

Transportation Needs Assessment

Public Engagement Results & Potential Policy Recommendations

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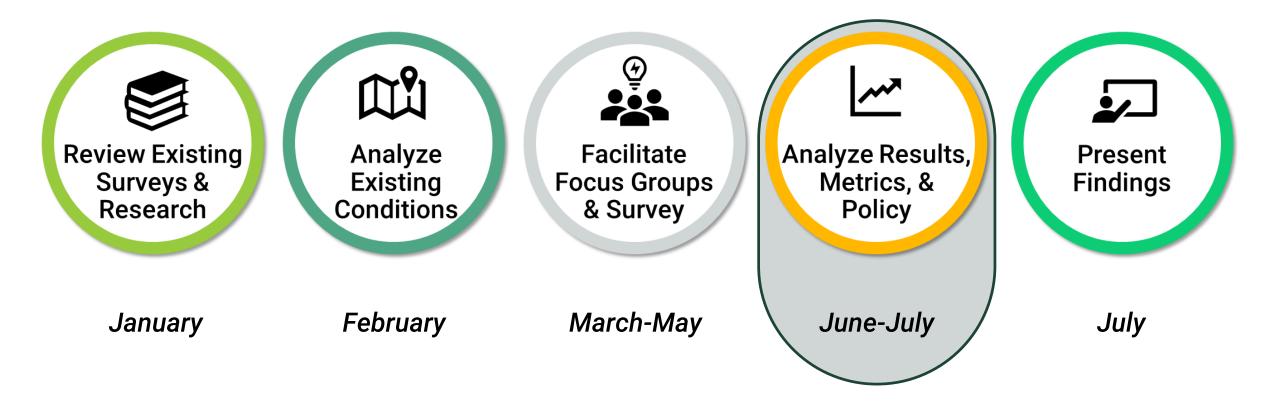


Agenda

- Project Overview
 - Review of Existing Surveys & Research
 - Analysis of Existing Conditions
 - Survey Administration & Focus Group Facilitation
- Preliminary Recommendations by Goal Area
 - Key Takeaways from the Survey & Focus Groups
 - Considerations for Strategies & Scoring Criteria
- Next Steps
- Questions?

Project Overview

Project Schedule



Review of Existing Surveys & Research

State

- MDOT Maryland Commuter Survey (2023)
- MDOT State Disabilities Survey Data (2020-2023)
- MDOT MTA Statewide Transit Plan Survey (2020)
- Maryland Statewide Household Travel Survey (2020)

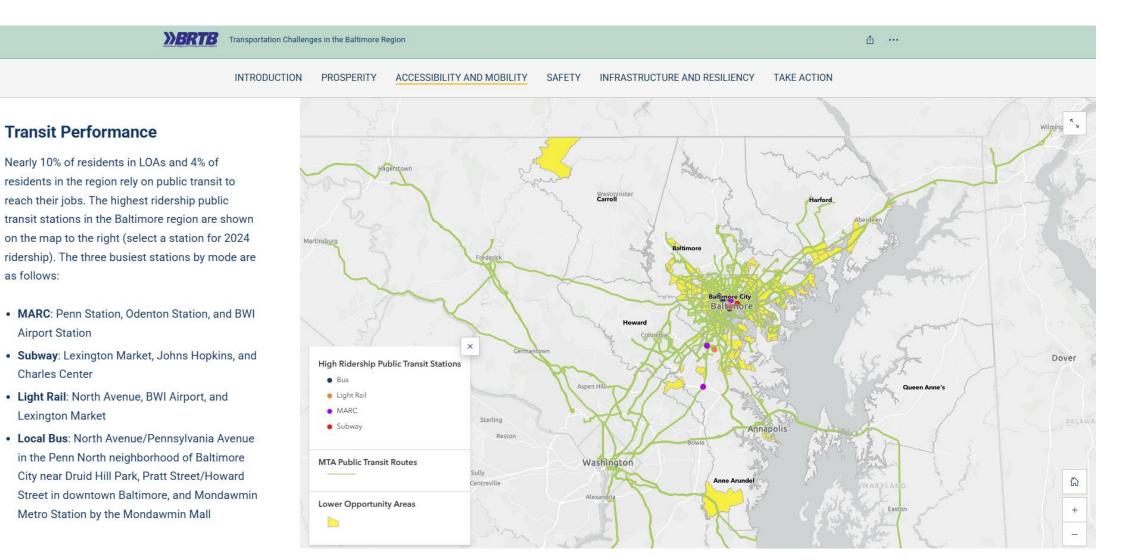
Regional

- BMC Bikeable Baltimore Region (2024)
- BMC Exploring Public Attitudes on Housing & Transportation (2024)
- BMC Long-Range Transportation Plan Scenario Planning (2024)
- BMC Post-Pandemic Trends (2024)
- BMC Priority Climate Action Plan
 (2024)
- BMC Regional Public Opinion Survey (2024)
- BMC Public Transportation Choice Study (2017)
- BMC Transit Needs Assessment (2015)

Local & Other

- City of Baltimore Community Health Needs Assessment (2023-2024)
- JHU Baltimore Area Survey (2023, 2024)
- Anne Arundel County Community Health Needs Assessment (2022)
- Baltimore County Community Health Needs Assessment (2020-2021)
- Carroll County Community Health
 Needs Assessment (2019)
- Status of People with Disabilities in Howard County (2019)
- GMU Public Perceptions of Climate Change (2016)

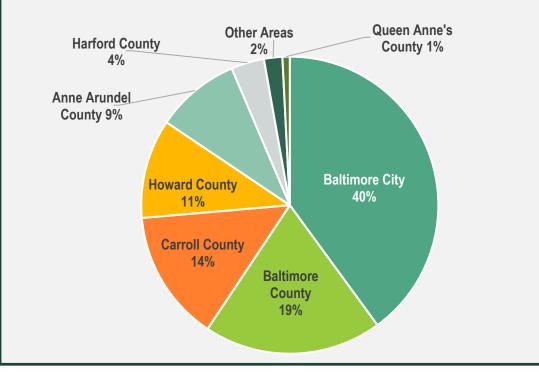
Analysis of Existing Conditions



Public Engagement

Public Survey

- Online survey administered March–April
- Survey received 859 responses from across the region:



Focus Groups

- Four virtual focus groups were conducted in May
- Focus groups were designed to gather indepth feedback on:
 - Transportation system overall
 - Key needs and barriers
 - Future priorities
- 31 participants overall

Preliminary Recommendations Strategies & Scoring Criteria

Resilience 2050 Goal Areas



Resilience 2050 Performance Measures

Condition of Transit Assets

- 1. Condition of vehicles used for revenue service
- 2. Condition of vehicles used for non-revenue service
- 3. Condition of transit facilities
- 4. Condition of transit infrastructure (rail fixed-guideway, track, signals, systems)

Transit Safety

- 5. Number of reportable fatalities and rate per total vehicle revenue miles (VRM)
- 6. Number of reportable injuries and rate per total VRM
- 7. Number of reportable safety events and rate per total VRM
- 8. Mean distance between major mechanical failures

Highway Safety

- 9. Number of fatalities
- 10. Rate of fatalities per 100 million vehicle miles traveled (VMT)
- 11. Number of serious injuries
- 12. Rate of serious injuries per 100 million VMT
- 13. Number of non-motorist fatalities and serious injuries

Traffic Congestion

- 14. Annual hours of peak-hour excessive delay (PHED) per capita
- 15. Share of non-SOV (single-occupancy vehicle) travel

On-Road Emissions Reduction

16. Total emissions reduction for each criteria pollutant for which the area is designated nonattainment or maintenance.

Pavement Condition

- 17. Share of pavement on the Interstate System in good condition
- 18. Share of pavement on the Interstate System in poor condition
- 19. Share of pavement on the National Highway System (NHS) (excluding the Interstate System) in good condition
- 20. Share of pavement on the NHS (excluding the Interstate System) in poor condition

Bridge Condition

- 21. Share of NHS bridges by deck area classified as in good condition
- 22. Share of NHS bridges by deck area classified as in poor condition

Travel Time Reliability

- 23. Share of person-miles traveled on the Interstate System that are reliable
- 24. Share of person-miles traveled on the non-Interstate NHS that are reliable
- 25. Share of Interstate System mileage providing for reliable truck travel times



Improve Accessibility

Identify and support multimodal options and systems that promote equity, are resilient and sustainable and enable all individuals to reach their destinations safely and seamlessly

Strategies

- A. Increase **transportation options** and equity for all segments of the population, including minority and low income communities and disabled, elderly and carless individuals.
- B. Continue to improve conditions for pedestrians and transit riders to meet or exceed **Americans with Disabilities Act** requirements.
- C. Leverage transportation funds in coordination with other funds to provide **affordable options** for accessing necessities or amenities (such as jobs, health care, child care, education).
- D. Continue to invest in high quality, safe, sustainable and comfortable **bicycle and pedestrian facilities**, with an emphasis on facilities that are separate from vehicular traffic and link to activity centers and public transit.
- E. Integrate strategies identified through the **Coordinated Public Transit Human Services Transportation Plan** into regional planning and decision-making.
- F. Improve **system connectivity and continuity** among all modes and across geographic boundaries, including institutional and private systems, and greater coordination of investments, service and fare integration across the region's public transit system.
- G. Encourage the **private sector** to provide appropriate access on commercial properties for bicyclists, pedestrians, transit users and shared mobility users.
- H. Support operating policies that enable **year-round, obstacle-free access** to pedestrian, bicycle and transit facilities
- I. Improve **frequency**, **reliability and operating hours** of existing transit services.

Scoring Criteria

Complete Streets:

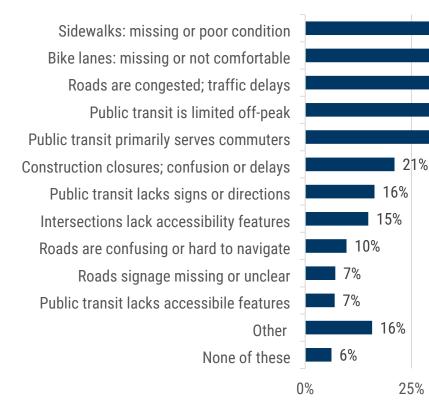
- Degree to which project supports complete streets (delivers safety/accessibility benefits for all modes)
- Proximity to EJ areas as determined by 1/2 mile buffer

Access to Jobs:

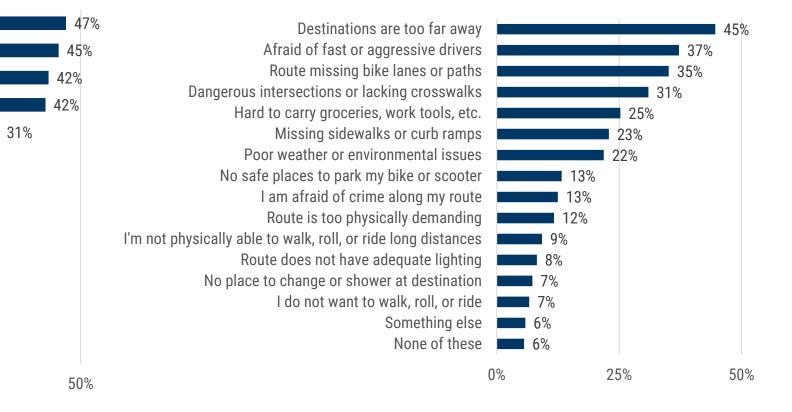
- Degree to which the project improves access to jobs for workers within a 30 (highway) or 45 (transit) minute travel time
- Degree to which the project improves access to jobs for EJ workers within a 30 (highway) or 45 (transit) minute travel time



What are your top use and access concerns about the transportation system? Select up to five (5). (n = 681)



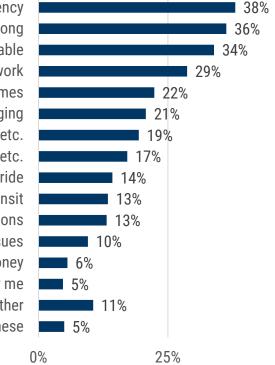
What stops you from using active modes (walking, using a wheelchair, or riding a bike or scooter) more often? Select up to five (5). (n = 768)





What stops you from taking public transit (bus, light rail, etc.) for more trips? Select up to five (5). (n = 805)

Public transit frequency Trips take too long Public transit is not reliable Stops far from my home or work Not available at off-peak times Multi-stop trips are challenging Hard to carry groceries, tools, etc. I feel unsafe onboard, stops, etc. Don't know where it goes/how to ride I do not want to take public transit Stops far from retail or rec destinations Poor weather or environmental issues It costs too much money Not physically accessible for me Other None of these



50%

"I [took transit] the day before I started [my new job], just to see how the route would work. I drove to the park-and-ride and I took the light rail up to either Charles Street or Lexington Market, [transferred] to the Owings Mills Metro, and then I took that all the way up. I would say the ride itself was fine – but the whole thing took me almost two hours to get there, which is not a realistic commute."

Anne Arundel County, age 18-25, female, Black or African-American



Improve Accessibility

Key Takeaways

- Active transportation concerns are the top priority, followed by traffic congestion and public transit concerns
- The top barriers to using active transportation include distance, unsafe drivers, and missing links
- The top barriers to using public transit include frequency, trip duration, and reliability
- Transit trip durations also need to be more competitive with other modes for participants to choose to use public transit

- Add a new project scoring criterion for access to nonemployment destinations like healthcare, groceries, green space, etc. (existing strategy)
- Revise strategy to consider transit speed in addition to frequency, reliability, and operating hours (i.e., mode competitiveness)
- Revise strategy and criterion to consider access to jobs by sector and salary level rather than just jobs (e.g., LEHD LODES)
- Revise strategy and add criterion to consider affordability as well as availability (e.g., CNT Housing + Transportation Affordability Index)



Increase Mobility

Help people and freight to move reliably, equitably, efficiently and seamlessly.

Strategies

- A. Continue to coordinate with MDOT and local agencies to improve **travel time reliability** through performance-based planning and programming.
- B. Continue to refine and implement a **Congestion Management Process (CMP)** that incorporates transportation systems management and operations strategies to optimize the performance of the existing transportation system and minimize impact and costs.
- C. Analyze **congestion causes** and **mitigation strategies** for corridors and locations experiencing recurring high congestion levels.
- D. Consider how all modes roadway, transit, pedestrian, bicycle and shared mobility can work together to address system capacity needs.
- E. Support a regional **multimodal freight network** for safe and efficient freight movement.
- F. Increase mobility, including traffic and transit incident response and recovery, through traffic and transit **system management and operations** techniques.
- G. Reduce the effects of **non-recurring incidents** (such as crashes, weather-related delays and special events) by enhancing methods of sharing information across agencies and modes, responding to and managing these incidents and sharing information with travelers.
- H. Develop and support a regional **long-distance bikeway network**, including consistent guide signage.

Scoring Criteria

<u>Highway:</u>

2050 VHOD per VMT for three vehicle classes:

- Passenger VHOD at AM/PM peak hours
- ► Commercial VHOD Mid-Day
- ► Truck VHOD at Overnight Peak

<u>Transit:</u>

- **Transit Options:** Degree to which project increases number of workers with high quality (<45 minutes) transit options based on their usual place of work
- Transit Ridership: Degree to which project supports transit ridership via walk access and drive access
- **Transit Connectivity:** Degree to which project contributes to transit connectivity as measured by reduction in average number of transfers required for transit trips

Performance Measures

Traffic Congestion

14.Annual hours of peak-hour excessive delay (PHED) per capita15.Share of non-SOV travel

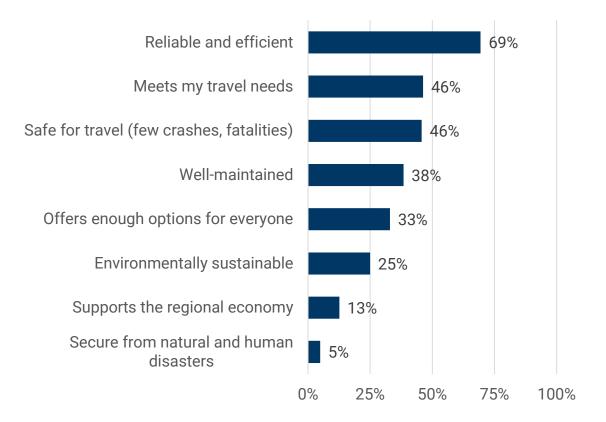
Travel Time Reliability

23.Share of person-miles traveled on the Interstate
System that are reliable
24.Share of person-miles traveled on the non-Interstate NHS that are reliable
25.Share of Interstate System mileage providing for reliable truck travel times



Thinking about the transportation system, which of the following are most important to you?

Choose up to three (3). (n = 713)



"695 is starting to look like a California freeway. I mean, it literally will come to a halt... places that used to take you 10 to 15 minutes...[now] you have to plan on, like, 30 minutes. [So] the most frustrating thing for me is traffic. It's the bane of my existence."

Baltimore County, age 56-65, female, Black or African-American

"[There are] pockets where there's just so much congestion, and we typically see... drivers [behaving badly] or just accidents happening...**I wish I could just take a reliable public transportation route instead**... So now I'm going to put myself at risk again to be in a car, and maybe have an accident, or maybe be subjected to somebody else's accident backing me up and making me late for work."

Baltimore City, age 36-45, female, Hispanic

Note: Increase Mobility

Key Takeaways

- Predictability is a clear priority
- Congestion on the region's highways impacts travel time reliability, requiring drivers to budget more time for trips compared to free flow conditions
- Several also see congestion, driver behavior, and safety as intertwined

- Add Travel Time Reliability (TTR) as a scoring criterion in addition to Vehicle Hours of Delay (VHOD)
- Revise criterion to include extent to which project facilitates transit ridership via bicycle, in addition to walk and drive access
- Add a criterion to consider extent to which project reduces emergency/incident response times
- Add a criterion to consider extent to which project closes gaps in the bicycle network

Improve System Safety

Reduce the number of crashes, injuries and fatalities experienced by all users of the transportation system toward meeting Zero Deaths Maryland.

Strategies

- A. Continue to coordinate with MDOT and local agencies to improve roadway and transit safety through **performance based planning and programming**.
- B. Adopt relevant **state and local plans** that seek to reduce transportation-related injuries and fatalities.
- **C. Improve traveler safety** in all modes through traffic and transit system management, communication systems, local governance and policies and operations techniques.
- D. Eliminate hazardous or substandard conditions in high crash locations and corridors (all modes) using best practices and proven countermeasures.
- E. Improve conditions to enable **non-motorists** to travel more safely on a day-to-day basis, including safe interactions with users of other modes and safe access to transit stations and stops.
- F. Support research into better understanding the causes of **bicycle and pedestrian crashes and injuries** to promote more effective countermeasures.
- G. Educate all travelers of all modes on **safe travel techniques** using different outreach methods, such as media and educational campaigns.

Scoring Criteria

<u>Highway:</u>

- Identifies SHSP emphasis area(s)/strategy(s) addressed
- Project includes countermeasures anticipated to benefit EJ areas
- Project identifies countermeasures addressing non-motorist safety, speeding, lane departure for impaired or distracted drivers

Transit:

- Degree to which project improves safety
- Degree to which project improves security

Performance Measures

Transit Safety

5.Number of reportable fatalities and rate per total VRM
6.Number of reportable injuries and rate per total VRM
7.Number of reportable safety events and rate per total VRM
8.Mean distance between major mechanical failures

Highway Safety

9.Number of fatalities
10.Rate of fatalities per 100 million VMT
11.Number of serious injuries
12.Rate of serious injuries per 100 million VMT
13.Number of non-motorist fatalities and serious injuries

Improve System Safety

Key Takeaways

- The top safety concerns for survey respondents are aggressive drivers (66%) and distracted drivers (55%)
- Second-tier priorities are **speeding vehicles** (52%), and **lack of safe spaces for non-drivers** (49%)
- Many see cars and drivers as the root cause of safety issues, but say the impacts are felt across modes: "People either, like, don't care or don't understand what it's like to get around not in a car... those people speeding by, or people using their horns all the time. And just walking or cycling by, it's – people don't realize how loud that is, and how dangerous it is if you're cycling and you get spooked by a horn." (Howard County, age 26-35, male, White)

- Add a strategy and associated criteria to address unsafe driving behaviors through infrastructural as well as educational countermeasures:
 - Aggressive Driving: Increasing fines and legal penalties, high-visibility enforcement, and traffic calming measures
 - **Distracted Driving:** Passenger limits for young drivers and high-visibility cell phone enforcement
 - **Speeding**: Speed cameras, red light cameras, variable speed limits, and traffic calming measures
- Revise criteria to include near misses (e.g., harsh braking, sudden acceleration, hard cornering) in addition to reported injuries and fatalities (e.g., Ford Safety Insights)

Implement Environmentally Responsible Transportation Solutions

Pass on to future generations the healthiest natural and human environment possible.

Strategies

- A. Continue to coordinate with MDOT and local agencies to reduce excessive delay and increase the share of non-SOV travel through performance-based planning and programming.
- B. Reduce transportation-related criteria **air pollutant emissions** to support improvements in human health and ensure that the region conforms to the applicable state air quality plan.
- C. Reduce surface runoff and water pollution resulting from the transportation system.
- D. Reduce **energy use** of the transportation system.
- E. Reduce transportation-related **greenhouse gas emissions** in accordance with state and local plans.
- F. Preserve and protect natural and cultural resources.
- G. Incorporate **resilience** in transportation planning and maintenance and efforts to address current and anticipated climate change hazards.
- H. Promote policies and programs that encourage the adoption of electric and alternative fuel vehicles, including the installation of the infrastructure required for electric and alternative fuel vehicles.

Scoring Criteria

Highway & Transit:

- Degree to which project is located near ecologically sensitive lands and culturally significant properties and resources
- Anticipated impacts to nearby EJ populations
- Degree to which the project includes components that reduce GHG emissions

Performance Measures

On-Road Emissions Reduction

16.Total emissions reduction for each criteria pollutant for which the area is designated nonattainment or maintenance.

Implement Environmentally Responsible Transportation Solutions

Key Takeaways

- Top environmental concerns are **lack of options for non-car trips** (57%), **air pollution** (46%), and **lack of trees and shade** (40%)
- A lack of options for non-car trips was the top concern across all modes (56% of drivers, 65% of active users, and 68% of transit riders)
- Focus group participants raised air and noise pollution as transportation system concerns: "One that doesn't get talked about as much is just the thing sound of having a lot of car traffic around...it makes it kind of uncomfortable to walk around, if you're walking down the sidewalk and there's a lot of loud traffic going by, or if you're trying to eat outside on a nice day and [you] can't even have a conversation..." (Howard County, age 26-35, male, white)

- Consider degree to which the project increases tree canopy coverage (e.g., USDA National Land Cover Database) as a new strategy and scoring criterion
- Consider degree to which the project reduces noise pollution (e.g., BTS National Transportation Noise Map) as a new strategy and scoring criterion
- Consider degree to which the project reduces surface runoff and water pollution as a new scoring criterion (existing strategy)

Improve System Security

Provide a secure traveling environment for everyone; improve the region's ability to respond to natural and human-caused disasters.

Strategies

- Scoring Criteria Highway & Transit:
 - Degree to which the project enhances the multimodal evacuation mobility of vulnerable populations
- A. Continue to improve **personal security** of transit riders by incorporating tools and strategies throughout the transit system (such as closed-circuit TV, additional staff and other security-related features).
- B. Continue to work with state and local agencies as well as other stakeholders to coordinate responses to **large-scale incidents**, including evacuation routes and procedures.
- C. Continue to review **evacuation routes** and identify bottlenecks. Consider alternatives that would improve traffic movement through these points of limited capacity in emergency situations (such as improving traffic operations, identifying alternate routes and modes, expanding existing roadways).
- D. Improve the capabilities of jurisdictions to respond to and recover from emergencies, including **security threats** and **natural disasters**, through traffic and transit system management and operations approaches.
- E. Identify policies and procedures for **communication**, **resource sharing and cooperative response** to emergencies among transportation and non-transportation response agencies.
- F. Identify other sources of funding (state, federal, private) that could be used to implement regional security priorities.
- G. Incorporate options for **multimodal mobility** and strategies for system management in the transportation network to facilitate expanding capacity for the movement of people during emergencies.
- H. Plan for the predicted impacts of **climate change** (such as rising sea level, higher storm surge, hotter temperatures) on the transportation system.

Improve System Security

Key Takeaways

Most participants raised behavior and safety concerns as more of a nuisance, but it does impact some decisions to ride transit:

- "... When [people] get on, they want to start fusses and arguments, and I'll be saying, 'where is the police? Where's security?' And that makes it real unsafe-feeling..." (Baltimore County, age 75+, female, Black or African-American)
- "...Public transportation isn't always the safest. I've been on the light rail and gotten off the light rail after a Ravens game [in] different areas because people who are under the influence. I've had to [switch] cars... there's been, people who are clearly not themselves, and there's no one monitoring..." (Carroll County, age 46-55, female, white)
- "A lot of the bus stops...there are no shelters. There are not very many lights, or lights may not always be in operation. So there's inherently a safety risk when you are waiting at the bus stop, **especially if you're a woman or a person of color**, and it does make you consider whether or not it's actually worth that personal safety." (*Baltimore County, age 26-35, gender unstated, multiracial*)

- Expand the scope of the existing scoring criterion to apply to all residents, with additional considerations for vulnerable population groups (e.g., children, women, older adults, people with disabilities, people of color, etc.)
- Add a criterion for rider perception of personal security (e.g., via MDOT Rate My Ride or other survey processes)
- Add a criterion for reported crimes in the transit system (e.g., MTA Police, Amtrak Police, BMC jurisdictions)

Improve & Maintain Existing Infrastructure

Improve the conditions of existing transportation facilities; systematically maintain and replace transportation assets as needed.

Strategies

- A. Continue to coordinate with MDOT and local agencies to preserve and maintain the condition of roadway and transit systems through **performance-based planning** and programming.
- B. Maintain traffic signal and **Intelligent Transportation System (ITS)** systems on a timely, systematic basis.
- C. Maintain and replace aging transit vehicles on a timely, systematic basis.
- D. Research and invest in **cost-effective measures** that will reduce emissions and life-cycle costs of transit rolling stock and infrastructure elements.
- E. Continue to improve the condition of **existing transit infrastructure** and stations/stops.
- F. Increase emphasis on improving the condition of existing pedestrian and bicycle facilities.
- G. Encourage local agencies to develop **comprehensive asset management programs** to monitor the conditions of transportation assets and repair/replace those assets on a timely, systematic, cost-effective basis.

Performance Measures

Condition of Transit Assets

 Condition of vehicles used for revenue service
 Condition of vehicles used for non-revenue service
 Condition of transit facilities
 Condition of transit infrastructure (rail fixedguideway, track, signals, systems)

Pavement Condition

17.Share of pavement on the Interstate System in good condition
18.Share of pavement on the Interstate System in poor condition
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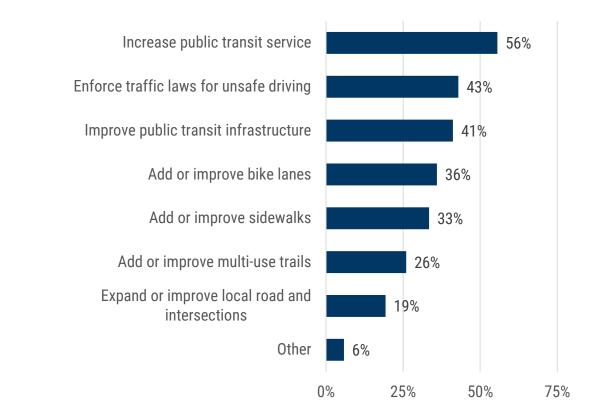
Improve & Maintain Existing Infrastructure

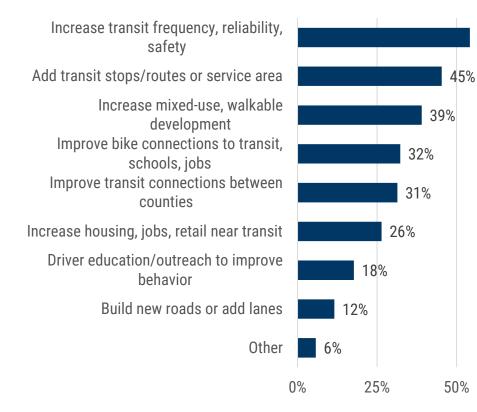
54%

75%

What investments would you prioritize to improve transportation across the region? Select up to three (3). (n = 666)

What investments would you prioritize to improve transportation in your local community? Select up to three (3). (n = 673)





Improve & Maintain Existing Infrastructure

Key Takeaways

- Transit is a clear priority, with a slight preference for service enhancement over system expansion
- Active transportation improvements are the secondhighest priority
- Minimal interest in roadway capacity expansion

- Codify select performance measures as scoring criteria
- Add dedicated scoring criteria, such as:
 - Reduction of emissions from construction and maintenance (e.g., FHWA Infrastructure Carbon Estimator)
 - Reduction of **lifecycle costs** (cost effectiveness)
 - **Rider perception** of transit stops, stations, and rolling stock (e.g., MDOT MTA Rate My Ride)

Promote Prosperity & Economic Opportunity

Support the vitality of communities and businesses, opportunities for workers and the movement of goods and services within and through the region.

Strategies

- A. Emphasize the **coordination of land use decisions, transportation planning, housing availability and employment opportunities**, including consideration of the connections between land use decisions and the costs of transportation.
- B. Consider affordable housing and workforce/economic development planning when determining long-range priorities.
- C. Concentrate transportation investments within **locally and state-designated growth areas** to enable prosperity in existing communities and the optimal use of prior public investments, including transportation investments.
- D. Invest in transportation infrastructure (all modes) that improves access to **regional generators of economic activity** (such as activity centers and freight corridors) with an emphasis on improving access through active transportation and high quality transit.
- E. Coordinate with communities to provide **context-sensitive infrastructure and facilities** that integrate with community assets, needs and preferences.
- F. Consider the **harms and inequities** associated with prior transportation investments and seek to ensure that future transportation investments promote equitable access to opportunity for workers and communities underserved by existing transportation systems low-income and minority households as well as disabled, elderly, Limited English Proficiency and carless individuals.
- G. Invest in upgrading transportation assets and facilities that promote **tourism** and the movement of tourists within and through the region.

Scoring Criteria

Highway & Transit:

The project leverages or otherwise supports existing assets and programs available from the State to revitalize and improve existing and planned communities in the region



Promote Prosperity & Economic Opportunity

Key Takeaways

- "I have my own business, and I have to turn clients down all the time because they're too far away – where if I had a car, I would just zip over there. I basically have a travel radius. You tell me where you live, [and] I see how it says I can get there, and [at] what time, and whether or not I'll work for you." (Baltimore City, age 36-45, female, race unstated)
- "[I'm] limited with my transportation options, because I don't drive...so when people ask me if I can do stuff, whether it's work or personal things, I always have to take into account if I'm able to physically get there, and sometimes I can't." (Baltimore County, age 26-35, gender unstated, multiracial)
- "I can't even go to a grocery store without having to drive somewhere. I understood that when I moved here, but...there's nothing around here that appears to be really walkable. They have trails, but the trails don't take you to a store. You still have to get into the car. You can't go to church without a car. You can't go anywhere without a car...I feel as though they're designing me to stay here." (Howard County, age 66-75, female, race unstated)
- "Baltimore is a car culture...that's how I grew up, and that's what I need for work, at least as far as I've figured out." (Baltimore City, age 36-45, sex unstated, race unstated)

- Add a criterion for shortening distance and trip times between essential origins and destinations (e.g., jobshousing balance)
- Add criteria for extent to which the project facilitates development of affordable housing and economic development

All Goal Areas

Resilience 2050 Scoring Framework

Goal/Criteria	Technical Scoring Points	
	Transit Projects	Roadway Projects
Safety*	10	10
Accessibility – Complete Streets*	5	5
Accessibility – Access to Jobs*	10	5
Mobility	10	10
Environmental – Effects on ecologically sensitive lands and culturally significant resources*	5	5
Environmental – Potential for Greenhouse Gas Emissions Reductions	5	5
Security*	5	5
Economic Prosperity	5	5
Total Technical Points	55	50

- Add a third scoring category for active transportation projects
- Reconsider the weighting of the technical scoring to align with survey responses
- Ensure that goal areas are clearly differentiated and that all strategies are actionable and quantifiable
- Consider impact to LOAs in all goal areas
- Expand the set of performance measures to reflect the revised project scoring criteria

Next Steps

Next Steps

- Final report synthesizing literature review, analysis of existing conditions, survey and focus group findings, and policy recommendations
- Video showcasing follow-up interviews with focus group participants
- Presentation to Transportation CORE (July 15)
- Presentation to BRTB (July 22)

Questions?



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