SOUTHERN MARYLAND RAPID TRANSIT

Welcome

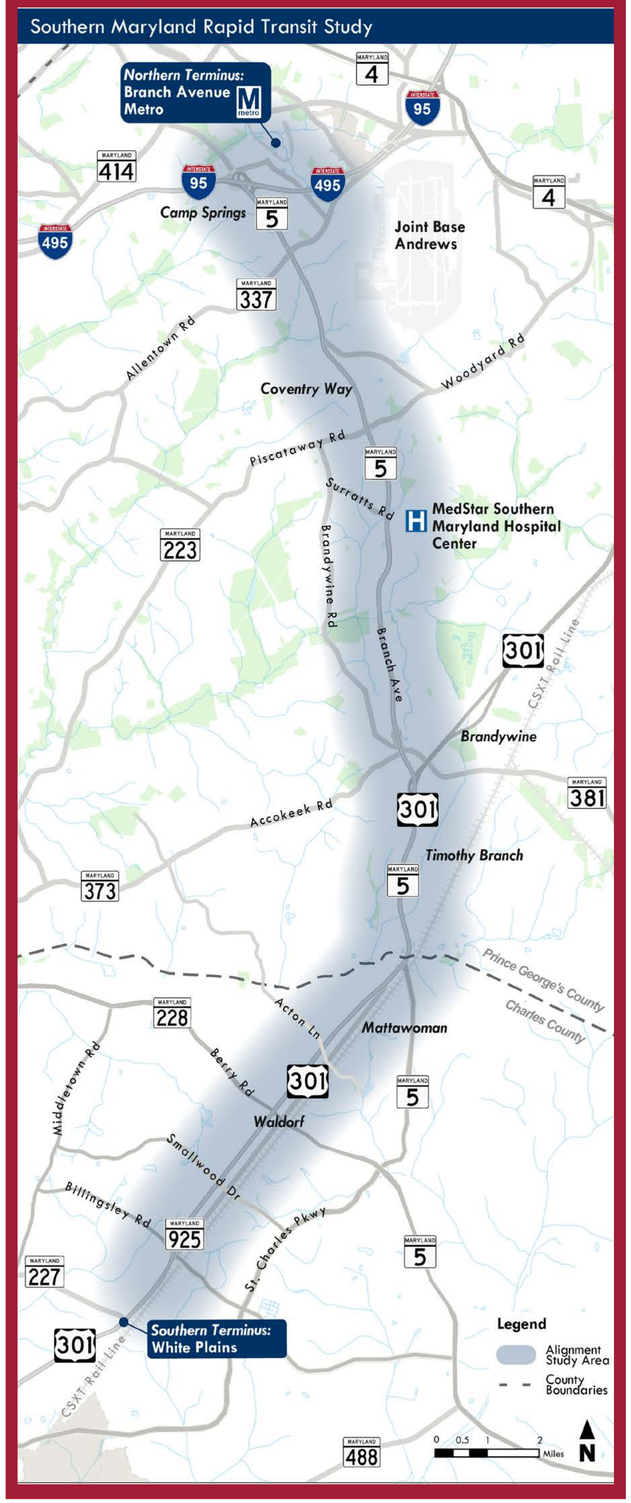
Southern Maryland Rapid Transit (SMRT) Planning and Environment Linkages (PEL) Study

Open House

SMRT Study

- A partnership between the Maryland Transit Administration (MTA), Charles County and Prince George's County
- Will evaluate rapid transit improvements along the study corridor
  - Approximately 19 miles along the MD 5 (Branch Avenue)/ US 301 (Crain Highway) corridor
  - Located between the Branch Avenue Metrorail Station in Prince George's County and the Waldorf-White Plains area in Charles County

STUDY AREA



WE ARE HERE

2010 — Southern Maryland Corridor Preservation Study

2016 — Core Vision Plan and Draft Environmental Inventory

2017 — Previous "2017" Report Completed

2023 — HB 410 passed into law authorizing this PEL Study and subsequent NEPA initiation

2024 — PEL Study Initiated

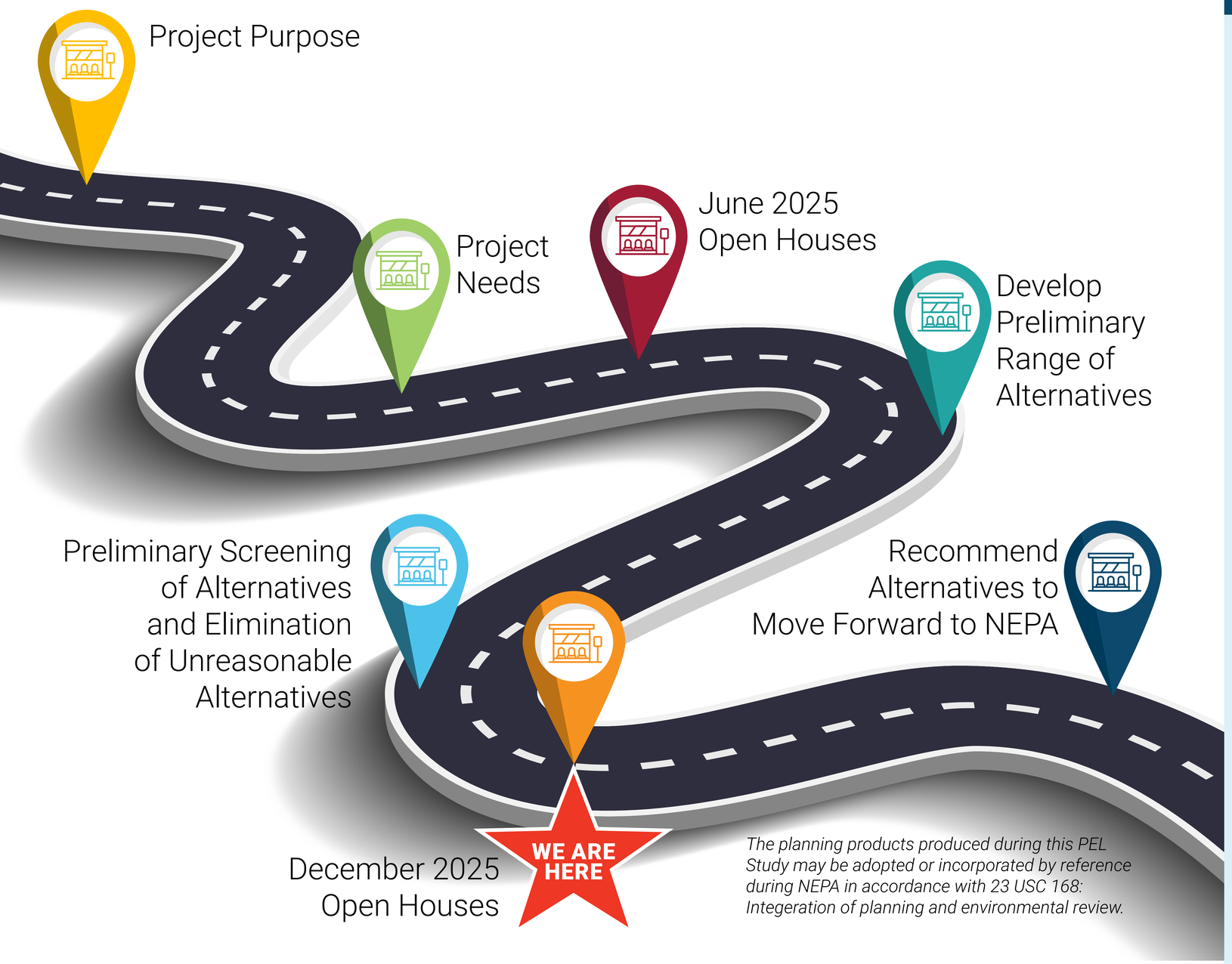
2026 — PEL Report

2028 — NEPA Complete

SOUTHERN MARYLAND RAPID TRANSIT

Planning and Environment Linkages (PEL)

What is the PEL process?



The planning products produced during this PEL Study may be adopted or incorporated by reference during NEPA in accordance with 23 USC 168: Integeration of planning and environmental review.

Why use PEL?

- Accelerated Project Delivery
- Early Public & Stakeholder Involvement
- Elimination of Duplicate Work
- Better Communication

SOUTHERN MARYLAND RAPID TRANSIT

Environmental Inventory & Impacts Assessment

- Natural Environmental Resources
- Community Impact Analysis
- Statewide Air Quality Initiatives
- Noise
- Cultural Resources/Section 106
- Air Quality
- Reasonably Foreseeable Effects
- Hazardous Materials

Each discipline will build on the information from the 2017 Report by identifying existing conditions and by evaluating potential effects of the alternatives

Methodology

- Establish protocols for technical analysis

Data Gathering

- Desktop GIS data
- Fieldwork

Technical Report

- Existing conditions
- Potential impacts

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Why is this project needed?

Lack of travel options, traffic congestion, and high crash rates result in **UNRELIABLE TRAVEL** for commuters throughout the corridor

Existing roadway experiences high traffic volumes **BEYOND ITS CAPACITY**

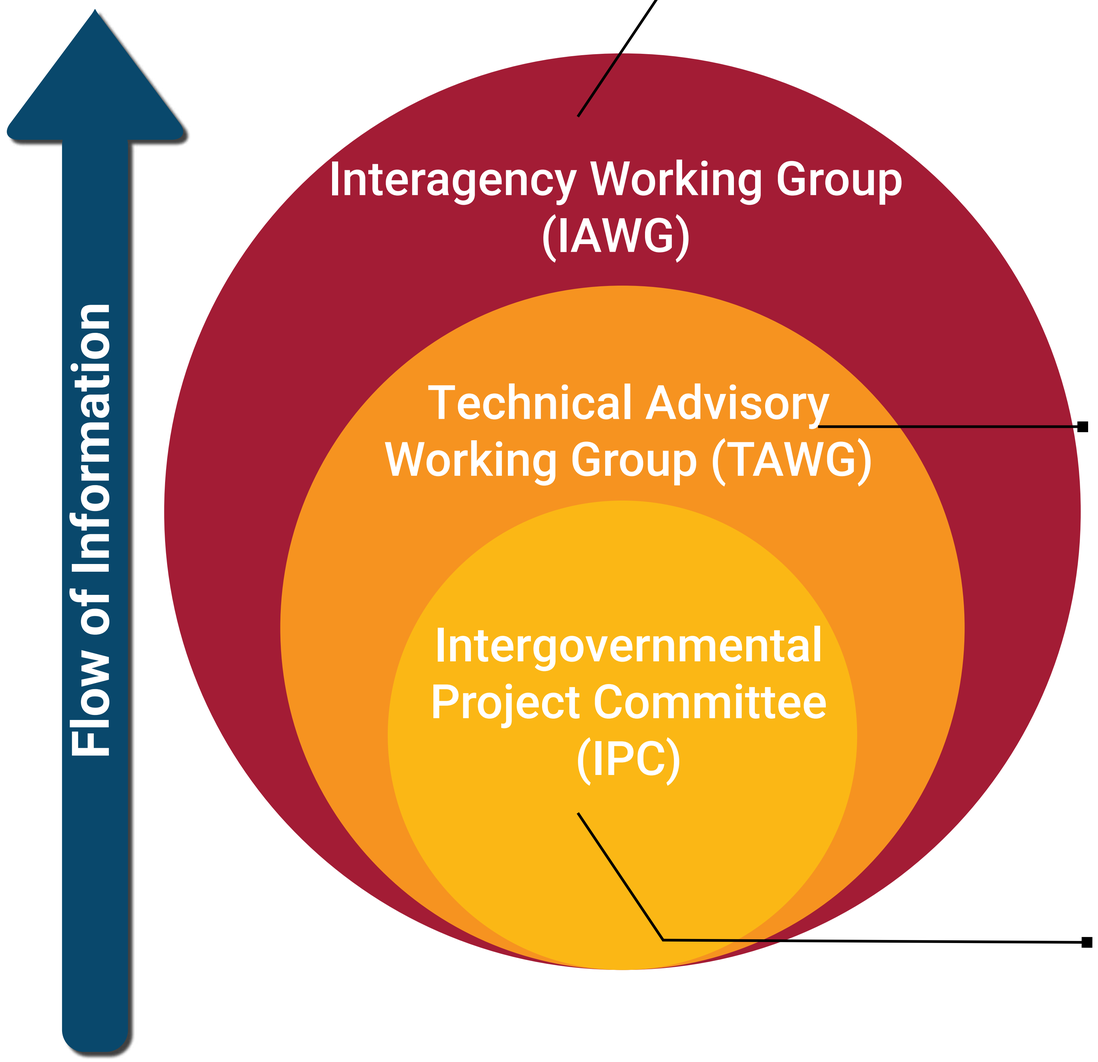
Existing transit options **DO NOT PROVIDE ADEQUATE TRANSIT SERVICE** to connect commuters to and from jobs

Various master plan documents have identified MD 5 and US 301 as a corridor along which **TRANSIT IMPROVEMENTS ARE NEEDED**

The highest average daily traffic volume of any arterial road in Maryland occurs in the SMRT Corridor.

SOUTHERN MARYLAND RAPID TRANSIT

Agency & Major Stakeholder Coordination



Interagency Working Group (IAWG)

- Provides review and comment specific to an agency
- Discusses regulated resources
- Discusses impacts, avoidance and minimization
- Provides input on study milestones, schedule, and progress
- Works towards a clear path for future approvals and permits
- *Members*
  - Lead Agencies (FTA & MTA), Cooperating and Participating Agencies

Technical Advisory Working Group (TAWG)

- Provides technical review
- Provides recommendations for development and evaluation of proposed improvements
- *Members*
  - WMATA
  - IPC Members
  - MWCOG
  - MDP
  - Joint Base Andrews (JBA)
  - Tri-County Council for Southern Maryland (TCCSMD)
  - MedStar Southern Maryland Hospital Center
  - Maryland-National Capital Park & Planning Commission (M-NCPPC)

Intergovernmental Project Committee (IPC)

- Guides implementation of the Framework Agreement
- Provides PEL study oversight
- Provides issue resolution support
- Decision-making ability
- *Members*
  - MDOT TSO
  - MTA
  - SHA
  - Prince George's County
  - Charles County

Visit SMRTmaryland.com to view the SMRT draft Agency Coordination Plan

SOUTHERN MARYLAND RAPID TRANSIT

SMRT Alternatives Overview

Bus Options

- **Alternative 1: Arterial Rapid Transit (formerly Alternative 2D)**
  - Enhancements of commuter bus service to provide all-day, bi-directional and reverse commute connectivity and intersection bus priority treatments
- **Alternative 2: Bus Rapid Transit (BRT)**
  - Within the MD 5/US 301 roadway
- **Alternative 3: Bus Rapid Transit (BRT)**
  - On separated guideway

Rail Options

- **Alternative 4: Light Rail Transit (LRT)**
  - On separated guideway
- **Alternative 5: Hybrid Rail (YR)**
  - On separated guideway

SOUTHERN MARYLAND RAPID TRANSIT

Station Typology

Multimodal Mixed-Use

Design Priorities

- Enable the density, mix of uses, walkability and quality public spaces to make the station a focal point for the local community
- Secondary focus on facilitating ease of transfers between SMRT and other transit

Access Features

- High-quality pedestrian amenities
- Garage parking serving transit and mixed-use development
- Bus bays located adjacent to SMRT platform, potentially within garages
- Safe bike routes & protected bike parking
- Linear kiss & ride on street or in garage

Land Use

- Near-term opportunity for TOD supported by local regulations
- Commercial/Retail closest to station

Neighborhood

Design Priorities

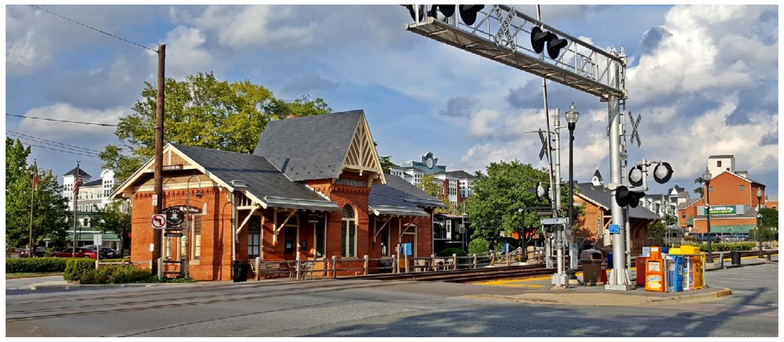
- Smaller station footprint
- Mesh with the surrounding community
- Thematic design elements to create sense of place

Access Features

- High-quality, ADA-friendly pedestrian amenities featuring excellent lighting
- Limited number of on-street bus bays
- Safe bike access routes and protected bike parking facilities adjacent to platform

Land Use

- Existing patterns predominate in the near-term
- Stations designed to support future TOD opportunities



Collector/Connector

Design Priorities

- Focus on ease of transfer between modes

Access Features

- High-quality pedestrian amenities featuring gathering spaces, excellent lighting
- Kiss & ride, park & ride with direct access to station
- Bus bays facilitating transfers to SMRT & between routes
- Safe bike access routes and protected bike parking facilities
- Adherence to access facilities hierarchy

Land Use

- Existing patterns predominate in the near-term
- Stations designed to support future TOD opportunities

SOUTHERN MARYLAND RAPID TRANSIT

Potential Station Types and Locations

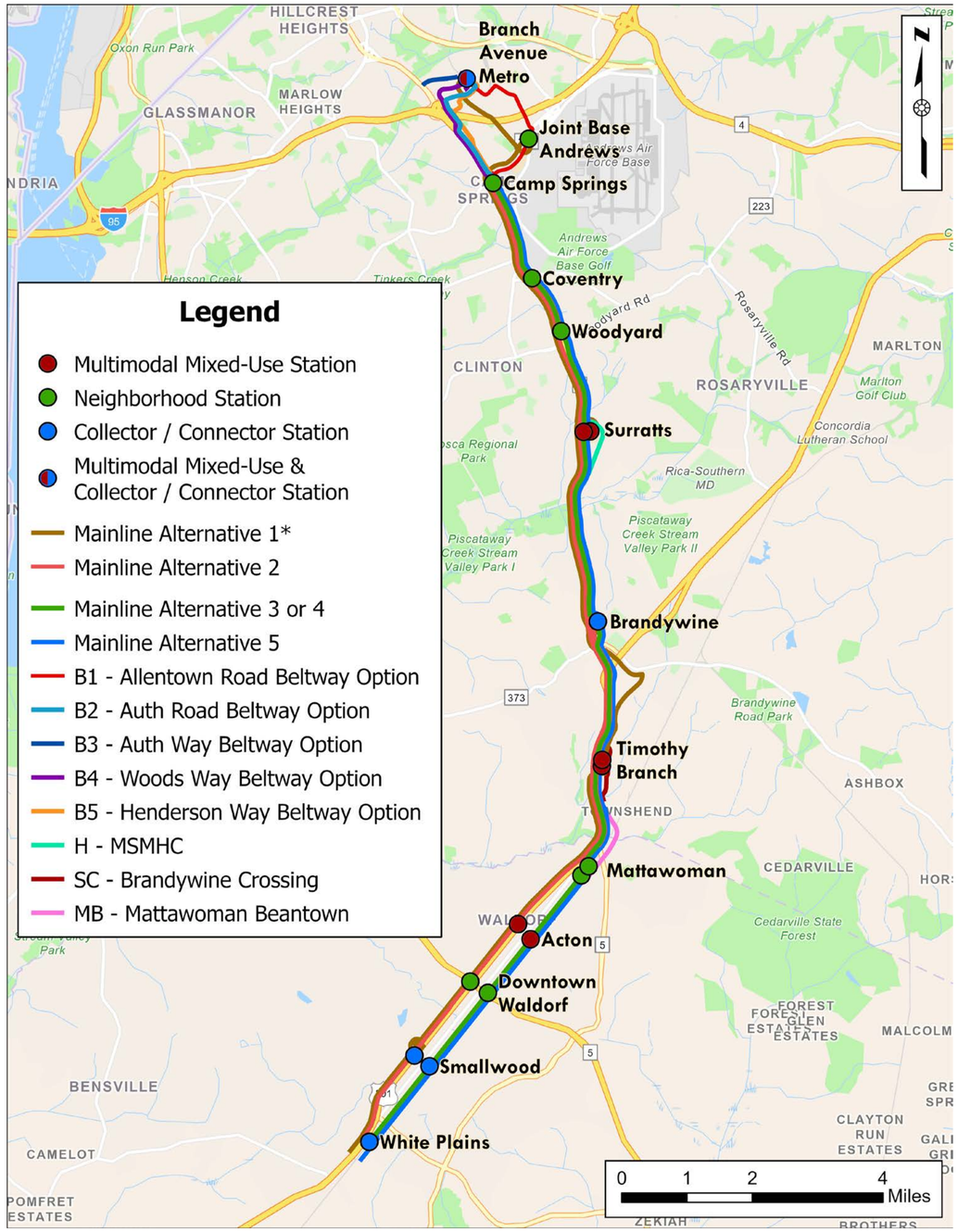
Station	Multimodal Mixed-Use	Neighborhood	Collector/Connector
Branch Avenue	●		●
Joint Base Andrews		●	
Camp Springs		●	
Coventry		●	
Woodyard		●	
Surratts	●		
Brandywine			●
Timothy Branch	●		
Mattawoman		●	
Acton	●		
Waldorf		●	
Smallwood			●
White Plains			●

Key Features

High quality pedestrian amenities and quality public spaces to make the station a focal point for the surrounding community.

Smaller station footprint and integration with surrounding community. Existing land use patterns predominate in the near term.

Focus on ease of transfer between modes with high quality infrastructure such as bus bays and park and ride lots.



*The Alternative 1 station locations are not shown on this map, as they are fewer in number and at different locations than those for Alternatives 2-5. Please refer to the Alternative 1 board for station locations.

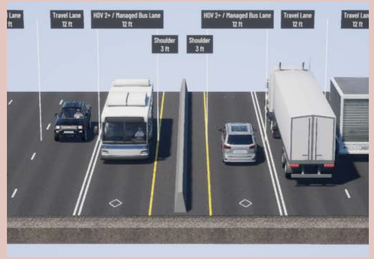
SOUTHERN MARYLAND RAPID TRANSIT

Progress Since June Open Houses

Common themes and concerns gleaned from June Open Houses

- **Support for near term solutions**
  A significant number of participants voiced a preference for bus or other solutions that could be implemented sooner than rail options to address congestion issues
- **Pedestrian and cyclist safety**
  Participants emphasized the importance of incorporating features that protect non-motorized users in the design of any transit alternatives chosen
- **Future development and parking**
  Participants expressed interest in how rapid transit alternatives could support and enhance surrounding Transit Oriented Development (TOD) and how TOD around potential station areas could help to reduce the current burden on infrastructure

Interim actions since Open Houses



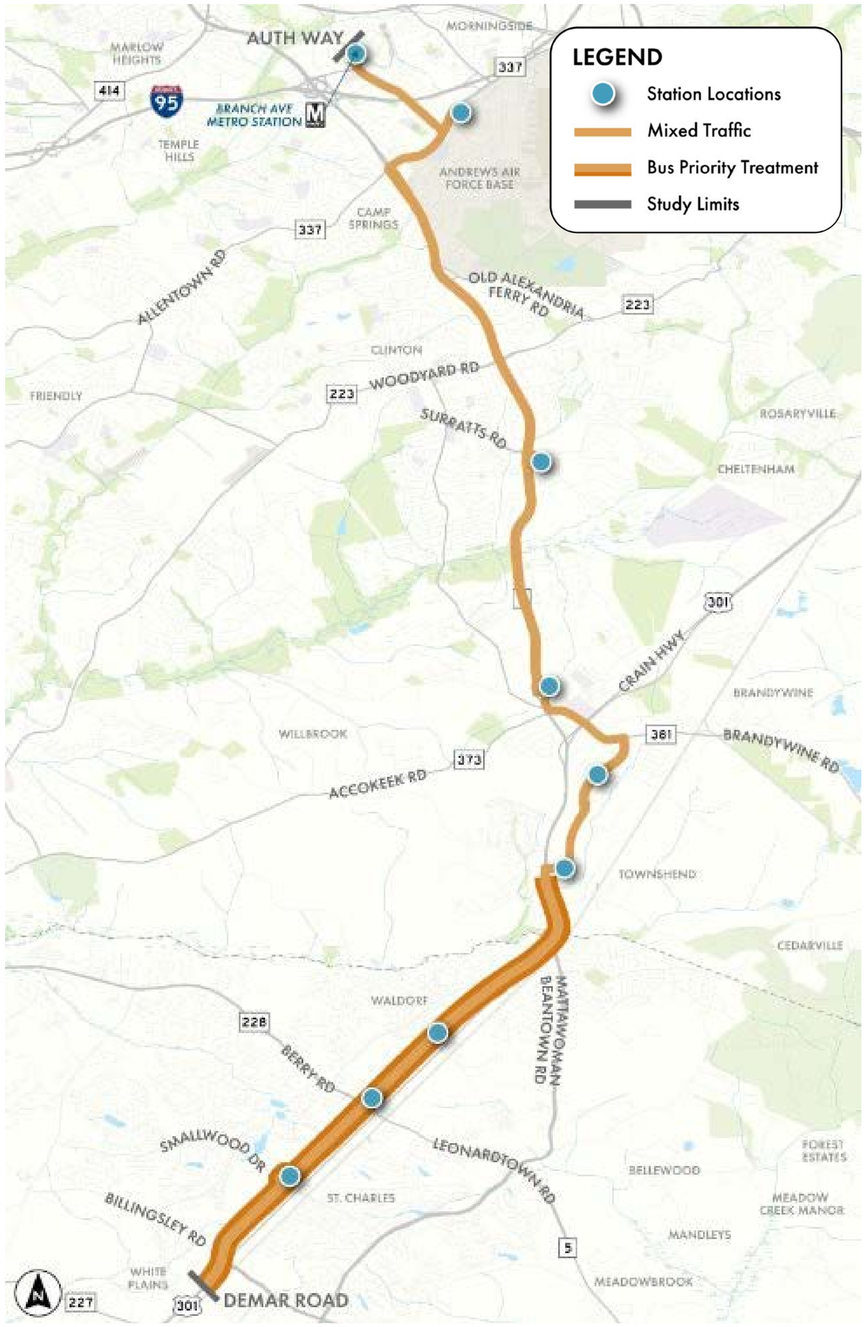
- **Dropped Old Washington Rd. in Waldorf**
  Minimal travel time impacts and inconsistent with current efforts to redesign the street
- **Dropped HOV lane as an option from Alt 2B**
  Due to the targeted nature of improvements associated with Alt. 2, HOV lanes would be non-continuous along the corridor; they were therefore considered impractical and were dropped
- **Added Alt 1(Arterial Rapid Transit)**
  Creates a shorter-term improvement to transit in the corridor

Evaluation of Preliminary Alternatives

- **Developed Evaluation Criteria**
  Evaluation Criteria ensure Purpose and Need of PEL Study are met
- **Station location refinement**
  Range of station locations refined to best serve transit users and traffic operations, and to minimize impacts
- **Conducted Alternatives Screening Process**
  Applied the evaluation criteria using the evaluation metrics/ methodology to identify a comparative range of costs, ridership, and impacts

SOUTHERN MARYLAND RAPID TRANSIT

Alternative 1 – Arterial Rapid Transit



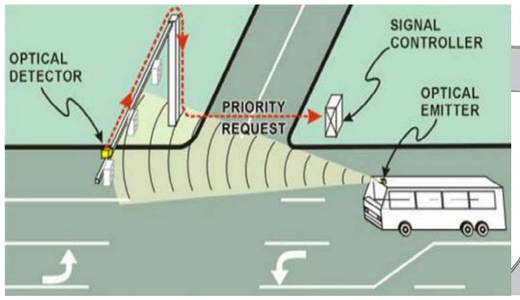
Alternative Description

Alternative 1 includes an Arterial Rapid Transit bus route along the MD 5/US 301 corridor along with some spot bus priority treatments (e.g. Transit Signal Priority (TSP) and queue jumps) to reduce delays. Improvements would also include all-day, bi-directional service.

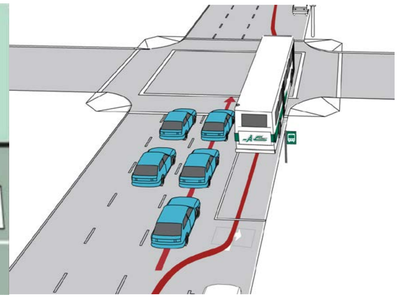
The buses would operate primarily in mixed traffic conditions.

Mixed Traffic with Bus Priority Treatments

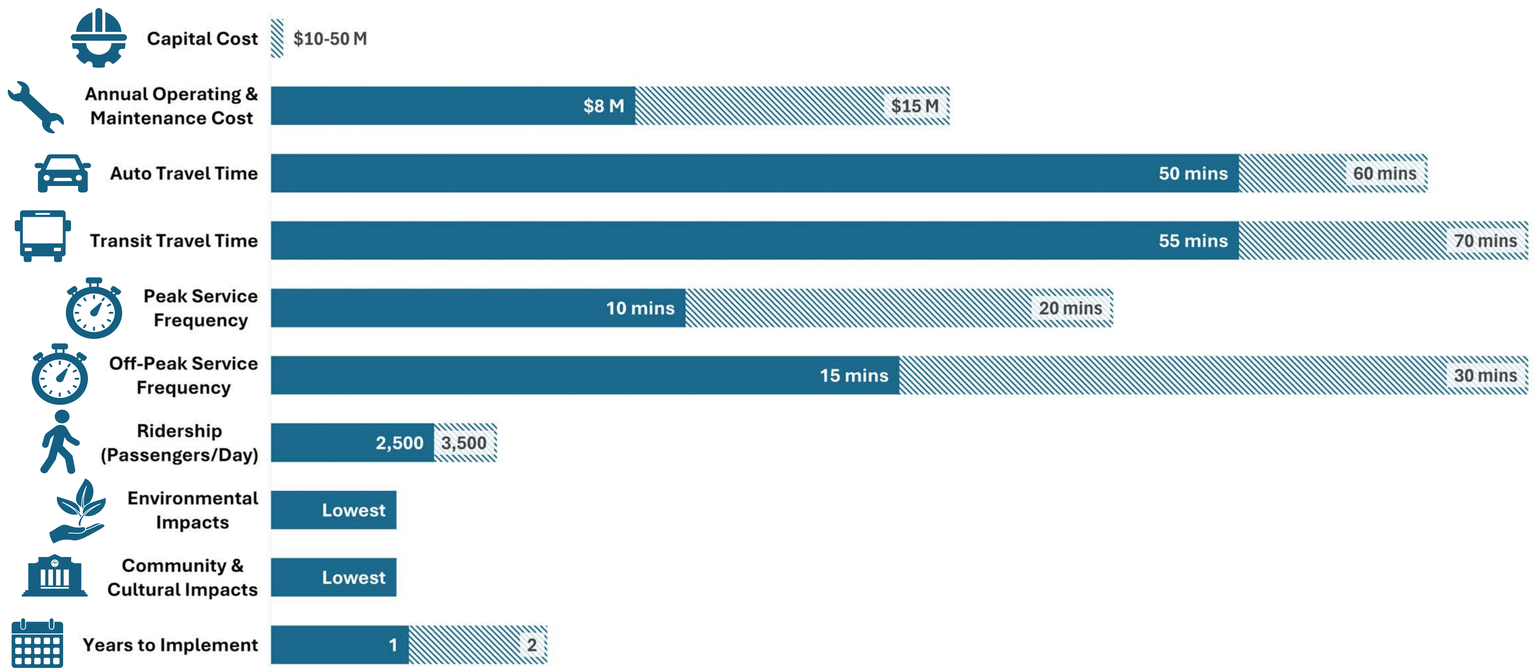
Types of Bus Priority Treatments



Transit Signal Priority



Queue Jump



SOUTHERN MARYLAND RAPID TRANSIT

Alternative 1 – Arterial Rapid Transit

Alternatives Summary

Benefits

- Provides all-day, bi-directional and reverse commute connectivity
- Increases transit ridership along the corridor by 2,500-3,500 passengers per day
- Spot bus priority treatments (e.g. Transit Signal Priority (TSP) and queue jumps) to reduce transit travel times to 55-70 minutes
- Lowest project impacts, capital costs ($10-$50 million), and implementation timeline (1-2 year construction period) by leveraging the existing road network and transit facilities
- Would provide an opportunity to serve as an interim improvement condition while design/funding advances on a preferred alternative

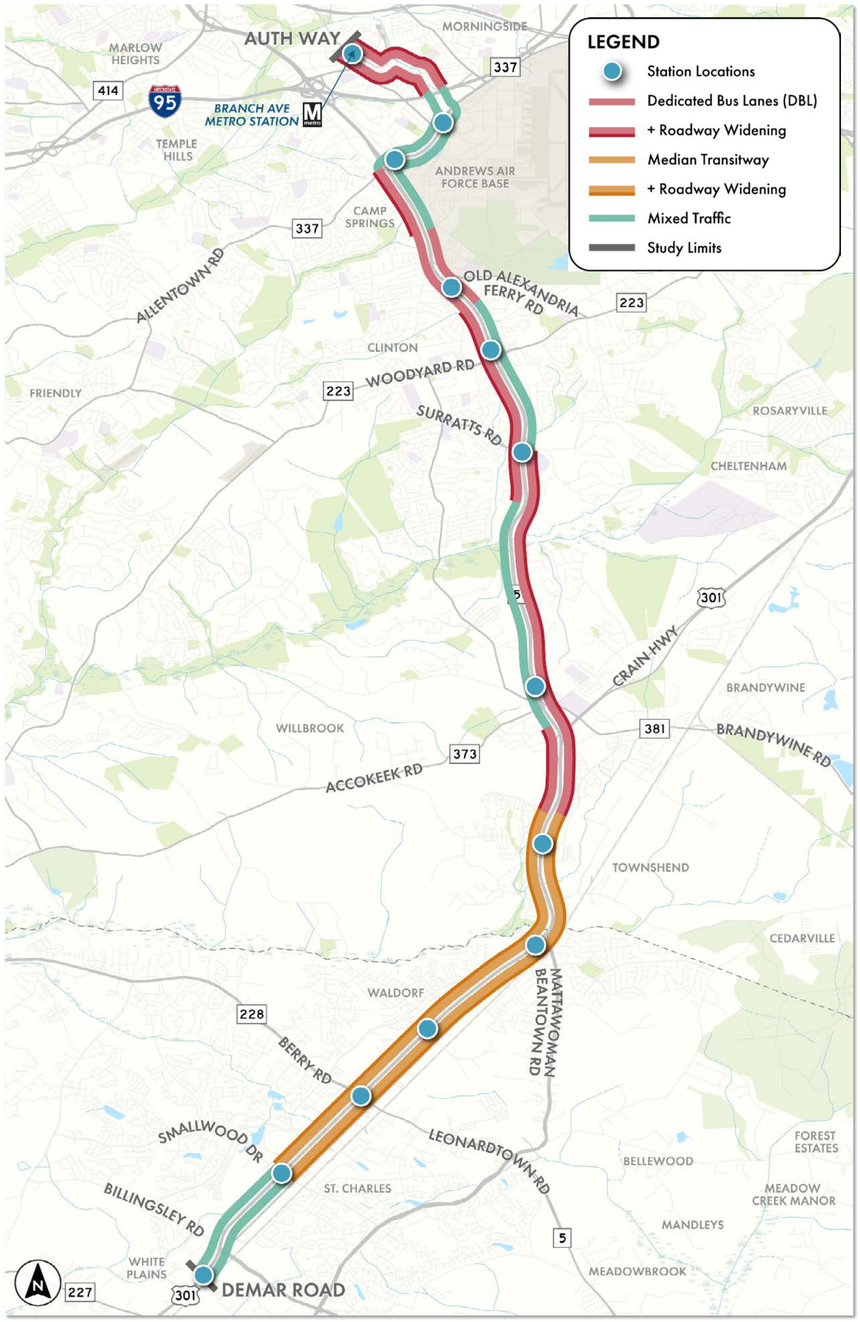
Considerations

- Lowest ridership
- Least competitive with auto travel time
- Least frequent service
- Fewer new station amenities and less branding

Similar Systems

SOUTHERN MARYLAND RAPID TRANSIT

Alternative 2: BRT in Roadway

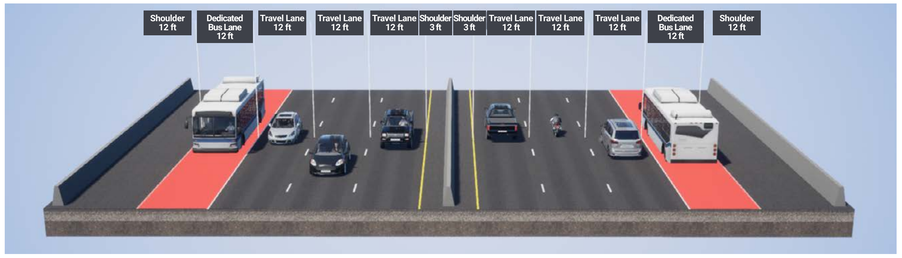


Alternative Description

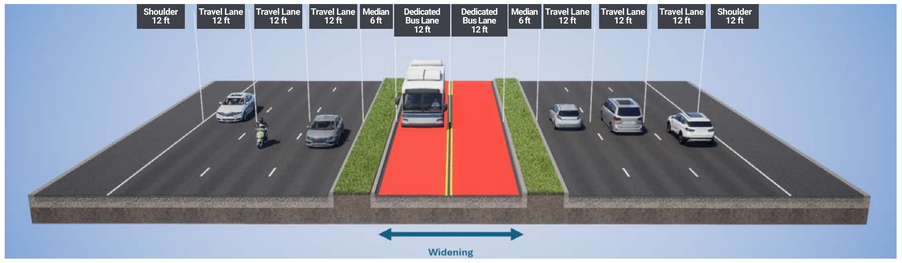
Alternative 2 includes Bus Rapid Transit in the roadway of the existing MD 5/US 301 corridor and includes Transit Signal Priority (TSP) to reduce bus delay at traffic signals.

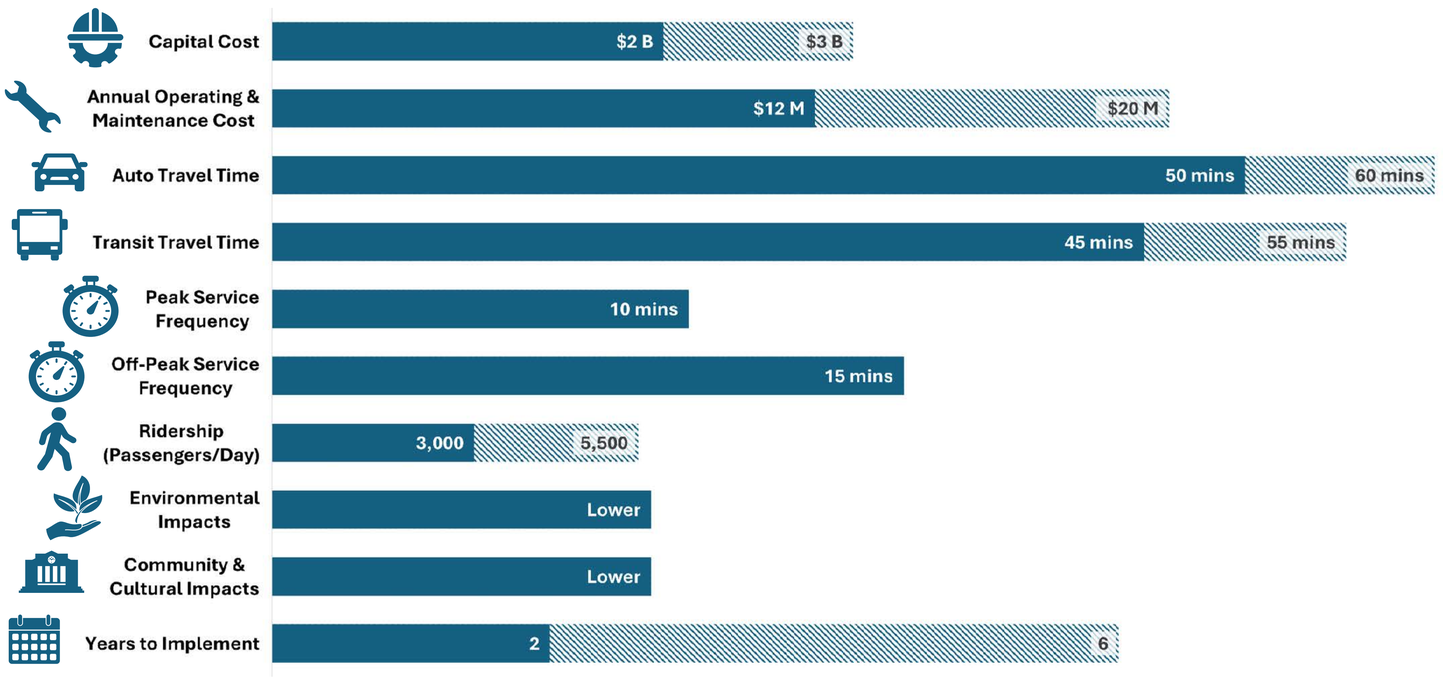
The northern portions of the corridor will include sections in mixed traffic and dedicated bus lanes in the most congested areas, while the southern portion would feature a median bus transitway. This alternative includes significant widening of the MD 5/US 301 roadways throughout the corridor.

Dedicated Bus Lanes (DBL)



Median Transitway





SOUTHERN MARYLAND RAPID TRANSIT

Alternative 2: BRT in Roadway

Alternatives Summary

Benefits

- Increases transit ridership along the corridor by 3,000-5,500 passengers per day
- Combination of dedicated bus lanes and median guideway reduces transit travel times to 45-55 minutes
- High transit service flexibility to add service and/or modify routing
- Lower environmental, community, and cultural impacts with an implementation timeline that includes a construction period of 2-6 years

Considerations

- Buses would operate in segments of mixed traffic resulting in some reductions in reliability
- Station connectivity would require some grade-separated pedestrian crossings due to station locations
- Highest number of business/commercial properties with partial impacts due to median transitway alignment
- Capital costs of $2.0-$3.0 billion

Similar Systems

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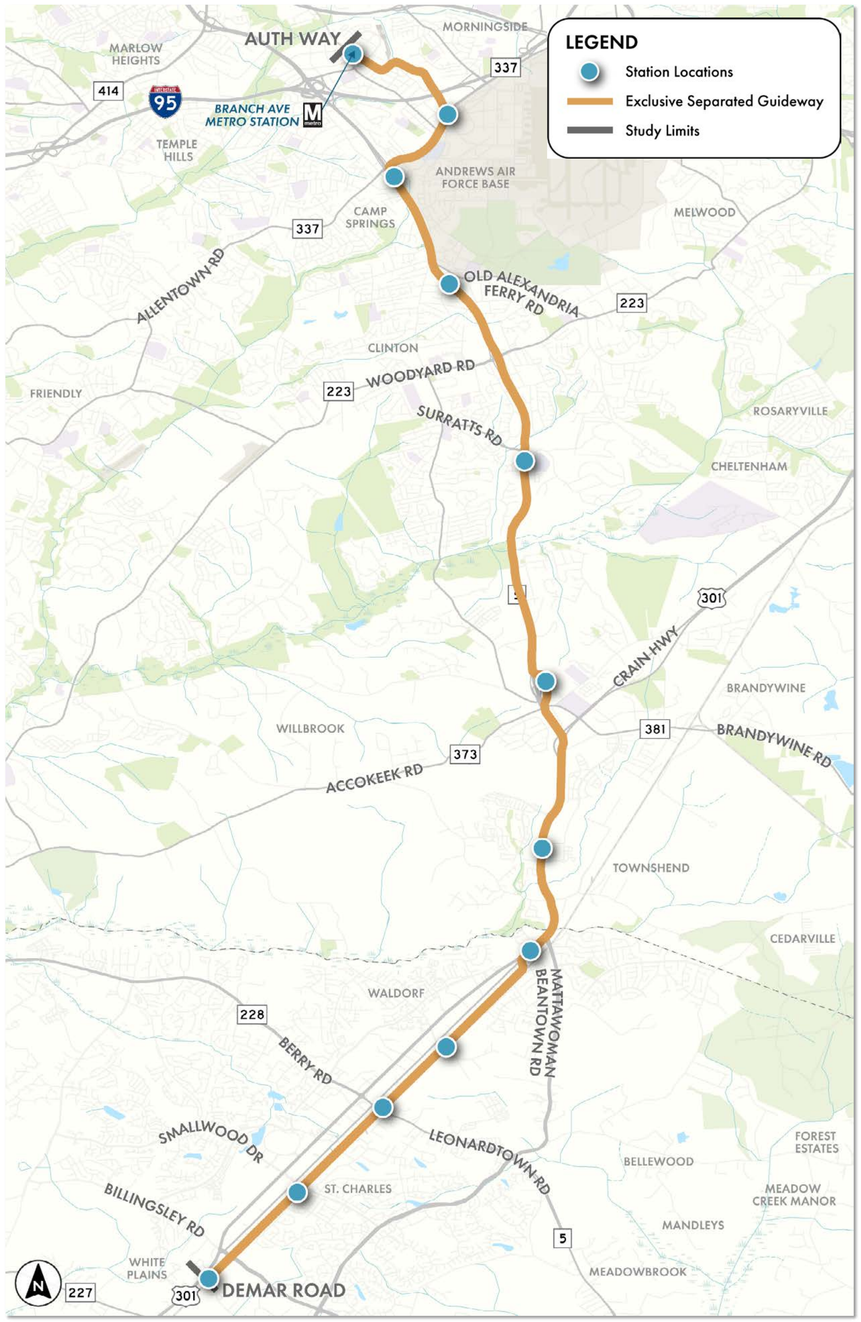
Alternative 3: BRT in Separated Guideway

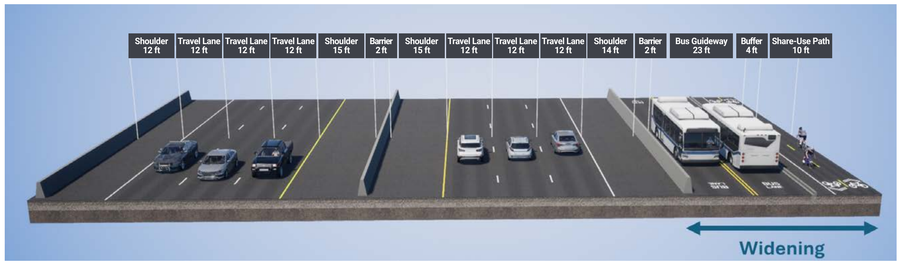


Alternative Description

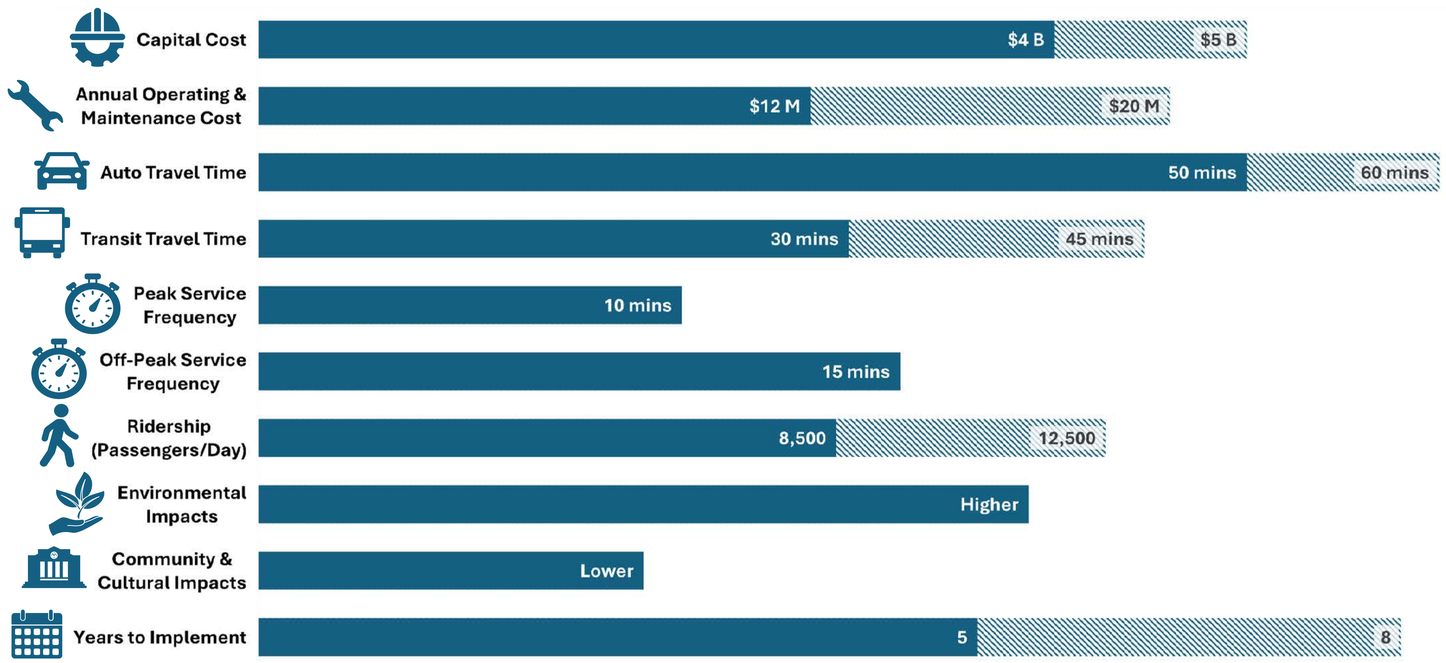
Alternative 3 includes Bus Rapid Transit (BRT) in an exclusive separated guideway east of the MD 5/US 301 corridor and includes Transit Signal Priority (TSP) and/or preemption to minimize bus delay at traffic signals.

The northern portions of the corridor will be adjacent to MD 5/US 301, while the southern portion would follow alongside the existing Pope's Creek Rail Line through Waldorf.

Exclusive Separated BRT Guideway



Exclusive Separated BRT Guideway



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Alternative 3: BRT in Separated Guideway

Alternatives Summary

Benefits

- Higher transit ridership along the corridor with an increase of 8,500-12,500 passengers per day
- Exclusive guideway provides the lowest bus travel times from 30-45 minutes with high travel time reliability
- Reduced Operating & Maintenance cost compared to rail-based alternatives
- Moderate transit service flexibility to add service and/or modify routing
- Station locations more centralized and no grade-separated pedestrian bridges are required

Considerations

- High number of residential and business/commercial property displacements and residential partial property impacts
- Higher environmental, community, and cultural impacts
- Longer implementation timeline with a construction period of 5-8 years
- High-cost alternative at $4.0-$5.0 billion

Similar Systems

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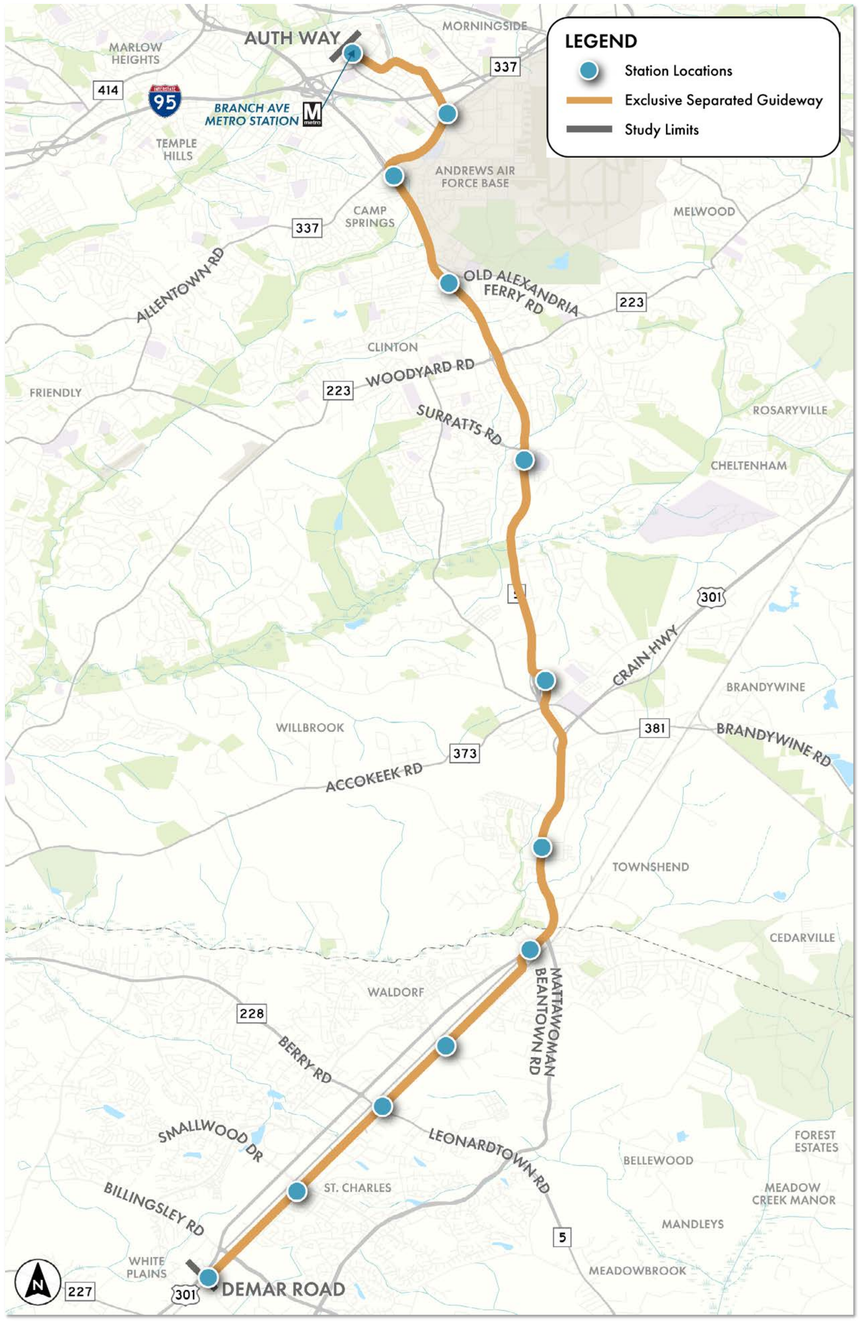
Alternative 4: LRT in Separated Guideway

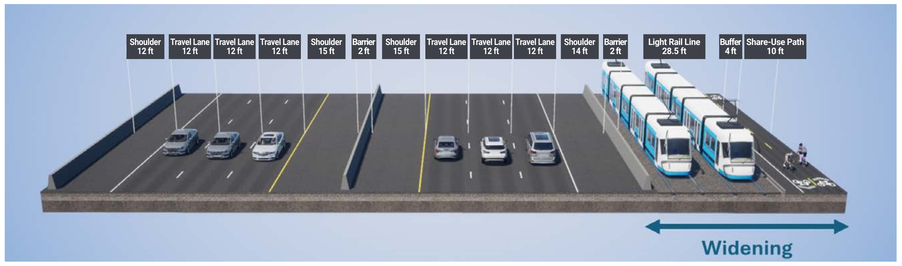


Alternative Description

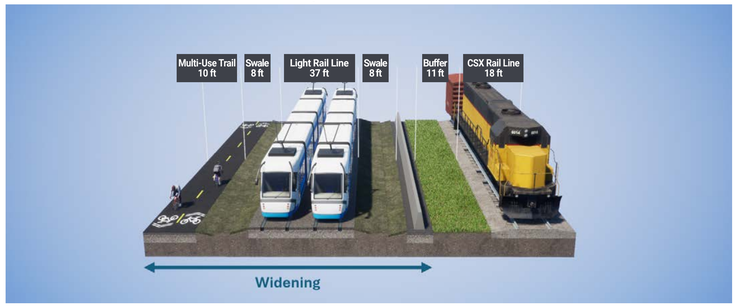
Alternative 4 includes Light Rail Transit (LRT) vehicles in an exclusive separated guideway east of the MD 5/US 301 corridor and includes preemption to minimize delay at traffic signals.

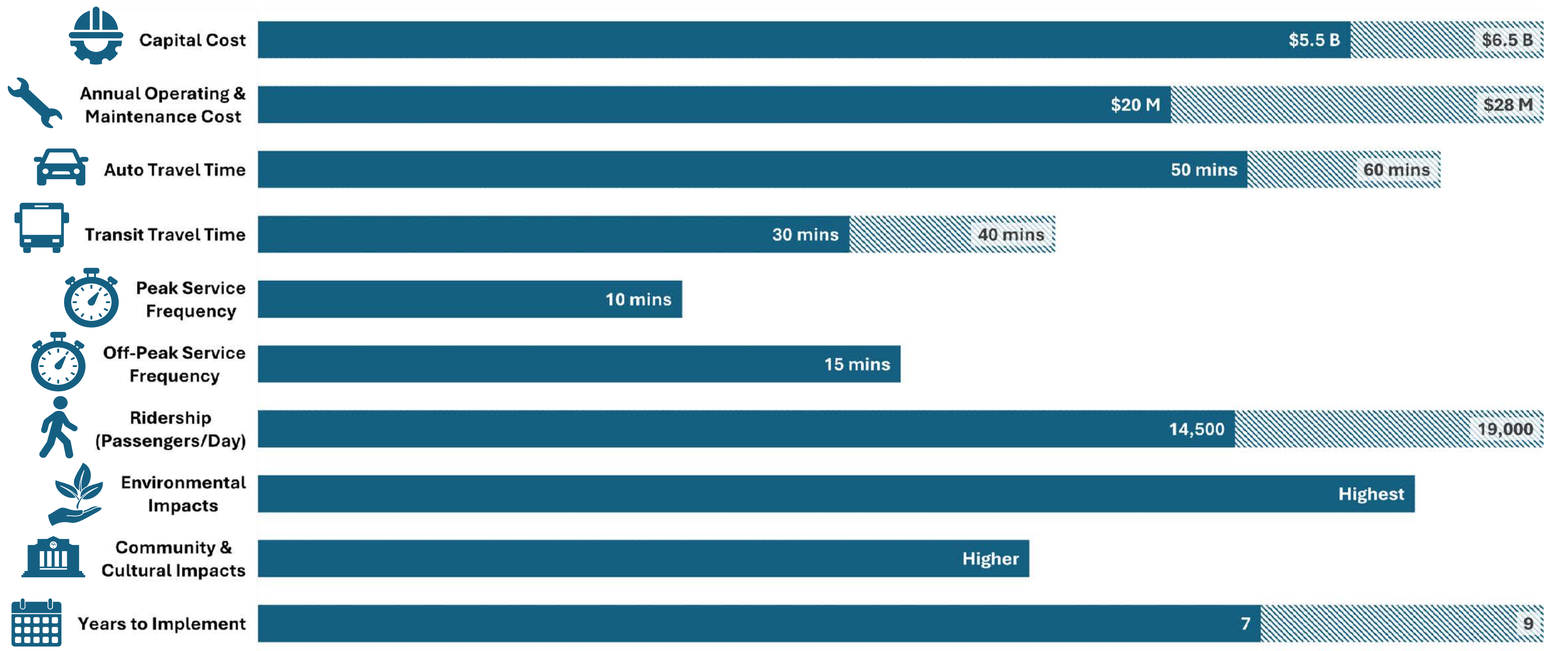
The northern portions of the corridor will be adjacent to MD 5/US 301, while the southern portion would follow alongside the existing Pope's Creek Rail Line through Waldorf.

Exclusive Separated LRT Guideway



Exclusive Separated LRT Guideway





SOUTHERN MARYLAND RAPID TRANSIT

Alternative 4: LRT in Separated Guideway

Alternatives Summary

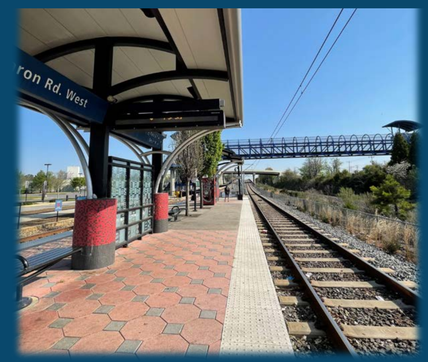
Benefits

- Highest transit ridership along the corridor with increases of 14,500-19,000 passengers per day
- Exclusive guideway provides the lowest travel times from 30-40 minutes with high travel time reliability
- Station locations more centralized and no grade-separated pedestrian bridges are required

Considerations

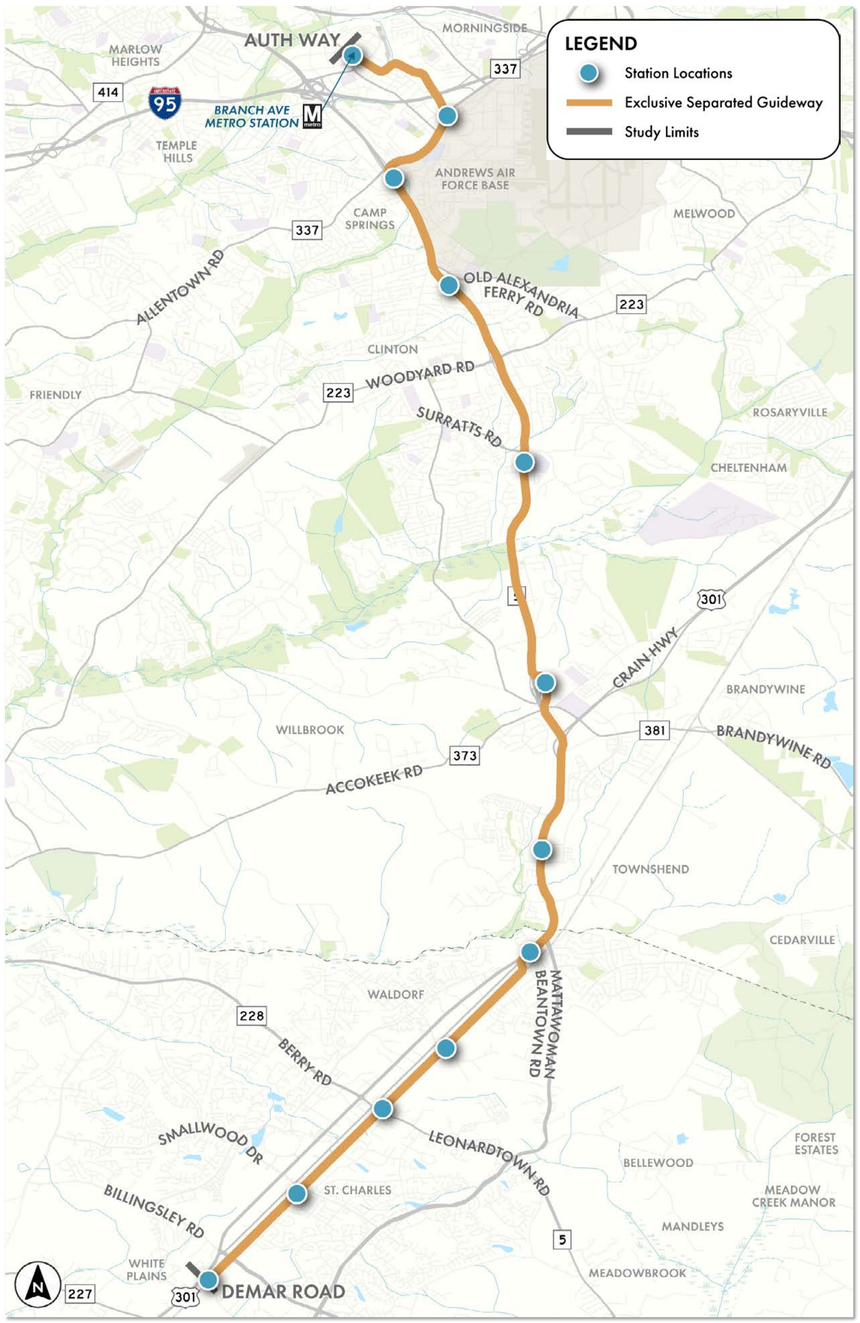
- Lowest transit service flexibility with limited ability to modify service
- Highest number of residential and business/commercial property displacements and residential partial property impacts
- Highest environmental, community, and cultural impacts
- Longest implementation timeline with a construction period of 7-9 years
- Highest cost alternative at $5.5-$6.5 billion in capital costs and $20-$28 million in annual operating and maintenance costs

Similar Systems



SOUTHERN MARYLAND RAPID TRANSIT

Alternative 5: Hybrid Rail

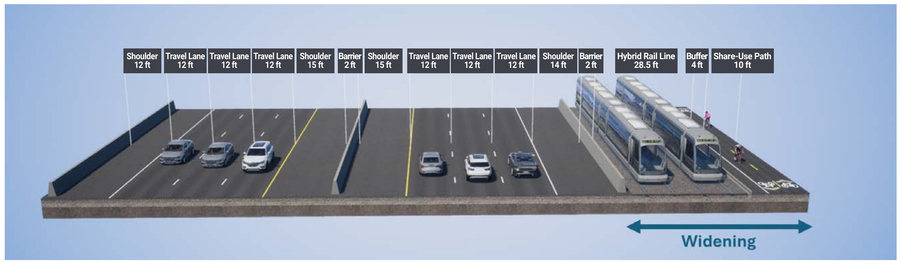


Alternative Description

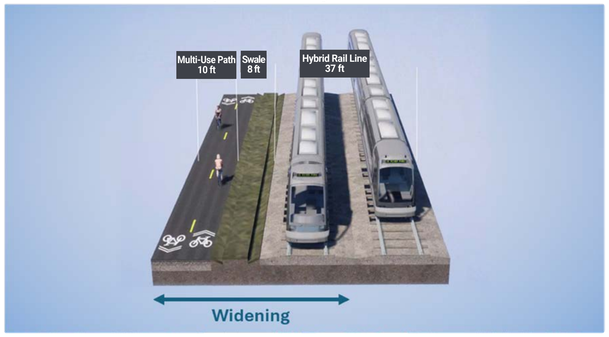
Alternative 5 includes Hybrid Rail (YR) vehicles in an exclusive separated guideway east of the MD 5/US 301 corridor and includes preemption to minimize delay at traffic signals.

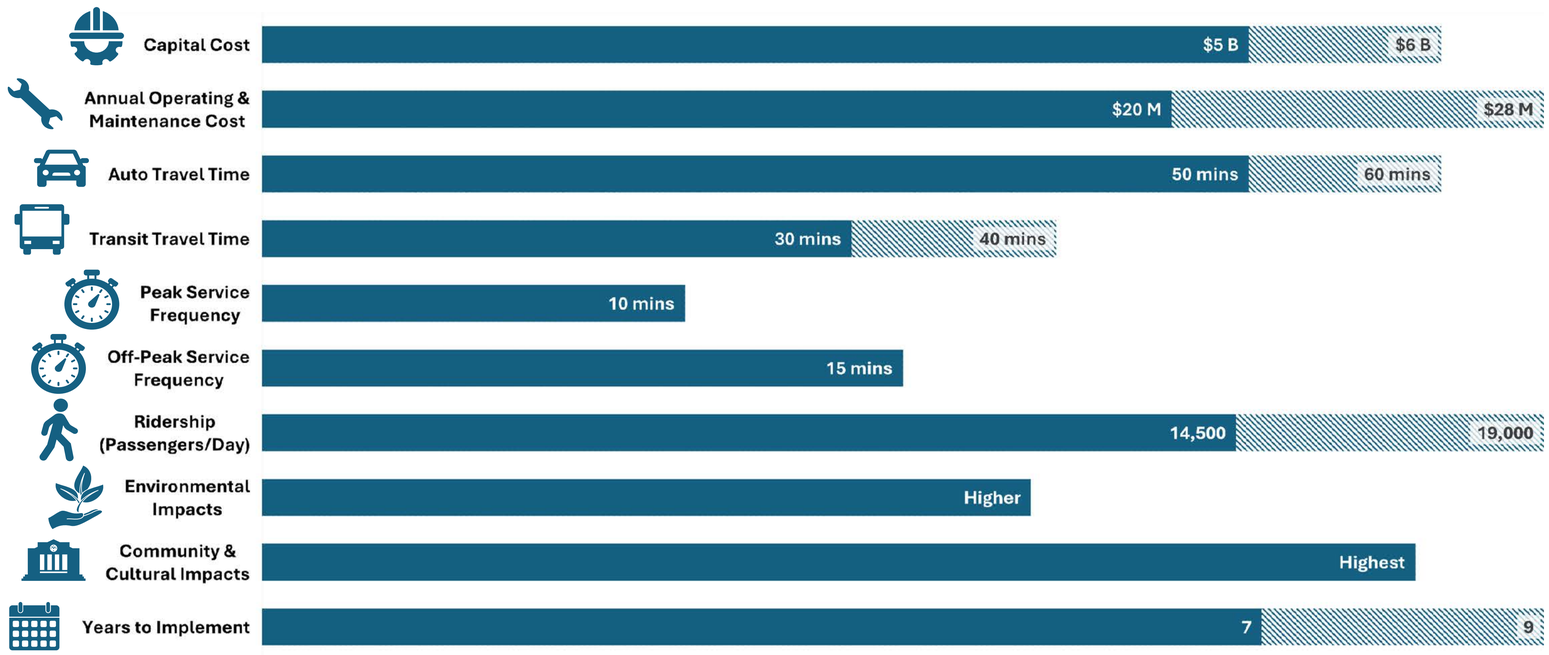
The northern portions of the corridor will be adjacent to MD 5/US 301, while the southern portion would repurpose the existing Pope's Creek Rail Line track through Waldorf and construct one additional track alongside.

Exclusive Separated Hybrid Rail Guideway



Exclusive Separated Hybrid Rail Guideway





SOUTHERN MARYLAND RAPID TRANSIT

Alternative 5: Hybrid Rail

Alternatives Summary

Benefits

- Second highest transit ridership along the corridor with increases of 14,500-19,000 passengers per day
- Exclusive guideway provides the lowest travel times from 30-40 minutes with high travel time reliability
- Station locations more centralized and no grade-separated pedestrian bridges are required
- No overhead catenary wires

Considerations

- Lowest transit service flexibility with limited ability to modify service
- High numbers of displacements and partial property impacts on residential and business/commercial properties
- Higher environmental, community, and cultural impacts
- Longest implementation timeline with a construction period of 7-9 years
- Second highest cost alternative at $5.0-$6.0 billion in capital costs and $20-$28 million in annual operating and maintenance costs

Similar Systems

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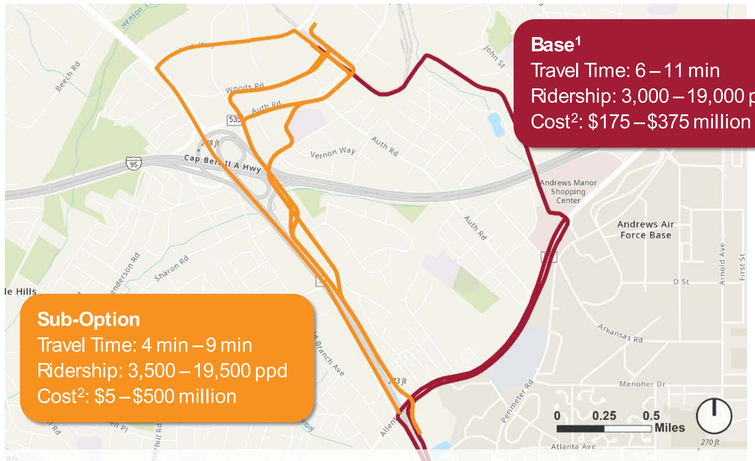
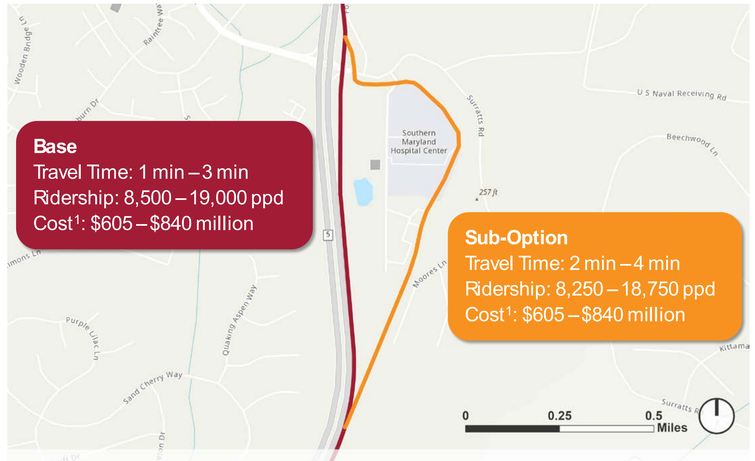
Sub-Option Alignment Evaluation



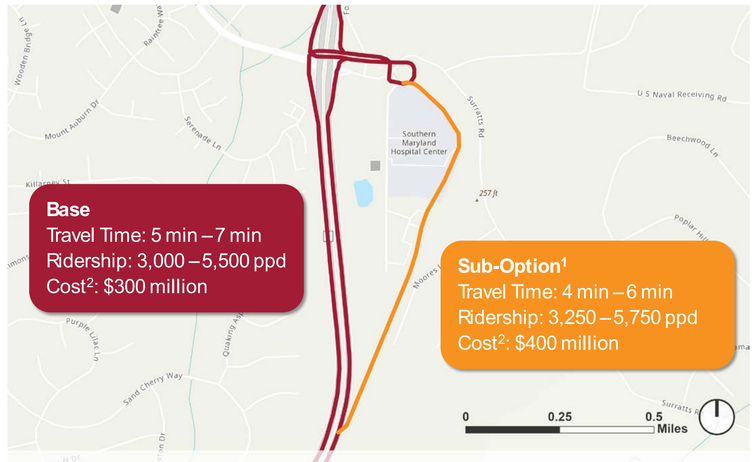
BELTWAY (Alts 2, 3, 4, 5)

[1]*Base option includes an additional station/stop at Joint Base Andrews*
[2]*Cost reflects range of transit alternatives between Camp Springs and Branch Avenue Metro (2.7-mi)*



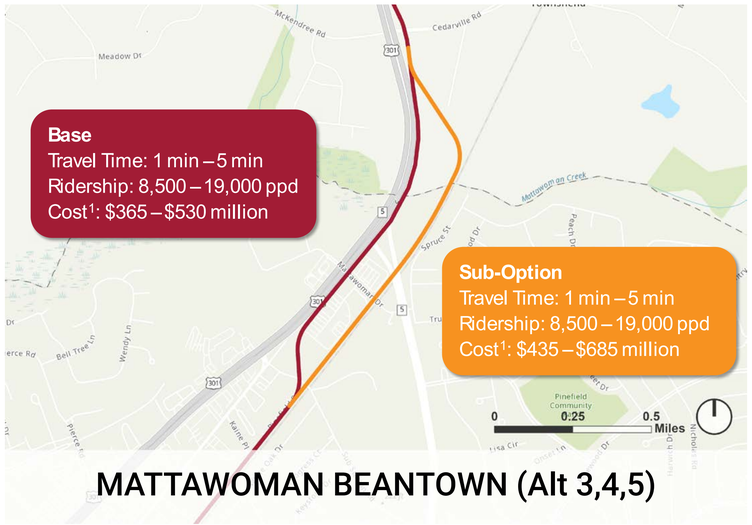
SOUTHERN MARYLAND HOSPITAL (Alt 3,4,5)

[1]*Cost reflects range of transit alternatives between Woodyard Road to Spine Road (4.7-mi)*



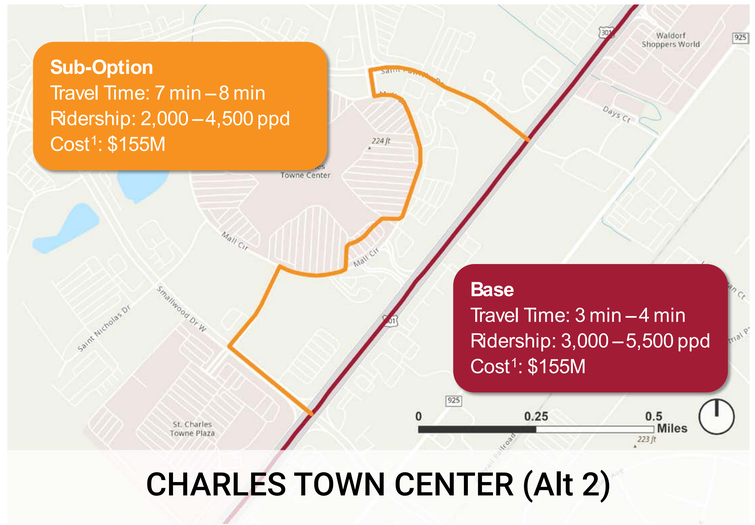
SOUTHERN MARYLAND HOSPITAL (Alt 2)

[1]*Sub-Option includes a flyover for southbound transit vehicles to access the hospital*
[2]*Cost reflects range of transit alternatives between Woodyard Road to Spine Road (4.7-mi)*



MATTAWOMAN BEANTOWN (Alt 3,4,5)

[1]*Cost reflects range of transit alternatives between Timothy Branch Dr to Acton Ln 3.1-mi)*



CHARLES TOWN CENTER (Alt 2)

[1]*Cost reflects range of transit alternatives between Leonardtown Rd to Smallwood Dr (1.3-mi)*

BRANDYWINE SHOPPING CENTER (Alts 2, 3, 4, 5)

[1]*Cost reflects range of transit alternatives between Spine Rd to Sub-Station Rd (4.0-mi)*

SOUTHERN MARYLAND RAPID TRANSIT

Impacts Matrix

SMRT Transit Alternatives	COMMUNITY/CULTURAL											NATURAL ENVIRONMENT							ENGINEERING	
	Residential Properties Impacted	Residential Property Displacements	Business/Commercial Properties Impacted	Business/Commercial Displacements	Churches	Schools	Cemeteries	Parks (No.)	Healthcare Facilities	Community Services and Facilities	Historic Properties (No.)	Hazardous Material Sites	New Stream Crossings**	Existing Stream Crossings**	Wetlands (Acres)	100-Year FEMA Floodplain (Acres)	DNR HCN (hubs and corridors) (Acres)	Woodlands (Acres)	Length of Segment (Miles)	Length of Structures (LF) (New or Widened Bridges)
Alternative 1-Arterial Rapid Transit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.4*	0
Alternative 2-Bus Rapid Transit (BRT) in Roadway	5 - 27	0 - 9	141-154	11 - 16	2 - 6	1	0	0	1	5	5 - 7	37 - 44	1 - 2	9	1 - 2	4	3 - 4	32 - 48	19.3	1400
Alternative 3-BRT in Separated Guideway	121-140	39 - 47	121-140	55 - 58	10 - 11	1	1	0	4 - 5	4 - 6	6 - 7	29 - 35	10 - 11	0	10 - 13	8 - 12	10 - 11	105 - 120	19.2	1985
Alternative 4-Light Rail Transit (LRT) in Separated Guideway	125-148	40- 48	122-140	57 - 59	10	1	1	0	4 - 5	4 - 6	6 - 7	29 - 35	10 - 11	0	10 - 13	9 - 12	10 - 12	109 - 122	19.5	1985
Alternative 5-Hybrid Rail (YR) in Separated Guideway	109-132	27 - 35	129-148	54 - 57	10	1	1	0	4 - 5	4 - 6	7 - 8	30 - 36	10 - 11	0	7 - 10	9 - 12	8 - 9	101 - 114	19.5	1985

^Least — Highest^

**The extended length reported in Alternative 1 is due to the longer distance travelled to service off-corridor transit stops between Branch Avenue Metro and White Plains.*

***Alternatives 3, 4 and 5 do not impact any existing stream crossing structures, but require new stream crossings as indicated above.*

SOUTHERN MARYLAND RAPID TRANSIT

Summary of Costs, Ridership, Metrics Evaluation, etc.

	Cost ($Millions-2025)		2045 Corridor Travel Time[1] (Minutes)		2045 Transit Ridership (Passengers per Day)	Implementation Timeline[3]	Impact Summary
SMRT Transit Alternatives	**Capital**	**Operating & Maintenance (Annual)[2]**	**Transit**	**Peak Hour Drive Time**	**Daily Ridership[4]**	**Construction Period (Years)**	**Environmental, Community, & Cultural[5]**
Alternative 1–Arterial Rapid Transit	$10 - $50	$8 - $15	55 - 70 min	50 - 60 min	2,500 - 3,500	1 - 2	No environmental, community, or cultural impacts expected
Alternative 2–Bus Rapid Transit (BRT) in Roadway	$2,000 - $3,000	$12 - $20	45 - 55 min		3,000 - 5,500	2 - 6	
Alternative 3–BRT in Separated Guideway	$4,000 - $5,000	$12 - $20	30 - 45 min		8,500 - 12,500	5 - 8	
Alternative 4–Light Rail Transit (LRT) in Separated Guideway	$5,500 - $6,500	$20 - $28	30 - 40 min		14,500 - 19,000	7 - 9	
Alternative 5–Hybrid Rail (YR) in Separated Guideway	$5,000 - $6,000	$20 - $28	30 - 40 min		14,500 - 19,000	7 - 9	

^Least Highest^

[1]*Corridor travel time estimates between Branch Ave Metro (Auth Way) and Waldorf (Demarr Road) in the peak hour and direction (Northbound AM and Southbound PM)*

[2]*Operating and maintenance costs are limited to the mainline alternative and do not account for changes to locally operated transit services locally operated transit services*

[3]*Construction is contingent upon completion of the design phase, securing project construction funding, and acquiring needed right-of-way*

[4]*Total transit person trips traveling along the SMRT study Corridor. For reference, the current transit ridership along the corridor is ~1,000 passengers per day as of July-September 2025.*

[5]*Symbols are provided for resource impacts having the highest magnitude relative to the other alternatives*

SOUTHERN MARYLAND RAPID TRANSIT

Capital Investment Grants (CIG)[1] Funded Project Comparison

Mode	Project	Metro Area	Length (mi)	Total Cost[2] ($Mil)	Cost[2] ($Mil) / Mile	Daily Ridership	Ridership / Mile
BRT	Green Line Advanced Rapid Transit	San Antonio, TX	10.4	$473	$45	13,500	1,298
BRT	SURF! BRT	Monterey, CA	19.4	$72	$4	2,800	144
BRT	Blue Line BRT	Indianapolis, IN	24	$394	$15	9,200	196
BRT	Gold Line BRT	Minneapolis, MN	10.3	$628	$61	6,500	631
CIG Example BRT Project Average			**16.1**	**$392**	**$32**	**6,857**	**567**
SMRT Alt 1 – Arterial Rapid Transit			**21.4**	**$10 - $50**	**$0.5 - $2.5**	**2,500 - 3,500**	**117 - 164**
SMRT Alt 2 – BRT in Roadway			**19.3**	**$2,000 - $3,000**	**$104 - $155**	**3,000 - 5,500**	**155 - 285**
SMRT Alt 3 – BRT in Separated Guideway			**19.2**	**$4,000 - $5,000**	**$208 - $260**	**8,500 - 12,500**	**443 - 651**

Mode	Project	Metro Area	Length (mi)	Total Cost[2] ($Mil)	Cost[2] ($Mil) / Mile	Daily Ridership	Ridership / Mile
LRT	East San Fernando Light Rail	Los Angeles, CA	6.7	$3,962	$591	30,000	3,261[3]
LRT	South Central Light Rail Extension	Phoenix, AZ	5.5	$1,708	$311	13,300	2,418
LRT	Southwest LRT	Minneapolis, MN	14.5	$2,453	$169	28,800	1,986
LRT	Federal Way Link Extension	Seattle, WA	7.8	$4,078	$523	40,700	5,218
CIG Example LRT Project Average			**8.6**	**$3,050**	**$398**	**28,200**	**3,221**
SMRT Alt 4 – LRT in Separated Guideway			**19.5**	**$5,500 - $6,500**	**$282 - $333**	**14,500 - 19,000**	**744 - 974**
SMRT Alt 5 – Hybrid Rail in Separated Guideway			**19.5**	**$5,000 - $6,000**	**$256 - $308**	**14,500 - 19,000**	**744 - 974**

[1]The Capital Investment Grants (CIG) program funds fixed guideway investments, including new and expanded rapid rail, commuter rail, light rail, streetcars, bus rapid transit, and ferries, and corridor-based bus rapid transit investments that emulate the features of rail

[2]Costs in 2025 Dollars

[3]Per mile ridership calculation provided for the full 9.2 mi corridor, which includes the 6.7 mi base route and a 2.5 mi extension

SOUTHERN MARYLAND RAPID TRANSIT

Next Steps

- Refinement of cost estimates, impacts, ridership analysis, and transit operations plans
- Determination of a reduced set of alternatives
- Development of a PEL Report - Spring 2026
- Enter into NEPA after completion of the PEL Study

The planning products produced during this PEL Study may be adopted or incorporated by reference during NEPA in accordance with 23 U.S.C 168: Integration of planning and environmental review.

SOUTHERN MARYLAND RAPID TRANSIT

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