



**Northern Virginia Transportation Authority**  
*The Authority for Transportation in Northern Virginia*

**PLANNING COORDINATION ADVISORY COMMITTEE**

**Wednesday, April 26, 2017, 6:30pm**

**NVTA Office**

**3040 Williams Drive, Suite 200**

**Fairfax, Virginia 22031**

**AGENDA**

- I. Call to Order/Welcome** Chairman Buona

**Action**

- II. Approve Summary Notes of March 22, 2017 Meeting**  
*Recommended Action: Approval [with abstentions  
from those who were not present]*

- III. Six Year Program Framework** Mr. Jasper  
*Recommended Action: Approval*

**Discussion/Information**

- IV. TransAction Preview: Baseline Analysis** Mr. Jasper

- V. NVTA Update** Ms. Backmon, Executive Director

**Adjournment**

- VI. Adjourn**

**Next Meeting:**  
**Wednesday, May 24, 2017**  
**6:30pm NVTA Office**



## Northern Virginia Transportation Authority

*The Authority for Transportation in Northern Virginia*

### PLANNING COORDINATION ADVISORY COMMITTEE

Wednesday, March 22, 2017, 6:30 pm

Northern Virginia Transportation Authority

3040 Williams Drive, Suite 200

Fairfax, Virginia 22031

### SUMMARY NOTES

#### I. Call to Order/Welcome

Chairman Buona

- Supervisor Ralph Buona called the meeting to order at 6:35 pm.
- Attendees:
  - **PCAC Members:** Supervisor Ralph Buona (Loudoun County); Council Member Linda Colbert (Town of Vienna), Council Member Ken Reid (Town of Leesburg); Supervisor Ruth Anderson (Prince William County), Council Member Jeff Davidson (Town of Herndon); Council member Phil Duncan (City of Falls Church); Supervisor John Foust (Fairfax County); Council Member Preston Banks (City of Manassas Park)
  - **NVTA Staff:** Monica Backmon (Executive Director); Michael Longhi (Chief Financial Officer); Keith Jasper (Principal, Transportation Planning and Programming); Harun Rashid (Transportation Planner)
  - **Other:** Noelle Dominguez (Fairfax County), Robert Brown (Loudoun County)

### Action

#### II. Approve Summary Notes of January 26, 2017, PCAC Meeting

- The January 26, 2017 Planning Coordination Advisory Committee meeting summary was unanimously approved, with abstentions from members (3) not present.

### Discussion/Information

#### III. Development of Six Year Program Framework

Mr. Jasper

- Ms. Backmon noted the proposed adoption date for NVTA's long range plan TransAction (October 12, 2017), and the need to finalize the Six Year Program (SYP) framework. To that discussion, Supervisor Buona highlighted key project milestones for the ongoing TransAction planning process. With this background, supervisor Buona set up the discussion for the SYP framework.

- Mr. Jasper started his presentation with the overarching goal of this framework – a methodology to arrive at actual project programming from the long-range planning process of TransAction. He mentioned that this workflow is unique in NVTA’s history.
- Mr. Jasper highlighted the key features of this proposed SYP framework – Transparent and Accountable, Flexible, and Predictable. This was followed with a description of key project milestones of TransAction, and how that relates to the development of the SYP framework.
- This was followed by a description of draft TransAction plan document outline, identifying its key inputs/outputs, and its features and limitations. Mr. Jasper then highlighted that TransAction will not be the sole source for project programming decisions in the SYP.
- The next section of presentation described proposed SYP features in detail – program adoption and update schedules, process for pay-go revenue allocation, process to adopt the first FY2018-23 program and its subsequent updates, detailed requirements of the ‘Call for Regional Projects (CfRP)’, process to evaluate CfRP responses by NVTA staff, and the Finance Committee’s role to recommend the program’s financial principles. During this presentation, Supervisor Buona highlighted the rolling update schedule of the program, and Mr. Longhi clarified the role of Finance Committee, e.g. if/when the SYP may rely on Authority’s debt capacity for mega projects. In response to a question from Supervisor Buona, Ms. Backmon stated that multi-jurisdictional resolutions are helpful for projects that are geographically confined to a single jurisdiction but are regional in nature. Ms. Backmon also stressed the need to include the regional transportation impact of a proposed project, for NVTA staff to justify a project to the Authority.
- Mr. Jasper ended by presenting the key milestones for the SYP framework, which was followed by a question/answer session.
- In response to Supervisor Buona, Ms. Backmon confirmed that this committee’s activities for the SYP framework will start in early 2018.
- Council Member Reid asked if a project’s CIP rationale is sufficient for the CfRP process. Ms. Backmon stated the need for more information to be submitted, e.g. project life-time cost and completion dates.
- Supervisor Foust asked to clarify the cost-benefit analysis. Mr. Jasper stated that the calculation of Congestion Reduction Relative to Cost ratios used for the FY2017 Program is not a part of TransAction plan, but will be used in the later programming phase. A ‘plan-level’ benefit/cost analysis will be included in TransAction using project cost estimates.
- Supervisor Foust also expressed concern at the extent of the Finance Committee’s role in final project fund allocations. Ms. Backmon stated that the Finance Committee has the same level of responsibility as this and the Planning and Programming Committee, and that there are overlaps and coordination among the committee members. Mr. Longhi further detailed the role of the Finance Committee in recommending financial policies to the Authority.
- Mr. Banks requested clarification of the TransAction scenario planning process. Mr. Jasper mentioned that scenario planning analyses are, in essence, sensitivity analyses to identify the range of uncertainties that are inherent in the long-range travel demand forecasting process. Mr. Banks also asked if the performance measures used in TransAction were reasonably vetted for different transportation modes. Supervisor

Buona affirmed that the process to derive these measures intentionally avoided any particular mode bias. Supervisor Buona expressed his appreciation that the CfRP is a part of this SYP framework.

**IV. NVTa Update**

Ms. Backmon, Executive Director

- Ms. Backmon mentioned two presentations in the upcoming Authority meeting on March 23 – VDOT updates on I-66 and I-395 corridors, and VRE update on Manassas Park parking expansion study.

**Adjournment**

**V. Adjourn**

- The meeting adjourned at 7:51 pm.

# Six-Year Program (SYP) Framework



Presentation to the PCAC  
*April 26, 2017*

Northern Virginia  
Transportation Authority  
*The Authority for Transportation in Northern Virginia*

# What is the SYP Framework?

- Describes how TransAction (TA) and the FY2018-23 Six Year Program will be integrated;
- Describes how the FY2018-23 Six Year Program will be developed;
- Identifies roles, responsibilities, schedule, and other ‘structural’ aspects of the FY2018-23 Six Year Program;
- Incorporates Financial Principles;
- Will not include list of projects or funding allocations.



# Desired SYP Features

- Transparent and Accountable
  - No secrets or surprises;
  - Leverages cost and time efficiencies wherever possible.
- Flexible
  - Adapts to changing circumstances, e.g. financial, transportation;
  - Maximizes Regional Revenue Fund project use through proactive cash flow and investment management.
- Predictable
  - Provides multi-year funding stream;
  - Matches expected project expenditure profile or funding verification requirements.



# Proposed SYP Features – 1

- Assuming the FY2018-23 Six Year Program is adopted in Spring 2018, subsequent updates will be adopted by:
  - Fall 2019 (FY2020-25)
  - Fall 2021 (FY2022-27)
- Updates to the SYP will accommodate:
  - Project/project phase completions;
  - Project schedule and budget adjustments (subject to NVTa policies);
  - Fluctuations in regional revenues;
  - Updated NVTa regional priorities.
- TransAction will be next updated and adopted by Fall 2022;
- Ad-hoc TransAction updates or amendments may occur under exceptional circumstances, subject to NVTa approval and the identification of an acceptable funding source.





# Integrated NVTA/CTB Schedule

CY	2017	2018	2019	2020	2021	2022	2023
<b>NVTA</b>							
TransAction							
FY2018-23 SYP							
FY2020-25 SYP							
FY2022-27 SYP							
TransAction							
FY2024-29 SYP							
<b>CTB</b>							
Smart Scale							
FY2018-23 SYIP							
Smart Scale							
FY2020-25 SYIP							
Smart Scale							
FY2022-27 SYIP							
Smart Scale							
FY2024-29 SYIP							



# Proposed SYP Features – 2

- Much like jurisdictional Capital Improvement Plans (CIPs) NVRTA's SYP will set an expectation for future funding of the identified projects;
- Subject to Finance Committee recommendation, the SYP will:
  - Allocate estimated revenues (PayGo) for each year of the Program
  - Utilize the Authority's available debt capacity when fiscally prudent.



# Proposed SYP Features – 3

- For the FY2018-23 Six Year Program, and subsequent updates, the following process will be followed:
  - Finance Committee will affirm estimated available PayGo revenues for each year of the Six Year Program, through annual budget cycle;
  - NVTa staff brief jurisdiction and agency staff in detail on the SYP process;
  - ‘Call for Regional Projects’ (CfRP) will be issued by the Authority (mid 10/17), with a 60-day response period (thru mid 12/17);
  - Additional 30-day response period (thru mid 1/18) for Governing Body resolutions
  - Review of responses and evaluation of projects by NVTa staff during a 90-day period following the CfRP response deadline (mid 12/17 – mid 3/18);
  - Review of NVTa staff recommendations during the following 60-day period (mid 3/18 – early 5/18);
  - Public Hearing (5/18) and optional ‘Town Hall’ meetings during a 30-day public comment period (during 5/18);
  - Adoption of the SYP, generally at the first Authority meeting following the Public Hearing (6/18).



# Proposed SYP Features – 4

- Responses to the CfRP will identify a candidate pool of regional projects focused on Northern Virginia's transportation needs;
- The requirements of the CfRP will include, as a minimum:
  - Project description, including specific link to relevant TransAction evaluation;
  - For all project phases: cost, schedule, funding requested, external funding available (with supporting documentation);
  - Commitment to engage/recognize NVTa as a partner in all public-facing outputs, e.g. advanced coordination for public events, branding;
  - Any other documentation that highlights a project's regional significance, e.g. extent to which project addresses regional needs, scale of regional impacts, and multi-jurisdictional commitments;
  - Resolution of support from the Governing Body, or Governing Bodies in the case of multi-jurisdictional projects.



# Proposed SYP Features – 5

- The review of CfRP responses and evaluation of projects by NVTa staff will include, as a minimum:
  - Verification of accuracy and completeness of responses;
  - Validation of project eligibility and consistency with relevant NVTa policies;
  - Posting of a summary of responses to NVTa's website;
  - Review of relevant TransAction evaluations, including 'regional coherence', phasing, and sequencing of CfRP projects;
  - Calculation of CRRC ratios;
  - Consideration of the TransAction scenario analysis
  - Documentation of relevant qualitative considerations;
  - Development of initial recommendation, for review by NVTa's Committees;
  - Development of draft recommendation, based on feedback from NVTa's Committees, for Authority action.

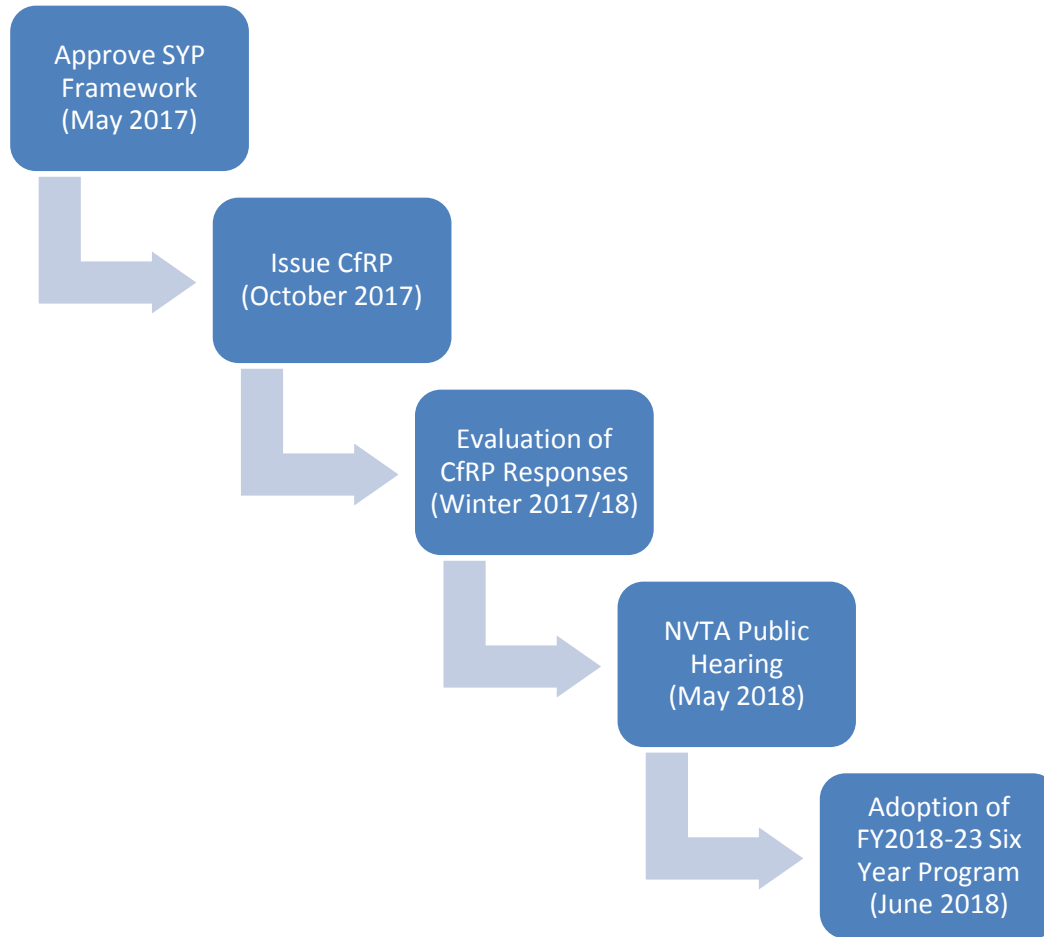


# Other SYP Considerations

- Finance Committee to recommend Financial Principles addressing:
  - Proportion of estimated available PayGo funding that should be allocated in each Fiscal Year of the SYP;
  - Factors that influence the extent to which available debt capacity should be used, and when;
  - Provision for NVRTA to provide matching funds for federal grant programs.
- Finance Committee will consider new/enhanced policies related to NVRTA's programming process.



# Key Milestones – Six Year Program





# **TransAction Preview: 2040 Baseline Conditions**

**Planning Coordination Advisory Committee**

**April 26, 2017**



# Agenda

- Process
- 2040 Baseline Conditions
- Candidate Regional Projects
- Summary of Model Results
- Next Steps

# Process

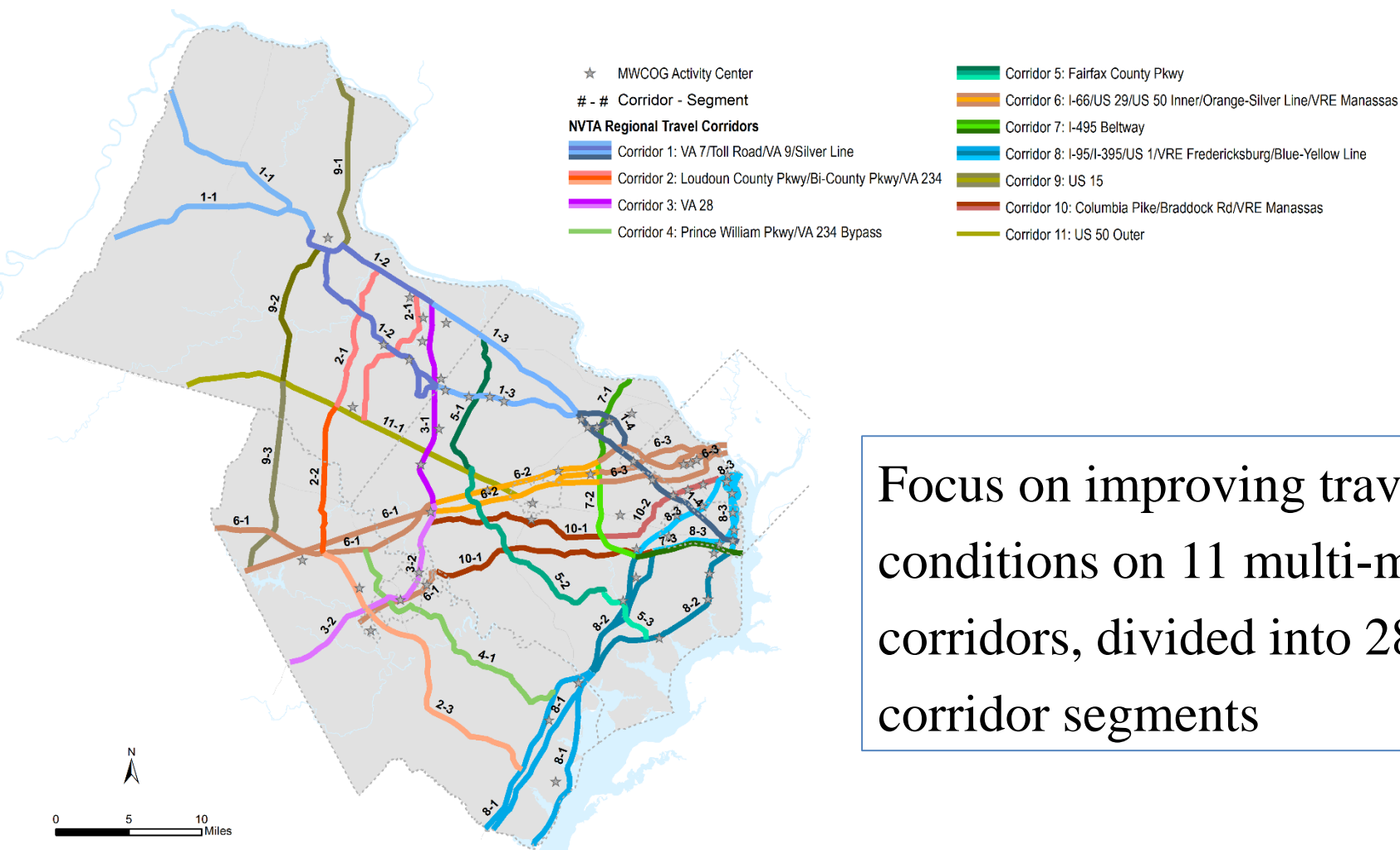
# Process – 1

- Two parallel tracks
  - Public Engagement (Spring and Fall 2016)
  - Technical Analysis

# Process – 2

- Establish 2040 TransAction Baseline
  - MWCOC Round 9.0 forecasts (population/employment)
  - Multi-modal transportation network comprising existing 2016 network plus:
    - Projects currently under construction
    - Future, committed projects with full funding
    - TransAction Baseline includes: Metrorail Silver Line Phase II, Transform 66, I-395 Express Lanes, I-95 Express Lanes extension
  - Development of four ‘alternate futures’ for scenario (sensitivity) analysis

# Process – 3



Focus on improving travel conditions on 11 multi-modal corridors, divided into 28 corridor segments

# Process – 4

- Performance Measures
  - Performance of the plan evaluated at multiple levels (regional, corridor, corridor segment)
  - Evaluation uses 15 measures, including all seven HB 599 (2012) measures; each measure weighted 5 or 10 percent
  - Integrates HB 599 process into TransAction
- Benefit/Cost Analysis
  - TransAction includes a ‘planning level’ BCA, using project cost estimates and encompassing all performance measures

# Process – 5

- Unconstrained Approach
  - TransAction embraces regional transportation solutions that address regional transportation needs
  - TransAction is a fiscally unconstrained plan
  - TransAction includes candidate regional projects with a full or partial funding need, regardless of whether such projects are eligible for NVTAs regional revenues

# Process – 6

- Analytical Approach
  - Develop a Draft Plan with a horizon year of 2040
  - Draft Plan includes a combination of ‘bottom-up’ and ‘top-down’ (e.g. ICM/ITS, TDM, high performance transit) candidate regional projects
  - Draft Plan compared to 2040 TransAction Baseline
  - Draft Plan additionally evaluated against modified 2040 baseline conditions associated with four alternate futures



# Process – 7

- Caveats
  - TransAction is a multi-modal long range regional transportation plan; it does not seek to evaluate or optimize individual projects
  - Focus on ‘bigger picture’ relative changes rather than microscopic details
  - Analytical approach addresses recurring congestion

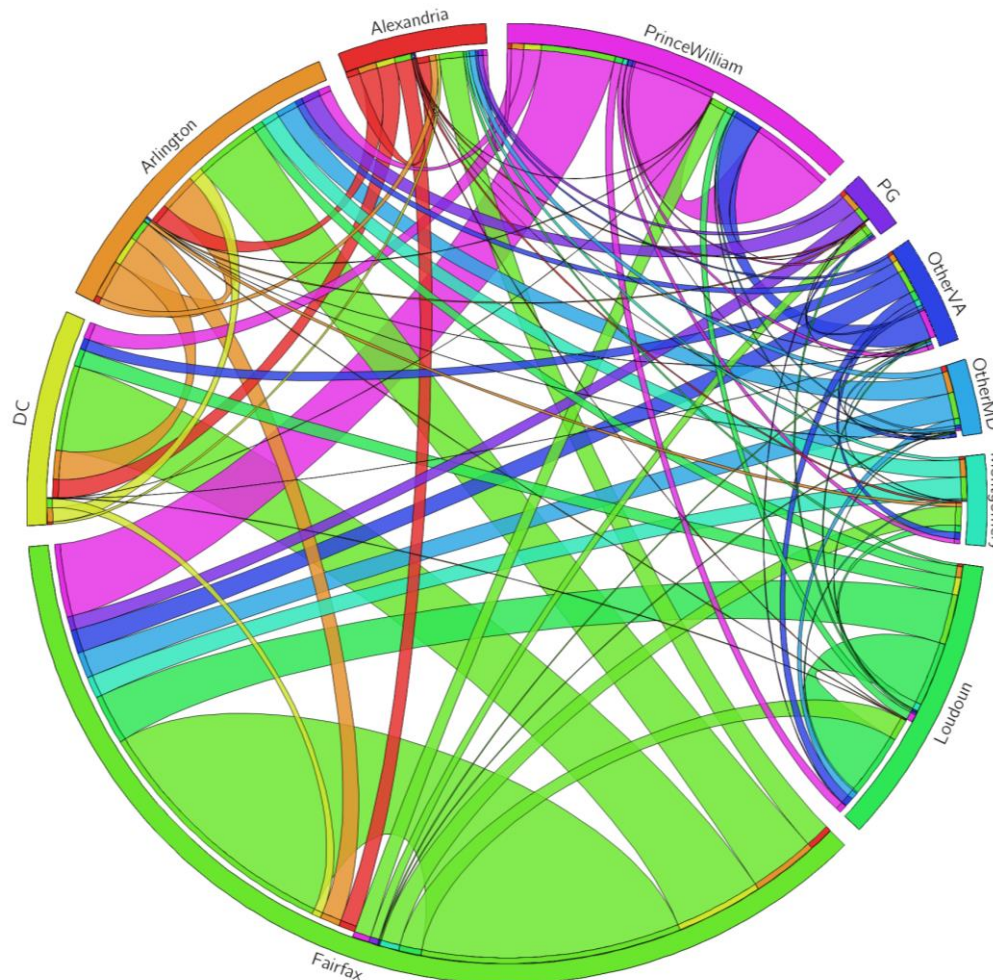
# 2040 Baseline Conditions

# 2016 vs. 2040 TransAction Baseline

	2016	2040 TransAction Baseline	% Change
Population			
Northern VA	2,413,009	2,994,401	24%
DC Metro	7,150,948	8,788,431	23%
Employment			
Northern VA	1,362,880	1,873,262	37%
DC Metro	4,066,099	5,253,305	29%

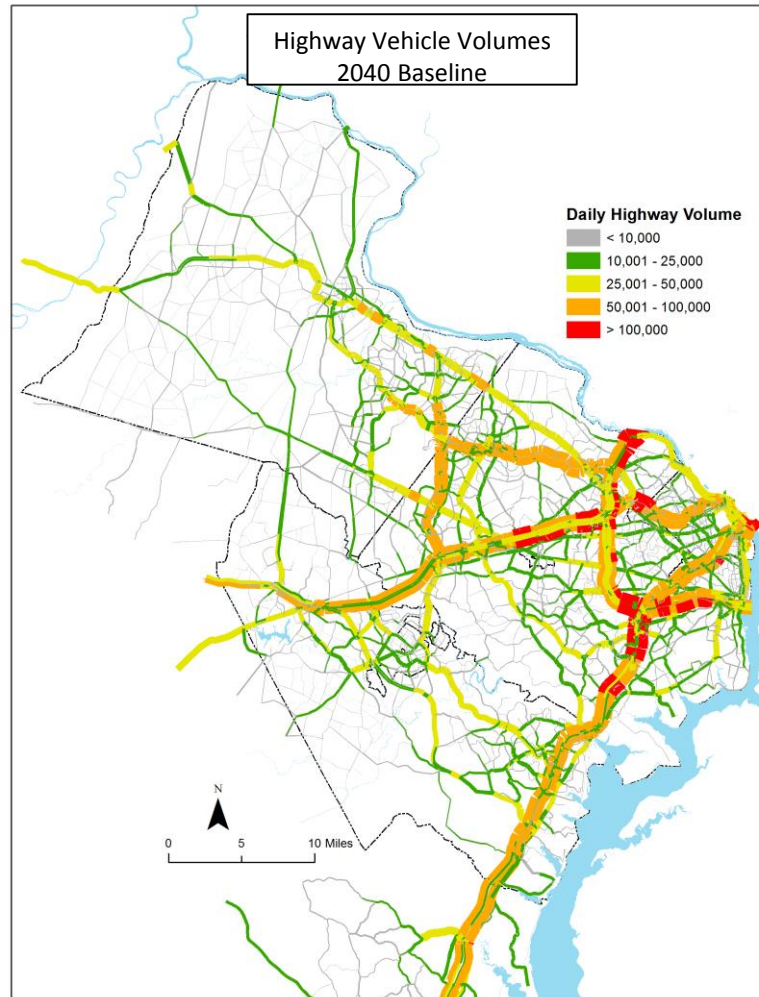
# Jurisdiction Origins and Destinations

## 2040 Commute Patterns



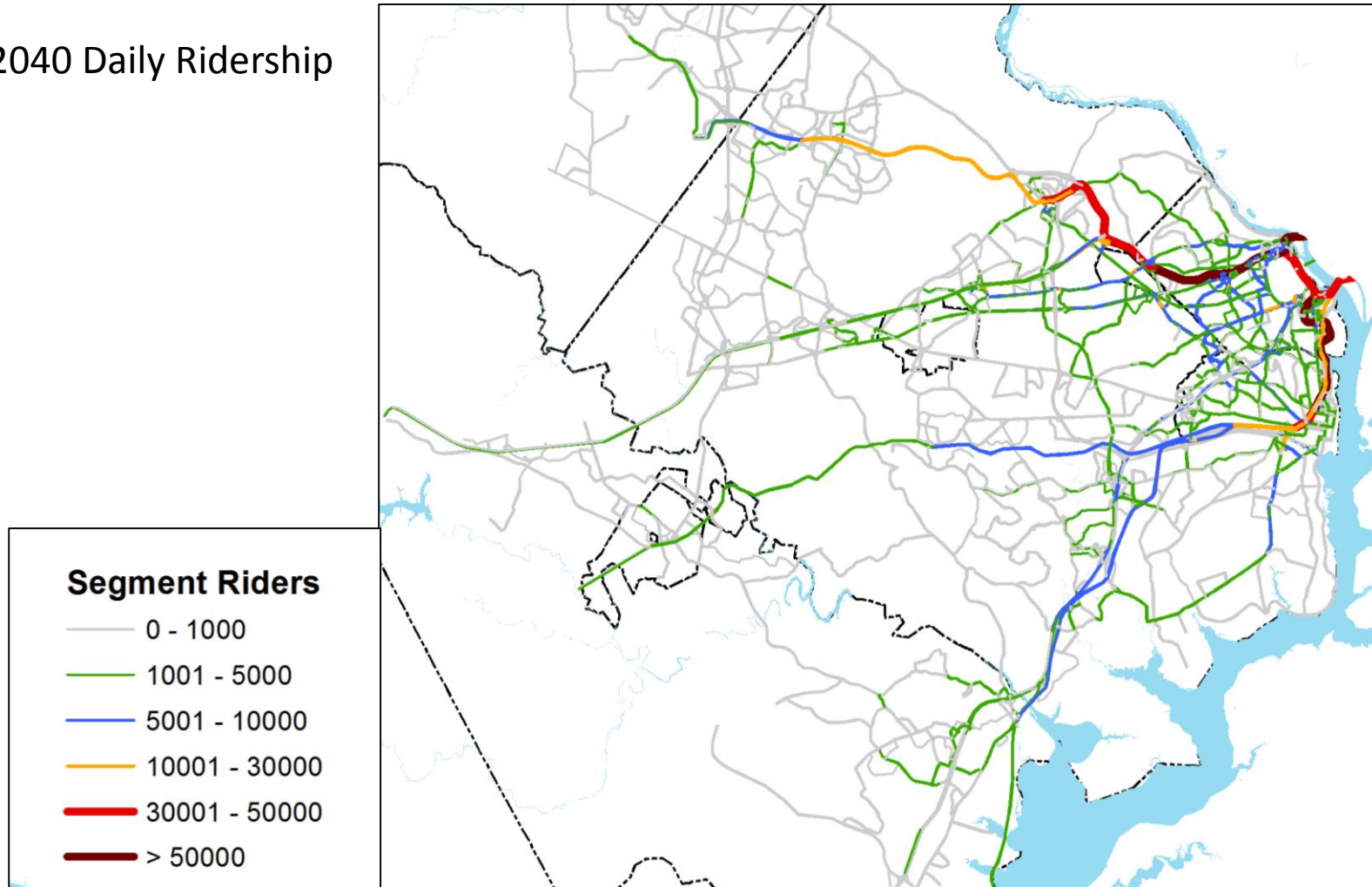
Source: MWCOC 2040 Travel Forecasts, Round 9.0 Land Use

# TransAction Baseline Vehicle Volumes



# TransAction Baseline Transit Ridership

2040 Daily Ridership



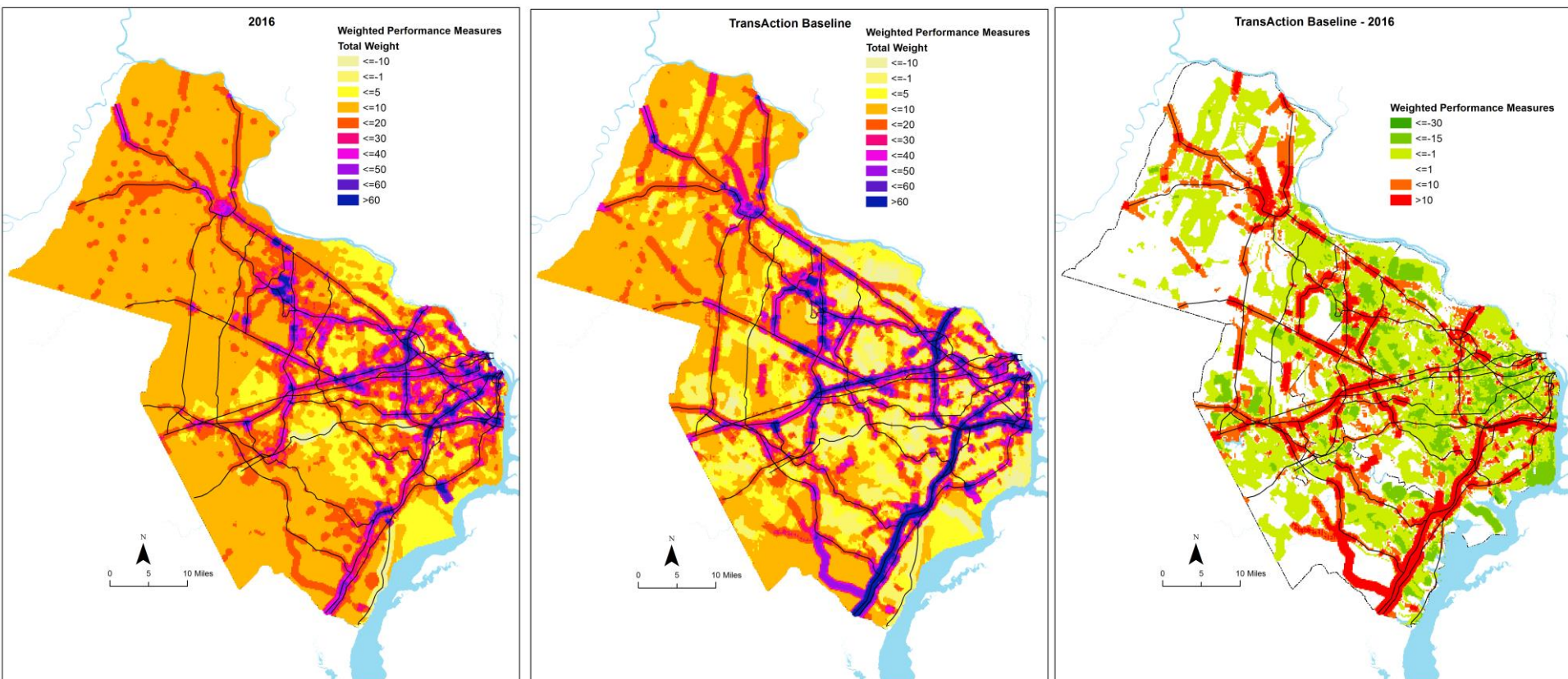
# 2016 vs. 2040 TransAction Baseline

Daily Measures	2016	2040 TransAction Baseline	% Change
Motorized Trips	8,737,000	10,462,000	19.7%
Auto Trips	7,862,000	9,432,000	20.0%
Transit Trips	876,000	1,030,000	17.6%
Transit Share	10.0%	9.8%	-0.2%
Transit Boardings	1,002,000	1,359,000	35.6%
Miles of Travel	104,838k	125,378k	19.6%
Hours of Travel	3,298,000	5,811,000	76.2%
Hours of Delay	1,007,000	3,030,000	201%
Transit Crowding	10,800	20,100	86.8%



# 2040 TransAction Baseline

2040 TransAction Baseline compared to 2016 Conditions





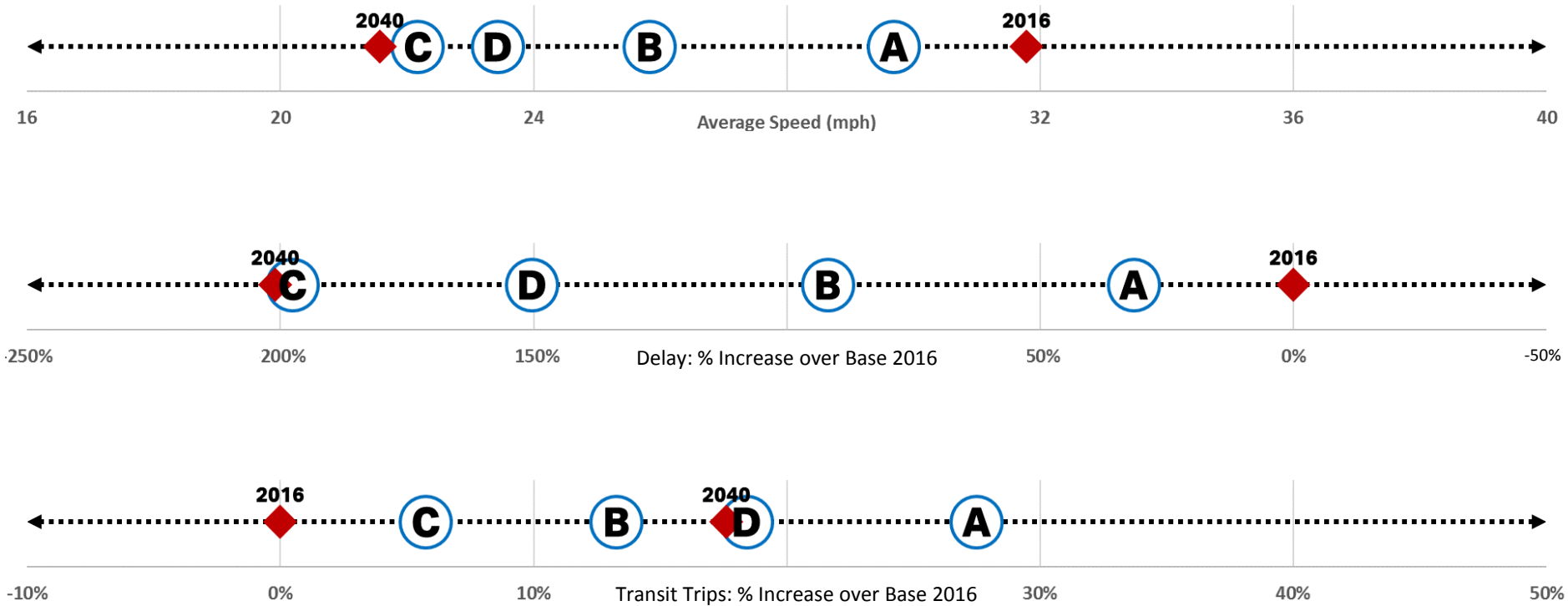
# Alternate Futures

- Four Alternate Futures tested:
  - Scenario A: Technology makes driving easier
  - Scenario B: Changes in travel behavior
  - Scenario C: Dispersed land use growth
  - Scenario D: Concentrated land use growth
- Scenarios are ‘plausible’ alternate futures, but are neither ‘predicted’ nor ‘preferred’; hybrid scenarios are ‘probable’
- Scenario (sensitivity) analysis provides an understanding of the robustness of TransAction findings and recommendations
- NVTa may wish to explore future proactive policy directions associated with any desired alternate futures

# 2040 TransAction Baseline vs Scenarios

Daily Measures	2016	TransAction Baseline	Scenario A	Scenario B	Scenario C	Scenario D
Motorized Trips	8,737,000	10,462,000	10,847,000	10,063,000	10,733,000	10,320,000
Auto Trips	7,862,000	9,432,000	9,731,000	9,071,000	9,807,000	9,284,000
Transit Trips	876,000	1,030,000	1,116,000	992,000	926,000	1,037,000
Transit Share	10.0%	9.8%	10.3%	9.9%	8.6%	10.0%
Transit Boardings	1,002,000	1,359,000	1,382,000	1,144,000	1,239,000	1,389,000
Miles of Travel	104,838k	125,378k	127,818k	116,615k	129,719k	121,587k
Hours of Travel	3,298,000	5,811,000	4,305,000	4,515,000	5,850,000	5,188,000
Hours of Delay	1,007,000	3,030,000	1,324,000	1,932,000	2,996,000	2,520,000
Transit Crowding	10,800	20,100	13,800	12,900	16,500	19,700

# 2040 TransAction Baseline vs Scenarios



Higher Performing →

# Alternate Futures: Key Highlights

- Scenarios A and B provide the greatest improvement in travel conditions over the 2040 TransAction Baseline
  - Scenario A has the lowest person hours of delay (less than 55% of Baseline and Scenarios C and D)
  - Scenario B has the lowest level of transit crowding
- Scenarios C and D highlight the relationship between land use and transportation
  - Scenario C appears to be the least desirable alternate future, is still better than the 2040 TransAction Baseline

# Candidate Regional Projects

# Draft Plan Projects

Total Projects in Draft Plan	Plan Cost Estimate w/ ROW (\$bn)
360	\$43.9

Project Type	Total Projects*
Roadway	240
Transit	104
Non-motorized	45
ITS <sup>1</sup> / ICM <sup>2</sup> / TDM <sup>3</sup>	30

\*Projects can be categorized as multiple types

<sup>1</sup> ITS: Intelligent Transportation Systems

<sup>2</sup> ICM: Integrated Corridor Management

<sup>3</sup> TDM: Transportation Demand Management

# Summary of Model Results

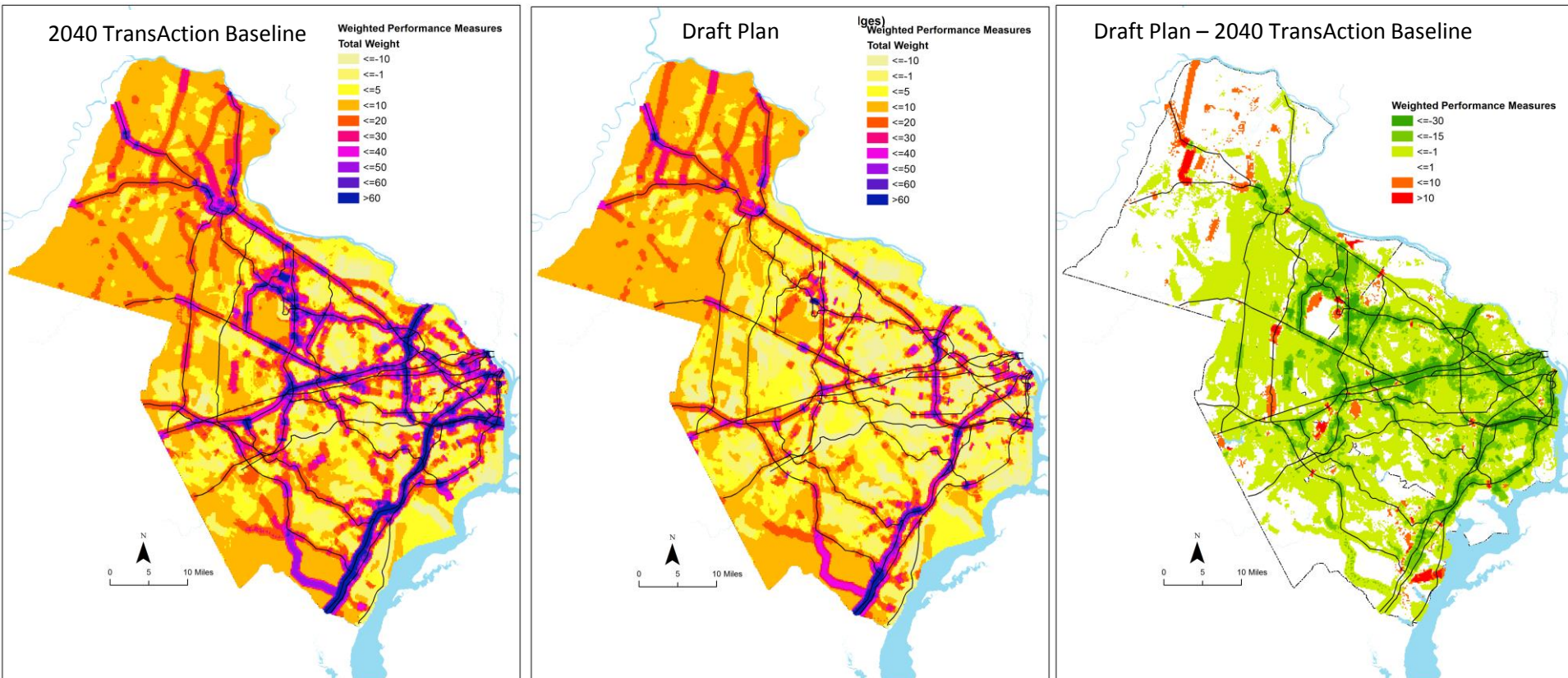
# Draft Plan: Initial Findings

Daily Measures	2016	2040 TransAction Baseline	Draft Plan	% Change
Motorized Trips	8,737,000	10,462,000	10,563,000	1.0%
Auto Trips	7,862,000	9,432,000	9,444,000	0.1%
Transit Trips	876,000	1,030,000	1,119,000	8.7%
Transit Share	10.0%	9.8%	10.6%	8.2%
Transit Boardings	1,002,000	1,359,000	1,539,000	13.2%
Miles of Travel	104,838k	125,378k	124,829k	-0.4%
Hours of Travel	3,298,000	5,811,000	4,387,000	-24.5%
Hours of Delay	1,007,000	3,030,000	1,645,000	-45.7%
Transit Crowding	10,800	20,100	7,100	-64.9%



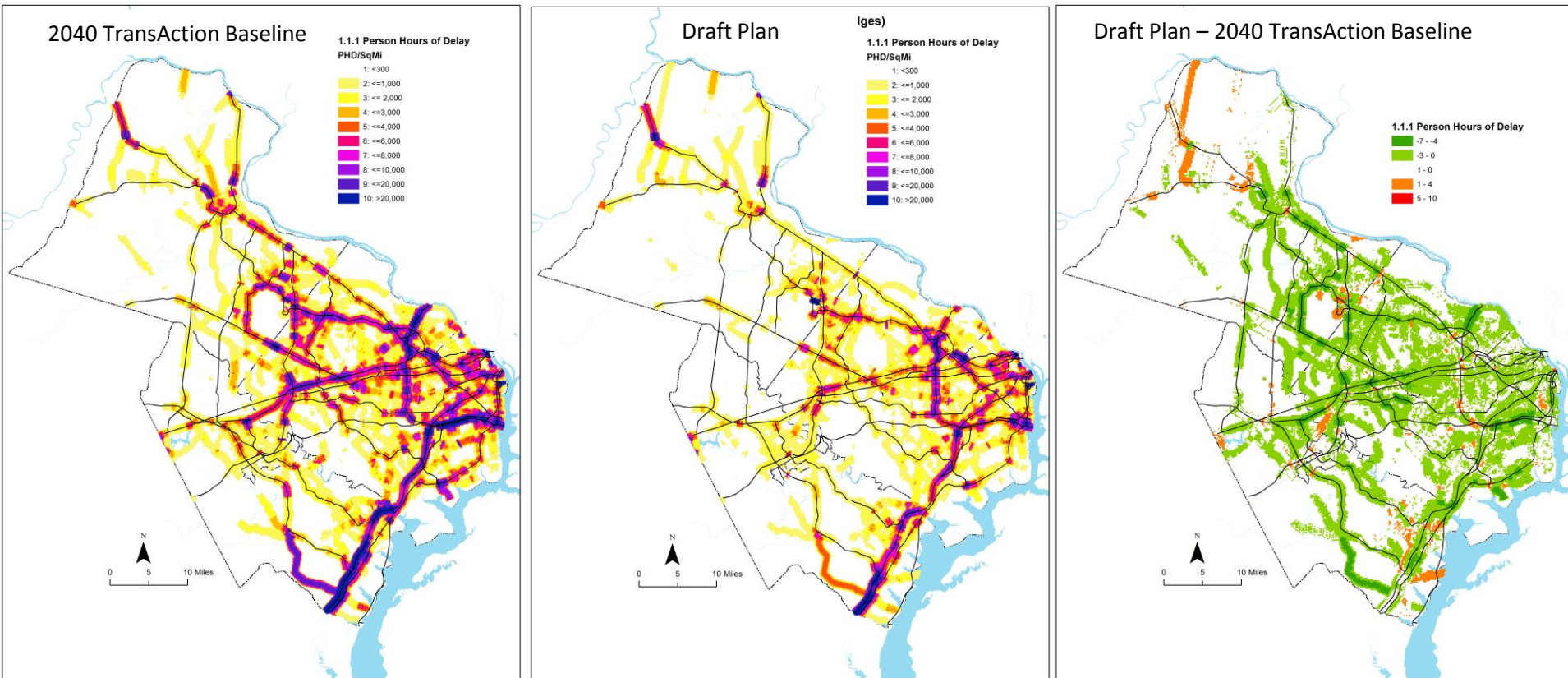
# Performance Impact

## Draft Plan compared to 2040 TransAction Baseline



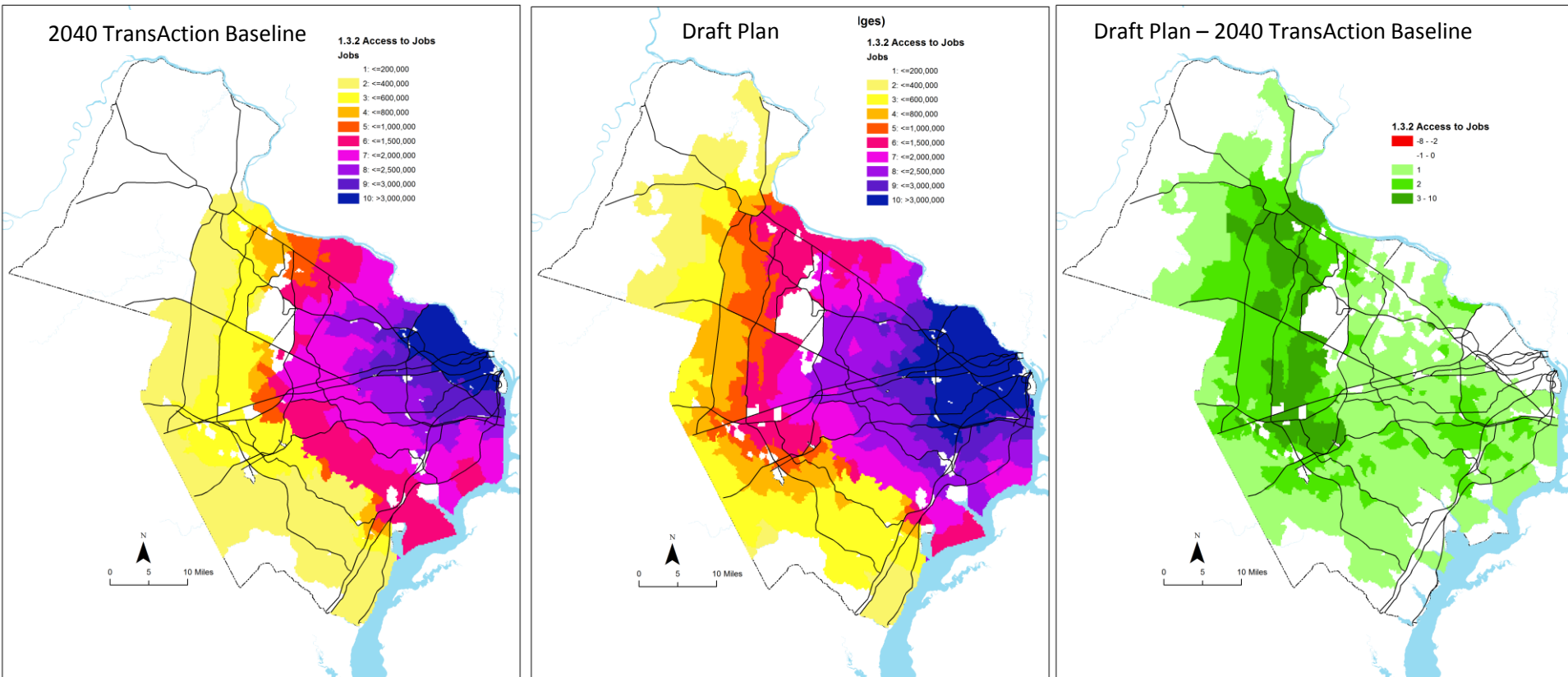
# Person Delay Impacts

Draft Plan compared to 2040 TransAction Baseline



# Access to Jobs Impact

Draft Plan compared to 2040 TransAction Baseline



# Draft Plan: Summary

- Compared to the 2040 TransAction Baseline, the Draft Plan:
  - Modestly increased total trips (1.0%), but with increased transit share (by 8.2%)
  - Person miles traveled decreased marginally, but person hours of travel and hours of delay noticeably reduced (by 25% and 46%)
  - Transit crowding significantly reduced (by 65%) to below 2016 levels, in part due to regional BRT/LRT additions
  - Noticeable improvement in job accessibility for residents in a broad corridor from Leesburg to S. Prince William Co.
  - Residual problem areas include I-95 and I-495

# Next Steps

- Preview of detailed findings and recommendations during May 2017
- Official release of draft TransAction plan June 8, 2017
- Open House and Public Hearing July 13, 2017; tentative public comment period June 9 thru July 23; includes optional Town Hall meetings
- Adoption of TransAction plan October 12, 2017

Note: all dates subject to NVTa approval