Virginia Transit Equity and Modernization

Action Plan Summary

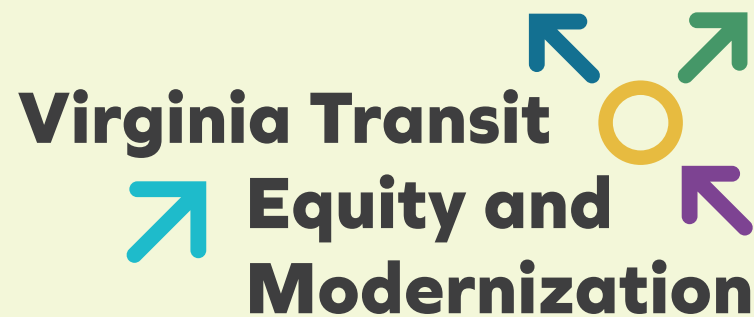**DRPT**
Virginia Department of Rail and Public Transportation

What is the Virginia Transit Equity and Modernization Study?

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Virginia Transit Equity and Modernization

During the 2021 General Assembly session, House Joint Resolution 542 was created with a wide range of support from interest groups across the Commonwealth. This legislation requires DRPT to complete a needs assessment that focuses on the inclusive delivery of transit services and the modernization of transit in Virginia. This legislation also calls for emphasis to be placed on looking at transit services and engagement opportunities for underserved and underrepresented communities.

The overarching goal of the Study is to create an assessment of current conditions, identify opportunities for improvement, and develop an action plan that works towards the desired outcomes of a more modern transit system across Virginia. The final results of the Study will include a needs assessment focused on inclusive delivery of transportation services and modernization of transit—including targeted recommendations and strategies for Virginia's transit agencies and communities—emphasizing engagement with underserved communities in the Commonwealth.

The purpose of this document is to lay out potential actions the Commonwealth might consider to modernize its transit infrastructure and operations. This document includes a high level overview of the stakeholder and public input and technical analysis completed to identify and refine transit needs, potential actions to address these needs, and anticipated outcomes of the Study.

This Study is being done in parallel with other efforts to modernize the Commonwealth's transit practices, including the Joint Legislative Audit & Review Commission Transportation Infrastructure and Funding Study, Virginia Transit Association's Transit Equity Toolkit, and the Transit Service Delivery Advisory Committee's meetings.

Public & Stakeholder Engagement

To fully understand the state of transit in the Commonwealth, the Study team embarked on a public and stakeholder engagement program that would gather perspectives from a variety of groups, including transit riders, transit agency staff, and the public at-large. Capturing the voices and ideas of such a diverse group ensures that this Study effectively identifies issues Virginia transit agencies and riders are faced with, and nuanced perspectives on how these issues might be addressed.

Focus Groups

Online focus groups were conducted in the summer of 2021. The focus groups engaged participants from both urban and rural areas across the state and the virtual format kept participants safe despite the ongoing COVID-19 pandemic. Forty-eight participants across seven focus group meetings offered a diverse set of perspectives including: frequent and infrequent riders, stakeholders, advisory council members, and people with disabilities across areas of Virginia serviced by both fixed-route and demand-response services.

Key Focus Group Takeaways

- **There is significant support for the concept of transit equity.** Participants, however, expressed concern and interest for how this will be put into practice at the local level.

- **Several common barriers to using transit exist**, including lack of familiarity with systems, safety concerns, long travel times and trip lengths, access to stops and stations, and overall reliability of services.

- **Basic infrastructure elements are of great concern**, with riders expressing a widespread lack of basic bus stop features such as shelters, seating, lighting, and sidewalk connections.

- **Health and safety of riders and operators is top of mind**, especially in light of the ongoing COVID-19 pandemic. Many riders prefer to avoid crowded spaces and worry that rules around face coverings and social distancing are not being enforced, making the public transit journey an uncomfortable one.

- **The majority of riders do not feel as though they have a voice** in public transit decision-making in their communities, with widespread concern that the voices that are most heard are those that are the loudest and the wealthiest, rather than those of the average rider.

Transit Agency Survey

There are 40 transit agencies in the Commonwealth of Virginia, including the Virginia Breeze and Virginia Railway Express (VRE), which operate state-funded intercity bus and commuter rail services, respectively. In the summer of 2021, a transit agency survey with questions covering a variety of issues was conducted. The survey had a 100% response rate and was helpful for identifying policy and implementation needs that would serve as the basis for action planning. Below are some bullets summarizing the results of the transit agency survey:

60%
of Virginia agencies collect data on people's ability to access key destinations via transit

20%
of agencies have defined a goal to convert their existing fleets to Zero Emission Buses

Bus Stops

Many bus stops don't have amenities, and sidewalk connectivity is inadequate.

Funding Considerations

Additional funding was the most common concern when integrating electric buses into existing fleets

Limited funding for ongoing operations and maintenance is the biggest barrier to implementing transit technology

Transit Story Campaign

Transit riders around the Commonwealth shared their experiences using transit to show how transit has played a role in their life and where they see Virginia's transit network growing in the future. These stories reflect needs and priorities of transit riders in the Commonwealth.

"My new job in Chesterfield is not transit-accessible, forcing me to take on significant extra expense to buy and maintain a car I don't want. Extended frequent transit at all hours would enable me and many Richmonders to go car-free or car-light."
- Austin

"Living next to several Fairfax Connector bus routes gives me the freedom and flexibility to explore my community without the need of a car... The biggest barrier to me is exploring beyond the limits of the DC area."
- James

"I would love to see public transportation across Virginia normalized for all walks of life as a feasible alternative to driving personal cars."
- Anonymous

"As very limited as it was and is, the light rail helped keep me alive during the early days with my baby…"
- Ammie

"I would like to be able to go anywhere I want using transit, walking, and Uber or Lyft... I've been diagnosed with Parkinson's Disease, and... I've stopped driving and given up my car."
- Joseph

Transit Equity and Modernization Committee

The Transit Equity and Modernization Committee (TEMC) includes executives from transit agencies across the Commonwealth. The purpose of the TEMC is to provide guidance and perspective to the Commonwealth's efforts, provide experiential and informed feedback that will help develop an actionable Study. The goal statements are as follows:

Study Goals

Connectivity & Access

Upgrade technology and address travel barriers in the region to provide future improvements that optimize reliability, access, affordability, and multimodal connections.

Safety & Operations

Ensure the dignity of operators and employees with protections for their wellbeing and safety, fair and intentional hiring practices, and competitive wages.

Performance & Funding

Support measures that enable inclusive service growth as it relates to vulnerable populations, the environment, and the economy.

Education & Engagement

Develop meaningful public engagement methods and expand transit use through education and activities which inform and empower the public to influence decision-making.

Technical Working Groups

Six technical topic areas were identified to focus the Study when developing potential actions: accessibility, adequacy of infrastructure, emerging technologies, electrification, safety, and system engagement and governance. For each of these technical areas, Technical Working Groups (TWGs) comprised of local transit agency staff, stakeholders, and partner organizations from across the Commonwealth and the national transit industry were formed to get diverse perspectives, brainstorm unconstrained ideas, explore feasibility and implementation barriers, and provide input on recommendations for each of the Study's technical areas. Below are some takeaways that we received from each of the TWGs:

Key Takeaways

Accessibility

Constrained funding for implementation of new service makes investment decisions difficult.

Adequacy of Infrastructure

There are no statewide standards for bus stop design and placement, which would be helpful for having consistent provision of bus stop amenities between communities.

Electrification

Educating agencies about federal funding opportunity requirements and potential obstacles to implementation would be helpful for agencies planning to transition their transit fleets to electric vehicles

Emerging Technologies

Transit signal priority (TSP) has challenges of compatibility, especially when serving multiple jurisdictions. Interoperable software solutions that utilize data standards and do not utilize additional hardware could be cost-effective alternatives.

Safety

Identifying and sharing transit safety training opportunities and national best-practice resources can improve transit operators' awareness of transit safety issues at a low cost.

System Engagement and Governance

Public engagement guidance and best-practice resources that are context-sensitive to different geographic environments and types of transit service would be helpful for agencies when conducting outreach.
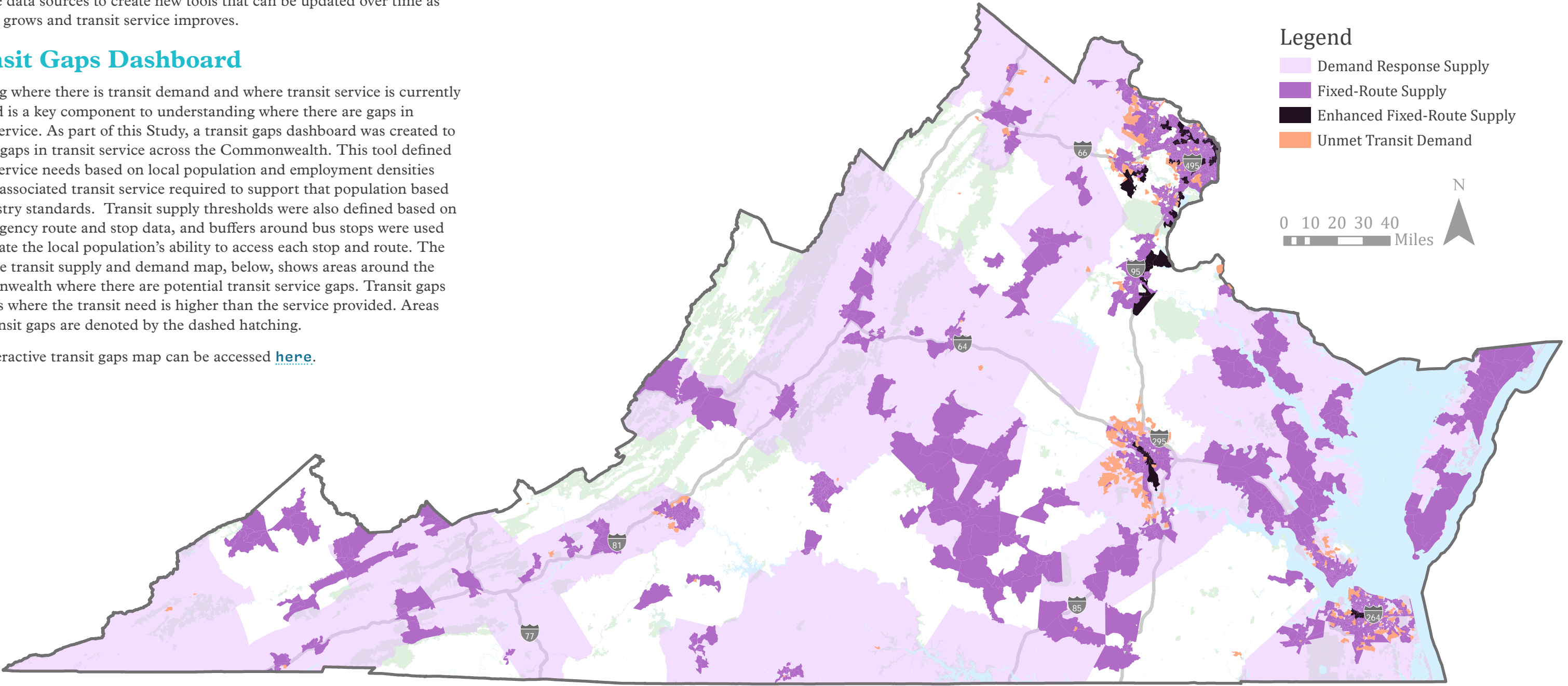
Interactive Data Driven Tools

In addition to engaging with local transit agencies, rider groups, and industry professionals, a detailed analysis of transit accessibility in Virginia was conducted. This analysis helps illustrate the state of transit service and infrastructure around the Commonwealth, and the tools and process used can be easily tailored to identify transit needs at the local level. This analysis helped validate the input we had heard from the public and stakeholder engagement efforts and was used to identify areas that are most in need of transit improvements. Finally, this analysis leveraged existing, publicly available data sources to create new tools that can be updated over time as Virginia grows and transit service improves.

Transit Gaps Dashboard

Knowing where there is transit demand and where transit service is currently provided is a key component to understanding where there are gaps in transit service. As part of this Study, a transit gaps dashboard was created to identify gaps in transit service across the Commonwealth. This tool defined transit service needs based on local population and employment densities and the associated transit service required to support that population based on industry standards. Transit supply thresholds were also defined based on transit agency route and stop data, and buffers around bus stops were used to estimate the local population's ability to access each stop and route. The statewide transit supply and demand map, below, shows areas around the Commonwealth where there are potential transit service gaps. Transit gaps are areas where the transit need is higher than the service provided. Areas with transit gaps are denoted by the dashed hatching.

The interactive transit gaps map can be accessed here.

Legend

- Demand Response Supply
- Fixed-Route Supply
- Enhanced Fixed-Route Supply
- Unmet Transit Demand

0 10 20 30 40 Miles

N

▲ Statewide transit supply and demand

Bus Stop Assessment

Bus stops are a key component of transit infrastructure, and bus stops can vary based on the types of amenities provided to riders, the condition of those amenities, and the location of the stop. Understanding the quality and location of bus stops around the Commonwealth are key factors for evaluating the overall condition and accessibility of bus stop infrastructure in Virginia. As part of this Study, a representative sample of bus stop locations around the Commonwealth was evaluated and scored each stop based on its condition; ADA accessibility; and presence of amenities, including adjacent sidewalks, shelters, benches, lighting, and ADA ramps. Results of the bus stop assessment indicated that bus stops in urban areas have greater connectivity to sidewalks and are in good or excellent condition, but many did not have benches or shelters. This tool highlights how an agency can easily assess the condition of its bus stop infrastructure to prioritize future funding for improvements.

> ↗ **91% of sampled bus stops are in adequate to excellent condition.[1]**

Access to Opportunity Map

In addition to understanding the transit needs within an area, understanding what opportunities, and how many, transit riders have access to with the service that is provided is a key aspect of providing inclusive transit service to all populations. An Access to Opportunity, or A2O, analysis was conducted to quantify the "opportunity" that is accessible via fixed-route transit across the Commonwealth. In some areas of the state, transit provides high-quality coverage and/or frequent service but does not adequately connect to major employment centers and destinations. Alternatively, in some areas of the state transit does connect to major employment centers and destinations but do not have adequate coverage or frequency to facilitate these connections. The A2O tool identifies these inconsistencies and quantifies the potential access riders have to opportunities relative to other areas around the Commonwealth.

A2O scores were developed for geographic areas across the state using transit stop locations, schedules, and routes, as well as destinations and employment centers. Denser urban areas have the highest A2O scores given the density of jobs and destinations, as well as more frequent and expanded transit service.

The interactive A2O map can be found here.
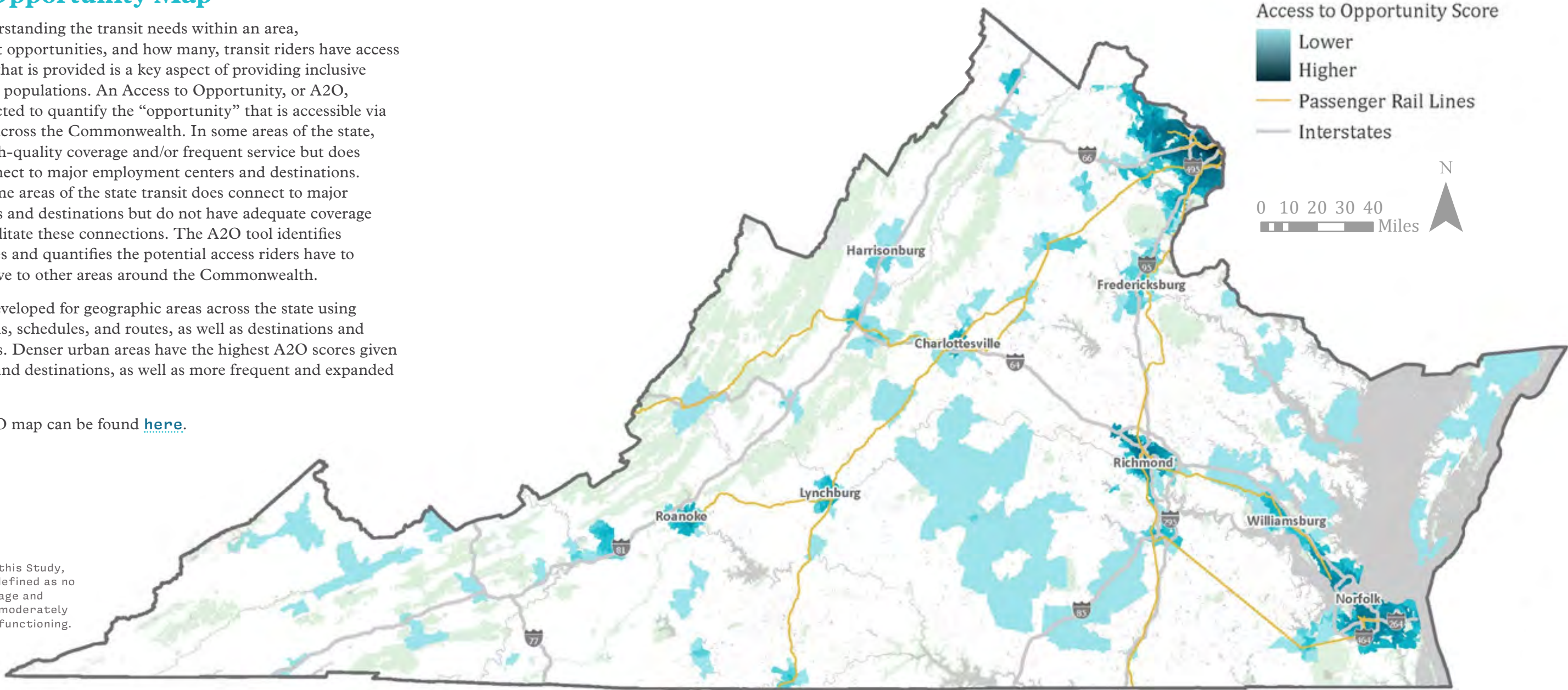
1 for the purposes of this Study, excellent condition is defined as no visible defects or damage and adequate condition as moderately deteriorated but still functioning.

▲ Statewide Access to Opportunity (A2O) scores map

Action Plan Development Process

Actions were developed through an iterative process that began with collecting data and soliciting feedback from transit riders and transit agency staff on the current state of transit in the Commonwealth. Technical analysis and industry research was also conducted to further understand issues and challenges facing Virginia agencies and supplement the input received from the public and stakeholders. Potential actions were developed to address these needs and focus the Commonwealth's planning activities and investment decision-making.

Existing Conditions
Summer/Fall 2021

- Data collection
- Transit Agency Survey
- Focus groups
- Share Your Transit Story Campaign

Identification of Needs
Winter 2021

- Technical Analysis
  - Transit gaps and access to opportunity assessment
  - Condition of transit infrastructure assessment
  - Fleet electrification and utility readiness assessment
  - Technology implementation inventory
  - Peer agency interviews
  - Review of industry best practices
- Stakeholder Input
  - Technical Working Groups
  - Transit Equity and Modernization Committee
  - Agency/Stakeholder Briefings

Action/Strategy Development
Spring 2022

- Stakeholder review and feedback
- Public input and Virtual Forum

Final Reporting
Summer 2022

- Collection of Study feedback
- Final Report

Potential Actions

Preliminary findings were presented in the Interim Study Report. Since then, these findings have been refined and additional needs have been identified through stakeholder and public input. Potential actions have been developed to address these needs and are outlined in the tables on the following pages.

Actions are organized by their anticipated timeline for implementation. Actions were grouped into three distinct implementation timeframes: near-term, mid-term, and long-term. Actions in the near-term group can be implemented within one to three years following the completion of the Study. Actions in the mid-term group can be implemented within four to six years, and actions in the long-term timeframe will require six or more years before being fully implemented.

For each of the actions in the implementation timeframes, the tables outline anticipated levels of effort and expected agency and rider benefits for each of the actions. These factors give the Commonwealth an idea about the relative level of effort that would be required to implement the action in the given timeframe, as well as the benefits that can be expected from implementing the action. Some actions will be implemented in a short timeframe but then continued annually or biannually at the discretion of the Commonwealth. Despite the near-term implementation timeframes, these actions have been noted in the tables as ongoing efforts and have higher levels of effort given the ongoing effort required to progress the action. DRPT is leading the implementation of these actions unless noted otherwise, but will require the support and cooperation of local transit agencies to effectively execute these actions and ensure they are meeting Commonwealth transportation objectives.

Near-Term Actions (1-3 years)

Action	Anticipated Level of Effort	Agency Benefits	Rider Benefits	Technical Area
Provide transit agency staff, local decision-makers, and the public with information about trade-offs to make decisions that provide the greatest economic and societal benefits	Low	■ More informed decision-making ■ More efficient allocation of resources	■ Higher quality transit infrastructure ■ New or enhanced transit service	**Transit Accessibility**
Develop resources to assist agencies with improving their fare collection policy and practices	Low	■ More informed decision-making ■ More efficient allocation of resources	■ Improved customer experience	**Transit Accessibility**
Develop suggested best practices for coordination between land use planning and transit planning	Medium	■ Increased coordination with partner agencies ■ Shared knowledge of industry best practices	■ Improved processes that center rider needs	**Transit Accessibility**
Provide guidance or best practices for more effective stakeholder coordination when prioritizing improvements around bus stops	Medium	■ Increased coordination with partner agencies	■ Improved processes that center rider needs ■ Higher quality transit infrastructure	**Adequacy of Infrastructure**
Develop technical guidance or policy on bus stop design elements and development	Low	■ More efficient allocation of resources	■ Higher quality transit infrastructure ■ Improved processes that center rider needs	**Adequacy of Infrastructure**
Provide technical guidance or industry best practices for monitoring and reporting infrastructure performance	Low	■ New or improved metrics and measures to track performance	■ Improved processes that center rider needs	**Adequacy of Infrastructure**
Establish statewide goals for electrifying transit vehicles and a transition plan to convert transit agency fleets	Medium	■ New or improved metrics and measures to track performance	■ Increased use of state-of-the-art technologies	**Electrification**
Conduct recurring assessment of innovations in the electric transit vehicle industry	High (ongoing)	■ More informed decision-making ■ More efficient allocation of resources	■ Increased use of state-of-the-art technologies	**Electrification**
Develop implementation resources for agencies to assist with fleet transition planning	Medium	■ More informed decision-making ■ More efficient allocation of resources	■ Increased use of state-of-the-art technologies	**Electrification**

■ *Unless otherwise indicated, DRPT is leading implementation of the actions outlined in this table*

Near-Term Actions (1-3 years)

Action	Anticipated Level of Effort	Agency Benefits	Rider Benefits	Technical Area
Implement recurring assessments of technology use and plans across the Commonwealth	Medium	■ Shared knowledge of industry best practices	■ Increased use of state-of-the-art technologies	**Emerging Technologies**
Conduct recurring technology planning at agency level (action led by local transit agencies)	High (ongoing)	■ More informed decision-making	■ Increased use of state-of-the-art technologies ■ Enhanced customer experience	**Emerging Technologies**
Identify and share inclusive transit safety training opportunities for agency staff	Low	■ Shared knowledge of industry best practices	■ Enhanced customer experience ■ Improved processes that center rider needs	**Transit Safety**
Research and compile best practices for transit agencies involvement with local public safety	Medium	■ Increased coordination with partner agencies	■ Enhanced customer experience	**Transit Safety**
Develop best practices for safety-related roles to engage with community partners	Medium	■ Shared knowledge of industry best practices	■ Enhanced customer experience	**Transit Safety**
Create of rider advisory councils within local transit agencies statewide (action led by local transit agencies)	Medium	■ More informed decision-making	■ Expanded involvement in decision-making	**System Engagement**
Develop public engagement handbook that outlines expectations and guiding techniques for more inclusive public engagement at the local level	Medium	■ More informed decision-making ■ Shared knowledge of industry best practices	■ Improved processes that center rider needs ■ Expanded involvement in decision-making	**System Engagement**
Promote the availability of DRPT technical assistance and funding programs and create a guide for agencies that outlines available assistance sources	Low (ongoing)	■ More informed decision-making ■ Additional funding opportunities	■ Improved processes that center rider needs	**System Engagement**

■ *Unless otherwise indicated, DRPT is leading implementation of the actions outlined in this table*

Mid-Term Actions (4-6 years)

Action	Anticipated Level of Effort	Agency Benefits	Rider Benefits	Technical Area
Identify areas with unmet demand for transit service and provide new or enhanced service (action led by local transit agencies)	Medium	■ More informed decision-making ■ More efficient allocation of resources	■ New or enhanced transit service	**Transit Accessibility**
Allocate funding to prioritize expansion or enhancement of transit service to underserved areas and populations	High	■ Additional funding opportunities ■ Improved requirements to ensure better transit outcomes	■ New or enhanced transit service	**Transit Accessibility**
Develop qualitative and quantitative metrics to measure reliable and effective transit service that promotes access to opportunity and lifeline services	Medium	■ New or improved metrics and measures to track performance	■ Improved processes that center rider needs	**Transit Accessibility**
Update MERIT - Capital Assistance scoring criteria to provide incentive for accessibility improvements to transit infrastructure	Medium	■ New or improved metrics and measures to track performance ■ Improved requirements to ensure better transit outcomes ■ More informed decision-making	■ Improved processes that center rider needs	**Adequacy of Infrastructure**
Establish guidance for negotiating technology contracts	Low	■ More informed decision-making	■ Increased use of state-of-the-art technologies	**Emerging Technologies**
Provide guidance on (1) crime prevention through design and (2) "rules and manners" of riding	Medium	■ More informed decision-making ■ Shared knowledge of industry best practices	■ Enhanced customer experience	**Transit Safety**
Conduct an industrywide study of safety measures that have worked to protect transit operators	Medium/High	■ Shared knowledge of industry best practices	■ Enhanced customer experience	**Transit Safety**
Update and enhance existing DRPT Transit Development Plan (TDP) and Transit Strategic Plan (TSP) guidance to provide stronger public engagement guidance for local agencies	Low	■ More informed decision-making ■ More efficient allocation of resources	■ Improved processes that center rider needs ■ Expanded involvement in decision-making	**System Engagement**

■ *Unless otherwise indicated, DRPT is leading implementation of the actions outlined in this table*

Long-Term Actions (6–10 years)

Action	Anticipated Level of Effort	Agency Benefits	Rider Benefits	Technical Area
Develop statewide unconstrained funding needs list	High	■ More informed decision-making ■ More efficient allocation of resources	■ Higher quality transit infrastructure	**Adequacy of Infrastructure**
Align MERIT program funding with electrification goals	Medium/High	■ Additional funding opportunities ■ Improved requirements to ensure better transit outcomes	■ Increased use of state-of-the-art technologies	**Electrification**
Expand opportunities for technology funding and implementation assistance	Medium	■ Additional funding opportunities ■ Improved requirements to ensure better transit outcomes	■ Increased use of state-of-the-art technologies	**Emerging Technologies**
Expand use of national or international data standards such as GTFS Realtime and GTFS-Flex	Medium	■ New or improved metrics and measures to track performance	■ Increased use of state-of-the-art technologies ■ Enhanced customer experience	**Emerging Technologies**
Share guidance regarding more inclusive performance measures (e.g., PTASP updates)	High	■ Shared knowledge of industry best practices ■ New or improved metrics and measures to track performance	■ Improved processes that center rider needs	**Transit Safety**

■ *Unless otherwise indicated, DRPT is leading implementation of the actions outlined in this table*

Study Outcomes

These actions were developed with assistance from transit agency staff and industry experts, but additional input is needed from the public to ensure that the outcomes of this Study will further Commonwealth transportation goals and improve transportation modes for all Virginia residents.

Below are common programmatic themes that represent needs and potential actions across each of the technical areas. These programmatic actions highlight general trends seen across the Commonwealth that are necessary for improving transit and will be implemented as a result of the Study.

Transit Planning and Implementation Guidebook

Virginia-specific resource, with specific consideration of agency-size, that would be complementary to TSP and TDP Guidelines and can be used to inform local decision-making. Some sections that could be in the guidebook could include best practices on the following:

- Transit service planning guidelines and metrics
- Coordinating land use and transit planning
- Fare policy decision-making
- Transit security
- Public and stakeholder engagement
- Bus stop design and development
- Electric transit vehicle transition planning

Funding Opportunities Support

Technical support and guidance to local transit agencies identifying and applying for grant programs.

- Tracking of state, regional, and federal funding opportunities in a database that is accessible to local transit agencies and would include details related to each funding opportunity, including cost sharing, eligible projects, etc.
- Resources for transit agencies to advocate for funding and prioritization of projects with local decision-making bodies

- Assisting local agencies with preparing and applying for discretionary federal funding opportunities.
  - Identify candidate projects that DRPT can partner with agencies on and assist with grant application development when discretionary federal funding opportunities are advertised.
  - Set funds aside, separate from the traditional MERIT program schedule, that can be used for discretionary federal funding programs on an on-demand basis as opportunities are advertised

Data Needs and Organization

Standards and guidance for consistent collection, management, and reporting of data

- Standardized survey template that can be sent to agencies to track transit data reporting annually
- Guidelines for consistent tracking and reporting of transit data to National Transit Database and TransAM
- Guidelines for the collection and classification of infrastructure, bus stop amenities, and critical transit support systems
- Facilitating the sharing of data that supports service planning between transit agencies and other public entities
- Standards for open data, for example GIS and GTFS data, that can be publicly available and can be shared with other agencies and stored on DRPT's Open Data Portal.
- Point of contact (POC) for each transit agency that serves as the transit agency's liaison for coordination with DRPT, other agencies, MPOs, and regional planning entities.

Partnership Leveraging

Coordination and collaboration between transit agencies and a variety of community decision-makers

- **Community organizations and advocacy groups** - Advocacy groups can assist with elevating community needs and perspectives, the planning of public participation events, distributing informational materials, and supporting key capital improvement projects.
- **Large employers and local chambers of commerce** – Private sector employers can be effective partners for implementing and promoting transit service to their employees and customers. Consistent support from private sector partners can also help destigmatize public transit and market transit service as a reliable and efficient mode of transportation that supports economic development and access to jobs.

- **Research institutions and private entities** - The Commonwealth can partner with research institutions and private companies to pilot new and innovative technologies. There is a precedent for this in Virginia with autonomous shuttle pilot programs.
- **Localities** - Increased coordination with localities allows transit agencies to identify and prioritize improvements that are most needed to support efficient transit service and improve the customer experience (e.g., sidewalks, bus stop shelters, crosswalks, signage).
- **Regional planning bodies** - Coordination between transit agencies and regional planning organizations, such as MPOs, can resolve overlapping transit service between multiple providers, help to facilitate coordination for transfers between services at jurisdictional or service boundaries, consider land use with transportation decision-making, and allow for prioritization of funding for specific projects.

Incorporate Modernization Criteria into the Decision Making Process

Criteria in new or existing programs that promote and enhance modernization goals such as lifeline services and community connections through revised guidance, incentives, or technical assistance.

- Scoring criteria used to evaluate projects applying for state grant funding to include modernization criteria. This could be accomplished by adding new metrics related to modernization, or by increasing the value or weight of existing criteria that promote these goals.
- Provide bonus points to projects that expand or enhance service in areas with state or locally identified transit gaps and that provide service to underserved populations.
- Establish statewide standards for measures that can be used to monitor and report on infrastructure performance, reliability, and ADA compliance.
- Develop guidance for transit infrastructure performance and incentivize compliance with standards through use of DRPT-provided tools and assistance.