

Getting Back on the Bus Series

“Nimble Transit Network Planning”

Part three of our **2020 Virtual Conference + Mini-Expo & Luncheon** program

Sponsored by Kimley-Horn

August 21, 2020

Featuring

Moderator: Allan Fye, NoVA Transportation Commission

Jen DeBruhl, VA Dept. of Rail and Public Transportation

Monica Backmon, NoVA Transportation Authority

Martin Barna, DASH

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Strategic Planning on a Pivot

Rethinking transit during a time of dynamic change

Jennifer B. DeBruhl, AICP, PMP

Chief of Public Transportation

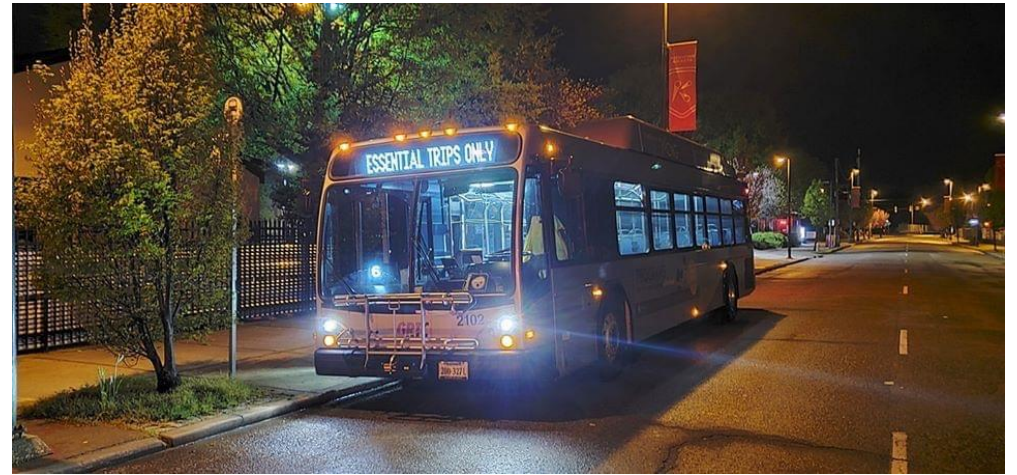
Virginia Department of Rail and Public Transportation

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Some of what we've learned in 2020.....

- In an emergency, it is too late to start planning – you must rely on the plans and information you have to make quick and effective decisions.
- Need to dynamically adapt our systems to meet a changing environment
- Provides an analytic backbone for nimble transit decision making
 - Commuting Patterns
 - Lifeline Transportation Needs
 - Service constraints
- Keeping an eye on equity is essential



Transit Strategic Plans (TSPs)

- 2018 legislation required that large transit agencies complete a **Transit Strategic Plan (TSP)** every 5 years
 - Assessment of state of good repair needs
 - Review of the performance of fixed-route bus service
 - **Evaluation of opportunities to improve operating efficiency of the transit network**
 - Examination and identification of opportunities to share services where multiple transit providers' services overlap
 - **Examination of opportunities to improve service in underserved areas**



Network Considerations in Strategic Planning

- Frequency vs. coverage
- Access to lifeline services – healthcare, education, supply chain
- Fiscal constraint
- Contingency planning for operations



Equity Considerations in Strategic Planning

- Identification of underserved areas and ways to improve access
- Community engagement in strategic planning process
- Access to essential services and for essential workers
- Fare policy and implications equity and accessibility



Applying what we've learned to TSP's

- Two pilots are complete – GLTC and HRT
- Re-evaluate guidance
 - Experience with pilot projects
 - COVID impacts/timing



Questions?

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Virginia Transit Association Webinar: Nimble Transit Network Planning

August 21, 2020



Presented by:

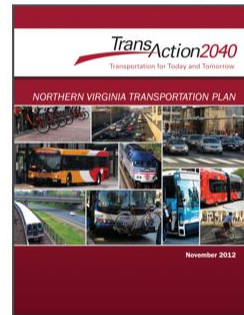
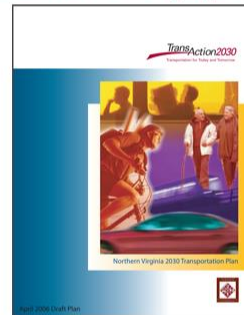
Monica Backmon, Executive Director, Northern Virginia Transportation Authority



Primary Responsibilities



1. Develop and update the long-range, multimodal Transportation Plan for Northern Virginia → TransAction (updated every five years, last adopted October 2017)



2. Prioritize and fund regional transportation projects → Six Year Program (updated every two years)



FY2020-2025 Six Year Program Planning & Prioritizing for the Region



****Six Year Program Update Adopted, July 9, 2020****

- **Authority's 5th Funding Program** – Most competitive to date
- **\$539 Million** in Authority regional revenues programmed on **21** multimodal transportation projects
- **\$1.44 Billion** in regional revenue funds was requested by **13** Northern Virginia jurisdictions and agencies for **41** projects
- To date, **the Authority** is **advancing 106 regional multimodal transportation projects, totaling \$2.5 billion**, for congestion reduction throughout the region





Spotlight on NVRTA-Funded Transit Investments

- **Bus Rapid Transit--\$371 Million**
 - Including Route 1/Richmond Highway (\$250 Million) and Duke Street Transitway (\$87 Million)
- **Metro Projects--\$184 Million**
 - Including Potomac Yard Metro Station (\$69.5 Million)
- **Virginia Railway Express--\$44.2 Million**
 - Including VRE Crystal City Improvements Project recently adopted (\$15.8 Million)
- **DRPT--\$22.9 Million**
 - Franconia-Springfield Passenger Rail Bypass recently adopted
- **Other--\$170+ Million**
 - Includes New Bus Purchases, Maintenance & Storage Facilities, and Pedestrian Access to Transit



COVID-19: Transportation Impacts and Opportunities

NVTA Analysis and Initial Findings

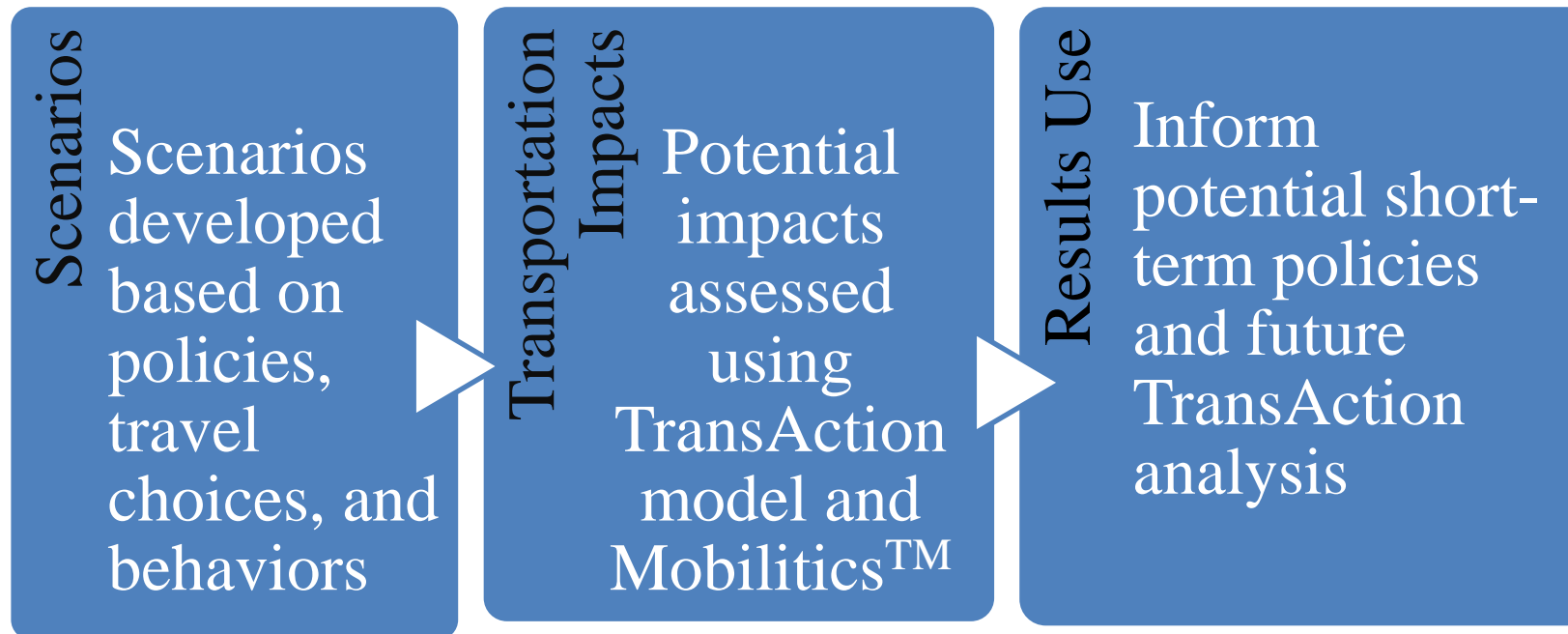


Overall Goals

- Explore impacts to operating conditions & future transportation project investment considerations
 - Model different recovery scenarios to compare impacts
 - Use this analysis to structure future planning efforts

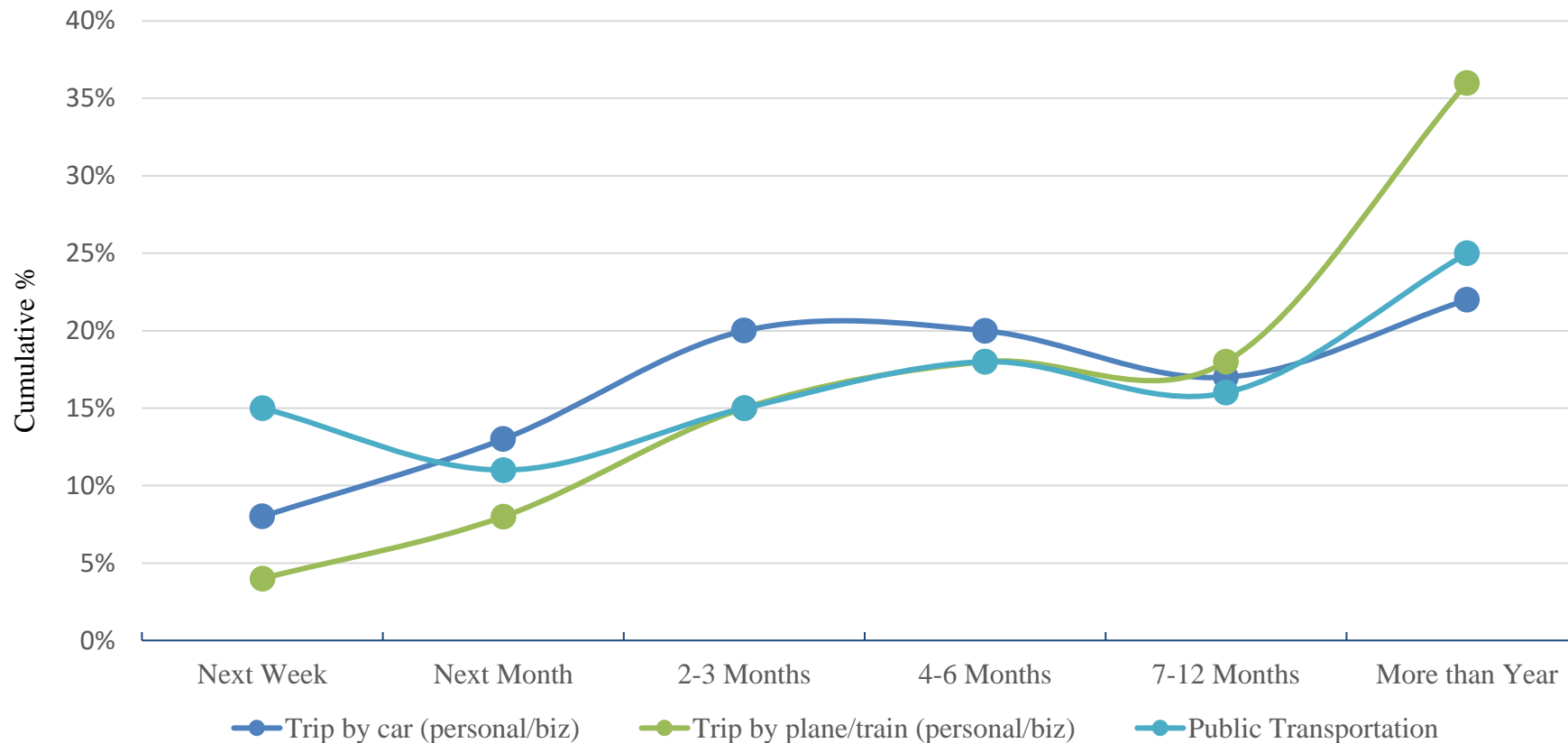
Scenarios & Impacts

Analyze plausible possible future scenarios, not intended to predict the future or imply any preferences



National Trend: Public Transit Lags Behind Car Trips

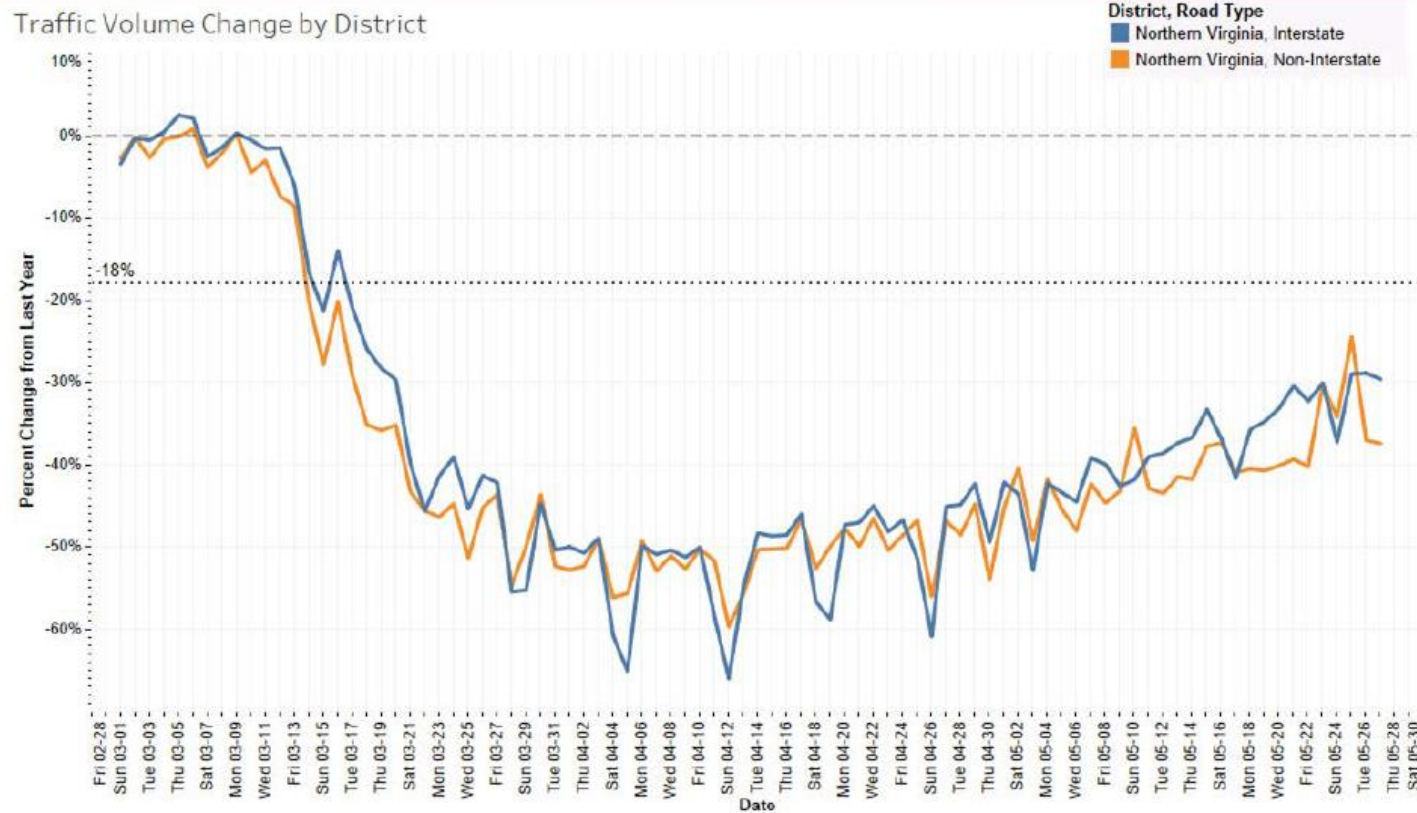
Q: When are you likely to do each of the following?



Source: Heart+Mind June 19th Roundtable

Regional Trend: VDOT Volume Trends

All Vehicles Daily Volume Change in Northern Virginia

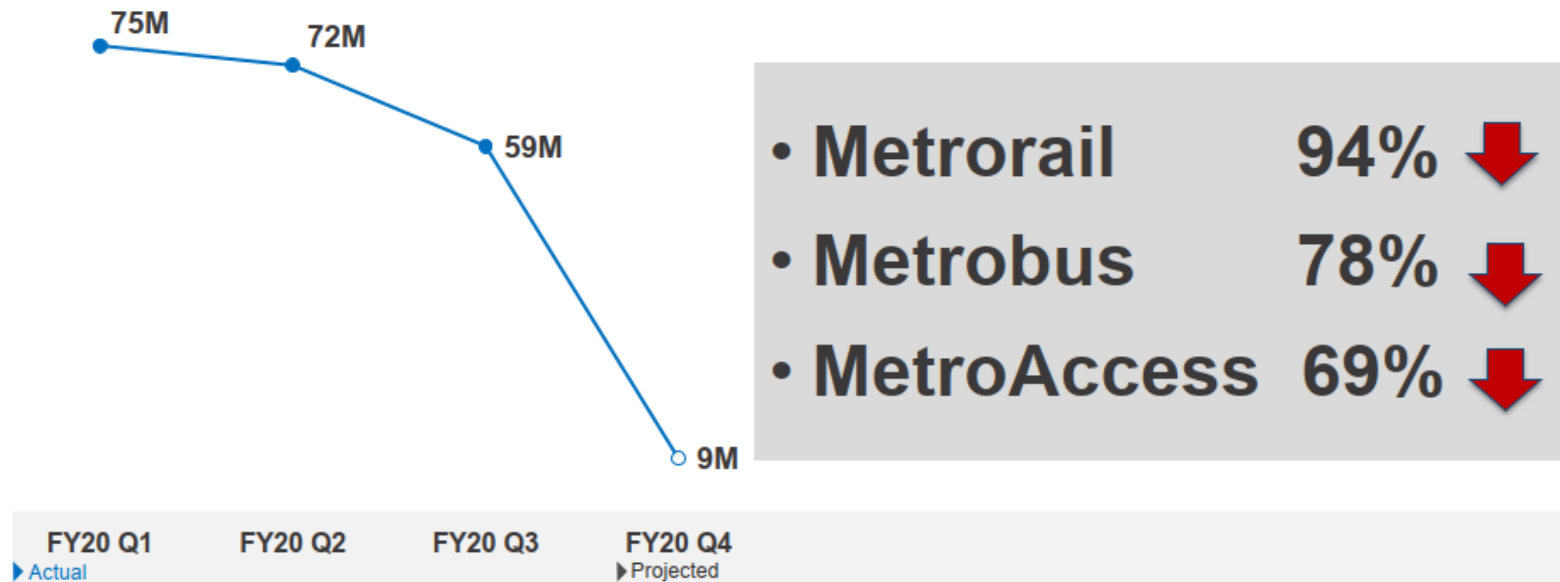


Mid-April shows the lowest daily volume at -55% compared to 2019 levels

Source: VDOT data presented at the Commonwealth Transportation Board June 17th Meeting

Regional Trend: WMATA Ridership

Ridership Decline of 88% from Q4 FY2020 Budget



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WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY



Source: WMATA Finance & Capital Committee Meeting May 14, 2020



Scenario Definitions

| Scenario | Short Term (2020-2021) | “New Normal” (2025) |
|---------------------------------|--|--|
| Quick Recovery | Economy recovers by fall and most people are back to work and school | Overall travel is about 95% of pre-COVID levels |
| Active Transportation | Gradual recovery where more people drive alone or take active transportation (walking/biking) | Active transportation remains higher than 2019; overall travel about 90% of pre-COVID levels |
| Second Pandemic Wave in October | A second stay at home advisory issued in October, with an increase in job loss and teleworking and a decrease in transit ridership | Most significant impact on overall travel, returning only to about 85% of pre-COVID levels |
| Cautious Recovery | Most gradual recovery with low school attendance and business related travel is reduced, & E-commerce increases | Overall travel lower than Quick Recovery Scenario at about 90% of pre-COVID levels |

Scenario Comparison: Assumptions

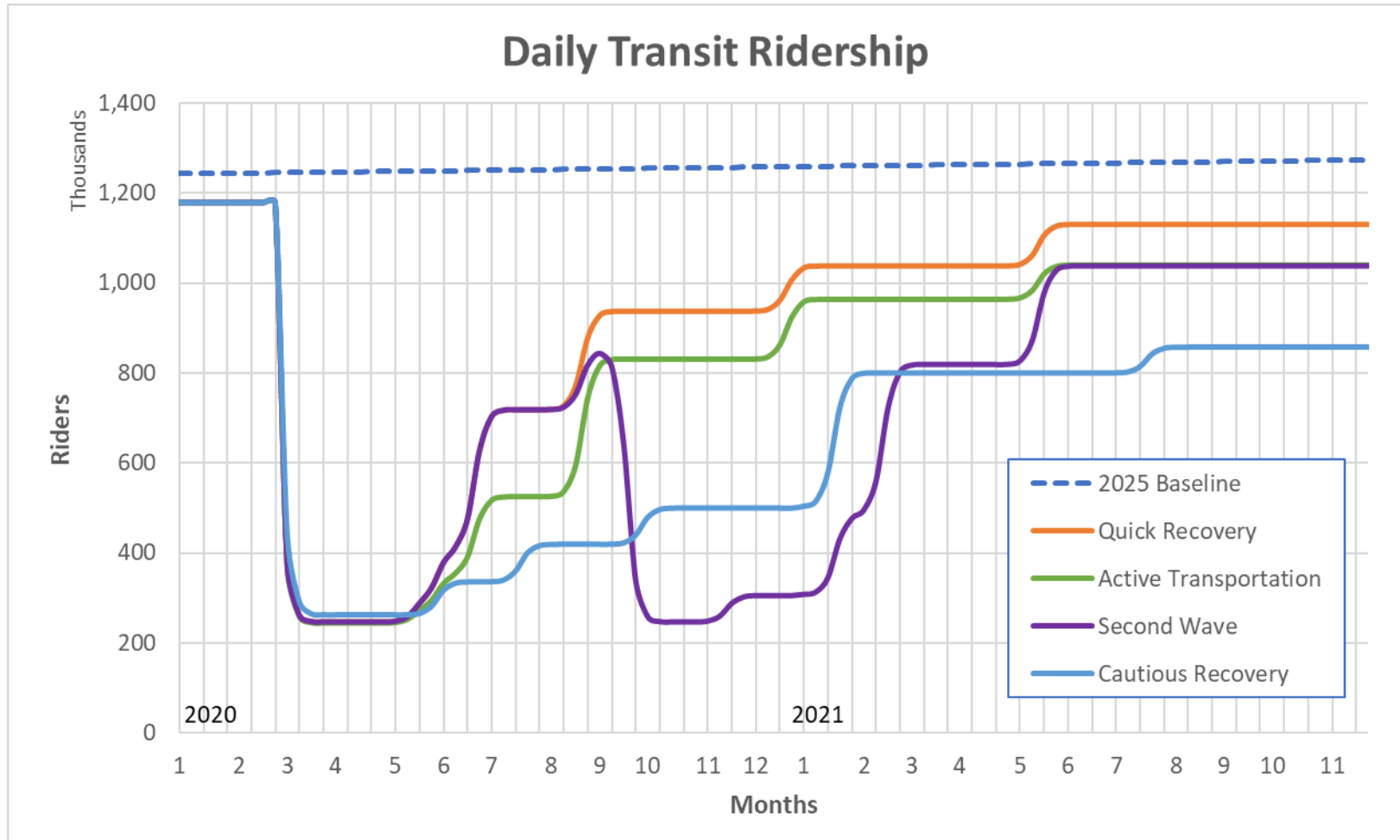
| | Quick Recovery | | Active Transportation | | Second Wave | | Cautious Recovery | |
|----------------------------------|----------------------|------------|--|------------|----------------------|------------|----------------------|------------|
| | Short Term | New Normal | Short Term | New Normal | Short Term | New Normal | Short Term | New Normal |
| Telework* | 10% | 10% | 20% | 15% | 50% | 10% | 25% | 15% |
| Jobs Lost* | 3% | 0.5% | 5% | 1% | 10% | 6% | 8% | 2% |
| School Attendance | 90% | 95% | 90% | 95% | 0% | 100% | 40% | 90% |
| Transit Safety Perception | 85% | 100% | 75% | 95% | 25% | 95% | 40% | 100% |
| Active Transportation | Pre-COVID Mode Share | | 60% trips <5 mi are walk/bike. Mode share increases 30%. | | Pre-COVID Mode Share | | Pre-COVID Mode Share | |

**Compared to pre-COVID levels*

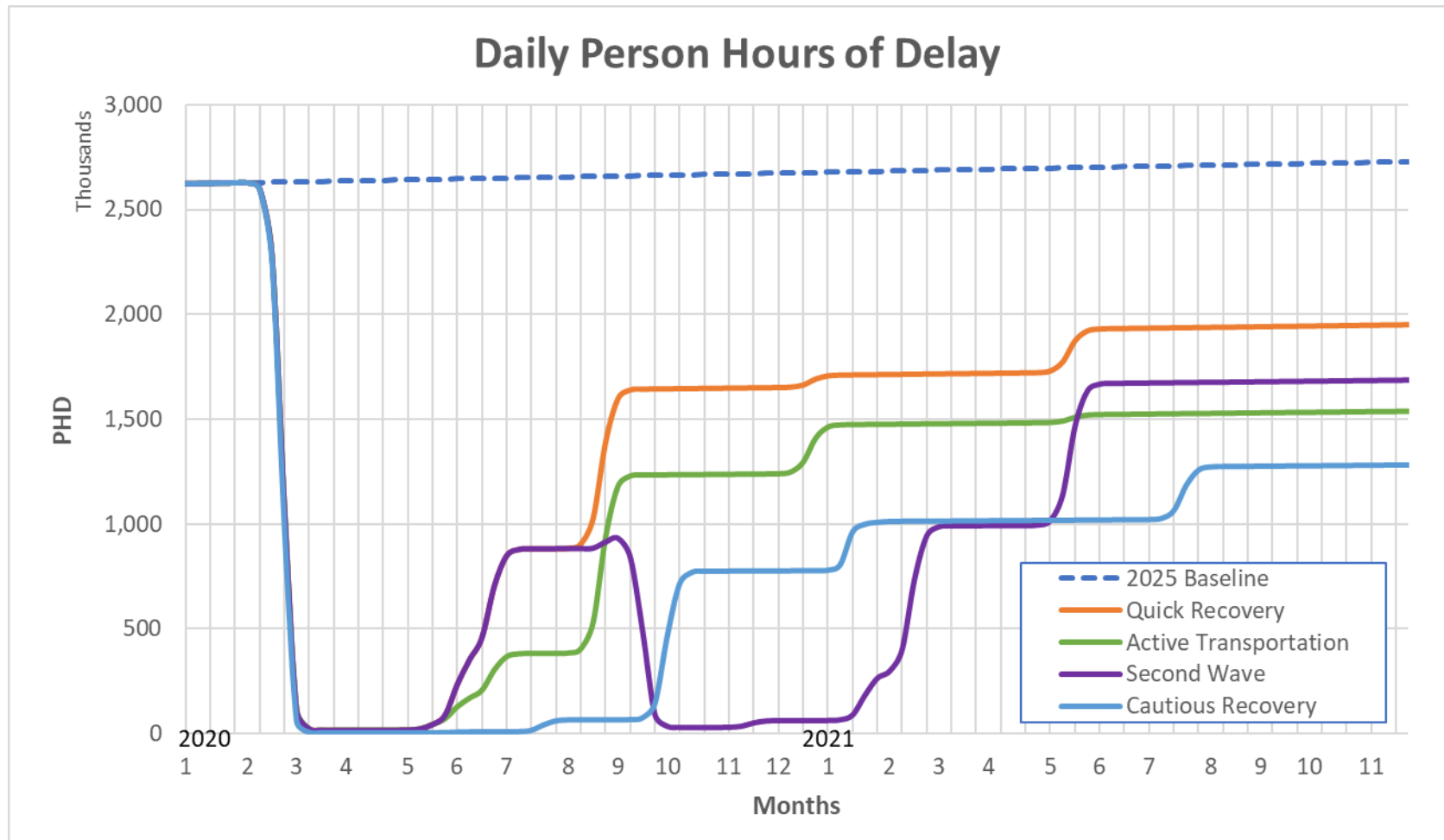
Short Term Impacts

January 2020 to June 2021

Impact on Transit Ridership



Impact on Person Hours of Delay



“New Normal” Impacts

Horizon Year: 2025

2025 Transportation Network Performance

- Evaluated the scenarios using TransAction performance metrics
- Multi-modal measures that address accessibility and mobility in the region
 - Congestion
 - Transit ridership
 - VMT, etc.

Findings: Selected Measures (2025)

| Measures (Weekday) | Base 2025 Conditions | Quick Recovery (%Change) | Active Transportation (%Change) | Second Wave (%Change) | Cautious Recovery (%Change) |
|--------------------------|----------------------|--------------------------|---------------------------------|-----------------------|-----------------------------|
| Auto Trips | 6,883,071 | -16% | ↓ -46% | -24% | -38% |
| Transit Trips | 618,202 | -15% | -36% | -22% | ↓ -37% |
| Transit Share% | 8.2% | +0.1% | ↑ +1.4% | +0.2% | +0.1% |
| Transit Boardings | 889,648 | -15% | -33% | -22% | ↓ -37% |
| Miles of Travel (Person) | 116,060,798 | -16% | -30% | -24% | ↓ -38% |
| Hours of Travel (Person) | 4,040,851 | -31% | -49% | -42% | ↓ -55% |
| Hours of Delay (Person) | 1,472,169 | -57% | -81% | -72% | ↓ -85% |
| Transit Crowding | 1,564 | -34% | -58% | -58% | ↓ -66% |

“New Normal” Scenario Observations

- All four scenarios assume 10-15 percent more telework than pre-COVID levels, and school attendance levels close to pre-COVID levels
- All four scenarios reduce auto and transit trips
 - ‘Active Transportation’ scenario has the largest impact for auto trips (46 percent reduction)
 - ‘Cautious Recovery’ scenarios has the largest impact for transit trips (37 percent reduction)
- All four scenarios reduce person hours of delay
 - ‘Cautious Recovery’ scenario has the largest impact (85 percent reduction)
 - Impact is most pronounced among inner jurisdictions, but is still significant for outer jurisdictions
 - Impact is evident along major corridors

Conclusions

- Short Term
 - The majority of changes occur within the first 18 months and level off around June 2021
- “New Normal”
 - Teleworking and economic impacts result in:
 - Traffic volumes and transit ridership that do not fully recover to pre-COVID levels
 - Significant reductions in time spent traveling and time lost in congestion
 - While congestion reduction impacts are a positive, transit ridership reduction may be challenging to financial stability of some transit agencies

Implications for NVTAs Planning and Programming Responsibilities, and Transportation Policy

- These findings suggest several topics for further consideration through the upcoming TransAction planning process and ongoing capital program development
 - Potential **policies** to support continued teleworking at greater than pre-COVID levels while mitigating impact on transit ridership, e.g. incentivization
 - **Using data** to further refine understanding of travel choices by households and businesses, and implications on the network
 - Quantifying the extent to which **TDM programs** influence travel behavior
 - Projects that support **multiple modes of transportation**
 - Emphasis on **flexible use of right-of-way** to accommodate changing travel patterns



Thank you!



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Service Planning & Network Redesigns in the Time of COVID

Martin Barna

Alexandria Transit Company (DASH)

VTA Panel - “Nimble Network Planning”

August 21, 2020

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Presentation Overview

- DASH COVID Response & Service/Operational Changes
- Alexandria Transit Vision Plan & COVID Network Planning

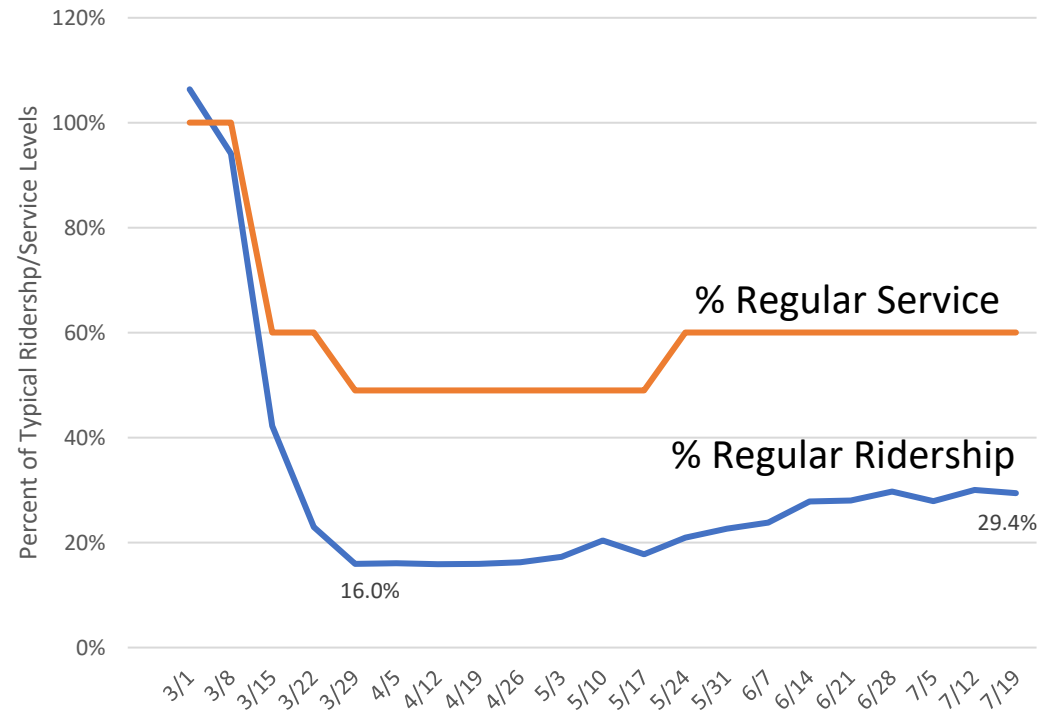


What has DASH done during COVID?

- Fare Free/Rear Door Boarding
- “Essential Travel Only” Message
- Passenger Capacity Limits
- **Mask Requirements**
- Bus Disinfection & Fogging
- Onboard Sanitizer Dispensers & Driver Barriers (Planned)



How has DASH adjusted its service?



- Service Reductions
- What is the role of transit during a global pandemic?
- Span & Coverage > Frequency
- Service Change Decision Factors
 - Ridership/Passenger Loads
 - Staffing & Fleet Availability
 - Guidance from Health Officials
 - Regional Coordination



Operational Adjustments

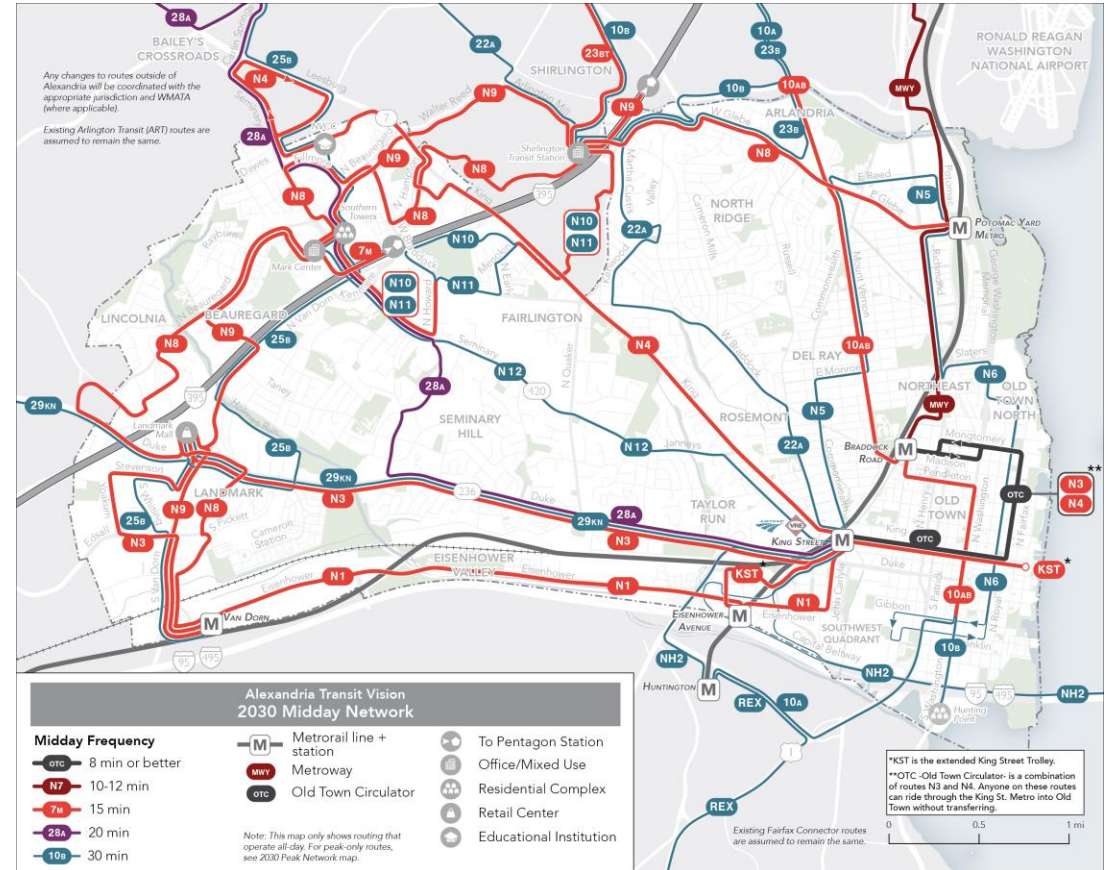


- Maximize Service Flexibility
 - Extra Stage Buses
 - Ghost Trips (“Trailblazers”)
 - Modular blocking/runcutting
- Staffing Modifications
 - Extra Consecutive Day(s) Off
 - Extra “Show Up” Operators
- Eliminated Street Reliefs & Added Midday Bus Cleanings
- Virtual Operator Bidding



Alexandria Transit Vision Plan

- Joint effort by DASH and City of Alexandria to create more useful network and increase ridership.
- Frequent, All-Day Network
- Increase access to useful transit
- Ridership vs. Coverage
- Phase I - Summer 2021*
(Pending FY22 City Budget)
- www.dashbus.com/transitvision



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COVID Transit Network Planning

- How should networks be designed after the pandemic?
 - With tighter budgets, frequency will be more important than ever
 - San Francisco MUNI example – longer walks to more frequent service.
 - DASH – ATV network implementation with potential budget shortage
- Network Redesigns can help agencies with post-COVID recovery
 - Focus on useful service in key corridors (Combined Frequencies – AT5 + AT6)
 - Look for loose change (Running Times, Dwell Time, Headway Management)
 - Gain efficiency by investing more resources in off-peak service.



Final Thoughts on COVID Service Planning

- Create framework for decisions and be transparent.
- Stay ahead of Ridership Curve
- Maximize service flexibility
- Network Redesigns are vital for long-term recovery
- We are all transit dependents during COVID!



Thank You!

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