THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

MCPB
7/18/02
Item No. 15

July 12, 2002

MEMORANDUM

TO: Montgomery County Planning Board

VIA: Jeffrey Zyontz, Chief
County-wide Planning Division

John Carter, Chief
Community-Based Planning Division

Richard C. Hawthorne, Chief
Transportation Planning
County-wide Planning Division

FROM: Daniel K. Hardy, Supervisor (301-495-4530)
Transportation Planning
County-wide Planning Division

SUBJECT: I-270/US 15 Draft Environmental Impact Statement (DEIS)
Maryland Department of Transportation Project No. FR 192B11
Planning Board Briefing on DEIS Findings

This memorandum provides a summary of the findings of the I-270/US 15 Multimodal Corridor Study Draft Environmental Impact Statement (DEIS), prepared during May 2002. The materials in this memorandum will be reviewed at the Planning Board worksession scheduled for July 18, 2002. **The purpose of the July 18 worksession is to summarize the DEIS findings and introduce the study issues for which staff will develop recommendations during the next few months.** Staff will schedule a worksession in late autumn for the Planning Board to review and comment on those recommendations. This memorandum will also serve as background information for that autumn worksession.

ORGANIZATION OF MEMORANDUM

This memorandum contains the following sections:

1) Study process and schedule

2) Summary of study issues
3) Alternates description
4) Detailed review of study issues

STUDY PROCESS AND SCHEDULE

The Maryland State Highway Administration (SHA) and the Maryland Transit Administration (MTA) are jointly conducting the I-270/US 15 Multi-Modal Corridor Study. The study has evaluated highway and transit alternatives in a 31-mile long corridor between the Shady Grove Metrorail Station and US 15 (at Biggs Ford Road) north of the City of Frederick. Exhibit 1 shows the study area.

SHA and MTA initiated the study in June 1994 and are completing the detailed planning phase that culminated in preparation of the DEIS. **The purpose of the DEIS is to facilitate the selection of a single preferred alternate to carry forward into the project's final planning phase.** The overall study schedule and major milestones are summarized in Exhibit 2.

The project team held two Location/Design Public Hearings, one in Montgomery County on June 25, 2002 and one in Frederick County on June 27, 2002 to formally present the results described in the DEIS and to provide one of several opportunities for public comment. The DEIS findings are described in the project team's Public Hearing Brochure. Copies of the Brochure are attached to copies of this memorandum distributed to Planning Board members. Others may pick up the Brochure at Room 105 in the Montgomery Regional Office, 8787 Georgia Avenue in Silver Spring or request the Brochure from SHA's Project Manager, Russell Walto, at 1-800-548-5026.

The project team will select its preferred alternate during late autumn 2002 and gain state and federal agency concurrence during early 2003. The project team will then develop a Final Environmental Impact Statement (FEIS) to address the impacts of this alternate and identify appropriate mitigation techniques. Once federal agency approval is obtained for the preferred alternate and funding allocated for project design, the project can proceed to the design phase.

SUMMARY OF STUDY ISSUES

Staff proposes that the autumn Planning Board worksession focus on reviewing staff recommendations for the six issues described below. This section of the memorandum identifies and briefly summarizes the issues. Each of the issues is described in greater detail in the last section of this memorandum, including review of pertinent DEIS measures of effectiveness that will inform staff recommendations in autumn.

1) **CCT Mode: Bus Rapid Transit (BRT) or Light Rail Transit (LRT)?** Staff feels the DEIS has confirmed Master Plan positions that the CCT merits implementation. The travel forecasts and cost estimates in the DEIS do not, however, point conclusively toward either bus or rail as an optimal mode.

Exhibit I

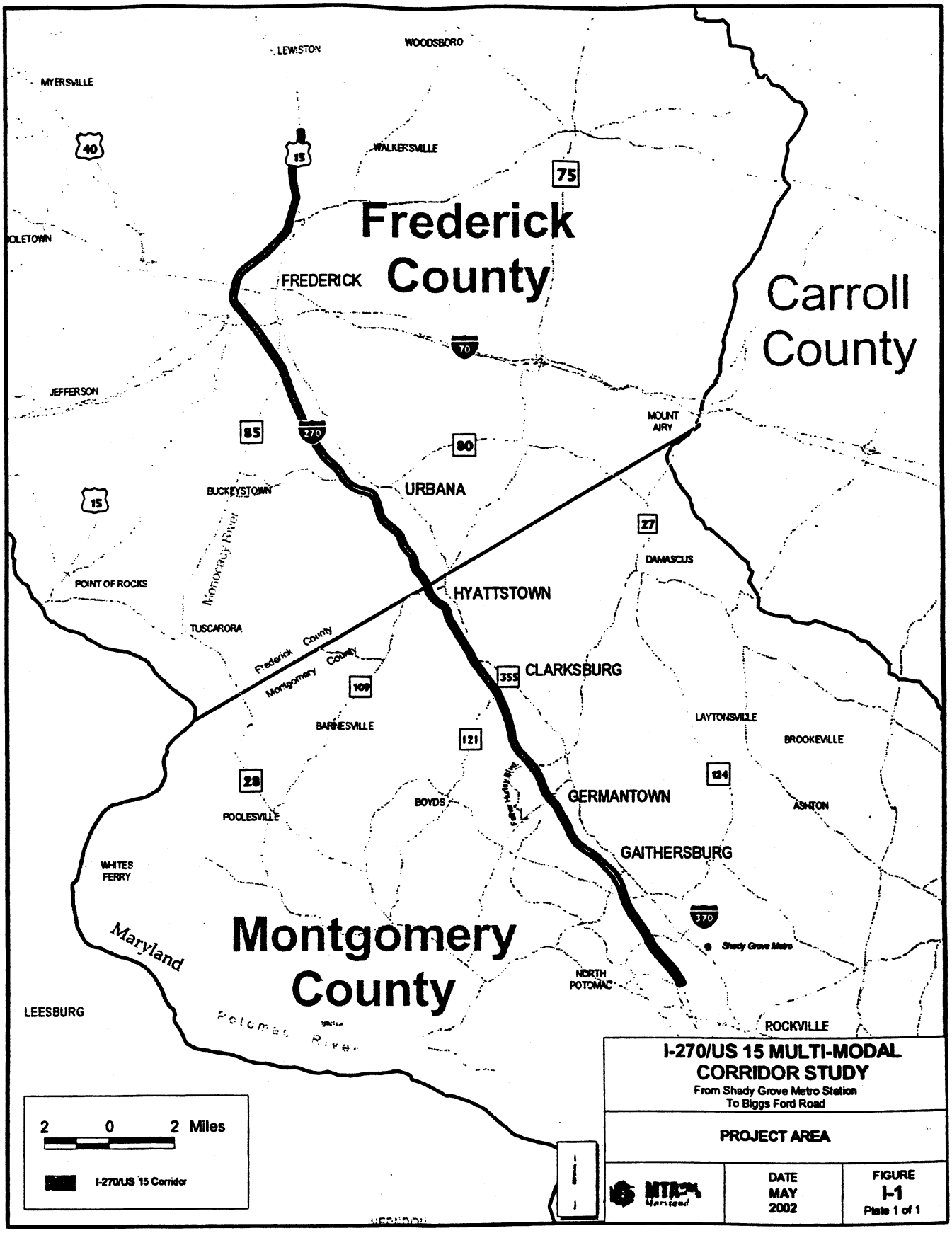
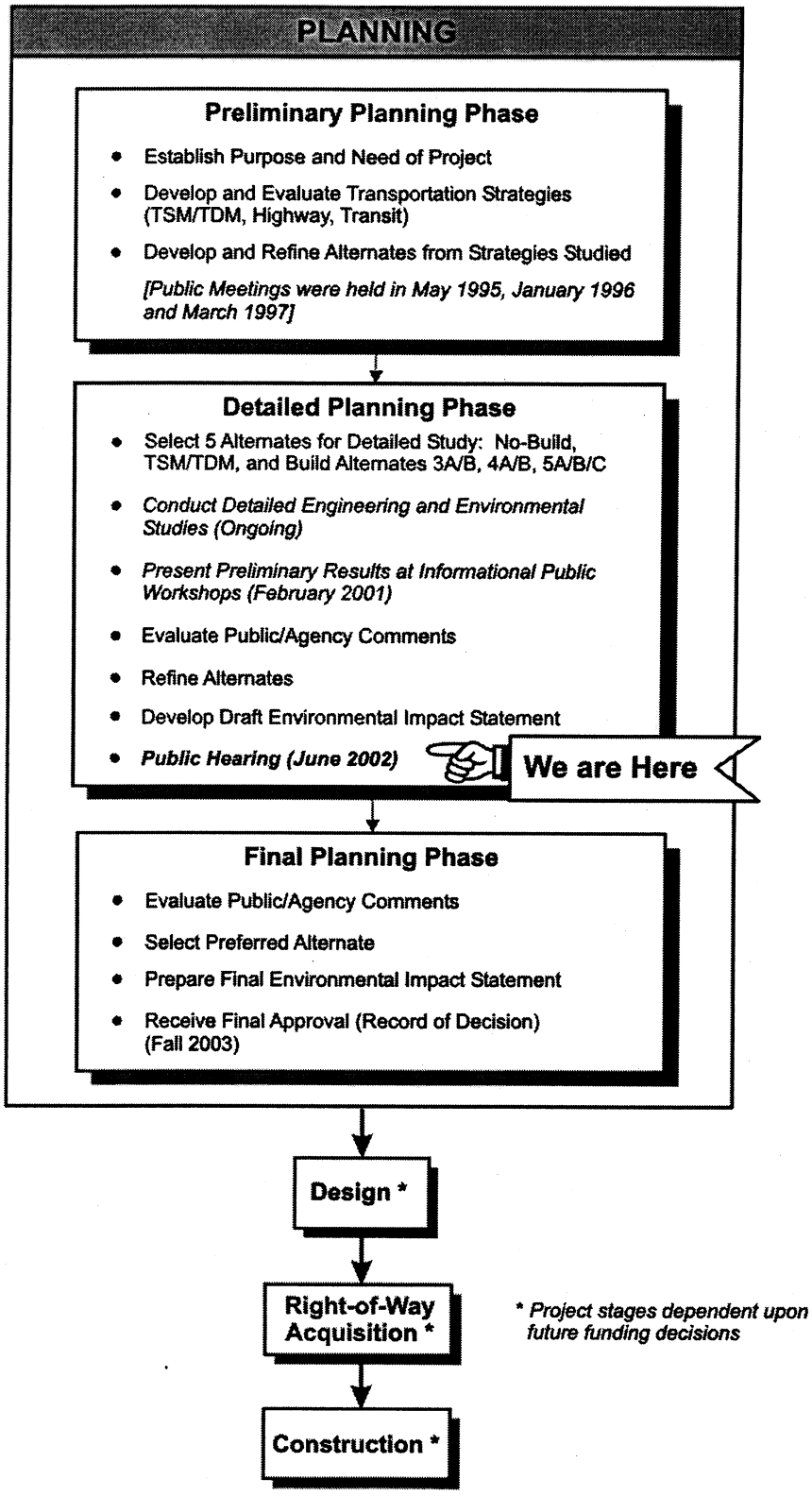

LEWISTON
WOODSBORO
MYERSVILLE
WALKERSVILLE
Frederick County
FREDERICK
Carroll County
JEFFERSON
MOUNT AIRY
URBANA
BUCKEYSTOWN
POINT OF ROCKS
Monocacy River
HYATTSTOWN
DAMASCUS
TUSCARORA
Frederick County
Montgomery County
CLARKSBURG
BARNESVILLE
LAYTONSVILLE
BROOKEVILLE
BOYDS
GERMANTOWN
ASHTON
POOLESVILLE
GAITHERSBURG
WHITES FERRY
Maryland
Montgomery County
NORTH POTOMAC
ROCKVILLE
LEESBURG
Potomac River
Shady Grove Metro
2 0 2 Miles
I-270/US 15 Corridor
I-270/US 15 MULTI-MODAL CORRIDOR STUDY
From Shady Grove Metro Station
To Biggs Ford Road
PROJECT AREA
MTA Maryland
DATE
MAY
2002
FIGURE
I-1
Plate 1 of 1

Exhibit 2

FIGURE 4
PROJECT DEVELOPMENT PROCESS



2) **I-270 cross-section** How far north should general-purpose lanes, high-occupancy-vehicle (HOV) lanes, and/or collector-distributor (C-D) lanes be extended on I-270?

3) **Impacts mitigation** How should the property, environmental, and parkland impacts of the recommended improvements be mitigated? Mitigation will be evaluated in the FEIS. Staff is developing recommended strategies for the FEIS to consider.

4) **Master Plan Consistency** Will Master Plan amendments be required to accommodate the recommended alternate? In general, the build alternates are consistent with area Master Plans. Specific concerns, however, include station locations, yard and shop facilities, and the suitability of the COMSAT location as a terminal station.

5) **Implementation phasing** How should the recommended improvement program be phased?

6) **Location of Yard and Shop Facilities:** Where should yard and shop facilities for LRT, or bus garages for BRT, be located? The DEIS identifies potential sites in the vicinity of Shady Grove, Metropolitan Grove, and COMSAT stations.

The July 18 worksession provides an opportunity for Planning Board members to introduce additional issues for which staff must develop recommendations.

ALTERNATES DESCRIPTION

The DEIS contains a full description of the individual components of each alternate. Exhibit 3 describes the basic components for the Montgomery County portion of the study area. A foldout map showing the typical elements within the I-270 roadway cross-section at different locations in Montgomery County is provided in Attachment A. The alternates are briefly summarized below.

Alternate 1 is the No-Build Alternate. This alternate includes regional transportation improvements included in the Metropolitan Washington Council of Governments (MWCOG) Constrained Long Range Plan (CLRP) through the year 2025.

Alternate 2 is the Transportation Systems Management/Travel Demand Management (TSM/TDM) Alternate, which includes additional park-and-ride facilities, improved bus service coverage and frequency, additional Travel Demand Management (TDM) and Intelligent Transportation Systems (ITS) programs.

Each of the **Alternates 3A/B, 4A/B, and 5A/B/C** include both substantial additional highway and transitway capacity. Each of these Alternates includes the

Exhibit 3. Basic Components of Alternates

Alternate	Extend general purpose lanes on I-270	Extend concurrent flow HOV lane on I-270	Extend C-D roadway system on I-270	CCT mode
1. No-Build	No	No	No	None
2. TSM	No	No	No	None
3A. Master Plan HOV/LRT	To MD 121	To I-70	To Father Hurley Blvd	LRT
3B. Master Plan HOV/BRT				BRT
4A. Master Plan General Purpose/LRT	To I-70	To MD 121	To Father Hurley Blvd	LRT
4B. Master Plan General Purpose/BRT				BRT
5A. Enhanced Master Plan HOV/General Purpose/LRT	To I-70	To I-70	To Father Hurley Blvd	LRT
5B. Enhanced Master Plan HOV/General Purpose/BRT				BRT
5C. Enhanced Master Plan HOV/General Purpose/Premium Bus				None (but premium bus service on I-270)

TSM/TDM strategies in Alternate 2. Each of these Alternates extends the typical cross-section found at the southern end of I-270 as far north as Father Hurley Boulevard.

- To the north of Father Hurley Boulevard:
  - **Alternate 3** includes extending **an HOV lane** north to I-70
  - **Alternate 4** includes extending **a general purpose lane** north to I-70
  - **Alternate 5** includes extending **both an HOV lane and a general purpose lane** north to I-70
- **Suffix A** denotes light-rail transit (LRT) on the CCT
- **Suffix B** denotes bus rapid transit (BRT) on the CCT
- **Suffix C** denotes premium bus service along I-270 (and no use of the CCT). The premium bus service option is only included in Alternate 5.

DETAILED REVIEW OF STUDY ISSUES

This section of the memorandum cites measures of effectiveness from the DEIS that staff will use to develop recommendations on the six issues previously identified.

1) CCT Mode: Bus Rapid Transit (BRT) or Light Rail Transit (LRT)?

The quantitative analyses from the DEIS do not point conclusively toward either mode as superior to the other. In summary, the advantage of the BRT option is its flexibility. Feeder bus routes can gain direct access to, and travel along, the CCT, thereby placing more potential users within walking distance of a CCT transit route. The flip side of this flexibility, however, is that the greater transit service coverage of BRT comes at a higher total annualized cost than LRT. The measures described in Sections IV and V of the DEIS that demonstrate these tradeoffs are described below:

Transportation Service Measures

The BRT alternates perform better than LRT alternates in providing:

- Accessibility to transit as measured by the increase in the number of households and jobs within a 60-minute transit trip and the number of trips for which transit service is time-competitive with auto travel,

- Travel time savings for all work trips by transit between origins and destinations in the study corridor

- Transit use as measured by the peak direction transit trips and average vehicle occupancy within the corridor.

Capital and Operating Costs:

As shown in Exhibit 4, the BRT alternate has lower capital costs but higher operating costs than LRT:

Exhibit 4

TABLE V-9
PROJECTED I-270/US 15 CORRIDOR CAPITAL AND O&M COSTS (2001 DOLLARS)

Alternative		Estimated Capital Costs ($ Millions)			Estimated Annual O&M Costs ($ Millions)		
		Highway	Transit	Total	Highway	Transit	Total
Alternate 2	TSM/TDM	-	$33	$33	-	$28	$28
Alternate 3A	Master Plan HOV/LRT	$1,805	$857	$2,662	-	$25	$25
Alternate 3B	Master Plan HOV/BRT	$1,805	$792	$2,597	-	$64	$64
Alternate 4A	Master Plan General Purpose/LRT	$1,805	$857	$2,662	-	$25	$25
Alternate 4B	Master Plan General Purpose/BRT	$1,805	$792	$2,597	-	$64	$64
Alternate 5A	Enhanced MP HOV/General Purpose/LRT	$2,098	$857	$2,955	-	$25	$25
Alternate 5B	Enhanced MP HOV/General Purpose/BRT	$2,098	$792	$2,890	-	$64	$64
Alternate 5C	Enhanced MP HOV/General Purpose/Premium Bus	$2,223	$296	$2,519	-	$32	$32

Source: Rummel, Klepper & Kahl, LLP, March 2002 (Highway Capital Costs) and Parsons, Brinckerhoff, Quade & Douglas, Inc., February 2002 (Transit Capital and O&M Costs).

- The capital costs for BRT, at $792M, are slightly lower than the capital costs for LRT, at $857M.

- The operating costs for LRT, however, at $25M per year, are substantially lower than the operating costs for BRT, at $64M year. Because BRT provides more expansive geographic coverage, the estimated annual farebox revenues are higher than LRT, at $26M to $10M, respectively.

Cost Effectiveness

Section V of the DEIS also provides a comparison of cost effectiveness, which allows capital costs to be annualized, added to operating costs, and divided by changes in annual transit ridership. The cost effectiveness of BRT and LRT per new rider, relative to the No-Build Alternate, are relatively similar:

- BRT costs $10.45 per new rider
- LRT costs $10.94 per new rider

Qualitative Considerations

Staff finds that the quantitative assessments of BRT and LRT are similar enough that a recommendation regarding the feasibility of mode choice should be influenced by other, largely qualitative factors. Chief among these factors is the continuing suggestion by many that LRT has a stronger "community-building" ability due to its permanence and attractiveness to potential transit patrons.

2) I-270 Cross-section

The purpose and need for the project is to reduce congestion, improve safety, and enhance mobility in the corridor. In general, the DEIS results confirm the types of findings typical of other recent transportation studies:

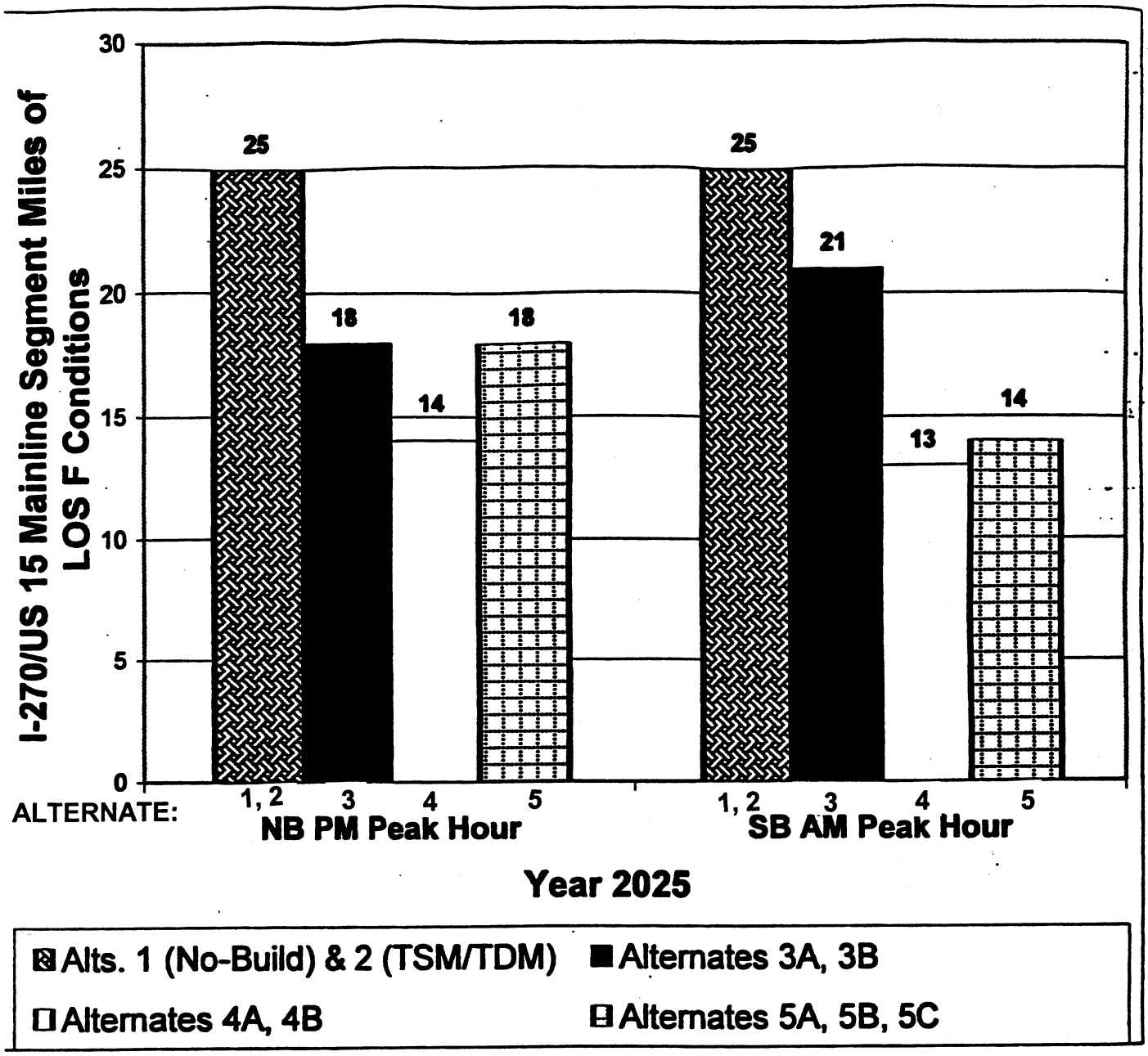
- Providing additional transportation capacity or service in the corridor substantially increases travel opportunities

- Regardless of the alternate selected, traffic congestion will increase over the next 25 years, as travel patterns shift in response to the additional travel opportunities. The relevant difference among alternates is the degree by which congestion is reduced from the No-Build alternate.

As shown in Exhibit 5, Alternates 4A/B have the greatest effect in reducing the number of roadway segments experiencing LOS F conditions, followed by Alternates

Exhibit 5

FIGURE 3
YEAR 2025 LEVEL OF SERVICE F CONDITIONS ON I-270 / US 15 MAINLINE SEGMENT



Note: Total I-270/US 15 Corridor length is approximately 31 miles

5A/B/C and Alternates 3A/B. In general, the benefits shown in Exhibit 5 occur somewhat disproportionately in Frederick County as opposed to Montgomery County. Within Montgomery County, Alternates 3 and 4 provide the greatest improvement in level of service. The segment of I-270 showing the greatest improvement is at the crossing of Great Seneca Creek, where the No-Build volume-to-capacity (V/C) ratio drops from 1.94 in the No-Build Alternate to 1.28 in Alternates 3A/B and 4A/B and 1.32 in Alternate 5A/B/C. Alternate 5 performs slightly worse than Alternates 3 and 4 as additional traffic is drawn to I-270 by the additional capacity on the segments north of MD 121.

The reduction in V/C ratios for adding highway capacity translates into reduced travel times, particularly for the extension of the HOV facilities.

- **HOV time savings:** For a peak period, peak direction carpool trip between Frederick City and Rockville Town Center, the build alternates would reduce travel time by up to 21 minutes from the No-Build Alternate

- **LOV time savings:** For a peak period, peak direction non-HOV trip between Frederick City and Rockville Town Center, the build alternates would reduce travel time by up to 7 minutes from the No-Build Alternate.

As shown previously in Exhibit 4, the capital costs for the highway portion of the build alternates are relatively comparable, ranging from $1.8B for Alternates 3 and 4 to $2.1B for Alternates 5A/B and $2.2B for Alternate 5C. The $0.3B difference between Alternates 3 and 4 and Alternate 5A/B is essentially the widening of I-270 from six lanes to eight lanes between MD 121 and I-70. The additional $0.1B in Alternate 5C also reflects the construction of direct access ramps between the I-270 HOV lanes at five interchanges to facilitate Premium Bus service.

3) Impacts Mitigation

The FEIS will identify community and environemntal mitigation strategies for the preferred alternate. Exhibit 6 summarizes the environmental impacts for each of the alternates. Two types of impacts of particular concern, to residential properties and parklands, are described below, followed by a brief summary of mitigation strategies to be considered.

Residential Displacements

The number of residential displacements described in Exhibit 6 is substantial for Alternates 3 through 5, ranging from 64 to 385. However, SHA has already designated as "non-preferred" two geometric elements that create substantial residential impacts:

- The construction of HOV-only ramps at the I-270 interchange with I-370, which would reduce the displacements shown in Alternate 5C from by up to 261.

TABLE S-2
SUMMARY OF IMPACTS

Resources	Alternate 1 No-Build	Alternate 2 TSM/TDM	Alternate 3A LRT	Alternate 3B BRT	Alternate 4A LRT	Alternate 4B BRT	Alternate 5A LRT	Alternate 5B BRT	Alternate 5C Premium Bus
Right-of-way Required (Acres)									
Highway	0	0	374		374		404		428
Park-and-Ride Lots	0	18	18		18		18		18
Transitway[1]	0	0	170[1]		170[1]		170[1]		0
Total	0	18	562		562		592		446
Residential Displacements	0	0	64-127				64-128		127-385
Business Displacements	0	0	4-11				4-12		2-11
Number of Farmlands Affected	0	0	30				30		27
Farmlands Required (Acres)	0	6	133				143		106
Number of Public Parks Affected	0	0	11				12		13
Public Park Property Required (Acres)	0	0	37				44		48
Number of Historic Sites Impacted	0	0	7				7		5
Linear feet of Streams Impacted	0	0	14,185				16,331		13,407
100-Year Floodplains Required (Acres)	0	3	23				24		21
Wetlands Impacted (Acres)	0	0.5	10.7				11.6		10.7
Forests Impacted (Acres)	0	0	183				199		180
Hazardous Materials (Number of Properties Affected)	0	0	6	4	6	4	6	4	4
RTE Species Affected	0	0	0				0		0
Number of Air Quality Receptors with CO Violations	0	0	0				0		0
Number of Noise Monitoring/Modeling Locations Exceeding Abatement Criteria[2]	33		52[2]				51[2]		35
Consistent With Area Land Use Plans (Yes/No)	No	No	Yes				No		No
Capital Costs (Millions of 2001 Dollars)	0	$33	$2,662	$2,597	$2,662	$2,597	$2,955	$2,890	$2,519

Notes: 1. Transitway right-of-way impacts do not include a yard/shop facility.

2. Includes noise monitoring/modeling locations along the transitway alignment; includes transit horn noise impacts.

Exhibit 6

- Consideration of side slopes rather than retaining walls adjacent to the Middlebrook Hill community, which would reduce the residential displacements by approximately 20 dwelling units for each of the Alternates 3 through 5.

Reflecting the designation of these two "non-preferred" elements, the high end of the range of estimated residential displacements for each of the Alternates 3A/B, 4A/B, and 5A/B/C would be between 100 and 110 dwelling units. These residential properties are concentrated in two areas in the corridor:

- Up to 81 attached dwelling units in the Brighton West community, west of I-270 and north of I-370 in the City of Gaithersburg.

- Up to 13 detached dwelling units in the Middlebrook Hill community, east of I-270 and south of Middlebrook Road in the Germantown Planning Area

The remaining displacements are at nine different locations in the corridor, including five displacements associated with the CCT.

Parkland Impacts

Alternates 3 through 5 each have approximately 20 acres of impacts to parklands within Montgomery County. Parklands, recreation areas, and historic sites are among the resources protected by Section 4(f) of the U.S. Department of Transportation Act of 1966. Exhibit 7 identifies the Section 4(f) impacts by individual parkland resource (the first six parks listed are within Montgomery County) and cultural resource (the first two cultural sites listed are within Montgomery County) for each alternative.

Within Montgomery County:

- The parkland impacts are due to I-270 widening (except for Seneca Creek State Park, which is impacted by both the I-270 widening and CCT construction in the same alignment)

- Alternates 3A/B, 4A/B, and 5A/B each have 20.5 acres of parkland impact

- Alternate 5C has 19.6 acres of parkland impact (because Alternate 5C does not include the CCT, there are lesser impacts on Seneca Creek State Park, although the additional HOV lane facilities in Alternate 5C affect Morris Park whereas the other build alternates do not).

Mitigation Strategies

The project team is beginning to discuss means by which the most severe impacts documented in the DEIS can be mitigated. The first step in that process is

reflected in the identification of the two non-preferred elements described above. Two mitigation strategies are reflected in that description:

- Resource avoidance by eliminating a design element (the I-370 direct access HOV ramp)

- Resource minimization by reducing the project "footprint" (replacing a side slope with a retaining wall)

Staff expects additional strategies to first focus on further reducing the footprint by considering additional structural elements such as retaining walls and design elements such as narrowed lanes or shoulders. Consideration of these strategies generally includes examining the tradeoffs between resource protection, safety, and capital cost.

Many resources, particularly parkland and natural environmental features, cannot be avoided entirely in the build alternates. This tradeoff is recognized during the Master Plan adoption process; the I-270 Master Plan right-of-way itself includes features such as parklands, stream crossings, and wetlands. The effects on these resources, however, can at least be partially mitigated through strategies including:

- Creation of replacement resource areas

- Improvements to nearby resources, such as stream restoration or stormwater management facility improvements, that are indirectly related to the natural environment in the vicinity of the project

- Development of desirable ancillary facilities, such as park trail plan implementation

4) Master Plan Consistency

The determination of Master Plan consistency for such a large project is complex, primarily due to the differences in the manner that I-270 and the CCT are addressed in the five relevant master plans, adopted over a nearly twenty-year timeframe. **In general, staff finds that the treatment of both I-270 and the CCT in most of the project build alternates is consistent with master plan guidance.** The only clear violation of Master Plan guidance occurs with the addition of a general purpose travel lane on I-270 through Clarksburg in Alternate 5A/B/C.

However, each of the project Alternates 3 through 5 include some minor discrepancies with master plan guidance. Staff will recommend both a preferred

Exhibit 7

TABLE VI-2
SECTION 4(f) IMPACTS BY ALTERNATE AND RESOURCE
(In acres)

Section 4(f) Resource	Resource Size	Alternate 1	Alternate 2	Alternate 3A/B	Alternate 4A/B	Alternate 5A/B	Alternate 5C
Park Resources:							
Malcolm King Park	72.9	0	0	0.49	0.49	0.49	0.58
Morris Park	37.2	0	0	0	0	0	0.99
Seneca Creek State Park	6,290	0	0	10.47	10.47	10.47	8.49
Middlebrook Hill Park	12	0	0	1.90	1.90	1.90	1.90
North Germantown Greenway & Little Seneca Greenway	197	0	0	0.66	0.66	0.66	0.66
Black Hill Regional Park	1,855	0	0	6.98	6.98	6.98	6.98
Little Bennett Regional Park	3,648	0	0	0	0	0.02	0.02
Urbana Lake Fish Management Area	70	0	0	0.41	0.41	0.85	0.85
Urbana Elementary School	21	0	0	1.81	1.81	2.41	2.41
Urbana Community Park	20	0	0	0.15	0.15	0.33	0.33
Monocacy National Battlefield[1]	1,647	0	0	11.74	11.74	17.69	22.52
Baker Park	44	0	0	1.27	1.27	1.27	1.27
Rose Hill Manor Historic Park[2]	43	0	0	0.88	0.88	0.88	0.88
Park Resource Impact Subtotal		0	0	36.76	36.76	43.95	47.88
Cultural Resources:							
England/Crown Farm, M20/17	76	0	0	Adverse Effect	Adverse Effect	Adverse Effect	No Effect
Belward Farm, M20/21	124	0	0	Adverse Effect	Adverse Effect	Adverse Effect	No Effect
Monocacy National Battlefield, F3-42	1,647	0	0	Adverse Effect	Adverse Effect	Adverse Effect	Adverse Effect
Rose Hill Manor, F3-126	43	0	0	Adverse Effect	Adverse Effect	Adverse Effect	Adverse Effect
Birely-Roelkey Farmstead, F-3-134	114	0	0	Adverse Effect	Adverse Effect	Adverse Effect	Adverse Effect
Section 4(f) Impact Totals		0	0	36.76	36.76	43.95	47.88

Notes: Impacts represent use of 2:1 slope design for roadway embankments. Coordination is ongoing with the Maryland State Historic Preservation Officer See Effect Determination letter dated February 15, 2002.

alternate for the project at the autumn worksession and identify those discrepancies described in the following text that should be addressed in a Master Plan amendment. Master Plan amendments for this project could be incorporated into either the upcoming Gaithersburg Vicinity Master Plan and Shady Grove Sector Plan amendment processes, or the Master Plan of Highways amendment proposed by Council staff for formalizing Transportation Policy Report recommendations.

Five area master plans contain recommendations for the Montgomery County portion of the study area and described both I-270 and the CCT:

- Shady Grove Transit Area Sector Plan (1977)
- Gaithersburg Vicinity Master Plan (1985)
- Germantown Master Plan (1989)
- Shady Grove Study Area Master Plan (1990)
- Clarksburg Master Plan (1994)

Further discussion on master plan consistency is divided into independent discussion recommendations for the CCT and I-270:

CCT Alignment, Stations, and Yard & Shop facilities

The CCT alignment is generally consistent with the area master plans. The Shady Grove Study Area, Germantown, and Clarksburg Master Plans all include CCT alignment recommendations. The DEIS exceptions to these recommendations are generally minor and localized in nature.

The Germantown and Clarksburg Master Plans recommend CCT station locations, but do not contain comprehensive recommendations for particular station designs or facilities (such as parking lots). In addition to the Master Plan recommendations, the alternates developed for the DEIS consider the DPWT Shady Grove-Clarksburg Transitway Studies completed in two phases in the early to mid 1990s. For instance, in Germantown, the DEIS includes the Middlebrook station considered in the County study in lieu of the Master Plan recommendation for a potential station at what is now the New Covenant Fellowship Church site.

Staff remains concerned that the study does not include CCT service to the Clarksburg Town Center. The state response to prior staff, County Council, and civic group requests to study an extension of the CCT to or through the Clarksburg Town Center is that COMSAT is the most practical terminal station for this study because forecast 2025 ridership is not high enough to justify further extension and the Clarksburg Town Center land use plans are inconsistent with an end-of-line transit station, where high levels of parking demand will occur. Of course, because the Clarksburg Master Plan provides for an end-state CCT alignment extending into Frederick County, none of the stations are master planned as terminal stations.

The state has encouraged continued local planning for transitway alignment extension to the city of Frederick. In this vein, the completion of the CCT to and through Clarksburg might be viewed as an implementation or phasing issue. Staff remains concerned, however, about the long term land use effects of any interim terminus, recognizing that the Shady Grove Metrorail Station was planned as an interim terminus.

Staff will continue to work with the state during the FEIS process to identify the likely timeframes that might be associated with full CCT implementation into Frederick County as well as means by which the Clarksburg Town Center could best be linked with the COMSAT CCT station.

The Master Plans are silent on the desirable locations for yard and shop facilities. The DEIS identifies several potential locations at three station areas; Shady Grove, Metropolitan Grove, and COMSAT. Coordination with the planning effort for the I-270 Corridor Master Plans will help guide staff recommendations on the best location. Once a preferred CCT alternate has been selected, it will be desirable to incorporate more detailed land use recommendations for stations and yard and shop facilities in the upcoming I-270 Corridor Master Plan updates.

I-270 cross-section and interchanges

Exhibit 8 provides a segment-by-segment comparison between the Master Plan guidance and DEIS alternates. As described above, the only clear violation of Master Plan guidance is the addition of both a general purpose travel lane and an HOV lane on the portion of I-270 north of MD 121 in Alternate 5A/B/C. The Clarksburg Master Plan recommends limiting the I-270 cross-section to six lanes north of Comus Road because provision of additional roadway capacity may reduce transit demand between Frederick County and Montgomery County and because the additional travel demand may result in Clean Air Act standard violations.

There are other locations where staff will clarify Master Plan guidance at the autumn worksession:

- South of Newcut Road in Clarksburg, Alternates 3 and 4 contain 8 lanes for general purpose travel and 2 HOV lanes, inconsistent with the Clarksburg plan recommendations for 6 lanes plus HOV lanes. In this case, the additional lanes are required as part of the transition to the collector-distributor (C-D) roadway system beginning at Father Hurley Boulevard.

- The Clarksburg Master Plan describes proposed interchange design concepts for the I-270 interchanges at Newcut Road and MD 121. The DEIS design at Newcut Road is substantially different, but is sensitive to minimizing environmental and parkland impacts. Staff is coordinating with both SHA and Corps of Engineers staff regarding Newcut Road alignment questions and expect the Newcut Road interchange design to be the subject of further analysis to apply to both the I-270 study process and the development review process. At MD 121, two potential

Exhibit 8. I-270 Cross Sections - Master Plan Consistency

Location	Existing	Master Plan	Master Plan Area	I-270 / US 15 Multi-Modal Corridor Study		
				Alternative 3A/B	Alternative 4A/B	Alternative 5A/B/C
Frederick County Line						
	4 lanes	6 lanes +CD lanes	Clarksburg	4 lanes + 2 HOV	6 lanes	**6 lanes + 2 HOV**
Comus Rd.						
	4 lanes	6 lanes + HOV +CD lanes	Clarksburg	4 lanes + 2 HOV	6 lanes	6 lanes + 2 HOV
Clarksburg Rd. (MD 121)						
	5 lanes + 1 HOV	6 lanes + HOV +CD lanes	Clarksburg	**8 lanes + 2 HOV**	**8 lanes + 2 HOV**	**8 lanes + 2 HOV**
Little Seneca Creek						
	5 lanes + 1 HOV	8 lanes + CD lanes	Germantown	6 lanes + 2 HOV +6CD (4-2)	6 lanes + 2 HOV +6CD (4-2)	6 lanes + 2 HOV +6CD (4-2)
Germantown Rd. (MD 118)						
	7 lanes + 1 HOV	8 lanes + CD lanes	Germantown	6 lanes + 2 HOV + 6 CD (3-3)	6 lanes + 2 HOV + 6 CD (3-3)	6 lanes + 2 HOV + 6 CD (3-3)
Great Seneca Creek						
	7 lanes + 1 HOV	8 lanes + CD lanes	Gaithersburg	6 lanes + 2 HOV + 6 CD (3-3)	6 lanes + 2 HOV + 6 CD (3-3)	6 lanes + 2 HOV + 6 CD (3-3)
MD 124/ Quince Orchard Rd.						
	7 lanes + 1 HOV 2 CD	8 lanes + CD lanes	Gaithersburg	6 lanes + 2 HOV + 5 CD (3-2)	6 lanes + 2 HOV + 5 CD (3-2)	6 lanes + 2 HOV + 5 CD (3-2)
MD 117						
	7 lanes + 1 HOV 2 CD	8 lanes + CD lanes	Gaithersburg	6 lanes + 2 HOV + 7 CD (4-3)	6 lanes + 2 HOV + 7 CD (4-3)	6 lanes + 2 HOV + 7 CD (4-3)
I-370						

* inconsistent sections shown in **bold**

new ramps are not shown in the DEIS, primarily because analysis indicates that the current configuration (with the addition of selected turn lanes) will perform adequately in the year 2025.

- The typical I-270 cross-sections shown in Exhibit 8 and Attachment A indicate that in several locations, the collector-distributor (C-D) lanes are three lanes wide. The Master Plans do not describe the number of lanes in the C-D system, although staff agrees with the state position that the C-D lanes should generally consist of two through lanes, and that the third lane shown in the DEIS is an auxiliary, or "weaving" section lane where required between adjacent interchanges, consistent with the design of the existing C-D lane system.

Transportation Policy Report Consistency

The Planning Board recommends implementation of the CCT and improvements to I-270 in the January 15, 2002 *Montgomery County Planning Board's Transportation Policy Report* (TPR). The County Council initiated worksessions covering TPR recommendation review on July 9 and is scheduled to vote on a subsequent work program to initiate a Master Plan of Highways amendment process on July 23. Therefore, at production time for this memorandum, the TPR is not adopted County Council policy. The TPR does, however, remain the Planning Board's position until directed differently by the County Council.

The TPR recommends:

- Implementation of fixed-guideway transit along the CCT from Shady Grove Metro to Clarksburg Town Center. The LRT and BRT options considered in the DEIS are generally consistent with this recommendation, although the DEIS sites the COMSAT station, rather than the Clarksburg Town Center, as the northern terminus. The TPR does not recommend either LRT or BRT as the preferred transit mode.

- Extension of three general purpose lanes and two HOV lanes on I-270 northward as far as MD 121

- Extension of two HOV lanes on I-270 northward from MD 121 to I-70.

- Implementation of the I-270 interchanges with Watkins Mill Road Extended and Newcut Road.

In summary, Alternates 3A/3B are most consistent with the TPR recommendations.

5) Implementation and Phasing

SHA and MTA staff suggest that the nearly $3 billion in capital improvements being considered for the corridor preclude implementation as a single project. Rather, to smooth the feasibility of both funding and construction impacts, the recommended improvements will likely be phased as a series of projects.

The Planning Board's priorities as described in the TPR include:

- Building the southern section of the CCT from Shady Grove Metrorail to an interim terminus, and

- Building I-270 HOV lanes as far north as the Frederick County line.

The FEIS will include an examination of phasing options for implementation of the recommended package of improvements. The DEIS does not provide information on phasing, but information on capital costs and existing and forecast congestion is available to allow staff to suggest implementation priorities that provide the biggest bang for the buck early in the implementation process.

6) Yard and Shop Locations

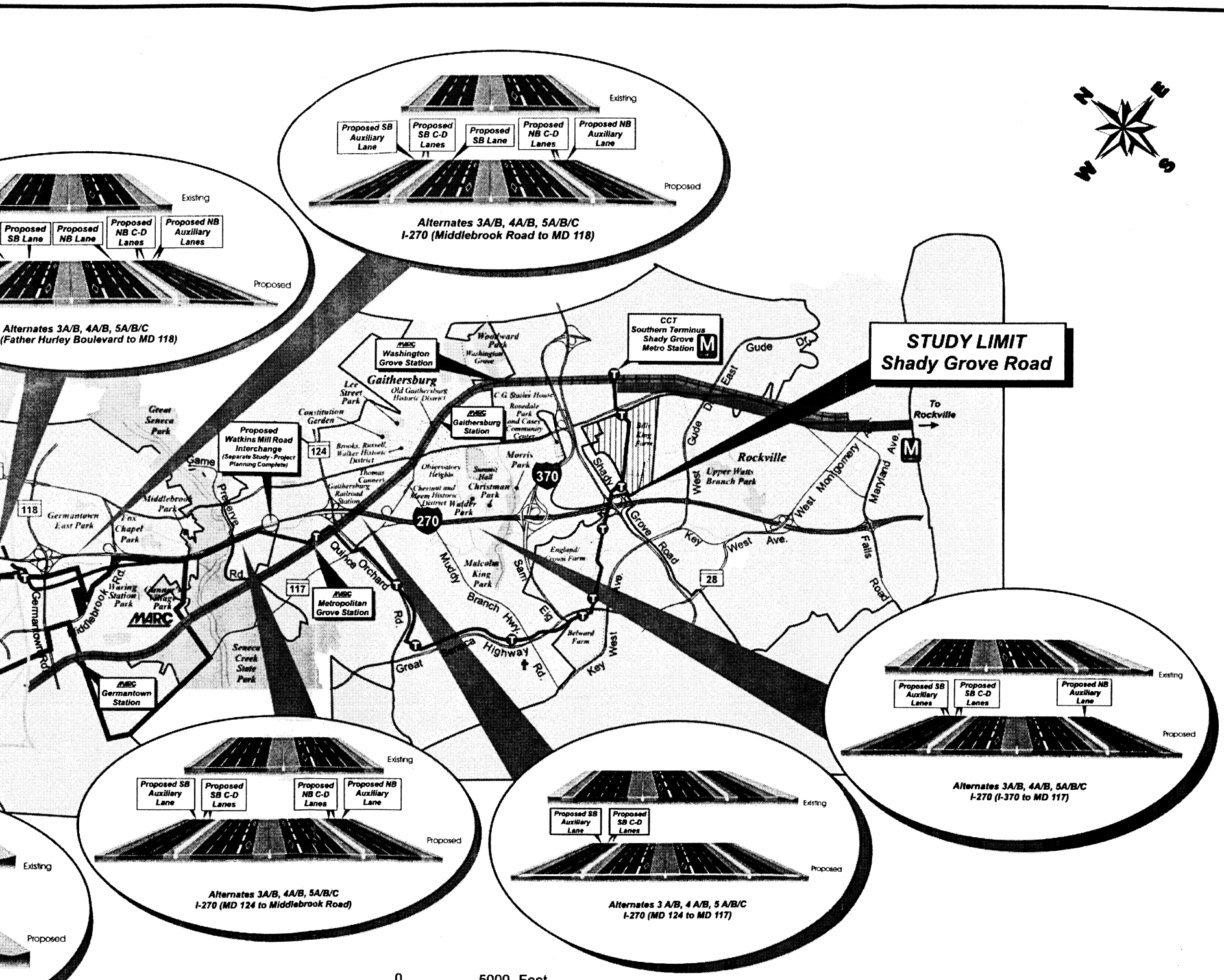
The development of storage and maintenance facilities locations must be addressed for either the LRT or BRT options. The DEIS identifies nine potential sites for further study; four in the vicinity of the Shady Grove station; three in the vicinity of Metropolitan Grove station, and two in the vicinity of the proposed COMSAT station.

Staff recommendations on the yard and shop locations must first consider the phasing plan; a COMSAT yard and shop location is not feasible if the first phase of the CCT will terminate at Metropolitan Grove. Staff will also consider compatibility with adjacent existing and planned land uses, particularly current development plans for the Parklands development at Metropolitan Grove and initial concepts considered for the Shady Grove Sector Plan.

DKH:cmd

Attachments

I-270-US 15 DEIS MDOT Project memo to MCPB.doc



I-270 / US 15 MULTI-MODAL