



Welcome

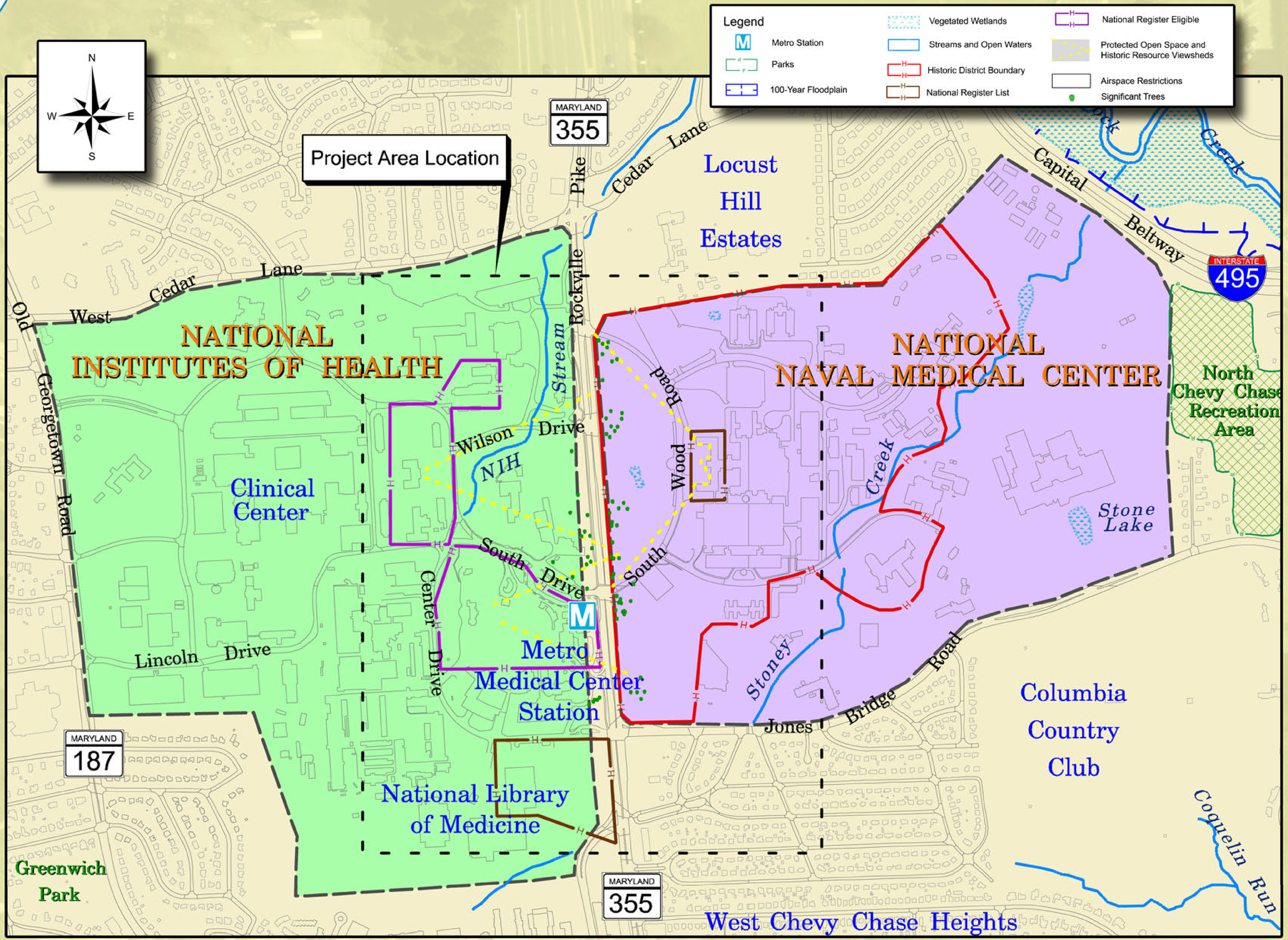
**MD 355 /
Rockville Pike
Crossing Study**

**Public
Meeting**

July 20, 2010

MD 355/Rockville Pike Crossing Study

Project Study Area





MD 355/Rockville Pike Crossing Study

Project Purpose and Need

Project Purpose

Improve the movement of the traveling public between the west and east sides of MD355 / Rockville Pike at its intersection with South Wood Road and South Drive



Project Needs

1. Enhance / improve access to mass transit facilities
2. Improve the mobility and safety of pedestrians and bicyclists crossing MD 355 / Rockville Pike and improve traffic operations at the existing intersection of South Wood Road / South Drive / MD 355



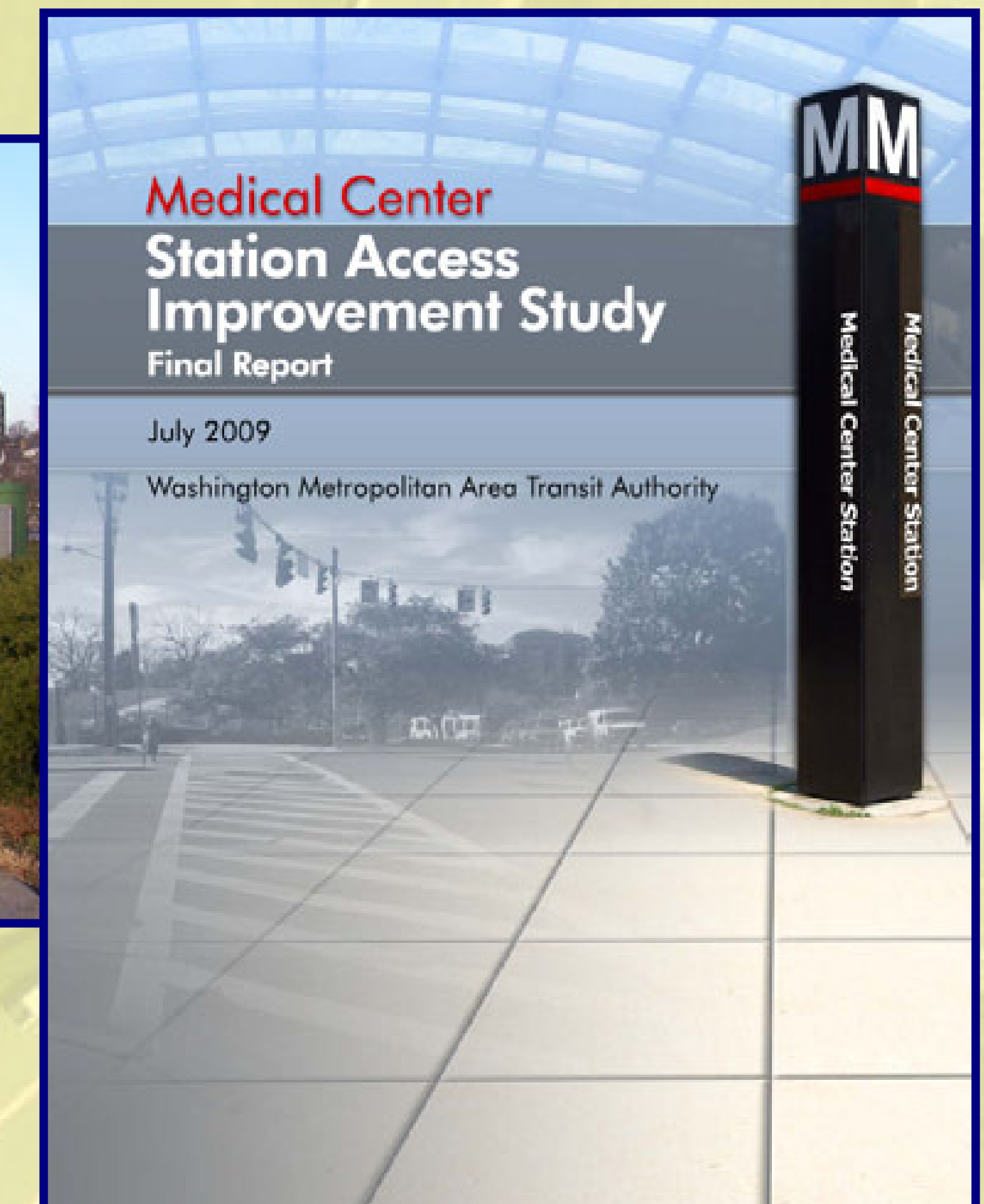


MD 355/Rockville Pike Crossing Study

Elements of Need: Transit Ridership, Pedestrians/Bicyclists, and Safety

Transit Ridership

- 2010 Metrorail ridership: 11,152 passengers per weekday
- Projected 2030 Metrorail ridership: 16,227 passengers per weekday



Pedestrian / Bicyclist Usage

- Today, 2,440 pedestrians and bicyclists cross MD 355 each weekday
- In 2030, pedestrian / bicyclist crossings are projected to be 7,530, an increase of over 200 percent

Crash Experience (2003-2007)

- 64 accidents reported at the intersection of MD 355 and South Drive / South Wood Road
- Six single vehicle-pedestrian related collisions were reported
- 25 percent of the accidents resulted in injury
- Of the 113 vehicles involved in accidents, 73 were passenger cars and 12 were transit buses





MD 355/Rockville Pike Crossing Study

Elements of Need: Traffic Operations

Existing Traffic

- Vehicles turning into NNMC from northbound MD 355 experience traffic delays (AM peak period)
- Conflicts between pedestrians and vehicles occur when traffic is entering and exiting NNMC and NIH at the same time pedestrians are crossing MD 355
- Queues on South Drive from vehicles exiting the Kiss & Ride lot and NIH block the exit from the bus loop



Intersection Leg	Existing (AM Peak Hour)			Existing (PM Peak Hour)			2030 No Build (AM Peak Hour)			2030 No Build (PM Peak Hour)		
	Volume	Level of Service		Volume	Level of Service		Volume	Level of Service		Volume	Level of Service	
		Left Turn	Through/Right Turn		Left Turn	Through/Right Turn		Left Turn	Through/Right Turn		Left Turn	Through/Right Turn
NB MD 355	1,440	D	C	2,660	A	C	1,545	D	C	2,835	A	C
SB MD 355	2,680	D	C	1,885	D	B	2,870	E	C	2,020	D	B
EB South Drive (NIH)	175	E	F	305	F	E	195	E	F	335	F	F
WB South Wood Road (NNMC)	140	E	E	425	E	F	145	F	E	445	F	F
	4,435			5,275			4,755			5,635		



Level of Service (LOS)

- A qualitative measure of operational conditions within a traffic stream, ranging from A to F
- LOS A represents optimal conditions
- LOS F represents saturated or failing conditions



MD 355/Rockville Pike Crossing Study

Screening of Preliminary Alternatives

The study team developed a set of preliminary alternatives to meet the project's Purpose and Need. Based on the needs in the study area, the following Screening Criteria were applied to determine which alternatives had the greatest potential to meet the needs

Screening Criteria:

- Pedestrian safety, including reduction in pedestrian and vehicle conflicts
- Efficiency of pedestrian and bicycle movements (i.e., travel times and appeal of route)
- Traffic operations at the MD 355 / South Wood Road / South Drive intersection (i.e., Level of Service (LOS), intersection queue lengths, delay)
- Compatibility with bus operations
- Compatibility with adjacent projects in the study area
- Compatibility with NNMC proposed gate operations and processing
- Environmental impacts
- Emergency vehicle access

Alternative 1: No-Build would not meet the project's Purpose and Need because it does not improve pedestrian / bicyclist safety or traffic operations at the MD 355 / South Wood Road / South Drive intersection, but it is being retained to serve as a comparison to the other preliminary alternatives



MD 355/Rockville Pike Crossing Study

Summary of Preliminary Alternatives Screening

Alternative		Level of Service		Comments	Recommended for Detailed Study
		AM Peak Hour	PM Peak Hour		
Existing Condition		C	F	• MD 355 / South Wood Drive / South Road operates at LOS F	N/A
Alternative 1 (2030 No-Build)		D	F	• MD 355 / South Wood Drive / South Road projected to operate at LOS F, similar to the existing condition	Yes
Alternative 2		D	F	<ul style="list-style-type: none"> • Overall intersection operation would be identical to the No-Build Condition (LOS F) • Lengthening the MD 355 SB Left Turn Lane would provide more storage and prevent turning vehicles from stacking in the MD 355 through lanes, which would have no impacts and relatively low cost • Would reduce pedestrian / vehicular conflicts and provide more storage for all vehicles (including emergency vehicles) if combined with one of the WMATA options (shown with Alternatives 5, 6, and 7) 	Yes
Alternative 3	Relocated Intersection	C	E	<ul style="list-style-type: none"> • Relocated intersection would operate better (LOS E) than the existing intersection (LOS F) • Grade separating MD 355 from South Wood Road / South Drive would completely separate pedestrians / bicyclists and vehicles • “Jug handle” would impose a more circuitous route for vehicles accessing NNMC and NIH, but travel times could be shorter when they are removed from MD 355 • Delay would increase slightly (by 13% compared to No-Build) for vehicles traveling NB on MD 355 in the evening 	Yes
Alternative 4		F	E	<ul style="list-style-type: none"> • Grade separated ramp access requires signaling ramp termini in a very tight formation on the new structure • Signalized ramp termini would operate with significant delay and extensive queuing (67% increase over No-Build) along MD 355 • Opposing vehicular traffic would be separated, but conflicts between pedestrians / bicyclists and traffic using the new ramps would remain 	No
Alternative 5		C	F	<ul style="list-style-type: none"> • Double left turns into NNMC would improve operations over No-Build but still operate at LOS F • Two inbound lanes of traffic to NNMC's gate is not compatible with the outbound lane configuration proposed for South Wood Drive 	No
Alternative 6	Existing Intersection	B	C	<ul style="list-style-type: none"> • New intersection operates better (LOS C) than No-Build (LOS F) • Second signal so close to the existing South Wood and Cedar Lane intersections would cause additional delay (a 13% increase over No-Build Conditions) for through traffic 	No
	New Intersection with MD 355	B	B		
Alternative 7	Existing Intersection	B	F	<ul style="list-style-type: none"> • New intersection would operate at LOS F • New signal in close proximity to the South Wood and Jones Bridge Road intersections would cause additional delay (a 27% increase over No-Build Conditions) for through traffic 	No
	New Intersection with MD 355	A	A		

Transportation System Management (TSM)

- Signal phasing or timing modifications, including exclusive pedestrian phase
- Priority signal control for pedestrians and transit vehicles
- Enhanced synchronization of traffic signals
- In-Roadway warning lights at crosswalks
- Flashing caution lights to warn drivers of pedestrians
- Pedestrian refuge island in median
- Accessible pedestrian signals
- Raised and / or textured pavement at crosswalks
- Improved sight distance
- Enlarged curb radii
- Extended southbound MD 355 left turn lane to South Wood Road

Transportation Demand Management (TDM)

- Improving transit services system-wide
 - Enhanced bus shelters
 - Enhanced passenger information system
- Encouraging telecommuting and use of bicycles
- Transit-oriented development incentives
- Optimization of land use

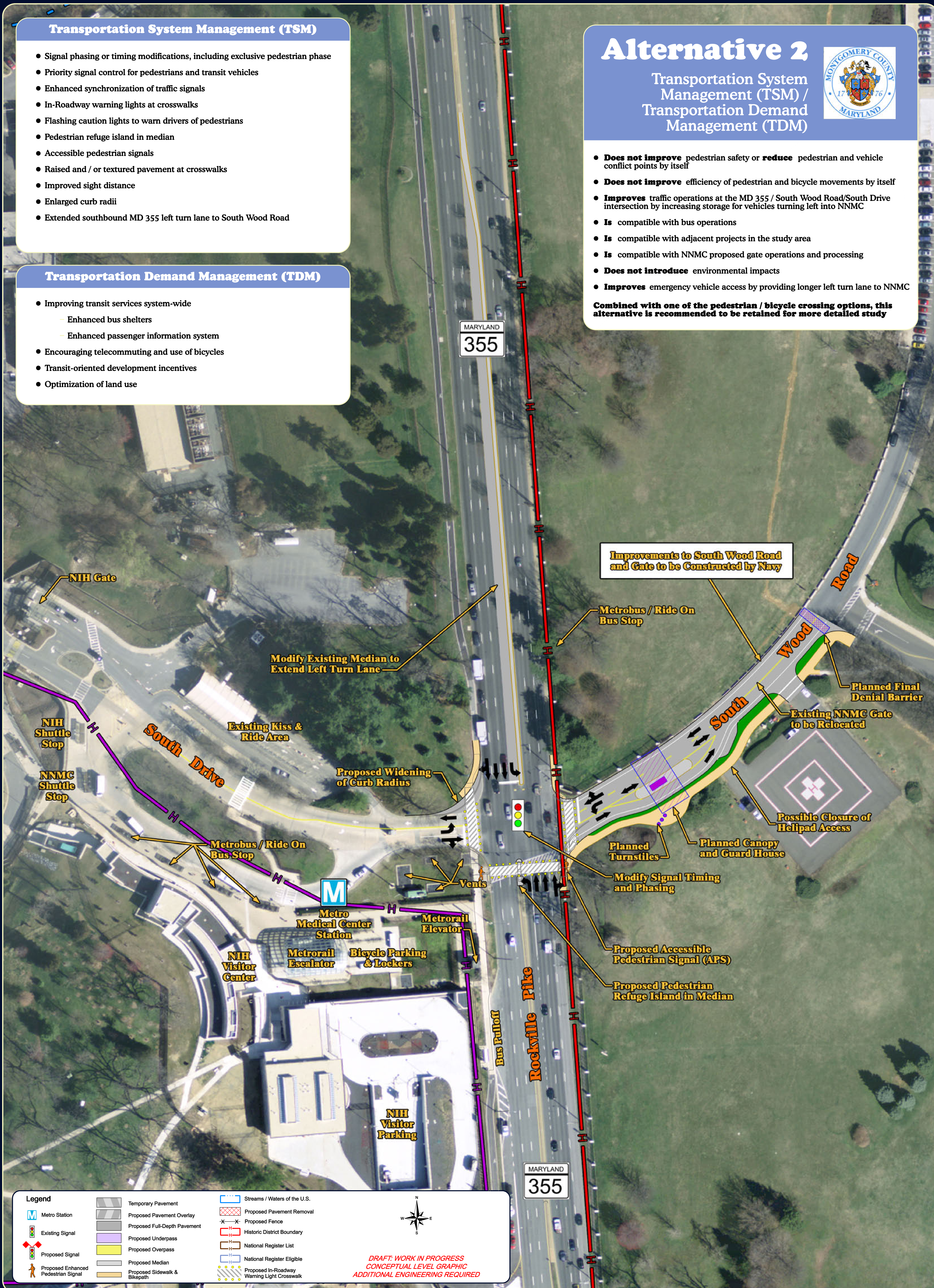
Alternative 2

Transportation System Management (TSM) / Transportation Demand Management (TDM)



- **Does not improve** pedestrian safety or **reduce** pedestrian and vehicle conflict points by itself
- **Does not improve** efficiency of pedestrian and bicycle movements by itself
- **Improves** traffic operations at the MD 355 / South Wood Road/South Drive intersection by increasing storage for vehicles turning left into NNMC
- **Is** compatible with bus operations
- **Is** compatible with adjacent projects in the study area
- **Is** compatible with NNMC proposed gate operations and processing
- **Does not introduce** environmental impacts
- **Improves** emergency vehicle access by providing longer left turn lane to NNMC

Combined with one of the pedestrian / bicycle crossing options, this alternative is recommended to be retained for more detailed study



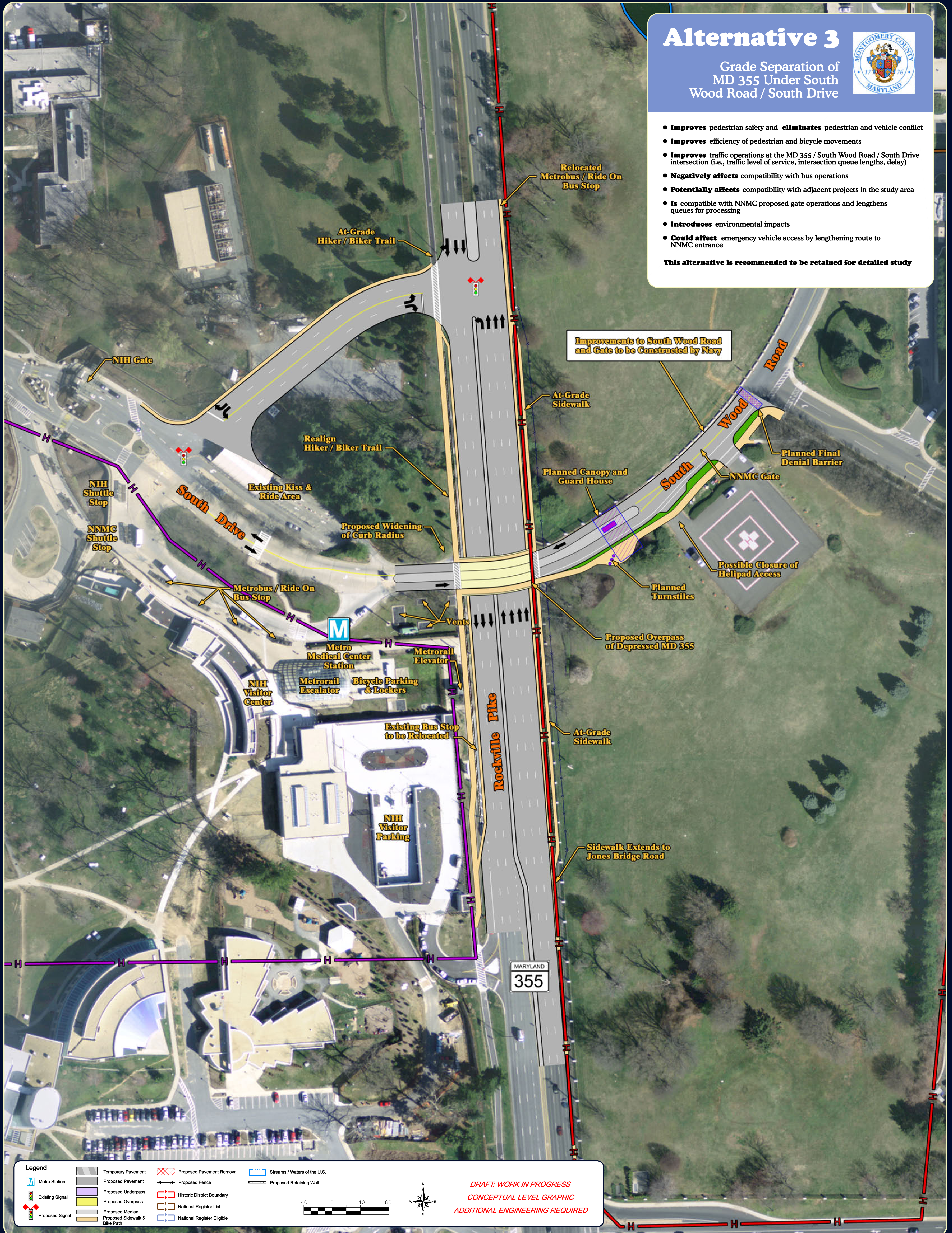
Alternative 3

Grade Separation of
MD 355 Under South
Wood Road / South Drive



- **Improves** pedestrian safety and **eliminates** pedestrian and vehicle conflict
- **Improves** efficiency of pedestrian and bicycle movements
- **Improves** traffic operations at the MD 355 / South Wood Road / South Drive intersection (i.e., traffic level of service, intersection queue lengths, delay)
- **Negatively affects** compatibility with bus operations
- **Potentially affects** compatibility with adjacent projects in the study area
- **Is** compatible with NNMCM proposed gate operations and lengthens queues for processing
- **Introduces** environmental impacts
- **Could affect** emergency vehicle access by lengthening route to NNMCM entrance

This alternative is recommended to be retained for detailed study





Alternative 4

Diamond Interchange

- **Improves** pedestrian safety and **reduces** some pedestrian and vehicle conflicts (some remain)
- **Somewhat improves** efficiency of pedestrian and bicycle movements
- **Does not improve** traffic operations at the MD 355 / South Wood Road / South Drive intersection
- **Negatively affects** compatibility with bus operations
- **Negatively affects** compatibility with adjacent projects in the study area
- **Potentially affects** compatibility with NNMC proposed gate operations and processing
- **Introduces** environmental impacts
- **Improves** emergency vehicle access

This alternative is not recommended for more detailed study

Legend

Metro Station

Existing Signal

Proposed Signal

Temporary Pavement

Proposed Pavement

Proposed Underpass

Proposed Overpass

Proposed Median

Proposed Sidewalk & Bike Path

Proposed Pavement Removal

Proposed Fence

Historic District Boundary

National Register List

National Register Eligible

Streams / Waters of the U.S.

Proposed Fence

Historic District Boundary

National Register List

National Register Eligible

0 10 20 30

DRAFT: WORK IN PROGRESS

CONCEPTUAL LEVEL GRAPHIC

ADDITIONAL ENGINEERING REQUIRED

Does not reduce the pedestrian / vehicle conflict points and is not recommended for further consideration.

Reduces pedestrian / vehicle conflict points, but only serves Metrorail riders. As a stand alone option is not recommended for further consideration, but is being studied along with the pedestrian/bicycle underpass option.

An aerial photograph of a city intersection. A yellow transit station structure is overlaid on the image, featuring a central purple rectangular area and two yellow rectangular buildings on either side. A red and white striped barrier is positioned across the intersection. A blue square with a white 'M' is located in the lower-left corner. The background shows a multi-lane road with cars, green trees, and a building with a glass facade.

Reduces pedestrian / vehicle conflict points and is being recommended for further study.



Double Left Turns with Pedestrian Crossing

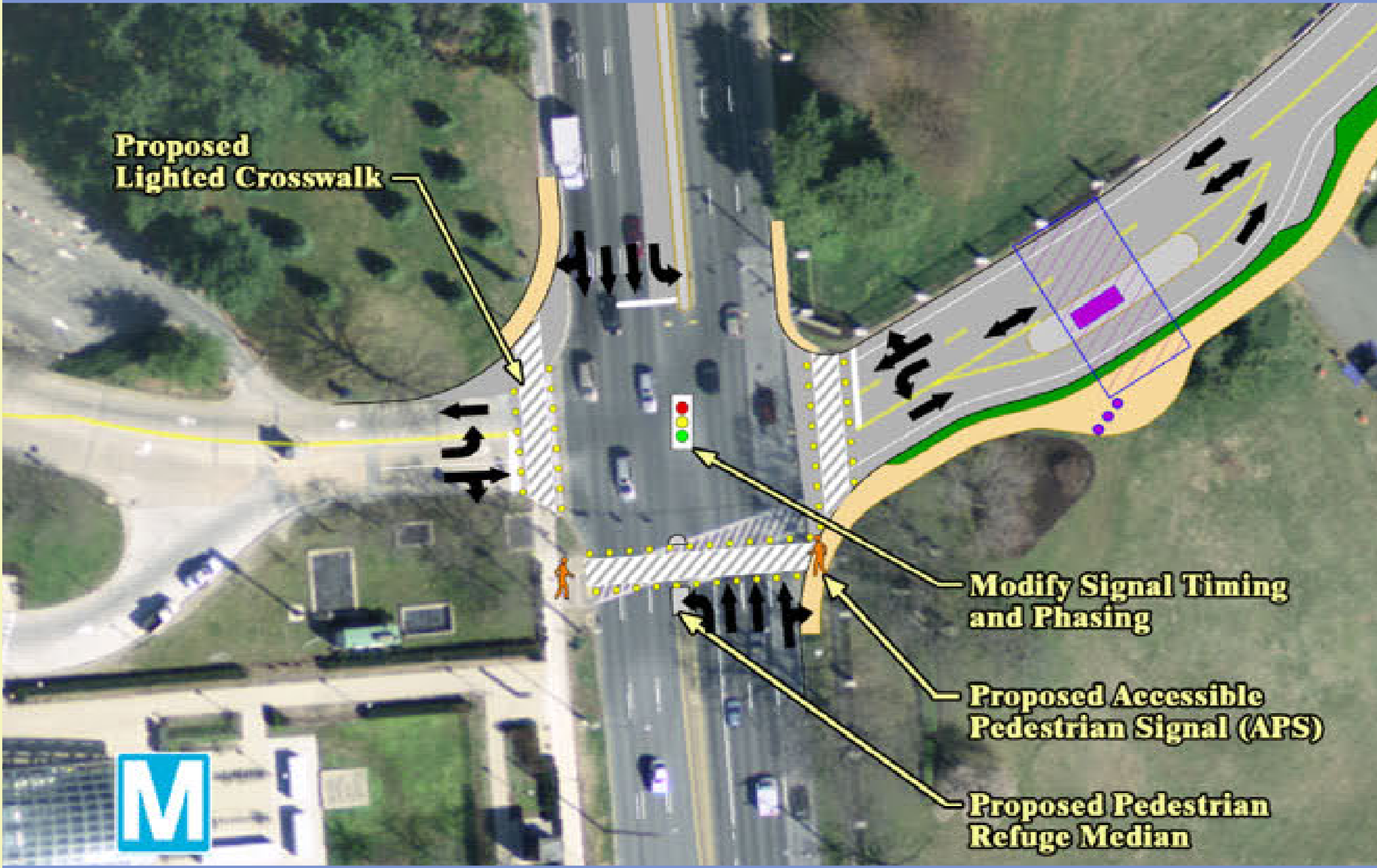
- This alternative is not recommended for more detailed study**

Reduces pedestrian / vehicle conflict points and is being recommended for further study.

This aerial photograph shows the proposed station location at the intersection of I-490 and I-90. The station structure is highlighted in yellow, and the surrounding area includes a large green park area, a parking lot, and a building with a blue roof. A blue 'M' logo is visible in the bottom left corner.

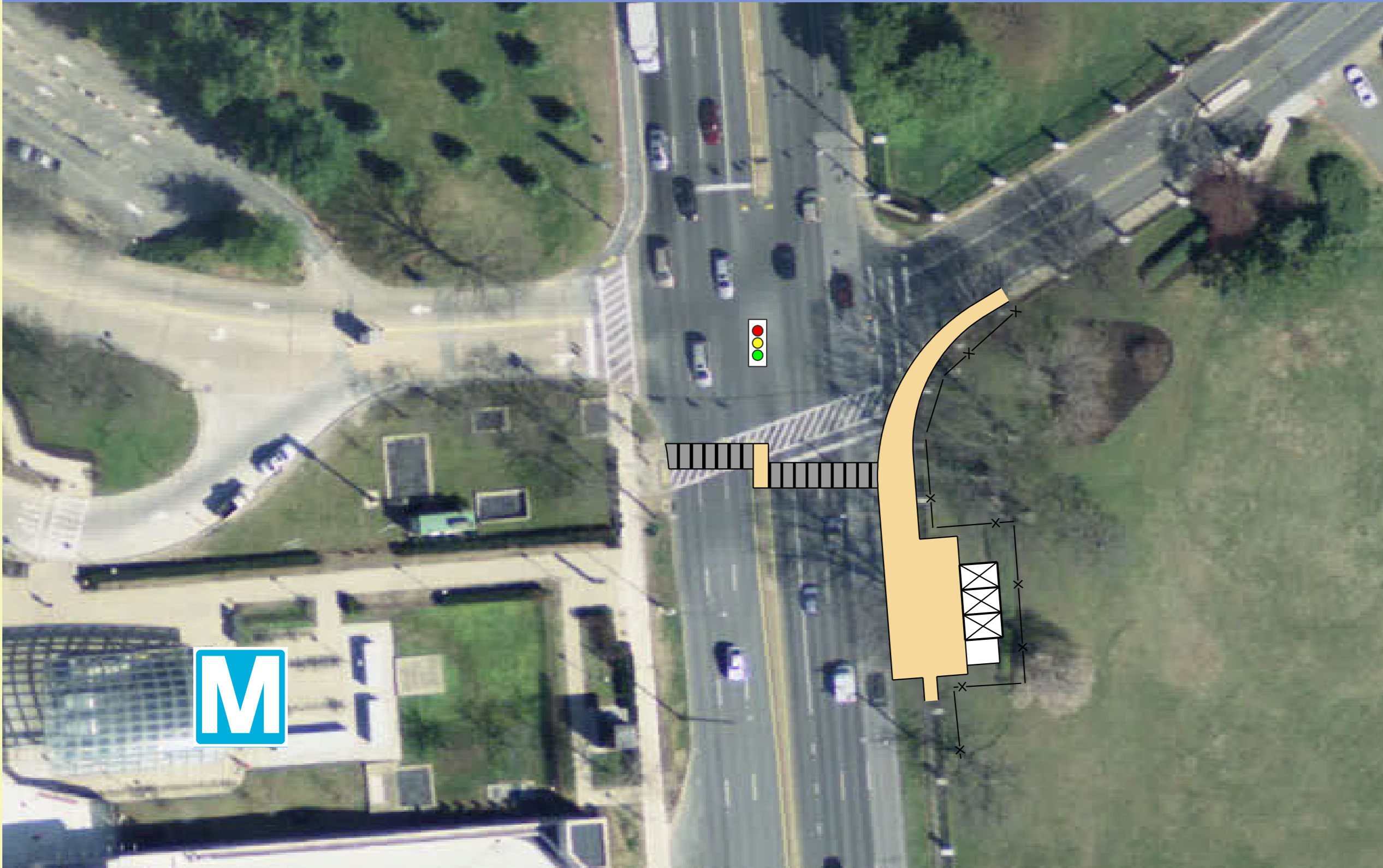
Reduces pedestrian / vehicle conflict points, does not provide convenient access to pedestrians and bicyclists and is not recommended for further study.

TSM At-Grade Enhancements



Does not reduce the pedestrian / vehicle conflict points and is not recommended for further consideration.

WMATA Deep Tunnel with Elevators



Reduces pedestrian / vehicle conflict points, but only serves Metrorail riders. As a stand alone option is not recommended for further consideration, but is being studied along with the pedestrian/bicycle underpass option.

WMATA Pedestrian / Bicycle Underpass



Reduces pedestrian / vehicle conflict points and is being recommended for further study.



Legend

Metro Station

Existing Signal

Proposed Signal

Temporary Pavement

Proposed Pavement

Proposed Underpass

Proposed Overpass

Proposed Median

Proposed Sidewalk & Bikepath

Proposed Pavement Removal

Proposed Fence

Historic District Boundary

National Register List

National Register Eligible

Streams / Waters of the U.S.

DRAFT: WORK IN PROGRESS
CONCEPTUAL LEVEL GRAPHIC
ADDITIONAL ENGINEERING REQUIRED

Alternative 6

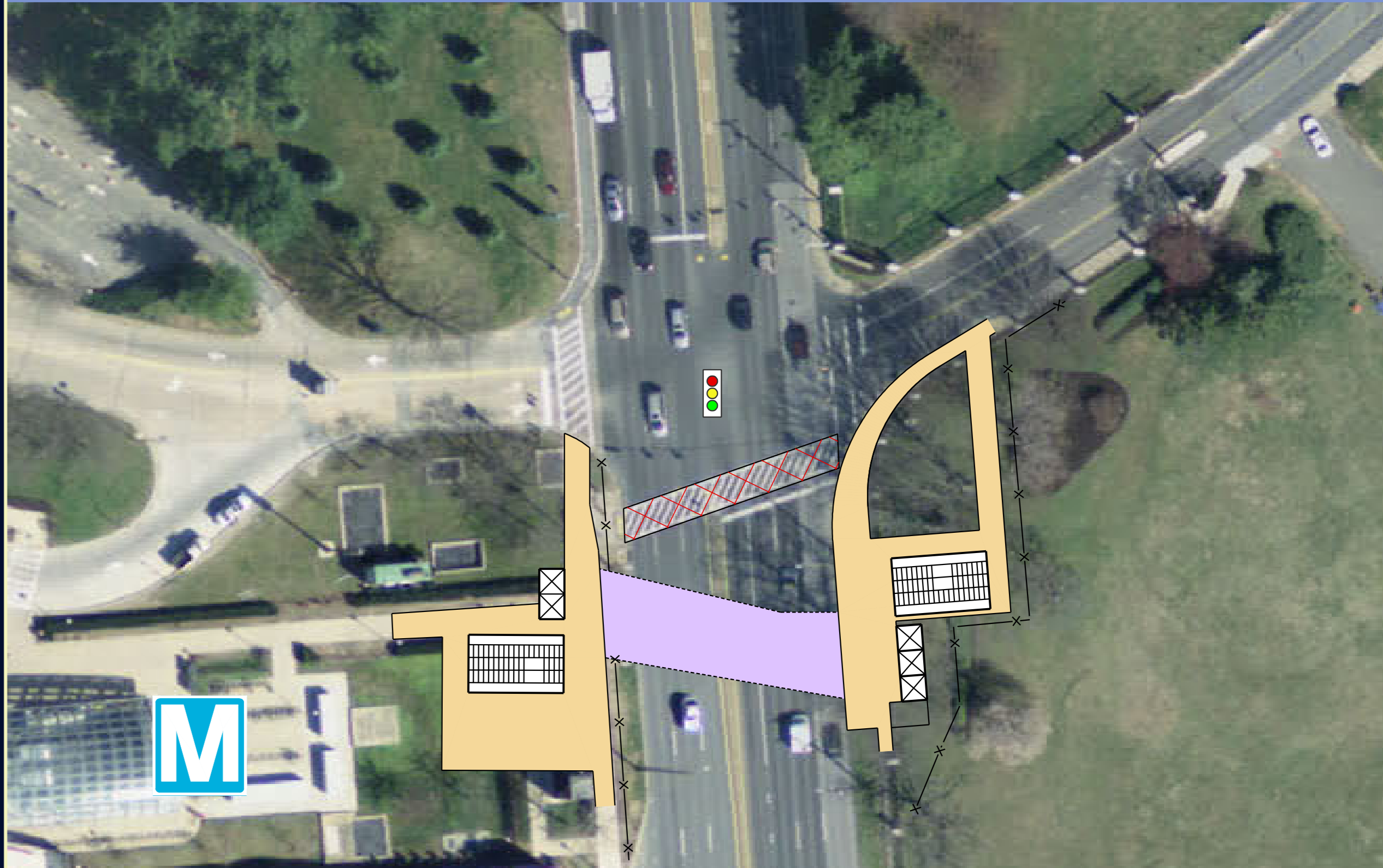
NIH Jug Handle with Pedestrian Crossing



- **Improves** pedestrian safety and **reduces** pedestrian and vehicle conflict points
- **Improves** efficiency of pedestrian and bicycle movements
- **Somewhat improves** traffic operations at the MD 355 / South Wood Road / South Drive intersection
- **Negatively affects** compatibility with bus operations
- **Is** compatible with adjacent projects in the study area
- **Is** compatible with NNMC proposed gate operations and processing
- **Introduces** environmental impacts
- **Negatively affects** emergency vehicle access

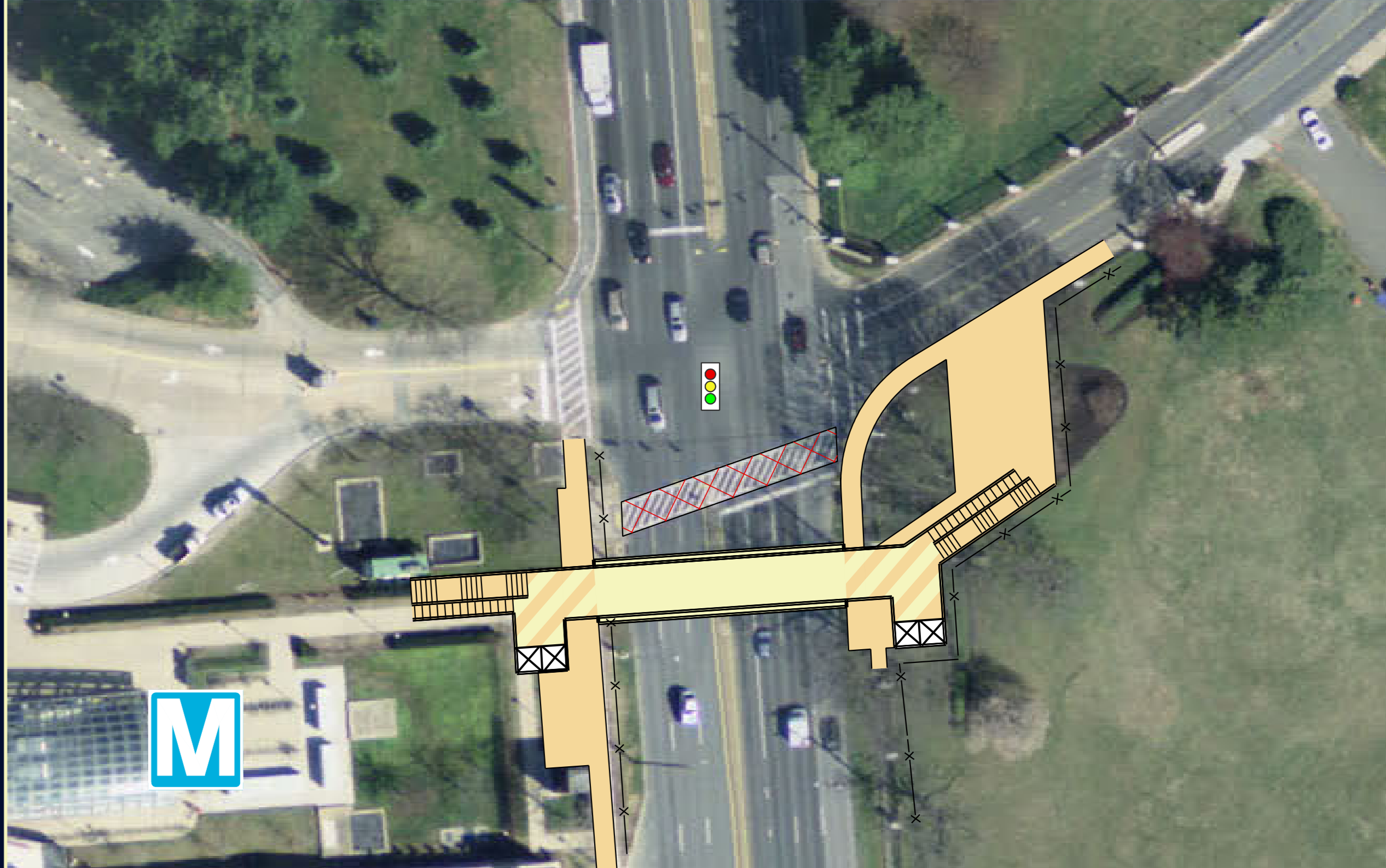
This alternative is not recommended for more detailed study

WMATA Deep Elevators and Pedestrian / Bicycle Underpass



Reduces pedestrian / vehicle conflict points and is being recommended for further study.

WMATA Pedestrian / Bicycle Bridge



Reduces pedestrian / vehicle conflict points, does not provide convenient access to pedestrians and bicyclists and is not recommended for further study.

Proposed Lighted Crosswalk

Modify Signal Timing and Phasing

Proposed Accessible Pedestrian Signal (APS)

Proposed Pedestrian Refuge Median

M

Does not reduce the pedestrian / vehicle conflict points and is not recommended for further consideration.

An aerial photograph of a city intersection. A yellow building with a blue 'M' logo is visible in the lower-left corner. A road with a traffic light runs vertically through the center. A yellow building with a blue 'M' logo is visible in the lower-left corner. A road with a traffic light runs vertically through the center. A yellow building with a blue 'M' logo is visible in the lower-left corner. A road with a traffic light runs vertically through the center.

Reduces pedestrian / vehicle conflict points, but only serves Metrorail riders. As a stand alone option is not recommended for further consideration, but is being studied along with the pedestrian/bicycle underpass option.

Reduces pedestrian / vehicle conflict points and is being recommended for further study.



NNMC Jug Handle with Pedestrian Crossing



- **Improves** pedestrian safety and **reduces** pedestrian and vehicle conflict points
- **Improves** efficiency of pedestrian and bicycle movements
- **Partially addresses** traffic operations at the MD 355 / South Wood Road / South Drive intersection
- **Is not** compatible with bus operations
- **Is** compatible with adjacent projects in the study area
- **Is not** compatible with NNMC proposed gate operations and processing
- **Introduces** environmental impacts
- **Potentially negatively affects** emergency vehicle access

Reduces pedestrian / vehicle conflict points and is being recommended for further study.

Reduces pedestrian / vehicle conflict points, does not provide convenient access to pedestrians and bicyclists and is not recommended for further study.

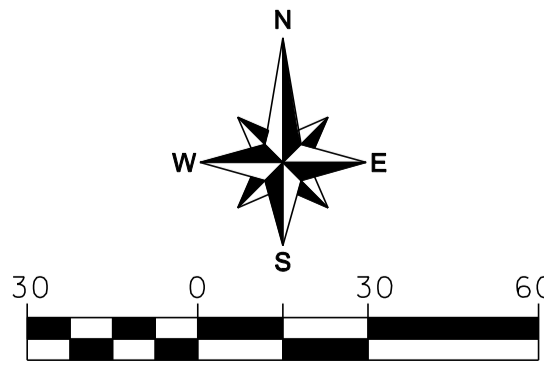
Alternative 2A

Pedestrian / Bicycle Underpass
and TSM / TDM
Improvements

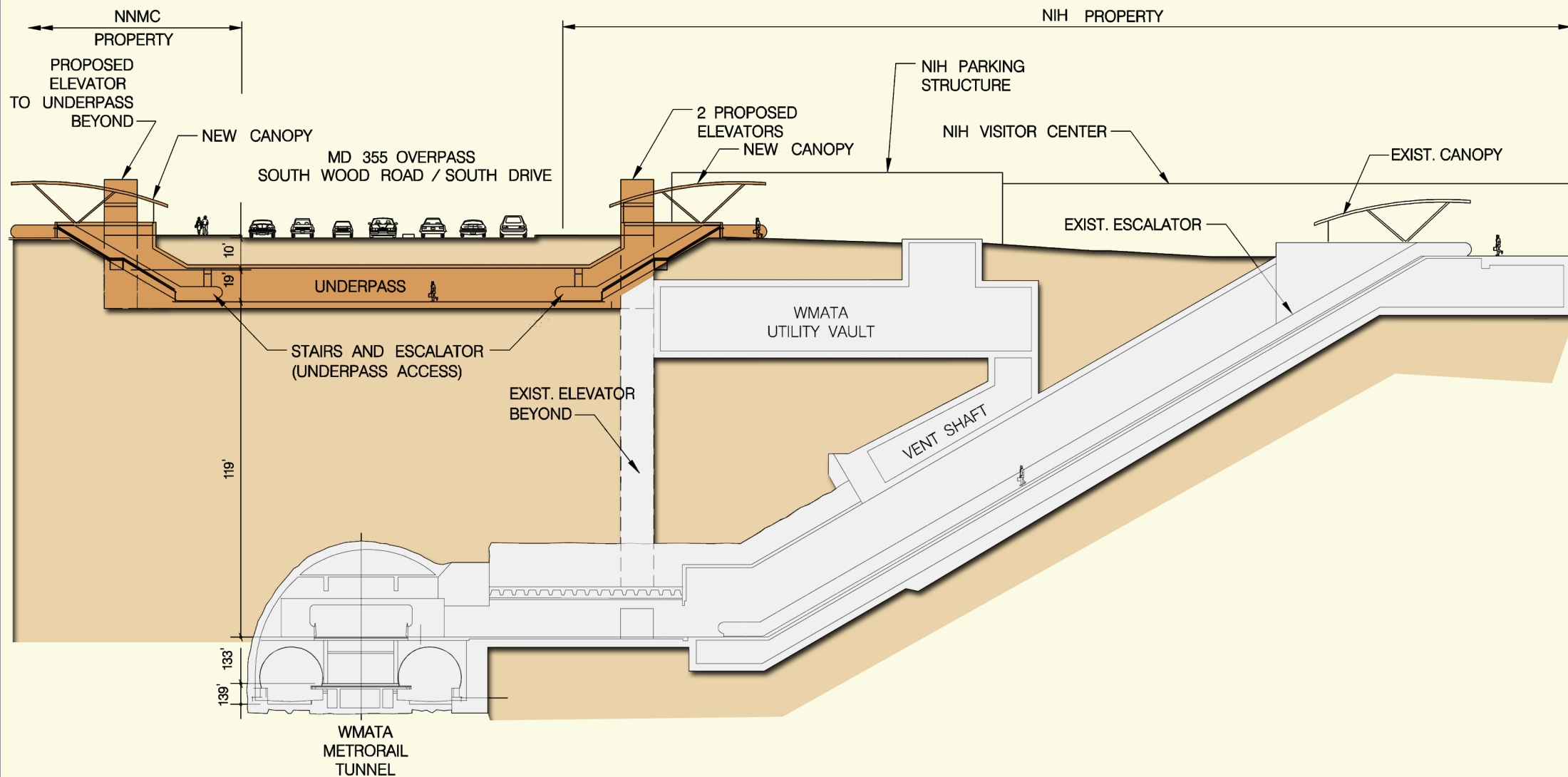


Legend

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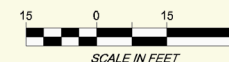
DRAFT: WORK IN PROGRESS
CONCEPTUAL LEVEL GRAPHIC
ADDITIONAL ENGINEERING REQUIRED



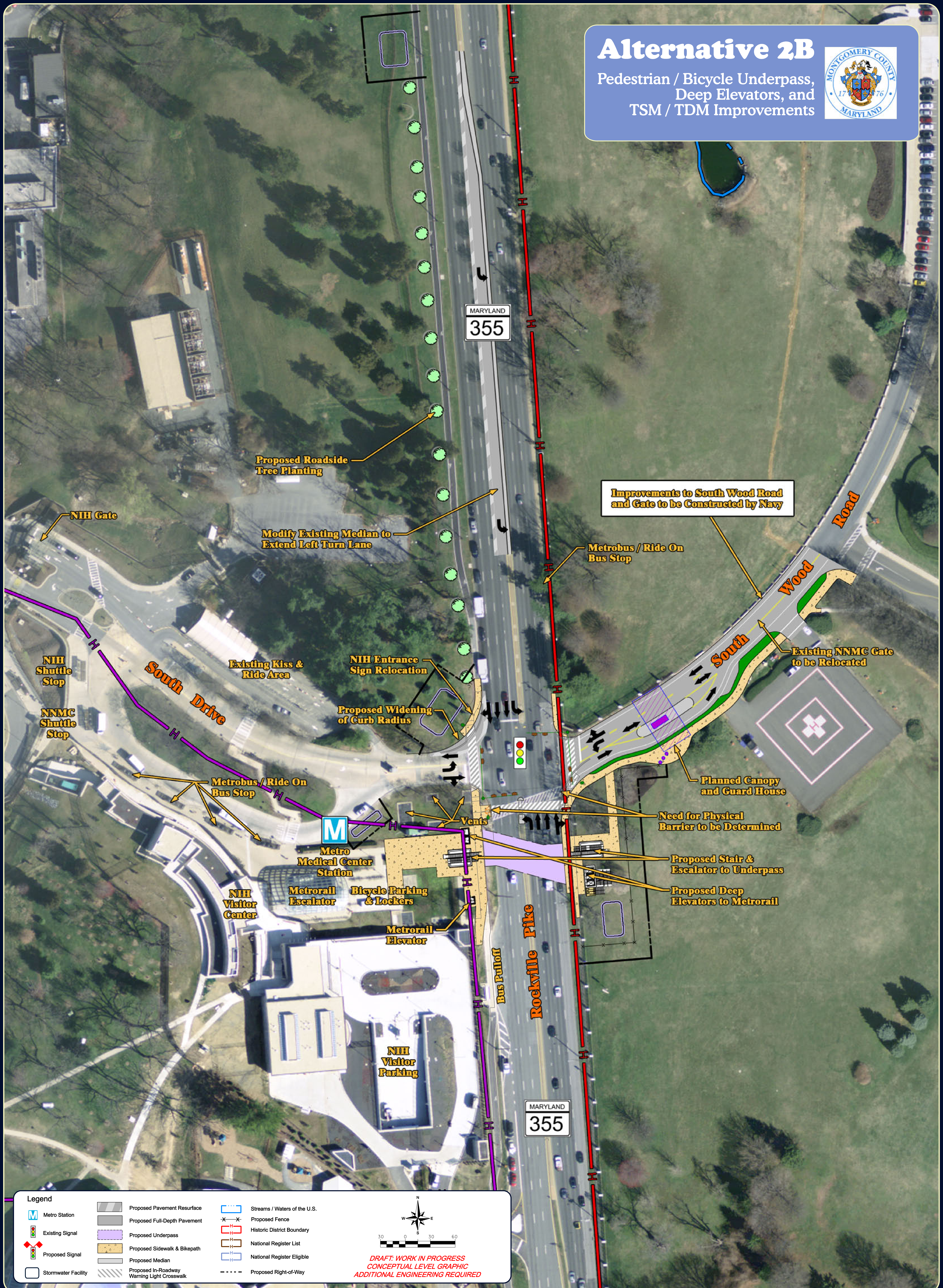
Alternative 2A Section View

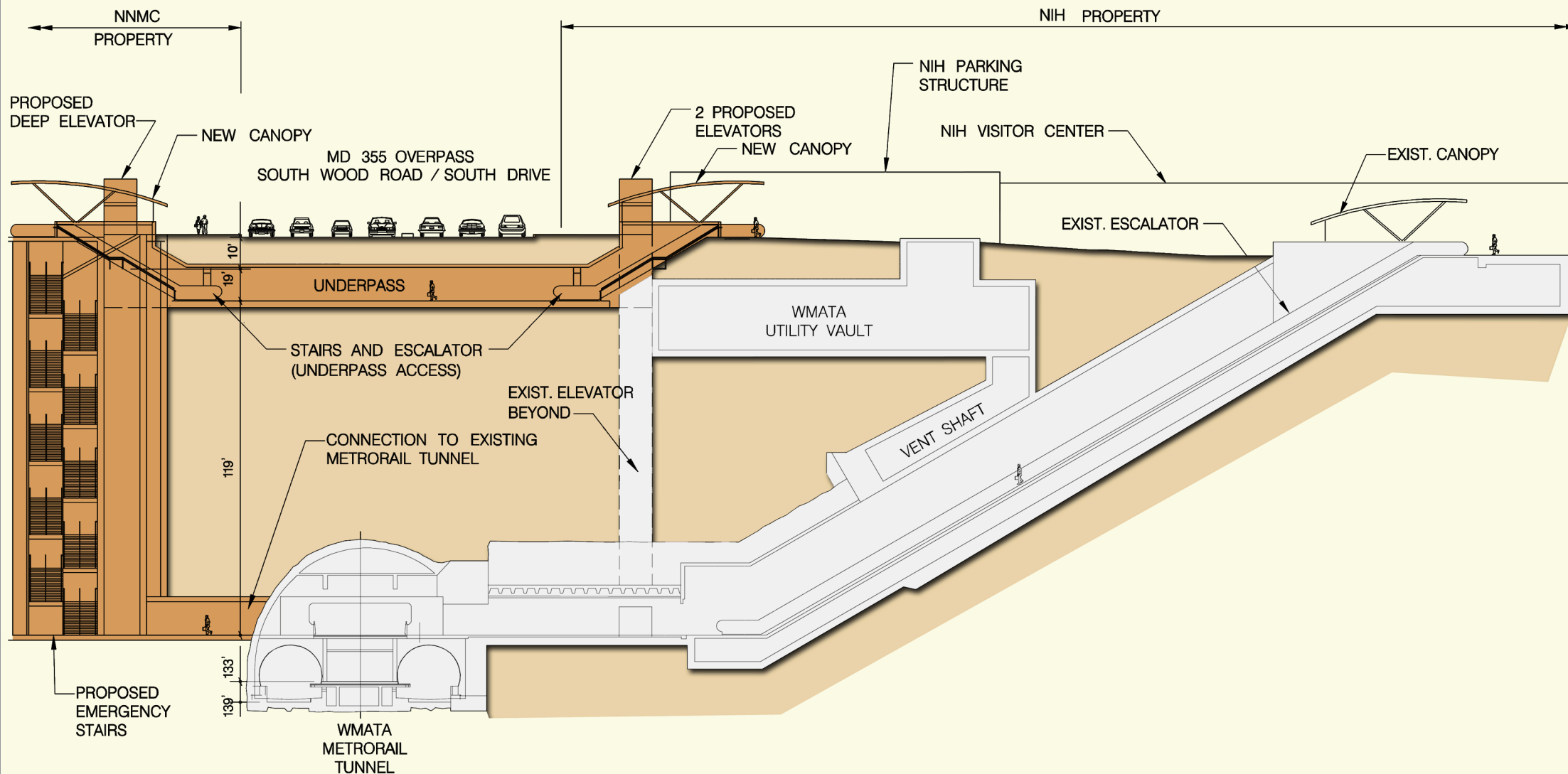
(Looking South to Jones Bridge Road)

Scale: 1" = 30'



Pedestrian / Bicycle Underpass, Deep Elevators, and TSM / TDM Improvements

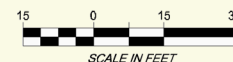




Alternative 2B Section View

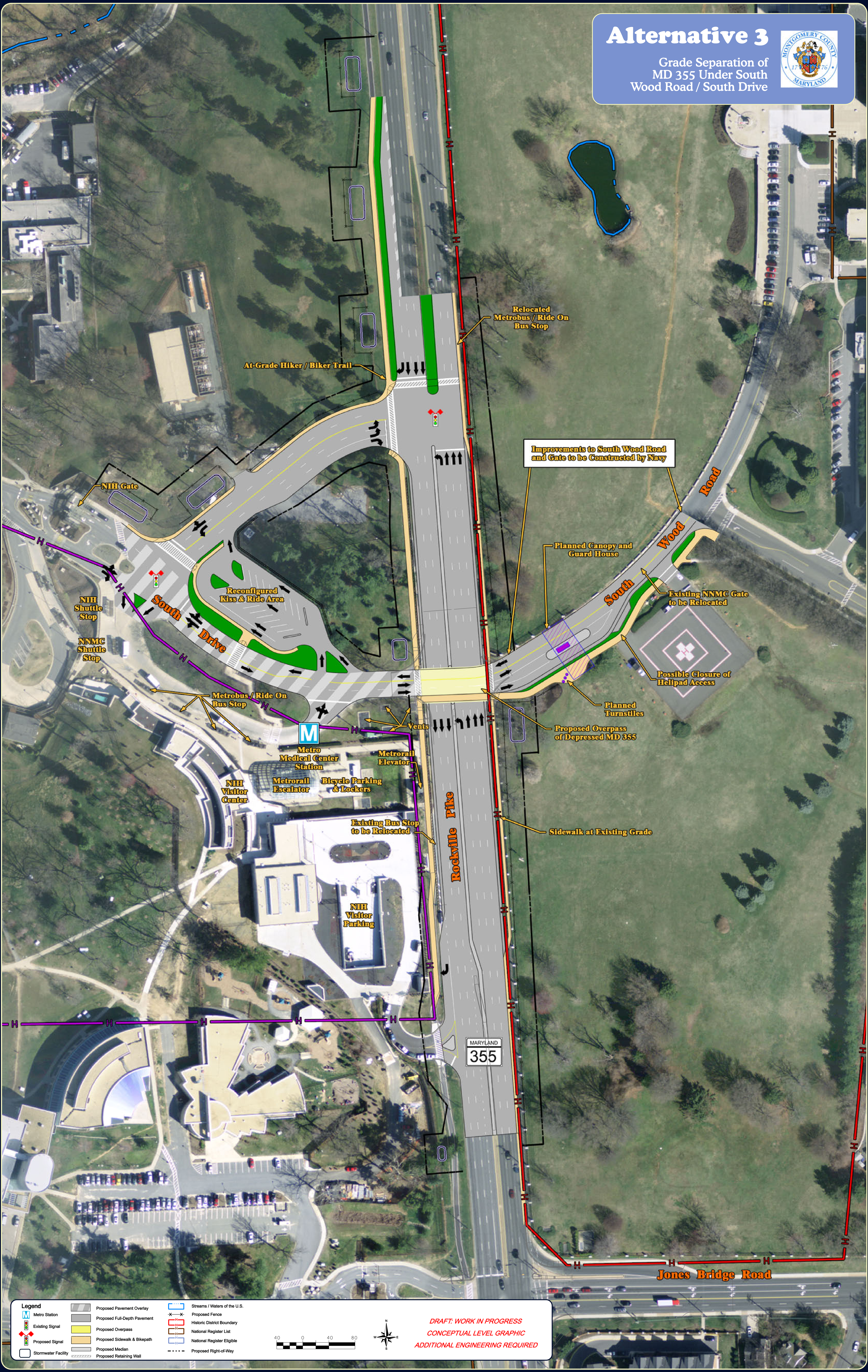
(Looking South to Jones Bridge Road)

Scale: 1" = 30'

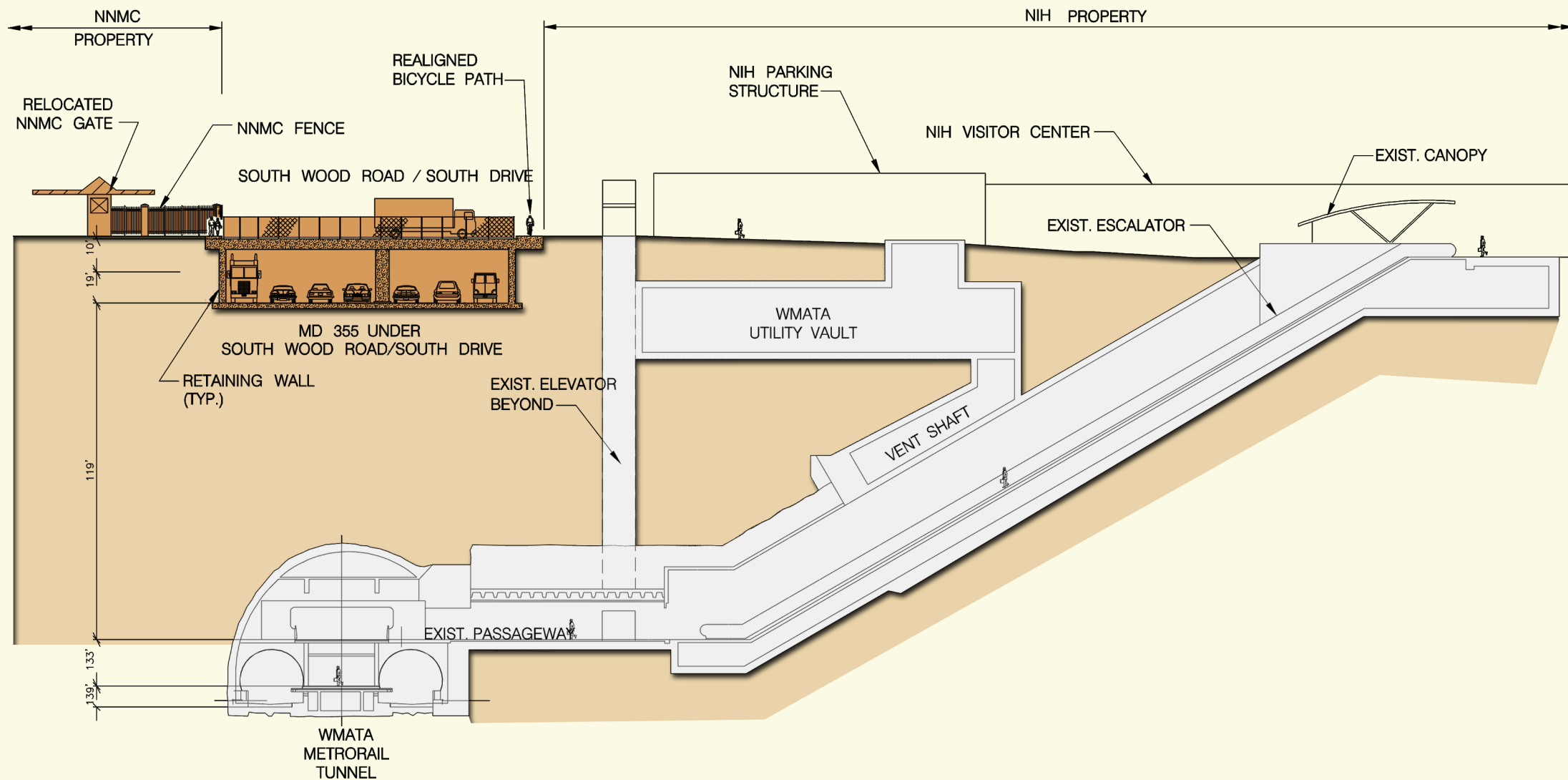


Alternative 3

Grade Separation of
MD 355 Under South
Wood Road / South Drive



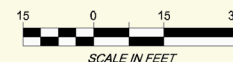
DRAFT: WORK IN PROGRESS
CONCEPTUAL LEVEL GRAPHIC
ADDITIONAL ENGINEERING REQUIRED



Alternative 3 Section View

(Looking South to Jones Bridge Road)

Scale: 1" = 30'



MD 355/Rockville Pike Crossing Study

Impacts and Costs



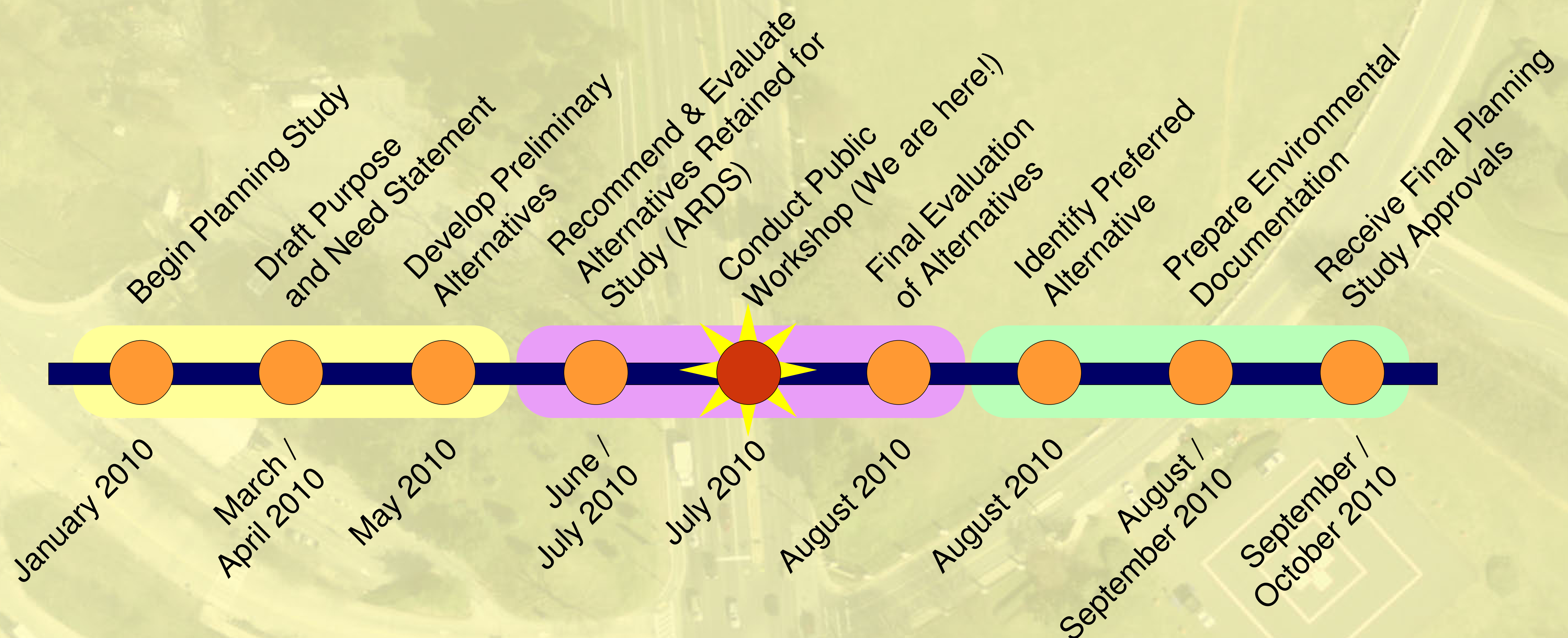
Comparison of Environmental Impacts and Costs

Features	Alternative 2A	Alternative 2B	Alternative 3
Right-of-Way Impacts			
Number of Residential Properties Affected	0	0	0
Number of Commercial Properties Affected	0	0	0
Number of Displacements	0	0	0
NIH Right-of-Way (acres)	0.6	0.6	3.1
NNMC Right-of-Way (acres)	0.5	0.5	1.2
Total Right-of-Way (acres)	1.1	1.1	4.3
Environmental Impacts			
Historic Property – National Register (acres)	0.5	0.5	1.2
Historic Property – National Register Eligible (acres)	0.3	0.3	0.1
Wetlands (acres)	0	0	0
Streams (LF)	0	0	0
Floodplains (acres)	0	0	0
Parks (acres)	0	0	0
Trees – DBH 24" and Larger (number)	17	17	27
Cost (in 2010 Dollars)			
Estimated Total Cost (\$ millions)	\$25-31	\$48-58	\$58-70



MD 355/Rockville Pike Crossing Study

Project Schedule and Next Steps



Scoping Stage

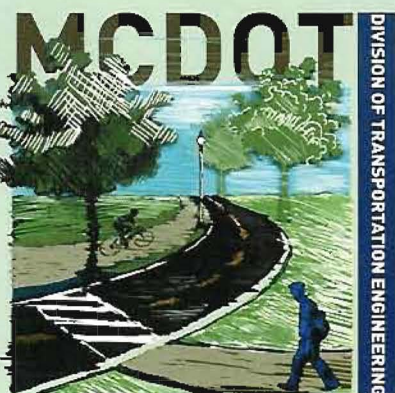
- Develop Draft Purpose and Need and Project Goals and Objectives
- Develop Screening Criteria and Preliminary Alternatives
- Coordinate with federal and state stakeholder agencies

Detailed Study Stage

- Identify Alternatives Retained for Detailed Study (ARDS)
- Complete detailed engineering and environmental studies
- Coordinate with federal and state stakeholder agencies
- Conduct Public Meeting

Decision-Making Stage

- Identify Preferred Alternative
- Coordinate with federal and state stakeholder agencies
- Prepare environmental documentation
- Receive final planning study approvals



ISIAH LEGGETT
Montgomery County Executive

MD 355/Rockville Pike Crossing Study

your input is important!

Please provide your
comments for this study by:

August 3, 2010

Montgomery County
Department of Transportation
DIVISION OF
TRANSPORTATION
ENGINEERING
100 Edison Park Drive, 4th Floor
Gaithersburg, Maryland 20878

Project Manager:
Ken Kendall

P: 240.777.7267

F: 240.777.7277

Email: Kenneth.Kendall@montgomerycountymd.gov

For alternative formats of this
Comment Form, please contact
the Division of Transportation

Engineering at:
240. 777. 7220 (voice).
TTY users call MD Relay.

Comments Form

ARTHUR HOLMES, JR. - Director
Department of Transportation

PUBLIC COMMENTS FORM - MCDOT Welcomes your Feedback!

Public input is the key to an effective study process, as it allows MCDOT to understand the concerns of the community. We encourage you to complete the form below.

Name _____

Address

Phone

E-mail

Your Comments

July 2010

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Attention: Ken Kendall, Project Manager