

Richmond Regional
**Transportation
Planning
Organization**

SUPPORTED BY **PlanRVA**
THE REGIONAL
COMMISSION

Connect RVA 2045



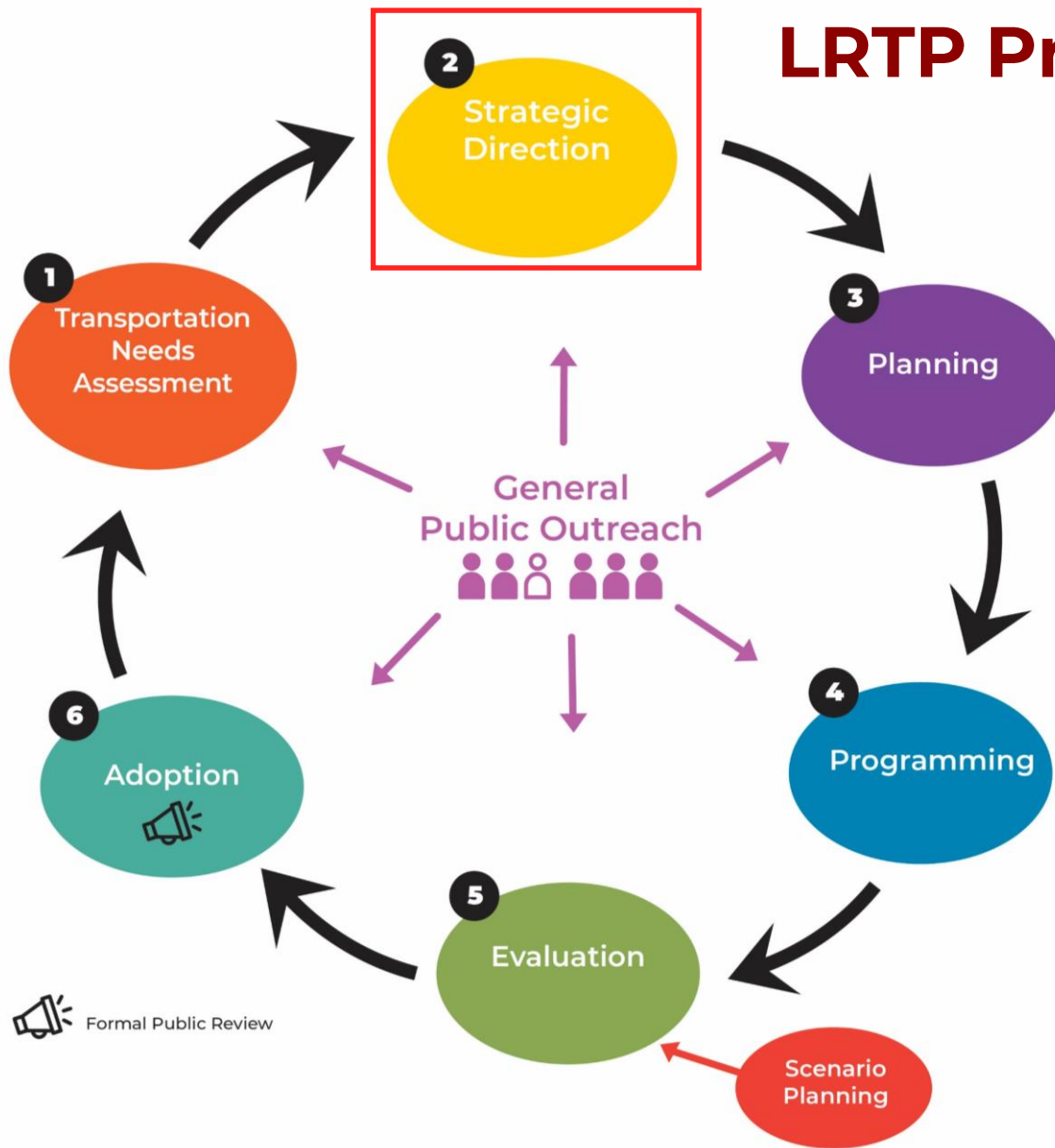
Advisory Committee Meeting

December 14, 2020

4.LRTP Process Update Task 2

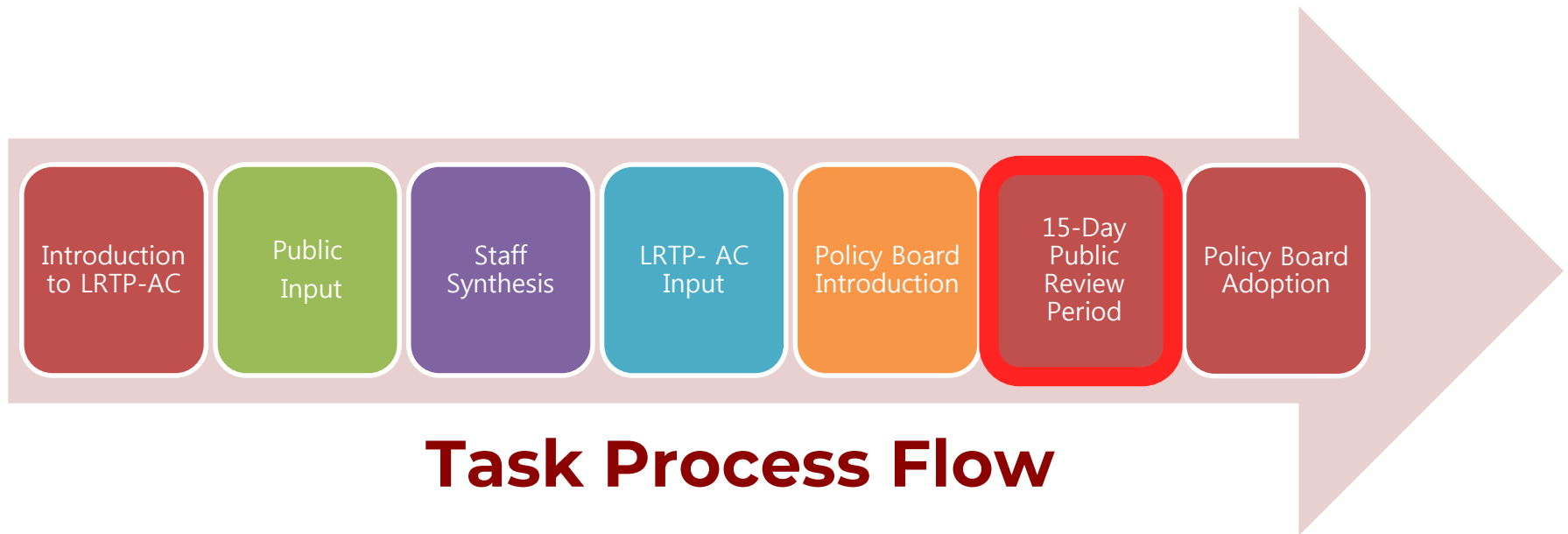
Strategic Direction Vision Goals and Objectives

L RTP Process Flow



Strategic Direction

Task Objective: Develop Vision and Goals for the LRTP. Also develop Objectives and performance measure within each goal which could measure the achievement towards the goal



Staff Recommendations



Vision

Transportation in the Richmond Region will reliably connect people, prioritize interconnected opportunities for all to thrive and live healthy lives, promote economic development, respect environmental stewardship, and support an exceptional quality of life.

Guiding Principles

- 1** A safe, well-maintained and interconnected transportation system that accommodates advances in technology.
- 2** Choice among all travel options (passenger vehicle, truck, rail, barge, air, vanpooling/carpooling, transit, bike, walk, micromobility) regionwide.
- 3** Prioritize completion of regional bicycle & pedestrian networks for the benefit of individual and community health.
- 4** A transit network which delivers comprehensive, effective service including areas of greatest need and key destinations.
- 5** Equity and inclusion in all transportation spending decisions in the region with a focus on historically disregarded communities.
- 6** Efficient movement of goods across the transportation network.
- 7** Alignment of transportation investment with land use, community health, and environmental stewardship.

Goals



Objectives



Safety

Improve the safety of the transportation system for all people.

- 1A. Reduce the number of crashes
- 1B. Reduce fatalities and serious injuries



Environment/Land Use

Reduce the negative impact the transportation system has on the natural and built environment.

- 2A. Address roadways prone to flooding
- 2B. Reduce transportation related pollutants
- 2C. Reduce VMT (vehicle miles traveled) per capita
- 2D. Increase number of trips traveled through active transportation modes
- 2E. Tie the land use potential to transportation investments



Equity/Accessibility

Improve accessibility and mode choice for all people.

- 3A. Reduce peak period travel times
- 3B. Reduce trip lengths for all populations with a focus on Environmental Justice (EJ) populations
- 3C. Increase access to jobs and community services via transit, walking and biking for all populations with a focus on Environmental Justice (EJ) populations



Economic Development

Improve connectivity and mobility for strong economic vitality

- 4A. Increase transportation investment which focuses on economic development
- 4B. Improve reliability of travel to and within regional activity centers
- 4C. Reduce freight bottlenecks and restrictions
- 4D. Increase multimodal access to tourist destinations



Mobility

Increase travel efficiency and mode choice, and maintain the transportation system in a state of good repair

- 5A. Increase the percent of the network that incorporates complete streets elements
- 5B. Increase system efficiency through technology-based projects
- 5C. Improve system reliability

5.LRTP Process Update Task 3 Planning

LRTTP Process

1 Transportation Needs Assessment

2 Strategic Direction

3 Planning

4 Programming

5 Evaluation

6 Adoption

General Public Outreach

Scenario Planning

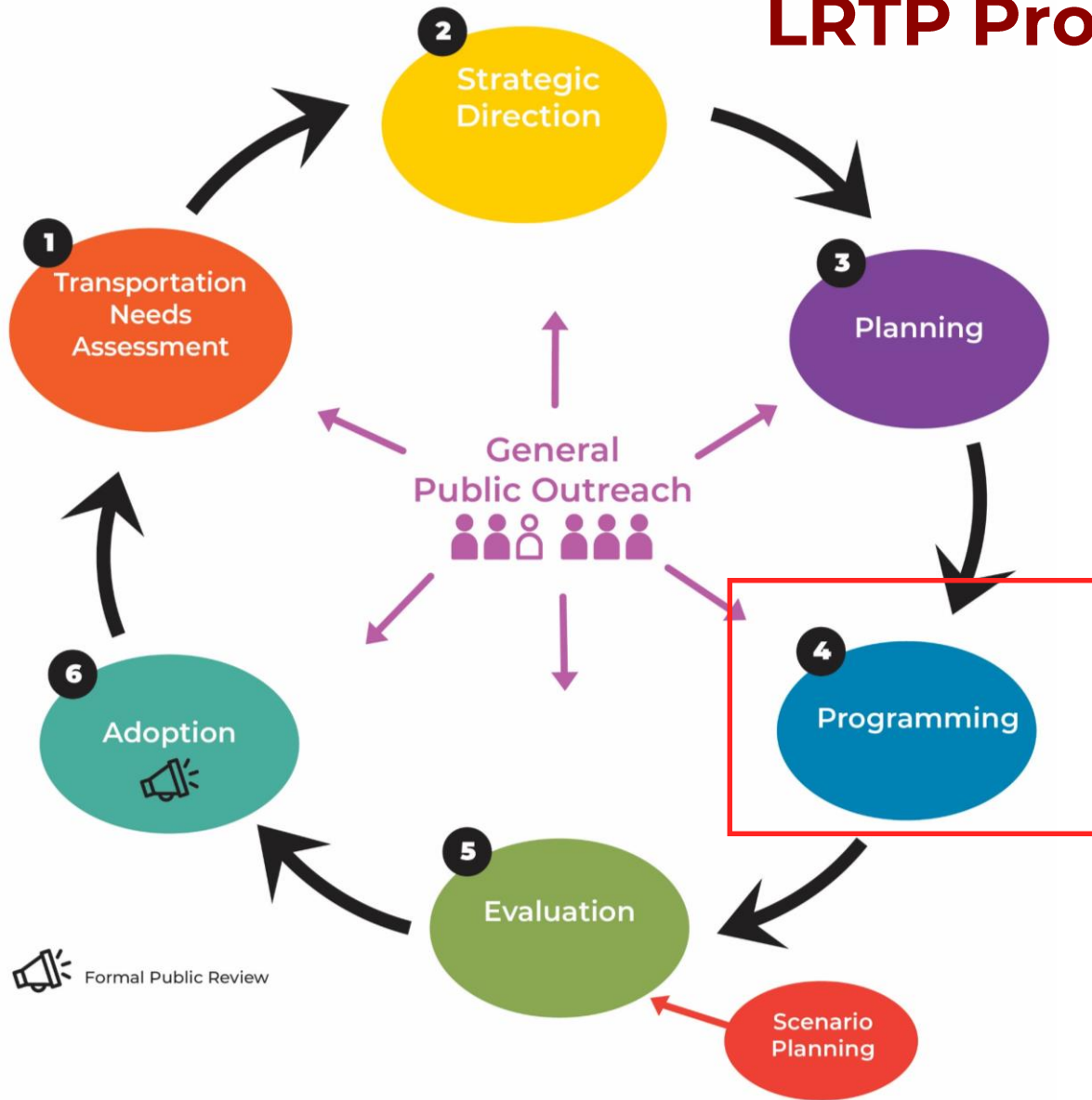
Formal Public Review

Universe of Project Screening and Development Update

- Staff got the project list addressing the transportation issues from most of the project champions.
- Transit & Rail Projects - further guidance
- Final Objective – Streamlined list of regional transportation projects for all transportation modes which will be called The ‘Universe of Projects’.
- All projects to be scored, ranked and prioritized for the constrained plan.
- Targeted Schedule – Approval by the LRTP-AC by February.

6.LRTP Process Update Task 4 Programming

L RTP Process Flow



Project Evaluation and Scoring Methodology Review

Work Scope

Development of project scoring, ranking and prioritization methodology/guidelines based on established performance measures.

Work Task

Task 4.0 Project Prioritization & Scoring

Timeline

- LRTP-AC Introduction : October 22
- Guidelines First Draft sent to LRTP-AC: December 7
- LRTP-AC Presentation: December 14
- LRTP-AC Comments: December 15-January 10
- Staff Tweaks and Project Testing: Ongoing – January 18
- Guidelines Final Draft: January 18
- LRTP-AC Endorsement: January 25

Goals Weights



Goals Weights

Staff Recommended

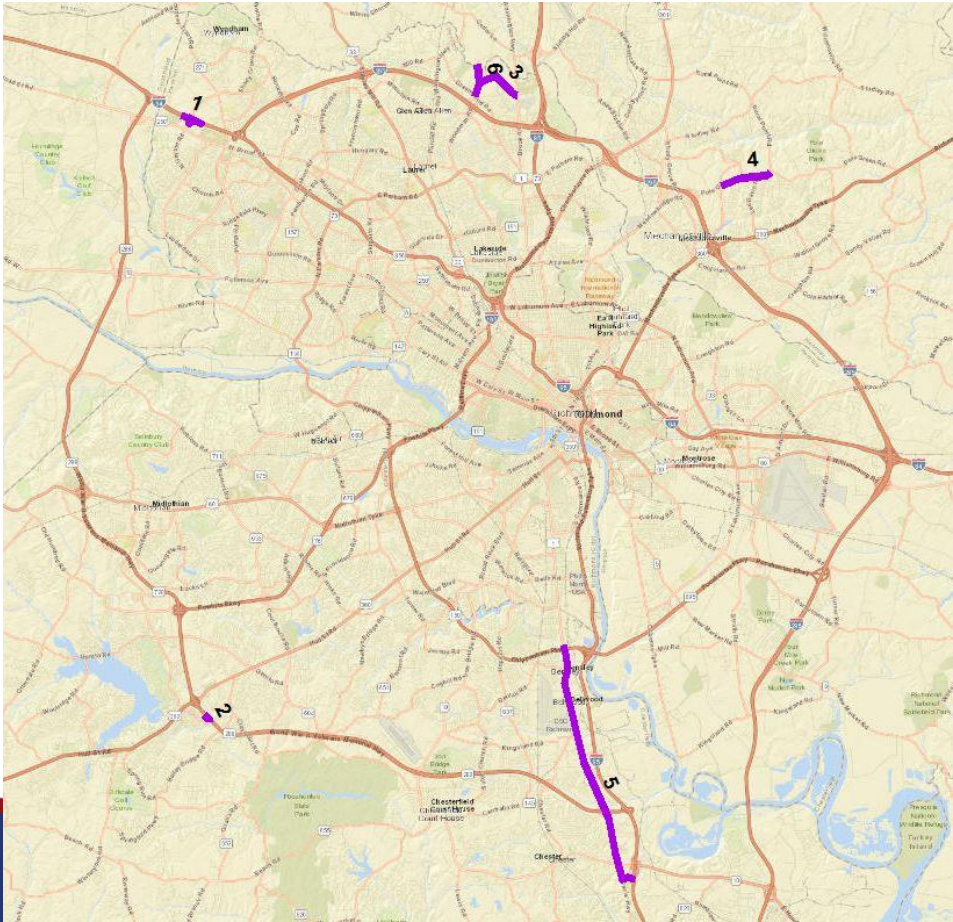
L RTP Goal	Goal Weight
Safety	25%
Mobility	10%
Equity and Accessibility	25%
Economic Development	15%
Environment/Land Use	25%
Total	100%

Smart Scale

Factor	Congestion Mitigation	Economic Development	Accessibility	Safety	Environmental Quality	Land Use
Category B	15%	20%	25%	20%	10%	10% ^a

Project Testing for Performance Measures

ID	Project Name	Project Type	Jurisdiction
1	N Gayton Interchange at I-64	New Interchange	Henrico
2	Route 288/Route 360: 288 NB Off-Ramp to Bailey Bridge Connector	New Ramp, Interchange Modification	Chesterfield
3	Woodman Rd Extension	Road extension	Henrico
4	Pole Green Rd Widening	Adding New Lanes	Hanover
5	Route 1 New Transit Line	New Transit Route	Chesterfield
6	ATP Trail – Chickahominy Crossing	Bike/Ped	Henrico/Hanover



Safety (25%)

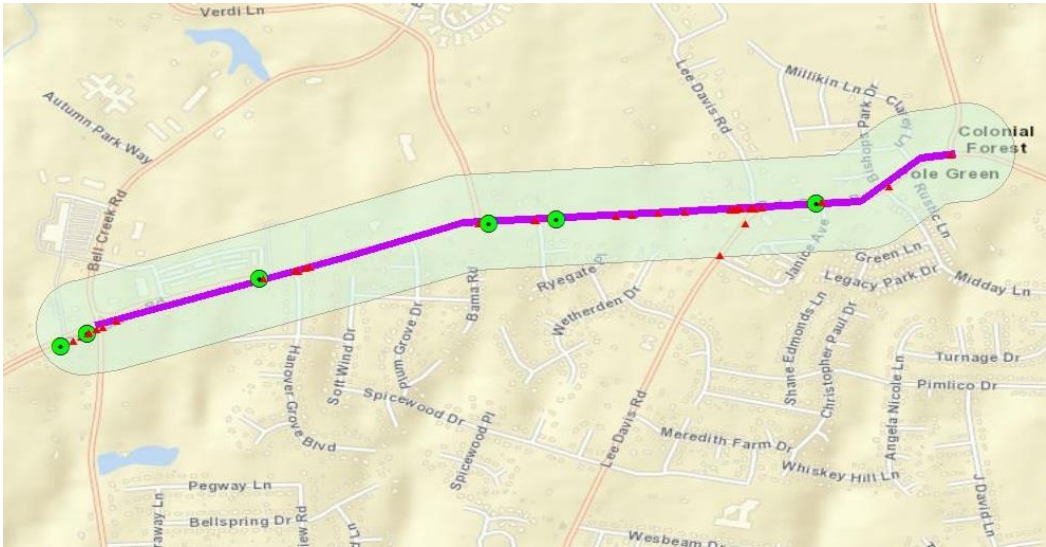
Performance Measure (PM)	PM Weight
S1. Crash Frequency	70%
S2. Crash Rate	30%
Total	30%

Safety (25%)

Crash Frequency	
CMF	0.8
PECR	0.2
Expected Reduction EPDO	\$ 388,000

Crash Rate	
ADT	17000
MVMT	8.0665
Expected Reduction EPDO	\$ 48,100.17

Test Project: Pole Green Road Widening 2 lanes to 4 lanes



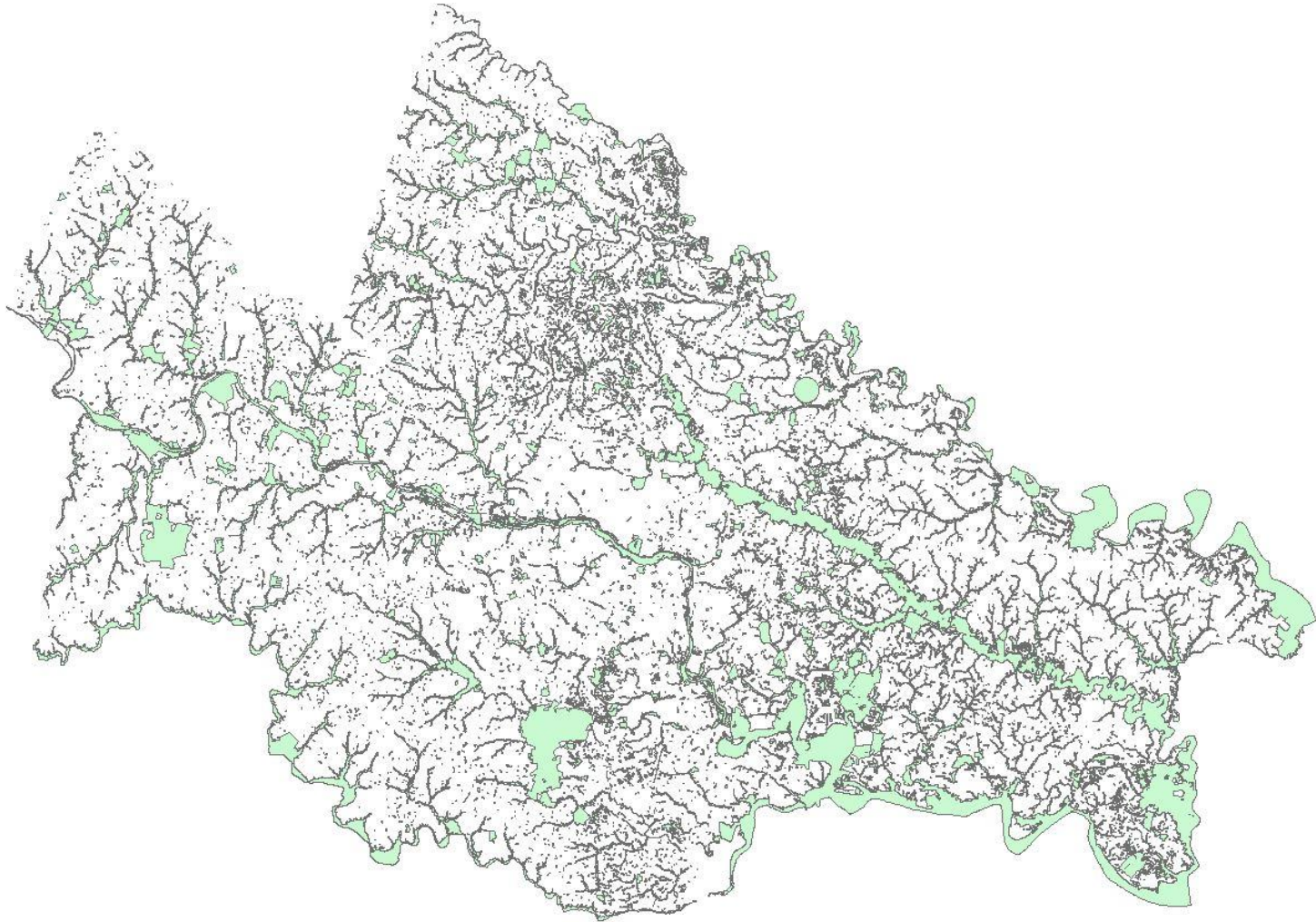
EPDO Calculation

All Crashes	206		
DUI Crashes	6		
		EPDO	
Fatal and Injury crashes	6	\$ 850,000	\$ 5,100,000
Moderate Injury	46	\$ 100,000	\$ 4,600,000
Total EPDO			\$ 9,700,000
Average Annual EPDO			\$ 1,940,000

Environment/Land Use (25%)

Performance Measure (PM)	PM Weight
EL1. Sensitive Features	15%
EL2. Air Pollution	30%
EL3. VMT per Capita	30%
EL4. Connection to Activity Center	25%
Total	100%

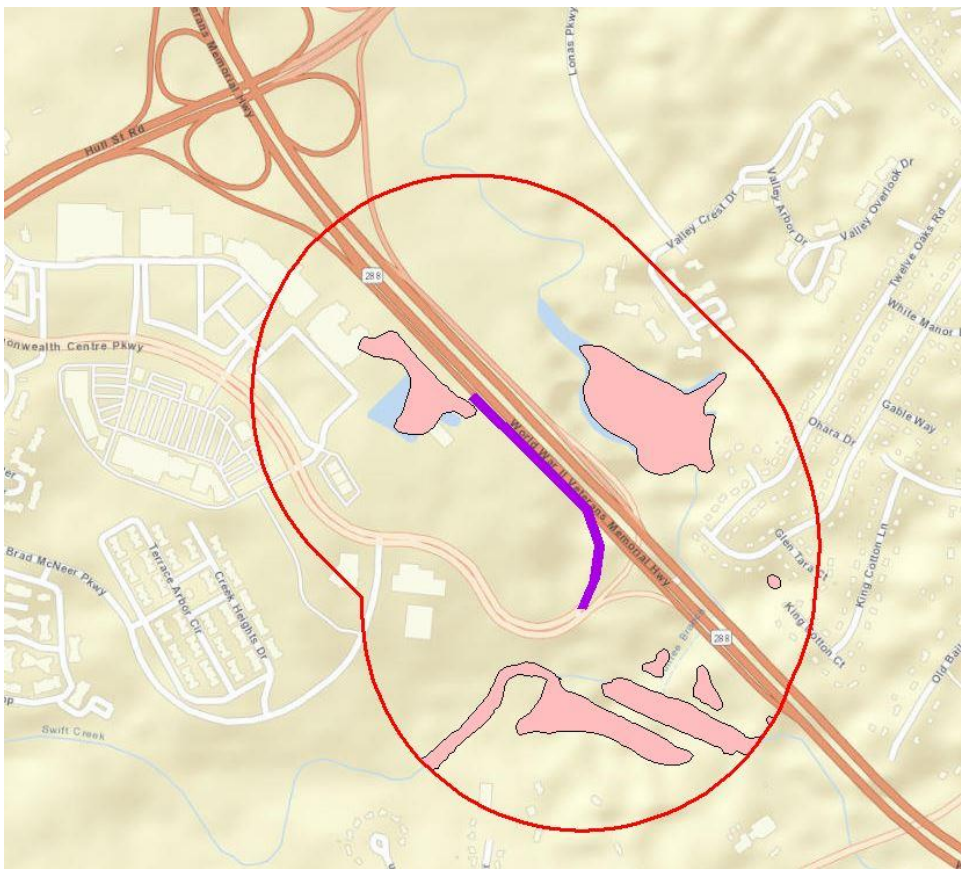
Environment/Land Use (25%)



Sensitive Features in the Richmond region

Environment/Land Use (25%)

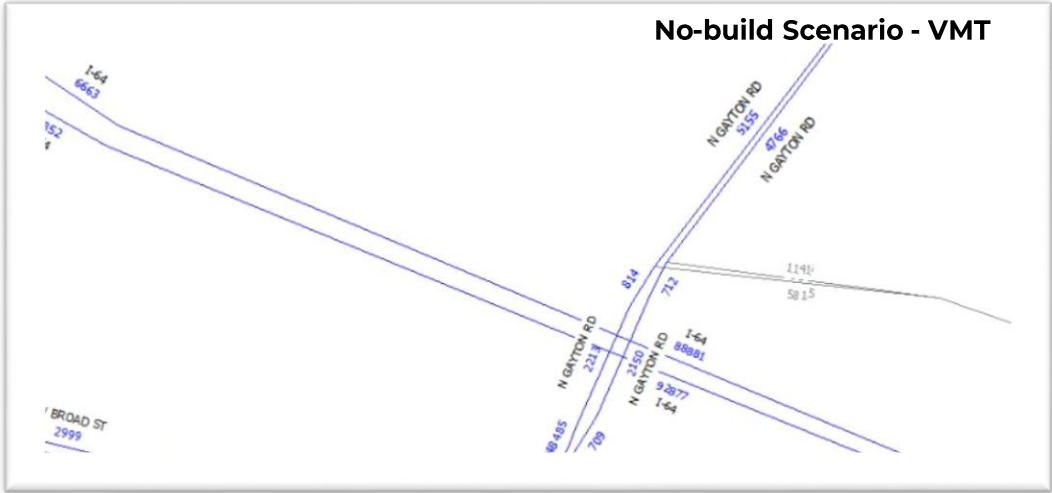
Test Project: Bailey Bridge Connector



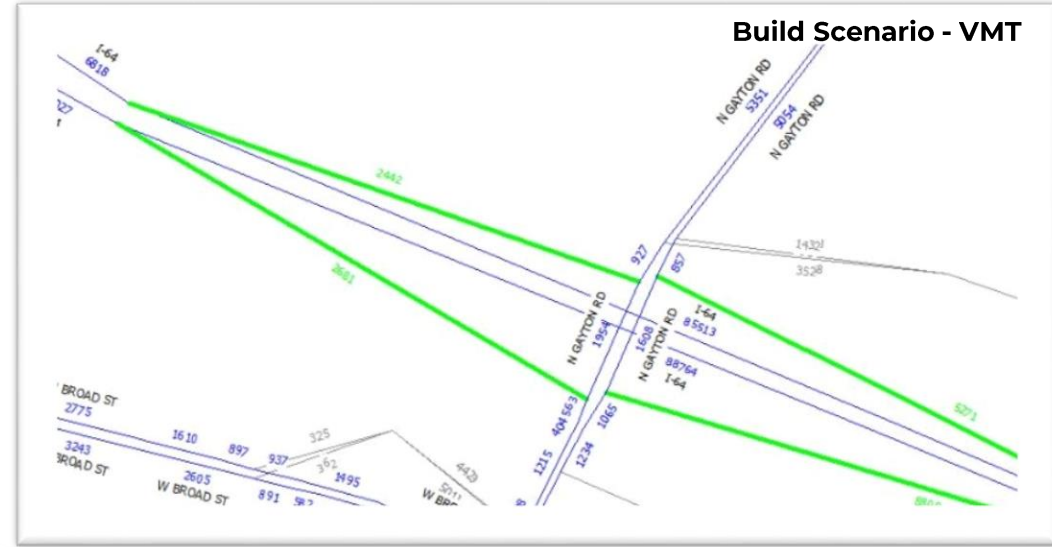
Sensitive Features within 1/4 mile of the project

Id	Project Name	Sensitive Features	
		Raw Value	Normalized Value
1	N Gayton Interchange at I-64	0.05	87
2	288 NB Off-Ramp to Bailey Bridge Connector	0.10	69
3	Woodman Rd Extension	0.16	49
4	Pole Green Rd Widening	0.01	100
5	Route 1 New Transit Line	0.05	87
6	ATP Trail – Chickahominy Crossing	0.31	0

Environment/Land Use (25%)



Test Project: I-64 & N. Gayton Road New Interchange

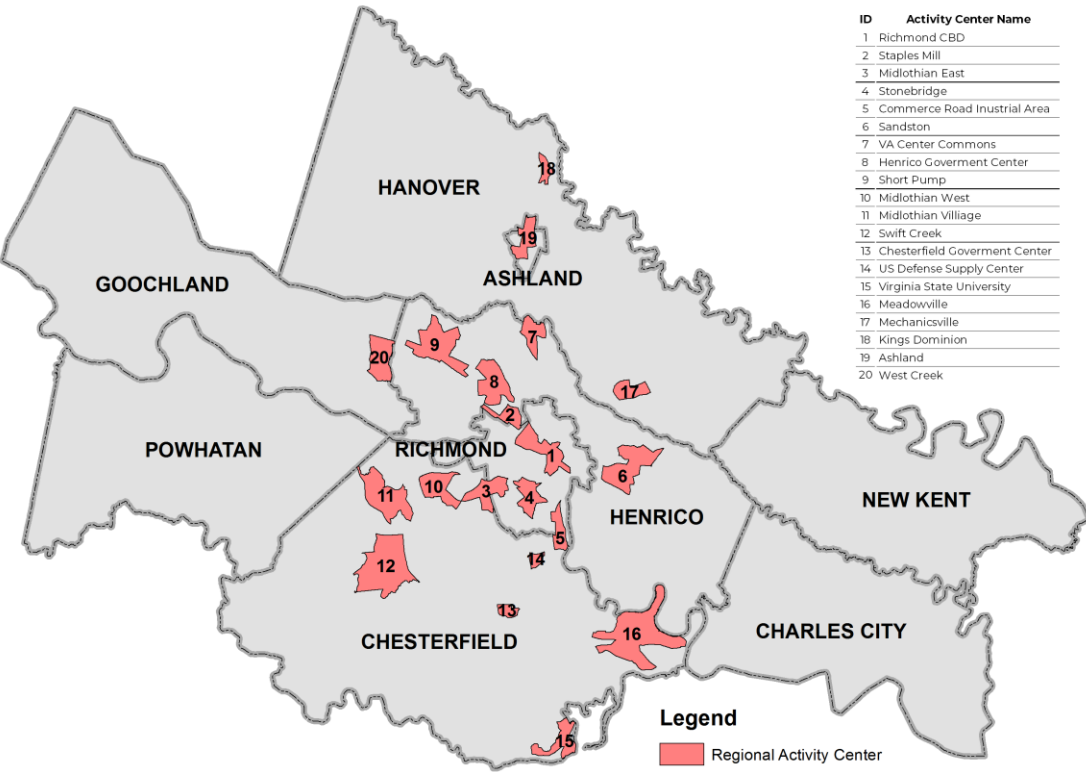


Pollutant	Average Emission Rates
Nox	0.9018 grams/mile
VOC	0.686 grams/mile

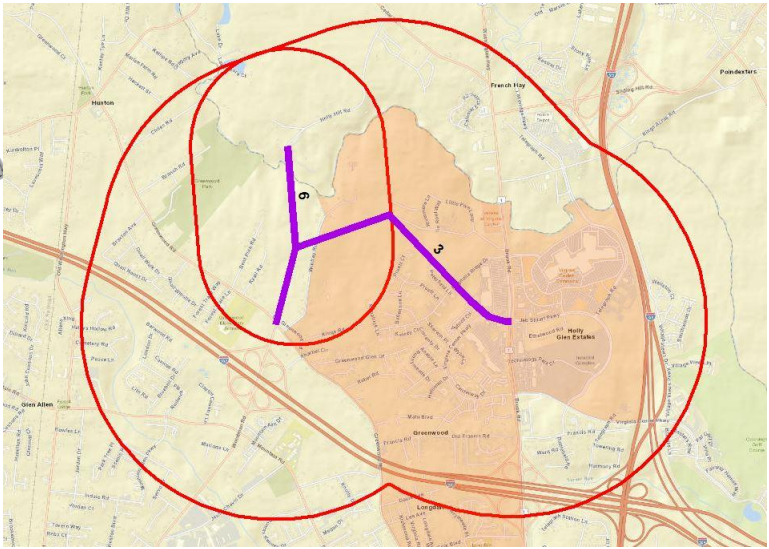
Id	Project Name	Air Pollution
1	N Gayton Interchange at I-64	41.38
4	Pole Green Rd Widening	9.76

Id	Project Name	VMT per Capita
1	N Gayton Interchange at I-64	0.051
4	Pole Green Rd Widening	0.012

Environment/Land Use (25%)



Id	Project Name	Connection to Activity Centers	
		Raw Value	Normalized Value
1	N Gayton Interchange at I-64	5091	96
2	288 NB Off-Ramp to Bailey Bridge Connector	1358	26
3	Woodman Rd Extension	5288	100
4	Pole Green Rd Widening	0	0
5	Route 1 New Transit Line	0	0
6	ATP Trail – Chickahominy Crossing	1036	20



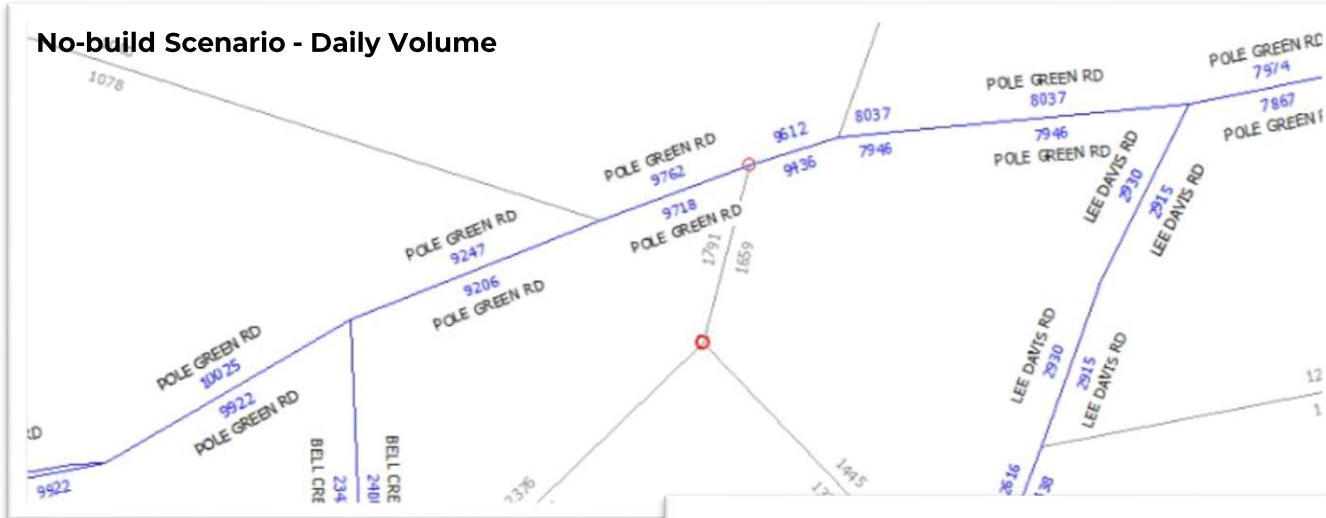
Test Projects Woodman Rd & ATP Trail

Mobility (10%)

Performance Measure (PM)	PM Weight
M1. Person Throughput	50%
M2. Person Hours of Delay	50%
Total	100%

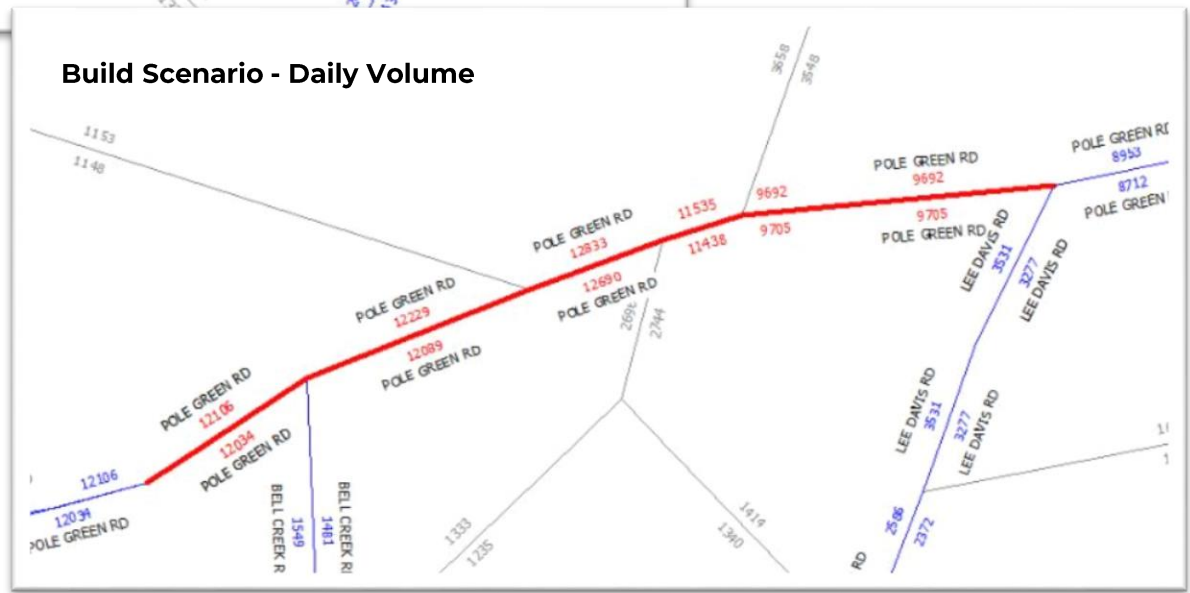
Mobility (10%)

No-build Scenario - Daily Volume



Test Project: Pole Green Road Widening 2 lanes to 4 lanes

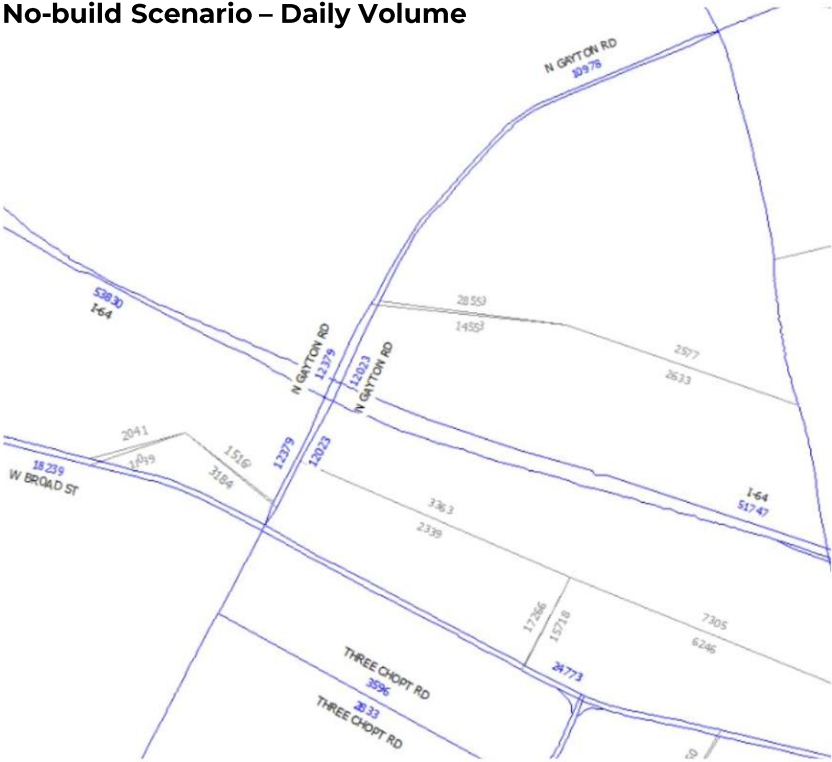
Build Scenario - Daily Volume



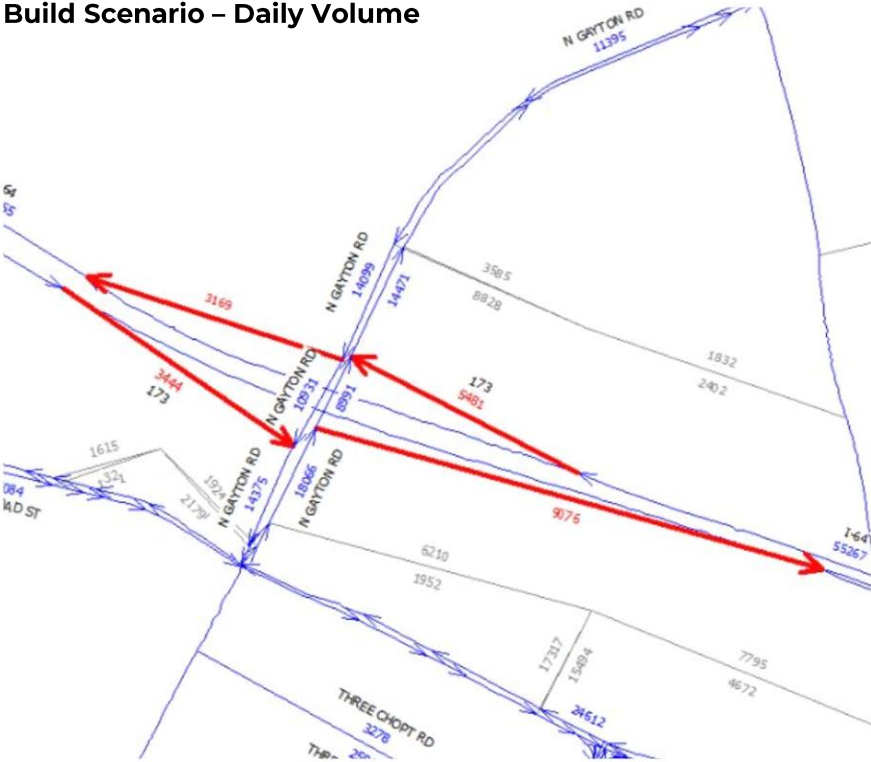
Mobility (10%)

Test Project: I-64 & N. Gayton Road New Interchange

No-build Scenario – Daily Volume



Build Scenario – Daily Volume

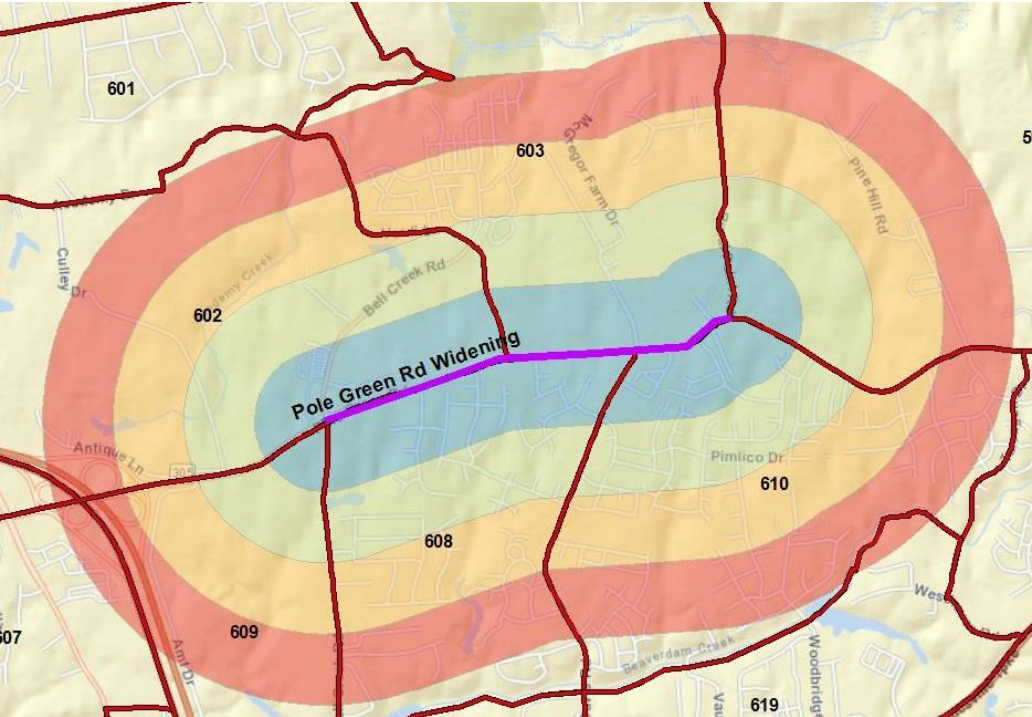


Id	Project Name	Person Throughput	Person Hours of Delay
1	N Gayton Interchange at I-64	8,220	133,167
4	Pole Green Rd Widening	4,655	75,426

Economic Development (15%)

Performance Measure (PM)	PM Weight
ED1. Job Growth	50%
ED2. Connection to Truck Intensive Areas	25%
ED3. Truck Throughput	25%
Total	100%

Economic Development (15%)

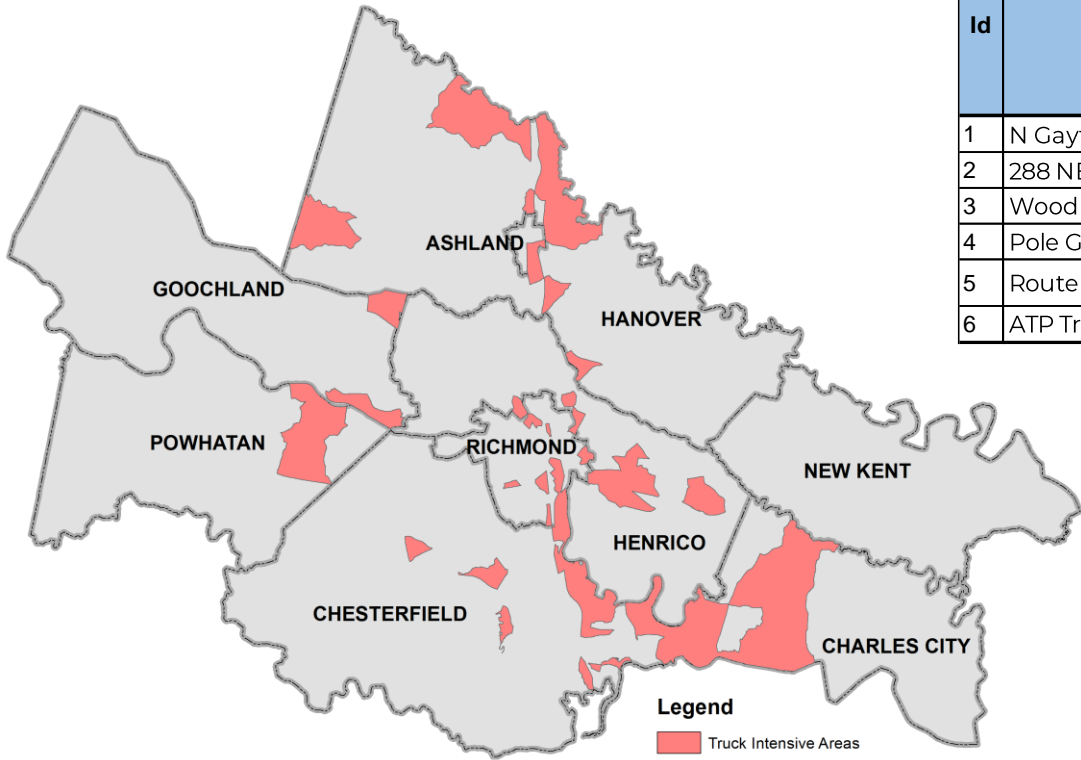


Test Project: Pole Green Road Widening

Project Tier	Buffer	Depreciation
Tier 1	0.5 miles	50%
Tier 2	1 mile	25%
Tier 3	2 miles	12.50%

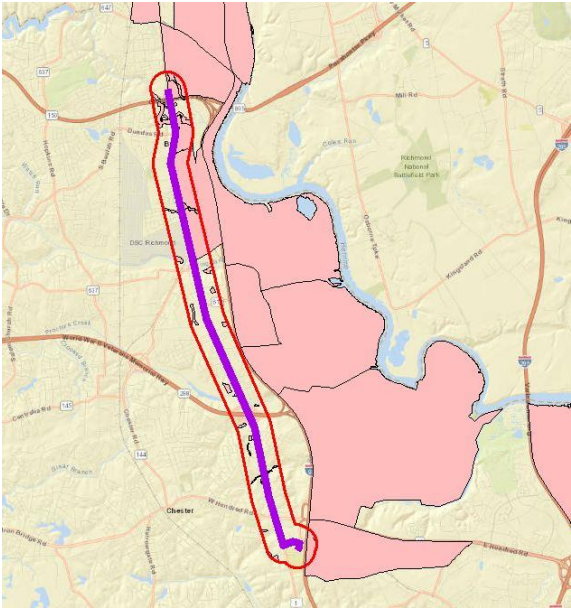
Id	Project Name	Job Growth	
		Raw Value	Normalized Value
1	N Gayton Interchange at I-64	757	100
2	288 NB Off-Ramp to Bailey Bridge Connector	84	3
3	Woodman Rd Extension	396	48
4	Pole Green Rd Widening	137	11
5	Route 1 New Transit Line	749	99
6	ATP Trail – Chickahominy Crossing	61	0

Economic Development (15%)





































Truck Intensive Areas in the Richmond region

Id	Project Name	Connection To Truck intensive Areas	
		Raw Value	Normalized Value
1	N Gayton Interchange at I-64	189	41
2	288 NB Off-Ramp to Bailey Bridge Connector	206	45
3	Woodman Rd Extension	0	0
4	Pole Green Rd Widening	8	2
5	Route 1 New Transit Line	462	100
6	ATP Trail – Chickahominy Crossing	0	0



Test Project: Route 1 Transit

Economic Development (15%)

Class 1 Motorcycles		Class 7 Four or more axle, single unit	
Class 2 Passenger cars		Class 8 Four or less axle, single trailer	
			
			
			
Class 3 Four tire, single unit		Class 9 5-Axle tractor semitrailer	
			
			
Class 4 Buses		Class 10 Six or more axle, single trailer	
		Class 11 Five or less axle, multi trailer	
			
Class 5 Two axle, six tire, single unit		Class 12 Six axle, multi-trailer	
		Class 13 Seven or more axle, multi-trailer	
			
Class 6 Three axle, single unit			
			
			

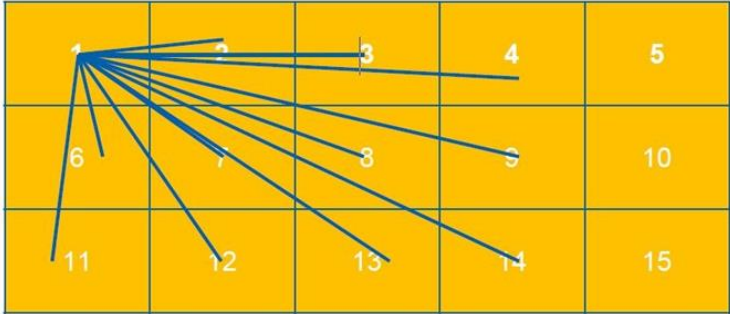
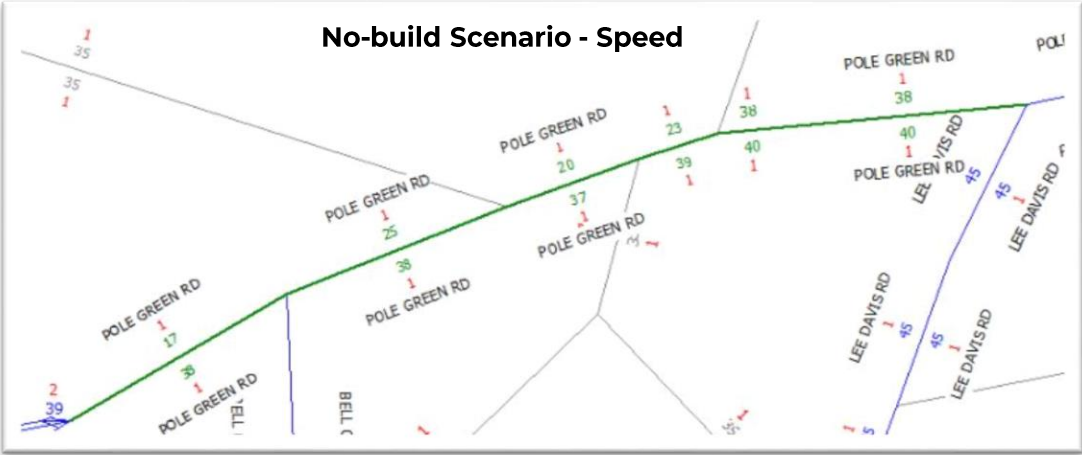
FHWA 13 VEHICLE CATEGORY CLASSIFICATION

Id	Project Name	Truck Throughput
1	N Gayton Interchange at I-64	500
4	Pole Green Rd Widening	362

Equity and Accessibility (25%)

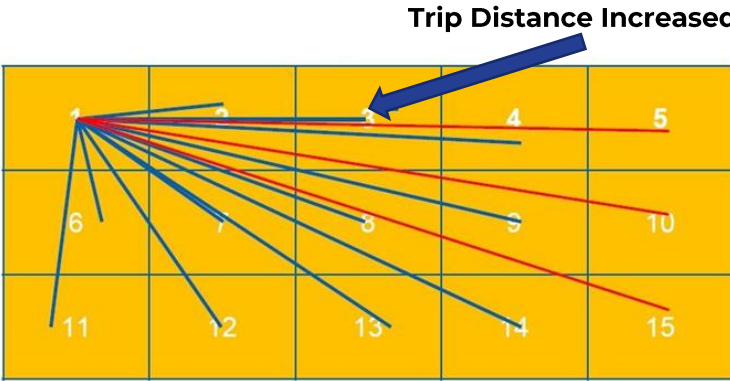
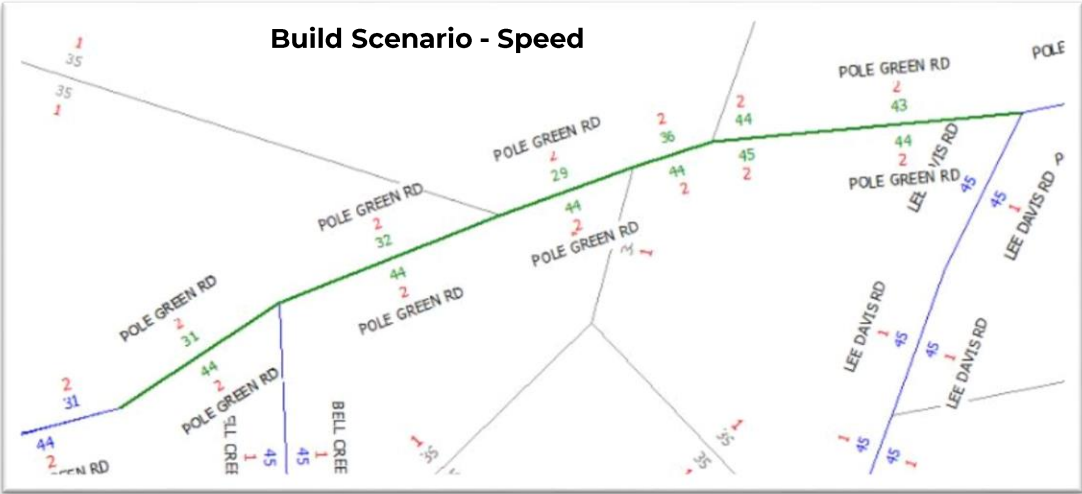
Performance Measure (PM)	PM Weight
EA1.Access to Jobs	30%
EA2. Access to Jobs (EJ Area)	20%
EA3. Access to Destinations	30%
EA4. Access to Destinations (EJ Area)	20%
Total	100%

Equity and Accessibility (25%)



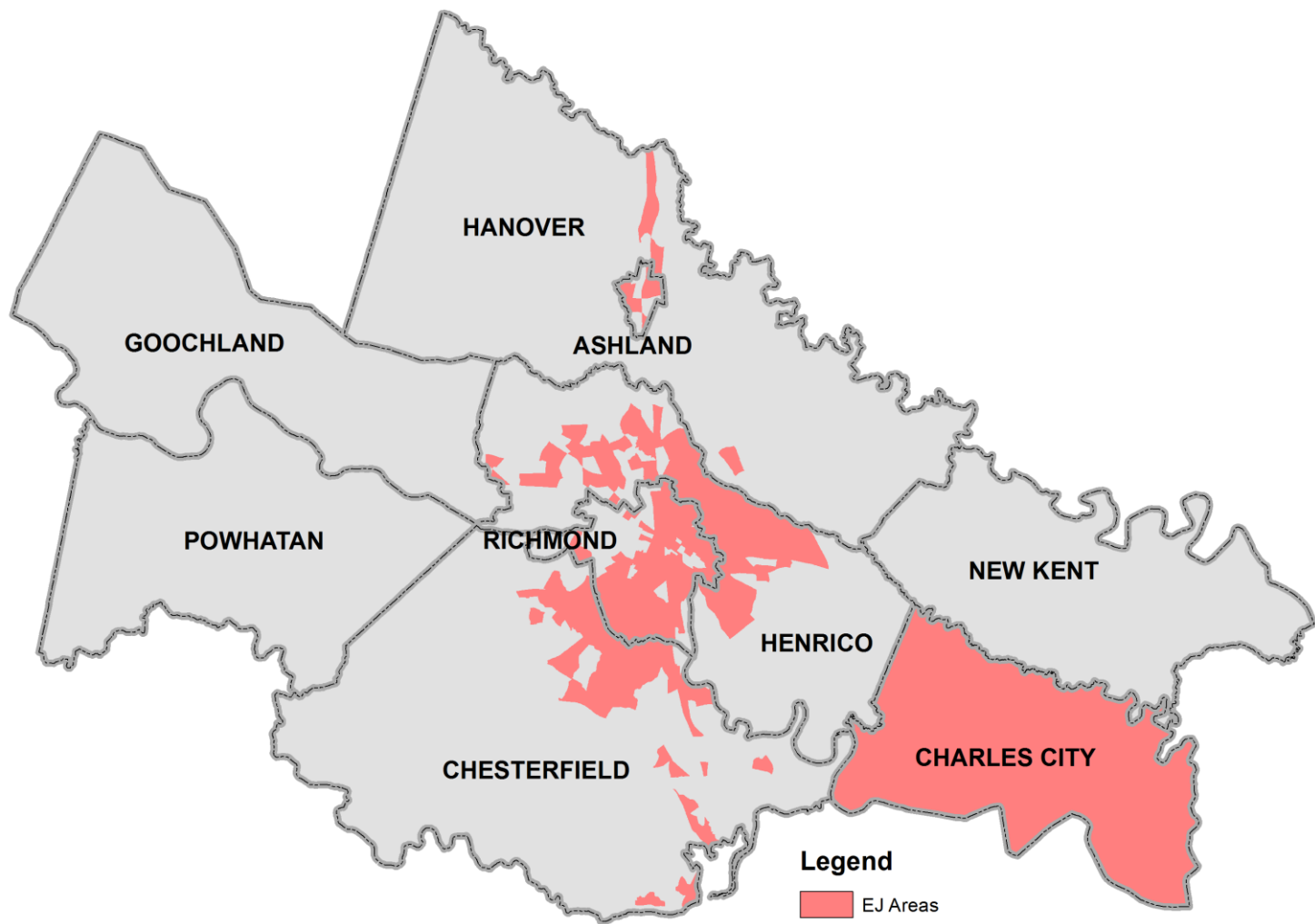
No-build Scenario

Test Project: Pole Green Road Widening



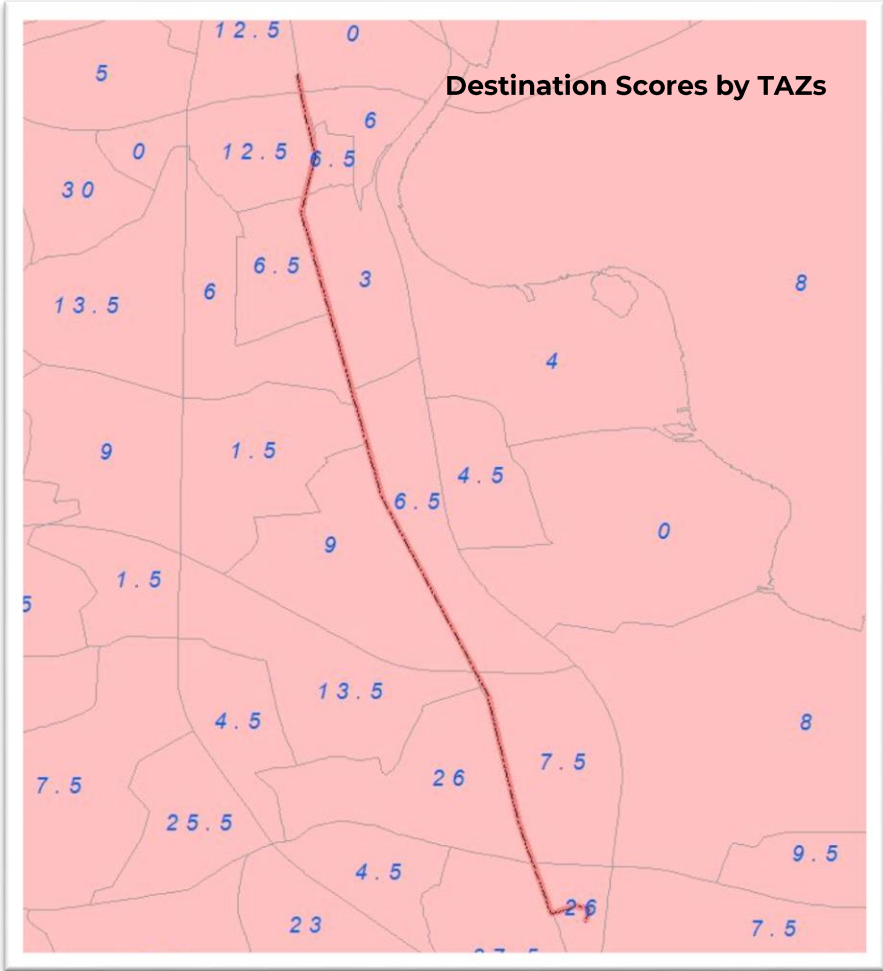
Build Scenario

Equity and Accessibility (25%)



EJ Areas in the Richmond Region

Equity and Accessibility (25%)



Test Project: Route 1 Transit Project

Scoring Sheet

ConnectRVA 2045 Project Scoring Sheet - Pole Green Rd Widening (Test Project)																
Steps	LRTP Goals	Safety		Mobility		Equity and Accessibility				Economic Development			Environment/Land Use			
	Project Performance Measure (PM)	Crash Frequency	Crash Rate	Person Throughput	Person Hours of Delay	Access to Jobs	Access to Jobs (EJ)	Access to Destinations	Access to Destinations (EJ)	Job Growth	Connection to Truck Intensive Areas	Truck Throughput	Sensitive Features	Air Pollution	VMT per Capita	Connection to Activity Center
1	PM Value	\$ 388,000	\$ 48,100	4,655	75,426					137	8.0	362	0.1%	9.76	0.012	0
2	Normalized PM Relative to other Submissions									11	2		100			0
3	PM Weight	70%	30%	50%	50%	30%	20%	30%	20%	50%	25%	25%	15%	30%	30%	25%
4	Goal Value	0.0		0.0		0.0				5.5			15.0			
5	Goal Weight	25%		10%		25%				15%			25%			
6	Weighted Goal Value	0.0		0.0		0.0				0.8			3.8			
7	Project Benefit	4.6														
8	Project Cost	\$13,500,000														
9	ConnectRVA 2045 Project Score Benefit divided by cost in tens of millions															

Everything is Relative

Next Steps

Staff

- Work to tweak methodology for some PM to get better results.
- Complete development of RRTPO Accessibility Tool and test projects.
- Additional Project testing – focus on other modes (non-highway)
- Finalize the Project Evaluation and Scoring Process Guidelines by January 18.

LRTP-AC

- General suggestion/comments by January 10, 2021
- Disagreement with any PM and/or alternative suggestion with methodology by December 22, 2020
- Endorsement - January 28, 2021

7.LRTP Schedule 2021

Schedule

Task 2. Strategic Direction

- Board Introduction of Vision, Goals and Objectives – Dec 3, 2020
- Formal Public Review of Vision, Goals and Objectives –Dec 4-Dec 18, 2020
- Board Adoption – January 7

Task 3. Planning

- Champions Deadline – Nov 30, 2020
- Staff & VDOT Compilation – January 10
- LRTP Review- January 11-January 22
- Formal Public Review - January 25- Feb 8
- **LRTP-AC Adoption Universe of Projects – Feb 25**

Task 4. Programming

- Project Prioritization Methodology
 - Introduction to LRTP-AC – Dec 14
 - **LRTP-AC approval – January 28**
- Project Scoring – Jan- April
- Constraint Plan Development
 - Revenue Projection Request – VDOT/DRPT – Dec/Jan
 - LRTP AC Discussion - Feb 25/March 25
 - Formal Public Review Period - April 1- 15
 - **LRTP-AC Approval - April 22**
 - Board Approval – May 6

Schedule

Task 5.

- 5.0 Base Year Transportation Performance Reports and Targets, 5.01 LRTP Performance Measures Evaluation, 5.1 Environmental Justice Analysis, 5.2 Accessibility Assessment
 - Staff Work May – June
 - **LRTP-AC – June 24**
- 5.3 Air Quality Conformity/ Interagency Consultation
 - Interagency Consultation –June
 - Formal Public Review Period – Align with Plan's final Public review period

Task 6.

- Document
 - Final Draft for Public Review – July 31
 - Final Draft for Adoption – September 15
- Adoption
 - Board – Open Formal Public Review – August
 - Formal Public Review Period – August 15- September 15
 - **LRTP AC – Final approval September 23**
 - Board Approval - October 7
 - FHWA/FTA – October 15

Connect RVA 2045



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