
Springfield to Quantico Enhanced Public Transportation Feasibility Study

Comprehensive Survey Report



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01

Introduction

Purpose and approach

The Virginia Department of Rail and Public Transportation (DRPT) is conducting a feasibility study of enhanced public transportation services between the Franconia-Springfield Metro station and the Quantico Marine Base.

Purpose

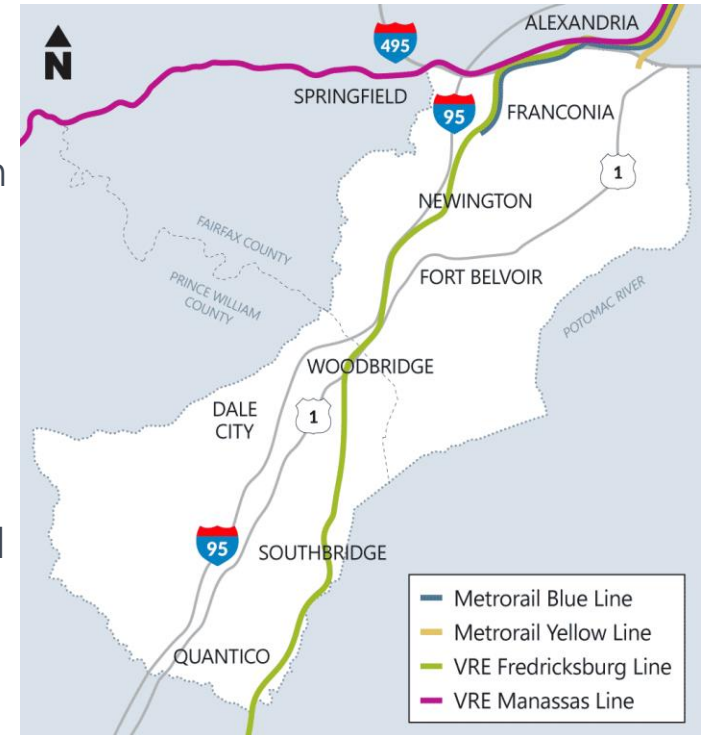
The Virginia Department of Rail and Public Transportation (DRPT) is conducting a feasibility study of enhanced public transportation services between the Franconia-Springfield Metro station (see study area map on the right). Enhanced transit could include options such as additional express bus services, increased VRE commuter rail expansion, Bus Rapid Transit (BRT), or an extension of Metrorail.

This survey aims to gain an understanding of 1) regional and local corridor use both pre- and post-pandemic, 2) travel behavior, and 3) how different transit alternatives could best serve the needs of corridor users.

Approach

DRPT hired consulting firm PRR (as part of the CS/KFH team leading the study) to conduct an online public opinion survey to:

- Gather input on transportation needs in the corridor.
- Compare pre- and post-pandemic use of the corridor.
- Collect thoughts on possible enhanced transit alternatives to address those needs.



Methods

Recruitment and Fielding

- Survey topics included trip origin and destination, trip frequency, trip purpose, mode choice, impact of COVID-19 on travel behavior, issues that would influence travel mode after COVID-19, ideas on ways to improve travel along the study corridor, and standard respondent demographics.
- DRPT promoted the survey to study corridor users through the following channels* (See Appendix B for recruitment materials examples):
 - DRPT website, email blast, Twitter and Facebook pages
 - Email to the study's Technical Advisory Committee (TAC) members asking them to share the information on their websites, through social media posts, and email blasts. TAC members who shared the information included: U.S. Marine Corps Base Quantico, Prince William County, VRE, NVTC, WMATA
 - DRPT virtual public meeting on May 4, 2021
 - Email to 40 community-based organizations and 45 elected officials
 - Email to 164 individuals on a separate DRPT listserv
- Survey was available in English and Spanish.
- Survey respondents represented a range of genders, ages, incomes, races, ethnicities, and locations in the corridor area. See slides 10-11 for a demographic profile of survey respondents.

** The survey did not apply a random sample recruitment method. Therefore, the sample does not scientifically represent the population of all corridor users.*

SURVEY PERIOD

April 19 to
May 18, 2021

NUMBER OF RESPONDENTS

1,352
people took
the survey

Statistical analyses

- **Correlation analysis** was used to see if there were associations between demographic characteristics of respondents (i.e., race, age, gender, income, etc.), their travel behavior (i.e., work from home frequency, travel purpose, mode, and frequency), and their post-COVID transportation perceptions (i.e., top motivators to use transit and preferred transportation improvements).
- To achieve the cut-off for statistical significance, estimates must have a 0.05 significance level (a 95 percent confidence level) and a correlation coefficient above 0.15 or below -0.15. This indicates a relatively strong relationship between two variables.
- Only statistically significant relationships are discussed throughout the report. When something is statistically significant, it means it is highly unlikely to be the result of random chance.



This report summarizes survey results using charts. The totals in some charts may add up to somewhat more or less than 100% due to rounding or where respondents could select multiple responses. In addition, the total number of respondents varies from chart to chart based on how many people answered the question.

Key Findings: Comparison pre-, post-, and during the pandemic

- Respondents traveled more regularly through and within the study corridor before the stay-at-home order.

- More than half of respondents (58%) said they traveled through the study corridor **4-7 days a week** before the pandemic, whereas less than half of respondents (44%) expected to do that after the pandemic.
- After the pandemic, many respondents (68%) expected to travel through the study corridor **at least 1 day a week**.

Working from home increased during COVID, but respondents expect to somewhat return to their pre-COVID travel routines after the pandemic.

- Before the pandemic, few respondents (18%) worked from home at least **2 days a week**.
- During the pandemic, most respondents (74%) worked from home at least **2 days a week**, with more than half of respondents (51%) work from home **5 days a week**.
- After the pandemic, some respondents (43%) still expected to work from home at least **2 days a week**.

Note: the post-pandemic results are based on people's expectation after COVID.

Key Findings: Comparison pre- and post- the pandemic

Travel purpose through study corridor

- Top selected travel purpose (Pre-/Post-COVID):

	Pre-COVID	Post-COVID	Changes
Work	70%	62%	-8%
Errands/shopping	58%	64%	6%
Recreational activities	52%	59%	7%
Visit family/friends	41%	48%	7%

Travel mode through study corridor

- Top 6 selected travel modes (Pre-/Post-COVID):

	Pre-COVID (for work commute)	Post-COVID (general)	Changes
Drive alone	79%	86%	7%
Metrorail	31%	34%	3%
VRE Commuter Rail	25%	27%	2%
Bus	25%	20%	-5%
Carpool	13%	14%	1%
Slug	16%	10%	-6%

Note: the post-pandemic results are based on people's expectation after COVID.

Key Findings: Attitudes toward transit and transit improvement

• Motivators to use public transit

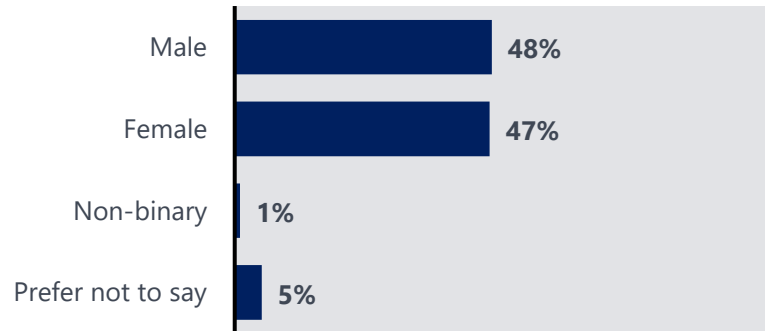
- Top motivators to use public transit:
 1. Easier access (51%)
 2. Shorter trip time (45%)
 3. Extended service time (41%)
 4. On-time arrivals and departures (29%)
 5. One card to pay fares across all modes (21%)
 6. More affordable (19%)

Transportation improvements

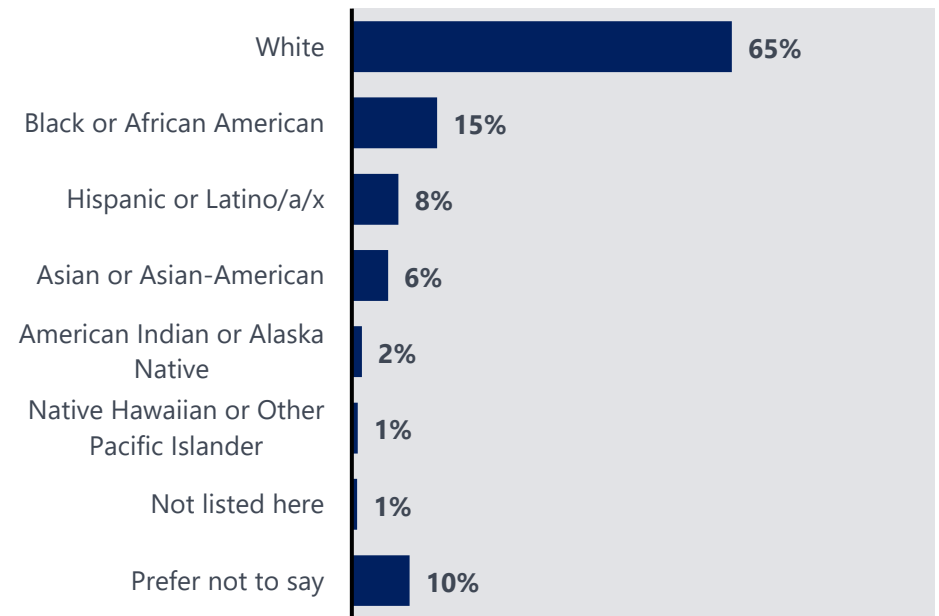
- Top priorities for transportation improvements
 1. Extension of the Metrorail system (61%)
 2. More frequent VRE commuter rail service in both directions (20%)

Demographic Profile – Part 1

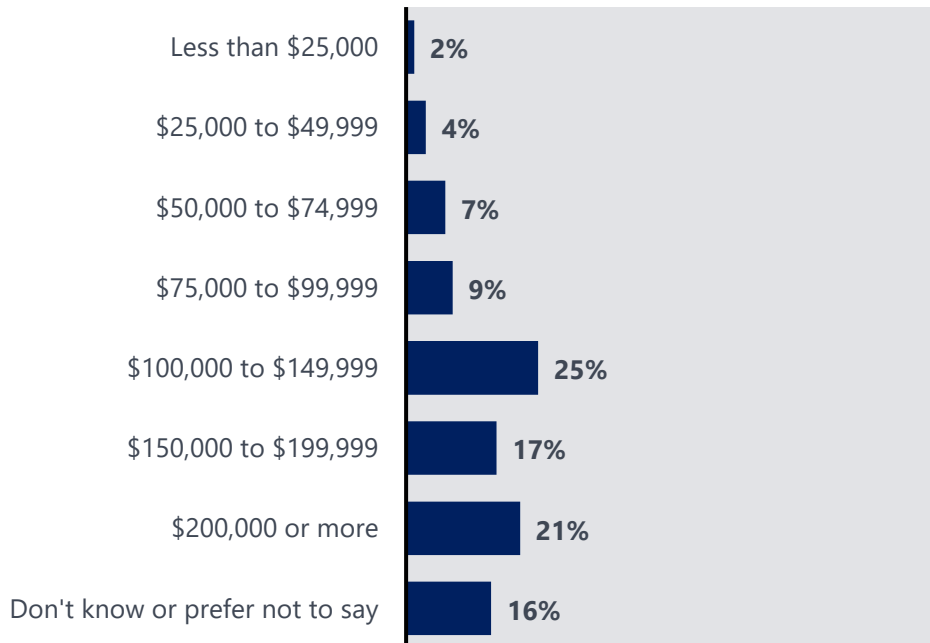
Gender (n = 1,146)



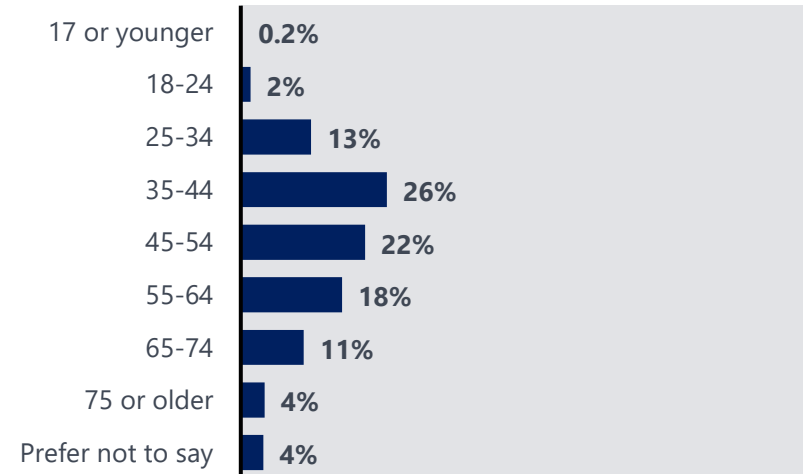
Race (n = 1,144)



Income (n = 1,143)



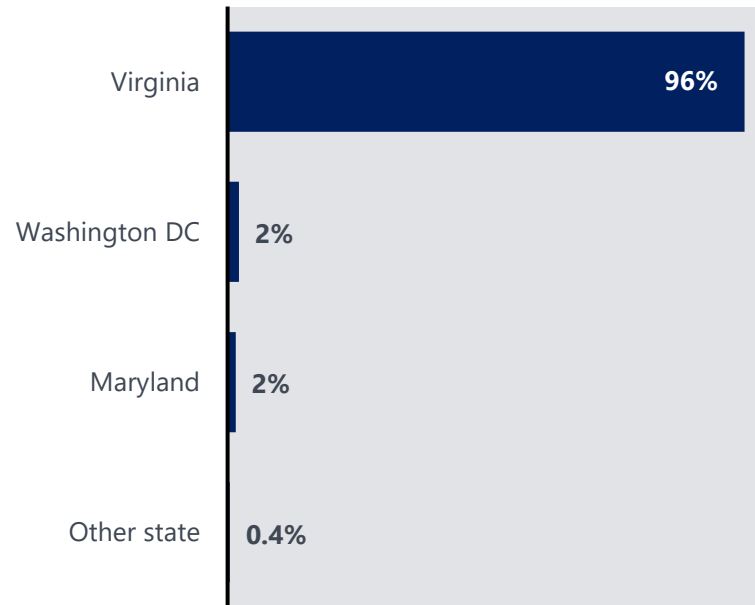
Age (n = 1,148)



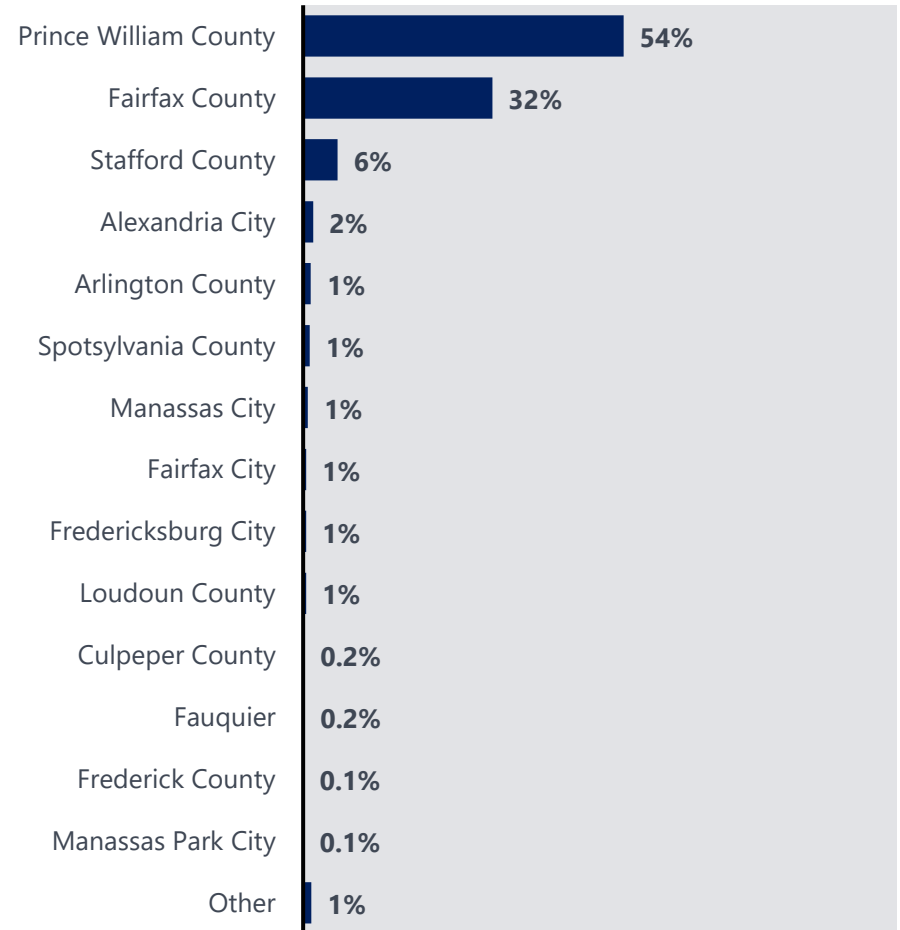
Due to rounding, or options where participants could select multiple answers, percentages may not sum to 100%. Rounding occurs on all demographic slides.

Demographic Profile – Part 2

Home state (n = 1,352)



Virginia county/city (n = 1,297)



Due to rounding, or options where participants could select multiple answers, percentages may not sum to 100%. Rounding occurs on all demographic slides.

02

Detailed Findings: Comparison before and after the pandemic

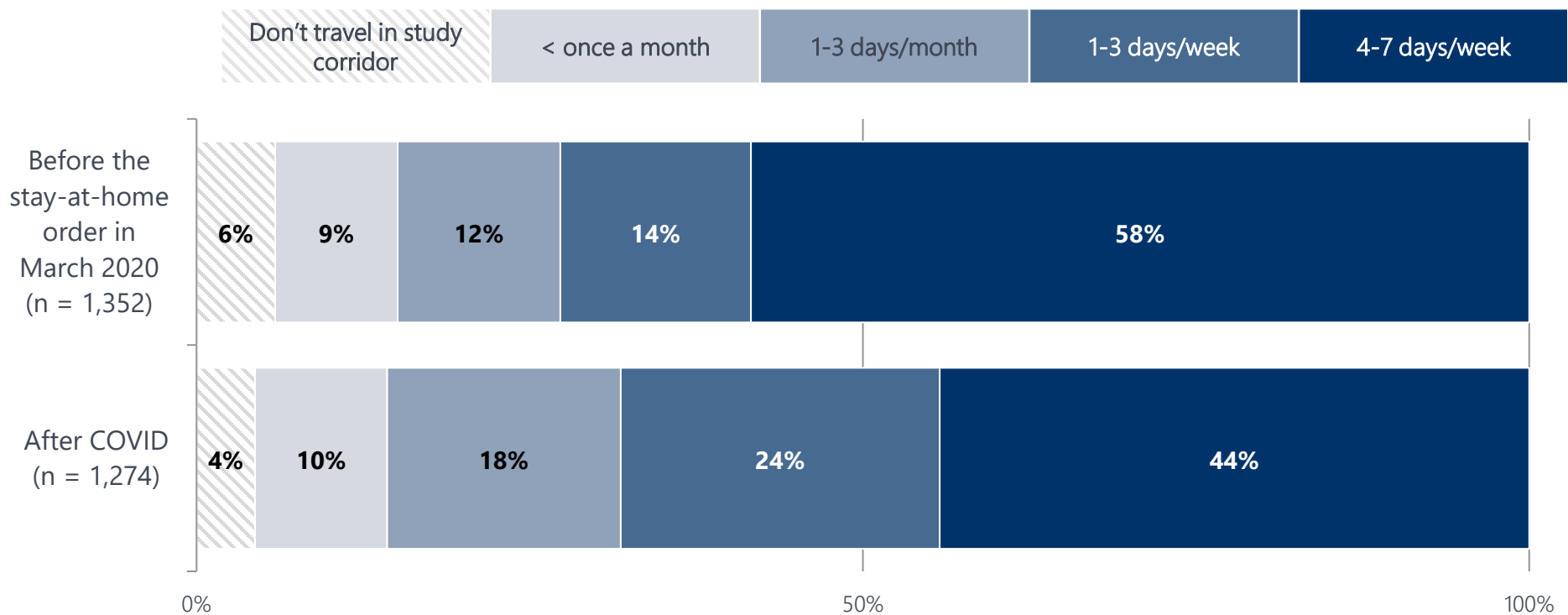
Respondents traveled more regularly through the study corridor before the stay-at-home order.

Correlations

Respondents who traveled more frequently through the study corridor before the pandemic plan to travel more often after the pandemic.

How often did/will you usually travel along the study corridor, including trips traveling through/into/out of the study corridor?

Base: all respondents.



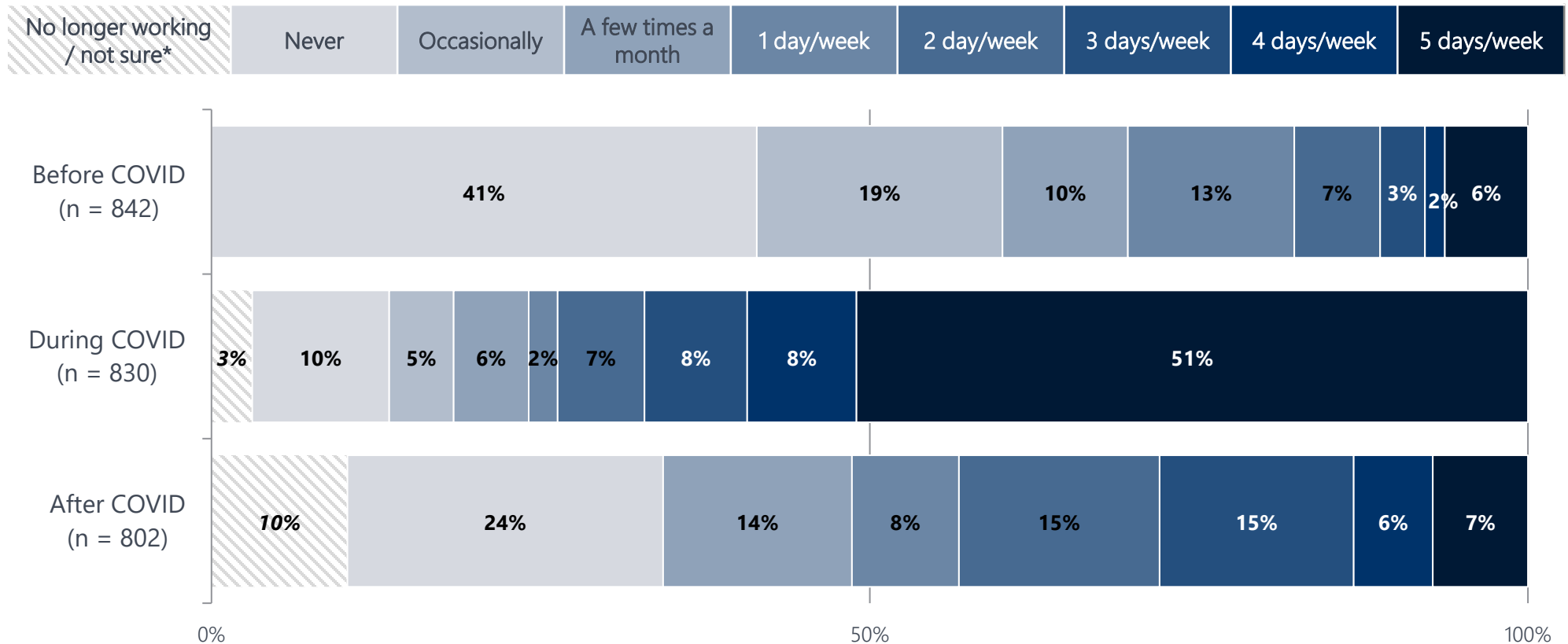
Working from home increased during COVID, but respondents **expect to somewhat return to their pre-COVID travel routines** after the pandemic.

Correlations

Respondents who worked from home more often during COVID-19 tend to have higher income.

How often did you usually work from home...

Base: all respondents who travelled for work before COVID.



Respondents travel in the corridor for **work, errands, and recreational activities**, both before and after COVID.

Correlations

Respondents who plan to travel for work after COVID-19 tend to:

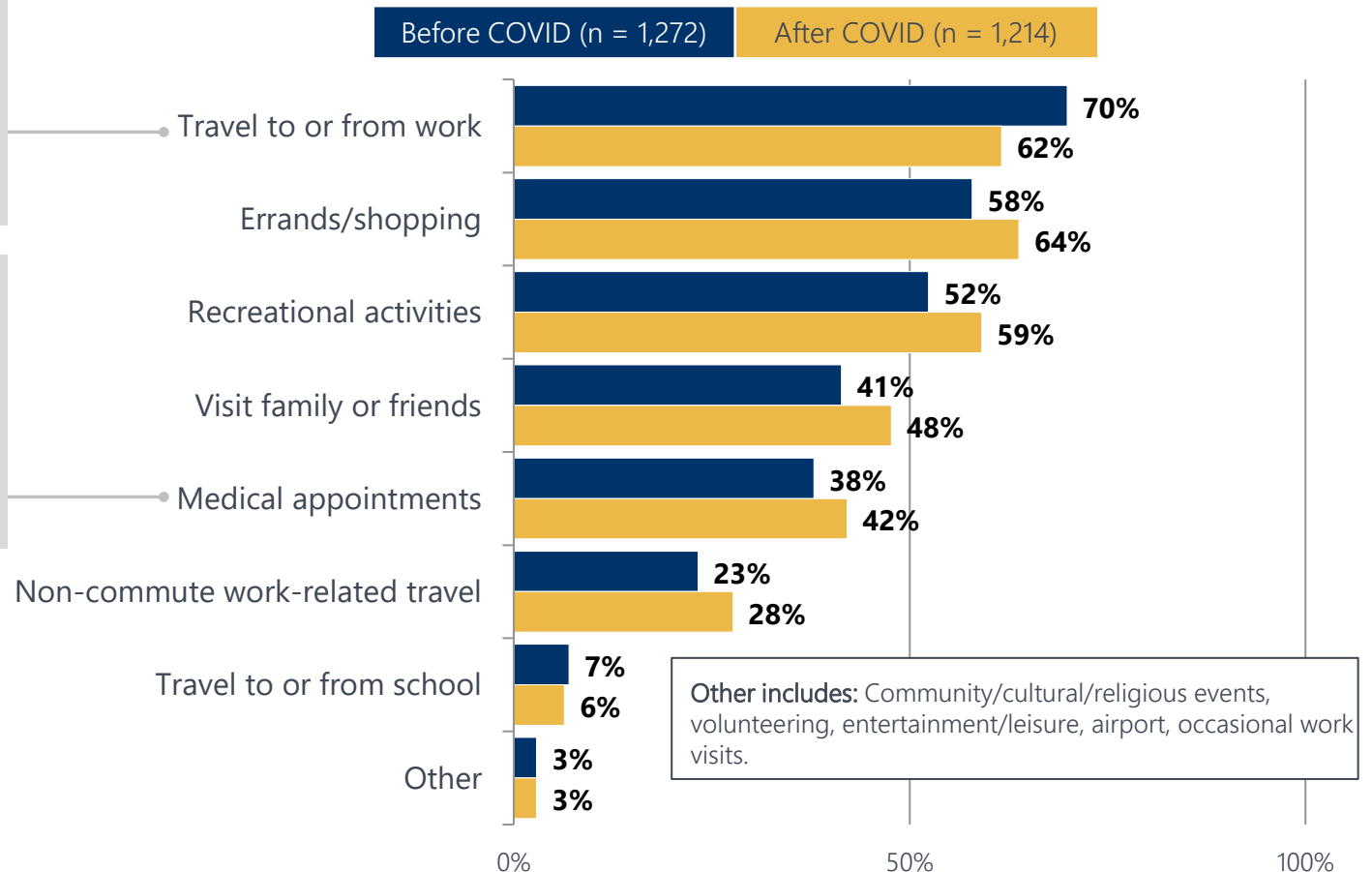
- Be people of color
- Be younger
- Have traveled more frequently through the study corridor before the pandemic

Correlations

Respondents who plan to travel for medical appointments after COVID-19 tended to travel more frequently through the study corridor before the pandemic

What was the purpose of your trips along the study corridor during weekdays?

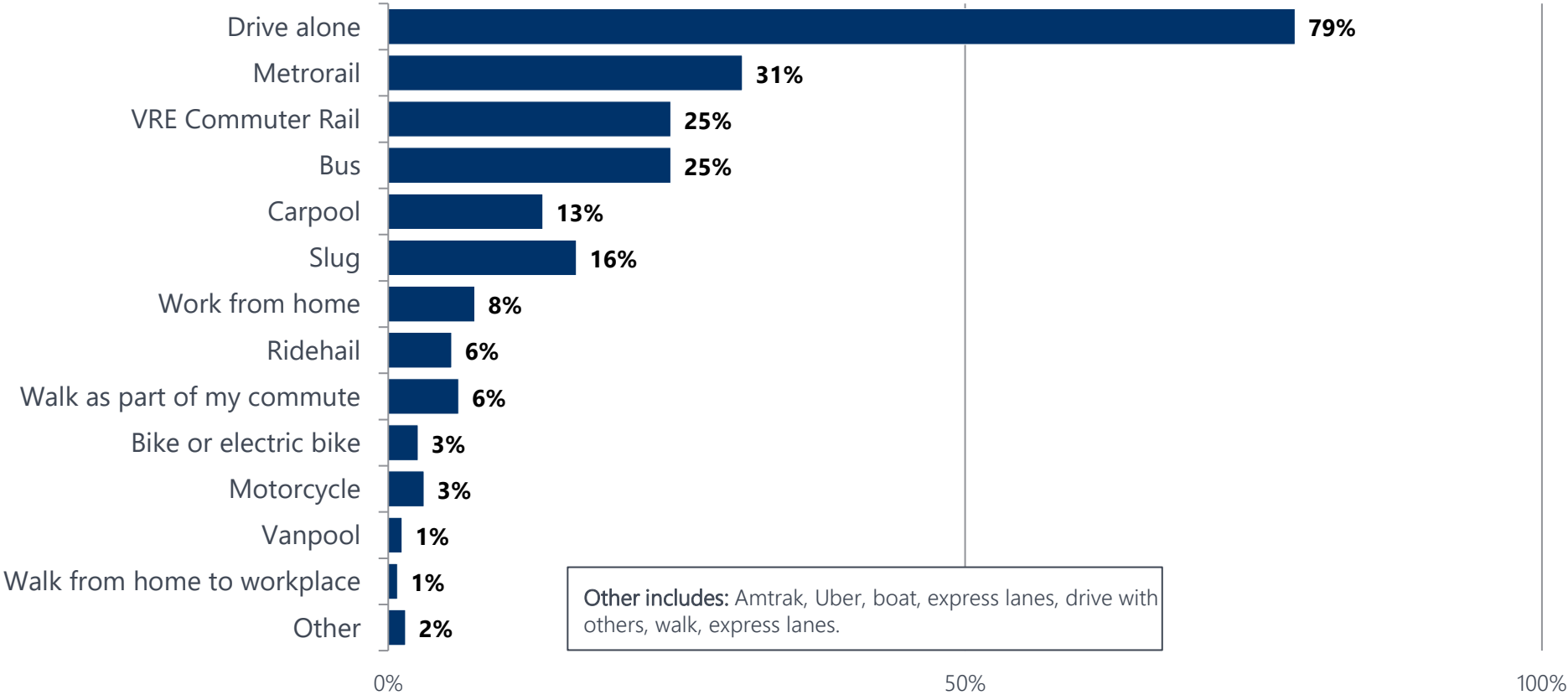
Base: all respondents. Percentages sum to more than 100%.



Drive alone, Metrorail, VRE Commuter Rail, and bus are the most common travel modes for work commutes before the pandemic.

Please tell us how you typically traveled anywhere along the study corridor for your work commute before COVID

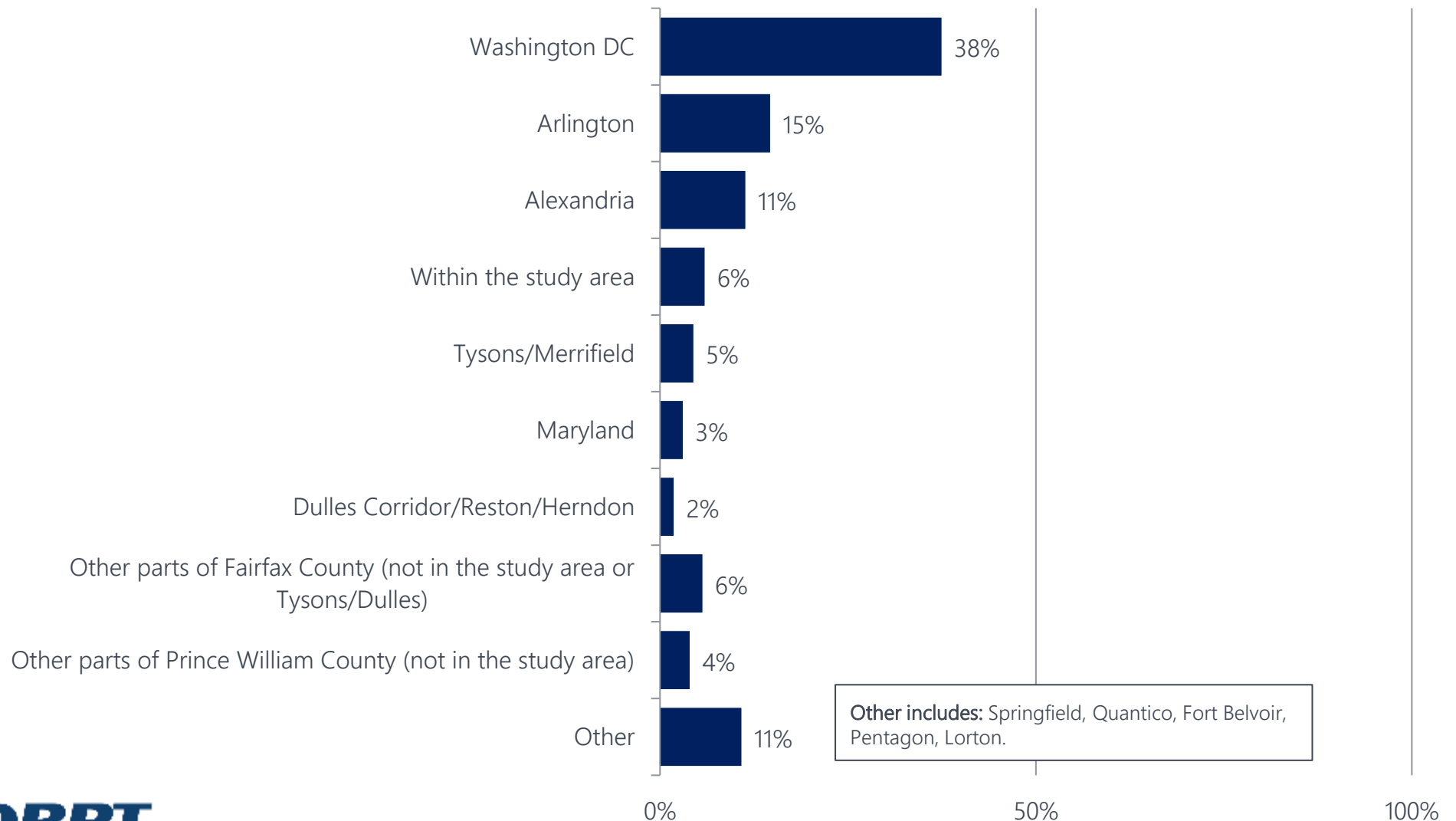
Base: Respondents travel to or from work (n = 889). Percentages sum to more than 100%.



Over a third (38%) commuted to Washington D.C. for work before COVID.

Where did you work before COVID?

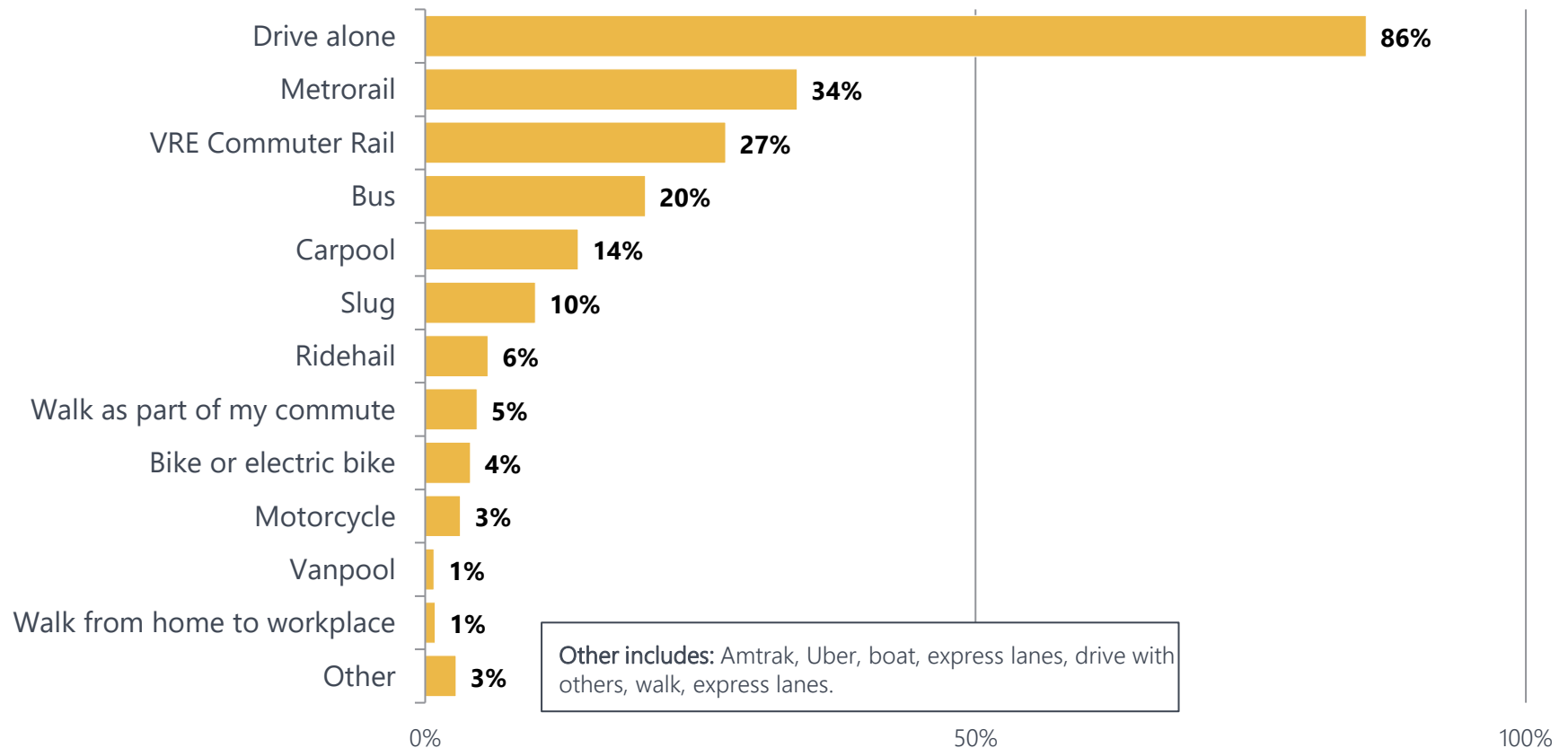
Base: Respondents travel to or from work (n = 845).



Drive alone, Metrorail, VRE Commuter Rail, and bus are the most common travel modes after the pandemic.

Please tell us how you plan to travel along the study corridor after COVID.

Base: All respondents (n = 1,206). Percentages sum to more than 100%.



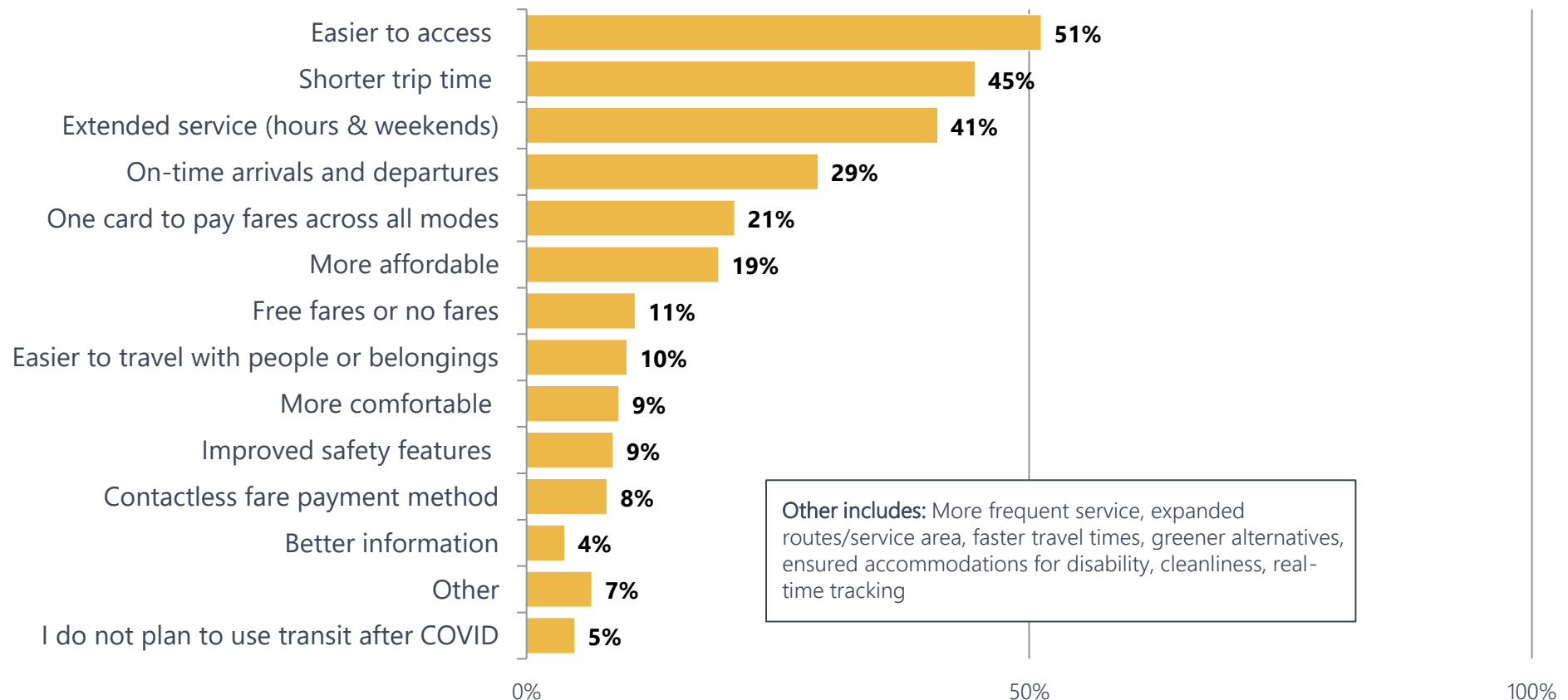
02

Detailed Findings: Motivators to use public transit

Easier access, shorter trip time, and extended service time are the top motivators for using public transit.

What are the top three features that would motivate you to use (or use more often) public transit for your trips along the study corridor when things return to normal after COVID?

Base: all respondents (n = 1,184). Percentages sum to more than 100%.



Respondents want to see arrival times or real-time parking availability.

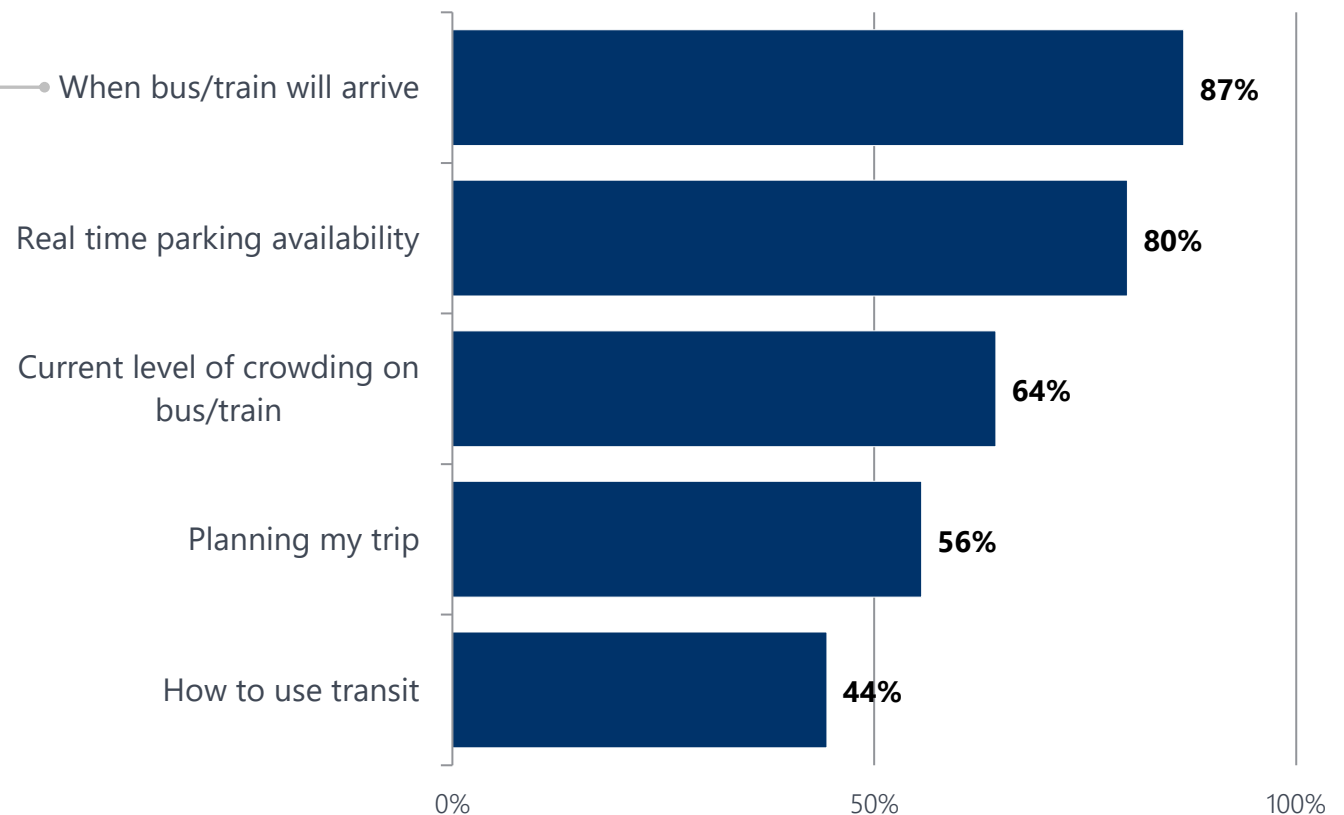
Correlations

Respondents who select this option tend to:

- Be non-Hispanic White
- Traveled along the study corridor to run errands before the pandemic.

What type of information would you like to see?

Base: Respondents who chose "better information" on the previous page (n = 45).



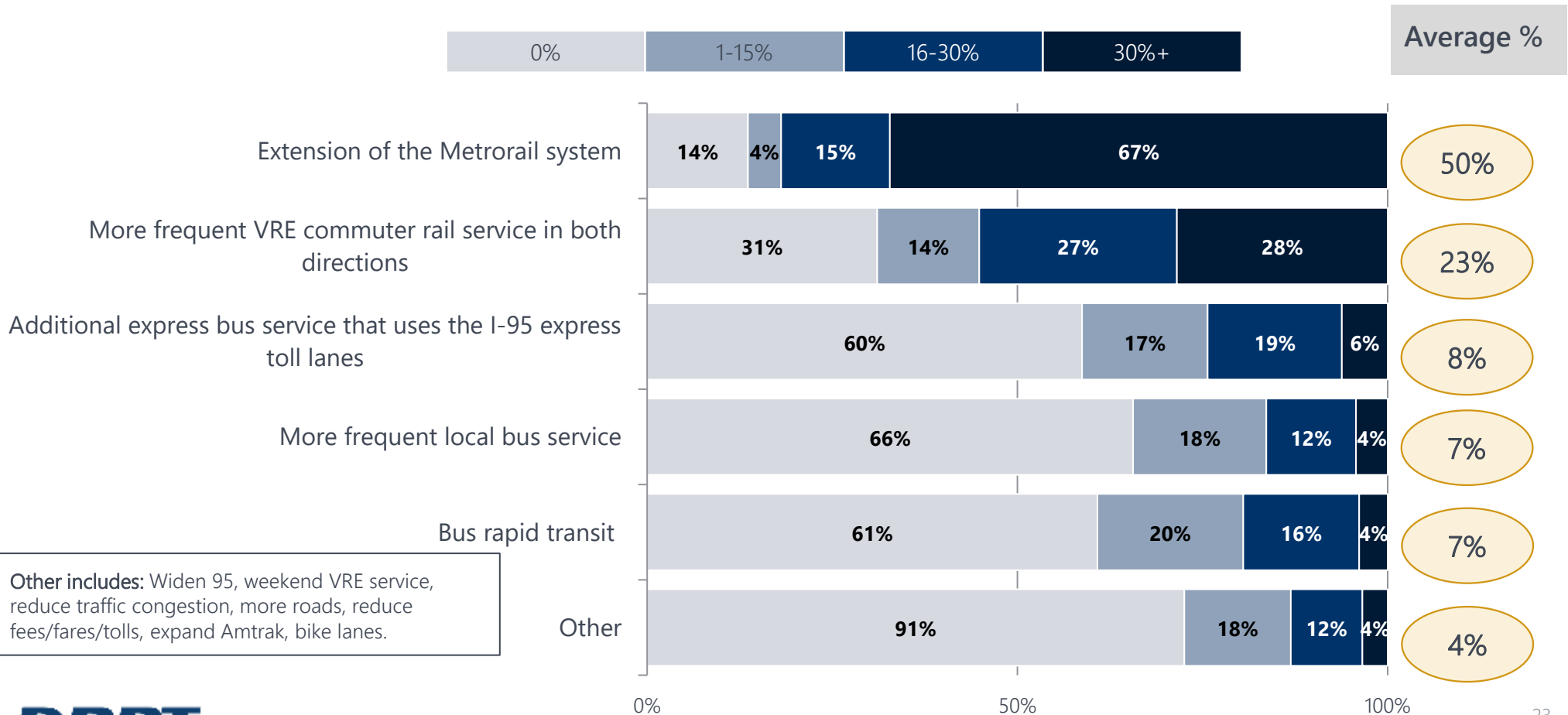
02

Detailed Findings: Transportation improvement options

When balancing trade-offs in funding, respondents favor **extending the Metrorail system** more than any other transportation improvement.

Let's imagine you could allocate the budget for transportation improvements in the study corridor. What percent should be spent on the following enhanced transit options?

Base: all respondents (n = 1,117).



A majority (61%-81%) expect to use the corridor for commuting to work, regardless of preferred type of transit improvement.

For your preferred type of enhanced transit _____, what do you expect would be the purpose of your trips along the study corridor during weekdays?

Base: all respondents.

	Extension of the Metrorail system (n = 680)	More frequent VRE commuter rail service in both directions (n = 225)	Additional express bus service that uses the I-95 express toll lanes (n = 58)	More frequent local bus service (n = 48)	Bus rapid transit (n = 38)	Other (n = 62)
Travel to or from work	66%	61%	81%	65%	66%	66%
Recreational activities	56%	53%	12%	46%	29%	42%
Errands/shopping	44%	37%	12%	52%	32%	40%
Visit family or friends	33%	35%	9%	27%	13%	35%
Medical appointments	27%	17%	16%	40%	26%	24%
Non-commute work-related travel	25%	26%	9%	27%	18%	18%
Travel to or from school	8%	6%	7%	4%	5%	3%
Other	4%	3%	10%	10%	5%	13%

Other includes: work, volunteering, traveling to airport, community/cultural/religious events, entertainment/leisure

Franconia/Springfield/Newington, Woodbridge, and Potomac Mills are the most expected destinations within the study area.

For your preferred type of enhanced transit _____, what do you expect would be your most likely destinations within the study area?

Base: all respondents.

	Extension of the Metrorail system (n = 680)	More frequent VRE commuter rail service in both directions (n = 225)	Additional express bus service that uses the I-95 express toll lanes (n = 58)	More frequent local bus service (n = 48)	Bus rapid transit (n = 38)	Other (n = 62)
Franconia/Springfield/Newington	48%	46%	53%	52%	41%	41%
Woodbridge	45%	33%	41%	54%	35%	41%
Potomac Mills	48%	33%	22%	60%	24%	26%
Fort Belvoir	29%	21%	33%	29%	24%	25%
Dumfries	32%	26%	22%	27%	21%	23%
Quantico Marine Base	32%	22%	19%	25%	15%	28%
Lorton	28%	19%	16%	27%	18%	21%
Lake Ridge	19%	9%	22%	27%	18%	13%
Dale City	18%	10%	14%	23%	21%	13%
Mount Vernon/Hybla Valley	20%	11%	5%	21%	15%	20%
Triangle	11%	7%	10%	21%	9%	10%
Other	4%	7%	14%	4%	15%	21%

Washington D.C. is the most expected destination outside the study area.

For your preferred type of enhanced transit _____, what do you expect would be your most likely destinations outside of the study area?

Base: all respondents.

	Extension of the Metrorail system (n = 680)	More frequent VRE commuter rail service in both directions (n = 225)	Additional express bus service that uses the I-95 express toll lanes (n = 58)	More frequent local bus service (n = 48)	Bus rapid transit (n = 38)	Other (n = 62)
Washington DC	78%	77%	66%	58%	56%	59%
Alexandria	49%	48%	19%	54%	35%	34%
Arlington	39%	39%	24%	44%	21%	26%
Pentagon	26%	16%	40%	23%	32%	11%
Tysons/Merrifield	34%	22%	17%	29%	24%	21%
Dulles Corridor/Reston/Herndon	28%	22%	17%	13%	12%	18%
Other parts of Prince William County	18%	9%	9%	31%	24%	16%
Other parts of Fairfax County	18%	12%	9%	23%	18%	16%
Maryland	15%	9%	5%	8%	6%	11%
Mark Center	9%	4%	16%	8%	9%	7%
Other	2%	10%	3%	6%	9%	11%

Other includes: Richmond, Fredericksburg, Stafford, airport, Spotsylvania

03

Appendices

Appendix A

Survey instrument



Virginia Department of Rail and Public Transportation


Springfield to Quantico Enhanced Public Transportation Feasibility Study

The Virginia Department of Rail and Public Transportation (DRPT) is conducting a study for enhanced public transportation services between the Franconia-Springfield Metro station in Fairfax County and the Quantico Marine Base in Prince William County (see map below). Enhanced transit could include options such as additional express bus services, VRE commuter rail expansion, bus rapid transit (BRT), or an extension of Metrorail.

By completing this brief 10-minute survey you can have your voice heard about the potential future transit enhancements. Your responses are anonymous.

The last day to complete the survey is May 17th.

Tips for taking the survey:

- Use the "Back" icon  at the bottom of each page to return to a previous page.
- Do NOT use the "Back" arrow in your browser because that will close the survey.
- If you are using a smartphone or tablet, please scroll all the way to the bottom to complete the full survey.
- Do not exit the survey until you are done.

If you have any technical difficulties with the survey, please contact research@prbiz.com

Thank you for participating!

Study Area Map



Appendix A

Survey instrument, continued

First, some questions about where you live and your travel before COVID-19

What is your home zip code?

Where do you live?

- Maryland
- Virginia
- Washington DC
- Other state (please tell us more):

In which Virginia county or city do you live?

COVID-19 has changed so much about how we move around. For the next few questions, please think about how you got around **before the pandemic**.

Before the stay-at-home order in March 2020, how often did you usually travel along the study corridor, including trips traveling through/into/out of the study corridor?

- Less than once per month
- 1-3 days per month
- 1-3 days per week
- 4-7 days per week
- I did not usually travel anywhere in the study corridor

Appendix A

Survey instrument, continued

Before COVID, what was the purpose of your trips along the study corridor during weekdays? Please select all that apply.

Travel to or from work

Travel to or from school

Errands/shopping

Non-commute work-related travel

Recreational activities

Visit family or friends

Medical appointments

Other (please tell us more):

What was the zip code of your main work location **before COVID**?

Please tell us how you typically traveled anywhere along the study corridor for your work commute **before COVID**. You can check more than one method. For example, you might drive to a Park and Ride lot and then take the bus. In this example, you would select "*Drive Alone*" and "*Bus*".

Drive alone

Carpool

Slug (pickup other passengers to qualify to use the HOV lanes)

Bus

VRE Commuter Rail

Metrorail

Motorcycle

Vanpool

Ridehail (Uber, Lyft, Taxi, etc.)

Bike or electric bike

Walk from home to workplace

Walk as part of my commute

Work from home


Other (please tell us more):

Appendix A

Survey instrument, continued

Where did you work **before COVID**?

Within the study area (shown in white on the map)



Arlington

Alexandria

Washington DC

Tysons/Merrifield

Dulles Corridor/Reston/Herndon

Other parts of Fairfax County (not in the study area or Tysons/Dulles)

Other parts of Prince William County (not in the study area)

Maryland

Other (please tell us more):

How often did you usually work from home **before COVID**?

- 5 or more days per week
- 4 days per week
- 3 days per week
- 2 days per week
- 1 day per week
- A few times per month
- Occasionally (1 day per month or less)
- Never

Appendix A

Survey instrument, continued

Now, we would like to learn more about **how COVID has changed your work commute travel behavior**. For these questions, please think about your work commute trips anywhere along the study corridor **during COVID (since March 2020 and the stay-at-home order)**.

How often have you been working from home since March 2020 and the statewide stay-at-home order?

- 5 or more days per week
- 4 days per week
- 3 days per week
- 2 days per week
- 1 day per week
- A few times per month
- Occasionally (1 day per month or less)
- Never
- No longer working

How often do you expect to work at home when things return to normal after COVID?

- 5 or more days per week
- 4 days per week
- 3 days per week
- 2 days per week
- 1 day per week
- A few times per month
- Never
- Not sure

Appendix A

Survey instrument, continued

Now, we would like to learn your thoughts on different ways to improve travel in the study corridor between Springfield and Quantico after COVID.

After COVID, how often do you usually expect to travel along the study corridor, including trips traveling through/into/out of the study corridor?

- Less than once per month
- 1-3 days per month
- 1-3 days per week
- 4-7 days per week
- I do not expect to travel anywhere in the study corridor

After COVID, what will be the purposes of your trips along the study corridor during weekdays? Please select all that apply.

- Travel to or from work
- Travel to or from school
- Errands/shopping
- Non-commute work-related travel
- Recreational activities
- Visit family or friends
- Medical appointments
- Other (please tell us more):



Please tell us how you plan to travel along the study corridor **after COVID**. You can check more than one method. For example, you might drive to a Park and Ride lot and then take the bus. In this example, you would select "*Drive Alone*" and "*Bus*".

- Drive alone
- Carpool
- Slug (pickup other passengers to qualify to use the HOV lanes)
- Bus
- VRE commuter rail
- Metrorail
- Motorcycle
- Vanpool
- Ridehail (Uber, Lyft, Taxi, etc.)
- Bike or electric bike
- Walk from home to workplace
- Walk as part of my commute
- Other (please tell us more)

Appendix A

Survey instrument, continued

What are the top three features that would motivate you to use (or use more often) public transit for your trips along the study corridor **when things return to normal after COVID?** (Please only select up to 3)

- Extended service (longer hours throughout the week, more weekend service, etc.)
- Better information
- Easier to access (closer to my home or places I go, more parking at transit centers or park & rides, accommodations for people with disabilities, etc.)
- Improved safety features (on board, at stops or stations, trip to/from stops/stations, etc.)
- One card to pay fares across all modes
- Shorter trip time (more direct service, shorter wait times, less time on board, etc.)
- More affordable
- Free fares or no fares
- On-time arrivals and departure
- Easier to travel with people or belongings (children, bikes, groceries, etc.)
- Contactless fare payment method
- More comfortable (on board, at stops or stations, trip to/from stops/stations, etc.)
- Other (please tell us more):

- I do not plan to use transit after COVID

You selected "*Better Information*" as a feature that would motivate you to use (or use more often) public transit for your trips along the study corridor when things return to normal after COVID. **What type of information would you like to see?** Select all that apply.

- Real time parking availability
- When bus/train will arrive
- Current level of crowding on bus/train
- How to use transit
- Planning my trip

Appendix A

Survey instrument, continued

Let's imagine you could allocate the budget for transportation improvements in the study corridor. What percent should be spent on the following enhanced transit options?

Enter the selected amount in the text box to the right of each option. Your answer must add up to 100%.

More frequent VRE commuter rail service in both directions	<input type="text" value="0"/>	%
More frequent local bus service	<input type="text" value="0"/>	%
Bus rapid transit	<input type="text" value="0"/>	%
Additional express bus service that uses the I-95 express toll lanes	<input type="text" value="0"/>	%
Extension of the Metrorail system	<input type="text" value="0"/>	%
Other (please tell us more): <input type="text"/>	<input type="text" value="0"/>	%
Total	<input type="text" value="0"/>	%

Which of the following did you assign the highest percentage to in the previous question? If you assigned the highest percentage to more than one choice, please choose the one that is most important to you.

- More frequent local bus service
- Additional express bus service that uses the I-95 express toll lanes
- More frequent VRE commuter rail service in both directions
- Bus rapid transit
- Extension of the Metrorail system
- Other

For your preferred type of enhanced transit "", what do you expect would be the purpose of your trips along the study corridor during **weekdays**? Please select all that apply.

- Travel to or from work
- Travel to or from school
- Errands/shopping
- Non-commute work-related travel
- Recreational activities
- Visit family or friends
- Medical appointments
- Other (please tell us more):



Appendix A

Survey instrument, continued

For your preferred type of enhanced transit "", what do you expect would be your most likely destinations **within** the study area (shown in white on the map)? Please select all that apply.

- Fort Belvoir
- Franconia/Springfield/Newington
- Lorton
- Mount Vernon/Hybla Valley
- Woodbridge
- Lake Ridge
- Potomac Mills
- Dale City
- Dumfries
- Triangle
- Quantico Marine Base
- Other (please tell us more):

For your preferred type of enhanced transit "", what do you expect would be your most likely destinations **outside** of the study area? Please select all that apply.

- Arlington
- Alexandria
- Washington DC
- Tysons/Merrifield
- Dulles Corridor/Reston/Herndon
- Pentagon
- Mark Center
- Other parts of Fairfax County (not in the study area or listed above)
- Other parts of Prince William County (not in the study area)
- Maryland
- Other (please tell us more):

Appendix A

Survey instrument, continued

We'd like to ask you a few demographic questions. These questions help us ensure we're hearing from a representative group of people. Your answers to all of the survey questions, including the following demographic questions, are anonymous and will be grouped with the answers of other respondents to identify trends and patterns.

How do you identify?

- Female
- Male
- Non-binary
- Prefer not to say

How old are you?

- 17 or younger
- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65-74
- 75 or older
- Prefer not to say

How do you identify? Please select all that apply.

- American Indian or Alaska Native
- Asian or Asian-American
- Black or African American
- Hispanic or Latino/a/x
- Native Hawaiian or Other Pacific Islander
- White
- Not listed here (please tell us more):
- Prefer not to say

What was your total household income (before taxes) for 2020?

- Less than \$25,000
- \$25,000 to \$49,999
- \$50,000 to \$74,999
- \$75,000 to \$99,999
- \$100,000 to \$149,999
- \$150,000 to \$199,999
- \$200,000 or more
- Don't know or prefer not to say

Appendix B


Recruitment materials

The screenshot shows the DRPT website header with the logo, navigation links for 'Press Releases | Contact Us' and 'Join Our Newsletter', and a search bar. A left sidebar lists menu items: About, Rail, Transit, Commuter Programs, Finance & Procurement, VPRA, TransAM, and OLGA. The main content area is titled 'Transit' and features the article 'Springfield To Quantico Enhanced Public Transportation Feasibility Study'. The article includes a call to action to 'Share Your Thoughts!', a link to 'Complete this brief 10-minute survey', and a public meeting announcement for May 4 with links for recording and presentation.

The screenshot shows an email version of the DRPT website content. It features the DRPT logo and a navigation bar with icons for 'RAIL', 'TRANSIT', and 'COMMUTER PROGRAMS'. Below the navigation bar, there is a link to 'View it as a Web page.' and a 'SHARE' button. The main content area contains the same text as the website screenshot, including the call to action to 'Complete this brief 10-minute survey' and the public meeting announcement for May 4.

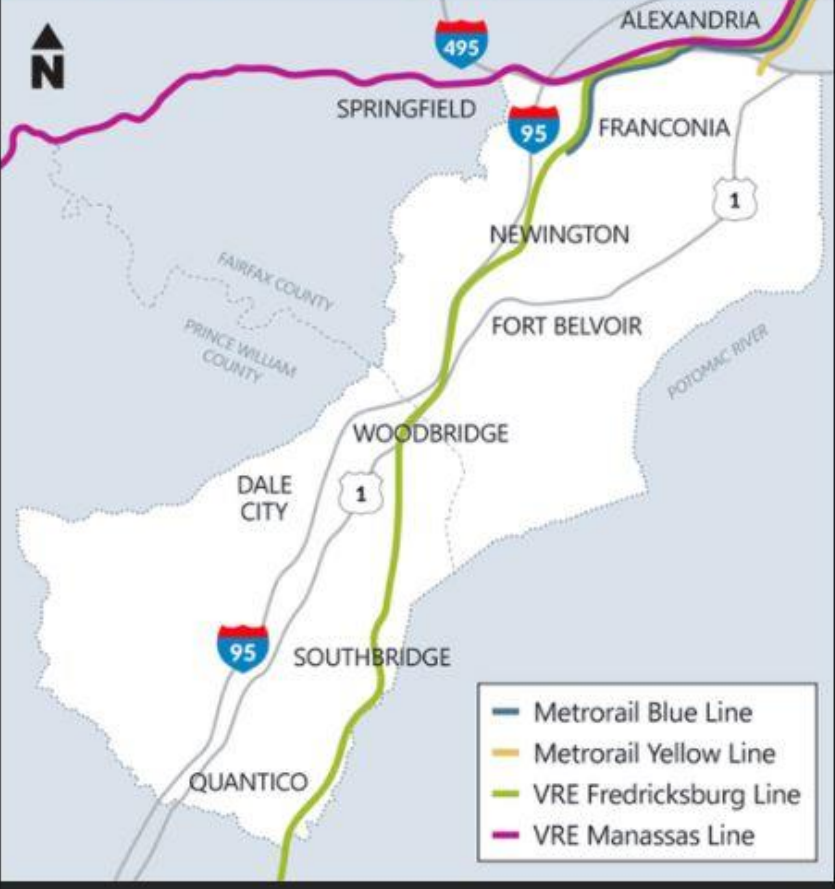
Appendix B

Recruitment materials

 Virginia Department of Rail and Public Transportation
May 7 · 🌐

We want to hear from you! Take this 10-minute survey bit.ly/DRPTSpringfieldQuantico today and make your voice heard about potential future transit enhancements between the Franconia-Springfield Metro station in Fairfax County and the Quantico Marine Base in ... [See More](#)

DRPT Springfield to Quantico Enhanced Public Transportation Feasibility Study – Study Area Map



The map displays the study area for the DRPT Springfield to Quantico Enhanced Public Transportation Feasibility Study. It shows the following locations and transit lines:

- Locations:** ALEXANDRIA, SPRINGFIELD, FRANCONIA, NEWINGTON, FORT BELVOIR, WOODBRIDGE, DALE CITY, SOUTHBRIDGE, and QUANTICO.
- Counties:** FAIRFAX COUNTY and PRINCE WILLIAM COUNTY.
- Highways:** I-495, I-95, and US-1.
- Water Bodies:** POTOMAC RIVER.
- Transit Lines:**
 - Metrarail Blue Line (blue line)
 - Metrarail Yellow Line (yellow line)
 - VRE Fredricksburg Line (green line)
 - VRE Manassas Line (purple line)

A legend in the bottom right corner identifies the transit lines by color: blue for Metrorail Blue Line, yellow for Metrorail Yellow Line, green for VRE Fredricksburg Line, and purple for VRE Manassas Line. A north arrow is located in the top left corner of the map area.