

Chapter I – Purpose and Need





Purpose and Need

Introduction

The Maryland State Highway Administration (SHA) and Maryland Transit Administration (MTA) are developing a multi-modal transportation project along the I-270/US 15 corridor in Montgomery and Frederick counties, Maryland. The project study area extends from I-270 at Shady Grove Road in Montgomery County to the US 15/Biggs Ford Road intersection in Frederick County. The study area includes a transit corridor, the Corridor Cities Transitway (CCT), extending from the existing Shady Grove Metrorail Station to the Communications Satellite, Inc.(COMSTAT) area facility located just south of Clarksburg in Montgomery County. The project study area is shown in **Figure I-1**. This document is intended to present the two new project alternatives that were developed since the June 2002 Draft Environmental Impact Statement (DEIS) was published for public review and comment.

Purpose and Need

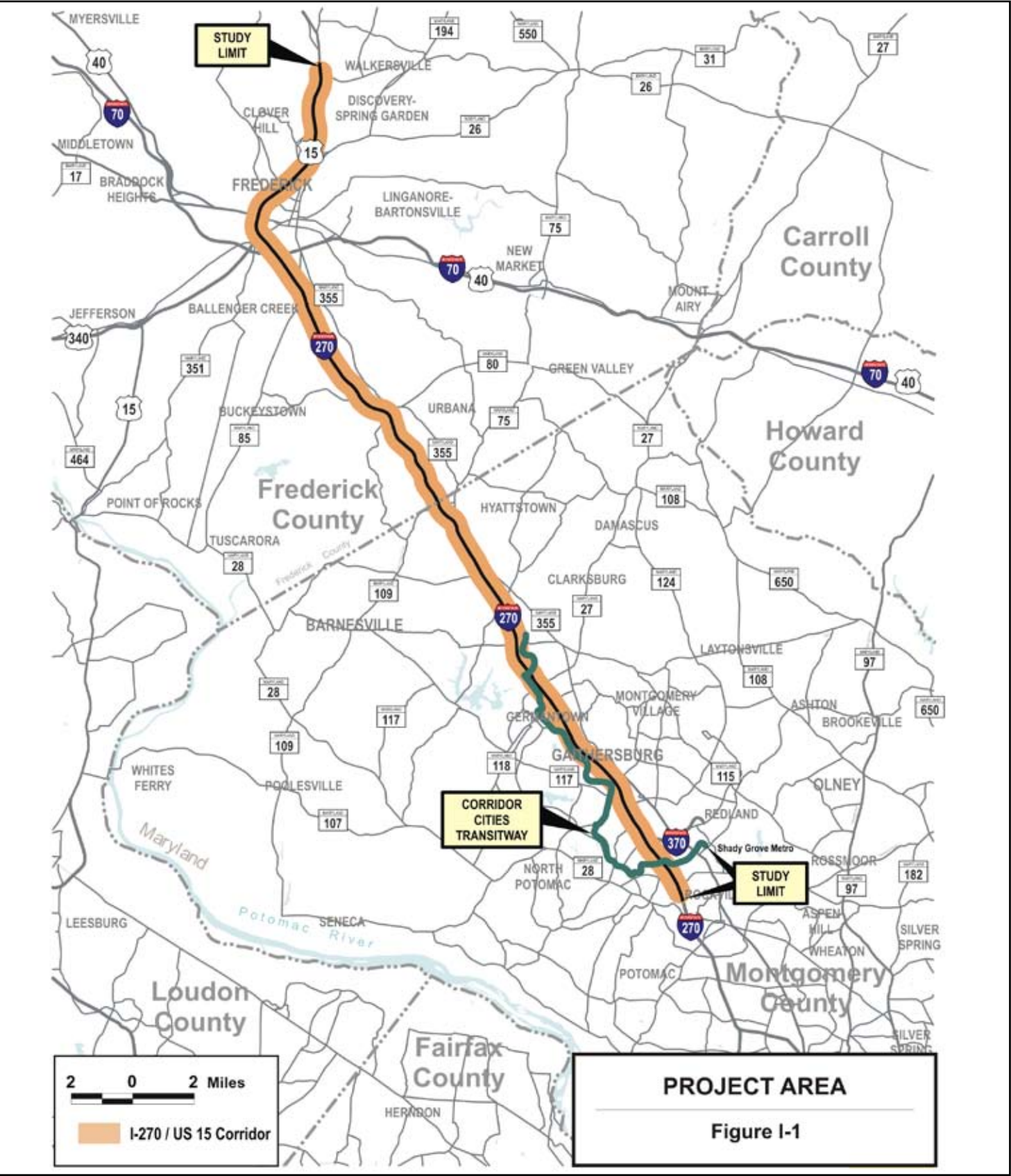
Project Purpose

The purpose of the I-270/US 15 Multi-Modal Corridor Study is to investigate options to address congestion and improve safety conditions along the I-270/US 15 Corridor. The I-270/US 15 Corridor provides an essential connection between the Washington, DC metropolitan area and both central and western Maryland and is an important corridor for carrying local and long distance trips, both within and beyond the corridor.

Project Need

The need for the project results from the mobility challenges from the growing traffic congestion in the I-270 and US 15 corridors. Population and employment growth in Montgomery and Frederick Counties is expected to cause peak period traffic congestion along the I-270/US 15 Corridor to worsen. The lack of alternate, high-speed routes within the corridor also contributes to congestion on I-270 and US 15. Transit provides an alternative, but express and local bus service travels in mixed traffic in the study area and is subject to the same congestion as other vehicles. Rail services such as MARC and Metrorail provide fast, reliable travel options for some residents of the study area. However, access to Metrorail is hampered by the same

Figure I-1: Project Study Area



traffic congestion as other traffic and parking at some of the existing MARC and Metrorail stations is filled to capacity before the morning peak travel hours are over. Refer to the 2002 DEIS for a more complete description of the capacity and safety problems of alternate routes including MD 355 in Section I.D, pages I-6 to I-16.

Project Goals

In order to more effectively evaluate the proposed transportation strategies and alternatives, the project team developed five goals for this project. These goals were developed in consultation with the I-270/US 15 Multi-Modal Corridor Study Focus Group, approximately 20 individuals representing business and community interests in the project area selected to review and offer input for the many transportation improvement options and evaluation measures. (For more information on the focus group and goal development process, refer to the 2002 DEIS, Section VII, pages VII-4 to VII-7.)

The five project goals are:

Support Orderly Economic Growth

Support the orderly economic development of the I-270/US 15 Corridor consistent with the local government land use plans and Maryland's Economic Growth, Resource Protection and Planning Act.

Enhance Mobility

Provide enhanced traveler mobility throughout the I-270/US 15 Corridor by: optimizing travel choices by destination, mode and route; minimizing delay; and improving the safety and overall efficiency of the transportation system.

Improve Goods Movement

Facilitate the movement of goods within and through the I-270/US 15 Corridor and improve the delivery of services in support of the regional and local economies.

Preserve and Protect the Environment

Deliver transportation services in a manner that preserves, protects and enhances the quality of life and social, cultural and natural environment in the I-270/US 15 Corridor.



Optimize Public Investment

Provide a transportation system in the I-270/US 15 Corridor that makes optimal use of existing transportation infrastructure while making cost effective investments in facilities and services that support other project goals.

AA/EA Document Purpose

This document presents the information developed for the Alternatives Analysis/Environmental Assessment (AA/EA) to support local decision-making for highway and transit investments in the I-270/US 15 Corridor, as well as the description and potential impacts of Alternatives 6A/B and 7A/B. The study conforms to the requirements of the National Environmental Policy Act of 1969 (NEPA) and considers the impacts to the natural and built environment. NEPA requires the systematic review of environmental and transportation facility changes with respect to:

- The environmental impacts of the proposed project
- Adverse impacts that cannot be avoided
- Alternatives to the proposed project
- Consequences of the proposed project

In addition, NEPA requires consultation with federal agencies and public participation in the transportation planning process. The EA document provides data to address the above statements with respect to environmental resources within the corridor.

As an Alternatives Analysis (AA), this document was prepared for the Federal Transit Administration (FTA) in accordance with Congressional direction. The requirements of the AA process allow for an objective, efficient, and fully informed evaluation and rating of the transit projects seeking funding under the Federal New Starts process. The AA requirements are specifically included in **Chapters I, III and V** of this document.

Project Background and History

Chapter I.C (pages I-2 to I-3) of the 2002 DEIS provides a complete project history. The following paragraphs provide a summary of the project history and describe relevant project events that occurred after the DEIS and the June 2002 Public Hearings.

The I-270/US 15 Corridor has been the subject of multimodal transportation studies since 1970, conducted by local and state agencies to address transportation needs in the corridor. The DEIS represents Stage II of a three-stage project planning process by the SHA and MTA and is a transition between prior concept planning and Stage III – the Final Environmental Impact Statement (FEIS). This AA/EA also represents Stage II of the planning process and examines two new alternatives and their impacts.

The I-270/US 15 Multi-Modal Corridor Study DEIS was approved by the Federal Highway Administration (FHWA), FTA, SHA and MTA in May 2002, and published for review and comment. The DEIS contained five alternatives for evaluation: No-Build, TSM/TDM and three build alternatives (3A/B, 4A/B and 5A/B/C).

Following publication of the DEIS, public hearings were held on June 25, 2002 in Montgomery County and on June 27, 2002 in Frederick County to receive comments on the document. The public comment period ended on August 16, 2002 with receipt of 125 written comments, 13 private oral testimony recordings and three group petitions for consideration.

In response to some of the comments received, the project team met with members of the Fox Chapel community on August 25, 2003 and presented a minimization option that would avoid potential displacements in this community.

In the fall of 2003, the Maryland Department of Transportation (MDOT) directed SHA to consider Express Toll LanesSM (ETLsSM) as an alternative for the I-270/US 15 Corridor. Public Workshops were held on June 29 and 30, 2004 to introduce the ETL concept for the project. This AA/EA document presents the two new ETL alternatives, 6A/B and 7A/B, for public review and comment.

Written comments were received from 22 citizens following the June 2004 ETL workshops. An almost equal number of comments focused on transit and highway concerns, and comments were fairly equally divided in favor of and against the ETL concept. Many individuals verbally expressed concern regarding equity issues and the perception that ETLs constitute double taxation. Some also expressed concern regarding the slow progression of the study, stating that congestion continues to get worse and solutions still seem far off in the future. Alternative suggestions to improve congestion included improvement of the Metrorail system and adding a new rail system northward to Frederick. Fox Chapel and Brighton West Community residents expressed noise and property depreciation concerns due to the close proximity of the alternatives to their communities.

In addition to adding the ETL concept to the project, MTA performed a thorough evaluation of operation and maintenance (O&M) facility sites throughout 2006, including those identified in the 2002 DEIS and others identified later. Five sites are currently under review and described in this document.

Corridor Setting

The I-270/US 15 Multi-Modal Corridor Study principally runs from Montgomery County at the Shady Grove Metrorail station approximately where I-270 meets I-370 in Rockville, Maryland northwest to Frederick County at US 15 and Biggs Ford Road. Included in the study is the CCT, which is entirely contained within Montgomery County between the Shady Grove Metrorail station and the COMSAT facility located just south of Clarksburg, providing stations at several activity centers along the way.

Planning Context

In the 1970s, Montgomery County developed plans for a transitway corridor, the CCT extending northward from the then-planned terminal of the Washington Metropolitan Area Transit Authority's (WMATA) Metrorail Red Line at Shady Grove. The CCT alignment was incorporated into the county's master plan as well as the individual sector plans, to

ensure that land is reserved for the corridor as part of any development and redevelopment planned and constructed in the study area. Over the years, this corridor reservation has enabled the county to keep much of the corridor available either through direct donation by developers or by developers providing easements or assurances that nothing will be built within the planned right-of-way.

Recently, developers of properties such as the Crown Farm in Gaithersburg and the Casey Property near the Metropolitan Grove station have begun to design their plans to take advantage of the potential for future transit service along the CCT corridor, planning commercial structures near proposed station areas and increasing residential densities in proximity to the stations.

In general, the master plan context for improvements in the I-270/US 15 Corridor is based on the Frederick and Montgomery county master planning documents, including:

- Montgomery County's *On Wedges and Corridors* master plan and the area plans within which the I-270 Corridor lies: the City of Gaithersburg, Gaithersburg Vicinity, Germantown, Clarksburg and Hyattstown, and
- Frederick City and County comprehensive plans and the area plans for the Frederick and Urbana Regions.

Three area master plans are currently being updated: the *Gaithersburg Vicinity-Shady Grove Master Plan Amendment*, the *Gaithersburg Vicinity Master Plan Amendment* and the *Germantown Master Plan*. Area master plans that have been updated since the 2002 DEIS include:

- The *Frederick Region Plan* (update adopted July 2002) supports the selection of any of the DEIS alternatives (including highway widening and interchange improvements) and identifies additional recommendations for intersections on US 15 and the preservation of a transitway alignment into downtown Frederick.
- The *Urbana Region Plan* (update adopted June 2004) recommends widening I-270 to six or eight lanes, construction of a new interchange on I-270 at

MD 75, improvements to the MD 80 interchange and consideration of an additional interchange at Park Mills Road. The plan also supports the preservation of a transitway alignment in Frederick County.

- The *City of Frederick Comprehensive Plan* (update adopted September 2004) recommends the implementation of the improvements in the I-270/US 15 Multi-Modal Corridor Study DEIS, supports direct transit service to Montgomery County and Washington, DC employment centers as well as reverse commute service, and identifies an extension of MARC service through the City.
- The *Shady Grove Sector Plan* was last updated July 2004 and is in the process of being updated again. This plan covers the area around the Shady Grove Metrorail station, and only the southern-most half-mile of the CCT is within this area. The plan includes the proposed CCT, and one of the plan's transportation objectives is to "incorporate into the Metro Rail station to provide convenience for transit riders." More specifically, the plan supports a cross-platform connection between the CCT and Metrorail, the location of the CCT O&M facility outside the Shady Grove planning area, and the use of a grade-separated route to carry the CCT across MD 355/Frederick Road (including a safe at-grade pedestrian crossing). Each of these scenarios is a possibility under the current CCT study, which aims to provide a convenient transit connection to Metrorail at the Shady Grove Station.
- The *Countywide Bikeways Functional Master Plan* (May 2004 Planning Board Draft) establishes the countywide bikeway network plan for all of Montgomery County, serving as an amendment to all community master plans and sector plans. It recommends nearly 200 bikeways, totaling more than 500 miles. The plan calls generally for bikeways to be developed or enhanced incrementally, in conjunction with roadway and sidewalk improvement projects. Specifically, the plan identifies a shared-use path along the CCT noting that some segments already exist as parts of other bikeways. The plan also calls for all bikeways that connect to transit stations (including Shady Grove

Metrorail Station and proposed CCT stations) to be considered high priority.

Three scenic byway and heritage areas were designated since the 2002 DEIS and have portions of their boundaries located within the I-270/US 15 Corridor study limits. The three resource areas include the Catoctin Mountain Scenic Byway, the Heart of the Civil War Heritage Area and the Journey Through Hallowed Ground. The scenic byway is part of the U.S. Department of Transportation's National Scenic Byways Program that is administered through FHWA. The program was organized to recognize, protect and promote America's most outstanding roads. Through the state departments of transportation, communities can apply for designation as a State or National Scenic Byway for funding from the FHWA. Congress established the program in 1991 under the Intermodal Surface Transportation Efficiency Act.

- ***Catoctin Mountain Scenic Byway:*** The Catoctin Mountain Scenic Byway follows US 15 in Frederick County, Maryland. The route was designated as a National Scenic Byway on September 22, 2005. This byway is the gateway to mid-Maryland's historic, scenic, and natural recreational opportunities along the Catoctin Mountains.
- ***Heart of the Civil War State Heritage Area:*** The Heart of the Civil War State Heritage Area is a state-certified heritage area encompassing Carroll, Frederick, and Washington Counties. The area played a significant role during the Civil War including military engagements, troop field stations and hospitals that dotted the region during much of the war. The heritage area highlights and promotes the stewardship of these historic, cultural and natural Civil War resources, as well as the visitor and educational experience. The heritage area management plan was completed in 2006.
- ***Journey Through Hallowed Ground (JTHG) National Heritage Area:*** The JTHG follows US 15, US Route 15 Business and Virginia Routes 20, 231, 22 and 53 from Gettysburg, Pennsylvania, to Monticello in Charlottesville, Virginia. The JTHG National Heritage Area was designated on May 8, 2008. The JTHG includes nine Presidential

homes, the largest concentration of Civil War Battlefield sites in the country, and 18 historic Main Street communities along with magnificent views, historic sites and natural Piedmont landscapes.

In addition, three new Maryland Department of Transportation initiatives were developed to guide transportation growth in Maryland:

- The September 2007 *MARC Growth and Investment Plan* was developed by MTA in response to the growing ridership on all three MARC lines, which has led to crowding at some stations and park and ride lots. Along the MARC Brunswick Line, which transects the study area, MARC has added parking spaces at the Point of Rocks Station, and plans to increase seating capacity by adding additional passenger cars to existing trains by 2010. Additional plans over the following decades include doubling service levels on the new Frederick Branch, expanding parking capacity at selected stations, and adding some weekend and reverse-commute service. Under the plan, total seating capacity on the Brunswick Line is expected to grow from the current 7,000 passengers per day to 26,000 by 2035.
- MDOT's *Maryland's Statewide Express Toll Lanes Network Initiative* (Winter 2005) provides an overview of the state's vision for regional connectivity through the implementation of managed lanes (including ETLs, High Occupancy Vehicle (HOV), and High Occupancy Toll (HOT)) on major transportation routes. The implementation of ETLs on I-270 between the Capital Beltway (I-495) and I-70 is included in the regional plan.
- On April 20, 2007, Governor Martin O'Malley signed Executive Order 01.01.2007.07 (the Order) establishing the Maryland Commission on Climate Change (the Commission). Sixteen State agency heads and six members of the General Assembly comprise the Commission. The principal charge of the Commission is to develop a Plan of Action – the Climate Action Plan (Plan) – to address the drivers of climate change, to prepare for its likely impacts in Maryland, and to establish goals and timetables for implementation. The Plan outlines policies, tools, and programs needed to ensure that

transportation and land development contribute to achieving Maryland's greenhouse gas (GHG) emissions reduction goals. While Maryland has set statewide goals for reducing GHG emissions, the details of implementation have not been fully realized to date. The project team will monitor the Plan continuously, to assure project consistency with future Plan updates.

In a separate project effort, SHA and the Virginia Department of Transportation (VDOT) initiated the West Side Mobility Feasibility Study in 2006 to examine the engineering and highway operational effects of adding a managed lane system to I-270 and I-495 from the I-270/I-370 interchange south and west to north of the Dulles Toll Road via the I-270 West Spur and over the American Legion Bridge. The purpose of the West Side Mobility Study is to develop a range of alternative capital investment and operating scenarios to provide additional capacity and a managed lanes network between I-370, and the Intercounty Connector (ICC) and I-270/US 15 Multi-Modal Corridor Study, and the VDOT HOT lanes project. The feasibility study includes long-term, short-term and mid-term improvements and is considering traffic operations, impacts and cost. The long-term improvements include widening and interchange improvements; short-term improvements include small scale measures to address localized congestion points; the mid-term improvements would provide additional capacity within the existing highway footprint. The long- and mid-term improvements would include a one- or two-lane managed lanes network (per direction) that would provide continuity between the VDOT HOT lanes, ICC tolled roadway, and the I-270 ETLs. The lane transitions at each of these projects/locations are being considered as part of the feasibility study. Maryland SHA and VDOT will coordinate the results of the West Side Mobility Study with the FHWA and determine the next step in the planning process.

Additional information for the West Side Mobility Study is available for viewing and download at <http://capitalbeltway.mdprojects.com/nav6.htm>



Table I-1: Transportation Improvements Programmed for I-270/US 15 Corridor included in 2030 Forecasts

LOCATION	DESCRIPTION	PROJECTED COMPLETION DATE
HIGHWAY UPGRADE, RECONSTRUCTION, EXTENSION AND WIDENING PROJECTS		
US 15 at Monocacy Boulevard	Construct a new interchange at US 15 and Monocacy Boulevard	2010
I-70 from Mt. Phillip Road to MD 144 (Baltimore National Pike)	Extend MD 475 (East St) from South Street to proposed Monocacy Boulevard, including storm water management ponds and new urban diamond interchange with I-70 and ramps to Walser Drive	Under construction
	Replace I-70 bridge over Reich’s Ford Road & reconstruct ramps, widen from MD 144 to west of Monocacy Boulevard; reconstruct Monocacy Boulevard interchange	2015
	Widen to 6 lanes, New Design Road to Mt. Phillip Road	2015
I-270 Interchange at Watkins Mill Road	Widen and extend Watkins Mill Road from 4-6 lanes; construct interchange; add 2-lane collector-distributor roads NB & SB on I-270	2020
I-270 at MD 121	Reconstruct interchange of I-270 and MD 121	2010
MD 27 from MD 355 to Snowden Farm Parkway (A-305)	Widen to 6 lanes from MD 355 to Midcounty Highway.; widen to 4 lanes from Midcounty Highway. to Snowden Farm Parkway	2010
Midcounty Highway (M-83) from Montgomery Village Avenue to MD 27	Construct 4 to 6 lane roadway	2020
MD 85 from English Muffin Way to north of Grove Road	Upgrade MD 85 to multi-land divided highway	2020
MD 117 from Great Seneca Park (sic.) [Seneca Creek State Park] to I-270	Improve roadway and reconstruct intersections to provide capacity and improve operations. Includes sidewalks where appropriate & multi-use path on south side.	Engineering to be completed by 2010
MD 118 from MD 355 to M-83 (Midcounty Highway)/ Watkins Mill Road	Extend MD 118 as a 6-lane divided highway (includes bicycle/pedestrian accommodation)	2020
MD 355/MD 80 Urbana Bypass, east of I-270 north & south of Urbana	Construct to 4 lanes relocated east of I-270, from north of MD 80 to south of MD 80, including intersection (2 separate projects)	2010
Father Hurley Boulevard from Wisteria Road to MD 118 Relocated	Construct final link of Father Hurley as a 4- or 6-lane roadway (includes bridge over CSX railroad; includes bicycle/pedestrian accommodation)	2010
Middlebrook Road Extended from MD 355 to M-83	Study to construct 6 lanes	2010
I-270: replace bridge over Doctor Perry Road	Existing bridge is deteriorated.	2010
Dorsey Mill Road from Century Boulevard to Observation Drive	Connect Dorsey Mill Road between Century Boulevard and Observation Drive via an overpass of I-270	Not available
Observation Drive extended north to Stringtown Road	Planning study to extend Observation Drive as a 4-lane divided roadway from south of Little Seneca Creek to Clarksburg Town Center	Not available
Intercounty Connector (ICC)	Construct toll freeway between I-270 and I-95/US1; engineering, right-of-way acquisition and construction under way	2012
TRANSIT EXTENSIONS AND PARKING EXPANSION PROJECTS		
Olney Transit Center	Construction of transit center in Olney	2015
Montgomery County Randolph Road bus enhancements	Bus Rapid Transit (BRT) from MD 355 to US 29	2010

LOCATION	DESCRIPTION	PROJECTED COMPLETION DATE
Clarksburg Transit Center	Construct Transit Center	2015
Paul S. Sarbanes Transit Center Silver Spring	Transit center at Silver Spring to include Metrorail/MARC station, local and intercity bus, and a taxi queue area. Incorporates connections for a possible future Bi-County Transitway (Purple Line) and/or hiker/biker trail. Phase I construction is complete.	2010
Purple Line	Study of 16-mile transitway between New Carrollton and Bethesda Metrorail stations, connecting the Metrorail Red, Green and Orange lines to key destinations in Prince George’s and Montgomery Counties.	Planning to be completed in 2010

Sources: MWCOG 2007 CLRP, Montgomery County’s Ten-Year Transportation Plan September 2007, and MDOT 2008-2013 CTP.

Programmed Improvements

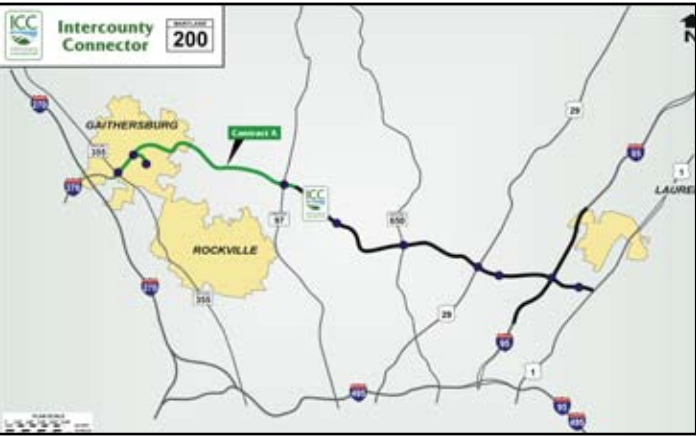
Programmed improvements associated with the I-270/US 15 Corridor study area are identified in the Metropolitan Washington Council of Governments (MWCOG) 2007 Constrained Long Range Transportation Plan (CLRP), as amended, and in the Maryland Consolidated Transportation Program 2007 – 2012 (CTP) and listed in **Table I-1**. Though not listed, the I-270/US 15 Multi-Modal Corridor Study, including the CCT, is also included in the CLRP.

Project Changes

Since the 2002 DEIS, the following roadway and transit improvements have been completed in the Corridor:

- I-270/MD 117 Interchange – An interchange improvement was completed that added a 368-space park and ride lot.
- US 15/MD 26 Interchange – An interchange improvement project was completed in 2006, adding a new northbound on-ramp to US 15 at this location.
- MD 124 from MD 28 to Longdraft Road – The roadway was reconstructed as a six-lane highway.
- MD 28 from Riffle Ford Road to Shady Grove Road – MD 28 was widened to a four-lane divided highway, with six lanes between Muddy Branch Road and Shady Grove Road.
- Shady Grove Metrorail Station Parking Garage – A second garage opened in May 2003, adding 2,140 additional spaces for a total parking capacity of 5,865 spaces.

- Montgomery County Transit Centers – A 500-space park and ride lot and town center was opened at US 29 and MD 198 in Burtonsville and a 300-space park and ride lot was opened at Lakeforest Mall in Gaithersburg.
- Point of Rocks MARC Station – Parking lot capacity was expanded to 550 spaces.
- Ride On Express Bus from Germantown to Shady Grove – Bus Route 100 operates directly on I-270 and I-370 and was greatly expanded in 2006 to provide more frequent service in peak periods.
- US 15 Auxiliary Lane – An auxiliary lane was constructed in 2004 on US 15 southbound connecting the Rosemont Avenue southbound on-ramp acceleration lane with the US 40 southbound off-ramp deceleration lane
- I-270 Auxiliary Lane – An auxiliary lane was constructed in 2007 on I-270 southbound connecting the I-70 eastbound on-ramp acceleration lane with the MD 85 southbound off-ramp deceleration lane.
- MD 355 at I-70 – New ramps were constructed from eastbound I-70 to MD 355, MD 85 was relocated at MD 355, and MD 355 was widened from south of I-70 for 2,000 feet.
- MD 27 was widened to six lanes from Observation Drive to MD 355.



The Intercounty Connector (ICC) project, a limited access highway connecting US 1 in Prince George’s County and I-370 in Montgomery County, had planning studies restarted by MDOT in 2003 after the I-270/US 15 2002 DEIS public hearings were held. A fully-tolled, limited access highway build alternative was chosen for the ICC following completion of its DEIS and FEIS, and the Record of Decision was signed in 2006. The ICC facility was not included in the MWCOG travel demand model for the 2002 DEIS alternatives because the ICC facility was not listed in the then current MWCOG long-range plan (CLRP). The current MWCOG CLRP includes the ICC, and this highway is a roadway link within the current MWCOG travel demand model. This model is being used to forecast traffic volumes and transit ridership for the I-270/US 15 AA/EA build and no-build alternatives to account for trips made on the transportation network that includes the ICC. Construction is underway for the ICC with the westernmost segment (Contract A) slated to open in late 2010 and the entire highway to be completed by late 2011 or early 2012.

Changes in the project’s description since the 2002 DEIS include the following:

Express Toll Lanes

ETLs are generally new capacity tolled highway lanes which can be combined with existing highway lanes, providing motorists a choice to pay a fee for a relatively congestion-free trip when travel time is critical. Tolls, collected electronically, would vary based on demand, and would provide an additional source of funding for roadway construction and maintenance. ETLs, like HOV

lanes, can also be used by public buses to improve travel times for transit users. Two alternatives are added to the project that include the implementation of one or two ETLs and direct access ramps as part of the highway component. The addition of ETLs resulted in a change in the southern limit for mainline construction to approximately 2,000 feet south of the I-270/Shady Grove Road interchange to allow for transition between the ETLs and existing HOV lanes.

Residential Displacement Minimization

Proposed improvements shown in the DEIS and at the June 2002 Public Hearings identified 35 residential displacements in the Fox Chapel community. A minimization option was designed subsequent to the 2002 DEIS that would avoid displacements in this community. Avoidance and minimization of residential displacements is continually being reviewed and shall continue as design proceeds.

Interchanges

The southbound ramps at the proposed interchange at I-270/Newcut Road have been reconfigured to the southwest quadrant based on environmental coordination with the US Army Corps of Engineers (USACE). The proposed interchange reconfiguration represents an alternative to be considered versus the configuration proposed in the DEIS.

The I-270/MD 121 interchange improvements have been broken out as a separate project, led by a private developer. The planning study investigated additional transportation movements that were not included in the DEIS, due to newly-approved development west of the existing interchange. The selected interchange improvements are under design for construction in 2009.

The I-270/MD 85 intersection has been reconfigured since the DEIS to address changes in traffic forecasts.

The US 15 interchange with Monocacy Boulevard/ Christopher’s Crossing has been broken out as a separate project planning study led by SHA, and project planning is nearly complete.

The I-270/I-370 direct access ramps have been reconfigured to reduce the number of residential displacements north of the interchange.

Table I-2: Demographic Forecasts

AREA	2000 POPULATION	2030 POPULATION	PERCENT CHANGE	2000 EMPLOYMENT	2030 EMPLOYMENT	PERCENT CHANGE
Montgomery County	875,672	1,158,074	32.2%	474,602	670,404	41.3%
Frederick County	195,277	339,696	74.0%	96,304	167,257	73.7%
Metropolitan Washington Region*	5,748,109	8,250,078	43.5%	3,506,663	5,275,961	50.5%

* The Metropolitan Washington Region includes: Anne Arundel, Calvert, Carroll, Charles, Frederick, Howard, Montgomery, Prince George’s and St. Mary’s Counties in Maryland; Arlington, Clarke, Fairfax, Fauquier, King George, Loudoun, Prince William, Spotsylvania, and Stafford Counties in Virginia; Jefferson County in West Virginia; the cities of Alexandria, Fairfax, Falls Church, Fredericksburg, Manassas and Manassas Park in Virginia; and the District of Columbia.

Source: MWCOG, Round 7.0a (October 2006) Cooperative Forecast

The I-270/MD 117 interchange has been modified from the DEIS configuration to accommodate potential ETL direct access to/from the south. The proposed southbound I-270 exit ramp has been eliminated due to a change in traffic projections.

The I-270/Watkins Mill Road HOV direct access ramps described in the DEIS have been relocated to a proposed Metropolitan Grove Road Extended interchange (between MD 124 and the proposed Watkins Mill Road interchange). The Metropolitan Grove Road Extended interchange would provide access to/from the ETLs only and would provide access to the proposed Metropolitan Grove CCT station and the existing Metropolitan Grove MARC station.

The MD 118 bridge over I-270 is proposed to be relocated to accommodate the ETL direct access ramps.

Collector-Distributor (CD) Roadways

The existing northbound CD roadway system, signed as the “Local” lanes, would be removed from I-370 to north of MD 124 to accommodate the proposed ETL roadway alternatives. The CD roadway between Montrose Road and I-370 will remain in place.

Transit Element Changes

Some of the proposed locations for the CCT O&M facilities have been eliminated through the screening process, and new sites have been added. As described in Chapter II, of the eight sites retained in the DEIS for additional study, only one site is still being considered

and four new sites have been identified. At this time, two sites in the Shady Grove area, two sites in the Metropolitan Grove area and one site in the COMSAT area are being studied. Some of these sites would be suitable for LRT or BRT only.

Need for Transportation Improvements

This section updates and enhances descriptions of the three contributors to the project need: population and employment growth, current and projected growth in traffic congestion, and limitations of the current transit services. Some of the projected increases in traffic volumes and development within the Corridor since the DEIS have been realized, but the need for a solution remains imperative.

Regional Population and Employment Growth Update

Round 7.0a Cooperative Forecasts of demographics were approved by MWCOG on October 11, 2006, and provide projections of population, household and employment growth to the year 2030. These forecasts indicate that population, household, and employment growth has occurred since the DEIS and is expected to continue in the Metropolitan Washington Region, including Montgomery County and Frederick County. Table I-2 identifies population and employment projections for 2030 based upon the MWCOG forecasts.



Growth trends in the metropolitan region 2000-2030 indicate the following:

- Population in Montgomery County is expected to increase by 32.2 percent, and population in Frederick County is expected to grow by 74 percent.
- Regional population is forecast to increase 43.5 percent, exceeding 8.2 million in 2030.
- Regional employment is expected to total almost 5.3 million jobs by 2030, an over 50 percent increase over 2000 employment (almost 1.5 million additional jobs).
- In Montgomery County, employment is expected to increase at an even faster rate than population, with employment increasing by 41.3 percent between 2000 and 2030. In Frederick County, employment growth is expected to be about equal to population growth with both employment and population increasing by about 74 percent.

The MWCOG Growth Trends to 2030 (Fall 2006) noted that there is a high concentration of both population and employment growth expected along the I-270 corridor in Montgomery County.

Traffic Growth Update

Analysis of current and projected traffic volumes identify existing and future congestion that will result in reduced Levels of Service (LOS), longer travel times, and higher future travel costs. Since the analyses performed in the DEIS, changes have been incorporated into the MWCOG program that have modified the projections. On October 19, 2005, MWCOG adopted a new version of the regional traffic model, Version 2.1D#50, for use. This version restructured the portion of the model that was overestimating trip-making characteristics in the earlier versions. The current model accounts for the effects of congestion in the facility with speed feedback loops and gives more realistic forecasts. Updated land use projections have been incorporated into the new model and provide more accurate forecasts for trips generated/attracted in the modeling process.

Population and employment data have been updated to include 2000 Census data, and demographic distribution is more specific than in the previous model. In addition, a more recent version of the Highway

Capacity Software (HCS) was used to provide LOS analysis results. Again, some of the projected increases in traffic volumes and development within the corridor since the DEIS have been realized, and the need for a solution remains imperative.

Traffic volume growth on I-270 and US 15 is expected to continue. Year 2000 existing traffic volumes ranged from 210,000 vehicles per day at the southern end of the project area to approximately 41,100 vehicles per day at the northern end. The 2030 No-Build Average Daily Traffic (ADT) volumes on I-270/US 15 range from approximately 247,000 vehicles per day at the southern end of the project area to approximately 62,300 vehicles per day at the northern end, as shown in **Table I-3**.

Towards the southern end of the project area, between Shady Grove Road and Middlebrook Road, where existing and projected traffic volumes are highest, continued growth is anticipated to be somewhat slower than previously predicted. North of Middlebrook Road to I-70, however, traffic volumes are anticipated to continue to increase at a similar pace as was projected in the DEIS. North of I-70, traffic growth is also projected to be slightly lower than previously anticipated.

LOS is a quantitative measure of traffic operating conditions, using a ranking system from A to F to identify how traffic is flowing. LOS A (best condition) indicates free-flowing traffic, and LOS B and C represent a stable traffic flow. LOS D indicates traffic volumes that slightly impact the flow of traffic. With LOS E, traffic volumes are approaching the roadway capacity and speeds are reduced but relatively steady. This represents significant congestion. LOS F, the worst condition, represents stop-and-go or standstill conditions.

As noted in **Table I-3**, almost all of the existing mainline segments in 2000 were experiencing LOS D or E conditions in the peak direction during peak periods, with a few segments experiencing LOS C. By 2030, most segments of I-270 and US 15 within the study area are projected to experience LOS E to LOS F conditions during the peak hour in the peak travel direction. Following the June 2009 Public Hearings, the traffic growth in the corridor for all 2002 DEIS and

Table I-3: Average Daily Traffic Volumes and Level of Service (Existing and No-Build Alternative)

LOCATION	AVERAGE DAILY TRAFFIC VOLUMES			AM (PM) PEAK HOUR LEVELS OF SERVICE			
	2000 NO-BUILD ADT VOLUMES	PROJECTED 2030 NO-BUILD ADT VOLUMES ¹	ADT PERCENT GROWTH	2000		2030 ¹	
				SB	NB	SB	NB
I-270: Shady Grove Road and I-370	210,000	247,000	18%	D (B)	B (C)	C (B)	B (D)
I-270: MD 124 and Middlebrook Road	142,500	186,600	31%	D (B)	B (D)	F (C)	B (F)
I-270: MD 118 and Father Hurley Boulevard	96,000	148,000	54%	C (B)	B (D)	E (B)	B (D)
I-270: MD 109 and MD 80	74,000	113,800	54%	E (C)	B (F)	F (D)	D (F)
I-270: MD 80 and MD 85	80,000	141,000	76%	F (C)	C (F)	F (E)	E (F)
US 15: Opossumtown Pike and MD 26	76,000	85,500	12%	E (C)	C (E)	E (D)	C (F)
US 15: Hayward Road and Biggs Ford Road	41,125	62,300	51%	D (B)	A (D)	E (C)	B (F)

¹Data derived from MWCOG Travel Demand Model Version 2.1D#50. NB = Northbound direction; SB = Southbound direction

2009 AA/EA alternatives will be re-examined for their traffic performance characteristics.

Transit Demand Update

The 2002 DEIS notes that the I-270/US 15 corridor is one of the most traveled north-south transportation corridors in Maryland, and provides an essential connection between the Washington, DC metropolitan area and central and western Maryland. The 2000 Census indicates that nearly 22 percent of workers residing in Montgomery County work in Washington, DC. In 2000 this added up to an estimated 99,700 commuters. While employment is growing in Montgomery County, it is expected that a large number of corridor residents will continue to travel to DC for work in the future.

Many of the commuters headed to DC use transit to avoid the high levels of congestion on the roads. Minor changes in service on individual bus routes have

occurred including the addition of bus routes to the Germantown Transit Center and new or expanded transit centers and park and ride lots.

Current Transit Services

Transit services are described by type in the following paragraphs, with general ridership numbers provided in **Table I-4**. It is clear that demand for transit services is high, particularly for those headed south towards DC.

MARC Service

MARC service is available from a number of Brunswick Line stations in Montgomery County, including the Washington Grove, Gaithersburg, Metropolitan Grove and Germantown stations located in the study area. Frederick County is served by stations in Brunswick and Point of Rocks. In 2001, MARC Service was extended northward from Point of Rocks to the City of Frederick, and two new stations were added: Monocacy and



downtown Fredrick. MARC takes commuters directly to Union Station in Washington, DC. There are some limitations to MARC service for commuters to DC, including:

- MARC serves one station in Washington, DC. Riders traveling to other locations in and around DC must transfer to the Metrorail Red Line service at Union Station, Rockville or Silver Spring Station.
- Park and ride lots at many of the MARC stations are operating at or near capacity, including Point of Rocks and Germantown. The Point of Rocks station park and ride lot recently opened its expanded 550-space capacity. Plans exist to add a parking garage to the 657-space Germantown surface park and ride lot by 2015. Parking is free at all MARC stations in the CCT corridor.
- MARC service in the corridor is only offered during weekday morning and evening peak hours, with one mid-day (1:45 PM train out of Union Station) and no weekend service. Service is only in the peak direction, making reverse commuting impossible.
- The Frederick Branch stations are served by three trains in the morning peak hours, as is the Washington Grove station, resulting in long wait times between trains. The other Brunswick Line stations are served by nine trains during peak hours, which is one train approximately every thirty minutes.

MARC is running at capacity on most of its lines, and has a number of planned projects to increase capacity in the short- and long-term. The September 2007 *MARC Growth and Investment Plan* includes increasing seating capacity by 200 seats on the Brunswick Line by 2010, largely by lengthening existing trains to accommodate growing ridership demand. Additional plans for 2015 and 2020 include increasing seating capacity by 8,400 seats, doubling service on the Frederick Branch to achieve 30-minute peak headways, and adding additional parking at the Germantown, Metropolitan Grove, and Rockville stations.

MARC rail service shares right-of-way with freight lines. Agreements with CSX Corporation will be required to implement some of the planned service improvements for the Brunswick Line.

Metrorail Service

Metrorail service is available at the southern end of the CCT corridor at the Red Line’s Shady Grove station. Metrorail is a heavy rail system, and service is frequent and rapid. Connections are available to other Metrorail lines near downtown, providing access to a wide range of destinations throughout Washington, DC.

The parking facilities (garages and surface lots) at the Shady Grove Metrorail station operate at capacity. Despite a recent expansion adding 2,140 spaces, and a daily charge of \$4.75 per day, the parking facilities continue to be filled. Parking capacity is currently 5,745 spaces, 76 of which are reserved for short-term (metered) use.

Bus Service

Over 40 bus routes serve the I-270/US 15 Corridor, with service provided by WMATA Metrobus, Montgomery County Ride On, Frederick County TransIT, and one MTA Commuter Bus (Route 991). Three routes run express service (limited stops or no stops) during peak hours. The rest are local or shuttle routes. Many routes connect to MARC stations, the Shady Grove Metrorail station, and to transit centers (e.g., Frederick, Germantown and Trville).

The Germantown Transit Center was opened in 2002. It is located at Crystal Rock Drive near the MD 118 interchange with I-270. The center includes a 175-space park and ride lot and bus bays for the nine Ride On routes that stop there (in 2002 only six routes stopped at the new transit center). It was designed to serve the Germantown community and the I-270 employment corridor with improved bus service to Gaithersburg and the Metrorail station.

MTA Route 991 provides express service from Hagerstown via I-70 to Frederick, and then via I-270 to the Shady Grove Metrorail station and Rock Spring Business Park. It travels only in the peak direction and only during morning and afternoon peak hours, with headways of about 15 minutes. As **Table I-4** shows, this route carries over 900 riders on a typical weekday.

An indicator of the high demand for a link to Metrorail service within the corridor is that 16 of the study area bus routes stop at the Shady Grove station. In general, Metrorail stations have the highest level of Ride On and

Table I-4: Current Transit Ridership

	MTA ¹		WMATA ²		MONTGOMERY COUNTY ³
	MARC BRUNSWICK LINE	COMMUTER BUS #991	SHADY GROVE METRORAIL	METROBUS (J7, J9, Q2)	RIDE ON BUS
Annual	1,887,000	231,637	7,515,500	2,731,810	27,300,000
Average Daily	7,400	932	27,292	7,609	87,397
AM Peak	3,700	475	9,345	3,872	23,400

¹ MTA (FY 2007)
² WMATA (FY 2007)
³ Montgomery County DPW&T, Transit Services Division. Includes all Ride-On bus routes (FY 2006).

other Montgomery County bus services, with Shady Grove serving as a stop for 24 routes. Thirty-nine bus lines stop at the Silver Spring station, 15 stop at the Rockville station, and 10-16 bus routes stop at most of the other Metrorail stations in the County. In contrast, MARC stations between Germantown and Washington Grove are each served by one or two bus routes.

Current and Future Transit Market

Public transit is identified as a critical investment to provide effective mobility options for those who might otherwise use an automobile as well as those who cannot drive a car. To be successful as an alternative to the automobile, it is essential that the new transit service be on an exclusive guideway to provide a comparable or better travel time than automobiles during rush hours. Although the majority of trips will continue to be made by automobile, high frequency, high quality transit service will provide another good option for travel. The projected transit demand demonstrates a need to include expanded transit service throughout the I-270/US 15 Corridor.

The transit component of the CCT project is envisioned as serving three travel markets:

- Local commuters and travelers – Montgomery County residents working at employment locations along the corridor, or visiting retail or other businesses near proposed CCT stations.

- Traditional commuters – Residents of the I-270 corridor in Montgomery and Frederick Counties traveling to employment locations farther south, particularly to locations that can be reached on the WMATA Metrorail system.
- Reverse commuters – Residents of southern Montgomery County and Washington, DC, traveling to employment centers along the proposed CCT corridor.

This section provides a description of the existing and projected (2030) transit markets derived from the updated travel demand model. Projected conditions assume no build of the CCT, but do assume a highway improvement on I-270 of ETLs as described in Alternatives 6A/B of this document. A highway build is assumed in the regional long-range plan and transportation improvement program and provides a more conservative estimate of transit ridership.

The CCT study area has a well-established transit market. Montgomery County has traditionally shown higher transit usage than similarly-sized suburban counties. In 2000, 18 percent of commuter trips from Montgomery County used transit, higher than the 10 percent of Fairfax County, Virginia commuters and 17 percent of Prince George’s County commuters, and far exceeding Frederick County’s 1.4 percent.

Strong commuter-driven transit demand is projected to continue in the future. Without the proposed transit improvements, commuter transit share is projected to be 21 percent for Montgomery County in 2030. Frederick County’s commuter transit share is projected to be four percent in 2030, more than doubling its current transit mode share.

Non-commuter trips, which include trips for shopping, recreation, medical appointments, and visiting relatives, make up more than three-quarters of regional motorized trips. Because of dispersed locations and other factors, transit makes up a relatively small share of these trips, approximately two percent according to the travel demand model.

In Montgomery County, the transit share of non-work trips is slightly higher in inner suburban districts like Bethesda and Silver Spring, with estimated transit shares of three to six percent. Within the corridor, transit shares of these trips are similar to the rest of the region, at approximately two percent. Projections for 2030 indicate that transit’s share of non-work trips will increase slightly above today’s levels within the study area.

It should be noted that while transit makes up a small share of non-commute trips, non-commute trips in general make up nearly a third of all transit trips in Montgomery County. Non-commute trips are therefore an increasingly important component of the transit market and have the potential for future growth. In 1994, the year of the most recently published regional transit survey, nearly one third (31 percent) of transit trips from Montgomery County were non-commuter in nature. In 2030 without the CCT project improvements, non-commuter transit trips are projected to account for 44 percent of all transit trips.

As a result of contributions from both commuter trips and non-commuter trips, the total number of transit trips, as well as the transit market share for all trips in the study area, will continue to grow in the future. The current (year 2000) transit mode share for Montgomery County is 3.4 percent and is 0.3 percent for Frederick County. Without the proposed transit project,

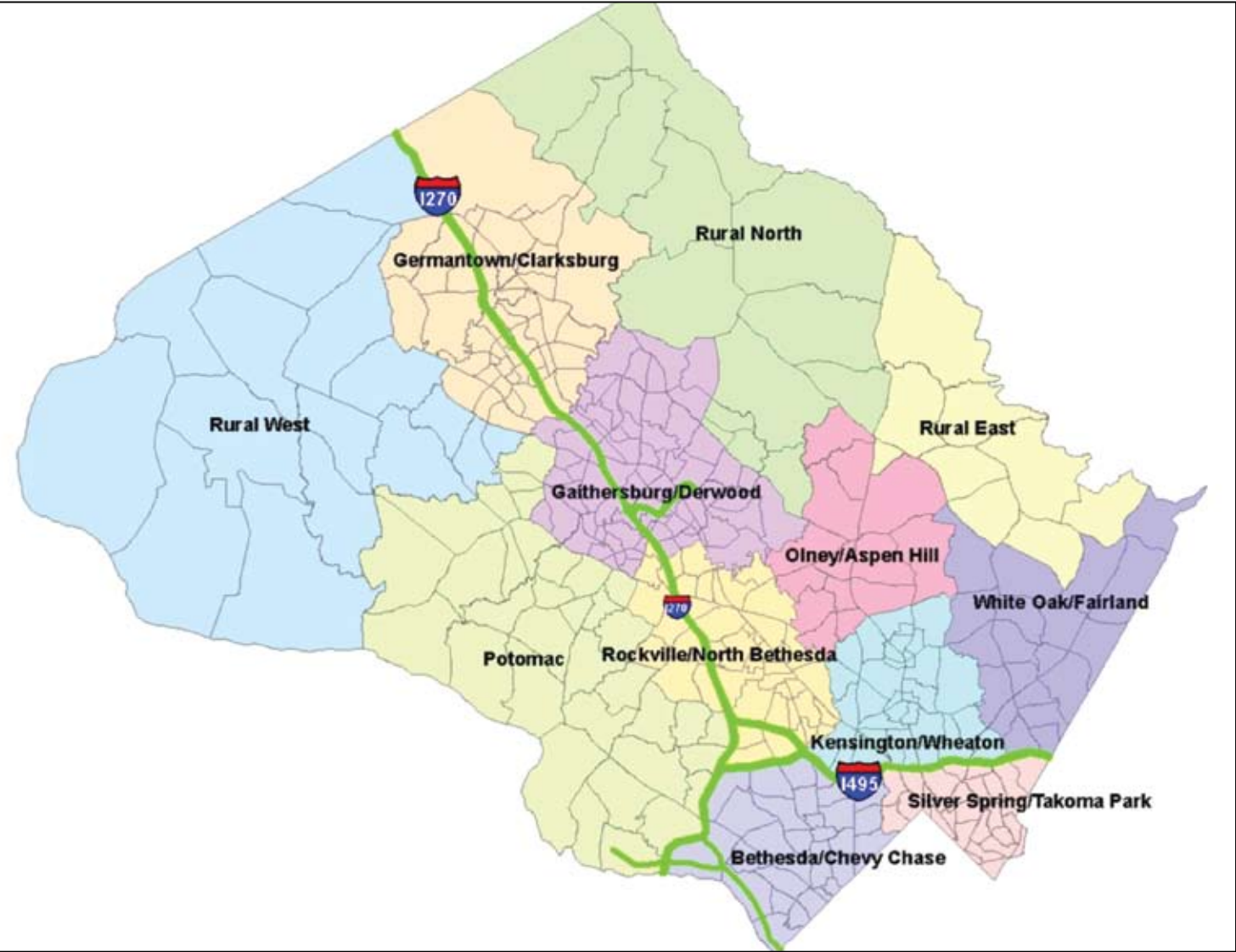
Montgomery County’s total transit trip share is projected to be 5.2 percent in 2030, while Frederick County’s total transit trip share is projected at 0.8 percent in 2030; a more than a 50 percent increase in transit trip share in both counties.

Transit Market Share by District

Transit market shares without the proposed project investment vary by district within Montgomery County. **Tables I-5 and I-6**, derived from the updated travel demand model, show 2000 estimated and 2030 projected transit shares for trips originating or ending in each district, as defined in **Figure I-2**.

- For the year 2000, transit shares were highest for trips originating from inner suburban areas such as Silver Spring/Takoma Park (10 percent), lower from the I-270 Corridor (three to five percent), and lowest from rural areas (one percent). In particular, travelers from the Gaithersburg/Derwood and Germantown/Clarksburg districts had a transit modal split of approximately three percent in 2000.
- As expected, transit shares for trips to Washington, DC were estimated to be the highest (18 percent) among destination districts in 2000; for example, transit was used for 28 percent of trips to Washington, DC from the Gaithersburg/Derwood district and 26 percent from the Germantown/Clarksburg district. While Washington, DC is a major transit destination for Montgomery County residents, Montgomery County as a transit destination is becoming increasingly important. Both the Bethesda/Chevy Chase and Silver Spring/Takoma Park districts had the second highest transit shares of approximately eight percent among the destination districts.
- Transit shares for inter-district trips within Montgomery County were estimated to be ten percent or higher for trips destined for Bethesda/Chevy Chase and Silver Spring/Takoma Park (communities served by the Metrorail Red Line) than from the other districts. For example, trips from the Gaithersburg/Derwood and Germantown/Clarksburg

Figure I-2: Montgomery County Districts





districts to the Bethesda/Chevy Chase district had a transit share of over 14 percent in 2000.

- Transit shares for intra- and inter-district trips in the I-270 corridor were estimated to be approximately five percent or less in 2000. For example, transit trips were estimated to be two percent of all motorized trips from the Gaithersburg/Derwood district to the Germantown/Clarksburg district and four percent vice versa.

Without the proposed transit improvement, transit markets are projected to continue year 2000 demand patterns in 2030 with marked increases in transit shares in Frederick, Gaithersburg/Derwood, and

Germantown/Clarksburg to Washington, DC; within and between Gaithersburg/Derwood and Germantown/Clarksburg; Frederick to Germantown/Clarksburg and Gaithersburg/Derwood; and reverse commuting between Washington, DC to Gaithersburg/Derwood and Germantown/Clarksburg.

Similarly, commuter transit market shares vary by district within Montgomery County. **Tables I-7** and **I-8** show estimated 2000 and projected 2030 commuter transit shares for trips by district.

- Commuter transit share in Montgomery County tends to be the highest in the inner suburban districts like Bethesda/Chevy Chase and Silver Spring/Takoma Park, with nearly one third of commuter trips traveling to or from these districts by transit in 2000. The middle I-270 corridor districts, Germantown/Clarksburg and Gaithersburg/Derwood were lower with 11 percent and 16 percent transit shares for residents, respectively.
- Commuter transit shares tend to be the highest for destinations at major activity centers such as the District of Columbia (37 percent), Silver Spring/Takoma Park (29 percent), Bethesda/Chevy Chase

(28 percent), and Rockville/North Bethesda (19 percent). More than one third of commuter trips from the study area to DC used transit in 2000.

- Reverse commuting was estimated to have a high transit share, 24 percent for commuter trips from DC to Gaithersburg/Derwood, and 21 to 23 percent for trips from Bethesda/Chevy Chase to Germantown/Clarksburg and Gaithersburg/Derwood districts.
- Commuter transit markets are projected to continue the existing patterns in 2030 without the project improvements, with a slight increase in transit modal split.

Table I-5: Transit Share of All Trips by District of Origin

TRIP ORIGIN DISTRICT	2000	2030
Bethesda/Chevy Chase	5.5%	6.7%
Gaithersburg/Derwood	3.3%	4.2%
Germantown/Clarksburg	3.0%	3.0%
Kensington/Wheaton	6.4%	7.2%
Olney/Aspen Hill	4.7%	5.5%
Potomac	1.6%	2.2%
Rockville/N. Bethesda	5.2%	6.1%
Rural East	1.3%	1.9%
Rural North	1.1%	1.4%
Rural West	1.7%	2.3%
Silver Spring/Takoma Park	10.0%	10.5%
White Oak/Fairland	3.9%	4.8%
District of Columbia	15.0%	14.9%
Frederick County	0.3%	0.8%
Remainder of Maryland	1.9%	2.2%
Virginia	3.2%	3.8%
Total – Metropolitan Washington Region	3.9%	6.7%

Results derived from the updated travel demand model.

Table I-6: Transit Share of All Trips by Destination District

TRIP DESTINATION DISTRICT	2000	2030
Bethesda/Chevy Chase	7.9%	8.9%
Gaithersburg/Derwood	2.3%	3.0%
Germantown/Clarksburg	1.2%	1.6%
Kensington/Wheaton	4.0%	4.2%
Olney/Aspen Hill	1.1%	1.3%
Potomac	1.2%	1.3%
Rockville/N. Bethesda	5.8%	6.8%
Rural East	0.4%	0.5%
Rural North	0.2%	0.2%
Rural West	0.2%	0.4%
Silver Spring/Takoma Park	7.5%	8.2%
White Oak/Fairland	0.4%	1.9%
District of Columbia	18.4%	19.1%
Frederick County	0.1%	0.3%
Remainder of Maryland	0.8%	1.2%
Virginia	2.4%	3.1%
Total – Metropolitan Washington Region	3.9%	4.2%

Results derived from the updated travel demand model.

Table I-7: Transit Share of Commuter Trips by District of Origin

TRIP ORIGIN DISTRICT	2000	2030
Bethesda/Chevy Chase	34.1%	28.4%
Gaithersburg/Derwood	16.4%	17.2%
Germantown/Clarksburg	11.1%	12.0%
Kensington/Wheaton	28.4%	26.5%
Olney/Aspen Hill	22.9%	21.9%
Potomac	15.5%	12.6%
Rockville/N. Bethesda	29.8%	27.9%
Rural East	11.3%	12.4%
Rural North	9.6%	9.8%
Rural West	9.8%	10.8%
Silver Spring/Takoma Park	30.1%	30.5%
White Oak/Fairland	19.0%	20.4%
District of Columbia	40.2%	40.8%
Frederick County	1.5%	4.2%
Remainder of Maryland	9.1%	9.7%
Virginia	13.6%	14.8%
Total – Metropolitan Washington Region	15.7%	15.8%

Results derived from the updated travel demand model.

Table I-8: Transit Share of Commuter Trips by Destination District

TRIP DESTINATION DISTRICT	2000	2030
Bethesda/Chevy Chase	28.2%	30.7%
Gaithersburg/Derwood	9.6%	11.6%
Germantown/Clarksburg	5.8%	9.0%
Kensington/Wheaton	23.7%	21.5%
Olney/Aspen Hill	10.6%	10.3%
Potomac	9.3%	7.5%
Rockville/N. Bethesda	19.2%	21.0%
Rural East	2.2%	2.6%
Rural North	1.8%	1.7%
Rural West	1.0%	2.5%
Silver Spring/Takoma Park	29.3%	29.9%
White Oak/Fairland	9.2%	10.1%
District of Columbia	36.9%	37.5%
Frederick County	0.2%	1.0%
Remainder of Maryland	3.2%	4.7%
Virginia	10.8%	12.7%
Total – Metropolitan Washington Region	15.7%	15.8%

Results derived from the updated travel demand model.



Transit Trip Growth by District

Transit market growth by district, shown in *Table I-9*, reflects the overall growth of the study area in terms of population, households, employment, and associated travel needs.

Daily transit trips from Montgomery County as a whole are projected to grow by 105,000 trips or 66 percent, accounting for nearly six percent of the county’s motorized person-trip growth. Regional transit trips are projected to grow by 72 percent, making up nearly five percent of the region’s motorized person-trip growth.

Reverse Commuting

The I-270 corridor is home to thousands of jobs in Montgomery and Frederick Counties, and there are a large number of residents located south of the study corridor in southern Montgomery County and the District of Columbia. Employment in Montgomery County, currently (2005) over 500,000 jobs, is expected to grow by 34 percent by 2030, adding over 170,000 jobs, increasing the attractiveness of the area for reverse-commuting.

The improved travel demand model indicates that in 2030 without the proposed transit project, approximately 9,400 people will commute daily to businesses and government offices in the CCT corridor from residential areas adjacent to Red Line Metrorail stations in southern Montgomery County and Washington, DC. The transit share of these trips is assumed to be low in view of the fact that there is no MARC service in the reverse-commute direction, and all bus service travels in shared lanes, offering no travel time advantage over private auto travel.

While Metrorail stations are served well by Ride On bus routes, many destinations in the study area, such as COMSAT and the Department of Energy Headquarters in Germantown, are served by just one bus route. Some of the system’s bus routes run infrequently, further limiting opportunities for commuting by transit, particularly for long-distance commuters who need to make connections.

Transit improvements on the CCT corridor could increase the share of reverse-commute trips made by

transit. The planned CCT would connect to the Shady Grove Metrorail station, and stop in the vicinity of a number of major employment centers in Montgomery County.

Intermodal Connectivity and Land Use

The existing transportation system includes many intermodal connections, linking roads, pedestrian and bicycle paths, local bus service, and MARC and Metrorail stations. The proposed highway alternatives would provide additional connections to the roadway network. ETLs would link with local roads, highways, and HOV lanes in the region. ETLs would also accommodate buses, enhancing links to existing bus services. Under the transit build alternatives, numerous stations would be added, providing park and ride lots, as well as pedestrian and transit linkages. The transit build alternatives would also include a bicycle path that will provide safe linkages between communities along the CCT corridor, and allow for connections to the proposed stations. The proposed transit TSM alternative would provide transit service in the study area at a comparable level of transit access and transit service connectivity without constructing a dedicated right-of-way. The proposed transit TSM alternative would simulate the routes, station stops and operational efficiencies of the proposed CCT by using existing roads and selected highway upgrades to provide direct access to stations as well as take advantage of the highway improvements assumed for 2030 that are included in the 2008 CLRP, including managed lanes on I-270 and direct access ramps to park and ride and station facilities.

Transit Connectivity

There are 16 park and ride lots in the I-270 corridor between Frederick and Shady Grove Metrorail station including one transit center, one Metrorail station, and six MARC stations.

Buses serving the corridor in both counties are routed to stop at transit centers, MARC stations and Metrorail stations, many of which include bus bays for safe and convenient transfers. MARC and Metrorail intersect outside of the corridor, with Rockville and Silver Spring being the nearest MARC stations offering transfers.

Table I-9: Growth in Transit Trip Share of All Trips by Origin District

TRIP ORIGIN DISTRICT	PERSON-TRIPS (ALL MODES)		TRANSIT TRIPS	
	GROWTH IN PERSON-TRIPS 2000-2030	PERCENT GROWTH	GROWTH IN TRANSIT TRIPS 2000-2030	PERCENT GROWTH
Montgomery County	1,676,000	49%	105,000	66%
Bethesda/Chevy Chase	165,222	44%	15,402	73%
Gaithersburg/Derwood	352,727	54%	21,341	99%
Germantown/Clarksburg	284,440	109%	8,507	110%
Kensington/Wheaton	93,006	28%	9,319	44%
Olney/Aspen Hill	47,029	18%	4,760	39%
Potomac	165,848	82%	5,014	159%
Rockville/N. Bethesda	241,395	52%	19,156	80%
Rural East	46,479	59%	1,312	127%
Rural North	68,541	58%	1,455	117%
Rural West	46,275	76%	1,401	134%
Silver Spring/Takoma Park	90,636	27%	11,130	33%
White Oak/Fairland	74,052	26%	6,296	57%
District of Columbia	577,527	34%	85,103	34%
Frederick County	548,774	76%	8,410	451%
Remainder of Maryland	2,828,514	43%	85,118	68%
Virginia	6,312,213	81%	285,881	115%
Total – Metropolitan Washington Region	11,942,678	59%	569,605	72%

Results derived from the updated travel demand model.

Parking is available at each of the rail stations serving the corridor, although there are often no spaces available by the end of the morning peak hour, which limits ridership.

The CCT alternatives, including TSM/TDM, BRT, and LRT would integrate with Shady Grove Metrorail station, Metropolitan Grove MARC station and Germantown Transit Center, and are designed to be served by feeder buses operating throughout Montgomery County. Each of the alternatives proposes 13 CCT stations, including the Shady Grove Metrorail station, seven with park and ride lots.

ETL System Connectivity

The I-270 ETL Alternatives would serve motorists on I-270 between I-370 and north of MD 80. Vehicles using the ETLs on I-270 would be able to continue to other potential or planned toll lane facilities in Montgomery County. These include:

- The ICC, a planned toll roadway, will provide a connection between I-270/I-370 and I-95/US 1, north of the Capital Beltway
- The Capital Beltway in Maryland, approximately nine miles south of the project limit, planning study includes ETLs as an alternative to HOV lanes
- The potential to extend ETLs along I-270 from I-370 to the Capital Beltway
- More regional toll lane facility connections including HOT lanes planned for the Virginia portion of I-495 and ETLs being developed for I-95 in Maryland

Pedestrian/Bicycle Connectivity

MTA conducted a study of the existing and planned trail network for the project corridor to develop a better understanding of the planning issues associated with including a parallel trail along the proposed transitway. The study investigated issues, opportunities and potential costs for constructing the trail. Specific tasks included the following:

- Establish the baseline planning assumptions including local plans and existing environmental conditions

- Determine the right-of-way availability for the transitway, including the trail
- coordinate with local agency representatives on previous planning efforts, identify issues and potential alternative alignments
- Identify potential alternatives to avoid areas of engineering challenge
- Identify costs associated with construction of the trail

Construction of the parallel trail would make it easier for surrounding neighborhoods to connect to the transitway. Access to stations using the trail is the primary objective. In addition, it is anticipated that local jurisdictions would plan and, as appropriate, implement trail construction to provide connections to the transitway from neighborhoods not directly adjacent to the transitway.

Montgomery County encourages the development and use of bicycle and pedestrian facilities. The Maryland-National Capital Park and Planning Commission, which covers Montgomery and Prince George's counties, requires developers to continue sidewalks and bike paths that are adjacent to their properties. Montgomery County Commuter Services promotes bicycling as part of its *Better Ways to Work!* program. Both the State of Maryland and Montgomery County have policies that encourage bicycle facilities to be included as part of all appropriate roadway projects.

Montgomery County's *Countywide Bikeways Functional Master Plan* calls for bikeways to be built in conjunction with roadway and sidewalk improvements. Higher priority is given to paths that connect major activity centers, specifically including transit centers, central business districts, major employment centers, and existing park trails. The *Master Plan* assumes that a shared-use path will be built along the entire length of the proposed CCT. Identified as SP-66 in the *Master Plan*, the path is listed as a high priority project because it could serve pedestrians as well as bicyclists as an important connection to major employment centers in the I-270 corridor. Proposed CCT stations are included in the bikeway mapping, with the *Master Plan* encouraging additional bikeways to connect to these stations.

Pedestrian and bicycle connections to transit already exist in the CCT corridor. Bike racks are included on all Ride On buses, all WMATA Metrobuses, and most TransIT buses, and bike racks are available at all MARC and Metrorail stations. According to the 2004 Montgomery County *Countywide Bikeways Functional Master Plan*, all MARC stations in the corridor have one or two bike racks. Metrorail stations generally have more, with Shady Grove station providing 60 bike lockers and rack space for 32 bikes. The *Master Plan* noted that Shady Grove's bicycle facilities were about one-third utilized, although demand was expected to increase with the redevelopment of the station area and the planned bikeway improvements along Shady Grove Road, Redland Road, Crabbs Branch Way, and the proposed CCT alignment on King Farm Boulevard.

Transit-Supportive Land Use

In general, transit functions most effectively where densities are highest. A station or stop that is within walking distance of a few thousand homes or employees, for example, will be more heavily used than one that is within walking distance of only a few hundred. Transit systems also do well when stations are positioned to enable easy walking access to major employment centers or other attractions. Transit-oriented developments are areas where high-density, mixed use developments are clustered around transit stations or corridors.

There are a number of employment centers along or near the planned CCT corridor, including COMSAT, National Institute of Standards and Technology (NIST), the Montgomery County Correctional Facility, Montgomery College Germantown Campus, the Department of Energy Headquarters, Kentlands, and the MedImmune headquarters in Gaithersburg. There are also plans for new mixed use employment, commercial and residential centers along the corridor, including a Johns Hopkins biotechnology park, the Casey Property development (near the Metropolitan Grove MARC station) and the Crown Farm. Many of these are located near planned CCT stations and are being designed in anticipation of transit access. Others could be served by shuttle bus services. Planned and programmed development in Montgomery County, including transit-oriented development is discussed in greater detail in **Chapter IV.A.**

Some developments have constructed or planned higher residential densities along the proposed CCT corridor, in expectation of future construction of a BRT or LRT line. The King Farm property, for example, is a large development in Rockville. Started in 1997, much of the property has been built and includes both residential and commercial structures. King Farm Boulevard, the main thoroughfare for this property, has a wide landscaped median designed to support a future CCT busway or rail line. Residential densities are highest along this boulevard, and a commercial center is being developed around the proposed West Gaither station.

The Casey Property, adjacent to the Metropolitan Grove MARC station, is also along the proposed CCT corridor. This property is building its center near the MARC station as an "urban core" to include high-rise condominiums, office buildings, ground-floor commercial, and possibly a parking structure for MARC commuters as well. Densities are planned to be greatest immediately adjacent to the proposed CCT station.

Another planned development is the Crown Farm, annexed into the City of Gaithersburg and located west of I-270 and Shady Grove Road. This development is also planning high-rise residential structures that would include ground-level retail and be located near a proposed CCT station. The developers were quoted in a 2006 newspaper article as envisioning a community "in which people can live, shop and work without driving."

