# I-270/US 15 <br> Multi-Modal Corridor Study 

Frederick and Montgomery Counties, Maryland

## Socio-Economic / Land Use Technical Report

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CHAPTER I - SUMMARY

## SECTION I: SUMMARY

## A. INTRODUCTION

This report presents the results of the socio-economic impact assessment performed for the I-270/US 15 Multi-Modal Corridor, located in Montgomery and Frederick Counties in the State of Maryland. The document has been prepared in accordance with United States Department of Transportation (USDOT), Federal Highway Administration (FHWA), Federal Transit Administration (FTA) and Maryland State Highway Administration (SHA) regulations and relevant local regulations of Montgomery and Frederick Counties Counties.

This report describes the additional alternatives and adjustments under consideration (primarily Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$, summarizes updated existing conditions in the project study area, and evaluates potential impacts to the social and economic environments due to the additional alternatives and adjustments. The previous alternatives (Alternatives 1, 2, 3A/B, 4A/B and 5A/B/C) were shown and described in the Draft Environmental Impact Statement - May 2002 and the Socio-Economic Technical Report - May 2002. Please refer to the I-270/US 15 MultiModal Corridor Environmental Assessment for more detailed information on impacts to parkland and recreational facilities, including a discussion of efforts to avoid, minimize and mitigate adverse impacts.

## B. DESCRIPTION OF PROJECT

The I-270/US 15 Multi-Modal Corridor is a vital component of the surface transportation system in the Metropolitan Washington region and includes portions of I-270, US 15, and US 40 in Montgomery and Frederick Counties (see Figure A).

The project area generally extends from the Shady Grove Metro Station south of I-370 (Montgomery County) to the US 15/Biggs Ford Road intersection north of the City of Frederick (Frederick County), as shown in Figure B. I-270, which begins at the Capital Beltway (I-495) and ends at I-70 in Frederick, provides one of the two interstate highway connections between the nation's capital and points west (the other connection is I-66 in Virginia) and north. As an interstate highway, I-270 is a fully access-controlled facility with a variable number of total lanes ranging from four to twelve. In Maryland, US 15 extends from the Virginia state line at Point of Rocks, MD to the Pennsylvania state line near Emmitsburg, MD, and provides a major northsouth route located between the interstate corridors of I-81 to the west and I-83/I-95 to the east. US 15 provides an important crossing of the Potomac River as well. Throughout most of its approximate 30 -mile length in Maryland, US 15 is a multi-lane highway, with varying degrees of access control.


## C. ALTERNATIVES CONSIDERED

## 1. Introduction

The I-270/US 15 Multi-Modal Corridor Study is considering the addition of both highway and transit alternatives.

The project looks at several ways to add capacity to the highway, including the addition of general purpose (GP) lanes or managed lanes - either high-occupancy vehicle (HOV) lanes or express toll lanes (ETLs). Other proposed highway improvements include the addition of collector/distributor (CD) lanes, acceleration/deceleration lanes, auxiliary lanes, new and improved interchanges, and park and ride lots.

The transit alternatives being considered are light rail transit (LRT) or bus rapid transit (BRT) on the Corridor Cities Transitway (CCT), Premium Bus service operating on the highway's managed lanes, and a shared use path for bicyclists and pedestrians.

The various transportation modes and system improvements under consideration in the May 2009 Alternatives Analysis/Environmental Assessment (AA/EA) for the Corridor are defined here as well as the alternatives evaluated in the 2002 Draft Environmental Impact Statement (DEIS). This technical report analyzes the AA/EA Alternatives 6A/B and 7A/B. Descriptions of all DEBE and AA/EA alternatives are provided to assist the reader in understanding the entire proposed project.

## a. Highway Improvement Descriptions

The I-270/US 15 highway alternatives propose various types of improvements. A brief description of the various lane types includes:

- General Purpose (GP) lanes are regular traffic lanes designed to accommodate all motor vehicle traffic on interstate and state highways, generally posted at speeds of 55 miles per hour or higher.
- High-Occupancy Vehicle (HOV) lanes are dedicated lanes which can only be used by vehicles with two or more occupants or by motorcycles. They may be separated from the GP lanes by striping or by a barrier. HOV lanes are managed lanes which are designed to encourage carpooling. I-270 currently has one HOV lane, designated as HOV-2, in both the northbound and southbound directions. HOV-2 requires at least two persons per vehicle.
- Express Toll Lanes (ETLs) are another type of managed lanes designed to alleviate congestion in GP lanes and provide relatively free-flowing traffic. ETLs are limitedaccess, tolled interstate highway lanes that are usually barrier-separated from GP lanes. Motorists who wish to travel in the less congested ETLs pay a toll that is collected at highway speeds by an E-ZPass ${ }^{\text {TM }}$ transponder.
- Collector/Distributor (CD) lanes are one-way roads next to the interstate that operate similar to frontage roads. CD lanes provide relatively free-flowing lanes for shorter trips and are used to collect entering and exiting traffic at interchanges. This helps to eliminate weaving traffic in the main lanes of the interstate. CD lanes are barrier-
separated from GP lanes and access between the CD and GP lanes is limited. I-270 currently uses a CD lane system designated as the "Local" lanes.
- Direct Access ramps provide direct, barrier-separated access to/from managed lanes at a limited number of locations along the highway. The direct access ramps provide continuity of travel and eliminate the necessity of merging managed lane and GP lane traffic at exits and entrances.
- Acceleration/deceleration lanes extend the length of entry and exit ramps to provide adequate distance for entering vehicles to reach highway speeds before merging with through traffic or allow exiting vehicles to slow to appropriate ramp speeds.
- Auxiliary lanes are acceleration and deceleration lanes connected between consecutive interchange ramps, so that vehicles traveling from one interchange to the next do not have to merge with the through highway lanes. They may eliminate some weaving between interchanges and provide a longer distance for vehicles entering the roadway to reach highway speeds.


## b. Transit Descriptions

The following terms describe important elements of the transit alternatives:

- Corridor Cities Transitway (CCT) is a reserved transit corridor that is identified in Montgomery County and Frederick County master plans. The CCT alignment extends from the Shady Grove Metrorail Station in Gaithersburg, Montgomery County, to downtown Frederick in Frederick County. For the I-270/US 15 Multi-Modal Corridor Study, transit is only being considered between Shady Grove and the COMSAT area in Clarksburg, Montgomery County.
- Light Rail Transit (LRT) is an electric railway system that can operate single cars or short trains. The LRT system proposed for this project would operate completely on a dedicated right-of-way, or guideway, separated from traffic on local streets.
- Bus Rapid Transit (BRT) is a mode of transit that has characteristics common to both conventional bus systems and LRT. BRT for this project would use rubber-tired transit vehicles, most likely articulated buses, along a reserved transit guideway. Vehicles would be similar to LRT vehicles in performance and appearance. However they would be able to leave the transit guideway to access local destinations using the local road network.
- Premium Bus service would provide bus service using dedicated (managed) highway lanes and direct access ramps to travel from station to station. Premium bus provides limited stop service and non-stop service between origins and destinations.
- Corridor Cities Transitway Bike Path, as denoted in Montgomery County planning documents, is a shared-use, hiker/biker trail that is an integral part of both the I-270/US 15 Multi-Modal Corridor Study and Montgomery County's bikeway network.


## c. Alternatives

The alternatives being considered for the I-270/US 15 Multi-Modal Corridor Study include those presented in the 2002 DEIS (Alternatives 1, 2, 3A/B, 4A/B and 5A/B/C), two new build
alternatives (Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ ), and the alternatives required to complete the FTA Alternatives Analysis. Brief descriptions of the alternatives are presented below.

## 2. New Alternatives Evaluated in this Technical Report

The I-270/US 15 Socio-Economic Technical Report has been prepared to analyze the Alternatives Analysis/Environmental Assessment (AA/EA) Alternatives 6A/B and 7A/B. An Alternatives Analysis is used by the Federal Transit Administration (FTA) to evaluate the costs and benefits of a range of transportation alternatives to make an informed selection of a preferred transit mode and alignment. The Environmental Assessment is used to evaluate the environmental impacts of the proposed highway and transit improvements of the alternatives and to make an informed selection of a Locally Preferred Alternative. The alternatives being evaluated by the AA and EA are shown in Table 1. Seven alternatives are listed, and six of these meet the FTA guidelines for an AA. Two alternatives, Alternative 6.1: No-Build Transit and Alternative 6.2: Transit TSM, are included solely for the assessment of transit performance and are not evaluated for resource impacts. Four alternatives, Alternatives 6A, 6B, 7A and 7B, are being evaluated for resource impacts in this document. Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ include ETLs instead of HOV lanes as the managed lane component, plus the LRT or BRT transit mode on the CCT as the transit component. Alternative 1: No-Build is carried forward from the 2002 DEIS and is updated to reflect the latest demographic forecasts from the Metropolitan Washington Council of Governments (MWCOG) and the latest planned transportation improvements in the MWCOG Constrained Long Range Plan (CLRP).

Table 1: Alternatives Considered in the AA or EA

| Alternative | Description | Alternative for AA <br> or EA Analysis? |
| :---: | :--- | :---: |
| 1: No-Build | No-Build Alternative carried from 2002 DEIS; includes latest <br> Metropolitan Planning Organization (MPO) demographic forecasts | EA |
| 6.1: No-Build <br> Transit | Master Plan <br>  <br> (wTL Alternative 6; no transit improvements beyond CLRP <br> (with CCT removed) | AA |
| 6.2: Transit <br> TSM | Master Plan <br> service) | ETL Alternative 6; with Transit TSM (enhanced bus |
| 6A | Master Plan $^{1}$ ETL / LRT Alternative | AA |
| 6B | Master Plan $^{1}$ ETL / BRT Alternative | AA \& EA |
| 7A | Enhanced $^{2}$ Master Plan ETL / LRT Alternative | AA \& EA |
| 7B | Enhanced $^{2}{ }^{2}$ Master Plan ETL / BRT Alternative | AA \& EA |

1 Master Plan refers to alignments along I-270 \& US 15 included in current Frederick and Montgomery County approved master plans.
2 Enhanced Master Plan refers to proposed improvements that are greater than called for in the Montgomery County Clarksburg Area Master Plan.

## a. Alternatives 6A and 6B

The highway component of Alternatives 6A and 6B would add GP lanes, ETLs, auxiliary lanes, and direct access ramps along I-270 and GP lanes and auxiliary lanes along US 15. ETLs would terminate north of MD 80 at the direct access ramps south of the Monocacy National Battlefield
in Frederick County. Alternative 6A would provide LRT on the CCT from Shady Grove to COMSAT, while Alternative 6B would provide BRT service on the CCT. Alternatives 6A/B are shown on Figure C, Figure D, Figure E and Figure F.

Between I-370 and north of MD 80, Alternatives 6A and 6B would provide up to two ETLs in each direction in the median lanes, barrier-separated from highway GP lanes and served by direct access ramps at designated interchanges and open access areas. The highway component would provide:

- four GP lanes and two ETLs each direction between Shady Grove Road and MD 124
- three GP lanes and two ETLs in each direction between MD 124 and proposed Newcut Road
- three GP lanes and one ETL in each direction between proposed Newcut Road and MD 121
- two GP lanes and one ETL in each direction between MD 121 and north of MD 80, where the ETLs will terminate in the vicinity of Park Mills Road
- three GP lanes in each direction from north of MD 80 to Biggs Ford Road

Auxiliary lanes would provide additional travel lanes between interchanges as needed to provide capacity. The typical sections are also shown on Figure C and Figure D.

Direct access ramps for ETLs only would be provided south of I-370 and north of MD 80 at the ETL termini; at the interchanges of I-270 with I-370, MD 118, and proposed Newcut Road; from proposed Metropolitan Grove Road Extended; and via open access ramps between MD 121 and MD 109 and between MD 75 and MD 80.

New interchanges are proposed at I-270/Newcut Road, I-270/MD 75 Extended, and at US 15/Biggs Ford Road. Existing interchanges will be modified to accommodate all traffic movements and the improved highway section. Two interchanges, at I-270/Watkins Mill Road and at US 15/Monocacy Boulevard/Christopher's Crossing, are being developed by SHA as separate planning projects that should accommodate future changes in the I-270/US 15 roadway. One park and ride lot at US 15 and Biggs Ford Road is included in Alternatives 6A and 6B.

The transit component of Alternatives 6 A and 6 B would provide either light rail or bus rapid transit on the CCT. Twelve new station locations were identified for initial construction to service employment and mixed-use centers, with a proposed combined parking capacity of 4,700 spaces. Four additional future station locations were identified. Station locations include:

- Shady Grove Metrorail (existing station with over 5,800 parking spaces)
- East Gaither
- West Gaither
- Washingtonian
- Crown Farm (future station)
- DANAC
- Decoverly
- Quince Orchard
- NIST
- First Field (future station)
- Metropolitan Grove
- Middlebrook (future station)
- Germantown Center
- Cloverleaf
- Manekin
- Dorsey Mill
- COMSAT

In addition to transit service on the CCT, transit measures include the following:

- New feeder bus routes to serve the CCT stations
- New premium bus routes from Frederick County serving major activity centers
- Park and ride facilities at key CCT stations
- Interactive transit information at major employment centers in the Corridor and at CCT stations

In addition to BRT or LRT service, Alternatives 6 A and 6 B will include premium bus service between Frederick County and corridor park and ride lots, major activity centers, and transit stations operating on the managed lanes of I-270. These include the FREDSG, FREDMGSG and KPTNMGSG routes that also appear in Alternative 6.2: Transit TSM.

An Operations and Maintenance (O\&M) facility for servicing light rail or bus vehicles would be located in one of three identified areas: Shady Grove, Metropolitan Grove, or COMSAT. A shared use hiker/biker trail would also be constructed adjacent to the CCT.

## b. Alternatives 7A and 7B

Alternatives 7A and 7B would add GP lanes, ETLs, auxiliary lanes, and direct access ramps along I-270 and GP lanes and auxiliary lanes along US 15. ETLs would terminate north of MD 80 at the direct access ramps south of the Monocacy National Battlefield in Frederick County. Alternative 7A would provide LRT on the CCT from Shady Grove to COMSAT, while Alternative 7B would provide BRT service on the CCT. Alternatives 7A/B are shown on Figure C, Figure D, Figure E and Figure F.

The highway typical section for Alternatives 7A/B is identical to the section for Alternatives 6A/B except between MD 121 and north of MD 80. In this section, Alternatives 7A/B would have two ETLs per direction, with a four-foot inside offset to the median barrier.

The transit component of Alternatives 7A and 7B is identical to the transit component of Alternatives 6A and 6B.





## c. Alternative 6.1: No-Build Transit

The highway component of the No-Build Transit Alternative is identical to the highway improvements in Alternative 6A/B. The highway build is included as part of the No-Build Transit Alternative to facilitate the analysis of the transit alternatives. By using an identical highway network baseline in the travel demand modeling of the No-Build Transit, Transit TSM, and transit build alternatives, the analysis is able to isolate the benefits attributable solely to the transit components, without having to compensate for changes in the underlying traffic patterns.

The transit component of Alternative 6.1: No-Build Transit consists of the existing transit services in the corridor plus any improvements programmed in the fiscally constrained longrange transportation plan for the metropolitan Washington region. Table 2 summarizes the routes, termini, and frequency of transit services in Montgomery and Frederick Counties for the No-Build Transit Alternative.

## d. Alternative 6.2: Transit TSM

The Transit TSM Alternative serves as the baseline for analyzing transportation performance among the transit alternatives, as required by the FTA. The Transit TSM Alternative represents the best transit service that can be achieved for the purposes of meeting the project Purpose and Need without investing in major capital improvements, such as the construction of an LRT or BRT fixed guideway. The Transit TSM Alternative is designed to provide comparable quality and levels of transit service at lower cost that Alternatives $6 \mathrm{~A} / \mathrm{B}$, without major investment in a transit fixed guideway and using the same assumptions for the highway network as Alternatives 6A/B. Alternative 6.2 includes the operation of high quality transit service to a comparable level as the CCT, but without the construction of the exclusive transitway.

The highway component of Alternative 6.2 is identical to the highway improvements in Alternative 6A/B. The highway build is included in Alternative 6.2 to isolate the transit improvements and determine the benefits attributable solely to the transit components.

The transit TSM measures in this alternative include the following:

- New Premium Bus service operating on local roads and serving stops comparable to CCT transit stations
- New stations and park and ride facilities in the same locations as proposed for Alternatives 6A and 6B
- Premium bus service from Frederick County to major activity centers using managed lanes with direct access ramps to park and ride lots, major activity centers and transit stations.
- Enhanced feeder bus service to Metrorail and MARC stations
- Interactive transit information at major employment centers in the Corridor.

The primary improvement in Alternative 6.2 is the construction of new station facilities that are connected via a new limited stop bus route between the Shady Grove Metrorail station and COMSAT. This bus route would operate on existing streets at a peak headway of six minutes
(busiest travel times) and a non-peak headway of 10 minutes. Headway is the interval of time between buses.

Table 3 describes the new bus routes, where they start and end, and their frequency of service for the Transit TSM Alternative. In addition to the new limited stop bus route providing service to the proposed stations, new service is also proposed from Frederick County to the Shady Grove Metrorail station and to the CCT area in Gaithersburg.

Table 2: 2030 No-Build Transit Service

| Route | Current Terminals |  | 2006 Headways |  | Notes | Proposed 2030 No-Build Headways |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Start | End | Peak | Off-Peak |  | Peak | Off-Peak |
| 43 | Travillah Transit Center | Shady Grove | 15 | 20 |  | 15 | 20 |
| 54 | Lake Forest | Rockville | 20 | 30 |  | 15 | 30 |
| 55 | Germantown Transit Ctr | Rockville | 15 | 30 |  | 10 | 20 |
| 56 | Lake Forest | Rockville | 20 | 30 |  | 15 | 30 |
| 61 | Germantown Transit Ctr | Shady Grove | 30 | 30 |  | 15 | 30 |
| 63 | Shady Grove | Rockville | 30 | 30 |  | 20 | 30 |
| 66 | Travillah Transit Center | Shady Grove | 30 | - | off-peak dir only | 20 | 30 |
| 67 | Travillah Transit Center | Shady Grove | 30 | - | peak direction only | 20 | 30 |
| 70 | Milestone | Bethesda Medical Ctr | 15 | - | not all stops | 15 |  |
| 71 | Kingview P\&R | Shady Grove | 30 | - | peak direction only | 20 |  |
| 74 | Germantown Transit Ctr | Shady Grove | 30 | 30 |  | 20 | 30 |
| 75 | Urbana | Germantown Transit Ctr | 30 | 30 | not all stops in off- peak | 20 | 30 |
| 76 | Poolesville | Shady Grove | 30 | - | not all stops in offpeak | 20 | 30 |
| 78 | Kingview P\&R | Shady Grove | 30 | - | peak direction only | 20 | - |
| 79 | Milestone | Shady Grove | 30 | - | peak direction only | 20 | - |
| 82 | Clarksburg | Germantown Transit Center/DOE | 30 | - | peak direction only | 20 | - |
| 83 | Milestone | Germantown Transit Ctr | 15 | 30 | MARC station in peak | 15 | 30 |
| 90 | Milestone | Shady Grove | 30 | 30 | different routings throughout day | 20 | 30 |
| 97 | Germantown Transit Ctr | Germantown MARC | 15 | 30 | loop | 15 | 30 |
| 98 | Germantown Transit Ctr | Seabreeze Court | 15 | 30 | loop | 15 | 30 |
| 100 | Germantown Transit Ctr | Shady Grove | 5 | 15 | express via I-270 | 5 | 15 |
| 124 | $\begin{aligned} & \text { Rt } 124 \text { P\&R (Rt } 117 \\ & \text { P\&R) } \end{aligned}$ | Shady Grove | 30 | - | express via I-270 | 20 | - |
| MTA 991 | Hagerstown | Shady Grove/Rock Spring Park | 15 | - |  | 15 | - |
| FT10 | Frederick Towne Mall | Francis Scott Key Mall | 30 | 40 |  | 30 | 40 |
| FT20 | Francis Scott Key Mall | Frederick Transit Center | 30 | 60 |  | 30 | 60 |
| FT30 | Frederick Towne Mall | Frederick Transit Center | 30 | 60 | loop | 30 | 60 |
| FT40 | Frederick Towne Mall | Frederick Transit Center | 30 | 60 |  | 30 | 60 |
| FT50 | Frederick Towne Mall | Frederick Transit Center | 30 | 60 | loop | 30 | 60 |
| FT60 | Frederick Comm Coll | Frederick Transit Center | 30 | 60 | loop | 30 | 60 |
| FT70 | College Park Plaza | Frederick Transit Center | 60 | 60 | loop | 60 | 60 |
| FT80 | Frederick Comm Coll | Frederick Towne Mall | 30 | 60 |  | 30 | 60 |
| FT-EC Shuttle | Spring Ridge Apts | Department of Aging |  |  | 4 round trips/day |  |  |
| FT-BJ Shuttle | Frederick Transit Center | Brunswick MARC Sta | 180 | - | 4 round trips/day | 180 | - |
| FT-ET Shuttle | Emmitsburg | Frederick Transit Center | 120 | - | 2 round trips/day | 120 | - |
| FT-85 Shuttle | Bowmans Industrial Pk | Frederick Transit Center |  |  | 2 round trips/day |  |  |
| FT-POR Shuttle | Frederick Shopping Ctr | Point of Rocks MARC Station | 40 |  | peak direction only | 40 |  |
| $\begin{aligned} & \hline \text { FT-Fd/ } \\ & \text { MARC } \\ & \text { Shuttle } \end{aligned}$ | Frederick Towne Mall | Frederick Transit Center | 60 | - | peak direction only | 60 | - |
| FT-Walk/ MARC Shuttle | Walkersville | Frederick Transit Center | 60 | - | peak direction only | 60 | - |
| FT-Walk Shuttle | Walkersville | Frederick Transit Center | 60 | 120 |  | 60 | 120 |

Table 3: 2030 Alternative 6.2 Additions to No-Build Transit Service

| Route | Terminals |  | Proposed 2030 TSM <br> Headways |  |
| :---: | :--- | :---: | :---: | :---: |
|  | Start | End | Peak | Off- <br> Peak |
|  | Frederick Transit Center | Shady Grove | 15 | - |
| FREDMGSG | Frederick Transit Center | Shady Grove | 20 | 30 |
| KPTNMGSG | Kemptown | Shady Grove | 30 | - |
| COM-MGSG | COMSAT | Shady Grove | 6 | 10 |

## D. OBJECTIVES AND TYPE OF ANALYSIS

The objectives of this report are to document the updated existing social, economic and land use conditions in the I-270/US 15 Corridor since 2002, and to assess the potential impacts of additional improvement alternatives on the social environment. The data collection and analyses used existing, available technical data and master plans from local, state and federal public agencies, interviews with project planning staffs, and field reconnaissance.

Data was collected for regional, county and project area levels (depending on availability). At the project level, a width of approximately 1,000 feet on each side of existing I-270 and US 15, and the proposed CCT alignment, was used to assess impacts during construction and operation of the project.

## E. SUMMARY OF EFFECTS

## 1. Land Use Effects

Alternative 1, No-Build Alternative, is not consistent with the future land use and planning recommendations contained within local master plans as it would not address projected traffic congestion and safety hazards along I-270 and US 15 that will occur with the planned growth in the Corridor. Additionally, many of the adopted land use plans and current development patterns have already responded to the potential for highway and transit improvements within the project corridor and the potential for increased development that could result from these improvements.

Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ would be consistent with adopted local land use plans. Many of these plans have been updated to include policies and guidelines that accommodate the potential increased development that could result from the proposed highway and transit improvements.

The direct impacts to land use anticipated from Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ would be the same as or similar to those published in the 2002 DEIS for Alternatives 3, 4 and 5 with the following exceptions:

- The interchange improvements proposed at Newcut Road, Monocacy Boulevard, Biggs Ford Road, and MD 75 have been incorporated into local master plans. These "master-planned" interchanges incorporate the proposed highway improvements and the proposed local land use and future development patterns.
- The direct access Express Toll Lane ramps to Metropolitan Grove would affect future development and land use patterns at the Casey West/Watkins Mill development. The incorporation of these ramps into development plans on the property would need to be coordinated with the City of Gaithersburg.
- The proposed park and ride lot, to be located at US 15 and Monocacy Boulevard, has been redesignated from the west side of US 15 to the east side of US 15. This park

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and ride facility has the potential to affect existing agricultural lands and also has the potential to change the character of the land use in the area.

- If the proposed park and ride lot at US 15 and Monocacy Boulevard is eliminated in favor of a proposed park and ride lot at Biggs Ford Road, this would affect existing agricultural land by conversion of its use.


## 2. Neighborhoods and Communities

The No-Build Alternative would not require any displacements or property acquisition. Also, the No-Build Alternative would not generate any disruptive elements to community cohesion, visual character or community resources and facilities important to the community or neighborhood quality of life.

## Alternatives 6A/B

The TDM elements of Alternatives 6A/B include up to two potential park and ride lots, at either US 15 and Monocacy Boulevard, US 15 and Biggs Ford Road, and US 15 at Liberty Road (MD 26). In general, Alternatives $6 \mathrm{~A} / \mathrm{B}$ would have similar right-of-way requirements as Alternative 5C described in the 2002 DEIS with some limited variations along the corridor and a somewhat larger area of disturbance in some areas. The following summary of direct community and neighborhood impacts are similar to those described in the 2002 DEIS.

The proposed highway alternatives, without additional mitigation measures, would result in 256 260 residential displacements along I-270 and loss of some open space especially for those residences located immediately adjacent to the roadway. The highway improvements are proposed along the edges of the affected communities and, therefore, would not split any communities or separate residents from reasonable access to any community facilities and services. The alternatives would not affect community cohesion in the traditional sense, as the communities and the impacts to those communities are located adjacent to an existing highway facility. The improvements would not divide communities. The loss of neighbors adjacent to the highway would interrupt the sense of community cohesion as they are relocated. There are no impacts to access with the build alternatives. Relocations within the same neighborhoods, if available, could minimize the sense of loss of community. Further coordination with affected residents would identify the extent of potential effects to social interactions or community cohesion.

Neighborhoods that would experience five or more residential displacements include Brighton West, Deer Park Place, London Derry, and the Princeton Courts Apartments. Property acquisition (strip takings) would be required primarily from backyards of residences located along Abbottsford Circle, Old Baltimore Road, Fingerboard Road, Biggs Avenue, Mercer Place and Pinewood Drive.

Transit Component: The proposed transit alignment and stations would have a major effect on the viability, accessibility and function of several emerging new communities in Montgomery

County. The station locations have been configured to serve these new communities and in particular, to support transit-oriented development in the Upper Rock District, Casey West, and Crown Farm developments. The CCT stations, alignment, and potential operations and maintenance sites have been incorporated into the new community design plans.

## Alternatives 7A/B

Impacts from these alternatives are expected to be the same as those for Alternatives 6A/6B. The key difference between Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ is in the traffic operations, due to the striping and functionality of the lanes. This difference will not affect the limit of disturbance and will not have any additional impacts on neighborhoods and communities in the form of residential takings or visual impacts.

## 3. Displacements and Relocation

No displacements or right-of-way acquisitions are required by the No-Build Alternative.
The build alternatives, comprised of Express Toll Lanes (ETLs) and either bus rapid transit (BRT) or light rail transit (LRT) along the CCT (Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ ), will have the following potential impacts:

Implementation of the highway components of Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ will require up to 251 residential displacements and 10 to 11 business displacements along I-270, US 15, and adjacent parallel roads. The range of impacts varies due to design uncertainties with potential retaining walls and minimized shoulder widths along I-270. The transitway alignment and the operations and maintenance sites could displace up to 32 more businesses, depending on which site is chosen.

The build alternatives will require up to 753 acres of right-of-way acquisition. If Premium Bus service along US 15 and I-270 is chosen instead of BRT or LRT along the CCT, a dedicated transitway would not be needed, therefore, only rights-of-way for the highway widening along I-270 and US 15 would be required (approximately 578 acres). The dedicated transitway would require 175 acres of property acquisition. An additional 86 acres along the transitway alignment is already owned by the State or reserved by local jurisdictions.

The inclusion of retaining walls along I-270 and US 15 into the conceptual designs of the build alternatives would limit the amount of right-of-way needed to be purchased and substantially reduce the number of displacements, but at higher construction costs. Due to the potential substantial number of residential displacements in three areas along the I-270 Corridor (Brighton West, London Derry and Deer Park Place), the Project Team recommends that retaining walls be incorporated into the conceptual design at these locations.

## 4. Environmental Justice

The project team analyzed census data for the 61 block groups that are located within 1,000 feet of the project corridor. Using the developed methodology, it was determined that only 21 of the 61 block groups met the following Environmental Justice (EJ) "threshold" criteria, these block groups were further identified as EJ impact areas and were analyzed to determine disproportionate or adverse impacts. The EJ methodology included:

- Block groups where the minority or low-income population in the block group equals or exceeds 50 percent of the population in that block group.
- Block groups where the percentage of the minority or low-income population is at least 10 percent higher than minority or low-income population percentage for Montgomery County or Frederick County

The No-Build Alternative would not disproportionately impact EJ areas within the 1,000-foot study area boundary.

However, the project team determined that the potential for disproportionate impacts does exist in one evaluation area, displacements and property acquisition. Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ would displace residences and/or businesses in the EJ areas located immediately adjacent to the existing roadway in the following census tracts and block groups:

## Montgomery County

- Census Tract 7008.16 - Block Group 1, Brighton West, minority, I-270 southbound, north of I-370 (see sheet HWY 1). Up to 81 townhouse units would be displaced without minimization measures. Three businesses within the Festival at Muddy Branch Shopping Center would also be displaced. Retaining walls and reduced shoulder widths could lower the number of impacted residences between six and 10 units, and the business impacts between zero and two.
- Census Tract 7007.14 - Block Group 1, London Derry/Montgomery Club, minority, I-270 northbound, south of MD 117 (see sheet HWY 2). Up to 150 apartment and condominium units would be displaced due to the widening of I-270 and the inclusion of direct access ramps to MD 117.
- Census Tract 7007.06 - Block Group 2, minority, I-270 southbound off of Game Preserve Road (see sheet HWY 2). One residence in Caulfield would be displaced with the highway alternative. The transitway alternative would also displace this residence, should it be selected.
- Census Tract 7007.06-Block Group 2, minority, I-270 southbound, north of West Diamond Avenue (see sheet HWY 2). One business displacement in the Quince Tree Executive Center, would be displaced.


## Frederick County

- Census Tract 7510 - Block Group 4, Princeton Courts Apartments, minority, I-270 southbound, south of the I-70 Interchange along Fox Croft Drive (see sheet HWY 11). Up to 12 apartment units within one building may be displaced due to the widening of I-270, along with the construction of an auxiliary lane connecting I-70 and MD 85, and the acceleration ramp from I-70.
- Census Tract 7510 - Block Group 4, minority. One business displacement in the Harding Farm area, I-270 southbound, south of Shockley Drive (see sheet HWY 11).

Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ would require acquisition of additional property for highway use in the following areas:

Montgomery County

- Census Tract 7007.14 - Block Group 1, Stratford Mews, minority, I-270 northbound, south of MD 117 (see sheet HWY 2). Approximately 0.36 acre would be acquired in this EJ area.


## Frederick County

- Census Tract 7510 - Block Group 4, Foxcroft II, minority, I-270 southbound, south of the I-70 Interchange along Fox Croft Drive (see sheet HWY 11). Approximately 1.84 acres would be acquired in this EJ area.
- Census Tract 7505.01 - Block Group 7, Waterford, minority, US 15 southbound, north of W. Patrick Street (see sheet HWY 13). Approximately 1.35 acres would be acquired in this EJ area.
- Census Tract 7508 - Block Group 6, Spring Valley, minority, US 15 northbound, south of Oppossumtown Pike (see sheet HWY 13). Approximately 0.8 acre would be acquired in this EJ area.

The transitway alignment is primarily located on land that is largely vacant and undeveloped, and that has been reserved by Montgomery County in its master plan. Therefore, the transitway alignment would result in minimal residential and/or business displacements. The transitway alignment would travel along the border of The Colony at Germantown residences located in Census Tract 7008.18 - Block Group 1 (minority - see sheet TRAN 5) resulting in 0.94 acres of property acquisition (although no residential displacements). The transitway alignment also would displace one residence in Census Tract 7007.06-Block Group 2, Caulfield, minority, I-270 southbound, west on Game Preserve Road (see sheet TRAN 4). A potential operations and maintenance site in this vicinity would displace one other residence in the EJ area.

The project team will continue to involve minority and low-income populations in the project planning process during subsequent stages of the project. Should a build alternative be selected
that disproportionately impacts these populations, then the project team will develop potential mitigation measures in consultation with the affected communities.

## 5. Community Facilities

The No-Build Alternative could serve to aggravate the unmitigated growth of traffic and congestion on I-270 and its interchanges and associated approach roads. It would have no other impact to existing or planned community facilities. The No-Build Alternative also could result in longer emergency response time as a result of traffic increases and congestion.

Impacts to community facilities and services are assessed in terms of direct takings of land and/or buildings as well as changes to ease of access to them for patrons. In general, Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ would provide additional access points for emergency vehicles through the introduction of new interchanges and service roads. The additional capacity is expected to enable emergency vehicles to travel to and from the scene of an emergency more quickly and safely. This would be applicable to the new planned and programmed fire and police stations as well as those already located within the corridor. No adverse change is expected to any existing access points to neighborhoods, community facilities or services. Additional impacts to community facilities by Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ would be very similar to Alternative $5 \mathrm{~A} / \mathrm{B} / \mathrm{C}$, as reported in the 2002 DEIS with the following exceptions:

- Construction of the planned $6^{\text {th }}$ District police station at the corner of Watkins Mill Road adjacent to a proposed new I-270 on-ramp
- Acquisition of nearly five acres from the New Covenant Fellowship Church property on Waring Station Road
- More property would be acquired from the Montgomery College Germantown Campus than initially projected for the 2002 DEIS alternatives
- Require approximately 1.5 acres of land from the site of the Montgomery County Correctional Facility off MD 121 near the interchange with I-270.
- Acquisition of approximately 1.8 acres from the site of the Urbana Elementary School.
- Require a strip of right-of-way from the rear, undeveloped yard of the Urbana Fire Station on Urbana Pike adjacent to the Urbana Elementary School.

As with the 2002 DEIS alternatives, the transitway components would not affect the provision of police and fire services because the alignment would be on an exclusive right-of-way with limited at-grade crossings. The transitway alignment passes approximately 1,000 feet to the south of the Germantown police and fire services located on Crystal Rock/Century Boulevard. It would also enhance access to the new community facilities planned for Casey East/West developments and Crown Farm.

A more detailed analysis of impacts to the public community facilities, including a discussion of efforts to avoid, minimize and mitigate adverse impacts can be found in Chapter $V$ of the I-270/US 15 Multi-Modal Corridor Environmental Assessment.

## 6. Parks and Recreational Facilities

Numerous public parks and recreation areas are located within the project area. Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ will require up to 44.98 acres of property to be acquired from the following 13 parks and recreational areas: Morris Park, Malcolm King Park, Seneca Creek State Park, Middlebrook Hill Park, North Germantown Greenway, Black Hill Regional Park, Little Bennett Regional Park, Urbana Lake Fish Management Area, Urbana Elementary School, Urbana Community Park, Monocacy National Battlefield, Baker Park, and Rose Hill Manor Historic Park. A more detailed analysis of impacts to parks and recreational facilities including a discussion of efforts to avoid, minimize and mitigate adverse impacts can be found in Section II.B. 6 of this report and also Chapter V of the I-270/US 15 Multi-Modal Corridor Environmental Assessment.

## 7. Economic Effects

Overall, the project area and the I-270/US 15 Corridor will become much more economically active between now and 2030. The transportation alternatives will simply affect how much more economically active the area will become. Some alternatives will contribute more to promoting economic development, while others will contribute less.

Considering transit, the BRT alternatives have greater potential to promote economic development within the corridor. BRT is expected to increase the region's employment by roughly 3,600 jobs and, according to the accessibility analysis in the 2002 Socio-Economic Technical Report, offers the greatest improvements in terms of job accessibility and businesses’ labor market accessibility. The LRT alternatives would convey more modest improvements in economic development. Although they would create slightly more new jobs than the BRT alternatives (roughly 4,100 jobs with LRT) their positive effects on consumers and businesses would be less significant. This difference occurs because many employment centers in the suburban study area are well beyond the proposed stations and would require a transfer to access in the LRT alternatives but could be accessed without a transfer in the BRT alternatives. Only minor geographic differences distinguish the BRT and LRT alternatives' effects within the region.

On the other hand, if Premium Bus along US 15 and I-270 is chosen as the transit solution instead of a CCT alignment, more positive economic effects would be generated in Frederick County and less positive effects in Montgomery County. This rule applies for all interest groups: consumers, businesses, workers and the fiscal interests of governments. This difference is due to the Premium Bus's faster service between portions of Frederick County and the Washington Metro and less direct service to portions of Montgomery County.

Considering the ETL highway component, the accessibility analysis has shown that increasing the capacity of I-270 and US 15 will likely serve to facilitate further economic and land

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development in the project corridor. The accessibility maps show that areas in and around the City of Frederick and on the urban fringe in northern Montgomery County stand the best chance of seeing increased residential and retail land development as a result of project accessibility improvements, although factors such as agricultural land protection measures and the extent of existing development may alter this pattern. These factors and the willingness to trade off longer commutes for lower home prices have contributed to land development further north and west in Frederick County and in eastern West Virginia. The ETLs, by improving capacity on the crucial link between these areas and the employment centers in Montgomery County, would serve to facilitate additional land development on the urban periphery if current trends continue.

Considering both the highway and transit components, Alternative 7B, the combination of BRT and two ETLs each direction north of MD 121, has the greatest likelihood of creating positive economic development impacts. This is due primarily to Alternative 7B having the greatest potential to enhance accessibility within the study area.

## F. PUBLIC INVOLVEMENT/AGENCY COORDINATION

The SHA and MTA have been continuing to coordinate with local, state and federal resource and regulatory agencies and the general public since the June, 2002 Public Hearings, as indicated in the following sections. The Appendix of this document contains selected public involvement/agency coordination correspondence related to the socio-economic aspects of the project. Please refer to the I-270/US 15 Multi-Modal Corridor Environmental Assessment for a full listing of correspondence.

## 1. Interagency Coordination

There have been four Interagency Review Meetings regarding the I-270/US 15 Multi-Modal Corridor project since the June, 2002 Public Hearings. They were held on June 16, 2004; August 18, 2004; September 15, 2004; and August 16, 2006. Participating agencies included the Maryland Department of Natural Resources (DNR), US Environmental Protection Agency (EPA), US Army Corps of Engineers (COE), Federal Highway Administration (FHWA), Maryland Department of the Environment (MDE), Maryland-National Capital Park and Planning Commission (M-NCPPC), National Park Service (NPS), Maryland Historical Trust (MHT), Maryland Department of Planning (MDP), US Fish and Wildlife Service (USFWS), and National Marine Fisheries (NMF).

## a. June 16, 2004 Interagency Review Meeting

On June 16, 2004, the project team presented a status update to the agency representatives. The primary project activity was the development of an environmental reevaluation to document the Express Toll Lane (ETL) Option. The ETL Option was then summarized. Open houses to be held in late June were announced and the purpose was to educate the general public on the Express Toll Lane option and to inform them of project advancements since the 2002 Public Hearings.

## Issues Discussed

The USFWS representative asked what prevents people from switching lanes to avoid paying for using the toll lanes. The SHA responded that the electronic tolls would be spaced along the length of the toll lanes but that enforcement issues would have to be addressed.

The USFWS representative asked about the effects of the Newcut Road Interchange on development. The SHA project manager responded that the proposed development is not dependent upon the interchange and that it is part of the local master plan. The SHA added that the interchange is located within a priority funding area (PFA). The COE representative asked about scheduling a meeting to discuss the Newcut Road Interchange. M-NCPPC indicated that the agency had received notification of the upcoming Maryland National July 20 meeting. The SHA will present the project information, again, at an Interagency Meeting after the public workshops.

## b. August 18, 2004 Interagency Review Meeting

On August 18, 2004, the Project Team presented a status update to the agency representatives. The primary purpose of the presentation was to provide an overview of the open houses held on June $29^{\text {th }}$ and June $30^{\text {th }}$ for the project. The purpose of the open houses was to introduce the ETL concept to the public and to update the public on the project. There was mixed support and opposition to the ETL concept.

## Issues Discussed

The USFWS commented that introducing the ETL concept for so many projects at once may be problematic for the public. The SHA noted that it is necessary because of budget constraints and that it is better to let the public know well in advance. The SHA then noted that the public will still have a choice to use general purpose lanes.

The MDP representative noted that Alternative 5 has the maximum widening and is the only alternative that incorporates the ETLs. The SHA stated that ETLs could also be used with Alternative 3.

The SHA facilitator asked if agency representatives would be interested in presentations on managed lanes and continuous flow lanes. The agency representatives indicated that they would be interested.

## c. September 15, 2004 Interagency Review Meeting

On September 15, 2004, Parsons Brinckerhoff, Inc. gave a presentation of Maryland's Statewide Express Toll Lane (ETL) initiative. The I-270 Corridor is an integral component of the initiative, and represents one of the first potential projects to be implemented in Maryland.

The comments and questions following the presentation were not specific to the I-270/US 15 Multi-Modal Corridor Study. Questions were primarily in regard to the definition of ETLs and how they differ from other managed lane facilities.

## d. August 16, 2006 Interagency Review Meeting

On August 16, 2006, the Project Team presented a status update to the agency representatives. The primary purpose of the presentation was to provide an overview of project activities since the previous status update to the Interagency Review Group, held in August 2004. The project team provided background information regarding the 2002 Public Hearing and the minimization efforts that were presented at the 2004 ETL Public Workshops. The newer issues were as follows:

- The Project Team has been working to develop the detailed preliminary engineering, operations, traffic forecasting and analysis, and environmental impacts.
- Several community meetings and public presentations to local organizations have occurred since the June 2004 Workshop to describe the ETL Concept.
- June 2005, FHWA and FTA agreed that the ETL Concept shall be documented in an Environmental Assessment document with a Public Meeting for review and comment.
- The Environmental Assessment (EA) document is being prepared to describe changes since the Public Hearing and is planned for FHWA and FTA review starting in early 2007 with the public meeting planned for mid-2007.


## 2. Interagency Field Review Coordination

Since the signing of the DEIS and the 2002 Public Hearings, there have been no SHA or Maryland Transit Administration (MTA) Interagency Field Review meetings for the I-270/US 15 Multi-Modal Corridor Project. However, there were field reviews held in the fall of 2006 for two breakout projects along the I-270/US 15 corridor: The MD 121/Cabin Branch Project Planning Study and the US 15/Monocacy Boulevard Project Planning Study.

An Interagency Field Review meeting will be scheduled prior to the selection of the Locally Preferred Alternative sometime in 2009.

## 3. Coordination with Local Agencies and Elected Officials

Since the signing of the DEIS and the 2002 Public Hearings, the I-270/US 15 Project Team has had extensive coordination with local agencies and provided several briefings to local agency representatives as well as elected officials. The following list includes meetings where the general public was present.

- December 9, 2002 - Provided a project update to the Montgomery County Council
- October 11, 2004 - Participated in a meeting with the City of Gaithersburg Mayor and Council to provide an update on the I-270/US 15 Multi-Modal Corridor Study
- November 16, 2004 - Participated in a Frederick County Board of Commissioners Work Session to brief the Board on the status of the project.
- December 6, 2004 - Participated in a City of Rockville Mayor and Council Work Session to brief the group on the status of the project.
- January 13, 2005 - Provided a project briefing to Montgomery County Council members Michael Knapp and Nancy Floreen.
- January 11, 2005 - Met with the City of Gaithersburg and a representative from the Maryland Department of Business and Economic Development on to discuss proposed development plans submitted by MedImmune.
- February 3, 2005 - Participated in a meeting with the City of Gaithersburg to discuss a proposed development adjacent to the CCT and to discuss the project needs and transit oriented development (TOD) potential at this location.
- March 8, 2005 - Met with representatives from USACE and the M-NCPPC to discuss the developments and issues regarding the proposed I-270/Newcut Road interchange and the suggested alternative ramp configurations to limit natural environmental impacts.
- April 27, 2005 - Met with City of Gaithersburg staff following the team meeting on April 12th to discuss developer submittals currently being considered by the city. Comments related to location of the platform and track alignment, parking needs, vehicle and bus access, and transit oriented development considerations.
- May 12, 2005 - Provided a telephone briefing on the transit project status to a representative from the office of Delegate Galen R. Clagett, District 3A, Frederick County. Referred the representative to SHA for an update on the highway project status.
- July 6, 2005 - Participated in a meeting with Montgomery County Department of PublicWorks \& Transportation (DPW\&T) regarding their planning of the Observation Drive extension from its terminus north to beyond COMSAT.
- July 11, 2005 - Participated in a City of Gaithersburg Mayor and Council Work Session where the proposed Casey West development at Metropolitan Grove was discussed.
- August 1, 2005 - Attended a City of Gaithersburg Mayor and Council meeting where the Schematic Development Plan for Casey West was approved.
- October 20, 2005 - Attended a briefing before the Maryland State House Appropriations Committee, Subcommittee on Transportation and Environment, where Secretary Flanagan testified on matters relating to transit funding and planning projects in the Washington, DC region, including the Corridor Cities Transitway.
- October 20, 2005 - Met with M-NCPPC staff to discuss right-of-way concerns regarding a proposed development adjacent to the transitway.
- November 28, 2005 - Met with Montgomery County DPW\&T staff and others to discuss Watkins Mill Road Extended. The CCT is proposed to cross under this new roadway.
- November 28, 2005 - Organized and conducted a meeting with representatives from MNCPPC, the Cities of Rockville and Gaithersburg, and Montgomery County to present progress on a variety of project-related topics.
- December 20, 2005 - Met with Montgomery County DPW\&T to discuss the potential conflict with the county's proposed police impound lot facility improvements and the CCT's consideration of the site for its O\&M facility.
- January 6, 2006 - Provided a project briefing for the CCT (along with Red Line and BiCounty) to Jonathan Martin at the Department of Legislative Services.
- January 12, 2006 - Participated in a meeting with the Montgomery County Chamber of Commerce - Transportation and Land Use Committee to provide a briefing on the I-270/US 15 Multi-Modal Corridor Study.
- January 26, 2006 - Participated in a meeting with the Montgomery County Council Transportation and Environment Committee to provide a project briefing.
- March 7, 2006 - Conducted a Local Jurisdiction meeting with the City of Rockville, the City of Gaithersburg, M-NCPPC, and Montgomery County DPW\&T to review the project team's finding on the hiker/biker trail study and to ask for input on alignment options.
- March 20, 2006 - Conducted a Local Jurisdiction meeting with the City of Rockville, the City of Gaithersburg, M-NCPPC, and Montgomery County DPW\&T to review the project team's finding on the identification of suitable O\&M facility needs for both bus rapid transit (BRT) and light rail transit (LRT).
- April 26, 2006 - Presented project status to the North Bethesda transportation management district (TMD) Advisory Committee.
- June 1, 2006 - Met with M-NCPPC and a developer to discuss a development plan for the DANAC property on Decoverly Drive. Typical sections were presented that show a minor impact on a proposed structure.
- June 21, 2006 - Presented project status to the Fort Detrick Alliance, focusing on potential improvements to the interchanges and intersections along US 15.
- August 23, 2006 - Provided a project briefing to the City of Frederick Mayor and Aldermen.
- February 2, 2007 - Joined the MDOT Secretary in a meeting with the Montgomery County delegation in Annapolis. Presented the status of the CCT and pointed out that the project schedule could be delayed by about twelve months due to problems with the travel demand forecasting efforts.
- March 27, 2007 - Participated in a meeting at the Secretary's office with representatives from the city of Gaithersburg including Mayor Sidney Katz. City officials requested that the Secretary reconsider studying a possible realignment of the CCT to better serve the Kentlands community.
- May 24, 2007 - Provided a project briefing to the City of Frederick Mayor and Frederick County Commissioners at the Frederick County Commissioners' meeting with the municipalities.
- June 12, 2007 - Met with M-NCPPC to discuss the proposed Century XXI development on Century Boulevard. It was proposed that the Montgomery County standard typical section be changed to improve urban design aspects envisioned for the roadway.
- July 12, 2007 - Conducted a project briefing to the Montgomery County Council Transportation and Environment Committee.
- September 12, 2007 - Participated in a meeting with M-NCPPC to discuss growth possibilities for the Germantown area. MTA described how proposed changes in the zoning would take a long time ( $2+$ years) before being recognized by the regional model and transit ridership forecasts.
- December 12, 2007 - A briefing was held with the Clarksburg Chamber of Commerce on the CCT alignment. SHA provided costs and project schedule along with a discussion of the extension of Observation Drive to Stringtown Road.
- September 24, 2008 - Project team representatives presented a detailed briefing of the Corridor Cities Transitway to the invited elected officials and the general public at a meeting hosted by the City of Gaithersburg and the Gaithersburg-Germantown Chamber of Commerce.


## Crown Farm Development and Annexation Coordination

- September 24, 2005 - Participated in a Charrette Work Session on Transportation and Transit for the Crown Farm Property. Although the Maryland Historical Trust lists Crown Farm as a National Register Eligible property, a private developer proposes to purchase the property. The proposed transitway (CCT) alignment would impact Crown Farm.
- February 6, 2006 - A MTA representative attended the Crown Farm Public Hearing at the City of Gaithersburg Mayor and Council Meeting. Provided a short testimony on the issues regarding the proposed annexation of the property and CCT realignment.
- March 13, 2006 - Participated in a City of Gaithersburg Mayor/Council/Planning Commission Work Session where the Crown Farm development was discussed. The MTA testified and laid out its position on items related to the proposed realignment of the CCT.
- March 16, 2006 - MTA representatives attended the Montgomery County Planning Board Meeting where the proposed Crown Farm annexation was introduced.
- April 3, 2006 - Attended a Montgomery County Council Planning, Housing, and Economic Development Committee Meeting where the Crown Farm annexation request was discussed. MTA testified and presented the issues related to the proposed CCT realignment.
- April 3, 2006 - Participated in a City of Gaithersburg Mayor and Council Meeting where MTA was invited to present its concerns regarding the proposed realignment of the CCT.
- April 18, 2006 - Attended the Montgomery County Council Meeting where the proposed Crown Farm annexation was introduced.
- April 25, 2006 - Attended the Montgomery County Council Meeting where the proposed Crown Farm annexation was debated and approved by a 7-2 vote.
- July 17, 2006 - Attended the City of Gaithersburg Mayor and Council Meeting where the resolution to annex the Crown Farm was officially introduced.
- August 7, 2006 - Attended the City of Gaithersburg Mayor and Council Meeting where the annexation and zoning change for Crown Farm was unanimously approved.


## 4. Summary of Public Involvement

The SHA and MTA have met with citizens to discuss the I-270/US 15 Multi-Modal Corridor Study on twelve occasions since 2002, either at workshops or community civic association meetings that were open to the public. In support of public awareness of these meetings and their purpose, various newsletters and brochures were distributed along with press releases to the general public. At the public meetings, citizens were invited to provide verbal or written comments concerning the material presented at the meeting or comments on the project in general.

## a. General Public and Community Briefings

The following is a list of meetings or briefings where members of the Project Team attended/participated since the June 2002 Hearings. The list includes any meeting where the public was present.

- May 21, 2003 - Attended a meeting with the Market Square Advisory Group where MTA discussed a realignment proposal introduced by a citizen that lived in the Kentlands. MTA studied the alignment alternatives and reported its findings back to the community in September, 2004.
- August 25, 2003 - Participated in a Fox Chapel Community Meeting to provide an update on the project and present findings of a study to reduce community impacts. Of the 49 entries on the sign in sheet, approximately $10 \%$ to $15 \%$ represented minority populations. The Project Team informed the attendees that all 35 residential displacements shown at the 2002 Public Hearings and in the 2002 DEIS could be avoided with mitigation and minimization measures that would include retaining walls. Several citizens inquired about potential impacts to their individual properties, while others expressed concern with noise impacts. It was explained that further FHWA coordination is required to determine the magnitude of potential impact avoidance or minimization efforts. The project team was able to incorporate a retaining wall
into the design that would avoid any displacement and was shown at the 2004 Public Workshops.
- March 30, 2004 - The National Association of Industrial and Office Properties, Frederick County Chapter invited SHA to provide a project briefing on the I-270/US 15 Multi-Modal Corridor project and to describe the recent consideration of ETLs. Approximately 80 people were in attendance at the monthly chapter meeting. Questions were raised that sought clarification of the project goals, alternatives under consideration, how the ETLs would benefit Frederick County commuters and when potential improvements would be implemented. The project team responded to these questions with the current understanding of the project schedule, as well as an explanation of the alternatives within Frederick County.
- September 23, 2004 - Met with residents of the Kentlands community and City of Gaithersburg representatives to present the results of a CCT mainline realignment study. The study had been requested by the community earlier in 2004 to provide a new station and direct access from the community onto the proposed CCT. The study team determined that it was impractical and not cost efficient to realign the CCT alignment through the Kentlands community due to the additional circuitry of the realignment. Some attendees expressed displeasure with the decision but understood the magnitude of the additional costs.
- The Clover Hill Community Association asked SHA to provide a project briefing on the I270/US 15 Multi-Modal Corridor project and to describe the recent consideration of ETLs. Approximately 20 people were in attendance at the regular community board meeting. The public asked questions regarding the estimated completion date of the study, when US 15 improvements would be implemented and if any homes along US 15 would be displaced. The project team addressed these questions, discussed the current project schedule and explained that a few homes along US 15 may be displaced but more detailed engineering studies would be completed in the design phase.
- January 24, 2005 - A Clarksburg Civic Association meeting was held where the SHA presented an update on the I-270/US 15 Multi-Modal Corridor project and described the concept of Express Toll Lanes (ETLs). Most of the public comments were in regard to the slow overall progress of the Multi-Modal Corridor Study and inquiries towards the estimated completion of the Study. Several other comments centered on issues regarding ETLs, including access, enforcement and equity concerns. The study team provided websites for the Association members to find out more information concerning ETLs and Maryland's overall initiative statewide.
- April 20, 2006 - Representatives of the I-270/US 15 Project Team met with the Brighton West Community Board to discuss the I-270 widening (shown in all build alternatives) proposed adjacent to this community, located in Gaithersburg. The Brighton West Community described existing conditions related to property ownership and utilities. The I-270 Team requested further details on the utility services to each unit/set of units to assist with the identification of building displacements. There is potential for affecting many of the individual utility services without physically displacing a unit through right of way acquisition. The board members asked how their individual properties would be appraised
and if they should defer improvements or maintenance. The Project Team responded by saying a property that is maintained well and improvements are completed to a dwelling, those efforts would be reflected in the value of the appraisal. He advised the board to make the necessary improvements to protect their real estate investment and not to wait for a project decision. The Team recommended the Brighton West Community Board contact SHA's project manager for a follow-up meeting in Winter 2006/2007 for all interested members of the Brighton West community.
- April 26, 2006 - A meeting was held with the North Bethesda TMD to brief the group on the status of the I-270/US 15 Multi-Modal Corridor Study. The group expressed support towards the Study. Comments ranged from understanding ETLs better to questions regarding the CCT.
- May 11, 2006 - MTA representatives provided a presentation of the CCT at the Institute of Transportation Engineers Regional Conference in Frederick, Maryland. No comments were received.
- May 25, 2006 - Project team representatives provided updates on the CCT to the Clarksburg Civic Association. Association members asked about why the Red Metro Line was not being extended; if express buses could be provided to Shady Grove from points north without stopping; why the northern terminal was at COMSAT; and ETL design details.
- June 28, 2006 - Several members of the project team participated in a Public Meeting sponsored by the City of Gaithersburg to introduce the CCT realignment option through the England Crown Farm historic property to the surrounding communities. Residents generally expressed concerns regarding traffic, noise, pedestrian access, and developer benefits.
- September 13, 2006 - Participated in the Germantown Alliance Meeting to present the current status of the Study. There were no comments and questions of note.
- September 18, 2006 - MTA representatives participated in Montgomery County's regularly scheduled Upcounty Citizens Advisory Committee Meeting to present the current status of the CCT as part of the I-270/US 15 Multi-Modal Corridor Study. No minutes were reported.
- September 25, 2006 - A Clarksburg Civic Association Meeting was held to present an update on the various transit and roadway improvements proposed for the area. Several elected officials were in attendance and a request was made to determine the travel time difference between the CCT and I-270. The project team is currently working on this request.
- October 4, 2006 - Project team members, the MTA Planning Director and the SHA's Director of Planning and Preliminary Engineering participated in a press event and tour of the CCT and I-270 where the State provided an update on the projects and introduced a Public-Private Partnership initiative to the press. Requests for Expressions of Interest and Proposals have been advertised.
- January 30, 2007 - Representatives from the SHA, Federal Highway Administration (FHWA) and other local and state agencies recorded answered questions and recorded statements related to the project. The meeting also formally presented the results of the detailed engineering and environmental studies conducted for this project.
- February 17, 2007 - Project team members presented information about the project at a vendor/exhibitor table discussing the project at the Asian Spring New Year Celebration in Frederick. The table received significant attention from some attendees and many questions and comments were fielded. Ten people completed a two-page survey on the project and two were added to the project mailing list.
- March 14, 2007 - Members of the project team met with the Germantown Alliance to update them on the status of the project. Questions regarding scheduling delays, expected completion date, county contributions to the study, and why ETLs were not being considered in southern Montgomery County or at the Monocacy Battlefield were fielded.
- May 7, 2007 - The Frederick Area Committee on Transportation invited SHA to provide a project briefing on the I-270/US 15 Multi-Modal Corridor project. Approximately 15 people were in attendance at the monthly meeting. The project team provided an update on the alternatives description and the project schedule milestones. Questions were raised regarding the public sentiment towards transit alternatives in Montgomery County, project construction funding and the ability to break out specific proposed improvements in Frederick County. In addition, the attendees asked if it would be possible to begin formulating project phasing plans.
- June 7, 2007 - An informal public meeting was held in which transportation improvement alternatives and corresponding impacts for the US 15/Monocacy Boulevard Project Planning Study was presented. The open house allowed for attendees to conduct a self-paced review of important project information and meet with representatives of SHA. Fredrick County and Frederick City representatives were available to receive comments and answer questions.
- November 14, 2007 - Attended the Observation Drive Public Meeting held in Clarksburg by the Montgomery County DPW\&T. MTA presented a display showing the CCT alignment and its relationship to the proposed Observation Drive extension.
- May 14, 2008 - Project team representatives presented a detailed briefing of the Corridor Cities Transitway to the Commercial Real Estate Womens Organization. The presentation included a project overview, a description of both transit and highway alternatives from the DEIS and the AA/EA, and a summary of preliminary ridership results, capital costs and operating and maintenance costs.
- September 28, 2008 - SHA contacted the 4th Annual Festival Latino de Frederick organizers and were granted permission to conduct public outreach to the Hispanic community of Frederick and surrounding areas on behalf of several SHA local projects, including the I270/US 15 Multi-Modal Corridor Study. SHA staff represented the study team by
distributing fliers (in Spanish and English), displaying project boards and answering questions from festival attendees.
- October 3, 2008 - The Gaithersburg-Germantown Chamber of Commerce asked SHA to provide a project briefing on the I-270/US 15 Multi-Modal Corridor project to the study area Chambers of Commerce (including Montgomery County and Frederick County). Approximately 7 people were in attendance at the briefing. The project team provided an update on the alternatives description and the project schedule milestones. The Chamber of Commerce representative asked how the corridor businesses would benefit by the various transportation alternatives being evaluated.
- October 6, 2008 - Project team representatives presented a detailed briefing of the Corridor Cities Transitway to the Upcounty Advisory Board, an organization of northern Montgomery County businesses and community associations. Some follow-up discussions centered around bus operations on I-270 and express bus operations on the CCT.

Organizations commonly represented in the meetings discussed above include representatives from SHA, MTA, M-NCPPC, Frederick County Division of Planning, Montgomery County Department of Public Works, Greater Shady Grove Civic Alliance, Upcounty Citizens Advisory Board, Frederick Area Committee on Transportation, Upcounty Regional Services Center, and Montgomery County Chamber of Commerce.

Public outreach initiatives were extended to further publicize the study activities to the additional civic associations and organizations within the project area. Examples of these groups included the Frederick County Chamber of Commerce, the Urbana Civic Association, the Shady Grove Alliance, and citizens from the Town of Hyattstown.

## b. 2004 Public Workshops

Public workshops were held for the project in June 2004 in both Montgomery and Frederick counties. The purpose of the meetings were to introduce the Express Toll Lane (ETL) concept and how it could be applied to the I-270 Corridor, present the results of the engineering and environmental studies that have been completed since the June 2002 Public Hearings, and to provide an opportunity for interested persons to offer verbal or written comments for consideration as part of the project record. Boards and other exhibits describing ETLs and updated engineering and environmental studies along the Corridor were on display:

Express Toll Lane Boards<br>An Alternative to Congestion<br>Benefits<br>Managing Congestion Success Stories<br>ETLs in Maryland<br>HOT, HOV and ETLs - Differences

Project Specific Boards<br>Introduction / Purpose<br>Project Background<br>I-270 ETL Concept<br>Studies Since Public Hearing<br>Next Steps / Schedule

The I-270 ETL Concept was the only new alternative that was presented. It consisted of the single HOV lane and collector-distributor lanes shown in Alternative 5C being replaced with two ETLs in each direction from I-370 to south of I-70 (approximately 23 miles). There were options for both barrier and buffer separation between the ETLs and the general purpose lanes, and also an option showing only one ETL in Frederick County instead of two.

The meetings were set in an 'open house' workshop format to provide the best opportunity for the general public to interact with the project team. Summaries from each meeting are provided in the following paragraphs.

June 29 - MLK Jr. Middle School, Germantown, MD (Montgomery County)
There were 40 citizens in attendance, including one Montgomery County delegate and four members of the media (including the Montgomery Gazette, WTOP (AM 1500) and local/cable Channel 8).

Overall, there was a relatively even mix of proponents and opponents to the ETL initiative. The primary complaint heard was the perceived notion of additional public taxing due to tolling. There were also equity concerns, primarily questioning the fairness of ETLs. The proponents felt that ETLs were a clever idea and they were supportive of whatever option provided the best opportunity for the project to move forward and for additional capacity as soon as possible. In general, a majority of the general public simply wanted a better understanding of how the ETL technology works.

Several residents from the bordering Fox Chapel and Brighton Woods communities attended and voiced their concern over the potential right-of-way acquisitions and close proximity of the build alternatives to their homes, including noise and home value impacts.

Additional comments focused on the HOV lanes (some wanted HOV lanes, others didn't, but they were all concerned that not enough enforcement is currently occurring in the HOV lanes); therefore enforcement concerns were at the forefront of the ETL discussions. Another comment received was whether the government transit subsidy might cover carpooling in the ETLs.

June 30 - Ballenger Creek Middle School, Frederick, MD (Frederick County)
There were 65 citizens in attendance, including a representative from Congressman Bartlett's office and four members of the media (CBS-Channel 9, WFMD-Frederick, Gazette, and Frederick News Post). Representatives from the National Park Service (Monocacy Battlefield) were also in attendance.

The comments heard from the general public ranged from support of ETL alternatives and overall expansion to concern for the economics of affording tolls and increased commute costs. A Sierra Club member and a few other attendees expressed concern about wider roads and whether the ETL alternatives would reduce congestion. As was the case in Germantown the night before, the lack of enforcement on the current HOV lanes was widely expressed.

A few citizens expressed disapproval of the widening of US 15 through Frederick and insisted on funding other planned roadways shown on Frederick County's Master Plan. Mostly, the attending citizens were interested in better explanations of the proposed lane configurations, access points and projected traffic data. One citizen encouraged the project team to consider barrier separation along the entire 23-mile ETL segment and to step up enforcement of current HOV lanes through the use of police cadets who could work with officers to saturate an area several random days per month. Another citizen supported changes in HOV policies that would require passengers to be 16 and above (or at least above car seat age). In his view the HOV lanes were a boon to Montgomery County day care providers.

Written comments were received from 22 citizens. The number of comments were divided fairly equally in favor of or against the ETL Concept, which was a similar sentiment from individuals who spoke at the Open Houses. Concern was expressed regarding enforcement of HOV lane usage, while some citizens were in favor of HOV lanes. Funding and equity concerns were prevalent, with alternative suggestions to improve congestion including improvement of the Metro, 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

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proximity of the alternatives to their community. This was also a popular discussion topic at the Open Houses.

Specific topic areas expressed within the written comments are listed below:

## General:

Start project now/implement as soon as possible (3) Build a second crossing over the Potomac River (1)

## Transit:

Add one non-stop train per hour from Shady Grove to Metro Center (1)
Extend Metro to Frederick (2)
Build a rail system along I-270 mainline (2)
Improve the MARC line (1)

## Highway:

Equity concerns for lower income individuals as well as for the general public (5)
Access issues with ETL (2)
How will tolls be enforced? (1)
Exactly how will the addition of ETLs be funded? (2)
Another means of imposing taxes on the driving community (2)
Displays of currently operating tolls in California/Florida may not accurately reflect the future of operating tolls in Maryland (1)
Support for HOV lanes (1)
Build reversible lanes (2)

## c. Project Newsletters and Media Outreach

Newsletters and brochures were distributed in May and June of 2004 to coincide with the ETL Public Workshops. These newsletters were distributed to the study's mailing list of approximately 4,500 individuals/organizations. In addition, newspaper articles, advertisements, radio/cable television interviews and press releases were utilized to keep the public aware of the study's activities and progress and to increase public awareness.

The I-270/US 15 project team has used various methods of advertising project activities to the public including the following newspapers and periodicals:

- The Baltimore Sun
- The Washington Post
- The Montgomery Gazette
- The Montgomery Journal
- The Afro-American (Washington, DC)
- El Montgomery
- The Asian Fortune

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- The Washington Jewish Week
- The Frederick News Post
- The Frederick Gazette

Public notices were used to announce the 2004 public workshops.

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CHAPTER II - ANALYSIS

## SECTION II: ANALYSIS

The alternatives considered for the I-270/US 15 Multi-Modal Corridor Study will have direct, indirect and cumulative effects on the socioeconomic environment of the Metropolitan Washington Region, Montgomery and Frederick Counties, and the I-270/US 15 Corridor. This section presents the existing environmental conditions and the environmental consequences of the alternatives. Possible mitigation measures to lessen adverse impacts have been investigated and are presented as appropriate.

## A. LAND USE

This section presents a detailed look at changes to land use, land use planning, and zoning in the I-270/US 15 project corridor since the 2002 DEIS was completed. Summaries are provided in subsections regarding Montgomery County, Frederick County and their respective cities, towns, and planning areas.

## 1. Existing Land Use

This section presents a review of current land uses in Montgomery and Frederick Counties as of 2006. As documented in the paragraphs below, in some areas land uses are similar to what was reported in the DEIS, however, some have changed based on the significant amount of growth and development that has occurred in the region over the last few years. General land use descriptions are provided for Montgomery and Frederick counties and more detailed summaries of existing land uses are provided for the planning areas within each county.

## Montgomery County

Figure G (Plates 1 through 3) illustrates the existing land uses along the I-270 Corridor in Montgomery County. In general, Montgomery County has a mix of land uses, with the majority of suburban development clustered along major roadways and in small communities. Montgomery County currently ranks number one in the nation in agricultural land preservation with over 30 percent of the County's entire land area set aside as parkland, agricultural reserve, or other quality open space, including a 93,000-acre agricultural preserve, 200 local play fields, 300 local woodland and urban parks, 30 private and public golf courses, and a 19 -field soccerplex. In terms of office space, Montgomery County has more than 77 million square feet of office and research space available, with another 30 million in the pipeline.

The I-270 Corridor in Montgomery County consists of a series of Corridor Cities including Rockville, Clarksburg, Gaithersburg, and Germantown that are linked to each other and Washington, D.C. by highway and transit. The following text describes the existing setting in each of the Corridor Cities:

- The City of Rockville has a total land area of 13 square miles, of which 950 acres are designated as open space. Rockville's location along major transportation corridors such as

MD 355, I-270, and the Metrorail line contributes to the current land use pattern. Although much of the land along the project corridor is currently residential use, Rockville has been evolving as a major employment and retail center in the Metropolitan area. Since the publication of the DEIS in 2002, the King Farm property has been annexed and construction of a mixed-use development is underway, with several phases complete.

- The City of Gaithersburg occupies 10 square miles and is bisected by I-270. Since the publication of the DEIS in 2002, the City of Gaithersburg has annexed several large parcels including the Crown Farm and has come out of a development moratorium. Over the last two years, the City has experienced intense development and is once again considering placing a moratorium on residential redevelopment of older, multi-family housing. Continued commercial/retail development at the Washingtonian Center provides a more complex mix of uses within the City. Land within the I-270 Corridor in Gaithersburg is predominantly commercial interspersed with some residential clusters.
- Germantown is an unincorporated town with a total of 11,000 acres. It is bisected by I-270, and bounded by the City of Gaithersburg to the south and Clarksburg to the north. Like other Corridor Cities, Germantown has a designated Employment Corridor (July 1989 Germantown Master Plan) intended to provide a focus area for future growth in nonresidential development and employment uses. The Employment Corridor is a concentrated 1,100 -acre area located on the east and west sides of I-270. Since the publication of the 2002 DEIS, Germantown has experienced considerable growth in housing development and is now close to residential build-out. Several large institutional uses including the Germantown Campus of Montgomery College and the Department of Energy are also located in the project area.
- Clarksburg is an unincorporated town with a total of 10,000 acres and creates a transition from the more densely developed portions of the I-270 Corridor to the south and the more rural agricultural land uses to the north. In the Clarksburg Master Plan and Hyattsville Special Study Area (June 1994), Clarksburg was identified as largely undeveloped, with agriculture being the predominant land use. Over the last several years, however, Clarksburg has become increasingly attractive to businesses. The Gateway 270 West project is currently under development and consists of six buildings totaling nearly 255,000 square feet of flexible office space. Within the I-270 Corridor in Clarksburg, land is predominantly in agricultural use with some pocket locations of office use, most notably the Lockheed Martin complex.


## Frederick County

Frederick County is Maryland's largest county, covering more than 664 square miles. Figure G (Plates 4 and 5), illustrates the existing land uses in Frederick County. Agricultural, undeveloped, and woodland areas constitute the largest proportion of land use in the County, with approximately 68 percent of land classified in this category. Residential land uses occupy 16 percent of land and includes the largest share of townhouses and multi-family units
countywide. Business uses are increasing, however; and the County is now home to 4,470 businesses, with new business development ranging from a regional headquarters for State Farm Insurance to a pair of the largest warehouse/industrial buildings in the state for Georgia Pacific and Toys "R" Us.

Frederick County is divided into several planning regions, two of which, the Frederick Region and the Urbana Region, include portions of or border on I-270:

- The Frederick Region contains nearly 60,000 acres, or approximately 14 percent of the land mass in Frederick County. The Frederick Region has the largest total number of housing units ( 33,372 units) of all of the planning regions in the county, of which nearly 22,300 are located within Frederick City. Industrial land uses occupy nearly four percent of the Region and commercial uses occupy approximately three percent. Due to the large parks, state and local governmental complexes, colleges and other schools, and Fort Detrick, almost 10 percent of the land in the region is classified as institutional. Although still predominantly agricultural, the land usage in the Region has steadily changed to include a higher percentage of residential, industrial, and commercial land uses. Almost all of these land use changes have occurred in and around Frederick City. Predominant land use within the City of Frederick and within the I-270 Corridor is a mix of typical urban activities from numerous residential clusters to varied commercial complexes, office buildings and industrial parks. Land for development is also relatively abundant, particularly at the eastern and western edges of the City along the highway.
- The Urbana Region encompasses the southeastern portion of Frederick County. I-270 bisects this planning region, the majority of which is still in some form of designated open space or undeveloped use. More specifically, 87 percent of the region is comprised of agricultural, undeveloped, woodland, park, or public/quasi-public uses. Residential uses occupy 12 percent of the Region. Historically, the Urbana Region has experienced lower annual housing construction rates than most of the other planning regions. The increased construction rate beginning in 2000 is due to the start of the Villages of Urbana development. This is a mixed-use, neo-traditional development, located on the east side of I-270 and MD 355 and north of MD 80, with a concentration of residential land use and strategically located community uses and small scale commercial activity.


## 2. Farmland

Farmland has decreased slightly since the 2002 DEIS, but still comprises nearly one-third of the land in Montgomery County and an even higher percentage of land in Frederick County. The farms produce corn, wheat, hay, soybean, barley, oats and livestock activities. Dairy farming is the predominant activity in both counties. For a listing of the existing farms and agricultural areas that abut the I-270/US 15 Corridor, refer to Table 2 of the 2002 Socio-Economic Technical Report.

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## 3. Future Land Use

Future land use visions were expressed in local long range development plans. The adopted plans for each planning area or municipality contain specific recommendations for future land use. The following text presents summaries of plans that have been newly drafted or updated and adopted since the publication of the DEIS in 2002. Particular attention is paid to those elements of the plans that have changed since 2002. Future land use is also guided by and reflected in the zoning designations and regulations of local governments. Although the SHA is not required to meet local zoning requirements in their projects, local zoning modifications can occur and have occurred in response to major transportation projects such as the proposed I-270 multi-modal improvements. Consequently, pertinent zoning trends are also noted below as an indicator of how land use may evolve in the long term.

## Montgomery County

The I-270 Corridor runs through the center of Montgomery County and constitutes the primary focus of economic and transportation activity within the County. Since the publication of the DEIS in 2002, there have been no additional updates to the 1993 Montgomery County General Plan with Refinements. The 1993 Plan encourages the concentration of development in key areas, including transit stations in the I-270 Corridor. The General Plan Refinement reaffirms the Wedges and Corridors concept as a framework for development in Montgomery County. In addition, the Refinement further defines the components of the Wedges and Corridors concept that have evolved during the past two decades. Figure H depicts the Wedges and Corridors concept for Montgomery County.

The City of Rockville Comprehensive Master Plan, Adopted June 2002 by the Mayor and City Council. The Plan identifies that there is very little vacant land left in the City of Rockville and very little land left immediately adjacent to the City limits for annexation. The only land available is one private golf course and two public golf courses, none of which currently have development plans. It is anticipated that future development within the existing corporate limits of Rockville will be of two types: redevelopment of existing sites; and infill on the few remaining lots. The Plan identifies the Montrose Road area, bounded by Falls Road to the west and I-270 to the east, as an Urban Growth Area. Much of this area is comprised of residential housing and there is an additional 50-acre tract of undeveloped land. The Plan recommends that these parcels be annexed to extend the corporate limits of Rockville to Montrose Road, and that the undeveloped parcel be developed as mixed use, configured to minimize environmental impacts in the area. The I-270 project has the potential to affect several Residential and Neighborhood Planning Areas designated by the Plan, including Hungerford, Lynfield and New Mark Commons; West End and Woodley Gardens East-West; Orchard Ridge, Potomac Woods, Falls Ridge, Rockshire, and Fallsmead Neighborhoods; King Farm Neighborhood; and Fallsgrove Neighborhood. All of these residential/neighborhood areas are currently under development. The Plan recommends that current land use designations be maintained as there are not many opportunities for infill development or redevelopment of these areas.


The City of Rockville Comprehensive Master Plan also includes several Economic Development Planning areas, two of which are located adjacent to the I-270 corridor: Westmont (Tower Oaks) and Research/Piccard/Kings Farm/Fallsgrove. The Plan recommends that these areas continue to develop as campus-style office parks and that transportation and transit improvements should be implemented and strengthened in order to further encourage economic development in the I-270 corridor. The Seven Locks Detention Center, a 25.8 -acre site bounded by Seven Locks Road on the west and I-270 on the east, has been identified in the City of Rockville Comprehensive Master Plan as a Critical Parcel. The Plan recommends that the criminal justice uses be removed from the site and that the site be developed as a Comprehensive Planned Development (CPD) with mixed office and residential uses.

The Shady Grove Sector Plan, adopted with amendments by the Montgomery County Planning Board on January 17, 2006, provides recommendations for future land use along the I-270 Corridor and the Shady Grove Metrorail station area in southern Montgomery County. The Shady Grove planning area is centrally located in the I-270 Corridor at the junction of two transportation systems: the Metrorail Red Line and I-370. The Plan recommends that a substantial increase in housing within walking distance of the Metrorail line be created and that new development should be constructed in a transit-oriented pattern to create walkable communities. The Plan also recommends that new transit facilities be provided, including the Corridor Cities Transitway, as well as expanded bus service and park and ride facilities.

The City of Gaithersburg Master Plan (Adopted December 2003) contains a Land Use Plan which describes general land use and zoning categories for properties located within the City and makes recommendations for future land use. An overriding goal of the 2003 Master Plan is to examine the City's land use, transportation, housing, recreation, community facilities, historic components and other social, civic and economic needs of the City. To address these issues, the Master Plan includes a Land Use Element, Transportation Element, Community Facilities Element, Sensitive Areas Element, Historic Preservation Element and an update of demographics and population projections of the City of Gaithersburg. The Land Use Element is viewed by the City as the core of the Master Plan, providing the basic strategy that will allow the City to accommodate residential, commercial, institutional and industrial growth. Another key section of the 2003 Master Plan update was the designation of ten "Special Study Areas." The Special Study Areas include land that is the subject of intensive review of existing physical conditions and planning influences, discussions with citizens and elected officials about desired community character, and analysis of likely future development and needs. Some of these special study areas contain special conditions relating to approval of development to be consistent with the requirements of the Master Plan. The Special Study Areas have been incorporated into the Land Use Element of the Master Plan. The Maryland-National Capital Park and Planning Commission (M-NCPPC) is also in the process of updating the 1990 Gaithersburg and Vicinity Master Plan. The 2003 Land Use Plan recommends the following map designations for parcels located near the I-270 project limits:

- Montgomery County Agricultural Center, Inc. (Montgomery County Fair Grounds) - retain the Open Space Land Use classification.
- Portion of Rosemont Community (bounded on the west by I-270, on the north by West Deer Park Drive, on the east by South Frederick Avenue, and on the south by Interstate 370). This community is predominantly single-family detached homes, with some apartments and institutional uses interspersed. A large portion of Rosemont lies within Montgomery County and within the current expansion limits of the City. A school, several churches, the apartments and approximately half of the homes are located within the City limits. The parcels located within the expansion limits were recommended for annexation in 1997. If annexed, the Land Use Plan recommends the adoption of a low density residential land use designation.
- Malcolm King Park - the Plan recommends that the Open Space land use designation be retained and that a portion of this property (street dedication) should be abandoned, as existing roadways were intended to serve future development but the proposed development parcels will remain as parkland.
- Brighton West (a 13-acre parcel located at the northwestern corner of the I-270 and I-370 Interchange) - the Plan recommends that four acres receive a commercial/industrial-researchoffice designation to be consistent with the land use designation of the adjacent Washingtonian Center North property. The remaining nine acres will retain the Open Space designation.
- Washingtonian Center North (three parcels, totaling 27 acres, located north of Sam Eig Highway I-370) - the Plan recommends that the Commercial-Industrial-Research-Office designations be retained for two parcels and part of another. The partial parcel will be adopted as open space.
- Quince Orchard Road (three parcels that will be affected by the Corridor Cities Transitway). Two parcels are currently undergoing annexation and one parcel is currently within the City limits. The Plan recommends that the parcel located within the City limits retain its commercial-office-residential designation, while the other two parcels be adopted as commercial-office-residential, if annexed.
- National Institute of Standards and Technology (NIST) - adopt Institutional land use designation for this property, if annexed.

The City of Gaithersburg Land Use Plan includes several master plans for Special Study Areas. The Special Study Areas that are within the I-270 Project limits include Muddy Branch, Crown Farm, Washingtonian Center, Frederick Avenue North, and Casey-Metropolitan Grove. Future land uses and development patterns for each of these areas is described in more detail below:

- Muddy Branch - is bounded by Muddy Branch Road and I-270, with West Side Drive bisecting the area. The properties included in the Muddy Branch Study area total 37 acres and were part of two annexations. The Festival at Muddy Branch shopping center is located in this area. Based on the existing parking calculations, there is development potential for approximately 30,000 to 40,000 additional square feet of development on the 25 -acre shopping center property; therefore the Special Study recommends that this area retain its
commercial land use designation. The remaining 12 acres are currently undeveloped. The special study recommends that a commercial land use designation be adopted and that the annexation agreement be renegotiated to allow for the protection of the stream valley.
- Crown Farm - is located south of I-370 and Field Road, and west of I-270. This property is approximately 182 acres and on August 7, 2006 the Mayor and City Council passed a resolution authorizing the annexation of Crown Farm to the City. The development anticipated for this site includes 1,975 to 2,550 residential units and 260,000 to 370,000 square feet of commercial uses, developed in accordance with transit-oriented development (TOD) and traditional neighborhood guidelines. The developer has also agreed to donate a 30 -acre site for a new public high school and provide funding for the construction of a parking facility that would serve the transitway.
- Washingtonian Center - is bounded on the north by I-370 and on the east by I-270. The majority of the Washingtonian Center Study has been developed as commercial/office use. A 5.3-acre parcel known as the Washingtonian Center Waterfront was approved in 2002 for three restaurants, a hotel, and a parking garage on the majority of the site. The special study recommends that the remainder of the site be redesignated as mixed use commercial-office.
- Casey-Metropolitan Grove - is bounded by I-270 to the north, Quince Orchard Road to the east, Clopper Road and CSX right-of-way to the south, and Seneca Creek State Park to the west. The special study focuses on the properties located to the north of the CSX tracks, as these parcels are undeveloped with no approved plans for development, and those parcels located to the south of the CSX tracks. The special study makes several recommendations for transportation improvements with regard to I-270 and the Corridor Cities Transitway as well as recommendations for development phasing. Three land use options were proposed for the northern properties: office development; private arts, entertainment, and education center development; and mixed use development. City staff was directed by the Mayor to prepare a final report that included all three options. On August 1, 2005, the Mayor and City Council approved a Schematic Development Plan for 1,075 dwelling units including single family attached, single family detached, town homes, two-over-two condominiums and a high-rise condominium tower. The Urban Core section proposes 259,939 square feet of mixed use commercial development and 936,650 square feet of office development. For the southern properties, the special study recommends that an office-commercial-residential land use designation be adopted, as these parcels have been entirely developed with land uses split equally between a medium density residential apartment complex and industrial-researchoffice buildings. Development objectives for this portion of the study area will be predicated on the future location of a Corridor Cities Transitway station and potential rail yard location.

An update to the 1989 Germantown Master Plan is currently underway by M-NCPPC, therefore, the future land use information published in the 2002 DEIS is still applicable. However, since the publication of the DEIS in 2002, the following developments have been approved:

- Seneca Meadows Corporate Center - One of the last, large commercial properties in Montgomery County (formerly the Marriott property), has been undergoing development. The Seneca Meadows Corporate Center will be located on a 156 -acre site on the east side
of I-270 near MD118. Direct access will be provided to the site from MD 118 and the new Ridge Road/Father Hurley Boulevard intersection. Once complete, the campus-style development will consist of multi-use buildings containing $1,660,000$ square feet of office, high-tech/biotech, R\&D/flex and/or manufacturing space.
- Milestone Business Park - located in Germantown at the I-270/Father Hurley Boulevard (MD118) Interchange, this 99 -acre site has been developed with 180,000 square feet of office and light industrial space. A total of 874,750 square feet of development has been approved for this industrial park.

An update to the 1994 Clarksburg Master Plan is currently underway by M-NCCPC, therefore the future land use information published in the 2002 DEIS is still applicable.

## Frederick County

The Frederick Region Plan (June 2004) reaffirms the "Community Concept" as the primary land use principle in Frederick County. This principle was originally introduced in the 1972 Frederick County Comprehensive Plan and further refined in the 1998 Frederick County Comprehensive Plan, Volume I: Countywide Plan. The "Community Concept" outlines a hierarchy of communities where growth will be centered, so that public facilities (i.e., water, sewer, schools, transportation improvements, stores) can be located in an efficient manner. The "Community Concept" encourages compact and sustainable development and economic growth in suitable Plan-designated areas.

The Frederick Region Plan (June 2004) contains recommendations for land use and future development patterns for the northern portion of the I-270/US 15 Corridor. This Plan supports any of the alternatives to the I- 270 corridor including the use of HOV lanes. The Plan recommends that the widening of I-270 should minimize impacts to the Monocacy National Battlefield. The US 15 Corridor has been designated as the Civil War Battlefields Scenic Byway by the State of Maryland. The Frederick Region Plan recommends the following for the US 15 Corridor:

- Maintain a rural character for US 15 through the preservation of scenic views;
- Commercial and industrial development should not be permitted around the future US 15 interchanges;
- MD 355 should not be widened beyond the existing two-lane cross-section south of Technology Way in order to protect the Monocacy National Battlefield; and
- Coordinate new arterial connections with Frederick County.

This plan also recognizes that transit improvements, in the form of a busway or light rail, would be implemented from the Shady Grove area to Clarksburg by 2020, which is outside the planning horizon of this plan update. However, this plan recommends the protection of right-ofway along I-270 to accommodate the future transitway through Frederick. The plan also recommends consideration be given to long-term redevelopment options around the Monocacy MARC station to include residential uses that would help to support the I- 270 transitway.

According to the plan, Frederick City and its surrounding area will serve as the Regional Center of the Region, and will continue to serve as the focus of the County's commercial, and residential, and employment growth, assuming the annexation of several parcels located near I-270 and US 15. The Plan recommends that the proposed annexation limits be adopted by 2007. The majority of the concentrated residential development is planned to occur south of the City in the Ballenger Creek area, between I-270 and US 340. The area between MD 85 and MD 355 borders both I-170 and I-270 and is a predominantly commercial area which also contains a MARC commuter rail station. The Plan recommends that future development in this area should include transit-oriented/density housing near the commuter rail station.

The Frederick City, Maryland Comprehensive Plan was approved by the Mayor and Board of Aldermen on September 16, 2004. The updated Plan provides guidance on how the City can meet its current and future challenges including balancing residential and employment growth, achieving concurrence between growth and infrastructure, and preserving and enhancing the City's distinct character and downtown area. Specific recommendations of the updated Plan include:

- Phasing annexation with the availability of adequate transportation, sanitary sewer, and water services;
- Adopting an Adequate Public Facilities Ordinance (APFO) for city-controlled roads to phase development with the availability and adequacy of existing and future city roadways;
- Establishing city gateways at key entrances to the City including US 15/Biggs Ford Road, US 15/US 40, and US 15/Rosemont Avenue, and adopting a city gateway overlay district to regulate the visual appearance of major gateways/entrances to the City.
- Working with the State of Maryland and neighboring jurisdictions to implement the recommendations of the I-270/US 15 Multimodal Corridor Study, including an express bus service connecting MARC Monocacy Station and the Shady Grove Metrorail Station;
- Encouraging development that meets TOD standards;
- Adopting a Planned Mixed Use Designation on the Comprehensive Plan map. This designation is intended for large planned nodes of mixed employment, retail, office, and residential development. The intent is to have mixed use, master-planned developments that have compact development patterns that provide more opportunity to walk and bicycle; increase opportunities for transit, and reduce the number of vehicle trips. The Planned Mixed Use Designation is intended for a number of large areas that are designated as potential annexation areas on the Comprehensive Plan map; and
- Constructing a new north-south parallel highway along the eastern edge of the City. The proposed new road would link US 15, I-70, and I-270 and would form a direct link between existing commuter origin points in northern Frederick County and southern Pennsylvania to employment centers in the Baltimore-Washington, D.C. region,
including Montgomery County and Baltimore City. This highway would also allow travelers to reach those destinations without driving along US 15.

The Urbana Region Plan, adopted June 2004, continues the Community Concept for the region and continues to designate Urbana as a Regional Community with its focus both as the primary residential development area and as the commercial center for the Region. The Plan also continues to designate the area located to the west of I-270 as Agriculture/Rural and Resource Conservation, while the lands located directly adjacent to I-270 on the east side are designated as the I-270 Employment Corridor. Approximately 30,300 acres, or 76 percent, of the Urbana Region is slated to remain in some type of agricultural, rural, or resource conservation use. This Plan does not support the extension of public water and sewer or other public facilities that would increase the pressure to accommodate more intense development on the west side of I270. On the east side of I-270, the Agricultural/Rural or Resource Conservation areas serve to provide long-term agricultural area and rural buffers between the Urbana and Monrovia Communities in an effort to maintain identifiable and compact communities in accordance with Smart Growth principles.

The Urbana Regional Community is comprised primarily of the Villages of Urbana/Urbana Highlands planning unit developments (PUD) located to the east of I-270 and MD 355, and the existing "Old" Urbana area centered along MD 355. MD 355 will be relocated through "Old" Urbana to reduce traffic through the village. The Urbana Region Plan identifies the following for the Urbana Regional Community:

- The Village/Town Center will provide for commercial, retail, and office uses primarily serving the Urbana Community but will also serve the entire Urbana Region;
- A strong relationship between the Urbana Regional Community and the I-270 Employment Corridor in order to provide opportunities for people to live where they work; and
- All total, the future growth area development potential for the Urbana Community includes 1,225 acres and 2,625 dwellings.

The Urbana Region Plan supports the I-270 Employment Corridor as part of the larger marketing effort of the I-270 Technology Corridor that extends from Montgomery County to the City of Frederick by:

- Maintaining the 1,541 acres of employment land as designated in the 1993 Urbana Regional Plan;
- Maintaining the same split between Office/Research/Industrial (ORI) lands (72 percent) and limited Industrial (LI) land (28 percent), as designated in the 1993 Urbana Region Plan; and
- Switching the designation of approximately 100 acres of existing LI land to ORI on the land use and zoning map. This shift will support the concept of the I-270 Technology Corridor by focusing the ORI land along I-270 and the LI land along MD 355.

All told, the I-270 Employment Corridor is comprised of 1,433 undeveloped acres, with a buildout potential of approximately 10.8 million square feet of development and more than 22,000 employees.

The Urbana Region Plan identifies the need for transportation infrastructure such as the MD 75 improvements/realignments, a collector road serving the I-270 Employment Corridor, new interchanges with I-270 at relocated MD 75 and Park Mills Road, and an arterial roadway to serve the future growth in Urbana. The Plan also maintains the I-270 Transitway alignment along the east side of I-270 with an alternate route through the Urbana Town Center. More specifically, the transportation recommendations of the Plan include:

- Development within the Urbana Town Center and the I-270 Employment Corridor should employ TOD guidelines to support the use of potential local transit services;
- The residential and employment development within one-half mile of the I-270 transitway should follow TOD guidelines;
- Pedestrian access will be encouraged within the I-270 Employment Corridor and between the employment development and adjoining residential and commercial uses;
- The design of the North Urbana Interchange at Park Mills Road should facilitate/focus access to the east of I-270 towards the Urbana Community and employment areas;
- The construction/improvement of the MD 75 and MD 80 interchanges should be given priority over the construction of the North Urbana Interchange;
- Further study of the I-270 Transitway alignment to determine the feasibility of the current alignment and to determine the route and station locations within the Urbana community; and
- Identify additional right-of-way needs along I-270 between MD 80 and Park Mills Road as properties proceed through the development review process. This right-ofway may accommodate the proposed widening of I-270 and the proposed transitway.


## 4. Existing and Future Zoning

Zoning represents the local jurisdictions implementation of their long range land use objectives and has played and will continue to play an integral part in the type and form of development that occurs over time. In general, the counties and communities in the I- 270 corridor have been
updating their zoning and growth management plans in anticipation of the improvements to the transportation system as a result of this project.

The City of Rockville is currently undergoing a comprehensive update to their 1975 zoning ordinance. In the northern end of the City, the majority of the land is designated as I-3 for industrial park use with offices and light industrial activities. The I-3 zone includes an option to develop property with a greater mix of uses and increased densities in proximity to planned or programmed transit stations. The large setbacks currently required in the I-3 zone make transit service difficult; therefore, the City of Rockville Mater Plan recommends that consideration be given to a zoning amendment that would reduce them. Notable rezoning in the I-270 corridor since the 2002 DEIS includes the master planned King Farm and Fallsgrove mixed use developments.

The City of Gaithersburg adopted a new zoning map in July 2005. In the City, the majority of the land located adjacent to the I-270 corridor is zoned for mixed uses (MXD). Anticipated rezoning in response to the I-270 project includes the NIST property to be rezoned at the time of annexation and change of the Casey-Metropolitan Grove undeveloped parcels to MXD.

Montgomery County has designated the majority of the land in Germantown on either side of I-270 as an employment corridor, and as a result, these lands have been zoned as Technology and Business Park/I-3. This designation is in close proximity to I-270 so that denser development can be serviced by the proposed Corridor Cities Transitway. Similarly, an employment corridor has been established on the east and west sides of I-270 in Clarksburg. While the majority of Clarksburg is designated as rural and agricultural, the lands immediately adjacent to the I-270 Corridor in the center of the community have been zoned as MXD and I-3 to allow for more dense development near the highway and transit corridors.

Since the publication of the DEIS in 2002, Frederick County zoning designations have been modified to respond to the recommendations of the Frederick Region Plan (June 2004) and the Urbana Region Plan (June 2004). Major zoning decisions included:

- The adoption of a MXD or mixed-use floating zone
- Maintaining the Agricultural/Rural designations on the east and west sides of I-270 to preserve the existing agricultural and rural buffers in these areas
- Switching the designation of approximately 100 acres to support the concept of the I-270 Technology Corridor


## 5. Planned and Programmed Developments

Figure I (Plates 1 through 5) presents the locations of "pipeline" development projects within the 1,000 -foot project corridor in Montgomery and Frederick Counties. These are projects that have been approved for construction but are not yet built or fully completed.

The pipeline projects represent major planned changes in land use anticipated in the vicinity of the proposed I-270/US 15 Corridor improvements. Projects are considered major if they include 50 or more new residential units and/or 100,000 or more square feet of non-residential development. There are numerous smaller development projects not individually identified here that are also contributing to infill along the corridor.

Maryland

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## Montgomery County

As Figure I illustrates, there are several residential and other pipeline development projects located within the 1,000 -foot limit of the project corridor. These projects are listed in Table 4. Most of these occur in Rockville and Gaithersburg in the southern end of the corridor, most notably additional residential development within King Farm and additional mixed use development within the Washingtonian Center (e.g., Washingtonian Center North and Washingtonian Waterfront). Additional mixed-use development in the project corridor in Gaithersburg will be constructed as part of the Casey West/Metropolitan Grove Development located on the west side of I-270. The Watkins Mill Town Center Development is also located on the west side of I-270; however it is outside the project study limits. In Germantown, there are two pipeline projects located on the west side of I-270: one is inside the project study limits near Waring Station Road and Leatherbark Drive; and the other located just outside the study limits near Amaranth Drive. The Milestone Industrial Park will be located north of MD 118 and will consist of nearly 1.5 million square feet of office and retail space when completed. Although Germantown is nearing residential build-out, these projects will provide an increase in mixed-use development at high densities which is in line with the community goal for future development that supports additional highway capacity and future transit services. Pipeline development in Clarksburg is similar to that of Germantown in that larger, mixed use and residential projects are being planned within or adjacent to the project corridor near future interchanges, in anticipation of the future highway and transit alignments. Adjacent to I-270, the Linthicum East Property Development and the Cabin Branch Developments will consist of 259 and 2,100 units, respectively.

## Frederick County

As Figure I illustrates, pipeline development within the 1,000-foot project corridor is expected to be concentrated in Urbana and the City of Frederick. Major pipeline projects in Frederick County are listed in Table 5. In Urbana, development will be primarily located on the west side of I-270. These projects are consistent with the intent of the County for new development to support the growth of employment/technology in the corridor there. Residential development will also be taking place in Urbana on the east side of I-270, just outside the project corridor limits, as part of the Villages of Urbana development. Closer to and within the City of Frederick, several pipeline developments are located on the east and west sides of I-270. In the northern portion of the project corridor, pipeline development is also anticipated located adjacent to US 15 near the future interchange with Trading Lane.

TABLE 4
MONTGOMERY COUNTY PIPELINE PROJECTS WITHIN THE PROJECT CORRIDOR

| Location | Project Name* | Proposed Use |
| :---: | :---: | :---: |
| Shady Grove | Shady Grove Metro Inspection Yard Expansion | Expansion of existing facility |
| R\&D Village | Decoverly Hall Parcel 5 | Office |
| Gaithersburg | Casey West Property (Watkins Mill Town Center) | Mixed Use Development |
|  | Washingtonian Center Waterfront | Mixed office and retail |
|  | Washingtonian Center Waterfront Phase II | 87,815 square feet office, 18,080 square feet retail |
|  | Washingtonian South | Office |
|  | The Towns at Summit Woods | 130 townhouse units |
|  | MedImmune - all phases | 193,500 square feet lab; 556,500 square feet office |
| Germantown | New Covenant Fellowship Church | Addition of senior apartments to church uses |
|  | Middlebrook Industrial Park Lots 1 and 2 | Office/Retail |
|  | Cloverleaf Center | Addition of 342,500 square feet office to four parcels |
| Clarksburg | Cabin Branch | 2,100 dwelling units (includes 210 moderately-priced dwelling units; unit type to be determined at site plan review |
|  | Thompson Farm | Residential units |
|  | Linthicum East Property | 253 residential units |

TABLE 5
FREDERICK COUNTY PIPLEINE PROJECTS WITHIN THE PROJECT CORRIDOR

| Location | Site | Proposed Use |
| :--- | :--- | :--- |
| Fingerboard Road | Mountain View Community Church | Industrial |
| MD 355 at MD 75 | Crossroads Farms | Residential |
| MD 85 at I-270 | Shockley Court | Commercial |
| Fingerboard Road | Potomac Garden Center (Built) | Commercial |
| Thurston Road | Greenbrier Boarding | Commercial |
| Hayward Road at <br> US 15, Frederick | Northgate Retail Center | Commercial |
| Buckeyestown <br> Pike, Frederick | DANAC Center | Office/Commercial |
| Prospect Blvd., <br> Frederick | Frederick Mini Storage South | Commercial |

## Compliance with Smart Growth Initiatives

The intent of the Smart Growth Areas Act (October 1997) is to direct state funding for growthrelated projects to areas designated by local jurisdictions as Priority Funding Areas (PFAs). PFAs consist of existing communities and other locally designated areas as determined by local jurisdictions in accordance with "smart growth" guidelines. The Act seeks to guide development to existing towns, neighborhoods, and business areas by directing State infrastructure improvements to those places. For additional information regarding Maryland's Smart Growth Initiative and the objectives of the Act, reference the 2002 DEIS, Chapter III.

The Act legislatively designates and targets certain areas for economic development. These designated "Smart Growth Areas" include:

- Municipalities (such as Rockville, Gaithersburg, and Frederick)
- Areas inside the Baltimore and Washington Beltways
- Neighborhoods designated for revitalization by the Department of Housing and Community Development ("Designated Neighborhoods")
- Enterprise and Empowerment Zones; and
- Certified Heritage Areas within county-designated growth areas.

Local government plays a major role in determining the location of development. Therefore, the Act authorizes counties to designate additional Smart Growth Areas, known as "CountyDesignated" Smart Growth Areas, which meet minimum criteria. Areas eligible for county designation include:

- Areas with industrial zoning (Areas zoned after January 1, 1997, must be in a countydesignated growth area and be served by a sewer system).
- Areas with employment as the principal use which are served by, or planned for, a sewer system (Areas zoned after January 1, 1997, must be in a county-designated growth area).
- Existing communities (as of January 1, 1997) within county-designated growth areas which are served by a sewer or water system and which have an average density of two or more units per acre.
- Rural Villages designated in the Comprehensive Plan as of July 1, 1998.
- Other areas within county-designated growth areas that:
- reflect a long-term policy for promoting an orderly expansion of growth and an efficient use of land and public services;
- have existing or planned water and sewer systems; and
- have a permitted density of 3.5 or more units per acre for new residential development.

Since 2002, the PFAs have expanded slightly in coverage throughout the I-270/US 15 MultiModal Study Corridor and are as shown on Figure J. Table 6 lists these PFAs.

TABLE 6
PRIORITY FUNDING AREAS (PFAS) IN THE I-270/US 15 CORRIDOR

| PFA/Status | County | Location Relative To Project |
| :--- | :--- | :--- |
| Rockville <br> Pre-defined Municipality | Montgomery | Within project area at I-270/I-370 <br> Interchange |
| Gaithersburg <br> Pre-defined Municipality | Montgomery | Within project area at I-270/MD 124 <br> Interchange |
| Germantown <br> County Certified Area | Montgomery | Within project area at I-270/MD 118 <br> Interchange |
| Clarksburg <br> County Certified Area | Montgomery | Within project area at I-270/MD 121 <br> Interchange |
| Urbana <br> County Certfied Area | Frederick | Within project area at I-270/MD 80 <br> Interchange |
| Frederick <br> Pre-defined Municipality | Frederick | Within project area <br> Walkersville <br> Pre-defined Municipality <br> Frederick3 miles east of project area limit at US <br> 15/MD 26 Interchange. |



## 6. Project Effects on Land Use

## Alternative 1 (No-Build Alternative)

Alternative 1, the No-Build Alternative, is not consistent with the future land use and zoning recommendations contained within the local master plans since it would not address projected traffic congestion and traffic safety hazards along I-270 and US 15 that will occur with the planned growth in the Corridor. Additionally, many of the adopted land use plans and current development patterns have already responded to the potential for highway and transit improvements within the project corridor and the potential for increased development that could result from these improvements.

## Alternatives 6A/B and 7A/B - Express Toll Lanes

Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ would be consistent with adopted local land use plans and zoning. Many of these plans have been updated to include policies and guidelines that accommodate the potential increased development that could result from the proposed highway and transit improvements.

The direct impacts to land use anticipated from Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ would be the same as or similar to those published in the 2002 DEIS for Alternatives 3,4 and 5 with the following exceptions:

- The interchange improvements proposed at Newcut Road, Monocacy Boulevard, Biggs Ford Road, and MD 75 have been incorporated into local master plans. These "masterplanned" interchanges incorporate the proposed highway improvements and the proposed local land use and future development patterns. As such, they facilitate achievement of future land use vision expressed in these local plans.
- The direct access Express Toll Lane ramps to Metropolitan Grove would affect future development and land use patterns at the Casey West/Watkins Mill development. They would provide a beneficial effect with enhanced ease of access, adding convenience of travel for residents. Conversely, they will introduce new highway infrastructure into this new community utilizing land that might have been committed to other purposes in creating the planned pattern of land use there. Consequently, the incorporation of these ramps into development plans on the property would need to be coordinated with the City of Gaithersburg.
- The proposed park and ride lot located at US 15 and Monocacy Boulevard has been moved from the west side of US 15 to the east side of US 15 . This park and ride facility would be located on agricultural land that is surrounded by vacant potentially developable farmland (i.e. it is not preserved as open space). This location is intended to encourage carpooling and vanpooling, serving neighborhoods that already exist to the south and east. The availability of this convenience may however, also serve in part as an incentive for future residential development on the surrounding farmlands. If the
proposed park and ride lot is alternately created at Liberty Road (MD 26) the effects would be the same as those described above.


## 7. Consistency with Area Master Plans

In general, master plans provide a set of comprehensive recommendations and guidelines that reflect a vision for the future development of local communities. Master plan recommendations and guidelines present a vision for a 20-year time horizon from the date of adoption, although the plans are generally updated approximately every 10 years. Local master plans identify the desirability of transportation system improvements in the project area:

## Montgomery County

- The City of Rockville Comprehensive Master Plan was adopted in June 2002 by the Mayor and City Council. The I-270 project has the potential to affect several Residential and Neighborhood Planning Areas designated by the Plan, including Hungerford, Lynfield and New Mark Commons; West End and Woodley Gardens East-West; Orchard Ridge, Potomac Woods, Falls Ridge, Rockshire, and Fallsmead Neighborhoods; King Farm Neighborhood; and Fallsgrove Neighborhood. All of these residential or neighborhood areas are currently under development. The Plan recommends that current land use designations be maintained as there are not many opportunities for infill development or redevelopment of these areas.
- The Shady Grove Sector Plan, adopted with amendments by the Montgomery County Planning Board on January 17, 2006, provides recommendations for future land use along the I-270 Corridor and the Shady Grove Metrorail station area. The Plan recommends that new transit facilities be provided, including the Corridor Cities Transitway, as well as expanded bus service and park and ride facilities.
- The City of Gaithersburg Master Plan (adopted December 2003) contains a Land Use Plan which describes general land use and zoning categories for properties located within the City and makes recommendations for future land use designations. The Plan recommends the several map designations for parcels located near the I-270 project limits, including the Rosemont community, Brighton West, Washington Center North, NIST, Malcolm King Park, the Montgomery County Fair Grounds, and along MD 124. The Plan also includes several master plans for Special Study Areas. The Special Study Areas that are within the I-270 Project limits include Muddy Branch, Crown Farm, Washingtonian Center, Frederick Avenue North, and Casey-Metropolitan Grove
- An update to the 1989 Germantown Master Plan is currently underway by M-NCPPC, therefore, the future land use information published in the 2002 DEIS is still applicable. However, since the publication of the DEIS in 2002, the Seneca Meadows Corporate Center and the Milestone Business Park have been approved.
- An update to the 1994 Clarksburg Master Plan is currently underway by M-NCCPC, therefore the future land use information published in the 2002 DEIS is still applicable.


## Frederick County

- The adopted Frederick Region Plan (June 2004) contains recommendations for land use and future development patterns for the northern portion of the I-270/US 15 Corridor. This Plan supports any of the alternatives to the I-270 corridor including the use of highoccupancy vehicle (HOV) lanes. The Plan recommends that the widening of I-270 should minimize impacts to the Monocacy National Battlefield. The US 15 Corridor has been designated as the Civil War Battlefields Scenic Byway by the State of Maryland. The Frederick Region Plan recommends the following for the US 15 Corridor:
- Maintain a rural character for US 15 through the preservation of scenic views;
- Commercial and industrial development should not be permitted around the future US 15 interchanges;
- MD 355 should not be widened beyond the existing two-lane cross-section south of Technology Way in order to protect the Monocacy National Battlefield
- Coordinate new arterial connections with Frederick County.

This plan also recognizes that transit improvements, in the form of a busway or light rail, would be implemented from the Shady Grove area to Clarksburg by 2020, which is outside the planning horizon of this plan update. However, this plan recommends the protection of right-of-way along I-270 to accommodate the future transitway through Frederick. The plan also recommends consideration be given to long-term redevelopment options around the Monocacy MARC station to include residential uses that would help to support the I-270 transitway.

- The Urbana Region Plan, adopted June 2004, continues the Community Concept for the region and continues to designate Urbana as a Regional Community with its focus both as the primary residential development area and as the commercial center for the Region. The Plan also continues to designate the area located to the west of I-270 as Agriculture/Rural and Resource Conservation, while the lands located directly adjacent to I-270 on the east side are designated as the I-270 Employment Corridor. The Urbana Region Plan identifies the need for transportation infrastructure such as the MD 75 improvements/realignments, a collector road serving the I-270 Employment Corridor, new interchanges with I-270 at relocated MD 355 and Park Mills Road, and an arterial roadway to serve the future growth in Urbana. The Plan also maintains the I-270 Transitway alignment along the east side of I-270 with an alternate route through the Urbana Town Center.
- The Frederick City, Maryland Comprehensive Plan was approved by the Mayor and Board of Aldermen on September 16, 2004. Specific recommendations of the updated Plan relevant to the I-270/US 15 Multi-Modal Study include:
- Establishing city gateways at key entrances to the City including US 15/Biggs Ford Road, US 15/US 40, and US 15/Rosemont Avenue, and adopting a city gateway overlay district to regulate the visual appearance of major gateways/entrances to the City.
- Working with the State of Maryland and neighboring jurisdictions to implement the recommendations of the I-270/US 15 Multimodal Corridor Study, including an express bus service connecting MARC Monocacy Station and the Shady Grove Metrorail Station.

In addition, Montgomery and Frederick counties have each performed separate but coordinated transit easement studies, each of which has identified feasible alternatives for further study. These studies are highlighted in the 2002 DEIS.

## B. SOCIAL ENVIRONMENT

## 1. Study Area Population and Households

For purposes of this socio-economic analysis, the study area boundary is consistent with that used for all other environmental and transportation review and analyses in the 2002 DEIS document. The baseline demographic information was obtained from the 2000 US Census for the study area. The demographic analysis used census tracts and block groups that represent geographic areas. Census tracts are sub-areas of counties and block groups are sub-areas of census tracts. Figure K illustrates the 2000 census tracts and block groups that encompass the I-270/US 15 Study Area.

The U.S. Census data reflects a racially and ethnically diverse region. The Metropolitan Washington Council of Governments (MWCOG) estimates large increases in future employment, households, and population. Tables 7A through 7D present population, household, educational attainment, household income, gender, age and race data for the region, Montgomery County and Frederick County.

## TABLE 7A <br> POPULATION AND HOUSEHOLD CHARACTERISTICS (IN ROUNDED MILLIONS)

|  | $\mathbf{1 9 9 0}$ | $\mathbf{2 0 0 0}$ | $\mathbf{2 0 1 0}$ | $\mathbf{2 0 2 0}$ | $\mathbf{2 0 3 0}$ | Percent <br> Change <br> $\mathbf{2 0 0 0 - 2 0 3 0}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Metropolitan Washington Region |  |  |  |  |  |  |
| Population | 3.9 | 4.6 | 5.4 | 5.9 | 6.2 | $35 \%$ |
| Number of Households | 1.5 | 1.7 | 2.0 | 2.3 | 2.4 | $41 \%$ |
| Average Household Size | 2.71 | 2.70 | 2.67 | 2.60 | 2.56 | -- |
| Montgomery County |  |  |  |  |  |  |
| Population | .75 | .87 | 1.0 | 1.1 | 1.1 | $24 \%$ |
| Number of Households | .28 | .32 | .37 | .41 | .42 | $31 \%$ |
| Average Household Size** | 2.65 | 2.66 | 2.67 | 2.60 | 2.57 | -- |
| Frederick County | .15 | .20 | .24 | .28 | .32 | $60 \%$ |
| Population | .053 | .07 | .09 | .10 | .12 | $71 \%$ |
| Number of Households | .07 | -- |  |  |  |  |
| Average Household Size ${ }^{* *}$ | 2.78 | 2.72 | 2.68 | 2.63 | 2.60 | -6 |

[^0]Staterigmay

TABLE 7B
EDUCATIONAL ATTAINMENT AND HOUSEHOLD INCOME CHARACTERISTICS

| Educational Attainment | Metropolitan <br> Washington <br> Region | Montgomery <br> County | Frederick <br> County |
| :--- | :--- | :--- | :--- |
| Total: | $4,544,944$ | 873,341 | 195,277 |
| K-12 | 938,550 | 182,807 | 43,418 |
| Undergraduate | 234,883 | 37,936 | 8,109 |
| Post Graduate | 98,088 | 19,355 | 2,478 |
| Enrolled in school | $1,271,521$ | 240,098 | 54,005 |
| Not enrolled in school | $3,084,018$ | 597,651 | 132,948 |
| Income: |  |  |  |
| Median household income in 1999 | $\$ 64,473$ | $\$ 71,551$ | $\$ 60,276$ |

Source: 2000 US Census
TABLE 7C
GENDER AND AGE CHARACTERISTICS

| Sex | Metropolitan <br> Washington <br> Region | Montgomery <br> County | Frederick <br> County |
| :---: | :--- | :--- | :--- |
| Total: | $4,544,944$ | 873,341 | 195,277 |
| Male: | $2,207,570$ | 417,650 | 96,142 |
| $0-17$ | 584,975 | 112,881 | 27,601 |
| $18-34$ | 555,604 | 90,300 | 20,173 |
| $35-54$ | 718,468 | 138,369 | 32,799 |
| $55-69$ | 239,929 | 48,343 | 10,375 |
| $70+$ | 108,594 | 27,757 | 5,194 |
| Female: | $2,337,374$ | 455,691 | 99,135 |
| $0-17$ | 558,539 | 107,699 | 26,163 |
| $18-34$ | 573,285 | 94,946 | 21,137 |
| $35-54$ | 768,538 | 153,988 | 32,811 |
| $55-69$ | 261,667 | 55,384 | 10,799 |
| $70+$ | 175,345 | 43,674 | 8,225 |

Source: 2000 US Census

## TABLE 7D <br> GENERAL RACE CHARACTERISTICS

| Race | Metropolitan <br> Washington <br> Region | Montgomery <br> County | Frederick <br> County |
| :--- | :--- | :--- | :--- |
| Total: | $4,544,944$ | 873,341 | 195,277 |
| White alone | $2,437,636$ | 518,456 | 172,105 |
| Black or African American alone | $1,225,575$ | 128,252 | 12,007 |
| American Indian and <br> Alaskan Native alone | 12,255 | 1,837 | 413 |
| Asian alone | 319,650 | 97,769 | 3,296 |
| Native Hawaiian and <br> Other Pacific Islander alone | 2,572 | 424 | 45 |
| Some other race alone | 11,349 | 2,748 | 157 |
| Two or more races | 113,387 | 23,546 | 2,656 |
| Hispanic or Latino | 422,520 | 100,309 | 4,598 |

Source: 2000 US Census

## a. Metropolitan Washington Region

The Metropolitan Washington Region grew by approximately 13 percent during the period from 1990 to 2000, from approximately 3.9 million to 4.6 million people, as determined by the MWCOG. The Metropolitan Washington Region, for MWCOG Cooperative Forecasting purposes, includes the following jurisdictions: Washington, DC; the counties of Arlington, Fairfax, Loudoun, Prince William, and Stafford and the cities of Alexandria, Falls Church, Fairfax, Manassas, and Manassas Park in Virginia; and Montgomery, Prince George's, Calvert, Charles, and Frederick counties in Maryland. However, regional population is forecast to increase by 35 percent between 2000 and 2030, reaching almost 6.2 million persons in 2030 . The MWCOG indicates that the region would add an average of approximately 54,000 persons a year due to several factors: the long-term strength of the region's economy, high rates of inmigration and international immigration, and declines in average household size.

The number of households in the Metropolitan Washington Region increased by 13 percent between 1990 and 2000 but is expected to increase by 41 percent between 2000 and 2030. The MWCOG credits the addition of more than 670,000 households during the 2000 to 2030 forecast period to the growth in jobs and in-migration to the region. Average household size in the region is expected to decline from 2.70 to 2.56 persons per household between 2000 and 2030 .

According to the 2000 U.S. Census, the total number of Metropolitan Washington Region residents enrolled in school (this includes K-12, undergraduate and post graduate schools) was
about 1.3 million persons. There were nearly 940,000 students enrolled in Kindergarten through $12^{\text {th }}$ grade. Another 235,000 students were enrolled in undergraduate education, while about 98,000 persons were enrolled in post graduate schooling. The number of persons not enrolled in school was about 3.1 million.

## b. Montgomery County

Montgomery County's population grew by approximately 16 percent during the period from 1990 to 2000, from approximately 750,000 to 870,000 people. County population is forecast to increase by almost 24 percent between 2000 and 2030, surpassing one million persons in 2030. The number of households is expected to increase by 31 percent between 2000 and 2030. County household size is expected to decline between 2000 through 2030 from 2.66 to 2.57 persons per household.

The majority ( 37 percent) of individuals in 2000 were age 20-44 years and approximately 11 percent were 65 years or older. Data from the MDP indicate that the number of individuals age 65 years or older is expected to increase by almost 139,000 persons, or 141 percent, from 98,157 persons in 2000 to 237,020 persons in 2030.

Data from the MDP indicates that Montgomery County authorized 4,950 housing units for construction in 2000 compared with 3,821 in 2004 (a decrease of 23 percent). In 2004, the County contained 353,051 housing units. The median sales prices of all single-family homes (new, existing, detached, and attached) in Montgomery County increased 77 percent from approximately $\$ 218,000$ in 2000 to $\$ 385,000$ in 2004. The Washington Area Housing Partnership reported that the median residential sales price in the first quarter of 2006 was $\$ 425,000$.

According to the 2000 U.S. Census, the total number of Montgomery County residents enrolled in school (this includes K-12, undergraduate and post graduate schools) was about 240,000 persons. There were nearly 183,000 students enrolled in Kindergarten through $12^{\text {th }}$ grade. Another 38,000 students were enrolled in undergraduate education, while about 19,400 persons were enrolled in post graduate schooling. The number of persons not enrolled in school was about 597,000.

## c. Frederick County

Frederick County's population grew by approximately 30 percent during the period between 1990 and 2000, from approximately 150,000 to 195,000 people. County population is forecast to increase by 67 percent between 2000 and 2030, to almost 325,000 persons in 2030. The number of households is expected to increase by 71 percent between 2000 and 2030. Frederick County is expected to experience steadily decreasing household size between 2000 through 2030 from 2.72 to 2.60 persons per household.

The majority ( 38 percent) of individuals in 2000 were age $20-44$ years and approximately 10 percent were 65 years or older. Data from the Maryland Department of Planning indicate that the number of individuals age 65 years or older is expected to increase by 40,304 persons, or 214 percent, from 18,836 persons in 2000 to 59,140 persons in 2030.

Data from the Maryland Department of Planning indicates that Frederick County authorized 2,747 housing units for construction in 2000 compared with 1,773 in 2004 (a decrease of 35 percent). In 2004, the County contained 81,504 housing units. The median sales prices of all single-family homes (new, existing, detached, and attached) in Frederick County increased 69 percent from approximately $\$ 148,000$ in 2000 to $\$ 250,125$ in 2004 . The Washington Area Housing Partnership reported that the median residential sales price in the first quarter of 2006 was $\$ 315,000$.

According to the 2000 U.S. Census, the total number of Frederick County residents enrolled in school (this includes K-12, undergraduate and post graduate schools) was a little over 54,000 persons. There were over 43,000 students enrolled in Kindergarten through $12^{\text {th }}$ grade. About another 8,100 students were enrolled in undergraduate education, while about 2,500 persons were enrolled in post graduate schooling. The number of persons not enrolled in school was about 133,000.

## 2. Elderly And Disability

The presence of elderly and disability populations is often an indicator for the potential location of environmental justice (EJ) populations. This analysis profiles the demographic composition of the study area and surrounding area to determine whether they can be characterized as areas of potentially affected EJ populations (EJ areas).

In the study area, people age 65 and older accounted for eight percent of the total population, or 15,625, in 2000. Numerically, the elderly population was largest in Census Tract 7007.14 Block Group 3 ( 1,605 persons), located in Montgomery County, and is the same census tract with the largest disability population, as well as the highest proportion of elderly populations at 80.3 percent. Table 8 and Figure L illustrate the 2000 census block groups (shaded gray) with higher percentages of elderly residents than their respective counties.

The 2000 Census indicated that 43,323 persons with disabilities were residing within the study area representing 22.6 percent of the total population. Frederick County was home to 48.4 percent of the disability population in the study area, while Montgomery County was home to the remaining 51.6 percent. In comparison, the disability population accounted for 11.2 percent of Montgomery County's total population and 22.7 percent of Frederick County's total population. The highest number of persons with disabilities was found in Census Tract 7007.14-Block Group 3 ( 1,887 persons) in the vicinity of Gaithersburg in Montgomery County. This block group also had the highest proportion of persons with disabilities (over 94 percent). Table 9 and Figure M illustrate the 2000 census block groups (shaded gray) with higher percentages of persons with disabilities than their respective counties.

Please refer to the Environmental Justice discussion in Section 4 for information on minority and low-income populations in the study area.

Maryland

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TABLE 8 2000 ELDERLY POPULATION

| Montgomery County - Elderly |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Census Tract | Block Group | Population | Elderly Population | Percent Elderly |
| 7003.02 | 1 | 1,261 | 140 | 11.1\% |
| 7003.02 | 2 | 915 | 44 | 4.8\% |
| 7003.02 | 3 | 807 | 107 | 13.3\% |
| 7003.04 | 1 | 4,348 | 217 | 5.0\% |
| 7003.04 | 2 | 1,028 | 86 | 8.4\% |
| 7003.08 | 1 | 2,646 | 112 | 4.2\% |
| 7003.08 | 2 | 2,970 | 64 | 2.2\% |
| 7003.09 | 1 | 1,157 | 27 | 2.3\% |
| 7003.09 | 2 | 2,782 | 92 | 3.3\% |
| 7003.1 | 1 | 1,288 | 17 | 1.3\% |
| 7003.1 | 2 | 809 | 58 | 7.2\% |
| 7003.1 | 3 | 2,103 | 71 | 3.4\% |
| 7004 | 1 | 811 | 151 | 18.6\% |
| 7004 | 2 | 1,223 | 149 | 12.2\% |
| 7007.04 | 2 | 1,090 | 84 | 7.7\% |
| 7007.05 | 1 | 1,118 | 43 | 3.8\% |
| 7007.05 | 2 | 2,195 | 74 | 3.4\% |
| 7007.05 | 3 | 2,802 | 87 | 3.1\% |
| 7007.05 | 4 | 756 | 107 | 14.2\% |
| 7007.06 | 1 | 1,437 | 56 | 3.9\% |
| 7007.06 | 2 | 1,832 | 65 | 3.5\% |
| 7007.11 | 1 | 2,033 | 91 | 4.5\% |
| 7007.12 | 1 | 1,848 | 35 | 1.9\% |
| 7007.12 | 2 | 2,028 | 189 | 9.3\% |
| 7007.12 | 3 | 1,531 | 142 | 9.3\% |
| 7007.12 | 4 | 892 | 121 | 13.6\% |
| 7007.13 | 1 | 1,152 | 37 | 3.2\% |
| 7007.13 | 2 | 3,963 | 142 | 3.6\% |
| 7007.14 | 1 | 2,869 | 315 | 11.0\% |
| 7007.14 | 2 | 1,391 | 317 | 22.8\% |
| 7007.14 | 3 | 2,000 | 1,605 | 80.3\% |
| 7008.05 | 1 | 1,298 | 119 | 9.2\% |
| 7008.05 | 2 | 1,343 | 73 | 5.4\% |


| Montgomery County - Elderly |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| Census Tract | Block Group | Population | Elderly <br> Population | Percent Elderly |
| 7008.05 | 3 | 1,528 | 46 | $3.0 \%$ |
| 7008.05 | 4 | 1,113 | 95 | $8.5 \%$ |
| 7008.05 | 5 | 2,739 | 90 | $3.3 \%$ |
| 7008.06 | 1 | 8,799 | 488 | $5.5 \%$ |
| 7008.08 | 1 | 1,127 | 72 | $6.4 \%$ |
| 7008.08 | 2 | 2,966 | 118 | $4.0 \%$ |
| 7008.08 | 3 | 3,719 | 135 | $3.6 \%$ |
| 7008.16 | 1 | 4,133 | 79 | $1.9 \%$ |
| 7008.16 | 2 | 1,995 | 79 | $4.0 \%$ |
| 7008.16 | 3 | 1,499 | 68 | $4.5 \%$ |
| 7008.17 | 1 | 2,192 | 139 | $6.3 \%$ |
| 7008.17 | 2 | 2,242 | 195 | $8.7 \%$ |
| 7008.18 | 1 | 1,988 | 53 | $2.7 \%$ |
| 7008.18 | 2 | 1,113 | 25 | $2.2 \%$ |
| 7008.18 | 3 | 1,493 | 7 | $0.5 \%$ |
| 7008.18 | 4 | 1,078 | 30 | $2.8 \%$ |
| 7008.19 | 1 | 1,128 | 29 | $2.6 \%$ |
| 7008.19 | 2 | 1,317 | 24 | $1.8 \%$ |
| 7008.19 | 3 | 2,563 | 33 | $1.3 \%$ |
| 7008.19 | 4 | 1,143 | 10 | $0.9 \%$ |
| 7012.11 | 1 | 980 | 38 | $3.9 \%$ |
| 7012.11 | 2 | 2,740 | 224 | $8.2 \%$ |
| Montgomery Co. Block Groups | 107,321 | 7,114 | $6.6 \%$ |  |
| Montgomery County |  | 873,341 | 97,457 | $11.2 \%$ |

TABLE 8
2000 ELDERLY POPULATION (CONTINUED)

| Frederick County - Elderly |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Census Tract | Block Group | Population | Elderly <br> Population | Percent Elderly |
| 7501 | 1 | 1,146 | 138 | 12.0\% |
| 7501 | 2 | 778 | 133 | 17.1\% |
| 7503 | 1 | 1,033 | 83 | 8.0\% |
| 7503 | 2 | 776 | 105 | 13.5\% |
| 7504 | 1 | 1,088 | 324 | 29.8\% |
| 7504 | 2 | 843 | 202 | 24.0\% |
| 7504 | 3 | 2,016 | 204 | 10.1\% |
| 750501 | 1 | 1,082 | 107 | 9.9\% |
| 750501 | 2 | 865 | 62 | 7.2\% |
| 750501 | 3 | 423 | 10 | 2.4\% |
| 750501 | 4 | 2,419 | 49 | 2.0\% |
| 750501 | 5 | 1,208 | 132 | 10.9\% |
| 750501 | 6 | 1,592 | 60 | 3.8\% |
| 750501 | 7 | 1,604 | 232 | 14.5\% |
| 750502 | 1 | 2,388 | 133 | 5.6\% |
| 750502 | 2 | 1,296 | 31 | 2.4\% |
| 750502 | 3 | 2,005 | 74 | 3.7\% |
| 750502 | 4 | 3,088 | 117 | 3.8\% |
| 7506 | 1 | 1,068 | 167 | 15.6\% |
| 7506 | 2 | 683 | 144 | 21.1\% |
| 7506 | 3 | 734 | 292 | 39.8\% |
| 7507 | 1 | 2,211 | 86 | 3.9\% |
| 7507 | 2 | 1,883 | 42 | 2.2\% |
| 7507 | 3 | 2,043 | 425 | 20.8\% |
| 7507 | 4 | 591 | 10 | 1.7\% |
| 7507 | 5 | 976 | 214 | 21.9\% |
| 7508 | 1 | 3,163 | 363 | 11.5\% |
| 7508 | 2 | 3,265 | 286 | 8.8\% |
| 7508 | 3 | 1,497 | 251 | 16.8\% |
| 7508 | 4 | 901 | 156 | 17.3\% |
| 7508 | 5 | 616 | 155 | 25.2\% |
| 7508 | 6 | 1,384 | 359 | 25.9\% |
| 7510 | 1 | 3,663 | 198 | 5.4\% |
| 7510 | 2 | 2,223 | 189 | 8.5\% |
| 7510 | 3 | 4,938 | 591 | 12.0\% |


| Frederick County - Elderly |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| Census Tract | Block Group | Population | Elderly <br> Population | Percent Elderly |
| 7510 | 4 | 1,778 | 34 | $1.9 \%$ |
| 7510 | 5 | 485 | 131 | $27.0 \%$ |
| 7513 | 1 | 1,771 | 160 | $9.0 \%$ |
| 7513 | 2 | 1,319 | 225 | $17.1 \%$ |
| 7513 | 3 | 1,199 | 211 | $17.6 \%$ |
| 7513 | 4 | 1,485 | 116 | $7.8 \%$ |
| 7514 | 1 | 2,198 | 162 | $7.4 \%$ |
| 7514 | 2 | 1,932 | 49 | $2.5 \%$ |
| 7514 | 3 | 752 | 57 | $7.6 \%$ |
| 7514 | 4 | 1,166 | 330 | $28.3 \%$ |
| 7514 | 5 | 1,095 | 76 | $6.9 \%$ |
| 7514 | 6 | 1,096 | 29 | $2.6 \%$ |
| 7521 | 1 | 1,314 | 87 | $6.6 \%$ |
| 7521 | 2 | 1,303 | 148 | $11.4 \%$ |
| 7521 | 3 | 1,669 | 114 | $6.8 \%$ |
| 7521 | 4 | 3,339 | 109 | $3.3 \%$ |
| 7522 | 1 | 1,070 | 130 | $12.1 \%$ |
| 7522 | 2 | 1,264 | 153 | $12.1 \%$ |
| 7522 | 3 | 727 | 66 | $9.1 \%$ |
| Frederick Co. Block Groups | 84,451 | 8,511 | $10.1 \%$ |  |
| Frederick County |  | 195,277 | 18,779 | $9.6 \%$ |

Source: 2000 Census
Notes: "Elderly" populations are defined as persons age 65 years or older. Shaded rows exceed the percentage of elderly populations in each County.



TABLE 9
2000 DISABILITY POPULATION

| Montgomery County - Population w/ Disabilities |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Census Tract | Block Group | Population | Population w/ Disabilities | Percent w/ Disabilities |
| 7003.02 | 1 | 1,261 | 331 | 26.2\% |
| 7003.02 | 2 | 915 | 279 | 30.5\% |
| 7003.02 | 3 | 807 | 215 | 26.6\% |
| 7003.04 | 1 | 4,348 | 780 | 17.9\% |
| 7003.04 | 2 | 1,028 | 211 | 20.5\% |
| 7003.08 | 1 | 2,646 | 308 | 11.6\% |
| 7003.08 | 2 | 2,970 | 349 | 11.8\% |
| 7003.09 | 1 | 1,157 | 138 | 11.9\% |
| 7003.09 | 2 | 2,782 | 298 | 10.7\% |
| 7003.1 | 1 | 1,288 | 241 | 18.7\% |
| 7003.1 | 2 | 809 | 341 | 42.2\% |
| 7003.1 | 3 | 2,103 | 178 | 8.5\% |
| 7004 | 1 | 811 | 240 | 29.6\% |
| 7004 | 2 | 1,223 | 376 | 30.7\% |
| 7007.04 | 2 | 1,090 | 204 | 18.7\% |
| 7007.05 | 1 | 1,118 | 265 | 23.7\% |
| 7007.05 | 2 | 2,195 | 511 | 23.3\% |
| 7007.05 | 3 | 2,802 | 475 | 17.0\% |
| 7007.05 | 4 | 756 | 165 | 21.8\% |
| 7007.06 | 1 | 1437 | 350 | 24.4\% |
| 7007.06 | 2 | 1832 | 555 | 30.3\% |
| 7007.11 | 1 | 2,033 | 144 | 7.1\% |
| 7007.12 | 1 | 1,848 | 601 | 32.5\% |
| 7007.12 | 2 | 2,028 | 719 | 35.5\% |
| 7007.12 | 3 | 1,531 | 251 | 16.4\% |
| 7007.12 | 4 | 892 | 163 | 18.3\% |
| 7007.13 | 1 | 1,152 | 198 | 17.2\% |
| 7007.13 | 2 | 3,963 | 746 | 18.8\% |
| 7007.14 | 1 | 2,869 | 637 | 22.2\% |
| 7007.14 | 2 | 1,391 | 673 | 48.4\% |
| 7007.14 | 3 | 2,000 | 1887 | 94.4\% |
| 7008.05 | 1 | 1,298 | 370 | 28.5\% |
| 7008.05 | 2 | 1,343 | 389 | 29.0\% |


| Montgomery County - Population w/ Disabilities |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| Census Tract | Block Group | Population | Population w/ <br> Disabilities | Percent <br> Disabilities |
| 7008.05 | 3 | 217 | $14.2 \%$ |  |
| 7008.05 | 4 | 1,113 | 227 | $20.4 \%$ |
| 7008.05 | 5 | 2,739 | 383 | $14.0 \%$ |
| 7008.06 | 1 | 8,799 | 933 | $10.6 \%$ |
| 7008.08 | 1 | 1,127 | 403 | $35.8 \%$ |
| 7008.08 | 2 | 2,966 | 687 | $23.2 \%$ |
| 7008.08 | 3 | 3,719 | 678 | $18.2 \%$ |
| 7008.16 | 1 | 4,133 | 706 | $17.1 \%$ |
| 7008.16 | 2 | 1,995 | 502 | $25.2 \%$ |
| 7008.16 | 3 | 1,499 | 206 | $13.7 \%$ |
| 7008.17 | 1 | 2,192 | 367 | $16.7 \%$ |
| 7008.17 | 2 | 2,242 | 630 | $28.1 \%$ |
| 7008.18 | 1 | 1,988 | 517 | $26.0 \%$ |
| 7008.18 | 2 | 1,113 | 257 | $23.1 \%$ |
| 7008.18 | 3 | 1,493 | 197 | $13.2 \%$ |
| 7008.18 | 4 | 1,078 | 313 | $29.0 \%$ |
| 7008.19 | 1 | 1,128 | 177 | $15.7 \%$ |
| 7008.19 | 2 | 1,317 | 312 | $23.7 \%$ |
| 7008.19 | 3 | 2,563 | 181 | $7.1 \%$ |
| 7008.19 | 4 | 1,143 | 226 | $19.8 \%$ |
| 7012.11 | 1 | 980 | 175 | $17.9 \%$ |
| 7012.11 | 2 | 2,740 | 476 | $17.4 \%$ |
| Montgomery Co. Block Groups | 107,321 | 22,358 | $20.8 \%$ |  |
| Montgomery County |  | 873,341 | 97,457 | $11.2 \%$ |
|  |  |  |  |  |

TABLE 9
2000 DISABILITY POPULATION (CONTINUED)

| Frederick County - Population w/ Disabilities |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Census Tract | Block Group | Population | Population w/ Disabilities | Percent $\quad$ w/ Disabilities Disabilities |
| 7501 | 1 | 1,146 | 569 | 49.7\% |
| 7501 | 2 | 778 | 276 | 35.5\% |
| 7503 | 1 | 1,033 | 448 | 43.4\% |
| 7503 | 2 | 776 | 217 | 28.0\% |
| 7504 | 1 | 1,088 | 285 | 26.2\% |
| 7504 | 2 | 843 | 373 | 44.2\% |
| 7504 | 3 | 2,016 | 795 | 39.4\% |
| 750501 | 1 | 1,082 | 336 | 31.1\% |
| 750501 | 2 | 865 | 404 | 46.7\% |
| 750501 | 3 | 423 | 78 | 18.4\% |
| 750501 | 4 | 2,419 | 589 | 24.3\% |
| 750501 | 5 | 1,208 | 489 | 40.5\% |
| 750501 | 6 | 1,592 | 272 | 17.1\% |
| 750501 | 7 | 1,604 | 670 | 41.8\% |
| 750502 | 1 | 2,388 | 474 | 19.8\% |
| 750502 | 2 | 1,296 | 429 | 33.1\% |
| 750502 | 3 | 2,005 | 515 | 25.7\% |
| 750502 | 4 | 3,088 | 443 | 14.3\% |
| 7506 | 1 | 1,068 | 284 | 26.6\% |
| 7506 | 2 | 683 | 222 | 32.5\% |
| 7506 | 3 | 734 | 232 | 31.6\% |
| 7507 | 1 | 2,211 | 562 | 25.4\% |
| 7507 | 2 | 1,883 | 497 | 26.4\% |
| 7507 | 3 | 2,043 | 934 | 45.7\% |
| 7507 | 4 | 591 | 369 | 62.4\% |
| 7507 | 5 | 976 | 267 | 27.4\% |
| 7508 | 1 | 3,163 | 606 | 19.2\% |
| 7508 | 2 | 3,265 | 443 | 13.6\% |
| 7508 | 3 | 1,497 | 465 | 31.1\% |
| 7508 | 4 | 901 | 277 | 30.7\% |
| 7508 | 5 | 616 | 156 | 25.3\% |
| 7508 | 6 | 1,384 | 351 | 25.4\% |
| 7510 | 1 | 3,663 | 589 | 16.1\% |


| Frederick County - Population w/ Disabilities |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Census Tract | Block Group | Population | Population w/ Disabilities | Percent w/ Disabilities |
| 7510 | 2 | 2,223 | 696 | 31.3\% |
| 7510 | 3 | 4,938 | 995 | 20.1\% |
| 7510 | 4 | 1,778 | 96 | 5.4\% |
| 7510 | 5 | 485 | 122 | 25.2\% |
| 7513 | 1 | 1,771 | 519 | 29.3\% |
| 7513 | 2 | 1,319 | 494 | 37.5\% |
| 7513 | 3 | 1,199 | 144 | 12.0\% |
| 7513 | 4 | 1,485 | 359 | 24.2\% |
| 7514 | 1 | 2,198 | 473 | 21.5\% |
| 7514 | 2 | 1,932 | 135 | 7.0\% |
| 7514 | 3 | 752 | 150 | 19.9\% |
| 7514 | 4 | 1,166 | 410 | 35.2\% |
| 7514 | 5 | 1,095 | 246 | 22.5\% |
| 7514 | 6 | 1,096 | 261 | 23.8\% |
| 7521 | 1 | 1,314 | 55 | 4.2\% |
| 7521 | 2 | 1,303 | 291 | 22.3\% |
| 7521 | 3 | 1,669 | 427 | 25.6\% |
| 7521 | 4 | 3,339 | 431 | 12.9\% |
| 7522 | 1 | 1,070 | 346 | 32.3\% |
| 7522 | 2 | 1,264 | 206 | 16.3\% |
| 7522 | 3 | 727 | 193 | 26.5\% |
| Frederick Co. Block Groups |  | 84,451 | 20,965 | 24.8\% |
| Frederick County |  | 195,277 | 44,234 | 22.7\% |

Source: 2000 Census
Notes: "Disability" populations are defined as persons with self-care and mobility limitations. Shaded rows exceed the percentage of disability populations in each County.



## 3. Study Area Neighborhoods and Communities

## a. Existing Conditions

Neighborhoods and communities may be defined in several ways. They may be designated within specific boundaries by municipal or county government for jurisdictional or planning purposes. They may also be identified by residents through their sense of community cohesion; this is the sense of unification, "belonging", or closeness. It can relate to physical characteristics as well as the less tangible perceptions of residents about their neighborhood quality of life. Cohesive neighborhoods or communities may also be represented by citizen organizations to promote their interests. For the purposes of this technical report, emerging neighborhoods and communities are defined in one of five ways to include:

1. Incorporated places
2. Communities identified as Corridor Cities
3. Locally recognized but unincorporated neighborhoods or communities
4. Neo-traditional communities - mixed-use developments that include both residential and commercial uses, may include new community facilities (i.e. community center) and/or have a home-owners association or neighborhood association formed
5. Residential subdivisions of 50 lots or more that are approved and programmed or under construction

The 2002 DEIS included most new residential subdivisions and multi-family developments as potential neighborhoods by virtue of their concentration of new homes. For the purposes of consistency, this technical report also lists new (since 2002) areas of large-scale residential growth (50 or more homes in a single development) both in the discussion of programmed and pipeline projects (approved but not fully built) in Section II.A.1, Land Use and in this discussion of communities and neighborhoods. Figure $\mathbf{N}$ (Plates 1 through 5) shows the locations of all documented communities and neighborhoods along the project corridor.

Updates to information on communities and neighborhoods in the I-270 Corridor and the adjacent area was obtained from interviews with local planning offices including Frederick County, City of Frederick, City of Gaithersburg, City of Rockville, and the M-NCPPC. Updates to the information on neighborhoods were also derived in part through the Montgomery County Civic Federation (MCCF). This organization was formed in 1925 to promote civic, community and general welfare in the County. Its membership includes a number of neighborhood associations in the study area.

Maryland

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## Montgomery County

The 2002 DEIS provided information on 35 neighborhoods and/or subdivisions in Montgomery County (see Figure N). The County continues to see strong growth in both residential and nonresidential development. New residential development is most concentrated in Gaithersburg and Clarksburg areas. Information on new neighborhoods and communities by category follows.

Incorporated Places and Corridor Cities: The incorporated places as identified in the 2002 DEIS, have remained the same. Some cities and towns, including Gaithersburg and Rockville, have annexed additional land area, expanding their political boundaries. Municipalities and unincorporated communities, including Corridor Cities, in the study area in Montgomery County include:

- City of Rockville
- Shady Grove
- City of Gaithersburg
- Montgomery Village
- Germantown
- Clarksburg
- Hyattstown

Neighborhoods and Neo-traditional Communities: Neighborhoods and communities as listed in the 2002 DEIS have remained and many have increased in intensity of development. As discussed in Section II.A, Land Use, since publication of the 2002 DEIS, there are five newly emerging communities within the I-270 Corridor in Montgomery County. These include the Cabin Branch Development, Upper Rock District, Casey East, Casey West and Crown Farm developments.

- Upper Rock District - encompasses 20 acres in Rockville, less than one mile from the Shady Grove Metro station. It is located at the intersection of Shady Grove and Choke Cherry Roads. It will include 950 residential units, 7,250 square feet of retail space, and 9,000 square feet of restaurant space.
- The Crown Farm - This development is located southwest of the intersection of I-270 and I-370. It is proposed with a transit-oriented, traditional neighborhood design including a mix of types of residential units and commercial uses on 182 acres. At maximum, it may ultimately have 2,550 residences and 370,000 square feet of commercial space. The area of the Crown Farm was recently annexed by the City of Gaithersburg.
- Casey East - An approved and pending mixed-use development with office, retail and residential uses. Casey East sits on 40 acres and will include 382 condominiums, 116,400 square feet of commercial and restaurant space, and 70,000 square feet of office space. The City of Gaithersburg will obtain land for a senior center and a police station as part of the development scheme.
- Casey West - Casey West will include the Watkins Mill Town Center and will consist of 725 residential units, two office buildings and 50,000 square feet of retail space. The second phase of the development will be largely commercial buildings, and is contingent upon the construction of the Watkins Mill Road Interchange. It will include one million square feet of office, 376,000 square feet of retail, 1,368 residential units and a hotel on 165 acres. The third phase is contingent on the start of the Corridor Cities Transitway.
- Cabin Branch - is located on the southwest quadrant of Clarksburg Road (MD 121) and I-270 in Clarksburg. It will feature 2,100 residential units and 97,500 square feet of retail and office space.

Subdivisions: Construction of most residential subdivisions as identified in the 2002 DEIS has been completed. Table 10 lists the new residential subdivisions of 50 lots or more within Montgomery County in the vicinity of the I-270 Corridor that have been approved since 2002 but have not fully built.

TABLE 10
NEW SUBDIVISIONS IN THE PROJECT AREA MONTGOMERY COUNTY, 2002-2006

| Name | Figure I, <br> Plate \# | Total <br> units | Location |
| :--- | :---: | :---: | :--- |
| Summerfield Crossing; <br> Linthicum Property | 2 | 418 | Old Baltimore Road, Clarksburg |
| Woodcrest | 2 | 86 | Frederick Road north of Clarksburg <br> Road, Clarksburg |
| Clarksburg Ridge | 2 | 159 | Clarksburg Road west side of <br> Columbia Drive |
| Highlands at Clarksburg | 2 | 594 | SE quad. of Frederick Road at <br> Clarksburg Road, Clarksburg |
| Gateway Commons | 2 | 292 | Hammerhill Road and Frederick <br> Road, Clarksburg |
| Observation Heights <br> Woods | 1 | 130 | 70 West Deer Park Road, <br> Gaithersburg |

## Frederick County

The 2002 DEIS provided information on 19 neighborhoods and/or subdivisions in Frederick County (see Figure N). Updates to this information were derived from the City of Frederick Office of Planning, Frederick County Planning, and the Frederick Board of Aldermen.

Incorporated Places and Corridor Cities: Frederick remains the only incorporated place within the I-270/US 15 Corridor in Frederick County. The 1998 Frederick County Comprehensive Plan indicated areas targeted for future annexation. However, none of those proposed areas fall within
the I-270 or US 15 corridors and no change to the city boundaries within the corridor have taken place since 2002.

Neighborhoods and Neo-traditional Communities: Neighborhoods and communities as listed in the 2002 DEIS have remained and many have increased in intensity of development. Since 2002, the City of Frederick has formed 12 Neighborhood Advisory Councils (NAC). The NAC concept was developed by the Mayor and Board of Aldermen in response to community input during a 2002 series of community forums. Each NAC area closely overlaps with established voting districts and census tracts. Seven NAC areas either abut or fall partially within the I-270 Corridor. Table 10 below describes the boundaries of these NACs. These are also shown on Figure O. Each NAC is composed of appointed volunteers. Their role is to comment and recommend solutions to neighborhood, traffic, safety, zoning, and capital improvements issues, as well as comment on development review requests and Board of Appeals cases.

TABLE 11
CITY OF FREDERICK NEIGHBORHOOD ADVISORY COUNCILS (NACs) IN THE I-270 CORRIDOR

| NAC <br> \# Designation | Boundaries |
| :---: | :--- |
| 4 | Bounded on the North and East by the Monocacy River, on the East by the <br> Frederick City Limits, on the South by the Clustered Spires Golf Course and <br> the Monocacy River, and on the West by Thomas Johnson Drive. |
| 5 | Bounded on the North by Fort Detrick and Montevue Lane, on the East by <br> Rosemont Avenue and US 15, on the South by West Patrick Street (US 40), <br> and on the West by the Frederick City Limits. |
| 6 | Bounded on the North by Fort Detrick, on the West by Rosemont Avenue, on <br> the South by Dill Avenue and on the East by Bentz Street, 7th Street west to <br> US 15, US 15 from 7th street to Motter Avenue/Oppossumtown Pike and <br> Motter Avenue/Oppossumtown Pike north from US 15 to the Fort Detrick <br> Limits. |
| 7 | Bound on the West by US 15 from the West 7th Street north to Motter <br> Avenue and by Thomas Johnson Drive south of Liberty Road (MD 26), on <br> the North by the Monocacy River, on the East by Gashouse Pike, and on the <br> South by 7th Street, 5th Street east of North East Street and County Lane. |
| 8 | Bound on the North by US 40, on the West by the City limits, on the South by <br> I-70, and on the East by US 15. |
| 9 | Bound on the West by US 15, on the North by Rosemont and Dill Avenues, <br> on the east by Bentz Street, and on the South by Jefferson Street. |
| 10 | Bound on the North by South Street and Jefferson Street, on the East by <br> South Market Street and Urbana Pike as well as the Frederick City Limits, on <br> the South by Farmbrook Drive, Crestwood Boulevard, and the City Limits, <br> and on the West by US 15. |
| 4 |  |

FIGURE 0
CITY OF FREDERICK NEIGHBORHOOD ADVISORY COUNCIL BOUNDARIES


As discussed in Section 2.A, Land Use, since publication of the 2002 DEIS, there are two newly emerging communities within or adjacent to the I-270 Corridor in Frederick County. Within the City of Frederick, Market Square at Frederick will extend the Worman's Mill subdivision with 464 residential units and 190,000 square feet of retail and office space.

The Villages of Urbana with a new Urbana Town Center is a neo-traditional mixed-use development just northeast of I-270 and the center of the Village of Urbana. It is surrounded mostly by agricultural land. Upon completion it is expected to have 3,500 residential units and over 2.5 million square feet of office and retail development. The ultimate population for this new community will be approximately 11,000 .

Subdivisions: Construction within most residential subdivisions in Frederick County as identified in the 2002 DEIS has been completed. There are no new residential subdivisions of 50 lots or more in Frederick County approved since 2002.

## b. Effects - Neighborhoods and Communities

## Overview

Physical characteristics important to neighborhoods include access to and within the neighborhood or community, common historical and/or architectural themes among buildings, and the presence of community institutions such as libraries, churches, and fire stations. To varying degrees, the visual and physical impact of the ETL alternatives on neighborhoods and communities will be greatest at and around the station sites where access from the ETL lanes will be provided. These station sites and associated park and ride lots will utilize land within several new and emerging communities and create new visual elements and public activity nodes within the fabric of these neighborhoods or communities. The park and ride lots will have no adverse effect as they would not be built within any neighborhood or community boundary. The effects of the proposed transitway to and from the station sites would be the same as described in the 2002 DEIS.

Access within a neighborhood is characterized by the ability to travel by a variety of modes, including walking and bicycling. In general, the ETL alternatives will result in greater transportation mobility for residents. This includes eight locations for direct access to the ETL lanes via the termini, open access areas and the potential elevated direct access ramps for corridor interchanges. In addition, the proposed interchanges, particularly those at Newcut Road and MD 75 Extended will provide access to and from new residential developments both within the I-270 corridor and beyond it, all of which are within easy motor vehicle reach of the highway. Expanded mobility means greater access to employment centers, public service providers and facilities, including health care, and recreational facilities.

## Alternative 1 (No-Build Alternative)

Alternative 1, the No-Build Alternative, does not address the need for improved local access for new and emerging neighborhoods and communities. It would not address the congestion due to the increasing traffic volumes along I-270 and US 15, particularly at the existing interchanges,
that will occur as a result of the increasing planned residential and commercial development along both highway corridors. Given the anticipated growth in traffic congestion over time, access to the business/commercial centers in the corridor, communities will become more constrained leading some customers to choose alternate options that are more convenient. Also, travel time costs can be expected to influence homeowner's decisions where to locate, somewhat constraining the housing market in the communities that are farther removed from the Washington DC urban core. The No-Build Alternative would have no impact to community cohesion, visual character or community resources and facilities important to community or neighborhood character.

## Alternatives 6A and 6B

TDM Component: The TDM elements of Alternatives 6A and 6B include two park and ride lots, one at US 15 and Monocacy Boulevard and the other at Liberty Road. Both park and ride lots would be constructed on undeveloped land and would have no direct impact on any community or neighborhood cohesion. Conversely, the park and ride lots can be expected to facilitate carpooling and vanpooling travel from new residential developments within the City of Frederick to points south. The proposed Trading Lane lot would be approximately one-and-a-half miles from the nearest large existing residential neighborhood as well as the planned Worman’s Mill development. The Biggs Ford Road lot is also surrounded by developable land and would be about a half-mile to residences along Sunday's Lane.

Highway Component: The proposed highway alignment would result in substantial residential displacements along I-270 and loss of some open space for residences especially those immediately adjacent to the roadway. Section 5. Displacements and Relocation, provides further detail on residential displacements. The majority of displacements in the corridor would occur in neighborhoods located adjacent to I-270, between I-370 and Muddy Branch Road, in Montgomery County including Brighton West, London Derry/Montgomery Club, and the Princeton Courts Apartments. Strip takings, primarily from backyards (which vary greatly in size), would occur between five and 30 residences along Abbottsford Circle, Old Baltimore Road, Fingerboard Road, Biggs Avenue, Mercer Place and Pinewood Drive.

Although the highway improvements are proposed along the edges of the affected communities, the displacement of residences could result in adverse changes in social interaction such as loss of the sense of community, instability, and psychological unity by displacing residents from other residents located on the same side of the highway. Existing I-270 and US 15 are physical barriers to vehicle and pedestrian movements between communities located on either side of the highways, but relationships do exist among neighbors living on the same side of the highway. By displacing residences in areas on both sides of the project corridor, Alternatives 6A/B and 7A/B could remove some residents from other residents located on the same side of I-270 and possibly disrupt social interactions and community cohesion.

Those homes abutting the highway primarily do so at the border from their backyards. For the most part, this condition will continue. However, where the primary row of residences is displaced, the front of the next row of residences would then be impacted by face the highway. Therefore, the physical removal of existing residences closest to I-270 would expose the other

Statrlidimay
residences' front view and property facing the newly widened highway that were previously shielded by the displaced residences. Further coordination with potentially affected residents would identify the extent of effects to social interactions and community cohesion.

Transit Component: The proposed transit lines and stations would have a direct effect on the emerging new communities in Montgomery County. The station locations have been configured to serve these new communities and in particular, to support transit-oriented development in the Upper Rock District, Casey West, and Crown Farm developments. The CCT stations, line alignment, and potential operations and maintenance sites have been incorporated into the new community design plans. Since the transitway would be close to residential areas there is a potential safety concern where residents may attempt to cross the transitway. The stations, alignment, and potential operations and maintenance sites would be designed with safety fencing, warning signage, lighting, and other measures to prevent such accidents.

## Alternatives 7A and 7B

Impacts from these alternatives are expected to be the same as those for Alternatives 6A and 6B. The key difference between Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ is in the traffic operations, due to the striping and functionality of the lanes. This difference will not affect the limit of disturbance and will not have any additional impacts on neighborhoods and communities in the form of residential takings or visual impacts.

## 4. Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and LowIncome Populations, directs Federal agencies to "promote nondiscrimination in Federal programs substantially affecting human health and the environment, and provide minority and low-income communities access to public information on, and an opportunity for public participation in, matters relating to human health or the environment." The Order directs agencies to utilize existing law to ensure that when they act:

- They do not discriminate on the basis of race, color, or national origin.
- They identify and address disproportionately high and adverse human health or environmental effects of their actions on minority and low-income communities.
- They provide opportunities for community input in the NEPA process, including input on potential effects and mitigation measures.

This Environmental Justice (EJ) analysis will identify disproportionately high and adverse human health and environmental effects to minority and low-income communities that would result from any improvements undertaken from the I-270/US 15 Multi-Modal Corridor Study.

## a. Methodology

Executive Order 12898 does not define the terms "minority" or "low-income." However, guidance provided by the Council on Environmental Quality (CEQ) describes these terms in the context of Environmental Justice (EJ) analysis. These definitions are unique to EJ analysis and are the basis for the methodology that follows:

Minority Individual - A Minority individual is classified by the U.S. Bureau of Census as belonging to one of the following groups: American Indian or Alaskan Native, Asian or Pacific Islander, Black (not of Hispanic Origin), and Hispanic.

Minority Populations - According to the CEQ Guidelines, minority populations should be identified where either (a) the minority population of the affected area exceeds $50 \%$ or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

Low-income Population - Low-income populations are identified where individuals have incomes below the U.S. Department of Health and Human Services poverty guidelines. A lowincome population is either a group of low-income individuals living in proximity to one another or a set of individuals who share common conditions of environmental exposure or effect.

For the purpose of gathering population data, this analysis used the US Census block groups within the project study area boundary. Project impacts were then analyzed for block groups
located within a 1,000-foot buffer of the centerline of both the highway and transitway corridors. The established impact boundary was used as a baseline for the EJ analysis and represents the geographic area where most of the direct effects as a result of the project were likely to occur and was consistent with the effects assessment completed for other environmental resources. Data was collected for the study area, and Montgomery and Frederick Counties as a whole. The following data were used to identify minority and low-income populations in the study area:

- Population data from the 2000 US Census;
- Income data from the 2000 US Census;
- Graphical representations of Census Block Group (Block Group) boundaries from the 2000 US Census.

The US Census Bureau offers a new nationwide survey, called the American Community Survey (ACS), designed to provide interim data between the 10 -year census periods. Data from the 2005 ACS are available for geographic areas with a population of 65,000 or more including all 50 states and the District of Columbia. However, ACS data is not yet available at the Census tract level and smaller geographic areas. By 2008, the Census Bureau expects to release data for all areas with populations of 20,000 or more. Beginning in 2010, and every year thereafter, the nation will have a five-year period estimate available, a resource that shows change over time, even for neighborhoods and rural areas. The US Census Bureau also allowed local officials to split and merge 1990 census tracts and block groups under certain conditions. As a result, Census tract numbers and boundaries for Census 2000 are not always comparable to the 1990 Census.

This EJ analysis evaluates the racial and income characteristics of persons within the study area. The evaluation consists of the following two steps to determine whether each study area block group meets the "EJ threshold" for further analysis:

Step 1: Calculation of Minority or Low-income Populations - The following 2000 U.S. Census information was collected for each block group in the study area and for Montgomery and Frederick Counties: (1) the total population, (2) the total minority population, and (3) the total low-income population. From these raw numbers the percentage of persons in each minority group and persons below the poverty level were determined.

Step 2: Calculation to Determine if EJ Threshold is Met - Once the baseline minority and lowincome populations were determined for comparison purposes, specific block groups that meet the EJ threshold were identified. The EJ threshold for further analysis is met in either of the following cases:

- Block groups where the minority or low-income population in the block group equals or exceeds 50 percent of the population in that block group.
- Block groups where the percentage of the minority or low-income population is at least 10 percent higher than the minority or low-income population percentage for Montgomery County or Frederick County.

Impacts to block groups meeting the EJ threshold have the potential to be disproportionately borne by minority or low-income populations. The EJ analysis performed for this project focuses on these block groups. No further impact analysis was performed for those block groups that did not meet the EJ threshold.

The 2002 DEIS used a similar methodology with the following exceptions: (1) it compared the minority and low-income population percentages for the block groups to the study area average (as exampled in SHA's 2001 EJ Guidelines) rather than to each respective county; (2) the "meaningfully greater" threshold was set at 100 percent greater than the study area average rather than 50 percent greater than each county average. For this EA, the SHA recommended comparisons with each county average rather than the study area average based on potential effects from the project beyond the immediate study area.

To understand the existing environment all low-income and minority data was collected and analyzed for block groups within the study area boundary. The initial analysis results are discussed in the following sections.

## Minority Populations

Table 12 presents racial characteristics of the population in the I-270/US 15 Corridor based on 2000 census data. According to the 2000 census, residents in the I-270/US 15 Corridor are predominantly Caucasian ( 67.9 percent). Figure $\mathbf{P}$ shows the locations of those 2000 census block groups meeting the minority EJ threshold calculation.

Census block groups meeting the minority EJ threshold (shaded gray) are block groups that meet a two-step threshold: the block group's minority percentage is either 50 percent, or is equal to or greater than the county minority percentage plus 10 percent. In Montgomery County, the county minority percentage is 46.8 percent, which means that block groups meeting the minority EJ threshold are either 50 percent minority or at least 56.8 percent minority. (In this instance, any Montgomery County block group that is 50 percent minority or greater would be considered a block group that meets or exceeds the threshold). In Frederick County, the county minority percentage is 13.1 percent, which means that block groups meeting the minority EJ threshold are either 50 percent minority or at least 23.1 percent minority. Census block groups meeting the minority EJ threshold are generally located in Gaithersburg (between MD 124 and Sam Eig Highway) in Montgomery County and north of MD 80 in Frederick County. Please refer to Figure $\mathbf{P}$ for more specific locations.

## Low-Income Populations

The 2000 median household income level for the I-270/US 15 Corridor was $\$ 64,349$ for Montgomery County census tracts in the study area and $\$ 55,716$ for the Frederick County portion of the study area. This compares with a 2000 median household income of $\$ 71,551$ for Montgomery County as a whole and $\$ 60,276$ for Frederick County.

Table 13 presents low-income populations for the I-270/US 15 Corridor based on 2000 Census data. Figure Q shows the locations of those 2000 Census block groups meeting the low-income EJ threshold calculation.

Census block groups meeting the low-income EJ threshold (shaded gray) are block groups that meet a two-step threshold: the block group's low-income percentage is either 50 percent, or is equal to or greater than the county low-income percentage plus 10 percent. In Montgomery County, the county low-income percentage is 5.4 percent, which means that block groups meeting the low-income EJ threshold are either 50 percent low-income or at least 15.4 percent. In Frederick County, the county low-income percentage is 4.4 percent, which means that block groups meeting the low-income EJ threshold are either 50 percent low-income or at least 14.4 percent. Please refer to Figure $\mathbf{Q}$ for more specific locations.

Maryland

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TABLE 12
2000 MINORITY POPULATION

| Montgomery County - Minority |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Census <br> Tract | Block Group | Population | White | Black | Hispanic | American <br> Indian and <br> Alaska <br> Native | Asian | Native Hawaiian and Other Pacific Islander | Other** | Total Minority | Percent <br> Minority |
| 7003.02 | 1 | 1,261 | 1,145 | 28 | 69 | 0 | 0 | 0 | 19 | 116 | 9.2\% |
| 7003.02 | 2 | 915 | 825 | 75 | 0 | 15 | 0 | 0 | 0 | 90 | 9.8\% |
| 7003.02 | 3 | 807 | 783 | 15 | 9 | 0 | 0 | 0 | 0 | 24 | 3.0\% |
| 7003.04 | 1 | 4,348 | 2,407 | 651 | 295 | 5 | 892 | 0 | 98 | 1,941 | 44.6\% |
| 7003.04 | 2 | 1,028 | 679 | 110 | 83 | 0 | 134 | 0 | 22 | 349 | 33.9\% |
| 7003.08 | 1 | 2,646 | 1,780 | 430 | 135 | 0 | 203 | 0 | 98 | 866 | 32.7\% |
| 7003.08 | 2 | 2,970 | 2,292 | 211 | 170 | 7 | 186 | 9 | 95 | 678 | 22.8\% |
| 7003.09 | 1 | 1,157 | 722 | 187 | 170 | 0 | 44 | 0 | 34 | 435 | 37.6\% |
| 7003.09 | 2 | 2,782 | 1,655 | 535 | 264 | 0 | 288 | 16 | 24 | 1,127 | 40.5\% |
| 7003.1 | 1 | 1,288 | 1,021 | 23 | 65 | 6 | 129 | 0 | 44 | 267 | 20.7\% |
| 7003.1 | 2 | 809 | 592 | 132 | 50 | 18 | 17 | 0 | 0 | 217 | 26.8\% |
| 7003.1 | 3 | 2,103 | 1,340 | 342 | 216 | 0 | 137 | 0 | 68 | 763 | 36.3\% |
| 7004 | 1 | 811 | 654 | 116 | 14 | 6 | 0 | 0 | 21 | 157 | 19.4\% |
| 7004 | 2 | 1,223 | 1,105 | 29 | 0 | 36 | 33 | 0 | 20 | 118 | 9.6\% |
| 7007.04 | 2 | 1,090 | 634 | 27 | 88 | 0 | 309 | 0 | 32 | 456 | 41.8\% |
| 7007.05 | 1 | 1,118 | 529 | 126 | 439 | 0 | 8 | 16 | 0 | 589 | 52.7\% |
| 7007.05 | 2 | 2,195 | 542 | 350 | 916 | 0 | 335 | 0 | 52 | 1,653 | 75.3\% |
| 7007.05 | 3 | 2,802 | 909 | 560 | 979 | 0 | 302 | 0 | 52 | 1,893 | 67.6\% |
| 7007.05 | 4 | 756 | 335 | 90 | 190 | 0 | 129 | 12 | 0 | 421 | 55.7\% |
| 7007.06 | 1 | 1,437 | 683 | 297 | 192 | 0 | 165 | 0 | 100 | 754 | 52.5\% |
| 7007.06 | 2 | 1,832 | 727 | 368 | 323 | 0 | 275 | 0 | 139 | 1,105 | 60.3\% |
| 7007.11 | 1 | 2,033 | 1,291 | 118 | 167 | 0 | 387 | 0 | 70 | 742 | 36.5\% |
| 7007.12 | 1 | 1,848 | 411 | 527 | 367 | 0 | 377 | 0 | 166 | 1,437 | 77.8\% |
| 7007.12 | 2 | 2,028 | 1,399 | 223 | 115 | 0 | 213 | 0 | 78 | 629 | 31.0\% |
| 7007.12 | 3 | 1,531 | 829 | 318 | 114 | 0 | 167 | 7 | 96 | 702 | 45.9\% |
| 7007.12 | 4 | 892 | 716 | 39 | 108 | 29 | 0 | 0 | 0 | 176 | 19.7\% |
| 7007.13 | 1 | 1,152 | 615 | 220 | 64 | 9 | 158 | 0 | 86 | 537 | 46.6\% |
| 7007.13 | 2 | 3,963 | 977 | 695 | 974 | 77 | 1,137 | 0 | 103 | 2,986 | 75.3\% |
| 7007.14 | 1 | 2,869 | 971 | 850 | 494 | 0 | 495 | 0 | 59 | 1,898 | 66.2\% |
| 7007.14 | 2 | 1,391 | 765 | 198 | 334 | 0 | 78 | 0 | 16 | 626 | 45.0\% |
| 7007.14 | 3 | 2,000 | 1,842 | 21 | 61 | 0 | 41 | 0 | 35 | 158 | 7.9\% |
| 7008.05 | 1 | 1,298 | 523 | 195 | 339 | 0 | 164 | 0 | 77 | 775 | 59.7\% |
| 7008.05 | 2 | 1,343 | 476 | 401 | 347 | 0 | 71 | 0 | 48 | 867 | 64.6\% |
| 7008.05 | 3 | 1,528 | 627 | 309 | 82 | 0 | 413 | 0 | 97 | 901 | 59.0\% |
| 7008.05 | 4 | 1,113 | 817 | 41 | 40 | 0 | 152 | 0 | 63 | 296 | 26.6\% |
| 7008.05 | 5 | 2,739 | 1,873 | 236 | 201 | 0 | 318 | 0 | 111 | 866 | 31.6\% |
| 7008.06 | 1 | 8,799 | 6,445 | 348 | 482 | 0 | 1,206 | 0 | 318 | 2,354 | 26.8\% |
| 7008.08 | 1 | 1,127 | 491 | 150 | 178 | 0 | 300 | 0 | 8 | 636 | 56.4\% |
| 7008.08 | 2 | 2,966 | 1,548 | 749 | 371 | 0 | 133 | 12 | 153 | 1,418 | 47.8\% |
| 7008.08 | 3 | 3,719 | 2,009 | 635 | 310 | 0 | 630 | 0 | 135 | 1,710 | 46.0\% |
| 7008.16 | 1 | 4,133 | 1,110 | 949 | 1,149 | 18 | 750 | 0 | 157 | 3,023 | 73.1\% |
| 7008.16 | 2 | 1,995 | 906 | 224 | 519 | 7 | 261 | 0 | 78 | 1,089 | 54.6\% |
| 7008.16 | 3 | 1,499 | 843 | 147 | 74 | 0 | 328 | 0 | 107 | 656 | 43.8\% |
| 7008.17 | 1 | 2,192 | 1,348 | 141 | 168 | 0 | 476 | 0 | 59 | 844 | 38.5\% |
| 7008.17 | 2 | 2,242 | 1,334 | 257 | 160 | 0 | 385 | 17 | 89 | 908 | 40.5\% |
| 7008.18 | 1 | 1,988 | 913 | 381 | 352 | 0 | 257 | 0 | 85 | 1,075 | 54.1\% |
| 7008.18 | 2 | 1,113 | 461 | 293 | 60 | 0 | 242 | 0 | 57 | 652 | 58.6\% |
| 7008.18 | 3 | 1,493 | 989 | 223 | 170 | 0 | 72 | 0 | 39 | 504 | 33.8\% |
| 7008.18 | 4 | 1,078 | 361 | 409 | 82 | 0 | 154 | 0 | 72 | 717 | 66.5\% |
| 7008.19 | 1 | 1,128 | 753 | 154 | 142 | 0 | 79 | 0 | 0 | 375 | 33.2\% |
| 7008.19 | 2 | 1,317 | 837 | 199 | 63 | 7 | 120 | 0 | 91 | 480 | 36.4\% |
| 7008.19 | 3 | 2,563 | 1,671 | 325 | 196 | 17 | 189 | 0 | 165 | 892 | 34.8\% |
| 7008.19 | 4 | 1,143 | 773 | 100 | 179 | 0 | 0 | 0 | 91 | 370 | 32.4\% |
| 7012.11 | 1 | 980 | 627 | 87 | 44 | 15 | 170 | 0 | 37 | 353 | 36.0\% |
| 7012.11 | 2 | 2,740 | 1,536 | 330 | 192 | 0 | 609 | 0 | 73 | 1,204 | 43.9\% |
| Montgom County |  | 873,341 | 564,890 | 130,849 | 100,309 | 2,593 | 97,994 | 489 | 76,526 | 408,760 | 46.8\% |

TABLE 12
2000 MINORITY POPULATION (CONTINUED)
Frederick County - Minority

| Census <br> Tract | Block <br> Group | Population | White | Black | Hispanic | American <br> Indian and <br> Alaska <br> Native | Asian | Native <br> Hawaiian <br> and Other <br> Pacific <br> Islander | Other** | Total Minority | Percent <br> Minority |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7501 | 1 | 1,146 | 691 | 351 | 32 | 0 | 0 | 0 | 72 | 455 | 39.7\% |
| 7501 | 2 | 778 | 633 | 108 | 0 | 0 | 7 | 0 | 30 | 145 | 18.6\% |
| 7503 | 1 | 1,033 | 447 | 547 | 19 | 20 | 0 | 0 | 0 | 586 | 56.7\% |
| 7503 | 2 | 776 | 429 | 347 | 0 | 0 | 0 | 0 | 0 | 347 | 44.7\% |
| 7504 | 1 | 1,088 | 965 | 72 | 8 | 0 | 10 | 0 | 33 | 123 | 11.3\% |
| 7504 | 2 | 843 | 687 | 68 | 14 | 0 | 44 | 0 | 30 | 156 | 18.5\% |
| 7504 | 3 | 2,016 | 1,296 | 473 | 98 | 0 | 61 | 5 | 83 | 720 | 35.7\% |
| 750501 | 1 | 1,082 | 996 | 49 | 28 | 0 | 0 | 0 | 9 | 86 | 7.9\% |
| 750501 | 2 | 865 | 569 | 135 | 137 | 0 | 24 | 0 | 0 | 296 | 34.2\% |
| 750501 | 3 | 423 | 206 | 152 | 65 | 0 | 0 | 0 | 0 | 217 | 51.3\% |
| 750501 | 4 | 2,419 | 1,198 | 489 | 339 | 0 | 211 | 0 | 182 | 1,221 | 50.5\% |
| 750501 | 5 | 1,208 | 876 | 169 | 138 | 0 | 0 | 0 | 25 | 332 | 27.5\% |
| 750501 | 6 | 1,592 | 1,082 | 172 | 151 | 0 | 138 | 0 | 49 | 510 | 32.0\% |
| 750501 | 7 | 1,604 | 1,152 | 286 | 40 | 14 | 68 | 0 | 44 | 452 | 28.2\% |
| 750502 | 1 | 2,388 | 1,752 | 223 | 103 | 0 | 82 | 0 | 228 | 636 | 26.6\% |
| 750502 | 2 | 1,296 | 1,125 | 129 | 19 | 9 | 0 | 14 | 0 | 171 | 13.2\% |
| 750502 | 3 | 2,005 | 1,283 | 447 | 127 | 0 | 61 | 6 | 81 | 722 | 36.0\% |
| 750502 | 4 | 3,088 | 2,130 | 387 | 273 | 0 | 254 | 0 | 44 | 958 | 31.0\% |
| 7506 | 1 | 1,068 | 852 | 92 | 45 | 0 | 48 | 0 | 31 | 216 | 20.2\% |
| 7506 | 2 | 683 | 672 | 0 | 0 | 11 | 0 | 0 | 0 | 11 | 1.6\% |
| 7506 | 3 | 734 | 710 | 0 | 7 | 9 | 8 | 0 | 0 | 24 | 3.3\% |
| 7507 | 1 | 2,211 | 1,790 | 178 | 149 | 0 | 54 | 0 | 40 | 421 | 19.0\% |
| 7507 | 2 | 1,883 | 1,482 | 202 | 90 | 0 | 66 | 0 | 43 | 401 | 21.3\% |
| 7507 | 3 | 2,043 | 1,463 | 457 | 31 | 25 | 9 | 0 | 58 | 580 | 28.4\% |
| 7507 | 4 | 591 | 264 | 98 | 96 | 18 | 115 | 0 | 0 | 327 | 55.3\% |
| 7507 | 5 | 976 | 869 | 88 | 4 | 0 | 0 | 0 | 15 | 107 | 11.0\% |
| 7508 | 1 | 3,163 | 2,686 | 295 | 22 | 0 | 103 | 0 | 57 | 477 | 15.1\% |
| 7508 | 2 | 3,265 | 2,761 | 318 | 107 | 0 | 39 | 0 | 40 | 504 | 15.4\% |
| 7508 | 3 | 1,497 | 1,262 | 192 | 0 | 0 | 17 | 0 | 26 | 235 | 15.7\% |
| 7508 | 4 | 901 | 848 | 53 | 0 | 0 | 0 | 0 | 0 | 53 | 5.9\% |
| 7508 | 5 | 616 | 570 | 25 | 16 | 0 | 0 | 0 | 5 | 46 | 7.5\% |
| 7508 | 6 | 1,384 | 1,037 | 225 | 57 | 8 | 31 | 0 | 26 | 347 | 25.1\% |
| 7510 | 1 | 3,663 | 3,132 | 264 | 104 | 14 | 107 | 0 | 42 | 531 | 14.5\% |
| 7510 | 2 | 2,223 | 1,835 | 273 | 55 | 0 | 30 | 0 | 30 | 388 | 17.5\% |
| 7510 | 3 | 4,938 | 4,235 | 322 | 93 | 53 | 229 | 0 | 6 | 703 | 14.2\% |
| 7510 | 4 | 1,778 | 1,010 | 569 | 50 | 0 | 93 | 0 | 56 | 768 | 43.2\% |
| 7510 | 5 | 485 | 340 | 117 | 0 | 0 | 28 | 0 | 0 | 145 | 29.9\% |
| 7513 | 1 | 1,771 | 1,713 | 29 | 0 | 0 | 8 | 0 | 21 | 58 | 3.3\% |
| 7513 | 2 | 1,319 | 1,274 | 34 | 0 | 0 | 6 | 0 | 5 | 45 | 3.4\% |
| 7513 | 3 | 1,199 | 1,128 | 50 | 0 | 21 | 0 | 0 | 0 | 71 | 5.9\% |
| 7513 | 4 | 1,485 | 1,468 | 0 | 11 | 0 | 6 | 0 | 0 | 17 | 1.1\% |
| 7514 | 1 | 2,198 | 2,079 | 0 | 77 | 0 | 42 | 0 | 0 | 119 | 5.4\% |
| 7514 | 2 | 1,932 | 1,791 | 45 | 88 | 8 | 0 | 0 | 0 | 141 | 7.3\% |
| 7514 | 3 | 752 | 735 | 0 | 0 | 0 | 0 | 0 | 17 | 17 | 2.3\% |
| 7514 | 4 | 1,166 | 1,136 | 14 | 0 | 16 | 0 | 0 | 0 | 30 | 2.6\% |
| 7514 | 5 | 1,095 | 901 | 140 | 54 | 0 | 0 | 0 | 0 | 194 | 17.7\% |
| 7514 | 6 | 1,096 | 1,009 | 87 | 0 | 0 | 0 | 0 | 0 | 87 | 7.9\% |
| 7521 | 1 | 1,314 | 1,244 | 0 | 0 | 0 | 70 | 0 | 0 | 70 | 5.3\% |
| 7521 | 2 | 1,303 | 1,251 | 0 | 0 | 0 | 8 | 0 | 44 | 52 | 4.0\% |
| 7521 | 3 | 1,669 | 1,635 | 34 | 0 | 0 | 0 | 0 | 0 | 34 | 2.0\% |
| 7521 | 4 | 3,339 | 3,245 | 0 | 71 | 23 | 0 | 0 | 0 | 94 | 2.8\% |
| 7522 | 1 | 1,070 | 891 | 137 | 33 | 0 | 0 | 0 | 9 | 179 | 16.7\% |
| 7522 | 2 | 1,264 | 1,151 | 83 | 5 | 4 | 0 | 0 | 21 | 113 | 8.9\% |
| 7522 | 3 | 727 | 676 | 41 | 0 | 0 | 10 | 0 | 0 | 51 | 7.0\% |
| Frederick County |  | 195,277 | 174,293 | 12,191 | 4,598 | 466 | 3,327 | 45 | 4,955 | 25,582 | 13.1\% |

Source: 2000 US Census
Notes: Shaded rows exceed the average percentage of minority populations for each County.
Asterisks denote EJ populations "meaningfully greater" than that in each respective County
** "Other" Combines the "Some other races" and " 2 or more races" Census designations.



TABLE 13
2000 LOW-INCOME POPULATION

| Montgomery County - Low Income |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| Tract | Block <br> Group | Population | Low- <br> Income | Percent <br> Low-Income |
| 7003.02 | 1 | 1,261 | 56 | $4.4 \%$ |
| 7003.02 | 2 | 915 | 39 | $4.3 \%$ |
| 7003.02 | 3 | 807 | 6 | $0.7 \%$ |
| 7003.04 | 1 | 4,348 | 146 | $3.4 \%$ |
| 7003.04 | 2 | 1,028 | 38 | $3.7 \%$ |
| 7003.08 | 1 | 2,646 | 188 | $7.1 \%$ |
| 7003.08 | 2 | 2,970 | 99 | $3.3 \%$ |
| 7003.09 | 1 | 1,157 | 60 | $5.2 \%$ |
| 7003.09 | 2 | 2,782 | 160 | $5.8 \%$ |
| 7003.1 | 1 | 1,288 | 35 | $2.7 \%$ |
| 7003.1 | 2 | 809 | 1 | $0.1 \%$ |
| 7003.1 | 3 | 2,103 | 99 | $4.7 \%$ |
| 7004 | 1 | 811 | 32 | $3.9 \%$ |
| 7004 | 2 | 1,223 | 72 | $5.9 \%$ |
| 7007.04 | 2 | 1,090 | 29 | $2.7 \%$ |
| 7007.05 | 1 | 1,118 | 124 | $11.1 \%$ |
| 7007.05 | 2 | 2,195 | 315 | $14.4 \%$ |
| 7007.05 | 3 | 2,802 | 227 | $8.1 \%$ |
| 7007.05 | 4 | 756 | 85 | $11.2 \%$ |
| 7007.06 | 1 | 1,437 | 32 | $2.2 \%$ |
| 7007.06 | 2 | 1,832 | 167 | $9.1 \%$ |
| 7007.11 | 1 | 2,033 | 91 | $4.5 \%$ |
| 7007.12 | 1 | 1,848 | 67 | $3.6 \%$ |
| 7007.12 | 2 | 2,028 | 41 | $2.0 \%$ |
| 7007.12 | 3 | 1,531 | 102 | $6.7 \%$ |
| 7007.12 | 4 | 892 | 8 | $0.9 \%$ |
| 7007.13 | 1 | 1,152 | 50 | $4.3 \%$ |
| 7007.13 | 2 | 3,963 | 442 | $11.2 \%$ |
| 7007.14 | 1 | 2,869 | 417 | $14.5 \%$ |
| 7007.14 | 2 | 1,391 | 122 | $8.8 \%$ |
| 7007.14 | 3 | 2,000 | 316 | $15.8 \%$ |
| 7008.05 | 1 | 1,298 | 104 | $8.0 \%$ |
| 7008.05 | 2 | 1,343 | 112 | $8.3 \%$ |
| 7008.05 | 3 | 1,528 | 51 | $3.3 \%$ |
| 7008.05 | 4 | 1,113 | 0 | $0.0 \%$ |
|  |  |  |  |  |

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| Montgomery County - Low Income |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| Tract | Block <br> Group | Population | Low- <br> Income | Percent <br> Low-Income |
| 7008.05 | 5 | 2,739 | 67 | $2.4 \%$ |
| 7008.06 | 1 | 8,799 | 278 | $3.2 \%$ |
| 7008.08 | 1 | 1,127 | 72 | $6.4 \%$ |
| 7008.08 | 2 | 2,966 | 52 | $1.8 \%$ |
| 7008.08 | 3 | 3,719 | 344 | $9.2 \%$ |
| 7008.16 | 1 | 4,133 | 412 | $10.0 \%$ |
| 7008.16 | 2 | 1,995 | 110 | $5.5 \%$ |
| 7008.16 | 3 | 1,499 | 25 | $1.7 \%$ |
| 7008.17 | 1 | 2,192 | 114 | $5.2 \%$ |
| 7008.17 | 2 | 2,242 | 138 | $6.2 \%$ |
| 7008.18 | 1 | 1,988 | 130 | 6.5 |
| 7008.18 | 2 | 1,113 | 37 | $3.3 \%$ |
| 7008.18 | 3 | 1,493 | 66 | $4.4 \%$ |
| 7008.18 | 4 | 1,078 | 8 | $0.7 \%$ |
| 7008.19 | 1 | 1,128 | 129 | $11.4 \%$ |
| 7008.19 | 2 | 1,317 | 130 | $9.9 \%$ |
| 7008.19 | 3 | 2,563 | 56 | $2.2 \%$ |
| 7008.19 | 4 | 1,143 | 8 | $0.7 \%$ |
| 7012.11 | 1 | 980 | 29 | $3.0 \%$ |
| 7012.11 | 2 | 2,740 | 260 | $9.5 \%$ |
| Montgomery County | 873,341 | 47,024 | $5.4 \%$ |  |

TABLE 13
2000 LOW-INCOME POPULATION (CONTINUED)

| Frederick County - Low Income |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| Tract | Block Group | Population | Low-Income | Percent <br> Low-Income |
| 7501 | 1 |  |  |  |
| 7501 | 2 | 1146 | 379 | $33.1 \%$ |
| 7503 | 1 | 778 | 84 | $10.8 \%$ |
| 7503 | 2 | 1033 | 223 | $21.6 \%$ |
| 7504 | 1 | 776 | 106 | $13.7 \%$ |
| 7504 | 2 | 1088 | 98 | $9.0 \%$ |
| 7504 | 3 | 843 | 18 | $2.1 \%$ |
| 750501 | 1 | 2016 | 140 | $6.9 \%$ |
| 750501 | 2 | 1082 | 57 | $5.3 \%$ |
| 750501 | 3 | 865 | 153 | $17.7 \%$ |
| 750501 | 4 | 423 | 124 | $29.3 \%$ |
| 750501 | 5 | 2419 | 283 | $11.7 \%$ |
| 750501 | 6 | 1208 | 55 | $4.6 \%$ |
| 750501 | 7 | 1592 | 106 | $6.7 \%$ |
| 750502 | 1 | 1604 | 80 | $5.0 \%$ |
| 750502 | 2 | 2388 | 25 | $1.0 \%$ |
| 750502 | 3 | 1296 | 73 | $5.6 \%$ |
| 750502 | 4 | 2005 | 142 | $7.1 \%$ |
| 7506 | 1 | 3088 | 126 | $4.1 \%$ |
| 7506 | 2 | 1068 | 13 | $1.2 \%$ |
| 7506 | 3 | 683 | 26 | $3.8 \%$ |
| 7507 | 1 | 734 | 48 | $6.5 \%$ |
| 7507 | 2 | 2211 | 26 | $1.2 \%$ |
| 7507 | 3 | 1883 | 52 | $2.8 \%$ |
| 7507 | 4 | 2043 | 322 | $15.8 \%$ |
| 7507 | 5 | 591 | 46 | $7.8 \%$ |
| 7508 | 1 | 976 | 40 | $4.1 \%$ |
| 7508 | 2 | 3163 | 53 | $1.7 \%$ |
| 7508 | 3 | 3265 | 40 | $1.2 \%$ |
| 7508 | 4 | 1497 | 73 | $4.9 \%$ |
| 7508 | 5 | 901 | 8 | $0.9 \%$ |
| 7508 | 6 | 616 | 34 | $5.5 \%$ |
| 7510 | 1 | 1384 | 96 | $6.9 \%$ |
| 7510 | 2 | 3663 | 132 | $3.6 \%$ |
|  | 2223 | 70 | $3.1 \%$ |  |
|  |  |  |  |  |
|  |  |  | 70 |  |

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| Frederick County - Low Income |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| Tract | Block Group | Population | Low-Income | Percent <br> Low-Income |
| 7510 | 3 | 4938 | 102 | $2.1 \%$ |
| 7510 | 4 | 1778 | 97 | $5.5 \%$ |
| 7510 | 5 | 485 | 0 | $0.0 \%$ |
| 7513 | 1 | 1771 | 81 | $4.6 \%$ |
| 7513 | 2 | 1319 | 30 | $2.3 \%$ |
| 7513 | 3 | 1199 | 0 | $0.0 \%$ |
| 7513 | 4 | 1485 | 11 | $0.7 \%$ |
| 7514 | 1 | 2198 | 91 | $4.1 \%$ |
| 7514 | 2 | 1932 | 41 | $2.1 \%$ |
| 7514 | 3 | 752 | 0 | $0.0 \%$ |
| 7514 | 4 | 1166 | 33 | $2.8 \%$ |
| 7514 | 5 | 1095 | 13 | $1.2 \%$ |
| 7514 | 6 | 1096 | 50 | $4.6 \%$ |
| 7521 | 1 | 1314 | 76 | $5.8 \%$ |
| 7521 | 2 | 1303 | 41 | $3.1 \%$ |
| 7521 | 3 | 1669 | 34 | $2.0 \%$ |
| 7521 | 4 | 3339 | 68 | $2.0 \%$ |
| 7522 | 1 | 1070 | 9 | $0.8 \%$ |
| 7522 | 2 | 1264 | 44 | $3.5 \%$ |
| 7522 | 3 | 727 | 31 | $4.3 \%$ |
| Frederick County | 195,277 | 8,550 | $4.4 \%$ |  |
|  |  |  |  |  |

Source: 2000 US Census
Notes: "Low-Income" populations are defined as persons whose median household income is at or below the US Department of Health and Human Services poverty threshold of \$17,029 annual income for a four-person household for the year 1999.



## b. Findings

Figure $\mathbf{R}$ identifies the locations of the block groups that meet minority and low-income EJ thresholds within the 1,000 -foot buffer area used to determine impact analysis for the project. As illustrated in Figure P, of the 109 block groups located in the project study area, only 61 block groups are located in the environmental impact analysis buffer area. Further analysis concluded that 21 of the 61 block groups analyzed have minority percentages that exceed 50 percent of the total population in each block group (refer to Table 11 for a full listing). Additionally, all of these block groups met the first and/or second minority threshold calculations. These block groups either had minority percentages greater than 50 percent of the total block group population or minority populations at least 10 percent greater than Montgomery and Frederick Counties, as a whole. Montgomery County has a minority population of 46.8 percent and Frederick County has a minority population of 13.1 percent as previously noted in Section 3.b of this chapter.
The EJ minority block groups are:

| Montgomery County |  | Frederick County |  |
| :--- | :--- | :--- | :--- |
| Census Tract | Block Group | Census Tract | Block Group |
| 7007.05 | 2 | 7510 | 4 |
| 7007.05 | 3 | 7510 | 5 |
| 7007.05 | 4 | 7504 | 3 |
| 7008.16 | 1 | 7505.02 | 4 |
| 7008.16 | 2 | 7505.01 | 7 |
| 7007.14 | 1 | 7507 | 3 |
| 7008.05 | 1 | 7507 | 4 |
| 7008.05 | 2 | 7508 | 6 |
| 7007.12 | 1 |  |  |
| 7007.06 | 1 |  |  |
| 7007.06 | 2 |  |  |
| 7008.08 | 1 |  |  |
| 7008.18 | 1 |  |  |

Only one block group of the 61 block groups analyzed had a low-income population that met the low-income threshold calculation. Census Tract 7507 Block Group 4, located in Frederick County, met the first and second low-income threshold calculation with 15.8 percent of its population being low-income. Frederick County's low-income population percentage is 4.4 percent.
The 22 block groups that met the minority and, in one case, the low-income EJ threshold (EJ areas) are comprised of residential developments, neighborhoods, and communities. Although targeted EJ outreach activities were not completed for the purposes of this analysis, residential developments, neighborhoods and communities that are located within block groups that meet or exceed the EJ threshold and that would be directly impacted are identified were applicable. The potential effects to these EJ areas are discussed by impact category in the following effects section. The effects to these impacted block groups are discussed in the following section.

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## c. Effects - Environmental Justice

Executive Order 12898 of February 11, 1994, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires federal agencies to identify and address, as appropriate, "disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." To comply with the order, the project team considered potential effects on lowincome and minority populations within a 1,000-foot buffer area within the I-270 Corridor and determined whether the effects were disproportionately high in relation to other areas in the Corridor.

CEQ guidelines state that "mitigation measures identified in an EIS or developed as part of a Finding of No Significant Impact should reflect the needs and preferences of affected lowincome populations, minority populations, or Indian tribes to the extent practicable". A range of mitigation measures will be recommended for those EJ areas where disproportionate impacts are anticipated. Mitigation measures for affected EJ areas will be identified through consultation with affected populations and will be consistent with federal, state and local standards. Potential mitigation measures are noted under each topic, below.

The following assessment of disproportionate effects was based on a comparison between affected and non-affected (or less-affected) areas, and determined whether impacts fall predominantly or more severely on minority and low-income communities. The impact may be disproportionate if impacts would fall predominantly (or more severely) on minority or lowincome communities. Both the severity of adverse impacts and the effectiveness of mitigation have been assessed as they specifically relate to minority and low-income communities. The EJ analysis is intended to identify any adverse effects that disproportionately occur to minority and/or low-income populations as well as any situations in which proposed mitigation may be inadequate to fully address the adverse effects to minority and/or low-income communities.

If determined disproportionate, then the SHA will coordinate with the affected communities to develop a mitigation program tailored, to the extent practical, to meet the needs of EJ areas prior to final project approval. The SHA will reassess the preliminary conclusions of this analysis based on input from the public involvement program. The project team will continue to involve minority and low-income populations in the project planning process during subsequent stages of the project.

## Alternative 1 (No-Build Alternative)

The No-Build Alternative includes general highway maintenance and operational and signage improvements, only. The No-Build Alternative is not consistent with adopted land use plans and current development patterns which have already proceeded in response to the potential highway and transit improvements within the Corridor. The No-Build Alternative would have an adverse impact on future traffic conditions and transportation access throughout the Corridor. The NoBuild Alternative would not address the congestion and safety hazards along I-270 and US 15, particularly at the existing interchanges, that is expected to occur with the growth anticipated by the year 2030 in the Corridor. Aside from the above, the No-Build Alternative is not expected to have direct impacts on EJ areas.

## Alternatives 6 A/B and 7A/B

Table 14 summarizes the potential impacts to EJ areas located within 1,000 feet of the highway and transitway alignments. Table 14 indicates the potential number of property displacements in EJ areas, although the highway widening in the existing corridor would occur relatively equally on both sides of I-270. Refer to Section 5. Displacements and Relocation, for further information. The majority of displacements in the corridor would occur in EJ areas located adjacent to I-270, between I-370 and MD 117, in Montgomery County including Brighton West (81 residences), London Derry/Montgomery Club (150 residences), and Princeton Courts (12 residences). The highway alignment would require one residential displacement in Caulfield compared to the transitway alignment that would displace up to four residences in Caulfield due to the operations and maintenance site. Both the highway and transitway alignments would require minor right-of-way acquisition (strip takings) in the Montgomery Meadows, Stratford Mews, Orchard Pond, Middlebrook, Overlook, Waterford, Rock Creek Estates, and Spring Valley EJ areas.

With regard to EJ areas, potential effects to land use, community facilities and services, air, noise, public health and safety, visual environment, and traffic and transportation are comparable to other locations throughout the Corridor and are not included in Table 13. Since the potential effects to land use, community facilities and services, air, noise, public health and safety, visual effects, and traffic and transportation with regard to EJ areas are comparable to other locations throughout the Corridor, the extent of the proposed impacts due to these resource topics would not be considered a "disproportionately high and adverse impact" under the EJ guidelines. The potential number of property displacements and adverse effects to community cohesion in existing EJ areas, compared to non-EJ areas along the Corridor, suggest a disproportionately high or adverse impact although the widening of existing I-270 will be occur equally on both sides of the roadway.

The sections following Table 16 discuss potential impacts and mitigation measures regarding:

- Displacements and Property
Acquisition
- Community Cohesion and Access
- Community Facilities and Services
- Land Use
- Socio-Economic Effects
- Visual Effects
- Air Quality
- Public Health and Safety
- Noise and Vibration
- Traffic and Transportation

TABLE 14
SUMMARY OF POTENTIAL IMPACTS IN EJ AREAS LOCATED WITHIN 1,000 FEET OF ALIGNMENTS

| Montgomery County |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Census Tract | Block Group | Map | Community Name | Highway Effects ${ }^{1,2}$ | Transitway Effects ${ }^{1,2}$ |
| 7007.05 | 2 | HWY 1 | Foxwood | None | None |
| 7007.05 | 3 | HWY 1 | Fireside Condominiums | None | None |
| 7007.05 | 4 | $\begin{aligned} & \text { HWY } \\ & 1, \\ & \text { TRAN } \\ & 2 \end{aligned}$ | King Farm | None | None; Transitway and stations entirely in Master Plan right-ofway \& integrated into community. |
|  |  |  | Washingtonian Industrial Park | Interchange improvement at I-370 in existing industrial area | None |
| 7007.06 | 1 | $\begin{aligned} & \text { TRAN } \\ & 4 \end{aligned}$ | Metropolitan Grove Park | None | None; Metropolitan Grove station benefits accessibility. Potential operations \& maintenance site at Metropolitan Grove uses existing parking and undeveloped area. |
| 7007.06 | 2 | $\begin{aligned} & \text { HWY } \\ & 2, \\ & \text { TRAN } \\ & 4 \end{aligned}$ | Metropolitan Grove | Interchange improvement at MD 124 benefits accessibility | None |
|  |  |  | Caulfield | Alignment requires 1 residential displacement | Potential operations$\&$ <br> maintenance site at Game <br> Preserve Road requires up to 4 <br> residential displacements |
| 7007.12 | 1 | HWY 2 | Montgomery Meadows | Alignment requires minor right-of-way acquisition at Crown Point Corp. Center | None |

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| Montgomery County |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Census Tract | Block Group | Map | Community Name | Highway Effects ${ }^{1,2}$ | Transitway Effects ${ }^{1,2}$ |
| 7007.14 | 1 | HWY 2 | London <br> Derry/Montgomery Club | Alignment requires up to 150 residential displacements (without minimization); potential effects on community cohesion | None |
|  |  |  | Stratford Mews | None | Minor right-of-way acquisition (no effect) |
| 7008.05 | 2 | $\begin{array}{\|l} \hline \text { TRAN } \\ 4 \\ \hline \end{array}$ | Orchard Pond | None | Minor right-of-way acquisition (no effect) |
| 7008.08 | 1 | $\begin{aligned} & \hline \text { HWY } \\ & 3, \\ & \text { TRAN } \\ & 5 \end{aligned}$ | Middlebrook | Interchange improvement at Middlebrook Road requires minor right-of-way acquisition (no effect) | None. |
| 7008.16 | 1 | HWY 1 | Brighton West | Alignment requires 81 residential displacements (without minimization); potential effects on community cohesion | None |
| 7008.16 | 2 | HWY 1 | Undetermined | Alignment requires <br> displacements 2 business | None |
| 7008.18 | 1 | $\begin{array}{\|l} \text { HWY } \\ 3, \\ \text { TRAN } \\ 5 \end{array}$ | The Colony | None | Minor right-of-way acquisition (no effect) |
|  |  |  | Middlebrook Tech Park | Interchange improvement at Middlebrook Road requires minor right-of-way acquisition (no effect). | None |

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## Frederick County

| Census <br> Tract | Block Group | Map | Community Name | Highway Effects ${ }^{1,2}$ | Transitway Effects ${ }^{1,2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7510 | 4 | HWY 11 | Princeton Courts | Alignment requires up to 12 residential displacements; potential disruption of community cohesion | None |
|  |  |  | Harding Farm | One business displacement | None |
| 7505.02 | 4 | HWY 12 | Overlook | Minor right-of-way acquisition (no effect) | None |
| 7505.01 | 7 | HWY 13 | Waterford | Minor right-of-way acquisition (no effect) | None |
|  |  |  | Rock Creek Estates | Minor right-of-way acquisition (no effect) | None |
| 7508 | 6 | HWY 13 | Spring Valley | Minor right-of-way acquisition (no effect) | None |

## Notes:

${ }^{1}$ - Summary of potential impacts includes transitway stations, transitway operations and maintenance sites, park and ride sites, improvements to existing highway interchanges, and new highway interchange locations.
${ }^{2}$ - Summary of potential impacts, after mitigation, for the following analysis topics: Displacements \& Property Acquisition, Community Cohesion, Community Facilities \& Services, Land Use, Socio-Economic, Visual/Aesthetics, Air Quality, Public Health \& Safety, Noise \& Vibration, and Traffic \& Transportation. Park impacts are included in the separate "Parks Impacts" section.

## Effects on Displacements and Relocation in EJ Areas

The EJ areas were assessed in terms of potential property acquisition and/or displacements of residential and commercial buildings. An analysis of the potential displacements in EJ areas under Alternatives 6A/B and 7A/B was based on preliminary right-of-way estimates, which was the same method that was used to analyze the build alternatives in the 2002 DEIS. The locations of displacements required are identified on the engineering plan figures at the end of this document. If a build alternative is selected, the number of actual displacements may vary slightly from those presented as a result of refinements in both the design and right-of-way requirements, and the implementation of retaining walls, during the detailed engineering phase of this project.

## Highway Alignment

The highway alignment would potentially displace residences including single-family homes, townhouses, condominiums and apartment units and businesses in EJ areas. The 2002 DEIS noted the following potential displacements in EJ areas: 119 residences under Alternatives 3A/B and 4A/B; 120 residences under Alternatives 5A/B; and 224 residences under Alternative 5C. Over 90 percent of these displacements would have occurred within three EJ areas currently located adjacent to and situated on both sides of I-270 in Gaithersburg: Brighton West, Fireside Condominium, and London Derry/Montgomery Club. Since then, further design refinements and the inclusion of retaining walls along portions of the highway alignment have substantially reduced the overall number of highway displacements.

In comparison, Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ could displace up to 251 residences and 11 businesses (with no retaining walls and shoulder width reductions) up to 93 residences and one business with retaining walls and/or minimized shoulders, and only nine residences if shoulder width reductions are incorporated within the following EJ areas:

## Montgomery County

- Census Tract 7008.16 - Block Group 1, Brighton West, I-270 southbound, north of I-370 (see sheet HWY 1). Eighty-one (81) townhouse units within this EJ area would be displaced without any design minimization efforts. Implementation of an approximately 2,300 -foot retaining wall along with minimized shoulder widths would reduce the residential displacements to a maximum of 10 units.
- Census Tract 7007.14 - Block Group 1, London Derry/Montgomery Club, I-270 northbound, south of MD 117 (see sheet HWY 2). Up to 150 apartment and condominium units within this EJ area would be displaced due to the widening of I-270 and the inclusion of direct access ramps to MD 117. Construction of an approximately 1,700 -foot retaining wall could lower the number of displacements to 61 units. If the MD 117 ramps are not carried forward through design, and shoulder widths along I-270 are minimized as well, all residential units could be avoided.
- Census Tract 7007.06 - Block Group 2, Caulfield (see sheet HWY 2). An isolated residence, located adjacent to I-270 southbound and off of Game Preserve Road, would be displaced but could be preserved by constructing a retaining wall for highway widening. However, if the CCT is constructed, this residence would be displaced under all scenarios.


## Frederick County

- Census Tract 7510 - Block Group 4, Princeton Courts Apartments, I-270 southbound, south of the I-70 Interchange along Fox Croft Drive (see sheet HWY 11). Up to 12 apartment units within one building in this EJ area may be displaced due to the widening of I-270, along with the construction of an auxiliary lane
connecting I-70 and MD 85, and the acceleration ramp from I-70. Construction of a retaining wall of at least 500 feet would be needed to avoid these apartment units from being displaced. The design and cost of this potential wall will be included in subsequent documentation. An additional business would be displaced in the Harding Farm, I-270 southbound, south of Shockley Drive.

Although the overall number of potential displacements has been reduced since the 2002 DEIS, the displaced residences immediately adjacent to the project corridor would still be concentrated in two EJ areas located on either side of I-270 between I-370 and MD 117 in Montgomery County. The number of potential property displacements in minority and low-income communities compared to the number of potential property displacements in non-EJ areas along the Corridor suggests a disproportionately high or adverse impact due to the fact that a large percent of minority communities are situated immediately adjacent to both sides of I-270. The communities located between I-370 and MD 117 generally contain minority populations rather than low-income populations.

## Transitway Alignment

The transitway alignment is primarily located on land that is largely vacant and undeveloped and Montgomery County has reserved portions of the transitway alignment in its Master Plan. However, the transitway alignment would displace one isolated residence in Census Tract 7007.06 - Block Group 2, in Caulfield located adjacent to I-270 southbound, off of Game Preserve Road (see sheet TRAN 4). A potential operations and maintenance site in this same census tract would displace up to four other residences in this area.

Although the transitway alignment requires the above residential displacements, it would result in an overall minimal number of displacements due to the reserved Master Plan alignment. Therefore, displacements are not considered a disproportionately high or adverse impact from the transitway alignment.

## Potential Mitigation Measures

Refer to previously discussed design refinements and retaining walls for the highway alignment. On January 2, 1971, Public Law 91-646, the Uniform Relocation Assistance and Real Property

Acquisition Policies Act of 1970 (Uniform Act) was signed into law. The Uniform Act provides important protections and assistance for people affected by Federally funded projects. People whose real property is acquired, or who move as a result of projects receiving Federal funds, will be treated fairly and equitably and will receive assistance in moving from the property they occupy.

## Effects on Property Acquisition in EJ Areas

Alternatives 6A/B and 7A/B would require acquisition of additional property for highway use in the following areas:

## Montgomery County

- Census Tract 7007.14 - Block Group 1, Stratford Mews, minority, I-270 northbound, south of MD 117 (see sheet HWY 2). Approximately 0.36 acre would be acquired in this EJ area.


## Frederick County

- Census Tract 7510 - Block Group 4, Princeton Courts, minority, I-270 southbound, south of the I-70 Interchange along Fox Croft Drive (see sheet HWY 11). Approximately 1.84 acres would be acquired in this EJ area.
- Census Tract 7505.01 - Block Group 7, Waterford, minority, US 15 southbound, north of W. Patrick Street (see sheet HWY 13). Approximately 1.35 acres would be acquired in this EJ area.
- Census Tract 7508 - Block Group 6, Spring Valley, minority, US 15 northbound, south of Oppossumtown Pike (see sheet HWY 13). Approximately 0.8 acre would be acquired in this EJ area.

The proposed transitway alignment is primarily located on land that is largely vacant and undeveloped, and that has been reserved by Montgomery County in its master plan. Therefore, the transitway alignment would result in minimal residential and/or business displacements. The transitway alignment would travel along the border of The Colony at Germantown residences located in Census Tract 7008.18 - Block Group 1 (minority - see sheet TRAN 5) resulting in 0.94 acres of property acquisition (although no residential displacements). The transitway alignment also would displace one residence in Census Tract 7007.06 - Block Group 2, Caulfield, minority, I-270 southbound, west on Game Preserve Road (see sheet TRAN 4). A potential operations and maintenance site in this vicinity would displace up to four other residences in the EJ area.

## Potential Mitigation Measures

Mitigation measures would comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

## Effects on Community Cohesion and Access in EJ Areas

## Highway Alignment

Community cohesion refers to inherent elements of neighborhoods that formulate a community sustained by stability, interdependence and social interaction among persons or groups in a community. In some instances, the construction of a transportation facility could have an effect on community cohesion by increasing the amount of physical separation (barriers) between parts of an established community or by creating physical or psychological isolation of residents from one another. As noted previously, the widening along I-270 under Alternatives 6A/B and 7A/B would displace residences in the following EJ areas:

## Montgomery County

- Census Tract 7008.16 - Block Group 1, Brighton West, I-270 southbound, north of I-370, up to 81 townhouse units would be displaced (see sheet HWY 1).
- Census Tract 7007.14 - Block Group 1, London Derry/Montgomery Club, I-270 northbound, south of MD 117, up to 150 apartment and condominium units would be displaced (see sheet HWY 1).
- Census Tract 7007.06 - Block Group 2, Caulfield, I-270 southbound, west on Game Preserve Road, one residence would be displaced (see sheet HWY 2).


## Frederick County

- Census Tract 7510 - Block Group 4, Princeton Courts, I-270 southbound, south of the I-70 Interchange along Fox Croft Drive, up to 12 apartment units within one building would be displaced (see sheet HWY 11).

The proposed highway alternatives, without additional mitigation measures, would result in substantial residential displacements along I-270 and loss of some open space especially for those residences located immediately adjacent to the roadway. The highway improvements are proposed along the edges of the affected communities and, therefore, would not split any communities or separate residents from reasonable access to any community facilities and services. However, the displacement of residences could result in adverse changes in social interaction or sense of community, stability, and psychological unity by removing residents from other residents located on the same side of the highway.

Although existing I-270 and US 15 are physical barriers to vehicle and pedestrian movements between communities located on either side of the highways, relationships still could occur among neighbors living on the same side of the highway. By displacing residences in EJ areas on both sides of I-270, Alternatives 6A/B and 7A/B could remove some residents from other residents located on the same side of I-270 and possibly disrupt social interactions and community cohesion.

Those homes abutting the highway primarily do so at the border from their backyards. For the most part, this condition will continue. However, where the primary row of residences is displaced, the next row of residences would then face the highway from the front of their homes. This may also create a sense of separation from neighbors that were displaced. Therefore, the physical removal of the existing residences closest to I-270 would expose other residences to the newly widened highway that were previously shielded by the displaced residences. Further coordination with potentially affected residents would identify the extent of effects to social interactions and community cohesion.

Access is characterized by the ability to travel to and within a community through a variety of modes including motor vehicle, bicycle, and walking. Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ would not change existing access locations into or within neighborhoods and to community facilities or services. In general, Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ would increase transportation mobility for residents with direct access to the ETL lanes via the open access areas and the direct access ramps for interchanges. The proposed interchanges would enhance access to and from residential and business developments both along and beyond the I-270 Corridor, all of which are within easy vehicle access of the highway.

Transitway Alignment

The transitway alignment is not expected to cause the separation of residents from other residents or community facilities, nor produce any adverse changes in social interaction or community cohesion. The transitway alignment would travel through four EJ areas:

- Census Tract 7007.05 - Block Group 4, King Farm, east of I-270, north of Redland Boulevard (see sheet TRAN 2).
- Census Tract 7007.06 - Block Group 2, Orchard Pond and Caulfield, I-270 southbound, between MD 117 and Game Preserve Road (see sheet TRAN 4).
- Census Tract 7008.08 - Block Group 1, Middlebrook, I-270 southbound, north of Middlebrook Road (see sheet TRAN 5).
- Census Tract 7008.18 - Block Group 1, The Colony condominiums, I-270 southbound, between MD 118 and Middlebrook Road (see sheet TRAN 5).

The transitway through King Farm would be entirely within the reserved Master Plan right-ofway and integrated into the community. The transitway would travel along existing streets through Orchard Pond and Caulfield, and in the vicinity of The Colony condominiums and would not separate communities nor adversely affect community cohesion. The transitway would have a beneficial effect on access to and from these communities and other destinations by supporting the ability to travel using a variety of modes including transit, motor vehicle, bicycle, and walking. The transitway would offer three stations in EJ areas (East Gaither, West Gaither, and Metropolitan Grove stations) that would increase accessibility to employment areas for EJ populations.

## Potential Mitigation Measures

Further coordination with potentially affected residents, especially in those EJ areas with potential displacements, would identify the extent of existing social interactions or community cohesion and mitigation measures that could reduce potential adverse effects.

## Effects on Community Facilities and Services in EJ Areas

## Highway Alignment

Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ would not have adverse effects on existing community facilities and services within the EJ areas since the highway alignment follows existing I-270 and US 15. However, the planned $6{ }^{\text {th }}$ District police station will be located at the corner of Watkins Mill Road and the proposed I-270 on-ramp. This planned police station would be located in Census Tract 7007.12 - Block Group 1, Montgomery Meadows (see sheet HWY 2). The precise location and design of this station should be carefully coordinated with the final design of the I-270 selected alternative to minimize any potential adverse effects, to avoid any proximity, structural and visual impacts to surrounding communities.

## Transitway Alignment

The transitway alignment would not have adverse effects on community facilities and services within the EJ areas.

## Potential Mitigation Measures

No mitigation measures are required.

## Effects on Land Use in EJ Areas

The highway and the transitway alignments would be consistent with adopted local land use plans and zoning. Many of these plans have been updated to include policies and guidelines that accommodate the potential increased development that could result from the proposed highway and transit improvements.

## Highway Alignment

Increasing the capacity of I-270 and US 15 will likely support and encourage further land development in the Corridor. Generally, the areas in and around the City of Frederick and on the urban fringe in northern Montgomery County stand the best chance of seeing increased residential and retail land development as a result of improvements in employment and personal accessibility, although factors such as agricultural land protection measures and the extent of existing development may alter this pattern. These factors and the willingness to trade-off longer commutes for lower home prices have contributed to land development further north and west in Frederick County. Alternatives 6A/B and 7A/B, by improving capacity on the crucial link between these areas and the employment centers in Montgomery County, would serve to facilitate additional land development on the urban periphery if current trends continue.

In addition, the following improvement is proposed in an EJ area that could affect land use. The direct access Express Toll Lane ramps to Metropolitan Grove are located in Census Tract
7007.06 - Block Group 2, Metropolitan Grove, I-270 Southbound, north of MD 124 (see sheet HWY 2). Although this area is currently undeveloped, the direct access ramps could affect future development and land use patterns at the Casey West/Watkins Mill development. The incorporation of these ramps into development plans on the property would need to be coordinated with the City of Gaithersburg.

## Transitway Alignment

The transitway alignment would travel along the border of The Colony condominiums, located in Census Tract 7008.18 - Block Group 1 (see sheet TRAN 5). This is a designated Priority Funding Area in which Montgomery County seeks to guide infrastructure improvements in support of Maryland Smart Growth Act Initiatives. Therefore, the transitway is expected to benefit land use in this area.

## Potential Mitigation Measures

No mitigation measures are required.

## Effects on Economic Activity in EJ Areas

A benefit of the I-270/US 15 project is to support economic development and improve access throughout the Corridor while remaining as community-friendly, as possible. The project would affect regional commuting patterns and residential development, and also directly or indirectly generate employment for the region. Workers would benefit from reduced travel times and improved connections since they can access a wider geographic area for jobs in the same amount of travel time. The project would provide transportation benefits for those users who cannot or choose not to pay toll charges: Alternatives 6A/B and 7A/B would provide toll-free travel lanes and the transitway alignment would provide public transit access in the Corridor. This improved accessibility will encourage greater economic development and evenly distributed benefits to surrounding communities.

## Highway Alignment

The project team analyzed potential economic effects on a broader (regional) geographic scale rather than on a site-specific level. The highway alignment is expected to support economic development by improving accessibility to employment areas. Comparison between the two ETL Alternatives shows that Alternative 7A/B tends to increase accessibility and economic development potential better than Alternative 6A/B although the differences are slight.

If one of the ETL alternatives is later chosen as the preferred transportation improvement, subsequent phases of the project should consider, in greater detail, the following items related to EJ populations:

- The potential for gentrification to accelerate in historically low-income/minority neighborhoods in or near the City of Frederick as a result of the increased commuter accessibility of Frederick with the highway improvements.
- The ability of low-income people to use and benefit from the ETL Alternatives. If toll-free lanes become congested due to more travelers choosing not to pay the toll, this might burden low-income populations with longer commutes or not allow them fully to enjoy the full benefits of the added roadway capacity (insofar as low-income people might be less capable/willing to pay the ETL tolls).


## Transitway Alignment

The transitway alignment also is expected to support economic development by improving accessibility to employment areas. This increased accessibility through transit will be especially beneficial for those persons who do not drive or own a car. The transitway would offer three stations (East Gaither, West Gaither, and Metropolitan Grove) within EJ areas. The transitway alignment and stations would be located in the following EJ areas in Montgomery County which are expected to benefit from increased job and personal accessibility:

- Census Tract 7007.05 - Block Group 4, King Farm, east of I-270, north of Redland Boulevard (see sheet TRAN 2).
- Census Tract 7007.06 - Block Group 2, Orchard Pond and Caulfield, I-270 southbound, between MD 117 and Game Preserve Road (see sheet TRAN 4).
- Census Tract 7008.08 - Block Group 1, Middlebrook, I-270 southbound, north of Middlebrook Road (see sheet TRAN 5).
- Census Tract 7008.18 - Block Group 1, The Colony condominiums, I-270 southbound, between MD 118 and Middlebrook Road (see sheet TRAN 5).

Another benefit is that, in general, proximity to rail is shown to have positive impacts on property values due to the increased accessibility provided by the new transit system. This conclusion was based on several measures of property value such as sales prices of single-family homes, apartment rents, and median home value. The benefits of increased property values were shown to occur within a reasonable walking distance from the station, generally one quarter mile to one-half mile. Beyond this distance, the effect of the proximity to rail on property values was negligible. (Roderick B. Diaz, Impacts of Rail Transit on Property Values, http://www.apta.com/research/info/briefings/documents/diaz.pdf).

If the transitway alternative is later chosen as the preferred transportation improvement, subsequent phases of the project should consider, in greater detail, the potential for property values to increase in the vicinity of stations along the transitway alignment: an advantage for property owners in EJ areas who are willing to move but a potentially large issue if there are any low-income renters in the vicinity of the stations or owners who want to stay and cannot afford the higher property taxes.

## Potential Mitigation Measures

Potential economic effects have not been fully identified; therefore, specific mitigation recommendations will not be developed until a transportation improvement alternative is selected as the preferred.

The Final EIS would identify specific mitigation recommendations following the decision of the preferred transportation improvement to be implemented.

## Effects on Visual Conditions in EJ Areas

## Highway Alignment

The visual effects associated with Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ will be due to the increased presence of the highway infrastructure, the retaining walls (recommended for minimizing potential displacements), and the noise barriers (for noise abatement). The visual effects associated with Alternatives 6A/B and 7A/B are expected to be similar although Alternative 7A/B consists of two additional lanes between MD 121 and I-70 in Frederick County, rather than the one additional lane under Alternative 6 A/B.
The retaining walls and noise barriers would add new visual elements in the landscape although the existing visual environment consists of an existing highway corridor. Residences along the corridor are likely accustomed to the traffic and sight of the highway. The new retaining walls and noise barriers will vary in length and height but the effects would be site-specific. The EJ areas on either side of I-270 between I-370 and Muddy Branch Road generally have two-story townhouse, apartment and condominium properties with wooded setbacks from the highway. Therefore, the new retaining walls and noise barriers would be partially screened from most of these residential areas. However, the retaining walls and noise barriers would be visible from the vehicles traveling along the highway. After mitigation, no adverse visual effects on residential land uses in EJ areas are expected.

## Transitway Alignment

The transitway alignment will have moderate visual effects since it would be primarily at-grade. The potential transit station sites would have the greatest degree of visual effect on EJ areas. These station sites will use land within several new and emerging communities. The following station sites would create new visual elements and public activity nodes within EJ areas:

- East and West Gaither Stations proposed within Census Tract 7007.05 - Block Group 4, King Farm, east of I-270, north of Redland Boulevard (see sheet TRAN 2).
- Metropolitan Grove Station proposed within Census Tract 7007.06-Block Group 2, Metropolitan Grove, I-270 southbound, north of MD 124 (see TRAN 4).

Two of the six potential operations and maintenance sites are proposed to be located in EJ areas. These potential operations and maintenance sites are generally surrounded by wooded areas which lessen the potential for visual intrusion on surrounding EJ areas:

- Census Tract 7007.06 - Block Group 2, Metropolitan Grove, I-270 southbound, north of MD 124 (see TRAN 4).
- Census Tract 7007.06 - Block Group 2, Caulfield, I-270 southbound, west on Game Preserve Road (see sheet TRAN 4).

The transitway alignment, stations, and potential operations and maintenance sites have been incorporated into the new community design plans. After mitigation, no substantial adverse visual effects on all areas, including EJ areas, are expected to occur from the transitway facilities as these would be incorporated into the existing environment to be as visually compatible with the surrounding areas, as possible.

## Potential Mitigation Measures

Potential visual impacts can be lessened by careful architectural design of the alignment, vehicles and stations and by blending the transitway design into the existing street environment and building facades, as much as possible. The project team would pursue functional and aesthetic station area design and include coordination with adjacent communities in the design process.

Mitigation measures for both the highway and transitway alignments would include clearing no more vegetation than necessary and landscaping and planting to screen adjacent land uses, as appropriate. Dense landscaping, including evergreen trees, could be planted to serve as a visual screen throughout the year. The selection of trees that are compatible with existing vegetation would be made in consultation with the community. Visual effects of retaining walls and noise barriers can be reduced with the use of architectural or aesthetic design treatments to soften the look and feel of these new structures. Other mitigation measures to lessen negative visual effects of the project could include privacy fencing, sensitive timing of construction activities, and construction fencing.

## Effects on Air Quality in EJ Areas

## Highway and Transitway Alignment

The project is not predicted to cause or exacerbate a violation of the National Ambient Air Quality Standards (NAAQS) at any of the receptor locations under any of the alternatives. The project is not expected to measurably increase regional emission burdens or MSAT levels. The project is also not expected to cause a violation of the $\mathrm{PM}_{2.5}$ standard.

However, there are residences that abut I-270 and US 15 and currently experience the noise, dust, and fumes associated with the existing highway. These effects are expected to continue and will intensify as the highway is widened, carrying a greater number of vehicles, closer to these residences. Construction effects of the project would be limited to increased fugitive dust and mobile-source emissions. The short-term air quality effects from construction activities are expected to be uniform in both EJ areas and non-EJ areas throughout the project corridor.

## Potential Mitigation Measures

The project would adhere to state and local regulations regarding dust control and other air quality emission reduction controls in order to limit short-term fugitive dust and mobile-source emissions during construction activities.

## Effects on Public Health and Safety in EJ Areas

Public health issues include potential effects from water pollution and hazardous materials. Safety practices become important during construction activities as well as operation of a transportation facility.

## Highway Alignment

The initial site assessment for hazardous materials did not identify any sites located in EJ areas with potential impacts from the highway alignment. Since most upgrades along the highway alignment would occur at-grade with the existing I-270 and US 15 roadways, the depth of excavation needed to construct the highway alignment would be limited and serve to reduce potential effects to groundwater resources. However, other potential sources of groundwater contamination are from urban runoff, highway deicing chemicals, and fuel tank leakages which are not expected to change substantially from existing conditions. These environmental conditions and potential effects are expected to be uniform in both EJ areas and non-EJ areas throughout the project corridor.

Highway safety issues involve vehicular access to and along the roadway. Several sections in the Corridor have experienced greater than average frequency of accidents. Generally, as the volume of vehicles and congestion along I-270/US 15 increases, the number of accidents is expected to rise. However, the highway alignment is expected to lower the number of accidents due to highway safety improvements and increased roadway capacity with limited access.

These transportation improvements would equally benefit EJ areas and non-EJ areas throughout the project corridor.

## Transitway Alignment

The initial site assessment for hazardous materials identified one leaking underground storage tank (LUST) site located in an EJ area that would have potential impacts from the transitway alignment. The proposed transitway would impact the northern corner of the LUST 3 site, in Census Tract 7007.06-Block Group 2, Orchard Pond, located I-270 southbound and north of MD 124. However, this site is currently owned by the Maryland State Highway Administration and would not affect the EJ area. Operation of the transitway alignment would not result in longterm adverse impacts related to hazardous materials.

Transitway safety issues involve pedestrian and vehicular access to station areas and along the alignment itself and near operations and maintenance sites. The potential station locations in the following EJ areas would serve the surrounding communities and support transit-oriented development:

- East and West Gaither Stations proposed within Census Tract 7007.05-Block Group 4, King Farm, east of I-270, north of Redland Boulevard (see sheet TRAN 2).
- Metropolitan Grove Station proposed within Census Tract 7007.06-Block Group 2, Metropolitan Grove, I-270 Southbound, north of MD 124 (see TRAN 4).

In addition, two of the six potential operations and maintenance sites are proposed to be located in EJ areas:

- Census Tract 7007.06-Block Group 2, Metropolitan Grove, I-270 southbound, north of MD 124 (see TRAN 4).
- Census Tract 7007.06 - Block Group 2, Caulfield, I-270 southbound, west on Game Preserve Road (see sheet TRAN 4).

The transitway would affect pedestrian and vehicle movements near at-grade road crossings and stations. The transitway alignment and facilities are located in residential areas; therefore, there is some increased potential for accidents to occur where residents or children may attempt to cross the transitway. For safety reasons, LRT vehicles routinely reduce speed at intersections and approaching stations. Lighting, warning systems, walls, fences, landscaping, grade separation or other types of barriers are typically used to control pedestrian and vehicle movements and would be determined during later stages of design.

At transitway stations, pedestrians would be able to cross the tracks to the opposite platform. Signs and crosswalks would control the pedestrian movements at each end of the stations and discourage crossings at locations other than the station platforms. Gates and pavement markings would prevent direct access to the track from an approach walk, consistent with standard
practices. The transitway operator's on-board signals would be used to alert patrons to oncoming trains.

Standard traffic control devices would control vehicle movements near transitway stations and at adjacent intersections. Gates or flashing signals and audio signals, such as horns, would be considered at intersections.

The design of the transitway alignment, stations, and potential operations and maintenance sites would be incorporated into the surrounding communities and include standard safety features to facilitate safe, orderly, and integrated movements of vehicles and pedestrians, especially at transitway crossings.

## Potential Mitigation Measures

After mitigation, no substantial adverse public health or safety effects on areas are expected to exist from the highway or transitway alignments or associated facilities.

Additional hazardous material evaluation is recommended to be conducted prior to a decision on the selected alternative. If hazardous materials are found in an area affected by the highway or transitway alternatives, remediation strategies would be used, as appropriate.

Construction of the proposed improvements will not involve any unusual or particularly dangerous construction methods, procedures, or locations that would pose any substantial safety or security effects. Public safety, involving design and engineering of the transportation facilities and the type of materials used, is addressed by state and local building codes. A temporary fence will be used to shield construction activities and equipment from residential land uses.

Construction activities will result in temporary interruptions to both vehicular and pedestrian local traffic patterns. Pedestrian access will be maintained as much as possible in the vicinity of the transitway and associated facilities. Signing and pavement striping would be implemented, especially at major access points, to increase safety and security. The station areas will be welllit and could be patrolled for security purposes similar to practices currently used at Metrorail stations. The alignment could be fenced, where practical and feasible, to prevent access. The alignment, stations, and operations and maintenance sites should be designed with safety fencing, warning signage, lighting, and other measures, as appropriate, to prevent accidents.

In order to keep the public informed, regular community meetings would be held to inform residents in the surrounding areas about how, when and where construction activities would occur for the highway and transitway alignments. In addition, safety programs for residents before construction activities begin, and before operations commence, could be held to educate communities about safe conduct near the transitway system. Safeguards incorporated during the design, construction and operation of the transitway will reduce the potential for conflicts between pedestrians, motor, and transit vehicles.

## Effects on Noise and Vibration in EJ Areas

## Highway Alignment

Several residences within the EJ block groups abut I-270 and US 15 and are predicted to experience increased noise levels as a result of the proposed highway expansion as part of Alternatives 6A/B and 7A/B. The following EJ areas will require noise abatement:

## Montgomery County

- Census Tract 7007.14 - Block Group 1, London Derry/Montgomery Club and Stratford Mews, I-270 Northbound, south of MD 117 (see sheet HWY 2). Two noise receptors (H-4 and H-5) located adjacent to these EJ areas indicated the need for a noise barrier to lower the projected decibel levels by 20 dBA to within acceptable thresholds. This proposed noise barrier, 3,328 feet long and 20 feet high, would protect 51 residences.


## Frederick County

- Census Tract 7510 - Block Group 4, Princeton Courts, I-270 Southbound, south of the I-70 Interchange along Fox Croft Drive (see sheet HWY 11). Two noise receptors ( $\mathrm{H}-31$ and $\mathrm{H}-32$ ) located adjacent to these EJ areas indicated the need for a noise barrier to lower the projected decibel levels by 18 dBA to within acceptable thresholds. This proposed noise barrier, 1,814 feet long and 18 feet high, would protect 37 residences.
- Census Tract 7505.02-Block Group 4, Linden Hills, US 15 Southbound, south of US 40 (see sheet HWY 12). One receptor (H-36) located adjacent to this community indicated the need for a noise barrier to lower the projected decibel levels by 11 dBA to within acceptable thresholds. This proposed noise barrier, 1,346 feet long and 24 feet high, would protect 13 residences.
- Census Tract 7505.01-Block Group 7, Waterford and Rock Creek Estates, US 15 Southbound, south of Rosemont Avenue (see sheet HWY 13). One receptor (H-38A) located adjacent to this community indicated the need for a noise barrier to lower the projected decibel levels by 14 dBA to within acceptable thresholds. This proposed noise barrier, 2,026 feet long and 14 feet high, would protect 47 residences.
- Census Tract 7507 - Block Groups 3 and 4, Applegate, US 15 Southbound, south of Opposumtown Pike (see sheet HWY 13). One receptor (H-44) located adjacent to this EJ area indicated the need for a noise barrier to lower the projected decibel levels by 9 dBA to within acceptable thresholds. This proposed noise barrier, 1,448 feet long and 26 feet high, would protect 29 residences.
- Census Tract 7508 - Block Group 6, Spring Valley, US 15 northbound, south of Motter Avenue (see sheet HWY 13). One receptor (H-45) located adjacent to this EJ area indicated the need for a noise barrier to lower the projected decibel levels by 15
dBA to within acceptable thresholds. This proposed noise barrier, 2,425 feet long and 16 feet high, would protect 31 residences.


## Transitway Alignment

The transitway alignment travels along the border of The Colony condominiums located in Census Tract 7008.18 - Block Group 1 (minority - see sheet TRAN 5). A noise receptor (T-20) located adjacent to this EJ area indicated the need for a noise barrier to lower the projected decibel levels by 4 dBA to within acceptable thresholds. This proposed noise barrier, 1,700 feet long and only $31 / 2$ feet high, would protect 24 residences.

## Potential Mitigation Measures

Potential noise effects from the project would occur throughout the Corridor; however, where possible, providing noise barriers could mitigate adverse noise effects from the project. Therefore, the extent of the proposed impacts at these census tracts would not be considered a "disproportionately high and adverse impact" under the EJ guidelines.

After mitigation, no substantial adverse noise effects on EJ areas are expected to exist from the highway or transitway alignments or associated facilities. Noise abatement measures will be provided where feasible and reasonable.

## Effects on Traffic and Transportation in EJ Areas

All residents in the Corridor, including those who live in EJ areas, can expect to benefit from the project through improved transportation access and a modest reduction in traffic on local roads with the provision of more public transportation to the area.

## Highway Alignment

Alternatives 6A/B and 7A/B include improvements to existing interchanges, construction of new interchanges and access roads in several locations that will substantially improve traffic, transportation access, and safety. The access improvements would benefit all travelers within the Corridor including those who live and work in EJ areas. Of the total 10 interchange improvement locations, the following four are located in EJ areas (none of the new interchanges would be located in EJ areas):

## Montgomery County

- I-270/Middlebrook Road: Census Tract 7008.08 - Block Group 1, Middlebrook, I-270 Southbound, north of Middlebrook Road (see sheet HWY 3).
- I-270/MD 118: Census Tract 7008.18 - Block Group 1, The Colony Condominiums, both sides of I-270, south of MD 118 (see sheet HWY 3).


## Frederick County

- I-270/MD 85: Census Tract 7510 - Block Group 4, Harding Farm, both sides I270, at MD 85 (see sheet HWY 11).
- US 15/Jefferson Street/US 340: Census Tract 7505.02 - Block Group 4, Overlook, US 15/US 40 Southbound, between Jefferson Street and north Patrick Street (see sheet HWY 12).
- Census Tract 7507 - Block Group 4, College Estates (at the Frederick Shopping Center), west of US 15 and north of W. $7^{\text {th }}$ Street (see sheet HWY 13). There is the potential for a new designated park and ride lot within the existing Frederick Shopping Center parking lot.

Effects from construction activities will be temporary. During various stages of construction, additional traffic will be generated by the hauling of construction debris, excavation, and building materials. Construction will be restricted to the designated station sites, construction staging areas, and alignment sections.

## Transitway Alignment

Residents and employees in the Corridor can expect to benefit from the project from a transportation perspective only. With the transitway, area residents will have improved access throughout the Corridor and the surrounding area can expect a modest reduction in traffic on local roads with the provision of more public transportation to the area.

## Potential Mitigation Measures

Temporary construction-phase effects to neighborhoods and communities will occur as residents, employers and employees experience a variety of disruptions caused by traffic lane diversions, possible loss of parking, and the presence of construction equipment and materials, noise, vibration and airborne dust. Due to the size of the project, the construction phase would be separated into three to four sections, with each section taking approximately two to three years to complete. However, deliveries of material and equipment and activities that generate dust and noise can be controlled to minimize access disruptions to surrounding areas. Various other measures that could further reduce the possibility of construction effects include:

- Restricting disruptive construction activities to daytime off-peak hours.
- Confining heavy construction/vehicle (earth movers, graders, etc.) operations to the location of the alignment to minimize access, noise or other intrusions on adjacent streets.
- Controls on demolition activities.

A temporary fence will be used to shield construction activities and equipment from residential land uses and to limit pedestrian and vehicular movements to prevent accidents. Maintenance of traffic and construction staging will be planned, coordinated with local jurisdictions, and scheduled to minimize traffic delays and interruptions to the maximum extent possible. Emergency vehicle access will be maintained at all times. Appropriate signage will be used to notify travelers of road closures and detours. Affected roadways and access would be restored as soon as possible, following completion of work in an area. The maintenance of traffic plans on I-270, US 15, and vicinity state and local roads, will be further developed during the final design phase and refined prior to implementation during construction.

The station locations have been configured to serve the communities and, in particular, to support transit-oriented development in those areas along the corridor for which it is appropriate. The CCT stations, alignment, and potential operations and maintenance sites have been incorporated into the community design plans. As these would occur in residential areas, there is some increased potential for accidents to occur where residents or children may attempt to cross the transitway alignment. The stations, alignment, and operations and maintenance sites would be designed with safety fencing, warning signage, lighting, and other measures to prevent such accidents. After mitigation, no substantial adverse traffic or transportation effects on adjacent communities, including the EJ areas, are expected to exist from the highway or transitway alignments or associated facilities.

A public information program will provide notification of construction activities, detours, and schedules. Temporary paths to facilitate pedestrian movements to and through the area, detour/guide signs, and temporary traffic signals are among the tools available to help maintain travel patterns. Similar educational awareness programs would be implemented to familiarize area residents, school officials, and students with transit operations and safety plans.

## e. Determination

Alternatives 6A/B and 7A/B follow existing I-270 and include relatively equal widening on both sides of the roadway for the entire length of the project. The highway design is similar in other areas along the Corridor but results in more adverse effects between I-370 and MD 117 (in Brighton West and London Derry/Montgomery Club) due to the physical nearness and density of the residences to the highway. The widening of I-270 in this area would result in unavoidable adverse effects to EJ areas on both sides of the roadway. Given that the corridor widening is relatively equal on both sides of the existing roadway, the potential impacts to adjacent EJ areas will be generally distributed equally on both sides, as well, with no intent to incur greater impacts to one side of the roadway and avoid impacts to the other side. However, the potential number of property displacements and effects to community cohesion in EJ areas, compared to those in non-EJ areas along the Corridor, suggests a disproportionately high or adverse impact as a result of the proposed transportation improvements.

The larger number of potential displacements in these EJ areas (compared to other areas along the Corridor) partially reflects the uncertainty of the design of the retaining walls at this stage in the project development process. Additional investigation of retaining walls may further reduce the number of potential displacements in these EJ areas.

The identification of a disproportionately high and adverse effect on EJ populations does not preclude a project from moving forward. FHWA's Actions to Address Environmental Justice in Minority Populations and Low-income Populations (December 2, 1998) indicates that a disproportionately high and adverse effect may be carried out under the following conditions:

- Programs, policies, and activities that will have disproportionately high and adverse effects on minority populations or low-income populations will only be carried out if further mitigation measures or alternatives that would avoid or reduce the disproportionately high and adverse effects are not practicable. In determining whether a mitigation measure or an alternative is "practicable," the social, economic (including costs) and environmental effects of avoiding or mitigating the adverse effects will be taken into account.
- -Respective programs, policies or activities that have the potential for disproportionately high and adverse effects on populations protected by Title VI ("protected populations") will only be carried out if:
(1) A substantial need for the program, policy or activity exists, based on the overall public interest; and
(2) Alternatives that would have less adverse effects on protected populations have either:
(a) adverse social, economic, environmental, or human health impacts that are more severe; or
(b) would involve increased costs of an extraordinary magnitude.


## f. Public Involvement

The project team contacted public and private social service agencies, community action and religious organizations, schools and libraries to request additional information on the locations of EJ populations to supplement census data. The project team assumed that these organizations offer existing, targeted, local community outreach programs and possess knowledge of specific locations of EJ populations.

The project team identified community locations on a base map with census tracts that exhibited higher than county averages for minority and low-income populations. The project team sent correspondence requesting assistance in identifying locations of EJ populations to those entities located within census tracts that exhibited higher than county averages for minority and lowincome populations. In addition, religious organizations and schools located within census tracts that exhibited higher than countywide averages for minority and low-income populations received correspondence and a newsletter explaining the project and offering them the opportunity to meet and discuss the I-270/US 15 project with the project team.

Public involvement has been integrated throughout this project planning study. The purposes of the public involvement process are to outreach all populations that would be directly and indirectly affected by the project, including minority and low income populations, to provide information and to generate input on the project. Advertisements for all of the public information meetings held for this project were advertised in:

- The Baltimore Sun
- The Washington Post
- The Montgomery Gazette
- The Montgomery Journal
- The Afro-American (Washington, DC)
- El Montgomery
- The Asian Fortune
- The Washington Jewish Week
- The Frederick News Post
- The Frederick Gazette

Notices were also distributed to a mailing list that included all property owners and residents within and slightly beyond the study area. This includes churches, elected officials, community associations, and businesses.

Additional outreach since the 2002 DEIS included meetings with homeowners/civic associations of the Fox Chapel community (August 25, 2003) and the Brighton West community (April 20, 2006). Project team members also attended the Asian Spring New Year Celebration (February

17, 2007) and the $4^{\text {th }}$ Annual Festival Latino de Frederick (September 28, 2008) in Frederick to distribute information and to obtain community input on the project. Chapter I Section F in this document summarizes the outreach meetings. The project mailing list has also been expanded to encompass a wider area and includes a 1 1/2-mile corridor surrounding the transitway alignment and continues east of I-270 to include addresses on both sides of MD 355.

If a build alternative is selected as the preferred for transportation improvements, the SHA will coordinate with the affected communities to develop a mitigation program tailored, to the extent practical, to meet the needs of EJ areas prior to final project approval. The SHA will reassess the preliminary conclusions of this analysis based on input from the public involvement program. The project team will continue to involve minority and low-income populations in the project planning process during later states of the project.

## 5. Displacements and Relocation

An analysis of the potential residential displacements that would result from each of the new build alternatives was based on preliminary right-of-way estimates, which was the same method that was used to analyze Alternatives 2 through 5C in the 2002 DEIS. Residences that are located within the proposed right-of-way area required to construct the build alternatives are regarded as potential displacements. Also, residences that would be impacted in the following ways from the proposed construction are counted as displacements: access is denied, or the right-of-way required from the property is substantial that practical use of the property/structure would no longer be possible. It is unknown at this time if any specific minority homeowners would be affected by the construction of the project, however EJ areas (defined as minority and lowincome communities) will be impacted by potential displacements.

An analysis of the potential business displacements that would result from each of the new build alternatives was based on preliminary right-of-way estimates, as was done for the 2002 DEIS in order to analyze Alternatives 2 through 5C. Businesses that are located within the proposed right-of-way area that would be required to construct the build alternatives, or businesses that are denied access as a result of the proposed construction, are counted as probable displacements. It is unknown at this time if any minority business owners would be affected by the construction of the project.

If a build alternative is selected, the number of actual displacements may vary slightly from those presented as a result of refinements in both the design and right-of-way requirements during the detailed engineering phase of this project. For the purposes of determining the proposed displacements, the following criteria/assumptions were used:

## - Proposed Right-of-Way

Preliminary property acquisition impacts were based on the proposed right-of-way line that runs though properties/structures along the corridor. The proposed right-ofway was based on both a 25 -foot and a 10 -foot buffer beyond the proposed cut/fill line or retaining wall respectively.

## - Minimum/Maximum Structure Displacements

In assessing structural impacts/displacements, the following assumptions were made for townhouses, apartments or multiple unit structures along I-270 and US 15:

- Maximum Structure Displacement: All units within a townhouse row would be displaced if the proposed right-of way line touches any part of the townhouse row (i.e., if the proposed right-of-way line impacts three units of a 10 -unit townhouse, this would result in ten residential displacements).
- Minimized Structure Displacement: Units that would still be displaced if retaining walls or reduced shoulder widths are incorporated into the design of the slope limits of the highway or transitway corridor improvements. The range of impacts shown in Table 9 are due to the uncertainly of the amount of shoulder
minimization safely allowed and the uncertainty of the design of the retaining walls at this stage in the project development process.


## - Proposed Retaining Walls

Retaining walls were proposed along the corridor in order to reduce structure impacts. The approximate lengths and costs are included in the impacts discussion below. For cost estimating purposes, the following unit costs were used:

- Retaining Wall Construction Height

Less than 8 feet: $\$ 400 /$ square yard
8 feet to 12 feet: $\$ 450 /$ square yard
Greater than 12 feet: $\$ 600 /$ square yard

- Contingency: 35 percent
- Administrative/Overhead (Percentage of Neat Construction Costs)

Construction: 15.3 percent
Prelim. Engineering: 7.0 percent
These unit costs and factor percentages were the same values that were used in determining the retaining wall costs for the alternatives described in the 2002 DEIS.

## a. Summary of Effects

## Alternative 1 (No-Build Alternative)

The No-Build Alternative would only include general highway maintenance, including resurfacing and operational and signing improvements. Therefore, this alternative will not require any residential or business displacements or property acquisition.

Table 15 summarizes the highway and transitway residential displacements for Alternatives 6A/B and 7A/B. Table 16 summarizes the proposed highway and transitway business displacements by alternative. The locations of displacements required are identified on the engineering plan figures at the end of this document.

TABLE 15
SUMMARY OF RESIDENTIAL DISPLACEMENTS - ALTERNATIVES 6A/B, 7A/B

| Location | Plan Number <br> (County) | Maximum <br> Displacements <br> without minimization | Minimized <br> Displacements <br> with minimized shoulders <br> and/or retaining walls |
| :--- | :--- | :--- | :--- |
| Highay Residential Displacements |  |  |  |
| I-270 Southbound <br> North of I-370 <br> Brighton West Townhouses | HWY 1 <br> (Montgomery) | 81 residences | 6 - 10 residences |
| I-270 Northbound <br> North of I-370 (with I-370 direct <br> access ramps) <br> Condominiums | HWY 1 <br> (Montgomery) | 0 residences | 0 residences |
| I-270 Northbound <br> South of MD 117 <br> London Derry/Montgomery <br> Club Apartments | HWY 2 <br> (Montgomery) | 150 residences | 0 - 61 residences ${ }^{2}$ |

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## TABLE 15 (CONTINUED)

SUMMARY OF RESIDENTIAL DISPLACEMENTS - ALTERNATIVES 6A/B, 7A/B

|  | Plan Number <br> (County) | Maximum <br> Displacements <br> without minimization | Minimized Displacements <br> with minimized shoulders <br> and/or retaining walls |
| :--- | :--- | :--- | :--- |
| Transitway Residential Displacements |  |  |  |
| MD 124 Eastbound <br> Between Great Seneca <br> Highway and MD 117 | TRAN 3 <br> (Montgomery) | 1 residence | 1 residence |
| I-270 Southbound <br> South of Great Seneca Creek/ <br> Game Preserve Road | TRAN 4 <br> (Montgomery) | 1 residence ${ }^{3}$ | 1 residence ${ }^{3}$ |
| Game Preserve Road <br>  <br> Maintenance Site, if chosen) | TRAN 4 <br> (Montgomery) | 4 residences | 4 residences |
| I-270 Southbound <br> South of Middlebrook Road | TRAN 5 <br> (Montgomery) | 3 residences | 3 residences |
| W. Old Baltimore Road <br>  <br> Maintenance Site, if chosen) | TRAN 6 <br> (Montgomery) | 1 residences | 1 residences |
| Total Transitway Residential Displacements | $5-9$ residences ${ }^{4}$ | $5-9$ residences ${ }^{4}$ |  |
| Highway and Transit Displacements in <br> Montgomery County | $240-244$ <br> residences | $12-83$ residences |  |
| Highway and Transit Displacements in <br> Frederick County | 16 residences | $0-1$ residence |  |
| Total Highway and Transitway Residential <br> Displacements | $256-260$ <br> residences | $12-83$ residences |  |

Notes: ${ }^{\text {' }}$ Preliminary impacts are based on both a 25 -foot and a 10-foot buffer beyond the proposed cut/fill line or the proposed retaining wall respectively, as well as an assessment of minimum/maximum structure displacements for townhouse units.
${ }^{2}$ Construction of a retaining wall in London Derry would lower the number of displacements to 61 residential units. However, zero displacements would require the potential MD 117 direct access ramps be modified or not carried forward through design; shoulder widths along l-270 are minimized; and the retaining wall is constructed.
${ }^{3}$ This residence along Game Preserve Road will be impacted by the proposed highway widening without a retaining wall and would be avoided if a retaining wall were constructed; however, the transitway alignment will impact this residence under all scenarios.
${ }^{4}$ There is a range of potential displacements since only one or possibly none of operations \& maintenance sites listed in this table will be chosen.

TABLE 16
SUMMARY OF BUSINESS DISPLACEMENTS
\(\left.$$
\begin{array}{|l|l|l|l|l|l|}\hline \text { Location } & \begin{array}{l}\text { Plan Number } \\
\text { (County) }\end{array} & \text { Alternatives }\end{array}
$$ \begin{array}{l}Maximum <br>
Displacements <br>
without <br>

minimization\end{array}\right]\)| Minimized |
| :--- |
| Displacements |
| with retaining walls ${ }^{1}$ |$|$

Notes: ${ }^{\top}$ Preliminary impact ranges are based on a 25 -foot and a 10-foot buffer beyond the proposed cut/fill line or the proposed retaining wall respectively, as well as an assessment of minimum/maximum business displacements.
${ }^{2}$ There is a range of potential displacements since only one or possibly none of the operations \& maintenance sites listed in this table will be chosen.

## b. Effects - Displacements and Relocation

## Highway Residential Displacements

Implementation of Alternatives 6A/B or 7A/B would displace between 145 and 251 residences along the I-270/US 15 Corridor, depending upon the construction of retaining walls. The minimization of proposed shoulder widths, constructing retaining walls, and modifying the proposed MD 117 direct access ramps could reduce the displacements to approximately 10 residences. The residences potentially impacted are comprised of single family homes, townhouses, condominiums or apartment units. The displacements occur in the following locations:

- I-270 Southbound, North of I-370 (see sheet HWY 1) - Up to 81 townhouse units within the Brighton West community could be displaced. Construction of an approximately 2,300 -foot retaining wall, combined with the minimization of shoulder widths would reduce the residential displacements in this area to between 6 and 10 units. This retaining wall could also be used to reduce business impacts at the Festival at Muddy Branch Shopping Center, and would have a total cost of approximately $\$ 5,700,000$.
- I-270 Northbound, North of I-370 Interchange (see sheet HWY 1) - Up to 144 residential units within the Fireside Condominiums were shown in the 2002 DEIS as potential displacements by Alternatives $3 \mathrm{~A} / \mathrm{B}, 4 \mathrm{~A} / \mathrm{B}$, or $5 \mathrm{~A} / \mathrm{B} / \mathrm{C}$. Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ are projected to have zero residential displacements within the Deer Park Place community due to design modifications that occurred after the 2002 DEIS. The design of Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ does not require any displacements, even without a retaining wall.
- I-270 Northbound, South of MD 117 (see sheet HWY 2) - Up to 150 apartment units within the London Derry/Montgomery Club Apartments would be displaced, due to the proposed widening of I-270 and the inclusion of the potential direct access ramps to MD 117. Construction of an approximately 1,700-foot retaining wall could lower the number of displacements to 61 residential units and would have a total cost of approximately $\$ 4,100,000$. However, all residential units could potentially be avoided if the MD 117 direct access ramps are either modified or not carried forward through design; shoulder widths along I-270 are minimized; and the retaining wall is constructed. Therefore, if all minimization measures are put in place, the total residential displacements to the London Derry community could potentially be zero.
- I-270 Southbound, South of Great Seneca Creek/Game Preserve Road (see sheet HWY 2) - One single family residence would be displaced. Construction of an approximately 500 -foot retaining wall would prevent displacing this residence, and would have a total cost of $\$ 1,600,000$. This retaining wall could also be extended further north to reduce impacts to Seneca Creek State Park at a total cost of approximately $\$ 7,100,000$.
- I-270 Northbound, South of Middlebrook Road (see sheet HWY 3) - In the 2002 DEIS, the build alternatives analyzed at that time would have displaced between 26 and 35 single family residences within the Fox Chapel community. Through a series of public involvement activities, the project team committed to include approximately 3,000 feet of retaining walls for any widening option to I-270. This eliminated all of the residential impacts in this area, with a total cost of approximately $\$ 10,600,000$ for construction of the retaining wall.
- I-270 Northbound, South of Comus Road (see sheet HWY 6) - Two single-family residences would be displaced. Construction of a retaining wall 300 feet long would prevent displacing one of these residences, and would have a total cost of \$530,000.
- I-270 Southbound, South of Comus Road (see sheet HWY 6) - One single-family residence would be displaced. Construction of a retaining wall would not prevent displacing this residence.
- I-270 Southbound, North of MD 80 Interchange along Fingerboard Road (see sheet HWY 9) - One single-family residence would be displaced in this area. Construction of a retaining wall would not prevent displacing this residence.
- I-270 Southbound, South of the I-70 Interchange along Fox Croft Drive - Princeton Courts Apartments (see sheet HWY 11) - Up to 12 apartment units within one building may be displaced due to the widening of I-270, along with the construction of an auxiliary lane connecting I-70 and MD 85, and the acceleration ramp from I-70. Construction of a retaining wall approximately 500 feet long would prevent displacing these apartment units and would cost approximately $\$ 1,010,000$.
- US 15 Northbound, South of Rosemont Avenue - Along Mercer Place (see sheet HWY 13) - Up to two single-family residences may be displaced in this area. Construction of an approximately 1,000 foot retaining wall would prevent displacing these residences, and would have a total cost of approximately \$810,000.
- US 15 Southbound, North of Rosemont Avenue - Along Biggs Avenue (see sheet HWY 13) - One single-family residence would be displaced in this area. Construction of an approximately 500 -foot retaining wall would prevent displacing this residence, and would have a total cost of approximately \$750,000.

The residence along Game Preserve Road on the southbound side of I-270, south of Great Seneca Creek would be preserved by constructing a retaining wall for highway widening; however, the residence would still be displaced if the proposed transitway were constructed (also described in the transitway impacts section below).

Overall, retaining wall construction along I-270 and US 15 would prevent displacing up to 106 residences.

## Transitway Residential Displacements

The transitway alignment and associated operations and maintenance sites between the Shady Grove Metro Station and Clarksburg under Alternatives 6A/B and 7A/B would displace up to nine residences depending on which operations and maintenance site is chosen. The locations of the potential displacements are as follows:

- One single-family residence along MD 124 eastbound between Great Seneca Highway and MD 117 (see sheet TRAN 3);
- One single-family residence along Game Preserve Road on the southbound side of I-270, south of Great Seneca Creek (see sheet TRAN 4);
- Four single-family residences along Game Preserve Road (see sheet TRAN 4). This is one of the potential locations for an operations and maintenance site. However, these potential displacements would be prevented if another location along the transitway is chosen.
- Three single-family residences on the southbound side of I-270, south of Middlebrook Road (see sheet TRAN 5).
- One farm residence on the northbound side of I-270, off of West Old Baltimore Road (see sheet TRAN 6). This is one of the proposed locations of an operations and maintenance site. However, this potential displacement would be prevented if another location along the transitway is chosen.


## Highway Business Displacements

The highway components under Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ could displace up to a total of 11 businesses along the I-270/US 15 highway corridor. Construction of retaining walls could reduce the number of potential business displacements from 11 to two businesses. The displacements occur in the following locations:

- One business may be displaced on the northbound side of I-270, south of the I-370 exit ramp (see sheet HWY 1). The transition from a single HOV lane to two express toll lanes along the northbound roadway is the cause of this potential displacement. Construction of a retaining wall of approximately 500 feet would be needed to prevent this business being displaced. The cost of this potential wall would be approximately $\$ 810,000$.
- Three businesses may be displaced on the southbound side of I-270, north of I-370 in the Festival at Muddy Branch Shopping Center (see sheet HWY 1). Construction of an approximately 2,300 -foot retaining wall at a cost of approximately $\$ 5,700,000$ would spare at least one of the businesses and could prevent displacing the other two. This wall would also help to reduce the number of residential impacts to the Brighton West community.
- One business may be displaced on the southbound side of I-270, north of MD 117 (see sheet HWY 2). Construction of an approximately 1,200-foot retaining wall could prevent displacing this business, at a cost of $\$ 3,000,000$.
- One business would be displaced on the northbound side of I-270, north of Comus Road (see sheet HWY 6). Construction of a retaining wall would not prevent displacing this business.
- One business would be displaced on the southbound side of I-270, at the proposed MD 75 interchange (see sheet HWY 7). Construction of a retaining wall would not prevent displacing this business.
- One business may be displaced on the southbound side of I-270, south of MD 85 (see sheet HWY 11). Construction of an approximately 1,700 -foot retaining wall could prevent displacing this business, at a cost of approximately $\$ 3,300,000$.
- Two to three businesses may be displaced along the southbound side of US 15 , north of the MD 26 interchange, off of Thomas Johnson Drive (see sheet HWY 14). Construction of an approximately 1,000 -foot retaining wall would prevent displacing these businesses, at a cost of approximately $\$ 1,200,000$.


## Transitway Business Displacements

The transitway alignment between the Shady Grove Metro Station and COMSAT under Alternatives 6A/B and 7A/B could potentially displace:

- Up to 29 businesses would be displaced within a block bordered by MD 355 and Redland Road if this site is chosen as the operations and maintenance facility location for the transitway (see sheet TRAN 1). The businesses are contained within several buildings and strip plazas. Tenants include several automotive retail and maintenance shops, restaurants, convenience stores; furniture and clothing stores, a flooring store, a dry-cleaner, a sporting good store, a storage business, a martial arts studio and two towing operations.
- One business along MD 124 eastbound between Great Seneca Highway and MD 117 (see sheet TRAN 4).
- Two businesses within a large parcel that currently contains the Montgomery County Police Vehicle Impound Operation, an office, and a Police Forensics lab are currently under construction (see sheet TRAN 4). These businesses would be displaced if this site is chosen as the operations and maintenance facility location for the transitway.
- Two businesses in the vicinity of the proposed Germantown Center Station, north of MD 118 (see sheet TRAN 5). This area contains two newly constructed restaurants and other commercial uses in the area proposed for the transit alignment and may require relocations.

The I-270/US 15 Corridor highway and transit improvements have been planned to minimize property acquisitions and relocations. Though the highway and transitway alignments travel along existing streets and undeveloped parcels for much of their length, there are areas along I-270, particularly between I-370 and Muddy Branch Road that contain large numbers of displacements. Construction of a retaining wall in certain locations could reduce the number of displacements. The project team will continue to coordinate with municipalities during the planning phase of this project as property acquisitions are subject to change as the project plans are refined.

## c. Relocation Process

Affected property owners will receive relocation assistance in accordance with federal and/or state requirements depending on the funding source. The Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended by Title IV of the Surface Transportation and Uniform Relocation Assistance Act of 1987, requires that the project shall not proceed into any phase that will cause the relocation of any persons or businesses or proceed with any construction project, until it has furnished assurances that all displaced persons will be satisfactorily relocated to comparable decent, safe and sanitary housing within their financial means, or that such housing is in place and has been made available to the displaced person. Reasonable moving expenses are also provided for displaced persons or businesses. The Federal Uniform Relocation Assistance and Real Property Acquisition Policies would be executed in a timely and humane fashion. Comparable housing and business space exists on the open market for relocation housing within the same area and can be completed with minimal effects to the economic well being of those directly affected by the project.

In the event comparable replacement housing is not available for displaced persons or available replacement housing is beyond their financial means, additional financial compensation will be provided through "housing as a last resort" to assure that comparable replacement housing will be available for displaced persons. Based on relocation studies, it is anticipated that "housing as a last resort" would be utilized to accomplish the re-housing requirements for the build alternatives under consideration. The Appendix of this document contains a Summary of the Relocation Assistance Program of the Maryland State Highway Administration - revised June 10, 2005 for further reference.

## d. Title VI Statement

It is the policy of the SHA and MTA to ensure compliance with the provisions of Title VI of the Civil Rights Act of 1964, and related civil rights laws and regulations which prohibit discrimination on the grounds of race, color, sex, national origin, age, religion, physical or mental handicap or sexual orientation in all the SHA and MTA programs and projects funded in whole or in part by the Federal Highway Administration and Federal Transit Administration. The SHA and MTA will not discriminate in highway or transit planning, design, construction, the acquisition of right-of-way, or the provision of relocation advisory assistance. This policy has been incorporated into all levels of the transportation planning process in order that proper consideration may be given to the social, economic and environmental effects of all transportation projects.

Alleged discriminatory actions should be addressed to the Office of Equal Opportunity of the SHA and MTA at the following addresses for investigation:

Office of Equal Opportunity
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21201

Office of Equal Opportunity
Maryland Transit Administration
6 St. Paul Street
Baltimore, Maryland 21202
-
Staterlgmay

## 6. Study Area Community Facilities and Services

The I-270 Corridor is home to a wide array of community facilities and services. These are resources that support community safety, cohesion, and quality of life. They include:

- Educational facilities
- Religious facilities
- Libraries
- Health care facilities
- Parks and recreational facilities
- Major social service agencies
- Community facilities and services
- Emergency services
- Transportation facilities


## a. Montgomery County

## Educational Facilities

A number of educational facilities exist within the Montgomery County portion of the study area. These institutions primarily consist of elementary and intermediate schools such as Summit Hall, Fox Chapel, Fields Road, Browns Station and Walters Landing elementary schools, Roberto Clemente Middle School, Covenant Christian School and Clarksburg High School. Montgomery College is the only college within the Montgomery County portion of the study area.

## Religious Facilities

The Montgomery County portion of the study area contains several churches. Derwood Bible Church, Victory Christian Church, St. Jude AME Church, New Covenant Fellowship Church, Salvation Army Church, and Oasis Christian Center can all be found within the study area in Montgomery County. Two cemeteries also operate in the study area, including Saint Lacy's Cemetery and the Garden of Rememberance/Gan Zikaron Memorial Park.

## Libraries

Montgomery College Library and Germantown Library are the only libraries located within the study area in Montgomery County.

## Health Care Facilities

There are only two Health Care facilities located in the study area for Montgomery County. They are the Shady Grove Adventist Adult Day Care and Nursing Center and the US Department of Health and Human Services.

## Parks and Recreational Facilities

Montgomery County Parks and recreational facilities will be discussed at length in section 6 of this Chapter.

## Community Facilities and Services

Gaithersburg Upcounty Senior Center is the only Montgomery County community facility in the study area.

## Emergency Services

Emergency services in the study area for Montgomery County include the Gaithersburg and Germantown Police Departments, Montgomery County Police District 5 in Germantown, Germantown Fire Company 29 and the Gaithersburg Fire Department. County police also operate an abandoned motor vehicle lot. The Maryland State Police Inspection and Weigh Station can also be found within the Montgomery County portion of the study area.

## Transportation Facilities

Montgomery County RideOn bus service operates a number of bus lines that have routes traveling throughout study area. The Germantown Transit Center serves as a major transportation facility for a number of these lines. The Metropolitan Grove station on the Brunswick line of the MARC Commuter Rail service is also located within the study area. WMATA Metro Rail Red Line terminates within the study area at the Shady Grove Metro station.

## b. Frederick County

## Educational Facilities

Several educational facilities exist within the Frederick County portion of the study area. These institutions are North Frederick and Urbana Elementary Schools, Governor Thomas Johnson Junior-Senior High School and the Heather Ridge School. Hood College is the only college within the Frederick County portion of the study area.

## Religious Facilities

The Frederick County portion of the study area contains several churches. Church of the Brethern, Wesley Chapel United Methodist Church, Zion Episcopal Church, St. Ignatius of Loyola Church, Church of Jesus Christ of Latter Day Saints, Trinity United Methodist Church, St. Peter and Paul Greek Orthodox Church, and Oasis Christian Center can all be found within the study area in Frederick County. The Old Urbana Church Ruins are also found in the study area. Christian Cemetery, Mount Olivet Cemetery and Frederick Memorial Park Cemetery are the only cemeteries located within the study area.

## Libraries

There are no libraries in the Frederick County portion of the study area.

## Health Care Facilities

Beverly Healthcare of Frederick, Sunrise Assisted Living, College View, Johns Hopkins Medical Services, Gambrose Healthcare, Taney Village and Homewood at Crumland Farms are all health care facilities located in the study area for Frederick County. Frederick Memorial Hospital and Montevue Hospital are also located near the study area.

## Parks and Recreational Facilities

Frederick County Parks and recreational facilities will be discussed at length in section 6 of this Chapter.

## Community Facilities and Services

Gaithersburg Upcounty Senior Center is the only Montgomery County community facility in the study area.

## Emergency Services

Emergency services in the Frederick County portion of the study area include the Maryland State Police Barracks B and Urbana Fire and Rescue.

## Transportation Facilities

Frederick TransIT bus service operates a number of bus lines that have routes traveling throughout study area. The Germantown Transit Center serves as a major transportation facility for a number of these lines. The Frederick \& Monocacy stations on the Brunswick line of the MARC Commuter Rail service are also located near the study area.

Figure S (Plates 1 through 5) shows the locations of these resources within the corridor. The 2002 DEIS listed 12 schools, one library, 16 places of worship, three post offices, six public departments (police/fire/rescue), and eight hospitals within the corridor. All of these resources remain today. Some new community facilities have been constructed in the study area since 2002 and a number are planned or programmed for construction. Table 17 lists the new and pending community facilities in or near the study area.

TABLE 17
NEWLY BUILT, PLANNED, OR PROGRAMMED COMMUNITY FACILITIES - I-270/US 15 CORRIDOR

| Facility Type | Status | Location |
| :--- | :--- | :--- |
| Montgomery <br> County |  |  |
| Clarksburg High <br> School | Opened 2006 | MD 355 (22500 Wims Road), Clarksburg |
| Fire Station | Programmed | MD 355 at MD 121, Clarksburg |
| Fire station | Programmed | Near the fire academy on Key West Rd in Gaithersburg |
| Fire Station | Planned | Gateway Center Drive in Gaithersburg |
| Senior Center | Planned | Casey East development |
| $6^{\text {th }}$ District Police <br> Station | Planned | NW corner of Watkins Mill Rd and proposed I-270 on- <br> ramp., Casey East property, Gaithersburg |
| High School | Planned | Washington Blvd. at Fields Rd, Crown Farm, <br> Gaithersburg |
| Regional library | Opened 2007 | 19840 Century Blvd, Germantown |


| Fredrick County |  |  |
| :--- | :---: | :--- |
| Urbana District <br> Park | Under construction | Urbana Pike and Tabler Run |
| Centerville <br> Elementary School | Opened in 2005 | East of Urbana High School along Fingerboard Rd <br> (MD 80) |
| Urbana Middle <br> School | Opened 2006 | Pontius Ct, Ijamsville |
| Crestwood Middle <br> School | Opened 2004 | Foxcroft Dr, Frederick |
| Middle School and <br> Police Station | Planned | New Design Rd - Frederick |
| Library and <br> community center | Under construction | Villages at Urbana near the junction of MD 355 and <br> MD 80 - several blocks along the MD 355 Bypass under <br> construction |

Note: Locations of existing community facilities are shown on the engineering plans






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## c. Effects - Community Facility and Services

## Alternative 1 (No-Build Alternative)

Alternative 1, the No-Build Alternative, could have a minor adverse impact to the effective functioning of public safety facilities in the corridor as response times may be slowed by unmitigated growth in traffic and congestion on I-270 and its interchanges and associated approach roads. It would have no other impact to existing or planned community facilities.

## Alternatives 6A/B and 7A/B

Impacts to community facilities and services are assessed in terms of direct takings of land and/or buildings as well as changes to ease of access for patrons. In general, Alternatives 6A/B and 7A/B would provide additional access points for emergency vehicles through the introduction of new interchanges and service roads. The additional capacity is also expected to enable emergency vehicles to travel to and from the scene of an emergency more quickly and safely. This would be applicable to the new planned and programmed fire and police stations as well as those already located within the corridor. No adverse change is expected to direct access to any community facility or resource. Other impacts to community facilities of Alternatives 6A/B and 7A/B would be very similar to those reported in the 2002 DEIS with the following exceptions:

- The planned $6^{\text {th }}$ District police station will be located at the corner of Watkins Mill Road and a proposed new I-270 on-ramp. The precise location and design of this station should be carefully coordinated with the final design of the I-270 selected alternative to minimize any potential adverse impacts.
- The 2002 DEIS alternatives and the ETL alternatives would each require the acquisition of approximately five acres of the 32-acre New Covenant Fellowship Church property on Waring Station Road. The acquisition was estimated in the 2002 DEIS to occur along the parking lot and undeveloped border with I-270. Since that time, new apartments for seniors are programmed for construction at the site. Although the apartment building would be built on another section of the property, the design for the I-270 highway improvements should be coordinated with the design of the apartment building to minimize any potential adverse impacts.
- Alternatives 6A/B and 7A/B would have a visual effect on the New Covenant Fellowship Church by placing these transportation improvements closer to the church and related structures. However, the rear of the church already has a direct view of the existing highway facility and the visual effect of the additional facilities is not expected to substantially differ from the existing view.
- Alternatives 6A/B and 7A/B would require more property be acquired from the Montgomery College Germantown Campus than projected for the 2002 DEIS alternatives. The 2002 DEIS alternatives would impact approximately two acres while the ETL alternatives would impact approximately four acres of the approximately 108 -acre campus. This acreage would be
acquired from the undeveloped and wooded portion of the campus where it abuts I-270. This may alter the view of I-270 from the campus somewhat and reduce available land for future college facility expansion.
- Alternatives 6A/B and 7A/B would require approximately one-and-a-half acres of land from the approximately 82-acre site of the Montgomery County Correctional Facility off of MD 121 near the interchange with I-270. This is slightly more land acquisition than projected for the 2002 DEIS alternatives. While this would be primarily a long narrow ROW strip taking where the facility property abuts I-270, it may impact the access road that serves it.
- Alternatives 6A/B and 7A/B would require acquisition of approximately 1.8 acres from the approximately twenty-acre site of the Urbana Elementary School. This is about a half-acre less impact than that projected for the 2002 DEIS alternatives. This would impact right-ofway from a publicly owned recreational area, displace a portion of the existing intramural field that contains a ball field and have a visual effect. The facilities at Urbana Elementary school, including the ball field, are located to the rear of the school near its border with I-270. They are available for use by the public.
- Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ would require a strip taking from the rear, undeveloped yard of the Urbana Fire Station on Urbana Pike adjacent to the Urbana Elementary School. However, the highway alignment is not expected to impact access to or the expansion of this station.
- The new library and community center at the Villages of Urbana are under construction near the junction of the Urbana Pike and MD 80. The precise location and design of enhancements to the MD 80 Interchange should be coordinated with the site design of these facilities to minimize any potential adverse impacts.
- As with the 2002 DEIS alternatives, the transitway components would not affect the provision of police and fire services because the alignment would be on an exclusive right-of-way with limited at-grade crossings. The transitway alignment passes approximately 1,000 feet to the south of Germantown police and fire services located on Crystal Rock/Century Boulevard. It would also enhance access to the new community facilities planned for Casey East/West developments and Crown Farm.


## 7. Parks and Recreational Facilities

## Parks

The corridor contains many park and recreational facilities that offer a diverse range of activities. Table 18 and Figure S (Plates 1 through 5) indicate the parks and recreational facilities located adjacent to or within a 1,000-foot buffer of the proposed improvements. Some of the parks are undeveloped while others contain baseball, football and soccer fields, playgrounds, tennis and basketball courts, hiking trails, picnic tables, pavilions and ponds. Maintenance and ownership of these parks vary among the National Park Service (NPS), Maryland Department of Natural Resources (DNR), Maryland-National Capital Park and Planning Commission (M-NCPPC), and county and local municipalities.

The four largest parks in the immediate vicinity of the proposed improvements are:

1. Seneca Creek State Park - this is the largest park along the I-270/US 15 Corridor, a 6,290 -acre stream valley park located 1.5 miles west of Gaithersburg in Montgomery County. This DNR-owned facility offers biking, skiing, boating, camping, fishing, canoeing, hiking, hunting, picnic tables, playgrounds, horseback riding, shooting range, 90 -acre lake, visitor's center with exhibits, and historical artifacts such as old mills, stone quarries and an old schoolhouse.
2. Little Bennett Regional Park - located in northern Montgomery County near the Clarksburg/Hyattstown areas. Little Bennett is 3,640 acres of primarily undeveloped land; however, a few amenities exist in the area: picnic areas, trails, camping areas and an 18 -hole golf course. This facility is owned by the M-NCPPC.
3. Black Hill Regional Park - located west of I-270 and south of Old Baltimore Road in Montgomery County contains 1,854 acres and provides a wide variety of amenities such as fishing, boating, hiking, nature center, visitor's center with exhibits, and equestrian trails. This facility is owned by the M-NCPPC.
4. Monocacy National Battlefield - located on both sides of I-270 south of MD 85 in Frederick County contains 1,647 acres in an undeveloped, historic setting. The July 9, 1864 engagement of Union and Confederate forces bought the time necessary for the Union army to successfully fortify Washington, DC against Confederate capture. A visitor's center and hiking trails are available and additional trails are planned. This facility is owned by the NPS.

TABLE 18

## PUBLIC PARKS AND RECREATIONAL FACILITIES ADJACENT TO AND WITHIN 1,000 FEET OF THE PROPOSED IMPROVEMENTS

| Name of Park | Amenities | $\begin{gathered} \text { Size } \\ \text { (Acres) } \end{gathered}$ | Jurisdiction |
| :---: | :---: | :---: | :---: |
| King Farm Public Park System (King Farm Homestead Park, Stream Valley Park) | Passive parkland (47 acres) and active uses (45 acres) including athletic fields, tennis courts, basketball, playgrounds, picnic areas | 92 | City of Rockville |
| Green Park | Tot lot, play area, basketball courts, tennis court, hiking trails, dog exercise area | 14 | City of Gaithersburg |
| Washingtonian Woods Park | Play area, a half basketball court, tennis courts, hike trails | 22 | City of Gaithersburg |
| Muddy Branch SVP/ Lakelands Development | Passive park, trails | Unknown | City of Gaithersburg |
| Diamond Farms Park | Tennis courts, basketball courts, handball/tennis practice wall, tot lot, picnic tables, play equipment | 23 | City of Gaithersburg |
| Morris Park (formerly Summit Hall Park) | Basketball, baseball and soccer fields, playground, tennis courts, picnic tables | 37 | City of Gaithersburg |
| Malcolm King Park | Basketball and tennis courts, playground, picnic tables, hiking trail | 73 | City of Gaithersburg |
| Christman Park | Picnic tables, fishing pond | 4 | City of Gaithersburg |
| Metropolitan Grove Park | Undeveloped | Unknown | City of Gaithersburg |
| Great Seneca SVP | Hiking trails | 1,649 | Montgomery County |
| Seneca Creek State Park | Biking, hiking and riding trails, boating, skiing, fishing, canoeing, hunting, playground, visitor's center with exhibits | 6,290 | MD DNR |
| Middlebrook Hill Park | Undeveloped | 12 | M-NCPPC |
| Fox Chapel Park | School, playground, softball field, tennis court, picnic area and shelter | 16 | M-NCPPC |
| Waring Station Local Park | Soccer, playground, basketball, multi-use field | 17 | M-NCPPC |
| North Germantown Greenway SVP | Undeveloped | 300 | M-NCPPC |
| Black Hill Regional Park | Playground, picnic areas, lake, visitor's center, exhibits | 1,854 | M-NCPPC |
| Little Bennett Regional Park | Camping, trails, golf course | 3,640 | M-NCPPC |
| Urbana Lake Fish Management | Undeveloped | 70 | MD DNR |
| Urbana Elementary School | Ball field, soccer field, tennis/basketball courts, playground | 21 | Frederick County |
| Urbana Community Park | Pavilions, picnic tables, baseball, soccer fields, playground, tennis courts | 20 | Frederick County |
| Monocacy National Battlefield | Auto tour and walking trails | 1,647 | National Park Service |
| Linden Hills Neighborhood Park | Playground | 0.2 | Frederick City |
| Waterford Park | Undeveloped | 18 | Frederick City |
| Baker Park (Room One) | Playground, tennis courts, softball, football, pavillion | 53 | Frederick City |
| Apple Avenue Park | Undeveloped | 2 | Frederick City |
| Max Kehne Park | Ball fields, tennis, playground, pavillion |  | Frederick City |
| Rosedale Park | Pavilion restrooms, playground equipment, basketball | 3 | Frederick City |
| Rose Hill Manor Park | Carriage, farm, and children's museums, history tours | 43 | Frederick County |

## a. Montgomery County

## Existing Conditions

Montgomery County contains parks that come in a wide array of sizes in and around the I270/US 15 Corridor. The parks that fall within the 1,000-foot buffer of the Corridor Cities Transitway (CCT) include King Farm Stream Valley Park, Fields Road Local Park, Green Park, Morris Park, Malcolm King Park, Muddy Branch Park, Diamond Farms Park,

As new residential and commercial development continues throughout the I-270/US 15 Corridor, community planners have requested that recreational areas be incorporated into their plans. By encouraging developers to construct these facilities, the counties can increase the number of facilities available to its residents.

A number of bikeways and trails exist or are planned in the I-270/US 15 Corridor. Bikeways and trails provide a travel alternative to the automobile and compliment the recreational aspects of park resources.

The local master plans in the corridor encourage the provision of bikeways and pedestrian facilities for commuting and recreational uses. The Montgomery Countywide Bikeway Functional Master Plan (2005) and the Rockville Bikeway Master Plan (2004) contain recommendations for future bikeway routes including along I-270. The Gaithersburg Bikeways and Pedestrian Plan (1999) indicates a goal to provide bike and pedestrian facilities that link the city using a continuous double loop system and a determination to better accommodate bicycles and pedestrians along roads that cross I-270. The Clarksburg Master Plan (1994) includes goals to provide bikeway linkages to other municipalities, trails, greenways, neighborhoods, employment, and community facilities. The Comprehensive Amendment to the Master Plan for Germantown (1989) recommends development of sidewalks adjacent to roadways and hikerbiker trails through public open space areas.

## b. Frederick County

## Existing Conditions

The Frederick County Land Preservation, Parks and Recreation Plan (2006) indicates a goal to integrate pedestrian and bicycle facilities into the County's existing communities and the design of new communities. The City of Frederick Comprehensive Plan (1995) indicates that the city will prepare a Bikeway Plan to address short and long-range needs and implementation issues. As of this date, the City has not yet prepared the Bikeway Plan.

## c. Effects - Parks and Recreational Facilities

## Alternative 1 (No-Build Alternative)

The No-Build Alternative will not affect any parks and recreational facilities along the project corridor.

## Alternatives 6A/B and 7A/B

The 2002 DEIS noted the following potential property acquisition from 13 public parks and recreational areas as a result of Alternative 5C: Morris Park ( 0.99 acre), Malcolm King Park ( 0.58 acre), Seneca Creek State Park (up to 10.49 acres), Middlebrook Hill Park (1.90 acres), North Germantown Greenway ( 0.66 acre), Black Hill Regional Park (7.64 acres), Little Bennett Regional Park (up to 0.02 acre), Urbana Lake Fish Management Area (up to 0.85 acre), Urbana Elementary School ( 2.4 acres), Urbana Community Park ( 0.33 acre), Monocacy National Battlefield (up to 22.52 acres), Baker Park (1.27 acres), and Rose Hill Manor Historic Park (0.88 acre).

In comparison, Alternatives $6 \mathrm{~A} / \mathrm{B}$ and $7 \mathrm{~A} / \mathrm{B}$ would have similar impacts on the same parks based on the original design using $2: 1$ slope limits. The following paragraphs describe the impacts and are shown in the engineering plans located at the end of this document.

Also refer to Chapter VI in the I-270/US 15 Multi-Modal Corridor Environmental Assessment for more detailed analysis of impacts to parks and recreational facilities including a discussion of efforts to avoid, minimize and mitigate adverse impacts.

## Morris Park

Morris Park, 37 acres, was established with funds from Maryland Program Open Space and is owned by the City of Gaithersburg. Morris Park will be impacted along its western boundary with I-270 as a result of northbound I-270 highway improvements. Under Alternatives 6A/B and 7A/B, which include the addition of express toll lanes (ETLs), direct access ramp connections to I-370 require the acquisition of additional right-of-way. These proposed improvements would impact 0.21 acre of the park's 37.2 acres. The transitway components of the build alternatives would not impact Morris Park.

Malcolm King Park
Malcolm King Park, 73 acres, was established with funds from Maryland Program Open Space and is owned by the City of Gaithersburg. Under Alternatives 6A/B and 7A/B, I-270 southbound would be widened to include the addition of ETLs and direct access ramps to I-370. The widening requires the acquisition of 0.75 acre for additional right-of-way from the 72.9-acre park. The impact occurs over a length of approximately 300 linear feet. The proposed alignment will shift the embankment 100 feet towards and into the park, impacting the edge of the forested area. The transitway component of the build alternatives would not impact Malcolm King Park.

## Seneca Creek State Park

Seneca Creek State Park is owned by the DNR and contains 6,290 acres. This park was established with funds from the Land and Water Conservation Fund and Maryland Program Open Space. I-270 bisects Seneca Creek State Park where the highway crosses Seneca Creek. Under the proposed alternatives, I-270 will be widened to include the addition of ETLs on both the northbound and the southbound sides from the proposed Watkins Mill Road to Middlebrook Road. In order to undertake this project, approximately 60 feet to 105 feet of additional right-ofway are required for the highway improvements. The additional right-of-way from the park will occur over a length of approximately 1,600 feet on the northbound side and 2,000 feet on the southbound side. The I-270 widening would require that 6.93 acres of the park's 6,290 acres be acquired, causing impacts to vegetation, including forested floodplains and upland forest.

The proposed transitway lies parallel to I-270 on the southbound side. The combined transitway and highway improvements would require an additional 115 to 210 feet outside of the existing right-of-way, thus increasing the above-described impacts. The length the transitway would affect the park is approximately 2,025 linear feet. The transitway will impact an additional 5.16 acres over the highway improvement impacts, for a total of 13.38 acres.

## Middlebrook Hill Park

Middlebrook Hill Park, 12 acres, was established with funds from Maryland Program Open Space is owned by M-NCPPC. Under Alternatives 6A/B and 7A/B, I-270 would be widened to include the addition of ETLs on both the northbound and the southbound sides from the proposed Watkins Mill Road to Middlebrook Road. In order to widen the highway, 2.13 acres needs to be acquired for the additional right-of-way required for construction of this project. This impact occurs with the highway widening of the northbound roadway over a length of approximately 1,000 linear feet. The transitway components of the build alternatives would not impact Middlebrook Hill Park.

## North Germantown Greenway

The North Germantown Greenway is a 300 -acre stream valley park owned by the M-NCPPC. The park was established with funds from Maryland Program Open Space. The undeveloped greenway is located along Little Seneca Creek and is currently accessible through nearby residential communities. It will also be accessible via Observation Drive Extended, a planned roadway improvement by Montgomery County, which would incorporate the transitway within its median.

The widening of I-270 northbound would require 0.78 acre of parkland. Montgomery County has already preserved the roughly one acre of right-of-way needed for both Observation Drive Extended and the transitway. Continued coordination with both Montgomery County and the M-NCPPC will be needed to avoid any additional impacts to the North Germantown Greenway once Observation Drive Extended is constructed.

## Little Seneca Greenway (Proposed)

The Little Seneca Greenway is a proposed park located adjacent to and immediately north and west of the North Germantown Greenway, along the Little Seneca Creek. This park will also be owned by the M-NCPPC. This undeveloped greenway is currently accessible through nearby residential communities but will also be accessible via Observation Drive Extended. The widening of I-270 northbound would require 1.80 acres of future parkland. Observation Drive Extended and the CCT alignment would require an additional 1.39 acres of future parkland, thus continued coordination with both Montgomery County and the M-NCPPC will be needed as all projects move forwards towards construction.

## Black Hill Regional Park

Black Hill Regional Park contains 1,854 acres and is owned by M-NCPPC. The park was established with funds from Maryland Program Open Space, Montgomery County Capital Program funds, and County bonds. Alternatives 6A/B and 7A/B include the widening of I-270 in the vicinity of Black Hill Regional Park between Father Hurley Boulevard and MD 121. The northbound HOV lane would be converted to an ETL, a 16 -foot shoulder and barrier (Alternative $6 \mathrm{~A} / \mathrm{B}$ ) or an additional ETL with a 4 -foot shoulder would be added to the inside in both the northbound and southbound directions; and an additional general-purpose lane would be added through outside widening in both the northbound and southbound directions. This widening requires the acquisition of 8.62 acres for additional right-of-way from the 1,855-acre park. This impact occurs over a length of approximately 1,100 linear feet (northbound side -1.74 acres) to 3,400 linear feet (southbound side -6.88 acres). The transitway components of the build alternatives would not impact Black Hill Regional Park.

## Little Bennett Regional Park

Little Bennett Regional Park is owned by the M-NCPPC and contains 3,640 acres. The park was established with funds from Maryland Program Open Space and the Montgomery County Capital Program. Alternatives 6A/B and 7A/B propose the addition of one or two ETLs in each direction along I-270, respectively. In order to construct the additional lanes, the grass median would be filled, to accommodate the new lane and inside shoulder, and the outside shoulder would have to be widened as well. Construction of the outside lane requires the acquisition of additional right-of-way, impacting 0.29 acre of the park within the southeast quadrant of the I270/MD 109 Interchange. The transitway components of the build alternatives would not impact Little Bennett Regional Park.

## Ten Mile Creek Greenway (proposed)

The Ten Mile Creek Greenway is a proposed park located to the west of Little Bennett Regional Park and would be impacted by both northbound and southbound I-270 widening as part of Alternatives $6 \mathrm{~A} / \mathrm{B}$ and 7A/B. The northbound widening would impact 0.36 acre while the southbound widening would impact 0.22 acre, for a total of 0.58 acre. Coordination is ongoing with the M-NCPPC to avoid any future Section 4(f) impacts.

## Urbana Lake Fish Management Area

Urbana Lake Fish Management Area contains 70 acres and is owned by the DNR. Coordination with MD DNR has not determined the funding source for establishing the management area. Under Alternatives 6A/B and 7A/B, I-270 would be widened in each direction between Hyattstown and Urbana to include one or two ETLs, but identical impacts. In order to hold a consistent 30 -foot median throughout the corridor where a barrier is present, the additional lane(s) can only partially be added to the inside with the remainder added to the outside. Any construction on the outside requires the acquisition of additional right-of-way. Impacts to the park will occur due to widening the southbound roadway over a length of approximately 1,000 linear feet. Of the park's 70 acres, 1.23 acres would be impacted due to these alternatives. The transitway components of the build alternatives would not impact the Urbana Lake Fish Management Area.

## Urbana Elementary School

The proposed ramp improvements at the MD 80/I-270 Interchange would require 1.78 acres of property acquisition from the Urbana (public) Elementary School and would displace a portion of the existing intramural field unless a retaining wall is incorporated into the preliminary design of Alternatives $6 \mathrm{~A} / \mathrm{B}$ or $7 \mathrm{~A} / \mathrm{B}$. With the retaining wall, all potential right-of-way impacts are avoided (refer to engineering plans, sheet HWY 8), but a temporary construction easement may be needed. Coordination with the Frederick County Board of Education has not determined the funding source for establishing the school. Also refer to the Section 4(f) Evaluation in Chapter VI of the I-270/US 15 Multi-Modal Corridor Environmental Assessment contains further discussion of potential avoidance and minimization efforts to Urbana Elementary School.

## Urbana Community Park

Urbana Community Park is owned by Frederick County and is comprised of 20 acres. This park was established with funds from Maryland Program Open Space. I-270 would be widened in each direction between Urbana and the Monocacy National Battlefield Park to include either one or two ETLs. Any construction on the outside requires the acquisition of additional right-ofway. Of the park's 20 acres, 0.44 acre would be impacted by the build alternatives. The length of park impact is approximately 500 linear feet from widening the northbound roadway. The transitway components of the build alternatives would not impact the Urbana Community Park.

## Monocacy National Battlefield

The existing I-270 roadway bisects the Monocacy National Battlefield, a 1,647-acre park owned by the NPS, whose key features include a major Civil War battlefield and a visitor center. Coordination with the NPS has not determined the funding source for establishing this resource. Under Alternatives 6A/B and 7A/B, I-270 would be widened in each direction from two lanes to three or four lanes respectively. The centerline of I-270 would be shifted to the west so that all impacts would be on the southbound side of I-270. These improvements would require the acquisition of 14.51 acres of strip right-of-way from the park, over a length of approximately 10,200 linear feet. The transitway components would not impact the Monocacy National Battlefield. Statellighay

Baker Park contains 53 acres and is owned by the City of Frederick. Coordination with the City of Frederick has not determined the funding source for establishing the park. All build alternatives would widen US 15 from two lanes to four lanes in each direction. One of the two lanes will be added to the grass median on the inside of the roadway, and the other will be on the outside shoulder. In order to widen the highway, 1.27 acres needs to be acquired for the additional right-of-way required for construction of this project. The length of the affected parkland from widening the northbound roadway would be approximately 700 linear feet along the park property. The transitway components would not impact Baker Park.

## Rose Hill Manor Park

Rose Hill Manor Park is owned by Frederick County and consists of 43 acres. The park was established with funds from Maryland Program Open Space. All build alternatives include the widening of US 15 from two lanes to four lanes in each direction. In order to construct the two lanes, one would be added to the inside of the roadway, and the other would be on the outside. Construction of the outside lane requires the acquisition of additional right-of-way, impacting 1.04 acres of the park's 43 acres. The length of impacted parkland will occur from widening the northbound roadway for approximately 1,200 linear feet to 1,600 linear feet along the park. The transitway components would not impact Rose Hill Manor Historic Park.

## C. ECONOMIC ENVIRONMENT

Transportation and the economy are closely linked. A number of economic activities such as the delivery of business goods and services, employment, and shopping for goods and services are all greatly affected by efficiencies in transportation. All businesses require some level of transportation access to labor, materials, and/or customers. Also, travel times affect accessibility to jobs and/or shopping opportunities, as well as market opportunities for existing and new businesses and businesses' costs of transporting raw materials and retail products. An important relationship therefore exists between the level of economic productivity and the quality of transportation services and facilities in a region.

## 1. Existing Conditions

## a. Regional Economic \& Business Characteristics

To study existing economic conditions, the project team compared 2004 Employment and Wage data for Frederick County, Montgomery County, Washington, DC, the State of Maryland, and the entire United States. Data for this analysis was provided primarily from the Covered Employment and Wages (ES-202) program, compiled by the US Bureau of Labor Statistics. Included are all workers covered by the Unemployment Insurance (UI) Law of Maryland and the Unemployment Compensation for Federal Employees (UCFE) program.

Frederick County accounts for a relatively small portion of Maryland's economy. Businesses in the county provide only 3.6 percent of the state's employment and 3.2 percent of its aggregate payroll. Montgomery County's contribution to the state's economy, in comparison, is much larger, accounting for 18.2 percent of the state's employment and 22.2 percent of its aggregate payroll. Table 19 and Table 20 show 2004 average annual employment and total wages for Frederick County, Montgomery County, the state of Maryland, and the entire United States.

Because of its proximity to Washington, DC, Montgomery County has a substantially larger number of workers in Federal Government. Frederick County has only 3.6 percent of its workforce employed in Federal Government, while Maryland, as a whole, has a slightly higher rate of 5.2 percent. In comparison to the entire United States, which averages only 2.1 percent of the workforce employed by the Federal Government, Montgomery County has a rate of 9.1 percent, over four times the national average. This is offset somewhat by Montgomery County's very low percentage ( 0.2 percent) of state government employment.

TABLE 19
2004 ANNUAL AVERAGE EMPLOYMENT

| INDUSTRY | Frederick County |  | Montgomery County |  | Washington, DC |  | Maryland |  | U.S. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Percent of Employment In Industry | Annual Average Employment | Percent of Employment In Industry | Annual <br> Average <br> Employment | Percent of Employment In Industry |  | Percent of Employment In Industry | Annual Average Employmen | Percent of Employment In Industry |
| Natural Resources \& Mining | 545 | 0.6\% | 684 | 0.2\% | 29 | 0.004\% | 6,674 | 0.3\% | 1,682,736 | 1.3\% |
| Construction | 9,901 | 11.1\% | 29,117 | 6.5\% | 12,333 | 1.9\% | 176,198 | 7.2\% | 7,109,982 | 5.5\% |
| Manufacturing | 6,572 | 7.3\% | 15,454 | 3.4\% | 6,835 | 1.0\% | 142,984 | 5.8\% | 14,300,328 | 11.1\% |
| Trade, Transportation \& Utilities | 16,616 | 18.6\% | 67,317 | 15.0\% | 38,703 | 5.9\% | 480,219 | 19.5\% | 26,713,572 | 20.7\% |
| Information | 1,645 | 1.8\% | 14,832 | 3.3\% | 28,282 | 4.3\% | 53,787 | 2.2\% | 3,240,990 | 2.5\% |
| Financial Activities | 7,831 | 8.8\% | 34,583 | 7.7\% | 30,061 | 4.6\% | 156,768 | 6.4\% | 7,971,319 | 6.2\% |
| Professional \& Business Services | 13,110 | 14.7\% | 99,175 | 22.1\% | 140,827 | 21.4\% | 377,842 | 15.4\% | 16,494,651 | 12.8\% |
| Education \& Health Services | 16,793 | 18.8\% | 81,661 | 18.2\% | 105,817 | 16.0\% | 519,700 | 21.1\% | 27,162,672 | 21.0\% |
| Leisure \& Hospitality | 8,306 | 9.3\% | 38,383 | 8.6\% | 58,028 | 8.8\% | 230,882 | 9.4\% | 12,901,243 | 10.0\% |
| Other | 3,130 | 3.5\% | 21,592 | 4.8\% | 55,205 | 8.4\% | 89,164 | 3.6\% | 4,342,607 | 3.4\% |
| Public Administration | 4,602 | 5.1\% | 45,143 | 10.1\% | 176,777 | 26.8\% | 216,974 | 8.8\% | 7,118,635 | 5.5\% |
| Unclassified | 36 | 0.04\% | 646 | 0.14\% | 6,112 | 0.93\% | 2,220 | 0.09\% | 239,444 | 0.19\% |
| Total* | 89,436 | 99.6\% | 448,683 | 100.0\% | 659,542 | 99.9\% | 2,459,362 | 99.8\% | 129,278,176 | 100.0\% |

Source: Covered Employment and Wages, ES-202 Program (data accessed 8/3/06)

* Some totals do not equal $100 \%$ due to information withheld for confidentiality purposes.

TABLE 20
2004 ANNUAL TOTAL WAGES

|  | Frederick County |  |  | Montgomery County |  |  | Washington, DC* |  |  | Maryland |  |  | U.S. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| INDUSTRY |  | tal Wages Thousands) | Percent of <br> Wages <br> In <br> Industry |  | Total Wages <br> Thousands) | Percent of Wages In Industry |  | Total Wages (In <br> Thousands) | Percent of Wages In Industry |  | Total Wages Thousands) | Percent of Wages In Industry | Total Wages (In Thousands) | $\begin{array}{\|l\|} \hline \text { Percent of } \\ \text { Wages } \\ \text { In } \\ \text { Industry } \\ \hline \end{array}$ |
| Natural Resources \& Mining | \$ | 15,953 | 0.5\% | \$ | 25,838 | 0.1\% | \$ | 4,188 | 0.01\% | \$ | 211,120 | 0.2\% | 60,755,400 | 1.2\% |
| Construction | \$ | 395,236 | 11.7\% |  | 1,473,134 | 6.3\% | \$ | 597,913 | 1.4\% | \$ | 7,757,675 | 7.4\% | 287,546,799 | 5.7\% |
| Manufacturing | \$ | 306,799 | 9.1\% |  | 1,174,574 | 5.1\% | \$ | 499,171 | 1.2\% | \$ | 7,630,260 | 7.3\% | 685,083,953 | 13.5\% |
| Trade, Transportation \& Utilities | \$ | 514,361 | 15.2\% |  | 2,612,287 | 11.2\% | \$ | 1,834,378 | 4.4\% | \$ | 17,144,127 | 16.4\% | 935,678,503 | 18.4\% |
| Information | \$ | 73,355 | 2.2\% |  | 1,126,248 | 4.8\% | \$ | 2,318,333 | 5.5\% | \$ | 3,144,383 | 3.0\% | 191,995,753 | 3.8\% |
| Financial Activities | \$ | 401,301 | 11.9\% |  | 2,467,996 | 10.6\% | \$ | 2,713,384 | 6.4\% | \$ | 9,377,621 | 9.0\% | 488,755,076 | 9.6\% |
| Professional \& Business Services |  | 644,482 | 19.1\% |  | 5,815,150 | 25.0\% | \$ | 10,496,804 | 24.9\% | \$ | 19,265,185 | 18.4\% | 782,649,102 | 15.4\% |
| Education \& Health Services | \$ | 603,931 | 17.9\% |  | 3,560,104 | 15.3\% | \$ | 4,904,550 | 11.6\% | \$ | 20,938,122 | 20.0\% | 995,270,108 | 19.6\% |
| Leisure \& Hospitality | \$ | 114,759 | 3.4\% |  | 980,603 | 4.2\% | \$ | 1,729,211 | 4.1\% | \$ | 4,121,731 | 3.9\% | 218,040,396 | 4.3\% |
| Other | \$ | 81,109 | 2.4\% |  | 694,894 | 3.0\% | \$ | 3,204,002 | 7.6\% | \$ | 2,565,996 | 2.5\% | 109,691,748 | 2.2\% |
| Public Administration | \$ | 208,104 | 6.2\% |  | 3,280,489 | 14.1\% | \$ | 13,483,787 | 32.0\% | \$ | 12,128,825 | 11.6\% | 323,322,272 | 6.4\% |
| Unclassified | \$ | 1,197 | 0.0\% |  | 25,932 | 0.1\% | \$ | 326,139 | 0.8\% | \$ | 104,016 | 0.1\% | 8,772,686 | 0.2\% |
| Total* |  | 3,379,977 | 99.4\% |  | 23,242,141 | 100.0\% | \$ | 42,135,878 | 99.9\% |  | 104,716,511 | 99.7\% | \$ 5,087,561,796 | 100.0\% |

Source: Covered Employment and Wages, ES-202 Program (data accessed 8/3/06)

* Some totals do not equall00\% due to information withheld for confidentiality purposes.

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## Average Weekly Wages per Worker

According to the U.S. Census Bureau's 2005 American Community Survey, the 2005 median household incomes for both Montgomery and Frederick counties remain substantially higher on average than Maryland as a whole -- $\$ 82,187$ for Montgomery County and $\$ 73,149$ for Frederick County as compared to $\$ 61,592$ for the state. Weekly wages per employee also vary widely. Figure T shows 2004 average weekly wage per worker by industry.

Across all industries, Montgomery County's 2004 average weekly wage was 21.6 percent higher than the state average and 31.6 percent higher than the national average. Frederick County, however, averaged 11.2 percent below the state average and 4.0 percent below the national average. At $\$ 996$ per worker per week, Montgomery County workers averaged nearly 37 percent more wages per week than workers in Frederick County, who averaged only $\$ 727$ per week. Montgomery County wage averages exceed state averages in every industry category except "Unclassified", while exceeding national averages in all industries. In contrast, Frederick County average weekly wages per employee are below state averages in every industry and below national averages in all industry categories except other and professional \& business services.

## Industry Specialization

To examine the study area's industry specialization, the team calculated Location Quotients (LQ) by industry for the state and each county. An LQ observes what percent of an area's economy is within each major industry group and divides that percentage by the same figure for the larger region. Figures larger than 1.00 indicate industrial specialization. For example, as compared to the nation, the State of Maryland's employment LQ for construction is 1.30 (7.2 percent of the state's employment, as compared to only 5.5 percent of the nation's employment), indicating considerable specialization in construction employment with respect to the national economy.

In comparison to the United States, Maryland's economy shows specialization in public administration, construction, and professional \& business services. Maryland’s specialization in government is due primarily to its proximity to Washington, DC and the associated federal facilities in the state as the LQ for Federal Government employment is 2.48 and wage is 2.74 . On Maryland's other government levels, state employment and wages are slightly higher, and local employment and wages are slightly lower than for the nation as a whole. In contrast, Maryland's economy also shows a substantially lower than average presence of natural resources \& mining, unclassified, and manufacturing industry categories.

FIGURE T: 2004 AVERAGE WEEKLY WAGE PER WORKER


## Montgomery County Employment Characteristics

Montgomery County's economy is led by three industries: professional \& business services; education \& health services; and trade, transportation \& utilities. These three industries account for over half of the county's employment. With respect to wages, professional \& business services and education \& health services produce over 40 percent of the county's payroll. Trade, transportation, \& utilities, while accounting for 15.0 percent of employment, produces only 11.2 percent of the county's wages.

With respect to Maryland, Montgomery County shows economic concentration in the unclassified, information, and professional \& business services industry categories. However, breaking down the data by type of government employer shows that the County's greatest specialization is in Federal Government jobs. When compared in the national perspective, Montgomery's specialization in Federal employment becomes even more pronounced, with wage and employment LQs well above 4.0. As a neighboring jurisdiction to Washington, DC, Montgomery County is home to many Federal Government agencies, such as the National Institutes of Health. Offsetting this, Montgomery County shows low specialization in the natural resources \& mining; manufacturing; and trade transportation, \& utilities industry categories. Finally, similar to Frederick County, Montgomery County also has much lower-than-average state government employment.

Montgomery County, though it had little overall employment change from 2001 to 2004, did experience some job growth, most notably in the natural resources \& mining and education \& health services employment categories which had growth rates of 10.6 percent and 3.3 percent respectively. The education $\&$ health services and construction industry categories led the way in terms of net employment increases. Despite these employment increases, the county experienced net employment losses in the unclassified; manufacturing; information; and trade, transportation, \& utilities industry categories. Altogether, Montgomery County had a net loss of 1,198 jobs from 2001 to 2004.

## Frederick County Employment Characteristics

In terms of employment, Frederick County's largest industries are education \& health services; trade, transportation \& utilities; professional \& business services; and construction. Together, these four industries account for well over half of the county's employees and 63.8 percent of the county's aggregate payroll.

Frederick County specializes in the natural resources \& mining, construction, financial activities, and manufacturing industry categories. Frederick County shows relatively low concentration in public administration. In fact, both state and local government have an employment LQ of only 0.18 in the County. Table 21 indicates the LQ for 2004 average annual employment and wages.

Over the period of 2001-2004, Frederick County's employment growth rate outpaced both Montgomery County and the state of Maryland as a whole. Frederick County's annual growth rate was 4.0 percent, compared to -0.1 percent for Montgomery County, and 0.5 percent for Maryland. Frederick experienced its greatest growth rates in the professional \& business
services and financial activities industry categories, while it experienced declines in the unclassified, public administration, and manufacturing industry categories. Interestingly, despite the decrease in public administration employment, overall government employment actually increased in the county. This indicates that government jobs in the non-public administration industry categories more than made up for the loss of public administration jobs. Table 22 shows employment growth, by industry, in Montgomery County, Frederick County, and the State of Maryland, both in terms of net change in employment and annualized growth rate.

Maryland

TABLE 21
INDUSTRY SPECIALIZATION:
LOCATION QUOTIENTS (LQ) FOR 2004 AVERAGE ANNUAL EMPLOYMENT AND WAGES

| INDUSTRY | Maryland |  | Frederick County |  |  |  | Montgomery County |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | with respect to US |  | with respect to MD Employment Wages |  | with respect to US Employment\|Wages |  | with respect to MD Employment\|Wages |  | with respect to US Employment\|Wages |  |
| Natural Resources \& Mining | 0.21 | 0.17 | 2.25 | 2.34 | 0.47 | 0.40 | 0.56 | 0.55 | 0.12 | 0.09 |
| Construction | 1.30 | 1.31 | 1.55 | 1.58 | 2.01 | 2.07 | 0.91 | 0.86 | 1.18 | 1.12 |
| Manufacturing | 0.53 | 0.54 | 1.26 | 1.25 | 0.66 | 0.67 | 0.59 | 0.69 | 0.31 | 0.38 |
| Trade, Transportation, \& Utilities | 0.94 | 0.89 | 0.95 | 0.93 | 0.90 | 0.83 | 0.77 | 0.69 | 0.73 | 0.61 |
| Information | 0.87 | 0.80 | 0.84 | 0.72 | 0.73 | 0.58 | 1.51 | 1.61 | 1.32 | 1.28 |
| Financial Activities | 1.03 | 0.93 | 1.37 | 1.33 | 1.42 | 1.24 | 1.21 | 1.19 | 1.25 | 1.11 |
| Professional \& Business Services | 1.20 | 1.20 | 0.95 | 1.04 | 1.15 | 1.24 | 1.44 | 1.36 | 1.73 | 1.63 |
| Education \& Health Services | 1.01 | 1.02 | 0.89 | 0.89 | 0.89 | 0.91 | 0.86 | 0.77 | 0.87 | 0.78 |
| Leisure \& Hospitality | 0.94 | 0.92 | 0.99 | 0.86 | 0.93 | 0.79 | 0.91 | 1.07 | 0.86 | 0.98 |
| Other | 1.08 | 1.14 | 0.97 | 0.98 | 1.04 | 1.11 | 1.33 | 1.22 | 1.43 | 1.39 |
| Public Administration | 1.60 | 1.82 | 0.58 | 0.53 | 0.93 | 0.97 | 1.14 | 1.22 | 1.83 | 2.22 |
| Unclassified | 0.49 | 0.58 | 0.45 | 0.36 | 0.22 | 0.21 | 1.60 | 1.12 | 0.78 | 0.65 |


| Government (totals from all industry categories) |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Federal Government | 2.48 | 2.74 | 0.69 | 0.69 | 1.71 | 1.90 | 1.75 | 1.64 | 4.33 | 4.48 |
| State Government | 1.11 | 1.08 | 0.18 | 0.18 | 0.20 | 0.19 | 0.05 | 0.05 | 0.06 | 0.06 |
| Local Government | 0.86 | 0.89 | 1.18 | 1.22 | 1.01 | 1.08 | 0.89 | 0.85 | 0.76 | 0.76 |

TABLE 22
AVERAGE ANNUAL EMPLOYMENT GROWTH: 2001-2004

|  | Frederick County |  | Montgomery County |  | Maryland |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Change in Employment | Growth Rate | Change in Employment | Growth Rate | Change in Employment | Growth Rate |
| Natural Resources \& Mining | 74 | 5.0\% | 178 | 10.6\% | 403 | 2.1\% |
| Construction | 1,200 | 4.4\% | 1,114 | 1.3\% | 11,052 | 2.2\% |
| Manufacturing | -899 | -4.2\% | -3,344 | -6.3\% | -25,259 | -5.3\% |
| Trade, Transportation, \& Utilities | 608 | 1.3\% | -2,121 | -1.0\% | -5,025 | -0.3\% |
| Information | 203 | 4.5\% | -1,982 | -4.1\% | -8,385 | -4.7\% |
| Financial Activities | 2,303 | 12.3\% | 844 | 0.8\% | 7,691 | 1.7\% |
| Professional \& Business Services | 3,876 | 12.4\% | 809 | 0.3\% | 12,304 | 1.1\% |
| Education \& Health Services | 1,406 | 5.0\% | 5,229 | 3.3\% | 31,534 | 2.1\% |
| Leisure \& Hospitality | 1,185 | 5.3\% | 800 | 0.7\% | 15,914 | 2.4\% |
| Other | 445 | 5.2\% | 354 | 0.6\% | 2,023 | 0.8\% |
| Public Administration | -841 | -5.4\% | 205 | 0.2\% | -844 | -0.1\% |
| Unclassified | -175 | -44.5\% | -1,086 | -28.0\% | -4,199 | -29.8\% |
| Total* | 10,002 | 4.0\% | -1,198 | -0.1\% | 37,463 | 0.5\% |


| Government (totals from all industry categories) |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Federal Government | 123 | $1.3 \%$ | 233 | $0.2 \%$ |  |
| State Government | 11 | $0.6 \%$ | -34 | $-1.0 \%$ | $-1,158$ |
| Local Government | 810 | $3.0 \%$ | $-2,135$ | $-1.9 \%$ | $-0.4 \%$ |

Source: Covered Employment and Wages (ES-202 Program), Maryland Department of Labor, Licensing \& Regulation and the US Bureau of Labor Statistics (8/9/01)

* Totals not equal to sum of columns due to information withheld for confidentiality purposes


## b. Project Area Employment Characteristics

## Major Commercial and Industrial Facilities

Development in the I-270/US 15 Corridor tends to be organized around dozens of office and industrial parks. The largest and most well known of these parks is the Montgomery County Research and Development Village.

## Montgomery County Research and Development Village

Located west of Rockville and I-270, the Montgomery County Research and Development Village (R\&D Village) is a 1,200 -acre site developed to support high tech industries and institutions. Estimates indicate employment of nearly 13,000 in the R\&D Village in 2000. At the core of the R\&D Village is the Shady Grove Life Sciences Center, a biotechnology research and development park. To help incubate its biotech industry, Montgomery County dedicated nearly 300 acres along the I-270 Corridor for the Shady. The center, which employed nearly 3,500 in 2000, houses facilities of the Institute for Genomic Research (TIGR), the University of Maryland, the Johns Hopkins University, Otsuka America Pharmaceutical, Inc., Microbiological Associates and many health care delivery centers. The National Institutes of Health (NIH), Human Genome Sciences and Large Scale Biology have all leased space in the newly constructed 150,000 square-foot Key West Research Center. An additional 80,000 square-foot facility has been completed recently as well.

## Centers of Employment

The I-270/US 15 Corridor is home to numerous employment centers, with most residing in Montgomery County. In Montgomery County, there are five major centers. Heading northwest along I-270 from the I-495 Capital Beltway, these centers are: North Bethesda, Rockville, Gaithersburg, Germantown, and Clarksburg. In contrast, the only major employment center in Frederick County is the City of Frederick, located on the northwest terminus of the I-270 corridor. In general, development remains concentrated primarily toward the southeastern end of the corridor, and thins out toward the northwest. Below are brief descriptions of each of the identified centers:

## North Bethesda

Of the major employment centers, North Bethesda is closest to the District of Columbia. Situated just northeast of the I-270 and I-495 Interchange, North Bethesda contains over 10.5 million square feet of low- and mid-rise office and industrial space. Employment estimates by the Montgomery County Department of Park and Planning show 2005 employment in North Bethesda at 68,179. ${ }^{1}$ Major employers include the Defense Mapping Agency, Lockheed Martin,

[^1]Naval Surface Warfare Center, Marriott Corporation, Marriott International, COMSAT, I-NET, Loral Federal Systems, Bank of America, Philips Publishing International, and Sybase. ${ }^{2}$

## Rockville

Rockville is located along the I-270 Corridor approximately four miles northwest of the Capital Beltway and just southeast of I-270’s intersection with I-370. Rockville contains over 13.6 million square feet of office and industrial space in low-rise, mid-rise, and high-rise buildings, along with over 1.8 million square feet of retail space. Estimates for 2005 show Rockville's employment at $75,261 .{ }^{3}$ Rockville is home to Aspen Systems, CTA, Computer Data Systems, Computer Sciences Corporation, the Food and Drug Administration (FDA), Hewlett-Packard, Human Genome Sciences, BAE Systems, Celera Genomics, TPN Register, and Artesia Technologies. ${ }^{4}$

## Gaithersburg

Moving northwest along I-270, the next major employment center is Gaithersburg. Lying approximately four miles northwest of Rockville, Gaithersburg City employed approximately 42,312 people in 2005. Adding in the numerous employers in close proximity to the city limits yields a total employment of 82,965 in the vicinity. Gaithersburg has over 8.6 million square feet of office and industrial space in low-rise and mid-rise buildings, and is home to Bechtel Power, Genetic Therapy, Halliburton NUS, IBM, Life Technologies, MedImmune, National Institute of Standards and Technology, National Geographic Society, Oncor, and Pioneer Technologies. ${ }^{5}$

## Germantown

Located upcounty, just northwest of Gaithersburg, is Germantown. Germantown has over 1.2 million square feet of office space and over 500 acres of land currently available for industrial uses. Year 2005 estimates for Germantown show employment at $24,184 .{ }^{6}$ Businesses currently located in Germantown include: Cellmark Diagnostics, the US Department of Energy, Fairchild, Hughes Network Systems, Mobil Telesystems, Montgomery County College, Orbital Sciences, and Telecommunication Techniques. ${ }^{7}$

## Clarksburg

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While much smaller in employment than the other centers, Clarksburg is expected to experience substantially higher growth rates than the other major centers over the next several decades, as development continues to migrate further northwest along I-270. In 2005, Clarksburg's employment was only 5,293 but that number is expected to grow to 11,104 by 2015. ${ }^{8}$ Current long-range plans have Clarksburg building out to accommodate over 40,000 residents and enough commercial/industrial space for 20,000 employees. Presently, Clarksburg is home to the 154 -acre campus of COMSAT Corporation and the Gateway I-270 business park. ${ }^{9}$

## Frederick

In Frederick County, the only major employment center within the study area is the City of Frederick, located near the northern terminus of the I-270/US 15 Corridor. According to the City of Frederick's Department of Economic Development, the city currently employs approximately 47,266 people. ${ }^{10}$ However, as Montgomery County has grown, development has continued to push into the southeastern portion of Frederick County. The majority of the area's business parks are clustered on the south side of the City along I-270 and near its intersection with MD 85. Some of the business parks located within the I-270/US 15 Corridor include the 270 Technology Park, the Urbana Office/Research Center, and the Frederick Industrial Center. Some of the major employers in the City of Frederick include Fort Detrick, the Frederick Memorial Hospital, Mid-Atlantic Management Services, and FCNB Bank. ${ }^{11}$

## High-Tech Industries

The I-270 corridor has become the favored location for many high-tech sectors, especially biotechnology and information technology. Montgomery County by far leads the state in the number of high-tech firms. Over one-fifth of all the state's high-tech firms, 2,530 establishments, were located in Montgomery County in 2002. ${ }^{12}$ Within Montgomery County, the Rockville-Gaithersburg-Germantown portion of the I-270 Corridor has the highest concentration of high-tech employers.

Biotechnology in the I-270/US 15 Corridor
Biotechnology is one of the most important high-tech sectors within the Maryland economy. According to Ernst \& Young, Maryland has the nation's fourth largest concentration of biotech companies, behind only California, Massachusetts, and North Carolina. ${ }^{13}$ Of Maryland's biotech companies, over half (nearly 180) are concentrated in Montgomery County, with many

[^3]additional biotechnology related and support companies and institutions present as well. ${ }^{14}$ According to the county's Department of Economic Development, Montgomery County employs over 12,000 biotech workers; a total that comprises greater than 35 percent of Maryland's biotech workforce. ${ }^{15}$ A major factor in the County's biotech growth is that it is home to over 20 diverse federal research, development, and regulatory agencies (including the National Institutes of Health) that encompass all biotechnical areas. These agencies originate many of the research grants that help fund the work of private biotech firms.

Frederick County's Office of Economic Development (OED) has been exploring the opportunity of developing an advanced technology park in southern Frederick County. This park, the Jefferson Tech Park, would be created to serve the growing demand of information technology companies. The OED has also been active in developing Mount St. Mary’s Bio Park. Some of the biotech industries located in Frederick County include the US Army Medical Research Institute of Infectious Diseases (one of the lead medical research laboratories for the US Biological Defense Research Program), the National Cancer Institute, SAIC, MedImmune, Invitrogen, Cell Trends, Inc., Capricorn Pharma, Inc., Bio-Tech Imaging, Cambrex, Biological Mimetics, and the Southern Research Institute (SRI). ${ }^{16}$

## 2. Effects

The transportation alternatives that are under consideration for the I-270/US 15 corridor will undoubtedly effect future economic and development patterns. The purpose of this section is to evaluate the nature and extent of these impacts on the economy of the local study area and the broader region. The analysis considers the following types of economic impacts and estimates how the various project alternatives compare relative to each other.

- Worker Related Effects
a. How will employment accessibility change for various categories of workers?
b. How many new jobs will be generated in the region?
- Consumer Related Effects
a. How will people's accessibility change?
b. How many additional shopping opportunities would be provided to people in the counties or the region?
- Business Related Effects
a. How will access to consumer markets be affected?
b. How will access to labor markets be affected?
c. How much business activity will be disrupted as a result of project construction?
d. How will the supply and distribution of goods or services be affected?
e. How will business competitiveness change in the various counties?
- Fiscal Related Effects

[^4]b. How will public expenditures change as a result of new development patterns?
c. How will public revenues be affected as a result of project property takings and new or redistributed development?
d. What changes can be expected in sales and gas tax revenues?

## a. Accessibility

For transportation projects, economic impacts are closely tied to travel time impacts. After all, the most common motivation for a transportation investment is the provision of safe and efficient access and improvement in travel times. Travel time improvements in turn affect economic development via their effects on accessibility - whether workers' accessibility to employment, consumers' accessibility to more attractive shopping opportunities, or businesses’ accessibility to labor markets and consumers' spending potential.

An accessibility index is one of the most valuable indicators of a transportation investment's effects. The measure accounts not only for changes in travel times, but also for the extent to which improved travel times bring spatially distributed opportunities within easier reach. When applied appropriately, accessibility measures can provide a gauge of the benefits of new transportation investments and policies, particularly with regard to:

- the relative value of improved travel time
- the relative value of alternative land use patterns
- workers' ability to access employment locations, and
- changes in regional development patterns.

Understanding a transportation improvement's economic development impacts therefore depends to a considerable extent on understanding its impacts on accessibility for the various interest groups and locations. This section discusses the methodology used to measure accessibility and presents accessibility measurements for each of the build alternatives. The following sections subsequently make use of this information to judge the likely economic development impacts of each alternative.

## Measuring Accessibility

Accessibility is defined by two factors: (1) the spatial distribution of opportunities, and (2) travelers' (or businesses’) perceived cost of accessing those opportunities. We can measure the locations of opportunities by how many of them exist in each destination zone j - denoted by $\mathrm{O}_{\mathrm{j}}$ - and we can express the cost of accessing those opportunities from an origin zone i as $\mathrm{C}_{\mathrm{ij}}$. Costs principally occur in the form of travel time and out-of-pocket expenses, but the perceived value of those costs depends on travelers' value of time, comfort while traveling, and general aversion to using particular modes or to traveling in general. Travelers' perception also varies by trip purpose. For example, people are usually more willing to travel farther to work than to shop. We can express travelers' perceived ease of accessing particular opportunities as a function of costs, $\mathrm{f}\left(\mathrm{C}_{\mathrm{ij}}\right)$. The function is called an "impedance function". As costs rise, the impedance function approaches one; as costs become very small, the function grows larger. The shape of the function can be empirically derived, through regional travel surveys that seek to characterize
travelers' behavior. Such surveys are normally conducted by metropolitan planning organizations like the Metropolitan Washington Council of Governments (MWCOG).

Bringing all the parts together, we can express a traveler's (or business's) accessibility to the opportunities in a particular zone as: $\mathrm{A}_{\mathrm{ij}}=\mathrm{O}_{\mathrm{j}} * \mathrm{f}\left(\mathrm{C}_{\mathrm{ij}}\right)$. As the number of opportunities rises, or as the ease of accessing them improves, accessibility also improves. Of course, a traveler's full accessibility depends on his or her ease of accessing all opportunities in all zones. Summing over all destinations, a traveler's accessibility takes the following form: $\mathrm{A}_{\mathrm{i}}=\Sigma_{\mathrm{j}} \mathrm{O}_{\mathrm{j}} \mathrm{f}\left(\mathrm{C}_{\mathrm{ij}}\right)$.

Depending on the application, one of several forms of the accessibility model can be applied. For our purpose, we are particularly interested in the economic development effects of alternative transportation investments proposed for Maryland's I-270/US 15 corridor. To the extent that travel time improvements translate into greater business and personal productivity, we seek to know how businesses and workers (residents) will be distributed geographically with the improvement as well as their relative magnitude among the alternatives. The analysis applies three measures of accessibility to address the matter. Two of these are personal accessibility measures which look at accessibility from the perspective of consumers, the other looks at accessibility from the perspective of retail businesses.

## Measure \#1: Commuter Personal Accessibility Index

The first measure gauges commuters' general accessibility to employment destinations $\left(\mathrm{O}_{\mathrm{j}}\right)$ in a manner that reflects their actual value of time and aversion to traveling. In this case, $\mathrm{C}_{\mathrm{ij}}$ again is measured in actual minutes of travel, but $\mathrm{f}\left(\mathrm{C}_{\mathrm{ij}}\right)$ slopes gradually from $1,000,000$ to one as work travel times become greater. Importantly, the work trip impedance function, shown by the blue line marked with squares in Figure U, is derived empirically through travel surveys of people traveling to work in the Washington, DC metro area. The measure has the particular advantage of reflecting local travelers’ perception of how far certain destinations feel. It therefore provides an excellent estimate of travelers’ perceived ease of accessing spatially distributed opportunities.

A weakness of the measure is that it produces a unit-less index. However, the measure results reflect travel behavior meaningfully, and when mapped they produce very clear geographic patterns that can be compared easily among alternatives.

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## FIGURE U <br> IMPEDANCE FUNCTIONS FOR THE METROPOLITAN WASHINGTON REGION



Measure \#2: Consumer Personal Accessibility Index
The Consumer Personal Accessibility Index is similar to the Commuter Personal Accessibility index except that $\mathrm{O}_{\mathrm{j}}$ now represents the number of shopping destinations in each zone. Like the second measure, this one also measures Cij in actual travel minutes. However, the impedance function's slope is derived from empirical observations of shopping trips, rather than work trips. As in other metro areas, people in the Washington, DC region are more averse to traveling long distances for shopping trips than for work trips. Thus, $\mathrm{f}\left(\mathrm{C}_{\mathrm{ij}}\right)$ slopes downward more steeply for shopping trips - making travel times even more important for retail and wholesale trade.

## Measure \#3: Retail Business Accessibility Index

The fourth measure gauges businesses' access to consumers - specifically, to their spending potential. As the transportation alternatives affect travel times, they also affect the locations of greatest accessibility for retail and wholesale trade business. In this case, the "opportunities" are consumers' spending dollars $\left(\mathrm{O}_{\mathrm{j}}\right)$, which are measured via proxy by each zone's aggregate household income. This measure makes use of the same impedance function as the shopper personal accessibility index.

When used to compare among alternatives, the measure shows the geographic pattern of economic development impacts. Locations with improved retail business accessibility can expect greater levels of economic activity as a result of the alternative. Also, a pattern that
favors existing areas indicates that the alternative reinforces current development patterns and increases the potential for higher intensity development, while the opposite pattern indicates that the alternative increases pressure to develop virgin lands and presents greater potential for augmenting "sprawl".

Incorporating Various Modes of Travel. Finally, to measure accessibility accurately, one must account for travelers' access to various travel modes, as well as those modes' respective travel times. The Metropolitan Washington Council of Government's travel demand model recognizes three principal modes of travel: autos that make use of high-occupancy vehicle lanes (HOV3), autos that use only low-occupancy lanes (LOV), and transit (TRANS). The study team accounts for the modes by calculating the accessibility scores separately for each one ( $\mathrm{A}_{\mathrm{i}}^{\text {trans }}, \mathrm{A}_{\mathrm{i}}^{\text {hov3 }}, \mathrm{A}_{\mathrm{i}}^{\text {lov }}$, ) and then summing them in proportion to the percent of persons who are captive transit riders, HOV3 travelers, and LOV drivers in each origin zone, respectively. The resulting formula is simply a weighted average of accessibility, by mode:
$\mathrm{A}_{\mathrm{i}}=\left[\alpha_{i}^{\text {trans }} * \mathrm{~A}_{\mathrm{i}}^{\text {trans }}\right]+\left[\alpha_{i}^{\text {hov3 }} * \mathrm{~A}_{\mathrm{i}}^{\text {hov3 }}\right]+\left[\left(1-\alpha_{i}^{\text {trans }}-\alpha_{i}^{\text {hov3 }}\right) * \mathrm{~A}_{\mathrm{i}}^{\text {lov }}\right]$
$\alpha_{i}^{\text {trans }}=$ percent of travelers who are captive transit riders, measured by the percent zero-car households in location i
$\alpha_{i}{ }^{\text {hov3 }}=$ percent of travelers with access to a 3-person carpool, measured by the percent of travelers in location i who use the HOV3 mode

Carpoolers and captive transit riders are assumed to be mutually exclusive. Note that ETL is not considered a separate mode of travel within the model, therefore it is not possible to calculate separate accessibility scores for ETL users versus non-users. The accessibility impacts of the ETLs are instead captured within the LOV mode.

Finally, travel times are incorporated by defining $\mathrm{C}_{\mathrm{ji}}$ and $\mathrm{C}_{\mathrm{jk}}$ for each traveler as the minimum travel time available to him or her. For example, persons who have access to a car (LOV) could choose to use transit or drive alone. Thus, their travel times equal the minimum of transit and LOV times.

## b. 2030 Baseline (No-Build)

To understand the difference in accessibility expected with the ETL improvements, both ETL alternatives are compared with a No-Build Baseline Alternative for the year 2030. The Baseline attempts to predict the accessibility patterns in the Washington region if the project improvements are not constructed. However, it is extremely important to note that the No-Build Baseline actually does assume that some future improvements will be made in the corridor. All of these improvements appear within the Metropolitan Washington Council of Government's Constrained Long Range Transportation Plan (CLRTP).

First, the Baseline Alternative includes an assumption that a single HOV lane will be extended northbound from MD 121 (Clarksburg Rd.), the current endpoint of the HOV lane, to I-70. On southbound I-270, an HOV lane will be added between I-70 and where the HOV lane currently begins at I-370. These assumed improvements are consistent with revised state plans for the
corridor. The 2002 Socioeconomic Technical Report did not include an HOV assumption in the No-Build. Unfortunately, this makes accurate comparisons of the accessibility measures in the two reports difficult. As a result, this report will focus on comparing the two ETL alternatives to each other and the No-Build, rather than to the previous alternatives. Also, the Baseline NoBuild includes the Inter-County Connector (ICC): a major new dynamically-priced toll road running from I-270 to I-95 in central Montgomery County. The model used for the previous analysis did not include this key roadway.

Finally, the baselines all assume that the CCT will be constructed as LRT as stated in the CLRTP. Thus, the LRT improvement is included in the baseline. For this reason, the accessibility analysis will focus strictly on the marginal benefits provided by the various highway components of the project: differences in accessibility between transit options are not included in this report.

That said, the 2002 Report did consider differences in accessibility between the transit options in detail. The impacts of these options relative to the LRT alternative can be expected to be fairly similar to the differences reported in the 2002 Report although certain interactions between modes might cause some differences. To summarize, the 2002 Report found that, overall, accessibility improvements in Frederick County were much greater with the BRT and Premium Bus alternatives than with the LRT alternative. The Premium Bus alternative had the greatest impact in Frederick County, increasing the accessibility of Traffic Analysis Zones (TAZs) up to the Pennsylvania border. Montgomery County's accessibility was expected to increase the most with the BRT option: LRT, again, had less of an accessibility impact.

Another important point to remember is the scale of the project impacts compared with the overall economic growth expected in the region. As compared to the present, the 2030 No-Build scenario shows dramatic increases in economic activity within the region and the study area. By virtue of the fact that the region will grow considerably in terms of population and employment between now and 2030, economic activity will also expand considerably. Between 2005 and 2030, the region projects an increase of approximately 1,632,600 residents (a 32.8 percent increase) and 1,185,600 jobs (a 38.9 percent increase). ${ }^{17}$ Of these totals, Montgomery and Frederick counties are expected to account for a 332,600 gain in population (a 28.6 percent increase) and a 215,100 increase in jobs forecasted (a 34.6 percent increase). ${ }^{18}$ The sizeable growth that is forecasted, both regionally and in the study area, will expand economic activity by roughly the same proportions. In comparison, any positive economic developments generated by the build alternatives will likely be dwarfed in scale by the region's and study area's general economic growth over time.

[^5]
## 2030 Baseline Commuter and Consumer Personal Accessibility

As one can see in Figure V, the accessibility analysis reveals some very strong geographic patterns in the 2030 baseline for worker and shopper personal accessibility. The map was generated by combining the worker and shopper personal accessibility indices for each TAZ so that an overall picture of accessibility could be compiled. As might be expected, accessibility levels are highest in the District of Colombia, the urban center of the region, where the concentration of shopping and work destinations is highest and the transportation network is densest. Personal accessibility scores drop off as one moves further away from the urban center: scores remain higher along the major expressway corridors in the region. This reflects the accessibility advantage this infrastructure provides for reaching a wider array of destinations throughout the region in less time than would otherwise be the case. The I-270/US 15 Corridor appears as a narrow area of relatively high Commuter and Consumer Personal Accessibility.

In terms of personal accessibility, Washington, DC, being located at the center of the urban core, scores much higher than most other parts of the region and the District's population enjoys better accessibility even after accounting for its much higher rate of transit dependency. In fact, when compared with the average personal accessibility scores for TAZs in the region, Washington, DC’s TAZ scores average 164.6 percent higher.

Montgomery County represents a transition zone between the highly accessible urbanized central core and the less accessible outer reaches of the Washington Region. As one can see in Figure V, approximately one half to two-thirds of the county, located predominately along the southern border with DC and near I-270, is highly to moderately accessible to working and shopping destinations. The northern portion of the county is generally less accessible owing to the lack of development in the county's agricultural protection areas here and the dearth of freeway infrastructure in these locations. Because of this, Montgomery County's TAZ's have an average personal accessibility score 25.2 percent less than the average scores for TAZs throughout the region. That said, the TAZs near and within the Beltway in the southern portion of the county exhibit personal accessibility scores well above the average for the rest of the region.

Frederick County, in contrast, fares very poorly in terms of regional accessibility. Overall, Frederick County's TAZ's have an average personal accessibility score 88.9 percent less than the average scores for TAZs throughout the region. This is in part due to its location at the edge of the Washington Region. However, even if neighboring counties could be factored into the traffic model accessibility values would not likely increase substantially since the neighboring counties tend to be relatively sparsely populated and lack high amounts of work and shopping destinations.

These Baseline conditions highlight that consumers in Washington, DC and to some extent in Montgomery County enjoy superior availability of attractive shopping and work destinations relative to Frederick County. They also indicate that any businesses or uses where regional accessibility is a key factor in choice of location, such as office space, would most prefer a Washington, DC location. Importantly, southern and central portions of Montgomery County also offer attractive locations for offices and other regionally focused functions.


## 2030 Baseline Retail Business Accessibility

Figure W shows regional patterns of retail business accessibility. Retail business accessibility attempts to show, from a business' perspective, the most attractive locations for accessing the greatest number of wealthy people (as measured by the aggregate income of each TAZ). Overall, the pattern of highly accessible TAZs from a retail business perspective is somewhat more diffuse than was the case with accessibility to work and shopping destinations. Washington, DC and Arlington County, VA remain important centers but certain suburban corridors also show up as being attractive locations. These include I-66, Virginia State Route 7 (from Fairfax County to northeast Loudon County), I-95 in Virginia, and I-270 in Montgomery County.

Overall, Washington, DC, fares well above the regional average with regard to wholesale and retail trade businesses' accessibility to consumers' spending potential; it's TAZs score on average about 135.4 percent above the mean TAZ value for the region. Washington, DC's strongest asset is its central location: by any particular mode, Washington, DC businesses’ accessibility is higher than the regional average. The northwestern portion of the District is also one of the wealthiest areas in the region and has a relatively high population density.

Montgomery County also enjoys high business accessibility, especially in the southern portion along the beltway and the I-270 corridor. Recall that travelers performing shopping trips are very sensitive to travel time, more than travelers commuting to work, and will not tolerate traveling as far. As a result, retail and wholesale businesses' accessibility is very sensitive to the local areas’ spending potential. Though Montgomery County does not enjoy Washington, DC’s central location, its proximity to high-income households with automobile access makes the county, and the I-270 corridor in particular, very attractive to businesses. Nonetheless, the relatively sparsely developed northern portions of the County negate these benefits such that, overall, Montgomery County TAZs on average tend to score 21.2 percent below the regional average for retail business accessibility. Finally, Frederick County scores a full 96 percent below the regional average with regard to business accessibility. The county’s relatively isolated location and low population make it relatively unattractive to major retail and wholesale trade development.


## c. $\quad$ Alternatives 6A/B and $7 \mathrm{~A} / \mathrm{B}$

The following sections examine each build alternative's economic development effects in terms of the four interests identified earlier: consumers, businesses, workers and municipalities' fiscal budgets. The "build alternatives" are defined as all alternatives other than the No-Build and TSM/TDM alternatives. Since most economic development effects are, in fact, transfers between interests or locations, an impact for one interest or location often appears as the opposite impact for another. For example, an increase in tax revenues can be viewed as a positive impact for fiscal budgets but a negative impact for those who are paying the extra taxes. Nevertheless, examining the varied effects in terms of the four interest groups serves as a useful tool for understanding the economic development effects of the proposed alternatives.

In many cases, quantitative information is presented that is based on accessibility analyses that rely on travel demand modeling results. To accurately interpret the results it is very important to understand some of the key assumptions and concepts surrounding the model. Two key assumptions have already been mentioned: the No-Build Baseline contains HOV lanes extending in both directions of I-270 from their existing endpoints to I-70 and the ICC is included in the model.

Another important and related point is that travel time penalties have been assigned to the ETLs as a proxy measure for their toll status. The time penalties help take into account drivers' cost disincentive of utilizing the ETL lanes. The amount of the time penalties vary based on the amount of toll charged: thus, there are a variety of different penalties assigned based on time of day and vehicle class. With the time penalties for ETL, accessibility will decrease in places where ETLs replace existing lanes and do not add capacity, all else being equal. This situation occurs in Alternatives 6 A/B between MD 121 and MD 85 where single ETL lanes in each direction would replace the proposed single HOV lanes included in the No-Build Baseline.

## Worker Impacts

Transportation investments affect workers in two primary ways: expanding the geographic scope of accessible employment and increasing the number of available jobs.

The Commuter Personal Accessibility Index can be applied to estimate how worker accessibility would be affected by the various alternatives. In the cases in which personal accessibility is improved, workers benefit from reduced travel times and improved connections since they can access a wider geographic area for jobs in the same amount of travel time. This opens additional employment opportunities. In addition, improved accessibility translates into shorter commute times for workers traveling to their jobs - which can improve overall worker productivity and create opportunities to undertake other additional activities. Similarly, accessibility improvements also open up new areas to residential development by allowing individuals to commute further to their jobs in the same amount of time. Thus, the Commuter Personal Accessibility Index also shows geographic areas where increased pressure for residential development might exist due to the project.

Figure X illustrates the accessibility changes between the No-Build Baseline and Alternative 6's highway improvements for Commuter Personal Accessibility at AM and PM peak commuting hours. Figure Y shows the results for Alternative 7. As one can see, for both alternatives, areas along the project corridor in northern Montgomery County and southern Frederick County have the largest accessibility changes and therefore will likely experience the greatest pressure for new residential development. Commuters who currently live in these TAZs will experience greater accessibility. These changes are directly linked to the project improvements: residents of these areas would be able to reach more destinations in the DC metropolitan area in less time.

Accessibility is one of many factors influencing location decisions of households and land developability. Therefore, greater accessibility does not guarantee greater developability. Much of northern Montgomery County is protected farmland, so the ability to develop this land to reach the potential bestowed by its increased accessibility might be limited. This could very well push more development into Frederick County and eastern West Virginia as workers trade off longer commutes for lower taxes and home prices. Any capacity increase to the I-270/US 15 corridor, such as with both project highway alternatives, could help facilitate this trend by reducing commute times to employment destinations along the corridor in Montgomery County.

On a related note, Figures $\mathbf{X}$ and $\mathbf{Y}$ show that a slight decrease in Commuter Personal Accessibility can be expected for residents along the southern portion of the project corridor and throughout central and southern Montgomery County. These results indicate that the increased accessibility afforded to the northern portion of the Project Corridor may induce more traffic on the highway that will ultimately lead to more congestion along the east-west arterial streets in Montgomery County. Due to the increased congestion, travel times may increase and accessibility may decrease throughout much of southern Montgomery County. Essentially, for these TAZs, the increased traffic generated by the project outweighs any accessibility benefit gained from being able to better access (the relatively few) destinations in northern Montgomery and Frederick Counties.

In addition to affecting regional commuting patterns and residential development, large infrastructure projects also directly or indirectly generate employment for the region. Direct employment includes jobs for designing and building the project and managing its construction, as well as jobs to operate its services and maintain its vehicles and facilities. Indirect employment includes jobs that are generated as a result of new money that is spent in the local economy by those directly employed by the project's construction, operation and maintenance. As the new money flows through the economy, changing hands multiple times, it effectively supports many additional jobs. Estimating indirect employment effects involves substantially more uncertainty, but the general "rule of thumb" is that indirect employment effects are roughly twice the size of direct employment impacts.

The project team estimates the direct employment impacts by assuming broadly that:

- Roughly 35\% of the construction and implementation costs will be spent on companies within the study area.
- About $80 \%$ of O\&M expenditures will go to residents and businesses.
- The median income in the Washington, DC Metropolitan Area is $\$ 38,029 .{ }^{19}$

[^6]


Finally, the project team makes a distinction between the total employment that the project would support and the smaller sub-set that could be termed as "new" employment - defined as employment that would not occur locally without the project. The amount of "new" employment is directly related to the net amount of funding that would originate from sources outside the study area - which the project team broadly estimates to be 0 percent for O\&M expenses and between 53 percent and 57 percent for capital expenses, depending on the alternative. Results are shown in Table 23.

TABLE 23
GROSS EMPLOYMENT DIRECTLY GENERATED BY EACH ALTERNATIVE

|  | Alternative |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
|  | $\mathbf{6 A}$ | $\mathbf{6 B}$ | $\mathbf{7 A}$ | 7B |
| Person-Years of Employment | 26,828 | 24,822 | 26,828 | 24,822 |
| Construction | 531 | 537 | 531 | 537 |
| Annual O\&M | 2,758 | 2,597 | 2,758 | 2,597 |
| Average Annual <br> Employment* |  |  |  |  |
| Person-Years of NEW Employment |  |  |  |  |
| Construction | 15,278 | 13,647 | 15,278 | 13,647 |
| Annual O\&M | 0 | 0 | 0 | 0 |
| Average Annual New <br> Employment* | 1,268 | 1,133 | 1,268 | 1,133 |

*"Average Annual Employment" puts short-term construction jobs and long-term operating jobs on the same scale by annualizing the construction jobs over the life of the project and adding the result to the annual $O \& M$ jobs. The measure effectively gauges the average annual employment that each alternative supports.

Applying these assumptions, the study team estimates that during construction, the alternatives will support between 21,600 and 26,800 person-years of employment. Once construction is complete, the alternatives will support between 200 and 500 full-time equivalents to operate and maintain the transit system over the long term.

Of these amounts, the study team estimates that new employment (i.e., employment that would not have been generated locally without the transportation investment) would amount to between 13,600 and 15,300 new person-years of employment related to construction. These jobs result directly from the Federal government pumping more money into the local economy. However, the alternatives will generate no new long-term employment related to O \& M .

Why do we not count the O\&M jobs as new employment? The O\&M jobs are "created" as a result of locally generated user fees (fares) and state and local subsidies, both of which are economic transfers within the regional economy. Passengers pay fares in lieu of other transportation costs that otherwise would be spent locally, so fares cannot be counted as a new infusion of dollars into the regional economy. Similarly, state and local operating subsidies are paid for with new or diverted taxes. Thus, in the long-term, the subsidies remove about as many jobs from the economy as they add. Without the new transit operating subsidy, either the
government would spend the subsidies on other expenses and thereby support jobs elsewhere in the regional economy, or if the subsidies are generated through new taxes, then those taxes would have been spent by consumers. In either case, the jobs cannot be considered "new".

The best way to compare new employment among alternatives is using the bottom line of "average annual employment", which puts short-term construction jobs and long-term operating jobs on the same scale. On average, annually, the alternatives would support between 2,600 and 2,800 full-time equivalents, but only between 1,100 and 1,300 new full-time equivalents. The indirect employment effects would be, above and beyond, about twice as large as the figures above - bringing the total employment effects to between 3,400 and 3,800 new full-time equivalents on an average annual basis.

To summarize the worker impacts, the largest change in Commuter Personal Accessibility is likely to be in northern Montgomery County and in southern Frederick County. All else being equal, these areas are thus made more attractive to residential development since residents will be able to access more work destinations in less time once the improvement is completed. The project is also expected to generate both direct and indirect employment during construction and for operation and maintenance of the transit component. Overall, the LRT alternatives are expected to generate the most new employment in the region.

## Consumer Impacts

To the extent that travel times shorten or that traveling becomes easier and less expensive, consumers' accessibility to services, recreational activities and shopping opportunities improves. As a result, consumers can experience economic benefits in the forms of greater availability of attractive opportunities and potentially lower prices from competing businesses. Generally, as accessibility improves, so does consumer surplus. (Consistent with this line of thought, travelers usually do not "pocket" all of their travel time savings resulting from a transportation investment and instead choose to travel to farther destinations where cheaper or better opportunities become more available.)

On the other hand, large transportation investments often require local and state governments to raise new monies through taxes, such as sales and/or gas taxes. To the extent that federal and private sources and direct operating revenues do not cover the cost of a proposed transportation investment, the potential exists for consumers to pay for it through increased taxes. Overall, we can measure consumer impacts in terms of the following three categories:

- Availability of Retail Shopping Opportunities
- Reduced Out-of-Pocket Cost of Traveling
- Minimized Potential to Increase Taxes

Figures Z and AA show Consumer Personal Accessibility improvements for Alternatives 6 and 7 respectively. Just as with the Commuter Personal Accessibility Index, accessibility improvements are greatest along the I-270 corridor in northern Montgomery and southern Frederick Counties for both alternatives. Essentially, with the ETL and other highway improvements more retail destinations located further south are now reachable in less time for consumers located in these areas on the urban fringe. Consumer Personal Accessibility is greatly increased for residents in and around the city of Frederick indicating that the improvements to US 15 here are especially beneficial to traffic flow in and around the city, even at off-peak hours.

Furthermore, Alternative 7, by adding additional ETL capacity along I-270 in Frederick County, intensifies the accessibility improvements around the City of Frederick and along I-270. As with Commuter Personal Accessibility, there is some loss in Consumer Personal Accessibility for TAZs further south in Montgomery County due to an increased volume of traffic coming down I-270 from the north and congesting the county's east-west arterials.

In situations where toll-free general purpose lanes are added, accessibility improvements often represent reduced out-of-pocket travel costs due to reduced fuel consumption since fewer motorists are stuck in traffic. However, this is not necessarily the case with ETLs since there is a price paid for taking advantage of the accessibility improvements. This price likely negates any savings in fuel prices from congestion relief for ETL users. That said general purpose lane users could realize a net decrease in out-of-pocket travel costs based on the extent that traffic on the new ETLs reduces congestion on the general purpose lanes.

Finally, the alternatives all have some potential to increase taxes. The potential can be viewed as being roughly proportional to the size of the un-funded portion of the alternatives’ estimated annual costs. Table 24 displays a preliminary estimate of these costs, assuming broadly that capital costs can be annualized by uniformly applying a factor of 0.083 to the total capital costs. In reality, annualized costs would vary somewhat depending on the life cycles of the alternatives' particular components, but in lieu of such detailed information, this broad approach is suitable for the needs of this assessment.



TABLE 24
POTENTIAL TO INCREASE TAXES
(ANNUAL RESIDUAL FUNDING REQUIREMENT)*

|  | Alternative |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | :---: | :---: | :---: | :---: |
|  | $\mathbf{6 A}$ |  |  |  |  | $\mathbf{6 B}$ | $\mathbf{7 A}$ | $\mathbf{7 B}$ |
| Estimated Costs | 3,748 | 3,454 | 3,748 | 3,454 |  |  |  |  |
| Total Capital ${ }^{\circ} \dagger$ | 311 | 287 | 311 | 287 |  |  |  |  |
| Annualized Capital | 25 | 26 | 25 | 26 |  |  |  |  |
| Annual New O\&M $\dagger$ | $\mathbf{3 3 6}$ | $\mathbf{3 1 2}$ | $\mathbf{3 3 6}$ | $\mathbf{3 1 2}$ |  |  |  |  |
| Annual Total |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Funding Availability | 886 | 592 | 886 | 592 |  |  |  |  |
| Total Capital^ | 74 | 49 | 74 | 49 |  |  |  |  |
| Annualized Capital | 42 | 42 | 34 | 34 |  |  |  |  |
| Annualized ETL Revenue ${ }^{\mathrm{a}}$ | 8 | 8 | 8 | 8 |  |  |  |  |
| Annual New Fares $\dagger$ | $\mathbf{1 2 4}$ | $\mathbf{9 9}$ | $\mathbf{1 1 6}$ | $\mathbf{9 1}$ |  |  |  |  |
| Annual Total |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Residual Funding <br> Requirement (Potential to <br> Increase Taxes) | $\mathbf{2 1 3}$ | $\mathbf{2 1 3}$ | $\mathbf{2 2 1}$ | $\mathbf{2 2 1}$ |  |  |  |  |

* All costs are expressed in millions of 2006 dollars except where otherwise noted
$\wedge$ Uninflated data from 2002 Socioeconomic \& Technical Report used to maintain consistency and due to difficulty and uncertainty in projecting money available from the Maryland Transportation Trust Fund
- Source: Rummell, Klepper \& Kahl, LLP, "I-270 Total Cost Summary" ( February22, 2006)
† Source: Parsons Brinckerhoff, "I-270/US 15 Corridor Transportation Study" (October 21, 2003)
${ }^{\text {a }}$ Source: Transportation Economics \& Management Systems, Inc., "I-270 Express Toll Lanes Analysis: Executive Suummary" (July 2006)

The table shows that all of the alternatives have considerable potential to increase taxes. Alternatives 7A and 7B are tied for the highest potential for increased taxes because the ETL Revenues for Alternative 7 are projected to be considerably less than for Alternative 6.

To summarize the consumer effects, Consumer Personal Accessibility will increase most dramatically with the improvements along I-270 in northern Montgomery County and in and around the City of Frederick. Alternative 7 reinforces this pattern and provides slightly greater accessibility improvements for the City of Frederick when compared with Alternative 6. Significant decreases in out-of-pocket travel costs are not likely for ETL users since they will be trading lower fuel costs for tolls, however, general purpose lane users may realize some fuel cost savings if the ETLs decrease congestion on these lanes. Finally, all of the alternatives have the potential to necessitate a tax increase to fund the project. Alternatives 7A and B have the greatest potential to increase taxes whereas Alternatives 6A and 6B have the smallest potential (largely due to the higher ETL revenues with Alternative 6).

## Business Impacts

Transportation investments can affect businesses in many ways. Improved travel times effectively bring consumers, workers and other supply chain members "closer" to local businesses. The cost of doing business may drop, and businesses may be able to compete more effectively across a larger geographic market of potential consumers and workers. Meanwhile, transportation improvements, particularly for the auto modes, also can help businesses reach much larger markets of consumers with high spending potential. In addition, businesses' transportation costs drop as highway speeds increase, and the improved reliability of just-in-time delivery can reduce businesses’ inventory costs.

On the other hand, an expanded consumer market also can work against some businesses by introducing new competition from establishments in more distant locations, or by increasing competition from businesses in nearby locations whose accessibility to consumers improves by a greater amount. Then again, one business's loss is another's gain.

Overall, we can measure business impacts in terms of the following four categories:

- Access to Consumer Markets
- Access to Labor Markets
- Supply Chain Productivity
- Construction-Related Impacts

Figures BB and CC illustrate the Retail Business Accessibility changes expected with the highway components of Alternatives 6 and 7, respectively. The maps show projected changes in businesses' access to consumer markets as measured by the aggregate income of each TAZ. Areas with slightly darker shading are projected to have better access to consumer markets with the ETLs and other improvements. As one can see, there are two concentrations of improved accessibility to consumer markets: one in northern Montgomery County and the other in the vicinity of the City of Frederick. The Montgomery County concentration reflects the benefits of the improvements to I-270 that would enable the relatively wealthier residents in the southern portion of the county easier access to this region. The Retail Business Accessibility increase around Frederick likely results from improvements to US 15 which will improve the flow of traffic in the vicinity of the City of Frederick and, consequently, businesses' access to consumers in the area.

In terms of access to labor markets, retail establishments are typically concerned with the accessibility changes for transit-dependent commuters who often fill their relatively low-wage positions. In the Washington region, the highest concentration of low-wage transit dependent households is in the District of Columbia, so the change in accessibility for DC TAZs is of key concern. Though this accessibility analysis did not consider the differences between the transit components, the 2002 Socioeconomic\Land Use Technical Report did. That analysis found, as might be expected, that the extension of either BRT or LRT to the CCT would dramatically improve Montgomery County businesses’ access to the lower-income transit-dependent households in DC. The BRT, with its more expansive geographic reach, would provide greater accessibility.

The ETL and highway components, when considered separately from the transit component as in this analysis, would likely have minimal impacts on retail labor market accessibility since the transit-dependent labor pool in DC will largely be unaffected by the improvements. Furthermore, lower-income retail workers who do drive to work may be less likely to use ETLs because of their cost (although they could benefit if the ETLs add capacity that improves congestion in the general purpose lanes).

Figures X and Y, which illustrate Commuter Personal Accessibility changes with the highway improvements, provide the best view of areas with improved labor market accessibility. The slightly darker shades indicate places where workers are able to reach more employment destinations faster with the build alternatives. Retail employers will be better able to tap into the labor market in these areas. Unfortunately, the population of these zones is relatively low so the overall impacts on retail labor market accessibility are likely to be small.

In terms of businesses’ supply chain productivity, the alternatives should generally be beneficial since they add capacity to I-270 that can be utilized by trucks making deliveries. Less congestion for trucks on I-270 should translate into more productive and efficient supply chains.

Finally, during construction, all options would negatively affect transportation efficiency more substantially than they would impede access to any particular properties, since the construction will occur on controlled, limited-access transportation facilities. As a result, the disruption caused by construction is expected to depend largely on construction techniques and timing, which are not defined as part of the DEIS process. Both of the alternatives would entail about the same level of disruption caused by construction.

To summarize, Retail Business Accessibility will improve along most of the I-270/US 15 Corridor with both ETL alternatives. The greatest improvements are expected to take place in and around the City of Frederick and in northern Montgomery County along I-270. These areas will become more attractive to retail establishments seeking access to a wealthy clientele; especially if new residential growth in these areas is comprised of higher income households. The improvements along the length of the I-270 corridor should also positively impact truck accessibility to retail establishments and, therefore, supply chain productivity. Lastly, construction impacts are not likely to disproportionately impact any single business. However, the construction might temporarily impact the accessibility to all retailers in the study area due to reduced speeds and increased congestion. This could lead to a temporary negative impact on the attractiveness of study area businesses when compared with their competitors in other parts of the region. Once completed, however, the improvements will slightly enhance the competitiveness of businesses in southern and central Montgomery County and, especially, in northern Montgomery and southern Frederick Counties.



## Fiscal Impacts

Changes in government revenues and government expenditures actually are measures of "fiscal impact" rather than measures of economic impact. But since tax revenue and public expenditures are normally significant concerns for public authorities, a brief analysis of fiscal impacts has been included as part of this economic impact study.

The most relevant fiscal impacts include infrastructure costs, property tax revenues, sales tax revenues, and gas tax revenues. Changes in business sales, personal income as well as new development or land use patterns can have effects on all of these categories. Fiscal impacts in most cases represent a transfer to or from other interested parties, including workers, businesses, and consumers. They also can entail a transfer of benefits to or from other governments.

Local fiscal impacts can occur as a result of new regional development or redistributed development within the region. They also can occur as a result of redistributed local development, if the redistribution effectively changes overall property tax revenues, either by guiding development to areas of lower or higher taxes, or by affecting land values.

Overall, the categories of fiscal impacts include:

- Change in Property Tax Revenues, Due To:
- Property Takings
- New Regional Development
- Redistributed Regional Development
- Redistributed Local Development
- Change in Gas Tax Revenues

Public infrastructure costs are affected by the type of development patterns that arise as a result of transportation improvement projects. Commuter Personal and Retail Business Accessibility patterns tend to affect the location of new development and both are impacted by the various build alternatives, albeit to different intensities and in different geographic areas. As discussed in previous sections, both of these accessibility measures tends to improve accessibility from the no-build, most markedly along the Project Corridor in northern Montgomery County and southern Frederick County. However, predicting how much the tax base might change given potential new development would be highly speculative at this point: a more thorough land use change analysis needs to be conducted first.

Property tax revenues also could change as a result of increased or decreased property values. Assessing the potential for property value changes is highly speculative and cannot be measured nor predicted with accuracy. However, one can draw some general conclusions from experience elsewhere.

Generally, residential and commercial land values tend to increase markedly near new transit stations. Recent experience in cities with new light rail systems indicates that both existing and new development can experience substantial value increases. The increases result both from much improved accessibility and especially from large public investment in local urban design.

However, where residential properties font a new alignment - no matter whether highway or rail - they could suffer loss of value due to adverse visual and noise impacts. The visual impact assessment for the I-270/US 15 Corridor indicates that some negative visual impacts would need to be mitigated if possible.

The best available information at this time indicates that the study area generally can expect land values to increase near existing or proposed transit stations (especially for employment parks or light commercial and industrial centers), without any negative impacts, so long as sensitive urban design and visual impact mitigation measures are undertaken. These positive impacts are expected to be the same for all of the BRT and LRT alternatives. Overall, fiscal budgets generally stand to benefit from land value increases, though to what extent cannot be estimated.

Fiscal impacts, as a result of changes in development patterns can result from shifts in the nature of the local tax base. One short-term impact to the local government tax base could be as a result of property takings or property displacements necessary for the highway or transit improvements to happen. These types of fiscal-related impacts are often seen as negligible since displaced properties are likely to re-locate to other properties in the region (given that comparable housing is available to accommodate the high number of displacements), or housing and commercial markets respond in-step by expanding to the extent that property is taken. Property displacements are therefore more accurately associated with a transfer of tax revenues within or between various local municipalities or county organizations.

The total amount of tax related to each property has been determined from the total assessed value of the property multiplied by the state, county and municipal property tax rates listed in Table 25.

TABLE 25

## STATE, COUNTY AND MUNICIPALITY REAL PROPERTY TAX RATES

| Authority Level | Jurisdiction | Real Property Tax Rate <br> on \$100 of assessed value |
| :--- | :--- | :---: |
| State | Maryland | 0.112 |
| County | Montgomery | 0.624 |
|  | Frederick | 0.936 |
| Municipality | Rockville | 0.312 |
|  | Gaithersburg | 0.212 |
|  | Frederick | 0.690 |
|  | Walkersville | 0.156 |

Source: Maryland State Department of Taxation, "2006-2007 County Tax Rates,"
http://www.dat.state.md.us/sdatweb/taxrate.html (accessed 10/12/06)

Table 26 contains estimates of the potential tax revenues that could be impacted in the shortterm. Since at this point it is impossible to assess the exact effects partial takes will have on tax revenues, the study team has estimated the value loss of impacted properties by multiplying the property's total fair market value by the percentage of property taken for ROW. Thus, if an entire property is taken for ROW, 100 percent of its value is lost. If only 10 percent of the property is taken, only 10 percent of the value would be lost according to the estimate. For properties involving a demolition/relocation, the entire value of the improvements was eliminated. Next, the land value of the property multiplied by the percentage of area taken for ROW was added to the lost improvelement value to determine the total value loss.

The total property tax base impacted is the sum of the state, county, and, in some cases, municipal tax rates. The tax rates are expressed as a dollar amount per $\$ 100$ of assessed property value. Generally properties that are owned and used by religious, charitable, or educational organizations or owned by the Federal, State, or local governments are exempt from property tax and have not been included in the total tax calculations summarized in the table.

The highway component, which includes road widening due to the addition of either HOV lanes, general-purpose lanes, or ETLs along the I-270/US 15 Corridor, tends to impact approximately $\$ 1.3$ million additional tax revenue dollars than the transit component. This is obviously because the highway improvement covers a much greater distance than the transit component. Most all of the alternatives have comparable impacts on the tax base of the region since they all have transit and highway components that will affect property displacement along their alignment in a similar fashion. For the majority of the build alternatives, the tax revenues that may be affected as a result of property takings is a little more than $\$ 2$ million.

TABLE 26
SUMMARY OF SHORT-TERM IMPACTS ON TAX BASE DUE TO PROPERTY TAKINGS

|  | Highway Impact On Tax Revenue (\$) |  | Transit Impact On Tax Revenue (\$) |  |  | Total Tax <br> Revenue Impact (\$) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| State | \$ | 212,451 | \$ | 60,994 |  | 273,445 |
| Montgomery County | \$ | 980,002 | \$ | 339,821 |  | 1,319,823 |
| Montgomery Municipalities | \$ | 88,717 | \$ | 11,295 |  | 100,012 |
| Frederick County | \$ | 305,478 | \$ | -- |  | 305,478 |
| Frederick Municipalities | \$ | 154,399 | \$ | -- |  | 154,399 |
| Total | \$ | 1,741,047 | \$ | 412,110 |  | 2,153,157 |

Note: Amounts are in 2006 dollars.

Gas tax is another fiscal impact that may be affected by transportation improvements. When speeds improve as a result of a transportation investment, people tend to travel farther and their cars consume more gas. On the other hand, diverting drivers to transit tends to reduce vehicle-miles-traveled and reduce gasoline consumption. The amount of vehicle miles traveled (VMT) for the LRT alternatives increases slightly from the no-build and probably would increase
revenue from gas tax sources. The BRT alternatives, in contrast, exhibit slight reductions in VMT. Note, however, that the increase in gas tax revenues from higher VMT may not represent a net increase in gas tax revenues. This is because the improvements reduce congestion and cut down on fuel wasted while sitting in traffic. Thus the net impact on gas taxes from the improvement may in fact be close to zero.

In summary, land values and tax revenues can be expected to rise near transit stations along the CCT alignment so long as sensitive urban design is used. For Montgomery County, the tax increases in these locations will help offset the short-term loss in tax revenues that will result from taking the parcels for the O\&M facility and the right-of-way off the tax rolls. The tax revenue from induced land development resulting from the project's accessibility improvements in northern Montgomery and southern Frederick County may also help offset some of the short term revenue losses, though by what amount is not possible to quantify with the information currently available. Lastly, the net effect of the project on gas tax revenues is likely to be minimal.

## d. Conclusion

Table 27 summarizes the project team's evaluation of the alternatives.
The build alternatives will create relatively small positive economic development effects, dwarfed in scale by the region's and project area's natural economic growth over time, though important in their own right nonetheless. Overall, the project area and the I-270/US 15 Corridor will become much more economically active between now and 2025. The transportation alternatives will simply affect how much more economically active the area will become. Some alternatives will contribute more to promoting economic development, while others will contribute less.

Considering transit, the BRT alternatives have greater potential to promote economic development within the corridor. BRT is expected to increase the region's employment by roughly 3,400 jobs and, according to the accessibility analysis in the 2002 Socioeconomic and Technical Report, offers the greatest improvements in terms of job accessibility and businesses’ labor market accessibility. ${ }^{20}$ The LRT alternatives would convey more modest improvements in economic development. Although they would create slightly more new jobs than the BRT alternatives (roughly 3,800 with LRT) their positive effects on consumers and businesses would be less significant. This difference occurs because many employment centers in the suburban study area are well beyond the proposed stations and would require a transfer to access in the LRT alternatives but could be accessed without a transfer in the BRT alternatives. Only minor geographic differences distinguish the BRT and LRT alternatives’ effects within the region.

Considering the ETL highway component, the accessibility analysis has shown that increasing the capacity of I-270 and US 15 will likely serve to facilitate further economic and land development in the project corridor. The percentage changes in commuter and retail business

[^7]accessibility cited in Table 27, though small, are significant when one considers that they're being compared with the overall accessibility scores for entire counties. The accessibility maps show that areas in and around the City of Frederick and on the urban fringe in northern Montgomery County stand the best chance of seeing increased residential and retail land development pressure as a result of project accessibility improvements, although factors such as agricultural land protection measures and the extent of existing development may alter this pattern. These factors and the willingness to trade off longer commutes for cheaper home prices have contributed to land development further north and west in Frederick County and in eastern West Virginia. The ETLs, by improving capacity on the crucial link between these areas and the employment centers in Montgomery County, would serve to facilitate additional land development on the urban periphery if current trends continue.

To summarize, a comparison between the two ETL alternatives shows that Alternative 7 tends to increase accessibility improvements and economic development potential better than Alternative 6, although the differences between the two are very slight and within the range of model errors. ${ }^{21}$ Specifically, the Alternative 7 options were found to generate greater increases in consumer and retail personal accessibility than the Alternative 6 options, especially for Frederick County. Commuter personal accessibility is the only exception to this trend; in Frederick County, the increase was slightly greater with the Alternative 6 options as compared to the Alternative 7 options. In all instances, the accessibility benefits with any of the improvements were greater for Frederick County than for Montgomery County. Considering both the highway and transit components, Alternative 7B, the combination of BRT and 2 ETLs each direction between MD 85 and MD 121, has the greatest likelihood of creating positive economic development effects. This is due primarily to Alternative 7B having the greatest potential to enhance accessibility within the study area.

[^8]Maryland

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## TABLE 27

COMPARISON OF THE BUILD ALTERNATIVES AND THEIR RELATIVE IMPACTS
FOR THE DIFFERENT ECONOMIC IMPACT CATEGORIES

| Measure | Units | Alt. 6A | Alt. 6B | Alt. 7A | Alt. 7B |
| :---: | :---: | :---: | :---: | :---: | :---: |
| CONSUMER IMPACTS |  |  |  |  |  |
| Consumer Personal Accessibility: Montgomery County | \% Change in Personal Accessibility (not available by transit alternative) | + 0.4\% | + 0.4\% | + 0.5\% | + 0.5\% |
| Consumer Personal Accessibility: Frederick County |  | + 2.0\% | + 2.0\% | + 3.5\% | + 3.5\% |
| Consumer Personal Accessibility: Entire Region |  | 0.0\% | 0.0\% | 0.0\% | 0.0\% |
| BUSINESS IMPACTS |  |  |  |  |  |
| Retail Business Accessibility: Montgomery County | \% Change in Retail Business | + 0.7\% | + 0.7\% | + 0.7\% | + 0.7\% |
| Retail Business Accessibility: Frederick County | Accessibility (not available | + 1.4\% | + 1.4\% | + 2.3\% | + 2.3\% |
| Retail Business Accessibility: Entire Region | by transit alternative) | + 0.1\% | + 0.1\% | + 0.0\% | + 0.0\% |
| Business Disruption Caused by Construction | Qualitative | -- | -- | -- | -- |
| Supply Chain Productivity | Qualitative | + | + | + + | + + |
| WORKER IMPACTS |  |  |  |  |  |
| Commuter Personal Accessibility: Montgomery County | \% Change in Commuter | - 0.2\% | - 0.2\% | 0.0\% | 0.0\% |
| Commuter Personal Accessibility: Frederick County | Personal Accessibility (not | + 5.2\% | + 5.2\% | + 4.4\% | + 4.4\% |
| Commuter Personal Accessibility: Entire Region | available by transit | 0.0\% | 0.0\% | 0.0\% | 0.0\% |
| Supported Employment (Annualized: Direct + Indirect) | Person-Years of New | 8,274 | 7,791 | 8,274 | 7,791 |
| New Employment (Annualized: Direct + Indirect) | Employment | 3,804 | 3,399 | 3,804 | 3,399 |
| FISCAL IMPACTS |  |  |  |  |  |
| Property Tax Revenues: Property Takings (Net) | Qualitative | no change | no change | no change | no change |
| Property Tax Revenues: New Development | Qualitative | + | ++ | + | ++ |
| Property Tax Revenues: Property Values | Qualitative | + | + | + | + |


| Legend |  |
| :---: | :--- |
| ++ | Positive |
| + | Slightly Positive |
| no change | Negligible Change |
| - | Slightly Negative |
| -- | Negative |

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## Correspondence

Drecto 13,2006

## Re: P-oject No. FR192Ell 5-2\%as is Mcid-Mosal Coridor Sudy Shady Grove Netro Station to Biges Fo:d Road Frederick and Montamery County

## Dear Si=Madam:


 area exterds from the Shady Grove Minoo Sation along I-270 in: Mortomencry County: roith to
 sheet).

We wox!d appeciaic your assistance in infoming your cermenity about the project and poiential impars. The SHA would lice to offer the oppotenity ice a meting with yot ard other represerta;ives of yeur orgaization to addess any questors and cortems they rray have regarding the project. Additonal project information can be found by going io:
 tris project is aniojpeted daring 2007.

Thanic yec ior your time and consideration. If you wish to schecule a moeting with SHA reptescalatives; or simply be placed on our atailing jisi, plese contact the Sha prosist Maniger,
 $410-545-8562$ or torll-ثtec a: 1.8c0-548-5026.

Fiery triy yours.
Brece M. Grey
Deputy Dienctos
Officesf Planeing and Preliminaty Engineenisg
by:


Enclostres

## 23 (15) $1-270 /$ US 15 Multi-Modal Corridor Study

Proiect Summary - December 2006
The I-270LS 15 Multi-Modal Corridor Sudy is a joint project between SHA and MTA. The project extends from the Shady Grove Mero Station in Montgomery County rorth to the LS ISBigss Ford Road intersection area in Frederick County (approximately 30 miles). The mansit component, krown as the Corridor Citics Transitway (CCT), extends 14 miles From the Shady Grove Metro Station in Rockville through Gailhessburg and Gemiantown where it cerminates at the COMSAT tacility just south of Ciarksturg.

The I-270itS 15 Study Teuna completed the Drafi EIS and Public Hearing phase of the NEPAProject Development Process in June 2002 and conducted Public Tnformational Open Houses, in both Montgomery and Frederick Counties, in Jume 2001 to update the public and inmoduce the Express Totl Lane (ETL) option. The Study Team is currently preparing an Environmental Assessment (EA); per the direction of FHWA and FTA, on the project changes since the public hearings. The EA will include detailed envirommental iechnical analyses of any rasources affectod by the proposed ETL. It will atso provide the ETL cticets on CCT ridership, l-270 mainline traffic oparations, taffic'envimonmentil efferts south of the stody area ( $1-270$ to the Capital Beltway), and will aiso display results of the public upul process.

Also, an cxtensive modeling effort is under way involving MurCOG, MDOT, wATA and local jurisdictions so determine CCT mode eboice and potential combinations with the ETL option. This process requites significant dansit moder refincments nocessary to evaluate the transit altamates using SC. M [TT, as required b) FTA. The froal is to develop ridership numbers that meer the rigors of Sthtint. Results ate oxpected Fall Winter 200607. After the results aro in, the remaining analyses can be proformod and thus complete the EA.

## Current Action Items and Activitics:

* Obtaining updated ETL travel dernand and LO5 information. Also computing estimated CCT nidership projections.
- Prepare the necessury land use and financial decumentation for the FT A New Sterts submittal.
- Extensive developer coordination in both countics.
- Evaluating a potential location for a CCT Operations and Maintenance facifity,
- Investigating projoct needs for stormwater managentent, stabion development, and bikeribiser trail.
- Preparing EA including oaffic models and environmental technicai antalyses.
- Public Meeting ientatively scheduled for FaliSpring 2067


## Contact Informarion:

Mr. Russell Walto
SHA Project Manager
$410.545 .854^{7}$
Toll-ftee 500-548-5026
Viz cenail at rwalto:(a)sha state.md.us

Mr. Rick Kiege:<br>MT A Project Manager<br>410-76す-1380<br>Via email at skiegelomemmarland.com




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## SUPPORT SERVICES 



## CHMPACTER COUNJE:



# FIRE AND RESCUE SERVICES DIVISION FREDERICK COUNTY, MARYLAND <br> 340 Montevue Lane Frederick, Maryland 21702-8214 www.co.frederick.mis.us TDD 301-600-1672 

Јanury 22, 2007

Bruce M. Grey, Depury Director
Ofice of Planting and
Preliminary Engincering
Slak Highway Adminisurarion
Maryland Deparment of Tranwpuralion
707 North Culvert Sreet
Baltimore, MD 21202
Re; Project No. FR192311
I-270/US : S: from South of Slady Grove Road
To Nonin of Biges Ford Road
Frederick and Monlsomsry Counties, Maryland
Dear Mr. Grey:
In response to your letie of December 20, 2006, regarding the above projoct, the Division offite and Rescre Services has the following concerns:

- If, during the improvenents, permanent conerere structures are erented to divide the North and Sorthbound knov, we would emain'y request consideration on emergency vehiele access to and From the same.
- With nggard to the closure of al-ogade intersections at various locrions, we world hope that the proposed intercoanges would be in place before the intersections are closed, i.e., Hayward Road and Willow Road.
Therk you very much for the opportunity to comment on this Rroject. Should you wish to conact me, I can be reacined at (30I) 600-2035, or (240) 674-4778.


Douglas W. Browr, Batialion Chicf Frederiek County DFRS

DWB:cjw
cc: Marc E. McNeai. Burnu Chief of Operations Warrer E. Stavens, Depuly Director

Febctary 12, 2007

## Re: Project No. FR192Bl]

I-270rUS 15 Multi-Modal Conridor Study Montgomery and Frederick Counties, Maryland USGS Frederick, brbona, Gemantown and Rockville $7.5^{\prime \prime}$ Quadrangles

Mr. J. Rodney Little<br>State Historic Preservation Offices<br>Maryland Historital Trust<br>100 Community Place<br>CTownsville MD 21032-202;

Dear Mt. Little:

## Introduction and Prajeci Description

This letter serves to inform the Maryland Historical Trust (MHT) of the Maryland State Highway Administration's (SHA) eligibility deteminations for historic standing struthures and to provide a progress report for the proposed Project No. FR192BlI The project involves SHA's multi-modal studies for highway itaprovements along $1-270$ and LS 15 in Monggomery and Frederick Counties respectively, and for the construction of the Comidor Cities Transitway (CCT) consisting of sither Bus Rapid Transit (BRT) or Lizht Rail Transit (LRT) on a separate aljunment in Monzgomery County. SHA has been in contsultation with MHT about this project since the terly 1990s. On Fsbruary I5, 2002, SLA derermined that the project would have an adverse effect on histonc properties, including standing structures. The proicet was domant for several years, but in 2006, SHA4 began new technical studies. The passage of time and the relocation of the CCT BRT/LRT lise in several areas cequire that SHA identify historit standing structures that hart oot been previously evaluated.

SHA is also investigating several new weterd mitigation sites in Frederick County (Attachment 1). Werland mitigation Area 19 cotals 52 acces, straddling Woodville Road on two branthes of the North Fork of Linganore Creek. Area 20 totals 32 acres, and straddles Emerson Burrier Road on Talbor Branch of the North Fork of Linganore Creek. Although not yet clearly defined, work in both areas is expected ro involve wetiand mirigation, wetlard enhancement, and strean restoration

## Fundiug

Federal funds are anticipated for this project.

Mr. J. Rodncy Little [-270JUS 15 Multi-Modal Coridor Study
Page Two

## Area of Potential Effects

In determining the Arca of Potensial Effects (APE) for this project, SHA considered possible visual, audible, andior physical impacrs to historic properties, including standing structures and archeologital sites. The project will requite additional right-of-way, as well as permanent and temporary; easements. For archeology, the APE is defined by the anticipated limits of ground distubance within proposed and existing right-of-way and er easements. SHA has defined the APE for the bistoric stending strucnures by considering the curtent levci of development in both Frederick and Montgomery Counties and the likely visual, physical ard andible impacts that new highway and CCT BRT/LRT conscruction would have on identified standing historic properties, as indicated on the attached SHA quadrangle maps for Germantoun and Libertyville (Atrachment 2 ).

## Identification Methods and Results

Potenrially significant architectural and archeological respurces were both researched as part of the historic investigation instigated by the proposed $\mathrm{I}-270 \mathrm{LS} 15 \mathrm{Mult}-\mathrm{Modal}$ Study.

Archrfecrure: SHA Archictctural Historian Anne E. Bruder consulted the SHA-GIS Cultural Resources Database, MIHP forms, county histories and photographs at the MHT, SHA and Enoch Pratl libraties, and conducted field visits on June 6, October 2 , and Niovember 14. 2006. SHA conducted a separate field visit on September 20, 2006 to survey the two urerland mitigation sites near CLnionville in Frederick County SHA has identified three historic standing structures through these investigations: the Aromic Energy Commission Building (MIHP No. M.19-41), 5374 Woodsille Road (MHP No F-8-160) and 8435Woodville Rord (M1HF No. F-8-161). We have included these hiscoric standing structures because they stand within areas that are included in the project's APE. SHA has determined that the Atomic Energy Conmission Building is eligible for inclusion in the National Register of Historic Places (NRHP), while 8374 Woodville Road and 8435 Wroodinle Road are not eligible for the NRHP.

The Atomic Erergy Commission (AEC) Building served as the hedquarters for the Atomic Enetgy Commission, an indeperadent federal commission which oversaw the nuclear stiences, between 1957 and 1975. From 1946 until 1975, the AEC either condurted "rescarch and development" prosrams of regulated the research and development of nutear weapons, propulsion reactors, and technology for scientific, medital and irdustrial purposes at privare and goverument facilities throughout the country. The AEC Euilding was also the locus of President Duright Eisenhower's "Atoms for Peace" program. One architecture and angineering firc had buen associated with designing other facilities used by the Mianhattan Project or the AEC. Voorbees, Walkt, Souith \& Smith, Achitucts and Enginers, designed the laboratory space at Colurabia University for the Menhactan Project in 1942, and also desizned two laboratorics for

Mr. J. Rodney Littic<br>I-270/US 15 Multi-Modar Corridor Study<br>Page Thuee

the AEC. In 1955 the AEC chose the firm to design the AEC headquarters buildine in Germantown, Maryland. The construction of the building provided a public tace and a single location for the "dtoms for Pcace" program, which provided peaceful uses of the atom for the Anserican public. The attactred MOHP and DOE forms fully explain and document the building's significance (Attachment 3).

As explained more fully in Attachment 3 , SHA ias detcrmined that the AEC Buidding is eligithe for the National Regisrer of Historic Places (NRHP) under Criterion A because of its association with the development of new muciear sciences from 1957 to 1975 . A550, the AEC Bulding is eligible for the NRHP wider Cfiterion A as the first post-World War 11 governmert agency to be located outside both Washingron, DC's monumental tore and the federal buildings that were consutued in suburban locations during the 1930 s. The AEC Auilding is also eligible For the NRHP under Criterion $C_{1}$ as an example of a mid-rwentieth century office building designed by Voorhees: Warker, Smith \& Smith, a prominem architecture fism from. Nevi York Ciry. Construction hegar in 1956 and was complered in 1958. The building"s design exemplifies the well-planned office and labroatory buitdings for which the firm was known.

The AEC Building also meets the requirements for Criterion Consideration G. Althoufh the building itself is just fifty year's of age, the significant activities that occurted withirt the building extend to 1975. During uhis period more than one handred nutleat power plants were constructed or planned for construction in the United Statcs. The [inited Statcs Navy and Army also benefited from these developments, because the AEC assisted the services in designing nuclear power plants for military bases, as well as for powering submarines and aircraft carriers. Medical troatments for cancer were also developed and overseen by the AEC. Although not all of the technologies were as successful or well reteived as the scientists hoped, Americans benetted from military, urility and medical applications based on nuclear sciences. Additiona: research did not identify sigaificance under NRHP Criterion B, while Critcrion D was not investigated as part of this study. The historic boundary is confined to Tax Parcel 6.5 as found on Montgomery County Tax Map EUS62.

8374 Woodville Rodd in Frederick County is a single family dweling that may be associated with the Strincrea Mill. The mill mas destroyed in 1926 and the house has heen altered. There are also no outbuldings associated with the dwe[ling, a barn and a machine 5hed. Due to alterations, 8374 Wroodville Road lacks infegrity of design, setuing materials, workmanship and association. Research concuucted did not idenrify' specific associations with evenrs or persons of local, state ar national significance and 5374 Woodville Road is not eligible under NRHP Crintria $A$ ar B. Due to the lack of integrity, 8374 Woodville Road is not eligible under MRHP Criterion C. Criterion D mas not addressed as pat of this swdy. The historic boundary is confined to Fredericks County Tax Map 61, Parce[ 126.

Mr. J. Rodncy Little<br>I-270/US 15 Mutti-Modar Corndor Study<br>Page Four

$84 \hat{3} 5$ Wodville Road in Frederick County began as a late eighteenth century aspicultural property which continucd to develop during the rineteenth and twentieth centuries. The property conlains a house, slave quarters, a barm, a cuilk house and several mid-to-late twentith century outhuildings. Duee to alterations to the dwelling and the construction of noncontibutitig outbuildings, 8435 Woodville Road lacks integrity of design, materials, workmanship and association. Research conducted did not identify associacions with events or persons of local. state or national significance and 8435 Woodville Road is not eligible under NRHP Criteria A or B. Due ta the lack of integrity, 8435 Woodville Road is not eligible under RRHP Critertion C. Criterion D was not investigated as part of this study. The historic boundary is confined oo Frederick County Tax Map 61, Partel 166. Maryland Inventory of Historic Properties and DOE forms with phorograpts, negatives and maps are included as Attachment 3 , while the Eligibility Table is included as Attachment 4.

SHA and MHT have previously agrect that the following historic standing structeres are listed in or eligible for the NRHP:

```
EnglandiCroum Farm (MIHP No. M.20-7)
Belward Farm (MIEP .No. M:20-21)
Bjly King Farm (M1HP No. M:20-32)
Monocacy Battlefield (MIHP No. F-3-42)
Spring Bark (MIHP .No. F-3-22)
Rose Hil Manar (MTHP No. F-3-42)
Schueffer slade (MIHP So. F.3-47)
Birely-Roelkey Farm (MfHP No. F-%-[34)
```

Once the technical studics are completod, SHA will be prepared to identify impacts and assess project cffects on these standing historic properties. We will also reopen the discussions with the previpusly idemified consuiking paries, including the National Park Service and the Advisory Council on Historic Preservation

Archeology: SHA Archeologist Carol A Ebright assessed che archeological potentizd of wetland mitigation Areas 19 and 20 through examination of the SHA-GIS Culturai Rcsources Database, historic and environmental mapping, aerial photographs, and various secondary soucces A field visit was made on Septenber 6. 2006. Artheological re-assessment of the larger $1-270$ mainline and CCT BRT/LRT torridors remains to be completed.

There are no recorded archeological sites in either Area 19 or 20 , nor thas either area been previously sarveyed. One nearby previously reconded site (18FR412) is located io the north along the .North Fork of Linganore Creek and consists of a dense prehistoric thyolite lithic scatter.

Mr. J. Rodney Litele
I-270/LS 15 Multi-Modal Comidor Study
Page Five

Both project areas are located in the Pisdmont physiogtaphic proviace and comtain mixtures of well'drained to poosly drained soils. A metarhyolite source may occur in Area 19.

Nearby L'nionvilie was in place by the [ate 1830s (Burr 1839), although Knny (1984) suggests that a village with a stone tavern existed here as eariy as the late 1700 s . Earfy roads into both areas appear to be mapped in 1808 (Varte). Ancestral Woodvitle Road and Emerson Burfier koad are clearily shown by the second quarter of the nineteenth century (Lucas 1836, 1841).

Area 19 contained the Shrinerea Mill, constructed in [ 805 by Petcr Shriner (Varle 1808, MeGrain n.d.). A subsequent (owner, [saac Nietodemus, tore down the mill and built a new one (McGrain n.d.), which is shown with a long rateway on Weldon Branch in 1873. The mitl bumed in 1926 (MthGrain л.d.). By 1945 (CSGS), no structures are shown in Area 19.

In 1818, the Galloway tract on Talbots Branch, which probably included part of Area 20. contained a "dwelling house, barm, good springs antd fencing." Two strucrures were in or near Area 20 in the later ninetecnth century (Bond 1858, Lake 1873). One structure remained in 1945 (USGS) and last appears on a 1971 photorevision of the Libtrtytown quadrangle.

A field visit to Arcas 19 and 20 was made on Septenther 6, 2006 by SHA Archeologist Carol A. Ebright. A structure in the sounhwest quadrant of woodville Road and Emerson Burrier Road ( 8374 W (codville Road) immediately adjacent to Area 19, is possibly the same residence mapped in I858 and 7873. A pull-out adjacent to the cesidence has a stone wall embedded in the embankment, potentially the remenart of at earlier scructure. lo obvious surface evidence of fonmer mill structures remain in Area 19, aithough silked-in raceways appear to be present both north and south of the stream. These races arc well-defined on recent aerial photographs. The junction of the southern tailsace and Weldon Creek was mapped in 1873 to be inmediately west of the bridge on Whodville Road This erea is now a wider pool within the stream bed.

The field visit showed that no residential structures rembin in Area 20. The location of a structure shown east of the road in both 1858 and 1873 may be marked by a loveled off area rear the base of a hill. A structure shown west of the road in 1858 through at least 1971 is no longer extant, although stonework visible through fencelines may indicate ins former location on the property: A modem, metal, oper-sided shed is aurtently present on this property. Numerous rock ouscrops are visible.

Both Adeas 19 and 20 have high potential for historic archoological remains related to mineteenth centery residential occupation, and Area 79 is also lixely to contain remnatis of several early milling industries. Beiter drained soils int the project areas have high potential for

Mr. J. Rodney Little
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Page Six
prehistoric archeological sites, especially near potential rhyolite sources in or near Area 19. Phase I archeological sprvey is recommended. This project will be re-assessed once specific werland mitigation activities are known.

## Review Request

IPlease examine the attached maps, forms ard Eligibility Tablc. Wie request your concurtatec by Marcl 13, 2007 that the Atomic Energy Commission Building is eligible for the NRHP, while 8374 Woodville Road and 8435 Woodvil!e Road are not eligible for the NRHP. By carbon copy, we invite the U.S. Department of Eregy, the General Services Administration, the Frederick County Hiscoric Preservation Commission, the Monegortery County Ftiscoric Preservation Commission, Wontgomery Preservarion Inc., and the Frederick County Fistorical Trust Inc, to provide comments and paricipate in the Section 106 process. Pursuant to the requiremerr of the implementing regulations found at 36 CFR Part 800, SHIA seeks their assistance in identifying hiscoric preservation issues as they relate to this specific project (see 36 CFR $\$ 8002(c)(4)$ and ( 6 ) and $\$ 800.3$ ( f for infomation regarding the identification and participation of consulting parties, and $\$ 800.4$, and $\$ 800.5$ regarding the identification of historic properties and assessment of effects). For additional information regarding the Section 106 regulations, see the Advisory Countil on Historic Preservation's website, whitachp.gov, or sontact the Matyland State Highuay Administration or the Maryland Historical Trust). IE no response is received by Marth 13, 2007, we will assume that these offices decline to participate. Please contact Ms. Anne E. Bruder at 410-545-8559 (or via cmaid at abruder@sha.state.md.us) bith questions regarding stending structures for this project. Ms. Carol A. Ebright may be reached at 410-545-2879 (or via email ar cebright(i)sha.state. mid.us) with concerns regarding atchedoby.

Very touly yours,
Bruce M Grey
Deputy Director
Office of Planning and
Preliminary Enyineering
by:


Fchruart 5， 20107

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## Gextiz





Mr. I. Rodney Littie1-270/LS 15 Multi-Modal Corridor StudyPage Seven
Artachmencs: 1) Project Location Maps
2) APE Maps
3) MPHP and DOE Foms 4) Eligibility Tabls
cc: Ms. Afte E. Bruder, SHA-PPD (w/Attachments)
Mr. Ray Compton Frederick County Historical Inust, lac. (w/Attachment 3)
Ms. Janet Davis, Frederick County Hjscoric Preservation Commission (w/Attachment 3)
Ms. Carol A. Ebright, SHA.PPD (w/Attachments)
Ms. Ante Elrays, SHA-PPD (w/Atraciments)
Ms. Wapme Goldstein, Hontgomery' Prestrvation, Inc. (w/Attachment 3)
Mr. F. G. Gosling. U.S. Department of Energy (w/Attachment 3)
Mr. Brian Hors, RKK (w/Attachments)
Mr. Dan Johtson, FHVFA (w/attachments)
Mr. Rolando Rivas-Camp, AlA, General Services Administration (w/Attachment 3)
Dr. Julie Schablitsky, SHA-PPD (wiAttachment 4)
Mr. Russell Walto. SH4-PPD
Mis. Gusen Harcus Wright, Wiongomery County Fistotic Preservation Commission (w/Atcachfnent 3)

## I-270fUS 15 Multi-Hodal Study Location Map


——USGS Topr Quad Index
Roads


## I-270/US 15 Multi-Modal Study Amacimestib Wetland Mitigation Site \#19 and Site \#20


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## I-270|US 15 Multi-Hthodal Study APE Hap



USGS Topo Quad Index
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I-270/US 15 Hulti-Modal Study


Environmental Justice Information

#  



Decemioc 13: 2006

## RE: Projec: No. I•R192B11

J-2 0 : S 15 Muid-Motal Comdor Soucy Shady Grove Mat:o Ste:jon ic Bigcs Ford Road Frejerick Ad Montgomery Courtics, Marvlard
Dear Sirntacam:


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Tr,ank yot for you tige and coesiderason. If you have ary quest:ons or conceras please
 Manager, Ms. Anre Etrays. at 410.545-\$562. Both the Project M2neger ard Enviconrecrlal Marager thay io reeched :oll-ftee a: $1-300-543-5026$.
very suly yours.
Bruce MI. Grey
Depu:y Direc:or
Ofice of Plar-sing and Preliminary Engisecring


Enclosure

[^9]
## 23 (15) $1-270 /$ US 15 Multi-Modal Corridor Study

Proiect Summary - December 2006
The I-270LS 15 Multi-Modal Corridor Sudy is a joint project between SHA and MTA. The project extends from the Shady Grove Mero Station in Montgomery County rorth to the LS ISBigss Ford Road intersection area in Frederick County (approximately 30 miles). The mansit component, krown as the Corridor Citics Transitway (CCT), extends 14 miles From the Shady Grove Metro Station in Rockville through Gailhessburg and Gemiantown where it cerminates at the COMSAT tacility just south of Ciarksturg.

The I-270itS 15 Study Teuna completed the Drafi EIS and Public Hearing phase of the NEPAProject Development Process in June 2002 and conducted Public Tnformational Open Houses, in both Montgomery and Frederick Counties, in Jume 2001 to update the public and inmoduce the Express Totl Lane (ETL) option. The Study Team is currently preparing an Environmental Assessment (EA); per the direction of FHWA and FTA, on the project changes since the public hearings. The EA will include detailed envirommental iechnical analyses of any rasources affectod by the proposed ETL. It will atso provide the ETL cticets on CCT ridership, l-270 mainline traffic oparations, taffic'envimonmentil efferts south of the stody area ( $1-270$ to the Capital Beltway), and will aiso display results of the public upul process.

Also, an cxtensive modeling effort is under way involving MurCOG, MDOT, wATA and local jurisdictions so determine CCT mode eboice and potential combinations with the ETL option. This process requites significant dansit moder refincments nocessary to evaluate the transit altamates using SC. M [TT, as required b) FTA. The froal is to develop ridership numbers that meer the rigors of Sthtint. Results ate oxpected Fall Winter 200607. After the results aro in, the remaining analyses can be proformod and thus complete the EA.

## Current Action Items and Activitics:

* Obtaining updated ETL travel dernand and LO5 information. Also computing estimated CCT nidership projections.
- Prepare the necessury land use and financial decumentation for the FT A New Sterts submittal.
- Extensive developer coordination in both countics.
- Evaluating a potential location for a CCT Operations and Maintenance facifity,
- Investigating projoct needs for stormwater managentent, stabion development, and bikeribiser trail.
- Preparing EA including oaffic models and environmental technicai antalyses.
- Public Meeting ientatively scheduled for FaliSpring 2067


## Contact Informarion:

Mr. Russell Walto
SHA Project Manager
$410.545 .854^{7}$
Toll-ftee 500-548-5026
Viz cenail at rwalto:(a)sha state.md.us

Mr. Rick Kiege:<br>MT A Project Manager<br>410-76す-1380<br>Via email at skiegelomemmarland.com



Environmental Justice List of Contacts (Updated)
Updated January 20, 2007

|  | Name | Title | Address 1 | Address 2 | Zip | Phone |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Local Agencies |  |  |  |  |  |  |
| Frederick Co. Dept. of Aging (f) | Carolyn B. True | Director | 1440 Taney Avenue | Frederick, MD | 21701 | (301) 600-1605 |
| Frederick Co. Health Department (f) | Dr. Barbara Brookmyer | Director | 350 Montevue Lane | Frederick, MD | 21702 | (301)600-1029 |
| Frederick Co. Public Library (f) | Mary Cramer | Branch Administrator | 110 E. Patrick Street | Frederick, MD | 21703 | (301) 600-1630 |
| Frederick Co. Dept. of Social Services (f) | Diane Gordy | Director | 100 E. All Saints Street | Frederick, MD | 21701 | (301) 600-2400 |
| Frederick Co. Transit Services (f) | Sherry C. Burford | Director | 1040 Rocky Springs Road | Frederick, MD | 21702 | (301)600-2065 |
| Frederick Co. Dept. of Human Relations (for LEP \& economically-disadvantaged families) | Lydell Scott | Director | 12 East Church Street, Winchester Hall | Frederick, MD | 21701 | (301) 694-1109 |
| Frederick Co. Office for Children \& Families (for LEP \& economicallydisadvantaged families) | Madeline Morey | Director, Even <br> Start Program | 520 N. Market Street | Frederick, MD | 21701 | (301) 631-3533 |
| Frederick Co. Public Schools (for LEP \& economically-disadvantaged families) | Dr. Linda Burgee | Superintendent | 115 E. Church Street | Frederick, MD | 21701 | (301) 644-5000 |
| Montgomery Co. Public Schools (for LEP \& economically-disadvantaged families) | Dr. Faith Connoly | Director, Dept. of Shared Accountability | 850 Hungerford Drive, Suite 11 | Rockville, MD | 20850 | (301) 279-3925 |
| Montgomery Co. Dept. of Health \& Human Services | Carolyn W. Colvin | Director | 401 Hungerford Drive | Rockville, MD | 20850 | (240) 777-1245 |
| Montgomery Co. Dept. of Social Services | Winifred Y. Wilson | Officer | 401 Hungerford Drive | Rockville, MD | 20850 | (240) 777-1245 |
| Montgomery Co. Public Libraries | Parker Hamilton | Director | 21 Maryland Ave. Suite 310 | Rockville, MD | 20850 | (240) 777-0002 |
| Montgomery Co. DPW\&T | Arthur Holmes, Jr. | Director | 101 Monroe Street, $10^{\text {th }} \mathrm{Fl}$. | Rockville, MD | 20850 | (240) 777-7170 |
| Community Action Organizations |  |  |  |  |  |  |
| Montgomery Co. Executive's Office | Tina Clark | African Affairs Liaison | 101 Monroe Street, ${ }^{\text {nd }}$ FI. | Rockville, MD | 20850 | (240) 777-2500 |
| CASA de Maryland | Julio Parra | Liaison | 310 Tulip Avenue | Takoma Park, MD | 20912 | (240) 453-0606 |


| Religious Organizations |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Araby United Methodist Church (f) | Pastor | 4619 Araby Church Road | Frederick, MD | 21704 | (301) 694-8772 |
| Church of Jesus Christ of LDS (m) | Pastor | 1498 W. $10^{\text {th }}$ Street | Frederick, MD | 21702 | (301) 428-4988 |
| Emmanuel Alliance Church (f) | Pastor | 7102 Ladd Circle | Frederick, MD | 21703 | (301) 663-0002 |
| First Baptist Church (m) | Pastor | 217 Dill Avenue | Frederick, MD | 21701 | (301) 662-6422 |
| Frederick Church of Christ (m) | Pastor | 1305 N. Market Street | Frederick, MD | 21701 | (301) 662-5789 |
| New Hope Church (f) (resend correct address 1/4/07) | Pastor | 211 W. Patrick Street | Frederick, MD | 21701 | (301) 694-3595 |
| South End Baptist Church (m) | Pastor | 506 Carrollton Drive | Frederick, MD | 21701 | (301) 662-4347 |
| St. Peter \& Paul Greek Othodox Ch. (f) | Pastor | 920 W. $7^{\text {th }}$ Street | Frederick, MD | 21701 | (301) 663-0663 |
| Trinity United Methodist Church (m) | Pastor | 705 W. Patrick Street | Frederick, MD | 21701 | (301) 662-2895 |
| Unity Church in Frederick (m) | Pastor | $1 \mathrm{~W} .9^{\text {th }}$ Street | Frederick, MD | 21701 | (301) 846-0868 |
| Unity Seventh Day Adventist (m)Incorrect title: resend not necessary as is now Unity Church (see immediate above) | Pastor | $1 \mathrm{~W} .9^{\text {in }}$ Street | Frederick, MD | 21701 | (301) 662-7542 |
| Urbana-ljamsville United Methodist Ch. (f) | Pastor | 3515 Urbana Pike | Frederick, MD | 21704 | (301) 663-4956 |
| Victory Baptist Church (m) | Pastor | 6513 Himes Avenue | Frederick, MD | 21703 | (301) 662-5153 |
| Church of Jesus Christ LDS (f) | Pastor | 199 North Place | Frederick, MD | 21701 | (301) 662-5170 |
| Wesley Chapel United Methodist Ch. (f) | Pastor | MD 355 \& Urbana Church Rd. | Urbana, MD | 21701 | Undetermined |
| Hyattstown United Methodist Church (f) | Pastor | 26121 Frederick Road | Clarksburg, MD | 20871 | (301) 831-1194 |
| Hyattstown Christian Church (f) | Pastor | 26012 Frederick Road | Clarksburg, MD | 20871 | (301) 831-8184 |
| New Covenant Fellowship Church | Pastor | 18901 Waring Station Road | Germantown, MD | 20874 | (301) 444-3100 |
| Christ's Church of Germantown (m) | Pastor | 120 Amber Ridge Circle | Germantown, MD | 20876 | (301) 972-1810 |
| Mother Seton Parish (f) | Pastor | 19951 Father Hurly Blvd. | Germantown, MD | 20874 | (301) 924-3838 |
| Seneca Creek Community Church (f) | Pastor | 13079 Wisteria Drive | Germantown, MD | 20874 | (301) 916-6033 |
| Seneca Valley Baptist Church (f) | Pastor | 13501 Spinning Wheel Drive | Germantown, MD | 20874 | (301) 540-7323 |
| St. Jude AME Church (m) | Pastor | P. O. Box 1531 | Germantown, MD | 20876 | (301) 353-9007 |
| St. Rose of Lima Rectory (m) | Pastor | 11701 Clopper Road | Gaithersburg, MD | 20878 | (301) 948-7545 |
| Victory Christian Church (m) | Pastor | 7 Metropolitan Ct. \#7 | Gaithersburg, MD | 20878 | (301) 670-1600 |
| First Baptist (m) | Pastor | 200 W. Diamond Ave. | Gaithersburg, MD | 20877 | (301) 977-9007 |
| Grace United Methodist (m) | Pastor | 119 N. Frederick Avenue | Gaithersburg, MD | 20877 | (301) 926-8688 |
| Interdenominational Church of God (m) resend $1 / 22 / 07$ to new address per phone call on 1/20/07 | Mr. Roddy Williams | 19201 Woodfield Road | Gaithersburg, MD | 20879 | (301) 963-3012 |
| Gaithersburg Mennonite Church (m) | Pastor | 19 Mills Road | Gaithersburg, MD | 20877 | (301) 977-9626 |
| St. Martins Catholic Church (m) | Pastor | 201 S. Frederick Avenue | Gaithersburg, MD | 20877 | (301) 840-1830 |
| Gaithersburg Apostolic Church (m) | Pastor | 222 Cedar Avenue | Gaithersburg, MD | 20877 | (301) 869-0557 |
| Church of the Ascension (m) | Pastor | 205 S. Summit Avenue | Gaithersburg, MD | 20877 | (301) 948-0122 |
| First Assembly of God (m) | Pastor | Cedar Av. \& W. Deer Park Rd. | Gaithersburg, MD | 20877 | (301) 948-5275 |


| Social Service \& Welfare Organizations (all F's) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| American Red Cross | Director | 501 N. Frederick Ave. \#106 | Gaithersburg, MD | 20877 | (301) 963-5784 |
| Association of Retarded Citizens | Director | 620 Research Dr. \#A | Frederick, MD | 21703 | (301) 293-6399 |
| Community Foundation | Director | 312 E. Church Street | Frederick, MD | 21701 | (301) 293-0136 |
| Federated Charities | Director | 22 S. Market Street | Frederick, MD | 21701 | (301) 662-1561 |
| Frederick Commun. Action Agency | Director | 100 S. Market Street | Frederick, MD | 21701 | (301) 694-1506 |
| Goodwill Job Center | Director | 5831 Buckeystown Pike | Frederick, MD | 21704 | (301) 668-5363 |
| Head Start Program (return w/non-working phone \#) no resend as Head Start at Sagner Ave, below, same zip code) | Director | 23 W. $6^{\text {th }}$ Street | Frederick, MD | 21701 | (301) 631-3478 |
| Head Start Program | Director | 401 Sagner Avenue | Frederick, MD | 21701 | (301) 694-1024 |
| Helping Hands Shelter | Director | 622 N. Homer's Lane | Rockville, MD | 20850 | (301) 340-2796 |
| Hispanics United | Director | 966 Hungerford Dr. \#1A | Rockville, MD | 20850 | (301) 309-0307 |
| Institute for Family Center Services (resend on $1 / 4 / 07$ to new address) | Director | 16220 S. Frederick Ave. Suite 510 | Gaithersburg, MD | 20877 | (301) 721-9324 |
| Lutheran Social Services | Director | 12247 Georgia Avenue | Silver Spring, MD | 20902 | (301) 929-0444 |
| MD School for the Deaf | Director | 101 Clarke Place | Frederick, MD | 21701 | (301) 360-2000 |
| Religious Coalition | Director | 100 E. All Saints Street | Frederick, MD | 21701 | (301) 694-6968 |
| Salvation Army Worship Center | Director | 202 S. Summit Avenue | Gaithersburg, MD | 20877 | (301) 948-1947 |
| Senior Fellowship Center | Director | 520 N. Market Street | Frederick, MD | 21701 | (301) 694-1048 |
| Spanish Catholic Center (resend to new address $1 / 4 / 07$ ) | Director | 415 E. Diamond Avenue | Gaithersburg, MD | 20877 | (301) 417-9113 |
| Third World Social Services | Director | 8041 Queen Air Drive | Gaithersburg, MD | 20879 | (301) 721-9792 |
| United Way | Director | 16 S. Market Street | Frederick, MD | 21701 | (301) 663-4231 |
| United Way | Director | 15245 Shady Grove Rd \#420 | Rockville, MD | 20850 | (301) 330-1414 |
| Healthcare Facilities (F) |  |  |  |  |  |
| Johns Hopkins Medical Services | Administrator | 195 Thomas Johnson Drive | Frederick, MD | 21702 | (301) 696-1000 |
| Fort Detrick Medical Clinic | Commander | 1434 Porter Street | Ft. Detrick, MD | 21702 | (301) 619-7175 |
| Scott Key Center | Administrator | 1050 Rocky Springs Road | Frederick, MD | 21702 | (301) 694-1600 |
| Libraries (F) |  |  |  |  |  |
| Hood College Library | Librarian | 401 Rosemont Avenue | Frederick, MD | 21701 | (301) 696-3709 |
| Frederick City Comm. College Library | Librarian | 7932 Opossumtown Pike | Frederick, MD | 21702 | (301) 846-2400 |
| C. Burr Artz Public Library | Librarian | 5340A Spectrum Drive | Frederick, MD | 21703 | (301) 694-1630 |
| Ft. Detrick Library | Librarian | 1520 Freedman Drive | Ft. Detrick, MD | 21702 | (301) 619-7519 |
| Montgomery County College Library | Librarian | 20200 Observation Drive | Germantown, MD | 20876 | (301) 353-7853 |
| Germantown Library | Librarian | 12900 Middlebrook Road | Germantown, MD | 20874 | (240) 777-0110 |
| Gaithersburg Regional Library | Librarian | 18330 Montgomery Village Av. | Germantown, MD | 20879 | (301) 840-2515 |



| Community/ Homeowner's Associations |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Evergreen Point (Mobile Home) Village (m) |  | Manager | 7589 Shields Drive | Frederick, MD | 21704 | (301) 662-8121 |
| Fort Dietrick -- U.S. Army Garrison (f) | Joyce Kelley | Public Affairs Officer | 810 Schreider Street | Ft. Dietrick, MD | 21702 | (301) 619-8000 |
| Cider Barrel Mobile Home Court (m)Disconnected phone, resent on 1/4/07 |  | Manager | 20410 Frederick Road | Germantown, MD | 20876 | (301) 972-3425 |
| Montgomery Mobile Village (m)Incorrect address |  | Manager | 20300 Frederick Road | Germantown, MD | 20876 | (301) 972-3377 |
| Montgomery Village Foundation, Inc. (m) | Craig N. Capen | President | 10120 Apple Ridge Road | Mont. Village, MD | 20886 | (301) 948-0110 |
| Montgomery County Civic Federation | Wayne Goldstein | President |  |  |  | (301) 942-8079 |
| Association of Concerned Citizens of the Rockville Area |  |  |  |  |  |  |
| Boyds Civic Association | Melissa Fostrer | President | 20515 Braeburn Place | Boyds, MD | 20817 | (301) 528-0544 |
| Clarksburg Civic Association | Krisna Becker | President | 22511 Schoolfield Ct. | Clarksburg, MD | 20871 | (301) 540-1840 |
| Greater Shady Grove Civic Alliance | Jim Snee | President | 1806 Mill Creek Drive | Derwood, MD | 20855 | (301) 924-6424 |
| King Farm Citizen's Assembly | Andy Gordon | President | 300 Saddle Ridge Circle | Rockville, MD | 20850 | (301) 987-0122 |
| Washingtonian Woods HOA | Jean Pagan-Bullock | President | 204 Upshire Circle | Gaithersburg, MD | 20878 | (301) 908-6767 |
| Citizens of South Germantown | Susan Burdette | President | 14600 Schaeffer Road | Germantown, MD | 20874 | (301) 972-4298 |
| Germantown Alliance | Bruce Johnson | President | P.O. Box 702 | Germantown, MD | 20875 | (301) 916-6033 |
| Germantown Citizens Association | Pat Olson | President | 18413 Kingfield Road | Germantown, MD | 20874 | (301) 428-3621 |
| Kentlands Citizens Assembly | Richard Arkin | Vice Chairman | 485 Tschiffely Square Road | Gaithersburg, MD | 20878 | (301) 258-7874 |
| Upcounty Citizen's Advisory Committee |  |  |  |  |  |  |
| Fox Croft Apartments |  | Manager | 5797 Brookhill Lane | Frederick, MD | 21703 |  |
| EJ Communities with Potential Impacts |  |  |  |  |  |  |
| Brighton West HOA | Joanne Whitlock | President | 784 West Side Drive | Gaithersburg, MD | 20878 | (301) 869-0236 |
| London Derry Apartments |  | Manager | 17041 Downing Street | Gaithersburg, MD | 20877 | (301) 948-5552 |
| Deer Park Place Apartments |  |  |  |  |  |  |
| Stratford Mews HOA |  |  |  |  |  |  |
| Middlebrook Commons HOA | Bob Lowe | President | 19525-H Gunners Branch Rd. | Germantown, MD | 20876 | (301) 227-1287 |
| Derwood Station South HOA | Floyd Thompson | President | 11 Grinnell Court | Rockville, MD | 20855 | Undetermined |
| Villages of Urbana Community Assoc. |  | Manager | 9023 Harris Street | Frederick, MD | 21704 | (301) 831-4810 |
| City of Frederick - City Hall | Stephanie Davis | NAC Liaison | 101 N. Court Street | Frederick, MD | 21701 | (301) 694-1384 |
| *City of Frederick NAC 5 (Waterford HOA) | Diana Halleman |  | 76 Victoria Square | Frederick, MD | 21702 | (301) 639-6054 |
| *City of Frederick NAC 7 (Spring Valley HOA) | Don Dean |  |  |  |  | (301) 676-6002 |



Notes: (F) is flyer only
$(M)$ is meeting.
Italix $=$ New entries for SHA consideration
NAC = Neighborhood Advisory Council (City of Frederick)
*12 NACs total but only 8 adjacent to I-270/US 15 Corridor
HOA = Homeowner's Association

MD Relocation Assistance Program

## SUMMARY OF THE RELOCATION ASSISTANCE PROGRAM OF THE MARYLAND STATE HIGHWAY ADMINISTRATION

All State Highway Administration projects utilizing Federal funds must comply with the provisions of the Uniform Relocation and Real Property Acquisition Policies Act of 1970 (42 USC 4601) as amended by Title IV of the Surface Transportation and Uniform Relocation Assistance Act of 1987 (Public Law 100-17) Public Law 105-117 in 1997 and Title 49 CFR Part 24 in 2005. State-funded projects must comply with Sections 12-112 and Subtitle 2, Sections 12-201 to 12-212, of the Real Property Article of the Annotated Code of Maryland

The State Highway Administration’s Office of Real Estate administers the Relocation Assistance Program for the Maryland Department of Transportation.

The aforementioned Federal and State laws require that the State Highway Administration provide relocation assistance payments and advisory services to eligible persons who are displaced by a public project. There are two categories of residential occupants: 180 day owner-occupants and 90-day tenants and short-term owner-occupants. Non-residential occupants may be businesses, farms or non-profit organizations.

A displaced person that has owned and occupied a subject dwelling for at least 180 days prior to the initiation of negotiations for the property may receive a replacement housing payment of up to $\$ 22,500$. The replacement housing payment is composed of three parts: a purchase price differential; an increased mortgage interest differential; and reimbursement for incidental settlement expenses.

The purchase price differential is the difference between the value paid by the State Highway Administration for the existing dwelling and the cost to the displaced owner of a comparable replacement dwelling, as determined by the State's replacement housing study

The increased mortgage interest differential is a payment made to the owner at the time of settlement on the replacement dwelling to negate the effects of less favorable financing in the new situation. The payment is calculated by use of the "buy-down" mortgage method.

Reimbursable incidental expenses are necessary and reasonable incidental costs that are incurred by the displaced person in purchasing a replacement dwelling, excluding pre-paid expenses such as real estate taxes and insurance. The maximum reimbursable amount for these incidental expenses is based upon the cost of the comparable selected in the replacement housing study.

A displaced person who has leased and occupied a subject dwelling for at least 90 days prior to the initiation of negotiations for the property may receive a replacement rental housing payment of up to $\$ 5,250$. The replacement rental housing payment is the difference between the
monthly cost of housing for the subject dwelling, plus utilities, and the monthly cost of housing for a comparable replacement rental unit, plus utilities, over a period of 42 months. Owneroccupants of 90-179 days prior to the initiation of negotiations for the subject dwelling are eligible for the same replacement rental housing payments as tenants.

As an alternative to renting, a displaced tenant-occupant may elect to apply the rental replacement housing eligibility amount toward the down payment needed to purchase a replacement dwelling.

The comparable properties used in calculating any replacement housing payment eligibility must comply with all local standards for decent, safe and sanitary (DS\&S) housing and be within the financial means of the displaced person.

If affordable, comparable DS\&S replacement housing cannot be provided within the statutory maximums of $\$ 22,500$ for 180-day owner-occupants or $\$ 5,250$ for 90 -day tenants or short-term owners, the maximums may be exceeded on a case-by-case basis. This may only be done after the completion and approval of a detailed study that documents the housing problem, explores the available replacement options and selects the most feasible and cost-effective alternative for implementation.

In addition, eligible displaced residential occupants may be reimbursed for the expense of moving personal property up to a maximum distance of fifty (50) miles, using either an actual cost or fixed schedule method

Actual cost moves are based upon the lower of at least two commercial moving estimates and must be documented with receipted bills or invoices. Other incidental moving expenses, such as utility reconnection charges, may also be paid in the same manner.

As an alternative method, the fixed schedule move offers a lump sum, all-inclusive payment based upon the number of rooms to be moved. Other incidental costs are not separately reimbursable with this method

Non-residential displaced persons such as businesses, farms or non-profit organizations may also receive reimbursement for the expense of relocating and re-establishing operations at a replacement site on either an actual cost or fixed payment basis.

Under the actual cost method, a non-residential displaced person may receive reimbursement for necessary and reasonable expenses for moving its personal property, the loss of tangible personal property that is not moved, the cost of searching for a replacement site and a re-establishment allowance of up to $\$ 10,000$.

The actual reasonable moving expenses may be paid for a move by a commercial mover or for a self-move. Payments for the actual reasonable expenses are limited to a 50 -mile radius unless the State determines a longer distance is necessary. The expenses claimed for actual cost moves must be supported by firm bids and receipted bills. An inventory of the items to be moved must be prepared in all cases. In self-moves, the State will negotiate an amount for
payment, usually lower than the lowest acceptable bid. The allowable expenses of a self-move may include amounts paid for equipment hired, the cost of using the business vehicles or equipment, wages paid to persons who participate in the move, the cost of actual supervision of the move, replacement insurance for the personal property moved, costs of licenses or permits required and other related expenses.

In addition to the actual moving expenses mentioned above, the displaced business is entitled to receive a payment for the actual direct losses of tangible personal property that the business is entitled to relocate but elects not to move. These payments may only be made after an effort by the owner to sell the personal property involved. The costs of the sale are also reimbursable moving expenses.

If the business elects not to move or to discontinue the use of an item, the payment shall consist of the lesser of: the fair market value of the item for continued use at the displacement site, less the proceeds from its sale; or the estimated cost of moving the item.

If an item of personal property which is used as part of a business or farm operation is not moved and is promptly replaced with a substitute item that performs a comparable function at the replacement site, payment shall be the lesser of: the cost of the substitute item, including installation costs at the replacement site, minus any proceeds from the sale or trade-in of the replaced item; or the estimated cost of moving and reinstalling the replaced item.

In addition to the moving payments described above, a business may be eligible for a payment up to $\$ 10,000$ for the actual reasonable and necessary expenses of re-establishing at the replacement site. Generally, re-establishment expenses include certain repairs and improvements to the replacement site, increased operating costs, exterior signing, advertising the replacement location, and other fees paid to re-establish. Receipted bills and other evidence of these expenses are required for payment. The total maximum re-establishment payment eligibility is $\$ 10,000$.

In lieu of all moving payments described above, a business may elect to receive a fixed payment equal to the average annual net earnings of the business. This payment shall not be less than $\$ 1,000$ nor more than $\$ 20,000$. In order to be entitled to this payment, the State must determine that the business cannot be relocated without a substantial loss of its existing patronage; the business is not part of a commercial enterprise having more than three other establishments in the same or similar business that are not being acquired; and the business contributes materially to the income of a displaced owner during the two taxable years prior to the year of the displacement. A business operated at the displacement site solely for the purpose of renting to others is not eligible. Considerations in the State's determination of loss of existing patronage are the type of business conducted by the displaced business and the nature of the clientele. The relative importance of the present and proposed locations to the displaced business and the availability of suitable replacement sites are also factors.

In order to determine the amount of the "in lieu of" moving expense payment, the average annual net earnings of the business is to be one-half of the net earnings before taxes during the two taxable years immediately preceding the taxable year in which the business is relocated. If the two taxable years are not representative, the State may use another two-year
period that would be more representative. A verage annual net earnings include any compensation paid by the business to the owner, owner's spouse, or dependents during the period. Should a business be in operation less than two years, the owner of the business may still be eligible to receive the "in lieu of" payment. In all cases, the owner of the business must provide information to support its net earnings, such as income tax returns, or certified financial statements, for the tax years in question.

Displaced farms and non-profit organizations are also eligible for actual reasonable moving costs up to 50 miles, actual direct losses of tangible personal property, search costs up to $\$ 2,500$ and re-establishment expenses up to $\$ 10,000$ or a fixed payment "in lieu of" actual moving expenses of $\$ 1,000$ to $\$ 20,000$. The State may determine that a displaced farm may be paid a minimum of $\$ 1,000$ to a maximum of $\$ 20,000$ based upon the net income of the farm, provided that the farm has been relocated or the partial acquisition caused a substantial change in the nature of the farm. In some cases, payments "in lieu of" actual moving costs may be made to farm operations that are affected by a partial acquisition. A non-profit organization is eligible to receive a fixed payment or an "in lieu of" actual moving cost payment, in the amount of \$1,000 to $\$ 20,000$ based on gross annual revenues less administrative expenses.

A more detailed explanation of the benefits and payments available to displaced persons, businesses, farms and non-profit organizations is available in the brochure entitled, "Relocation A ssistance - Y our Rights and Benefits," that will be distributed at the public hearing for this project and be given to all displaced persons.

Federal and State laws require that the State Highway A dministration shall not proceed with any phase of a project which will cause the relocation of any persons, or proceed with any construction project, until it has furnished satisfactory assurances that the above payments will be provided, and that all displaced persons will be satisfactorily relocated to comparable decent, safe and sanitary housing within their financial means, or that such housing is in place and has been made available to the displaced persons.

In addition, the requirements of Public Law 105-117 provides that a person who is an alien and is not lawfully present in the United States shall not be eligible for relocation payments or other assistance under the U niform A ct. It al so directed all State displacing agencies that utilize Federal funds in their projects to implement procedures for compliance with this law in order to safeguard that funding. To this end, displaced persons will be asked to certify to their citizenship or alien status prior to receiving payments or other benefits under the Relocation A ssistance Program

Engineering Plan Sheets
























[^0]:    Sources: Metropolitan Washington Council of Governments Round 6.4A Cooperative Forecasts (adopted Fall 2004).
    *Maryland Department of Planning (as of September 2005) reflects data for the "Washington Suburban Region" which includes Frederick, Montgomery, and Prince George's Counties, only.
    **Maryland Department of Planning (as of October 2005).
    Notes: Round 6.4A Cooperative Forecasts reflects Census 2000 data and forecasted estimates that slightly vary from estimates in previous forecast rounds due to revised land use plans, changes to underlying assumptions, or new data.

[^1]:    $1^{1}$ Employment figure for the North Bethesda Planning Area

[^2]:    2 http://www.montgomerycountymd.gov/mcgtmpl.asp?url=/content/ded/brd/buslocation.asp
    3 Employment figure for the Rockville Planning Area
    ${ }^{4}$ http://www.montgomerycountymd.gov/mcgtmpl.asp?url=/content/ded/brd/buslocation.asp
    5 http://www.montgomerycountymd.gov/mcgtmpl.asp?url=/content/ded/brd/buslocation.asp
    6 Employment figure for the Germantown Planning Area
    7 http://www.montgomerycountymd.gov/mcgtmpl.asp?url=/content/ded/brd/buslocation.asp

[^3]:    8 Employment figure for the Clarksburg Planning Area
    ${ }^{9}$ http://www.montgomerycountymd.gov/mcgtmpl.asp?url=/content/ded/brd/buslocation.asp
    10 Phone conversation with Richard Griffin, City of Frederick Dept. of Economic Development, 10/9/06
    11 Frederick County Economic and Community Development Commission
    12 High-Technology Establishments in Maryland, 2002:
    http://www.mdp.state.md.us/msdc/CBP/HighTech_MD/2002/highTech_byZip_2002.pdf
    13 http://www.ey.com/global/content.nsf/International/Biotechnology_Report_2006_Beyond_Borders

[^4]:    14 http://www.montgomerycountymd.gov/content/ded/BRD/biotech.html
    15 http://www.montgomerycountymd.gov/content/ded/BRD/biotech.html
    16 http://www.discoverfrederickmd.com/business/highlight/biotech.cfm

[^5]:    17 Growth Trends to 2030: Cooperative Forecasting in the Washington Region, Metropolitan Washington Council of Governments, Fall 2006 (http://www.mwcog.org/uploads/pub-documents/8llaXQ20061010135838.pdf)
    18 Growth Trends to 2030: Cooperative Forecasting in the Washington Region, Metropolitan Washington Council of Governments, Fall 2006 (http://www.mwcog.org/uploads/pub-documents/8llaXQ20061010135838.pdf)

[^6]:    ${ }^{19}$ U.S. Census Bureau's 2005 American Community Survey

[^7]:    ${ }^{20}$ The accessibility differences between the transit alternatives that were found in the 2002 Socioeconomic and Technical Report are assumed to remain the same within any of the ETL options

[^8]:    ${ }^{21}$ In fact, Table 26 actually shows a smaller increase in accessibility for Frederick County commuters with Alternative 7 as compared to Alternative 6. This peculiarity may be due to instability in the traffic model.

[^9]:    
    

