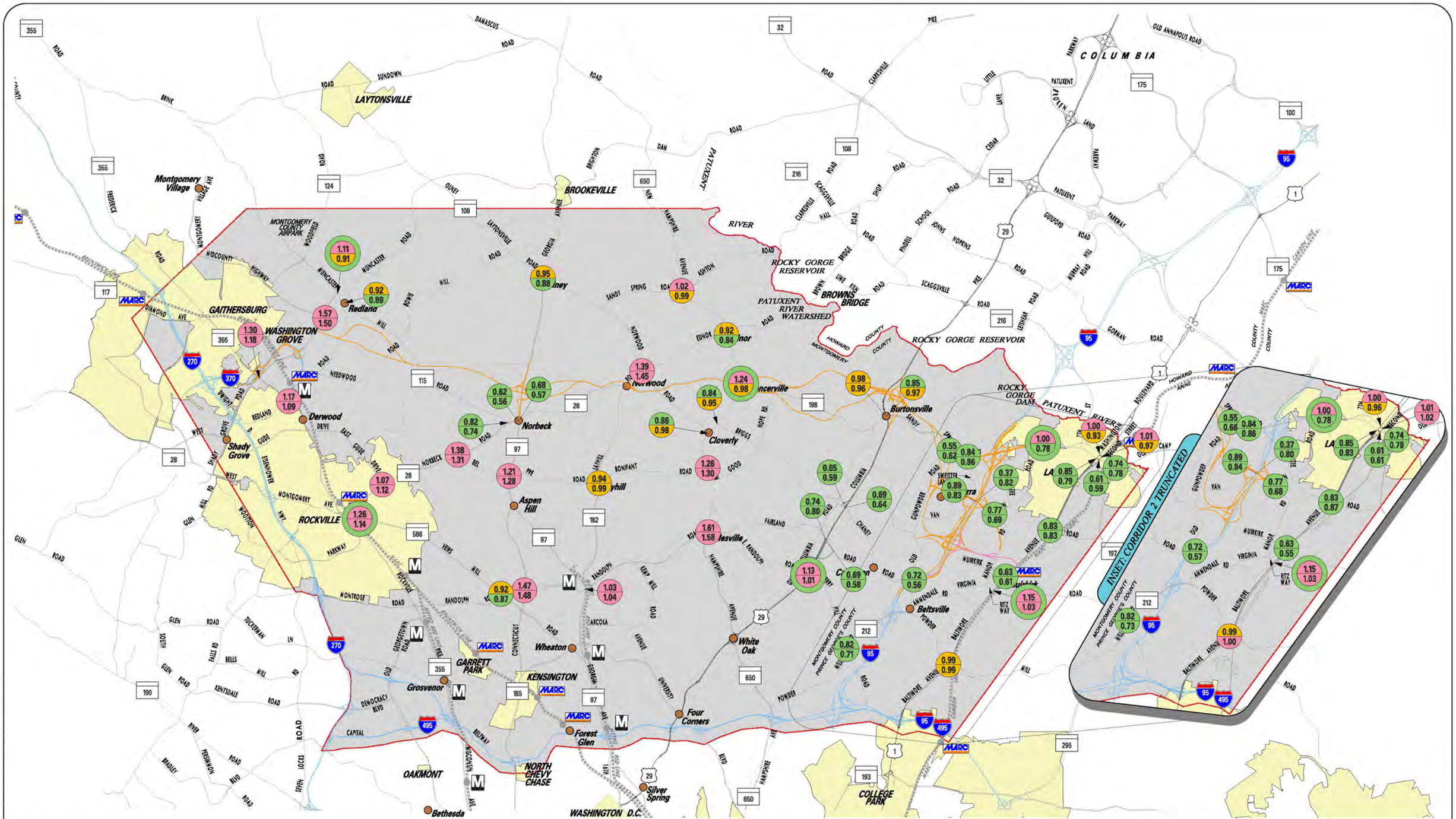

INTERCOUNTY CONNECTOR ICC

FIGURE IV–15
Corridor 2 (Full and Truncated)
2030 Intersection Operations
AM Peak Hour

Scale: 1" = 10,000'

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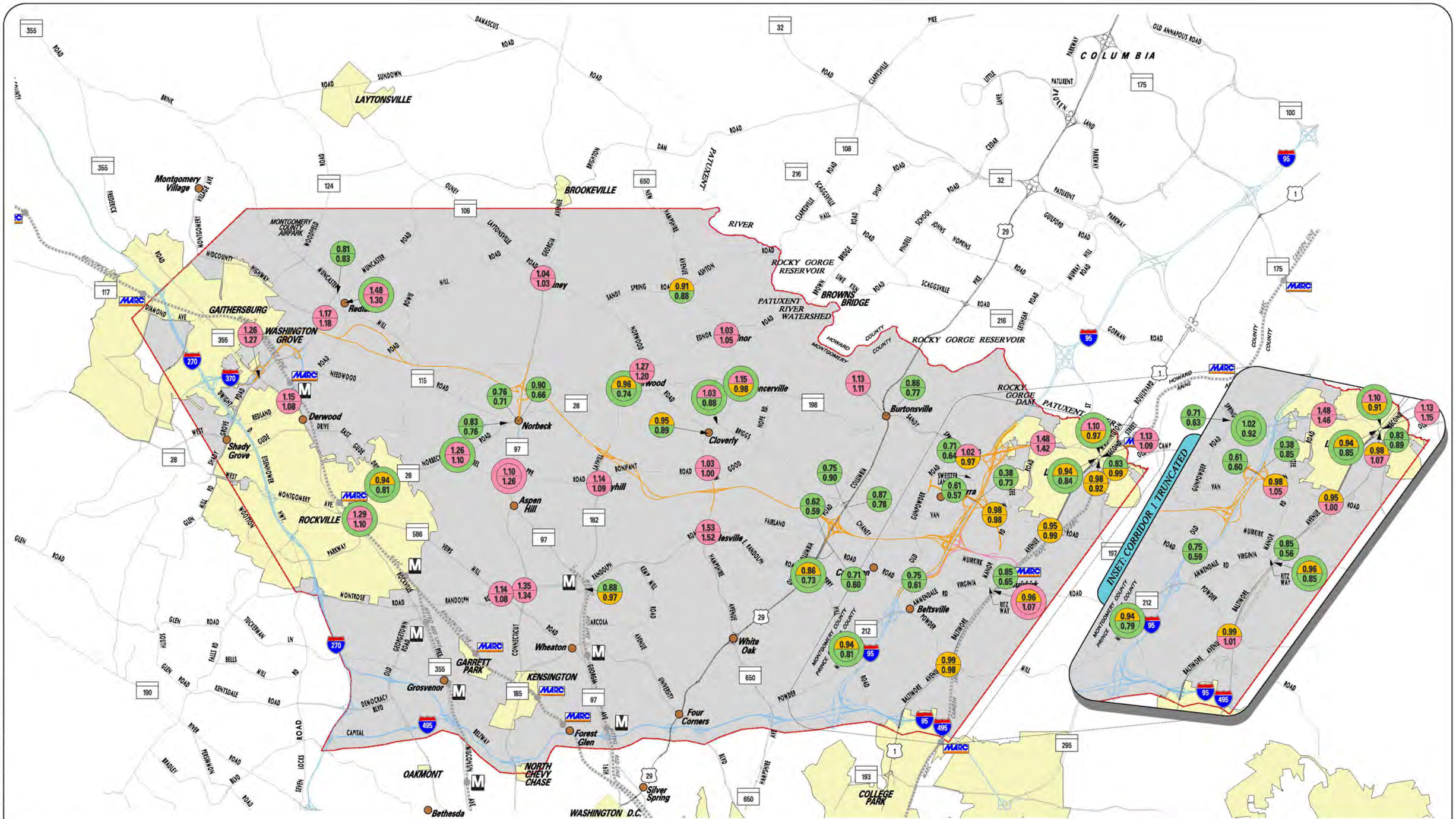

FIGURE IV–16
Corridor 1 (Full and Truncated)
2030 Intersection Operations
PM Peak Hour

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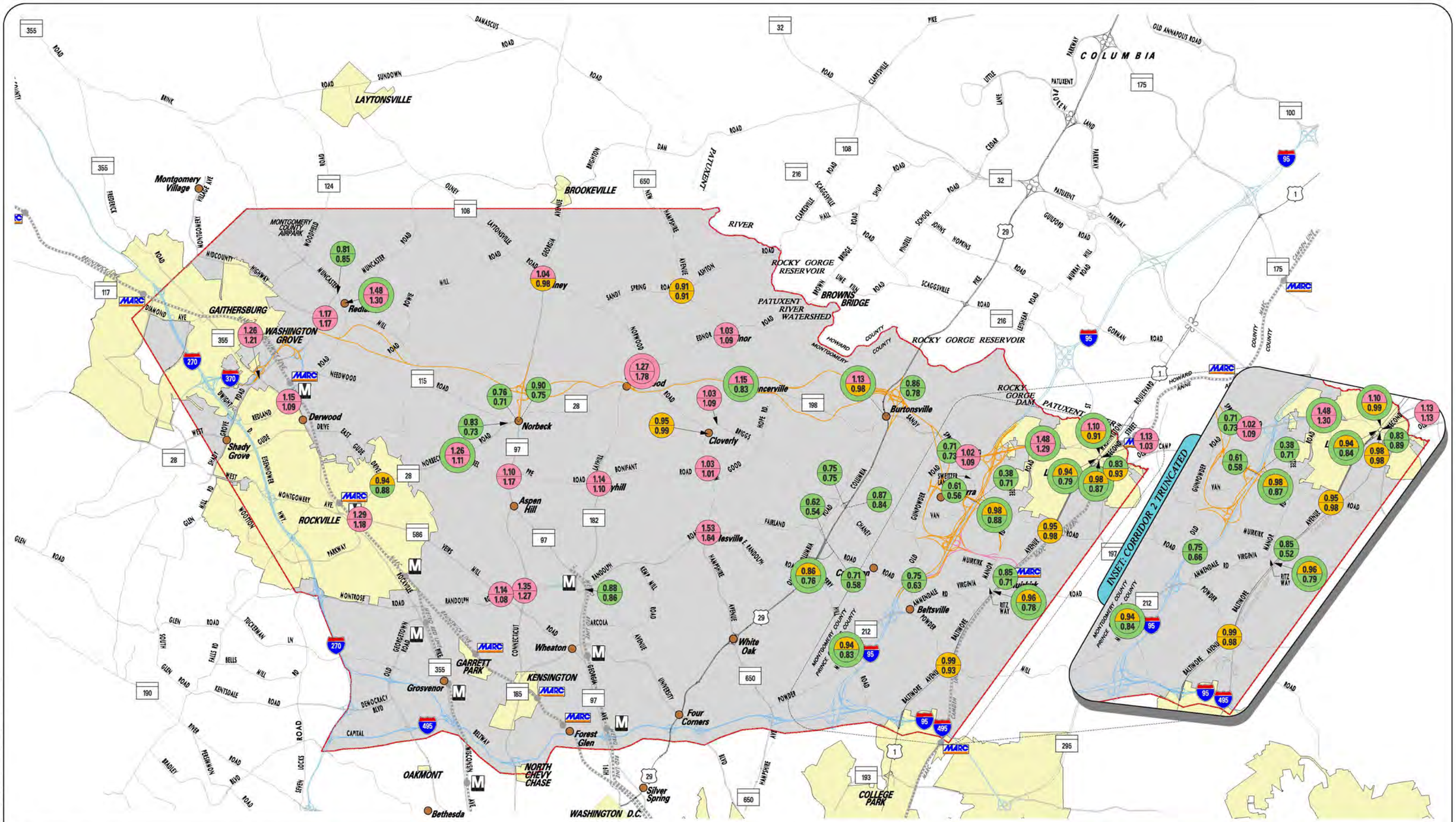

FIGURE IV–17
Corridor 2 (Full and Truncated)
2030 Intersection Operations
PM Peak Hour

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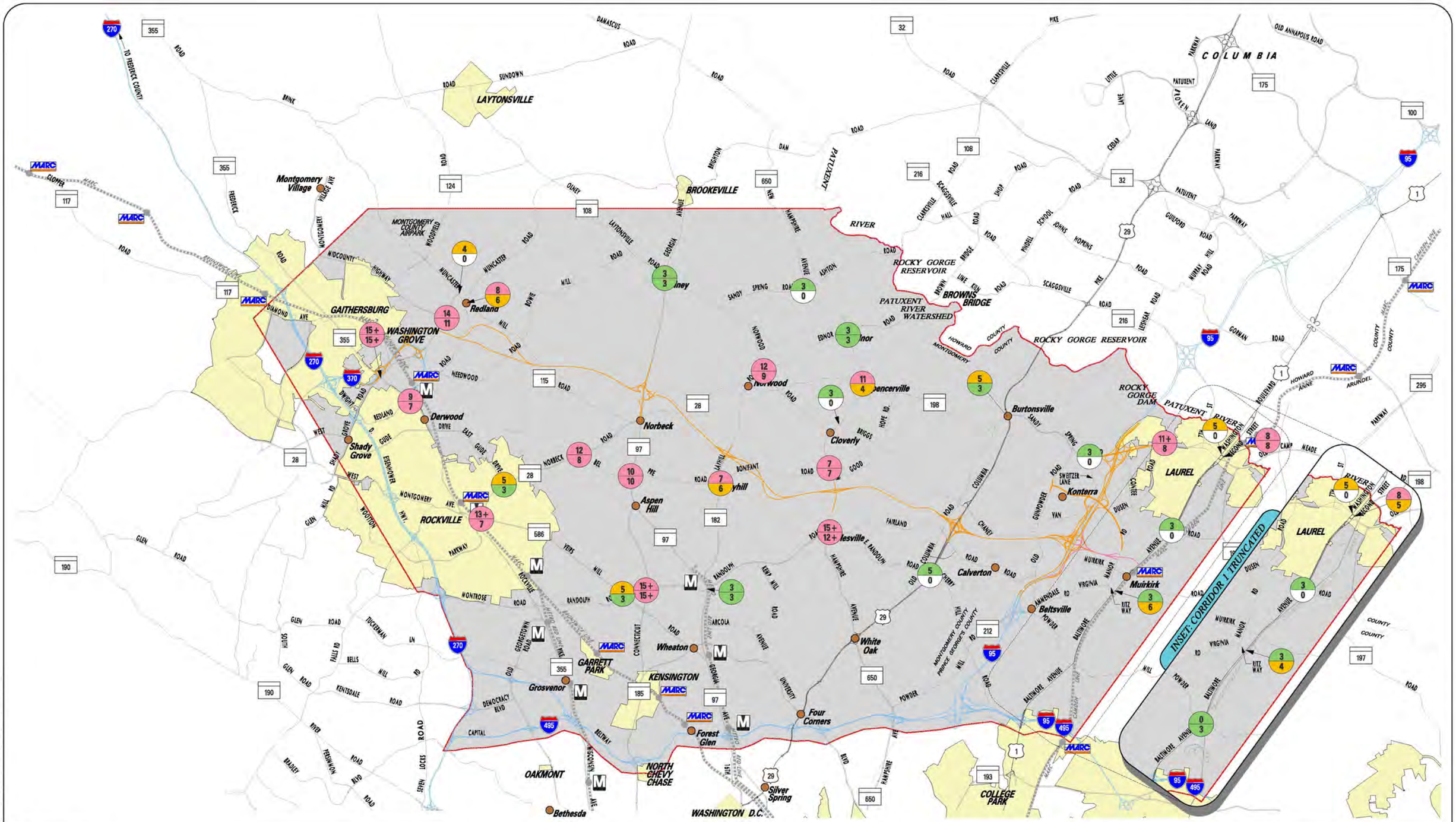

INTERCOUNTY CONNECTOR ICC

Scale: 1" = 10,000'

FIGURE IV-18
2030 No-Action /Corridor 1 Hours At Capacity Comparison (Daily Total)

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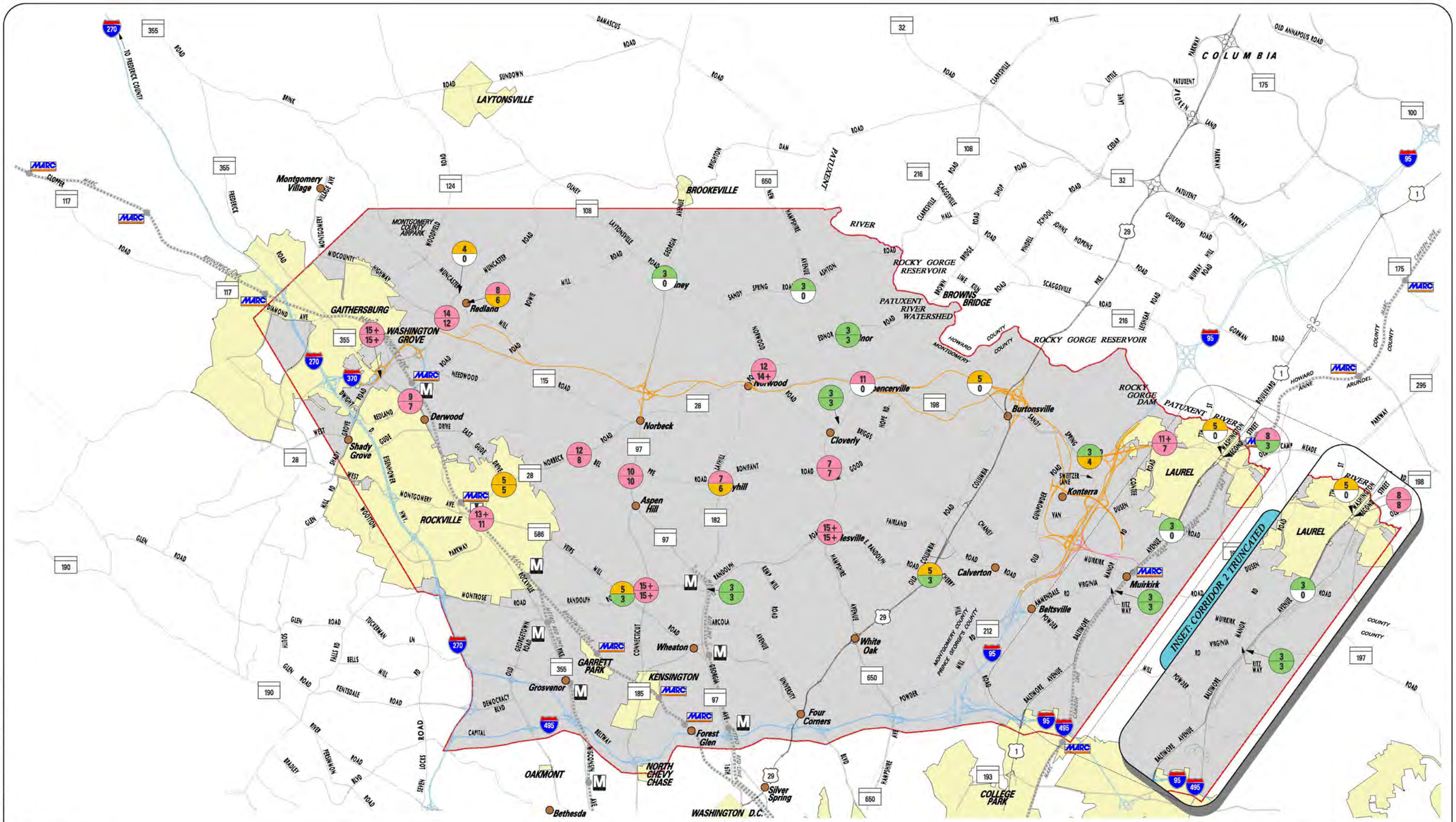

FIGURE IV-19
2030 No-Action /Corridor 2 Hours At Capacity Comparison (Daily Total)

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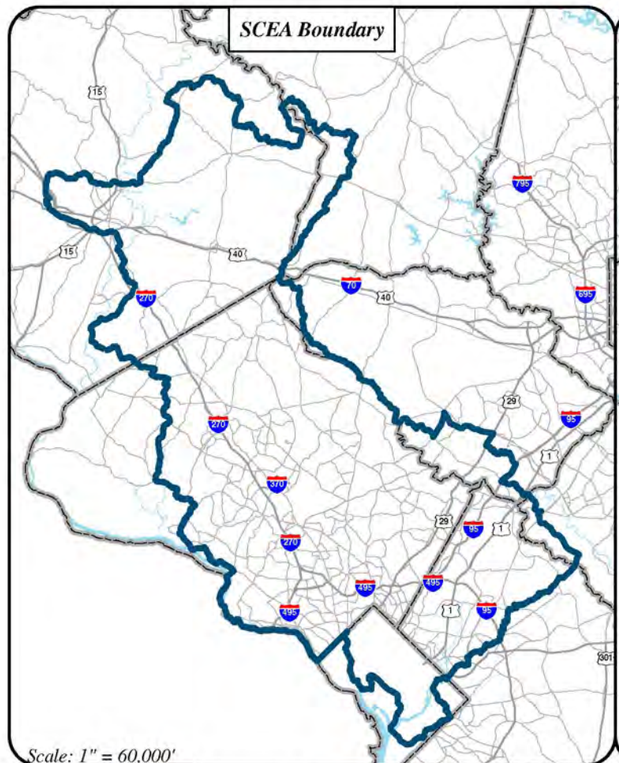

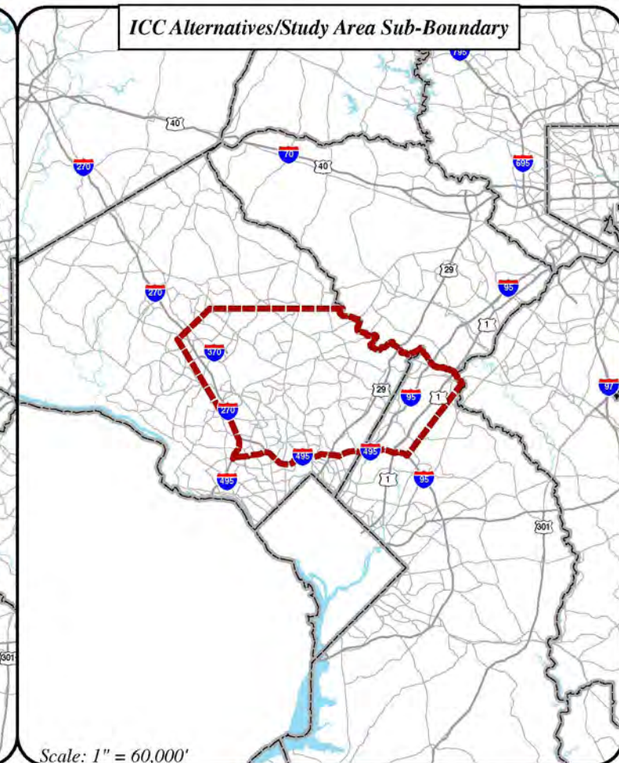

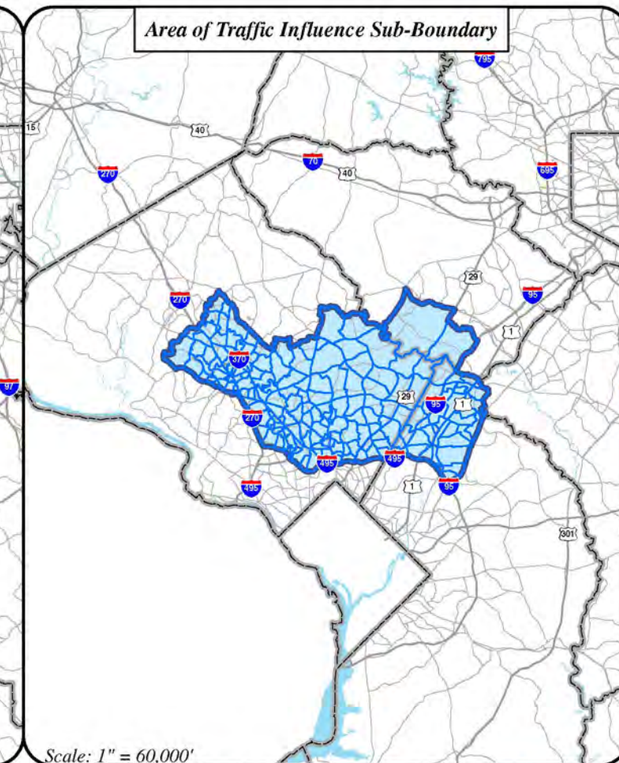

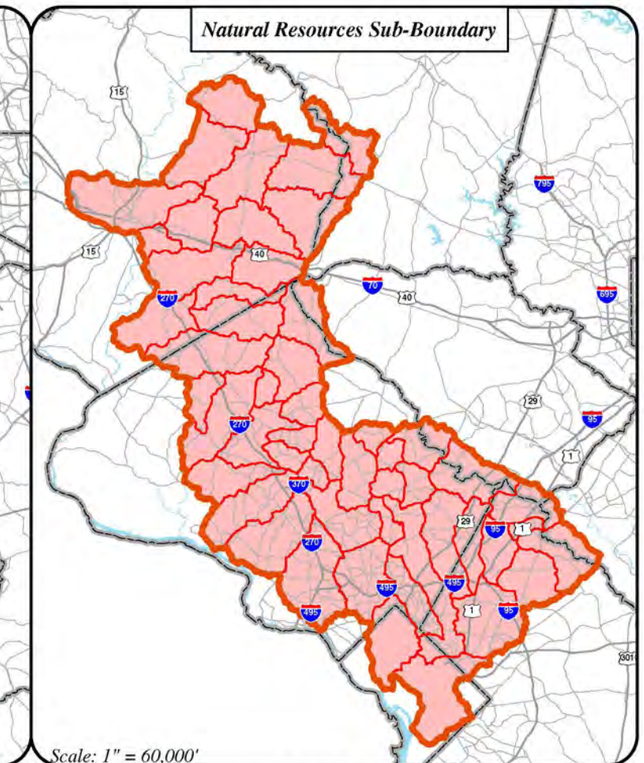

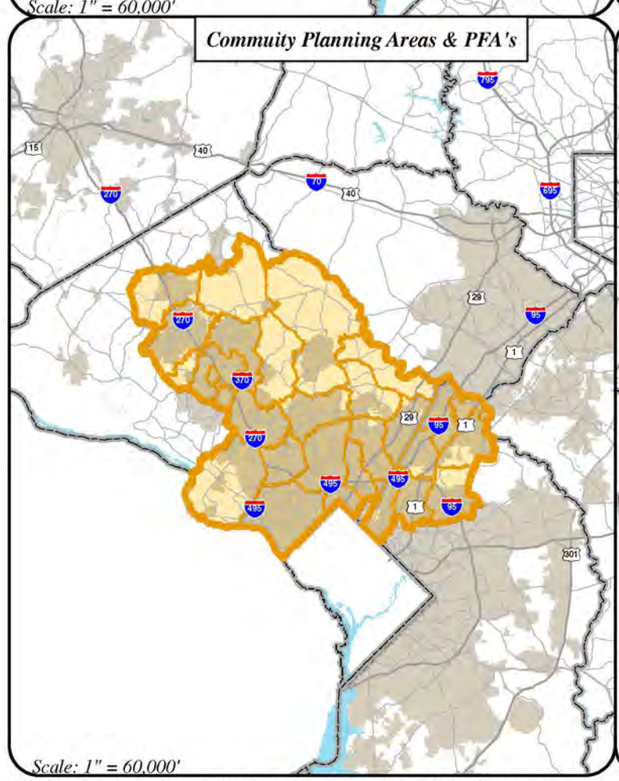

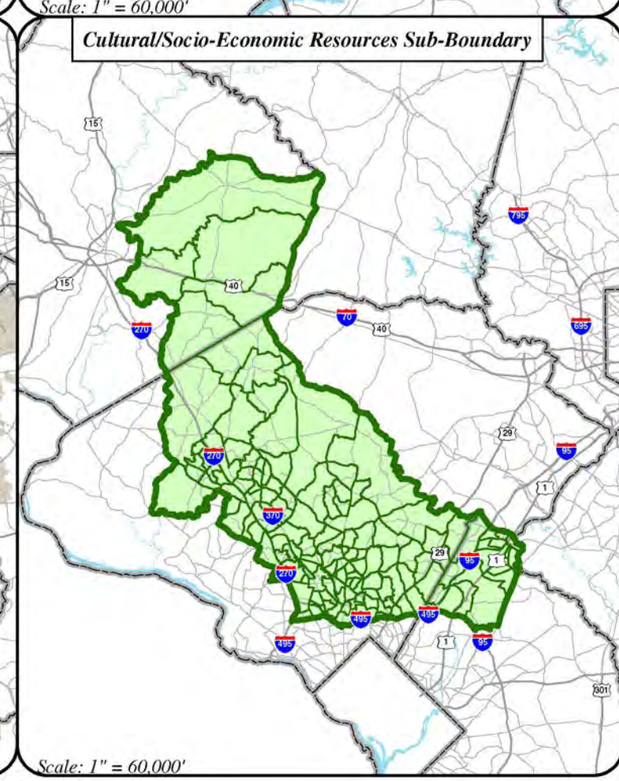

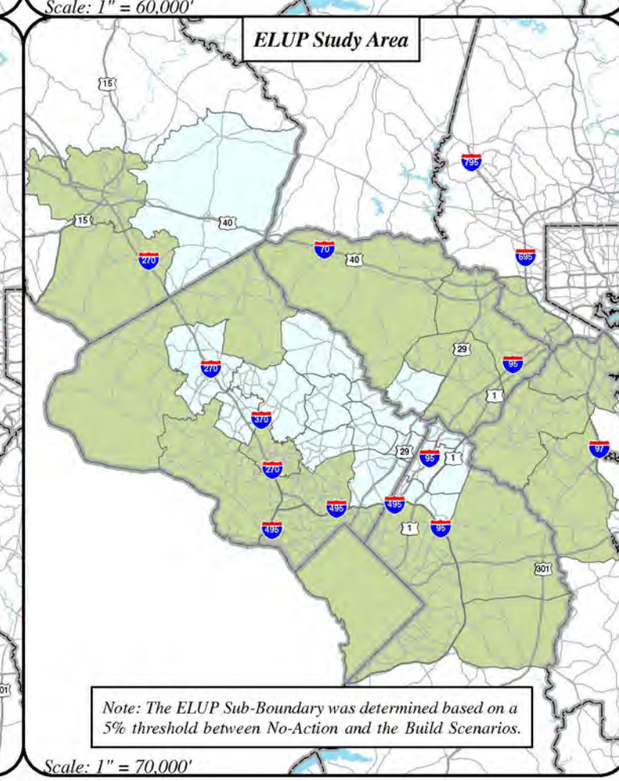

LEGEND

- Interstate
- US
- SCEA Boundary
- ICC Alternatives/Study Area Sub-Boundary
- Area of Traffic Influence Sub-Boundary
- Area of Traffic Influence
- Natural Resources Sub-Boundary
- Natural Resources Boundary
- Community Planning Areas
- Community Planning Area Sub-Boundary
- Priority Funding Areas
- Cultural and Socio-Economic Sub-Boundary
- Cultural and Socio-Economic Boundary
- ELUP Sub-Boundary
- ELUP Study Area
- County Boundary
- Water

INTERCOUNTY CONNECTOR ICC

FIGURE IV - 20

Composite of Study Area Sub-Boundaries

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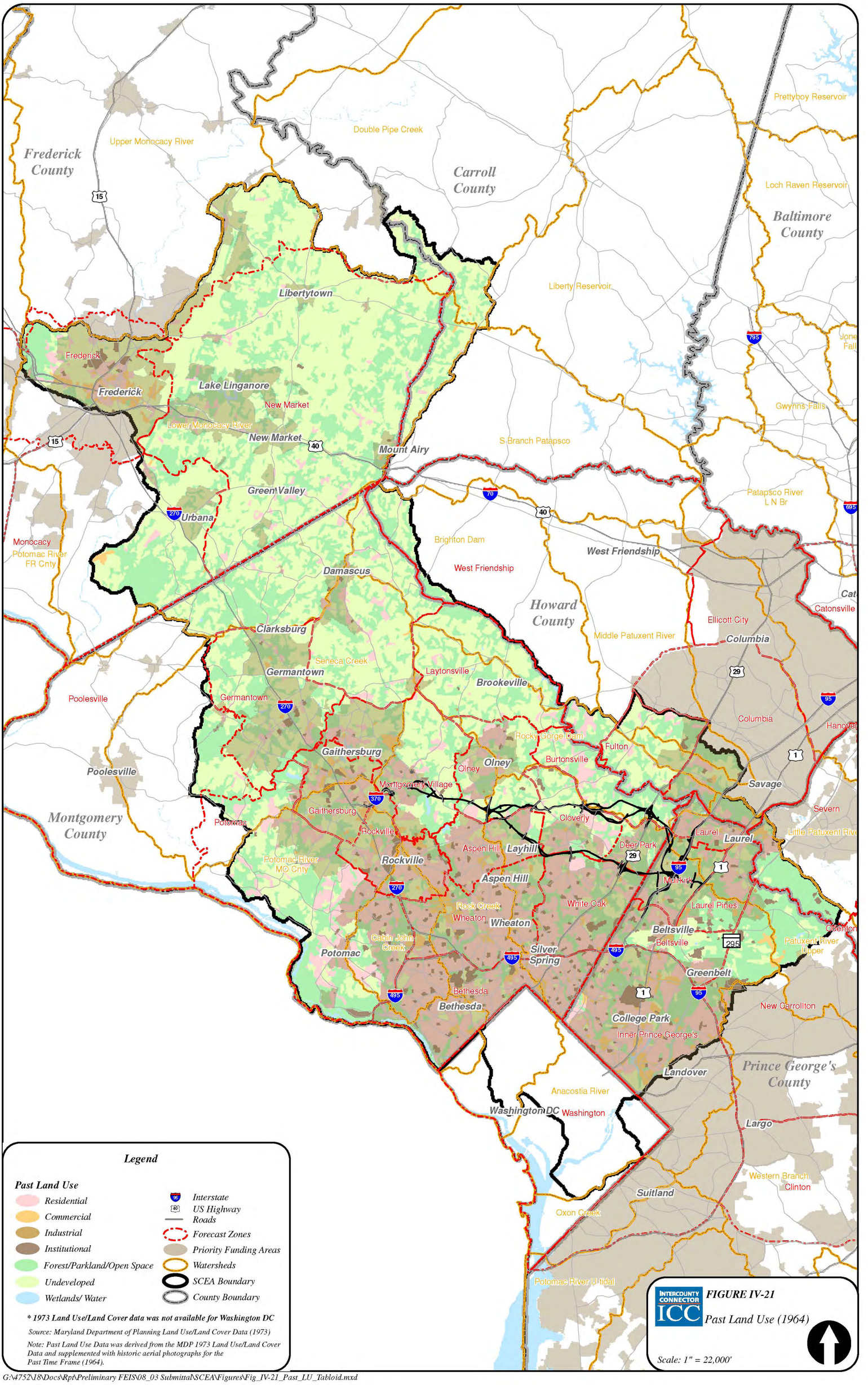

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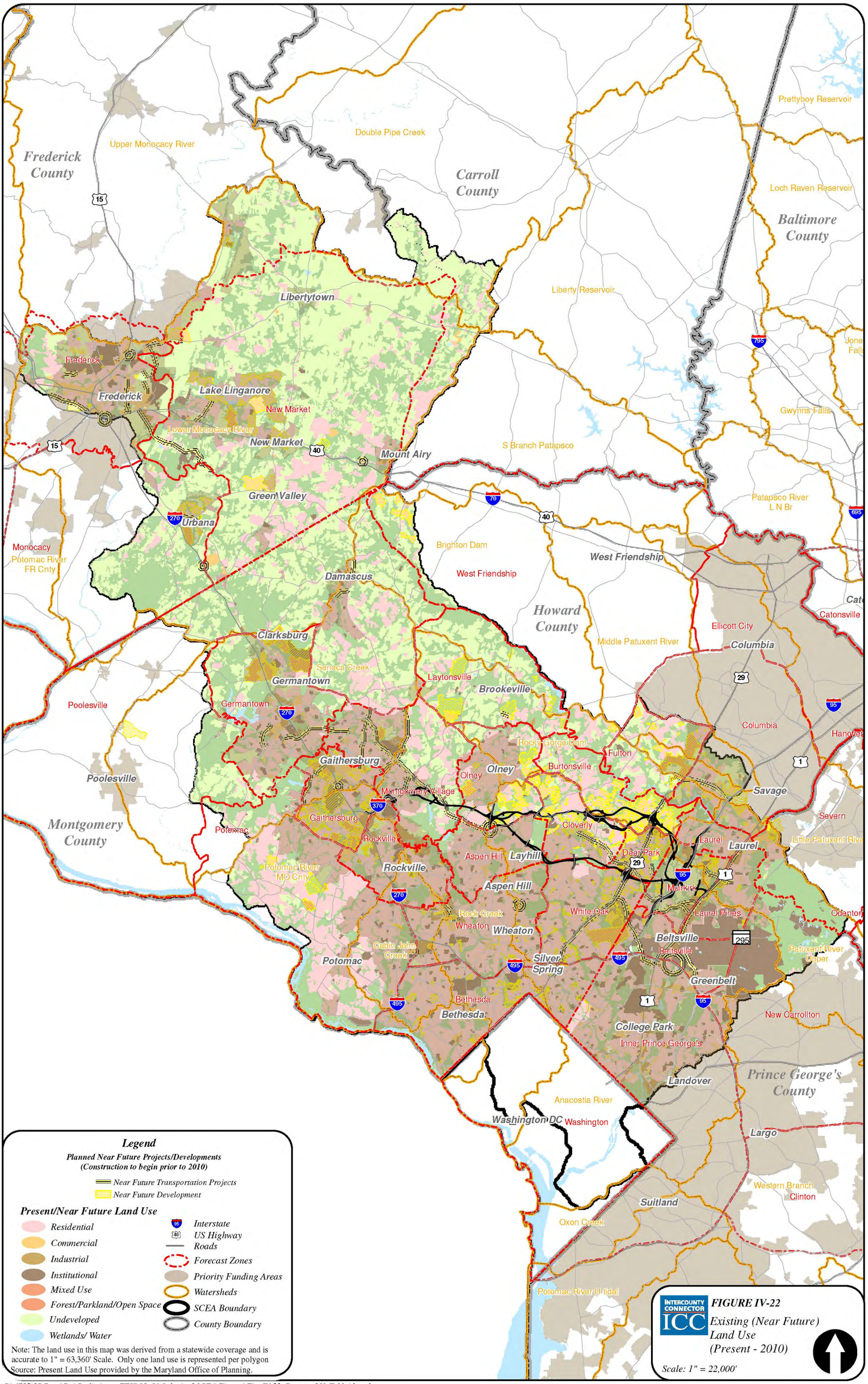

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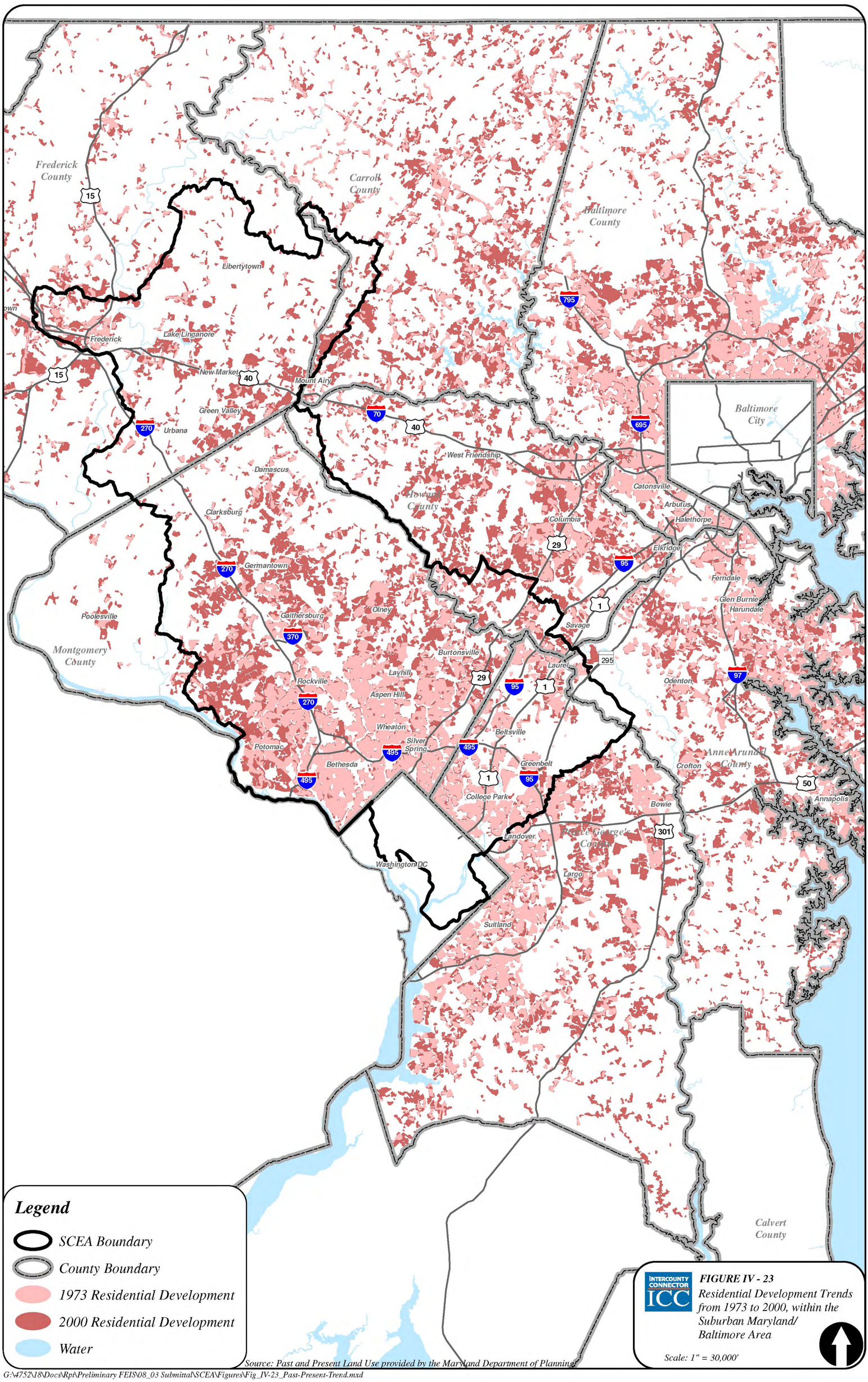

Legend

- SCEA Boundary
- County Boundary
- 1973 Residential Development
- 2000 Residential Development
- Water

INTERCOUNTY CONNECTOR ICC

FIGURE IV - 23
Residential Development Trends from 1973 to 2000, within the Suburban Maryland/ Baltimore Area

Scale: 1" = 30,000'

Source: Past and Present Land Use provided by the Maryland Department of Planning

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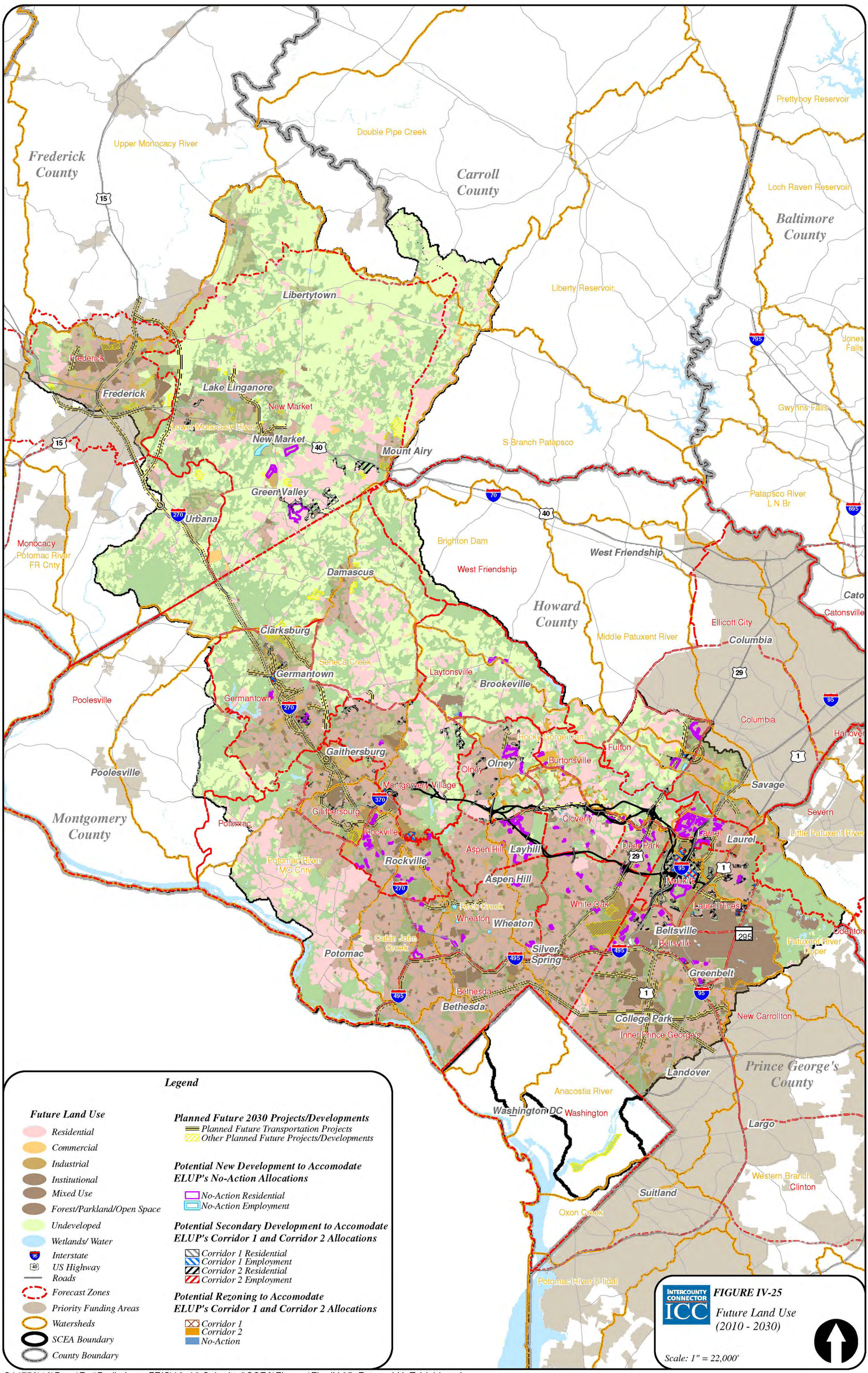

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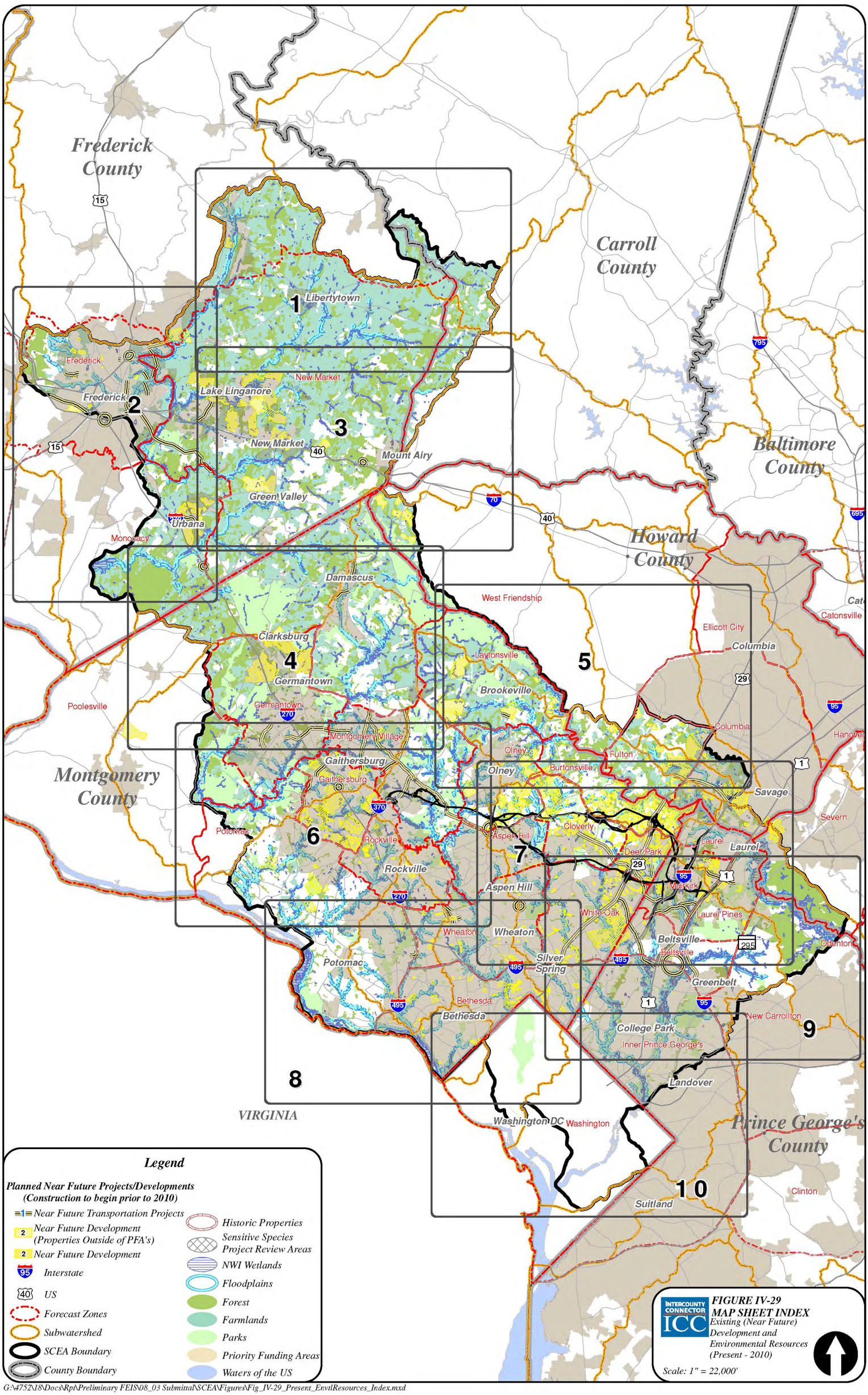

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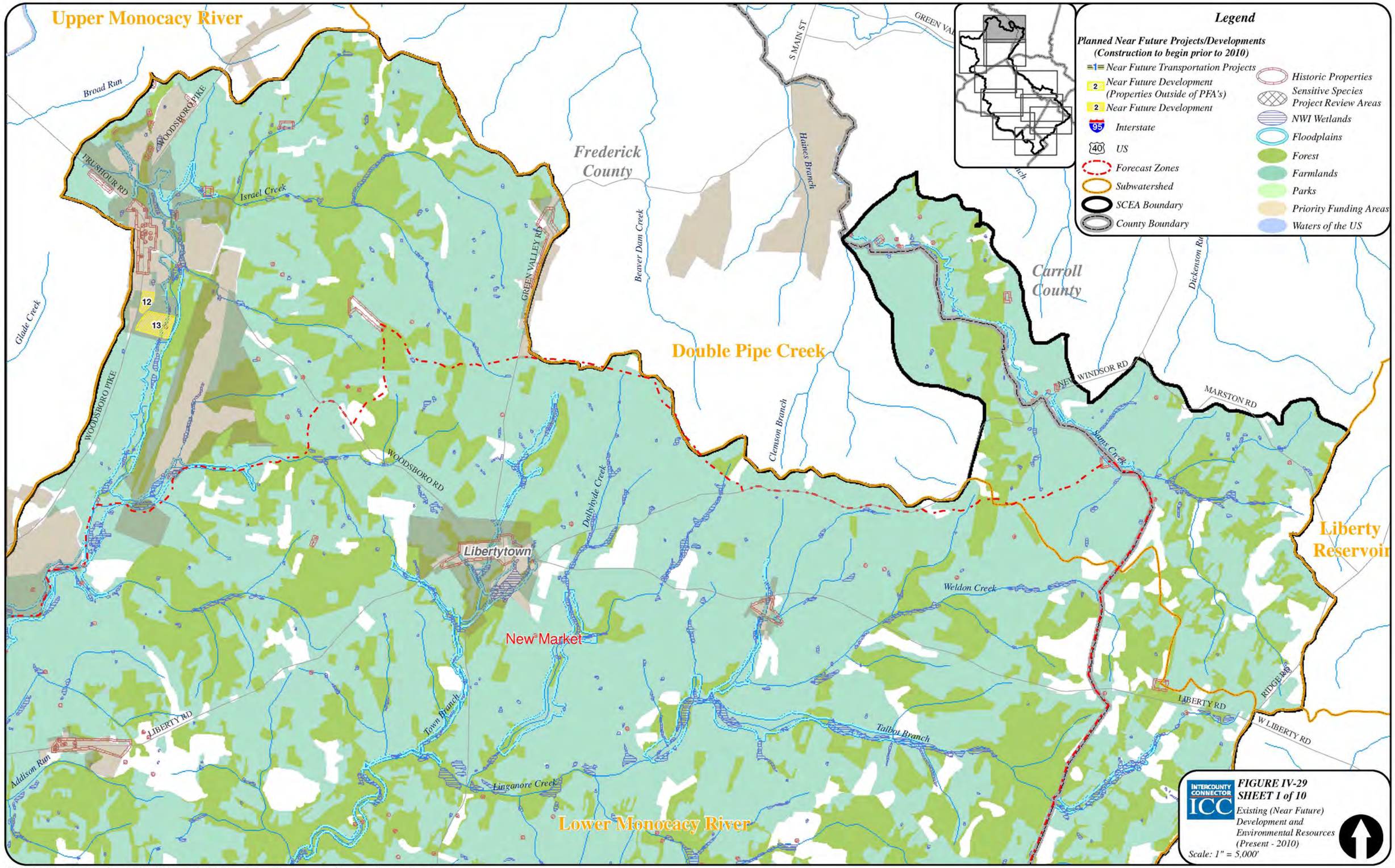

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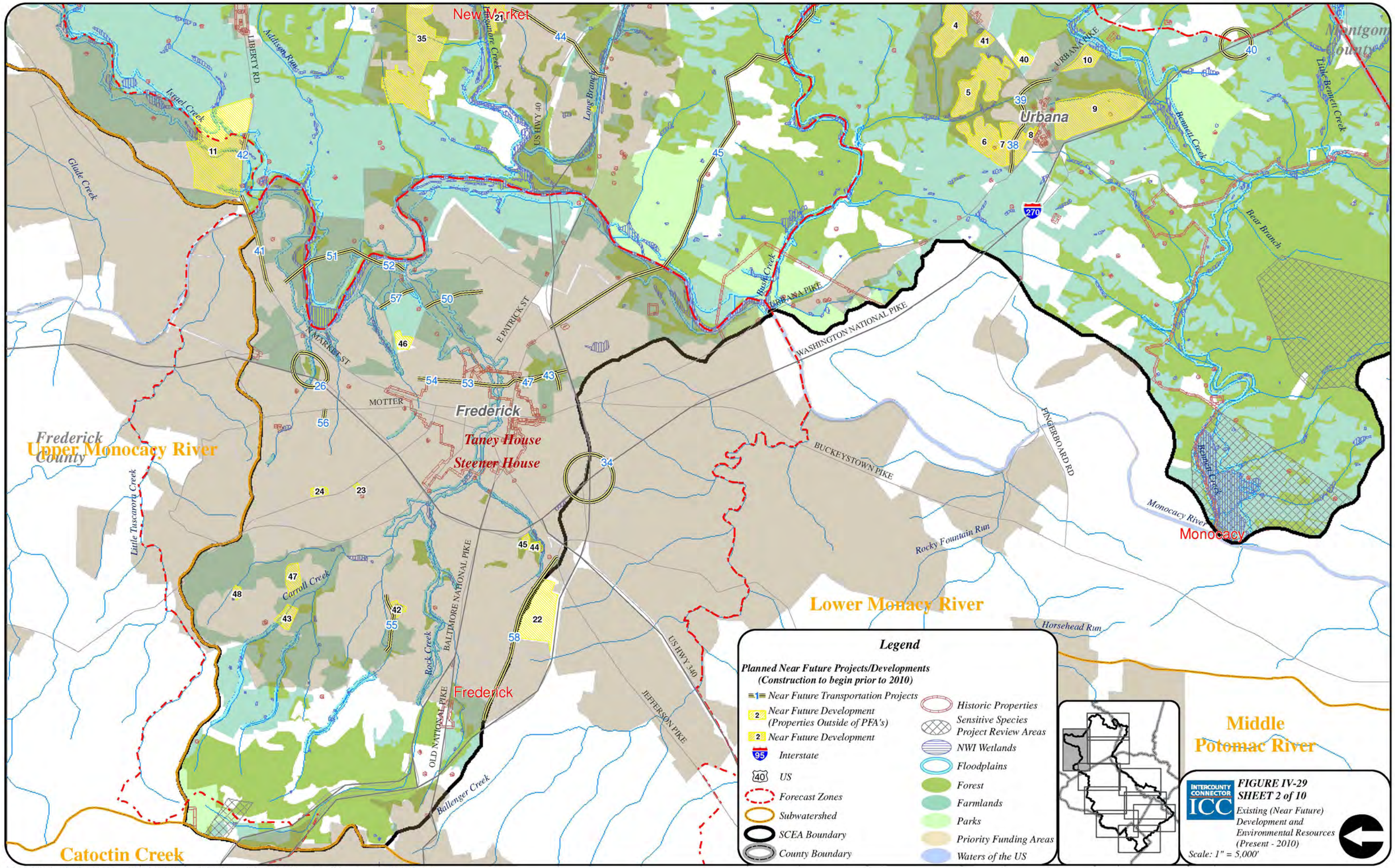

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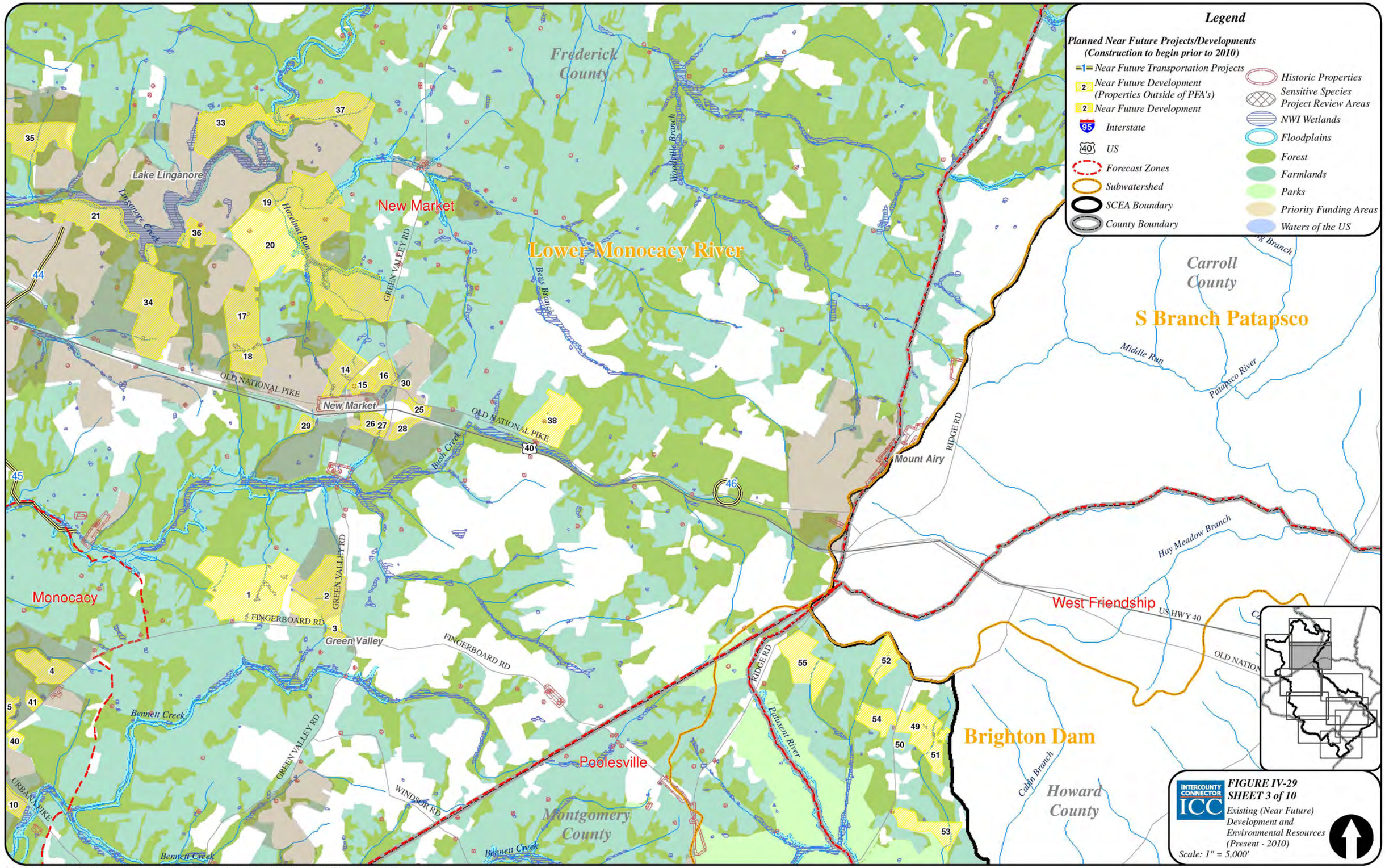

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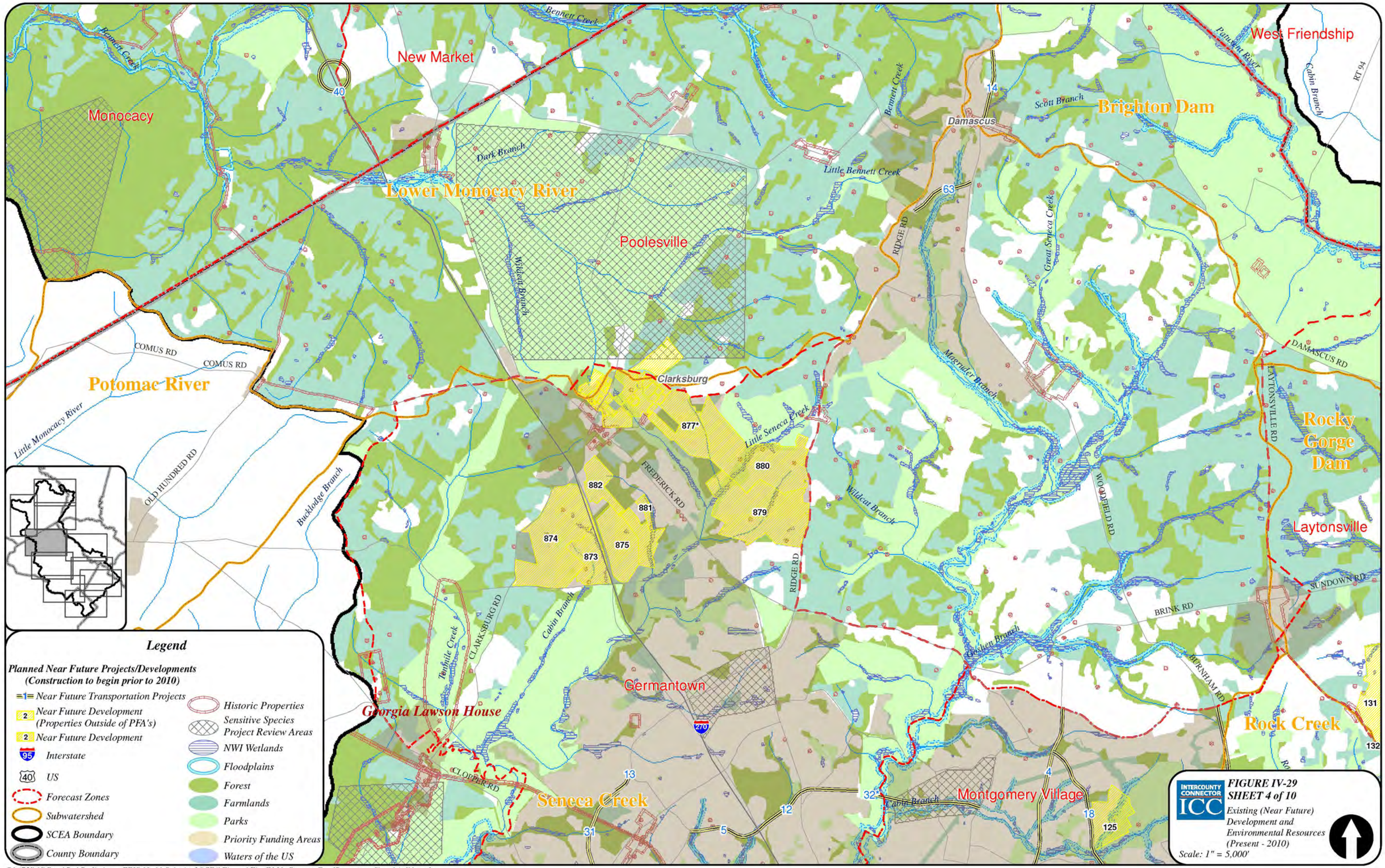

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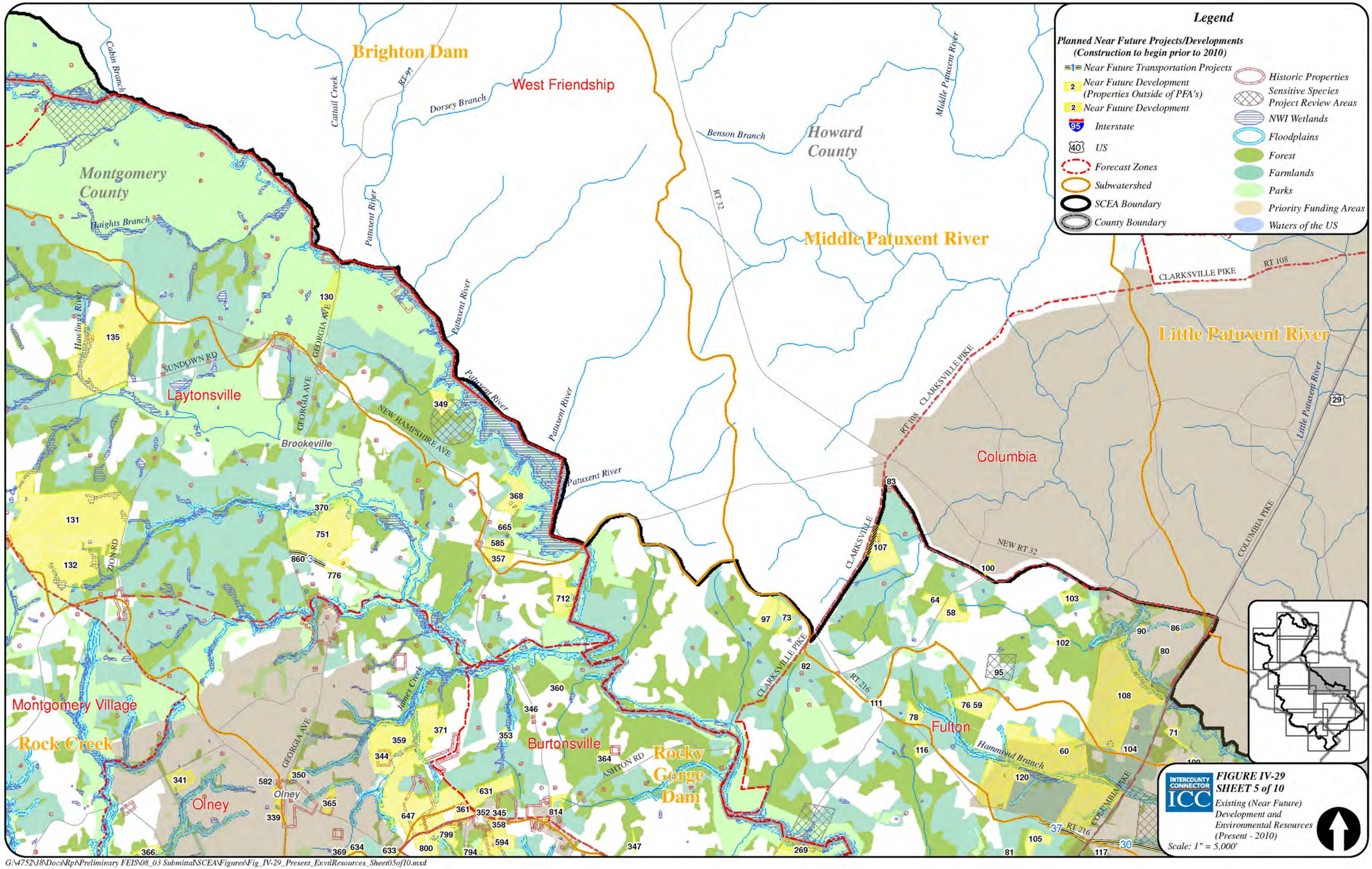

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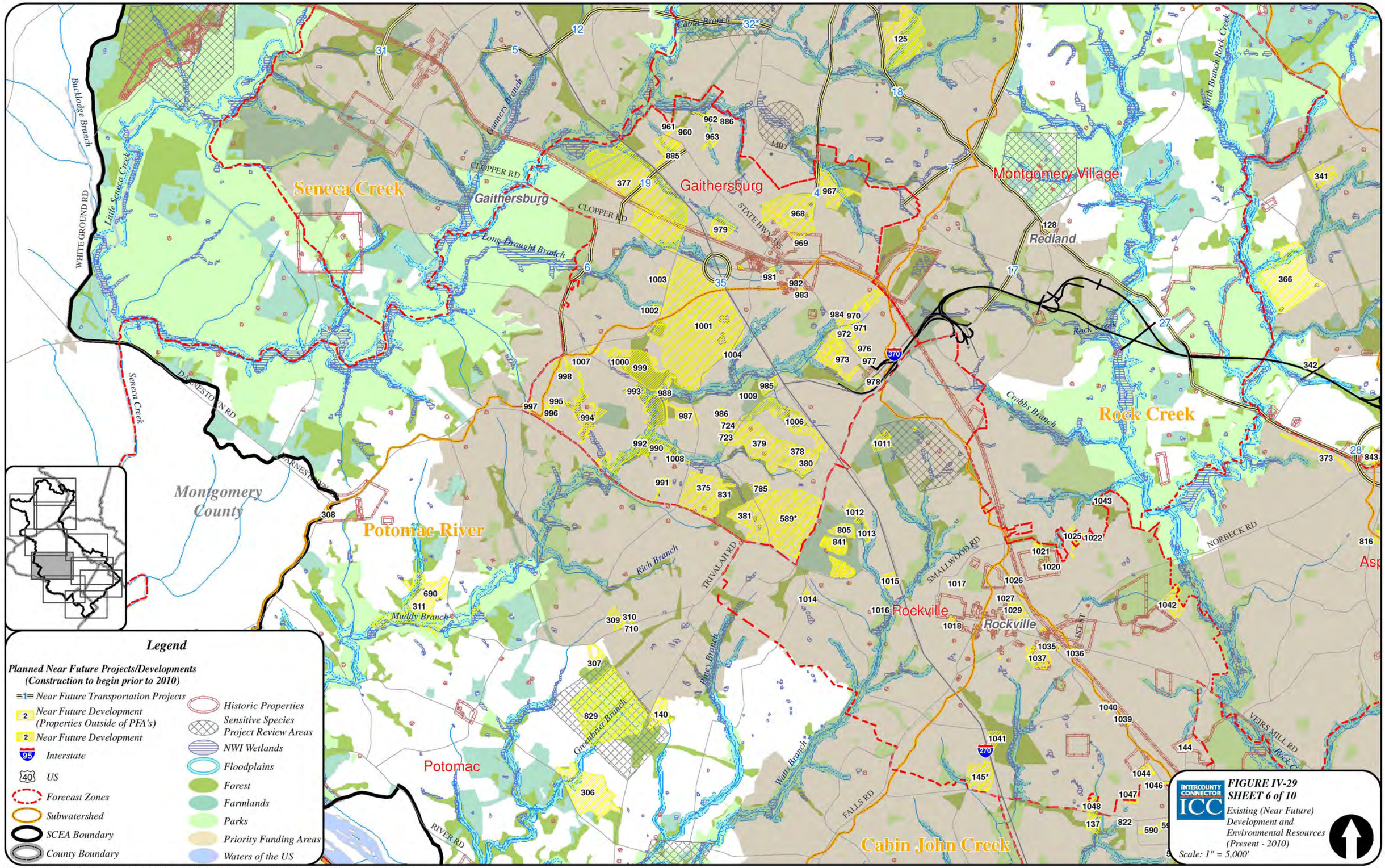

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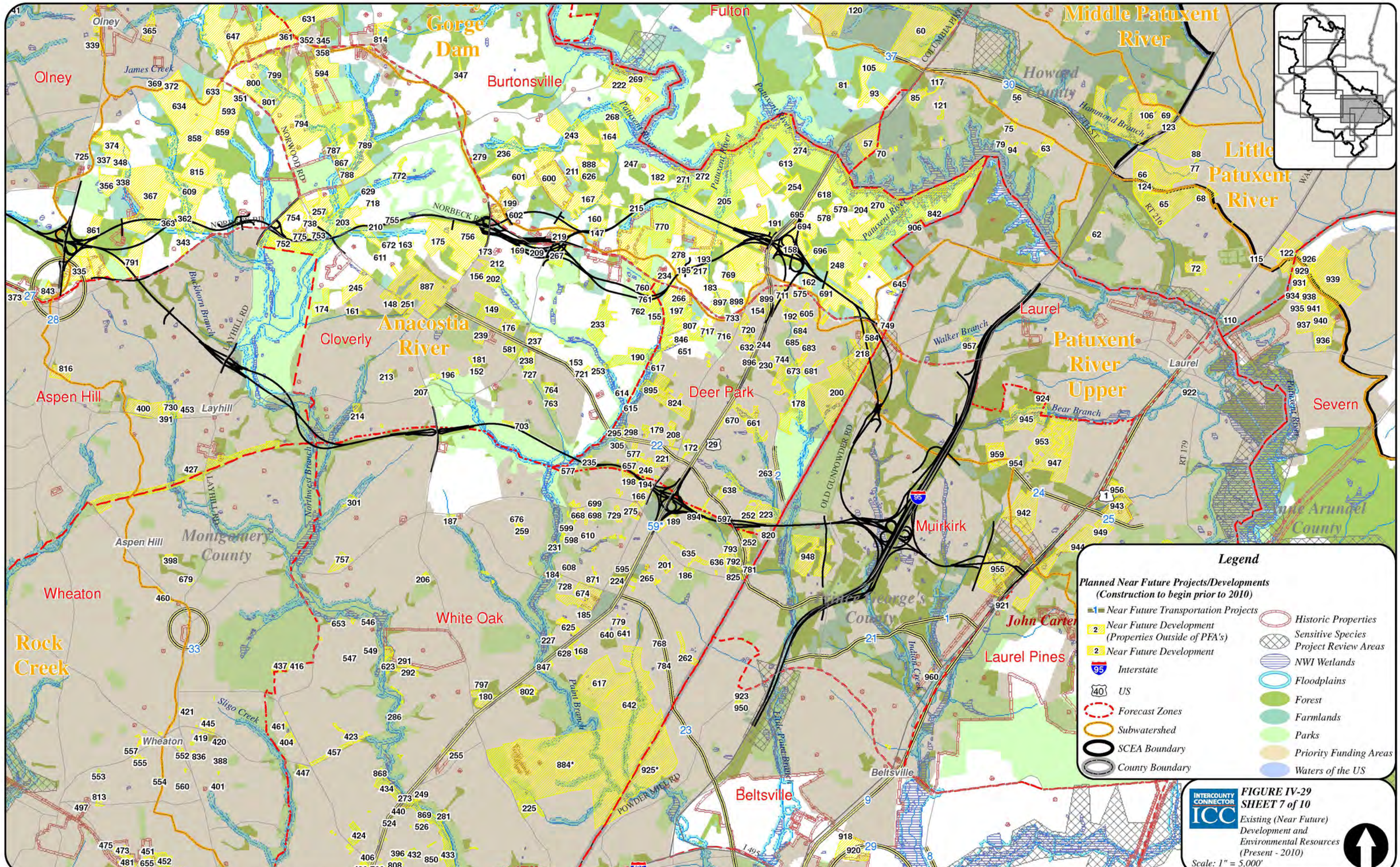

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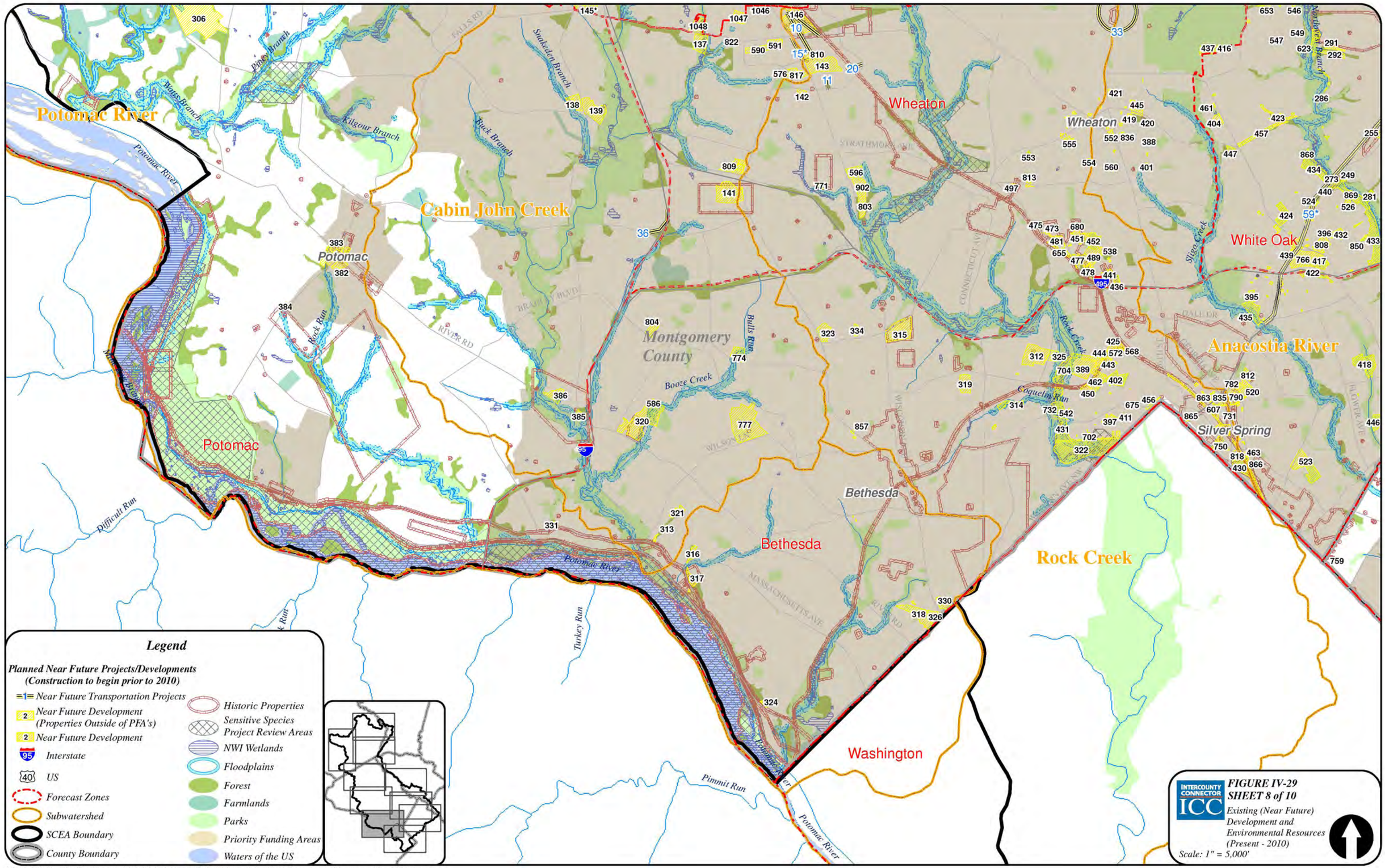

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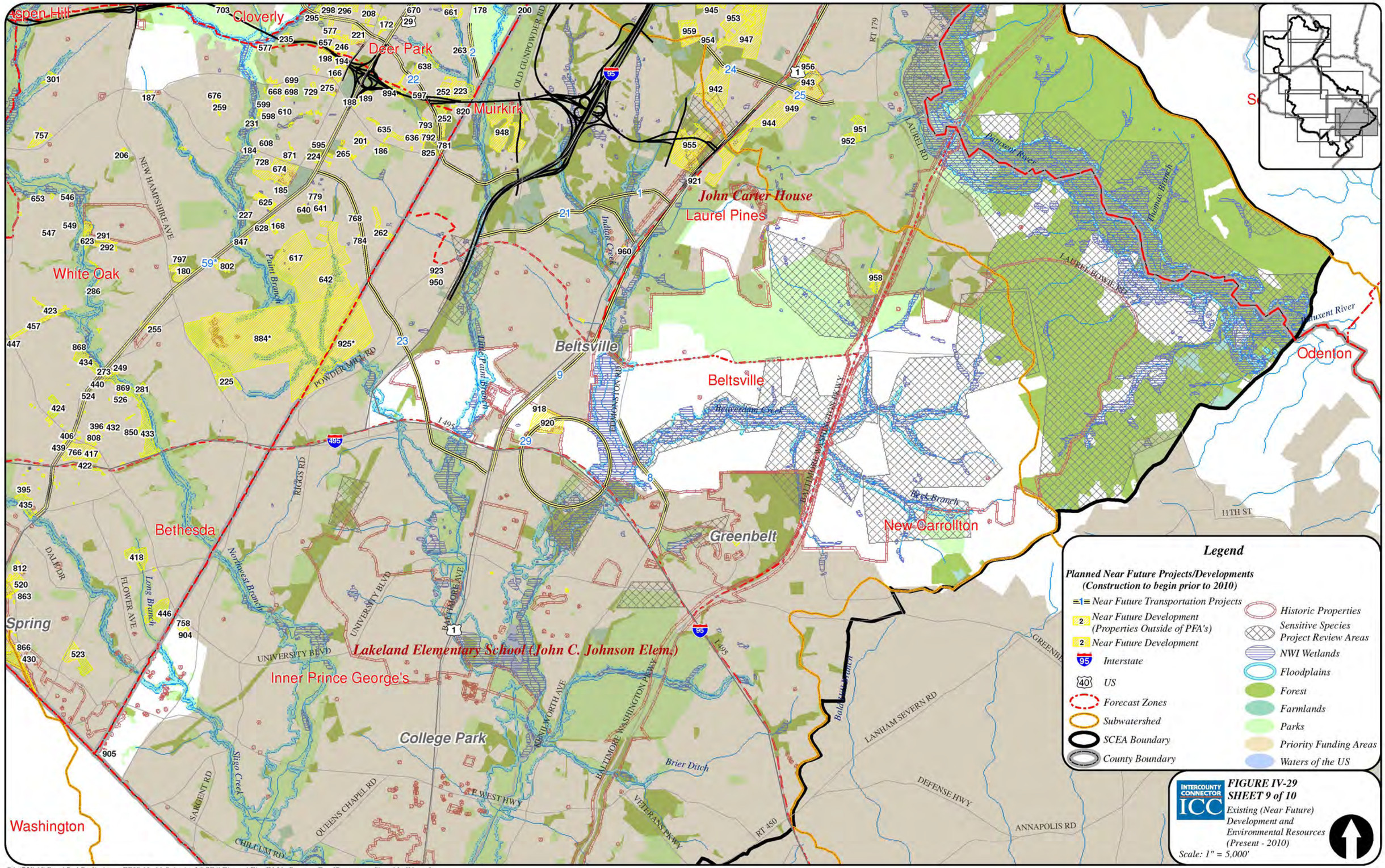

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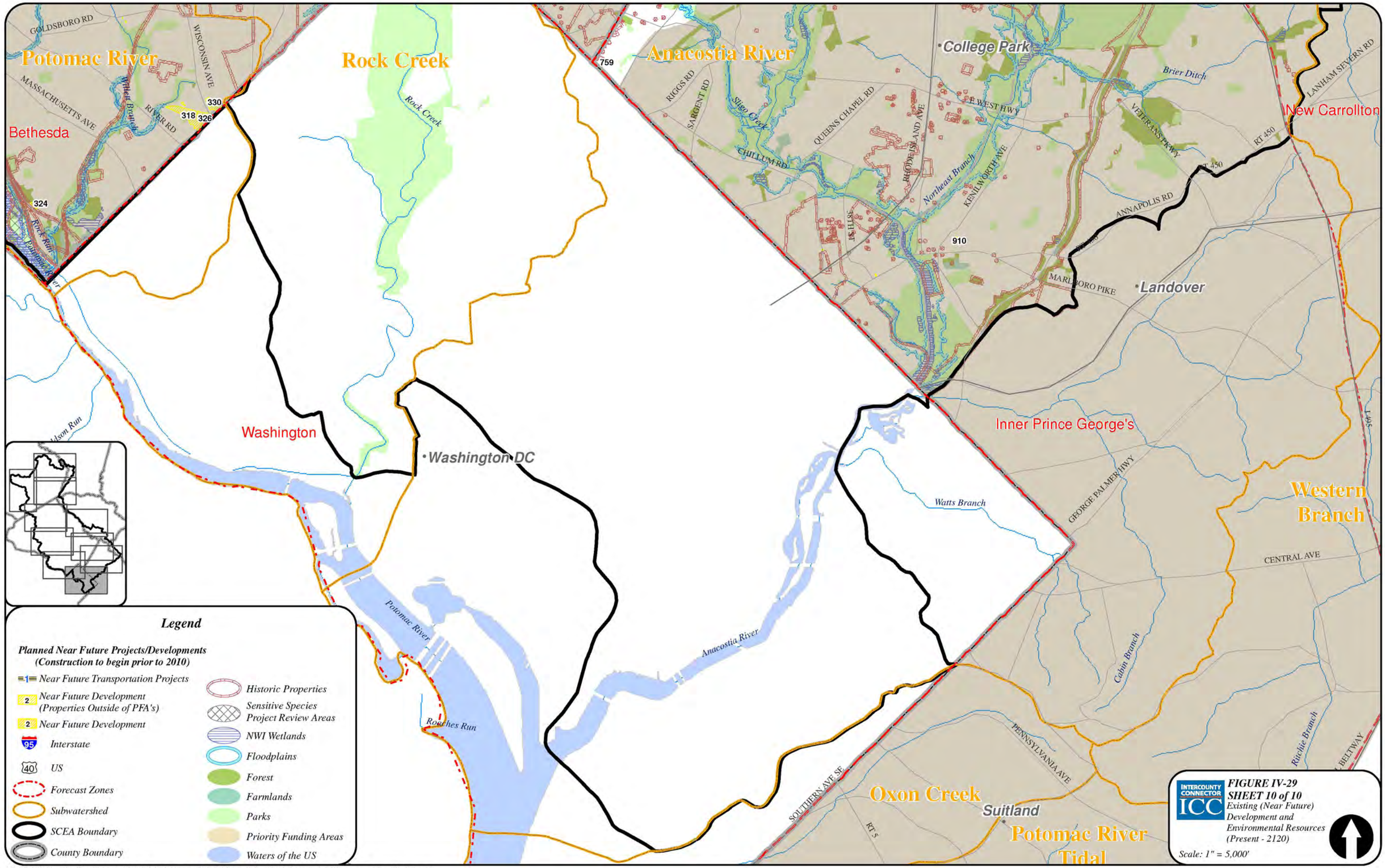

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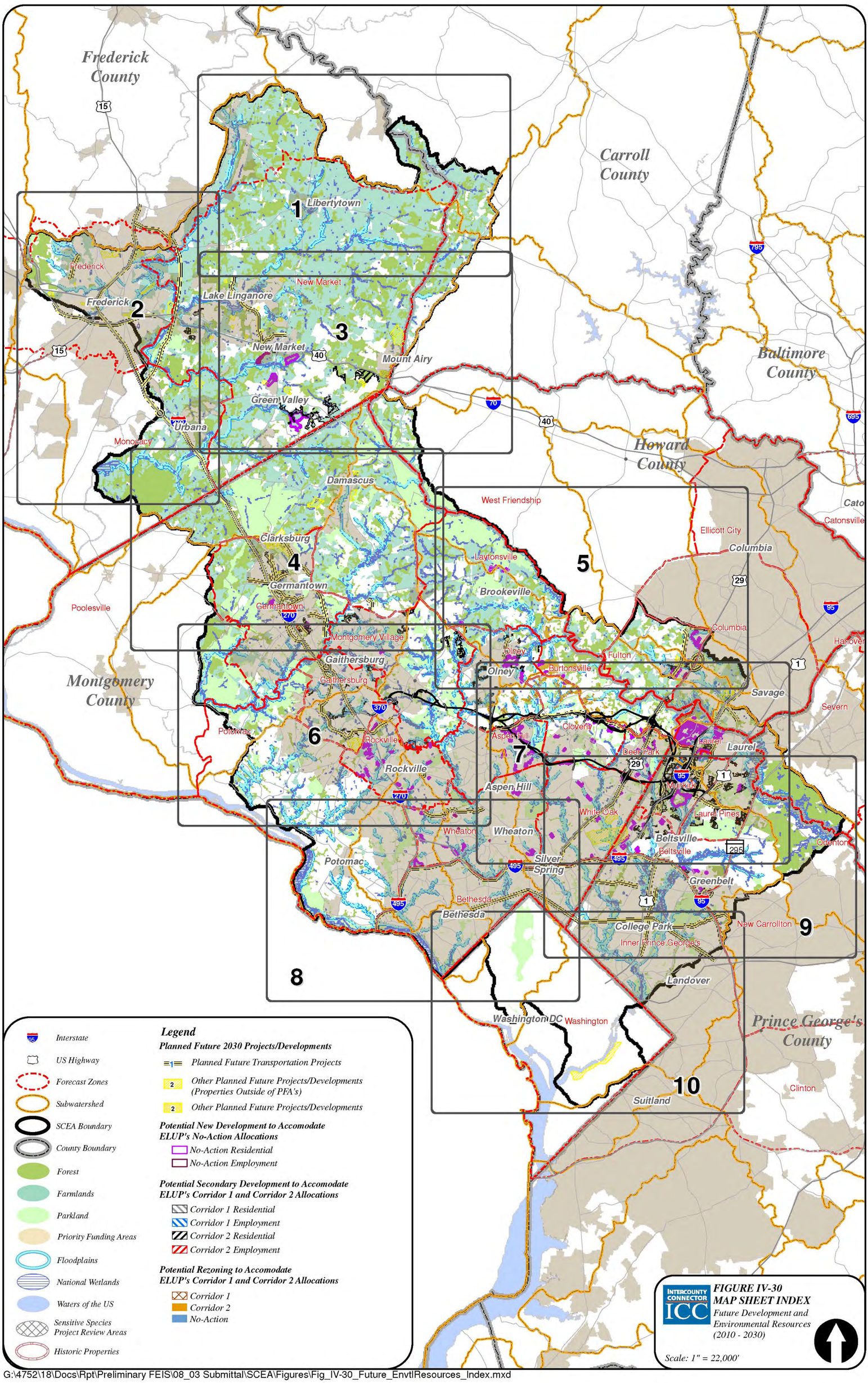

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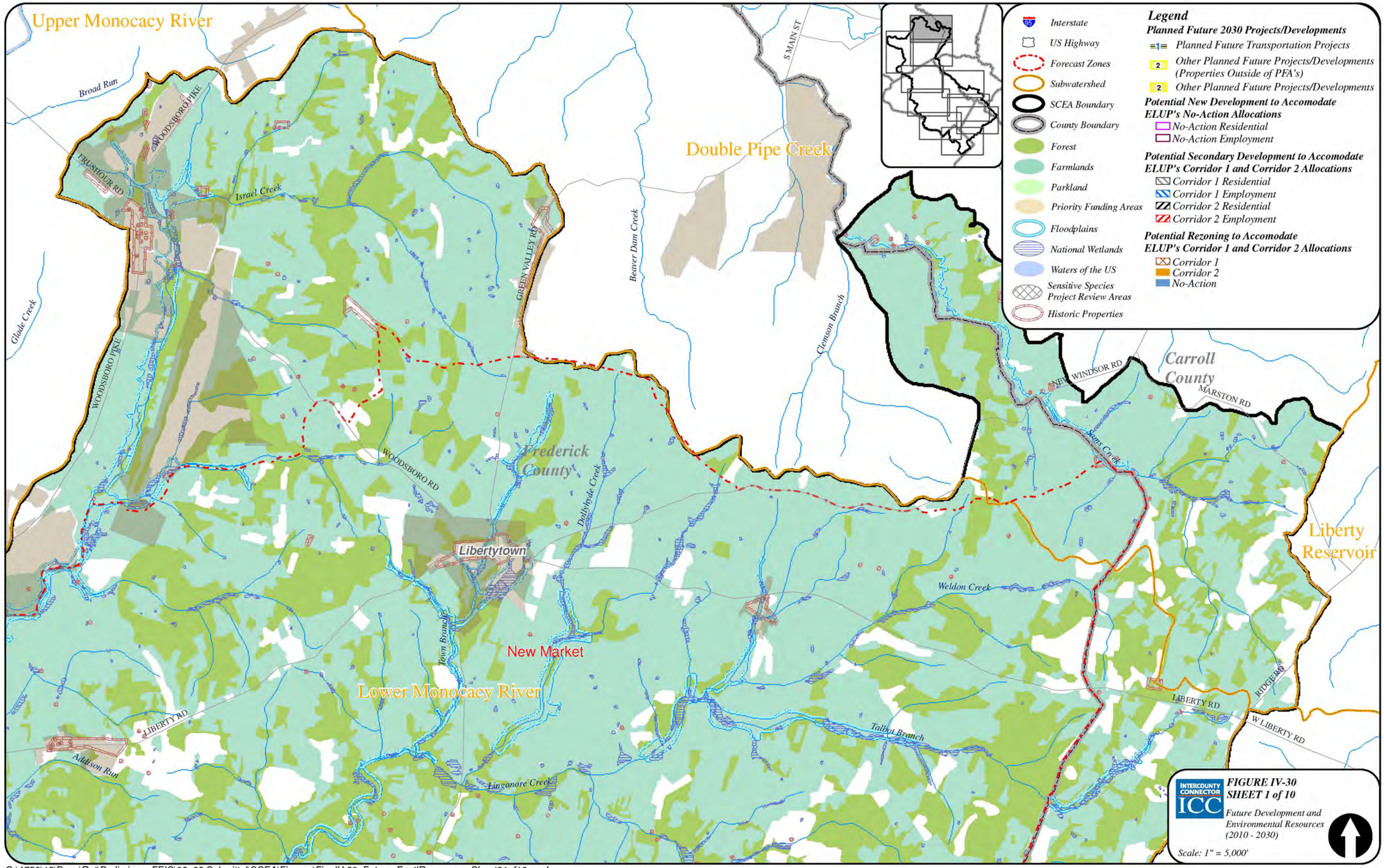

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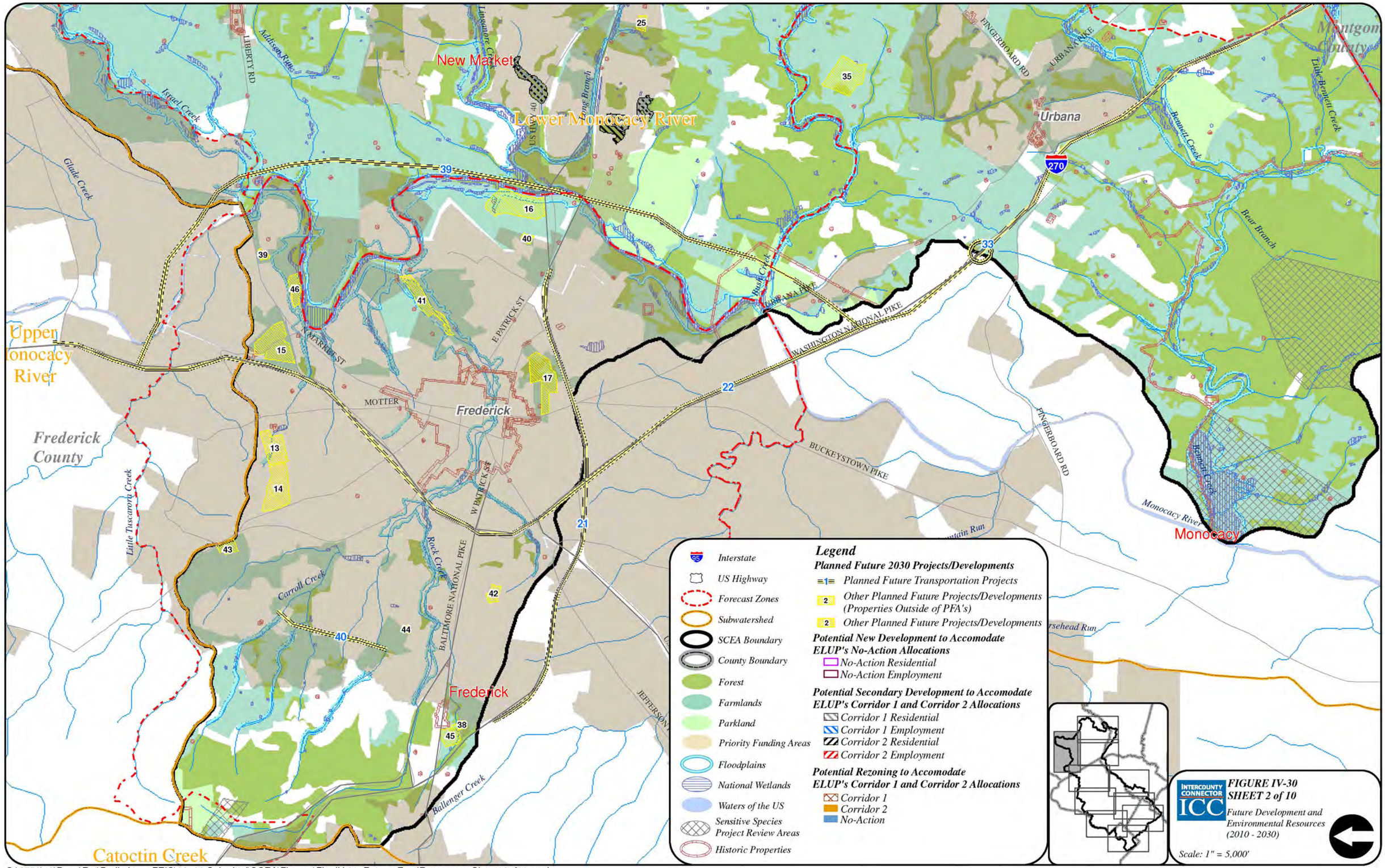

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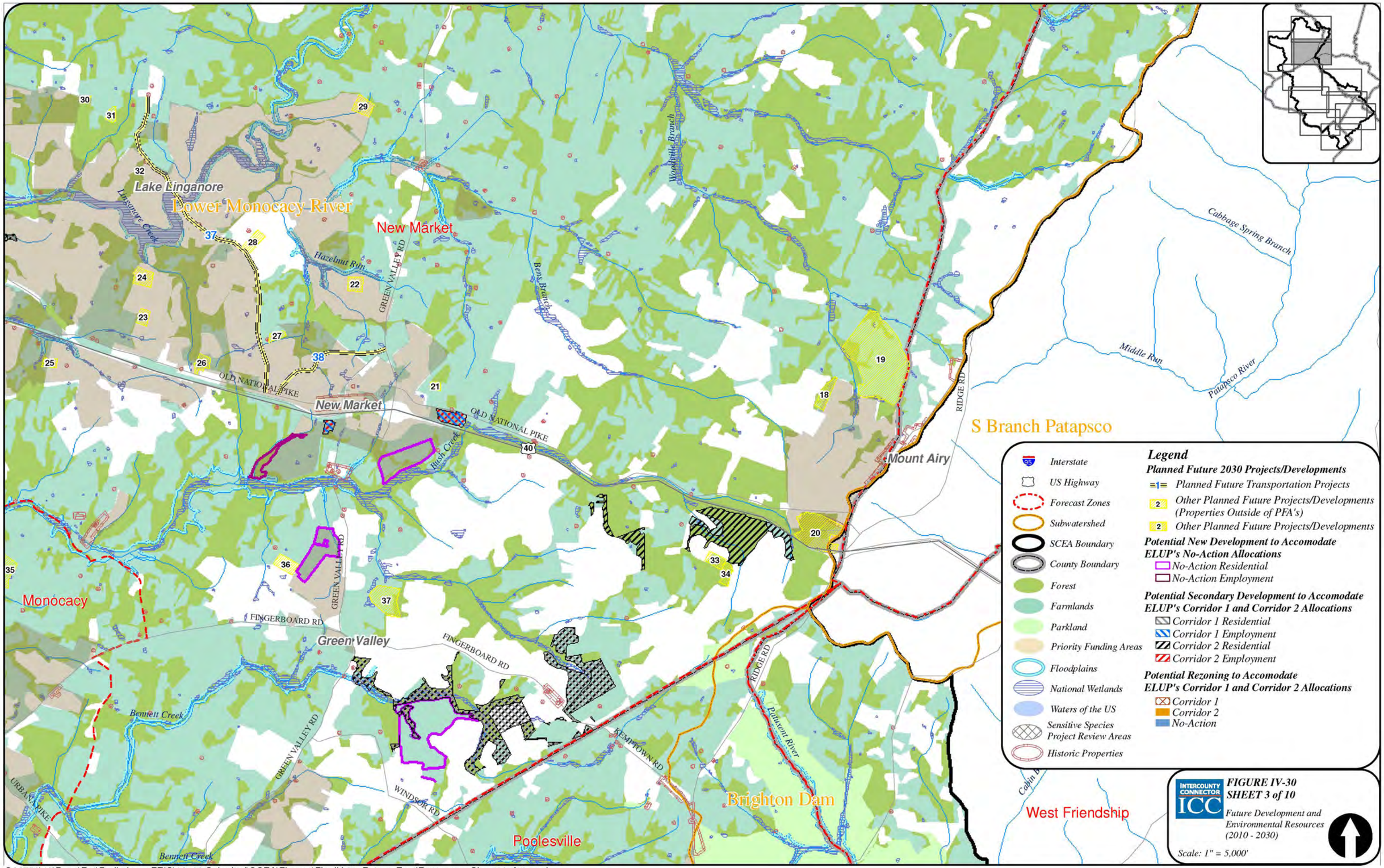

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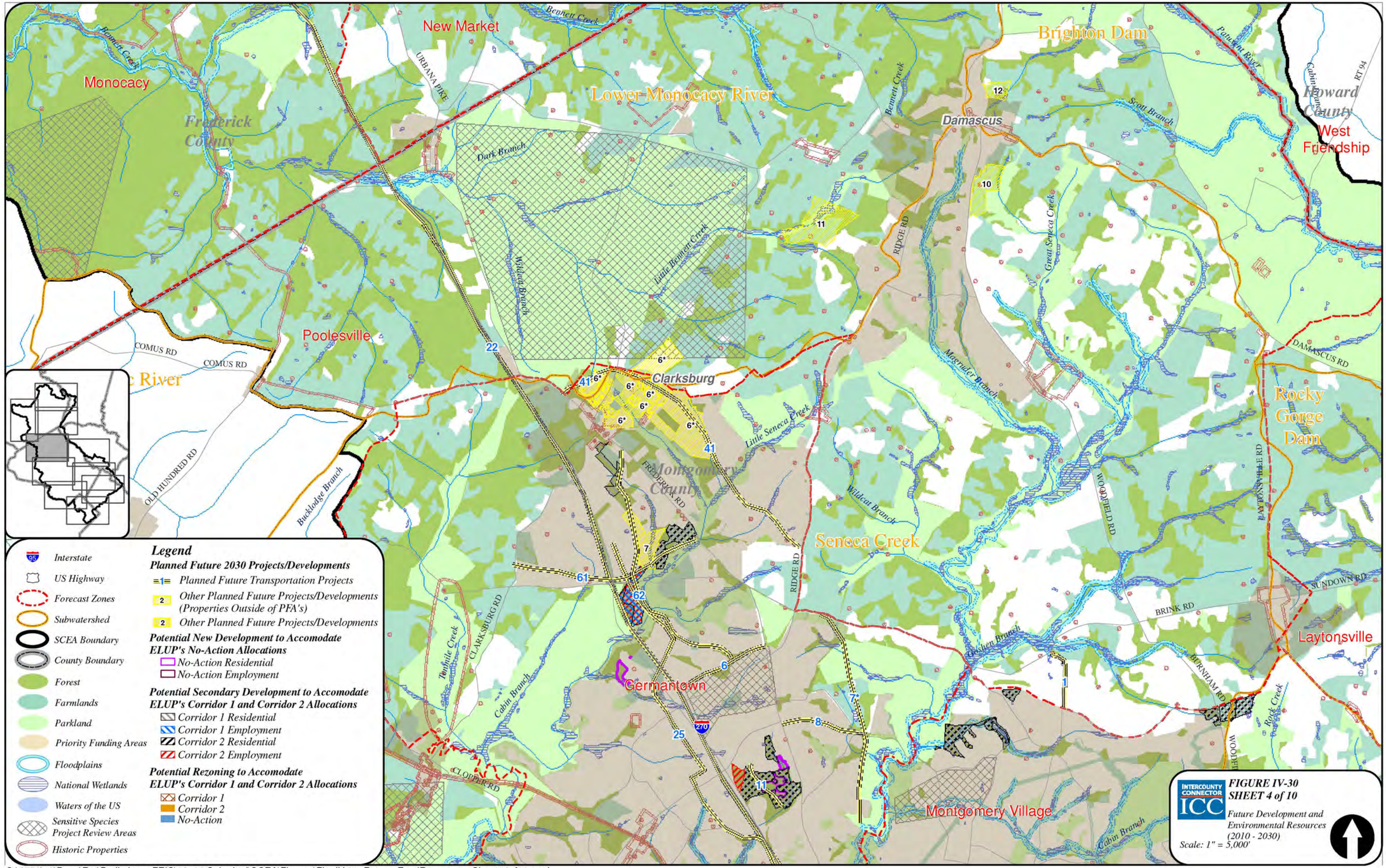

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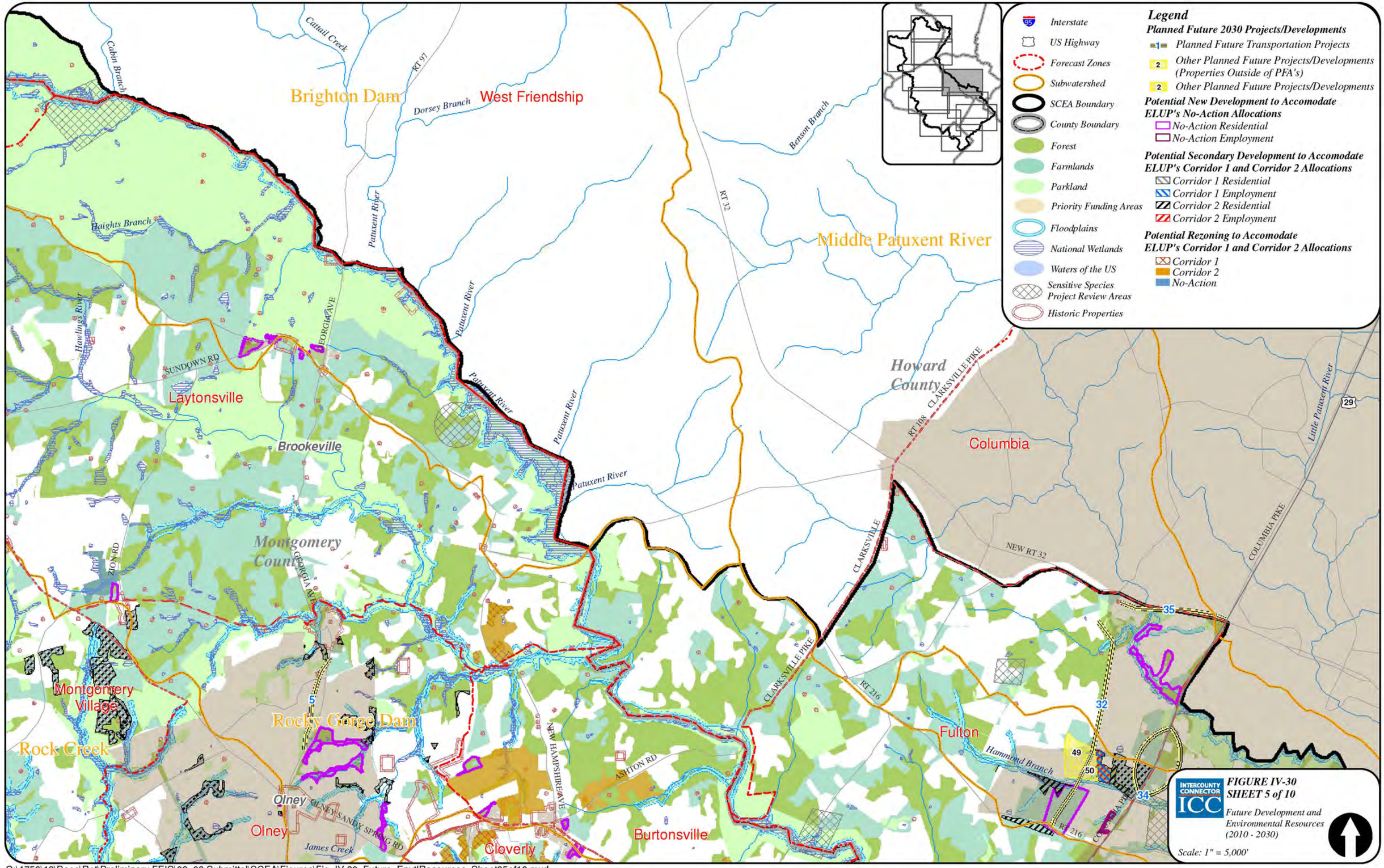

INTERCOUNTY CONNECTOR ICC

FIGURE IV-30
SHEET 5 of 10

Future Development and Environmental Resources (2010 - 2030)

Scale: 1" = 5,000'

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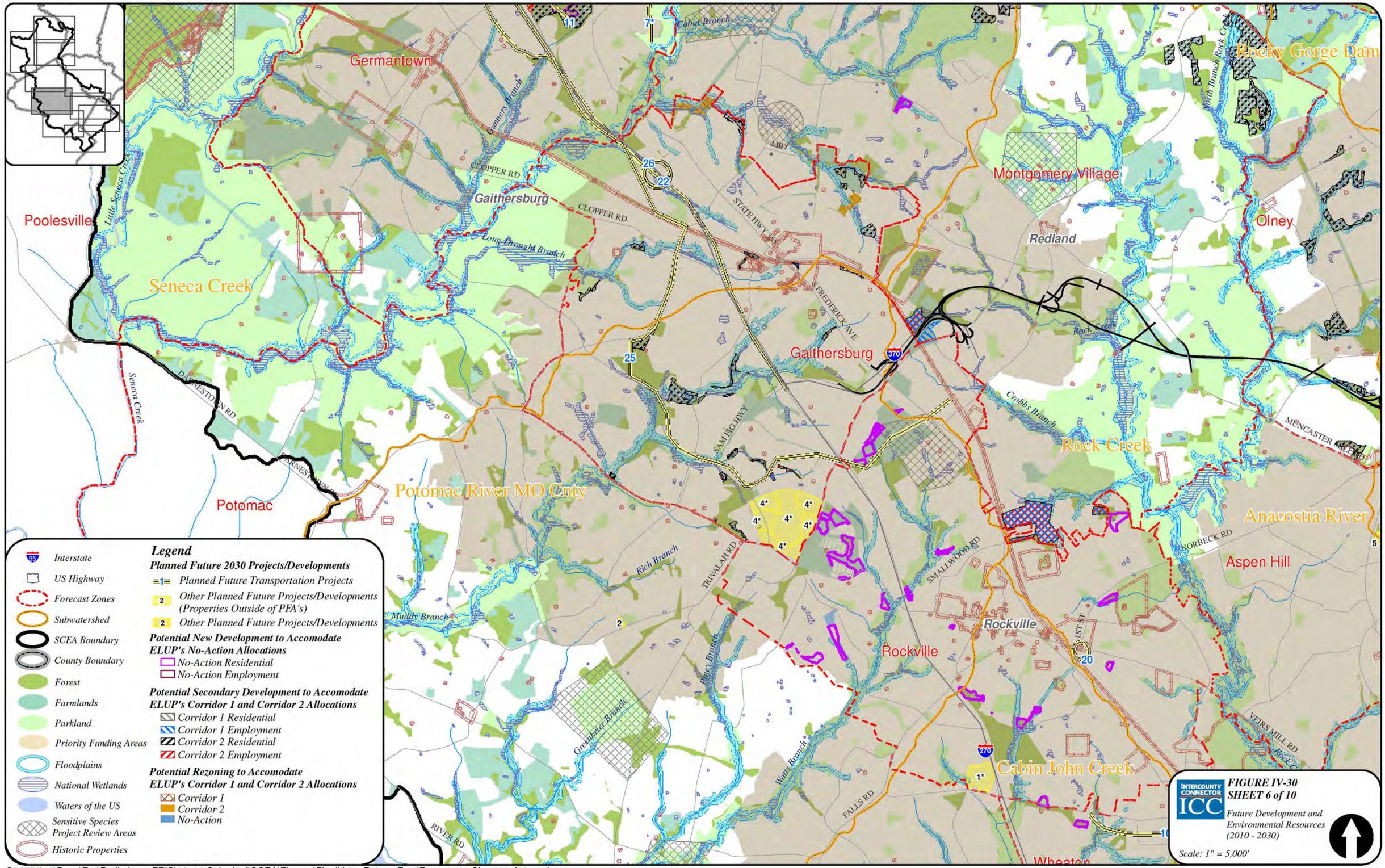

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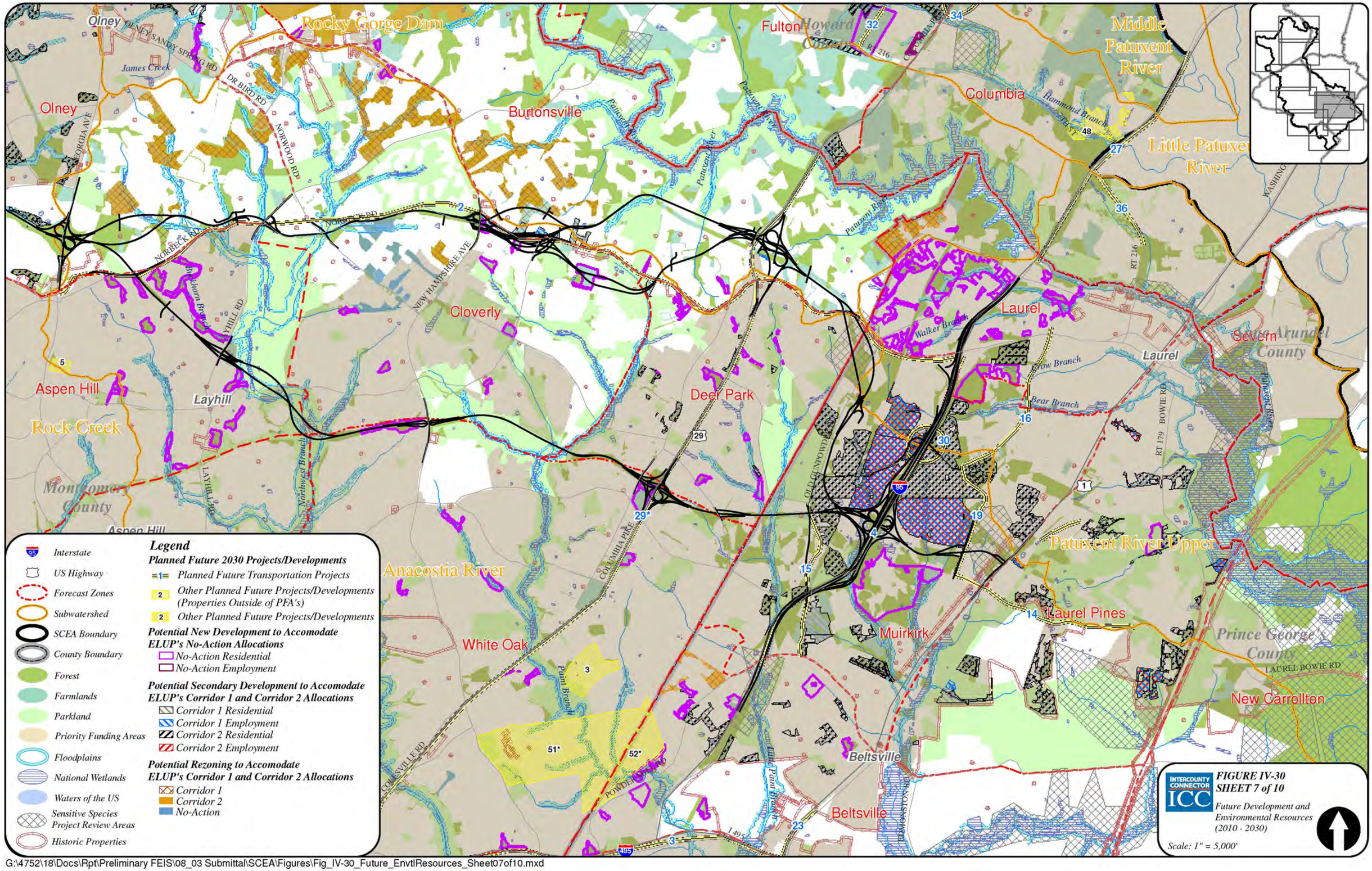

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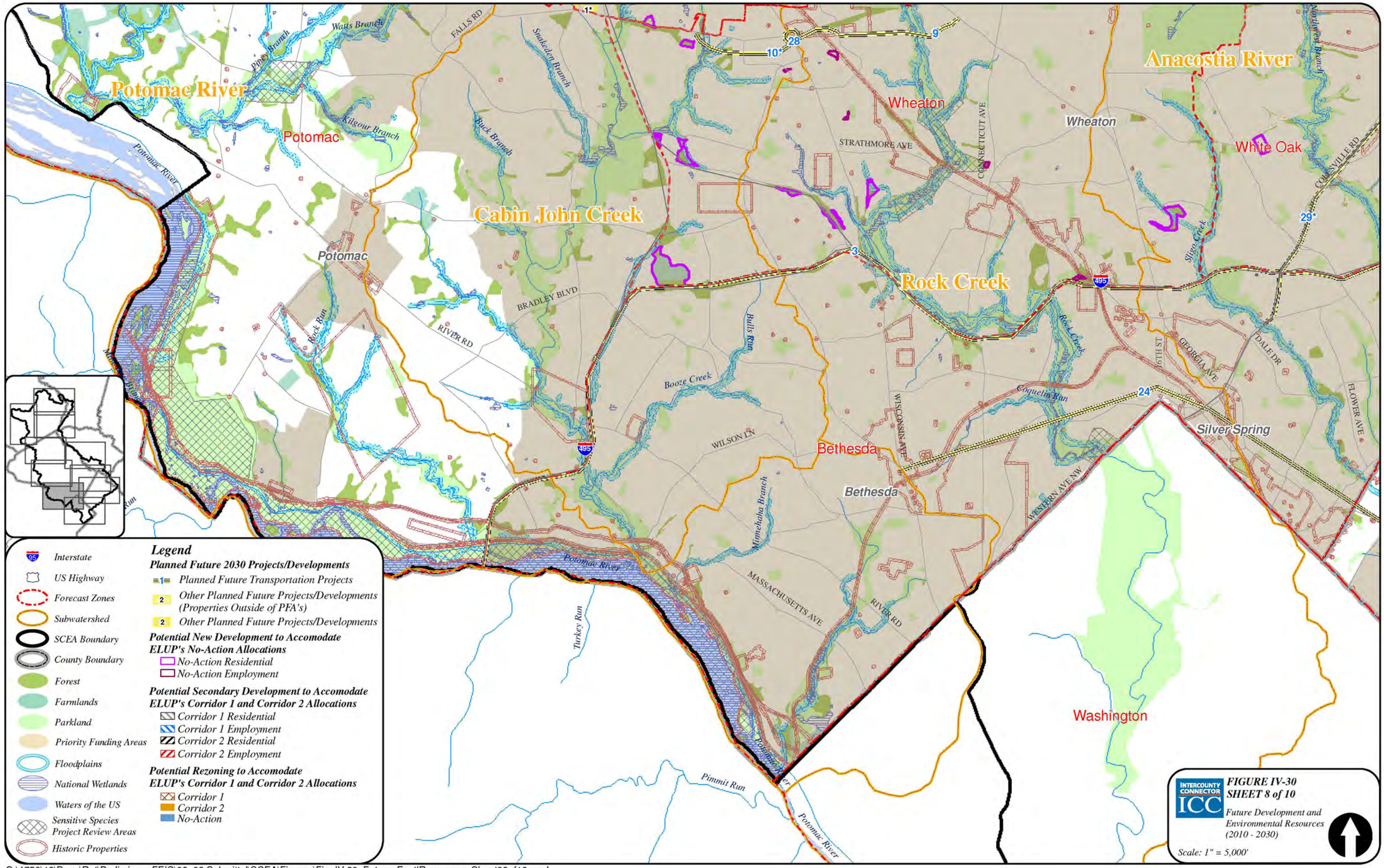

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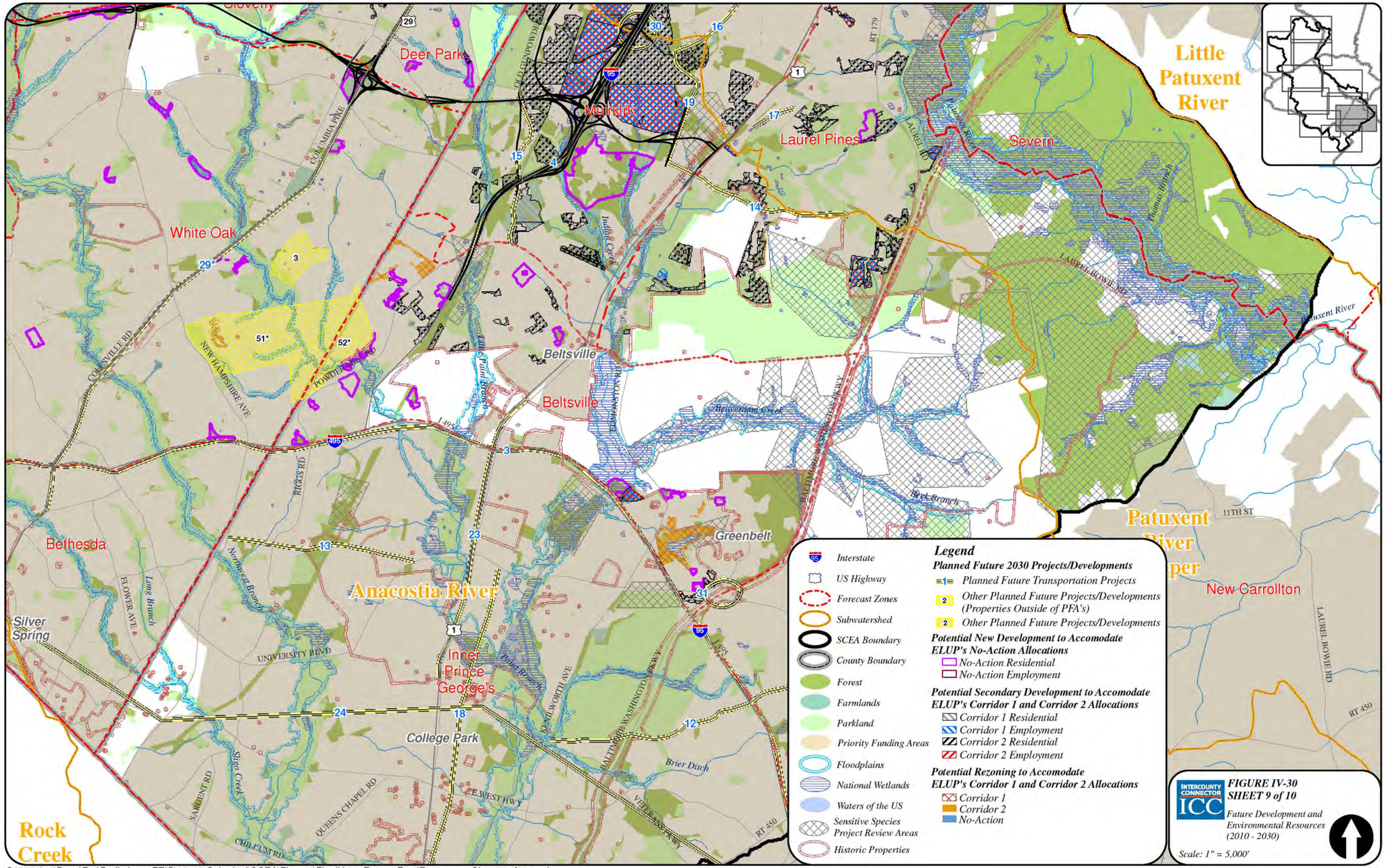

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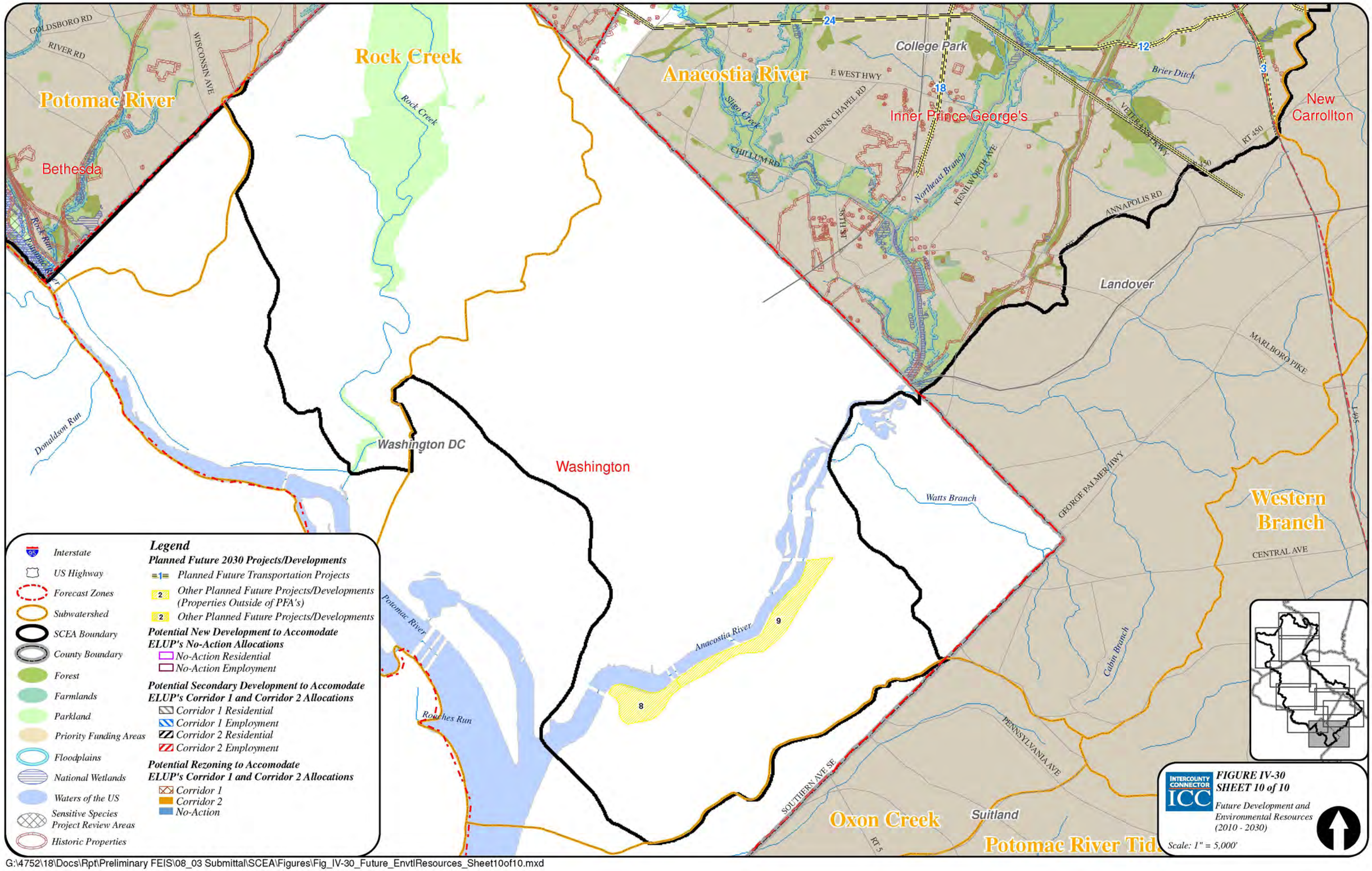

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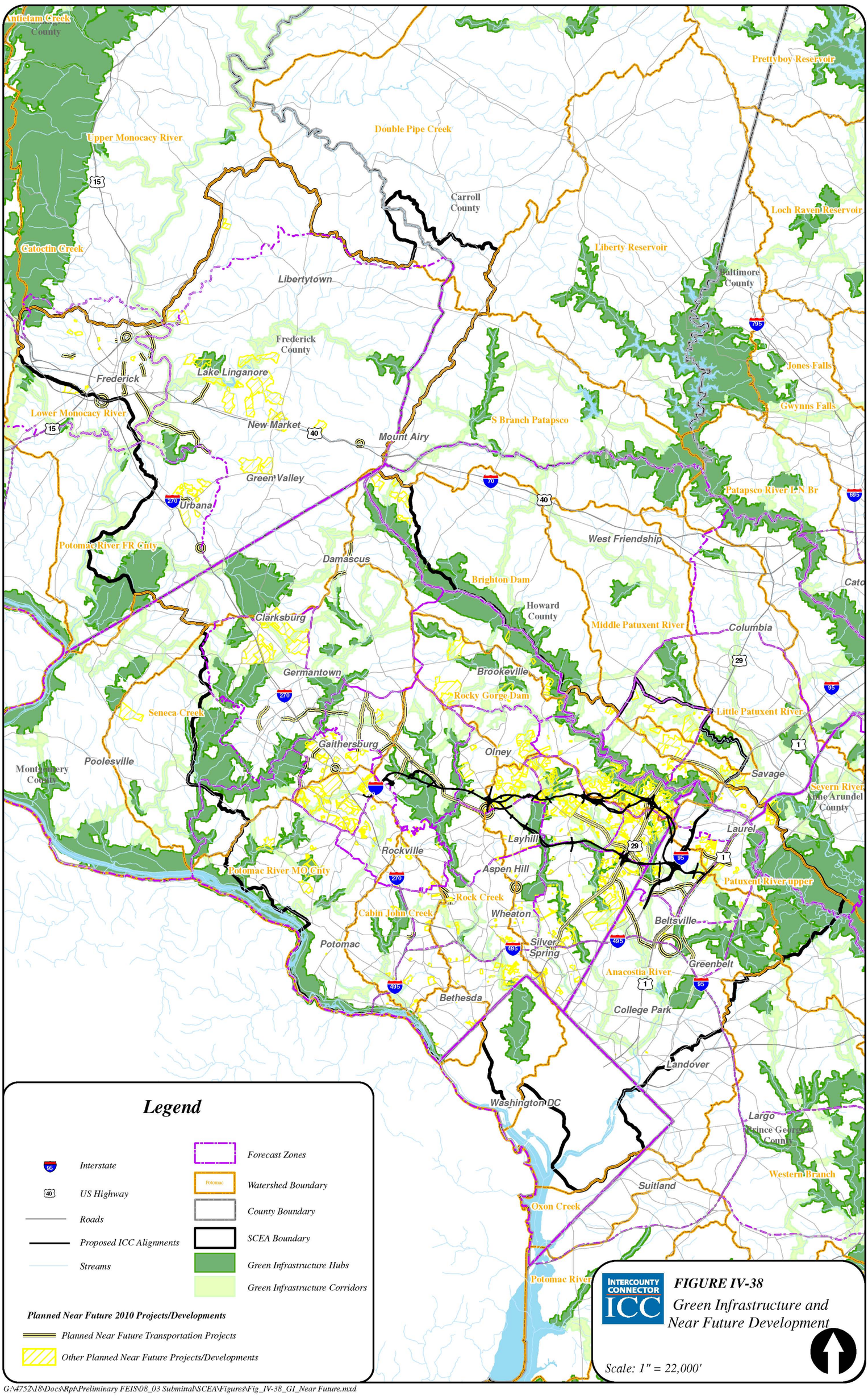

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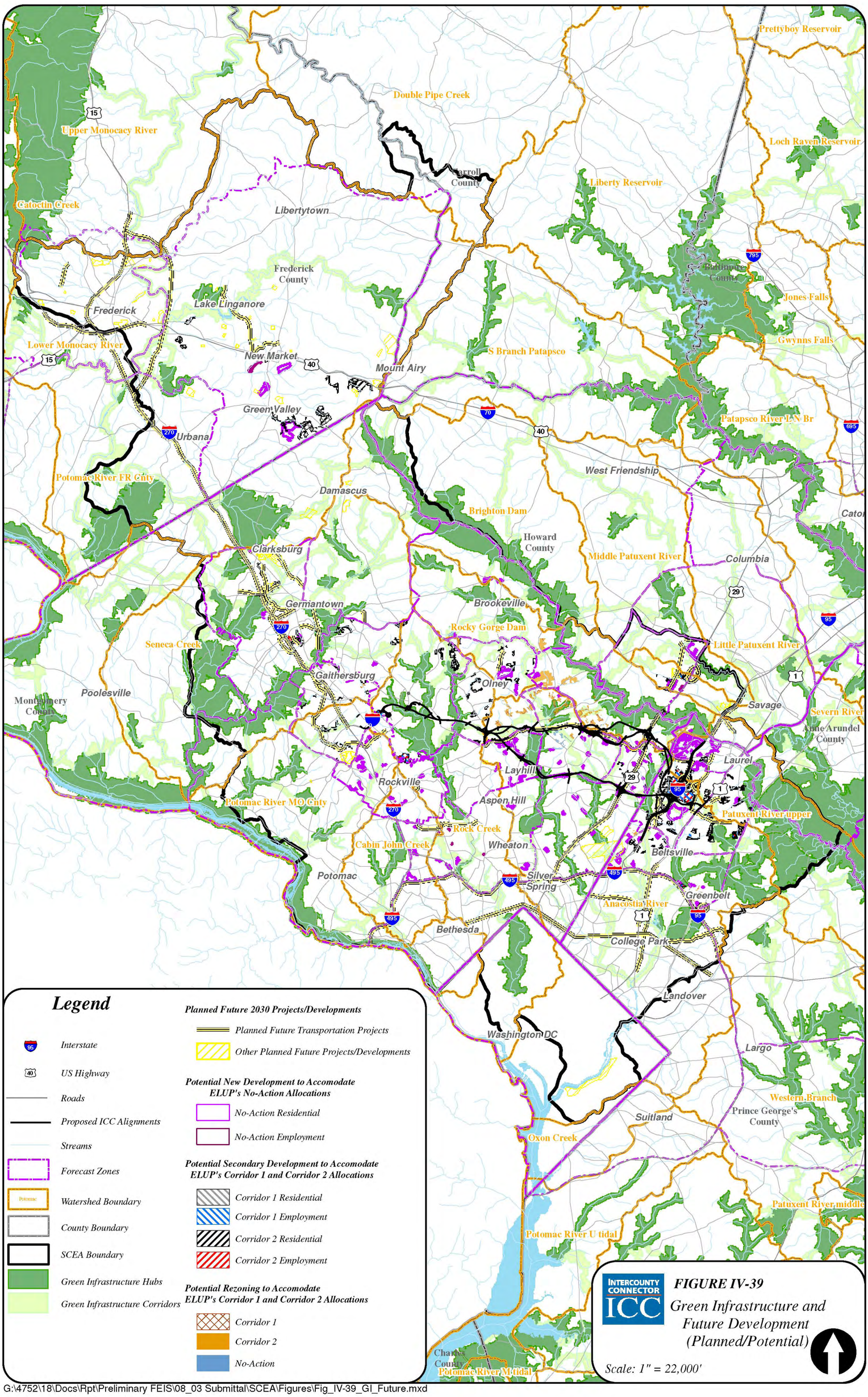

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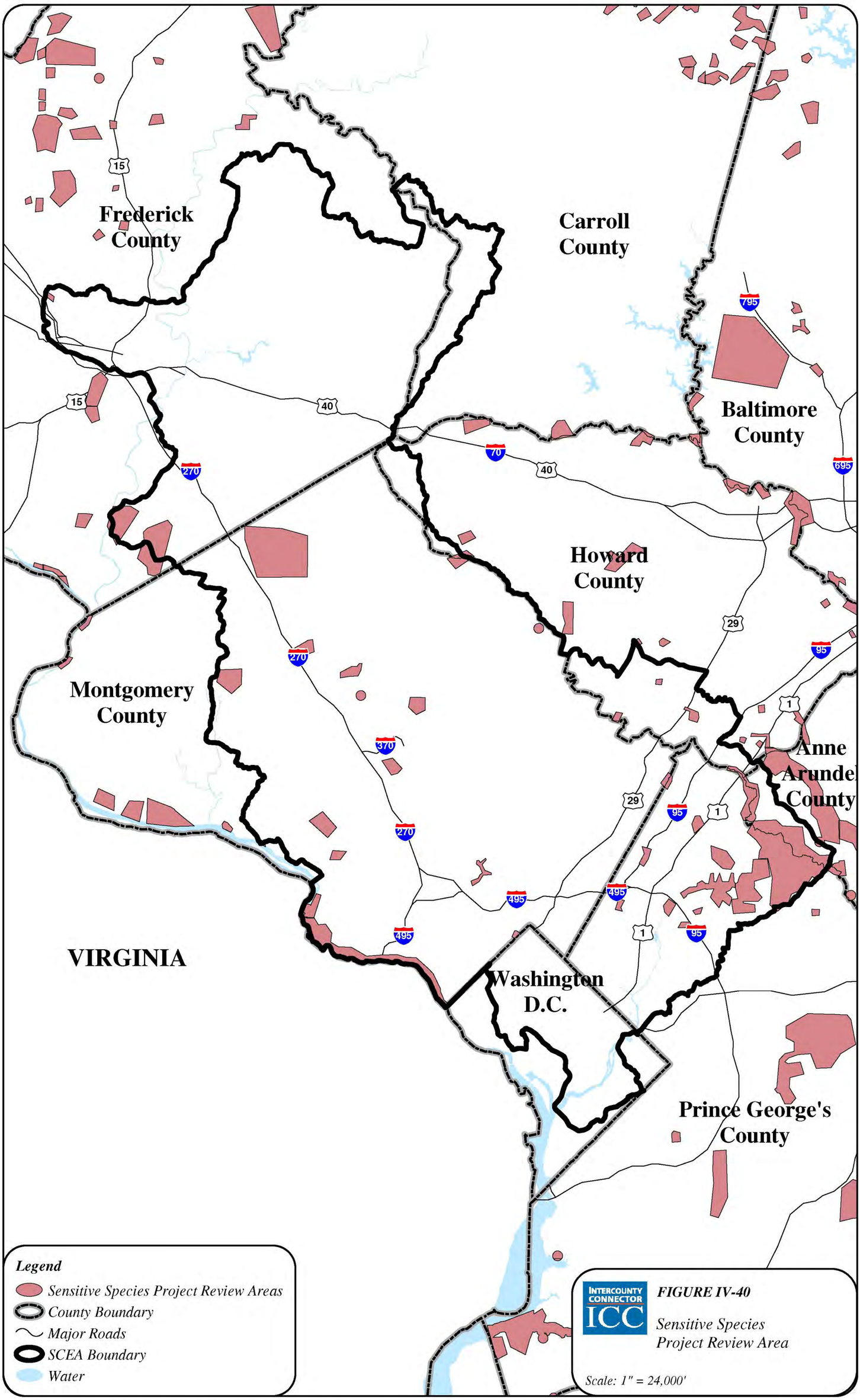

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Appendix P-1

Forecast Zones and Associated Planning Areas and Place Names

Forecast Zone	*Planning Area*	*Place Names**
Aspen Hill	Aspen Hill	Layhill, Aspen Hill
Beltsville	College Park-Berwyn Heights & Vicinity	
	Fairland, Beltsville & Vicinity	Beltsville
	Greenbelt & Vicinity	Greenbelt
	Langley Park & Vicinity	
Bethesda	Bethesda/Chevy Chase	Bethesda, Glen Echo, Chevy Chase
	Kemp Mill/4 Corners	
	Silver Spring	Silver Spring
	Takoma Park	Takoma Park
Burtonsville	Patuxent	Ednor, Brinklow, Burtonsville
Catonsville		
Clinton	City of Bowie	Bowie
	Collington & Vicinity	
	Largo-Lottsford	Largo, Kettering
	Upper Marlboro & Vicinity	Upper Marlboro
	Westphalia & Vicinity	Westphalia
	Mitchellville & Vicinity	
Cloverly	Cloverly	Cloverly, Spencerville, Ashton, Sandy Spring
Columbia	Columbia	Dickinson, Huntington, Columbia, Scaggsville, Guilford
	Southeast	Savage
Deer Park	Fairland	
Ellicott City	Ellicott City	Ellicott City
	Elkridge	Elkridge
Frederick		
Fulton	Rural West	Simpsonville, Highland, Fulton,
	Southeast	
Gaithersburg	Gaithersburg	Gaithersburg, Washington Grove, Oakmont
	Gaithersburg & Vicinity	
Germantown	Clarksburg	Clarksburg
	Germantown	Germantown
	Goshen	
Hanover	BWI/Linthicum	Patapsco, Hanover, Harmans, Ferndale
	Brooklyn Park	Brooklyn
	Glen Burnie	Glen Burnie, Harundale
Inner Prince George's	College Park-Berwyn Heights & Vicinity	University Park, College Park
	Langley Park & Vicinity	Chilum, Takoma Park, Adelphi,
	Greenbelt & Vicinity	Greenbelt, Berwyn Heights
	Hyattsville-Riverdale-Mt. Rainier-Brentw	Mount Rainer, Brentwood, North Brentwood, Edmonston, Comar Manor, Cottage City, Hyattsville, Riverdale Park
	Landover & Vicinity	Seat Pleasant, Fairmount Heights, Glen Arden
	Suitland District Heights & Vicinity	Forestville, District Heights, Suitland,
	Bladensburg - New Carrollton & Vicinity	New Carrollton, Bladensburg, Landover Hills, Cheverly
	Takoma Park	Takoma Park
	The Heights	Morningside, Temple Hills, Hillcrest Heights, Forest Heights
	Town of Capitol Heights	Capitol Heights
Laurel Pines	City of Laurel	Laurel
	South Laurel/Montpelier	Montpelier
Laurel	City of Laurel	Laurel
	Northwestern Area	
Laytonsville	Olney	Laytonsville
Monocacy	Urbana	Urbana, Kemptown, Green Valley
	Adamstown	Point of Rocks, Buckeystown, Adamstown

** Place names were based on ADC Mapping.*

Forecast Zone	*Planning Area*	*Place Names**
Montgomery Village	Gaithersburg	
	Gaithersburg & Vicinity	Montgomery Village
	Upper Rock Creek	Redland
Muirkirk	City of Laurel	
	Fairland, Beltsville & Vicinity	Beltsville, Calverton
	Northwestern Area	Muirkirk
New Carrollton	Agricultural Research Center	
	Bowie & Vicinity	Bowie
	City of Bowie	Bowie
	Collington & Vicinity	
	Glenn Dale-Seabrook-Lanham & Vicinity	Seabrook, Lanham, Glen Dale
	Greenbelt & Vicinity	
	Largo-Lottsford	Glenarden, Landover
	Mitchellville & Vicinity	Bowie, Woodmore
	South Laurel/Montpelier	
New Market	Frederick	Frederick, Middletown, Braddock Heights
	New Market	New Market, Mt. Airy, Lake Linganore, Frederick, Ijamsville, Woodville
	Urbana	Kemptown, Green Valley, Monrovia
	Walkersville	Libertytown, Unionville
Odenton	Odenton	Piney Orchard, Woodwardville
	Crofton	Crofton
	Crownsville	Crownsville, Millersville
	South County	
Olney	Olney	Brookeville, Olney, Norbeck, Norwood
Poolesville	Martinsburg	
	Poolesville	Poolesville
	Dickerson	Dickerson, Barnesville
	Goshen	Goshen, Laytonsville
	Lower Seneca	
	Bennett	
	Damascus	Damascus
	Patuxent	
Potomac	Darnestown	Darnestown, North Potomac
	Travilah	
	Gaithersburg & Vicinity	Quince Orchard
	Potomac	Potomac
Rockville	Travilah	
	Gaithersburg & Vicinity	
	Rockville	Rockville
Severn	Jessup - Maryland City	Maryland City, Laurel
	Odenton	Fort Meade, Odenton, Gambrills
	Severn	Jessup, Severn
Washington		Washington, D.C.
West Friendship	Rural West	Dayton, Clarksville, Glenelg, Glenwood, West Friendship, Lisbon
	Ellicott City	
Wheaton	Kensington/Wheaton	Glenmont, Wheaton, Kensington
	North Bethesda	Garrett Park
White Oak	Fairland	Fairland
	Kemp Mill/Four Corners	Four Courners
	White Oak	White Oak, Hillandale, Colesville

Appendix P-2

ELUP Estimated Acreage of Future 2030 New Development/Projects

Forecast Zone	Classification	No-Action: Planned Development[1]	No-Action: Additional Potential Development on Lands Currently Zoned to Accommodate Res. or Comm. Development	No-Action: Total	No-Action: Potential for Rezoning[2]	No-Action: Potential for Redevelopment[3]	No-Action: Combined Total	Corridor 1: Additional Secondary Development on Lands Currently Zoned to Accommodate Res. or Comm. Development	Corridor 1: Potential for Rezoning[2]	Corridor 1: Potential for Redevelopment[3]	Corridor 1: Total Secondary	Corridor 1: Total Cumulative	Corridor 2: Additional Secondary Development on Lands Currently Zoned to Accommodate Res. or Comm. Development	Corridor 2: Potential for Rezoning[2]	Corridor 2: Potential for Redevelopment[3]	Corridor 2: Total Secondary	Corridor 2: Total Cumulative
Frederick County																	
Frederick	Residential	0		0			740				0	740				0	740
	Comm./Ind.	240		240													
	Other[4]	500		500													
Monocacy	Residential	0		0			290				0	290				0	290
	Comm./Ind.	0		0													
	Other[4]	290		290													
New Market	Residential	320	380	700	Not Needed		1,300	570	Not Needed		580	1,880	853	Not Needed		863	2,163
	Comm./Ind.	100	30	130				10					10				
	Other[4]	470		470													
Frederick County Total		1,920	410	2,330	0		2,330	580	0		580	2,910	863	0		863	3,193
Montgomery County																	
Poolesville	Residential	240		240			400				0	400				0	400
	Comm./Ind.	70		70													
	Other[4]	90		90													
Germantown	Residential	0	40	40	Not Needed		930	200	Not Needed		270	1,200	170	Not Needed		250	1,180
	Comm./Ind.	440	Not Needed	440				70					80				
	Other[4]	450		450													
Potomac	Residential	0		0			50				0	50				0	50
	Comm./Ind.	0		0													
	Other[4]	50		50													
Gaithersburg	Residential	0	Not Needed	0	Not Needed		480	134	37	(958 HH)	180	660	134	37	(656 HH)	180	660
	Comm./Ind.	230	Not Needed	230				9		(3,589Jobs)			9		(3375 Jobs)		
	Other[4]	250		250													
Montgomery Village	Residential	0	10	10	Not Needed		10	380	Not Needed		530	540	380	Not Needed		520	530
	Comm./Ind.	0	Not Needed	0				150					140				
	Other[4]	0		0													
Olney	Residential	0	70	70	Not Needed		144	260	271	Not Needed	536	680	260	240	Not Needed	506	650
	Comm./Ind.	0	1	1	3	Not Needed		Not Available	5				Not Available	6			
	Other[4]	70		70													
Laytonsville	Residential	0	30	30	40	Not Needed	70	Not Available	60	Not Needed	61	131	Not Available	111	Not Needed	112	182
	Comm./Ind.	0	Not Needed	0	Not Needed			Not Available	1				Not Available	1			
	Other[4]	0		0													
Burtonsville	Residential	0	60	60	Not Needed		170	10	270	Not Needed	292	462	Not Available	670	Not Needed	685	855
	Comm./Ind.	0	Not Needed	0				10	2				Not Available	15			
	Other[4]	110		110													
Rockville	Residential	0	155	155	10	(1,253 HH)	265	Not Needed	Not Needed		0	265	Not Needed	Not Needed		0	265
	Comm./Ind.	50	Not Available	50	0	(1,851 Jobs)		Not Needed					Not Needed				
	Other[4]	50		50													
Aspen Hill	Residential	20	150	170	0	(236 HH)	190	Not Available	0	(1,347 HH)	0	190	Not Available	0	(1,175 HH)	0	190
	Comm./Ind.	0	Not Available	0		(60 Jobs)		Not Available		(1240 Jobs)			Not Available		(1230 Jobs)		
	Other[4]	20		20													
Cloverly	Residential	0	80	80	130	Not Needed	290	Not Available	287	(551 HH)	288	578	Not Available	287	(603 HH)	287	577
	Comm./Ind.	0	Not Needed	0	Not Needed			1		(960 Jobs)			Not Available		(1050 Jobs)		
	Other[4]	80		80													
Deer Park	Residential	0	60	60	Not Needed		150	40	0	(1440 HH)	40	190	30	0	(870 HH)	30	180
	Comm./Ind.	0	Not Needed	0				Not Available		(850 Jobs)			Not Available		(840 Jobs)		
	Other[4]	90		90													
Bethesda	Residential	0		0			0				0	0				0	0
	Comm./Ind.	0		0													
	Other[4]	0		0													
Wheaton	Residential	0	160	160	0	(3342 HH)	350	Not Needed	Not Needed		0	350	Not Needed	Not Needed		0	350
	Comm./Ind.	0	10	10	Not Needed			Not Needed					Not Needed				
	Other[4]	180		180													
White Oak	Residential	0	120	120	11	(840 HH)	930	Not Available	0	(1560 HH)	0	930	Not Available	0	(1470 HH)	0	930
	Comm./Ind.	120	Not Available	120	0	(1,009 Jobs)		Not Available		(3,990 Jobs)			Not Available		(2,511 Jobs)		
	Other[4]	690		690													
Montgomery County Total		3,300	946	4,246	194		4,429	1,264	933		2,197	6,626	1,203	1,367		2,570	6,999

Appendix P-2

ELUP Estimated Acreage of Future 2030 New Development/Projects

Forecast Zone	Classification	No-Action: Planned Development[1]	No-Action: Additional Potential Development on Lands Currently Zoned to Accommodate Res. or Comm. Development	No-Action: Total	No-Action: Potential for Rezoning[2]	No-Action: Potential for Redevelopment[3]	No-Action: Combined Total	Corridor 1: Additional Secondary Development on Lands Currently Zoned to Accommodate Res. or Comm. Development	Corridor 1: Potential for Rezoning[2]	Corridor 1: Potential for Redevelopment[3]	Corridor 1: Total Secondary	Corridor 1: Total Cumulative	Corridor 2: Additional Secondary Development on Lands Currently Zoned to Accommodate Res. or Comm. Development	Corridor 2: Potential for Rezoning[2]	Corridor 2: Potential for Redevelopment[3]	Corridor 2: Total Secondary	Corridor 2: Total Cumulative
Howard County																	
West Friendship	Residential	0		0													
	Comm./Ind.	0		0			0				0	0				0	0
	Other[4]	0		0													
Fulton	Residential	90	160	250	Not Needed			110	Not Needed				160	Not Needed			
	Comm./Ind.	0	10	10			440	30			140	580	105			265	705
	Other[4]	180		180													
Columbia	Residential	70		70													
	Comm./Ind.	0		0			210				0	210				0	210
	Other[4]	140		140													
Ellicott City	Residential	0		0													
	Comm./Ind.	0		0			0				0	0				0	0
	Other[4]	0		0													
Catonsville	Residential	0		0													
	Comm./Ind.	0		0			0				0	0				0	0
	Other[4]	0		0													
Howard County Total		480	170	650	0		650	140	0		140	790	265	0		265	915
Prince George's County																	
Muirkirk	Residential	0	242	242	Not Needed			822	Not Needed				760	Not Needed			
	Comm./Ind.	0	Not Needed	0			482	460			1,282	1,764	370			1,130	1,612
	Other[4]	240		240													
Laurel	Residential	0	375	375	Not Needed			45	81	(913 HH)			45	81	(1147 HH)		
	Comm./Ind.	0	Not Needed	0			435	Not Available		(1130 Jobs)	126	561	Not Available		(1310 Jobs)	126	561
	Other[4]	60		60													
Laurel Pines	Residential	0	25	25	Not Needed			300	Not Needed				285	Not Needed			
	Comm./Ind.	0	Not Needed	0			85	65			365	450	63			348	433
	Other[4]	60		60													
Beltsville	Residential	0	150	150	Not Needed			110	130	(217 HH)			100	130	(217 HH)		
	Comm./Ind.	0	Not Needed	0			710	15	Not Needed	Not Needed	255	965	15	Not Needed	Not Needed	245	955
	Other[4]	560		560													
New Carrollton	Residential	0		0													
	Comm./Ind.	0		0			70				0	70				0	70
	Other[3]	70		70													
Inner Prince George's	Residential	0		0													
	Comm./Ind.	0		0			610				0	610				0	610
	Other[3]	610		610													
Clinton	Residential	0		0													
	Comm./Ind.	0		0			0				0	0				0	0
	Other[3]	0		0													
Prince George's County Total		1,600	792	2,392	0		2,392	1,817	211		2,028	4,420	1,638	211		1,849	4,241
Anne Arundel County																	
Severn	Residential	0		0													
	Comm./Ind.	0		0			0				0	0				0	0
	Other[3]	0		0													
Hanover	Residential	0		0													
	Comm./Ind.	0		0			0				0	0				0	0
	Other[3]	0		0													
Odenton	Residential	0		0													
	Comm./Ind.	0		0			0				0	0				0	0
	Other[3]	0		0													
Anne Arundel County Total		0		0	0		0	0	0		0	0	0	0		0	0
Washington D.C.																	
Washington	Residential	0		0													
	Comm./Ind.	0		0			360				0	360				0	360
	Other[3]	360		360													
Washington DC Total		360		360			360				0	360				0	360
Grand Total		7,660	2,318	9,978	194		10,161	3,801	1,144		4,945	15,106	3,969	1,578		5,546	15,707

[1] Future 2030 planned development does not account for future unforeseen private development projects. Unlike major government funded capital improvements (including transportation projects) that are typically programmed/planned far in advance to initiate the appropriation of needed public funds, private development projects (especially residential development projects) are normally undertaken within shorter planning periods. The lack of planned development projects for the future time frame is not necessarily an indication that this type of development will not occur in the future time frame under a No-Action alternative. The total planned development acreage included in this table does not account for these smaller unforeseen private developments that have not yet been planned, and have therefore, not been included in the total computation of planned development for a No-Action Alternative.

[2] It was assumed that rezoning may occur in areas that have undeveloped parcels, yet rezoning would be required. Protected lands such as parklands and historic properties were not considered available to provide rezoning opportunities. This acreage was estimated based on the mode Dwelling Units or FAR per county.

[3] For forecast zones that did not appear to have sufficient lands available to fully accommodate the ELUP's allocations as new development on undeveloped lands, it was assumed that some type of redevelopment may occur in the future time frame. The number indicated in parenthesis is the number of households or employees that would not appear to be accommodated within new development areas

[4] Includes transportation, federal lands and Institutional

Not Needed = It was determined that the ELUP's allocation did not require additional lands for additional potential development (Under the No-Action), secondary development land areas or rezoned or redevelopment lands.

Not Available = It was determined that no land was available to accommodate the ELUP allocations.

Forecast zones that showed a greater than 5% allocation difference between the No-Action and either the Corridor 1 or Corridor 2 (or both) projections. It is anticipated that these forecast zones will experience some level of secondary development associated with construction of an ICC build alternative.

Appendix P-3

Potential Impact of Development on Green Infrastructure Hubs within the SCEA Boundary by Subwatershed

Watershed	Subwatershed	Average Ecological Percentile	Average Ecological Rank	Total Acres of Subwatershed within the SCEA Boundary	Total Acres of Green Infrastructure within Subwatershed	Percent of Subwatershed Identified as Green Infrastructure	*No-Action*			*Corridor 1*		*Corridor 2*	
							Near Future Development Impacts (2010)	Future Development Impacts (2030)	Cumulative Impact of No-Action	Secondary Impact of Corridor 1 Potential Development	Cumulative Impact of Corridor 1	Secondary Impact of Corridor 2 Potential Development	Cumulative Impact of Corridor 2
MIDDLE POTOMAC RIVER	Lower Monocacy River	25.9	39.1	162,808	9,587.3	5.89%	118	6	124	0	124	0	124
PATUXENT RIVER	Brighton Dam	20.0	31.0	18,368	6,603.9	35.95%	67	0	67	0	67	0	67
	Little Patuxent River	18.2	33.7	3,608	39.9	1.11%	3	0	3	0	3	0	3
	Middle Patuxent River	38.1	59.0	5,114	368.6	7.21%	8	3	12	0	12	0	12
	Patuxent River upper	35.3	63.4	19,632	8,825.6	44.96%	11	1	12	23	35	23	35
	Rocky Gorge Dam	41.6	64.4	34,208	7,037.0	20.57%	1,231	0	1,232	47	1,279	47	1,279
WASHINGTON METROPOLITAN	Anacostia River	63.1	108.9	81,458	11,211.0	13.76%	622	58	680	138	818	138	818
	Cabin John Creek	43.2	67.0	16,424	1,144.4	6.97%	4	0	4	0	4	0	4
	Potomac River MO Co	15.3	23.8	40,193	6,193.3	15.41%	342	0	342	0	342	0	342
	Rock Creek	57.7	89.4	39,252	7,548.9	19.23%	94	1	94	6	101	6	101
	Seneca Creek	36.9	57.2	58,934	13,293.4	22.56%	31	19	50	27	77	27	77
Totals		**35.9**	**57.9**	**479,999**	**71,853.3**	**14.97%**	**2,532**	**89**	**2,620**	**242**	**2,863**	**242**	**2,863**

Potential Impact of Development on Green Infrastructure Corridors within the SCEA Boundary by Subwatershed

Watershed	Subwatershed	Average Ecological Percentile	Average Ecological Rank	Total Acres of Subwatershed within the SCEA Boundary	Total Acres of Green Infrastructure within Subwatershed	Percent of Subwatershed Identified as Green Infrastructure	*No-Action*			*Corridor 1*		*Corridor 2*	
							Near Future Development Impacts (2010)	Future Development Impacts (2030)	Cumulative Impact of No-Action	Secondary Impact of Corridor 1 Potential Development	Cumulative Impact of Corridor 1	Secondary Impact of Corridor 2 Potential Development	Cumulative Impact of Corridor 2
MIDDLE POTOMAC RIVER	Lower Monocacy River	54.0	129.7	162,808	9,091.5	5.58%	315	224	539	0	539	0	539
PATUXENT RIVER	Brighton Dam	55.2	132.7	18,368	751.6	4.09%	50	13	62	0	62	0	62
	Little Patuxent River	42.6	112.0	3,608	530.6	14.70%	202	50	252	0	252	0	252
	Middle Patuxent River	33.7	73.2	5,114	1,198.6	23.44%	144	54	198	0	198	0	198
	Patuxent River upper	82.9	180.3	19,632	228.3	1.16%	33	4	37	1	38	1	38
	Rocky Gorge Dam	50.9	115.5	34,208	3,329.5	9.73%	409	65	475	109	583	111	586
WASHINGTON METROPOLITAN	Anacostia River	88.3	205.4	81,458	8,667.3	10.64%	1,040	583	1,623	152	1,775	121	1,744
	Cabin John Creek	77.3	173.4	16,424	963.9	5.87%	11	7	19	0	19	0	19
	Potomac River MO Co	73.1	168.3	40,193	2,475.3	6.16%	147	12	159	28	187	28	187
	Rock Creek	80.0	172.4	39,252	2,891.8	7.37%	162	39	201	49	250	49	250
	Seneca Creek	62.6	140.1	58,934	5,757.2	9.77%	220	72	293	37	330	37	330
Totals		**63.7**	**145.7**	**479,999**	**35,885.6**	**7.48%**	**2,733**	**1,123**	**3,856**	**377**	**4,233**	**348**	**4,204**

Appendix P-4

Potential Secondary and Cumulative Impacts of Select Natural Resources by Subwatershed

Watershed	Subwatershed	Total Resource Quantity within each SCEA Subwatershed	No-Action: Near Future Development Impacts (2010)	No-Action: Future Development Impacts (2030)	No-Action: Cumulative Impact of No-Action	No-Action: Cumulative Resource Impact Percentage of Total Resource Quantity	Corridor 1: Secondary Impact of Corridor 1 Potential Development	Corridor 1: Cumulative Impact of Corridor 1	Corridor 1: Cumulative Resource Impact Percentage of Total Resource Quantity	Corridor 2: Secondary Impact of Corridor 2 Potential Development	Corridor 2: Cumulative Impact of Corridor 2	Corridor 2: Cumulative Resource Impact Percentage of Total Resource Quantity
Farmland Impacts (Acres)[4]												
MIDDLE POTOMAC RIVER	Double Pipe Creek	5,520	0	0	0	0.0%	0	0	0.0%	0	0	0.0%
	Lower Monocacy River	74,983	2,456	1,428	3,884	5.2%	282	4,167	5.6%	282	4,167	5.6%
PATUXENT RIVER	**Brighton Dam**	8,516	404	21	425	5.0%	0	425	5.0%	0	425	5.0%
	Little Patuxent River	1,577	702	224	926	58.7%	65	992	62.9%	65	992	62.9%
	Middle Patuxent River	1,499	154	11	165	11.0%	4	169	11.3%	4	169	11.3%
	Patuxent River upper	299	52	10	62	20.9%	3	66	21.9%	3	66	21.9%
	Rocky Gorge Dam	9,568	1,194	43	1,237	12.9%	213	1,450	15.2%	564	1,801	18.8%
WASHINGTON METROPOLITAN	Anacostia River	2,096	826	200	1,025	48.9%	323	1,348	64.3%	234	1,259	60.1%
	Cabin John Creek	128	0	53	53	41.2%	0	53	41.2%	0	53	41.2%
	Potomac River MO Co	1,919	366	82	447	23.3%	2	449	23.4%	2	449	23.4%
	Rock Creek	2,857	64	3	68	2.4%	294	362	12.7%	278	346	12.1%
	Seneca Creek	14,927	1,545	359	1,904	12.8%	133	2,037	13.6%	133	2,037	13.6%
Farmland Totals		**123,891**	**7,764**	**2,434**	**10,197**		**1,319**	**11,516**		**1,565**	**11,763**	
Forest Impacts (Acres)[4]												
MIDDLE POTOMAC RIVER	Double Pipe Creek	1,484	0	0	0	0.0%	0	0	0.0%	0	0	0.0%
	Lower Monocacy River	50,766	1,706	485	2,191	4.3%	264	2,454	4.8%	264	2,454	4.8%
PATUXENT RIVER	**Brighton Dam**	7,896	269	28	298	3.8%	0	298	3.8%	0	298	3.8%
	Little Patuxent River	812	210	54	263	32.4%	25	288	35.5%	25	288	35.5%
	Middle Patuxent River	1,637	220	79	299	18.2%	0	299	18.2%	0	299	18.2%
	Patuxent River upper	10,236	443	245	689	6.7%	186	874	8.5%	186	874	8.5%
	Rocky Gorge Dam	13,020	2,307	167	2,474	19.0%	317	2,791	21.4%	415	2,889	22.2%
WASHINGTON METROPOLITAN	Anacostia River	13,463	2,105	769	2,874	21.4%	846	3,720	27.6%	806	3,681	27.3%
	Cabin John Creek	2,076	38	99	137	6.6%	0	137	6.6%	0	137	6.6%
	Potomac River MO Co	7,903	654	47	701	8.9%	85	786	10.0%	85	786	10.0%
	Rock Creek	6,999	214	89	303	4.3%	164	467	6.7%	164	467	6.7%
	Seneca Creek	19,115	834	303	1,137	5.9%	326	1,463	7.7%	291	1,428	7.5%
Forest Totals		**135,407**	**9,000**	**2,365**	**11,364**		**2,213**	**13,578**		**2,236**	**13,600**	
Floodplain Impacts (Acres)[5]												
MIDDLE POTOMAC RIVER	Double Pipe Creek	210	0	0	0	0.0%	0	0	0.0%	0	0	0.0%
	Lower Monocacy River	6,342	188	115	304	4.8%	8	312	4.9%	8	312	4.9%
PATUXENT RIVER	**Brighton Dam**	1,178	0	0	0	0.0%	0	0	0.0%	0	0	0.0%
	Little Patuxent River	224	53	13	66	29.4%	7	73	32.7%	7	73	32.7%
	Middle Patuxent River	189	19	34	53	27.9%	0	53	27.9%	0	53	27.9%
	Patuxent River upper	2,669	28	28	56	2.1%	10	66	2.5%	10	66	2.5%
	Rocky Gorge Dam	2,142	288	17	305	14.2%	35	340	15.9%	36	341	15.9%
WASHINGTON METROPOLITAN	Anacostia River	5,848	307	155	463	7.9%	65	528	9.0%	62	524	9.0%
	Cabin John Creek	589	26	16	43	7.2%	0	43	7.2%	0	43	7.2%
	Potomac River MO Co	4,090	63	11	73	1.8%	17	90	2.2%	17	90	2.2%
	Rock Creek	2,711	137	25	161	5.9%	66	227	8.4%	66	227	8.4%
	Seneca Creek	2,973	61	16	76	2.6%	45	121	4.1%	45	121	4.1%
Floodplain Totals		**29,166**	**1,169**	**431**	**1,600**		**253**	**1,853**		**251**	**1,851**	
Wetland Impacts (Acres)[4]												
MIDDLE POTOMAC RIVER	Double Pipe Creek	80	0	0	0	0.0%	0	0	0.0%	0	0	0.0%
	Lower Monocacy River	3,592	51	28	79	2.2%	39	118	3.3%	39	118	3.3%
PATUXENT RIVER	**Brighton Dam**	1,088	4	3	7	0.6%	0	7	0.6%	0	7	0.6%
	Little Pattuxent River	91	34	15	49	53.4%	0	49	53.4%	0	49	53.4%
	Middle Patuxent River	69	24	4	29	41.5%	0	29	41.5%	0	29	41.5%
	Patuxent River upper	2,708	13	0	14	0.5%	13	26	1.0%	13	26	1.0%
	Rocky Gorge Dam	1,822	291	19	310	17.0%	9	319	17.5%	18	328	18.0%
WASHINGTON METROPOLITAN	Anacostia River	2,332	92	32	124	5.3%	64	188	8.1%	62	186	8.0%
	Cabin John Creek	113	3	1	3	2.8%	0	3	2.8%	0	3	2.8%
	Potomac River MO Co	1,934	21	4	25	1.3%	9	34	1.7%	9	34	1.7%
	Rock Creek	819	14	4	18	2.2%	4	22	2.7%	4	22	2.7%
	Seneca Creek	1,957	67	19	86	4.4%	22	108	5.5%	22	108	5.5%
Wetland Totals		**16,605**	**615**	**128**	**743**		**160**	**903**		**166**	**909**	
RTE Impacts (Acres)[5]												
MIDDLE POTOMAC RIVER	Double Pipe Creek	0	0	0	0	0.0%	0	0	0.0%	0	0	0.0%
	Lower Monocacy River	6,737	27	27	54	0.8%	0	54	0.8%	0	54	0.8%
PATUXENT RIVER	**Brighton Dam**	419	10	0	10	2.4%	0	10	2.4%	0	10	2.4%
	Little Patuxent River	194	2	2	4	1.9%	6	10	5.0%	6	10	5.0%
	Middle Patuxent River	53	3	0	3	4.9%	0	3	4.9%	0	3	4.9%
	Patuxent River upper	7,285	19	1	20	0.3%	5	25	0.3%	5	25	0.3%
	Rocky Gorge Dam	109	8	0	8	7.3%	0	8	7.3%	0	8	7.3%
WASHINGTON METROPOLITAN	Anacostia River	4,427	135	13	148	3.3%	22	170	3.8%	22	170	3.8%
	Cabin John Creek	21	0	0	0	0.0%	0	0	0.0%	0	0	0.0%
	Potomac River MO Co	3,887	270	11	281	7.2%	0	281	7.2%	0	281	7.2%
	Rock Creek	656	35	1	36	5.5%	0	36	5.5%	0	36	5.5%
	Seneca Creek	1,517	11	6	18	1.2%	0	18	1.2%	0	18	1.2%
RTE Totals		**25,306**	**520**	**62**	**582**		**33**	**614**		**33**	**614**	
Stream Impacts (Linear Feet)[6]												
MIDDLE POTOMAC RIVER	Double Pipe Creek	90,752	0	0	0	0.0%	0	0	0.0%	0	0	0.0%
	Lower Monocacy River	2,099,817	63,933	19,313	83,247	4.0%	11,132	94,379	4.5%	11,132	94,379	4.5%
PATUXENT RIVER	**Brighton Dam**	220,986	7,858	578	8,436	3.8%	0	8,436	3.8%	0	8,436	3.8%
	Little Patuxent River	31,039	10,427	1,559	11,987	38.6%	657	12,644	40.7%	657	12,644	40.7%
	Middle Patuxent River	58,373	3,478	2,915	6,392	11.0%	0	6,392	11.0%	0	6,392	11.0%
	Patuxent River upper	306,687	4,490	9,633	14,124	4.6%	6,911	21,034	6.9%	6,911	21,034	6.9%
	Rocky Gorge Dam	334,258	45,540	5,162	50,702	15.2%	4,407	55,109	16.5%	8,271	58,973	17.6%
WASHINGTON METROPOLITAN	Anacostia River	849,427	79,229	35,155	114,385	13.5%	29,859	144,243	17.0%	28,189	142,574	16.8%
	Cabin John Creek	161,025	4,650	1,632	6,282	3.9%	0	6,282	3.9%	0	6,282	3.9%
	Potomac River MO Co.	485,620	16,269	1,431	17,700	3.6%	5,289	22,989	4.7%	5,289	22,989	4.7%
	Rock Creek	369,833	10,780	1,546	12,326	3.3%	7,443	19,770	5.3%	7,443	19,770	5.3%
	Seneca Creek	750,037	41,002	13,595	54,597	7.3%	13,105	67,702	9.0%	12,901	67,498	9.0%
Stream Totals		**5,757,854**	**287,656**	**92,520**	**380,177**		**78,803**	**458,980**		**80,794**	**460,971**	

Appendix P-4

Potential Secondary and Cumulative Impacts of Select Natural Resources by Subwatershed

Watershed	Subwatershed	Total Impervious Acreage within each subwatershed (2000)	*No-Action*				*Corridor 1*			*Corridor 2*		
			Near Future Development Impacts (2010)	Future Development Impacts (2030)	Cumulative Impact of No-Action	Percent Change of Impervious Area (2000-2030)	Secondary Impact of Corridor 1 Potential Development	Cumulative Impact of Corridor 1	Percent Change of Impervious Area (2000-2030)	Secondary Impact of Corridor 2 Potential Development	Cumulative Impact of Corridor 2	Percent Change of Impervious Area (2000-2030)
		Impervious Area (Acres)[1]										
MIDDLE POTOMAC RIVER	Double Pipe Creek	198	0	0	0	0.0%	0	0	0.0%	0	0	0.0%
	Lower Monocacy River	12,544	1,914	960	2,874	22.9%	194	3,068	24.5%	266	3,140	25.0%
PATUXENT RIVER	**Brighton Dam**	401	194	17	211	52.7%	0	211	52.7%	0	211	52.7%
	Little Patuxent River	459	518	30	547	119.2%	39	586	127.7%	56	603	131.4%
	Middle Patuxent River	633	196	53	249	39.3%	1	250	39.5%	1	250	39.5%
	Patuxent River upper	4,563	293	145	438	9.6%	132	570	12.5%	132	570	12.5%
	Rocky Gorge Dam	3,332	646	89	735	22.0%	313	1,047	31.4%	659	1,394	41.8%
WASHINGTON METROPOLITAN	Anacostia River	31,136	1,207	543	1,749	5.6%	1,207	2,956	9.5%	1,107	2,857	9.2%
	Cabin John Creek	5,325	-18	96	78	1.5%	0	78	1.5%	0	78	1.5%
	Potomac River MO Co	10,560	380	111	491	4.6%	43	534	5.1%	43	534	5.1%
	Rock Creek	12,401	261	48	310	2.5%	318	627	5.1%	304	614	4.9%
	Seneca Creek	10,695	1,634	224	1,858	17.4%	253	2,111	19.7%	249	2,107	19.7%
Impervious Area Totals		**92,248**	**7,225**	**2,315**	**9,540**	**10.3%**	**2,500**	**12,040**	**13.1%**	**2,818**	**12,358**	**13.4%**

Notes:

[1]Based on GIS overlay with MDP Land Use Data.

[2]Based on GIS overlay with FEMA 100 Year Floodplain.

[3]Based on GIS overlay with NWI Wetlands.

[4]Based on GIS overlay with Sensitive Species Project Review Areas, SSPRA's are not a definitive boundary of RTE habitat, they merely represent a general location of documented RTE species.

[5]Based on GIS overlay with Statewide Stream Layer.

[6]Based on additional impervious area added by planned/secondary development. Determined from impervious percentage of MDP land use categories.

Impacts are estimations based upon overlaying development with natural resources layers and do not take into consideration specific site plans nor development regulations that could limit impacts.

Brighton Dam and **Rocky Gorge Dam** are the subwatersheds in which the reservoirs occur. Any impact within these subwatersheds could add additional negative pressures to the reservoirs.

Subwatersheds in the 80th percentile of all the SCEA subwatersheds in cumulative resource impact percent of total resource quantity (Impervious Area was calculated based upon Percent Change from 2000-2030).

Appendix P-5
ELUP Estimated Acreage of Near Future Development/Projects (Present to 2010)

Forecast Zone	Classification	Planned Development* (acres)	Total Planned Near Future Development	ICC Project					
				No-Action		Corridor 1 (ROW acres)		Corridor 2 (ROW acres)	
				No Action	Total	Corridor 1 (acres)	Total Acreage (Corr.1 + Planned)	Corridor 2 (acres)	Total Acreage (Corr.2 + Planned)
Frederick County									
Frederick	Residential	106	411		411	0	411	0	411
	Comm./Ind.	14				0		0	
	Other	291				0		0	
Monocacy	Residential	301	713		713	0	713	0	713
	Comm./Ind.	316				0		0	
	Other	96				0		0	
New Market**	Residential	2,749	3,233		3,233	0	3,233	0	3,233
	Comm./Ind.	321				0		0	
	Other	163				0		0	
Frederick County Total		4,357	4,357	0	4,357	0	4,357	0	4,357
Montgomery County									
Poolesville	Residential	0	434		434	0	434	0	434
	Comm./Ind.	412				0		0	
	Other	22				0		0	
Germantown	Residential	114	2,048		2,048	0	2,048	0	2,048
	Comm./Ind.	1,056				0		0	
	Other	877				0		0	
Potomac	Residential	130	407		407	0	407	0	407
	Comm./Ind.	235				0		0	
	Other	43				0		0	
Gaithersburg	Residential	232	2,171		2,171	0	2,228	0	2,228
	Comm./Ind.	1,334				0		0	
	Other	605				57		57	
Montgomery Village	Residential	7	512		512	0	798	0	798
	Comm./Ind.	136				0		0	
	Other	369				286		286	
Olney	Residential	937	1,259		1,259	0	1,451	0	1,518
	Comm./Ind.	0				0		0	
	Other	322				192		259	
Laytonsville	Residential	6	211		211	0	211	0	211
	Comm./Ind.	193				0		0	
	Other	11				0		0	
Burtonsville	Residential	1,746	2,452		2,452	0	2,452	0	2,729
	Comm./Ind.	3				0		0	
	Other	703				0		277	
Rockville	Residential	97	359		359	0	378	0	378
	Comm./Ind.	155				0		0	
	Other	107				19		19	
Aspen Hill	Residential	84	123		123	0	257	0	123
	Comm./Ind.	0				0		0	
	Other	39				134		0	
Cloverly	Residential	1,231	1,291		1,291	0	1,361	0	1,436
	Comm./Ind.	2				0		0	
	Other	58				70		145	
Deer Park	Residential	483	942		942	0	1,015	0	971
	Comm./Ind.	38				0		0	
	Other	421				73		29	
Bethesda	Residential	342	501		501	0	501	0	501
	Comm./Ind.	143				0		0	
	Other	16				0		0	
Wheaton	Residential	160	428		428	0	430	0	428
	Comm./Ind.	133				0		0	
	Other	135				2.3		0	
White Oak	Residential	383	1,772		1,772	0	1,948	0	1,772
	Comm./Ind.	355				0		0	
	Other	1,033				176		0	
Montgomery County Total		14,909	14,909	0	14,909	1,009	15,918	1,072	15,981
Howard County									
West Friendship	Residential	548	548		548	0	548	0	548
	Comm./Ind.	0				0		0	
	Other	0				0		0	
Fulton	Residential	298	1,326		1,326	0	1,326	0	1,326
	Comm./Ind.	521				0		0	
	Other	507				0		0	
Columbia	Residential	553	778		778	0	778	0	778
	Comm./Ind.	105				0		0	
	Other	120				0		0	
Ellicott City	Residential	0	0		0	0	0	0	0
	Comm./Ind.	0				0		0	
	Other	0				0		0	
Catonsville	Residential	0	0		0	0	0	0	0
	Comm./Ind.	0				0		0	
	Other	0				0		0	
Howard County Total		2,652	2,652	0	2,652	0	2,652	0	2,652

Appendix P-5
ELUP Estimated Acreage of Near Future Development/Projects (Present to 2010)

Forecast Zone	Classification	Planned Development* (acres)	Total Planned Near Future Development	ICC Project					
				No-Action		Corridor 1 (ROW acres)		Corridor 2 (ROW acres)	
				No Action	Total	Corridor 1 (acres)	Total Acreage (Corr.1 + Planned)	Corridor 2 (acres)	Total Acreage (Corr.2 + Planned)
Prince George's County									
Muirkirk	Residential	349	631		631	0	1,232	0	1,303
	Comm./Ind.	112				0		0	
	Other	169				601		672	
Laurel	Residential	13	23		23	0	99	0	99
	Comm./Ind.	0				0		0	
	Other	11				76		76	
Laurel Pines	Residential	88	285		285	0	285	0	285
	Comm./Ind.	106				0		0	
	Other	91				0		0	
Beltsville	Residential	0	367		367	0	367	0	367
	Comm./Ind.	6				0		0	
	Other	361				0		0	
New Carrollton	Residential	0	0		0	0	0	0	0
	Comm./Ind.	0				0		0	
	Other	0				0		0	
Inner Prince George's	Residential	0	78		78	0	78	0	78
	Comm./Ind.	0				0		0	
	Other	78				0		0	
Clinton	Residential	0	0		0	0	0	0	0
	Comm./Ind.	0				0		0	
	Other	0				0		0	
Prince George's County Total		1,384	1,384	0	1,384	677	2,061	748	2,132
Anne Arundel County									
Severn	Residential	92	315		315	0	315	0	315
	Comm./Ind.	82				0		0	
	Other	141				0		0	
Hanover	Residential	0	0		0	0	0	0	0
	Comm./Ind.	0				0		0	
	Other	0				0		0	
Odenton	Residential	0	0		0	0	0	0	0
	Comm./Ind.	0				0		0	
	Other	0				0		0	
Anne Arundel County Total		315	315	0	315	0	315	0	315
Washington D.C.									
Washington	Residential	0	0		0	0	0	0	0
	Comm./Ind.	0				0		0	
	Other	0				0		0	
WashingtonDC Total		0	0	0	0	0	0	0	0
Grand Total		23,617	23,617	0	23,617	1,686	25,304	1,820	25,437

*Please note that land use catagories such as open space and parkland were omitted from the planned developmentbut estimates as these areas will not really contribute to land development but have been identified as planned preservation areas.

** Please note that the forecast zone formerly referred to as "Urbana" by the ELUP has been renamed to "New Market."

Appendix P-6
Near Future Transportation Projects

Map Number	Site Name	Description	Completion Date	Map Sheet Location
1	MD 212	Relocation (Construction Underway)	2005	Sheet 7 & Sheet 9
2	Greencastle Road	Widen From Robey Rd to Greencastle Terrace	2006	Sheet 7 & Sheet 9
3	Bordley Drive	Construction	2004	Sheet 5
4	Goshen Facility	Widen Odendhal Ave to Warfield Rd	2010	Sheet 4 & Sheet 6
5	Middlebrook Rd	Widening - Great Seneca to I-270	2000	Sheet 4 & Sheet 6
6	Longdraft Rd	Widen MD124 to MD 117	2010	Sheet 6
7	MD 124, Woodfield Rd	MidCounty Hwy to Warfield Rd (Widen)	2010	Sheet 4 & Sheet 6
8	US 1/MD 201	Corridor Study	2005	Sheet 7 & Sheet 9
9	US 1/MD 201	Corridor Study	2005	Sheet 7 & Sheet 9
10	Chapman Ave	Randolph Rd to Old Georgetown (Construct)	2010	Sheet 6 & Sheet 8
11	Citadel Ave - Extended	Marinelli Rd to Nicholson Lane	2006	Sheet 6 & Sheet 8
12	Middlebrook Rd Ext	Widening MD-355 to Midcounty Hwy	2010	Sheet 4 & Sheet 6
13	Father Hurley Blvd	Construct - Wisteria to MD118 Reloc	2010	Sheet 4 & Sheet 6
14	MD 124 Extend (Woodfield Rd Extend)	MD108 to MD 27 (Construct) (Design is currently underway, 2003)	2006	Sheet 4
15	Montrose Parkway West*	Montrose Road to Old Georgetown (Construct) (Purpose and Need Statement Prepared 2001)	2010	Sheet 6 & Sheet 8
16	Nebel St Extended	Construct Randolph Rd to Bou Ave	2007	Sheet 6 & Sheet 8
17	Shady Grove Rd	Widen from Briardale Rd to MD 155	2004	Sheet 6
18	Snouffer School Rd	Widen from Goshen to MD 124	2010	Sheet 4 & Sheet 6
19	Watkins Mill Rd Ext	Construct between MD 117 & MD 355	2010	Sheet 6
20	Woodglen Ave	Construct between Marinelli Rd & Nicholson Lane	2009	Sheet 6 & Sheet 8
21	Ammendale Rd/Virginia Manor	I-95 to US1 - Widen	2006	Sheet 7 & Sheet 9
22	Briggs Chaney Rd	Mont. Co. Line to Old Gunpowder Rd (Widen)	2010	Sheet 7 & Sheet 9
23	Cherry Hill Rd	Mont. Co. Line to Baltimore Ave (Widen)	2006	Sheet 7 & Sheet 9
24	Contee Rd	US1 to Van Dusen (Widen/Construct)	2004	Sheet 7 & Sheet 9
25	Contee Rd	Briarwood Dr to US1	2000	Sheet 7 & Sheet 9
26	US 15/MD 26	US15/MD 26 Interchange (Location Design Approval Received October 2003)	2010	Sheet 2
27	MD 115, Muncaster Mill Rd	Muncaster Mill Rd (Final Engineering and Right-of-Way Underway)	2010	Sheet 6 & Sheet 7
28	MD 28/MD 97	Intersection Improvements	2010	Sheet 6 & Sheet 7
29	I-95/I-495	Greenbelt Metro Access Study (Project Planning Underway, Obtain Location and Design Approvals Fall 2004)	2010	Sheet 7 & Sheet 9
30	MD 216	Relocation (Construction Underway)	2005	Sheet 5 & Sheet 7
31	Father Hurley Blvd	Wisteria to MD118, extension (Construction Underway)	2010	Sheet 4 & Sheet 6
32	Midcounty Highway/Middlebrook Rd*	6 mile construction	2010	Sheet 4 & Sheet 6
33	MD 97\Randolph Rd	Interchange Improvements (Project Planning Underway)	2010	Sheet 7 & Sheet 8
34	I-70, I-270	Widen I-70, Reconstruct interchange at I-270	2005-2010	Sheet 2
35	I-270 Interchange	Reconstruct at MD117	2004	Sheet 6
36	I-270 Spur	I-270 spur @ Democracy Blvd	2004	Sheet 8
37	MD 216	Widen, US 29 to Sanner	2010	Sheet 5 & Sheet 7
38	Phase 1Urbana Bypass	Phase 1 MD355 Relocation, Urbana	2005	Sheet 2
39	Phase 2 & 3 Urbana Bypass	Phase 2 & 3 MD355 Relocation, Urbana	2005	Sheet 2
40	MD 75 Interchange	MD 75 & I-270 Interchange	2006	Sheet 2 & Sheet 4
41	MD 26 Widen	From Woodsboro Pike (MD 194) to Trading Lane	2006	Sheet 2
42	MD 26, Bridge	Replacement of Bridge	2006	Sheet 2
43	East Street	Extend to I-70 from E. Patrick w partial interchange	2007	Sheet 2
44	Quinn Rd	Upgrade to reduce sharp curves	2006	Sheet 2 & Sheet 3
45	Reichs Ford Road	Reconstruction for 1.5 miles of 2 lane section	2006	Sheet 2 & Sheet 3
46	Old National Pike	Reconstruct Intersection @ Sidney	2006	Sheet 2 & Sheet 3
47	East Street	From South to Wasler Dr, Extension	2010	Sheet 2
50	Monocacy Blvd	New Road, Hughes Ford to Gas House Pike	2010	Sheet 2
51	Monocacy Blvd	Gas House Pike to River Bridge	2010	Sheet 2
52	Gas House Pike Upgrade	City Line to Monocay Blvd	2010	Sheet 2
53	East Street Upgrade	Patrick to 5th	2010	Sheet 2
54	East Street Upgrade	5th to 9th	2010	Sheet 2
55	Shookstown Rd, Upgrade	Willowdale to Old Camp	2010	Sheet 2
56	Thomas Johnson Rd	New from TJ Drive to Opossumtown Pike	2010	Sheet 2
57	Schifferstadt Rd, New	Extend to Gas House Pike	2010	Sheet 2
58	Butterfly Lane	Upgrade	2010	Sheet 2
59	US 29*	Upgrade from Sligo Creek Pkwy to Howard Co	2010	Sheet 2
60	Midcounty Highway (A-305)**	MD 27 to MD 355	2010	Sheet 4
61	New Cut Road Relocated (A-302)**	MD 121 to A-305 (Midcounty Highway)/A-305 to MD 27	2010	Sheet 4
62	Observation Drive (A-19)**	Construction	2010	Sheet 4
63	Valley Park Drive**	Roadway Extension	2010	Sheet 4

** Indicates Projects in which construction is expected to be initiated in the Near Future Time Frame and expected to continue into the Future Time Frame. Therefore, these projects are depicted on both near future and future maps.*
*** Completion date to be confirmed through coordination with M-NCPPC*

Appendix P-7

Near Future Development Projects

Map ID Number	Site Name	Near Future Land Use	Map Sheet Location	Map ID Number	Site Name	Near Future Land Use	Map Sheet Location
1	Green Valley Active Adult	Residential	Sheet 3	56	Tipton Overlook	Residential	Sheet 4 & Sheet 7
2	75&80 Development	Residential	Sheet 3	57	Jamestown Landing	Residential	Sheet 7
3	Shopping Center	Commercial	Sheet 3	58	Hall Shop Manor	Residential	Sheet 4
4	Urbana Highlands	Residential	Sheet 2 & Sheet 3	59	Pindell Chase	Residential	Sheet 4
5	Villages of Urbana	Residential	Sheet 2 & Sheet 3	60	Maple Lawn Farms (Ph1-12)	Mixed	Sheet 4 & Sheet 7
6	Villages of Urbana	Residential	Sheet 2	61	Dortch Prop	Residential	Sheet 7
7	Urbana Town Center	Mixed Use	Sheet 2	62	Hilltop Estates	Residential	Sheet 7
8	Villages of Urbana	Residential	Sheet 2	63	Hillside @ Rocky Gorge	Residential	Sheet 7
9	Urbana Corporate Center	Mixed Use	Sheet 2 & Sheet 4	64	Iglehart Prop	Residential	Sheet 4
10	Knowledge Farms	Commercial	Sheet 2 & Sheet 3	65	Revitz Prop	Commercial	Sheet 7
11	Cearsville Development	Residential	Sheet 2	66	Emerson	Commercial	Sheet 7
12	Woodsboro Shopping Center	Commercial	Sheet 1	67	Blair Sub-Division (Allen)	Residential	Sheet 7
13	Woodsboro Elementary// Middle	Institutional	Sheet 1	68	Kings Woods	Residential	Sheet 7
14	Royal Oaks	Residential	Sheet 3	69	Emerson	Mixed	Sheet 7
15	Brinkley Manor	Residential	Sheet 3	70	Kim Prop	Residential	Sheet 7
16	Orchard at New Market	Residential	Sheet 3	71	Kindler Overlook	Residential	Sheet 4
17	Cline Farm	Residential	Sheet 3	72	North Laurel Park	Residential	Sheet 7
18	Smith Farm	Residential	Sheet 3	73	Owings Prop	Residential	Sheet 4
19	Casey Tract	Residential	Sheet 3	74	Clark's Ridge	Residential	Sheet 7
20	Blentinger Property	Residential	Sheet 3	75	Hickory Hills	Residential	Sheet 7
21	Eaglehead Alpine	Residential	Sheet 2 & Sheet 3	76	Maple Lawn Farms (Pindell Property)	Residential	Sheet 4
22	Hargett Farm	Residential	Sheet 2	77	Hammonds View	Residential	Sheet 7
23	Fort Detrick Base Housing	Residential	Sheet 2	78	Cecil Cole Prop	Residential	Sheet 4
24	Fort Detrick Bio-Research	Industrial	Sheet 2	79	Heath Prop	Residential	Sheet 7
25	Industrial	Industrial	Sheet 3	80	Riverside Estates	Residential	Sheet 4
26	Baldwin Rd. Greenhouse	Industrial	Sheet 3	81	Iager Prop	Residential	Sheet 4 & Sheet 7
27	Market Station	Commercial	Sheet 3	82	Paternal Gift Farm	Residential	Sheet 4
28	Davis Branch	Commercial	Sheet 3	83	Johnson Prop	Residential	Sheet 4
29	Adventure Park	Commercial	Sheet 3	84	Souder Prop	Residential	Sheet 4 & Sheet 7
30	Mansfield Commercial	Commercial	Sheet 3	85	Cherry Tree Park	Residential	Sheet 4 & Sheet 7
31	CIFCO	Commercial	Sheet 3	86	Holiday Hills 2nd Addition	Residential	Sheet 4
32	Sandy Spring Bank	Commercial	Sheet 3	87	North Laurel Park	Residential	Sheet 7
33	Eaglehead Active Adult	Residential	Sheet 3	88	Emerson	Mixed	Sheet 7
34	Eaglehead Town Center	Mixed Use	Sheet 3	90	Riverside Estates	Residential	Sheet 4
35	Eaglehead Woodridge	Residential	Sheet 2 & Sheet 3	91	Old Scaggsville Rd	Residential	Sheet 7
36	Eaglehead Nightingale	Residential	Sheet 3	92	Brunk's Addition	Residential	Sheet 7
37	Eaglehead	Residential	Sheet 1 & Sheet 3	93	Scaggs Prop	Residential	Sheet 4 & Sheet 7
38	New Market District Park	Parkland Open Space	Sheet 3	94	Hickory Park	Residential	Sheet 7
39	Springridge Fire Station	Institutional	Sheet 2	95	Pindell Woods	Residential	Sheet 4
40	Urbana Middle School	Institutional	Sheet 2 & Sheet 3	96	North Laurel Park	Residential	Sheet 7
41	Urbana Elementary II	Institutional	Sheet 2 & Sheet 3	97	Harwood W. Owings	Residential	Sheet 4
42	Commons of Avalon	Residential	Sheet 2	98	Guendel/Aleshin Prop	Residential	Sheet 4 & Sheet 7
43	Miller's Delight	Residential	Sheet 2	100	Scott Farm	Residential	Sheet 4
44	Overlook	Residential	Sheet 2	102	Anglemyer Prop	Residential	Sheet 4
45	Dutch's Daughter	Commercial	Sheet 2	103	McKenzie Prop	Residential	Sheet 4
46	River Crest	Residential	Sheet 2	104	Montpelier Research Park	Industrial	Sheet 4
47	Walnut Ridge	Residential	Sheet 2	105	Grace Community Church	Institutional	Sheet 4 & Sheet 7
48	Whittier	Residential	Sheet 2	106	Emerson	Residential	Sheet 4 & Sheet 7
49	Windsor Forest Knolls	Residential	Sheet 3	107	Macbeth Farm	Residential	Sheet 4
50	Windsor Overlook	Residential	Sheet 3	108	Johns Hopkins University - APL	Other	Sheet 4
51	DiPaula Prop	Residential	Sheet 3	109	Kindler Estates	Residential	Sheet 4 & Sheet 7
52	Jeff Harrison Prop	Residential	Sheet 3	110	Sleep Inn	Commercial	Sheet 7
53	Shapiro Prop	Residential	Sheet 3	111	Mt Zion united Methodist	Institutional	Sheet 4
54	Paragon Prop	Residential	Sheet 3	112	Wessel Prop	Residential	Sheet 7
55	Clements Prop	Residential	Sheet 3	113	Holiday Hills	Residential	Sheet 4

Note: Near Future Projects equal to or less than one (1) acre are depicted on accompanying map sheets by shape only. These projects are listed in this table.

Appendix P-7
Near Future Development Projects

Map ID Number	Site Name	Near Future Land Use	Map Sheet Location	Map ID Number	Site Name	Near Future Land Use	Map Sheet Location
114	SEA Lect Site	Residential	Sheet 7	171	Residential	Residential	Sheet 7 & Sheet 9
115	Days Inn	Commercial	Sheet 7	172	Residential	Residential	Sheet 7 & Sheet 9
116	Good Hope Reform Pres Ch	Institutional	Sheet 4	173	Residential	Residential	Sheet 7
117	Cherry Tree Crossing	Commercial	Sheet 4 & Sheet 7	174	Residential	Residential	Sheet 7
118	Belinda Property	Residential	Sheet 7	175	Residential	Residential	Sheet 7
119	Molsen Haghighat Prop	Commercial	Sheet 7	176	Residential	Residential	Sheet 7
120	Cedar Lane Prog @ Fulton	Institutional	Sheet 4 & Sheet 7	177	Residential	Residential	Sheet 7 & Sheet 9
121	Cherry Tree Farm	Other	Sheet 4 & Sheet 7	178	Residential	Residential	Sheet 7 & Sheet 9
122	Dreyer's Ice Cream	Other	Sheet 7	179	Residential	Residential	Sheet 7 & Sheet 9
123	Emerson	Residential	Sheet 7	180	Residential	Residential	Sheet 7 & Sheet 9
124	Emerson	Residential	Sheet 7	181	Parkland Open Space	Parkland Open Space	Sheet 7
125	Mixed Use	Mixed Use	Sheet 4 & Sheet 6	182	Residential	Residential	Sheet 7
126	Residential	Residential	Sheet 6	183	Residential	Residential	Sheet 7
127	Residential	Residential	Sheet 6	184	Open Urban	Open Urban	Sheet 7 & Sheet 9
128	Residential	Residential	Sheet 6	185	Residential	Residential	Sheet 7 & Sheet 9
129	Residential	Residential	Sheet 6	186	Residential	Residential	Sheet 7 & Sheet 9
130	Parkland Open Space	Parkland Open Space	Sheet 4	187	Institutional	Institutional	Sheet 7 & Sheet 9
131	Former Oaks Landfill	Parkland Open Space	Sheet 4 & Sheet 5	188	Commercial	Commercial	Sheet 7 & Sheet 9
132	Commercial	Commercial	Sheet 4 & Sheet 5 & Sheet 6	190	Parkland Open Space	Parkland Open Space	Sheet 7
133	Residential	Residential	Sheet 6	191	Residential	Residential	Sheet 7
134	Residential	Residential	Sheet 6	192	Industrial	Industrial	Sheet 7
135	Parkland Open Space	Parkland Open Space	Sheet 4	193	Residential	Residential	Sheet 7
136	Residential	Residential	Sheet 7	194	Residential	Residential	Sheet 7 & Sheet 9
137	Residential	Residential	Sheet 6	195	Residential	Residential	Sheet 7
138	Barnhart Prop	Residential	Sheet 6	196	Parkland Open Space	Parkland Open Space	Sheet 7
139	Cabin John Center	Mixed Use	Sheet 6	197	Residential	Residential	Sheet 7
140	PMH, Fling & Casey	Mixed Use	Sheet 6	198	Residential	Residential	Sheet 7 & Sheet 9
141	Mixed Use	Mixed Use	Sheet 8	199	Residential	Residential	Sheet 7
142	Residential	Residential	Sheet 6 & Sheet 8	200	Open Urban	Open Urban	Sheet 7 & Sheet 9
143	Condos/Hotel/Office/Metro	Mixed Use	Sheet 6 & Sheet 8	201	Residential	Residential	Sheet 7 & Sheet 9
144	Commercial	Commercial	Sheet 6	202	Parkland Open Space	Parkland Open Space	Sheet 7
145	Fortune Parc*	Mixed Use	Sheet 6 & Sheet 8	203	Residential	Residential	Sheet 7
146	Montrose Crossing	Mixed Use	Sheet 6 & Sheet 8	204	Residential	Residential	Sheet 7
147	Residential	Residential	Sheet 7	205	Residential	Residential	Sheet 7
148	Residential	Residential	Sheet 7	206	Open Urban	Open Urban	Sheet 7 & Sheet 9
149	Residential	Residential	Sheet 7	207	Residential	Residential	Sheet 7
150	Commercial	Commercial	Sheet 7	208	Residential	Residential	Sheet 7 & Sheet 9
151	Residential	Residential	Sheet 7	209	Residential	Residential	Sheet 7
152	Residential	Residential	Sheet 7	210	Residential	Residential	Sheet 7
153	Residential	Residential	Sheet 7	211	Residential	Residential	Sheet 7
154	Residential	Residential	Sheet 7	212	Residential	Residential	Sheet 7
155	Parkland Open Space	Parkland Open Space	Sheet 7	213	Residential	Residential	Sheet 7
156	Residential	Residential	Sheet 7	214	Residential	Residential	Sheet 7 & Sheet 9
157	Residential	Residential	Sheet 7	215	Parkland Open Space	Parkland Open Space	Sheet 7
158	Residential	Residential	Sheet 7	217	Residential	Residential	Sheet 7
159	Commercial	Commercial	Sheet 7 & Sheet 9	218	Residential	Residential	Sheet 7
160	Residential	Residential	Sheet 7	219	Residential	Residential	Sheet 7
161	Residential	Residential	Sheet 7	220	Parkland Open Space	Parkland Open Space	Sheet 7
162	Residential	Residential	Sheet 7	221	Residential	Residential	Sheet 7 & Sheet 9
163	Residential	Residential	Sheet 7	222	Residential	Residential	Sheet 4 & Sheet 7
164	Residential	Residential	Sheet 7	223	Residential	Residential	Sheet 7 & Sheet 9
165	Residential	Residential	Sheet 7 & Sheet 9	224	Residential	Residential	Sheet 7 & Sheet 9
166	Residential	Residential	Sheet 7 & Sheet 9	225	Open Urban	Open Urban	Sheet 7 & Sheet 9
167	Residential	Residential	Sheet 7	226	Open Urban	Open Urban	Sheet 7 & Sheet 9
168	Industrial	Industrial	Sheet 7 & Sheet 9	227	Residential	Residential	Sheet 7 & Sheet 9
169	Residential	Residential	Sheet 7	228	Residential	Residential	Sheet 7 & Sheet 9
170	Residential	Residential	Sheet 7 & Sheet 9	229	Residential	Residential	Sheet 7 & Sheet 9

Note: Near Future Projects equal to or less than one (1) acre are depicted on accompanying map sheets by shape only. These projects are listed in this table.

Appendix P-7
Near Future Development Projects

Map ID Number	Site Name	Near Future Land Use	Map Sheet Location	Map ID Number	Site Name	Near Future Land Use	Map Sheet Location
230	Residential	Residential	Sheet 7	288	Forest	Forest	Sheet 7 & Sheet 8 & Sheet 9
231	Residential	Residential	Sheet 7 & Sheet 9	289	Forest	Forest	Sheet 7 & Sheet 8 & Sheet 9
232	Residential	Residential	Sheet 7	290	Forest	Forest	Sheet 7 & Sheet 8 & Sheet 9
233	Residential	Residential	Sheet 7	291	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9
234	Residential	Residential	Sheet 7	292	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9
235	Open Urban	Open Urban	Sheet 7 & Sheet 9	293	Forest	Forest	Sheet 7 & Sheet 9
236	Residential	Residential	Sheet 7	294	Residential	Residential	Sheet 7
237	Residential	Residential	Sheet 7	295	Residential	Residential	Sheet 7 & Sheet 9
238	Residential	Residential	Sheet 7	296	Residential	Residential	Sheet 7 & Sheet 9
239	Residential	Residential	Sheet 7	297	Institutional	Institutional	Sheet 7 & Sheet 9
240	Residential	Residential	Sheet 7	298	Residential	Residential	Sheet 7 & Sheet 9
241	Commercial	Commercial	Sheet 7 & Sheet 9	299	Residential	Residential	Sheet 7
242	Commercial	Commercial	Sheet 7 & Sheet 9	300	Open Urban	Open Urban	Sheet 7 & Sheet 9
243	Residential	Residential	Sheet 7	301	Open Urban	Open Urban	Sheet 7 & Sheet 9
244	Residential	Residential	Sheet 7	302	Forest	Forest	Sheet 7 & Sheet 9
245	Residential	Residential	Sheet 7	303	Residential	Residential	Sheet 7 & Sheet 9
246	Residential	Residential	Sheet 7 & Sheet 9	304	Residential	Residential	Sheet 7 & Sheet 9
247	Residential	Residential	Sheet 7	305	Residential	Residential	Sheet 7 & Sheet 9
248	Residential	Residential	Sheet 7	306	Piney Grove, Tipton, Weih	Mixed Use	Sheet 6 & Sheet 8
249	Commercial	Commercial	Sheet 7 & Sheet 8 & Sheet 9	307	Johnson Prop	Residential	Sheet 6
250	Forest	Forest	Sheet 7 & Sheet 8 & Sheet 9	308	Urban Open Space	Urban Open Space	Sheet 6
251	Residential	Residential	Sheet 7	309	North Potomac Community Centre	Institutional	Sheet 6
253	Residential	Residential	Sheet 7	310	Travilah	Institutional	Sheet 6
254	Residential	Residential	Sheet 7	311	Roberts Property	Parkland Open Space	Sheet 6
255	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9	312	Residential	Residential	Sheet 8
256	Residential	Residential	Sheet 7	313	Parkland Open Space	Parkland Open Space	Sheet 8
257	Residential	Residential	Sheet 7	314	Parkland Open Space	Parkland Open Space	Sheet 8
258	Residential	Residential	Sheet 7 & Sheet 9	315	Residential	Residential	Sheet 8
259	Residential	Residential	Sheet 7 & Sheet 9	316	Residential	Residential	Sheet 8
260	Residential	Residential	Sheet 7 & Sheet 9	317	Residential	Residential	Sheet 8
261	Residential	Residential	Sheet 7 & Sheet 9	318	Commercial	Commercial	Sheet 8 & Sheet 10
262	Residential	Residential	Sheet 7 & Sheet 9	319	Residential	Residential	Sheet 8
263	Residential	Residential	Sheet 7 & Sheet 9	320	Residential	Residential	Sheet 8
264	Residential	Residential	Sheet 7 & Sheet 9	321	Parkland Open Space	Parkland Open Space	Sheet 8
265	Residential	Residential	Sheet 7 & Sheet 9	322	Parkland Open Space	Parkland Open Space	Sheet 8
266	Institutional	Institutional	Sheet 7	323	Residential	Residential	Sheet 8
267	Residential	Residential	Sheet 7	324	Residential	Residential	Sheet 8 & Sheet 10
268	Forest	Forest	Sheet 4 & Sheet 7	325	Residential	Residential	Sheet 8
269	Forest	Forest	Sheet 4 & Sheet 7	326	Commercial	Commercial	Sheet 8 & Sheet 10
270	Forest	Forest	Sheet 7	327	Residential	Residential	Sheet 8
271	Forest	Forest	Sheet 7	328	Residential	Residential	Sheet 8
272	Forest	Forest	Sheet 7	329	Residential	Residential	Sheet 8 & Sheet 10
273	Institutional	Institutional	Sheet 7 & Sheet 8 & Sheet 9	330	Commercial	Commercial	Sheet 8 & Sheet 10
274	Forest	Forest	Sheet 7	331	Residential	Residential	Sheet 8
275	Residential	Residential	Sheet 7 & Sheet 9	332	Parkland Open Space	Parkland Open Space	Sheet 8 & Sheet 10
276	Residential	Residential	Sheet 7 & Sheet 9	333	Parkland Open Space	Parkland Open Space	Sheet 8
277	Residential	Residential	Sheet 7 & Sheet 9	334	Residential	Residential	Sheet 8
278	Institutional	Institutional	Sheet 7	335	Golden Bear Area	Residential	Sheet 7
279	Residential	Residential	Sheet 7	336	Residential	Residential	Sheet 4
280	Residential	Residential	Sheet 7 & Sheet 9	337	Barnes Prop	Residential	Sheet 7
281	Forest	Forest	Sheet 7 & Sheet 8 & Sheet 9	338	Graffe	Parkland Open Space	Sheet 7
282	Open Urban	Open Urban	Sheet 7 & Sheet 9	339	Olney Element School	UK	Sheet 4 & Sheet 7
283	Open Urban	Open Urban	Sheet 7 & Sheet 9	340	Residential	Residential	Sheet 6
284	Open Urban	Open Urban	Sheet 7 & Sheet 9	341	County Owned	Residential	Sheet 4 & Sheet 6 & Sheet 7
285	Open Urban	Open Urban	Sheet 7 & Sheet 9	342	Residential	Residential	Sheet 6
286	Forest	Forest	Sheet 7 & Sheet 8 & Sheet 9	343	Hanks	Residential	Sheet 7
287	Forest	Forest	Sheet 7 & Sheet 8 & Sheet 9	344	Brook Grove Foundation	Parkland Open Space	Sheet 4 & Sheet 7

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Appendix P-7
Near Future Development Projects

Map ID Number	Site Name	Near Future Land Use	Map Sheet Location	Map ID Number	Site Name	Near Future Land Use	Map Sheet Location
345	Residential	Residential	Sheet 4 & Sheet 7	403	Residential	Residential	Sheet 7 & Sheet 8
346	Bruzee et al	Residential	Sheet 4	404	Residential	Residential	Sheet 7 & Sheet 8
347	Residential	Residential	Sheet 4 & Sheet 7	405	Commercial	Commercial	Sheet 7 & Sheet 8 & Sheet 9
348	Doherty	Residential	Sheet 7	406	Commercial	Commercial	Sheet 7 & Sheet 8 & Sheet 9
349	Parkland Open Space	Parkland Open Space	Sheet 4	407	Institutional	Institutional	Sheet 7 & Sheet 8 & Sheet 9
350	Finneyfrock Prop	Residential	Sheet 4 & Sheet 7	408	Residential	Residential	Sheet 8
351	Bowns Property	Residential	Sheet 4 & Sheet 7	409	Residential	Residential	Sheet 8
352	Commercial	Commercial	Sheet 4 & Sheet 7	410	Residential	Residential	Sheet 8
353	Residential	Residential	Sheet 4	411	Commercial	Commercial	Sheet 8
354	Residential	Residential	Sheet 4 & Sheet 7	412	Institutional	Institutional	Sheet 7 & Sheet 8
355	Commercial	Commercial	Sheet 4 & Sheet 7	413	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9
356	Kimble	Parkland Open Space	Sheet 7	414	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9
357	Parkland Open Space	Parkland Open Space	Sheet 4	415	Commercial	Commercial	Sheet 7 & Sheet 8 & Sheet 9
358	Commercial	Commercial	Sheet 4 & Sheet 7	416	Residential	Residential	Sheet 7 & Sheet 8
359	Mess Property	Parkland Open Space	Sheet 4 & Sheet 7	417	Parkland Open Space	Parkland Open Space	Sheet 7 & Sheet 8 & Sheet 9
360	Residential	Residential	Sheet 4	418	Parkland Open Space	Parkland Open Space	Sheet 8 & Sheet 9
361	Residential	Residential	Sheet 4 & Sheet 7	419	Residential	Residential	Sheet 7 & Sheet 8
362	Guzick/Lockwood	Residential	Sheet 7	420	Residential	Residential	Sheet 7 & Sheet 8
363	Brownley Prop	Residential	Sheet 7	421	Residential	Residential	Sheet 7 & Sheet 8
364	Residential	Residential	Sheet 4	422	Parkland Open Space	Parkland Open Space	Sheet 7 & Sheet 8 & Sheet 9
365	Institutional	Institutional	Sheet 4 & Sheet 7	423	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9
366	Norbeck CC	UK	Sheet 4 & Sheet 6 & Sheet 7	424	Parkland Open Space	Parkland Open Space	Sheet 7 & Sheet 8 & Sheet 9
367	Polinger Prop	Parkland Open Space	Sheet 7	425	Industrial	Industrial	Sheet 8
368	Parkland Open Space	Parkland Open Space	Sheet 4	426	Residential	Residential	Sheet 7 & Sheet 8
369	McKeever	Residential	Sheet 4 & Sheet 7	427	ROW Rockville Facility	Public Park\Greenway	Sheet 7
370	Parkland Open Space	Parkland Open Space	Sheet 4	428	Cameron Hills Townhouses	Residential	Sheet 8
371	Simms Property	Parkland Open Space	Sheet 4	429	Institutional	Institutional	Sheet 7 & Sheet 8 & Sheet 9
372	Weidner	Residential	Sheet 4 & Sheet 7	430	Jessup Blair Renovation	Parkland Open Space	Sheet 8 & Sheet 9
373	ROW	Hiker\Bike Trail	Sheet 6 & Sheet 7	431	Parkland Open Space	Parkland Open Space	Sheet 8
374	Danshes	Residential	Sheet 7	432	Parkland Open Space	Parkland Open Space	Sheet 7 & Sheet 8 & Sheet 9
375	Mixed Use	Mixed Use	Sheet 6	433	Parkland Open Space	Parkland Open Space	Sheet 7 & Sheet 8 & Sheet 9
377	Casey Metro Grove Rd	Mixed Use	Sheet 6	434	Parkland Open Space	Parkland Open Space	Sheet 7 & Sheet 8 & Sheet 9
378	Mixed Use	Mixed Use	Sheet 6	435	Parkland Open Space	Parkland Open Space	Sheet 8 & Sheet 9
379	W of Life Sciences Center	Mixed Use	Sheet 6	436	Parkland Open Space	Parkland Open Space	Sheet 8
380	W of Life Sciences Center	Mixed Use	Sheet 6	437	Institutional	Institutional	Sheet 7 & Sheet 8
381	Mixed Use	Mixed Use	Sheet 6	438	Industrial	Industrial	Sheet 8
382	Potomac Village	Commercial	Sheet 8	439	Commercial	Commercial	Sheet 7 & Sheet 8 & Sheet 9
383	Potomac Village	Residential	Sheet 8	440	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9
384	Cabin John Park Volunteer Fire	Institutional	Sheet 8	441	Institutional	Institutional	Sheet 7 & Sheet 8
385	Giancola Quarry	Residential	Sheet 8	442	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9
386	Stoneyhurst Quarry	Mixed Use	Sheet 8	443	Commercial	Commercial	Sheet 8
387	Potomac Village	Residential	Sheet 8	444	Industrial	Industrial	Sheet 8
388	Residential	Residential	Sheet 7 & Sheet 8	445	Residential	Residential	Sheet 7 & Sheet 8
389	Industrial	Industrial	Sheet 8	446	Institutional	Institutional	Sheet 8 & Sheet 9
390	Institutional	Institutional	Sheet 8 & Sheet 9	447	Parkland Open Space	Parkland Open Space	Sheet 7 & Sheet 8 & Sheet 9
391	Eastern Bel Pre	Residential	Sheet 7	448	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9
392	Aspen Hill - Bel Pre Area	Residential	Sheet 7	449	Silver Spring Gateway	Commercial	Sheet 8
393	Residential	Residential	Sheet 8	450	Residential	Residential	Sheet 8
394	Residential	Residential	Sheet 8	451	Institutional	Institutional	Sheet 7 & Sheet 8
395	Parkland Open Space	Parkland Open Space	Sheet 8 & Sheet 9	452	Parkland Open Space	Parkland Open Space	Sheet 7 & Sheet 8
396	Institutional	Institutional	Sheet 7 & Sheet 8 & Sheet 9	453	Aspen Hill - Bel Pre Area	Residential	Sheet 7
397	Residential	Residential	Sheet 8	454	Newell Condos	Residential	Sheet 8
398	Residential	Residential	Sheet 7	455	Institutional	Institutional	Sheet 7 & Sheet 8 & Sheet 9
399	Institutional	Institutional	Sheet 7 & Sheet 8 & Sheet 9	456	Residential	Residential	Sheet 8
400	Western Bel Pre Rd	Residential	Sheet 7	457	Parkland Open Space	Parkland Open Space	Sheet 7 & Sheet 8 & Sheet 9
401	Residential	Residential	Sheet 7 & Sheet 8	458	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9
402	Residential	Residential	Sheet 8	459	Institutional	Institutional	Sheet 7 & Sheet 8 & Sheet 9

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Appendix P-7
Near Future Development Projects

Map ID Number	Site Name	Near Future Land Use	Map Sheet Location	Map ID Number	Site Name	Near Future Land Use	Map Sheet Location
460	Mixed Use	Mixed Use	Sheet 7	517	930 Wayne Ave	Commercial	Sheet 8 & Sheet 9
461	Residential	Residential	Sheet 7 & Sheet 8	518	Institutional	Institutional	Sheet 8
462	Industrial	Industrial	Sheet 8	519	GRAMAX	Residential	Sheet 8 & Sheet 9
463	Institutional	Institutional	Sheet 8 & Sheet 9	520	Commercial	Commercial	Sheet 8 & Sheet 9
464	Institutional	Institutional	Sheet 7 & Sheet 8 & Sheet 9	521	Eastern Village Co	Residential	Sheet 8
465	Institutional	Institutional	Sheet 7 & Sheet 8 & Sheet 9	522	Lofts 24	Residential	Sheet 8 & Sheet 9
466	Residential	Residential	Sheet 8 & Sheet 9	523	Institutional	Institutional	Sheet 8 & Sheet 9
467	Residential	Residential	Sheet 8 & Sheet 9	524	Institutional	Institutional	Sheet 7 & Sheet 8 & Sheet 9
468	Parkland Open Space	Parkland Open Space	Sheet 8 & Sheet 9	525	Commercial	Commercial	Sheet 7 & Sheet 8 & Sheet 9
469	Fenton Gateway Park	Residential	Sheet 7 & Sheet 8 & Sheet 9	526	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9
470	Fenton Gateway Park	Residential	Sheet 8 & Sheet 9	527	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9
471	Fenton Gateway Park	Residential	Sheet 8 & Sheet 9	528	Institutional	Institutional	Sheet 7 & Sheet 8 & Sheet 9
472	Residential	Residential	Sheet 7 & Sheet 8	529	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9
473	Residential	Residential	Sheet 7 & Sheet 8	530	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9
474	Residential	Residential	Sheet 7 & Sheet 8	531	Commercial	Commercial	Sheet 7 & Sheet 8 & Sheet 9
475	Residential	Residential	Sheet 7 & Sheet 8	532	Commercial	Commercial	Sheet 7 & Sheet 8 & Sheet 9
476	Residential	Residential	Sheet 7 & Sheet 8	533	Commercial	Commercial	Sheet 7 & Sheet 8 & Sheet 9
477	Residential	Residential	Sheet 7 & Sheet 8	534	Easter Seals	Commercial	Sheet 8
478	Residential	Residential	Sheet 7 & Sheet 8	535	Residential	Residential	Sheet 7 & Sheet 8
479	Residential	Residential	Sheet 7 & Sheet 8	536	Residential	Residential	Sheet 7 & Sheet 8
480	Residential	Residential	Sheet 7 & Sheet 8	537	Residential	Residential	Sheet 7 & Sheet 8
481	Residential	Residential	Sheet 7 & Sheet 8	538	Parkland Open Space	Parkland Open Space	Sheet 7 & Sheet 8
482	Residential	Residential	Sheet 7 & Sheet 8	539	Residential	Residential	Sheet 8
483	Residential	Residential	Sheet 7 & Sheet 8	540	Residential	Residential	Sheet 8
484	Residential	Residential	Sheet 7 & Sheet 8	541	Residential	Residential	Sheet 8
485	Residential	Residential	Sheet 7 & Sheet 8	542	Residential	Residential	Sheet 8
486	Residential	Residential	Sheet 7 & Sheet 8	543	Residential	Residential	Sheet 8
487	Residential	Residential	Sheet 7 & Sheet 8	544	Residential	Residential	Sheet 8
488	Residential	Residential	Sheet 8	545	Residential	Residential	Sheet 8
489	Institutional	Institutional	Sheet 7 & Sheet 8	546	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9
490	Residential	Residential	Sheet 8 & Sheet 9	547	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9
491	Residential	Residential	Sheet 8 & Sheet 9	548	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9
492	Residential	Residential	Sheet 8 & Sheet 9	549	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9
493	Residential	Residential	Sheet 8 & Sheet 9	550	Commercial	Commercial	Sheet 7 & Sheet 8
494	Institutional	Institutional	Sheet 8 & Sheet 9	551	Commercial	Commercial	Sheet 7 & Sheet 8
495	Institutional	Institutional	Sheet 8 & Sheet 9	552	Institutional	Institutional	Sheet 7 & Sheet 8
496	Institutional	Institutional	Sheet 8 & Sheet 9	553	Parkland Open Space	Parkland Open Space	Sheet 7 & Sheet 8
497	Institutional	Institutional	Sheet 7 & Sheet 8	554	Residential	Residential	Sheet 7 & Sheet 8
498	Residential	Residential	Sheet 7 & Sheet 8	555	Residential	Residential	Sheet 7 & Sheet 8
499	Residential	Residential	Sheet 7 & Sheet 8	556	Residential	Residential	Sheet 7 & Sheet 8
500	Residential	Residential	Sheet 7 & Sheet 8	557	Commercial	Commercial	Sheet 7 & Sheet 8
501	Residential	Residential	Sheet 7 & Sheet 8	558	Commercial	Commercial	Sheet 7 & Sheet 8 & Sheet 9
502	Residential	Residential	Sheet 7 & Sheet 8	559	Commercial	Commercial	Sheet 7 & Sheet 8 & Sheet 9
503	Residential	Residential	Sheet 7 & Sheet 8	560	Residential	Residential	Sheet 7 & Sheet 8
504	Residential	Residential	Sheet 7 & Sheet 8	561	Parkland Open Space	Parkland Open Space	Sheet 7 & Sheet 8
505	Commercial	Commercial	Sheet 7 & Sheet 8	562	Residential	Residential	Sheet 8
506	Commercial	Commercial	Sheet 7 & Sheet 8	563	Residential	Residential	Sheet 8
507	Commercial	Commercial	Sheet 7 & Sheet 8	564	Residential	Residential	Sheet 7 & Sheet 8
508	Residential	Residential	Sheet 7 & Sheet 8	565	Residential	Residential	Sheet 7 & Sheet 8
509	Institutional	Institutional	Sheet 8 & Sheet 9	566	Residential	Residential	Sheet 8
510	Residential	Residential	Sheet 8 & Sheet 9	567	Residential	Residential	Sheet 8
511	Residential	Residential	Sheet 8 & Sheet 9	568	Residential	Residential	Sheet 8
512	Residential	Residential	Sheet 8 & Sheet 9	569	Residential	Residential	Sheet 8
513	Residential	Residential	Sheet 8 & Sheet 9	570	Residential	Residential	Sheet 8
514	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9	571	Residential	Residential	Sheet 8
515	Commercial	Commercial	Sheet 7 & Sheet 8 & Sheet 9	572	Industrial	Industrial	Sheet 8
516	Institutional	Institutional	Sheet 8	573	Industrial	Industrial	Sheet 8

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Appendix P-7

Near Future Development Projects

Map ID Number	Site Name	Near Future Land Use	Map Sheet Location	Map ID Number	Site Name	Near Future Land Use	Map Sheet Location
574	Residential	Residential	Sheet 8	632	Residential	Residential	Sheet 7
575	Industrial	Industrial	Sheet 7	633	Institutional	Institutional	Sheet 4 & Sheet 7
576	Parkland Open Space	Parkland Open Space	Sheet 6 & Sheet 8	634	Northwest Prop	Residential	Sheet 4 & Sheet 7
578	Residential	Residential	Sheet 7	635	Residential	Residential	Sheet 7 & Sheet 9
579	Residential	Residential	Sheet 7	636	Open Urban	Open Urban	Sheet 7 & Sheet 9
580	Commercial	Commercial	Sheet 7 & Sheet 8 & Sheet 9	638	Residential	Residential	Sheet 7 & Sheet 9
581	Parkland Open Space	Parkland Open Space	Sheet 7	639	Residential	Residential	Sheet 7 & Sheet 9
582	Olney PO	Special Exception	Sheet 4 & Sheet 7	640	Industrial	Industrial	Sheet 7 & Sheet 9
583	Residential	Residential	Sheet 7 & Sheet 8	641	Industrial	Industrial	Sheet 7 & Sheet 9
584	Residential	Residential	Sheet 7	642	Industrial	Industrial	Sheet 7 & Sheet 9
585	Parkland Open Space	Parkland Open Space	Sheet 4	643	Commercial	Commercial	Sheet 7 & Sheet 8 & Sheet 9
586	Parkland Open Space	Parkland Open Space	Sheet 8	644	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9
587	Forest	Forest	Sheet 7 & Sheet 8 & Sheet 9	645	Residential	Residential	Sheet 7
588	Parkland Open Space	Parkland Open Space	Sheet 6 & Sheet 8	646	Commercial	Commercial	Sheet 7 & Sheet 8 & Sheet 9
589	Life Sciences Center*	Mixed Use	Sheet 6	647	Residential	Residential	Sheet 4 & Sheet 7
590	Residential	Residential	Sheet 6 & Sheet 8	649	Institutional	Institutional	Sheet 8 & Sheet 9
591	Commercial	Commercial	Sheet 6 & Sheet 8	650	Commercial	Commercial	Sheet 7 & Sheet 9
592	Residential	Residential	Sheet 7	651	Residential	Residential	Sheet 7
593	Hyde Prop	Residential	Sheet 4 & Sheet 7	652	Residential	Residential	Sheet 7
594	Residential	Residential	Sheet 4 & Sheet 7	653	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9
595	Residential	Residential	Sheet 7 & Sheet 9	655	Parkland Open Space	Parkland Open Space	Sheet 7 & Sheet 8
596	Strathmore Hall Arts Cent	Institutional	Sheet 8	656	Open Urban	Open Urban	Sheet 7 & Sheet 9
597	Industrial	Industrial	Sheet 7 & Sheet 9	657	Open Urban	Open Urban	Sheet 7 & Sheet 9
598	Residential	Residential	Sheet 7 & Sheet 9	658	Residential	Residential	Sheet 7
599	Residential	Residential	Sheet 7 & Sheet 9	659	Residential	Residential	Sheet 7
600	Residential	Residential	Sheet 7	660	Potomac Village	Residential	Sheet 8
601	Residential	Residential	Sheet 7	661	Open Urban	Open Urban	Sheet 7 & Sheet 9
602	Residential	Residential	Sheet 7	662	Open Urban	Open Urban	Sheet 7 & Sheet 9
603	Residential	Residential	Sheet 7 & Sheet 9	663	Open Urban	Open Urban	Sheet 7 & Sheet 9
604	Residential	Residential	Sheet 7 & Sheet 9	664	Residential	Residential	Sheet 7 & Sheet 8
605	Residential	Residential	Sheet 7	665	Residential	Residential	Sheet 4
606	Residential	Residential	Sheet 7 & Sheet 9	666	Open Urban	Open Urban	Sheet 7 & Sheet 9
607	Institutional	Institutional	Sheet 8	667	Residential	Residential	Sheet 7 & Sheet 9
608	Residential	Residential	Sheet 7 & Sheet 9	668	Residential	Residential	Sheet 7 & Sheet 9
609	Pachulskjz et al	Residential	Sheet 7	669	Residential	Residential	Sheet 7 & Sheet 9
610	Open Urban	Open Urban	Sheet 7 & Sheet 9	670	Open Urban	Open Urban	Sheet 7 & Sheet 9
611	Residential	Residential	Sheet 7	671	Residential	Residential	Sheet 7
612	Olney Library	Special Exception	Sheet 4 & Sheet 7	672	Residential	Residential	Sheet 7
613	Residential	Residential	Sheet 7	673	Residential	Residential	Sheet 7
614	Residential	Residential	Sheet 7	674	Residential	Residential	Sheet 7 & Sheet 9
615	Residential	Residential	Sheet 7 & Sheet 9	675	Residential	Residential	Sheet 8
616	Residential	Residential	Sheet 7 & Sheet 9	676	Residential	Residential	Sheet 7 & Sheet 9
617	Residential	Residential	Sheet 7	677	Residential	Residential	Sheet 7 & Sheet 9
618	Institutional	Institutional	Sheet 7	678	Residential	Residential	Sheet 7 & Sheet 9
619	Residential	Residential	Sheet 7 & Sheet 9	679	Residential	Residential	Sheet 7
620	Clifton Park Crossroads	Potential Transit Stop	Sheet 8 & Sheet 9	680	Residential	Residential	Sheet 7 & Sheet 8
621	Residential	Residential	Sheet 7	681	Open Urban	Open Urban	Sheet 7
617	WSSC	Commercial	Sheet 7 & Sheet 9	682	Open Urban	Open Urban	Sheet 7
623	Forest	Forest	Sheet 7 & Sheet 8 & Sheet 9	683	Residential	Residential	Sheet 7
624	Residential	Residential	Sheet 7 & Sheet 8	684	Residential	Residential	Sheet 7
625	Residential	Residential	Sheet 7 & Sheet 9	685	Residential	Residential	Sheet 7
626	Residential	Residential	Sheet 7	686	Residential	Residential	Sheet 7 & Sheet 9
627	Residential	Residential	Sheet 7 & Sheet 9	687	Residential	Residential	Sheet 7 & Sheet 9
628	Residential	Residential	Sheet 7 & Sheet 9	688	Residential	Residential	Sheet 7 & Sheet 9
629	Residential	Residential	Sheet 7	690	Turkey Foot Property	Residential	Sheet 6
630	Commercial	Commercial	Sheet 7 & Sheet 8	691	Residential	Residential	Sheet 7
631	Residential	Residential	Sheet 4 & Sheet 7	692	Residential	Residential	Sheet 7 & Sheet 9

Note: Near Future Projects equal to or less than one (1) acre are depicted on accompanying map sheets by shape only. These projects are listed in this table.

Appendix P-7

Near Future Development Projects

Map ID Number	Site Name	Near Future Land Use	Map Sheet Location	Map ID Number	Site Name	Near Future Land Use	Map Sheet Location
693	Residential	Residential	Sheet 8	754	Parkland Open Space	Parkland Open Space	Sheet 7
694	Residential	Residential	Sheet 7	755	Residential	Residential	Sheet 7
695	Institutional	Institutional	Sheet 7	756	Parkland Open Space	Parkland Open Space	Sheet 7
696	Residential	Residential	Sheet 7	757	Residential	Residential	Sheet 7 & Sheet 9
697	Institutional	Institutional	Sheet 8 & Sheet 9	758	Takoma Langley Crossroads	Potential Transit Stop	Sheet 9
698	Residential	Residential	Sheet 7 & Sheet 9	759	Parkland Open Space	Parkland Open Space	Sheet 8 & Sheet 9 & Sheet 10
699	Residential	Residential	Sheet 7 & Sheet 9	760	Residential	Residential	Sheet 7
700	Residential	Residential	Sheet 7	761	Residential	Residential	Sheet 7
701	Residential	Residential	Sheet 7 & Sheet 8	762	Residential	Residential	Sheet 7
702	Residential	Residential	Sheet 8	763	Residential	Residential	Sheet 7 & Sheet 9
703	Residential	Residential	Sheet 7 & Sheet 9	764	Residential	Residential	Sheet 7
704	Parkland Open Space	Parkland Open Space	Sheet 8	765	Residential	Residential	Sheet 7
705	Residential	Residential	Sheet 7 & Sheet 9	766	Institutional	Institutional	Sheet 7 & Sheet 8 & Sheet 9
707	Residential	Residential	Sheet 7 & Sheet 9	767	Residential	Residential	Sheet 7 & Sheet 9
708	Residential	Residential	Sheet 7	768	Industrial	Industrial	Sheet 7 & Sheet 9
709	Residential	Residential	Sheet 7 & Sheet 8	769	Residential	Residential	Sheet 7
710	Institutional	Institutional	Sheet 6	770	Residential	Residential	Sheet 7
711	Industrial	Industrial	Sheet 7	771	Residential	Residential	Sheet 8
712	Parkland Open Space	Parkland Open Space	Sheet 4	772	Residential	Residential	Sheet 7
713	Residential	Residential	Sheet 7	773	Residential	Residential	Sheet 7
714	Residential	Residential	Sheet 7	774	Residential	Residential	Sheet 8
715	Residential	Residential	Sheet 7	775	Parkland Open Space	Parkland Open Space	Sheet 7
716	Residential	Residential	Sheet 7	776	Parkland Open Space	Parkland Open Space	Sheet 4
717	Residential	Residential	Sheet 7	777	Residential	Residential	Sheet 8
718	Residential	Residential	Sheet 7	778	Residential	Residential	Sheet 7
719	Washington Ethical School	Institutional	Sheet 8 & Sheet 9	779	Industrial	Industrial	Sheet 7 & Sheet 9
720	Residential	Residential	Sheet 7	780	Relocated Tastee Diner	Commercial	Sheet 8
721	Residential	Residential	Sheet 7	781	Residential	Residential	Sheet 7 & Sheet 9
722	Institutional	Institutional	Sheet 8	782	Commercial	Commercial	Sheet 8 & Sheet 9
723	W of Life Sciences Center	Mixed Use	Sheet 6	783	Residential	Residential	Sheet 7 & Sheet 8
724	W of Life Sciences Center	Mixed Use	Sheet 6	784	Industrial	Industrial	Sheet 7 & Sheet 9
725	Silo Inn	Residential	Sheet 7	785	Commercial	Commercial	Sheet 6
726	Residential	Residential	Sheet 7	786	Residential	Residential	Sheet 7
727	Parkland Open Space	Parkland Open Space	Sheet 7	787	Residential	Residential	Sheet 7
728	Residential	Residential	Sheet 7 & Sheet 9	788	Residential	Residential	Sheet 7
729	Residential	Residential	Sheet 7 & Sheet 9	789	Residential	Residential	Sheet 4 & Sheet 7
730	Greenrose - Bel Pre	Residential	Sheet 7	790	Commercial	Commercial	Sheet 8 & Sheet 9
731	Trail	Trail	Sheet 8 & Sheet 9	791	Kuperschmidt	Residential	Sheet 7
732	Parkland Open Space	Parkland Open Space	Sheet 8	792	Residential	Residential	Sheet 7 & Sheet 9
733	Residential	Residential	Sheet 7	793	Open Urban	Open Urban	Sheet 7 & Sheet 9
734	Residential	Residential	Sheet 7 & Sheet 8 & Sheet 9	794	Residential	Residential	Sheet 4 & Sheet 7
735	Potomac Village	Residential	Sheet 8	795	Residential	Residential	Sheet 7 & Sheet 9
736	Residential	Residential	Sheet 7	796	Residential	Residential	Sheet 7 & Sheet 9
737	Residential	Residential	Sheet 7	797	Residential	Residential	Sheet 7 & Sheet 9
738	Residential	Residential	Sheet 7	798	Residential	Residential	Sheet 7
739	Residential	Residential	Sheet 7	799	Residential	Residential	Sheet 4 & Sheet 7
740	Parkland Open Space	Parkland Open Space	Sheet 7	800	Residential	Residential	Sheet 4 & Sheet 7
741	Residential	Residential	Sheet 7 & Sheet 9	801	Residential	Residential	Sheet 4 & Sheet 7
742	Residential	Residential	Sheet 7 & Sheet 9	802	Residential	Residential	Sheet 7 & Sheet 9
743	Residential	Residential	Sheet 7 & Sheet 9	803	Grosvenor Village	Residential	Sheet 8
744	Residential	Residential	Sheet 7	804	Residential	Residential	Sheet 8
745	Residential	Residential	Sheet 7 & Sheet 9	805	Residential	Residential	Sheet 6
749	Residential	Residential	Sheet 7	806	Residential	Residential	Sheet 7
750	SS Central Business District	Commercial	Sheet 8	807	Residential	Residential	Sheet 7
751	Parkland Open Space	Parkland Open Space	Sheet 4	808	Institutional	Institutional	Sheet 7 & Sheet 8 & Sheet 9
752	Residential	Residential	Sheet 7	809	Residential	Residential	Sheet 8
753	Parkland Open Space	Parkland Open Space	Sheet 7	810	Mixed Use	Mixed Use	Sheet 6 & Sheet 8

Note: Near Future Projects equal to or less than one (1) acre are depicted on accompanying map sheets by shape only. These projects are listed in this table.

Appendix P-7
Near Future Development Projects

Map ID Number	Site Name	Near Future Land Use	Map Sheet Location	Map ID Number	Site Name	Near Future Land Use	Map Sheet Location
811	Residential	Residential	Sheet 8	870	Parkland Open Space	Parkland Open Space	Sheet 7 & Sheet 8 & Sheet 9
812	The Chelsey School	Institutional	Sheet 8 & Sheet 9	871	Institutional	Institutional	Sheet 7 & Sheet 9
813	Residential	Residential	Sheet 7 & Sheet 8	872	Parkland Open Space	Parkland Open Space	Sheet 7 & Sheet 8
814	Residential	Residential	Sheet 4 & Sheet 7	873	Residential	Residential	Sheet 4
815	Mandell Prop	Residential	Sheet 7	874	Cabin Branch	Mixed Use	Sheet 4
816	WSSC Site	Residential	Sheet 6 & Sheet 7	875	COMSAT	Mixed Use	Sheet 4
817	Conference Center/Hotel	Institutional	Sheet 6 & Sheet 8	876	Cabin Branch	Residential	Sheet 4
818	Institutional	Institutional	Sheet 8 & Sheet 9	877	Clarksburg Town Center*	Mixed Use	Sheet 4
819	Commercial	Commercial	Sheet 7 & Sheet 8	878	Germantown Cemeteries	Mixed Use	Sheet 4
820	Residential	Residential	Sheet 7 & Sheet 9	879	Catholic Cemeteries	Other	Sheet 4
821	Residential	Residential	Sheet 7 & Sheet 9	880	Rocky Hill Middle School	Institutional	Sheet 4
822	Residential	Residential	Sheet 6 & Sheet 8	881	Rocky Hill Middle School	Institutional	Sheet 4
823	Residential	Residential	Sheet 7 & Sheet 9	882	Gateway 270 Corp Park	Commercial	Sheet 4
824	Residential	Residential	Sheet 7 & Sheet 9	884	FDA HQ*	Federal Lands	Sheet 7 & Sheet 9
825	Residential	Residential	Sheet 7 & Sheet 9	885	Mixed Use	Mixed Use	Sheet 6
826	Residential	Residential	Sheet 7 & Sheet 8	886	Mixed Use	Mixed Use	Sheet 6
827	Commercial	Commercial	Sheet 7 & Sheet 8	887	Residential	Residential	Sheet 7
828	Commercial	Commercial	Sheet 7 & Sheet 8	888	Residential	Residential	Sheet 7
829	Miller & Smith Prop	Parkland Open Space	Sheet 6	889	Residential	Residential	Sheet 7
831	Mixed Use	Mixed Use	Sheet 6	890	Industrial	Industrial	Sheet 8
832	Canada Dry	Residential	Sheet 8	891	Institutional	Institutional	Sheet 7 & Sheet 8 & Sheet 9
833	Institutional	Institutional	Sheet 8 & Sheet 9	892	Residential	Residential	Sheet 7 & Sheet 9
834	Commercial	Commercial	Sheet 8 & Sheet 9	893	Commercial	Commercial	Sheet 7 & Sheet 9
835	Commercial	Commercial	Sheet 8	894	Commercial	Commercial	Sheet 7 & Sheet 9
836	Residential	Residential	Sheet 7 & Sheet 8	895	Residential	Residential	Sheet 7
837	Residential	Residential	Sheet 7 & Sheet 9	896	Residential	Residential	Sheet 7
839	Residential	Residential	Sheet 8 & Sheet 9	897	Residential	Residential	Sheet 7
840	Residential	Residential	Sheet 8	898	Residential	Residential	Sheet 7
841	Residential	Residential	Sheet 6	899	Residential	Residential	Sheet 7
842	Forest	Forest	Sheet 7	900	Residential	Residential	Sheet 7
843	Tower Co	Parkland Open Space	Sheet 6 & Sheet 7	901	Residential	Residential	Sheet 7
844	Industrial	Industrial	Sheet 7	902	Residential	Residential	Sheet 8
845	Residential	Residential	Sheet 7	903	Residential	Residential	Sheet 8
846	Open Urban	Open Urban	Sheet 7	904	Takoma Langley Crossroads	Potential Transit Stop	Sheet 9
847	Forest	Forest	Sheet 7 & Sheet 9	905	Parkland Open Space	Parkland Open Space	Sheet 8 & Sheet 9 & Sheet 10
848	Residential	Residential	Sheet 7 & Sheet 9	906	Forest	Forest	Sheet 7
849	Forest	Forest	Sheet 7 & Sheet 9	907	Institutional	Institutional	Sheet 10
850	Parkland Open Space	Parkland Open Space	Sheet 7 & Sheet 8 & Sheet 9	908	Institutional	Institutional	Sheet 10
851	Residential	Residential	Sheet 7 & Sheet 8	909	Institutional	Institutional	Sheet 10
852	Residential	Residential	Sheet 7 & Sheet 8	910	Institutional	Institutional	Sheet 10
853	Residential	Residential	Sheet 7 & Sheet 8	911	Institutional	Institutional	Sheet 9
854	Residential	Residential	Sheet 8 & Sheet 9	912	Institutional	Institutional	Sheet 9
855	Residential	Residential	Sheet 8 & Sheet 9	913	Institutional	Institutional	Sheet 9
856	Residential	Residential	Sheet 8 & Sheet 9	914	Institutional	Institutional	Sheet 9
857	Residential	Residential	Sheet 8	915	Institutional	Institutional	Sheet 9
858	Casey Prop II	Residential	Sheet 7	916	Institutional	Institutional	Sheet 9
859	Casey Prop I	Parkland Open Space	Sheet 7	917	Institutional	Institutional	Sheet 9
860	Parkland Open Space	Parkland Open Space	Sheet 4	918	Greenbelt	Industrial	Sheet 7 & Sheet 9
861	Bruzee et al	Parkland Open Space	Sheet 7	919	Brentwood	Institutional	Sheet 7 & Sheet 9
862	ROW Rockville Facility	Public Park\Greenway	Sheet 8 & Sheet 9	920	Greenbelt	Open Urban	Sheet 7 & Sheet 9
863	Institutional	Institutional	Sheet 8 & Sheet 9	921	Institutional	Institutional	Sheet 7 & Sheet 9
864	Silver Spring Green Trail	Trail	Sheet 8	922	Fire Station	Institutional	Sheet 7
865	Residential	Residential	Sheet 8	923	Mount Rainier Fire Station	Institutional	Sheet 7 & Sheet 9
866	Trail	Trail	Sheet 8 & Sheet 9 & Sheet 10	924	Hyattsville	Institutional	Sheet 7
867	Trail	Trail	Sheet 7	925	FDA HQ	Federal Lands	Sheet 7 & Sheet 9
868	Dematatis Prop	Residential	Sheet 7 & Sheet 8 & Sheet 9	926	Russett Center LTD Partnership	Residential	Sheet 7
869	Parkland Open Space	Parkland Open Space	Sheet 7 & Sheet 8 & Sheet 9	927	STURGESS, KATRINA A	Residential	Sheet 7

Note: Near Future Projects equal to or less than one (1) acre are depicted on accompanying map sheets by shape only. These projects are listed in this table.

Appendix P-7
Near Future Development Projects

Map ID Number	Site Name	Near Future Land Use	Map Sheet Location	Map ID Number	Site Name	Near Future Land Use	Map Sheet Location
928	Hall, Josh	Residential	Sheet 7	979	Montgomery County Agric Center	Open Space	Sheet 6
929	Maguire, Francis M	Residential	Sheet 7	980	Off W Diamond Ave	Mixed Use	Sheet 6
930	Curran, Timothy M	Residential	Sheet 7	981	Lilac Gardens	Mixed Use	Sheet 6
931	SCHILDT, STEVEN R	Residential	Sheet 7	982	St Martinis Church Prop	Mixed Use	Sheet 6
932	Williamson, James H	Residential	Sheet 7	983	MCPS Property	Mixed Use	Sheet 6
933	Howland, Dorrance P	Residential	Sheet 7	984	Bowlings Addition	Mixed Use	Sheet 6
934	Harzer Properties	Residential	Sheet 7	985	Brighton West	Mixed Use	Sheet 6
935	Whitehead, Albert	Residential	Sheet 7	986	City Prop	Open Space	Sheet 6
936	MARYLAND CITY ACQUISTION	Industrial	Sheet 7	987	Former NIKE Missile Site	Open Space	Sheet 6
937	Panizari, James	Industrial	Sheet 7	988	Open Space	Open Space	Sheet 6
938	Fisher, Elwood L	Residential	Sheet 7	989	Eagles Head	Open Space	Sheet 6
939	ANNE ARUNDEL COUNTY	Forest	Sheet 7	990	Woodlands	Open Space	Sheet 6
940	LAUREL RACING ASSOC LTD P	Industrial	Sheet 7	991	CPSafety Commission	Mixed Use	Sheet 6
941	SEIGEL, ROBERT	Residential	Sheet 7	992	Washingtonian Woods etc	Open Space	Sheet 6
577	Institutional	Institutional	Sheet 7 & Sheet 9	993	Kentlands\Lakelands	Open Space	Sheet 6
577	Institutional	Institutional	Sheet 7 & Sheet 9	994	Kentlands Parks Lakes wetland	Open Space	Sheet 6
252	Residential	Residential	Sheet 7 & Sheet 9	995	Kentland	Institutional	Sheet 6
252	Residential	Residential	Sheet 7 & Sheet 9	996	Kentlands Elementary School	Institutional	Sheet 6
216	Residential	Residential	Sheet 7 & Sheet 9	997	Quince Orchard Shop Center	Mixed Use	Sheet 6
189	Residential	Residential	Sheet 7 & Sheet 9	998	Kentlands Recreation Center	Open Space	Sheet 6
942	Pines of Laurel	Residential	Sheet 7 & Sheet 9	999	Meadow at Quince Orchard	Mixed Use	Sheet 6
943	Oaklands	Residential	Sheet 7 & Sheet 9	1000	Meadow at Quince Orchard	Industrial	Sheet 6
944	Cherokee Property	Industrial	Sheet 7 & Sheet 9	1001	National Institute of Standards & Technology	Institutional	Sheet 6
945	Villages at Wellington	Residential	Sheet 7 & Sheet 9	1002	Diamond Farm	Open Space	Sheet 6
947	Villages at Wellington	Residential	Sheet 7 & Sheet 9	1003	Diamond Farm	Mixed Use	Sheet 6
948	Cross Creek	Residential	Sheet 7 & Sheet 9	1004	Schultze Prop	Open Space	Sheet 6
949	Briarwood Business Park	Industrial	Sheet 7 & Sheet 9	1005	Schultze Property	Mixed	Sheet 6
950	Centerpark	Commercial	Sheet 7 & Sheet 9	1006	Washingtonian Center	Mixed Use	Sheet 6
951	Deerfield Run	Residential	Sheet 7 & Sheet 9	1007	Uptons\Boston Market Site	Mixed	Sheet 6
952	Foxfire Apartments	Residential	Sheet 7 & Sheet 9	1008	City Prop & Washingtonian	Open Space	Sheet 6
953	Greater Laurel Prof. Park	Mixed Use	Sheet 7 & Sheet 9	1009	Washingtonian	Open Space	Sheet 6
954	Hartmeyer Prop. (Church)	Residential	Sheet 7 & Sheet 9	1010	Residential	Residential	Sheet 6
955	Konterra Business Campus	Commercial	Sheet 7 & Sheet 9	1011	Residential	Residential	Sheet 6
956	Oakcrest	Residential	Sheet 7 & Sheet 9	1012	Commercial	Commercial	Sheet 6
957	Sandy Spring Estates	Residential	Sheet 7	1013	Commercial	Commercial	Sheet 6
958	Sumner Grove	Residential	Sheet 7 & Sheet 9	1014	Lakewood Elementary	Institutional	Sheet 6
959	Willshire	Residential	Sheet 7 & Sheet 9	1015	Commercial	Commercial	Sheet 6
960	Ammendale South	Industrial	Sheet 7 & Sheet 9	1016	Church Addition	Institutional	Sheet 6
954	Rockville Industrial Park, Par E	Commercial	Sheet 6	1017	Sanctuary	Institutional	Sheet 6
955	Commercial	Commercial	Sheet 6	1018	Residential	Residential	Sheet 6
956	Commercial	Commercial	Sheet 6	1019	Car Service Facility	Industrial	Sheet 6
960	Britt & City Prop	Open Space	Sheet 6	1020	Church Addition	Institutional	Sheet 6
961	Game Preserve Rd	Open Space	Sheet 6	1021	Residential	Residential	Sheet 6
962	Off Watkins Mill Rd	Residential	Sheet 6	1022	Gas Station	Industrial	Sheet 6
963	Montgomery Meadows	Open Space	Sheet 6	1023	Industrial	Industrial	Sheet 6
966	Britts Addition	Open Space	Sheet 6	1024	Industrial	Industrial	Sheet 6
967	Goshen Tract	Mixed Use	Sheet 6	1025	Industrial	Industrial	Sheet 6
968	Ashbury campus	Mixed Use	Sheet 6	1026	Residential	Residential	Sheet 6
969	Constitution Parks	Mixed Use	Sheet 6	1027	Mixed Use	Mixed Use	Sheet 6
970	East Deer Park Drive	Residential	Sheet 6	1028	Commercial	Commercial	Sheet 6
971	Off Central Ave	Residential	Sheet 6	1029	Mixed Use	Mixed Use	Sheet 6
972	Off Central Ave	Mixed Use	Sheet 6	1030	Mixed Use	Mixed Use	Sheet 6
973	Rosemont	Residential	Sheet 6	1031	Commercial	Commercial	Sheet 6
974	Walnut Hill	Residential	Sheet 6	1032	Commercial	Commercial	Sheet 6
975	Oakmont Manor	Mixed Use	Sheet 6	1033	Commercial	Commercial	Sheet 6
976	Walnut Hill	Mixed Use	Sheet 6	1034	Commercial	Commercial	Sheet 6
977	Abdollah Malekzadeh Prop	Mixed Use	Sheet 6	1035	Commercial	Commercial	Sheet 6
978	EB Casey Prop	Mixed Use	Sheet 6	1036	Residential	Residential	Sheet 6

Note: Near Future Projects equal to or less than one (1) acre are depicted on accompanying map sheets by shape only. These projects are listed in this table.

Appendix P-7

Near Future Development Projects

Map ID Number	Site Name	Near Future Land Use	Map Sheet Location	Map ID Number	Site Name	Near Future Land Use	Map Sheet Location
1037	Richard Montgomery HS	Institutional	Sheet 6	1043	Industrial	Industrial	Sheet 6
1038	Commercial	Commercial	Sheet 6	1044	Mixed Use	Mixed Use	Sheet 6
1039	Commercial	Commercial	Sheet 6	1045	Commercial	Commercial	Sheet 6
1040	Commercial	Commercial	Sheet 6	1046	Mixed Use	Mixed Use	Sheet 6
1041	Commercial	Commercial	Sheet 6	1047	Institutional	Institutional	Sheet 6
1042	Institutional	Institutional	Sheet 6	1048	Institutional	Institutional	Sheet 6

** Indicates Projects in which construction is expected to be initiated in the Near Future Time Frame and expected to continue into the Future Time Frame. Therefore, these projects are depicted on both near future and future maps.*

Note: Near Future Projects equal to or less than one (1) acre are depicted on accompanying map sheets by shape only. These projects are listed in this table.

Appendix P-8

Future Transportation Projects (2030)

Map Number	Site Name	Description	Completion Date	Map Sheet Location
1	Goshen Facility	Construct Warfield Rd to Brink Road (Environmental Site Assessment - 2002)	2012	Sheet 4
2	MD 28/MD 198	Norbeck & Spencerville, I-95 to MD 97 (Construct) (Release Draft Environmental Document 2004)	2025	Sheet 7
3	I-495	Corridor Transportation Study (Draft Environmental Document - late 2004)	Future	Sheet 7 & Sheet 8 & Sheet 9 & Sheet 10
4	I-95/Contee Road	Transportation Improvement Study (Location Design Public Hearing - 2004, Alternatives Selection - 2005)	Future	Sheet 7 & Sheet 9
5	MD-97/Brookville	Transportation Study (FEIS Signed by FHWA May 11, 2004)	Future	Sheet 5
6	Father Hurley Bvd/ Ridge Rd	Widen from I-270 to MD 355	2020	Sheet 4
7	Mid County Hwy Extended	Construct (Phase I Facility Planning Underway - 2004-05)	2020	Sheet 4 & Sheet 6
8	MD 118 Ext	Widen MD 355 to Watkins Mill Rd	2020	Sheet 4
9	Montrose Pkwy East (Randolph Rd)	Parklawn Dr to Veirs Mill (Construct) (Facility Planning Underway - 2003)	2015	Sheet 7 & Sheet 8
10	Montrose Parkway, West*	Tildenwood Dr to Old Georgetown Rd	2010	Sheet 6 & Sheet 8
11	Observation Drive Extended	Extension of Road	2012	Sheet 4 & Sheet 6
12	Good Luck Road	MD201 to Cipriano Rd	2020	Sheet 9 & Sheet 10
13	Metzerott Rd	New Hamp to Adelphia to MD 193 (Widen)	2020	Sheet 9
14	Muirkirk Rd	US 1 to Odell Rd (Widen)	2020	Sheet 7 & Sheet 9
15	Old Gunpowder Rd	Powder Mill to Greencastle (Rehab)	2015	Sheet 7 & Sheet 9
16	Van Dusen Rd	Contee Rd to Sandy Springs (Widen)	2020	Sheet 7 & Sheet 9
17	Old Baltimore Pike Extended	Muirkirk Rd to Contee (Construct)	2020	Sheet 7 & Sheet 9
18	Rhode Island Ave	MD 193 to US1 (Widen)	2015	Sheet 9 & Sheet 10
19	Virginia Manor Rd	Muirkirk to Contee (Widen)	2015	Sheet 7 & Sheet 9
20	Rockville Town Center	Future (Received Approval on Segmentation Paper - 2003)	Future	Sheet 6
21	I-70	From Mt Philip Rd to MD 144	2015	Sheet 2
22	I-270/US-15	Multimodal Corridor Study	2025	Sheet 2 & Sheet 4 & Sheet 6
23	US 1	Baltimore Ave from Sunnyside to College (Agency Concurrence on ARDS - 2002)	2025	Sheet 7 & Sheet 9
24	Purple Line	Bethesda to New Carrollton (Definition of Alternatives Report - Fall 2004)	Beyond 2010	Sheet 8 & Sheet 9 & Sheet 10
25	Corridor Cities Transitway	Transit construction	Future	Sheet 4 & Sheet 6
26	I-270 Interchange	Interchange @ Watkins Mills Rd (FEIS signed by FHWA December 10, 2001)	2025	Sheet 6
27	I-95 HOV	Howard County Line to PG County Line, HOV	2020	Sheet 7
28	MD-355 @ Montrose\Randolph	Reconstruct 6 lanes and Interchange	2015	Sheet 8
29	US 29*	Upgrade from Sligo Creek Pkwy to Howard Co Line	2005-2025	Sheet 7 & Sheet 8 & Sheet 9
30	I-95, Contee Rd Interchange	Interchange and CD lanes	2015	Sheet 7
31	Baltimore Washington Pkwy	Southbound Ramp from Greenbelt Rd	2025	Sheet 9
32	Sanner Rd	New & Widen Pindell School to Johns Hopkins to 216	2015	Sheet 5 & Sheet 7
33	North Urbana Interchange	Centered on Parks Mill Rd overpass	Beyond 2025	Sheet 2
34	US 29 Interchange	@ Gorman/Hopkins Rd	2020	Sheet 5 & Sheet 7
35	MD 32 Expansion	From Cedar La to US 29	2020	Sheet 5
36	Loop Rd	New 4 Lane Rd, w of I-95 to W of All Saints Rd	2020	Sheet 7
37	Boyers Mill Rd	Reconstruction from Gas House to MD144	2020	Sheet 3
38	New Market Collector	From 144 to MD 75	2020	Sheet 3
39	North-South Parallel Road	I-15 to I 270	2020	Sheet 2
40	Christopher Crossing	Rocky Springs to Shookstown	2020	Sheet 2
41	Midcounty Highway (From Shady Grove Road to ICC Alignment)	Further Study Required	Future	

Note: This table reflects those projects currenly planned for construction within the 2010 to 2030 time frame. The information contained within this table was obtained through readily available data sources.

** Indicates projects in which consideration is expected to be initiated in the Near Future Time Frame and expected to continue into the Future Time Frame. Therefore, these projects are depicted on both the near future and future maps.*

Appendix P-9

Future Development Projects (2030)

Map Number	*Site Name*	*Future Land Use Type*	*Map Sheet Location*
1	Fortune Parc (20 Acres -Commercial Office Space, Residential and Retail)*	Mixed Use	Sheet 6 & Sheet 8
2	Travilah (38 Acres - Residential and Retail)	Institutional	Sheet 6
3	WSSC (133 Acres - Bio-Tech Park)	Commercial	Sheet 7 & Sheet 9
4	Life Sciences Center (Increase Density)*	Mixed Use	Sheet 6
5	WSSC Site	Residential	Sheet 6 & Sheet 7
6	Clarksburg Town Center (640 Acres)*	Mixed Use	Sheet 4
7	Gateway 270 Corp Park	Commercial	Sheet 4
8	Parkland Open Space	Mixed Use	Sheet 10
9	Anacostia Park	Mixed Use	Sheet 10
10	Warfield Property	Residential	Sheet 4
11	Kingstead Farm	Residential	Sheet 4
12	Burdette Farm	Residential	Sheet 4
13	Fred. Conference Center	Institutional	Sheet 2
14	Homeland Sec. Facility	Institutional	Sheet 2
15	Rt 26/US 15 Wedge	Mixed Use	Sheet 2
16	Airpark Industrial	Industrial	Sheet 2
17	East St. Project	Mixed Use	Sheet 2
18	Rigler Property	Residential	Sheet 3
19	Parcel B	Residential	Sheet 3
20	Parcel G	Mixed Use	Sheet 3
21	Meadow Elementary	Institutional	Sheet 3
22	Casey Elementary	Institutional	Sheet 3
23	Eaglehead High	Institutional	sc
24	Park	Parkland Open Space	Sheet 3
25	Park	Parkland Open Space	Sheet 2 & Sheet 3
26	Elementary School	Institutional	Sheet 3
27	Park	Parkland Open Space	Sheet 3
28	Summerfield Middle	Institutional	Sheet 3
29	Elementary School	Institutional	Sheet 1 & Sheet 2
30	Elementary School	Institutional	Sheet 2 & Sheet 3
31	Park	Parkland Open Space	Sheet 3
32	Fire Station	Institutional	Sheet 3
33	Elementary School	Institutional	Sheet 3
34	Park	Parkland Open Space	Sheet 3
35	Ball Road School Site	Institutional	Sheet 2 & Sheet 3
36	75/80 Elementary Site	Institutional	Sheet 3
37	Monrovia High Site	Institutional	Sheet 3
38	Elementary School	Institutional	Sheet 2
39	Elementary School	Institutional	Sheet 2
40	Police Station	Institutional	Sheet 2
41	East St. Comm Park	Parkland Open Space	Sheet 2
42	Hillcrest Park	Parkland Open Space	Sheet 2
43	Park	Parkland Open Space	Sheet 2
44	Park	Parkland Open Space	Sheet 2
45	Park	Parkland Open Space	Sheet 2
46	Park	Parkland Open Space	Sheet 2
47	Emerson (Phase III)	Residential	Sheet 7
48	Emerson, Key Prop PIV	Residential	Sheet 5 & Sheet 7
49	Maple Lawn Farms Phase 2	Residential	Sheet 5 & Sheet 7
50	Maple Lawn Farms, Ph3	Residential	Sheet 5 & Sheet 7
51	FDA HQ (Federal Lands)*	Commercial	Sheet 7 & Sheet 9
52	FDA HQ (Federal Lands)*	Commercial	Sheet 7 & Sheet 9

Note: This table reflects those projects currenly planned for construction within the 2010 to 2030 time frame. The information contained within this table was obtained through readily available data sources.

** Indicates projects in which consideration is expected to be initiated in the Near Future Time Frame and expected to continue into the Future Time Frame. Therefore, these projects are depicted on both the near future and future maps.*

Appendix P-10

Subwatershed Impervious Area within the SCEA Study Area

Watershed	Subwatershed	Subwatershed Total Acres	Total Acres within SCEA Boundary	1973 Percent Impervious1	2000 Percent Impervious[1]	Percent Change 1973-2000	Near Future (2010) Percent Impervious[2]	Percent Change 2000-2010	No Action (2030) Percent Impervious[3]	Percent Change 2010-2030 (No-Action)	Corridor 1 (2030) Percent Impervious[3]	Percent Change 2010-2030 (Corridor 1)	Corridor 2 (2030) Percent Impervious[3]	Percent Change 2010-2030 (Corridor 2)
MIDDLE POTOMAC RIVER	Double Pipe Creek	123,398	7,845	0.52%	2.52%	387.99%	2.52%	0.00%	2.52%	0.00%	2.52%	0.00%	2.52%	0.00%
MIDDLE POTOMAC RIVER	Lower Monocacy River	194,686	162,808	2.69%	7.70%	186.35%	8.99%	16.66%	9.74%	8.40%	9.78%	8.77%	9.82%	9.26%
PATUXENT RIVER	Brighton Dam	50,595	18,368	0.74%	2.18%	196.50%	3.29%	50.63%	3.37%	2.51%	3.32%	0.97%	3.32%	0.97%
PATUXENT RIVER	Little Patuxent River	66,214	3,608	5.69%	12.72%	123.56%	27.87%	119.11%	29.01%	4.11%	29.29%	5.12%	29.76%	6.81%
PATUXENT RIVER	Middle Patuxent River	37,074	5,114	4.31%	12.38%	187.51%	16.22%	30.94%	18.46%	13.84%	18.05%	11.33%	18.05%	11.33%
PATUXENT RIVER	Patuxent River upper	56,446	19,632	13.29%	23.24%	74.89%	24.94%	7.30%	25.87%	3.72%	25.99%	4.23%	25.99%	4.23%
PATUXENT RIVER	Rocky Gorge Dam	34,208	34,208	3.58%	9.74%	172.23%	11.73%	20.44%	12.01%	2.39%	12.64%	7.70%	13.62%	16.07%
WASHINGTON METROPOLITAN	Anacostia River[4]	116,519	81,458	21.86%	38.22%	74.82%	40.03%	4.73%	41.07%	2.59%	42.07%	5.10%	41.96%	4.81%
WASHINGTON METROPOLITAN	Cabin John Creek	16,424	16,424	27.06%	32.42%	19.80%	32.34%	-0.26%	33.15%	2.52%	32.96%	1.93%	32.96%	1.93%
WASHINGTON METROPOLITAN	Potomac River MO Cnty[4]	89,621	40,193	14.24%	26.27%	84.46%	27.24%	3.68%	27.70%	1.70%	27.73%	1.81%	27.73%	1.81%
WASHINGTON METROPOLITAN	Rock Creek[4]	52,761	39,252	23.46%	31.59%	34.69%	32.57%	3.10%	32.85%	0.83%	33.50%	2.85%	33.47%	2.74%
WASHINGTON METROPOLITAN	Seneca Creek	82,738	58,934	5.35%	18.15%	238.99%	20.88%	15.05%	21.55%	3.20%	21.96%	5.20%	21.95%	5.16%
Total SCEA Study Area		**920,685**	**487,846**	**10.08%**	**18.91%**	**87.66%**	**20.53%**	**8.56%**	**21.21%**	**3.34%**	**21.54%**	**4.91%**	**21.60%**	**5.22%**

Notes:

1 - 1973 and 2000 Impervious Data is based upon MDP Land Use Data

2 - Near Future Impervious data was calculated from 2000 MDP Landuse data that was modified to include planned transportation/development, including the average impervious area added by the proposed ICC build alternatives, within the Near future time frame (2010)

3 - No Action, Corridor 1, and Corridor 2 Impervious data was calculated from the Near Future land use data that was modified to include planned future transportation/development (2030), including the ICC project for the build alternatives, and the potential development associated with each alternative.

4 - Does not include District of Columbia, Land Use Data was not readilly available

Montgomery County SPA Impervious Area

Montgomery County SPA	1973 Percent Impervious[1]	2000 Percent Impervious[1]	Percent Change 1973-2000	Near Future (2010) Percent Impervious[2]	Percent Change 2000-2010	No Action (2030) Percent Impervious[3]	Percent Change 2010-2030 (No Action)	Corridor 1 (2030) Percent Impervious[3]	Percent Change 2010-2030 (Corridor 1)	Corridor 2 (2030) Percent Impervious[3]	Percent Change 2010-2030 (Corridor 1)
Clarksburg Master Plan	2.41%	7.48%	210.71%	22.34%	198.90%	27.64%	23.72%	29.55%	32.26%	29.24%	30.88%
Piney Branch	9.97%	28.45%	185.31%	29.33%	3.10%	29.33%	0.00%	29.33%	0.00%	29.33%	0.00%
Upper Paint Branch	11.42%	21.09%	84.68%	26.45%	25.41%	25.70%	-2.84%	28.60%	8.11%	27.22%	2.91%
Upper Rock Creek	2.78%	12.19%	338.35%	13.08%	7.31%	12.51%	-4.36%	13.89%	6.18%	13.89%	6.18%

Notes:

1 - 1973 and 2000 Impervious Data is based upon MDP Land Use Data

2 - Near Future Impervious data was calculated from 2000 MDP Landuse data that was modified to include planned transportation/development, including the average impervious area added by the proposed ICC build alternatives, within the Near future time frame (2010)

3 - No Action, Corridor 1, and Corridor 2 Impervious data was calculated from the Near Future land use data that was modified to include planned future transportation/development (2030), including the ICC project for the build alternatives, and the potential development associated with each alternative.