FLASH
BUS RAPID TRANSIT IN MONTGOMERY COUNTY

New Hampshire Avenue BRT Planning Study

Corridor Advisory Committee (CAC)

Meeting 4

May 18, 2023

MCDOT
Montgomery County
Department of Transportation

Meeting Expectations

- We're committed to starting on time and ending on time
- Meeting facilitator will guide discussion
- We're creating spaces for all voices to be heard
- Please raise your hand to indicated you'd like to speak

Project Team

Montgomery County Department of Transportation (MCDOT)

- Corey Pitts

Planning Consultant Team

- Jamie Henson
- Tara Hofferth
- Jacob Smith
- Charise Geiling
- Jasmyn Rudd

Meeting Agenda

1. Project Recap
2. Concept Identification & Initial Screening
3. Alternatives Overview
4. Layout Review
5. Approach to Evaluation
6. Outreach
7. Next Steps

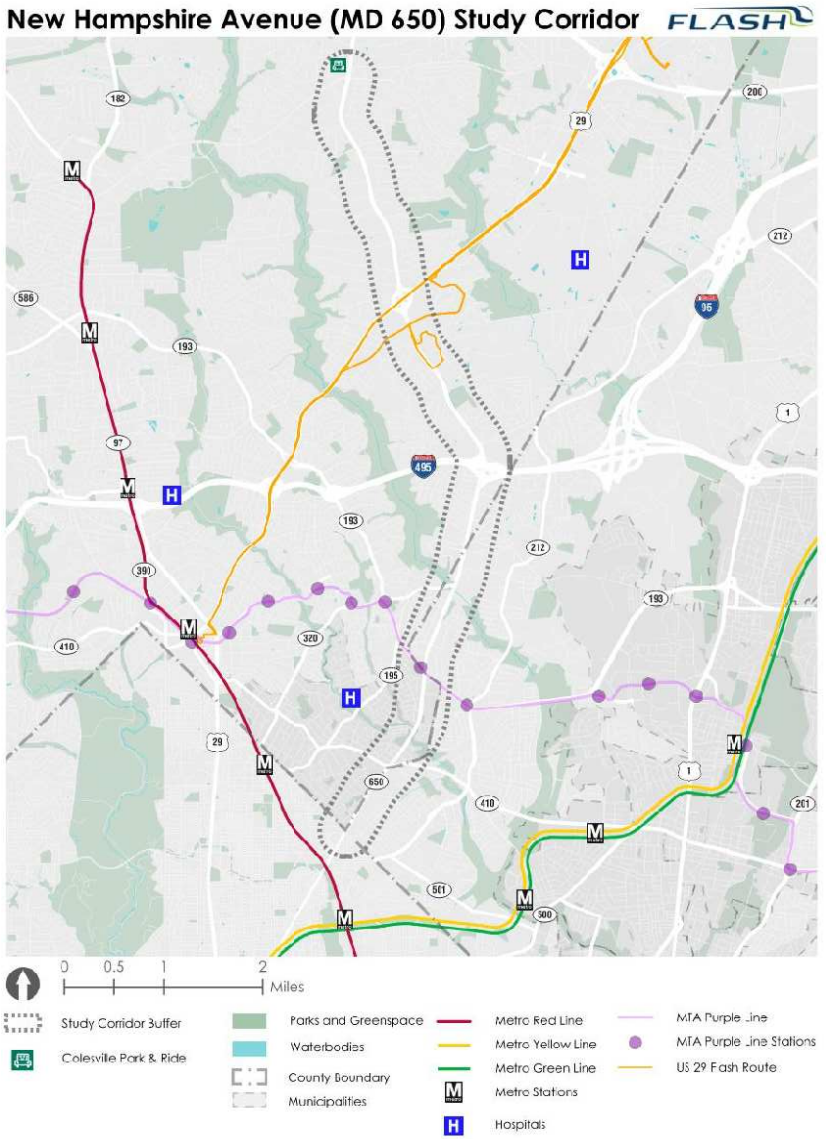
Project Recap

CAC Role & Participants

- Provide input, guidance and oversight in accordance with the Master Plan
- Community involvement throughout project
- Information sharing with community
- Build consensus

Study Overview

- **Corridor Extents:**
  - **Southern Terminus:** Fort Totten Metrorail Station
  - **Northern Terminus:** Colesville Park and Ride
- **This Study Will…**
  - Define start and end points
  - Identify preliminary station locations
  - Develop and evaluate improvements to bus service
  - Address station accessibility



TAC Meeting Schedule

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CAC MEETING 1
Introduction in April 2022

CAC MEETING 2
Overview of Existing Conditions in June 2022

CAC MEETING 3
Overview of Concepts & Alternatives in December 2022

CAC MEETING 4
Review Alternative Layouts in May 2023

CAC MEETING 5
Overview of Evaluation Results in August 2023

CAC MEETING 6
Discuss Hybrid Alternative in Fall

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Concept Identification & Initial Screening

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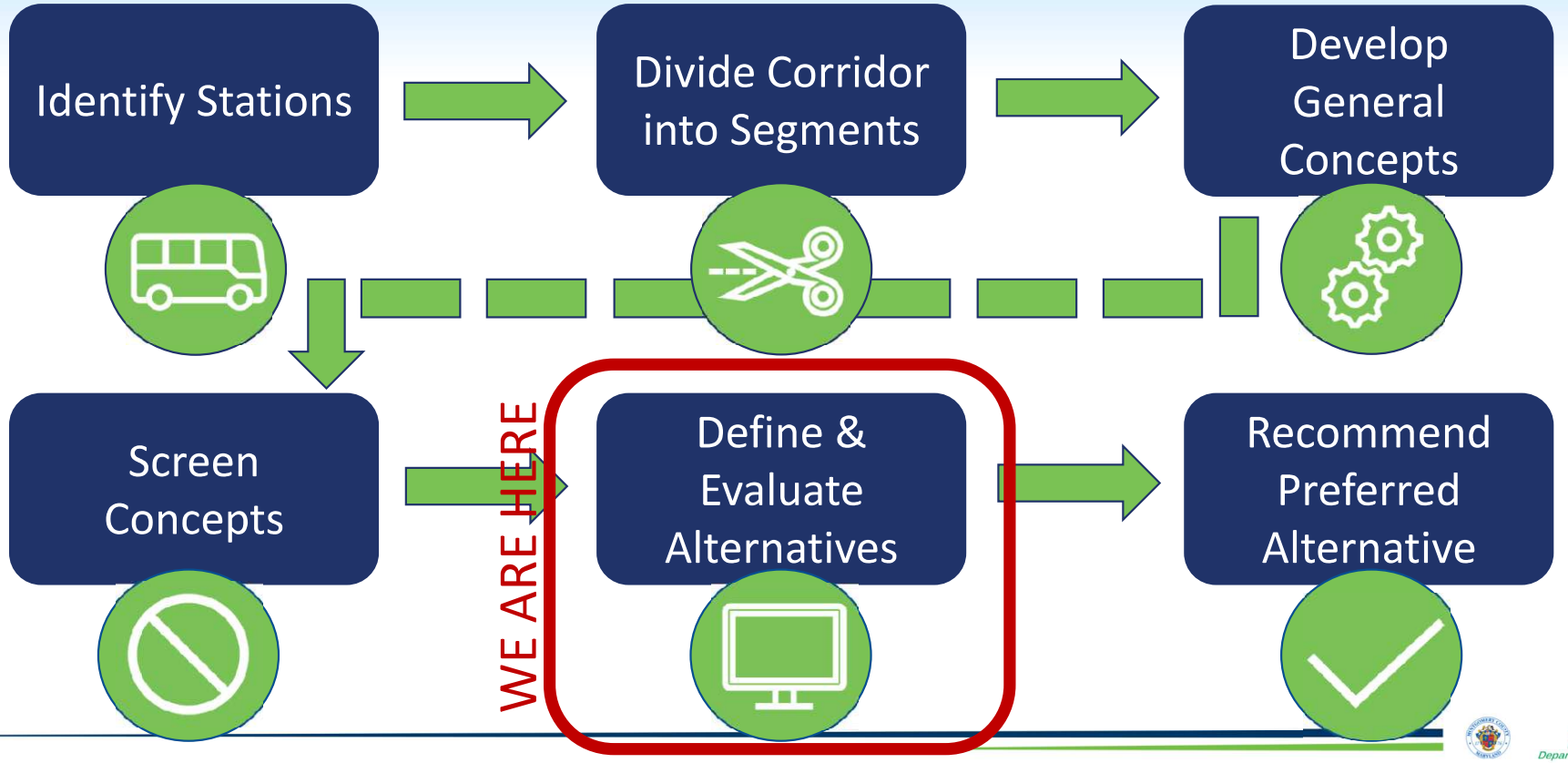
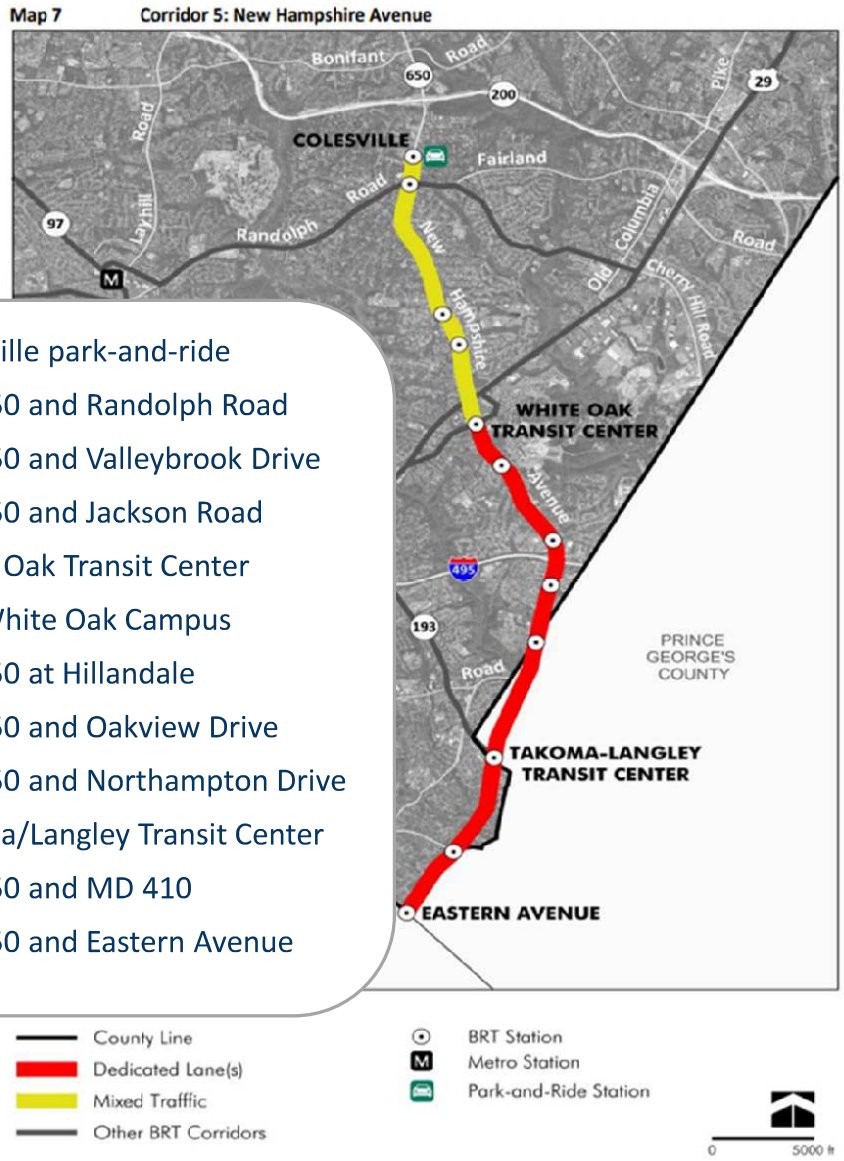
Approach to Develop Alternatives



Identify Station Locations

- Verify BRT Master Plan station locations
- Consider additional locations
- Identify specific station locations

1. Colesville park-and-ride
2. MD 650 and Randolph Road
3. MD 650 and Valleybrook Drive
4. MD 650 and Jackson Road
5. White Oak Transit Center
6. FDA White Oak Campus
7. MD 650 at Hillandale
8. MD 650 and Oakview Drive
9. MD 650 and Northampton Drive
10. Takoma/Langley Transit Center
11. MD 650 and MD 410
12. MD 650 and Eastern Avenue



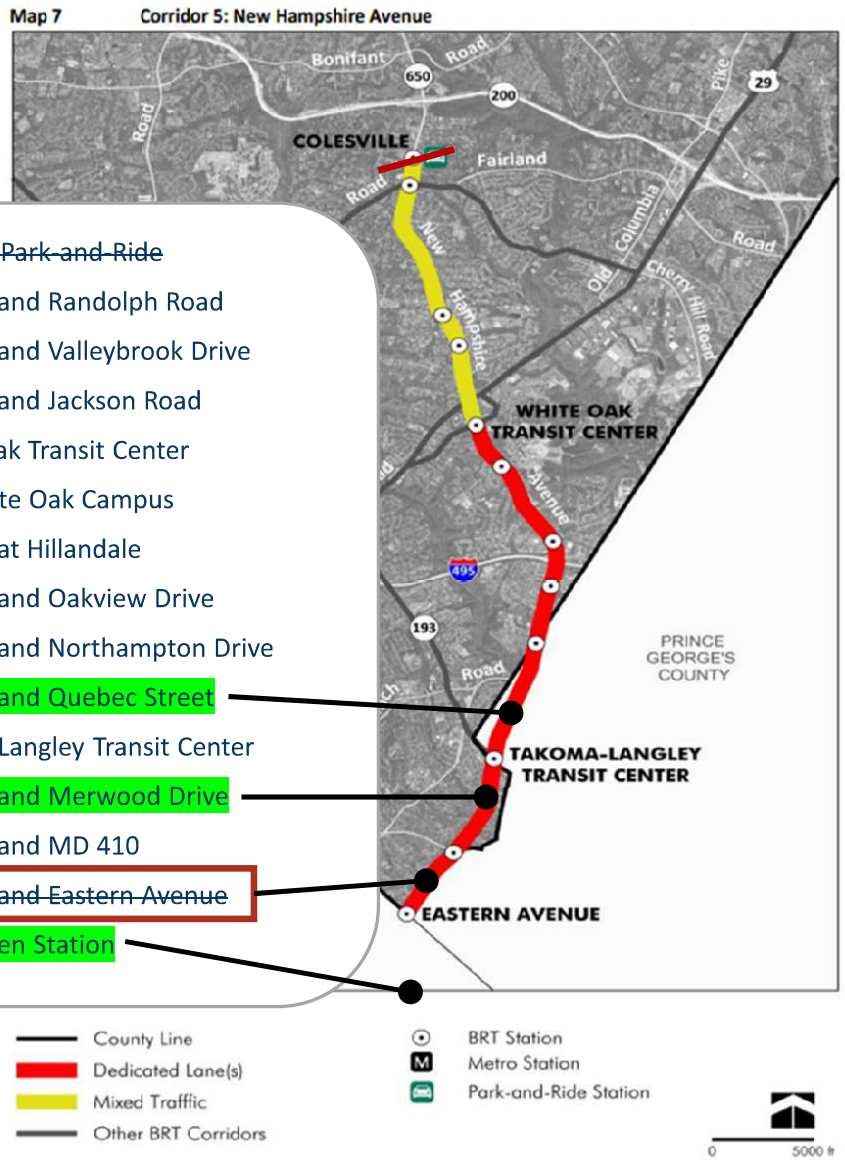
Identify Station Locations

- Eliminate Park and Ride station / combine with Randolph Road station
- Add stops north and south of Takoma Langley
- Terminate service at Fort Totten
- 14 proposed stations

13. After developing layouts, shifted this station to Sheridan Street

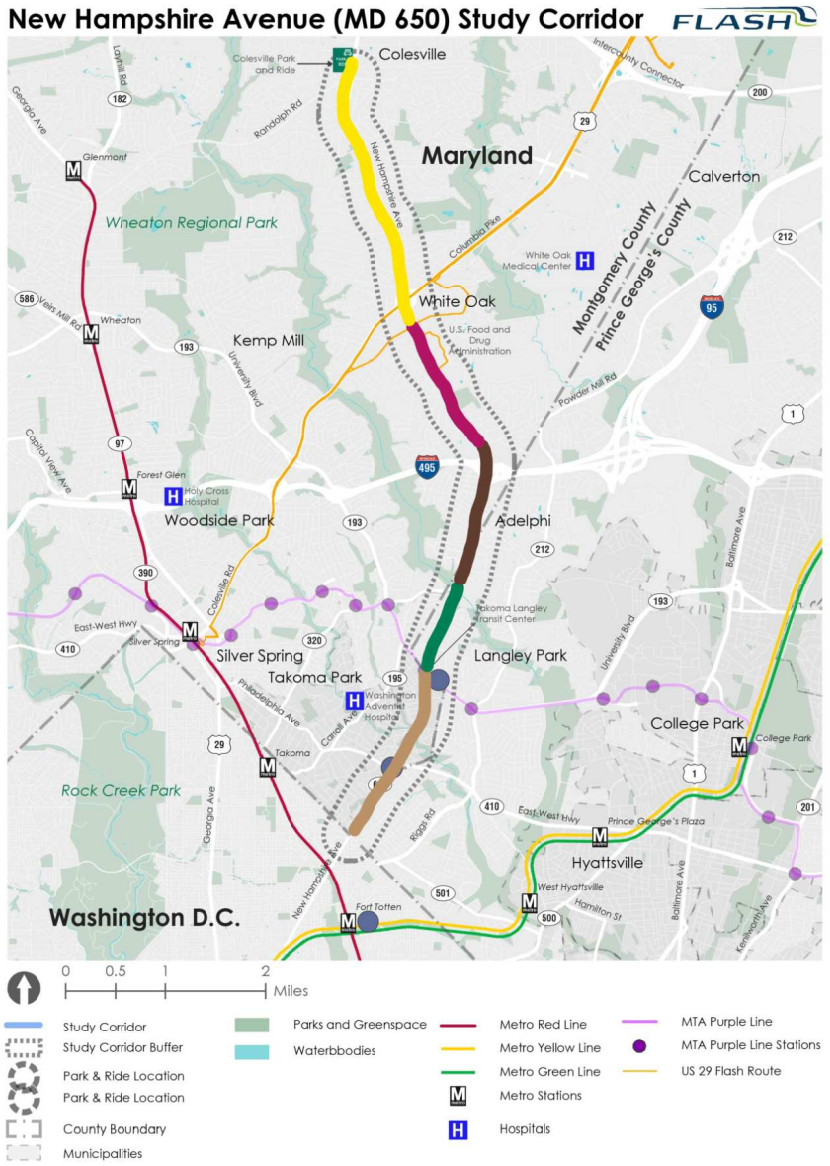
~~Colesville Park-and-Ride~~

1. MD 650 and Randolph Road
2. MD 650 and Valleybrook Drive
3. MD 650 and Jackson Road
4. White Oak Transit Center
5. FDA White Oak Campus
6. MD 650 at Hillandale
7. MD 650 and Oakview Drive
8. MD 650 and Northampton Drive
9. MD 650 and Quebec Street
10. Takoma/Langley Transit Center
11. MD 650 and Merwood Drive
12. MD 650 and MD 410
13. ~~MD 650 and Eastern Avenue~~
14. Fort Totten Station



Screening by Segment

1. Eastern Ave to University Blvd
2. University Blvd to Piney Branch Rd
3. Piney Branch Rd to Powder Mill Rd
4. Powder Mill Rd to Lockwood Dr
5. Lockwood Dr to Randolph Rd



Screening Matrix

Concepts	Segments				
	1 Eastern Ave to University Blvd	2 University Blvd to Piney Branch Rd	3 Piney Branch Rd to Powder Mill Rd	4 Powder Mill Rd to Lockwood Dr	5 Lockwood Drive to Randolph Rd
1. Optimize Transit in Mixed Traffic					
1a. Transportation System Management with TSP	Potential Hybrid	Potential Hybrid	Alternative 2	Alternative 2	Alternative 2 Alternative 3
1b. Transportation System Management with queue jumps, bus pullouts, and TSP	Alternative 1	Alternative 1	Alternative 1	Alternative 1	Alternative 1
2. Repurpose Lanes					
2a. Repurpose curbside running lanes for Flash and local buses	Alternative 2	Alternative 2			
2b. Repurpose curbside running lanes for Flash and local buses with bus pullouts	Potential Hybrid	Potential Hybrid			
2c. Repurpose median running lanes for Flash only	Alternative 3	Alternative 3			
2d. Repurpose median running lanes for Flash only with curbside bus pullouts	Potential Hybrid	Potential Hybrid			
2e. Repurpose median running lanes for Flash and local buses	Potential Hybrid	Potential Hybrid			
3. Add One Flash Only Lane					
3a. Add one Flash only lane, center peak period lane Flash, curb off-peak					
3b. Add one Flash only lane, center loading Flash, peak direction transit lane use			Alternative 3	Alternative 3	
3c. Add one Flash only lane, center loading Flash, shared bi-directional transit lane use					
4. Add Two Lanes					
4a. Widen the road to add two new lanes					

Concept unlikely to generate operational gains

Concept inconsistent with the BRT Master Plan

Concept fatally flawed

Alternative 1 — Concept applied as part of an Alternative 1

Alternative 2 — Concept applied as part of an Alternative 2

Alternative 3 — Concept applied as part of an Alternative 3

Potential Hybrid — Concept that might be applied as part of hybrid alternative

Screening Matrix

Concepts	Segments				
	1 Eastern Ave to University Blvd	2 University Blvd to Piney Branch Rd	3 Piney Branch Rd to Powder Mill Rd	4 Powder Mill Rd to Lockwood Dr	5 Lockwood Drive to Randolph Rd
1. Optimize Transit in Mixed Traffic					Alternative 4
1a. Transportation System Management with TSP	Potential Hybrid	Potential Hybrid	Alternative 2	Alternative 2	Alternative 2 Alternative 3
1b. Transportation System Management with queue jumps, bus pullouts, and TSP	Alternative 1	Alternative 1	Alternative 1	Alternative 1	Alternative 1
2. Repurpose Lanes					
2a. Repurpose curbside running lanes for Flash and local buses	Alternative 2	Alternative 2			
2b. Repurpose curbside running lanes for Flash and local buses with bus pullouts	Potential Hybrid	Potential Hybrid			
2c. Repurpose median running lanes for Flash only	Alternative 3 Alternative 4	Alternative 3 Alternative 4		Alternative 4	
2d. Repurpose median running lanes for Flash only with curbside bus pullouts	Potential Hybrid	Potential Hybrid			
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Concept unlikely to generate operational gains

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Alternative 1 — Concept applied as part of an Alternative 1

Alternative 2 — Concept applied as part of an Alternative 2

Alternative 3 — Concept applied as part of an Alternative 3

Potential Hybrid — Concept that might be applied as part of hybrid alternative

Alternative 4 — Concept applied as part of an Alternative 4

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Alternatives Overview

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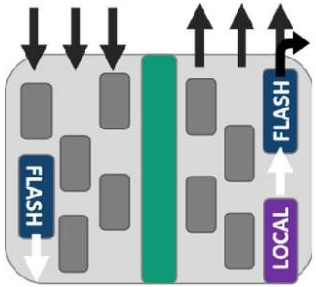
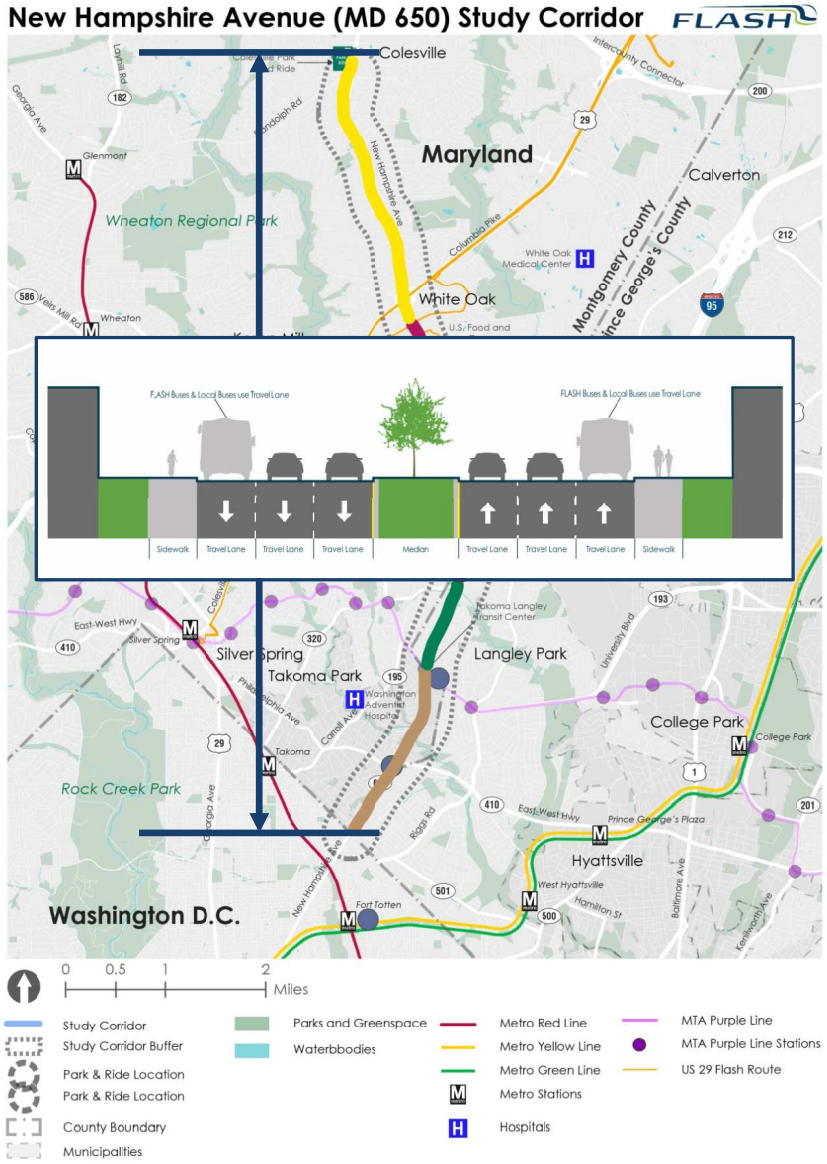
Layout Parameters

- Station locations are at consistent intersections for all alternatives
- Layouts are focused on transit infrastructure improvements
- Typical Flash Station dimensions are: 60-feet long by 15-feet wide
- Matching existing lane widths for all alternatives
- No physical runningway improvements in the District

Alternative 1 (TSM)

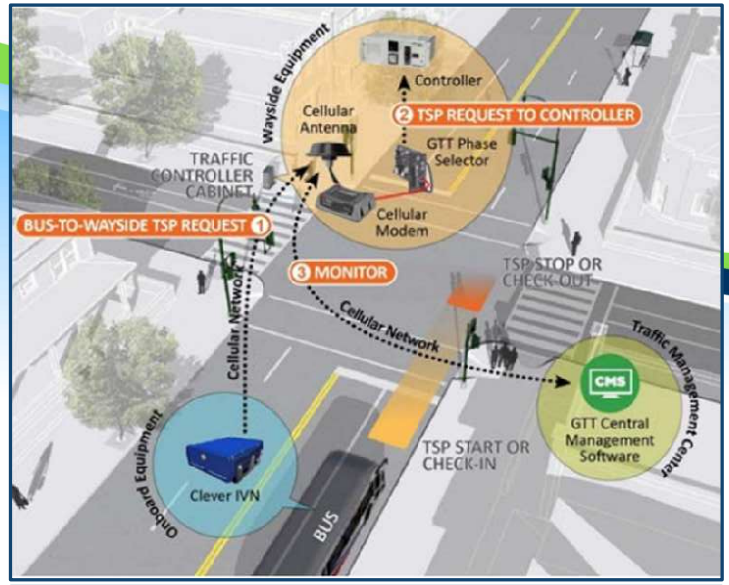
- Optimize Transit in Mixed Traffic
- Queue jumps at BRT stations
- TSP at other intersections

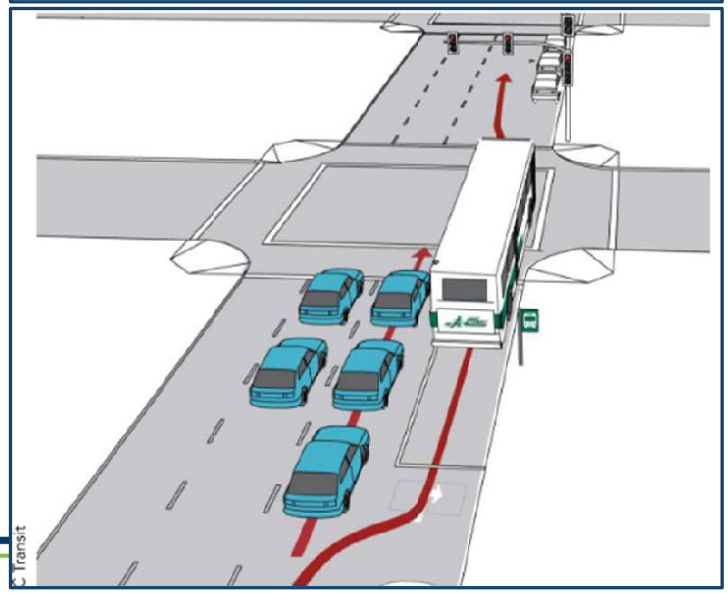




Alternative 1 (TSM)

- Transit Signal Priority (TSP) – modifies signal timing or phasing to optimize transit operations
- Queue Jumps – provide short, dedicated transit lanes to allow buses to enter the traffic flow in a priority position





Alternative 1 (TSM)

Proposed Flash Station

Proposed Curb

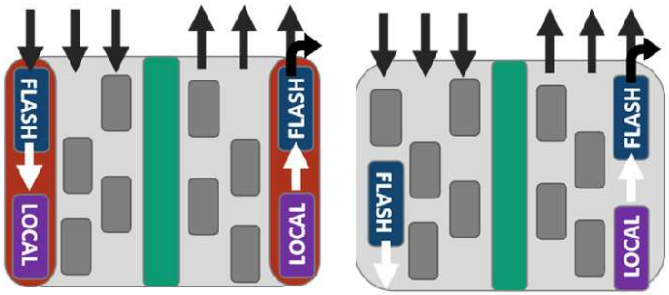
R Ride On Bus Stop

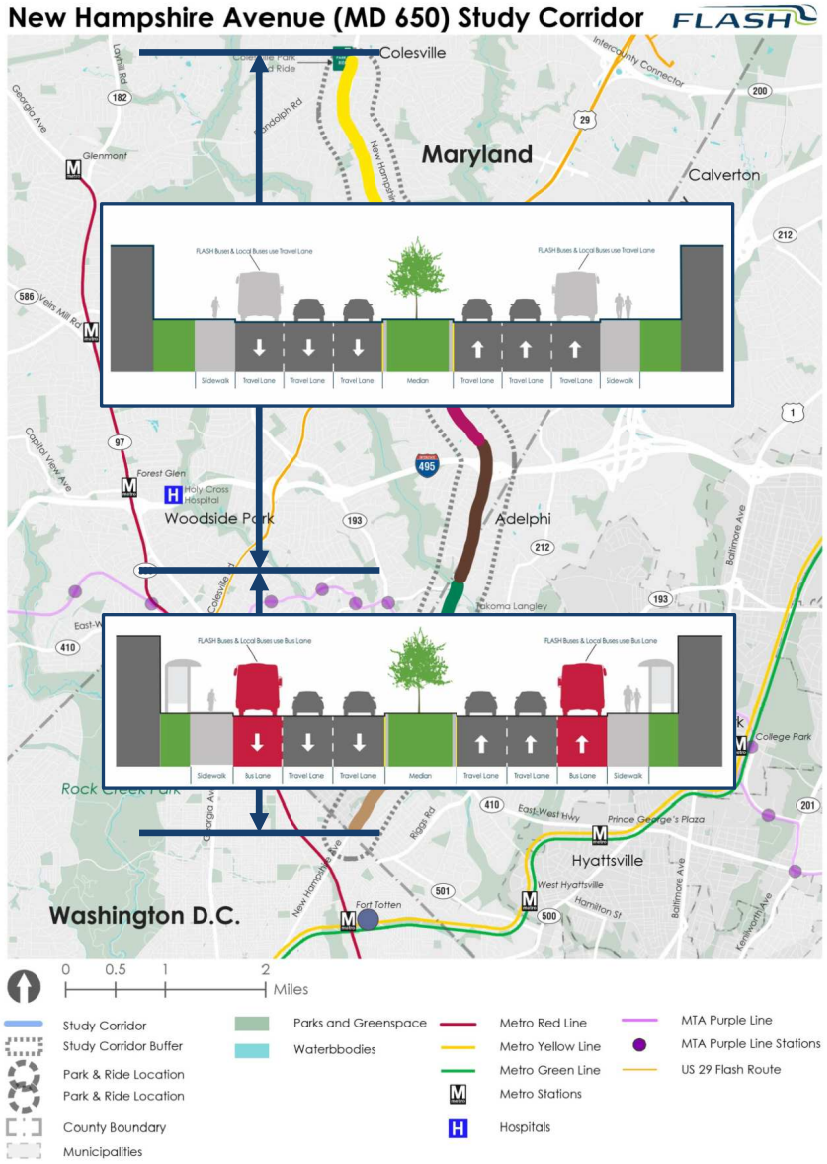
W WMATA Bus Stop

- 200-foot queue jump lanes at BRT stations
- Queue jump lane are outside the existing curbs
- BRT stations in queue jump lane on near side of intersections
- Local buses stop in queue jump lane
- Queue jumps have exclusive signal phase
- TSP at other signalized locations

Alternative 2 (Curbside)

- Repurpose Curbside Lanes south of Piney Branch Road
- Implement TSP north of Piney Branch Road





Alternative 2 (Curbside)

Proposed Flash Station

Proposed Curb

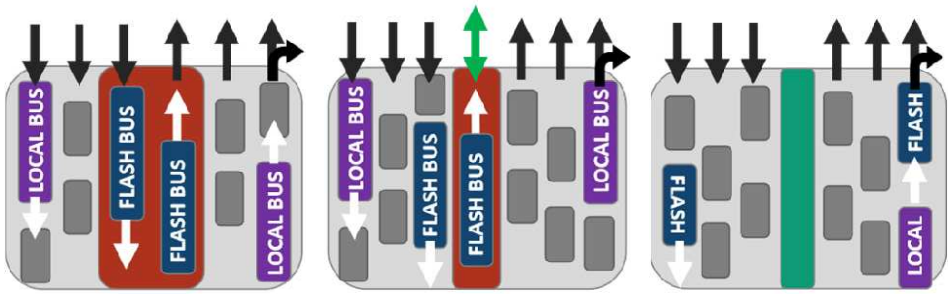
R Ride On Bus Stop

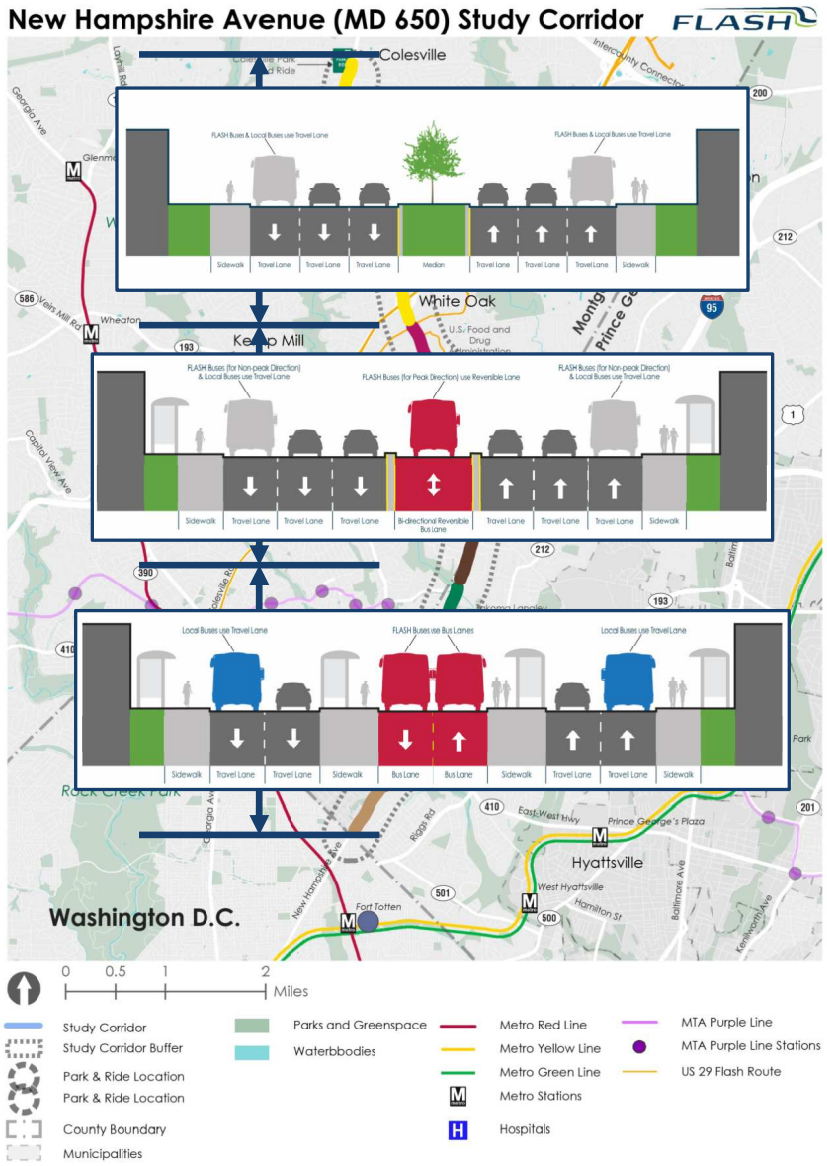
W WMATA Bus Stop

- Use curb lanes for buses only
- Curb lane may use red pavement
- BRT and Local buses utilize dedicated transit lanes
- BRT stations far side of intersection
- TSP implemented at signalized intersections
- Relocate local bus stops to far side of intersection
- Minimal disturbance behind the curb

Alternative 3 (Median)

- Repurpose median lanes south of Piney Branch Road
- Add one center loading BRT, shared bi-direction transit lane between Piney Branch Road and Lockwood Drive
- Implement TSP north of Lockwood Drive

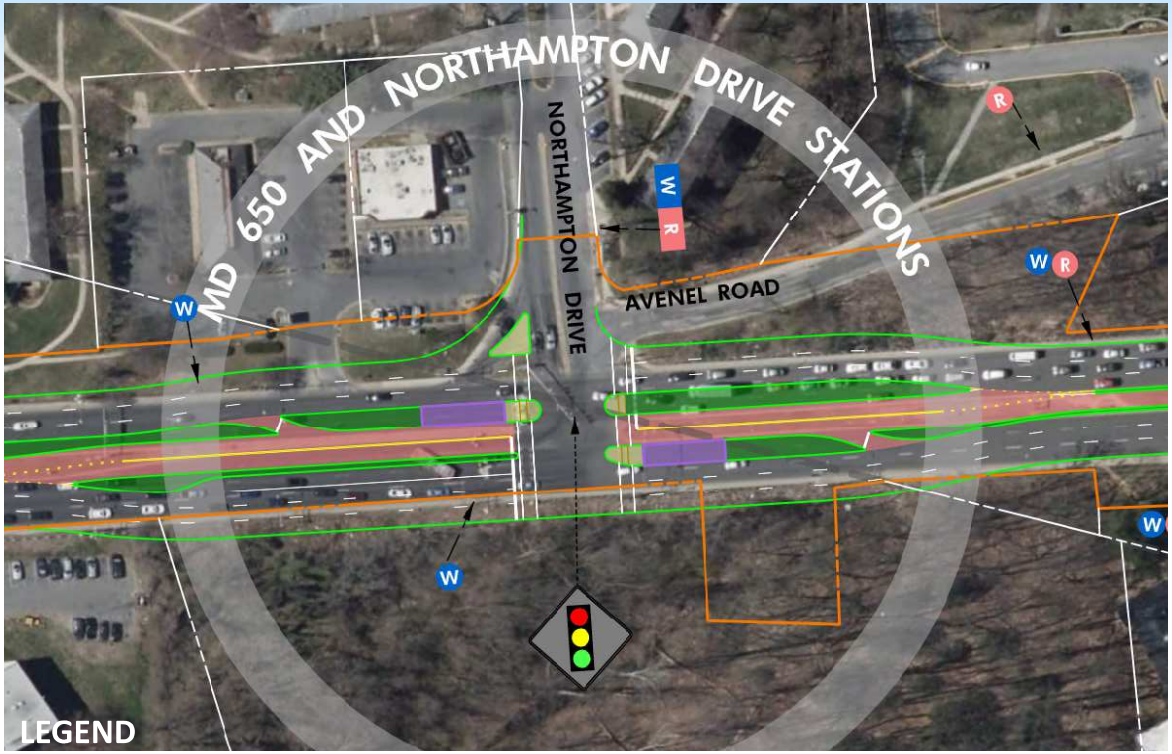




Alternative 3 (Median)

- Use center lane for BRT only
- Local buses use general purpose lanes and existing stops
- All left turns are signalized. Median closure at unsignalized intersections.
- BRT stations are in the center of the roadway on the far side of the intersection
- Pedestrian refuge islands added
- TSP implemented at signalized intersections
- Requires reconstruction at station areas and left turn locations

Alternative 3 (Median)

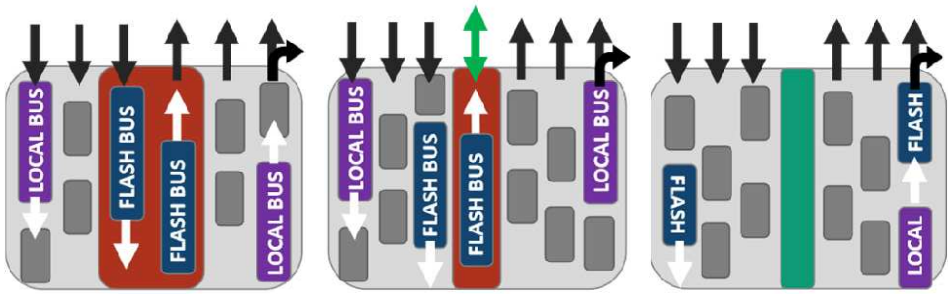


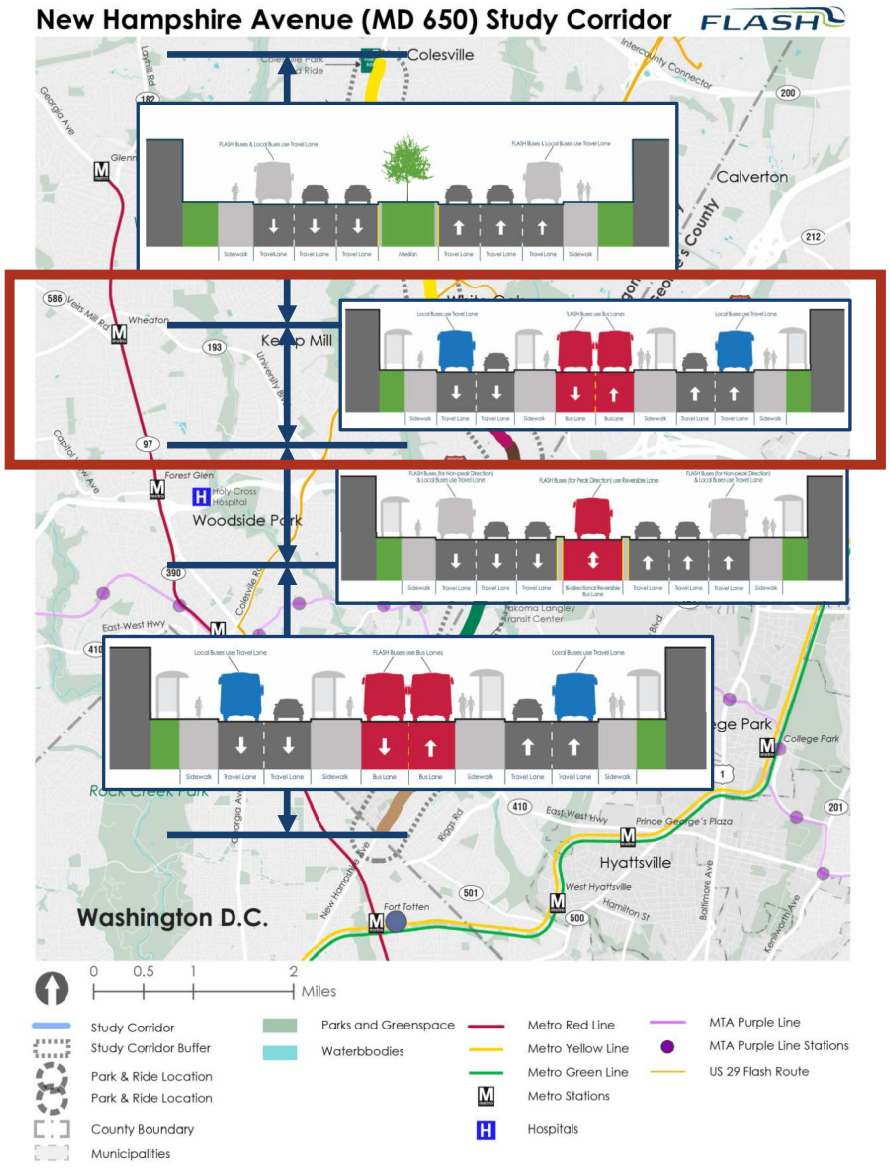
- Proposed Flash Station
- Proposed Curb
- R — Ride On Bus Stop
- W — WMATA Bus Stop

- Single center lane implemented from Piney Branch Road to Lockwood Drive
- Single center lane approach applies at 4 stations: Northampton Drive, Oakview Drive, Powder Mill Road, and Mahan Road
- Single center lane for peak direction BRT only
- Off-peak BRT buses use general purpose lanes
- At stations, two center lanes/slip ramps are provided to maintain use of far side median BRT stations in both directions

Alternative 4 (Median)

- Repurpose median lanes south of Piney Branch Road
- Add one center loading Flash, shared bi-direction transit lane between Piney Branch Road and **Powder Mill Road**
- **Repurpose median lanes between Powder Mill Road and Lockwood Drive**
- Implement Transportation System Management with TSP north of Lockwood Drive





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Layouts Review

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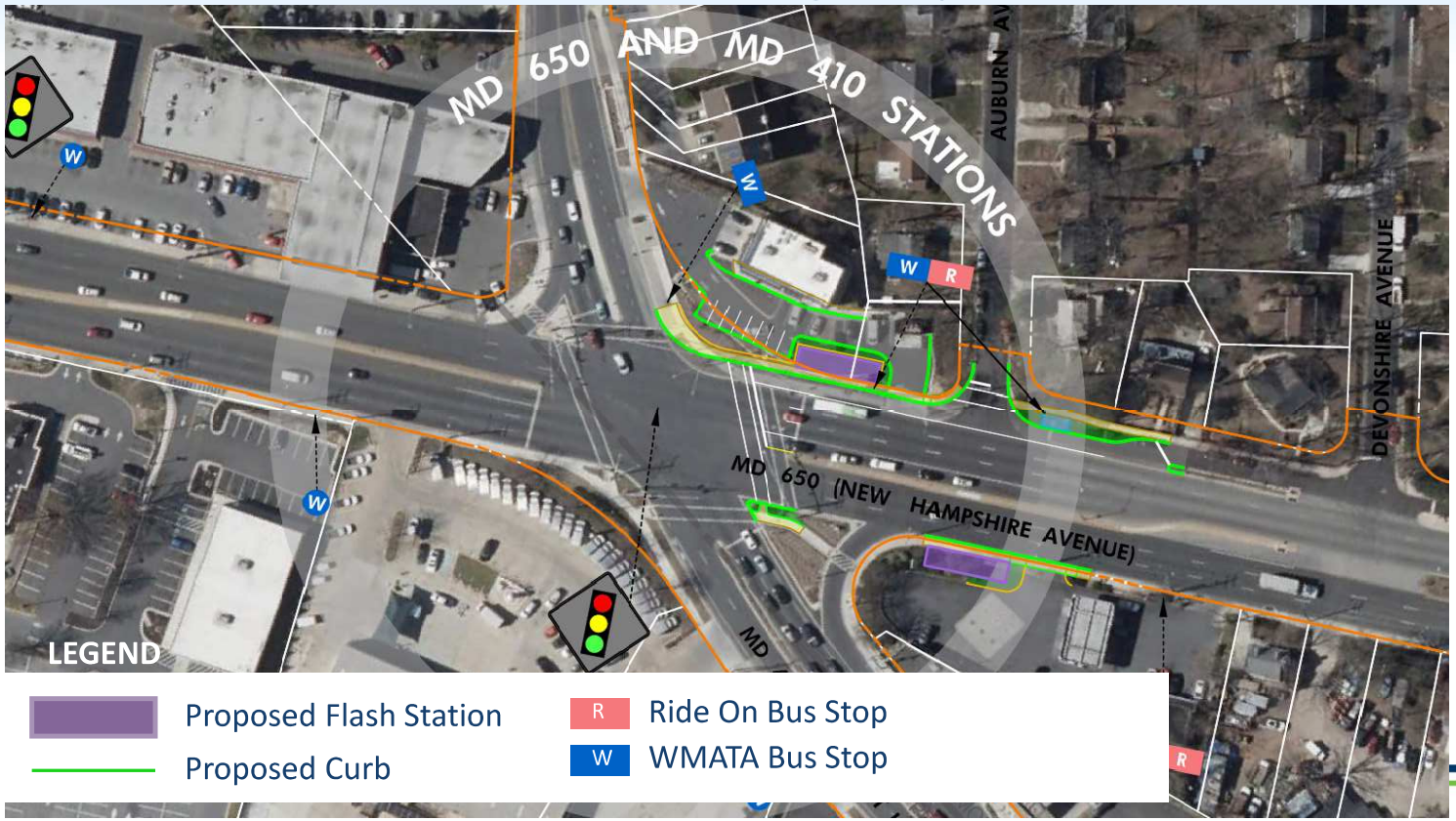
Key Station Location Review

- New Hampshire Avenue at MD 410 (East-West Highway)
  - Service road one side, commercial land use, major intersection
- New Hampshire Avenue at Quebec Street
  - Service roads both sides, residential land use
- New Hampshire Avenue at Powder Mill Road
  - No service roads, commercial land use, development, interchange

Alternative 1 (TSM)

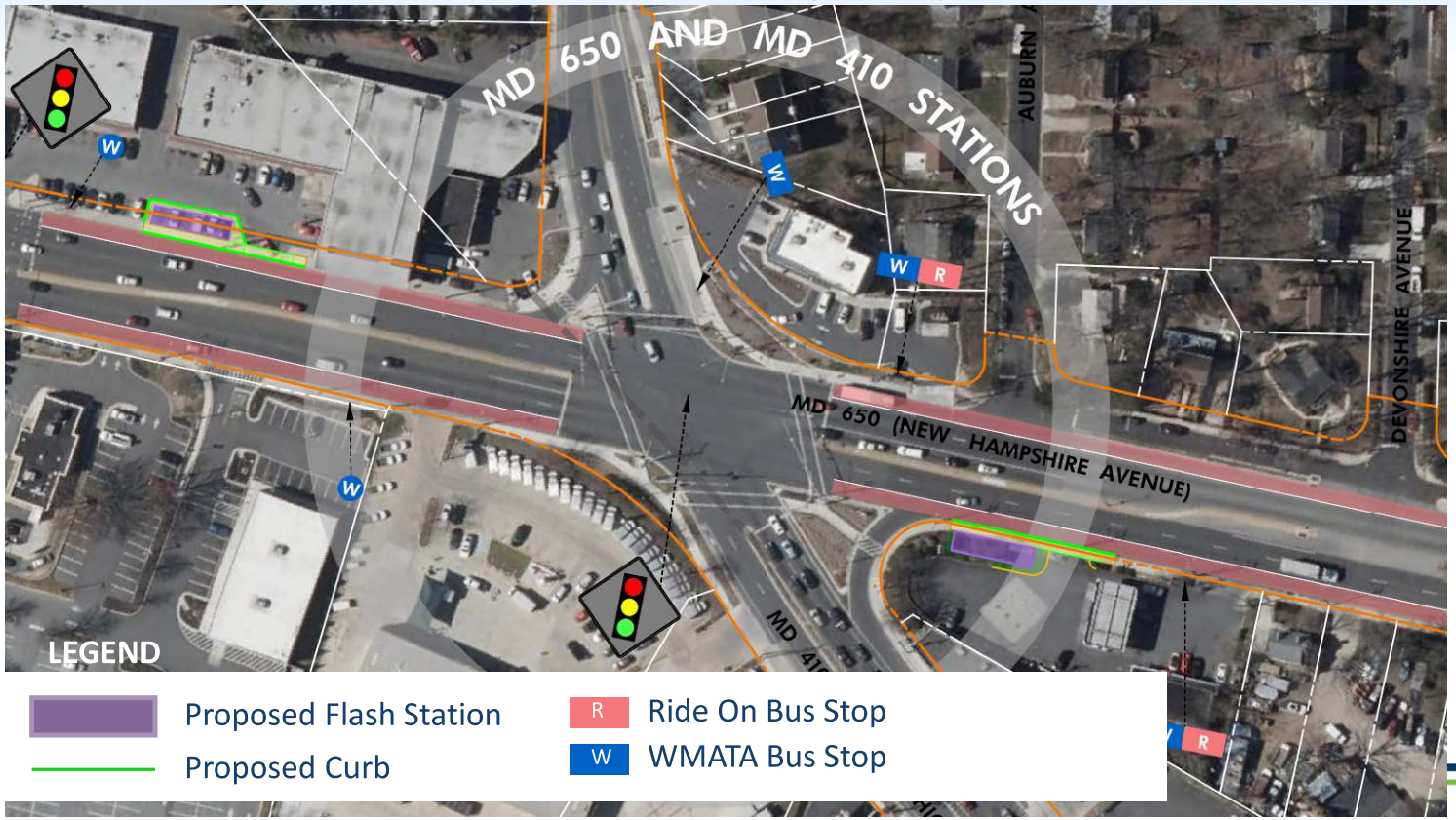
Station at MD 410 (East-West Highway)



- Far side station northbound
- Southbound queue jump
- Accommodate driveways

Alternative 2 (Curbside)

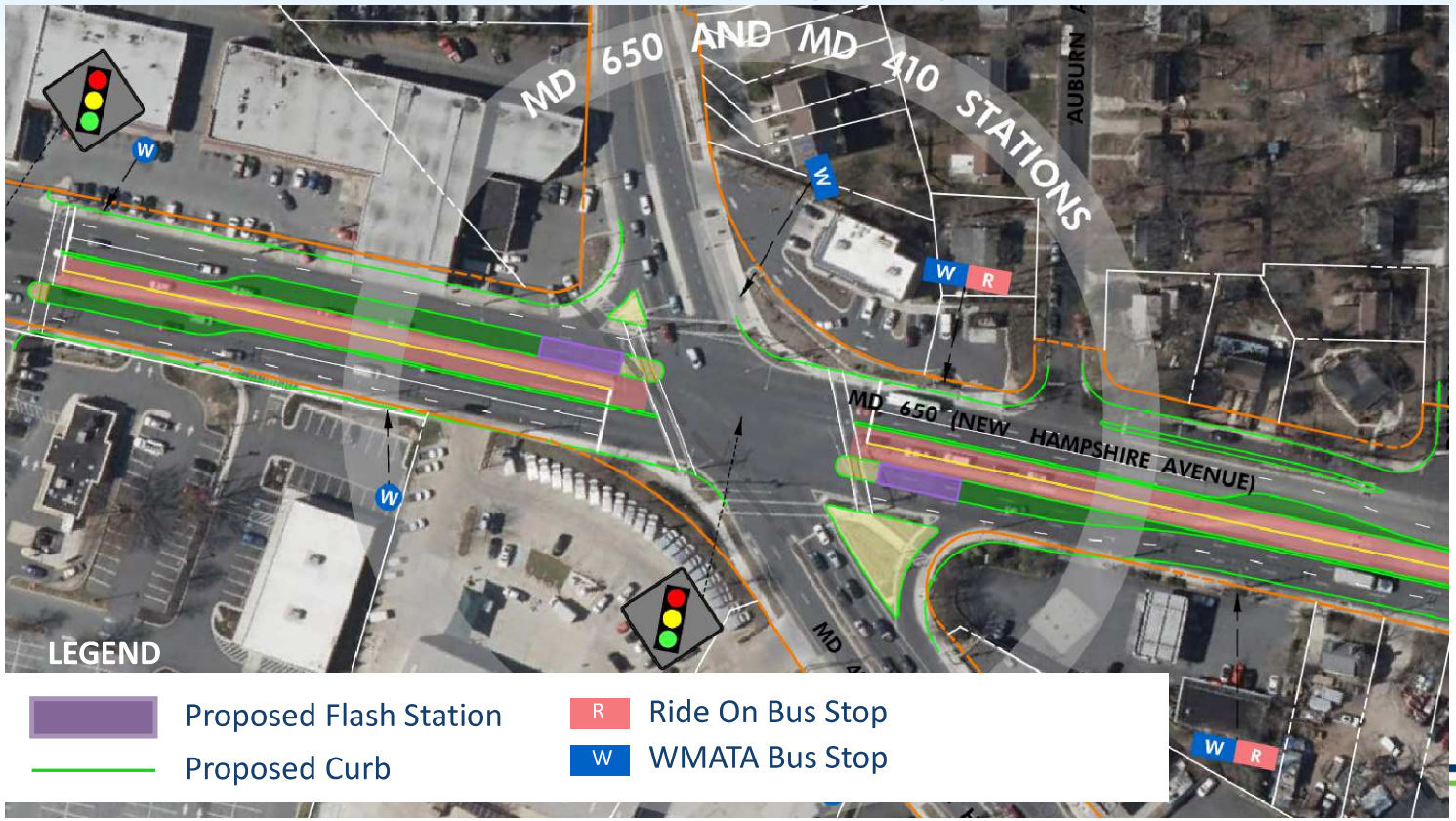
Station at MD 410 (East-West Highway)



- Far side stations
- Avoid driveways and buildings
- Maintain curb

Alternative 3/4 (Median)

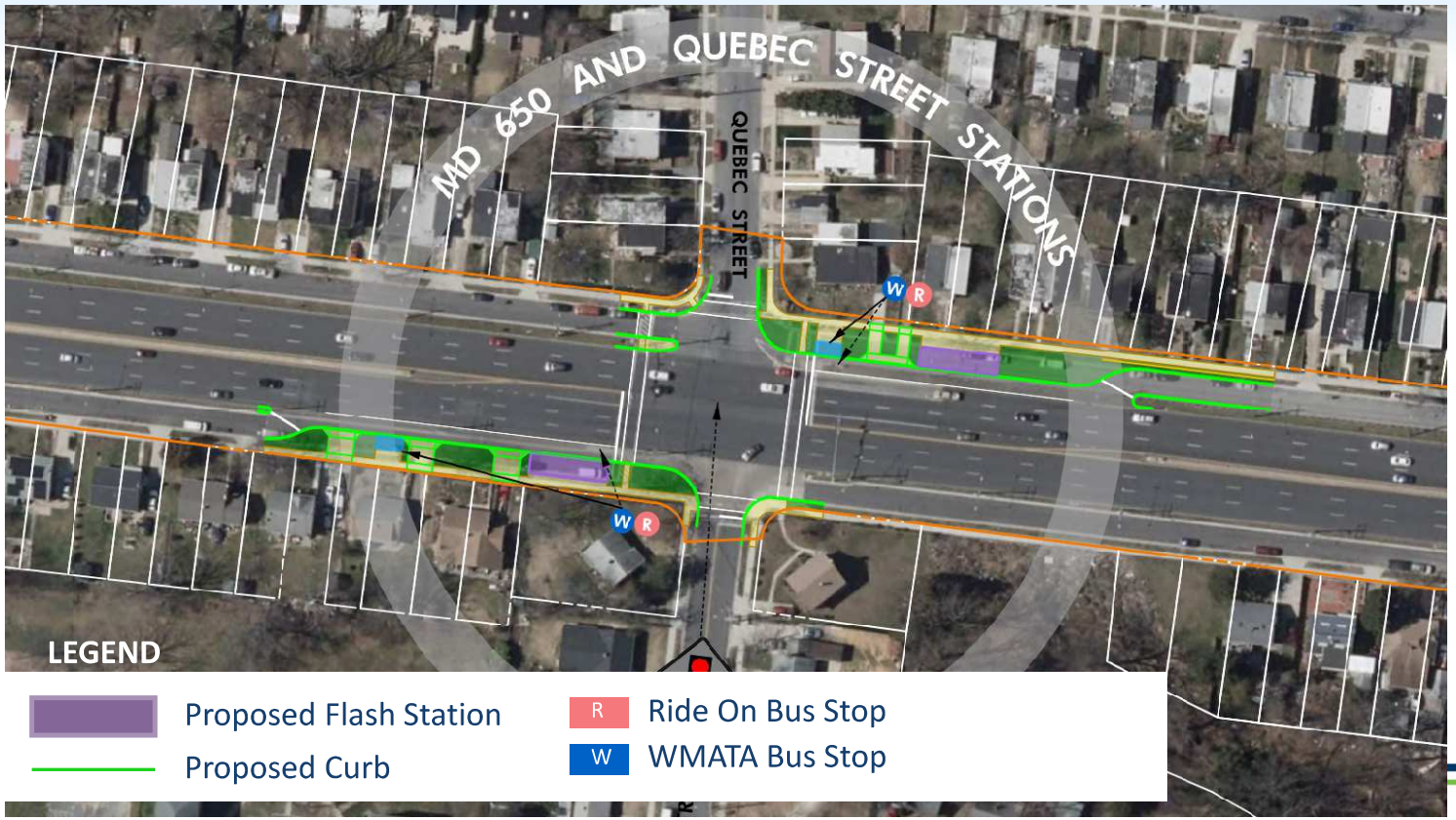
Station at MD 410 (East-West Highway)



- Far side, median stations
- Expanded footprint
- Building and property impacts

Alternative 1 (TSM)

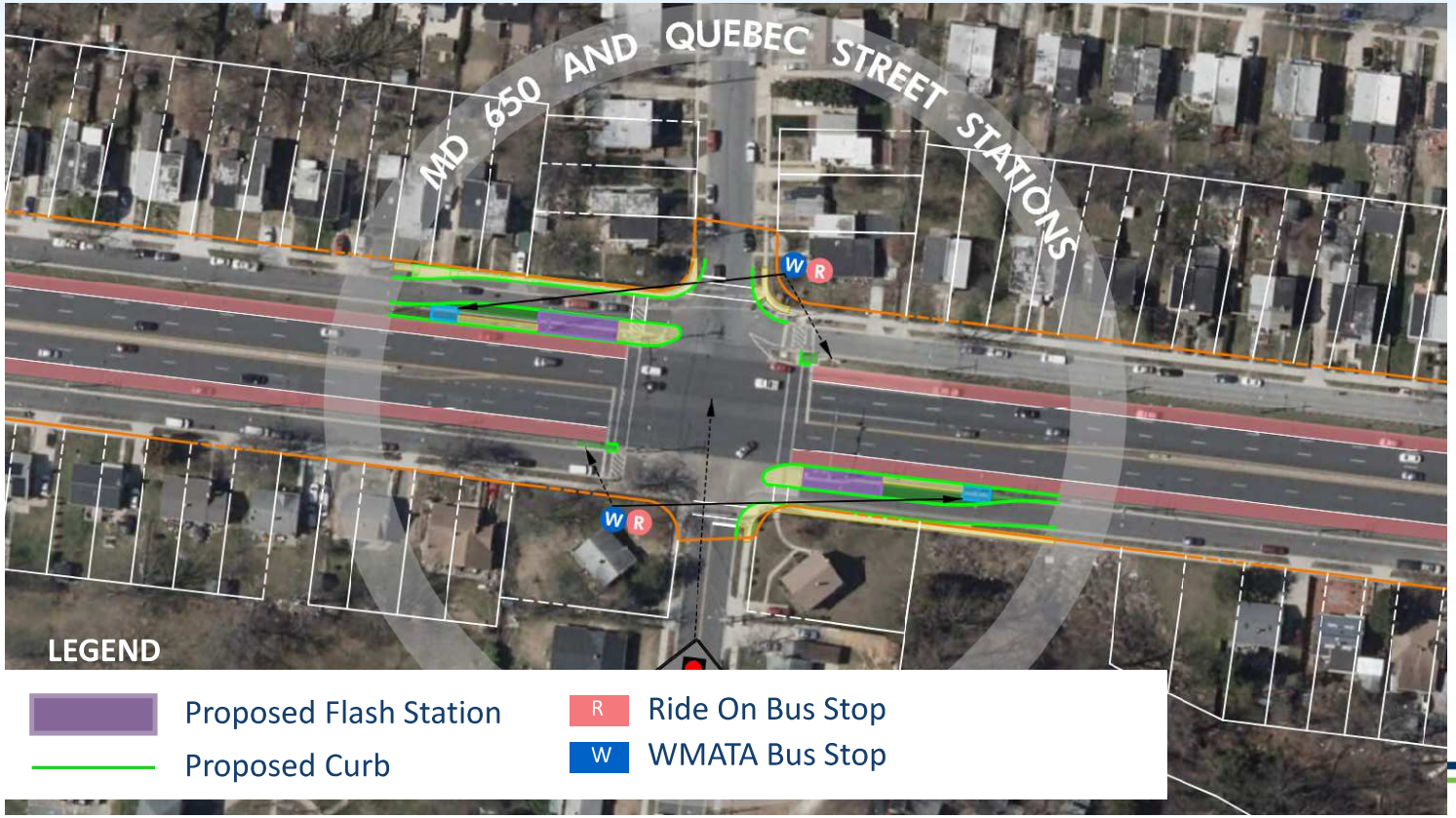
Station at Quebec Street



- Northbound and southbound queue jumps
- Accommodate residential driveways
- Eliminate portions of service roads

Alternative 2 (Curbside)

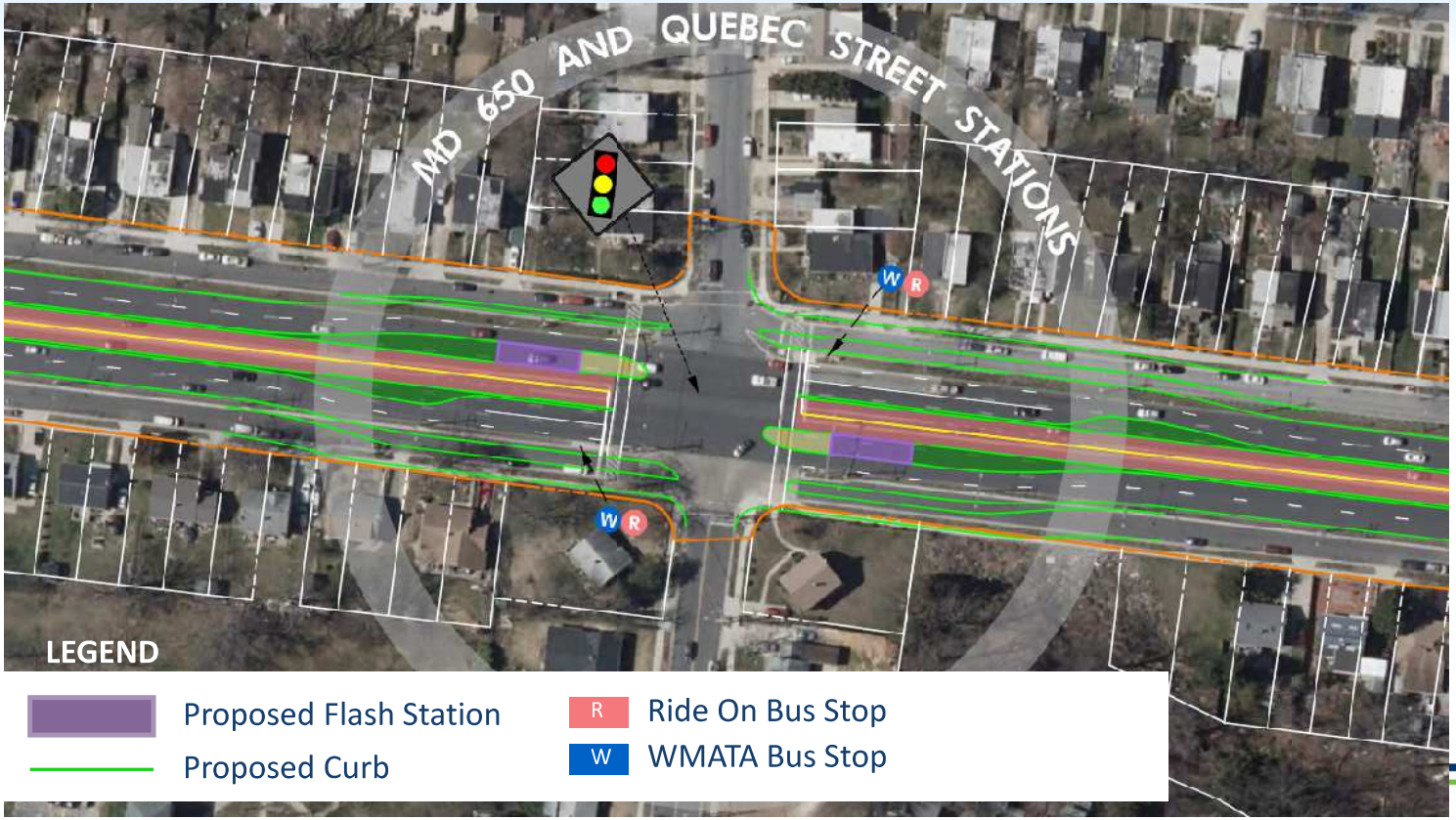
Station at Quebec Street



- Far side stations
- Maintain service roads
- Minimal curb adjustment

Alternative 3/4 (Median)

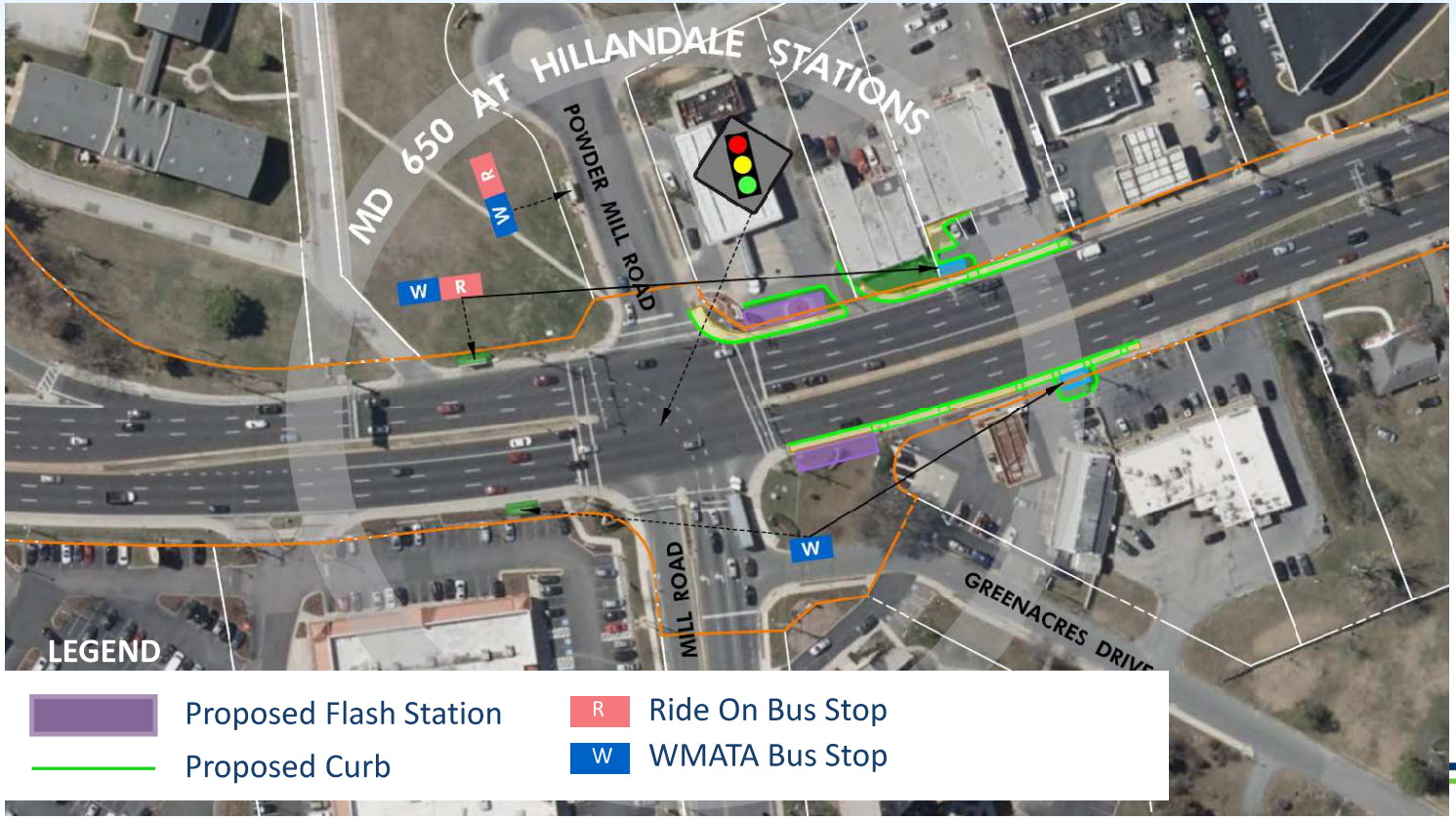
Station at Quebec Street



- Far side, median stations
- Adjust service roads

Alternative 1 (TSM)

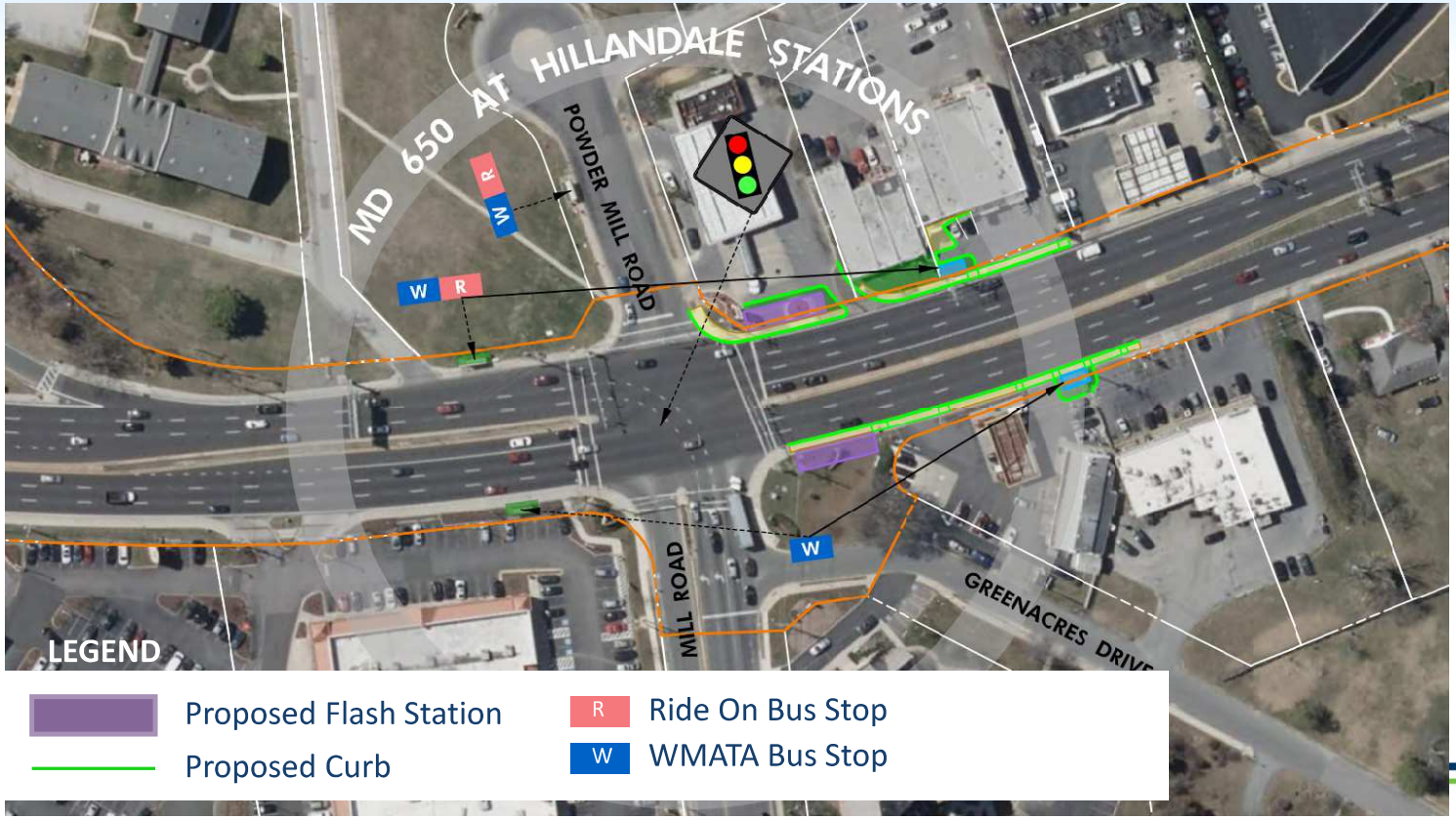
Station at Powder Mill Road



- Far side station northbound
- Near side station southbound
- Relocate northbound local bus stop far side
- Relocate southbound local bus stop near side

Alternative 2 (Curbside)

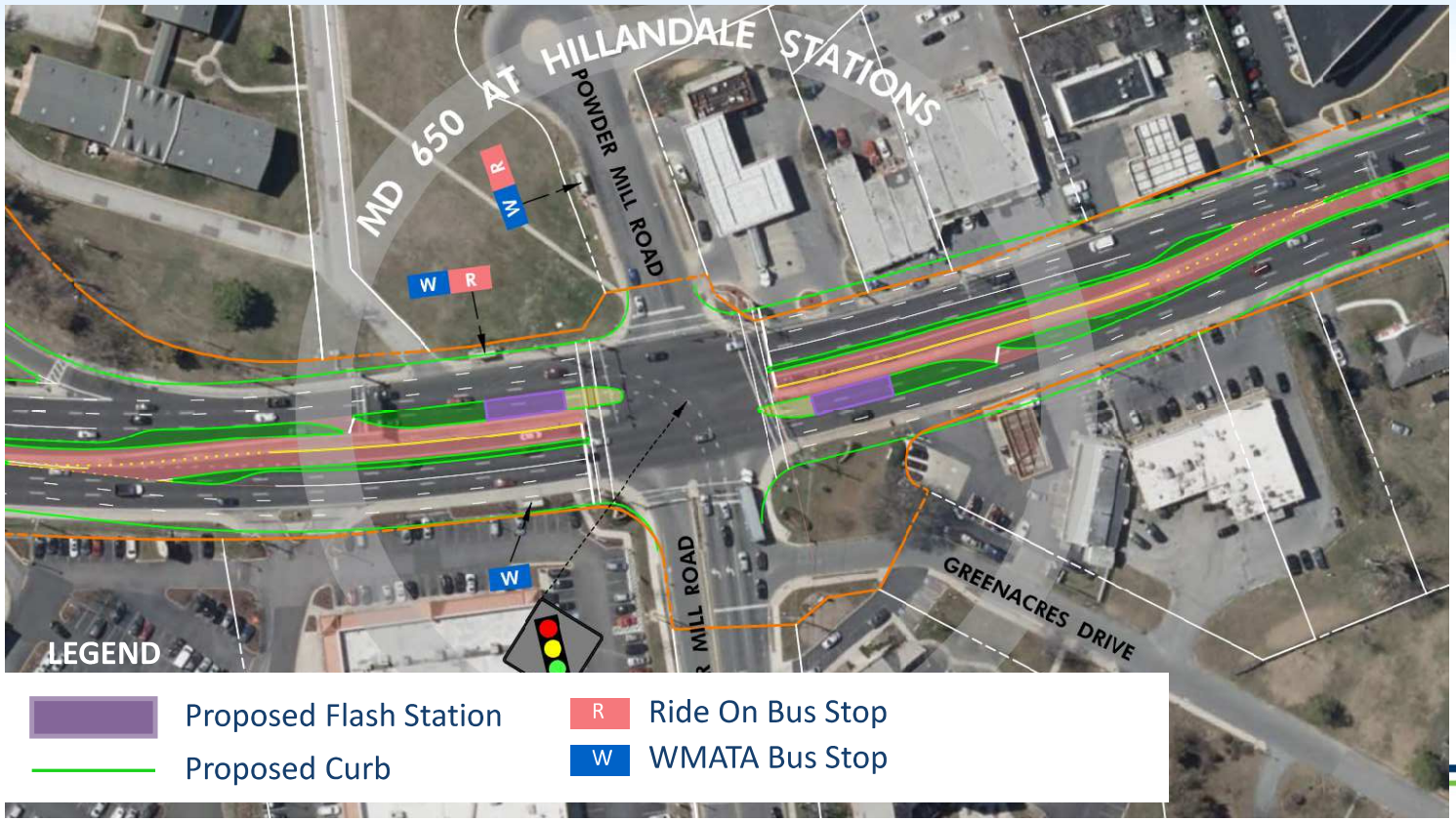
Station at Powder Mill Road



- No change as compared to Alternative 1
- Avoid impacts to interchange ramp

Alternative 3 (Median)

Station at Powder Mill Road



- Far side, median station
- Both peak and non-peak Flash buses stop at median stations
- Slip lanes for accessing the station

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Approach to Evaluation

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Evaluation Purpose & Goals

Evaluate alternatives based on program goals and project-specific, measurable objectives

Include community and stakeholder feedback in evaluation

Provide results that are clear, concise, and comparable

Evaluation Approach

- Traffic Modeling in VISSIM
- Ridership Forecasting using STOPS model
- Cost Estimation
- Equity, Access, Economic Development, and Land Use Analysis

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Outreach and Feedback

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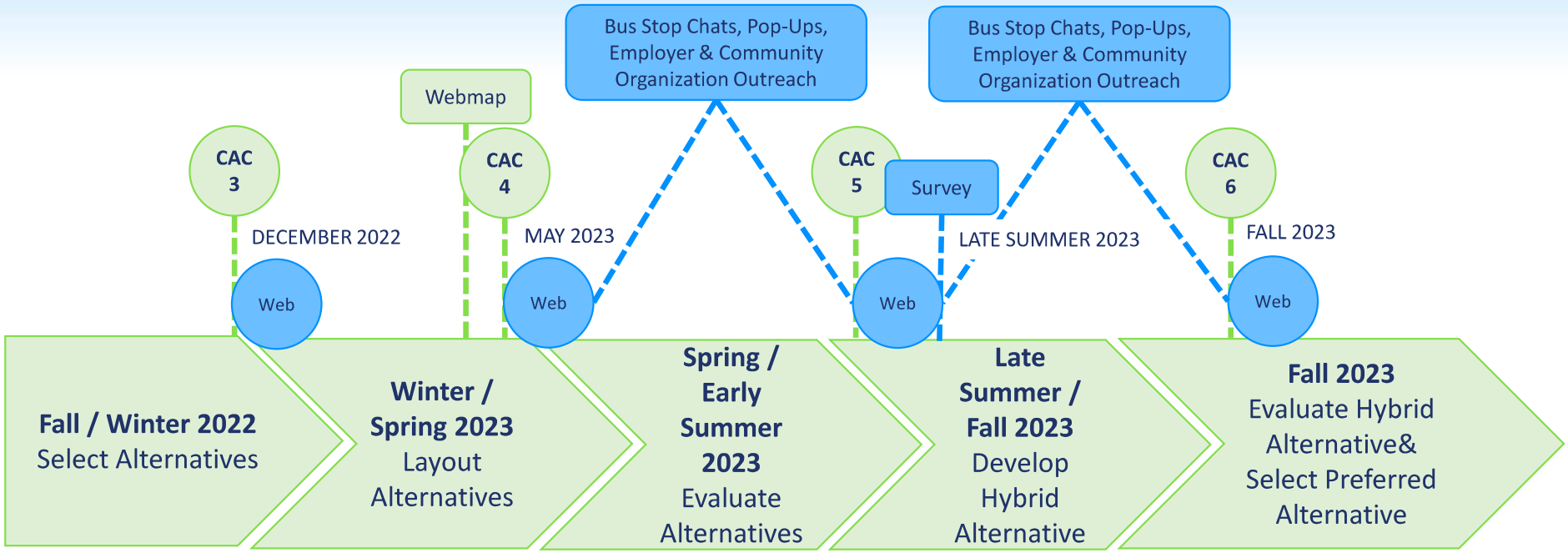
Outreach Overview



Initial Outreach at a Glance

3 CAC Meetings

2 In-Person Public Meetings

1 Virtual Public Meeting

160,000 People reached through Social Media Campaigns

4 Pop-Up Events

46 Comments on Interactive Map

70% Of Pop-Up Events Interactions were in Spanish

- More engagement at pop-up events than at traditional public meetings
- Communication was enthusiastic in native language
- Social Media provided further reach
- Highly visual survey was helpful
- Lots of discussion occurred in the CAC meetings

Outreach Goals

- Connect broadly with communities along the corridor
- Explain the alternatives and articulate opportunities
- Focus on community needs
- Gather feedback on the alternatives

Outreach and Feedback Approach

- **Bus Stop Chats & Pop-Up Events –** on-the-ground engagement with people that ride the bus
- **Employer & Community Organization Outreach –** additional channel for elevating voices along the corridor
- **CAC Meetings –** focused meetings to deliver information and seek input from key stakeholders and the community
- **Interactive Webmap –** online resources for exploring the alternatives and provide feedback

Interactive Webmap

- Online mapping of each alternative
  - Enables zoom in on areas of importance
  - Allows for toggling between alternatives
- Looking for feedback
  - Ease of using the tool
  - Specific concerns for various alternatives
- Link

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Next Steps

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Next Steps

- Engaging in bus stop chats, pop-up events, employer outreach, community organization meetings
- Evaluating alternatives
- Return to TAC & CAC in July/August 2023 to discuss results of evaluation

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Questions?

Corey Pitts – BRT Program Implementation Manager, MCDOT

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Project Webpage

https://www.montgomerycountymd.gov/dot-dte/projects/NewHampshireAve/

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