I-270 / US 15 Multi-Modal Corridor Study

Project Status Briefing

Planning Board

of the

Maryland-National Capital Park

and Planning Commission

April 30, 2009

Presentation Outline

- Introduction / Background
- I-270/US 15 Alternatives
- Corridor Cities Transitway Alternatives
- Next Steps

Study Area

- Multi-Modal Study by SHA and MTA for MDOT
- Project Team with SHA, MTA, Counties and Cities
- 30 +/- miles of Limited Access Highway
- 1.5 miles of New Alignment Highway (MD 75)
- 14 +/- mile Transitway

Purpose And Need

Purpose

- To investigate options that address congestion and improve safety along the I-270/US 15 Corridor due to existing and projected growth within the corridor.

Need

- The I-270/US 15 Corridor provides an essential connection between the Washington DC metropolitan area and central and western Maryland. It is an essential corridor for carrying local and long distance trips, both within and beyond the corridor.

Recent Timeline

- June 2002: Location/Design Public Hearings (DEIS)
- Fall 2003: MDOT Requested Managed Lanes Evaluation
- June 2004: Public Information Meeting on Express Toll Lanes (ETL's) and Minimization Options/Refinements
- 2005 – 2008: Engineering/Environmental Studies
- Spring 2009: Public Hearings (AA/EA)

Changes Since 2002

- Managed Lanes – Evaluate Feasibility
- FHWA/FTA Guidance
  - Alternatives Analysis (AA)
  - Transit Modeling
  - NEPA Documentation
- Alternatives
  - Travel Forecast ⇒ 2030
  - Reconfigured I-270/MD 85 Interchange
  - Reconfigured I-270/I-370 Interchange

Changes Since 2002

- Alternatives (cont.)
  - Detailed Avoidance/Minimization Studies
    - Monocacy National Battlefield
    - Fox Chapel neighborhood (Germantown)
  - Advanced US 15/Monocacy Blvd. Interchange
- Impact Analysis for ETL Alternatives
  - Air, Noise, Communities, Cultural, Natural, Traffic

Corridor Alternatives

DEIS

Alt. 1: No-Build Alternative

Alt. 2: TSM/TDM Alternative

Alt. 3A: MP HOV w/LRT
Alt. 3B: MP HOV w/ BRT

Alt. 4A: MP GPL w/LRT
Alt. 4B: MP GPL w/BRT

Alt. 5A: Enhanced MP HOV/GPL w/LRT
Alt. 5B: Enhanced MP HOV/GPL w/BRT
Alt. 5C: Enhanced MP HOV/GPL w/Premium Bus

EA

Alt. 6A: Enhanced MP w/1 ETL/LRT

Alt. 6B: Enhanced MP w/1 ETL/BRT

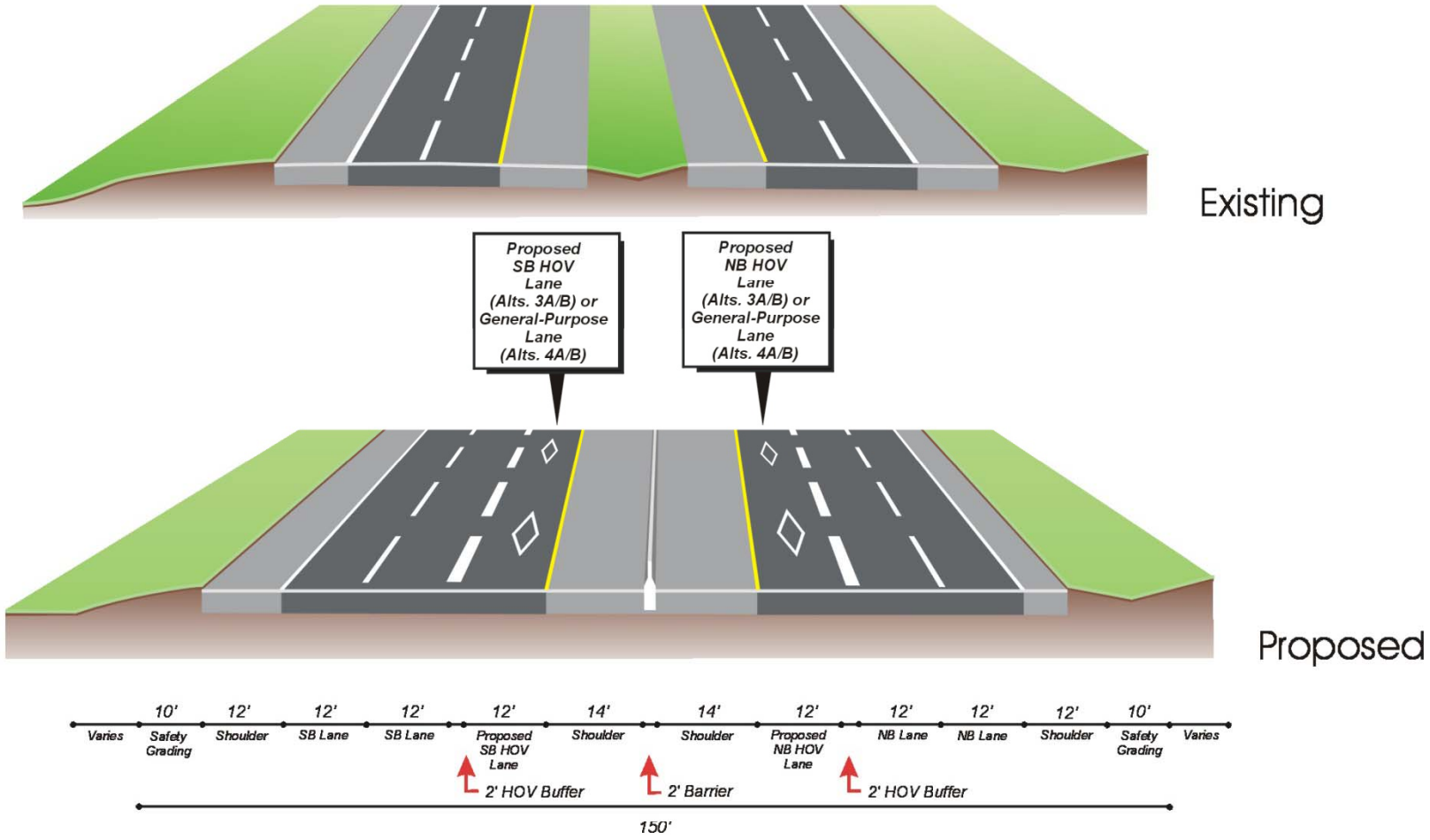
Alt. 7A: Enhanced MP w/2 ETL/LRT
Alt. 7B: Enhanced MP w/2 ETL/BRT

MP = Master Plan

HOV = High Occupancy Vehicle Lane
GPL = General-Purpose Lane

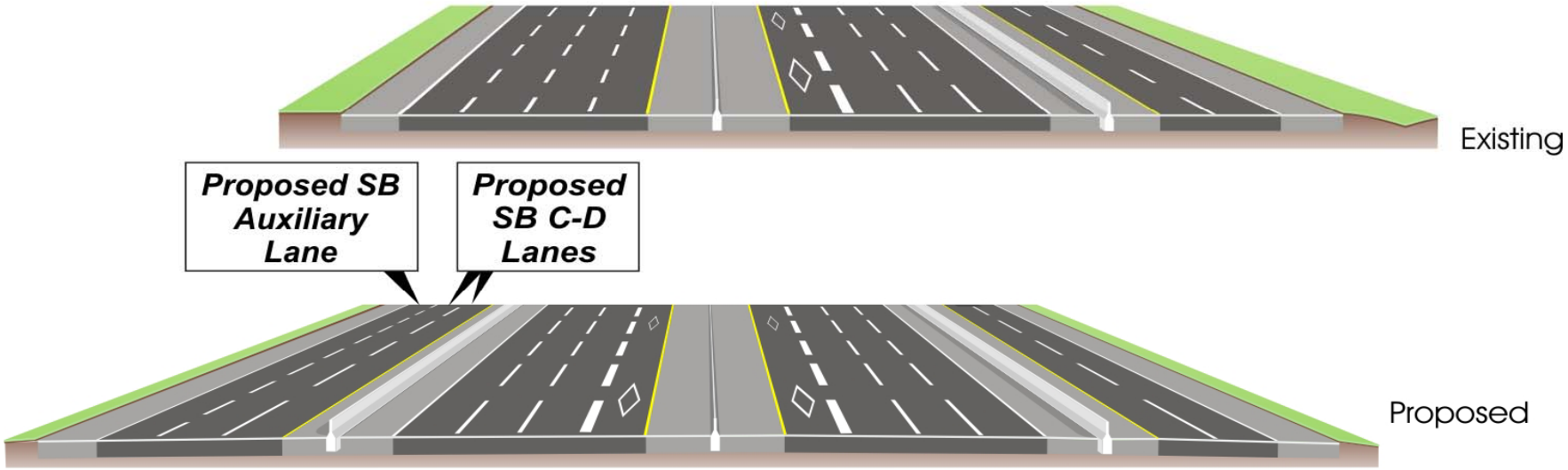
LRT = Light Rail on the CCT
BRT = Bus Rapid Transit on the CCT

DEIS Alternatives 3A/B and 4A/B



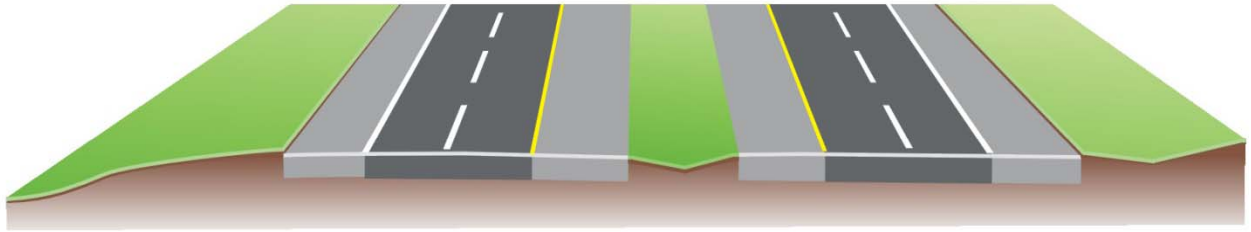
Alternatives 3A/B, 4A/B
I-270 (MD 121 to MD 85)

DEIS Alternatives 3A/B and 4A/B

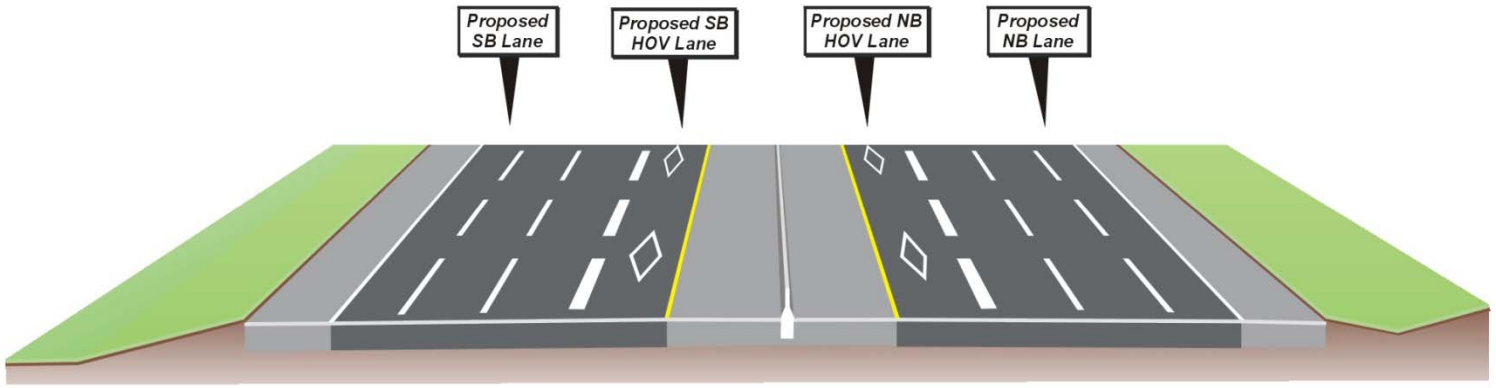


Alternatives 3A/B, 4A/B, 5A/B/C
I-270 (MD 124 to MD 117)

DEIS Alternatives 5A/B and 5C



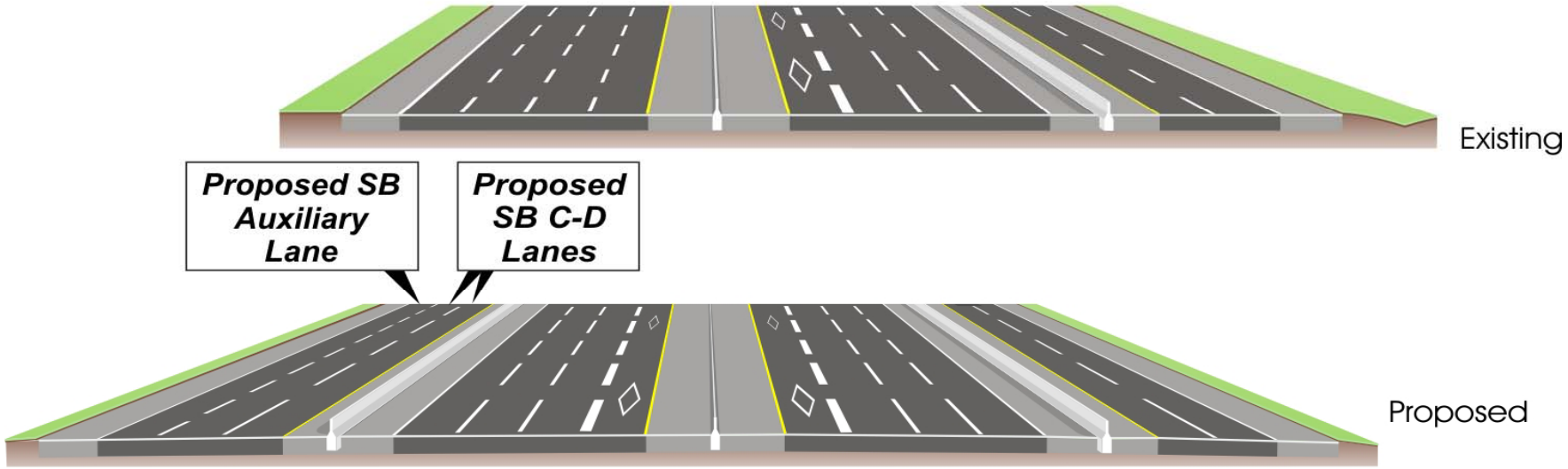
Existing



Proposed

Alternatives 5A/B/C
I-270 (MD 121 to MD 85)

DEIS Alternatives 5A/B and 5C



Alternatives 3A/B, 4A/B, 5A/B/C
I-270 (MD 124 to MD 117)

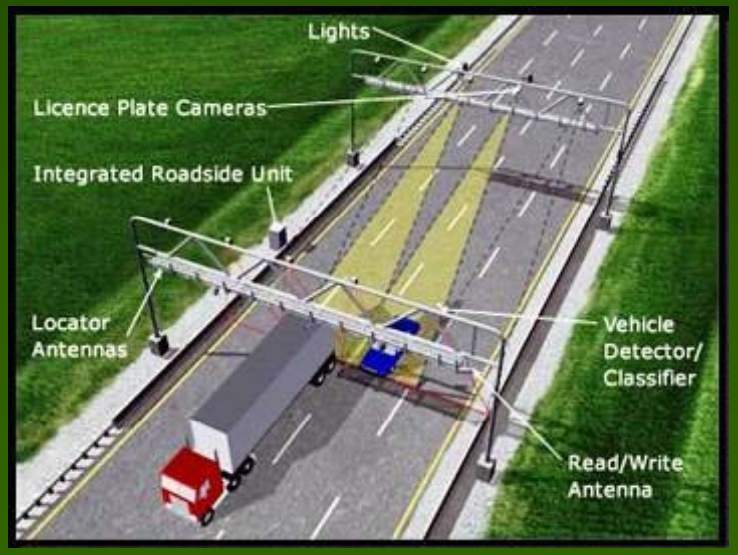
Express Toll Lanes

- ETLs are the latest type of “Managed Lanes”.
  - Other types of managed lanes include HOV, Truck only, Transit only, and HOT lanes.
- Provides needed highway capacity to address congestion through an alternative funding strategy (toll financing) much sooner than traditional funding approaches allow.

Express Toll Lanes

Objectives:

- Offer Reliable and Predictable Travel Times and Choices
- Promote Transit Solutions/Carpooling
- Build Sustainable Highway Capacity Sooner
- Develop an Integrated Highway System that Optimizes Efficiency and Maximizes Flexibility
- Capture Air Quality and Other Environmental Benefits
- Improve Incident Response Time
- Take Advantage of Technology: Electronic Toll Collections



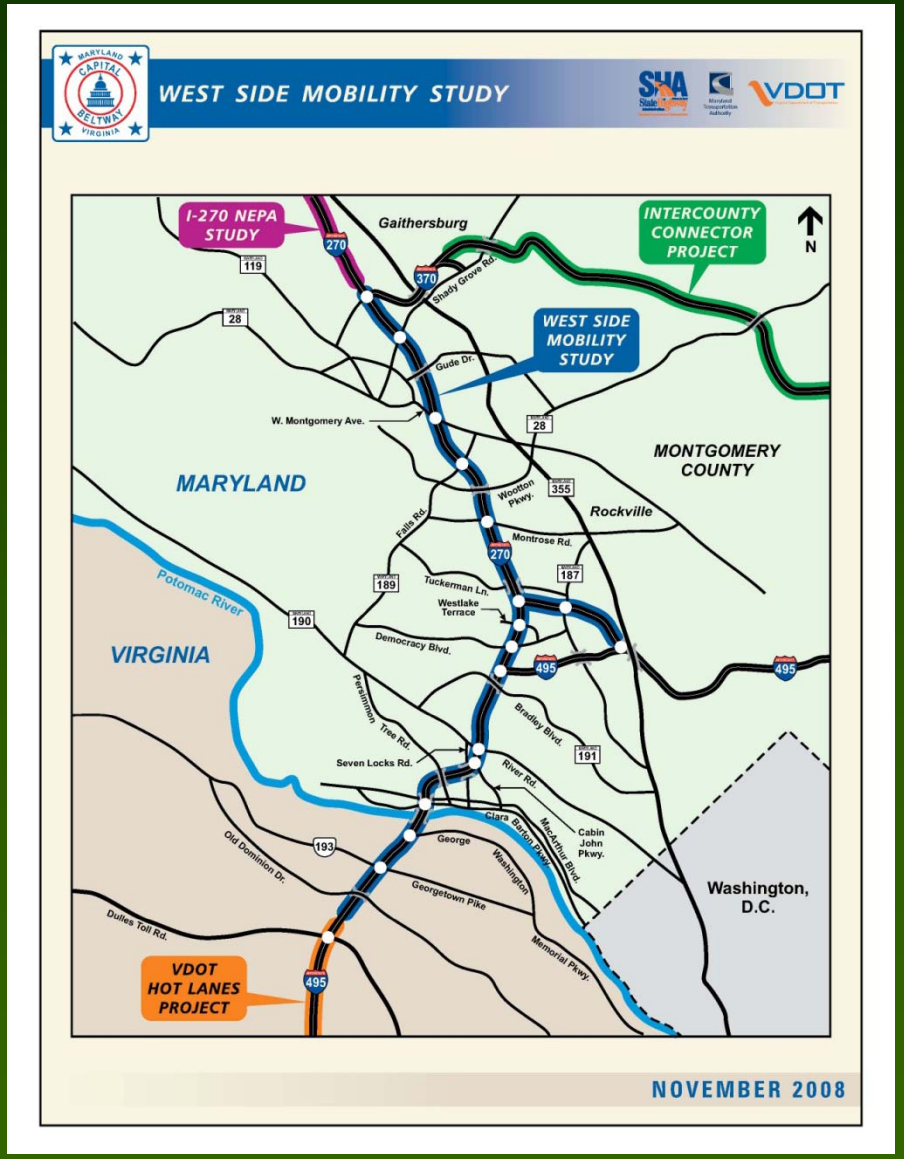
Express Toll Lanes

- MDOT's Goal: Develop a Statewide ETL system that optimizes efficiency and flexibility.
- Express Toll Lanes are being considered on controlled access highways experiencing chronic congestion during peak travel times.
- Two Projects Under Construction in Maryland
- Ongoing Project Development Studies:
  - I-270
  - I-495/I-95 (Capital Beltway)
  - MD 5
  - 23 Other Corridors Under Consideration

I-270 ETL: Part of a Bigger Picture

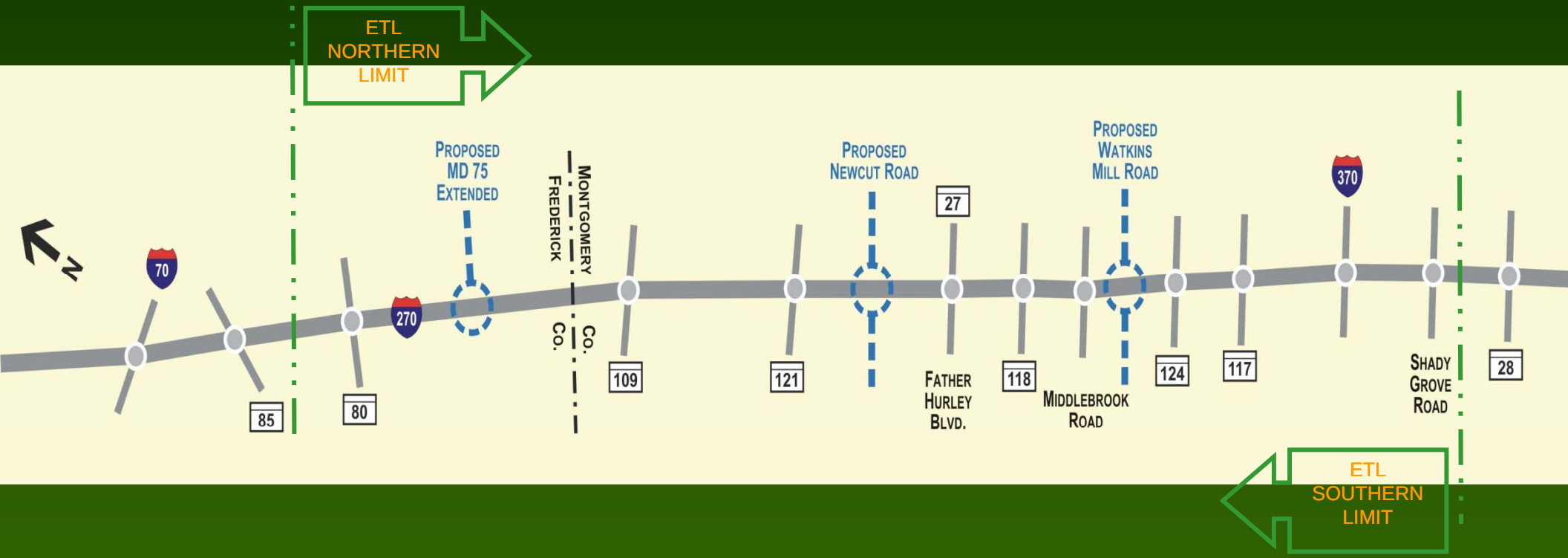
Managed Lane Network would include:

- Virginia HOT Lanes (under construction)
- West Side Mobility Study (feasibility study)
- Intercounty Connector (under construction)
- I-270/US 15 Multi-Modal Study (in planning stage)



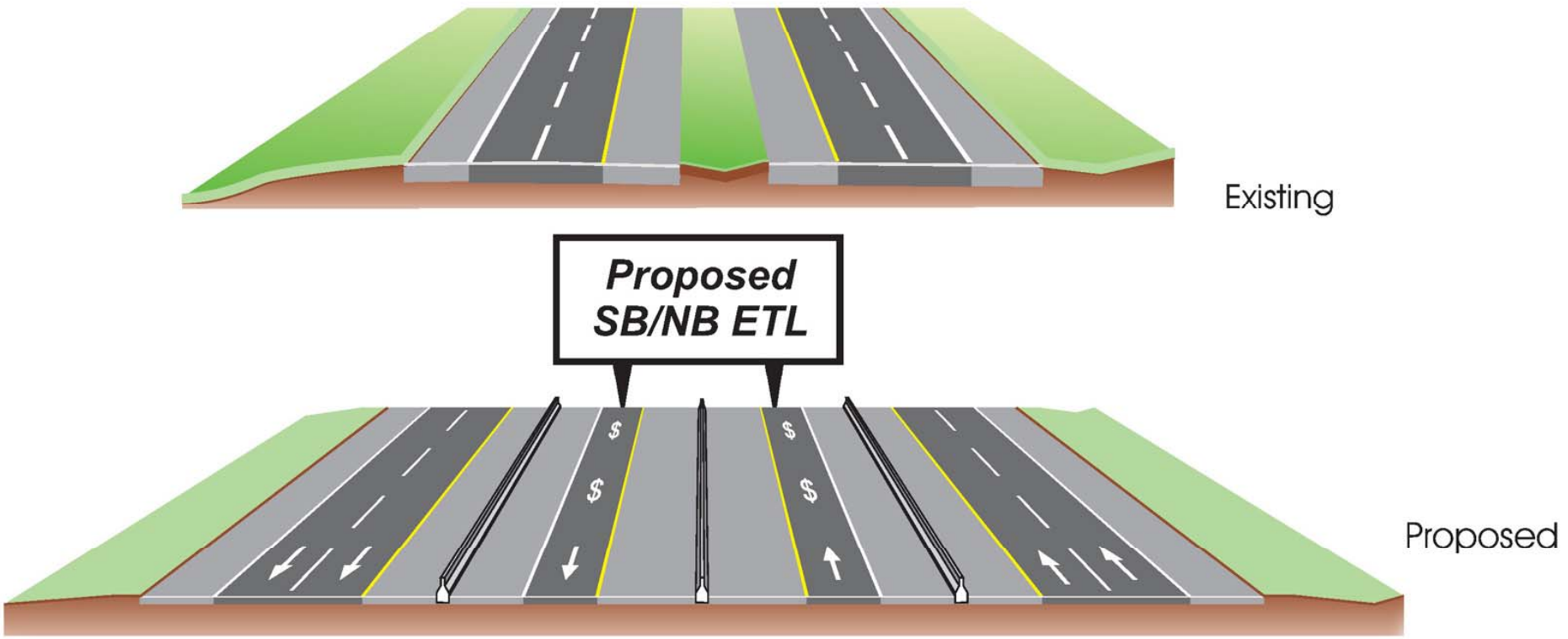
Express Toll Lanes

I-270 ETL Limits



North of MD 80 to South of I-370

EA Alternatives 6A/B

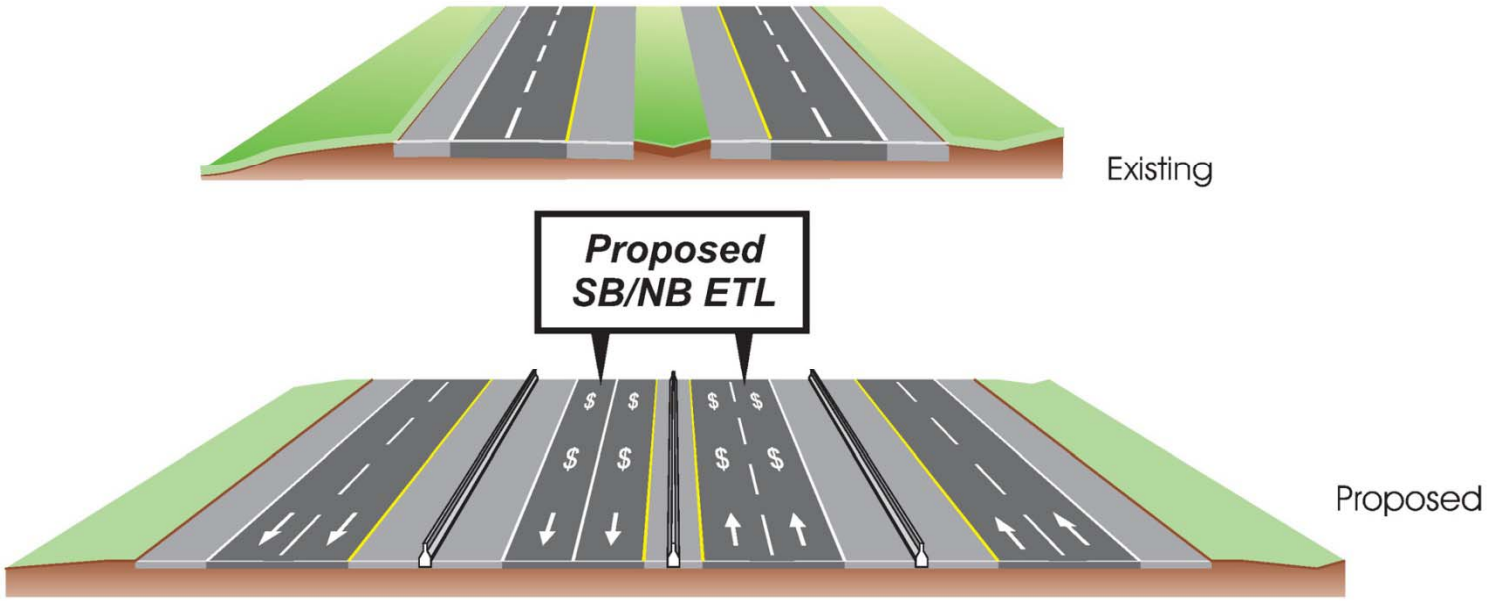


Alternatives 6A/B
MD 121 to ETL Terminus (North of MD 80)

EA Alternatives 6A/B

Alternatives 6A/B and 7A/B
MD 117 to MD 124

EA Alternatives 7A/B



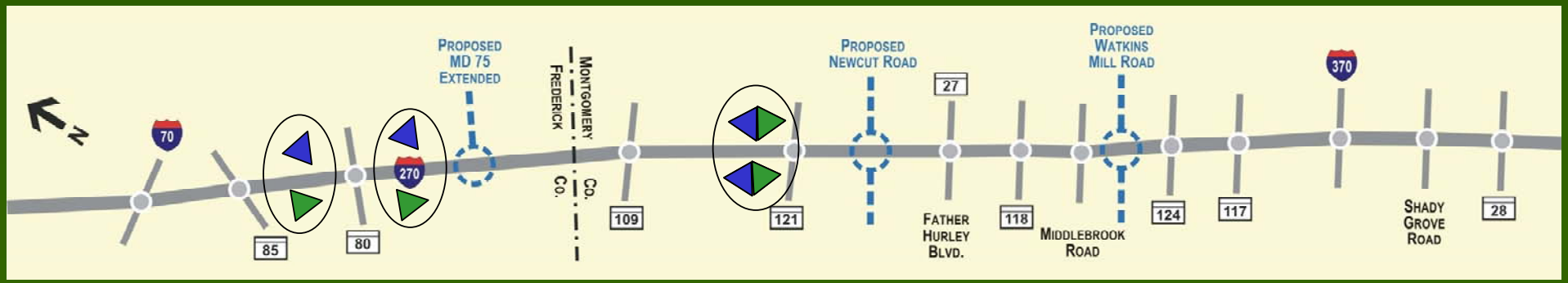
Alternatives 7 A/B
MD 121 to ETL Terminus (North of MD 80)

EA Alternatives 7A/B

Alternatives 6A/B and 7A/B
MD 117 to MD 124

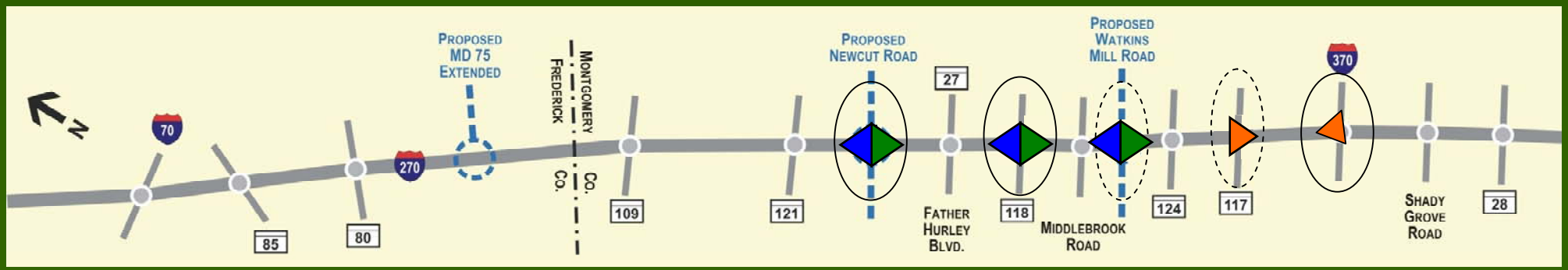
I-270 ETL Northern Access

- Vehicles will access the ETL lanes via open access slip ramps in the following areas:
  - Northern Terminus
  - South of MD 80 (slip ramps)
    - I-270 Southbound GP to ETL (entry)
    - I-270 Northbound ETL to GP (exit)
  - North of MD 121 (slip ramps)
    - I-270 Southbound ETL to GP and GP to ETL
    - I-270 Northbound ETL to GP and GP to ETL



I-270 ETL Southern Access

- Vehicles will access the ETL lanes via **Direct Access Ramps** from these Interchanges:
  - Newcut Road (NB/SB)
  - MD 118 (NB/SB)
  - Watkins Mill Road Area (NB/SB) and/or MD 117 (SB)
  - I-370/ICC (NB to/from EB)



Direct Access Ramp Examples

Highway Capital Costs

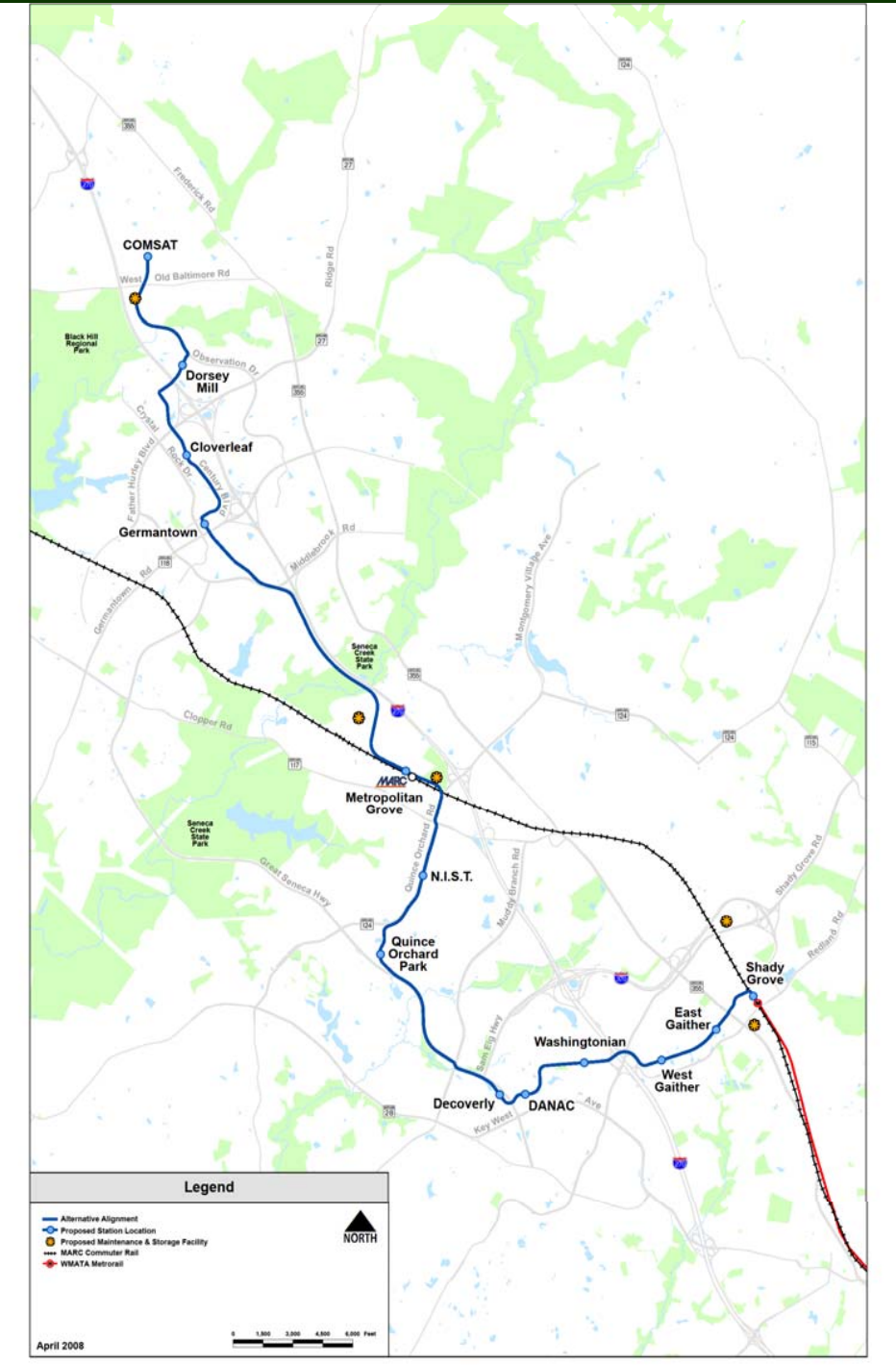
- Highway capital costs have been estimated for roadways, interchanges, structures, earthwork, traffic control and environmental mitigation
- Highway capital costs include final design, right-of-way acquisition and construction
- Current estimate completed in early 2009

Location	Highway Cost
Frederick County	$ 1,472 M
City of Frederick	$ 464 M
Montgomery County	$ 2,642 M

“Breakout” Projects

- I-270/MD 121 Interchange
- I-270/Watkins Mill Road – New Interchange in Gaithersburg (Design phase)
- US 15/MD 26 Interchange – New Northbound On-ramp – Completed 2006
- US 15/Monocacy Boulevard Interchange – New Interchange (Design phase)

CCT Alignment



CCT Alignment

- 17 stations (includes 4 beyond 2025)
- Transit transfers at Metropolitan Grove (MARC), Shady Grove (WMATA Red Line), and local bus
- Access from local streets, I-270 interchanges, and direct access ramps
- Build Alternatives include Light Rail Transit (LRT), Bus Rapid Transit (BRT)
- Transit TSM Alternative features premium bus on I-270 managed lanes (HOV or ETL) with service to CCT stations

King Farm

Metropolitan Grove

Right-of-Way Preservation

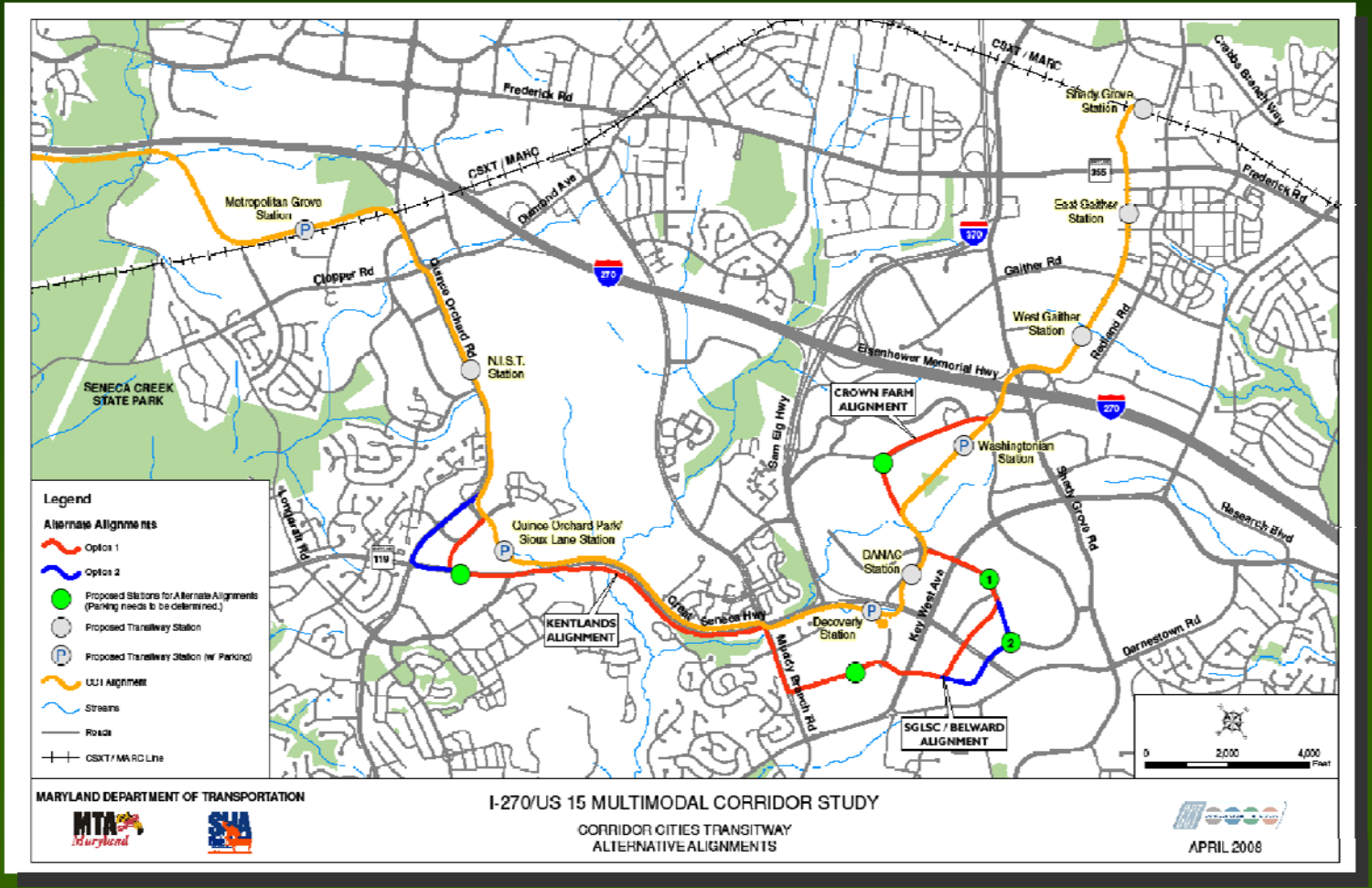
- Montgomery County Master Plans and Sector Plans
- Right-of-Way Status
  - Approximately 35% lies within publicly controlled land (i.e. – within existing street right-of-way or on land dedicated to the transitway)
  - Additional 25% has right-of-way protection through reservation or easement
  - Remaining 40% has no protections at this time
- Preservation/Coordination with Local Jurisdictions
  - MTA reviews development plans to ensure transitway preservation

Operations & Maintenance Facility

- Needed for both LRT or BRT
- Site Identification
  - LRT must be adjacent to the transitway
  - BRT must be adjacent or within a reasonable distance
- Site Layouts
  - LRT – Geometric Constraints and Grades
  - BRT – Optimal Facility Size (phasing)
- 5 Sites Identified and Included in AA/EA (one existing from DEIS and four new)

Alternative Alignments

- Crown Farm, Shady Grove Life Sciences Center/Belward Farm, and Kentlands



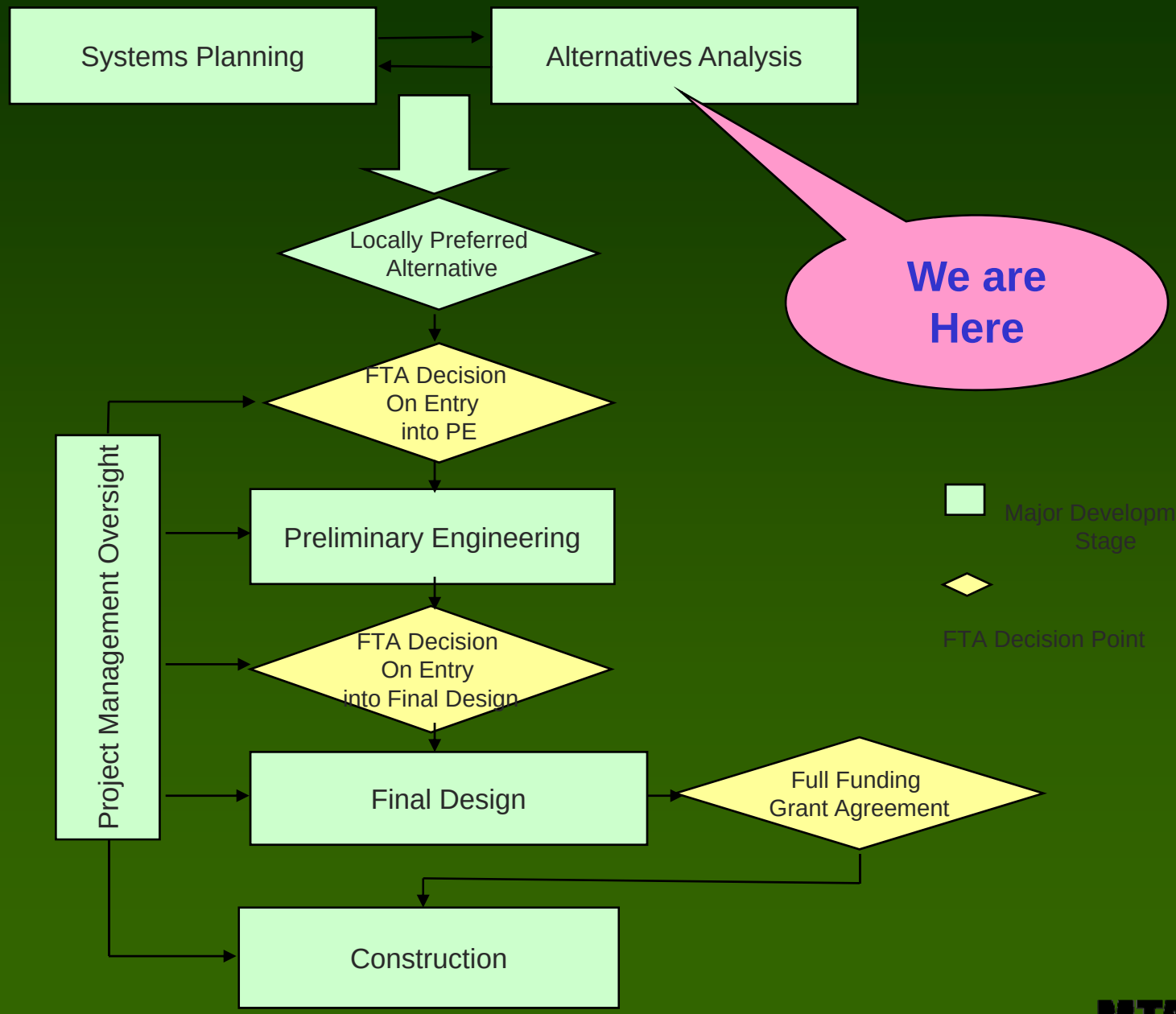
Results Table

CCT Alternatives Preliminary Travel Demand Forecasts & Cost Estimates				
Transit Alternative	**Travel Time Shady Grove to COMSAT (minutes)**	**Ridership (Daily Boardings - 2030)**	**Capital Cost (millions-2007$)**	**Annual Operations and Maintenance Costs (millions-2007$)**
Alt. 6 and Trans. TSM	60	6,000 - 7,000	$86.9	$14.8
Alt. 6 and Light Rail (A)	36	24,000 - 30,000	$777.5	$28.1
Alt. 6 and Bus Rapid (B)	38	21,000 - 27,000	$449.9	$26.8
Alt. 7 and Light Rail (A)	36	24,000 - 30,000	$777.5	$28.1
Alt. 7 and Bus Rapid (B)	38	21,000 - 27,000	$449.9	$26.8

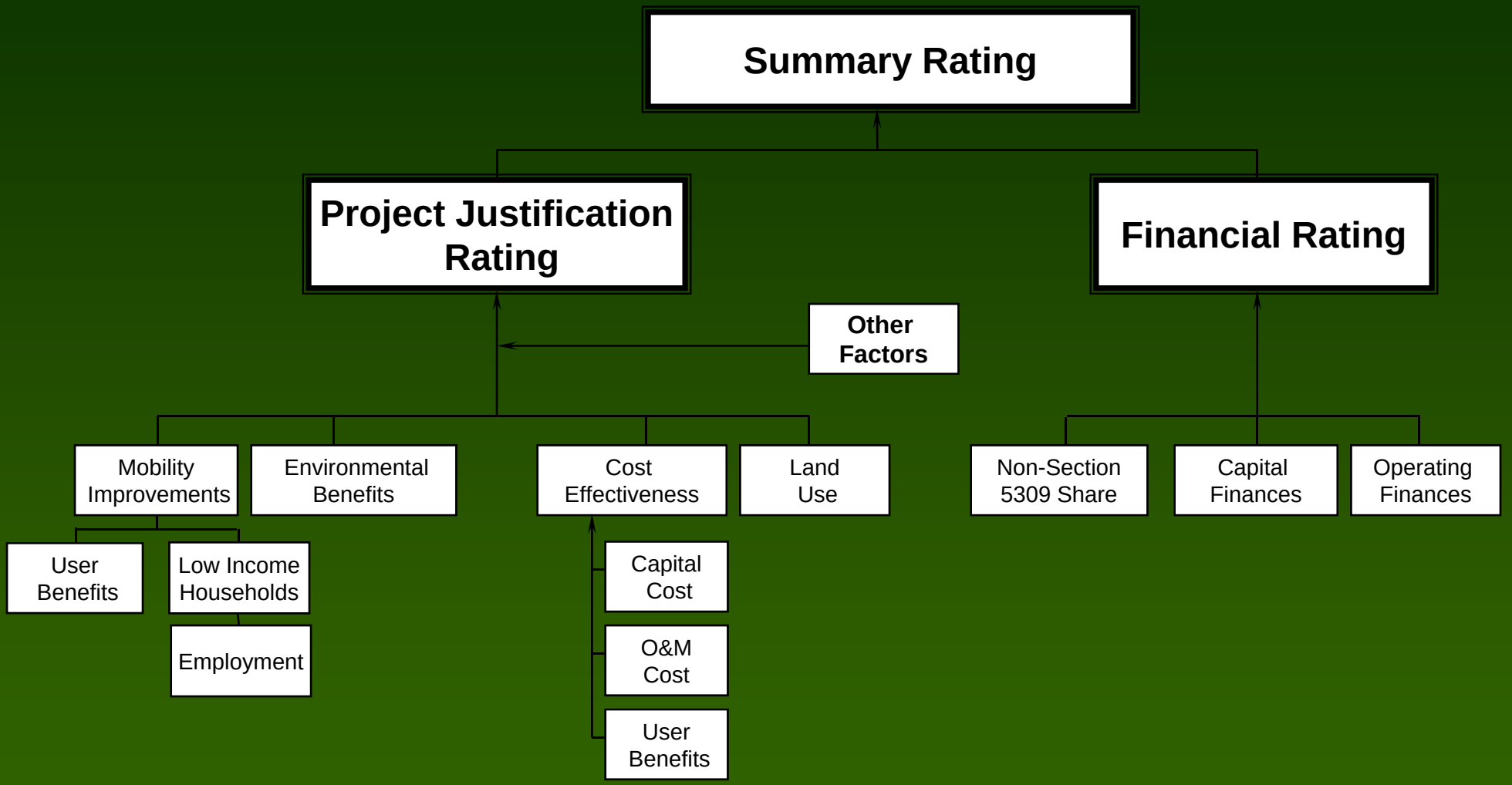
Project Funding

- Federal – Section 5309 New Starts
  - New fixed guideway systems (rail, bus rapid transit)
  - Extensions to existing systems
  - Typically matched at 50%+
  - Project funding decisions made jointly by FTA and Congress – national competition
- State – Transportation Trust Fund
- Local Jurisdictions
- Others

Federal Approval Process



New Starts Criteria



Minimum Project Development Requirements:			
Metropolitan Planning and Programming Requirements	Project Management Technical Capability	NEPA Approvals	Other Considerations

New Starts Evaluation Criteria

- Project Ratings given to two composite measures: project justification and project finance
  - Rating - “high”, “medium high”, “medium”, “medium low”, “low”
- Project Justification
  - Mobility – travel time, transit dependent usage, etc.
  - Cost-effectiveness – ratio of cost to user benefit
  - Land use – transit supportive land use
- Project Finance
  - Amount and reliability of non-federal share of New Starts

Cost-Effectiveness

- Cost-effectiveness ~ 50% of Project Justification rating
- Must get a “medium” rating in cost-effectiveness for a project to be recommended.
- FY 2010 Cost-Effectiveness Rating
  - High less than or equal to$11.99
  - Medium-High between $12.00 and $15.99
  - Medium between $16.00 and $24.49
  - Medium-Low between $24.50 and $30.49
  - Low Greater than or equal to $30.51

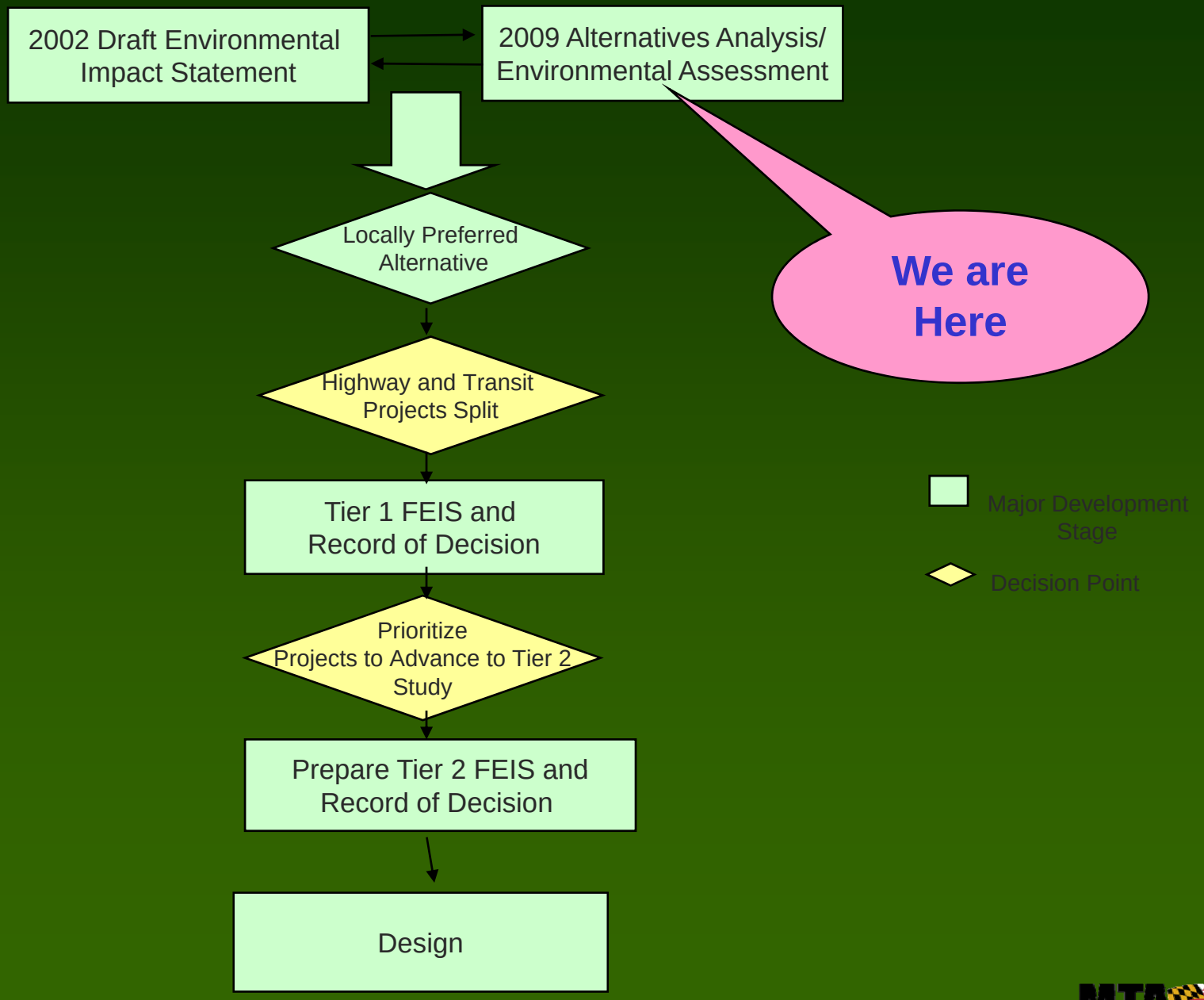
Cost Effectiveness Results

	A	B	C	D
	Total Capital Costs (2007 dollars)	**Annualized Capital Costs (2007 dollars)**	**Annual Operating Costs (2007 dollars)**	**Annual User Benefit (Hours)**	**Annualized Cost per Hour of User Benefit**
TSM	86,860,000	7,440,700	14,793,000	1,890,000	--
Build Alternatives					
Alternative 6A (LRT)	777,530,000	62,202,400	28,129,000	3,960,000	$32.90
Alternative 6B (BRT)	449,920,000	36,443,500	26,859,000	4,110,000	$18.50
Alternative 7A (LRT)	777,530,000	62,202,400	28,129,000	3,990,000	$32.43
Alternative 7B (BRT)	449,920,000	36,443,500	26,859,000	4,140,000	$18.25

Locally Preferred Alternative

- Multi-modal - highway and transit alternative selection
- Transit Mode Selection - TSM, BRT, LRT
- Consider project phasing - tool for managing costs
- Alternative alignments (CCT)
- Environmental Impacts
- Public Hearing/Document Review process
  - Citizen/community groups
  - Project Team/Local Government
  - FTA/FHWA
  - Environmental agencies
- Cost Effectiveness (CCT)
- Funding/Affordability

Federal Approval Process



Project Schedule

Public Outreach	Ongoing
AA/EA Completion	May 2009
AA/EA Circulation	May 2009 – July 2009
Public Hearing	June 2009
Selection of Preferred Alternative	Fall 2009
Request Entry for PE/New Starts Submission (Transit)	Late 2009
PE/FEIS Completion	TBD
Initiate Final Design	TBD
Start Construction	TBD

Public Outreach

- Project Newsletter
- Available for Project Briefings to Local Neighborhoods/Organizations
- Briefings to City/County Staff
- Briefings to City/County State Elected Officials prior to Spring 2009 Public Meetings
- Website : www.i270multimodalstudy.com

Next Steps

- Continue agency coordination and public outreach
- Conduct review process
- Hold public hearings
- Select cost effective, affordable Locally Preferred Alternative
- Secure non-federal funding
- Secure federal funding

Thank You

Questions/concerns or for additional information:

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