**TECHNICAL ADVISORY COMMITTEE**
**Wednesday, October 20, 2021, 7:00pm**
**NVTA Office**
**3040 Williams Drive, Suite 200**
**Fairfax, Virginia 22031**
The meeting will be livestreamed on NVTA's YouTube Channel

## AGENDA

I.     **Call to Order/Welcome**             Chair Boice

## Action

II.     **Summary Notes of September 29, 2021, Meeting**
*Recommended action: Approve meeting notes*

III.     **Approval of Goals, Objectives, and Performance Measures for TransAction Update**
            Mr. Nampoothiri, Senior Transportation Planner
*Recommended action: Recommend NVTA approval of the TransAction Goals, Objectives, and Performance Measures*

## Discussion/Information

IV.     **TransAction Online Survey: Interim Findings**
            Ms. Leven, Cambridge Systematics, Inc.

V.     **TransAction: Preliminary Discussion on Weightings for Performance Measures**
            Mr. Nampoothiri, Senior Transportation Planner

VI.     **NVTA Update**             Ms. Backmon, CEO

## Adjournment

VII.     **Adjourn**

**Next Meeting: November 22 (rescheduled date)**

**TECHNICAL ADVISORY COMMITTEE**
**Wednesday, September 29, 2021, 7:00 pm**
**Live-streamed on YouTube**

## MEETING SUMMARY

### I. Call to Order/Welcome

- Chairman Boice called the meeting to order at 7:06 pm at the NVTA Office.
- Attendees:
  - **Members:** Randy Boice, Karen Campblin, Amy Morris, Frank Spielberg, Pat Turner, Dr. Shanjiang Zhu.
  - **NVTA Staff:** Dr. Sree Nampoothiri (Senior Transportation Planner), Dr. Ria Kulkarni (Regional Transportation Planner).
  - **Consultants:** Tom Harrington & Dalia Leven (Cambridge Systematics)
  - **Others:** On YouTube live stream.

### II. Summary of July 21, 2021, Meeting

- The motion to accept the meeting summary was approved unanimously.

### III. TransAction: Public Engagement

- The Committee was informed about all activities under Phase 1 of TransAction Public Engagement activities including surveys and the distribution and demography of responses that entailed.
  - Pop-up event participation in equity emphasis areas was discussed in response to the Committee's question on the intensity and reach of participation. The Committee was informed that equity emphasis areas with low-income households and non-English speaking population were targeted without diminishing the reach to people under various other categories of demography or income levels.
  - It was also mentioned that the live chat sessions were experimental approach but didn't gain much traction and strategies to improve impact will be developed for the future.
  - It was also noted that a stakeholder group comprising of civic groups, advocacy groups, Chambers of Commerce, and business associations would be invited to amplify NVTA awareness and messaging and feedback on NVTA's activities. The first meeting of stakeholder group is planned to be

held in October. The Committee recommended to reach out to DATA (Dulles Area Transportation Association) for future ties.

- Mr. Harrington noted the key themes and primary findings from focus group participation including
  - Travel choices before and after pandemic where the outcome showed that people expect to continue telecommuting in the future.
  - SOV choice of driving was due to trip constraints such as time, availability of other modes, flexibility etc.
  - Housing and affordability of housing played major roles in being close to diverse transportation modes

- Mr. Harrington presented people's perception of core values namely equity, sustainability, and safety to understand their perspectives and the role NVTA plays in incorporating these values. The following were the high-level outcomes of discussion with working group.
  - Equity – People related equity to fairness and how the region's investments in infrastructure is in more wealthier areas.
  - Sustainability – Provide long lasting infrastructure and making right choices for the environment while other transportation options are available.
  - Safety – Providing for infrastructure investments that makes it safe for bicyclists and pedestrians alike.

- Mr. Harrington additionally discussed about the outcomes of focus group priorities where the overarching themes were congestion (travel reliability), infrastructure improvements (e.g. both for and against new road building, need for transit services in the suburbs) and technology (whether automation and decarbonizing transportation was sustainable in terms congestion and overall life cycle impacts). The Committee was curious if it was a specific group of people who advocated for these and commented that there was a recent Citilabs article on this issue.

- Currently, the consultant team is processing feedback from other Committees and some changes that were made post last cycle of Committee meetings are:
  - Revised the mobility goal description to improve legibility.
  - Incorporated equity at the goal level by rewording the description of accessibility goal.
  - Updated in the definition of resiliency that aligns with FHWA's definition to which the Committee was curious whether emergency response and evacuation will be a part of the process and whether the noted measures that would be used to quantify safety. Ms. Leven responded that qualitative

measures such as evacuation measures and performance under stress will be considered.

- o In response to Committee members' question on ability of NVTA to invest in subsidizing transit fares and in operations & maintenance, Ms. Leven noted that NVTA cannot fund operations and maintenance.
- Ms. Leven presented, and the Committee discussed the objectives and measures under the mobility goal.
  - o Delay should be considered equal regardless of time of travel or length of trip.
  - o The Committee asked to explore if transit time could include headways and wait times.
  - o The Committee also suggested that an approach of assigning a qualitative measure rather than a quantitative measure such as an index would be better due to the Intelligent Transportation Systems (ITS) applications in the mix, instead of relying on a model to compute this. Ms. Leven agreed that it would be a good approach to measure delay for current and forecast to future for comparisons.
- Ms. Leven further presented objectives and measures under the accessibility goal.
  - o The Committee wanted to know if a walk score could be considered to measure accessibility and a way to measure redundancy in the system.
  - o Ms. Leven noted that since accessibility and mobility were hard to differentiate when it comes to investments in specific projects or modes, difference in weighting may be necessary in this aspect. In terms of redundancy, Ms. Leven responded that it could get complicated in no time and to keep it simple for everyone to understand, the approach of scenario planning is taken to see how transportation system responds.
- Ms. Leven further presented objectives and measures under the resiliency goal.
  - o Safety would include personal safety and security especially using transit.
  - o In response to a question from Ms. Camblin, it was noted that the impact of local emergency management plans cannot be captured directly to measure in TransAction.
  - o Ms. Morris noted that the crash modification factor is an accepted methodology and asked if there was any way to predict improvement in personal safety. Ms. Leven noted that the congestion reduction factors scale would be a tool to plan necessary improvements and address issues thereby addressing safety concerns within the range of scale.

**IV.** **NVTA Update**

- Mr. Nampoothiri relayed that the Technical Advisory Committee's action on recommendation of Plan's measures is expected at its October 20 meeting and recommendation of weights at its November 22 meeting for subsequent Authority approval in November and December respectively. The deadline for FY2022-2027 Six Year Program is October 1, 2021. The next Authority meeting is on October 14 and the Authority is expected to receive a presentation from VDOT staff on the status of multimodal projects that were funded under the I-66 Inside the Beltway Concessionaire Funds.

**V.** **Adjournment**

- The meeting adjourned at 8:40 pm. The next meeting date is October 20, 2021.

# Agenda

III. Goals, Objectives, and Performance Measures for TransAction Update

IV. TransAction Online Survey: Interim Findings

V. TransAction: Preliminary Discussion on Weightings for Performance Measures

# Goals, Objectives & Measures

# Development & Approval Process

Schedule for Approval of Goals, Objectives, Performance Measures & Weights

» June: Identification of relevant questions to include in public engagement efforts

» July: Initial discussions with NVTA committees (PPC, TAC, PCAC)

» Summer: Public Engagement

» September: Discuss preliminary results of public engagement with NVTA committees; additional discussion with NVTA committees on goals, objectives, and measures

» October: NVTA committees recommend goals, objectives, and performance measures to NVTA for action in November

» November: NVTA committees recommend weights to NVTA for action in December

# Goals and Core Values

» **Goals: What we want to Achieve**

- Enhance Mobility

- Increase Accessibility

- Improve Resiliency

» **Core Values: How we want to achieve them**

- Equitably

- Sustainably

- Safely

*Core Values are associated with multiple goals, objectives, and performance measures.*

# Objectives & Performance Measures

» Objectives:
- Measurable and targeted actions that result in incremental but tangible advancement towards the goals

» Performance Measures:
- Will be used to evaluate the impacts of policies, programs, projects, and scenarios affecting the transportation system and measure progress towards goals and objectives
- Each performance measure can be weighted differently (to be determined later in the Fall) to reflect the region's priorities

» Performance Measures should:
- Incorporate all modes and project types
- Reflect Core Values
- Be restricted in number to ensure a strong focus on the region's priorities
- Be readily capable of robust and consistent measurement
- Be relatively easy to communicate to, and understood by, the public

# Changes Based on Committee Feedback

» Add a method of analyzing non-motorized projects or aspects of projects for the mobility goal

- Action: Measures under Objective A: Reduce congestion and delay accounts for reductions related to increases in biking, walking, and transit use

» Move emissions reduction objective from Mobility to Resiliency goal

- Action: Emissions moved to Resiliency (see Objective F)

» Add bicycle accessibility to Objective C: Improve Access to Jobs

- Action: Performance Measures updated to include bike access to jobs

» Make the emissions performance measure more explicitly related to emissions. Replace the emissions performance measure with VMT.

- Action: Performance measure updated to reflect transportation related emission. This is based on VMT at different levels of congestion .

» Include Pedestrian and Bike modes in the safety measure

- No Action: safety improvements for all modes are included in the measure.

» Include a measure of network redundancy under the Resiliency Goal

- Action: Updated performance measure for Objective G to represent redundancy (the availability of a modal alternative)

# Other Feedback from Committees

» **Include a method for supporting investment in RACs.**

- No change: Improvements in RACs will be considered in Objective D, but all improvements are considered to account for differences in how RACs are defined across the region

» **Add access to other types of destinations to Accessibility Goal**

- No change: Jobs serve as a proxy for a wide range of destination types

» **Change emissions objective to account for all emissions, not just transportation emissions.**

- No change: TransAction is a transportation plan and analysis can only measure transportation emissions.

» **Consider including wait time in calculation of transit delay.**

- No change: Wait time is an expected part of transit travel.  Also, increases in transit ridership will increase total wait time, resulting in more transit delay.

# Proposed Goals, Objectives & Measures

| Goal | Objective | Performance Measure | Alignment with Core Values |
|------|-----------|---------------------|----------------------------|
| **Mobility**: Enhance quality of life of Northern Virginians by improving performance of the multimodal transportation system | A. Reduce congestion and delay* | A1. Total Person-Hours of Delay in autos | |
| | | A2. Total Person-Hours of Delay on Transit | |
| | B. Improve travel time reliability* | B1. Duration of Severe Congestion | |
| | | B2. Transit person-miles in dedicated/priority ROW | |
| **Accessibility**: Strengthen the region's economy by increasing access to jobs, employees, markets, and destinations for all communities | C. Improve access to jobs* | C1. Access to jobs by car, transit, and bike | |
| | | C2. Access to jobs by car, transit, and bike for EEA populations | |
| | D. Reduce dependence on driving alone by improving conditions for people accessing transit and using other modes | D1. Quality of access to transit and the walk/bike network | |
| **Resiliency**: Improve the transportation system's ability to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from disruptions. | E. Improve safety and security of the multimodal transportation system | E1. Potential for safety and security improvements | |
| | F. Reduce transportation related emissions | F1. Vehicle Emissions | |
| | G. Maintain operations of the regional transportation system during extreme conditions* | G1. Transportation System Redundancy | |

* Measure included in HB 599 rating process.

# TransAction Online Survey:
# Interim Findings



NORTHERN VIRGINIA TRANSPORTATION AUTHORITY

NVTA's
Trans**Action**
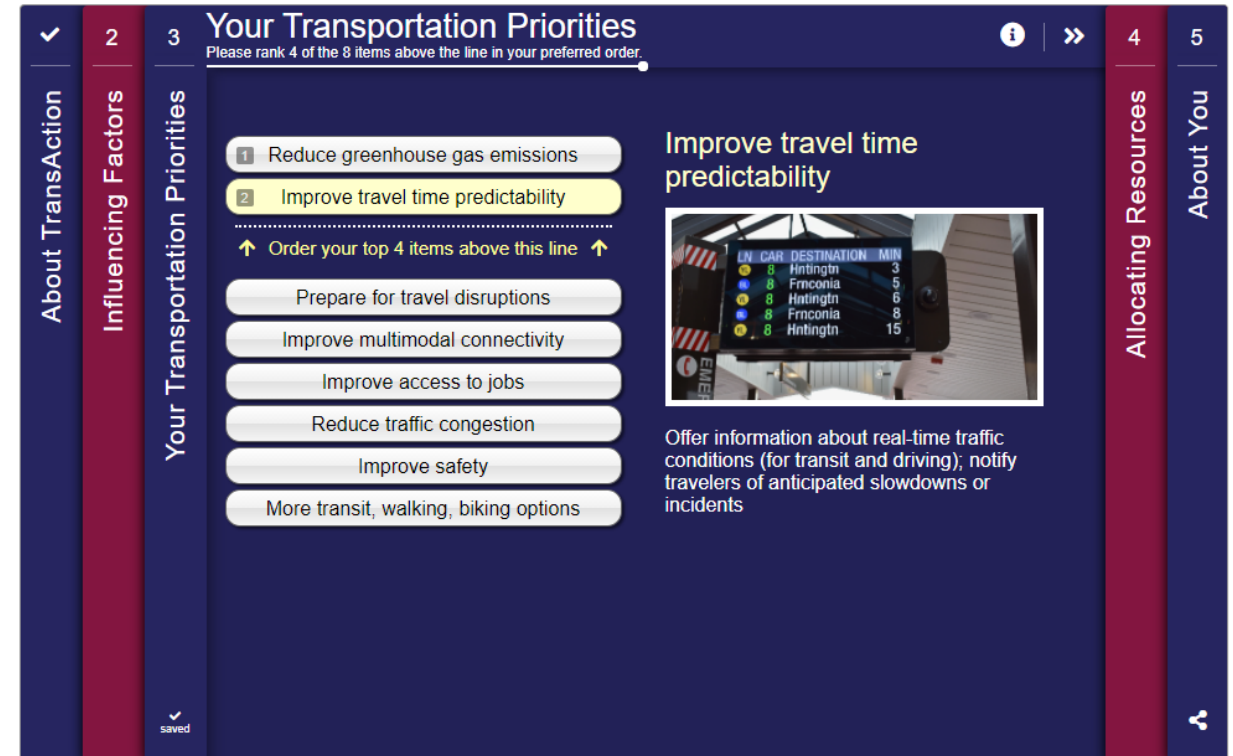
*Transportation Action Plan
for Northern Virginia*

# 2021 TransAction Survey

» Purpose: to seek feedback on travel behaviors, transportation needs and priorities

» Format: MetroQuest platform utilizing interactive "gamified" exercises

» Available languages: English, Korean, and Spanish

» Dates: August 6th - September 19th

» Responses:
- English: 2,164
- Korean: 89
- Spanish: 65*
- TOTAL: 2,318

\* At pop-up events, 123 Spanish speakers received assistance completing the survey in English



*The survey did not apply a random sample recruitment method. Therefore, the sample does not statistically represent the population of the NVTA region.*

# Encouraging Survey Participation

» Range of engagement activities used to "get the word out" about the survey

» Traceable links show where participants heard about the survey:

| Source | Number of Responses |
|---|---|
| Website | 691 |
| Stakeholder outreach | 405 |
| Pop-up events | 351 |
| General (not traceable) | 252 |
| Paid social media | 206 |
| Newsletter | 166 |
| LinkedIn | 92 |
| Twitter | 89 |
| Facebook | 65 |
| Geofenced ads | 1 |
| Instagram | 0 |

# About the Survey Respondents

| Counties | Total Responses | NVTA Region Responses |
|---|---|---|
| Arlington County + Alexandria City + Falls Church City | 41.0% | 43.3% |
| Fairfax County + Fairfax City | 35.4% | 37.5% |
| Loudoun + Prince William + Manassas City + Manassas Park City | 18.2% | 19.2% |

Demographics:

» 12% from households with less than 50k in annual income

» 31% identified as non-white or Hispanic/Latinx

» 19% were people 65 years or older
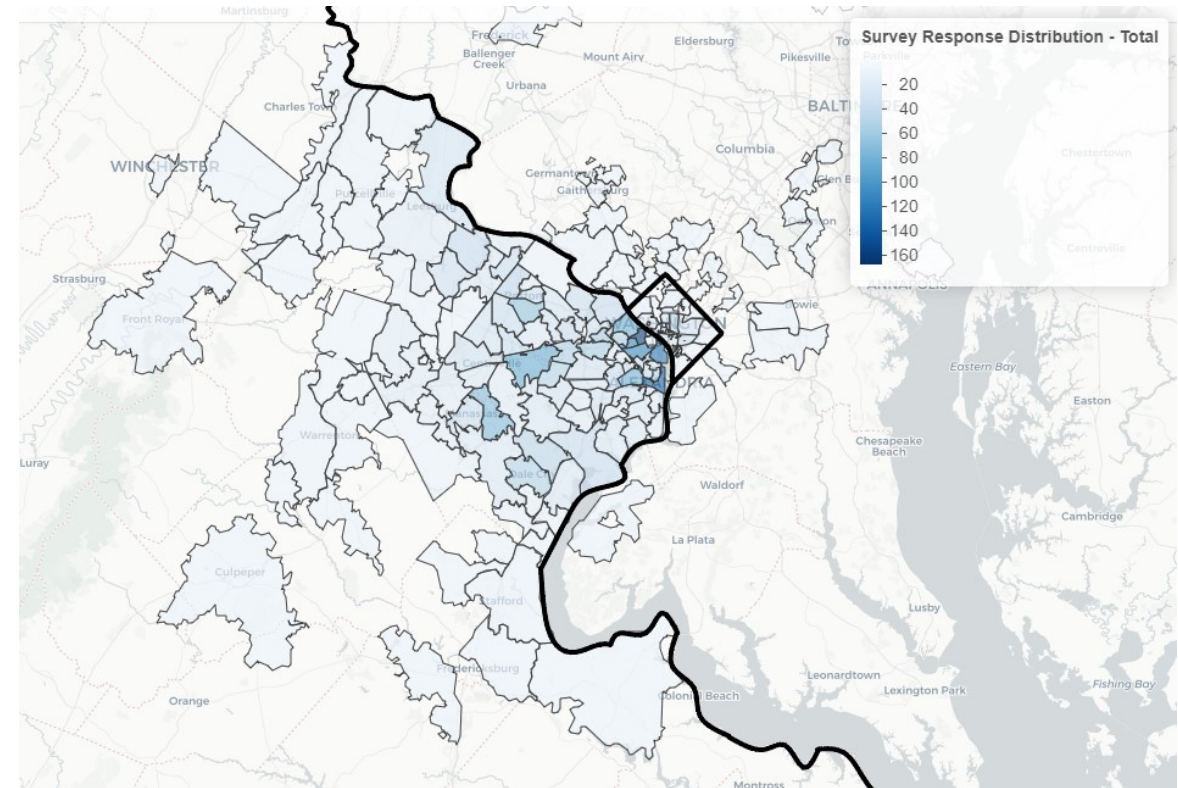


Map of Home Zip Codes of Survey Respondents

# Survey Results – Travel Characteristics

» **Pre-pandemic trips to work/school/other:**
- 31% used transit at least 3 days a week
- 14% biked at least 3 days a week
- 28% walked at least 3 days a week

» **About a third of respondents anticipate changing their post-pandemic travel habits compared to pre-pandemic**
- 28% will reduce driving
- 21% will reduce transit use
- 8% will reduce biking
- 6% will reduce walking

### Pre-Pandemic Frequency of Taking Transit

- 41% — Never or rarely
- 19% — A few times a month
- 9% — Once or twice a week
- 14% — Three to five days a week
- 17% — Every day or nearly every day
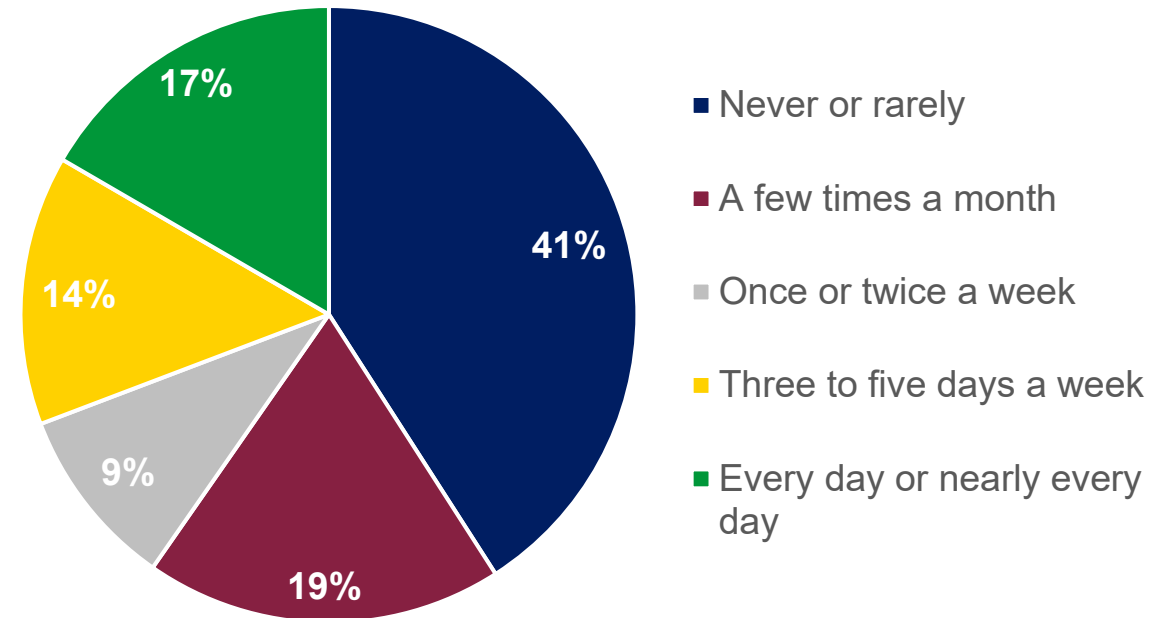
# Survey Results – Influencing Factors

Factors That Influence Mode Choice
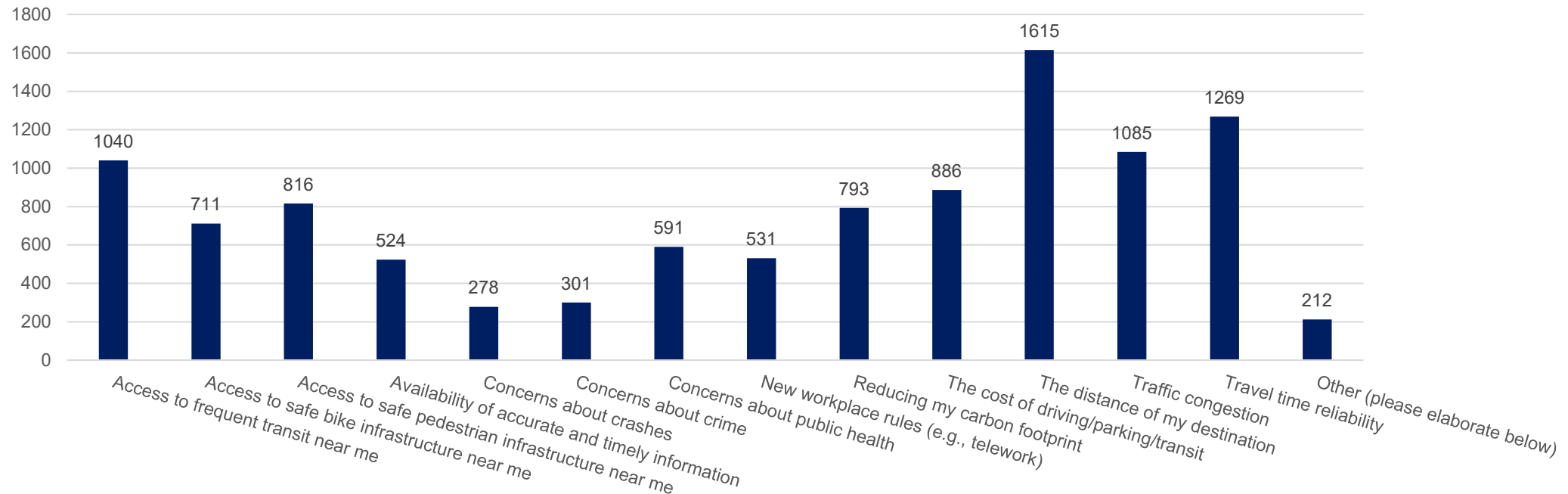


- Factors that will most affect mode choice: trip distance (76%), travel time reliability (60%), traffic congestion (51%), and access to frequent transit (49%)
- Factor least likely to affect mode choice: concerns about crashes (13%) and concerns about crime (14%).

# Survey Results – Incentives to Use Transit

**Incentives to Try Transit**



Bar chart: Incentives to Try Transit
- Better real-time transit information: 342
- If transit got me to my destination faster: 890
- If transit were less stressful than driving: 384
- More predictable travel time: 576
- More transit near my home/work: 739
- Reduced transit fares: 382
- The offer of a monetary reward (e.g., cash, gift card): 163
- None of these: 244
- N/A - I don't drive frequently: 516

- Would be more likely to try transit if:
  - Got them to their destination faster (44%)
  - More transit near their home and/or work (36%)
  - More predictable travel time (28%)
- Only 12% of respondents reported they were not interested in trying transit

# Survey Results – Emerging Technologies

### Conditions for Future EV Usage

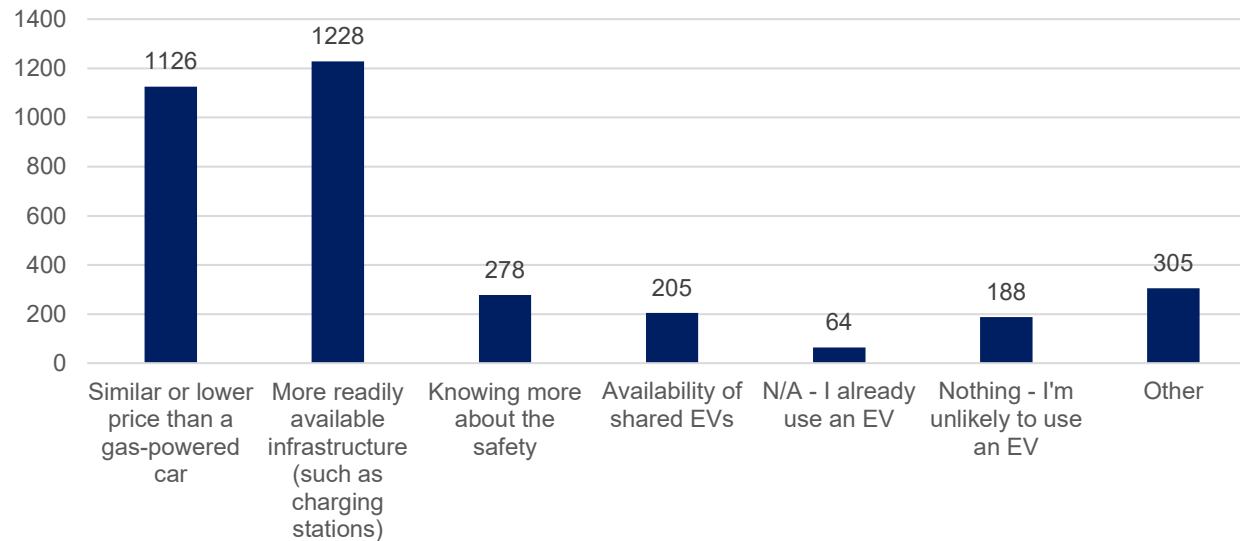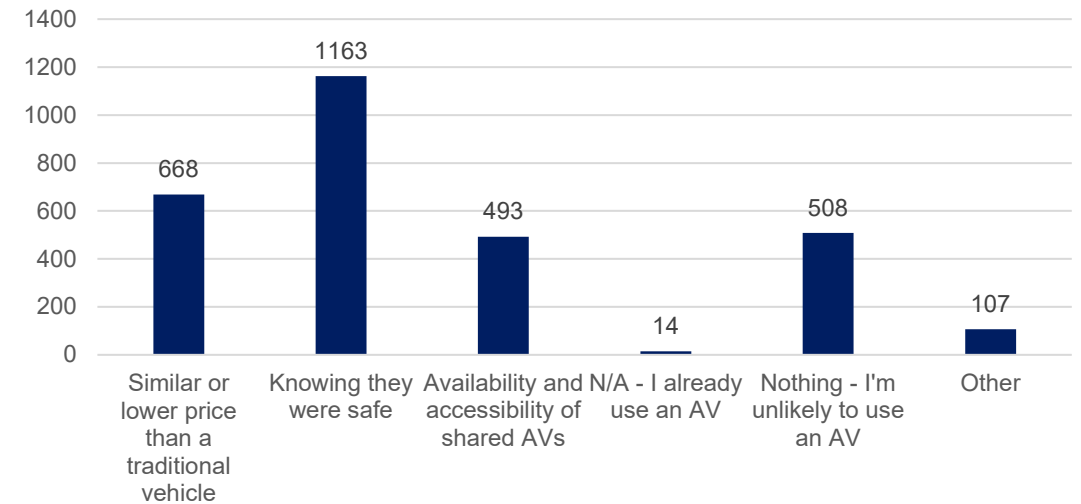| Category | Value |
|---|---|
| Similar or lower price than a gas-powered car | 1126 |
| More readily available infrastructure (such as charging stations) | 1228 |
| Knowing more about the safety | 278 |
| Availability of shared EVs | 205 |
| N/A - I already use an EV | 64 |
| Nothing - I'm unlikely to use an EV | 188 |
| Other | 305 |

### Conditions for Future AV Usage

| Category | Value |
|---|---|
| Similar or lower price than a traditional vehicle | 668 |
| Knowing they were safe | 1163 |
| Availability and accessibility of shared AVs | 493 |
| N/A - I already use an AV | 14 |
| Nothing - I'm unlikely to use an AV | 508 |
| Other | 107 |

- More likely to consider using an EV once there is more readily available infrastructure (64%) and once the price is similar or lower than the price of a gasoline-powered car (58%)
- More likely to use an AV once they had confidence that AVs were safe (61%)

# Survey Results – Transportation Priorities

Transportation Priorities
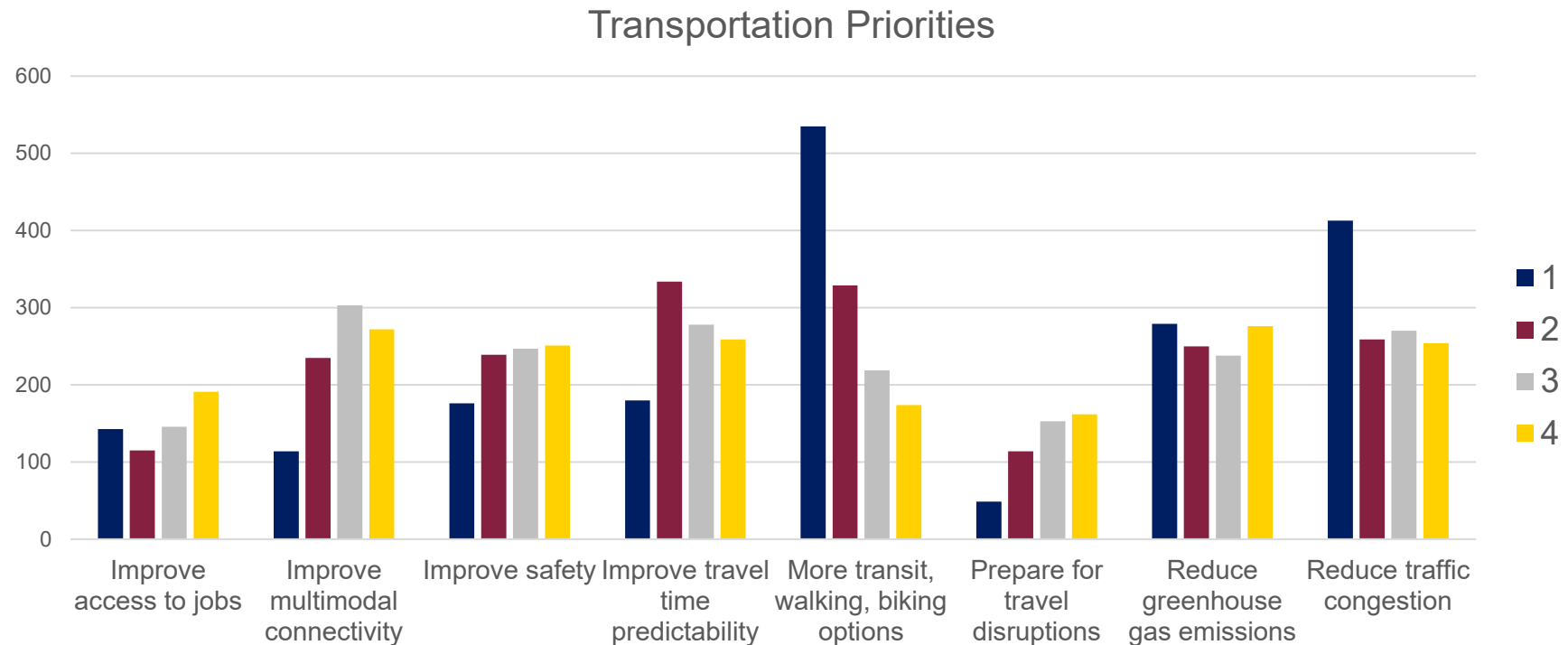


- Priority most frequently ranked 1st, was "more transit, walking, biking options"
- 2nd and 3rd most commonly selected priorities were "reduce traffic congestion" and "improve travel time predictability"

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# Survey Results – Transportation Priorities by Geographic Area
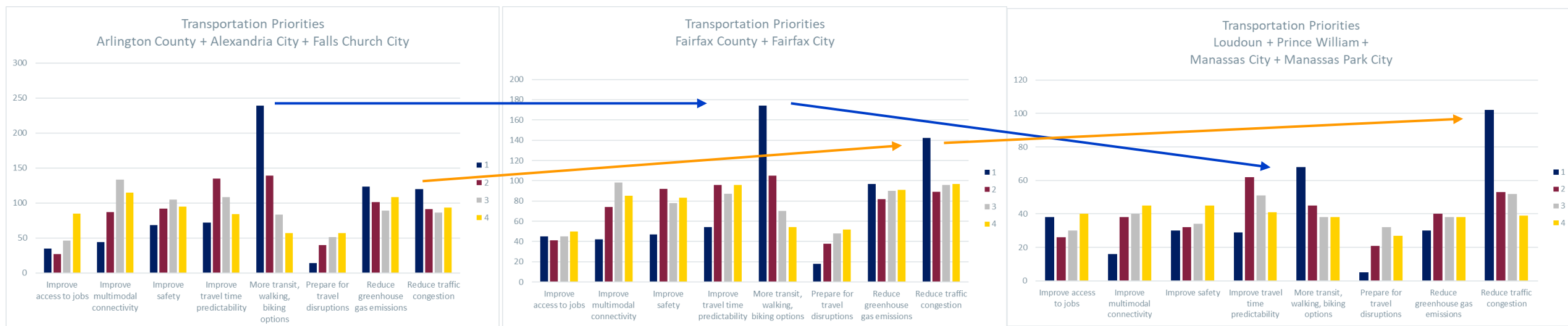


- Survey respondents from inner jurisdictions selected "more transit, walking, biking options" as the top priority
- Survey respondents from outer jurisdictions selected "reduce traffic congestion" as top priority
- Other objectives showed less variability between different geographic areas – "improve travel time reliability" was typically the 2nd ranked priority

# Survey Results – Allocating Resources

## Total Distribution of Investments
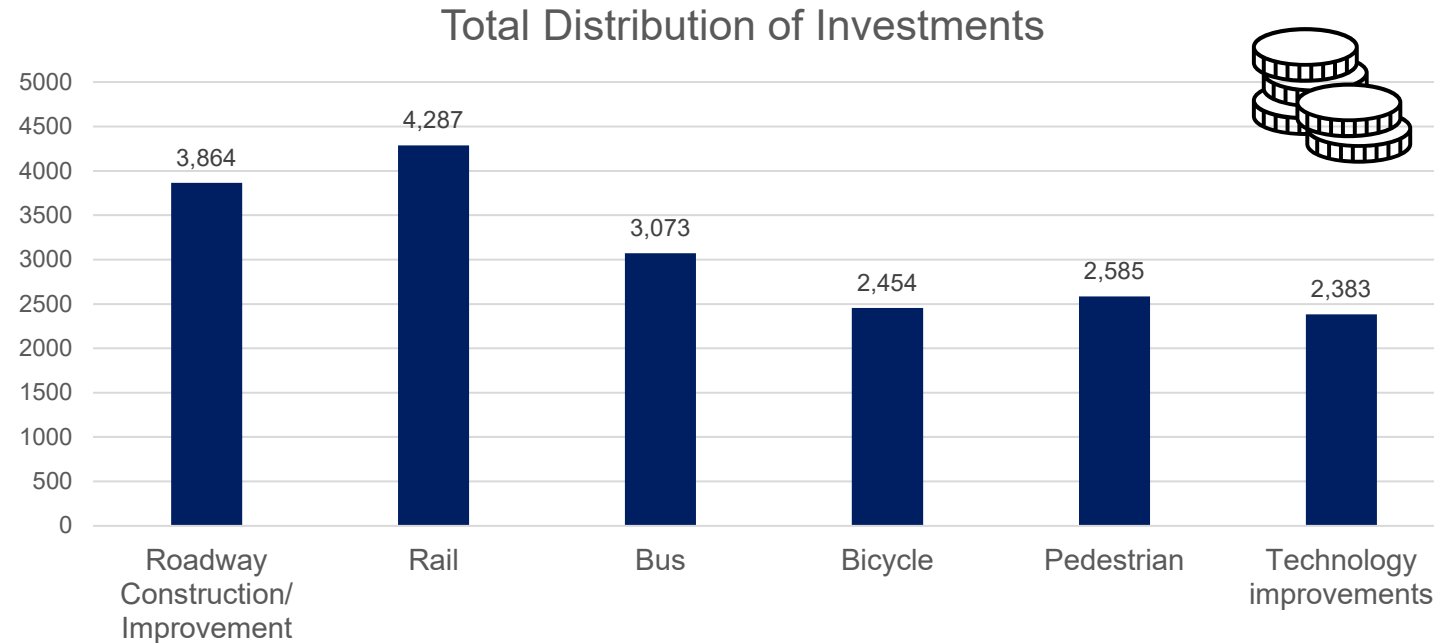


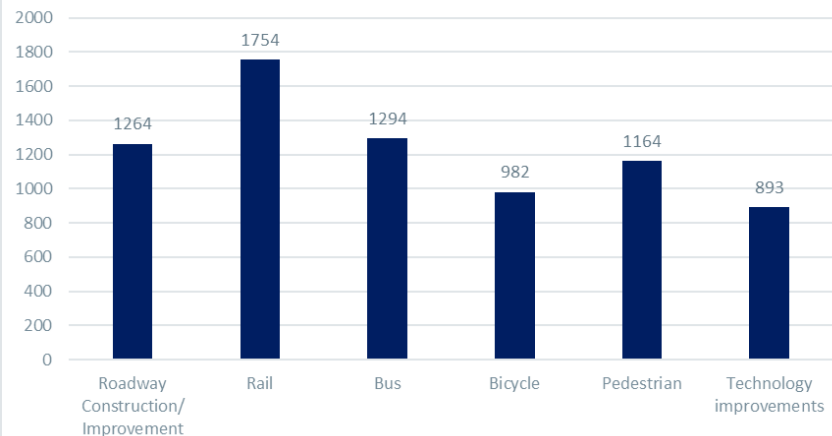- Respondents were given 10 hypothetical coins, each representing $1 million, and asked to distribute them between six different project types
- Rail projects received the most investments (total "coins"), followed by roadway construction/improvement and bus
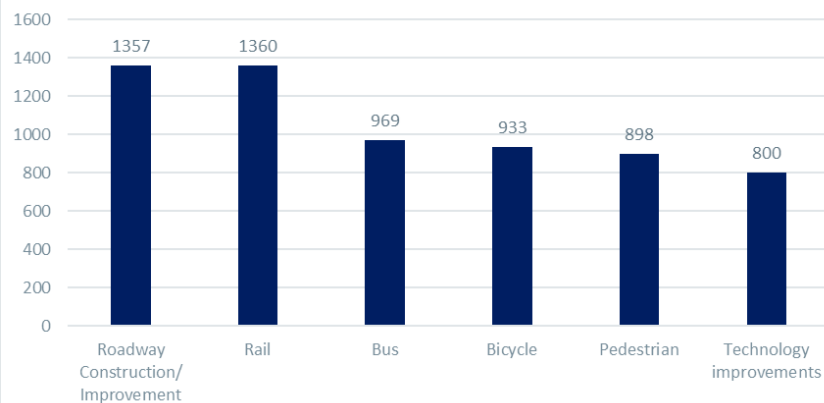
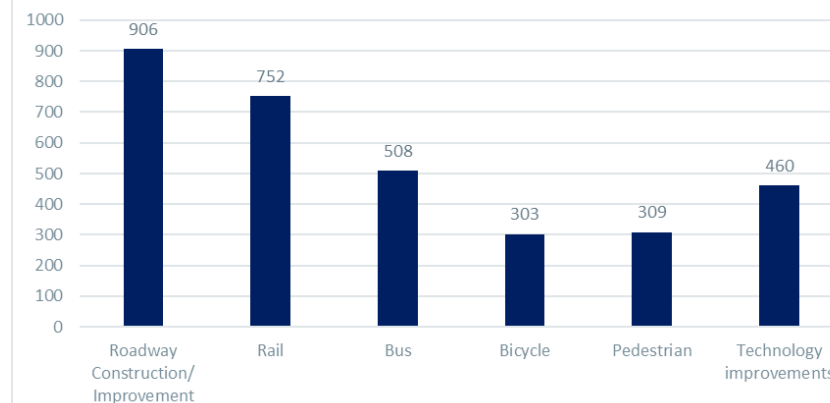# Survey Results – Transportation Priorities by Geographic Area



Total Distribution of Investments
Arlington County + Alexandria City + Falls Church City

| Category | Value |
|---|---|
| Roadway Construction/Improvement | 1264 |
| Rail | 1754 |
| Bus | 1294 |
| Bicycle | 982 |
| Pedestrian | 1164 |
| Technology improvements | 893 |

Total Distribution of Investments
Fairfax County + Fairfax City

| Category | Value |
|---|---|
| Roadway Construction/Improvement | 1357 |
| Rail | 1360 |
| Bus | 969 |
| Bicycle | 933 |
| Pedestrian | 898 |
| Technology improvements | 800 |

Total Distribution of Investments
Loudoun + Prince William + Manassas City + Manassas Park City

| Category | Value |
|---|---|
| Roadway Construction/Improvement | 906 |
| Rail | 752 |
| Bus | 508 |
| Bicycle | 303 |
| Pedestrian | 309 |
| Technology improvements | 460 |

» Home location of respondents did influence selection of type of investments needed:

- Inner jurisdictions allocated resources to rail (1st) and bus (2nd), before roadway improvements (3rd)

- Fairfax County/City allocated resources about evenly between roadway and rail, then bus

- Outer jurisdictions allocated the most resources to roadway construction/improvement, followed by rail (2nd) and bus (3rd)

# Survey Results – Key Findings

» The top priorities were "more transit, walking, biking options", "reduce traffic congestion" and "improve travel time predictability", but the order varied by geographic area

- Focus groups more typically had cited "reduce traffic congestion" and "improve travel time predictability" as top priorities

» When allocating hypothetical investment $ in transportation, roadway and rail improvements were given the highest allocation by survey respondents

- People who do not drive frequently placed a higher importance on non-roadway investments than regular drivers
- Regular drivers did allocate the most resources to roadway improvements, but did also allocate significant resources to rail and bus improvements

# Process for Weighting Performance Measures

» Each committee will be asked to recommend weights for each approved measure, these will be averaged, and then rounded to the nearest 5%

» Weights for individual measures will effectively be summed for each core value, additionally reflecting the priority associated with each

» Measure weights to be recommended to NVTA in November

» NVTA may accept or modify these recommendations prior to approval in December

# Comparison of Recommended Objectives and Survey Responses

| Recommended Objective | Corresponding Priority in Online Survey | % of Weighted Score – Region | % of Weighted Score – Core jurisdictions | % of Weighted Score – Inner jurisdictions | % of Weighted Score – Outer jurisdictions |
|---|---|---|---|---|---|
| A. Reduce congestion and delay | Reduce traffic congestion | 17% | 14% | 18% | 22% |
| B. Improve travel time reliability | Improve travel time predictability | 14% | 14% | 13% | 14% |
| C. Improve access to jobs | Improve access to jobs | 7% | 6% | 7% | 10% |
| D. Reduce dependence on driving alone by improving conditions for people accessing transit and using other modes | Improve multimodal connectivity | 11% | 11% | 11% | 10% |
| | More transit, walking, biking options | 20% | 23% | 20% | 17% |
| E. Improve safety and security of the multimodal transportation system | Improve safety | 12% | 12% | 11% | 10% |
| F. Reduce transportation related emissions | Reduce greenhouse gas emissions | 14% | 15% | 15% | 11% |
| G. Maintain operations of the regional transportation system during extreme conditions | Prepare for travel disruptions | 5% | 5% | 5% | 6% |