

**WELCOME**  
to the  
**MD 586**  
**Veirs Mill Road**  
**Bus Rapid Transit Study**  
**PUBLIC MEETING**  
September 28, 2016



# Purpose of Tonight's Public Meeting

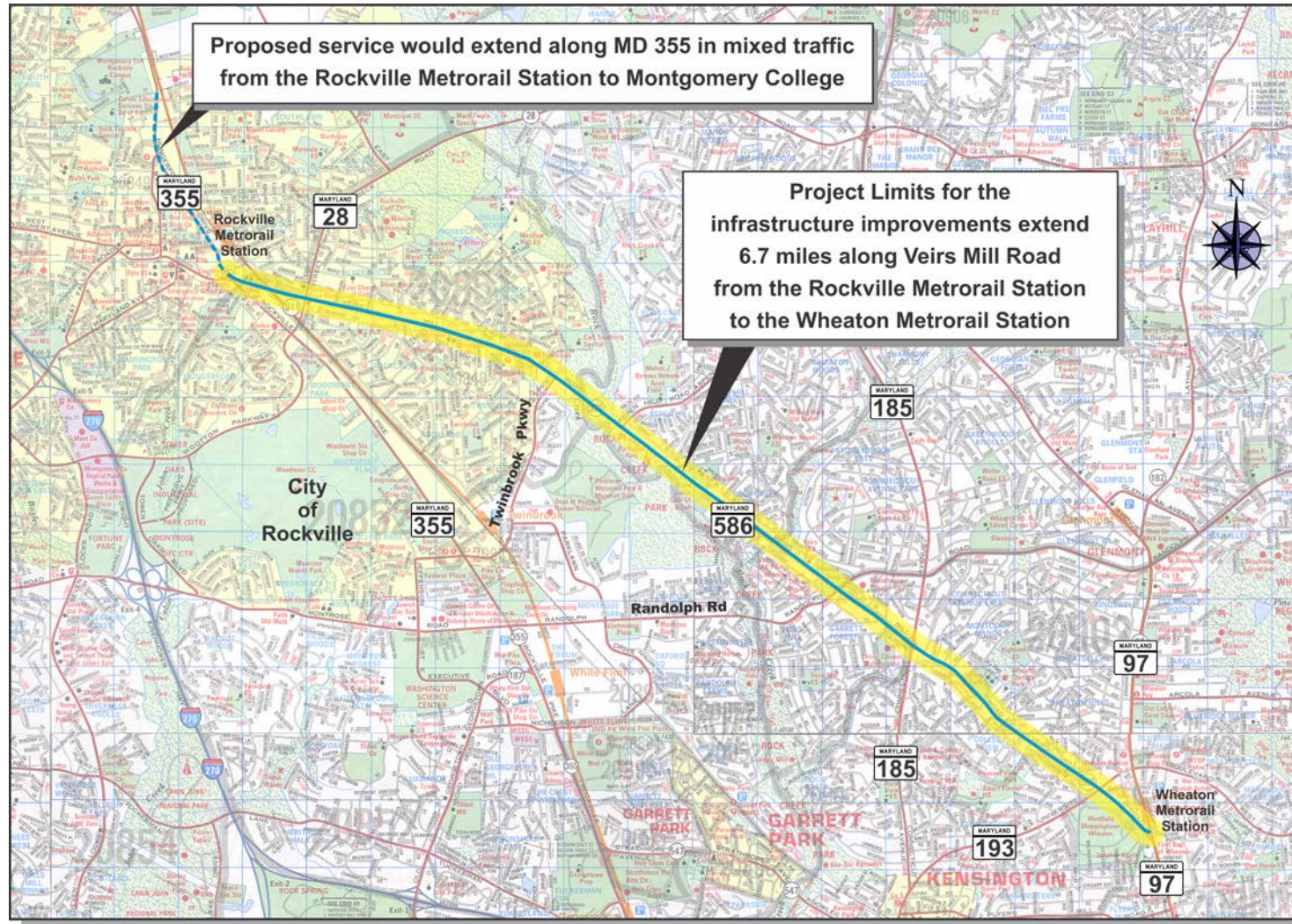
- The Montgomery County Department of Transportation (MCDOT) and the Maryland Department of Transportation (MDOT) are requesting public comments to guide selection of a recommended alternative for transit improvements along Veirs Mill Road (MD 586)
- **Please provide your comments by filling out a comment card or providing recorded verbal comments**
- Selection of a recommended alternative will occur in Winter 2016/2017

## How to get the most out of the meeting:

- Watch the introductory video
- Visit the display boards
- Talk to the project team and ask questions
- Fill out a comment card or sit down with the stenographer to verbally record your comments



# Project Location



# What is Bus Rapid Transit (BRT)?

## What is BRT?

- BRT is a high-performance bus service that combines the quality of a light rail transit system with the flexibility, cost, and simplicity of a bus system.
- BRT buses may operate in dedicated lanes that set them apart from other roadway traffic, which reduces or eliminates delays.

## What are some typical features of BRT?

- Attractive specialized buses
- Strong brand identity
- Enhanced stations
- Level boarding from platform to vehicle
- Pay before you board ticketing/fare collection
- Easy transfers to other transit services

## How does BRT differ from local bus service?

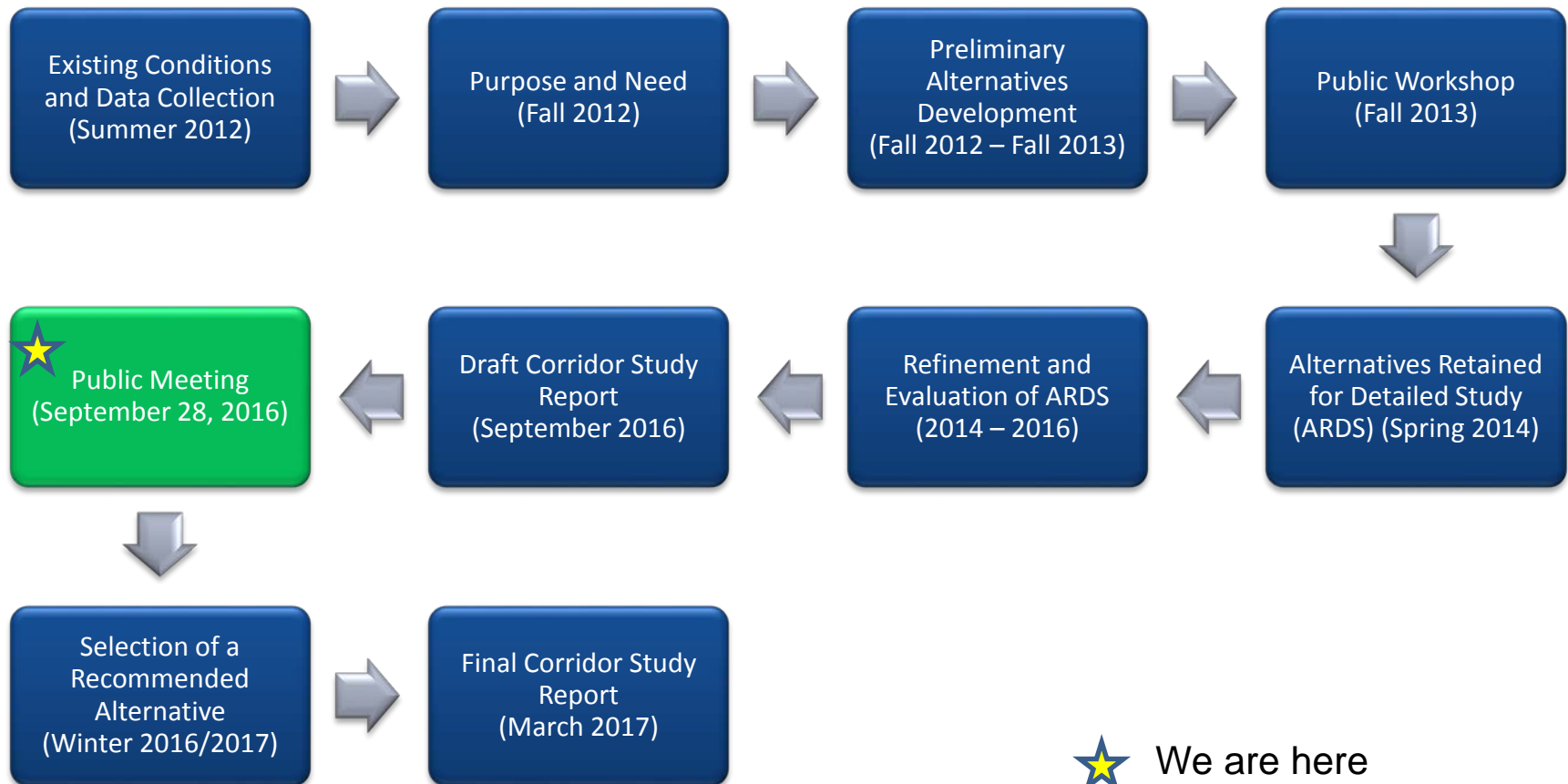
- Time between buses is shorter
- Distance between stations is 1/2-mile to 1-mile
- Buses may operate in their own lane
- Buses may get priority at traffic signals
- Real-time passenger information

## Successful BRT Systems in the USA





# MD 586 Planning Process



# Existing Roadway Information

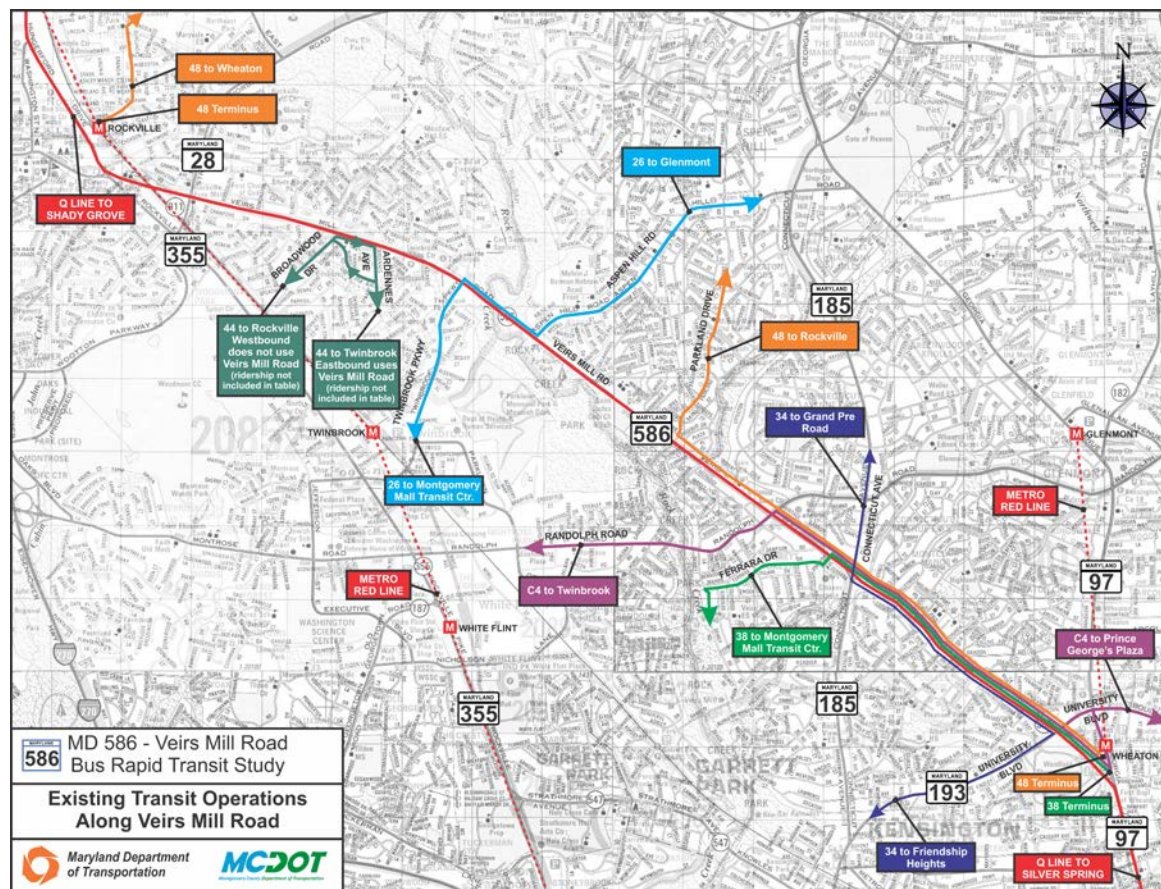
- Veirs Mill Road (MD 586) is an east-west roadway that connects Rockville and Wheaton
- While there are commercial properties at some of the larger intersections, most of the properties along Veirs Mill Road are residential
- Service roads provide parking and access control for many residents along the corridor
- The number of travel lanes varies between 4 and 6, not including turn lanes or the service roads
- There are no existing bike lanes
- Sidewalks are typically present, with some gaps





# Existing Transit Services

- Metro Bus Routes:  
Q1, Q2, Q4, Q5, Q6, and C4
- Ride-On Routes:  
26, 34, 38, 44 and 48
- Headways of buses:  
10 to 30 minutes per route
- WMATA's Metrobus: 12,900 daily passengers within study corridor
- Montgomery County's Ride On: 5,200 daily passengers within study corridor
- Bicycle racks mounted on all Metrobuses and Ride On buses
- All buses are wheelchair accessible
- Veirs Mill Road is one of the most heavily used transit corridors in Montgomery County that does not have an existing, parallel rail transit line



# Purpose and Need for the Project

## Purpose:

- Provide new high-efficiency bus service along Veirs Mill Road between the Rockville Metrorail Station and the Wheaton Metrorail Station.

## Need:

- Four specific needs for the project have been identified:

<b>System Connectivity</b>	<ul style="list-style-type: none"> <li>High-quality east-west transit connection not available between Rockville and Wheaton Metrorail Stations</li> <li>Most heavily traveled/most congested segment of WMATA Q Line is along Veirs Mill Road between the Rockville and Wheaton Metrorail Stations</li> </ul>
<b>Mobility</b>	<ul style="list-style-type: none"> <li>Traffic congestion impedes bus mobility/results in unpredictable service and increased travel times</li> <li>Buses often delayed 15 minutes or more</li> <li>Frequent bus bunching</li> <li>On-board fare collection causes delays</li> </ul>
<b>Transit Demand and Attractiveness</b>	<ul style="list-style-type: none"> <li>High transit ridership throughout corridor</li> <li>2030 WMATA bus ridership: 45%-58% increase over existing</li> <li>Existing and planned transit-oriented development at both Metrorail stations would increase transit commuters</li> <li>Bus unreliability results in poor level of transit service</li> <li>Higher-quality service needed to attract and retain new transit riders</li> </ul>
<b>Livability</b>	<ul style="list-style-type: none"> <li>Create more reliable, integrated, accessible transportation network</li> <li>Enhance choices for transportation users</li> <li>Improve access to affordable housing, employment, other destinations</li> </ul>



# Public Involvement

- **May 2012:** BRT survey mailed to more than 40,000 property owners
  - Received approximately 1,000 responses
- **May 2012:** Informational Open House
  - Approximately 80 attendees
  - General support for the project
- **November 2013:** Alternatives Public Workshop
  - Approximately 100 attendees
  - Presented 10 conceptual alternatives. Public comments helped the team select the four alternatives to study in more detail that are presented tonight.
- **February 2015 – present:** Corridor Advisory Committee (CAC) meetings
  - The CAC is comprised of 19 residents and business owners along the corridor
  - Met 8 times to discuss the project elements and development of the alternatives

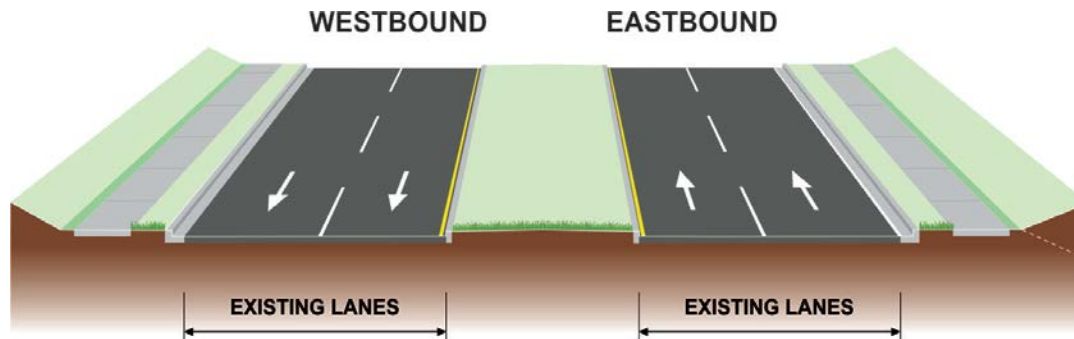
# Alternatives Retained for Detailed Study (ARDS)

- Alternative 1: No-Build
- Alternative 2: Enhanced bus service in existing lanes; queue jumps at intersections
- Alternative 3: BRT service in dedicated curb lanes (where feasible)
- Alternative 5B: BRT service in dedicated median lanes (where feasible)



# Alternative 1 (No-Build)

- Transit Service: existing local bus service
- Runningway: existing lanes in mixed traffic
- Bus Stops: existing bus stops; no improvements



\*This typical section is for an existing four-lane section. The number of lanes in Alternative 1 would match the existing conditions.



# Alternative 2

## Transportation System Management (TSM)

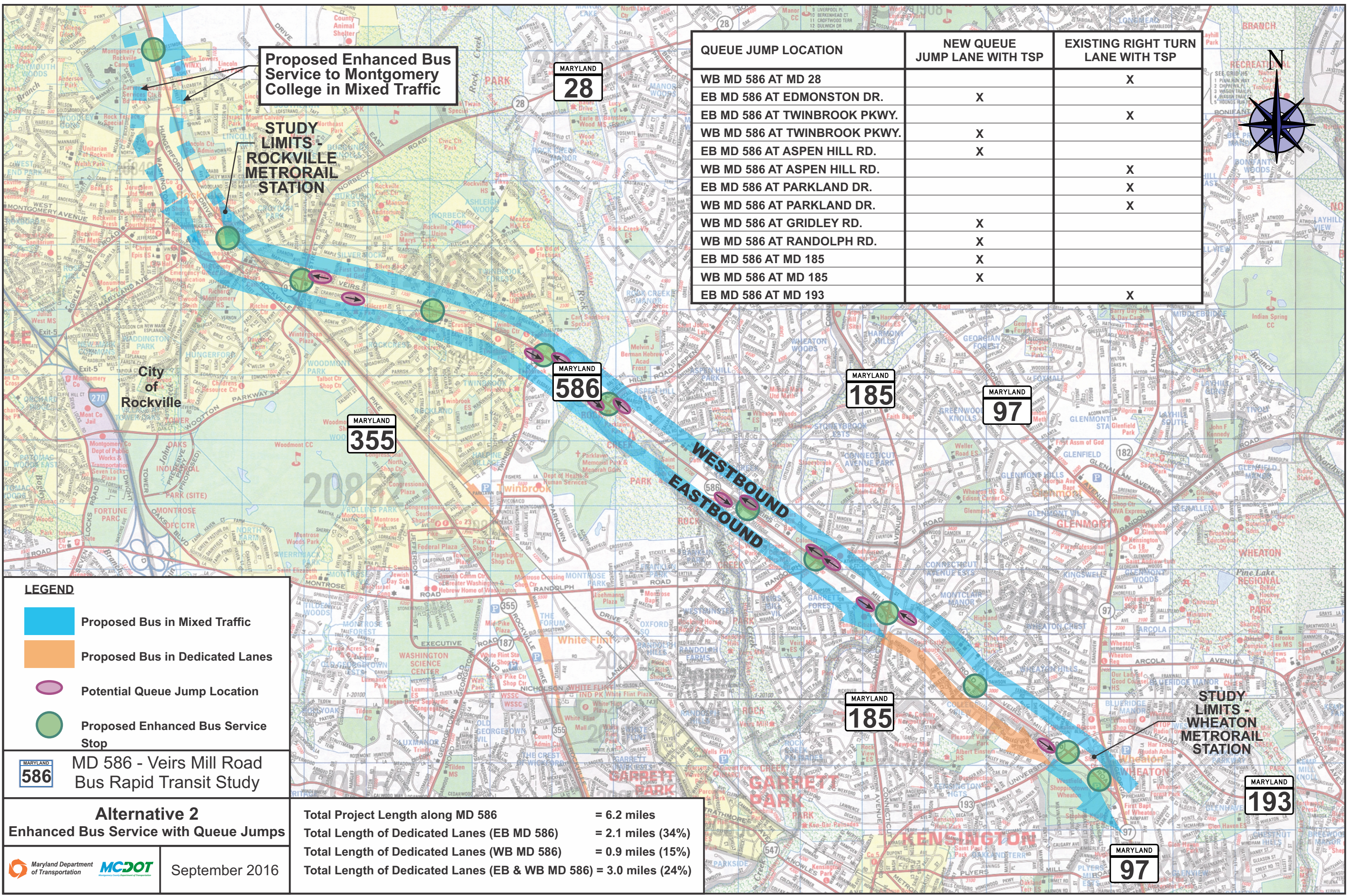
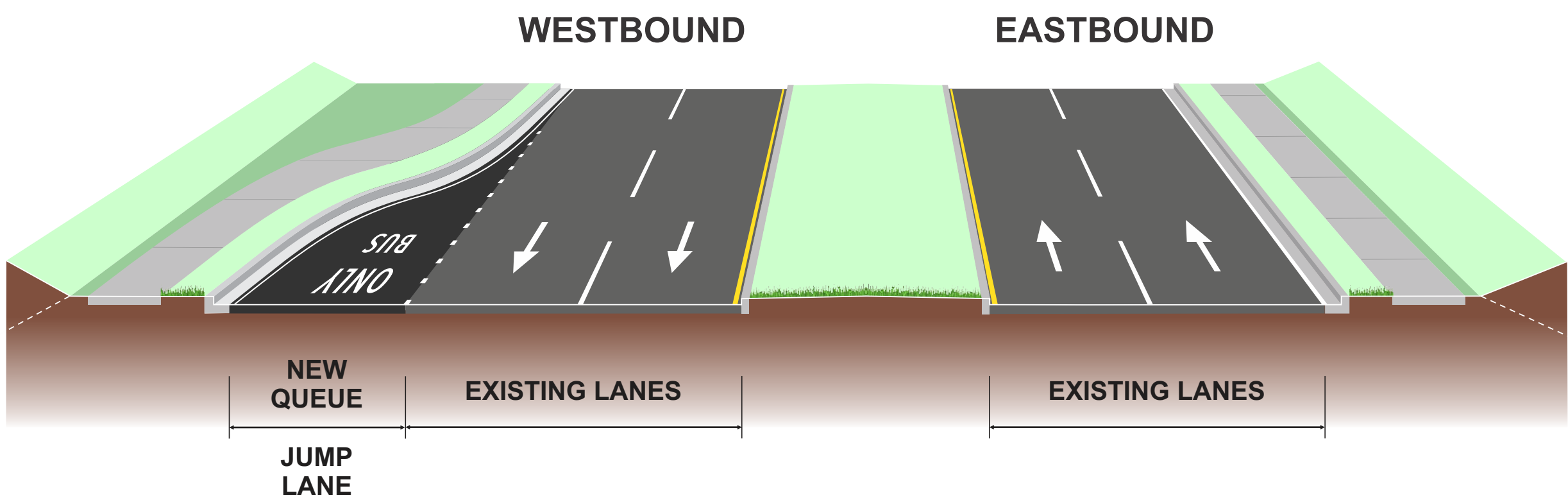
### TRANSIT SERVICE

- Enhanced bus service (standard buses providing a limited-stop express service with higher frequencies than the existing service)

Bus Service	Headways				Span of Service	
	Peak Period		Off-Peak Period			
	Wheaton to Rockville	Rockville to Montgomery College	Wheaton to Rockville	Rockville to Montgomery College	Wheaton to Rockville	Rockville to Montgomery College
Enhanced Bus Service – New Express Limited Stop Route (similar to proposed WMATA Q9 MetroExtra)	12 minutes	36 minutes	15 minutes	45 minutes	6 AM to midnight	8 AM to 10 PM

### RUNNINGWAY

- Queue jumps at select intersections. A queue jump is a short additional lane for transit vehicles that allows them to pass through an intersection while traffic in the through lane waits at a red light.
- Buses would travel in mixed traffic for most of the corridor.
- Green light priority signaling to help reduce delays at signalized intersections.



### BUS STOPS (same 12 locations for all 3 build alternatives)

- Upgrade existing bus stops at:
  - Montgomery College
  - Rockville Metrorail Station
  - MD 28 (First Street)
  - Broadwood Drive
  - Twinbrook Parkway
  - Aspen Hill Road
  - Parkland Drive
  - Randolph Road
  - MD 185 (Connecticut Avenue)
  - Newport Mill Road
  - MD 193 (University Boulevard)
  - Wheaton Metrorail Station



# Alternative 3

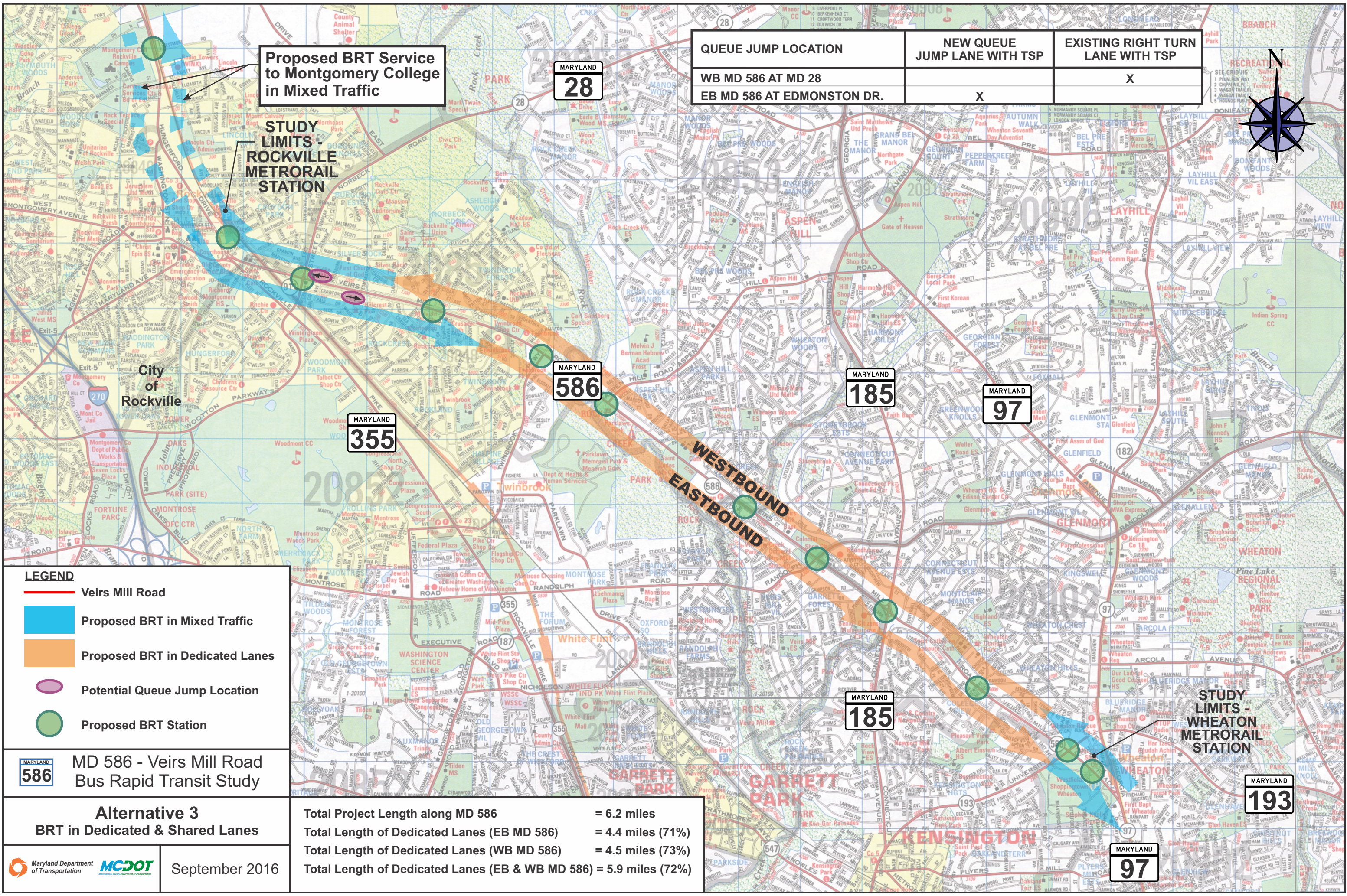
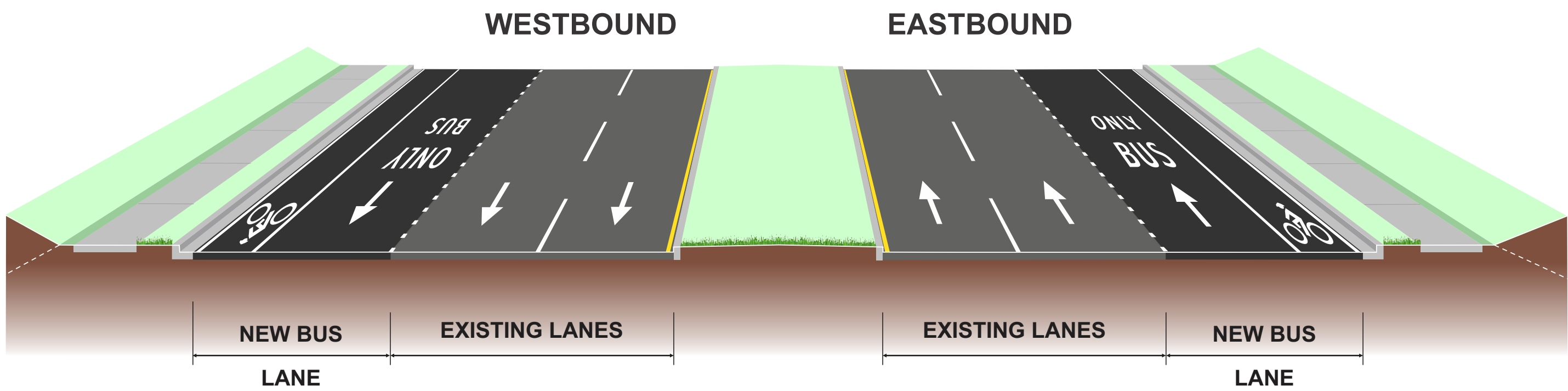
## TRANSIT SERVICE

- New BRT Service (articulated buses providing a limited-stop express service with higher frequencies than the enhanced bus service)

Bus Service	Headways				Span of Service	
	Peak		Off-Peak			
	Wheaton to Rockville	Rockville to Montgomery College	Wheaton to Rockville	Rockville to Montgomery College	Wheaton to Rockville	Rockville to Montgomery College
New BRT Service	6 minutes	18 minutes	10 minutes	30 minutes	6 AM to midnight	8 AM to 10 PM

## RUNNINGWAY

- Curb-running dedicated lanes where feasible, existing lanes in mixed traffic otherwise.
- Green light priority signaling to help reduce delays at signalized intersections.



## BRT STATIONS (same 12 locations for all 3 build alternatives)

- New BRT Stations would be added at:
  - Montgomery College
  - Rockville Metrorail Station
  - MD 28 (First Street)
  - Broadwood Drive
  - Twinbrook Parkway
  - Aspen Hill Road
  - Parkland Drive
  - Randolph Road
  - MD 185 (Connecticut Avenue)
  - Newport Mill Road
  - MD 193 (University Boulevard)
  - Wheaton Metrorail Station



# Alternative 5B

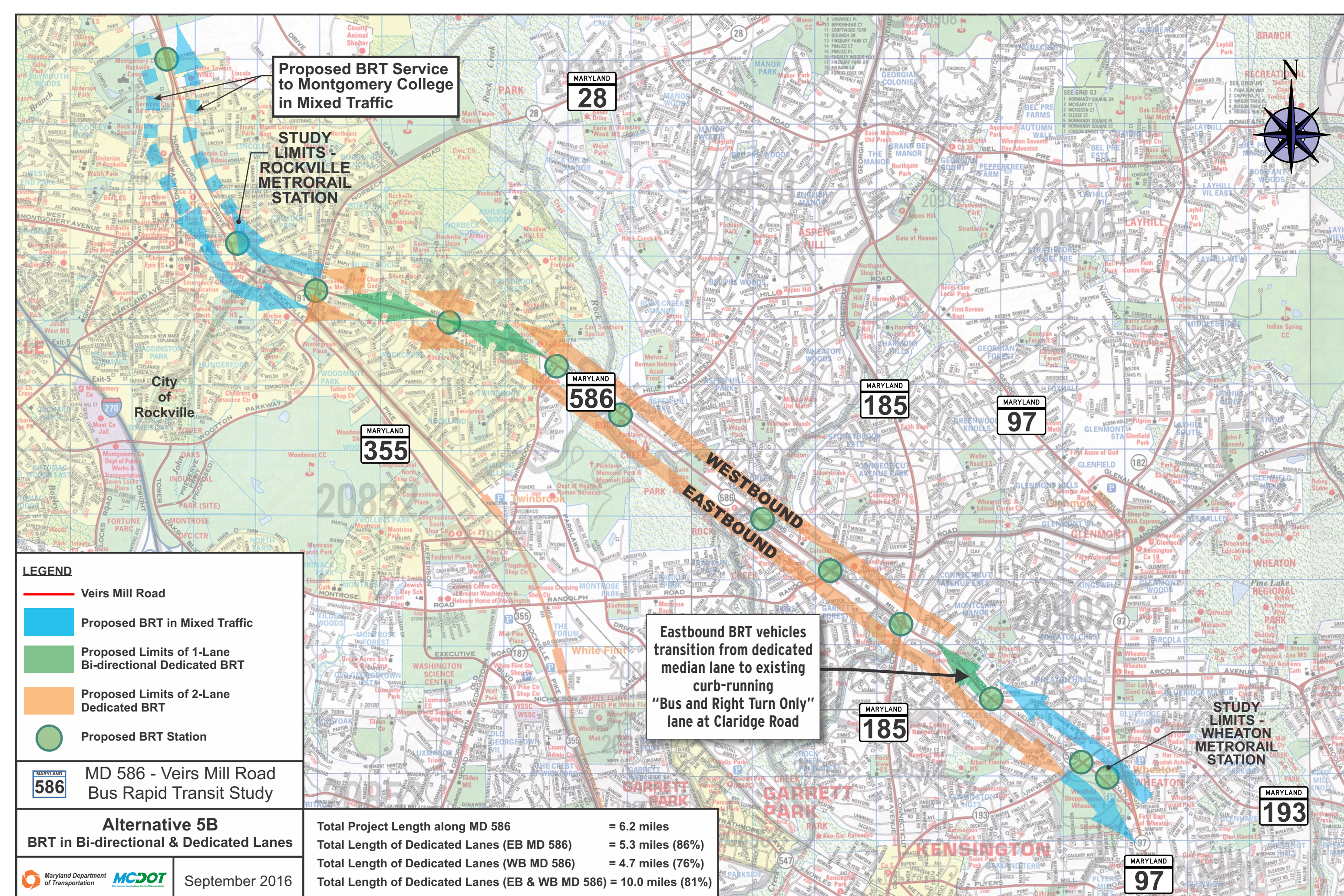
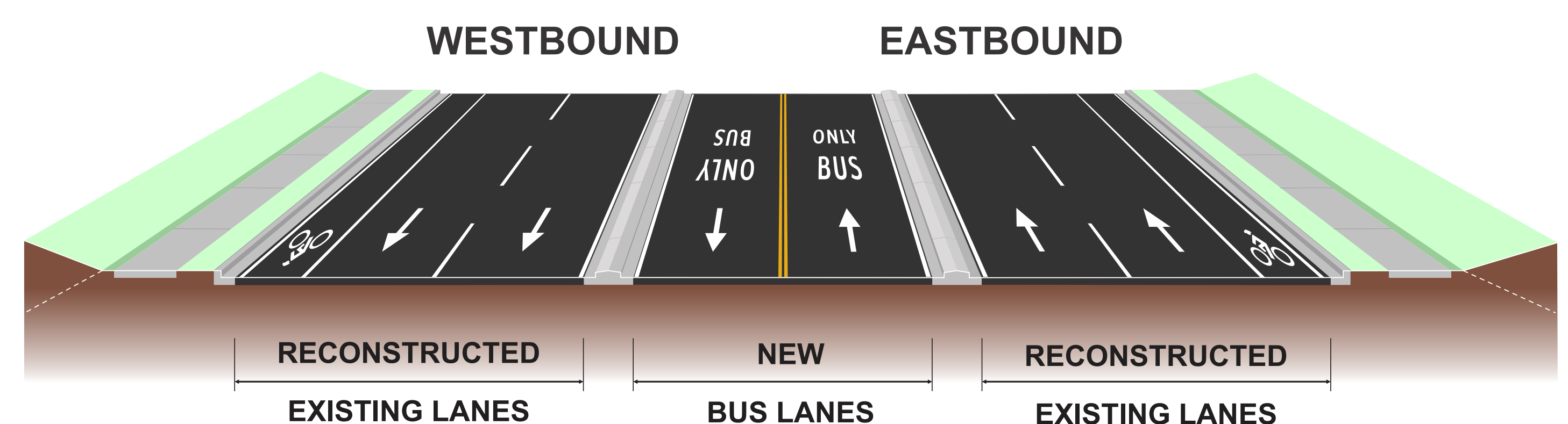
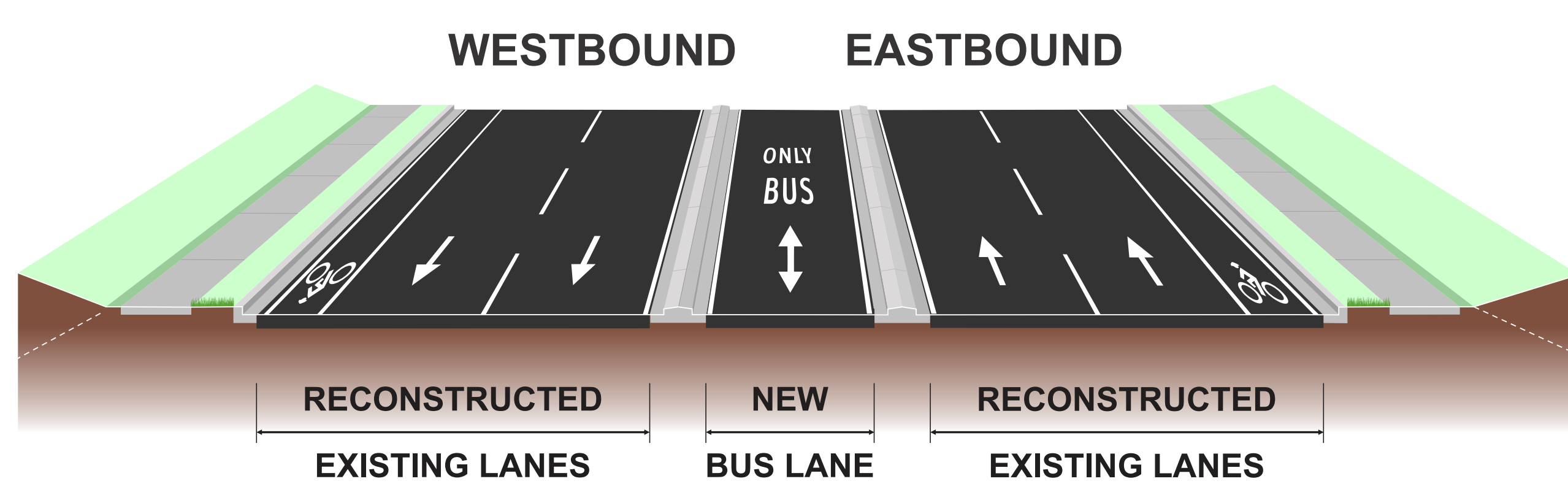
## TRANSIT SERVICE

- New BRT Service (articulated buses providing a limited-stop express service with higher frequencies than the enhanced bus service)

Bus Service	Headways				Span of Service	
	Peak		Off-Peak		Span of Service	
	Wheaton to Rockville	Rockville to Montgomery College	Wheaton to Rockville	Rockville to Montgomery College		
New BRT Service	6 minutes	18 minutes	10 minutes	30 minutes	6 AM to midnight	8 AM to 10 PM

## RUNNINGWAY

- Median-running dedicated lanes where feasible, existing lanes in mixed traffic otherwise.
- One bi-directional median lane provided in areas with limited right-of-way → buses pass each other at stations.
- Two dedicated median lanes provided where feasible.
- Green light priority signaling to help reduce delays at signalized intersections.



## BRT STATIONS (same 12 locations for all 3 build alternatives)

- New BRT Stations would be added at:

- Montgomery College
- Rockville Metrorail Station
- MD 28 (First Street)
- Broadwood Drive
- Twinbrook Parkway
- Aspen Hill Road
- Parkland Drive
- Randolph Road
- MD 185 (Connecticut Avenue)
- Newport Mill Road
- MD 193 (University Boulevard)
- Wheaton Metrorail Station



# How the Alternatives will be Evaluated

- Costs
- Expected ridership
- Travel times
- Traffic Operations
- Community and environmental impacts
- Public input



## Costs (in millions)

	Alt. 1 (No-Build)	Alt. 2	Alt. 3	Alt. 5B
Right-of-Way (ROW)	-	\$6	\$13	\$35
Engineering and Construction	-	\$23	\$119	\$238
Vehicles	-	\$5	\$17	\$17
<b>Total Capital Cost</b>	-	<b>\$35</b>	<b>\$148</b>	<b>\$289</b>
Annual Operating Cost	-	\$3	\$5	\$5

### Key Point:

- The capital costs vary greatly among the build alternatives, ranging from \$35M for the TSM alternative to \$289M for the median BRT alternative



# Expected Ridership

	Alt. 1 (No-Build)	Alt. 2	Alt. 3	Alt. 5B
Total Daily Transit Boardings	32,300	33,400	35,000	35,300
Total Daily BRT/Enhanced Bus Service Boardings	N/A	2,600	6,400	7,300

Numbers are rounded to the nearest hundred.

## Key Points:

- All 3 build alternatives increase transit ridership in the corridor
- All 3 build alternatives attract “new” transit riders
- The build alternatives would provide a higher-quality service for the many transit riders along the corridor

# Peak Hour Travel Times in Minutes along MD 586

## Between Rockville and Wheaton (2040)

### AM Travel Times (7-8 AM)

		Existing	Alt. 1 (No-Build)	Alt. 2	Alt. 3	Alt. 5B
Eastbound	Enhanced bus/BRT <sup>1</sup>	N/A	N/A	27.9	26.2	22.8
	Local Buses	32.7	35.5	36.7	34.0	37.1
	Automobiles	17.2	22.5	20.7	21.3	22.1
Westbound	Enhanced bus/BRT <sup>1</sup>	N/A	N/A	21.6	22.7	25.5
	Local Buses	29.3	29.5	28.8	29.2	32.0
	Automobiles	19.8	19.6	18.6	20.5	24.6

### PM Travel Times (4-5 PM)

		Existing	Alt. 1 (No-Build)	Alt. 2	Alt. 3	Alt. 5B
Eastbound	Enhanced bus/BRT <sup>1</sup>	N/A	N/A	24.9	25.3	23.7
	Local Buses	33.5	40.4	32.7	30.4	33.8
	Automobiles	19.2	27.9	22.3	20.2	22.1
Westbound	Enhanced bus/BRT <sup>1</sup>	N/A	N/A	22.3	25.7	24.6
	Local Buses	28.4	32.9	29.1	29.0	34.6
	Automobiles	16.4	24.4	18.6	20.2	23.6

1. Enhanced Bus/BRT comparison is from the No-Build Local Bus travel time

= Travel time worsens from No-Build by more than 10%

= Travel time improves from No-Build by more than 10%

#### Key Points:

- Travel times in 2040 are expected to be higher than they are currently
- Travel times for the proposed service in the 3 build alternatives are lower than in the No-Build
- Most of the automobile travel times do not change significantly in the 3 build alternatives as compared to the No-Build
- Side street delays increase at some locations as a result of the green light priority signaling and traffic signal coordination along MD 586

## 2040 Traffic Operations (7-8 AM Peak Hour)

	Existing	Alt. 1 (No-Build)	Alt. 2	Alt. 3	Alt. 5B
Miles of LOS E or F Along the Corridor <sup>1</sup>	2.3	3.5	3.2	3.5	3.3
Intersections Operating at LOS E or F <sup>1</sup>	3	4	4	4	4

## 2040 Traffic Operations (4-5 PM Peak Hour)

	Existing	Alt. 1 (No-Build)	Alt. 2	Alt. 3	Alt. 5B
Miles of LOS E or F Along the Corridor <sup>1</sup>	2.0	5.8	4.2	3.8	4.1
Intersections Operating at LOS E or F <sup>1</sup>	1	5	4	4	5

<sup>1</sup>Level of Service (LOS) is measured on a scale from A to F. Segments at LOS E or F indicate vehicle speeds of 40 percent or lower of the free flow speeds. Intersections at LOS E or F indicate a delay of at least 55 seconds per vehicle.

### Key Points:

- Traffic operations in 2040 are expected to worsen as compared to the current conditions
- All 3 build alternatives either slightly improve or maintain the same traffic conditions along Veirs Mill Road that would exist in the No-Build

# Community Impacts

	Alt. 1 (No-Build)	Alt. 2	Alt. 3	Alt. 5B
Number of Properties Impacted				
Property Impacts (greater than 0.1 acres)	-	1	4	14
Property Impacts (greater than 0.02 and less than or equal to 0.1 acres)	-	7	16	37
Property Impacts (less than or equal to 0.02 acres)	-	19	96	166
Potential Residential Relocations	-	4	7	9-17 <sup>1</sup>
Potential Business Displacements	-	1	2	3
Public Parks Affected <sup>2</sup>	-	1	3	5
Total Public Park ROW Required (acres)	-	0.2	0.6	1.6
Public/Community Facilities Affected <sup>2,3</sup>	-	1	6	9
Total Public/Community Facility ROW Required (acres) <sup>3</sup>	-	0.0	0.1	0.4

<sup>1</sup>The range is due to the uncertainty in the final station locations.

<sup>2</sup>Public parks and public/community facilities were determined to be “affected” if a temporary construction easement or right-of-way would be required on the property.

<sup>3</sup>Public/Community facilities do not include public parks.

## Key Points:

- The right-of-way required from most of the impacted properties is minor (less than 0.02 acres)
- Property impacts vary greatly among the build alternatives, with Alternative 2 having the fewest impacts and Alternative 5B having the most
- Station locations affect the property impacts and potential relocations/displacements



# Cultural and Natural Resource Impacts

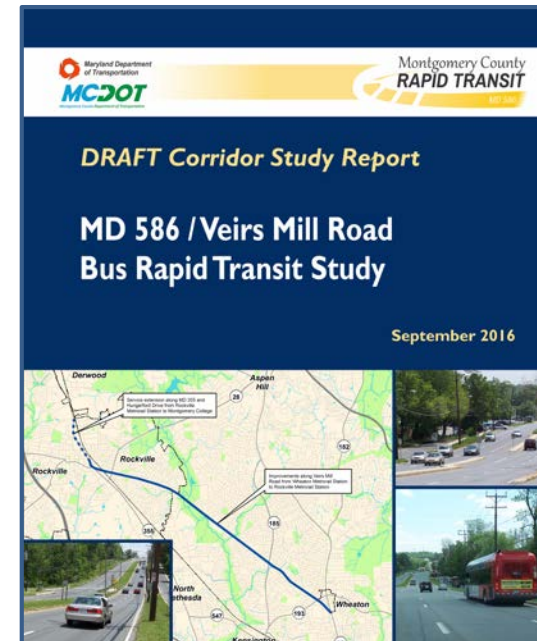
	Alt. 1 (No-Build)	Alt. 2	Alt. 3	Alt. 5B
Historic Structures	-	0	4	2
Historic Structures – Effect Determination	No effect	No Effect	No Adverse Effect	Adverse Effect
Stream Crossings	-	0	2	10
Stream Impact (linear feet)	-	0	47	864
100-Year Floodplain (acres)	-	0	<0.1	0.3
Wetlands (acres)	-	0	<0.1	<0.1
Forests (acres)	-	0.8	1.2	3.1
Green Infrastructure (acres)	-	0.2	<0.1	1.7
Federally or State Listed RTE Species	-	0	0	0

## Key Point:

- Natural environmental impacts are focused in the parks and at the stream crossings

# Draft Corridor Study Report (DCSR)

- Summarizes the results of the alternatives analysis
- Electronic copy can be viewed online at:  
[montgomerycountymd.gov/brt](http://montgomerycountymd.gov/brt)
- Paper copy can be viewed at:
  - Rockville Memorial Library
  - Twinbrook Library
  - Wheaton Interim Library
  - Mid-County Regional Services Center
  - Holiday Park Senior Center



# Next Steps

## Public Meeting

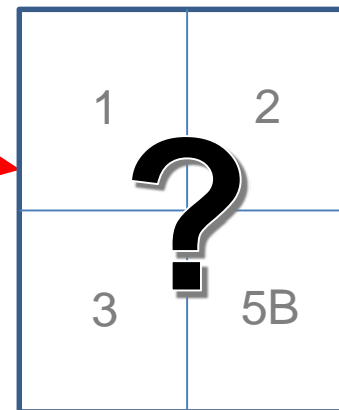


September 28, 2016

## Public Comment Period Deadline

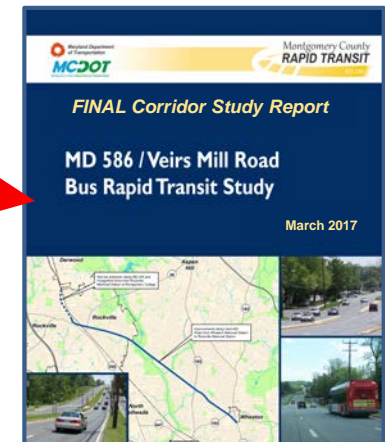
October 14, 2016

## Selection of a Recommended Alternative



Winter 2016/2017

## Final Corridor Study Report



March 2017

# Please Provide Your Input

Comments can be submitted through

**October 14, 2016**

**TODAY:**

Fill out a comment card  
at the comment table

OR

Verbally record your  
comment with the  
on-site stenographer

Montgomery County  
**RAPID TRANSIT**  
MD 586

COMMENT FORM

DATE: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_ Email: \_\_\_\_\_

Comments: \_\_\_\_\_

Attach additional pages if necessary

PLEASE PUT YOUR COMPLETED FORM IN ONE OF THE COMMENT BOXES. YOU ALSO MAY MAIL IT TO:

Montgomery County Department of Transportation  
707 North Calvert Street, Mail Stop C-301  
Baltimore, MD 21202

Comments also can be submitted via e-mail: [md586brt@sha.state.md.us](mailto:md586brt@sha.state.md.us)

Maryland Department of Transportation MC DOT



**OR**

**LATER**

Send an email to:  
[md586brt@sha.state.md.us](mailto:md586brt@sha.state.md.us)



Comments can also be mailed to:  
Laura Barcena, Consultant Project Manager  
State Highway Administration  
707 N. Calvert Street, Mail Stop C-301  
Baltimore, MD 21202



# ALTERNATIVE 2 MAPS

# ALTERNATIVE 3 MAPS

# ALTERNATIVE 5B MAPS

# INTRODUCTORY VIDEO



# COMMENTS