Chapter II – Alternatives Considered

Alternatives Considered

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.

This chapter defines the various modes and system improvements under consideration for the Corridor and reviews the 2002 Draft Environmental Impact Statement (DEIS) alternatives retained for detailed study. Next, the chapter introduces the new highway and transit alternatives evaluated for this Alternatives Analysis/Environmental Assessment (AA/EA) document, followed by a description of the alternatives evaluated for the transit Alternatives Analysis.

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 limited-access, 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*™ 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.

EXPRESS TOLL LANES

The new highway build alternatives presented in this AA/EA document propose the use of Express Toll Lanes (ETLs). ETLs are new capacity tolled highway lanes that operate in conjunction with toll-free lanes that will provide a relatively congestion-free trip when travel time is critical. The ETLs will use variable rate tolling to manage the amount of traffic, and thus the level of congestion, within the lanes. Alternatives 6A/B and 7A/B include the construction of new ETL lanes along the median of existing I-270.

The long-term vision of the Maryland Department of Transportation ETL Network Initiative is to:

- Provide a new type of optional transportation service with reliable, relatively free-flowing travel for time-sensitive trips,
- Create infrastructure for regional express bus service on the busiest commuting routes,
- Provide increased roadway capacity in the most severely congested transportation corridors,
- Provide a sustainable solution and long-term congestion relief, and
- Make congestion relief projects affordable decades sooner than traditional approaches would allow.

The I-270 ETLs are part of a broader managed lane network planned in Maryland and northern Virginia. Roadways included in the managed lane network in Montgomery County in Maryland include the ICC, I-270, and the Capital Beltway. In northern Virginia, the managed lane network includes the Capital Beltway, I-95, I-395, and the Dulles Toll Road.

ETLs differ from the High Occupancy/Toll, or HOT, lanes that are being considered on I-95 and the Capital Beltway in Northern Virginia. On HOT lanes, a solo driver pays a fee to access High Occupancy Vehicle (HOV) lanes normally reserved for transit buses and carpools. HOVs generally are allowed to use HOT lanes free of charge or at a discounted rate. The HOT lane approach is not under consideration in Maryland at this time primarily because of limitations on the ability to enforce lane restrictions and occupancy requirements.

The ETLs proposed in Alternatives 6A/B and 7A/B of the I-270/US 15 Multi-Modal Corridor study will be placed on the left side of I-270, and will be barrier-separated from the toll-free general-purpose lanes. Access to the ETL is gained via direct access ramps at selected interchanges or through open access areas along I-270 that operate similar to the ramps between the "local" and "express" lanes on I-270 today.

The ICC is a fully-tolled roadway that connects to I-270 at the I-370 interchange. Alternative 6A/B and 7A/B provide a direct connection between the ICC and the segment of I-270 north of I-370 via a single ETL lane. The ETL is on the median side of the roadway and begins approximately one mile east of I-270. There is also roughly one mile between the ICC terminus and the ETL terminus on I-370.

The Virginia HOT Lane project extends from the I-95/I-395 interchange to Virginia Route 193. Vanpools, carpools, and motorcycles will utilize the lanes for free, while other vehicles could access the lanes by paying a toll. Tolls will be collected at highway speeds, and two HOT lanes are proposed in each direction in the median of I-95. Once the HOT Lane project is complete, the two HOT lanes will reduce to a single lane that will tie in with the HOV lane currently in place on I-270 in Maryland. A "non-enforcement" zone is proposed to allow single-passenger vehicles to merge out of the HOV lane and into the general-purpose lanes.

The West Side Mobility Study is a feasibility study that is being undertaken by SHA to introduce ETL lanes between the northern limit of the Virginia HOT Lane project, the southern limit of the I-270/US 15 Multi-Modal Corridor study, and the ICC. The feasibility study recommends adding two ETL lanes in each direction from Virginia Route 193 to I-370. The pricing on the Virginia HOT lane system may be different than the Maryland ETL system. The same "non-enforcement" zone will need to be in place to allow those who want to leave the HOT system to enter the general-purpose lanes. It is anticipated that the West Side Mobility Study will develop into a NEPA planning study in the future. When complete, the project will connect the Virginia managed lane network to the northern portion of the Maryland managed lane network.

LRT in Houston

BRT in France

Transit Improvement 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.

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 6A/B and 7A/B), and the alternatives required to complete the Federal Transit Administration (FTA) Alternatives Analysis. Brief descriptions of the alternatives are presented below.

Alternatives Evaluated in the 2002 DEIS

Nine alternatives (listed in ***Table II-1***) were retained and evaluated in the DEIS, including:

- Alternative 1: the No-Build Alternative;
- Alternative 2: the Transportation System Management/ Transportation Demand Management (TSM/TDM) Alternative; and
- Build Alternatives 3A/B, 4A/B and 5A/B/C, each of which consisted of a highway component and a transit component.

Alternative 1: No-Build Alternative

The No-Build Alternative (Alternative 1) serves as a basis for comparing all other alternatives. The No-Build Alternative does not provide any major changes to the existing transportation network. The No-Build Alternative includes minor repairs, maintenance, and safety improvements, as well as programmed improvements identified in the State's fiscally-constrained long range transportation plan, with the exception of the proposed improvements in this study. The existing I-270 roadway is a fully access-controlled highway that provides a combination of CD, GP and HOV lanes in the northbound direction and between two and four GP lanes in the southbound direction. US 15 is a fully access-controlled highway through the City of Frederick and has limited access north of Frederick. US 15 has two GP lanes in each direction.

Existing transit services include local bus, commuter bus and commuter rail. The services, routes and operating hours are detailed in **Chapter III** in ***Table III-1*** and ***Table III-2.***

Alternative 2: TSM/TDM Alternative

The TSM/TDM Alternative (Alternative 2) includes a number of relatively low-cost measures that are meant to improve the overall operation of the existing transportation system without major capacity improvements. TSM measures include increased local bus service, enhanced feeder bus service to existing fixed guideway transit, the addition of intelligent transportation systems to improve traffic flow and incident management on I-270, and interactive transit information made available at major employment centers. TDM measures include adding park and ride lots, rideshare programs, vanpool, pedestrian and bicycle programs, and telecommuting and flexible work hours programs. The TSM/TDM alternative also includes programmed improvements. The elements of the TSM/TDM alternative are also included as a component of each of the build alternatives.

Alternatives 3A and 3B

Alternatives 3A and 3B, as retained in the 2002 DEIS, includes Alternative 2 TSM/TDM and would add GP lanes, HOV lanes, auxiliary lanes, and direct access ramps along I-270 and GP lanes and auxiliary lanes along US 15. Alternative 3A would provide LRT on the CCT from the Shady Grove Metrorail station to the Communications Satellite, Inc. (COMSAT) area in Montgomery County, while Alternative 3B would provide BRT service on the CCT between the same destinations. Alternatives 3A/B are shown on ***Figures II-1 (Sheets 1 and 2) and II-2 (Sheets 1 and 2)*** and can be reviewed in detail in the 2002 DEIS in Volume 2, Chapter XI.

The highway improvements would include the following:

- Between I-370 and Father Hurley Boulevard, I-270 would have three GP lanes and one HOV lane in each direction, barrier-separated from CD and auxiliary lanes as necessitated by projected traffic volumes. GP lanes would be separated from HOV lanes by striping.

Table II-1: Alternatives Retained in the 2002 DEIS

ALTERNATIVE	DESCRIPTION
1	No-Build Alternative
2	TSM/TDM Alternative
3A	Master Plan[1] HOV/LRT Alternative
3B	Master Plan[1] HOV/BRT Alternative
4A	Master Plan[1] General-Purpose/LRT Alternative
4B	Master Plan[1] General-Purpose/BRT Alternative
5A	Enhanced[2] Master Plan HOV/General-Purpose/ LRT Alternative
5B	Enhanced[2] Master Plan HOV/General-Purpose/ BRT Alternative
5C	Enhanced[2] Master Plan HOV/General-Purpose/ Premium Bus Alternative

[1] *Master Plan refers to proposed alignments along I-270 and US 15 included in the current Frederick and Montgomery County approved master plans.*

[2] *Enhanced Master Plan refers to proposed improvements that are greater than those called for in the Montgomery County Clarksburg Area.*

Figure II-1: Alternatives 3A/B, 4A/B, and 5A/B/C 2002 DEIS

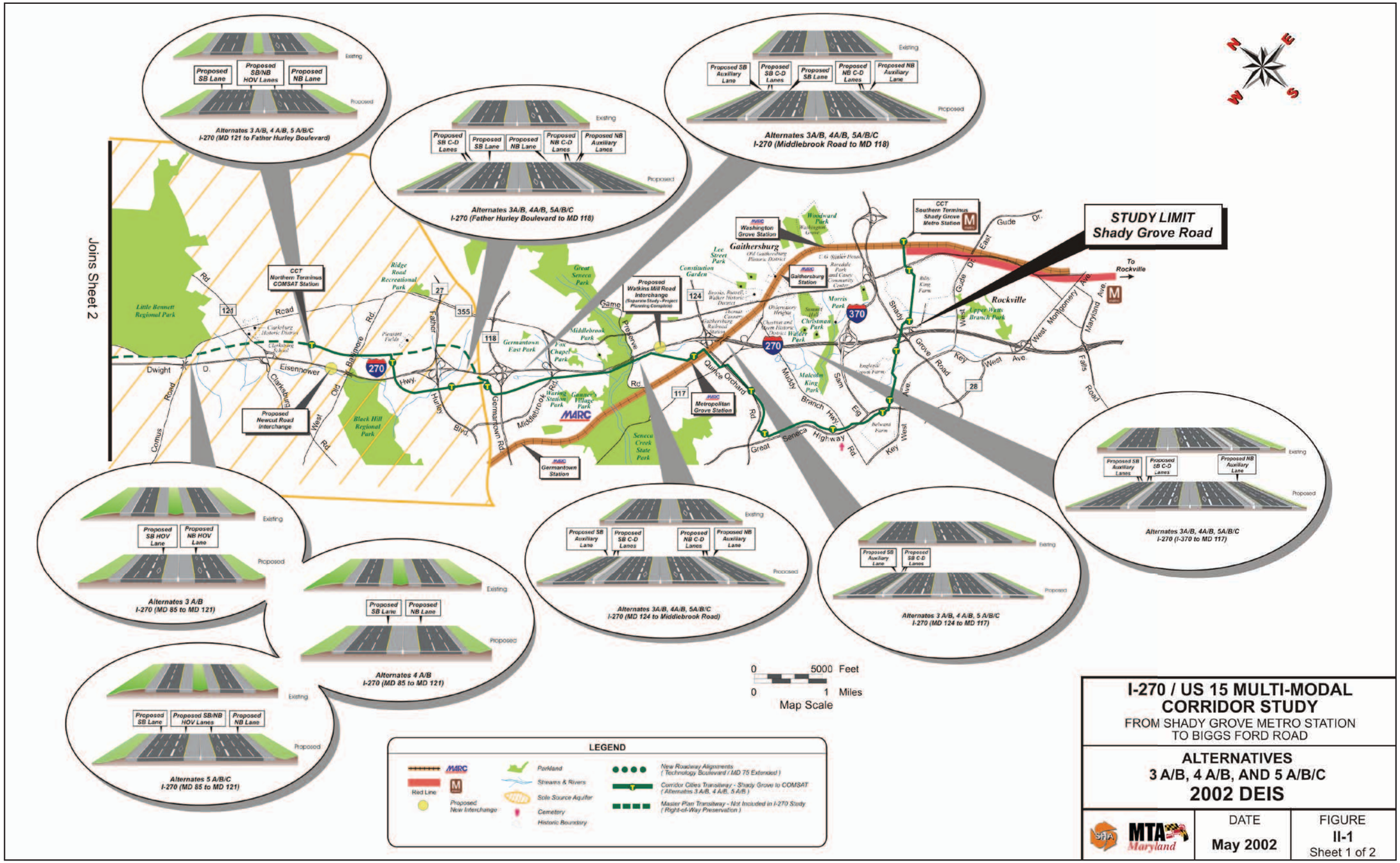


Figure II-1: Alternatives 3A/B, 4A/B, and 5A/B/C 2002 DEIS

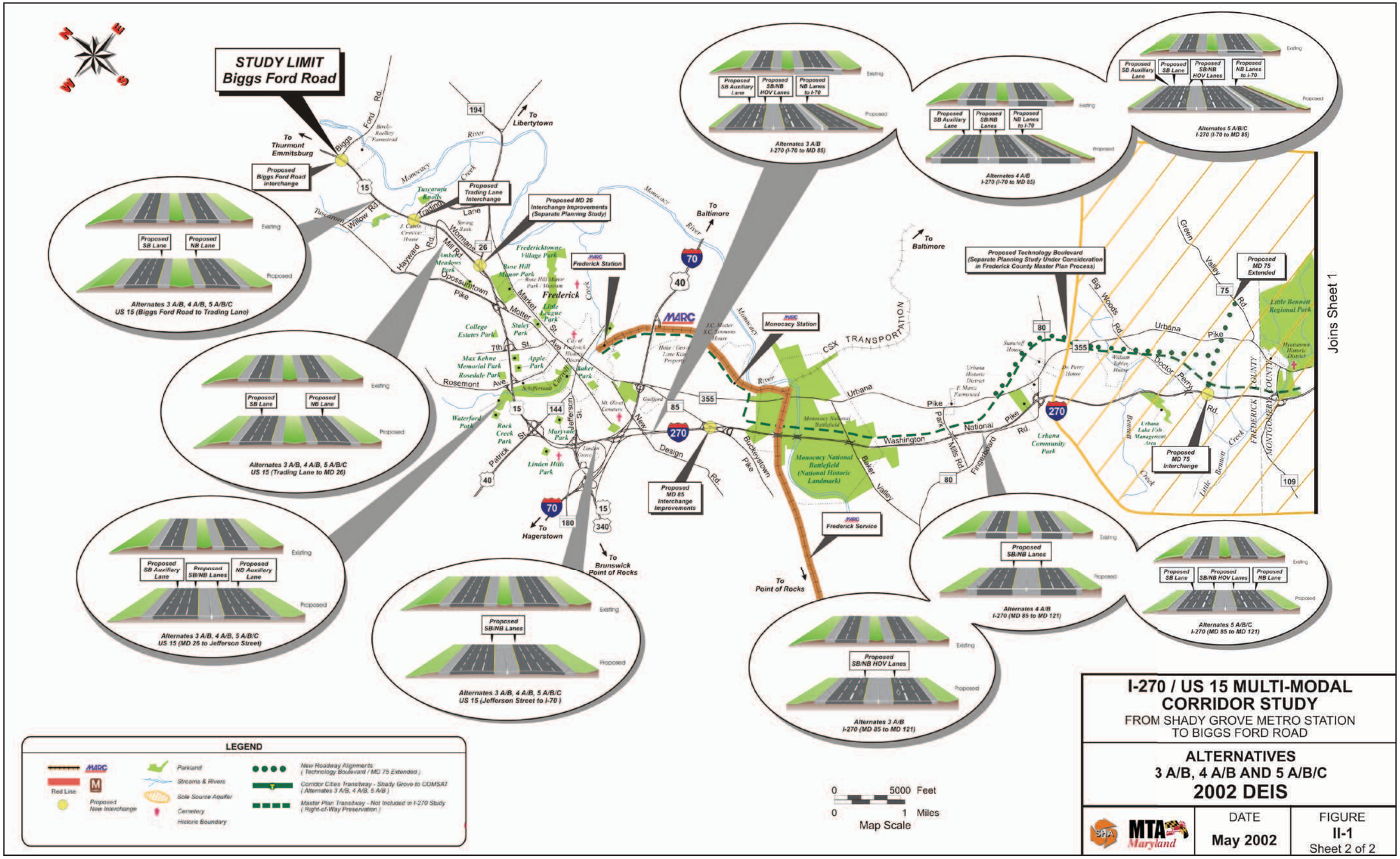


Figure II-2: Corridor Cities Transitway and Potential O&M Sites

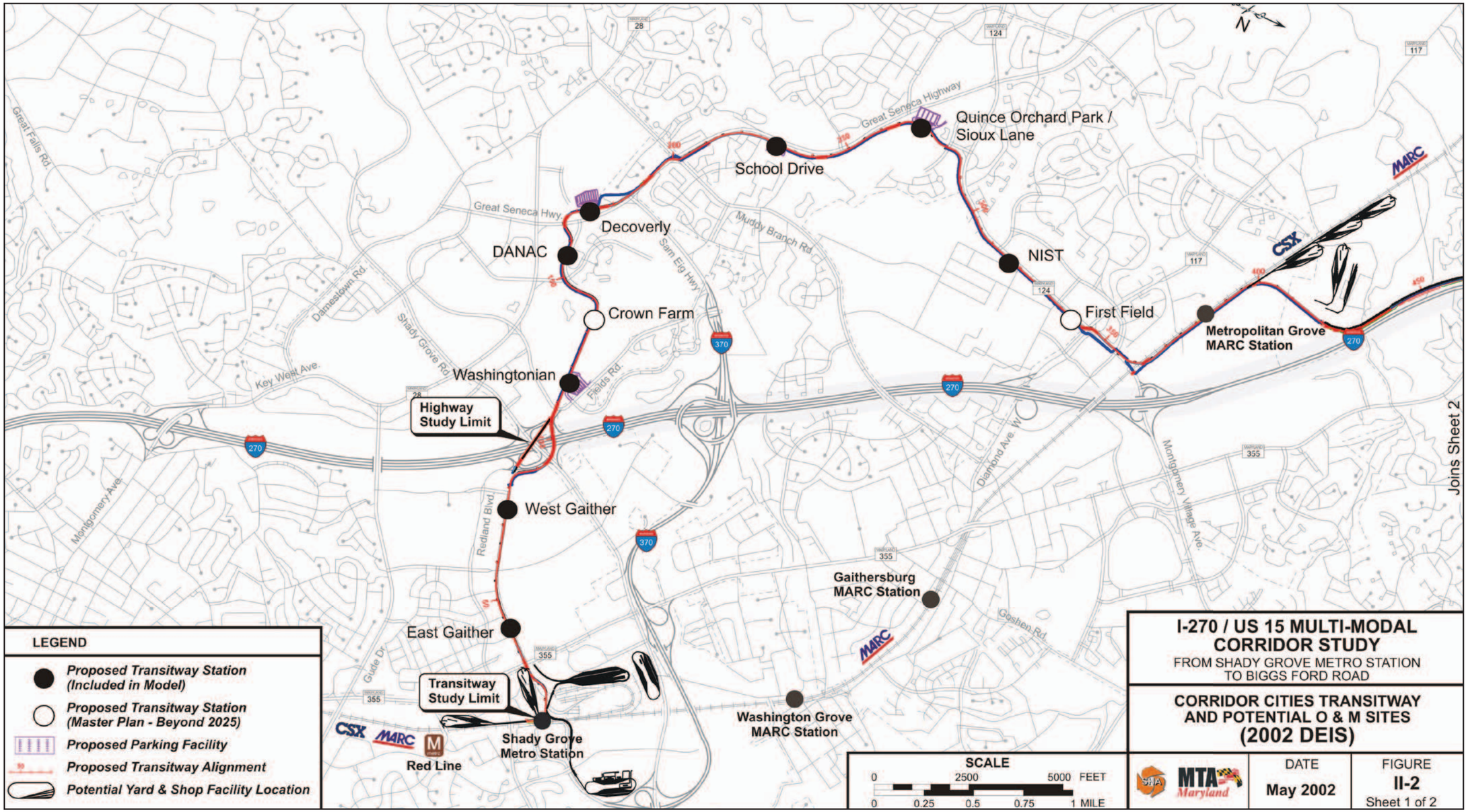
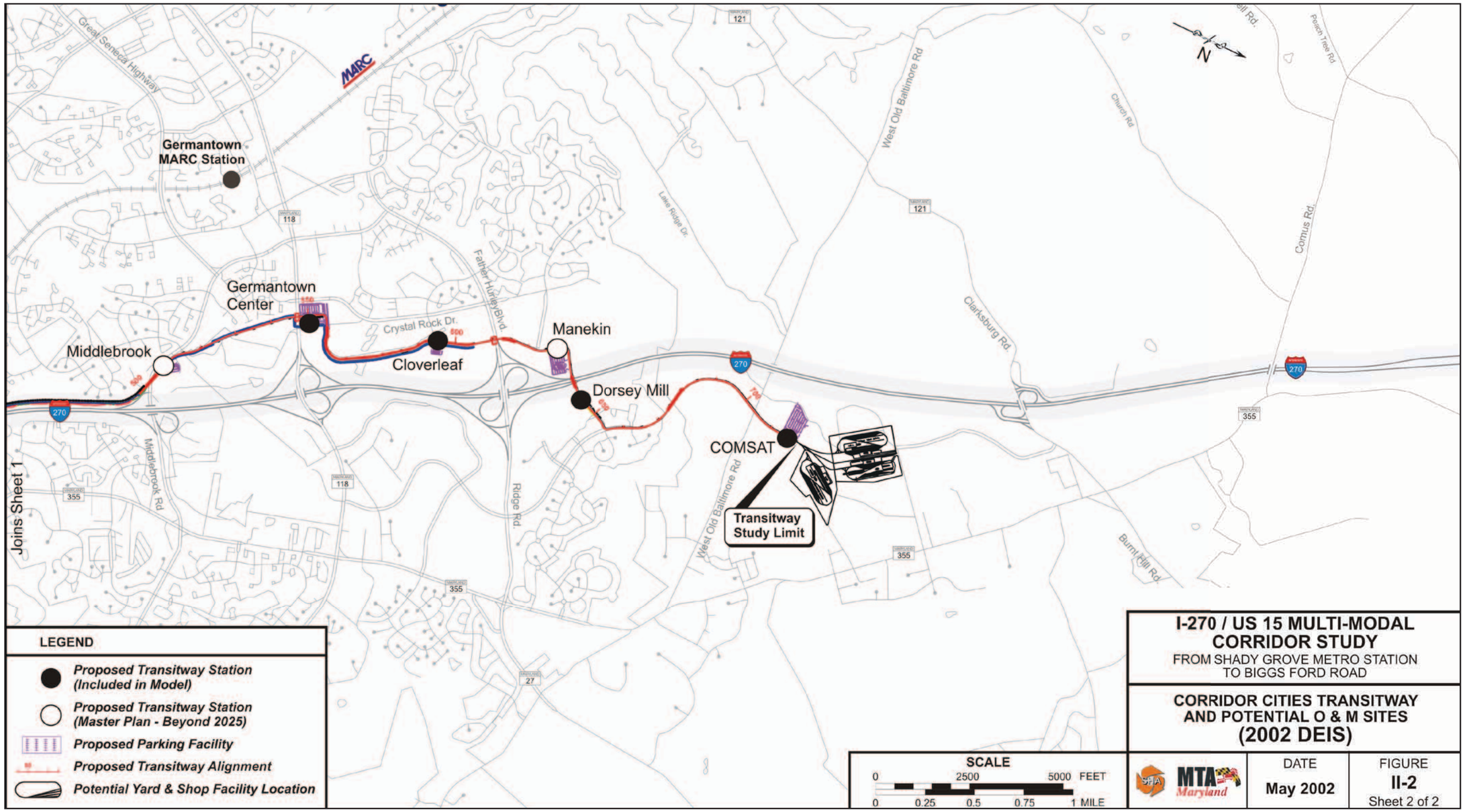


Figure II-2: Corridor Cities Transitway and Potential O&M Sites



- Between Father Hurley Boulevard and MD 121, I-270 would have four GP lanes and one HOV lane in each direction, with GP lanes separated from HOV lanes by striping.
- From MD 121 to MD 85, I-270 would have two GP lanes and one HOV lane in each direction, with GP lanes separated from HOV lanes by striping.
- From MD 85 to I-70, I-270 would have two GP lanes and one HOV lane in each direction, with GP lanes separated from HOV lanes by striping. An auxiliary lane would be provided in the southbound direction, while a barrier-separated, three-lane ramp to I-70 would be provided in the northbound direction.
- Between I-70 and Biggs Ford Road, US 15 would have three GP lanes in each direction. An auxiliary lane would extend in both directions between Jefferson Street and MD 26.

Ramps providing direct access to the HOV lanes would be provided at the proposed Newcut Road and Watkins Mill Road interchanges to facilitate movements by buses and autos to transit stations at COMSAT and Metropolitan Grove.

New interchanges are proposed at I-270/Newcut Road, I-270/MD 75 Extended, US 15/ Trading Lane (now Monocacy Boulevard/Christopher's Crossing), and at US 15/Biggs Ford Road. Existing interchanges will be modified to accommodate all traffic movements and the improved highway section. Three park and ride lots are included in Alternatives 3A/B, located at US 15/MD 26, US 15/Monocacy Boulevard, and US 15/Biggs Ford Road.

The transit component of Alternatives 3A and 3B would provide either light rail or bus rapid transit on the CCT. Thirteen new station locations were initially identified for construction to service employment and mixed-use centers, with a proposed combined parking capacity of 4,500 to 5,150 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
- School Drive
- Quince Orchard Park/Sioux Lane
- NIST
- First Field (future station)
- Metropolitan Grove
- Middlebrook (future station)
- Germantown Center
- Cloverleaf
- Manekin (future station)
- Dorsey Mill
- COMSAT

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.

Alternatives 4A and 4B

Alternatives 4A and 4B include Alternative 2 TSM/TDM and would add GP lanes, HOV lanes, auxiliary lanes, and direct access ramps along I-270 and GP lanes and auxiliary lanes along US 15. Alternative 4A would provide LRT on the CCT from Shady Grove to COMSAT, while Alternative 4B would provide BRT service on the CCT. Alternatives 4A/B are shown on ***Figures II-1 (Sheets 1 and 2) and II-2 (Sheets 1 and 2)*** and can be reviewed in detail in the 2002 DEIS in Volume 2, Chapter XI.

The highway component of Alternatives 4A/B would be the same for I-270 and US 15 as it is in Alternatives 3A/B, except for the section between MD 121 and MD 85. From MD 121 to MD 85, Alternatives 4A/B would have three GP lanes in each direction instead of two.

The transit component for Alternatives 4A/B is identical to the transit component for Alternatives 3A/B.

Alternatives 5A, 5B and 5C

Alternatives 5A, 5B, and 5C would add GP lanes, HOV lanes, auxiliary lanes, and direct access ramps along I-270 and GP lanes and auxiliary lanes along US 15. The highway component would be the same as Alternatives 3A/B, except for the section between MD 121 and I-70.

- Between MD 121 and MD 85, Alternative 5 would have three GP lanes and one HOV lane in each direction, with GP lanes separated from HOV lanes by striping. The HOV lanes would terminate at the proposed direct access ramps to/from MD 85.
- Between MD 85 and I-70, I-270 would have four GP lanes in each direction. An auxiliary lane would be provided in the southbound direction, while a barrier-separated, three-lane ramp to I-70 would be provided in the northbound direction.

Direct access ramps to HOV lanes would be provided at the proposed Watkins Mill Road (a separate SHA planning effort) and Newcut Road interchanges, as well as at the I-370, MD 118 and MD85 interchanges.

Alternative 5A would provide LRT on the CCT from Shady Grove to COMSAT, while Alternative 5B would provide BRT service on the CCT. Alternative 5C would replace the CCT with Premium Bus service operating on the highway HOV lanes. Alternatives 5A/B/C are shown on ***Figures II-1*** and ***II-2*** and can be reviewed in detail in the 2002 DEIS in Volume 2, Chapter XI.

New Alternatives Being Evaluated for the Environmental Assessment

As stated in Chapter I, this document is an Alternatives Analysis (AA) and an Environmental Assessment (EA). The EA 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 EA are shown in ***Table II-2***. Five alternatives are listed; four of these alternatives, Alternatives 6A, 6B, 7A, and 7B, are being evaluated for resource impacts in this document. Alternatives 6A/B and 7A/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).

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 open access area 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 ***Figures II-3 (Sheets 1 and 2), II-4*** and ***II-5*** on ***HWY 1 through 15*** and ***MD 75*** in **Appendix A**.

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 in 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.

Table II-2: Alternatives Considered for the EA Analysis

ALTERNATIVE	DESCRIPTION
1: No-Build	No-Build Alternative carried from the 2002 DEIS; includes latest Metropolitan Planning Organization (MPO) demographic forecasts
6A	Master Plan[1] ETL/LRT Alternative
6B	Master Plan[1] ETL/BRT Alternative
7A	Enhanced[2] Master Plan ETL / LRT Alternative
7B	Enhanced[2] Master Plan ETL / BRT Alternative

[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.

Figure II-3: Alternatives 6A/B and 7A/B

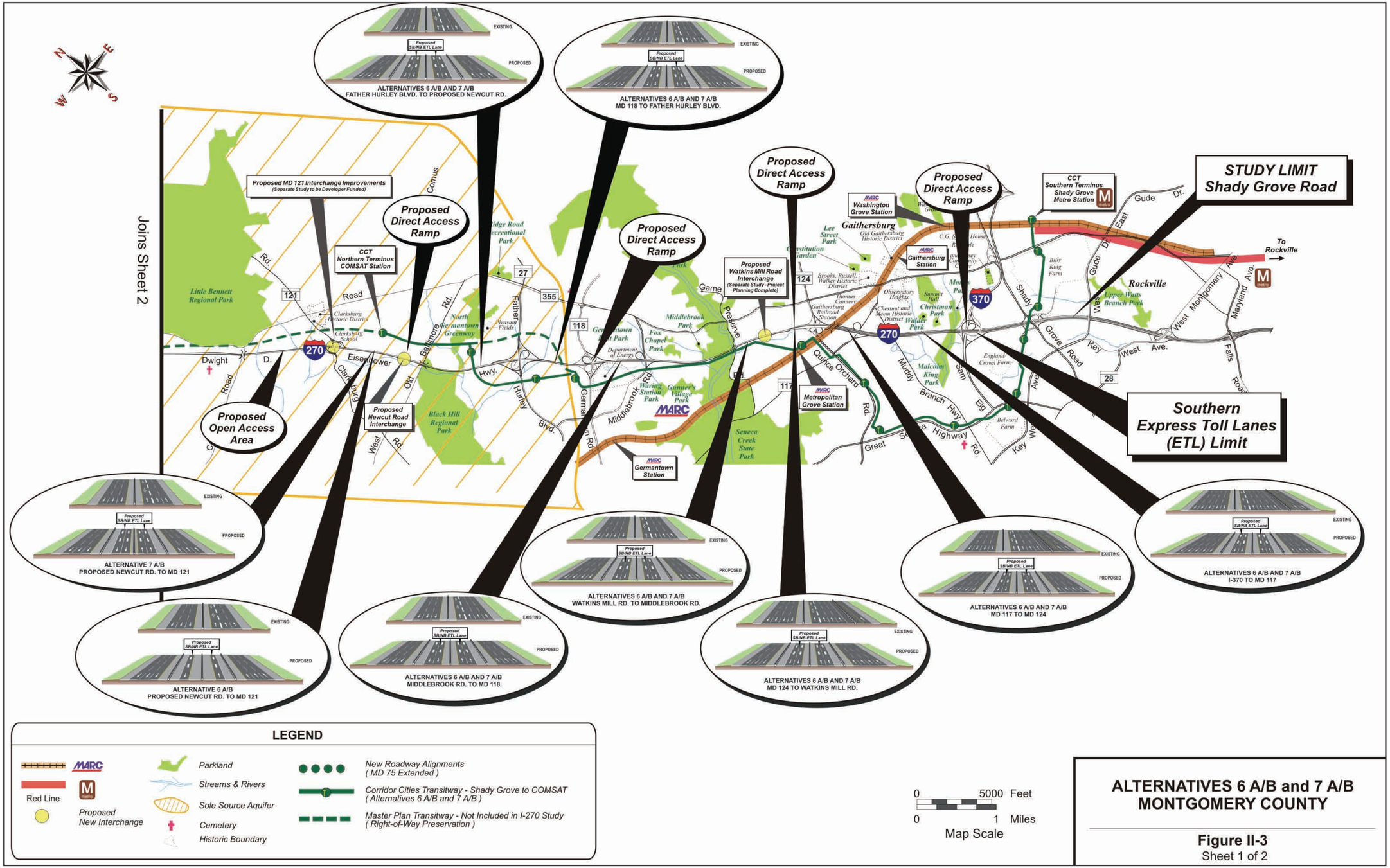


Figure II-3: Alternatives 6A/B and 7A/B

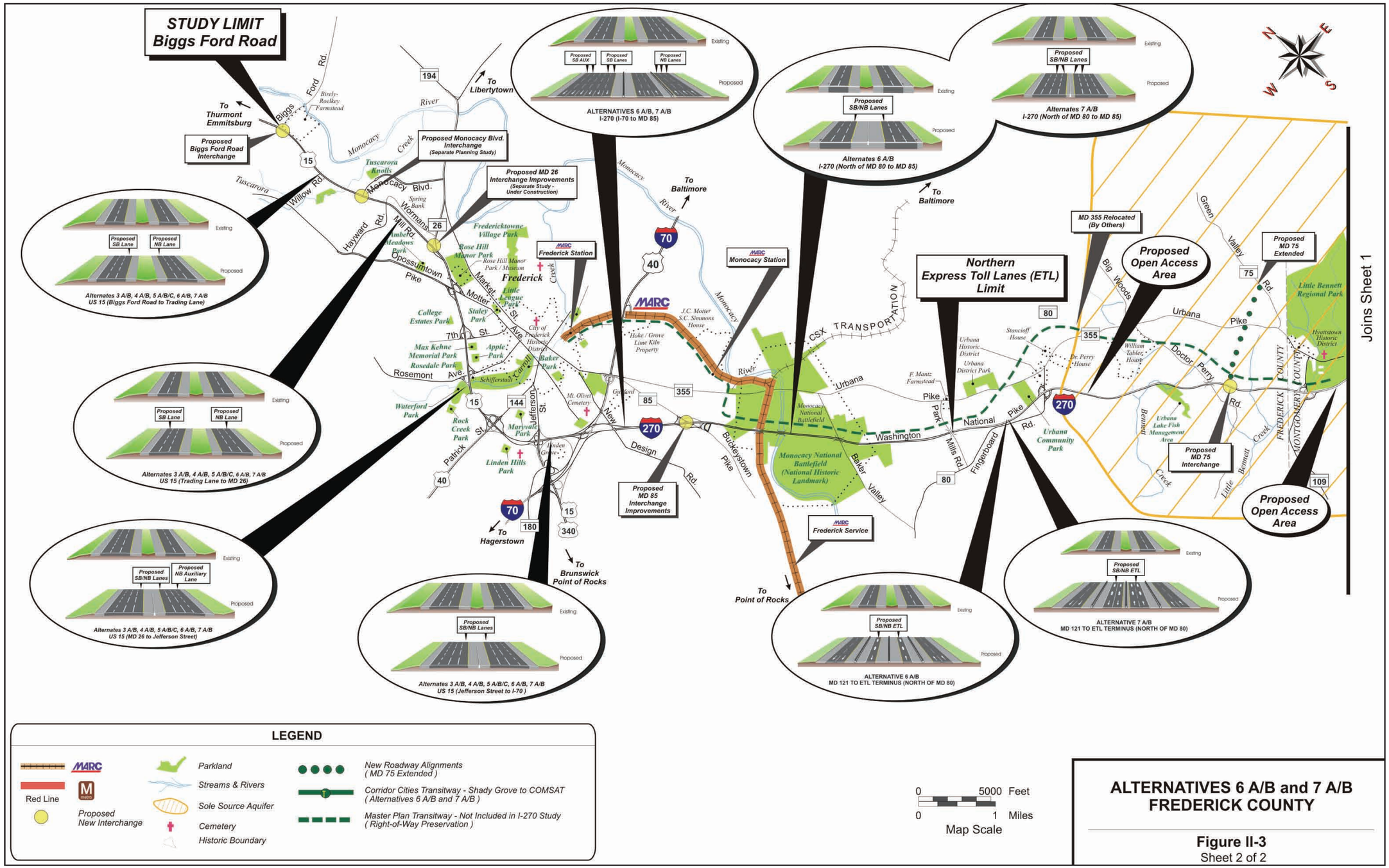


Figure II-4: Alternatives 6A & 7A Bus Service for LRT Mode

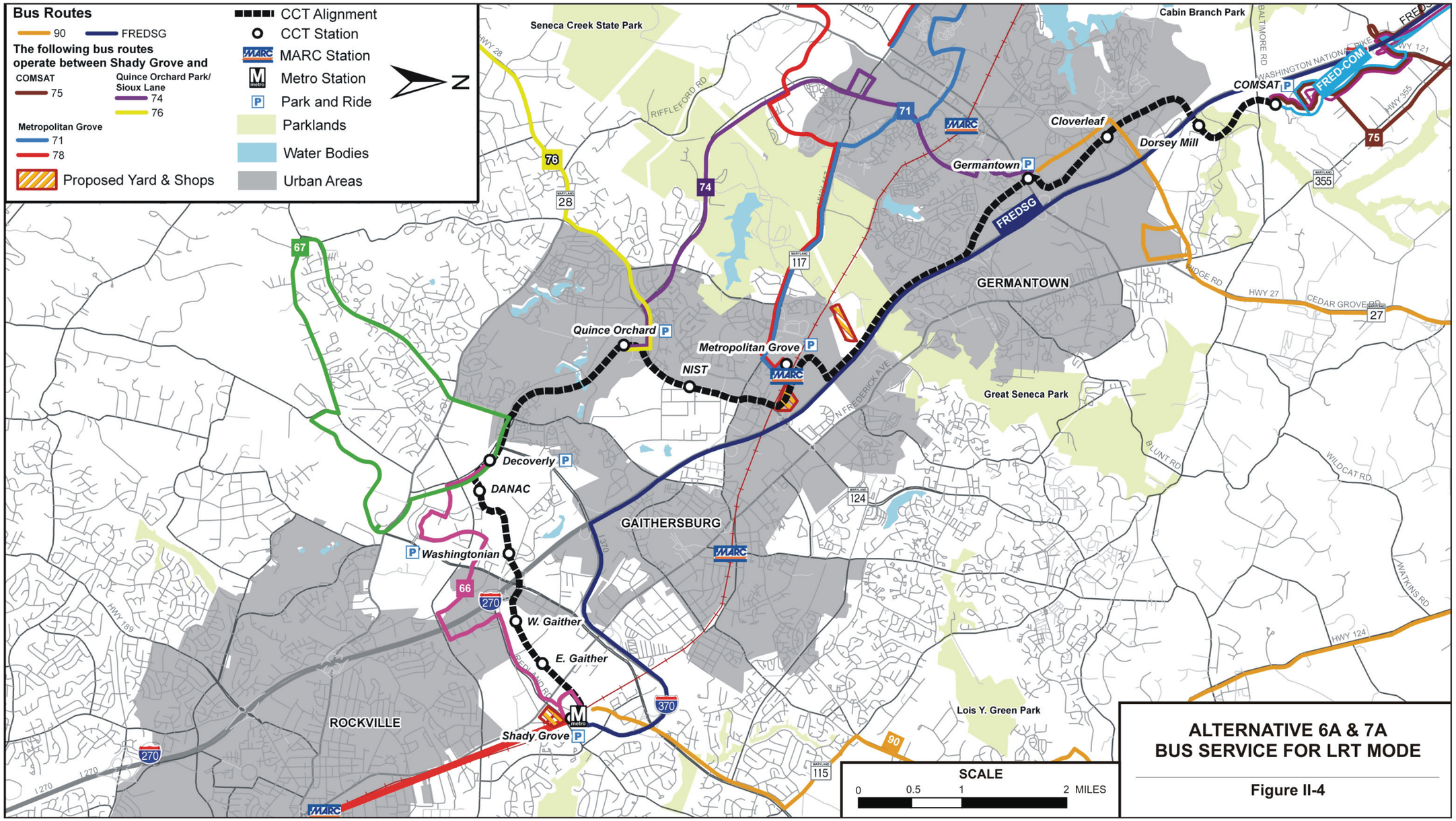
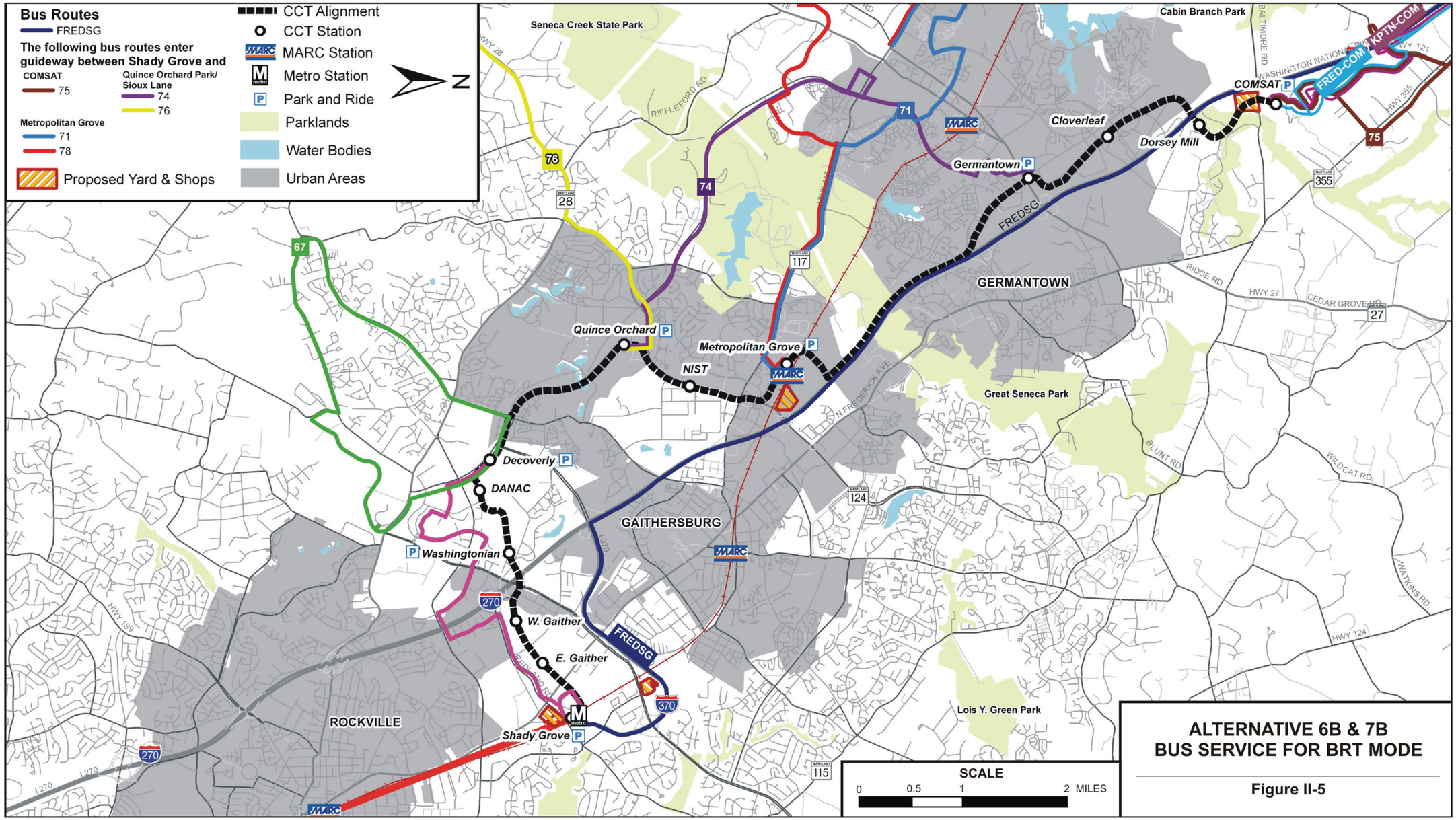


Figure II-5: Alternatives 6B & 7B Bus Service for LRT Mode



- Three GP lanes in each direction from north of MD 80 in the vicinity of Park Mills Road 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 II-3 (Sheets 1 and 2)***.

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 6A and 6B 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 station locations (same as DEIS locations) have been identified that could be developed in the future (after 2030). They have not been included in the travel forecasting in this AA/EA, but the project design will not preclude their future development. Station locations under consideration 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 (future station)
- Dorsey Mill
- COMSAT

Since the publication of the 2002 DEIS, the MTA has dropped the proposed future School Drive station from further consideration. Montgomery County approved development which, when built, prevented use of the School Drive site for a station.

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 6A and 6B will include premium bus service between Frederick County and corridor park and rides, 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 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.

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 ***Figures II-3 (Sheets 1 and 2), II-4*** and ***II-5*** on ***HWY 1 through 15*** and ***MD 75*** in ***Appendix A***.

The highway typical section for Alternatives 7A/B is identical to the section for Alternatives 6A/B except between proposed Newcut Road 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.

New Alternatives Being Evaluated for the Alternatives Analysis

An AA is used by the FTA to evaluate different transit investments in order to make an informed selection of a preferred transit mode and alignment. The alternatives being evaluated by the AA are shown in ***Table II-3.*** Two alternatives, Alternative 6.1: No-Build Transit and Alternative 6.2: Transit TSM, are solely for the assessment of transit performance.

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 long-range transportation plan for the metropolitan Washington region. ***Table II-4*** summarizes the routes, termini, and frequency of transit services in Montgomery and Frederick Counties for the No-Build Transit Alternative.

Table II-3: Alternatives Considered in the AA

ALTERNATIVE	DESCRIPTION
1: No-Build	No-Build Alternative carried from 2002 DEIS; includes latest Metropolitan Planning Organization (MPO) demographic forecasts
6.1: No-Build Transit	Master Plan[1] ETL Alternative 6; no transit improvements beyond CLRP (with CCT removed)
6.2: Transit TSM	Master Plan[1] ETL Alternative 6; with Transit TSM (enhanced bus service)
6A	Master Plan[1] ETL / LRT Alternative
6B	Master Plan[1] ETL / BRT Alternative
7A	Enhanced[2] Master Plan ETL / LRT Alternative
7B	Enhanced[2] Master Plan ETL / BRT Alternative

[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.

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 than Alternatives 6A/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.

Table II-4: 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 Center	Rockville	15	30		10	20
56	Lake Forest	Rockville	20	30		15	30
61	Germantown Transit Center	Shady Grove	30	30		15	30
63	Shady Grove	Rockville	30	30		20	30
66	Travillah Transit Center	Shady Grove	30	–	off-peak direction only	20	30
67	Travillah Transit Center	Shady Grove	30	–	peak direction only	20	30
70	Milestone	Bethesda Medical Center	15	–	not all stops	15	
71	Kingview Park and Ride	Shady Grove	30	–	peak direction only	20	
74	Germantown Transit Center	Shady Grove	30	30		20	30
75	Urbana	Germantown Transit Center	30	30	not all stops in off-peak	20	30
76	Poolesville	Shady Grove	30	–	not all stops in off-peak	20	30
78	Kingview Park and Ride	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 Center	15	30	MARC station in peak	15	30
90	Milestone	Shady Grove	30	30	different routings throughout day	20	30
97	Germantown Transit Center	Germantown MARC	15	30	loop	15	30
98	Germantown Transit Center	Seabreeze Court	15	30	loop	15	30
100	Germantown Transit Center	Shady Grove	5	15	express via I-270	5	15
124	Rt 124 Park and Ride (Rt 117 Park and Ride)	Shady Grove	30	–	express via I-270	20	–

Table II-4: 2030 No-Build Transit Service (continued)

ROUTE	CURRENT TERMINALS		2006 HEADWAYS		NOTES	PROPOSED 2030 NO-BUILD HEADWAYS	
	START	END	PEAK	OFF-PEAK		PEAK	OFF-PEAK
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 Community College	Frederick Transit Center	30	60	loop	30	60
FT70	College Park Plaza	Frederick Transit Center	60	60	loop	60	60
FT80	Frederick Community College	Frederick Towne Mall	30	60		30	60
FT-EC Shuttle	Spring Ridge Apartments	Department of Aging			4 round trips/day		
FT-BJ Shuttle	Frederick Transit Center	Brunswick MARC Station	180	–	4 round trips/day	180	–
FT-ET Shuttle	Emmitsburg	Frederick Transit Center	120	–	2 round trips/day	120	–
FT-85 Shuttle	Bowmans Industrial Park	Frederick Transit Center			2 round trips/day		
FT-POR Shuttle	Frederick Shopping Center	Point of Rocks MARC Station	40		peak direction only	40	
FT-Fd/ MARC Shuttle	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 II-5: Alternative 6.2: Transit TSM Additions to No-Build Transit Service

ROUTE	TERMINALS		PROPOSED ALTERNATIVE 6.2: TRANSIT TSM HEADWAYS	
	START	END	PEAK	OFF-PEAK
FREDSG	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

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.
- New limited stop bus route to serve those stations.
- Premium bus service from Fredrick 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: Transit TSM 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 ten minutes. Headway is the interval of time between buses.

Figure II-6 presents the stations and bus services, while ***Table II-5*** 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.

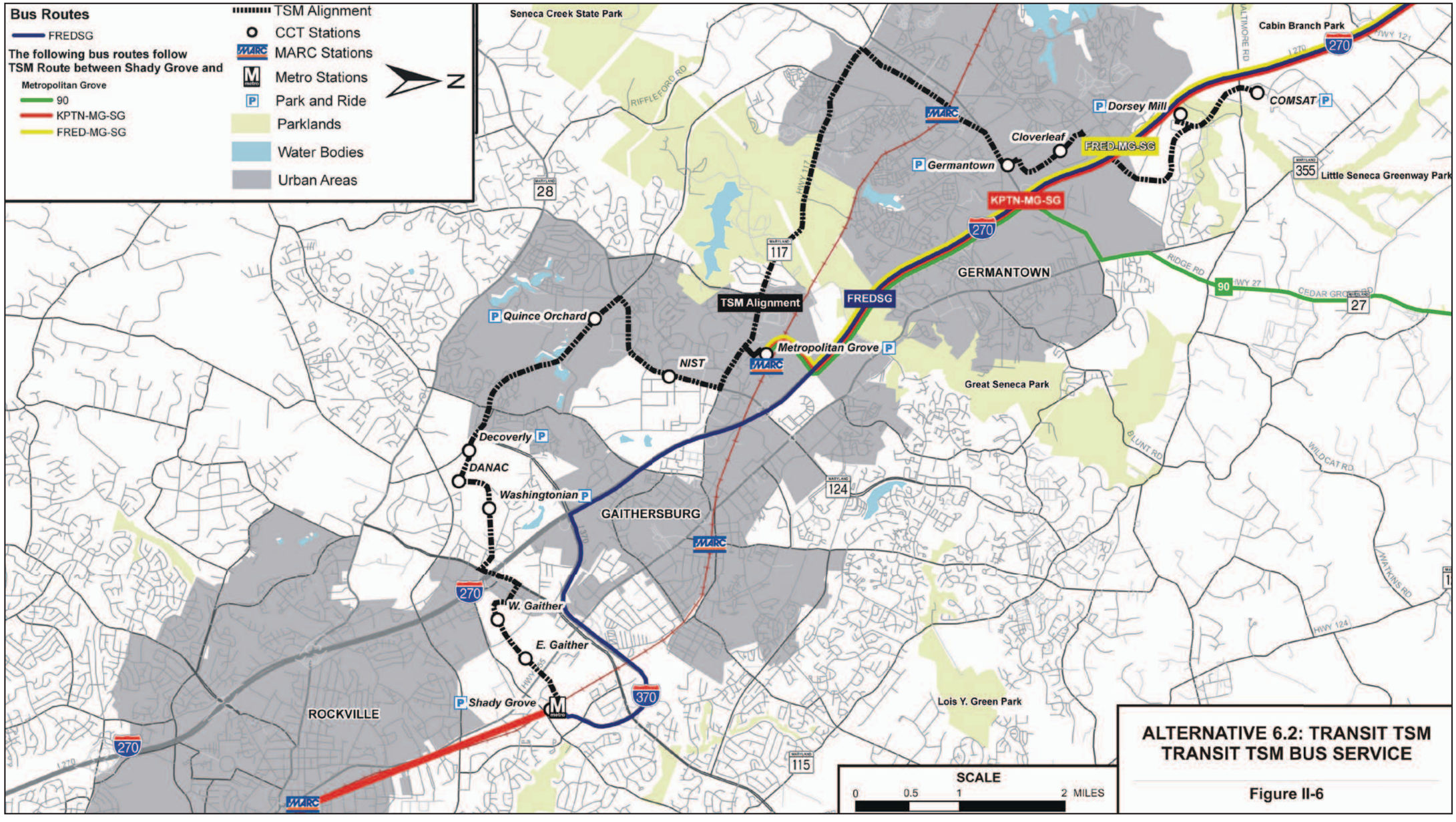



Figure II-6: Alternative 6.2: Transit TSM Bus Service