Regional Transit Plan
East-West Corridor Study

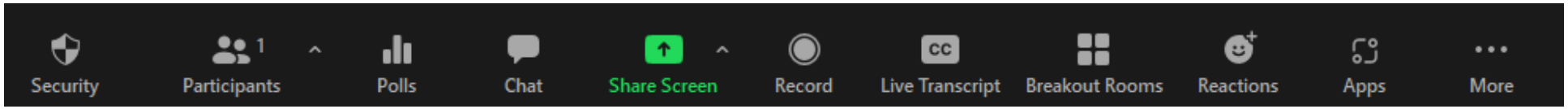
Review of Alternatives

June 2022

Connecting Our Future
A Regional Transit Plan for Central Maryland

WELCOME!

- Do your best to be in a **quiet, stationary environment**.
- Closed Captioning is available through the **Live Transcript**.
- You may choose **side-by-side speaker view.**
- You can choose which **breakout** room you'd like to join.
- Remain on "**mute**" until the Q&A Session. During the Q&A, **raise your hand or dial *9** and **unmute yourself** when called upon.



Why are we here?

We are in the beginning of a multi-step process for a major transit investment.

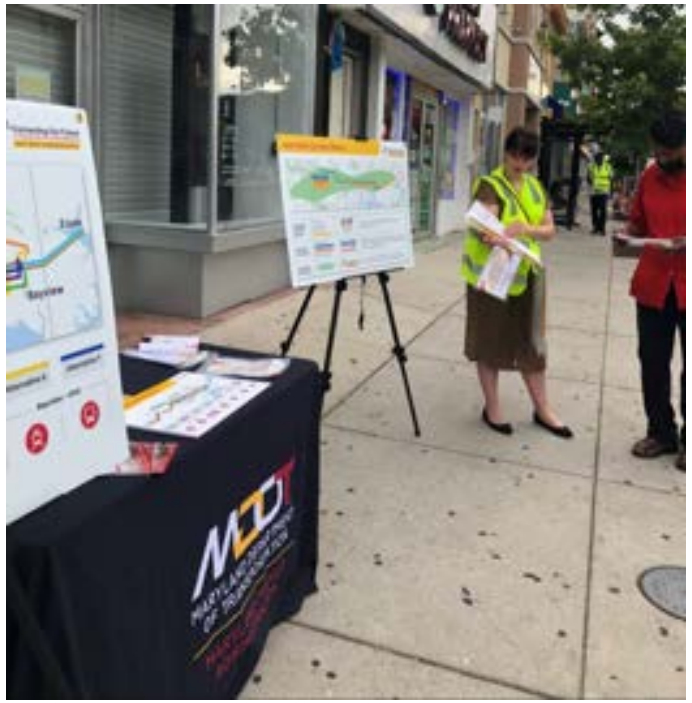
2020	Summer 2022 **WE ARE HERE**	Complete 2024	Complete 2026	Beginning 2026*
Identification of Potential Corridors in RTP	**Feasibility Study**	Alternatives Analysis	Federal Approval Process	Final Design & Construction
Study Area	7 Alternatives	Fewer Alternatives	Locally Preferred Alternative	Federally Approved Alternative

*Local Funding Plan Needed

Public Feedback

We **need your feedback.**

- Add ideas, comments, and questions to the chat.
- Public feedback will **supplement** the measures of effectiveness.



Zoom Poll

- **Have you heard about this project before?**
  - No, this is my first time.
  - Yes, I'm not very familiar.
  - Yes, I'm somewhat familiar.
  - Yes, I'm very familiar.

Today's Agenda

- Regional Transit Plan Background
- Other Projects in the Corridor
- What We've Heard so Far
- Introducing the Alternatives
- Alternatives Performance
- Next Steps

Regional Transit Plan Background

Central Maryland Regional Transit Plan

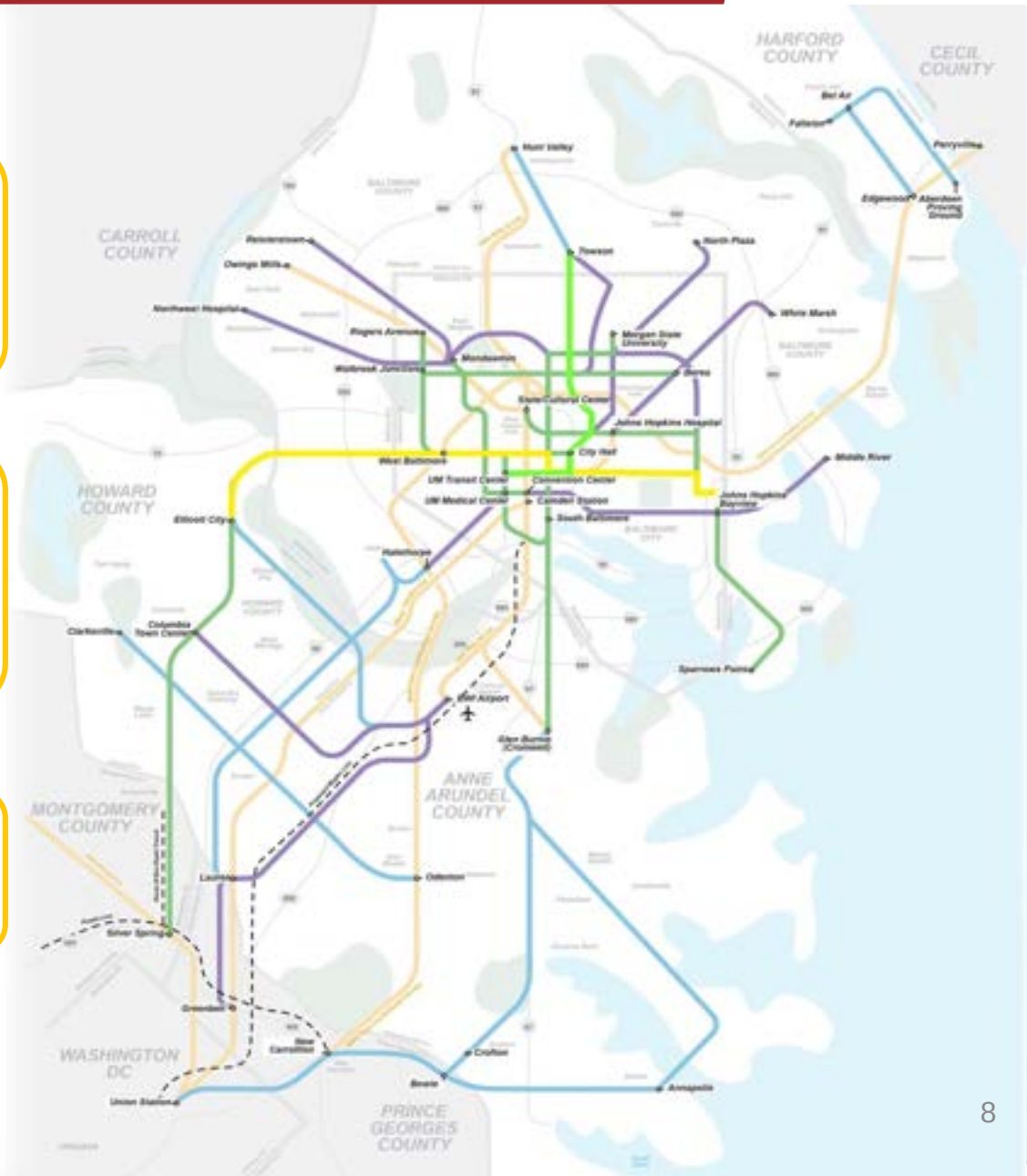
- Completed October 2020. Will be updated every five years.
- Provides 25-year plan for improving public transportation in Central Maryland.
- Addresses traditional transit (bus, rail) as well as new mobility options and technology (automated vehicles, shared mobility).
- 11-member commission guided the plan development.
- Complies with requirements of 2018 Maryland Metro/Transit Funding Act.

Regional Transit Plan & Identified Corridors

Connect residents across multiple counties to the most important regional destinations: jobs, schools, health services

Existing all-day demand for service 7 days a week (at peak, service every 15 minutes or better / off-peak, 20+ minutes)

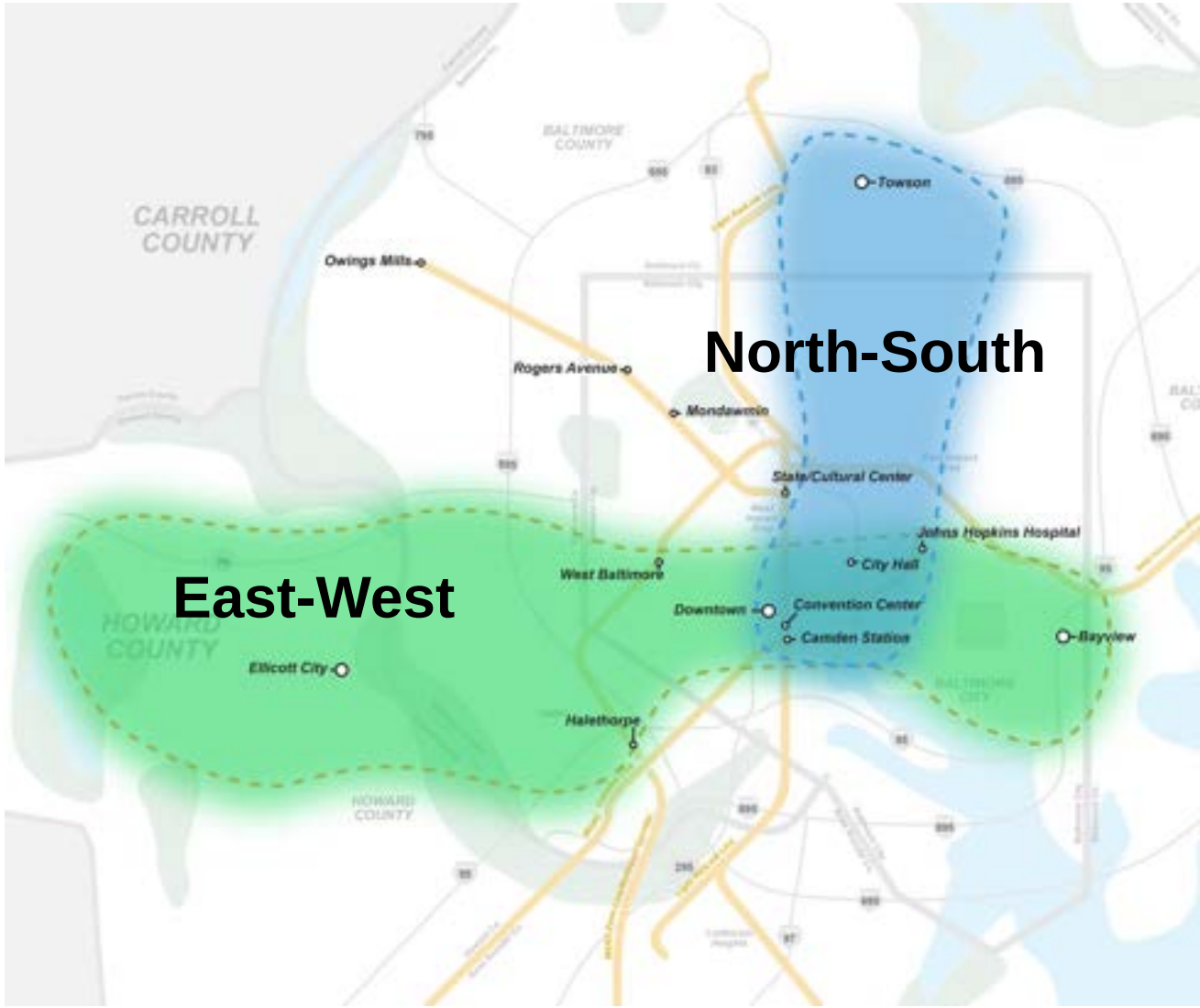
Require infrastructure improvements and investments



Regional Transit Plan Corridors Background

Transit Corridor Studies

- Begin with no pre-determined routes or modes in mind;
- Build upon previous plans; and
- Incorporate new complete streets legislation, new development projects, and equity policies



East-West Corridor Efforts

Proposed Fall 2022 Service	Planned Limited-Stop Service Pilot	MDOT MARYLAND DEPARTMENT OF TRANSPORTATION / MARYLAND TRANSIT ADMINISTRATION	QuickLink 40, a proposed limited-stop route from Westgate to Essex.
Mid Term (3-5 Years)	CityLink Blue CityLink Orange	RAISE BALTIMORE	$50M investment to increase bus speeds and reliability and improve pedestrian and bike connections along the CityLink Blue and Orange.
Long Term (5-10 Years)		Connecting Our Future A Transit Plan for Central Maryland EAST-WEST CORRIDOR STUDY	Seven potential Alternatives for future rapid transit service between Essex, Bayview, CMS, and Ellicott City.

Engagement Activities Conducted

Spring 2021	Summer 2021	Fall 2021	Spring/Summer 2022
			WE ARE HERE
Elected Official and Stakeholder Conversations	Public Survey Community Stakeholder Meetings	Transit Caucus Presentation Jurisdiction Roundtables Online Video	Public Meetings Street Teams Website Feedback Community Presentations
Kickoff Conversations	Touchpoint #1	Touchpoint #2	Touchpoint #3

Connecting Our Future
A Regional Transit Plan for Central Maryland

Project Goals

1. Improve the **connectivity and operations** of the existing transit network

2. Expand the **reach and connectivity** of the regional transit network

3. Prioritize the needs of existing transit riders and **transit-critical populations**

4. Maximize the **economic and environmental benefit** of a major transit investment

Zoom Poll

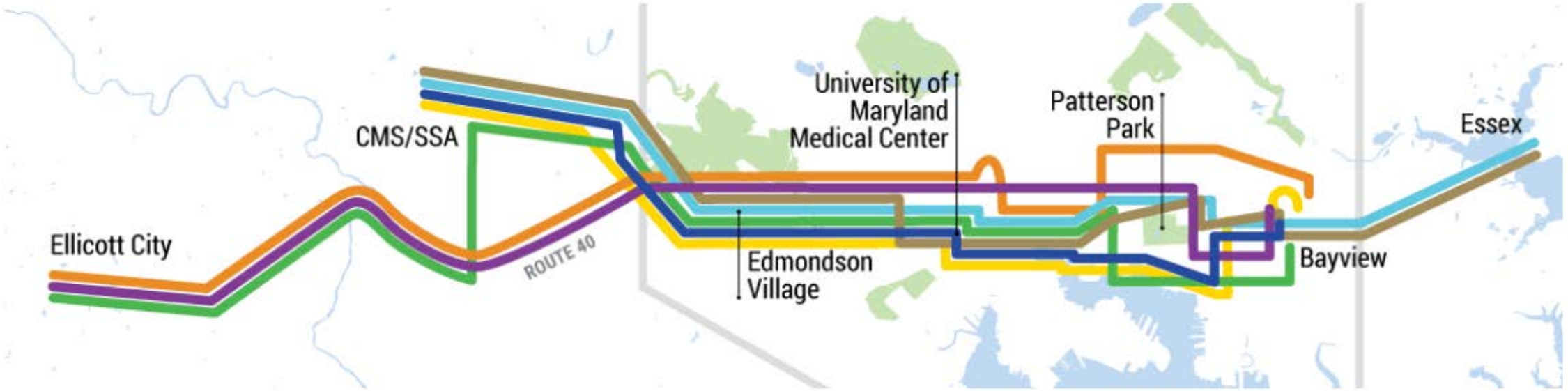
- **Select the two goals most important to you:**
  - Improve the connectivity and operations of the existing transit network
  - Expand the reach and connectivity of the regional transit network
  - Prioritize the needs of existing transit riders and transit-critical populations
  - Maximize the economic and environmental benefit

Study Purpose and Testing

Seven alternatives were developed based on a **market analysis** and the project **goals and objectives.** Alternatives were developed to **test** different **modes and station spacing, treatments, and areas served.**

- Bus Rapid Transit (BRT), Light Rail Transit (LRT), Heavy Rail Transit (HRT)
- Transit Streets, Dedicated Guideways, Tunnels
- Areas Tradeoffs:
  - CMS/SSA vs. Ellicott City
  - Bayview vs. Essex
  - Inner Harbor vs. Bypassing Central Business District
  - Harbor East vs. Johns Hopkins Hospital
  - North vs. south of Patterson Park

East-West Corridor Preliminary Alternatives



Alternative 1

Bus Rapid Transit from Bayview to Ellicott City via Johns Hopkins Hospital and CMS/SSA.

Alternative 2

Bus Rapid Transit from Bayview to Ellicott City via Johns Hopkins Hospital and US 40.

Alternative 3

Heavy Rail Transit (Metro) from Bayview to Edmondson Village, Bus Rapid Transit from Edmondson Village to Ellicott City.

Alternative 4

Light Rail Transit from Essex to CMS/SSA via Bayview and Johns Hopkins Hospital.

Alternative 5

Bus Rapid Transit from Essex to CMS/SSA via Bayview and Johns Hopkins Hospital.

Alternative 6

Light Rail Transit from Bayview to CMS/SSA via the Waterfront.

Alternative 7

Bus Rapid Transit from Bayview to CMS/SSA via the Waterfront.

East-West Corridor Study Modes

Service Type	Definition	Reliability	Stop Spacing	Average Passenger Capacity (per vehicle)
HRT 	• Electric rail system powered by third rail • Must operate in exclusive fixed guideway, often underground • Serves areas with high-density development and high-transit demand • High construction costs	High 	1-2 miles 	70 – 190 
LRT 	• Electric rail system powered by overhead wires • Operates in dedicated fixed guideway, but can run in mixed traffic • Medium to high construction costs	High 	0.5 – 1 mile 	60 – 175 
BRT 	• Bus-based transit system • Operates in both dedicated busways and mixed traffic allowing for route flexibility • Provides the quality of rail transit with the flexibility of buses using transit signal priority, off-board fare collection, elevated platforms and enhanced stations • Low to medium construction costs	Medium to High 	0.25 – 1 mile 	40 – 110 

East-West Corridor Study Modes

Measures of Effectiveness

What are the relative strengths and weakness of each preliminary alternative?

Goal	Theme	Measures
Improve the existing network	**Reliability**	Percent of Dedicated Guideway
		Fixed or Flexible Guideway
	System Travel Savings	Average travel time savings for transit riders living in the corridor
	Travel Time	Transit travel time between West Baltimore and Hopkins Bayview
Expand the regional network	**Ridership**	Total Daily Ridership in 2045 per mile
	Connections	Connections to rail stations, frequent bus service & LOTS
	Access	Households within ½ mile of a station per mile
		Students within ½ mile of a station per mile
		Future jobs within ½ mile of a station per mile

Goal	Theme	Measures
Prioritize the need of existing transit riders and transit-critical populations	**Equity**	Low-income population within ½ mile of a station per mile
		Minority population within ½ mile of a station per mile
		Zero-car households within ½ mile of a station per mile
		Limited English Proficiency population within ½ mile of a station per mile
		Adult population over age 65 within ½ mile of a station per mile
		Population with disabilities within ½ mile of a station per mile
Maximize the economic and environmental benefit	**Sustainability**	Trips shifted to transit
	Cost	Operations & capital costs
	Implementation	Estimated implementation time
	Tunneling Complexity	Not applicable, medium or high

Summary of Analysis Takeaways

- All alternatives attract more than enough ridership to **support frequent transit service** throughout the day.

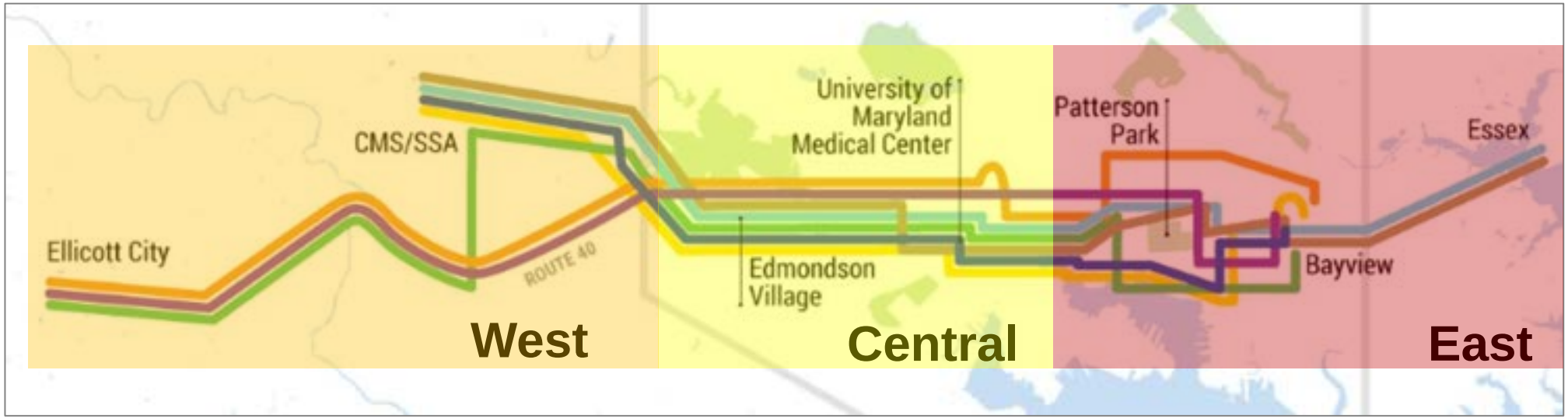
- All alternatives improve travel times & reliability for transit riders through **extensive new dedicated guideway**. Rail has better travel time performance than Bus Rapid Transit.

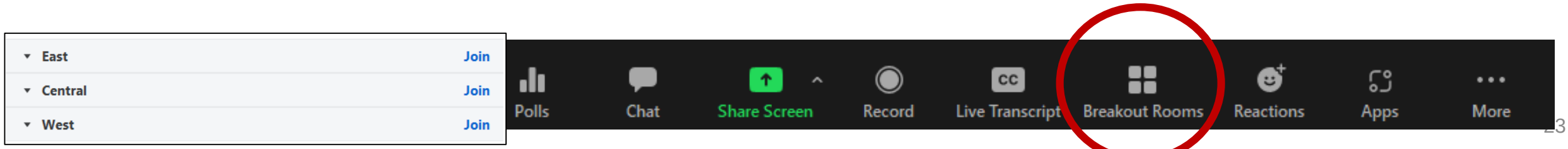
- All alternatives improve access for **transit-critical populations.** Alignment, station spacing and travel time impact access improvements.

- Costs to build and operate **rail alternatives are three to four times higher than Bus Rapid Transit**. Cost is driven by **mode and length of tunneling**.

Breakout Rooms

- We'll now explain each alternative in detail by geographic area in three breakout rooms **West, Central** & **East**
- Click Join using the the **Breakout Rooms** tool – you can switch between rooms or stay in one room. You can also stay in the main room.

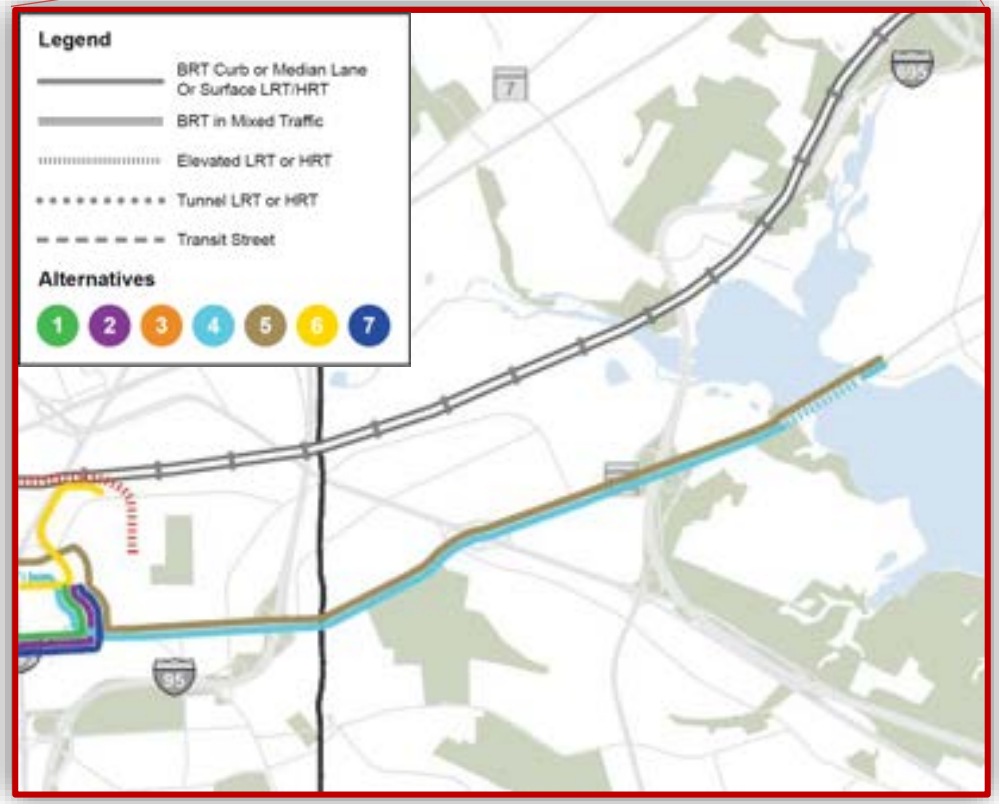




Geographic Segment Results – East Baltimore County

Alternative Descriptions
4 – Surface light rail transit with a new bridge to reach the Essex Park and Ride
5 – Dedicated surface bus rapid transit
Alternatives 1, 2, 3, 6 & 7 do not travel to eastern Baltimore County

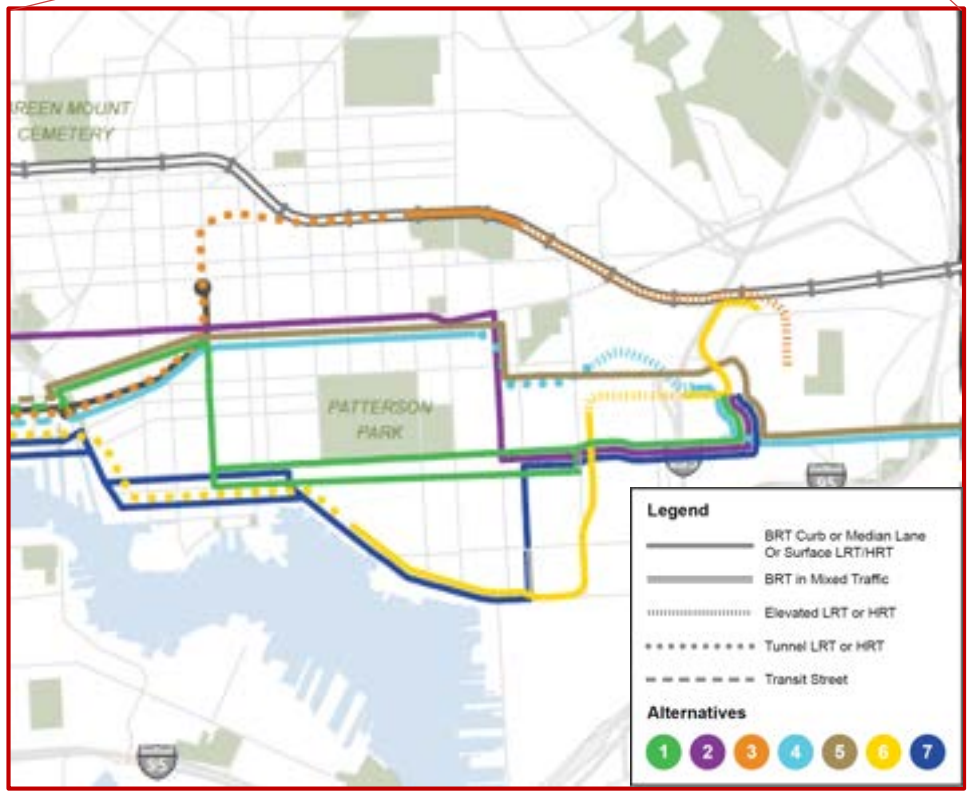
Eastern Baltimore County was not included in the original RTP corridor



Key Takeaways

- Extending to Essex results in more than 4,000 additional boardings along a 3.5-mile stretch.

Geographic Segment Results – South & Southeast Baltimore



Alternative Descriptions

1 – Dedicated surface bus rapid transit south of Patterson Park

2 & 5 – Dedicated surface bus rapid transit north of Patterson Park

3 – Tunnel heavy rail transit then elevated heavy rail transit north of Patterson Park

4 – Surface light rail transit north of Patterson Park then a short tunnel and elevated section

6 – Tunnel light rail transit from downtown then surface light rail transit closest to the waterfront

7 – Dedicated surface bus rapid transit closest to the waterfront

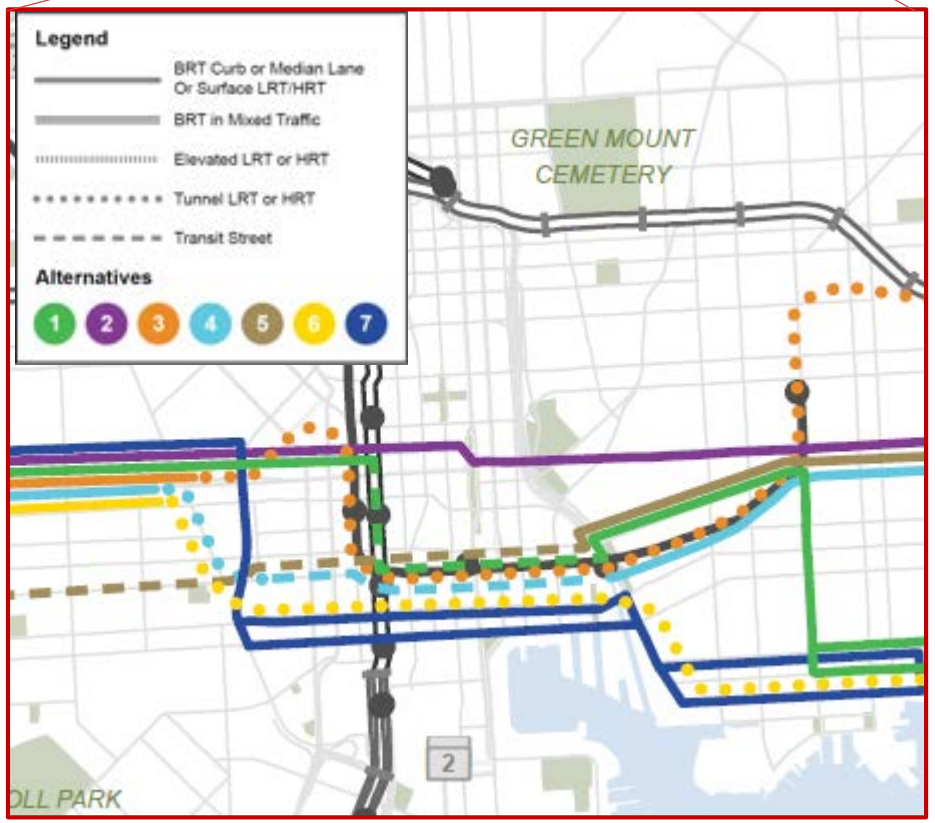
Key Takeaways

- North of Patterson Park provides more access to minority and low-incomes residents.
- Waterfront alignments provide more access to jobs.
- More stations provide more direct access but, slower travel times.

Feedback question on Zoom – Answer in the Chat

- **The areas north and south of Patterson Park have different qualities.**
  - What's more important to you for this project?
    - Serving more minority and low-income residents north of Patterson Park?
    - Providing access to more jobs south of Patterson Park?
    - Both are important, and I don't have a strong preference.

Geographic Segment Results – Downtown Baltimore



Alternative Descriptions

1 & 5 – Dedicated surface bus rapid transit with a Transit Street on Baltimore St.
2 – Dedicated surface bus rapid transit bypassing the Central Business District
3 – Tunnel heavy rail transit using existing Metro infrastructure
4 – Surface light rail transit with a Transit Street on Baltimore St. after a short tunnel between West Baltimore & Downtown
6 – Tunnel light rail transit closest to the waterfront
7 – Dedicated surface bus rapid transit closest to the waterfront

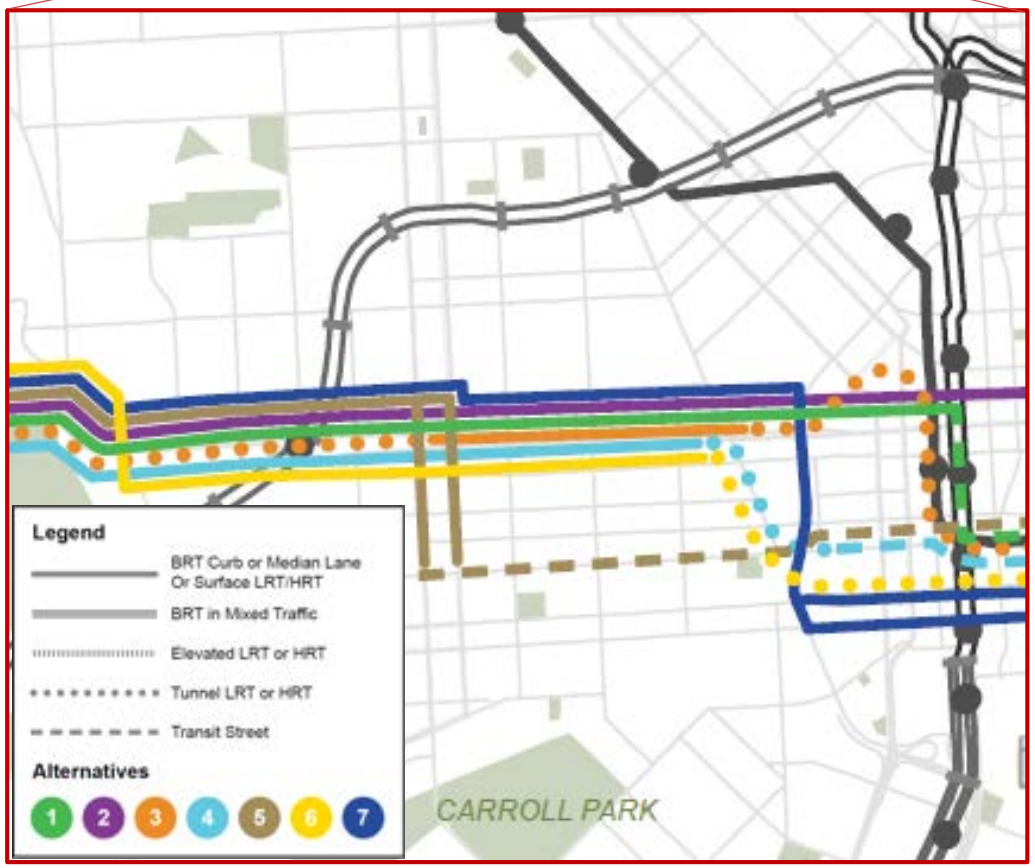
Key Takeaways

- The transit street ridership is similar, but slightly less, than alternatives with a downtown tunnel.
- Tunneling is the fastest way through downtown, but reduces access and adds cost, complexity and implementation time
- Serving downtown provides three to five times more riders than staying north on Franklin and Mulberry.

Feedback question on Zoom – Answer in the Chat

- **Tunneling is the fastest way through downtown, but reduces access and adds cost, risk and implementation time.**
  - How should we balance this decision point?
    - Prioritize providing the fastest travel time possible.
    - Find a balance between the two.
    - Prioritize lowering cost, complexity and implementation time.

Geographic Segment Results – West Baltimore City



Alternative Descriptions

1 & 7 – Dedicated surface bus rapid transit at expressway level

2 – Dedicates surface bus rapid transit at street level

3 – Tunnel heavy rail transit at expressway level entering a tunnel before Downtown

5 – Dedicated surface bus rapid transit with Transit Street on Baltimore St. through West Baltimore

4 & 6 – Surface light rail transit at expressway level entering a tunnel before Downtown

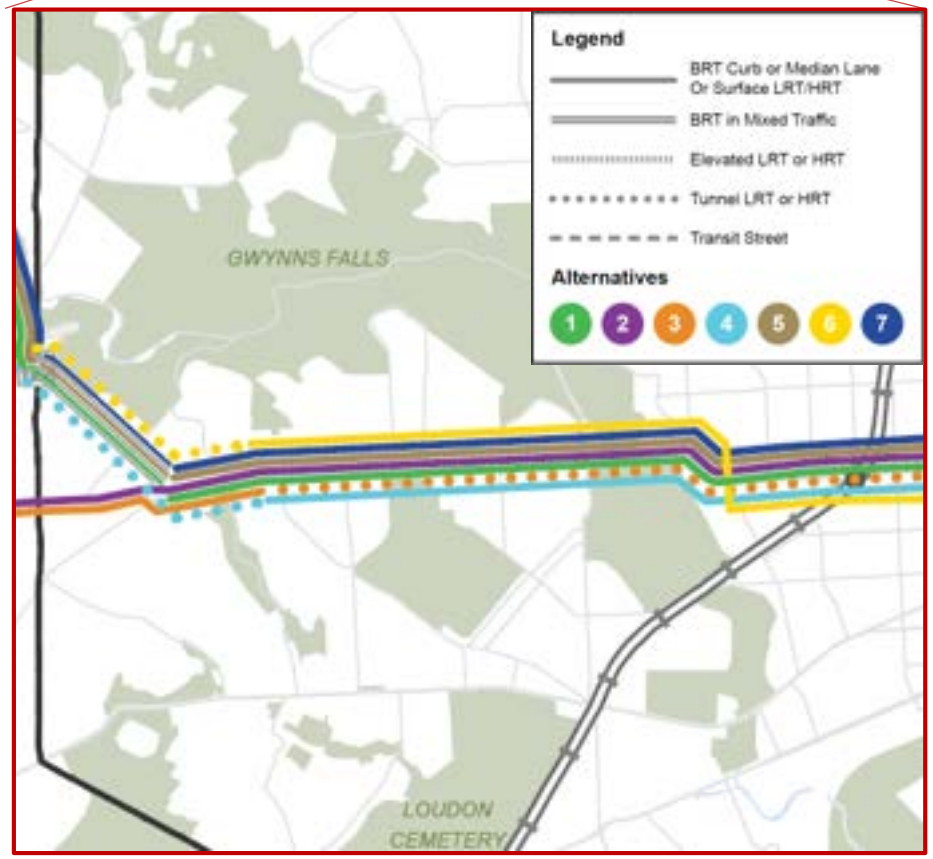
Key Takeaways

- Serving neighborhoods along Baltimore Street provides increased ridership.
- Closer station spacing provides more access for minority and low-income populations.
- More cost, environmental complexity and implementation time with tunnel construction.

Feedback question on Zoom – Answer in the Chat

- **Most alternatives stay along US 40, but we saw higher ridership in Alternative 5.**
  - What's more important to you for this project?
    - Serving neighborhoods along US 40?
    - Reaching more dense neighborhoods along Baltimore Street near UMB?
    - Both are important, and I don't have a strong preference.

Geographic Segment Results – Far West Baltimore City

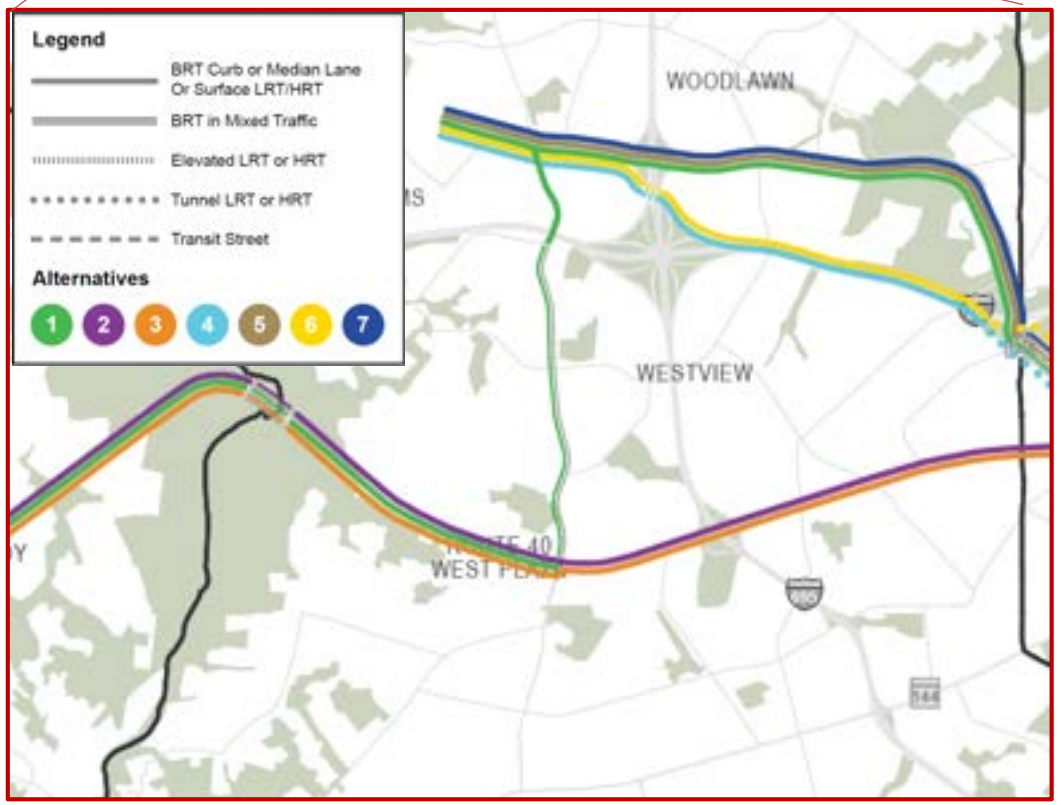


Alternative Descriptions
1, 2, 5 & 7 – Dedicated surface bus rapid transit
3 – Tunnel heavy rail transit
4 & 6 – Short tunnel & surface light rail transit

Key Takeaways

- Heavy rail transit attracts the most ridership in this segment.
- Light rail and bus rapid transit attract similar ridership.
- Travel times are very similar across the alternatives because of the dedicated guideways.
- Closer station spacing provides more access for minority and low-income populations.
- More cost, environmental complexity and implementation time with tunnel construction.

Geographic Segment Results – West Baltimore County



Alternative Descriptions

1 – Dedicated surface bus rapid transit from Ellicott City to CMS/SSA with mixed traffic on Rolling Rd.

2 & 3 – Dedicated surface bus rapid transit skipping CMS/SSA

4 & 6 – Surface light rail transit from CMS/SSA with a tunnel at the City/County line

5 & 7 – Dedicated surface bus rapid transit from CMS/SSA

All bus rapid transit options have a mixed traffic section on the US 40 bridge over the Patapsco River.

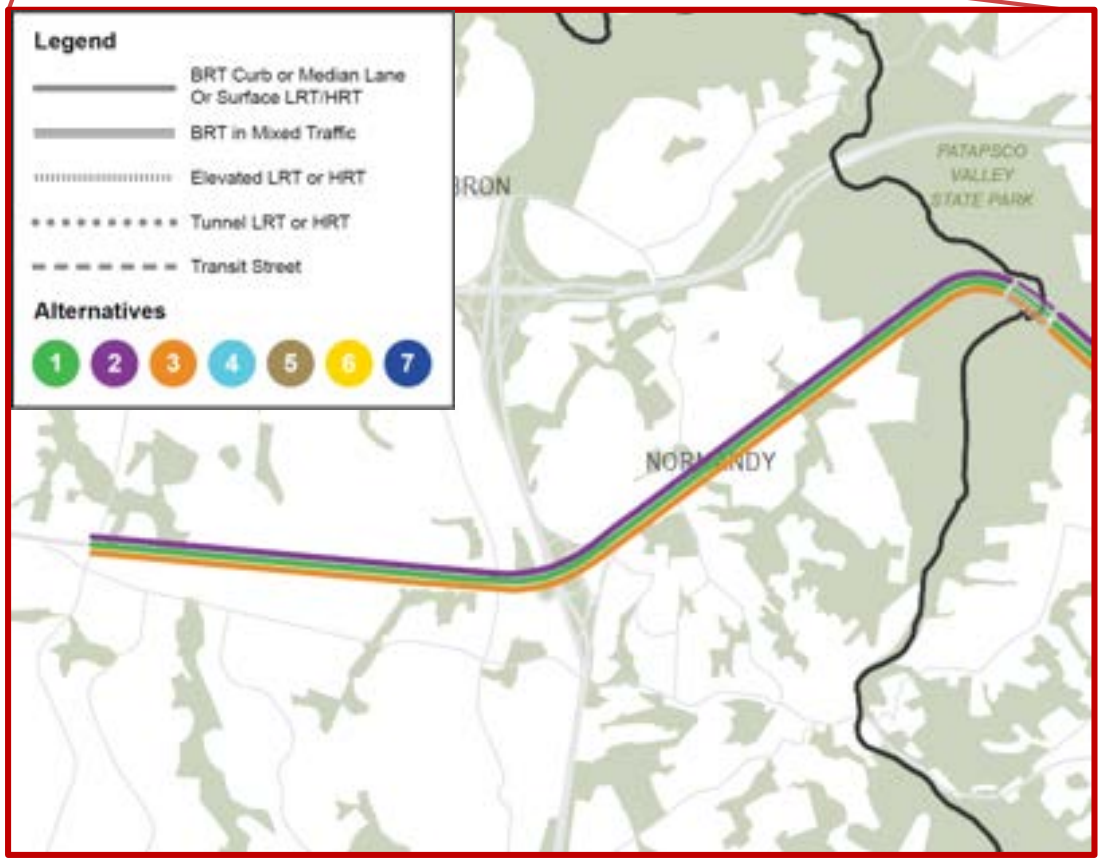
Key Takeaways

- CMS/SSA contributes significant ridership and future job access.
- Travel times for bus rapid and light rail transit are similar before entering tunnels from CMS/SSA.
- Travel time is significantly longer to serve both Ellicott City and CMS/SSA (Alternative 1).

Feedback question on Zoom – Answer in the Chat

- **The Alternatives have different end points in this section.**
  - What's more important to you for this project?
    - Improving travel times to CMS/SSA?
    - Expanding frequent transit service to Ellicott City along US 40?
    - Expanding frequent transit service to Catonsville along US 40?
    - All are important, and I don't have a strong preference.

Geographic Segment Results – Howard County



Alternative Descriptions

1, 2, & 3 – Dedicated surface bus rapid transit

4, 5, 6 & 7 do not travel to Howard County

Existing Conditions in Howard County only support bus rapid transit.

Key Takeaways

- Serving Howard County produces less than 3,000 daily boardings over five miles.
- Lowest future job access per mile.
- Alternatives 1 & 3 serve the lowest minority population per mile and lowest low-income population per mile.

Measures of Effectiveness Results Summary

Goal	Alternative	1	2	3	4	5	6	7
	Mode	**BRT**	**BRT**	**BRT+HRT**	**LRT**	**BRT**	**LRT**	**BRT**
	Endpoints	**Ellicott City - Bayview**			**CMS-Essex**		**CMS-Bayview**	
	Length (miles)	**22.7**	**18.4**	**19.1**	**16.4**	**17.1**	**14.1**	**14.2**
	Number of Stations	**39**	**36**	**25**	**28**	**33**	**19**	**31**
	Average Station Spacing (miles)	**0.6**	**0.5**	**0.8**	**0.6**	**0.5**	**0.7**	**0.5**
	Performance Area							
1 Improve the connectivity and operations of the existing transit network	Reliability - % of Dedicated Guideway	GOOD	BETTER	BETTER	BETTER	BETTER	BEST	BETTER
	Reliability - Fixed or Flexible Guideway	FLEXIBLE	FLEXIBLE	FLEXIBLE/ FIXED	FIXED	FLEXIBLE	FIXED	FLEXIBLE
	System Travel Time Savings	GOOD	GOOD	GOOD	BEST	BETTER	BEST	GOOD
	Travel Time	GOOD	GOOD	BEST	BETTER	GOOD	BEST	GOOD
2 Expand the reach and connectivity of the regional transit network	Ridership	GOOD	GOOD	BETTER	BETTER	BETTER	BEST	BETTER
	Transit Connections	BEST	GOOD	BETTER	BETTER	BETTER	BETTER	BETTER
	Access to Households	BETTER	BEST	GOOD	BETTER	BETTER	BEST	BEST
	Access to Students	GOOD	BEST	BETTER	BETTER	BETTER	GOOD	BETTER
	Access to Jobs	GOOD	GOOD	GOOD	BETTER	BETTER	BEST	BEST
3 Prioritize the needs of existing transit riders and transit-critical populations	Equity	GOOD	BEST	GOOD	BETTER	BETTER	GOOD	BETTER
4 Maximize the economic and environmental benefit of a major transit investment	Sustainability	BEST	BEST	GOOD	GOOD	BETTER	BETTER	BETTER
	Cost	$	$	$$$$	$$$	$	$$$	$
	Implementation time	SHORTEST	SHORTEST	LONGEST	MIDDLE	SHORTEST	MIDDLE	SHORTEST
	Tunneling Complexity	N/A	N/A	HIGH	MEDIUM	N/A	HIGH	N/A

Next Steps – Public Outreach

- 60-day public comment period open through August 1, 2022.
- Street teams are conducting on-the-ground outreach along the corridor. Check website for dates/times and locations.
- Provide comments on the website. www.rtpcorridors.com/eastwest

Call the Project Team
(443) 475-0687

Email the Project Team
rtp@mta.maryland.gov

INVITE US TO YOUR COMMUNITY MEETINGS!

Public Feedback

- THANK YOU!

- Today's feedback will be compiled with other outreach submissions.

- Public feedback will **supplement** the measures of effectiveness.
  - What's the most important goal?
  - How to consider tradeoffs?
  - What did we miss?

- Let's continue the conversation.

Next Steps - Study

Summer/Fall 2022

Identify Alternatives for Further Study

MDOT and local jurisdictions will select a reduced set of alternatives for further study after public feedback is gathered.

2022 – 2024

Identify Locally Preferred Alternative

The reduced set of alternatives will receive additional engineering and environmental analysis and public input to narrow down to a single option.

2024 – 2026

Federal Approval & Apply for Funding

MDOT and its partners will develop a local funding plan and apply for funding to support design and construction once a preferred option has been confirmed.

Questions & Answers

- **Raise your hand** using the **reaction function**
  - When your name is called by the moderator, **unmute yourself** and ask your question or type a question in the **chat** box