

EXECUTIVE SUMMARY

Project History

The Midcounty Highway (M-83) was first listed in Montgomery County's Master Plan of Highways in the 1960s and was planned to extend from Ridge Road (MD 27) in Clarksburg to Redland Road in Derwood as an 8.7-mile, controlled access, four to six-lane major highway. Over the years, three miles of Midcounty Highway were constructed between Shady Grove Road and Montgomery Village Avenue.

In the 1980s, the Maryland State Highway Administration (SHA) conducted the *Maryland Route 355 Corridor Study*. This study concluded that existing and planned development in the 10-15 year planning horizon would require construction of both M-83 and the widening of MD 355.

Accordingly, in 1986 MCDOT initiated the *Germantown-Montgomery Village Connector Study (Montgomery County CIP #863116)*. The scope of this study included preliminary engineering for the northern extension of Midcounty Highway from Montgomery Village Avenue to Ridge Road. The study was put on hold in 1992 due to the grim fiscal climate in the early 1990s. In the interim, development has proceeded along the Master Plan alignment, and the required M-83 right-of-way has been reserved by the developers, consistent with Montgomery County's Master Plan requirements. In addition, SHA has widened MD 355 as a 4-6 lane major arterial between Montgomery Village Avenue in Gaithersburg and Ridge Road in Germantown.

The Midcounty Highway (M-83) Facility Planning Study was reinitiated in 2004 to evaluate the master plan alignment from Montgomery Village Avenue to Ridge Road (MD 27). A Purpose and Need Statement was presented to the public in November 2004. After revisions to incorporate community input and environmental agency comments, the Purpose and Need was concurred upon by the environmental agencies in January 2007. As it became apparent that the project would require an Individual Permit from the U.S. Army Corps of Engineers (USACE), the study was expanded to include an analysis of alternative alignments, forming the basis for an expanded study that would comply with the National Environmental Policy Act (NEPA) and the Maryland Non-tidal Wetlands Protection Act. Eleven different preliminary alternatives were then evaluated.

After subsequent analysis, and coordination with environmental agencies and the public, including a public workshop in December 2007, the suite of preliminary alternatives was narrowed to five build alternatives and the No-Build Alternative, to be studied in detail. In early 2011, MCDOT obtained the concurrence of the cooperating agencies with the Alternatives Retained for Detailed Study. Since that time, the five build alternatives were further refined and their socio-economic and environmental impacts evaluated. This Draft Environmental Effects Report (EER) presents the results of these detailed studies, including the analysis of benefits, impacts, and costs of each build alternative.

Purpose and Need

The need for this project is based on the following seven considerations:

- *Reduce existing and future congestion:* Sixty five intersections were evaluated within the project study area. Sixteen of these intersections would result in unacceptable congestion by the design year 2030, including eight intersections along MD 355.
- *Improve vehicular safety:* Nearly all the arterials comprising the build alternatives currently experience accident rates higher than the statewide average for similar facilities.
- *Enhance the efficiency of the roadway network and improve connections between economic centers:* MD 355 currently has more than 90 driveways, entrances, and signalized/unsignalized intersections along MD 355 between MD 27 and MD 124. Traffic from I-270 uses MD 355 to avoid peak hour congestion on I-270. Travel time along MD 355 is projected to increase by 35% in 2030, compared to existing conditions, and the mixing of regional and local traffic is expected to lead to increased accidents.
- *Accommodate planned land use and future growth:* The MD 355/I-270 Technology Corridor accounts for 60% of the County's jobs, 73% of its industrial acreage, 81% of its office space, and 56% of its retail sales. In addition, it has the capacity to accommodate 72% of the County's remaining residential development and 83% of its future job growth. The County and State have dramatically increased the financial resources devoted to attracting bioscience business to the corridor, and the success of these efforts depends on increased highway capacity and mobility.
- *Provide bicycle and pedestrian connections:* The region lacks adequate north-south, on-street and off-street bicycle facilities necessary to provide safe, efficient connections between existing and future bicycle facilities in the region.
- *Enhance homeland security:* A new or improved north-south regional highway would improve emergency response and incident management.
- *Improve the quality of life:* Reducing commuting times and improving mobility and traffic safety would enhance quality of life.

Although *Environmental Sensitivity* was not one of the needs formally approved in the January, 2007 Purpose and Need Statement, it has been an underlying objective as the alternatives were being developed. One of the primary accomplishments in the most recent phase of this study has been to reduce impacts to communities and the natural environment.

Alternatives

Beginning with a suite of eleven preliminary alternatives, the study's focus has been narrowed to five build alternatives and the No-Build Alternative. The alternatives and their primary characteristics are briefly described below.

Alternative 1 – No-Build Alternative

The No-Build Alternative is not a viable solution because it would not meet the project's needs. Its purpose is solely to provide a baseline for comparing the build alternatives.

Alternative 2 – Transportation Systems Management/Travel Demand Management

Alternative 2 consists of minor, low-cost intersection improvements which could be implemented within the existing right-of-way, with the goal of trying to improve all 16 intersections that were projected to have unacceptable congestion in the design year under the No-Build scenario.

Alternative 4 Modified - Brink-Wightman-Snouffer School-Muncaster Mill

Alternative 4 Modified would widen the Brink-Wightman-Snouffer School-Muncaster Mill corridor to a four to six-lane divided highway without access controls. A sidewalk, 10-foot wide shared use path, and two 5.5-foot on-street bicycle lanes would be provided. The alternative would include more than 125 access points (13 signalized intersections, 25 unsignalized intersections, and 90 driveways).

Alternative 5 –MD 355 with Service Roads

Alternative 5 would improve MD 355 to a six-lane highway, with service roads at select locations. The service roads would reduce the number of driveways from 62 to 17, between MD 27 and MD 124, thereby reducing the potential for accidents.

Alternative 8 – Master Plan Alignment Truncated at Watkins Mill Road

Alternative 8 would provide a new four-lane divided highway with access controls, following the M-83 Master Plan alignment from Snowden Farm Parkway to Watkins Mill Road, where the new highway would tie into Watkins Mill Road. This alternative would leave a gap in Midcounty Highway between Watkins Mill Road and Montgomery Village Avenue to avoid impacts to the Whetstone Run stream valley.

Three Northern Terminus Options are proposed at the north end of the alignment. Option A would follow the Master Plan alignment. Option D would traverse the Agricultural Reserve, but would also avoid sensitive resources in North Germantown Greenway Stream Valley Park. Option B would incorporate existing Brink Road and Ridge Road, and has been shown to be undesirable in terms of operations and safety. The portion of the alternative that follows the Master Plan alignment has been reserved for M-83 through the subdivision review process.

Alternative 9 – Master Plan Alignment

Alternative 9 would provide a new four-lane divided highway with access controls, following the M-83 Master Plan alignment for a distance of 5.7 miles. With its connection to the existing Midcounty Highway to the south and Snowden Farm Parkway to the north, Alternative 9 would complete a 12.2-mile, access-controlled, four-lane divided highway between Gaithersburg and Clarksburg. This alternative includes the same three Northern Terminus Options described for Alternative 8.

Transportation Comparison of the Alternatives

The ability of each alternative to meet the project needs is discussed in detail in Section 3. The following table summarizes the findings of Section 3.



Table S-1: Transportation Effectiveness of Each Alternative

Alt.	PROJECT NEED						
	1 Reduce Congestion	2 Improve Safety	3 Enhance Mobility	4 Planned Growth	5 Bike and Pedestrian	6 Homeland Security	7 Quality of Life
2	High	Low	Low	Low	Low	Low	Moderate
4 Mod	Moderate	Moderate	Moderate	Moderate	Moderate	High	Low
5	High	Moderate	Moderate	Low	Moderate	Low	Moderate
8	Moderate	Moderate	High	Moderate	High	High	Moderate
9	High	High	High	High	High	High	High

Socio-economic and Environmental Impacts

Residential Impacts: The number of residential displacements would be greatest with Alternative 4 Modified (2 residential displacements). Residential areas could also be affected by minor property acquisition, changes in access, impacts to community cohesion, and noise and visual impacts. Changes in access would be especially problematic along Alternative 4 Modified and would result in more circuitous access where left turns are prohibited by the raised median, and where left turns would have to be made across two or three lanes of traffic at unsignalized intersections. Community cohesion impacts would be greatest under Alternatives 4 Modified, Alternative 8 and Alternative 9, where communities located on both sides of the alternative could be disconnected by the proposed improvements.

Business Impacts: The number of business displacements would be greatest with Alternative 5 (3 business displacements). Many other businesses could be affected by a loss of parking and modified access. For example, Tri Peaks Shopping Center and the Flaming Pit restaurant would experience a substantial loss of parking with Alternative 5, and Absolute Furniture, Braddock Motors, and the Horizon Plaza shopping center would experience parking impacts under Alternative 4 Modified. Many businesses could be indirectly affected over time as a result of changes in access due to construction of service roads, closure of entrances along MD 355, and construction of a raised median. For example, the Middlebrook Square Shopping Center, Mattress Mart, and Brusters could be affected by changes in access with Alternative 5. The Goshen Oaks Shopping Center and the retail establishments in the Montgomery County Airpark Industrial Park could be similarly affected under Alternative 4 Modified. The King Volkswagen dealership could be affected under Alternative 8. Alternative 9 would have no effect on access and operations of adjacent businesses.

Alternatives 8 and 9 would have the greatest ability to attract new business to the MD 355/I-270 Technology Corridor, because they would provide a new 4-lane access-controlled highway that would serve as an alternative to I-270 and MD 355 for regional traffic. Alternatives 8 and 9 would provide greater highway capacity, greater diversion of traffic from MD 355, greater congestion relief at the major intersections throughout the study area,



shorter travel times along the alternative, lower accident rates along the alternative, numerous connections to I-270, greater mobility, and an access-controlled highway facility that is missing from the existing road network. Of the two alternatives on new alignment, Alternative 9 would enable the completion of a 12-mile access-controlled major arterial between MD 355 in Clarksburg and Shady Grove Road in Gaithersburg with the potential for a future link to the ICC that would allow safe, efficient travel to I-95 at the eastern edge of the County.

Land use in Montgomery County is guided by zoning and local master plans developed by the Maryland-National Capital Park and Planning Commission (M-NCPPC). The area master plans carefully balance development projections with planned transportation infrastructure. The current zoning in the area master plans is predicated on Midcounty Highway being constructed along the Master Plan Alignment (Alternative 9), as a four-to-six lane divided highway with partial control of access. Alternative 9 would provide 22.3 lane miles of new highway capacity. Every other alternative would provide a lesser amount of capacity (as shown in the following table) and therefore could necessitate a down-sizing of development projections in the MD 355/I-270 Technology Corridor, unless alternative compensatory transportation capacity were provided. It is noted that such alternative compensatory transportation projects would have their own costs and impacts.

Table S-2: Lane-Miles of New Highway Capacity Provided by Each Alternative

No Build Alternative	Alternative 2	Alternative 4 Modified	Alternative 5	Alternative 8	Alternative 9
0	0	18.8	4.9	17.9	22.3

Noise: The Montgomery County Highway Noise Abatement Policy considers noise impacts to occur at, or above, 67 dBA. Alternative 4 Modified would result in more residences experiencing noise levels at, or above, 67 dBA than any other build alternative, due to the proximity of adjacent homes, the doubling of traffic volumes, and the widening of the roadway. However, the increase in noise levels would be greatest within the parklands and open space traversed by Alternatives 8 and 9. Noise levels will be further evaluated in the next phase of the development process.

RTEs: No federally-listed or state-listed threatened or endangered species have been identified within the limit of disturbance (LOD) of any build alternative. Alternatives 8 and 9 would traverse the western edge of the Great Seneca Creek Biodiversity Area, and may impact some individual American chestnut (*Castanea dentata*), a State “rare” species; Bashful bulrush (*Scirpus verecundus*), a State “watchlist” species; and Shingle oak (*Quercus imbricaria*), a former “watchlist” species. Depending upon the proximity of the alternative selected, time-of-year restrictions would be implemented to protect colonial nesting birds (Great blue herons and Black-crowned night herons) on Lake Whetstone.

Wetlands and Waters: Wetland and stream impacts would be minimized through bridging, alignment shifts, and retaining walls. Worst-case aquatic impacts would amount to 0.87 acres of wetland fill (Alternative 9), 1,282 linear feet of piped streams (Alternative 4

Modified), and 989 linear feet of stream relocation (Alternative 9). No wetlands of Special State Concern would be impacted.

Forests: Worst-case acreage of forest impacts would amount to 76.7 acres (Alternative 9-Option D). Forest clearing will be replaced at a minimum ratio of 1:1, as required by the Montgomery County Forest Conservation Law. Forest clearing within parkland could require higher replacement ratios, depending upon the functions and values of the impacted forests, as determined by the M-NCPPC Parks Department. Any impacts to forest conservation easements will be mitigated at a 2:1 ratio. Impacts to terrestrial wildlife would be minimized by constructing bridges over the riparian wildlife corridors along major streams. The impact to habitat of forest interior dwelling species of birds would be greatest under Alternative 8 Option A and Alternative 9 Option A (19.16 acres).

Floodplains: The acreage of FEMA-designated floodplain that could be covered by highway embankment ranges from 0 acres for Alternative 2 to 4.8 acres for Alternative 9. During final design, detailed Hydrologic and Hydraulic Studies would be prepared for all new structures proposed under the Preferred Alternative.

Parkland: Worst-case parkland impacts would amount to 48.1 acres of parkland displaced (Alternative 9-Option A). Suitable replacement land would be provided to replace all parkland impacted by the Preferred Alternative. Small portions of the Seneca Creek Greenway Trail would need to be relocated at the crossing of Brandermill Tributary (Alternatives 8 and 9). A bird-watching pavilion and small portion of Blohm Park Trail would need to be relocated in Blohm Park (Alternatives 8 and 9).

Special Areas: Dayspring Creek, which is one of the unique environmental features in the North Germantown Biodiversity Area, would be impacted by all three Northern Terminus Options of Alternatives 8 and 9, but the impact would be much less under Options B and D. The amount of impervious surface created within the Clarksburg Special Protection Area would be greatest under Alternative 8 - Option A or Alternative 9 - Option A (7.2 acres).

The impacts are summarized in **Table S-2** below.

Mitigation Measures

MCDOT is identifying mitigation sites for wetlands, streams, parkland, and forest impacts. MCDOT proposes to acquire a large property to accomplish the forest and parkland mitigation and has initiated coordination with the M-NCPPC Parks Department. MCDOT has tentatively located a mitigation site for perennial/intermittent streams and a 1.5-acre site for wetland mitigation. Early coordination with the environmental agencies has been conducted to obtain their concurrence in both sites. The search is continuing for additional wetland mitigation sites.



Table S-3: Summary of Environmental and Socioeconomic Impacts

Resource	Alternatives Retained for Detailed Study									
	No-Build	2	4 Mod	5	8A	8B	8D	9A	9B	9D
Residences Displaced (no.)	0	0	2	0	0	1	1	0	1	1
Businesses Displaced (no.)	0	0	0	3	0	0	0	0	0	0
Residential - Partial Property Acquisition (no.)	0	0	242	92	96	120	103	125	149	132
Business – Partial Property Acquisition (no.)	0	0	67	82	15	17	15	14	16	14
Total Property Acquisition ¹ (no.)	0	0	353	180	131	157	133	161	187	163
Residences within 67 dBA Noise Contour	0	0	417	228	114	125	114	217	234	217
Parkland Impacts (ac)	0	0	19.4	0.2	45.2	30.6	29.6	48.1	33.5	32.5
Prime, Statewide Important Farmland (ac)	0	0	2.8	0	17.7	3.1	31.5	17.7	3.1	31.5
Piped Streams (LF)	0	0	1,282	70	749	520	914	485	256	650
Relocated Streams (LF)	0	0	0	0	0	0	0	989	989	989
Wetland Fill (ac)	0	0	0.26	0	0.76	0.76	0.76	0.87	0.87	0.87
Wetland Conversion (ac)	0	0	0.27	0	1.63	1.54	1.54	1.70	1.60	1.60
Floodplain (ac)	0	0	4.5	0.4	2.9	2.9	2.9	4.8	4.8	4.8
Forest Impacts (ac)	0	0	31.0	2.0	57.6	52.5	61.4	72.9	67.7	76.7
Impervious Surface in SPA (ac)	0	0	1.4	0	7.2	1.7	4.8	7.2	1.7	4.8
FIDS (ac)	0	0	0	0	19.2	10.9	10.9	19.2	10.9	10.9
Threatened & Endangered Species (no.)	0	0	0	0	0	0	0	0	0	0
Cost, excluding Middlebrook Rd (mil \$)	0	41	251	120	274 ²	255 ²	267 ²	357 ²	338 ²	350 ²

¹Includes residences, businesses, churches, schools, community facilities, parkland, and public works properties.

²Cost excludes \$14 million for Middlebrook Road construction.

Remaining Actions

Shortly before the publication of the Draft EER, MCDOT will submit a Joint Federal/State Permit Application to USACE and Maryland Department of the Environment (MDE) for the authorization to impact wetlands and streams along whichever alternative is subsequently determined to be the Preferred Alternative. A joint MDE/USACE public hearing will be conducted. All agency and public comments received prior to the closure of the comment period will be considered in the selection of a Preferred Alternative. Upon completion of any additional studies which may be required to support the selection of a Preferred Alternative, MCDOT will prepare a Preferred Alternative/Conceptual Mitigation (PA/CM) Report discussing the advantages and disadvantages of the various alternatives, and the mitigation sites that have been developed to offset any unavoidable impacts to natural resources. MCDOT will then seek the consensus of the USACE, MDE, U.S. Environmental Protection Agency (EPA), and the County Council. Upon receipt of concurrence, MCDOT will post the decision on the project website and prepare a Final EER for circulation to the public. Following circulation of the Final EER, the USACE and MDE will then be requested to make their respective permit decisions on the Preferred Alternative.