

Introduction

Vision

In the 21st century, Northern Virginia will develop and sustain a multimodal transportation system that enhances quality of life and supports economic growth. Investments in the system will provide effective transportation benefits, promote areas of concentrated growth, manage both demand and capacity, and employ the best technology, joining rail, roadway, bus, air, water, pedestrian, and bicycle facilities into an interconnected network that is fiscally sustainable.

Goals

1. Enhance quality of life and economic strength of Northern Virginia through transportation.
2. Enable optimal use of the transportation network and leverage the existing network.
3. Reduce negative impacts of transportation on communities and the environment.

TransAction Timeline

NOVEMBER 2015

TransAction
Kickoff

SPRING 2016

Identify Needs
and Trends

Public Outreach

FALL 2016

Identify
Regional Priorities

Public Outreach

WINTER 2016-17

Evaluate
Regional Priorities

SUMMER 2017

Review
Draft Plan

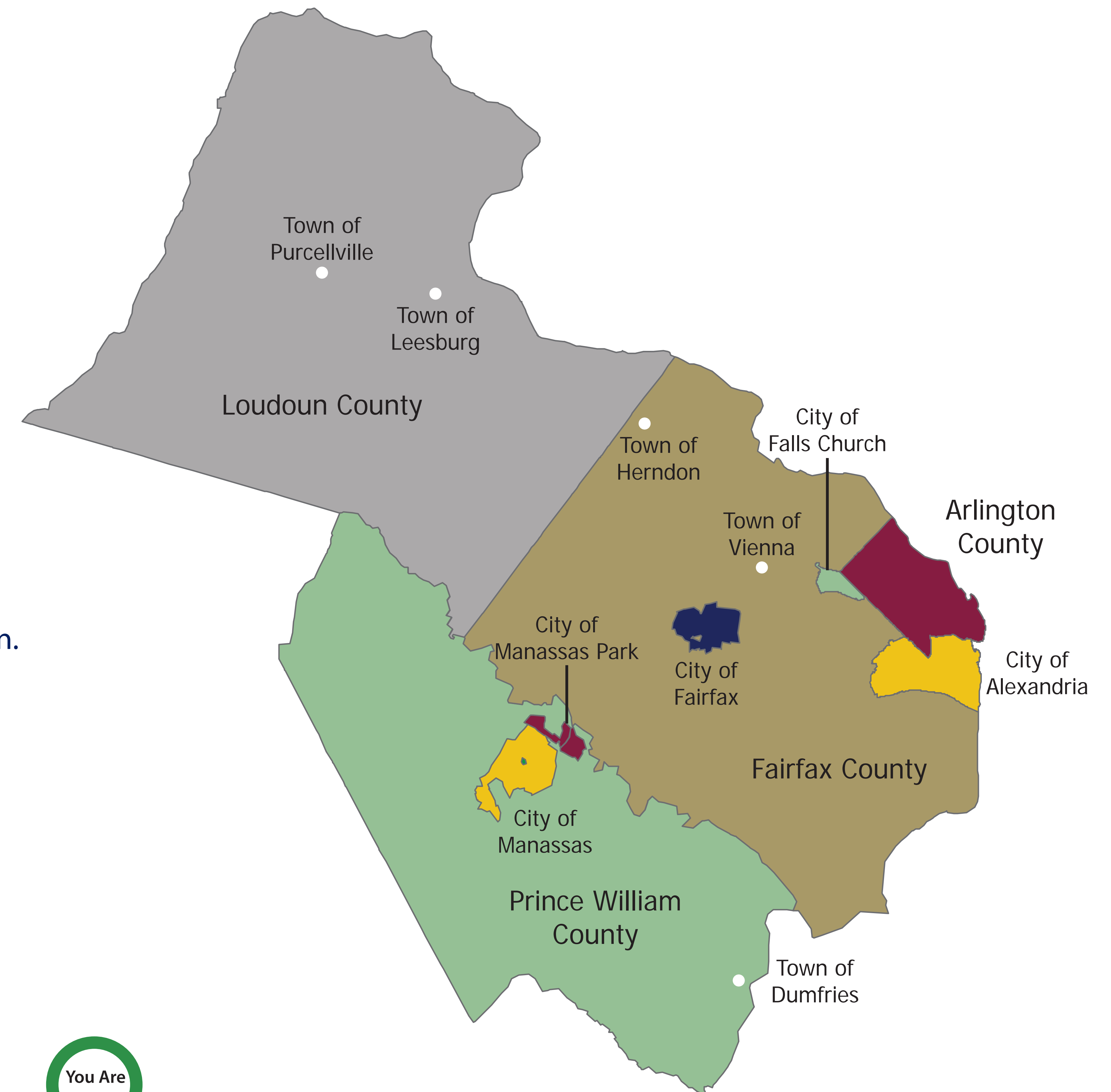
Public Outreach

FALL 2017

Adoption by the NVTA

You Are
Here

NVTA Jurisdictions

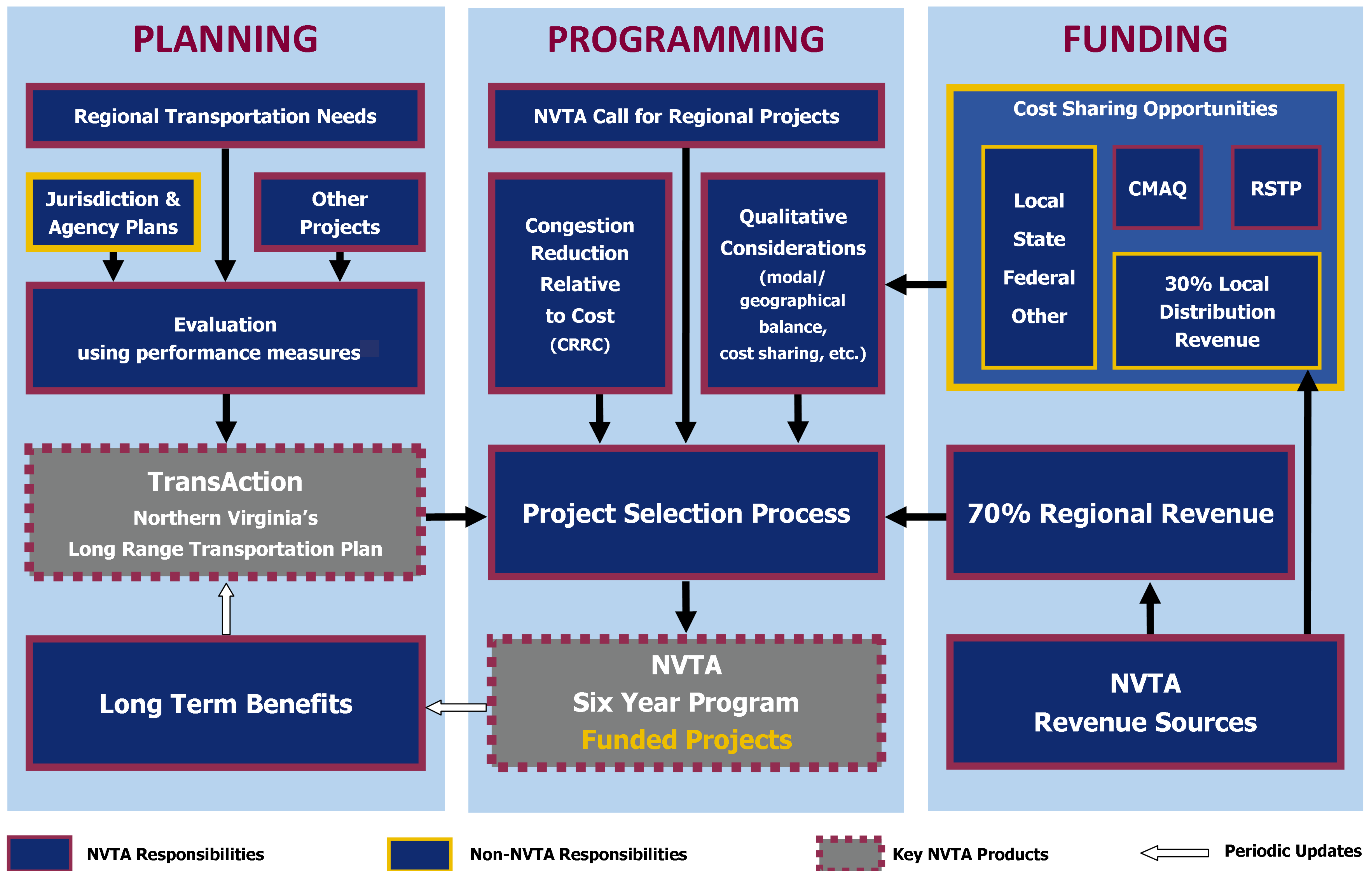


TransAction Overview



NVTA's
TransAction

NVTA Function



TransAction Overview

Performance Based Planning

Goal	Objective	Performance Measure	Weight
Goal 1: Enhance quality of life and economic strength of Northern Virginia through transportation	Reduce congestion and crowding experienced by travelers in the region	Total person hours of delay	10%
		Transit crowding	5%
		Person hours of congested travel in automobiles	5%
		Person hours of congested travel in transit vehicles	5%
	Improve travel time reliability	Congestion severity: maximum travel time ratio	5%
		Congestion duration	10%
	Increase access to jobs, employees, markets, and destinations	Percent of jobs/population within 1/2 mile of high frequency and/or high performance transit	5%
		Access to jobs within 45 minutes by auto or within 60 minutes by transit	5%
	Improve connections among and within areas of concentrated growth	Average travel time per motorized trip between Regional Activity Centers	5%
		Walkable/bikeable environment within Regional Activity Centers	5%
Goal 2: Enable optimal use of the transportation network and leverage the existing network	Improve the safety of transportation network	Safety of the transportation system	5%
	Increase integration between modes and systems	First and last mile connections	10%
	Provide more route and mode options to expand travel choices and improve resiliency of the system	Share of travel by non-single-occupancy vehicle modes	10%
	Sustain and improve operation of the regional system	Person hours of travel caused by 10% increase in PM peak hour demand	5%
Goal 3: Reduce negative impacts of transportation on communities and the environment	Reduce transportation-related emissions	Vehicle miles traveled (VMT) by speed	10%

Vision Statement

articulates a preferred idealized state.

Goals focus on priorities and outcomes the region desires to move toward.

Objectives are measurable and targeted actions that result in incremental but tangible advancement toward the stated goals.

Performance Measures

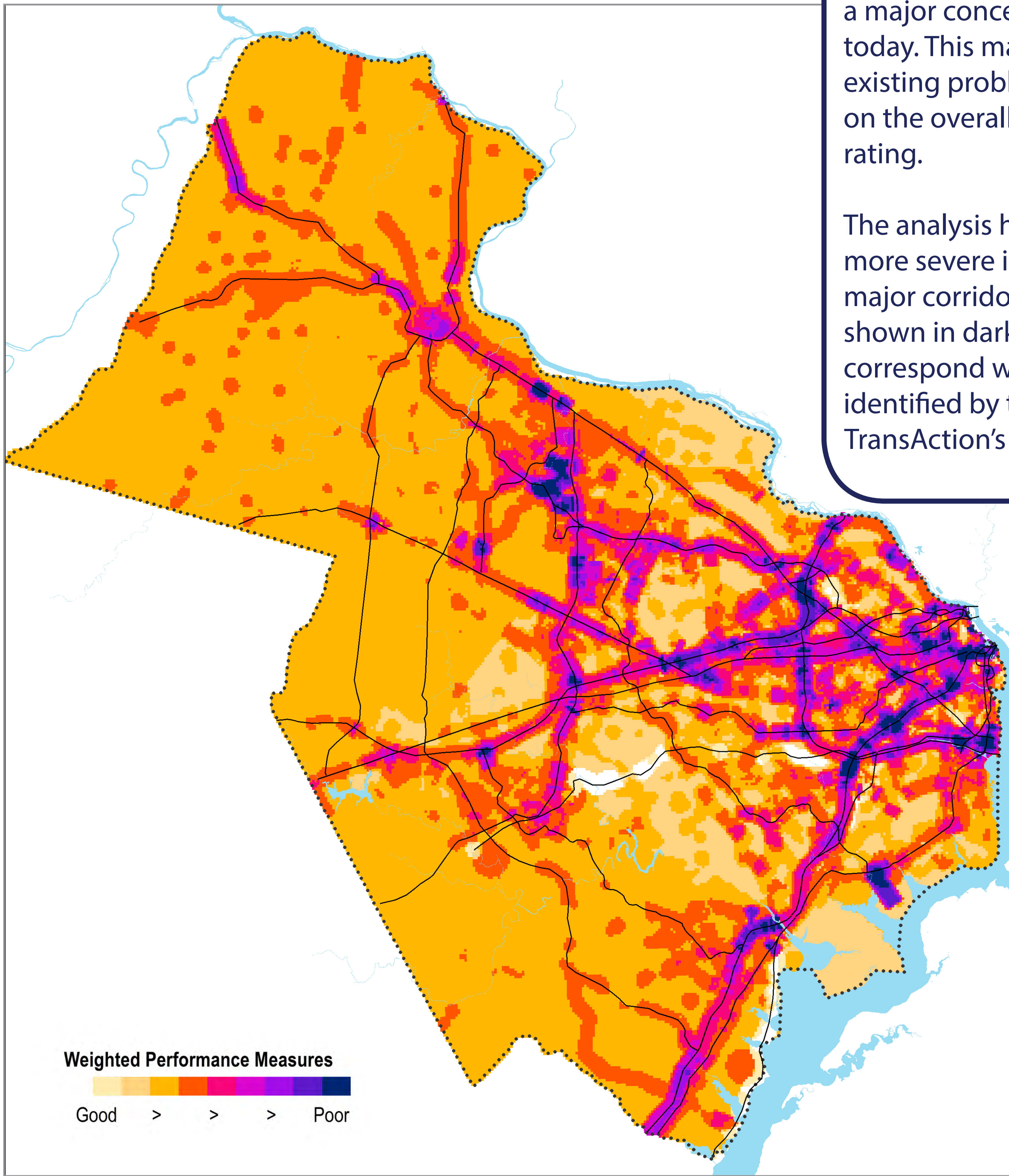
are used to evaluate potential performance of the transportation network. They derive from the stated objectives. Weights are applied for each measure to assess overall performance of the plan.

Today's Travel Conditions

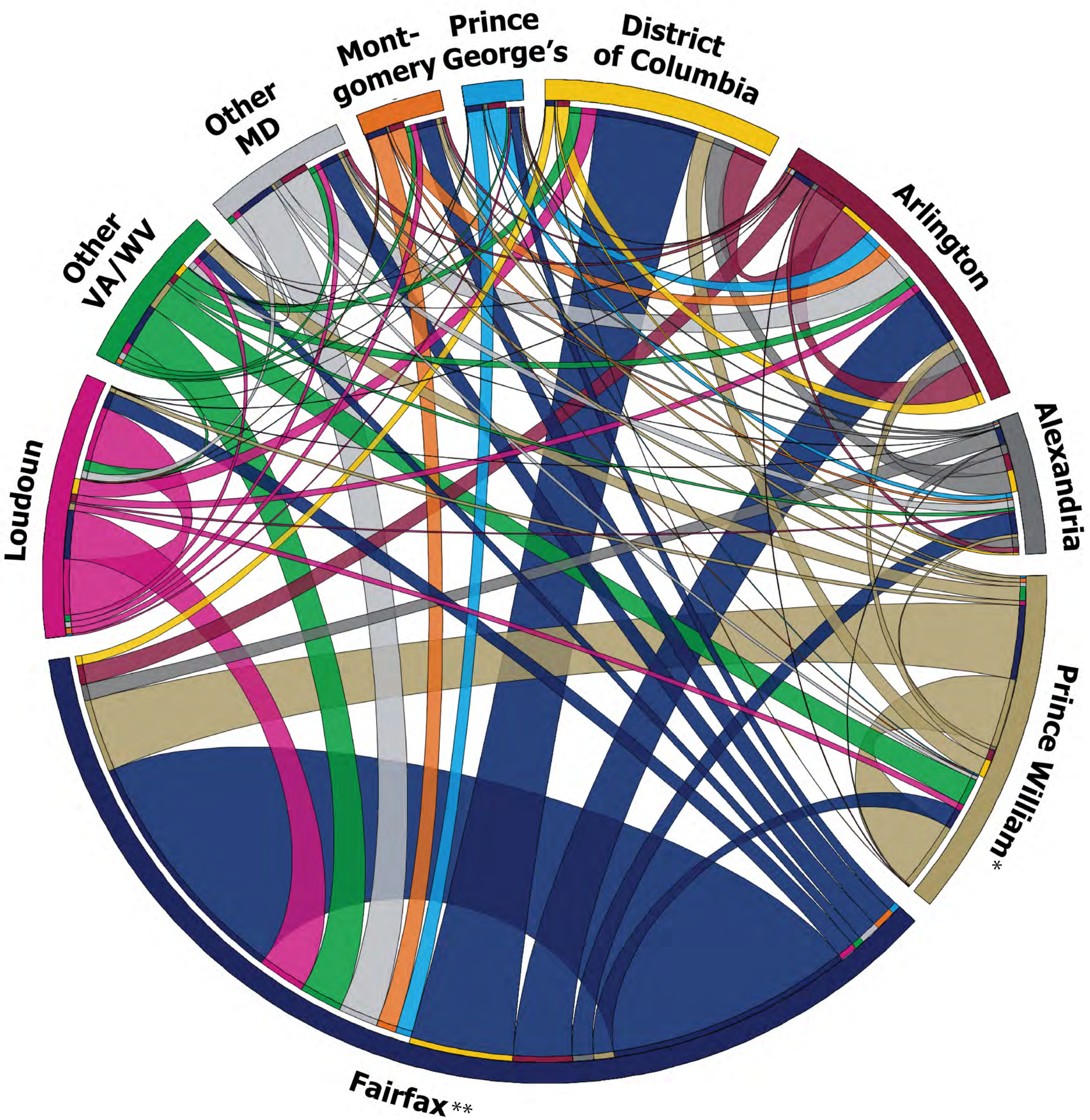
2016 Overall Performance Rating Map

Everyone knows that transportation is a major concern in Northern Virginia today. This map highlights some of the existing problems in the region based on the overall weighted performance rating.

The analysis highlights areas with more severe issues along all of the major corridors in the region, as shown in darker blue. These locations correspond with areas of concern identified by the public during TransAction's outreach efforts.

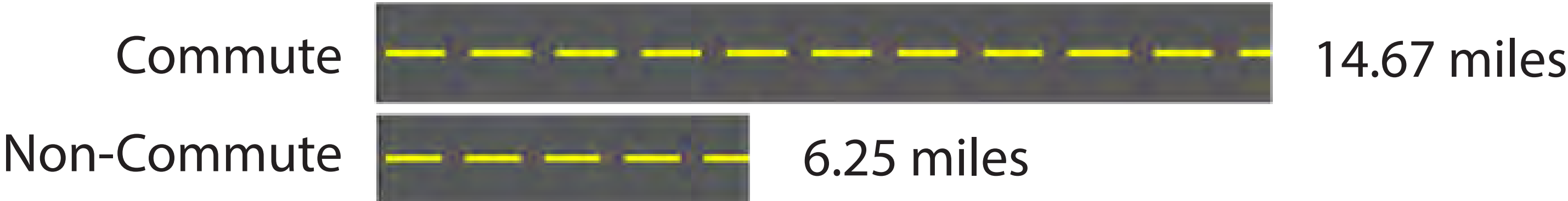


2016 Origin-Destination Commute Travel Patterns



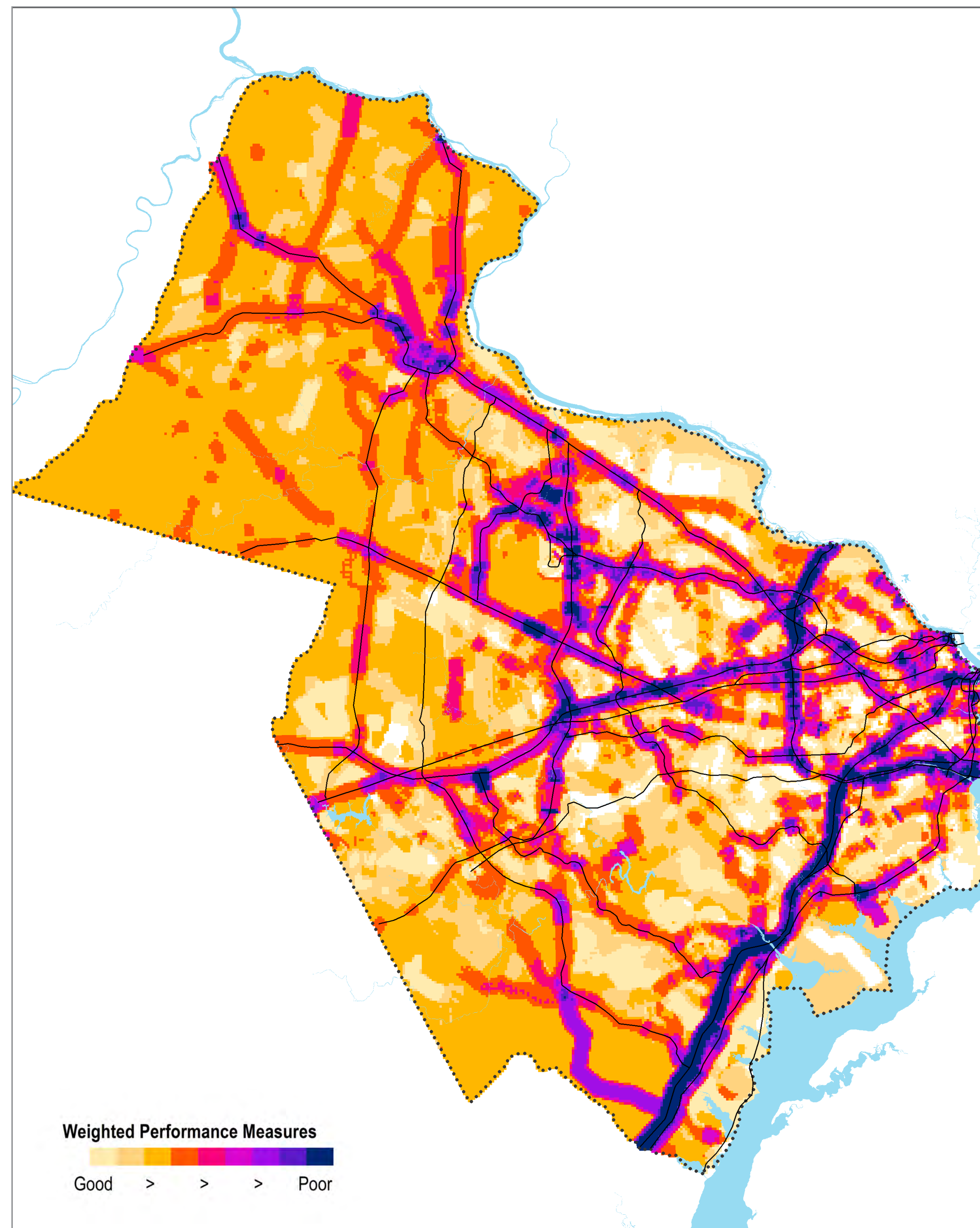
* Includes trips for the independent cities of Manassas and Manassas Park.
** Includes trips for the independent cities of Fairfax and Falls Church.

Average Trip Length for Northern Virginia



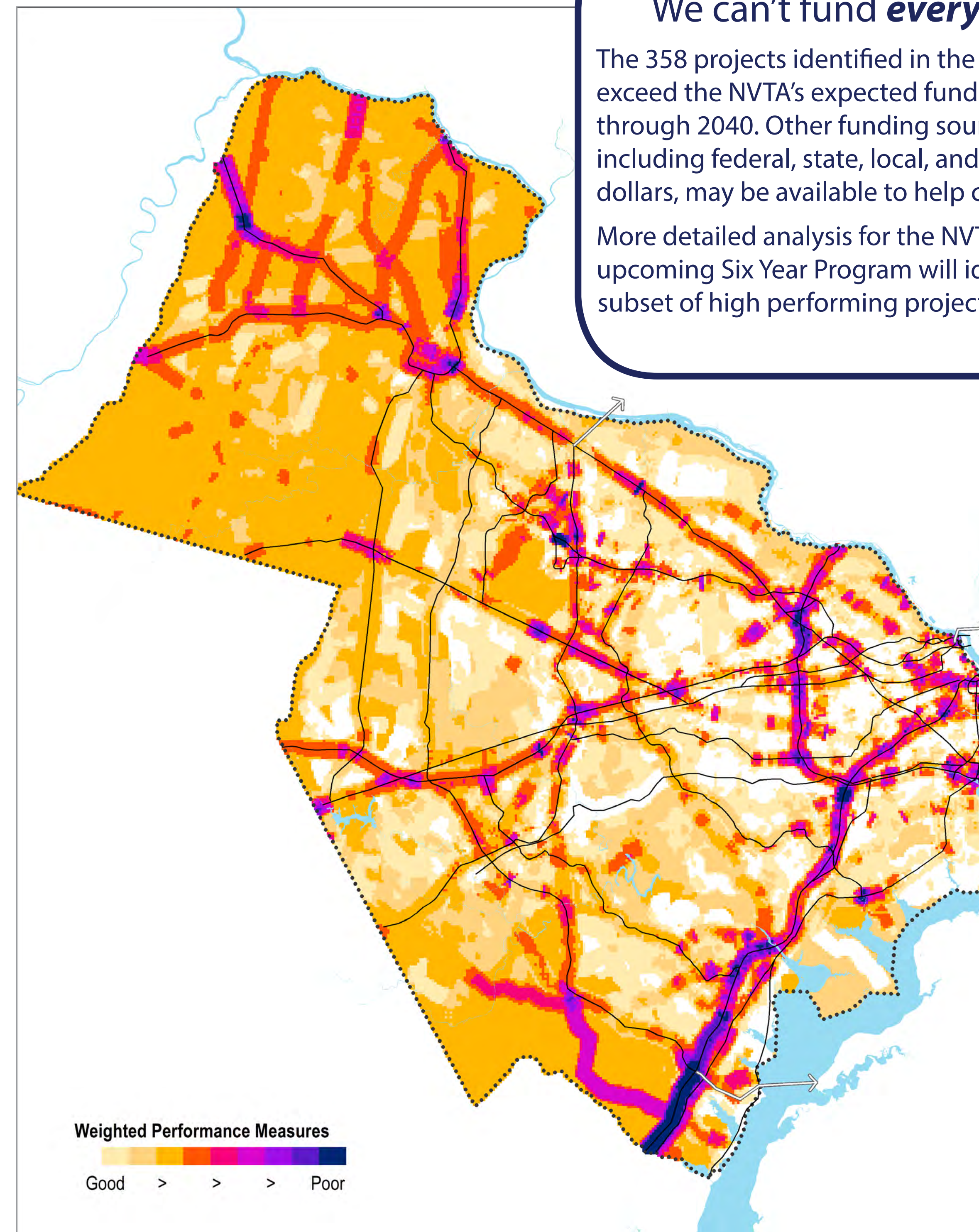
Draft Plan Performance

2040 'No Build' Overall Performance Rating



This map shows the overall performance rating for the Northern Virginia region under the 2040 'No Build' conditions. Areas shown in darker blue perform worse based on this rating, which combines the 15 performance measures. The 2040 'No Build' includes only projects that are already fully funded.

Draft Plan Overall Performance Rating

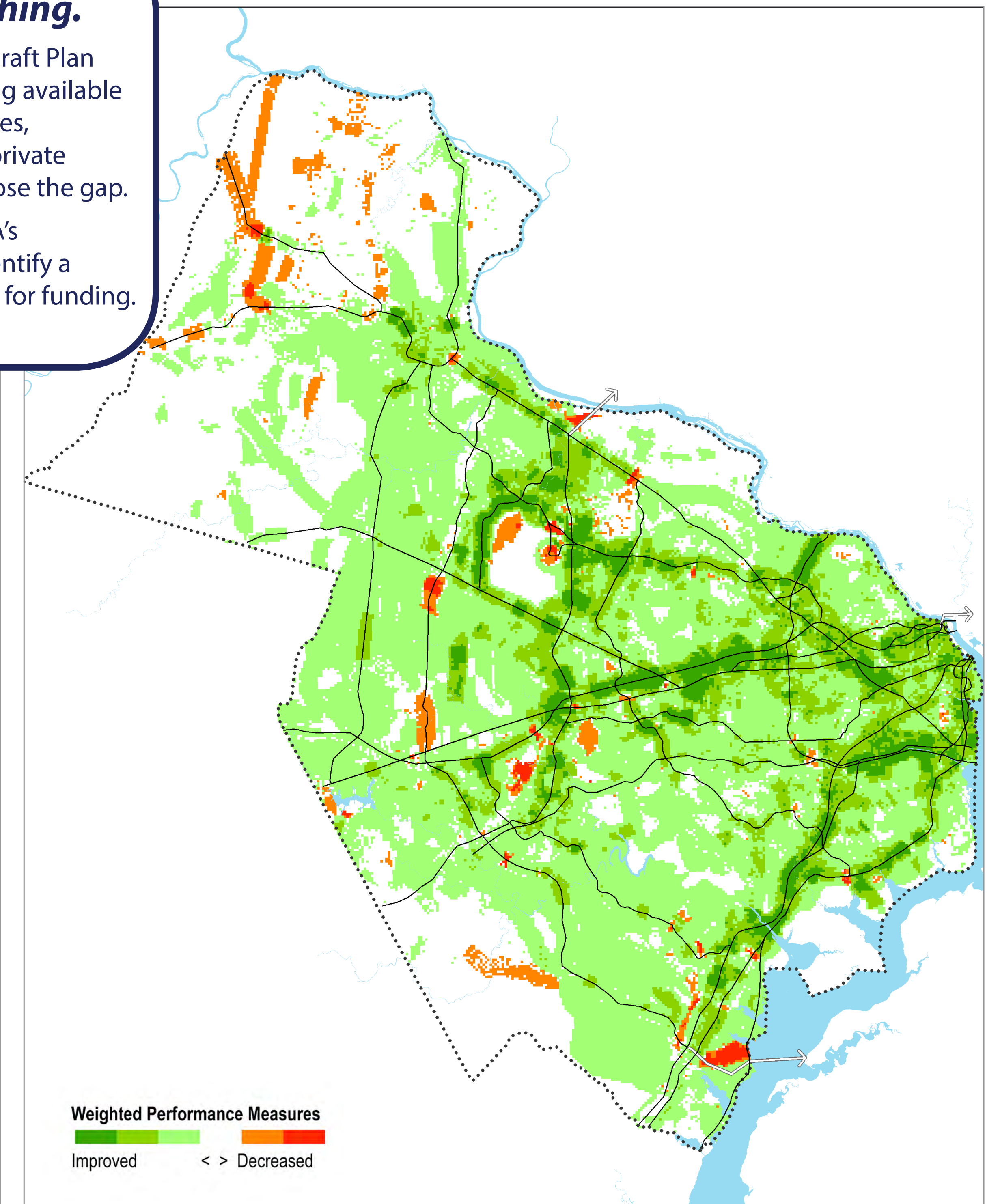


This map shows the overall performance rating for the Northern Virginia Region with the implementation of the 358 projects in the Draft TransAction Plan. As shown, many of the major corridors in Northern Virginia will experience significant improvements in transportation conditions with the implementation of TransAction.

We can't fund *everything*.

The 358 projects identified in the Draft Plan exceed the NVTa's expected funding available through 2040. Other funding sources, including federal, state, local, and private dollars, may be available to help close the gap. More detailed analysis for the NVTa's upcoming Six Year Program will identify a subset of high performing projects for funding.

Draft Plan Compared to 2040 'No Build' - Overall Performance Rating

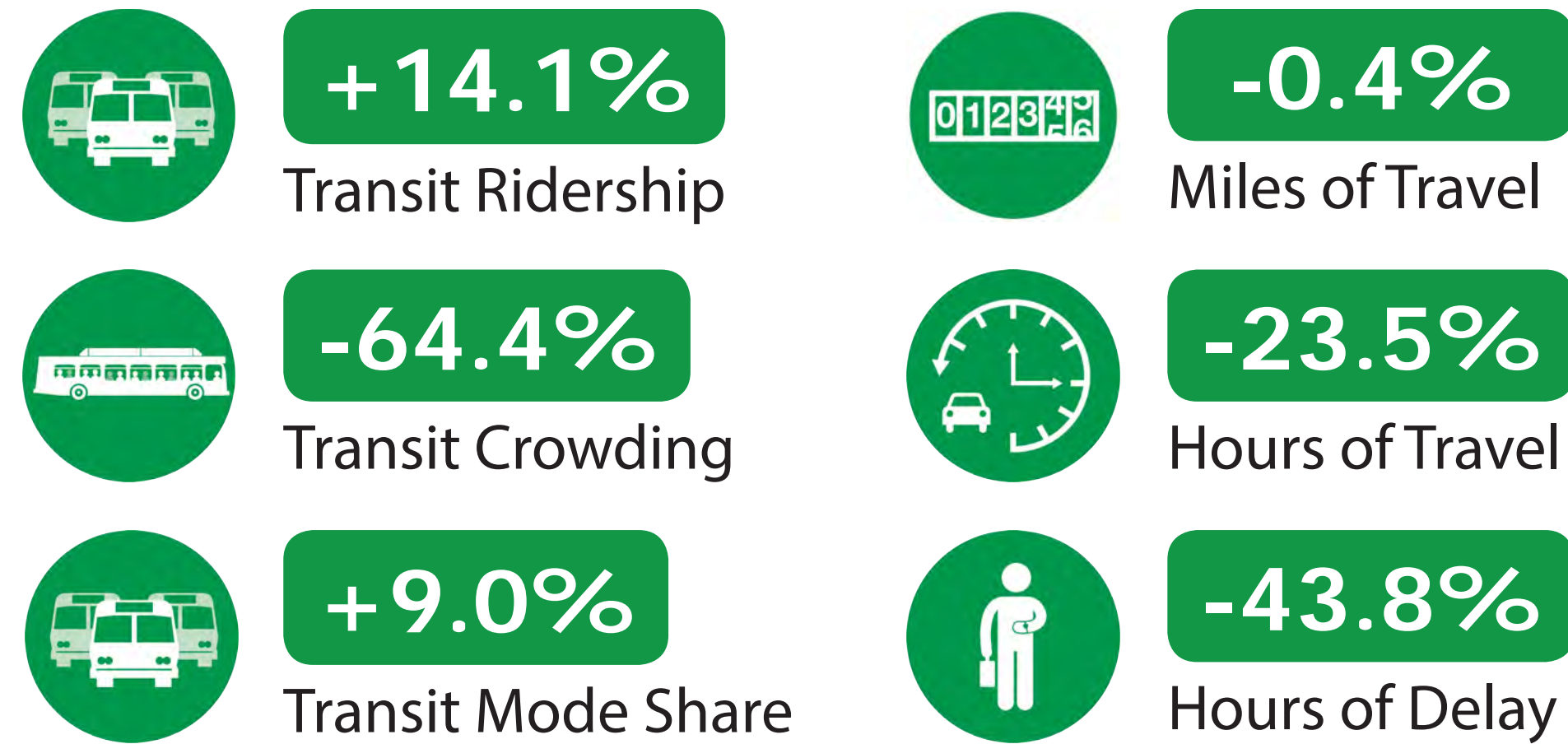


This map shows the change in the overall performance rating resulting from the implementation of the Draft Plan. Areas shown in green are forecast to experience an improvement in transportation conditions with implementation of the Draft Plan, while areas shown in orange are forecast to perform worse than the 2040 'No Build'.

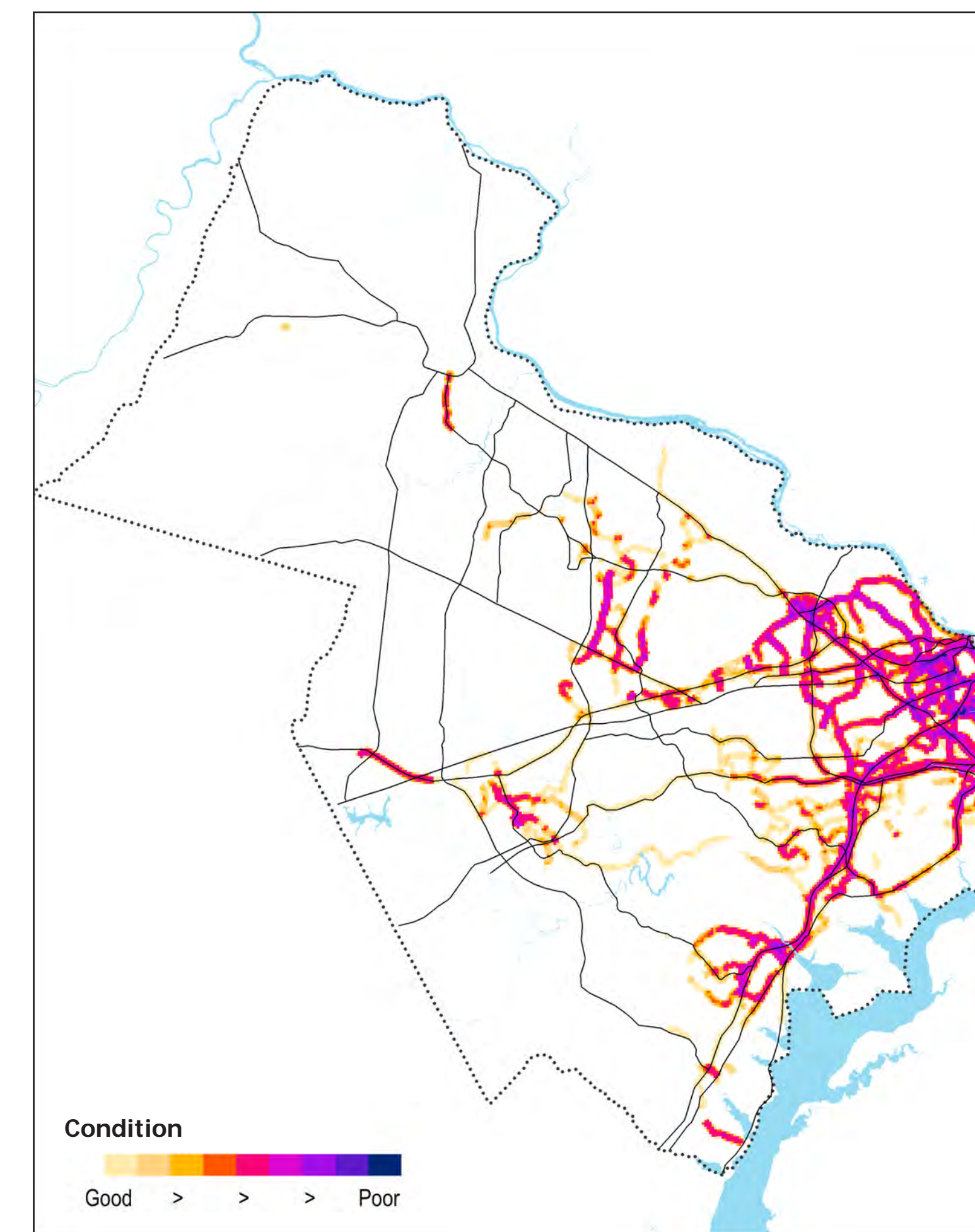
Draft Plan Performance

TransAction uses a performance-based planning approach to express policies and goals in quantifiable terms and creates an analytical framework to assess how well different transportation investments meet the TransAction goals. The TransAction performance measures were examined at a fine level of geographic detail for comparisons between conditions in 2040, with and without the Draft Plan.

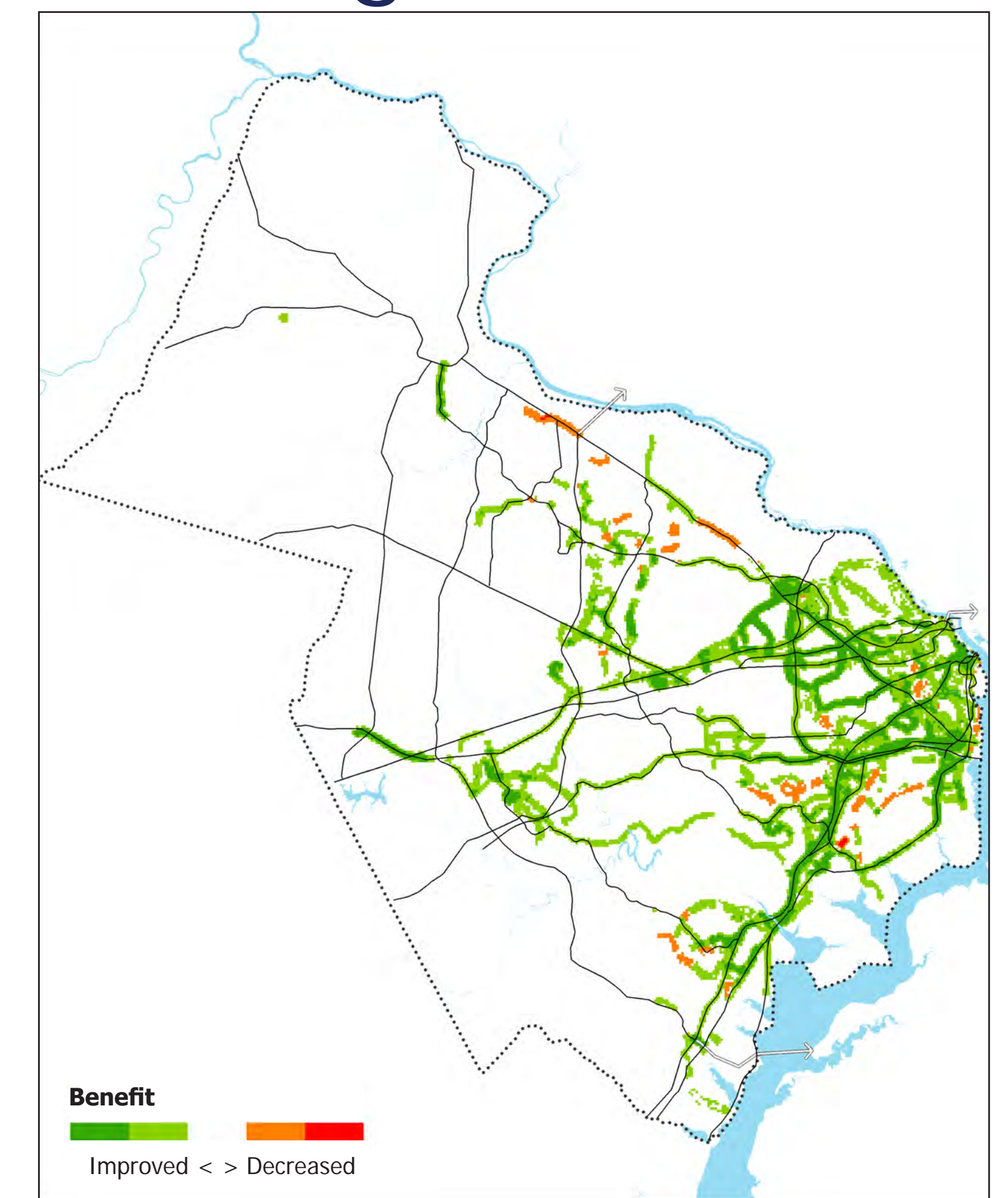
The Draft Plan will save the average Northern Virginian more than **27 minutes** each day.



Transit Crowding

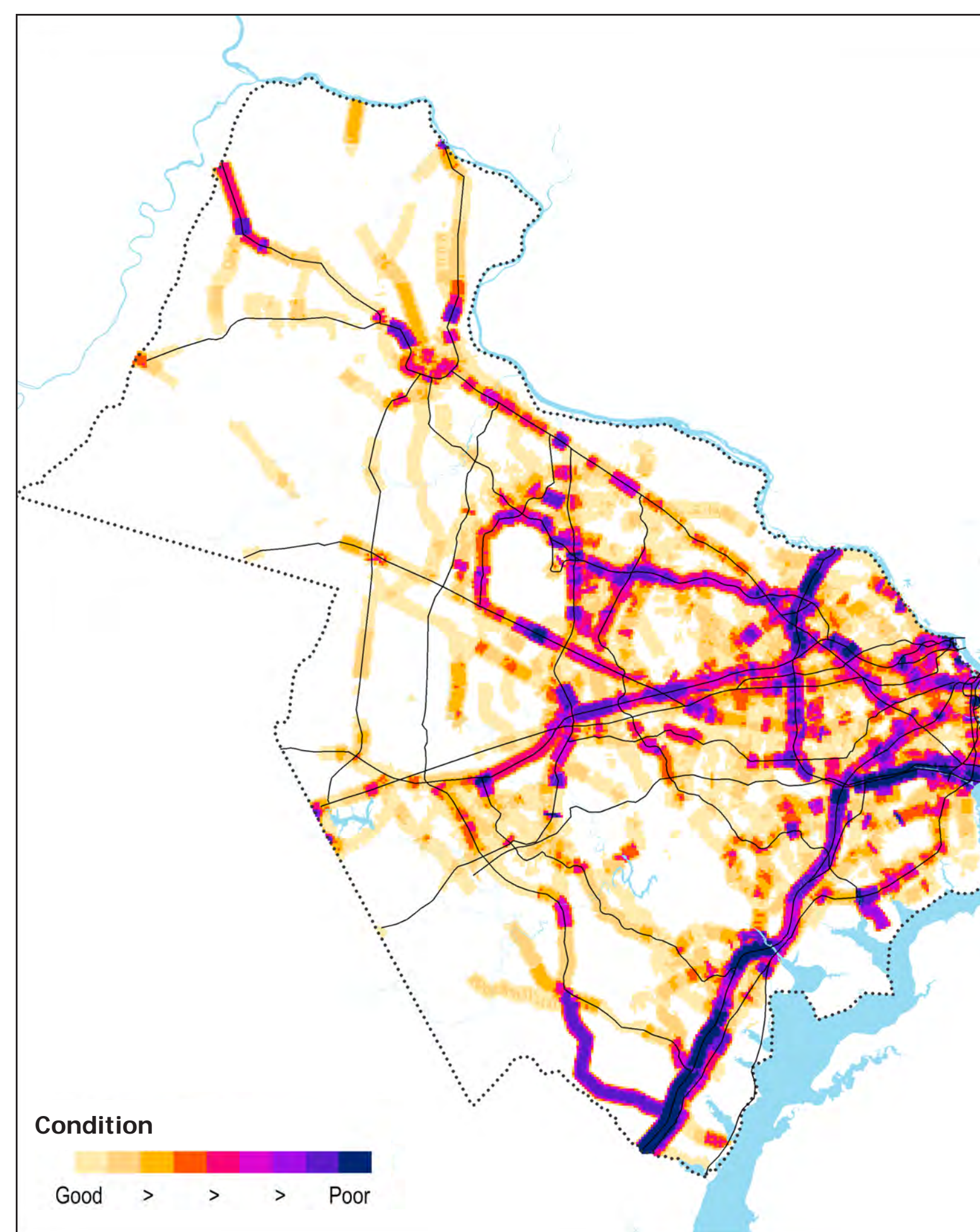


2040 'No Build'

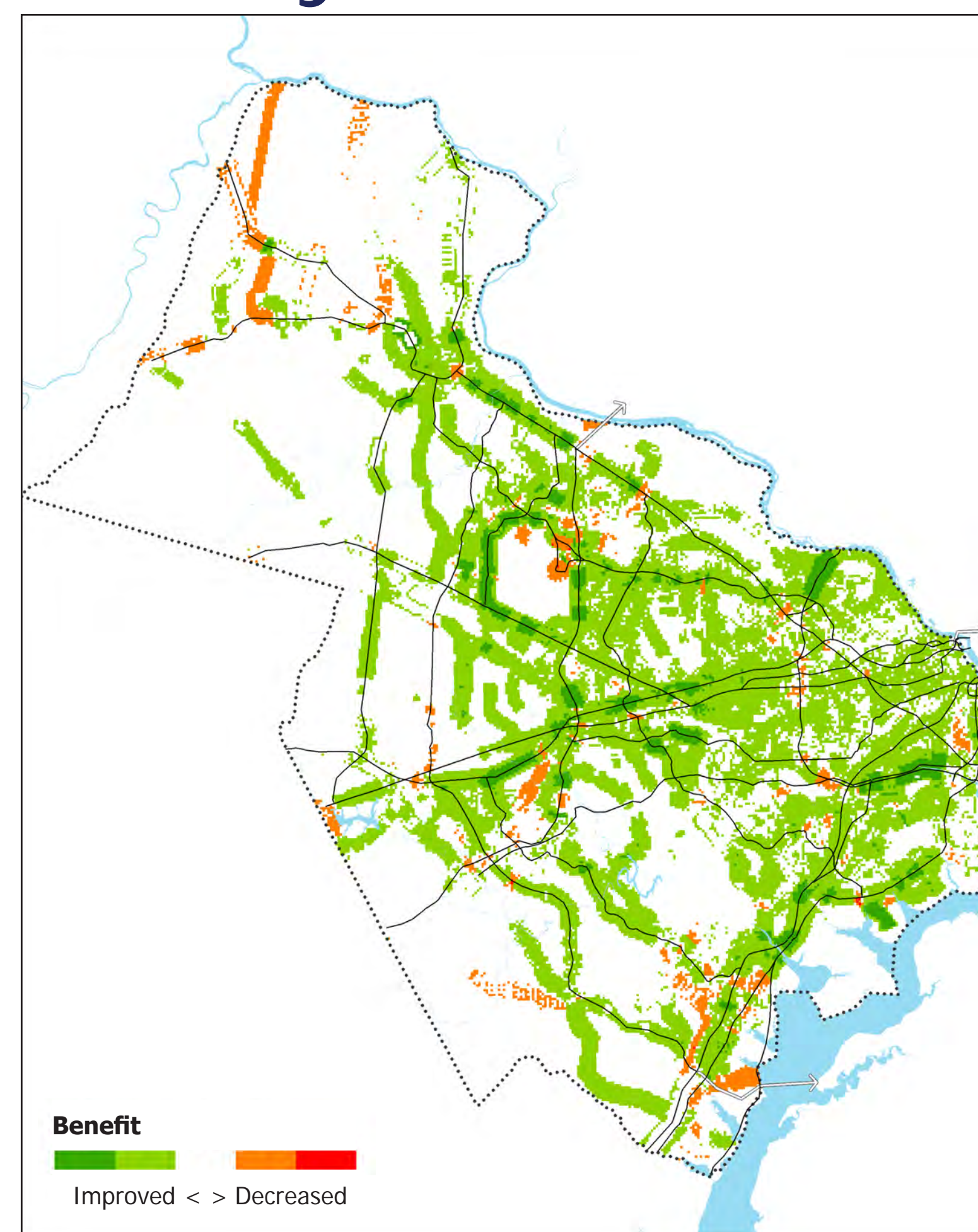


Draft Plan Improvement from 2040 'No Build'

Hours of Delay

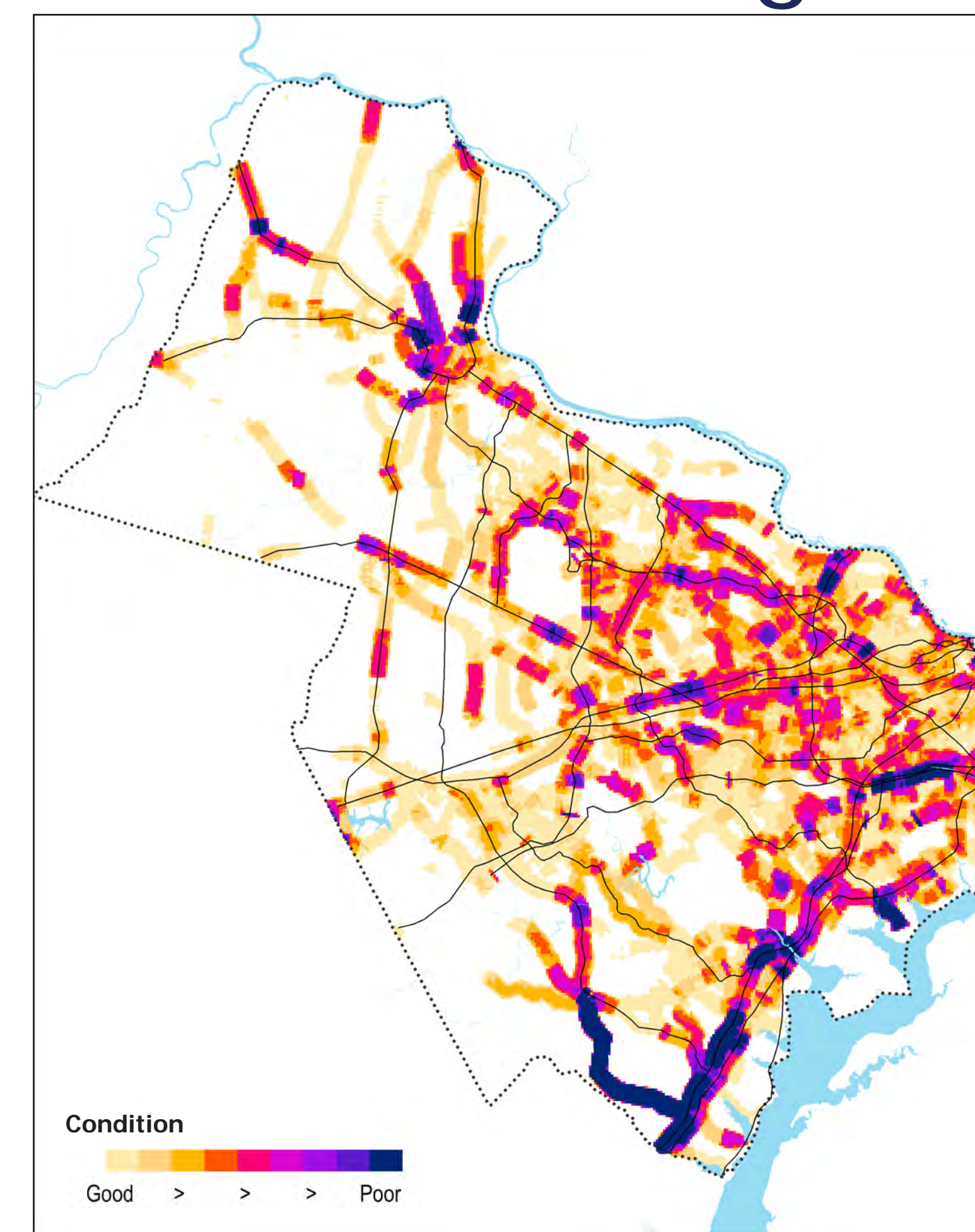


2040 'No Build'

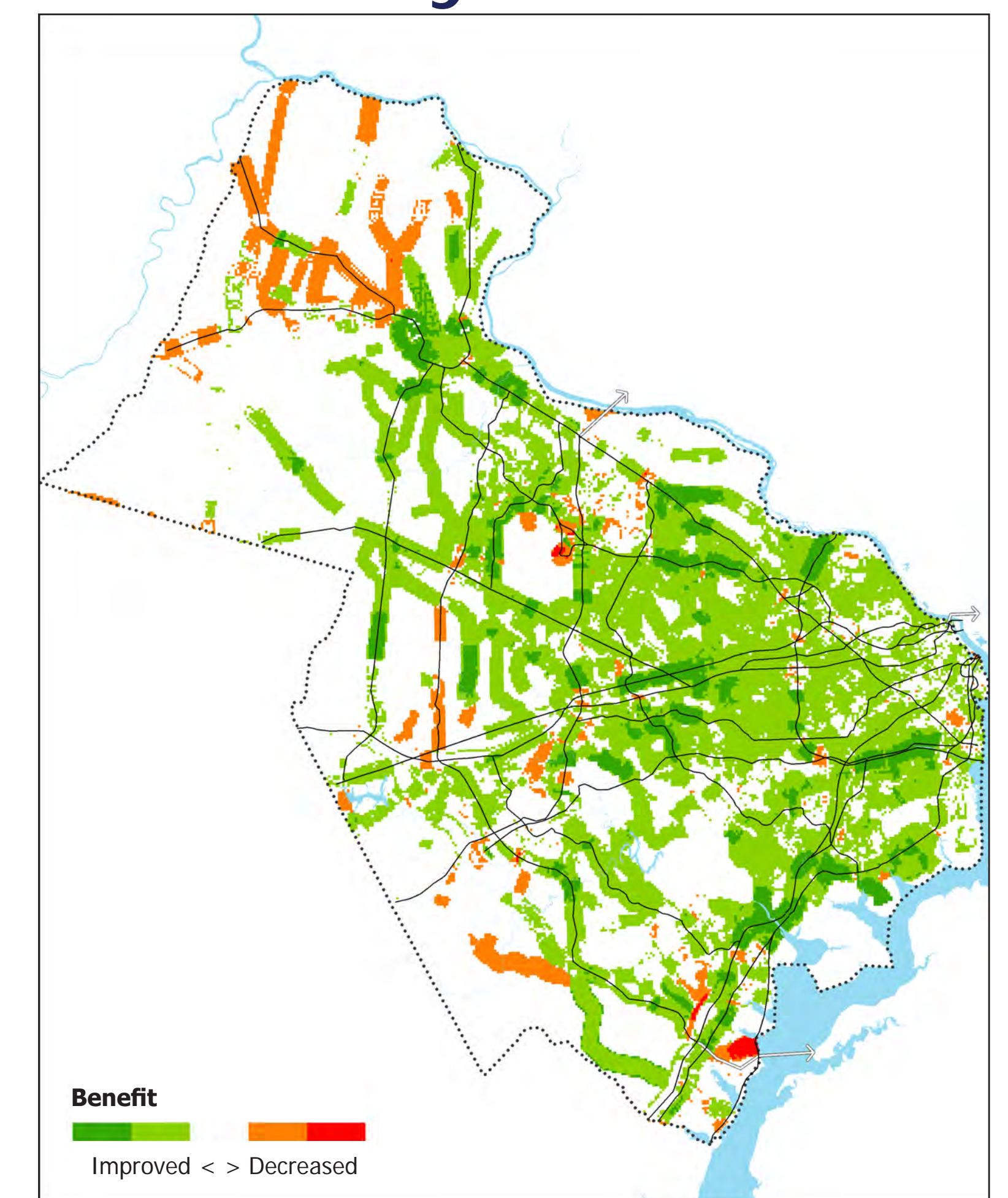


Draft Plan Improvement from 2040 'No Build'

Congestion Severity



2040 'No Build'



Draft Plan Improvement from 2040 'No Build'

Benefits of the Plan

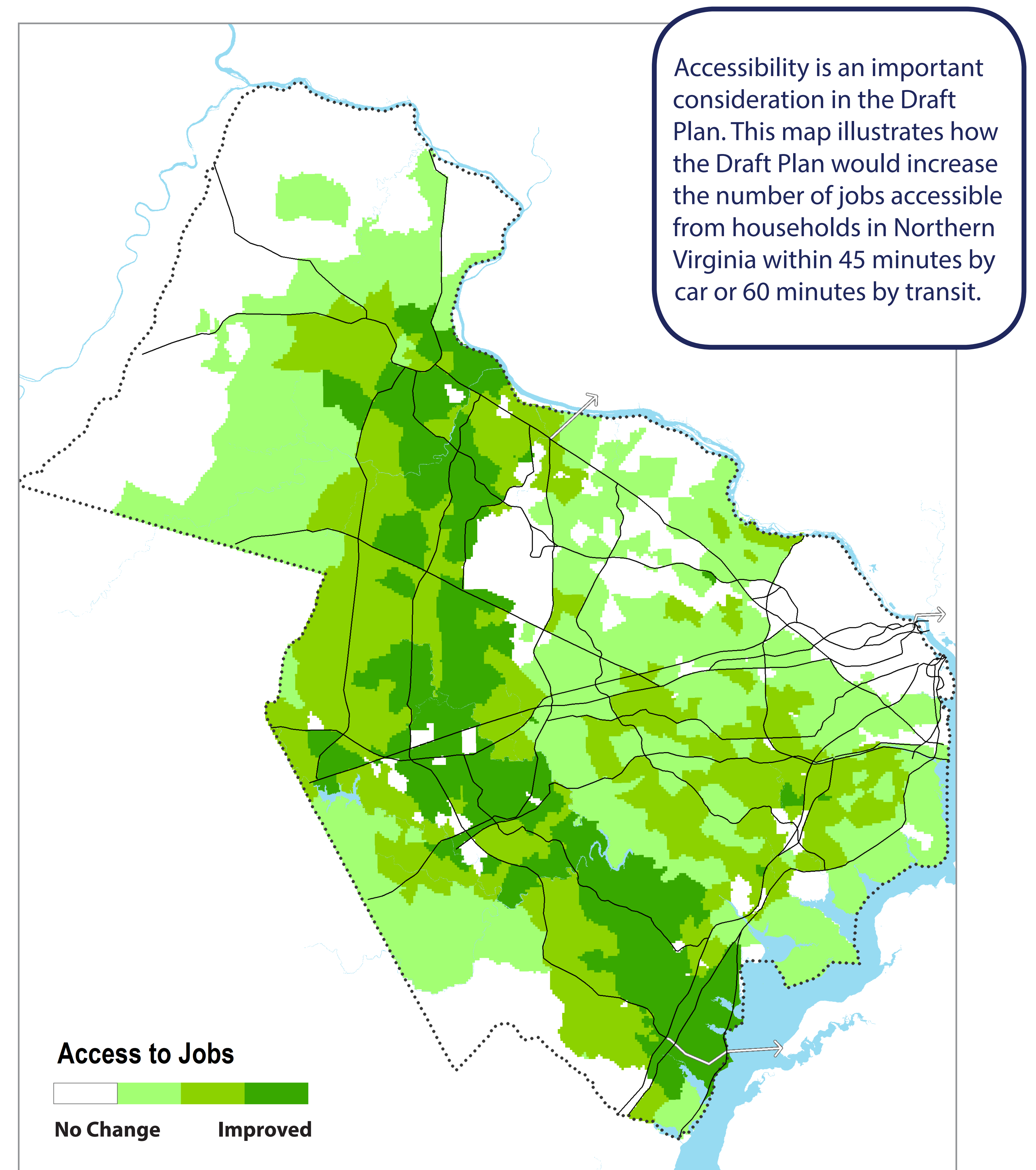
Northern Virginia is forecast to experience significant population and employment growth by 2040. The Draft Plan would provide significant improvements in transportation conditions as compared with the 2040 “No Build” baseline.

Regional Totals	2016	2040	Change
Population	2.41 M	2.99 M	24%
Employment	1.36 M	1.87 M	37%

Draft Plan - Northern Virginia Statistics

Daily Measures	2016	2040 'No Build'	Draft Plan	Change from 'No Build'
Transit Boardings	1.0 M	1.4 M	1.6 M	14% increase
Person Trips in Motorized Vehicles	8.74 M	10.5 M	10.6 M	1% increase
Person-Miles of Travel	105 M	125 M	125 M	0.4% decrease
Person-Hours of Travel	3.30 M	5.81 M	4.45 M	24% decrease
Person-Hours of Delay	1.01 M	3.03 M	1.70 M	44% decrease
Person-Hours of Delay per Capita	0.42	1.01	0.57	44% decrease
Service Hours of Crowded Transit	10,800	20,100	7,200	64% decrease

Draft Plan Compared to 'No Build' - Job Accessibility



Alternative Future Scenarios

Sensitivity Test Scenarios

The transportation system is in the midst of profound changes. New technology will provide travelers with more choices. We cannot predict how all of these changes will affect our region in the future, but it is important for a 2040 transportation plan to address the potential magnitude of change that Northern Virginians may experience in their daily travel.

Four alternative future scenarios were analyzed as part of the TransAction planning process.

The sensitivity analysis shows that the Draft Plan provides significant benefits for each future scenario

Future Scenarios: Key Variables for Analysis

Scenario A

- Technology such as connected and autonomous vehicles, focused on long distance travel
- Continued low cost of driving

Scenario B

- Changes in travel behavior result in fewer/shorter trips
- Increases in travel costs
- Technology focused on local travel

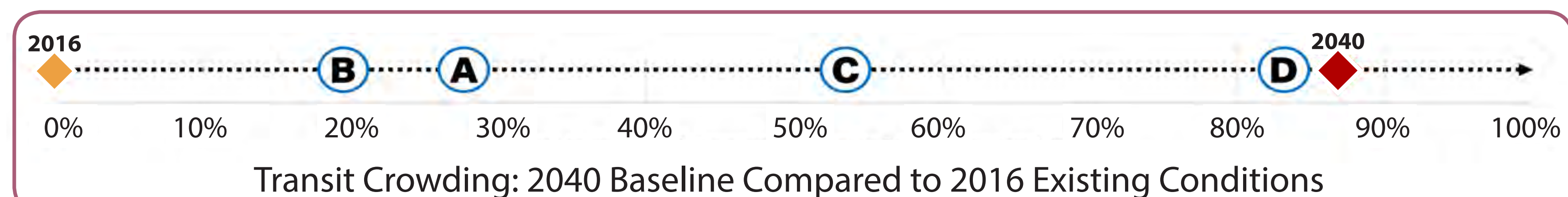
Scenario C

- Dispersed land use growth
- Population and job growth outside of higher density areas

Scenario D

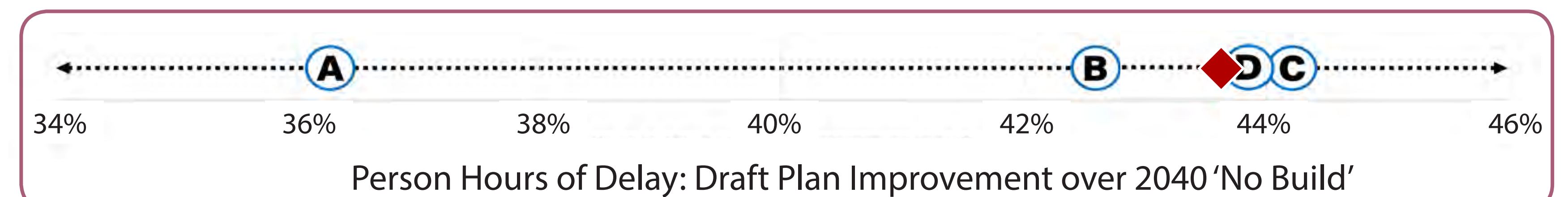
- Concentrated land use growth
- Population and job growth inside of higher density areas

'No Build' Performance Under Alternative Future Assumptions



Current Condition
 Standard Future Forecast

Performance of Draft Plan Under Alternative Future Assumptions



Standard Future Forecast

Findings



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Key Findings



Northern Virginia faces unprecedented levels of **travel demand, delay, and transit crowding** by 2040.



No single project, program, or policy will address all of the region’s transportation needs.



Projected NVTa regional revenues through 2040 would fund **less than a quarter** of the 358 candidate regional projects in the Draft Plan.



Emerging trends in technology and travel preferences may improve travel conditions in 2040.



Segments with the **highest performance ratings** are generally those that include acute travel issues, high volumes, and major candidate regional projects.



Segments with the **lowest performance ratings** generally have less acute travel conditions and/or serve fewer travelers.

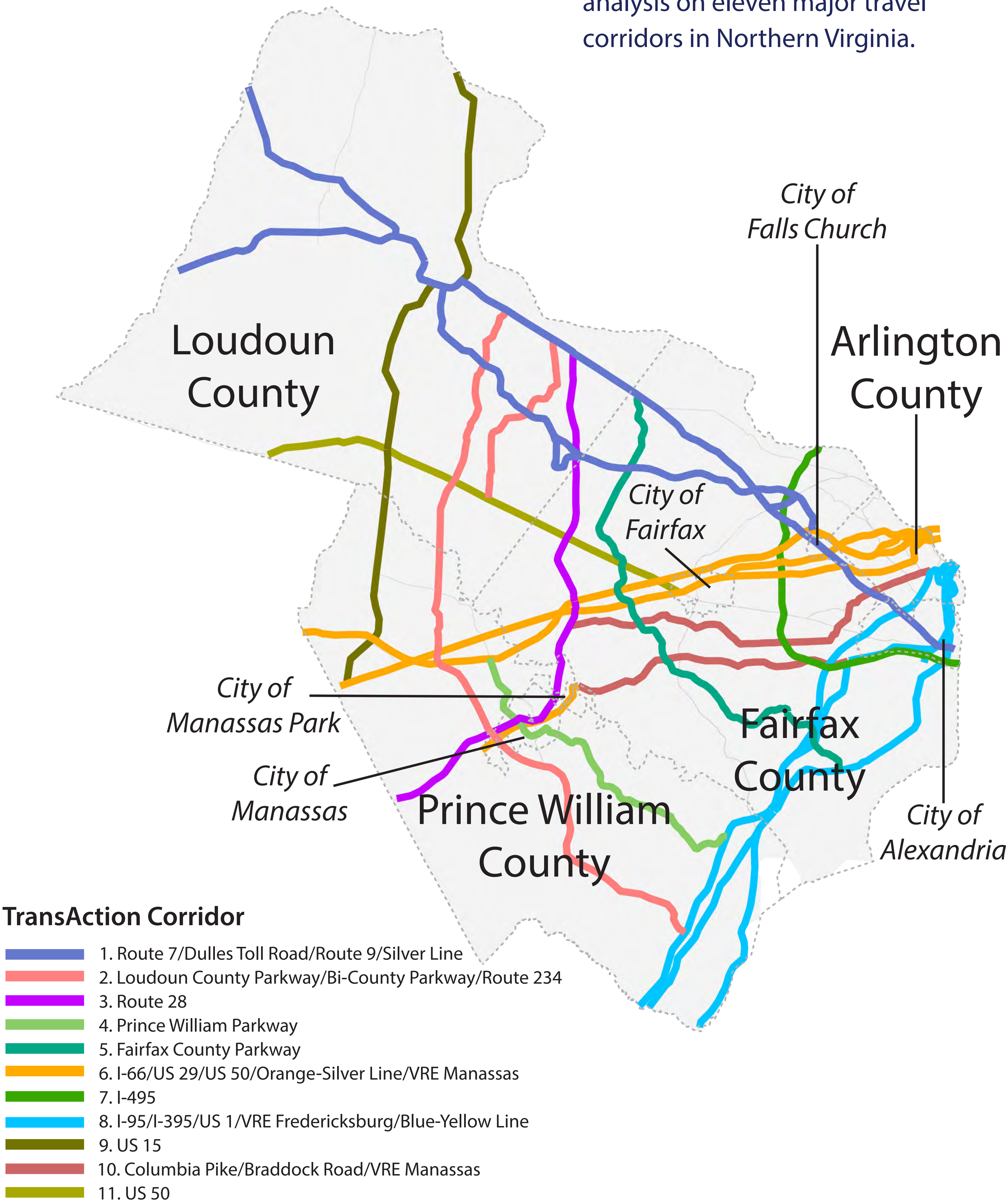
TransAction Performance by Corridor Segment

Segment	Description	Performance Rating*
8-3	I-395/US 1/VRE Fredericksburg/Blue Yellow Line — I-495 to Potomac River	65.8
7-3	I-495 — I-95 to Woodrow Wilson Bridge	59.2
6-2	I-66/US 29/US 50/Orange Silver Line — Rt. 28 to I-495	58.1
1-4	Rt. 7/Dulles Toll Road/Silver Line — Tysons to US 1	54.7
8-2	I-95/US 1/VRE Fredericksburg — Prince William County Line to I-495	54.6
6-3	I-66/US 29/US 50/Orange Silver Line — I-495 to Potomac River	49.5
8-1	I-95/US 1/VRE Fredericksburg — Stafford County Line to Fairfax County Line	48.5
10-1	Braddock Road/VRE Manassas — Rt. 28 to I-495	45.4
2-1	Loudoun County Parkway/Belmont Ridge Road — Rt. 7 to US 50	43.9
11-1	US 50 — Fauquier County Line to City of Fairfax	42.3
3-1	Rt. 28 — Rt. 7 to I-66	40.7
6-1	I-66/US 29/VRE Manassas — Prince William County Line to Rt. 28	40.5
1-3	Rt. 7/Dulles Toll Road/Silver Line — Rt. 28 to Tysons	39.9
7-1	I-495 — American Legion Bridge to I-66	39.6
10-2	Columbia Pike/Braddock Road — I-495 to Pentagon	35.8
1-2	Rt. 7/Dulles Greenway — Town of Leesburg to Rt. 28	34.5
4-1	Prince William Parkway — I-66 to I-95	34.2
7-2	I-495 — I-66 to I-395	33.0
5-2	Fairfax County Parkway — US 50 to Rolling Road	31.0
5-1	Fairfax County Parkway — Rt. 7 to US 50	27.0
5-3	Fairfax County Parkway — Rolling Road to US 1	26.4
3-2	Rt. 28 — I-66 to Fauquier County Line	24.9
2-3	Rt. 234 — I-66 to I-95	21.0
1-1	Rt. 7/Rt. 9 — West Virginia state line to Town of Leesburg	15.8
9-2	US 15 — Rt. 7 to I-66	13.6
9-1	US 15 — Potomac River to Rt. 7	11.8
2-2	North-South Corridor/Bi-County Parkway — US 50 to I-66	7.7
9-3	US 15 — US 50 to US 29	5.8

*Aggregate of weighted measures applied to the projects associated with each TransAction Corridor Segment

What's in the Draft Plan?

TransAction focuses much of its analysis on eleven major travel corridors in Northern Virginia.

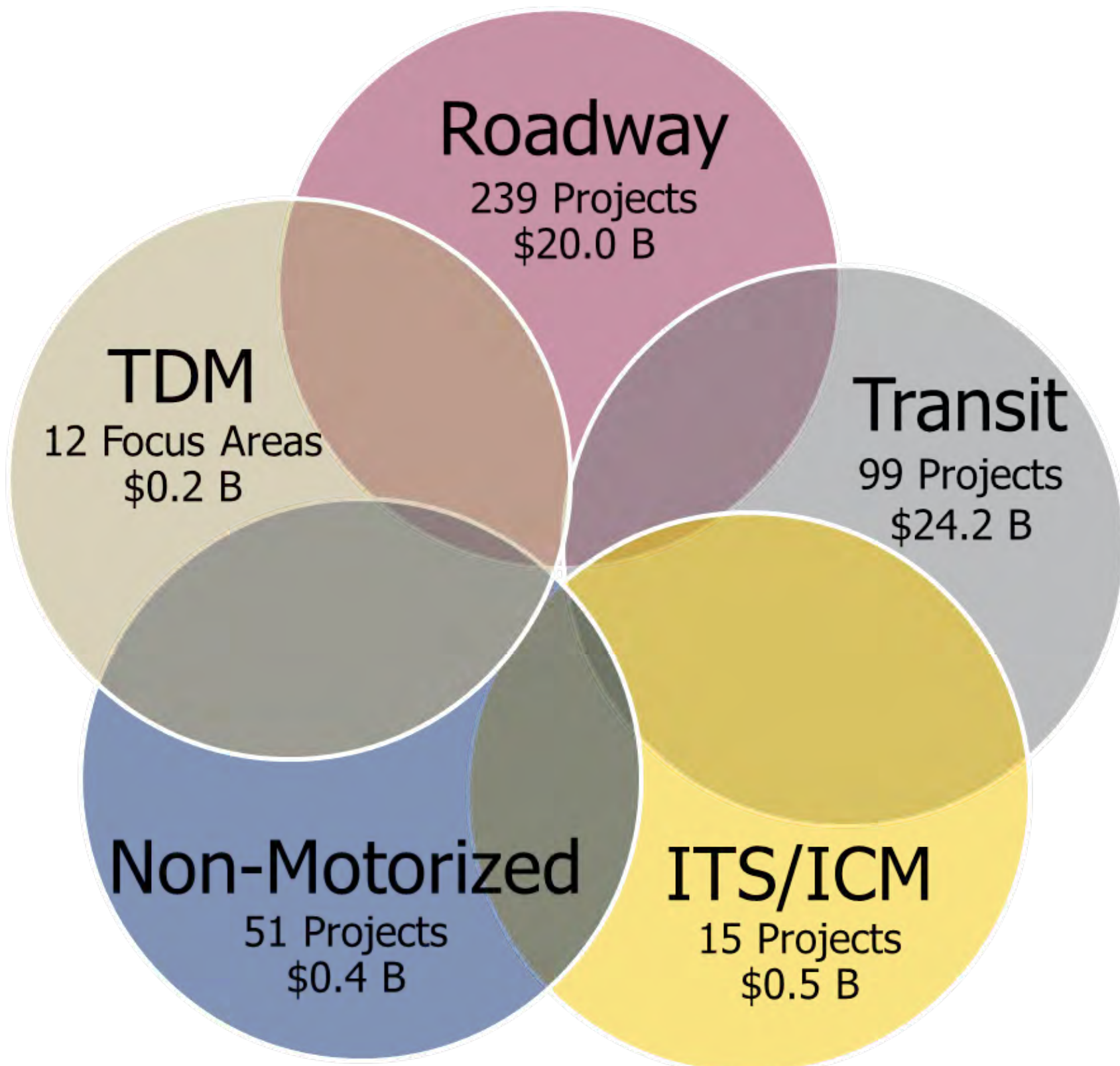


TransAction:
358 projects

Draft Plan Cost:
\$44.1 billion

\$10-13 billion of this cost estimate is associated with project components outside of Northern Virginia, and can only be funded and implemented in partnership with neighboring jurisdictions

Draft Plan Elements

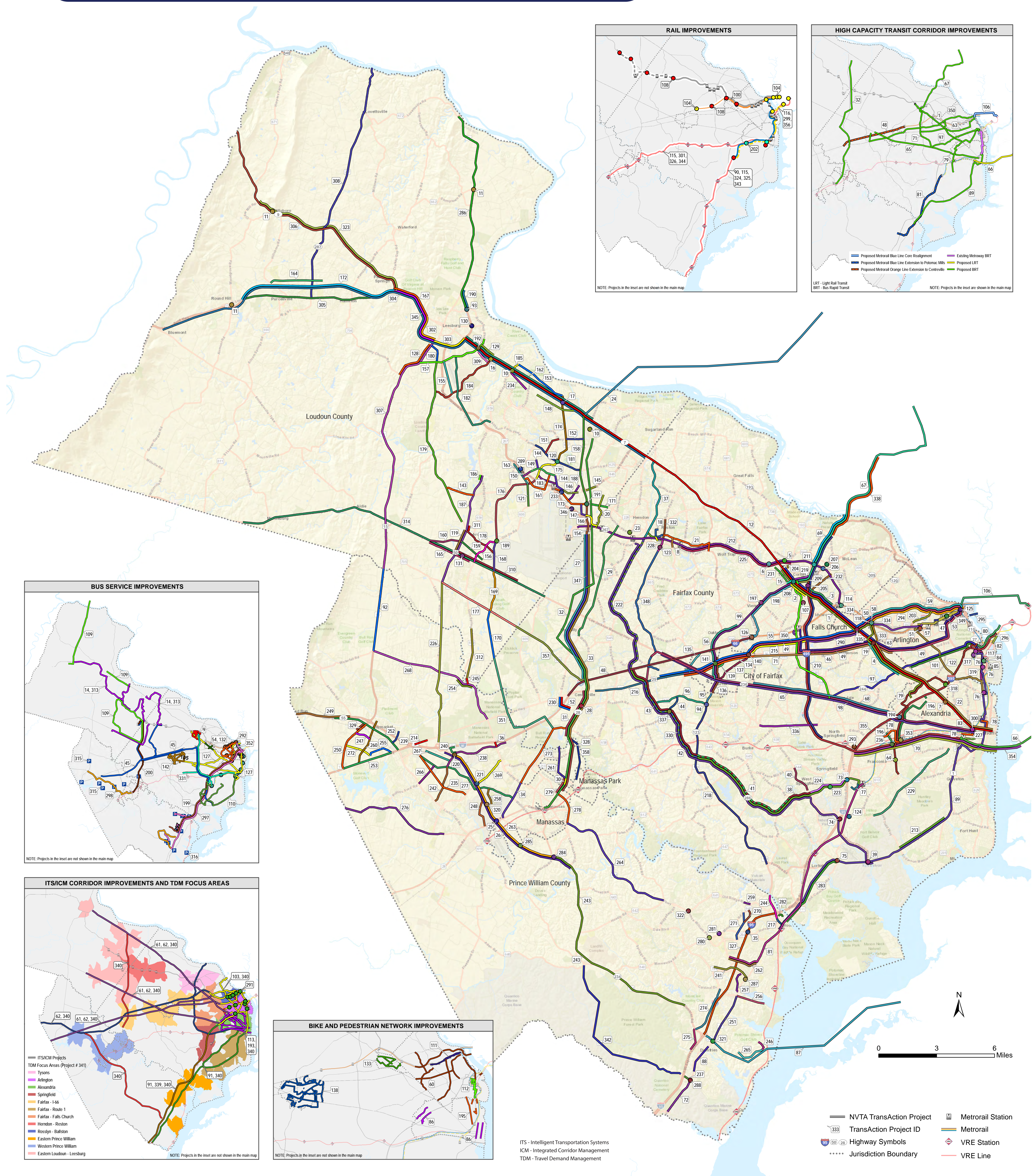


Corridor	Corridor Name	Roadway	Transit	ITS/ICM ¹	Non-Motorized ²	TDM ³
1	Route 7/Dulles Toll Road/Route 9/Silver Line	97	66	11	32	3
2	Loudoun County Parkway/ Bi-County Parkway/Route 234	76	21	9	2	1
3	Route 28	54	20	7	3	1
4	Prince William Parkway	26	14	8	0	1
5	Fairfax County Parkway	29	32	9	6	1
6	I-66/US 29/US 50/Orange-Silver Line/VRE Manassas	73	59	10	36	3
7	I-495	32	47	13	14	1
8	I-95/I-395/US 1/VRE Fredericksburg/Blue-Yellow Line	48	55	14	19	3
9	US 15	32	6	3	1	1
10	Columbia Pike/Braddock Road/ VRE Manassas	38	59	14	25	3
11	US 50	27	23	3	10	1

Note: The Project List has projects with multiple transportation modes and within multiple TransAction corridors.
¹ Intelligent transportation systems (ITS) include technologies to communicate and improve regional travel.
² Integrated corridor management (ICM) defines the practice of coordinating travel along different roadways within a major travel corridor.
³ Non-motorized includes bicycle and pedestrian projects that address key connectivity in the region.
⁴ Travel Demand Management (TDM) is a set of services designed to provide commuters with alternative options to driving alone.
The Draft TransAction Plan includes a regional approach to TDM.



Draft TransAction Plan Projects



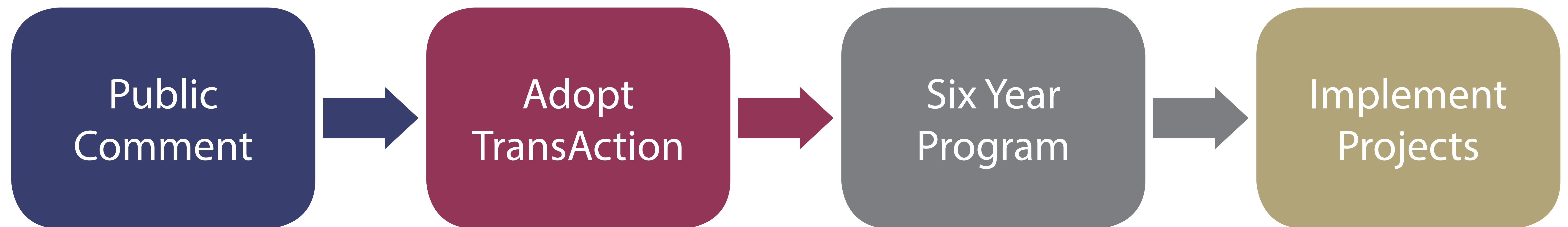
TransAction Projects



NVTA's
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What Happens Next?

Once adopted as Northern Virginia's long range transportation plan, the NVTa can use TransAction to develop a Six Year Program, providing regional funds to implement transportation improvement projects across the region.



At key decision points, the NVTa will:

Use TransAction to Develop the Six Year Program.

- Define needs consistent with regional priorities and geographies.
- **Work across jurisdictional boundaries** to address transportation needs. Work with jurisdictions and stakeholders on near term approaches such as:
 - New, improved, and **expanded transit services**;
 - New **regional TDM strategies** that complement existing programs;
 - New and existing **technology systems**;
 - **Completion of ongoing** roadway and multimodal projects.
- Emphasize the importance of **maximizing use of additional funding sources**.
- Assure that each project **improves mobility** for all applicable modes and users.

Monitor Emerging Trends.

Monitor emerging trends and report significant changes on an annual basis.

- Consider additional analysis to **identify projects that complement emerging trends**
- Explore **proactive policy guidance** associated with beneficial elements of emerging trends, such as:
 - **Public education** regarding new transportation technologies;
 - **Integration of human-driven and Connected/Autonomous Vehicles** in different geographies across the region;
 - Development of **complementary transit and shared mobility services**.

Next Steps



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