

# CORRIDOR FORWARD

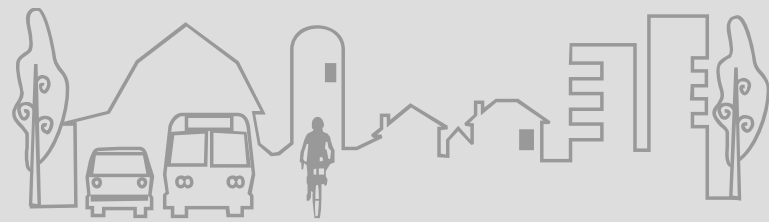
I-270 Transit Plan



Montgomery Planning

Planning Board Briefing #1 – Countywide Planning & Policy and Mid-County Divisions

Agenda Item #5  
12.03.2020







# Plan & Briefing Purpose

- **Plan Purpose:**

- Prioritize transit alternatives along I-270 Corridor
- Develop implementation plan to realize options

- **Briefing Purpose:**

- Process milestones
- Transit mode attributes
- Conceptual transit alternatives
- Outreach strategies



# Plan & Briefing Purpose

## Requested Guidance from Planning Board:

1. Confirm that previously excluded modes should remain outside the scope of the project.
2. Impressions on the existing Corridor Cities Transitway alignment and discussion on the study of alternate alignments.
3. Provide feedback on initial pre-screening framework.



# Plan Milestones

## Spring-Early Winter 2020

- Inventory **mode** attributes
- Develop conceptual **transit** alternatives

## Winter 2021

- **Pre-screening** and refinement:
  - identify **six key alternatives**
- Develop **metrics** to compare key alternatives
- Develop and execute **methodology** to realize metrics

## Early Spring 2021

- **Prioritize** alternatives based on metrics



# Plan Milestones

## Late Spring-Summer 2021

- Solicit feedback and solidify priorities
- Develop **preliminary recommendations**

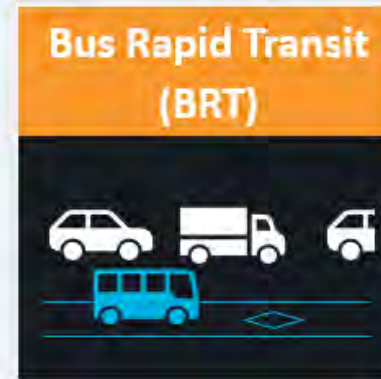
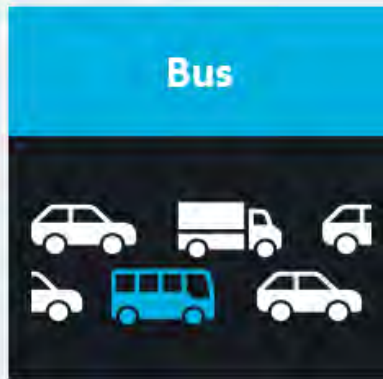
## Fall 2021

- Refine preliminary recommendations
- Develop **implementation plan**

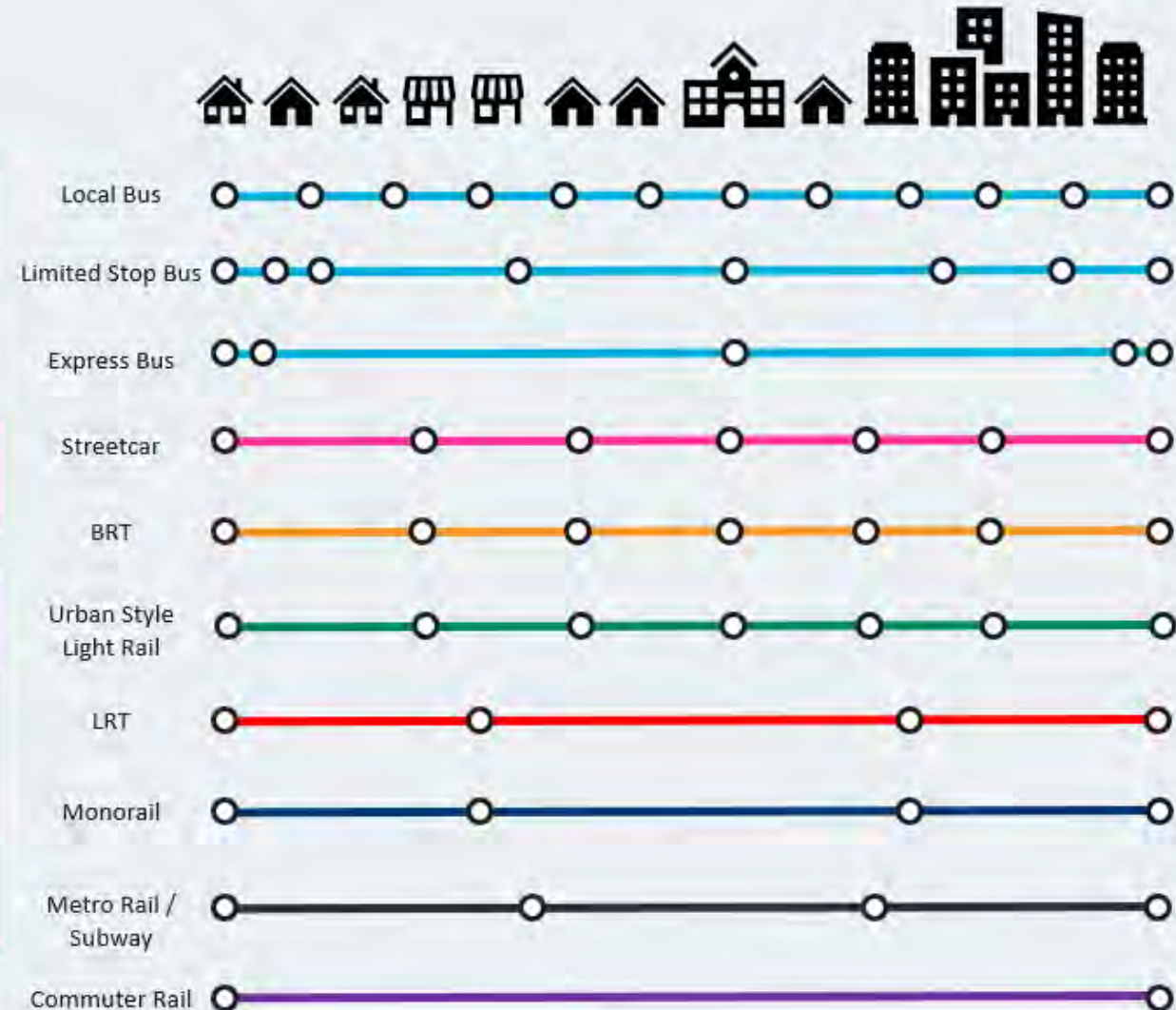
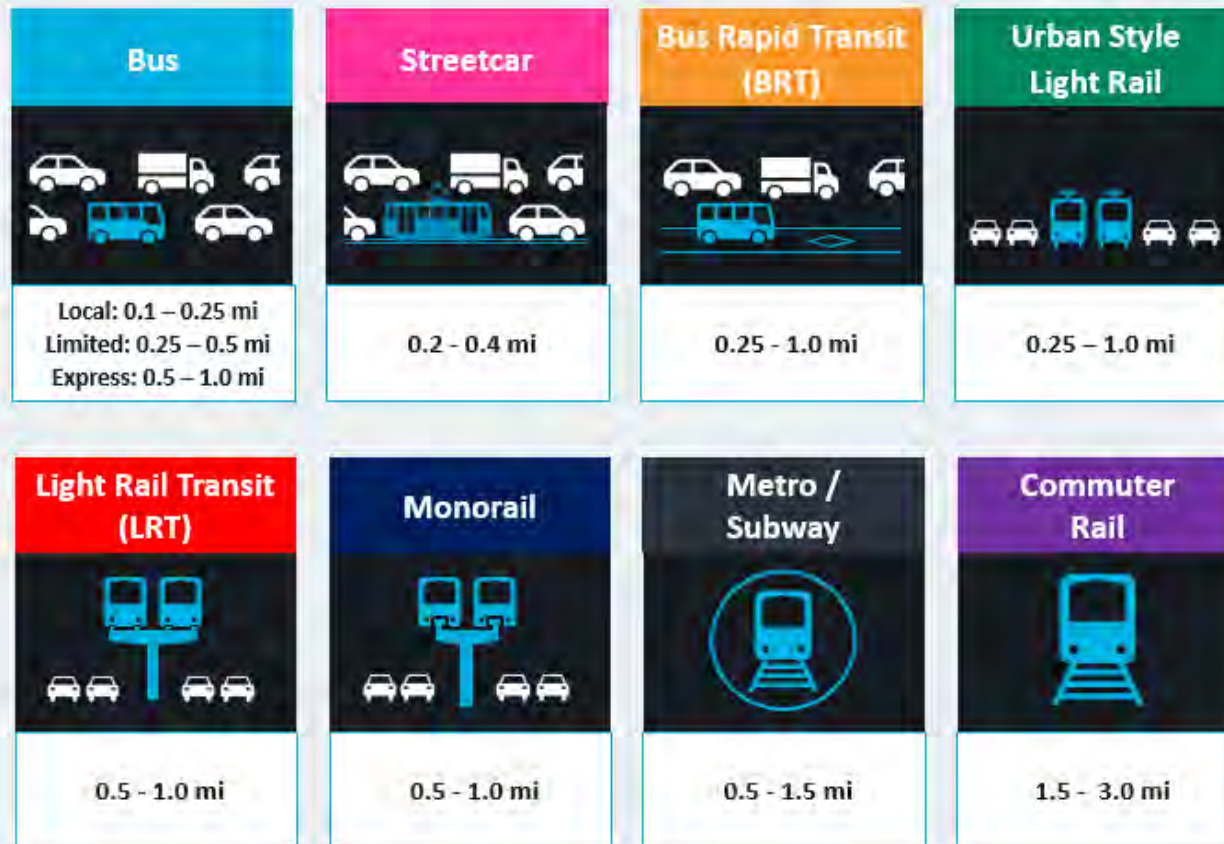




# Mode Matrix

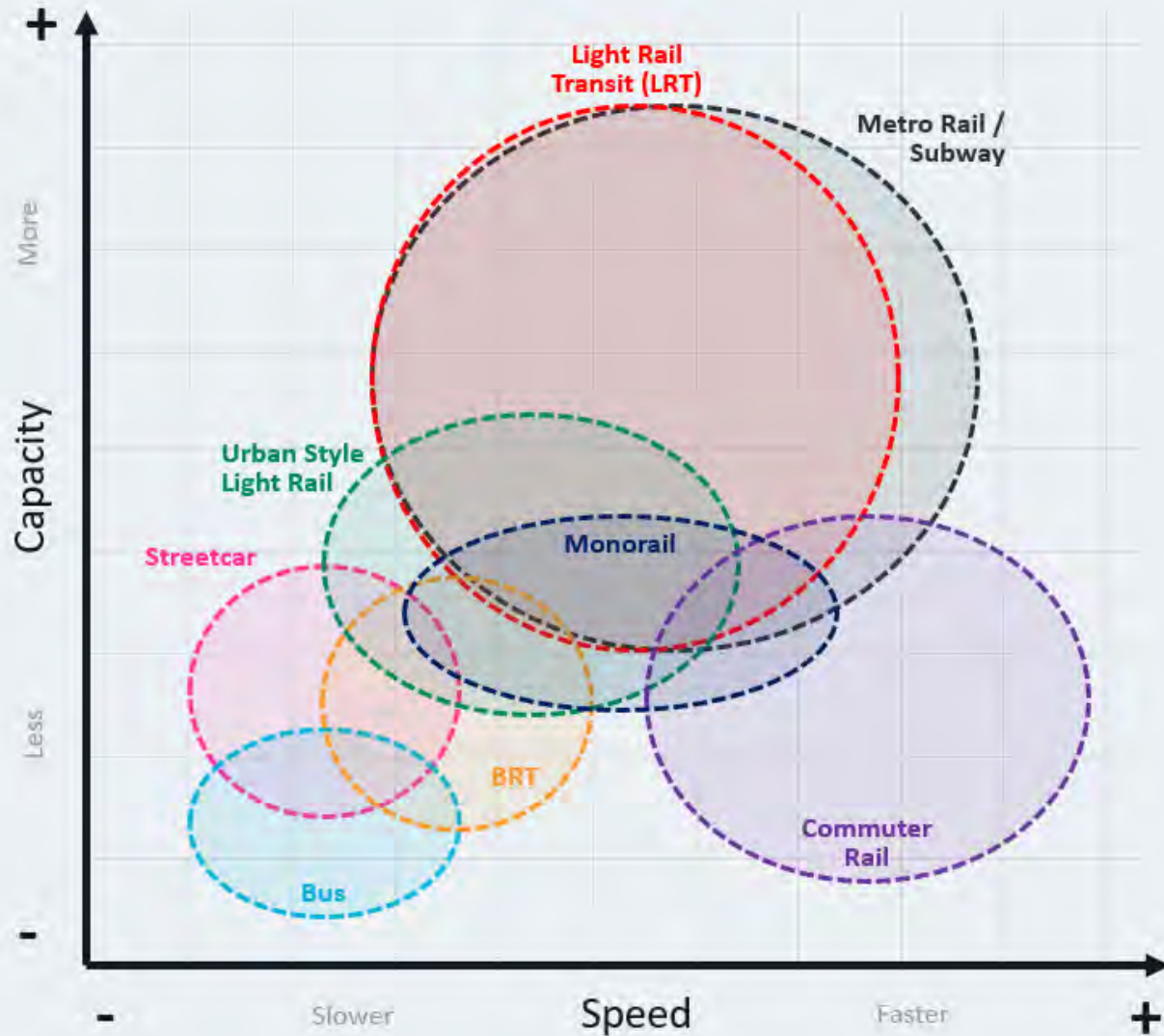
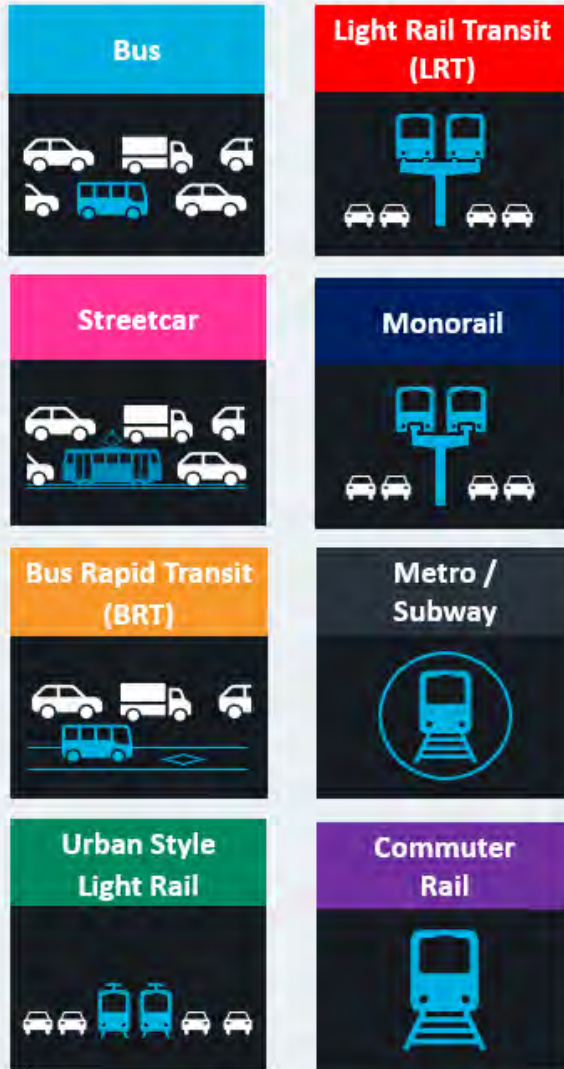


# Stop Spacing



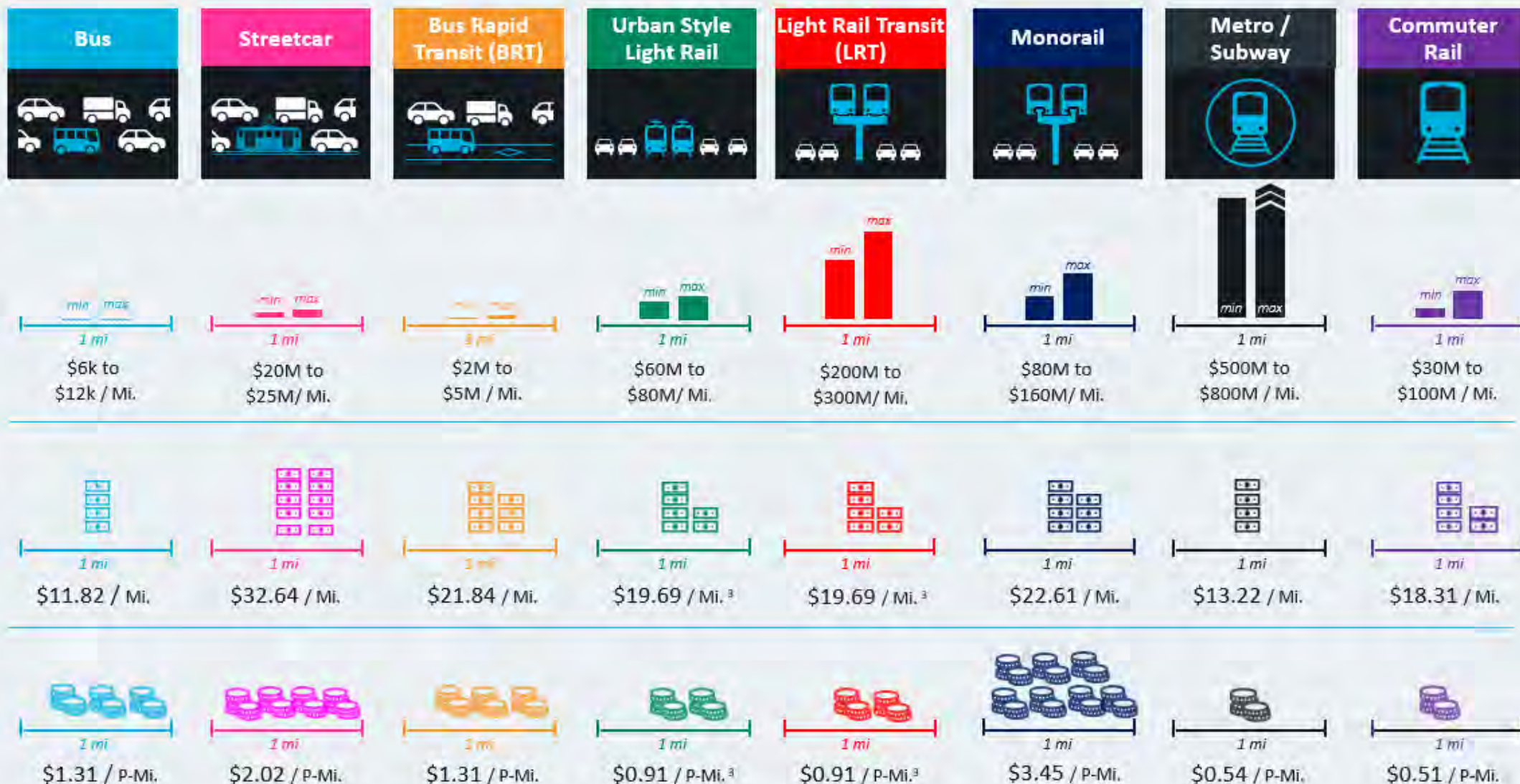


# Speed vs. Capacity





# Cost Factors



1. Capital cost data from example system

2. Operating cost data from 2018 NTD reports

3. NTD definitions combine urban LRT and guideway LRT



# Implementation Factors

	Bus	Streetcar	Bus Rapid Transit (BRT)	Urban Style Light Rail	Light Rail Transit (LRT)	Monorail	Metro / Subway	Commuter Rail
<b>Segregation</b>	Mixed traffic	Mixed traffic	Dedicated ROW / shoulder lane	Dedicated Right-of-way (within street w/signals)	Grade-separated (Tunnelled / Elevated)	Grade-separated (Tunnelled / Elevated)	Grade-separated (Tunnelled / Elevated)	Segregated Right-of-way (at grade)
<b>Alignment Width</b>	12 ft.	10 ft.	12 ft.	10 ft.	12 ft.	10 ft.	15 ft.	15 ft.
<b>Maximum Grade</b>	12%	8%	12%	8%	6%	6%	6%	2%



# Excluded Modes

**Maglev**

## Requested Guidance:

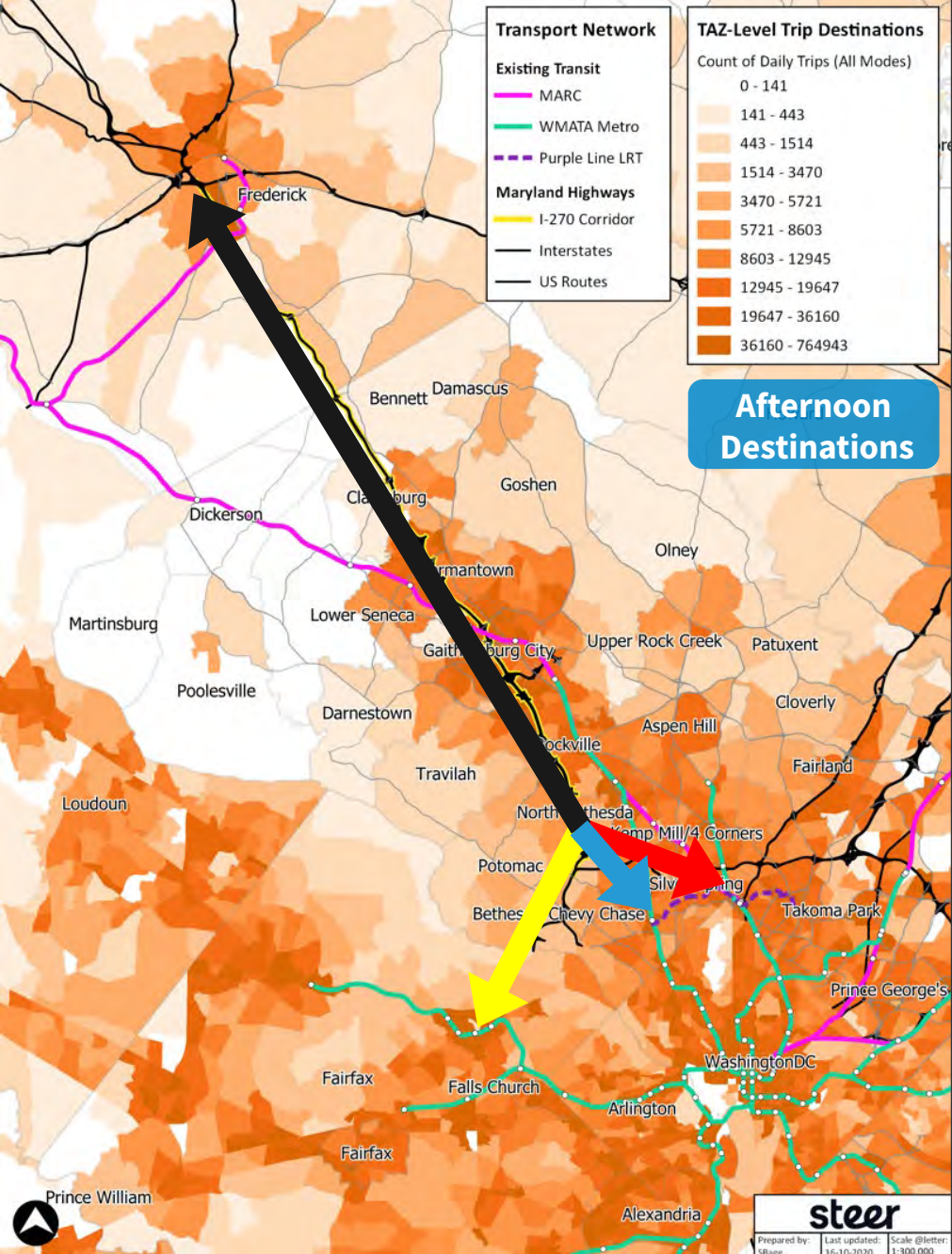
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**Personal Rapid Transit (PRT)**

Madsar City PRT,  
Credit: humantransit.org (Jarrett Walker Blog)



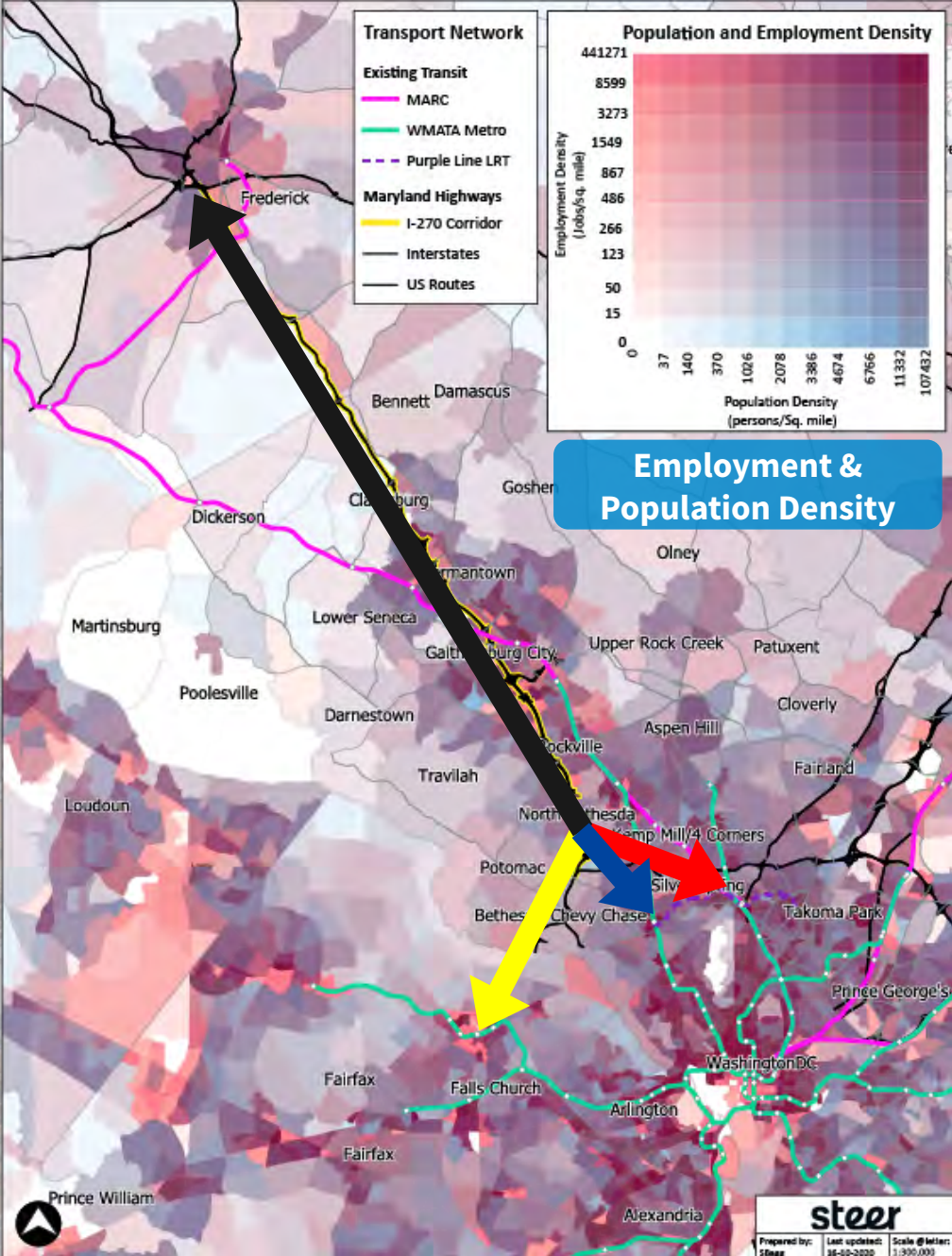




# Conceptual Alternatives

- Based primarily on options in the public sphere (master plans, regional studies)
- New I-270 running options informed by:
  - origin-destination analyses
  - population and employment density
- Considered southern desire points include new transit access and logical transfers
  - **New Demand: Tysons/Dunn Loring (yellow)**
  - **Western Corridor: Bethesda/NIH (navy)**
  - **Eastern Corridor: Silver Spring (red)**
- Pre-screening: off-model approach to sift, refine, and eliminate lower-performing alternatives





# Conceptual Alternatives

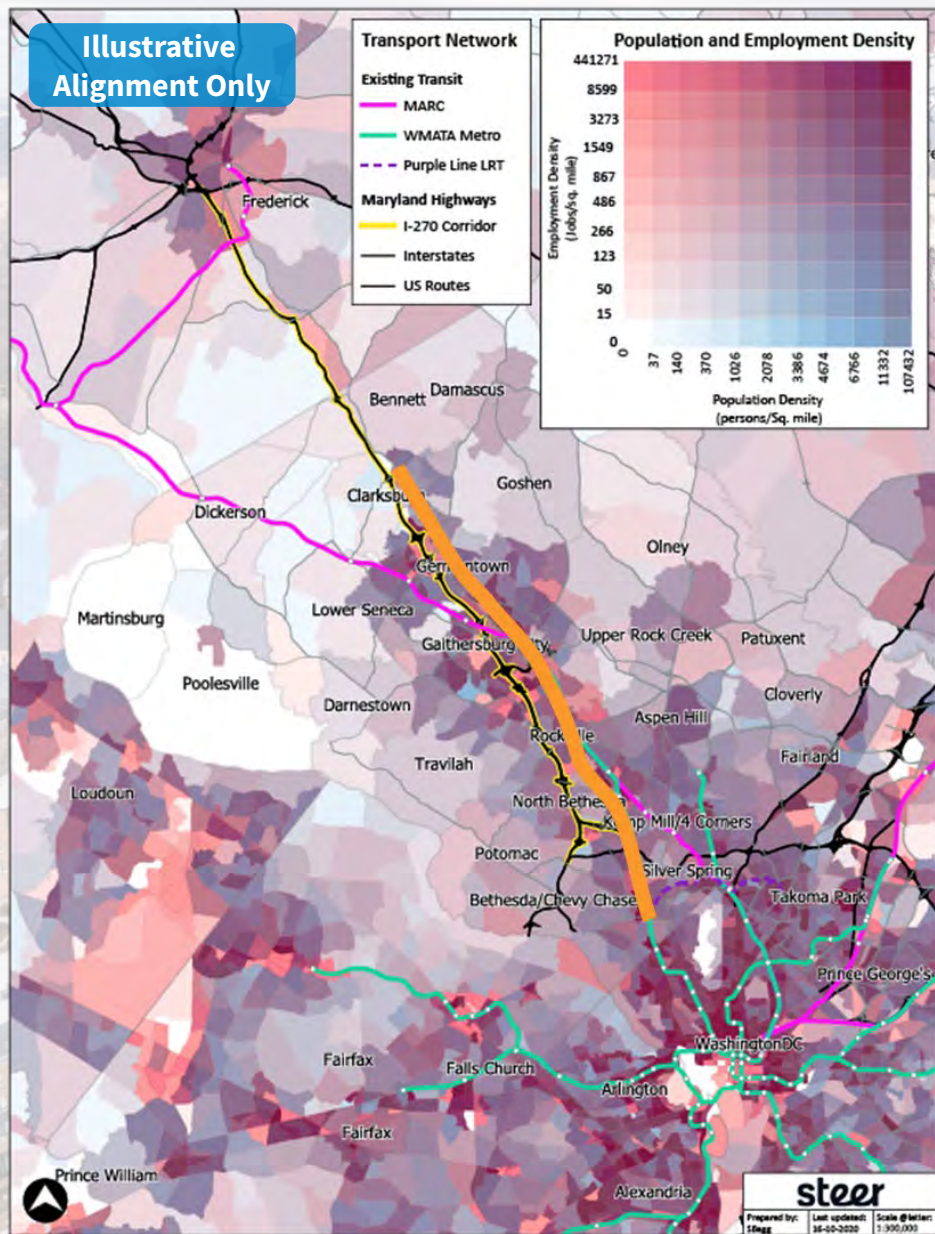
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  - New Demand: Tysons/Dunn Loring (yellow)**
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- Pre-screening: off-model approach to sift, refine, and eliminate lower-performing alternatives



# Conceptual Alternatives Summary

1. MD 355 (BRT)
2. MARC Improvements (Commuter Rail)
3. Redline Extension 1 (Metrorail)
4. Redline Extension 2 (Metrorail)
5. Corridor Cities Transitway (BRT)
6. Purple Line Extension (LRT)
7. North Bethesda Transitway Extension (BRT)
8. I-270 Monorail (Monorail)
9. I-270 Managed Lanes Bus (Bus)
10. I-270 Light Rail (LRT)
11. I-270 BRT to Bethesda (BRT)
12. I-270/I-495 BRT to NoVa (BRT)
13. I-270/I-495 BRT to Silver Spring (BRT)





## Alternative 1: MD 355 BRT

**Origin:** Countywide Transit Corridors Functional Master Plan (2013)

**From:** Clarksburg  
**To:** Bethesda

**Context:** Based on work to date and coordination with MCDOT, this option has been excluded from further study and is assumed as background (i.e. implemented by 2045).

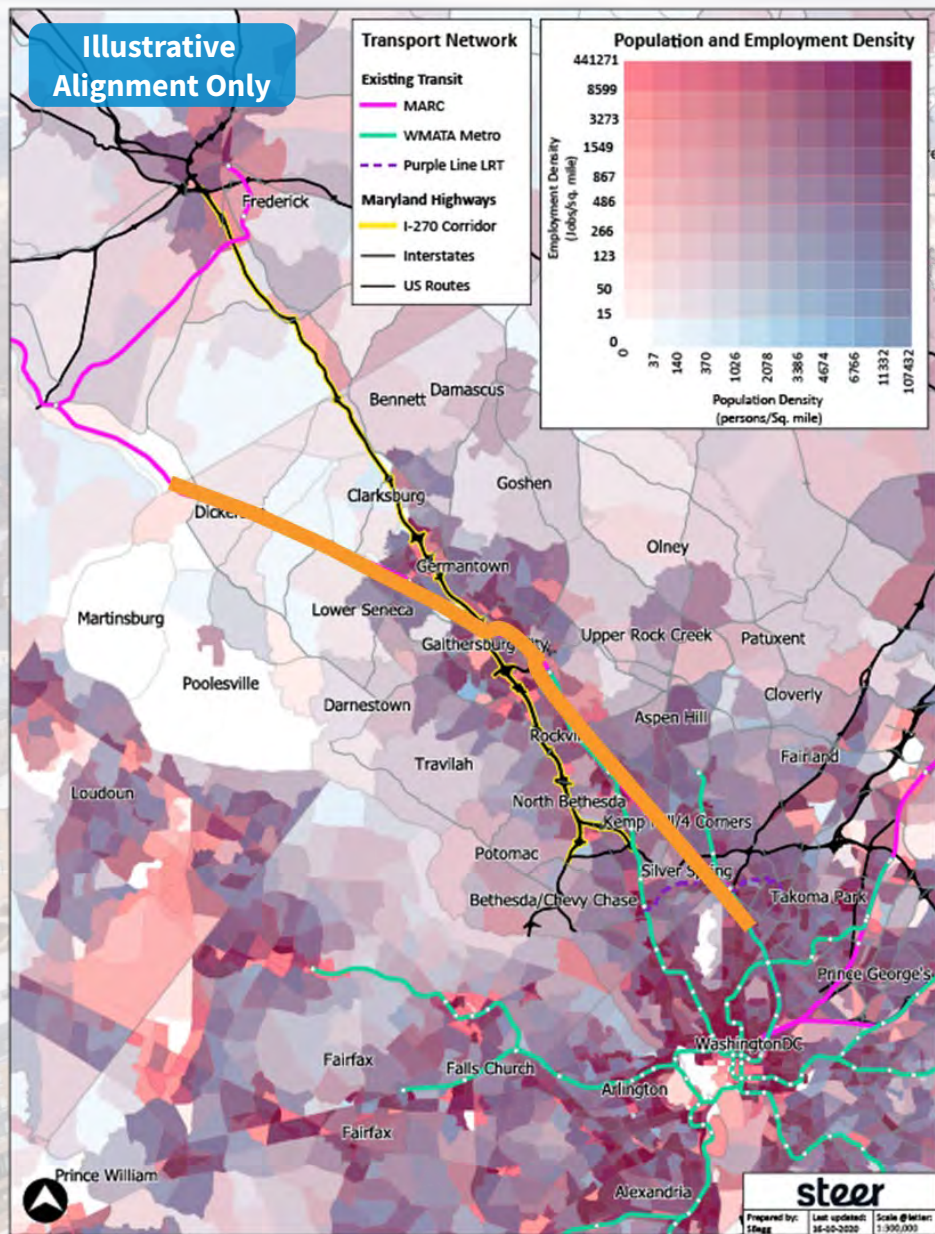
### Rationale:

- Quality service along extended corridor
- Provides service to new communities
- Provides access to employment centers
- Increases transfer opportunities.

Bus Rapid Transit  
(BRT)







## Alternative 2A: MARC Rail Station Revision

**Origin:** White Flint Sector Plan (2013), Shady Grove Sector Plan (2006, 2020), CSX Policy Constraints

**From:** Frederick/Martinsburg  
**To:** Union Station

**Context:** CSX policy constraints prevent new stations without the closure of existing stations along existing Brunswick Line. Option assumes new service at Shady Grove and White Flint, which would require closures of existing low-volume stations (TBD).

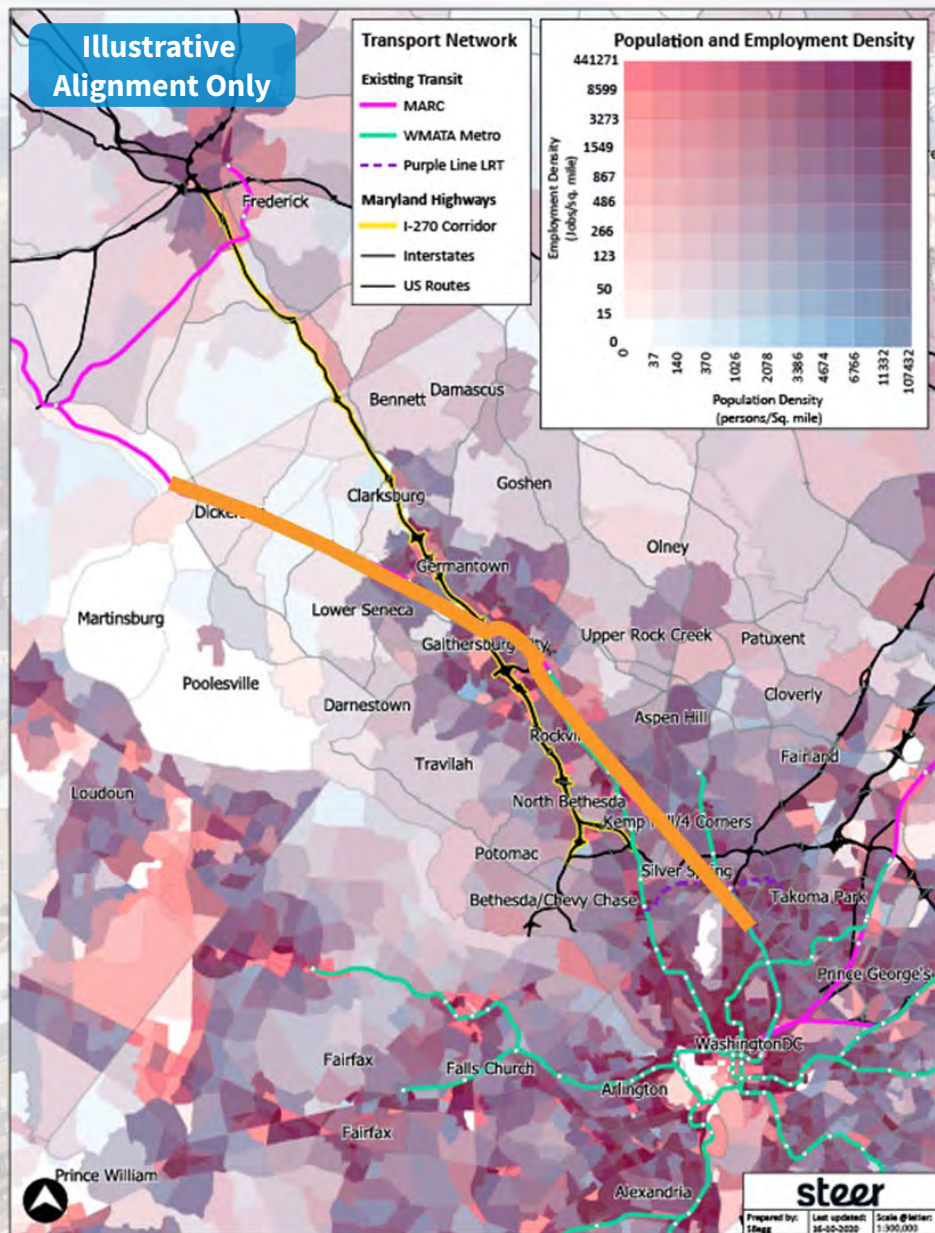
### Rationale:

- Accepts near-term policy constraints
- Envisions more equitable service
- Supports planned growth
- Improves transfer opportunities

Commuter  
Rail







## Alternative 2B: MARC Rail Additional Mainline Track

**Origin:** Various Master Plans, including the Countywide Transit Corridors Master Plan (2013) & Maryland Transit Administration's (MTA) MARC Rail Cornerstone Plan (2018).

**From:** Frederick/Martinsburg  
**To:** Union Station

**Context:** Additional mainline track (third track) and capacity enhancements - improves potential for two-way and all-day service.

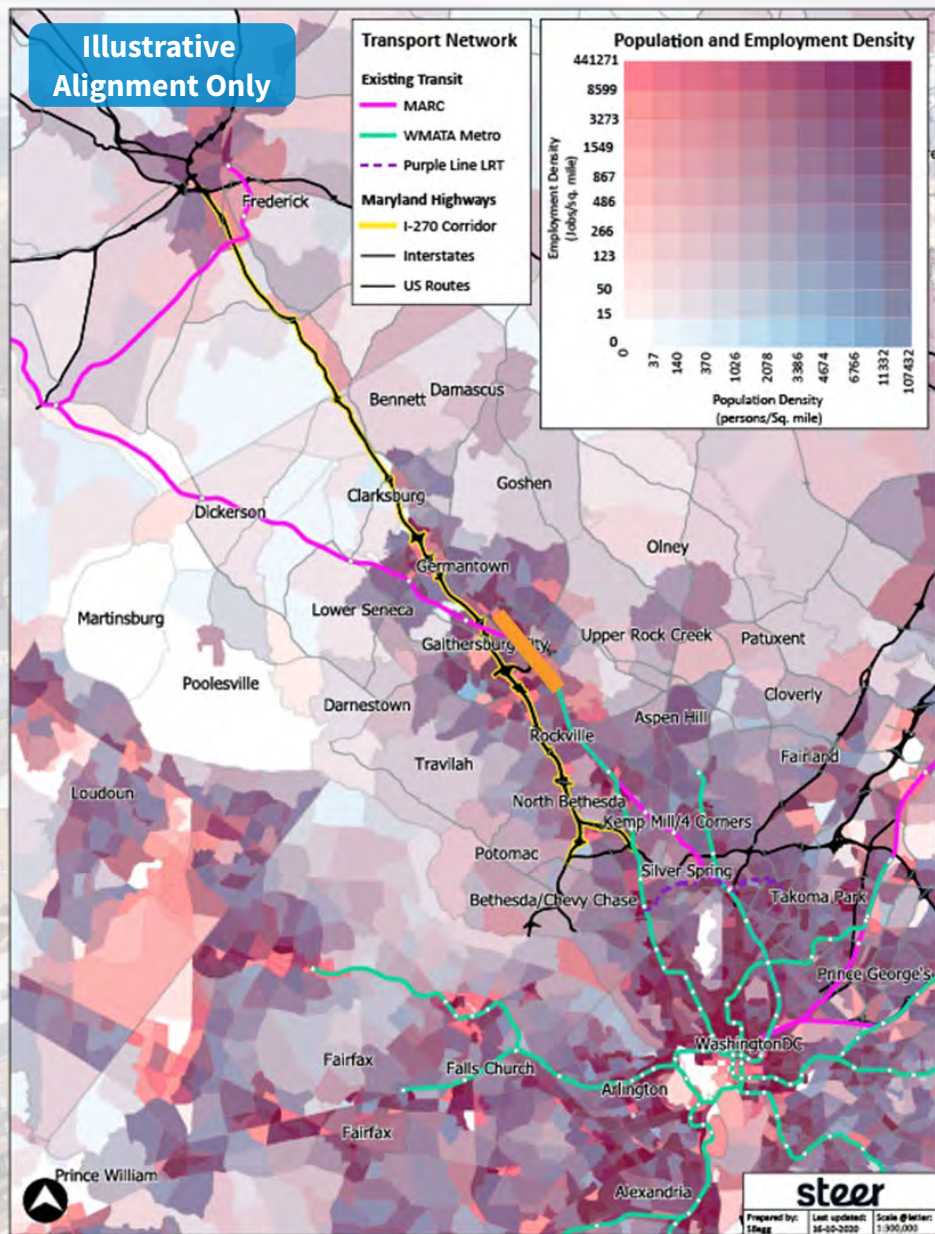
### Rationale:

- Increase utility of existing infrastructure
- Consider additional stations (see 2A)
- Consider Cornerstone Plan's service program
- Support equity & economic health

Commuter  
Rail







## Alternative 3A & 3B: Redline Extension to Gaithersburg

**Origin:** Washington Metropolitan Area Transit Authority's (WMATA) Connecting Greater Washington Study (2016)

**From:** Gaithersburg

**To:** Shady Grove Metrorail Station

**Context:** Extend redline from Shady Grove to Gaithersburg via CSX Brunswick Line ROW or MD 355 ROW; consider two potential stations Downtown Gaithersburg and TBD terminus

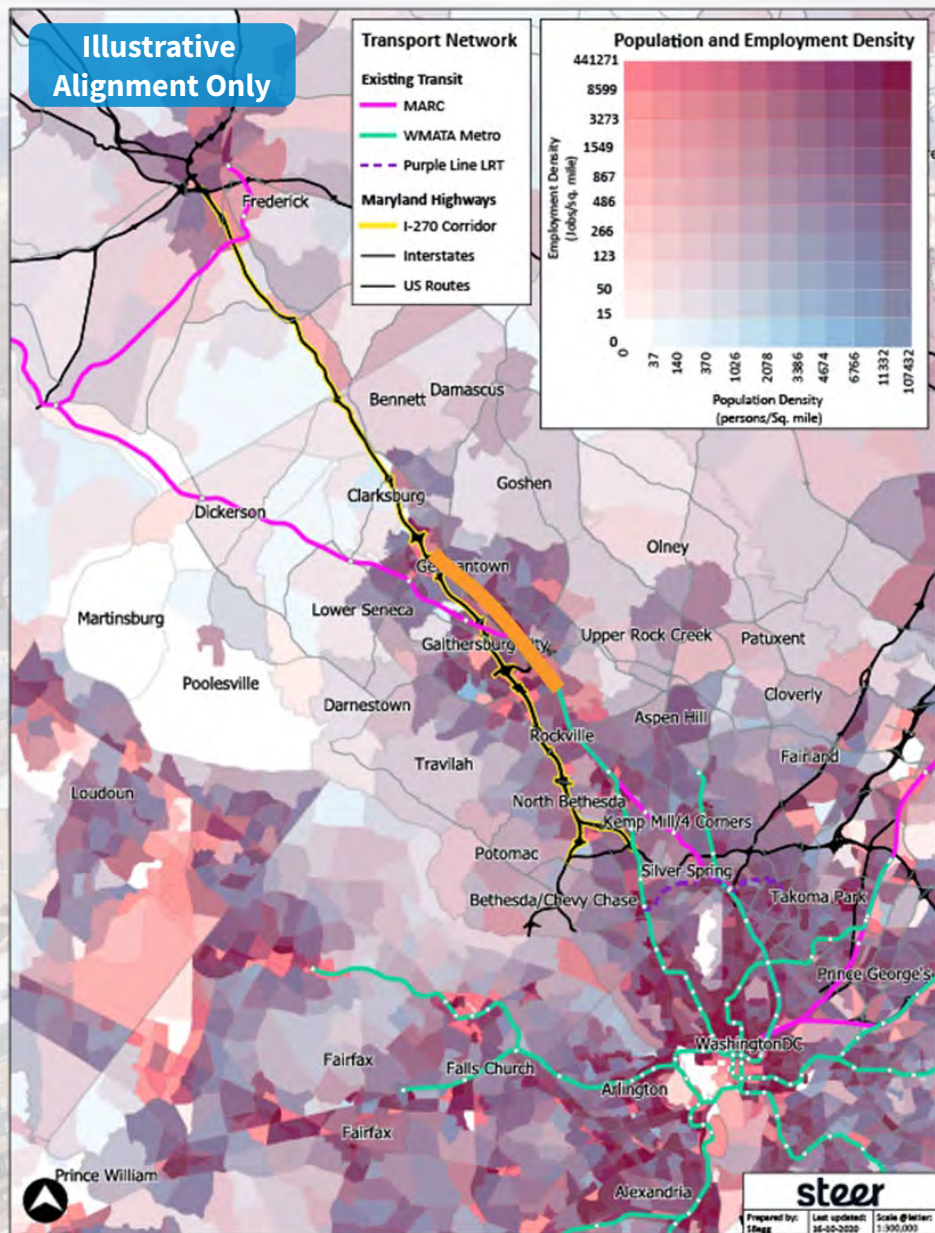
### Rationale:

- Most-requested in public forums
- Support Transit-Oriented Development
- Support equity & economic health

Metro Rail /  
Subway







## Alternative 4A & 4B: Redline Extension, Gaithersburg to Germantown

**Origin:** Washington Metropolitan Area Transit Authority's (WMATA) Connecting Greater Washington Study (2016)

**From:** Germantown

**To:** Shady Grove Metrorail Station

**Context:** Extend redline to Germantown via CSX Brunswick Line ROW or MD 355 ROW; consider three additional stations (see 3A/3B)

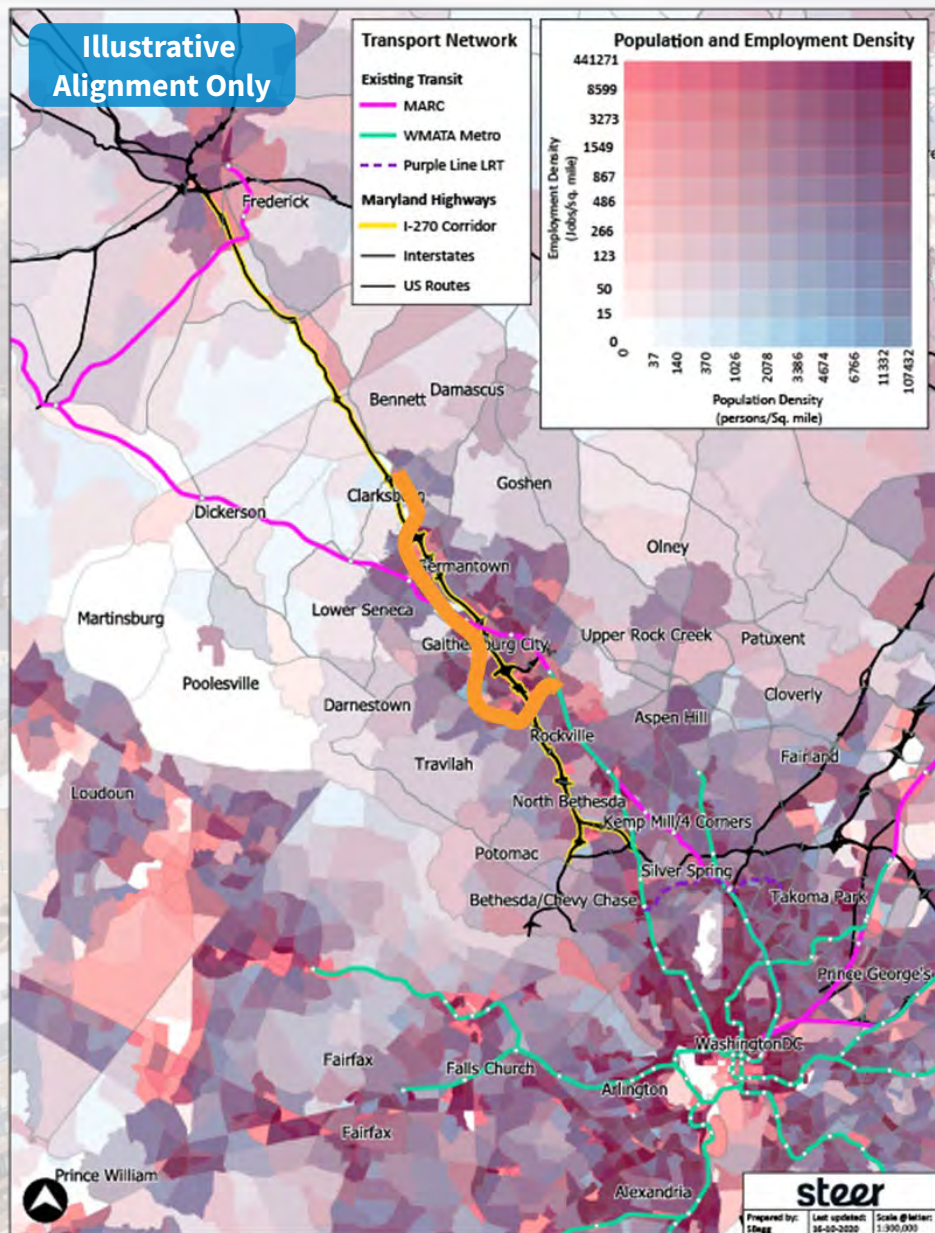
### Rationale:

- Most requested mobility improvement in public forums
- Support Transit-Oriented Development
- Improve equitable access

Metro Rail /  
Subway







## Alternative 5: Corridor Cities Transitway

### Origin:

- Quality transit envisioned in various Corridor Cities plans in mid 1980s
- Additional Department Studies - 1990s
- State coordination - early 2000s through present

**From:** Clarksburg (Phase 2 Terminus)

**Via:** Metropolitan Grove (Phase 1 Terminus)

**To:** Shady Grove Metrorail Station (Phase 1)

**Context:** Phase 1 – Bus Rapid Transit connecting King Farm, Crown Farm, Life Sciences Center, Kentlands, and Metropolitan Grove includes partial 30 percent designs from MTA; no existing design work on Phase 2 (Metropolitan Grove to Clarksburg)

### Rationale:

- Justified development in corridor cities
- Support economic health
- Further connectedness & complete communities

Bus Rapid Transit  
(BRT)





## Corridor Cities Transitway Discussion

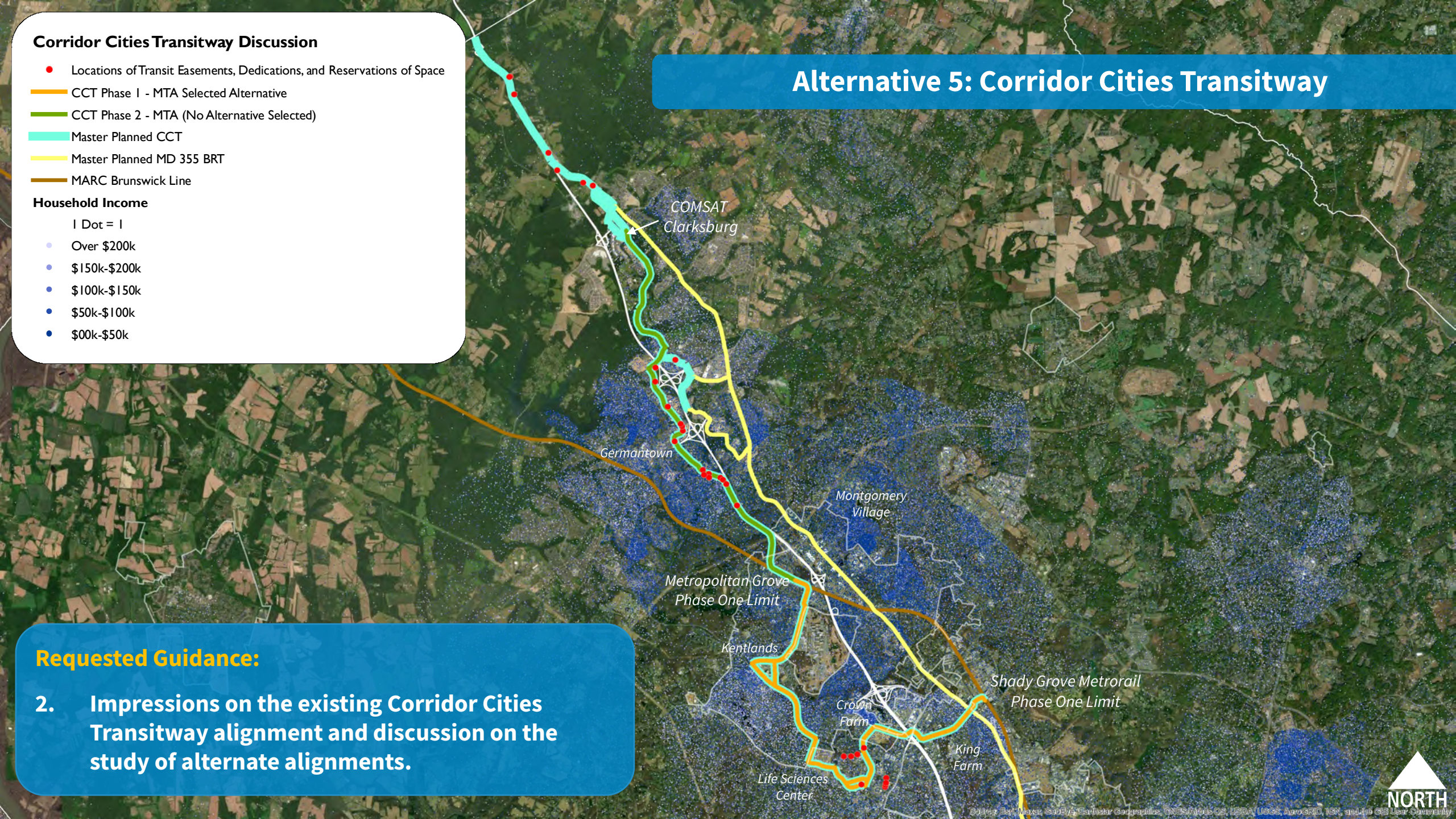
- Locations of Transit Easements, Dedications, and Reservations of Space
- CCT Phase 1 - MTA Selected Alternative
- CCT Phase 2 - MTA (No Alternative Selected)
- Master Planned CCT
- Master Planned MD 355 BRT
- MARC Brunswick Line

### Household Income

1 Dot = 1

- Over \$200k
- \$150k-\$200k
- \$100k-\$150k
- \$50k-\$100k
- \$00k-\$50k

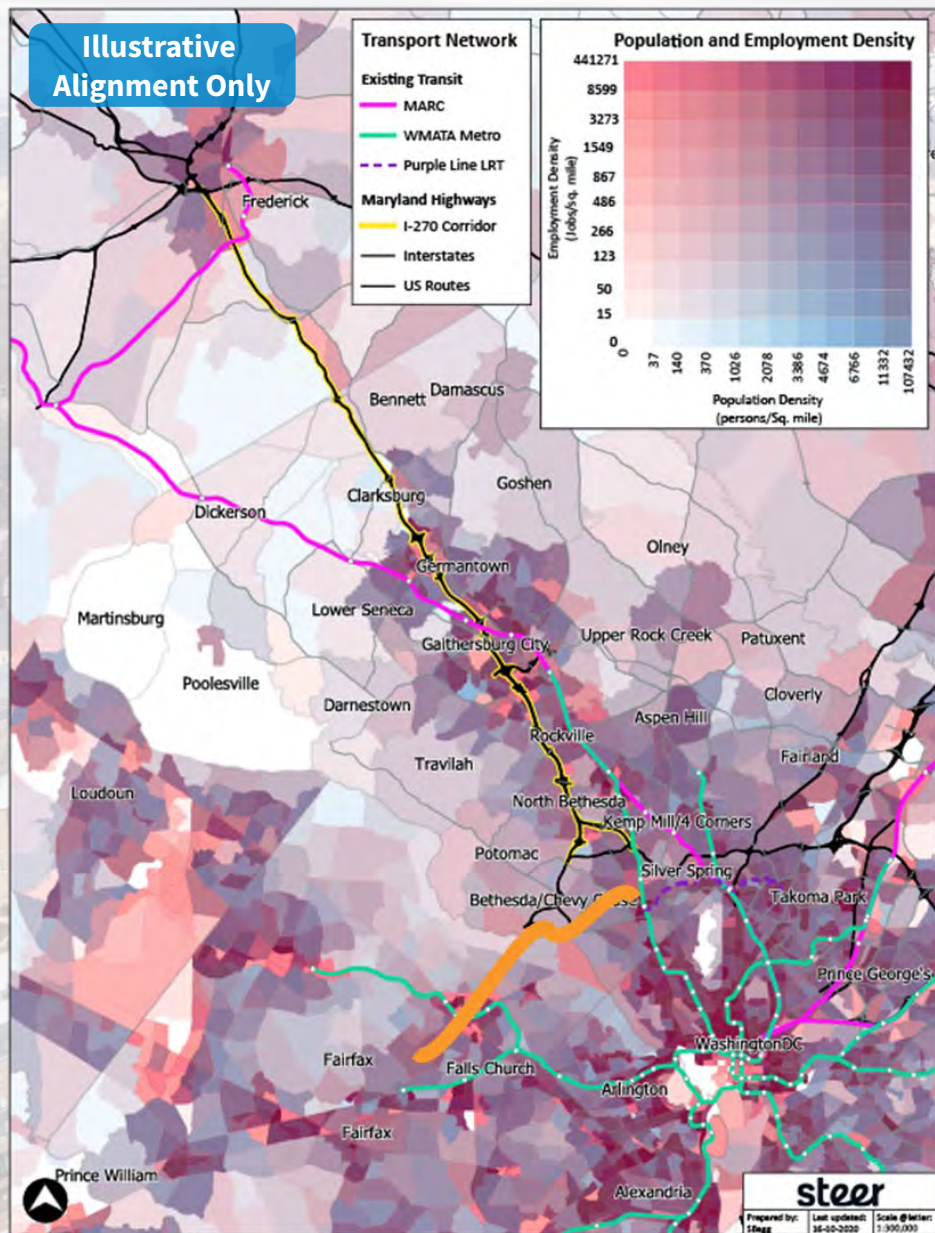
## Alternative 5: Corridor Cities Transitway



### Requested Guidance:

2. Impressions on the existing Corridor Cities Transitway alignment and discussion on the study of alternate alignments.





## Alternative 6: Purple Line Extension

**Origin:** Northern Virginia Transportation Authority's (NVTA) TransAction 2040

**From:** Bethesda

**To:** Tysons (or potentially Dunn Loring)

**Context:** Light rail service between Bethesda and Tysons in Northern Virginia; Potomac crossing assumed within confines of American Legion Bridge; dropped from TransAction 2045

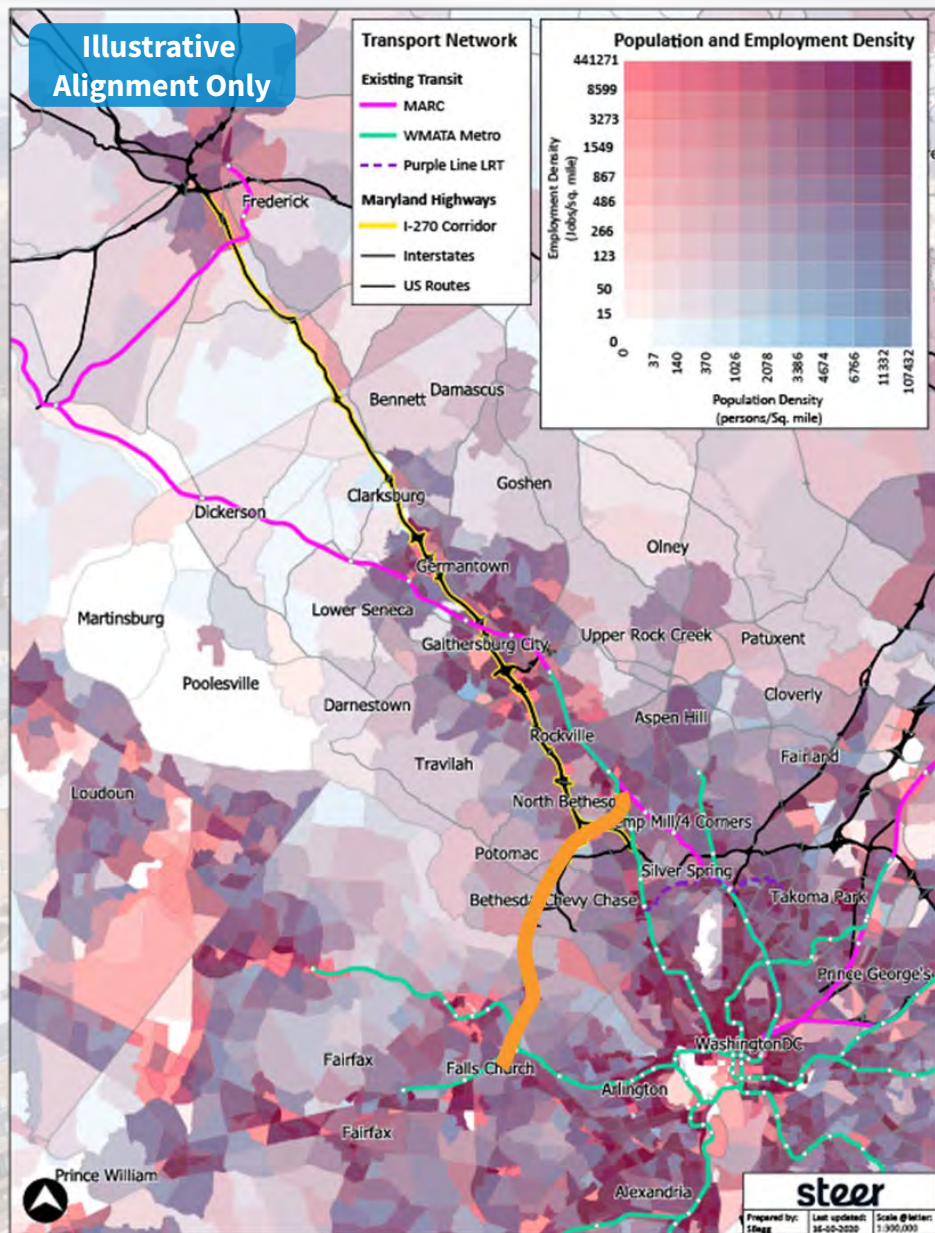
### Rationale:

- Frequently requested in public forums
- Support access to jobs in Virginia from points east, including Prince George's County
- Existing transit service not travel time competitive

Light Rail Transit  
(LRT)







## Alternative 7: North Bethesda Transitway Extension

**Origin:** Countywide Transit Corridors Functional Master Plan Appendix (2013), NVTa's TransAction 2045

**From:** North Bethesda (White Flint)

**To:** Tysons (or potentially Dunn Loring)

**Context:** Bus Rapid Transit Service between North Bethesda (White Flint) and NoVa; hybrid service concept with stops in White Flint and Tysons, but limited/no intermediary stops; Potomac crossing assumed within confines of American Legion Bridge

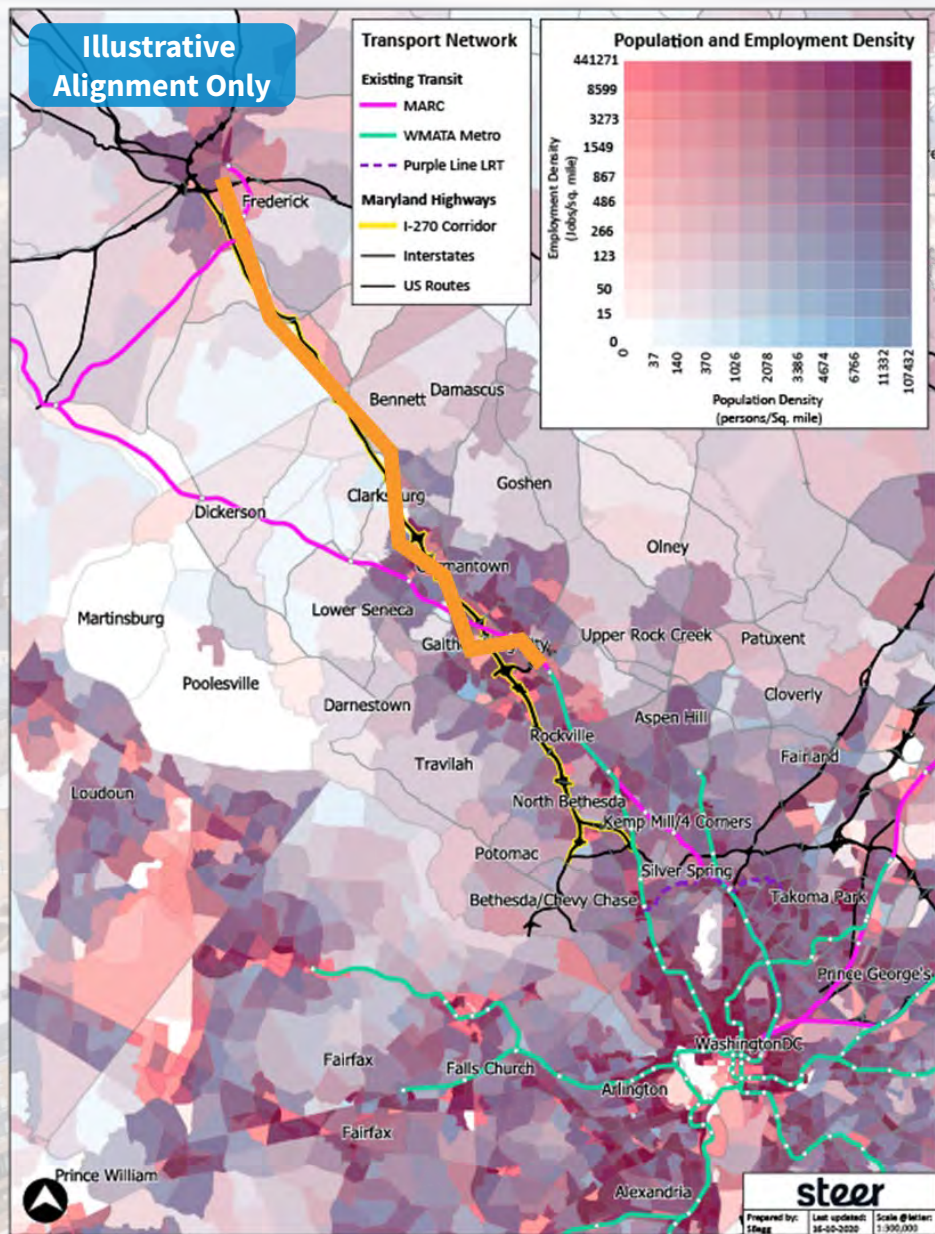
### Rationale:

- Support economic health in White Flint and Northern Virginia
- Provide a more time-efficient transit option to points in Northern Virginia

Bus Rapid Transit  
(BRT)







## Alternative 8: I-270 Monorail

**Origin:** I-270/US-15 Multimodal Corridor Study (2002 - not carried forward) High Road Foundation (2020), Maryland Department of Transportation Feasibility Study (forthcoming)

**From:** Frederick  
**To:** Shady Grove

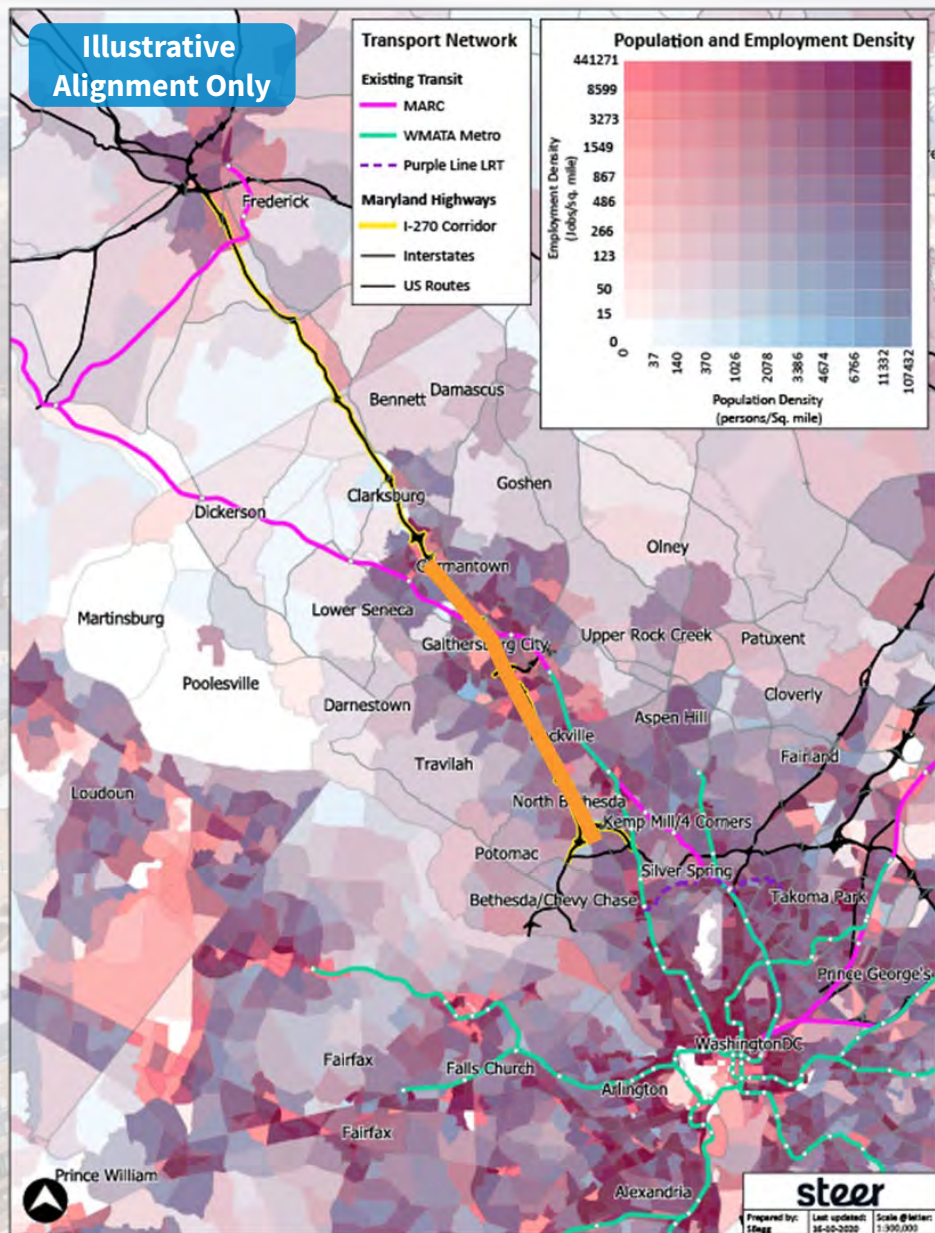
**Context:** Monorail service between Frederick and Shady Grove with six proposed station locations.

## Rationale:

- Requested based on High Road Foundation's efforts
- Improve economic potential
- Small-footprint elevated service
- Low environmental footprint







## Alternative 9: Managed Lanes Enhanced Commuter Bus County Tech Corridor Extended

**Origin:** State's Managed Lanes NEPA Process Transit Coordination Report (2020).

**To:** Germantown (or points north such as Clarksburg, per State work)

**From:** Bethesda (or points west in NoVa, per State work)

**Context:** Commuter bus operates in managed lanes with minimal diversions to high demand points such as Shady Grove, Rockville, and Rock Spring.

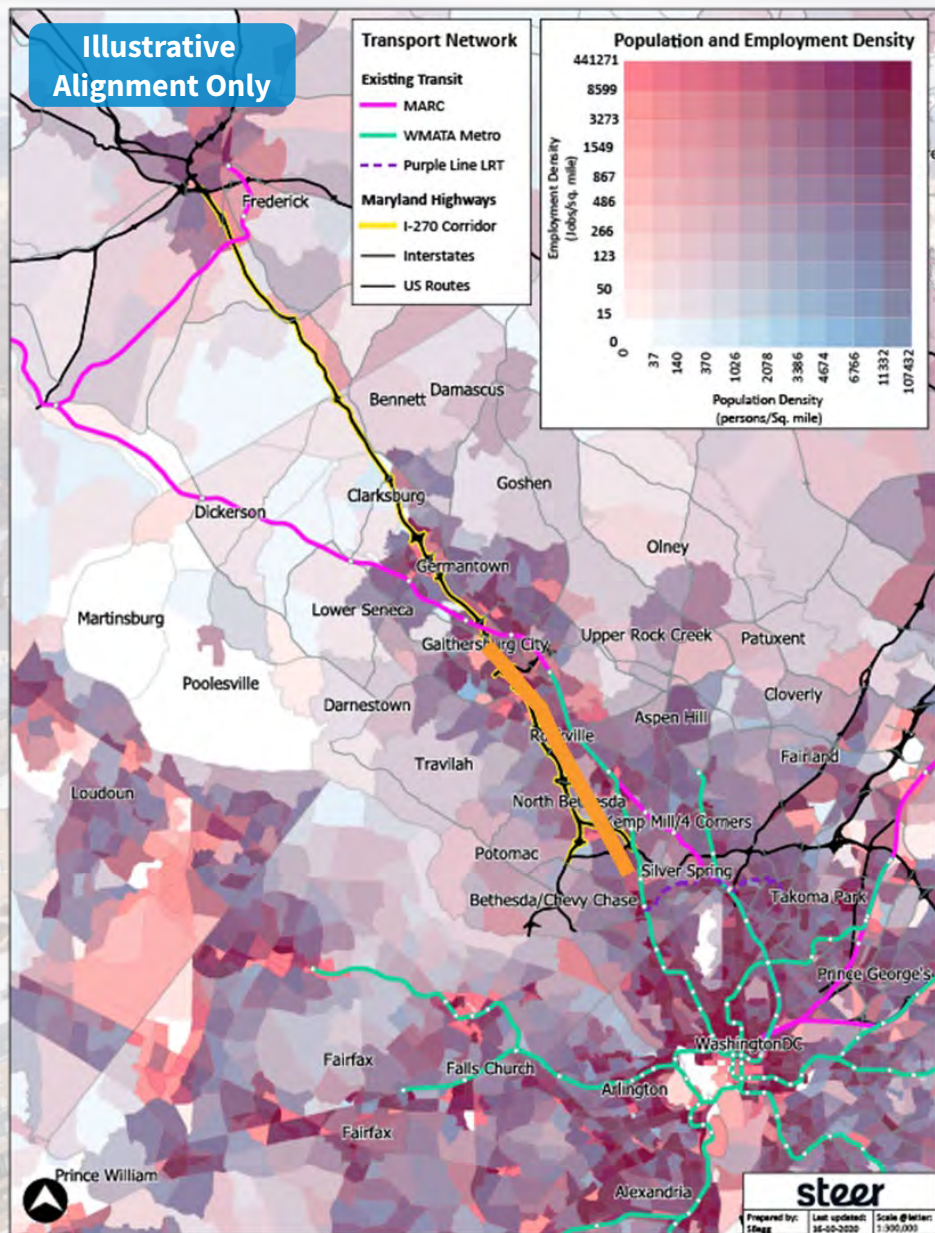
### Rationale:

- Low-cost option, if managed lanes are constructed

Bus Rapid Transit  
(BRT)







## Alternative 10: I-270 Light Rail County Tech Corridor

**Origin:** New I-270 Running Option

**From:** Gaithersburg (or Germantown)  
**To:** Bethesda

**Context:** Light rail transit running as separated or elevated service in I-270 or MD-355 ROW

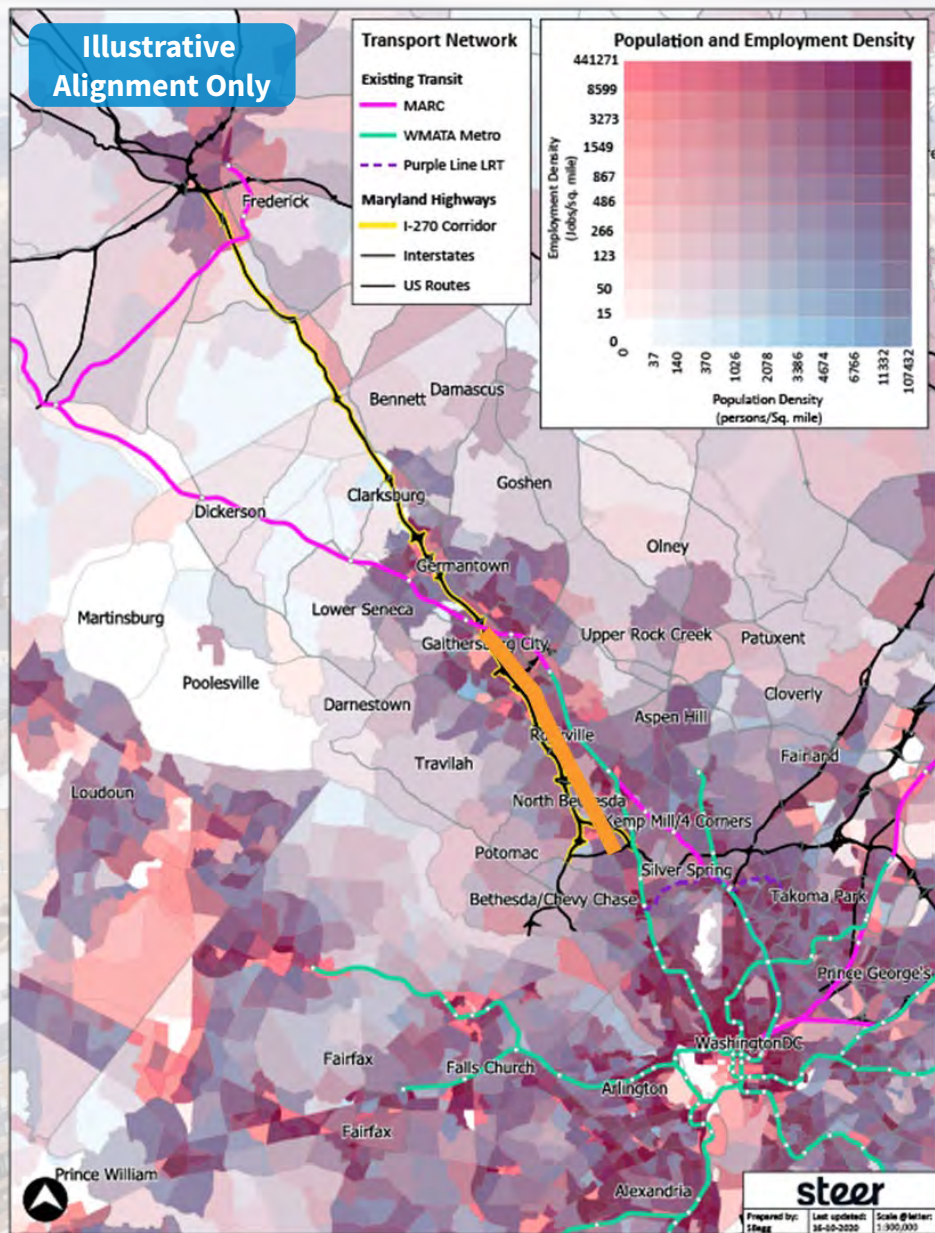
### **Rationale:**

- Improve access to jobs and services in Bethesda, as well as transfer opportunities to different markets.

Light Rail Transit  
(LRT)







## Alternative 11: I-270 Bus Rapid Transit County Tech Corridor

**Origin:** New I-270 Running Option

**From:** Gaithersburg (or Germantown)

**To:** Bethesda

**Context:** Bus rapid transit service running as separated or elevated service in I-270 ROW

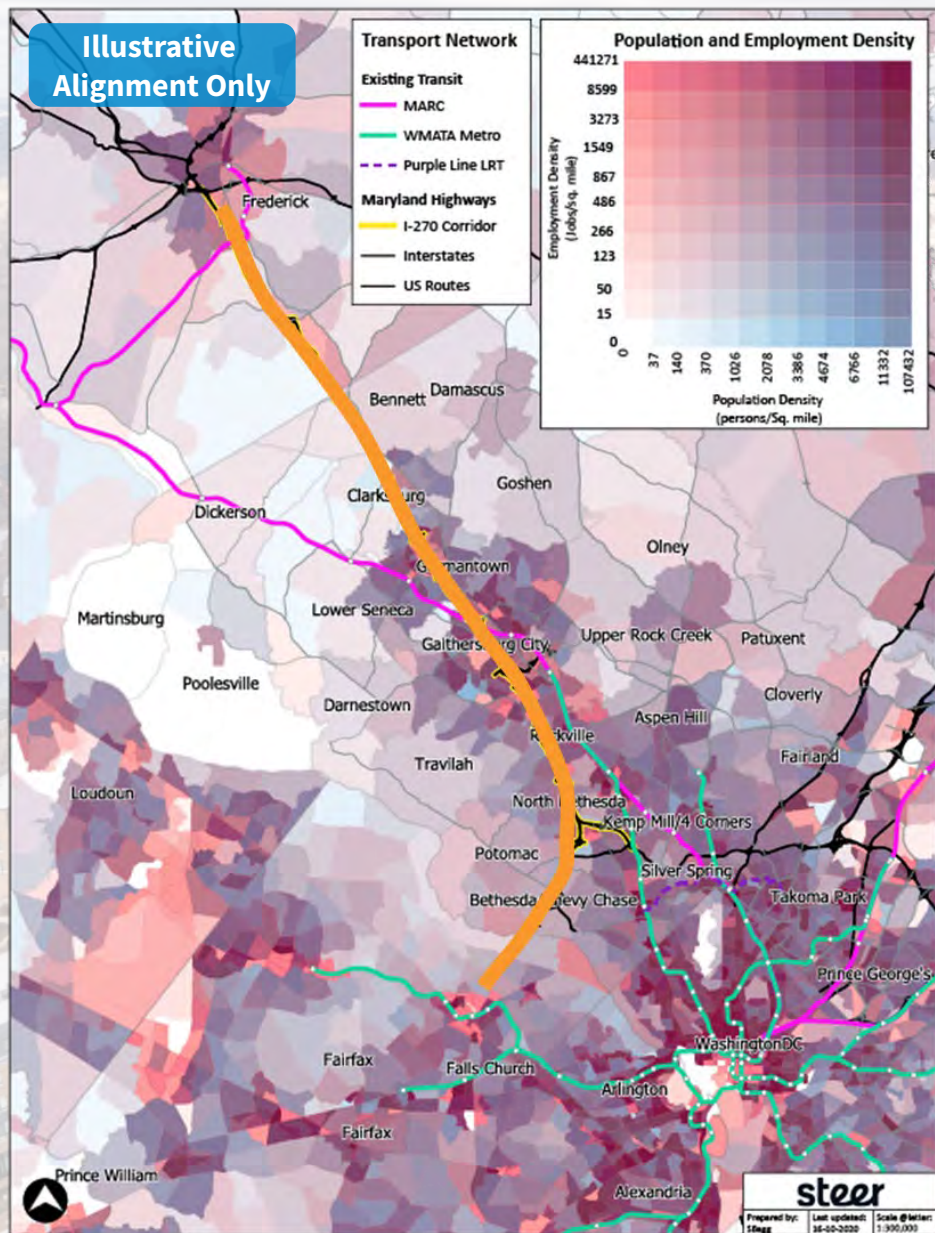
**Rationale:**

- Improve access to jobs and services in Bethesda, as well as transfer opportunities to different markets.

Bus Rapid Transit  
(BRT)







## Alternative 12: I-270/I-495 Bus Rapid Transit Northern Virginia

**Origin:** New I-270/I-495 Running Option

**From:** Frederick

**To:** Tysons (or Dunn Loring)

**Context:** Bus rapid transit service running as separated or elevated service in I-270/I-495 ROW

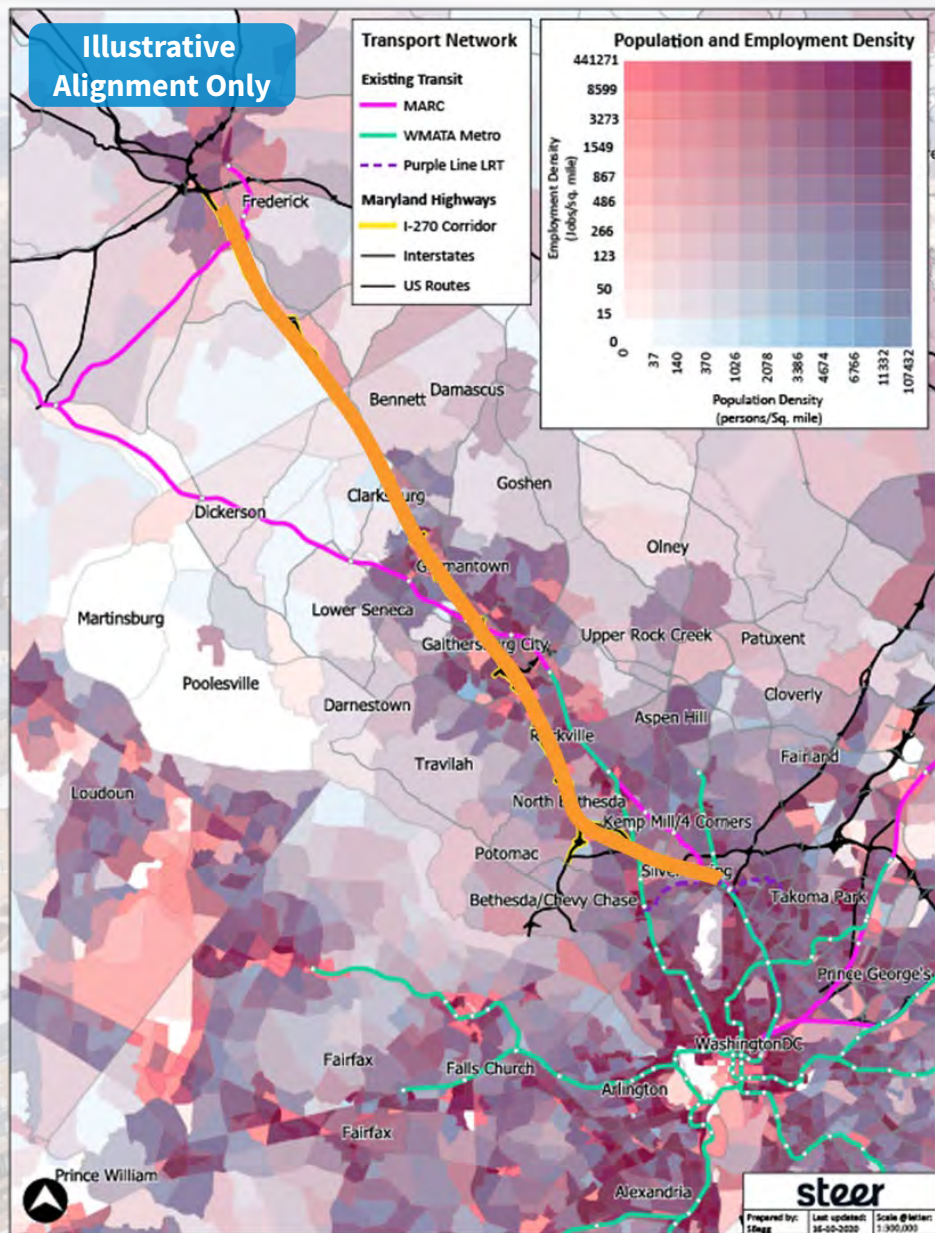
**Rationale:**

- Improve access to jobs and services downcounty (Bethesda, NIH) as well as Northern Virginia. Provides transfer opportunities to different markets.

Bus Rapid Transit  
(BRT)







## Alternative 13: I-270/I-495 Bus Rapid Transit Silver Spring

**Origin:** New I-270/I-495 Running Option

**From:** Frederick  
**To:** Silver Spring

**Context:** Bus rapid transit service running as separated or elevated service in I-270/I-495 ROW

### Rationale:

- Improve access to jobs and services in Silver Spring, as well as transfer opportunities to different markets on the eastern side of the County and WMATA's Metrorail Red Line.

Bus Rapid Transit  
(BRT)





# Pre-Screening

## Pre-Screening Steps:

1. Organize projects by cost and geography
2. Analyze performance
3. Evaluate and refine options
4. Select six high-performing options for robust comparative analysis

## Requested Guidance:

3. Provide feedback on initial pre-screening framework.

Plan Value	Step 2: Sample Pre-Screening Metrics
Strategic Connections	travel time between key destinations
	population within walking distance of anticipated station locations
Economic Health	jobs within walking access of anticipated station locations
	density of connected activity centers
	adjacency of master-planned development
Equity	equity emphasis/focus areas served
	number of lower income people within walking access of assumed stations



# Pre-Screening

## Pre-Screening Steps:

1. Organize projects by cost and geography
2. Analyze performance
3. Evaluate and refine options
4. Select six high-performing options for robust comparative analysis

### Step 3: Evaluate and Refine Options

Start Point: Screen Out Unaffordable Options

Evaluate Performance

Can the option be refined?

Y

Refine Option

Can the option be refined further?

N

Is the option a top performing option?

Y

Could performance improve if bundled with other options?

N

Deprioritize

N

Could the option be bundled with others to create a better option?

Y

Consider as bundle

Consider as stand alone option



# Community Outreach

- September 30<sup>th</sup> Public Kick-Off
- Stakeholder Meeting
- Educational Videos
- Infographic
- Interactive Web Map
- Transit Values Questionnaire
- Upcoming Outreach



# Community Outreach

- **September 30<sup>th</sup> Public Kick-Off**
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## Transit Planning Panel

Patrick Reed



Montgomery  
County Planning  
Department

Corridor Forward  
Project Manager

Joana Conklin



Montgomery  
County  
Government

Rapid Transit Systems  
Development Manager

Jane Lyons



Coalition for  
Smarter Growth

Maryland Advocacy  
Manager

Kyle Nembhard



Maryland Transit  
Administration

Regional Planner &  
Project Manager



# Community Outreach

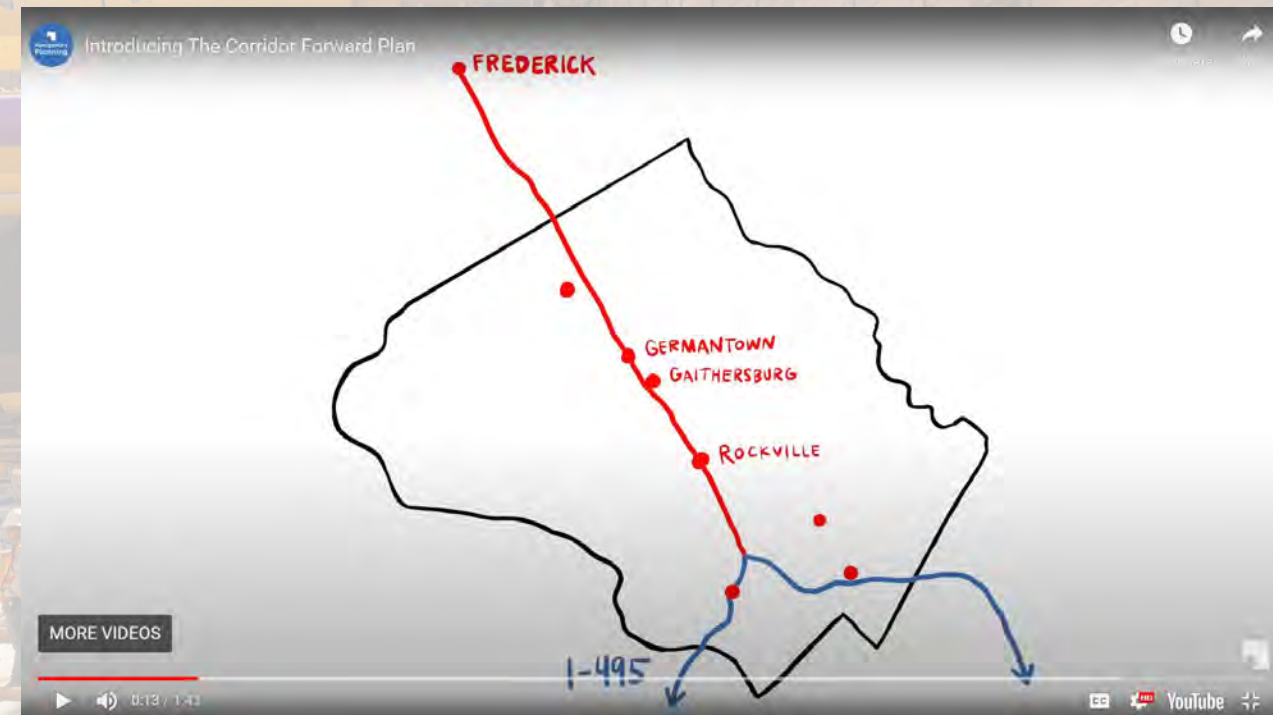
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- Citizen Transportation Boards
- Transportation Management Districts
- City of Rockville
- City of Gaithersburg
- Montgomery County Economic Development Corporation
- Maryland Building Industry Association
- Action Committee for Transit
- Coalition for Smarter Growth
- Community Action Board



# Community Outreach

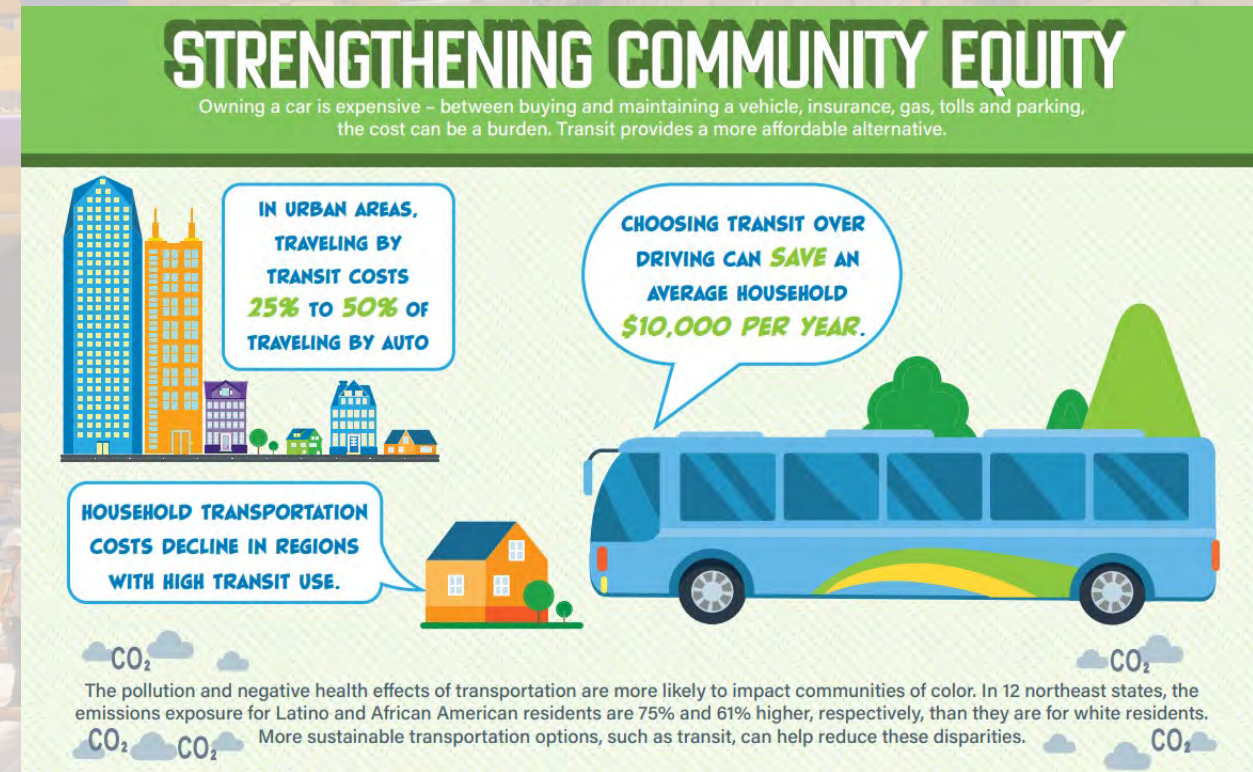
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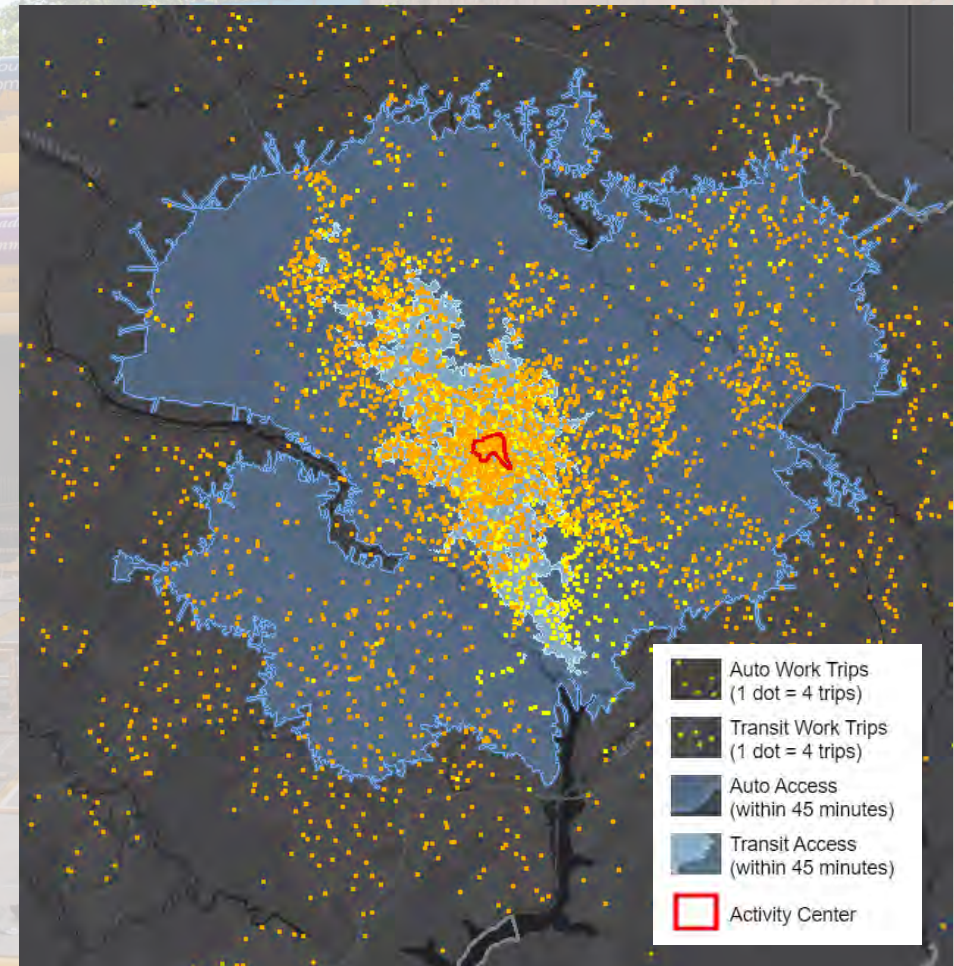
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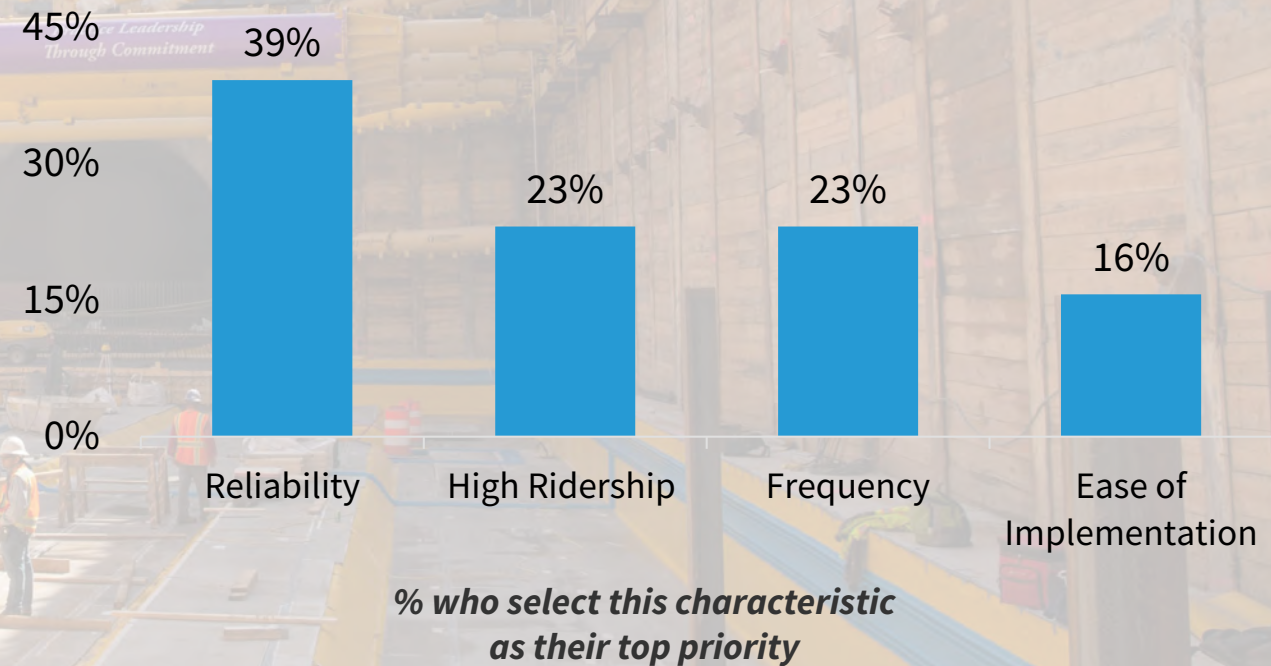




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## Transit Characteristics





# Community Outreach

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- **Upcoming Outreach**

Goal: Solicit feedback from current transit users and populations residing in equity focus areas

Strategies:

- Interior bus signage study area routes
- Mailers to targeted communities



# Next Steps & Thank You

## Next Steps - Winter 2021

- **Pre-screening** and refinement:
  - identify **six key alternatives**
- Develop **metrics** to compare six key alternatives
- Develop and execute **methodology** to realize metrics

## Project Contacts

### Patrick Reed

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