Richmond Regional

Transportation Planning Organization

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THE REGIONAL COMMISSION

Advisory Committee Meeting
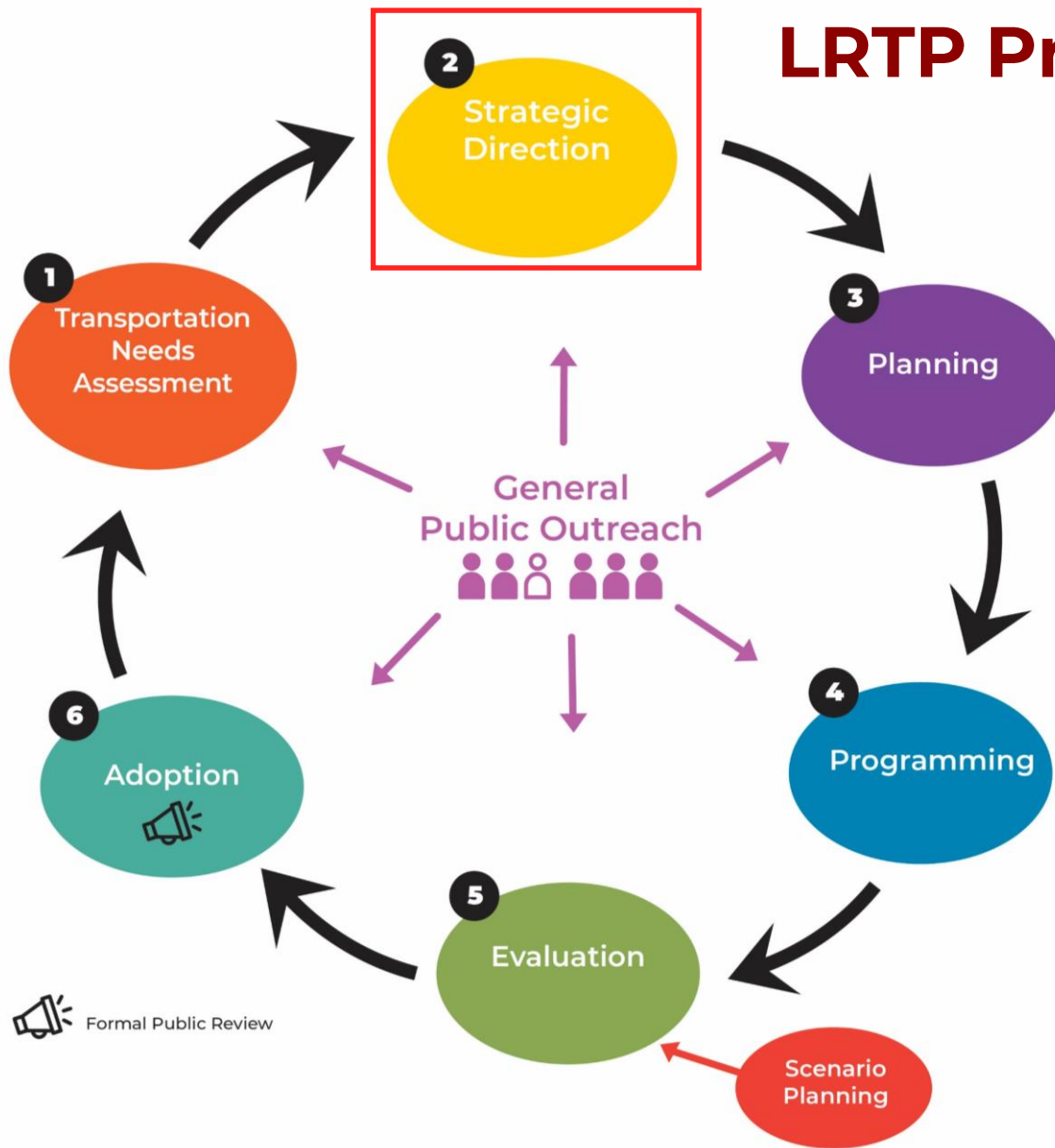
October 22, 2020

4.LRTP Process Update Task 2

Strategic Direction

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LRTP Process Flow

Strategic Direction (2)

1. Transportation Needs Assessment
3. Planning
4. Programming
5. Evaluation
6. Adoption

General Public Outreach

Scenario Planning

Formal Public Review

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Introduction

Work Scope & Framework

Work Scope

- Develop Vision and Goals for the LRTP.

- Also develop objectives within each goal and performance measure which could measure each objectives. The performance measures would feed into Task 4.0 Project Selection, Prioritization Process and Scoring

Framework

1. Introduction and discussion in the LRTP-AC Meeting (May, August)
2. Public Engagement
   - Vision Input
   - Regional Goals and Priorities Survey
   - Vision, Goals and Strategies Survey
3. Staff synthesis of the survey and development of vision goals and objectives based on public input.
4. LRTP-AC discussion and approval
5. 15 –Day Formal Public Review Period
6. Policy Board Approval

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Vision, Goals, Objectives and PM

Vision

The vision statement will describe the region's transportation aspirations in a concise manner, focus on what is important, and provide a foundation for all other aspects of the plan.

Goals

The goals will describe a series of desired end states for the region's transportation system informed by the vision – and will provide foundation for objectives and measures.

Objectives

The objectives will describe specific, measurable statements that support achievement of the goals.

Performance Measures (PM)

The performance measures provide the technical mechanism (data) to monitor progress towards objectives, goals, and vision.

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Goals

Address Federal Planning Factors (FAST ACT)

1. Increase the safety of the transportation system for motorized and non-motorized users
2. Emphasize the preservation of the existing transportation system
3. Promote efficient system management and operation
4. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns
6. Increase accessibility and mobility of people and freight
7. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight
8. Increase the security of the transportation system for motorized and non-motorized users
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation
10. Enhance travel and tourism

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Goals

Address MAP-21 Goals

1. Safety
2. Infrastructure condition
3. Congestion reduction
4. System reliability
5. Freight movement & economic vitality
6. Environmental sustainability
7. Reduced project delivery delays

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Goals

Consider State (VTRANS 2045) Goals

1. Safety for all users
Provide a safe and secure transportation system for passengers and goods on all travel modes.

2. Proactive system management
Maintain the transportation system in good condition and leverage technology to optimize existing and new infrastructure.

3. Economic competitiveness & prosperity
Invest in a transportation system that supports a robust, diverse, and competitive economy.

4. Healthy Communities and Sustainable Transportation Communities
Support a variety of community types promoting local economies and healthy lifestyles that provide travel options, while preserving agricultural, natural, historic, and cultural resources.

5. Accessible & Connected Places
Increase opportunities for people and businesses to efficiently access jobs, services, activity centers, and distribution hubs.
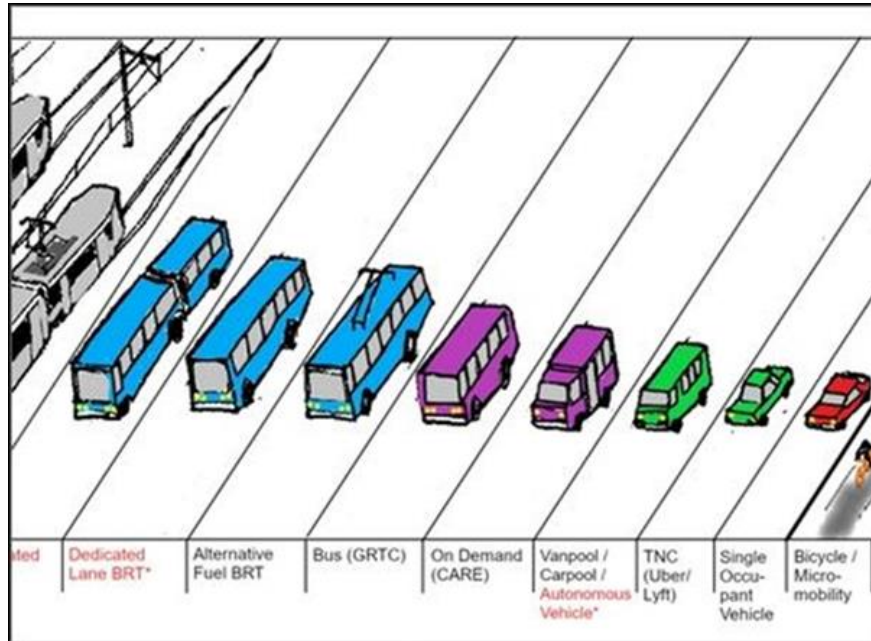
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Survey Results

Vision Survey

Tell us about your Transportation Vision for the Richmond region in one or two words.

Regional Goals and Priorities Survey

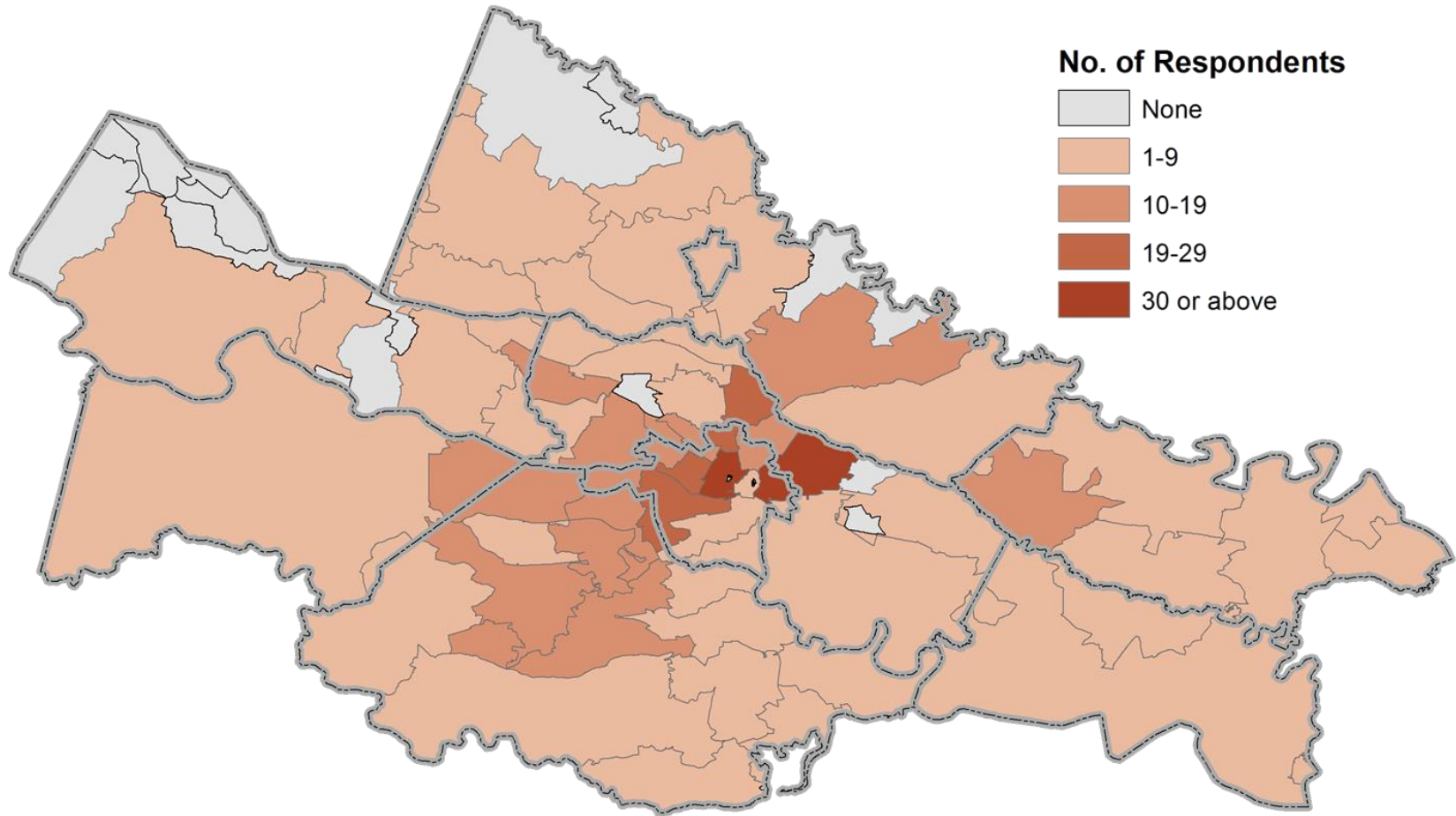**Went Live : June 24, 2020**
Closed: August 15, 2020
Views: 6,857
Likes: 3
Completed Survey : 501
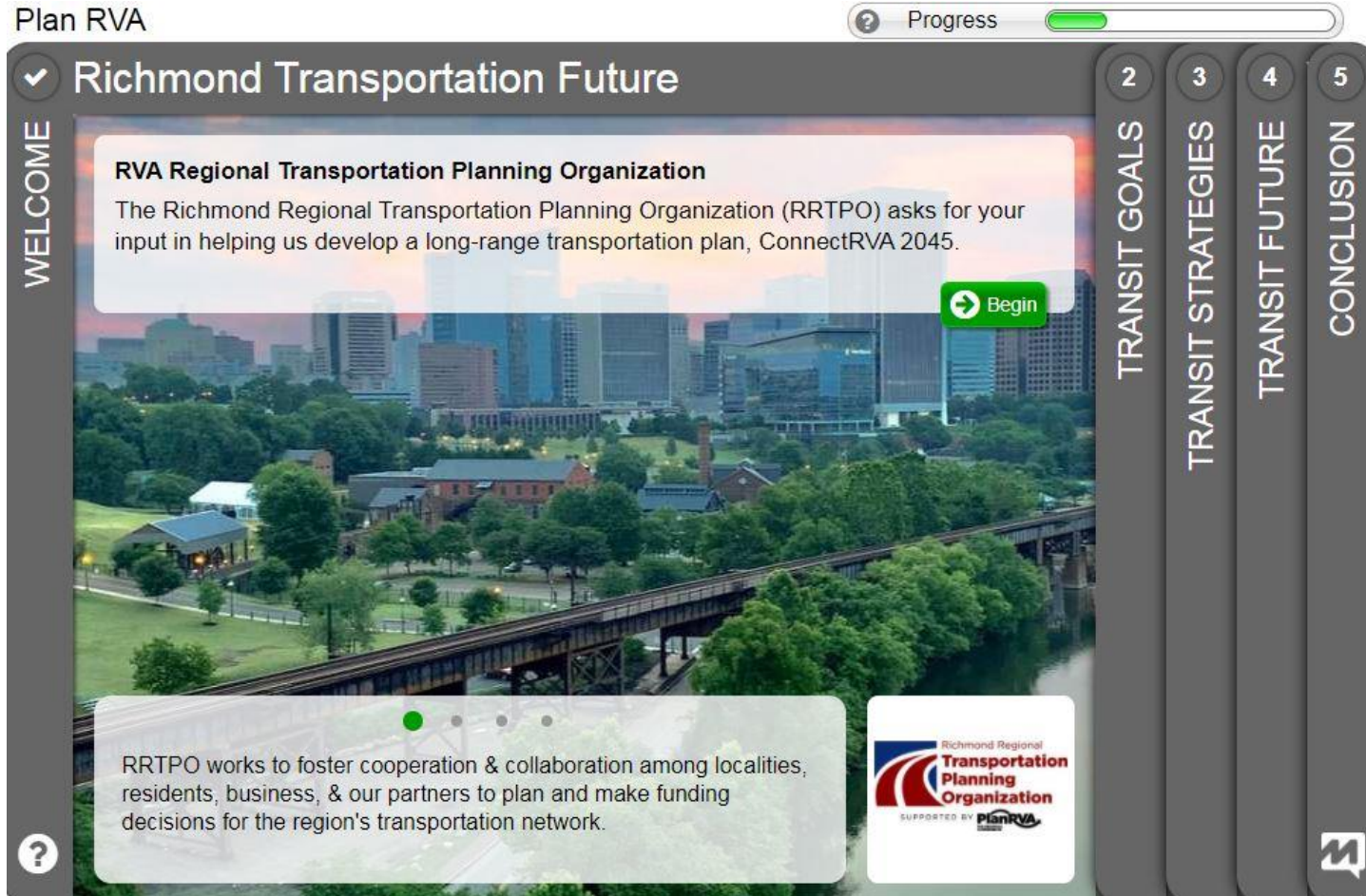
Regional Goals and Priorities Survey

No. of Respondents
- None
- 1-9
- 10-19
- 19-29
- 30 or above

Data By ZIP Code

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Regional Goals and Priorities Survey

Transportation Priorities

Priority	Score
Safety	4.4
Environmental Quality	4.2
Accessibility	4.1
Land Use	3.7
Economic Development	3.5
Congestion Mitigation	3.3

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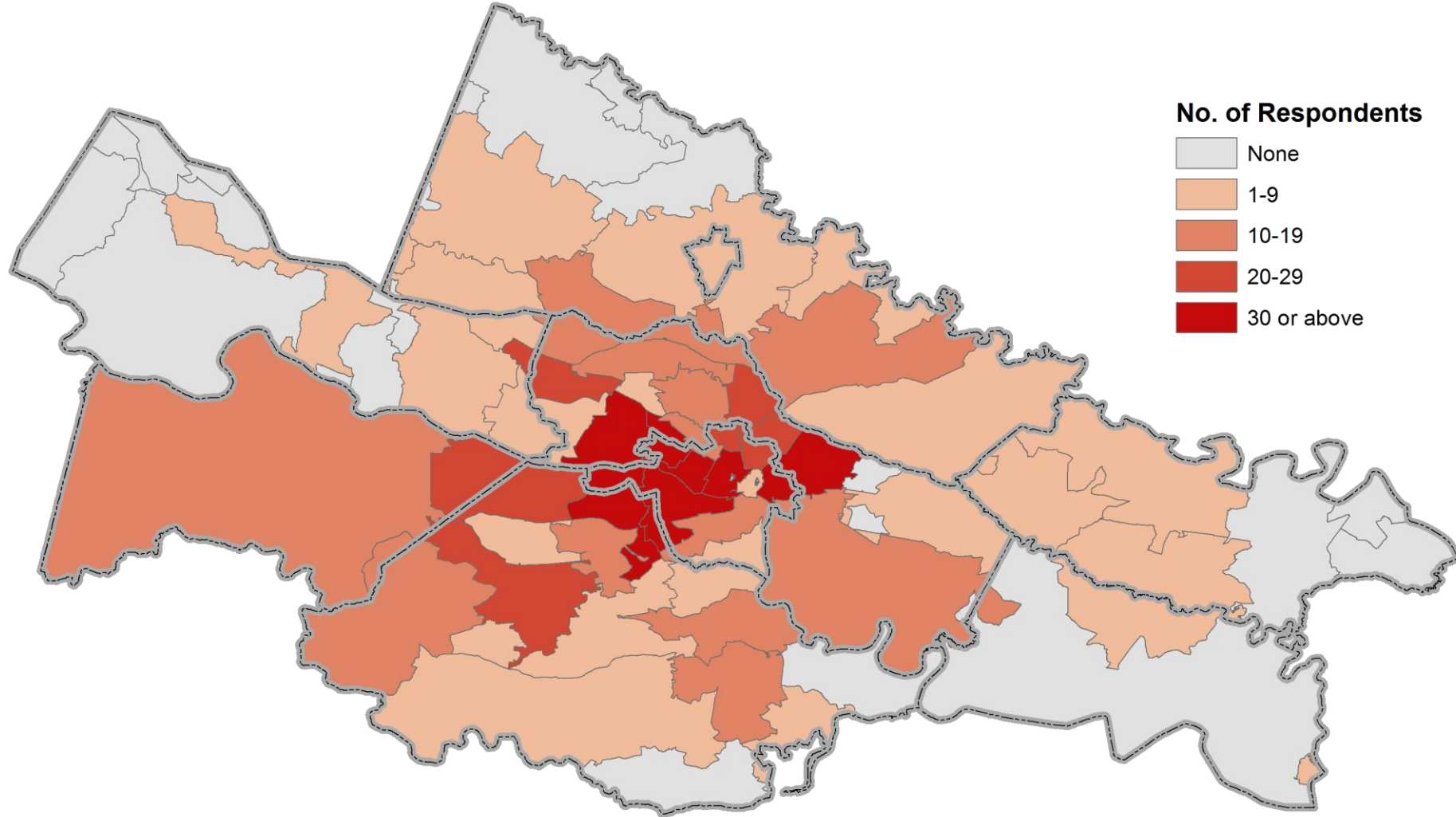**Transportation Planning Organization**
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Vision, Goals, and Strategies Survey

Went Live: August 25
Closed: October 11
Completed Survey : 949

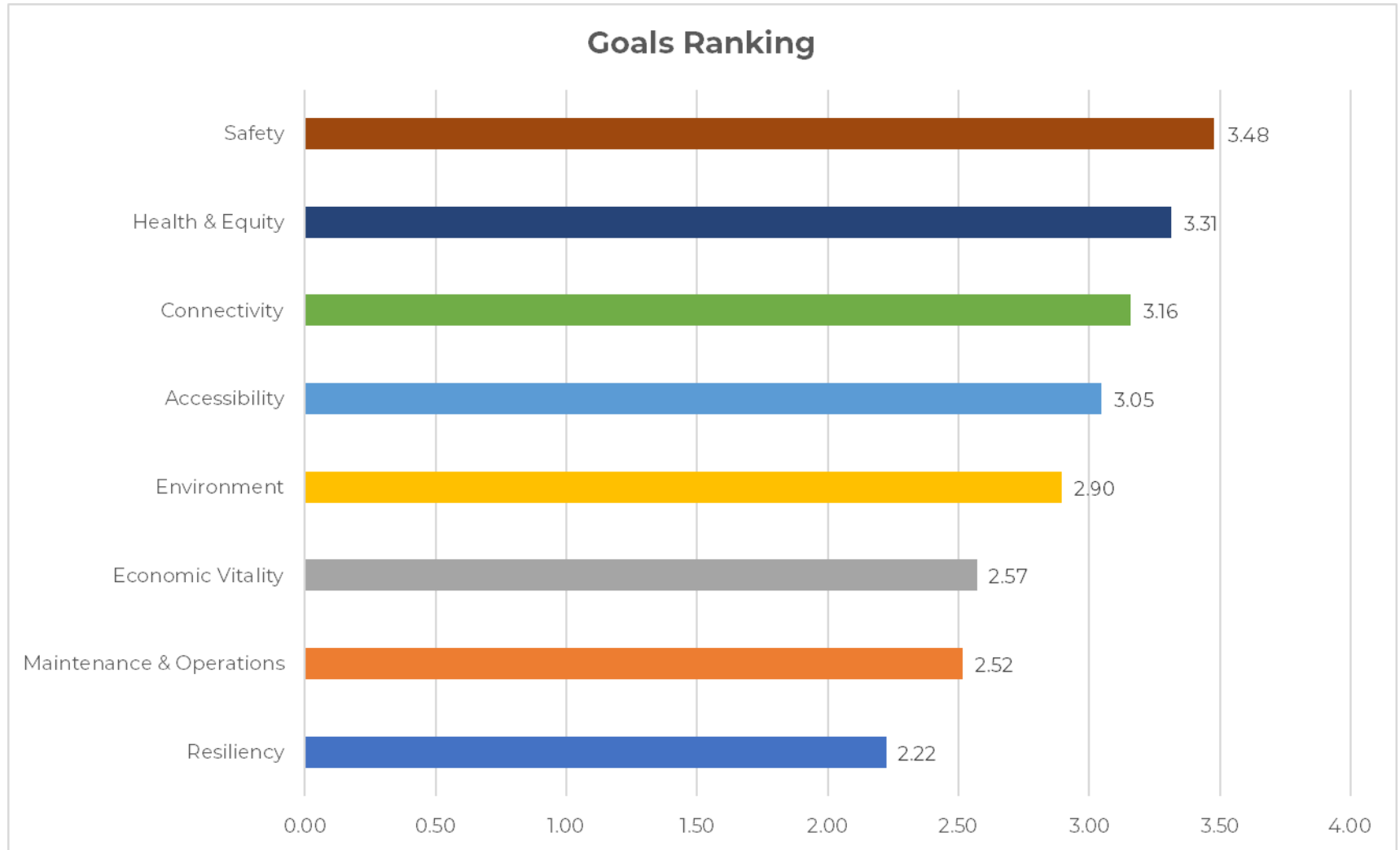# Vision, Goals, and Strategies Survey
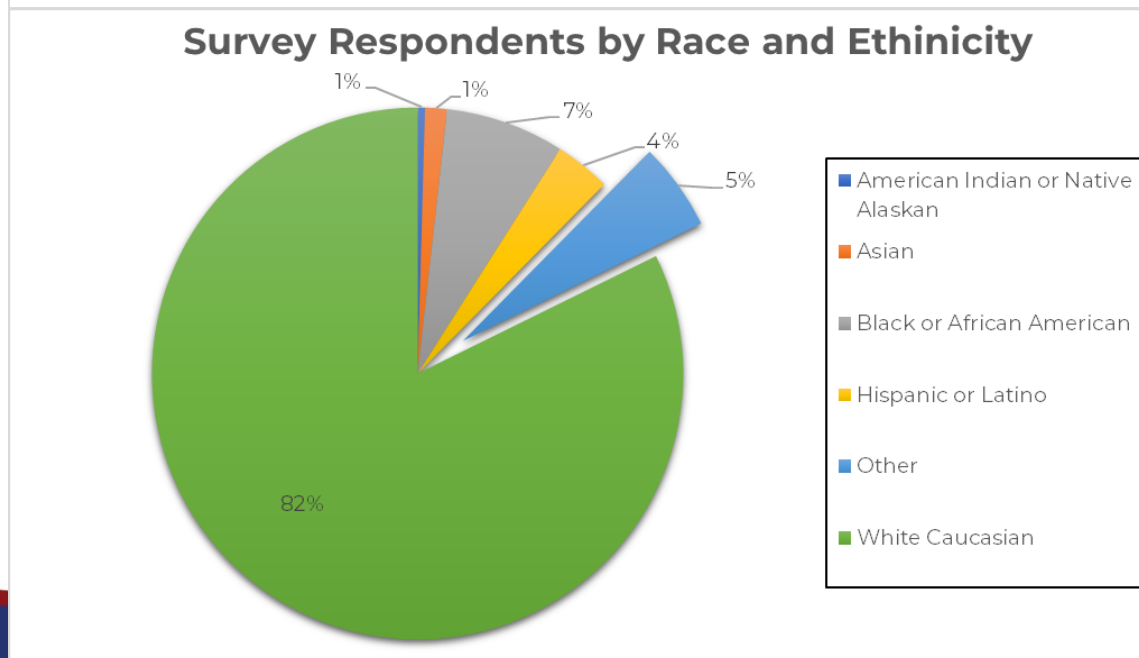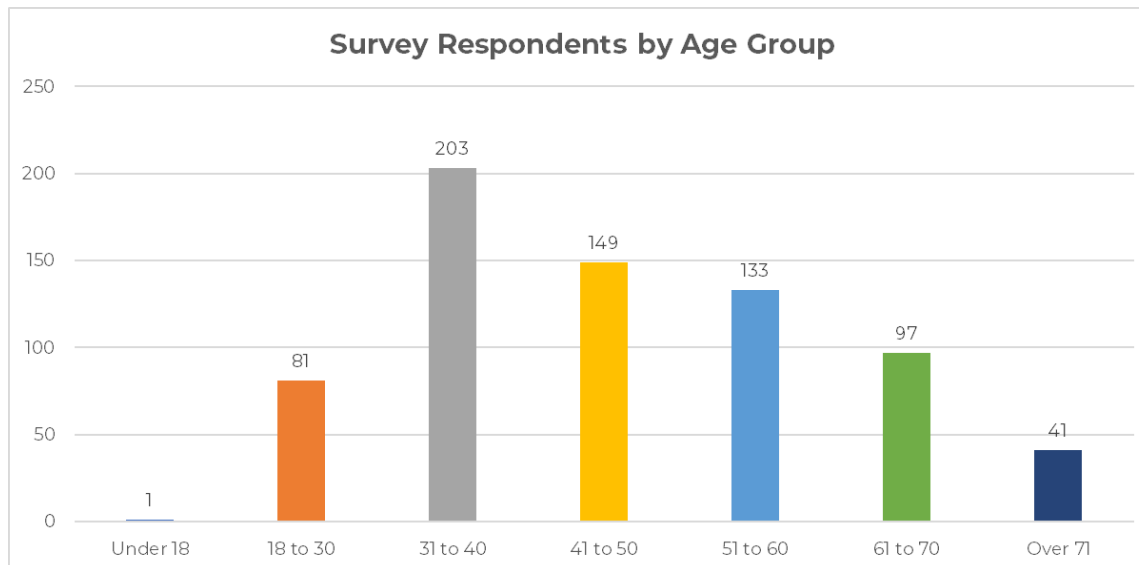
No. of Respondents

- None
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Data By ZIP Code

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Vision, Goals, and Strategies Survey

Vision, Goals, and Strategies Survey

Goals Ranking

Goal	Ranking
Safety	3.48
Health & Equity	3.31
Connectivity	3.16
Accessibility	3.05
Environment	2.90
Economic Vitality	2.57
Maintenance & Operations	2.52
Resiliency	2.22

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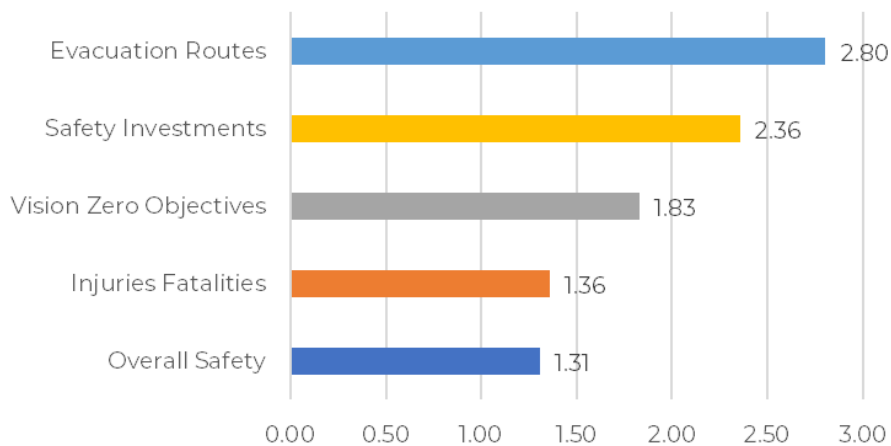**Transportation Planning Organization**
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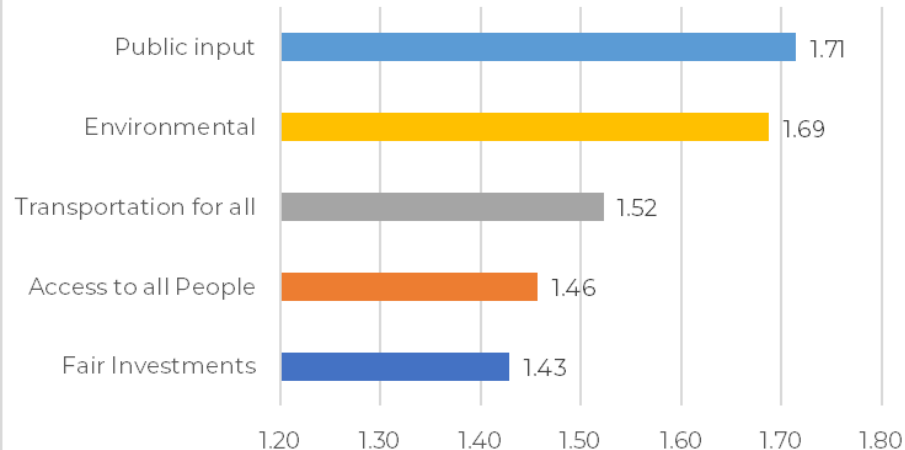
Vision, Goals, and Strategies Survey
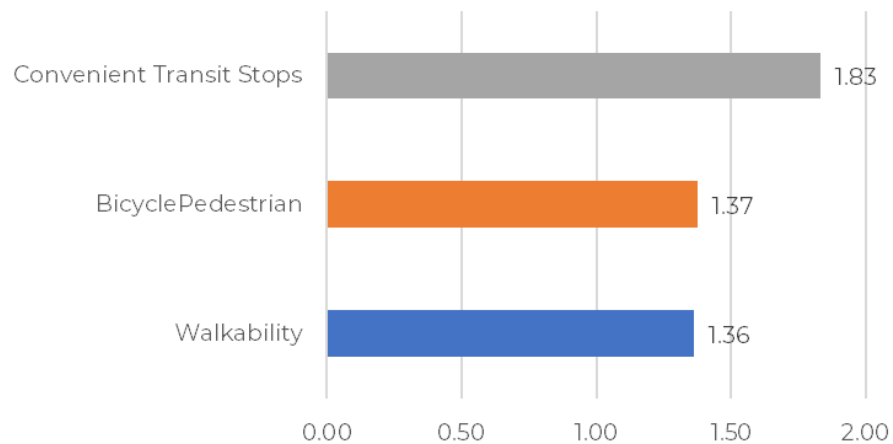
Vision, Goals, and Strategies Survey

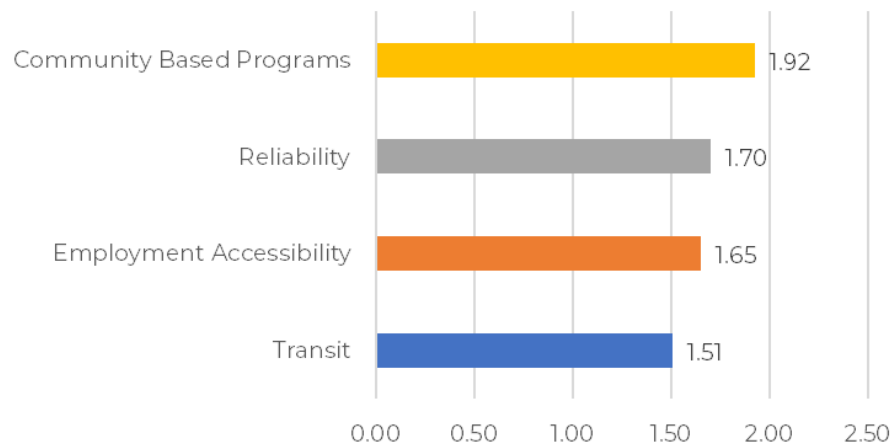## Vision Statements Input (265 entries)

- A transportation network that provides the necessary connectivity to allow citizens and goods to move throughout the region safely and efficiently on well maintained connections whether by walking, biking, public transportation or driving.

- A vibrant, well connected system that offers a variety of public transportation modes and options to everyone.

- A transportation system that is regionally planned to prioritize multimodal investments, accelerate the delivery of infrastructure and service in an equitable manner that improves connectivity, accessibility, safety and convenience for all users.

- To develop and maintain a safe, efficient, and environmentally compatible transportation system that provides accessible choices throughout all communities with a focus on access to food and employment centers for disadvantaged communities.

- To develop & maintain a safe, efficient, & environmentally compatible transportation system that provides convenient choices for accessing destinations throughout the urban area AND surrounding neighboring counties.

- To have a Transportation System that enhances community by providing reliable, affordable, accessible, and environmentally friendly services to reduce the reliance on automobiles to get work and shopping.

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Vision and Goals Development – Interactive Session

Staff Synthesis

Advisory Committee Vision Buzzwords

Regional Priorities 501 Completed Surveys
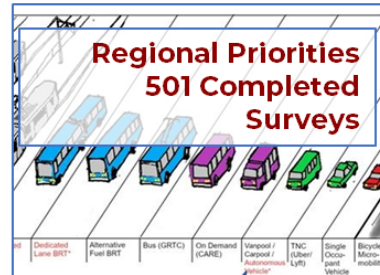
265 unique ideas for Vision Statements

Staff Subject Matter Experts

Vision Goals Objectives Performance Measures

Vision & Goals 949 Completed Surveys

Issues Wikimap 124 locations

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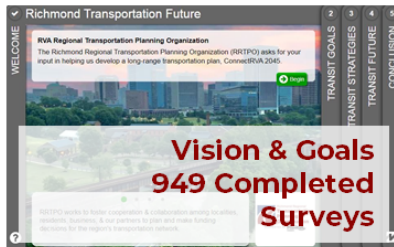
LRTP-AC Input

GUIDING PRINCIPLES

1. **Safe** transportation system.
2. **Choice among all travel options** (passenger vehicle, truck, rail, barge, air, transit, bike, walk) regionwide.
3. **Complete regional bicycle & pedestrian networks** for individual and community health.
4. **Transit service** which delivers frequent reliable service between areas of greatest need and desired destinations.
5. **Equity** in all transportation spending in the region with focus on historically disregarded communities.
6. **Sustainable freight network** for efficient goods movement.

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LRTP-AC Input

Vision

Transportation in the Richmond Region will connect people, provide opportunities for all to thrive and live healthy lives, and support a prosperous community. We do this by regionally planning a transportation system that prioritizes multimodal investment and accelerates the delivery of resilient infrastructure and service in an equitable manner to improve connectivity, accessibility, safety and reliability for all users.

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LRTP-AC Input

GOAL 1. Safety

Improve the safety of the transportation system for all people.

Objectives

- Reduce the number of crashes
- Reduce fatalities and serious injuries

LRTP-AC Input

GOAL 2. Environment/Land Use

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

Objectives

- Address roadways prone to flooding.
- Reduce transportation related pollutants.
- Reduce Vehicle Miles Traveled (VMT) per capita.
- Increase number of trips traveled through active transportation modes
- Improve work/life balance.
- Tie the land use potential to transportation investments.

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LRTP-AC Input

GOAL 3. Equity/Accessibility

Improve accessibility and mode choice for all people.

Objectives

- Reduce peak period travel times.
- Reduce peak period travel times for all population including Environmental Justice (EJ) population.
- Reduce trip lengths for all population including EJ Population.
- Increase access to jobs and community services via auto, transit, walking and biking for all population including EJ population.

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LRTP-AC Input

Goal 4. Economic Development

Improve connectivity and mobility for strong economic vitality

Objectives

- Increase transportation investment which focus on economic development.
- Improve reliability of travel to and within regional activity centers.
- Reduce freight bottlenecks and restrictions.
- Increase multimodal access to tourist destinations.

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LRTP-AC Input

Goal 5. Mobility

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

Objectives

- Increase the percent of the network that incorporate complete streets elements.
- Increase system efficiency through technology-based projects.
- Improve system reliability.

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5.LRTP Process Update Task 3

Planning

Universe of Project Screening and Development Update

- Staff working with Project Champions to develop the projects.
- 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 Dec/Jan.

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6.LRTP Process Update Task 4

Programming

Task 4. Programming

- Development of project scoring, ranking and prioritization methodology/guideline based on established performance measures (FHWA recommendation).
- Obtain financial revenue projections from VDOT and DRPT.
- Development of allocation guidelines for different Time Bands based on revenue projections.

- **Final Product**
    - Constrained list of Projects for LRTP by Time Band
    - Private/Local Projects
    - Unfunded Regional Projects

- **Work Tasks**
    Task 4.0 Project Prioritization & Scoring
    Task 4.1 LRTP Fiscally Constrained Plan Development

Project Prioritization - Approaches

- Goal-Based Subjective

- Goal-Based Qualitative

- Performance-Based

- Hybrid Goal and Performance-Based

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Goal-Based Subjective

- Score based on an Index range.
- Score based on personal judgement.
- plan2035 (2035 LRTP)

Points	Measurement
3 points	Project is very important toward achieving this goal
2 points	Project is important toward achieving this goal
1 point	Project is slightly important toward achieving this goal
0 points	Project not important toward achieving this goal

Goals A, B, C, D, E, F, G, H, I

ID	Project Location	Project Name	Project Type	Ranking Criteria								
				A	B	C	D	E	F	G	H	I
1	Ashland	Washington Hwy.	Safety improvements at intersection	2	0	3	2	0	1	2	3	2
2	Charles City Co.	Va. Capital Trail	Extend Bike/Ped Trail (1.4 mi.)	1	2	2	0	1	0	0	3	1
3	Chesterfield Co.	West Hundred Rd.	Widen to 6 lanes from I-95 to Wave Bottom Springs Rd. (1.01 mi.)	1	2	2	2	0	0	0	1	1

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Goal-Based Qualitative

- Score based on a data converted to an index range.
- Score based on the current condition
- Sometimes higher score goes to a project with better project application/description rather than the actual merit of the project.
- plan2040 (2040 LRTP)

Scoring for Congestion Mitigation

Level of Service Scale	**Person Hours of Delay Scale**
0 – LOS A	1 – 0 - 4.9
1 – LOS B	2 – 5 - 9.9
2 – LOS C	3 – 10 - 14.9
3 – LOS D	4 – 15 - 19.9
4 – LOS E	5 – >20
5 – LOS F	

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Performance-Based

- Score based on performance of the project.
- Usually the "Delta" measured between no-build and built conditions.
- Score index created based on the highest and lowest "Deltas".
- Project scoring for each project is relative.
- **FHWA recommended**
- **Smart Scale**
- Data hungry, research, analysis tools, staff capacity and time-consuming.
- Different methodologies for different project types

Scoring for Congestion Mitigation – Smart Scale

	C.1: Person Throughput		C.2: Reduction in Person Hours of Delay		Raw Factor Value: Congestion
Measure Weight	50%		50%		
	Value	Value	Value	Value	
Project 1	5	0.01	11	0.05	(50% * .01) + (50% * .05) = .03
Project 2	747	1.40	166	0.80	(50% * 1.4) + (50% * .80) = 1.1
Project 3	182	0.34	1,332	6.30	(50% * .34) + (50% * 6.31) = 3.32
Project 4	53,200	100.00	21,131	|100	(50% * 100) + (50%*1000)= 100

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Hybrid Goal & Performance-Based

- Elements of both Goal-Based and Performance-Based approaches.
- Catered towards agency staff time, staff capacity, etc.
- Staff recommended and being developed.
- 14 Metrics – 11 Performance Measures, 3 other measures
- Bonus Points (VTrans segments, project readiness, economic zones, etc.)

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Staff Recommendations

LRTP Goals	Safety		Mobility	
Project Performance Measure	**Crash Rate**	**Crash Frequency**	**Person Throughput**	**Person Hours of Delay**
Description	EPDO of Fatal and Injury Crashes per 100M VMT or 1 M Vehicles - 5 year sample	EPDO of Fatal and Injury Crashes Avoided - 5 year sample	Peak or All Day (TBD)	Peak or All Day (TBD)
Evaluation Tool	GIS/Excel	GIS/Excel	RTC Model	RTC Model

LRTP Goals	Equity and Accessibility			
Project Performance Measure	**Access to Jobs**	**Access to Jobs (EJ)**	**Access to Destinations**	**Access to Destinations (EJ)**
Description	Change is average job accessibility per person	Change is average job accessibility per person (EJ Population Only)	Change in access to destinations	Change in access to destinations (EJ Population Only)
Evaluation Tool	RTC Model	RTC Model	RTC Model	RTC Model

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Staff Recommendations

LRTP Goals	Economic Development	
Project Performance Measure	**Job Growth***	**Truck Throughput**
Description	Decay multibuffer with % of TAZ as % of Jobs	Peak or All Day?
Evaluation Tool	GIS	RTC Model

LRTP Goals	Environment/Land Use			
Project Performance Measure	**Sensitive Features***	**Air Pollution**	**VMT per Capita**	**Connection to Activity Center***
Description	% Wetland, Resiliency Water Hazard Zones, Cons. Land, Habitat, and Cultural Resources in 1/4 mile	Sum of annual VOC, NOx, CO2 (whether to include PM2.5 and PM10-TBD)reduction in metric tons - lose points if positive	Change in VMT per capita; run with & without project; 0 pts for increase	% Activity Center within Buffer of Project = % of Activity Units served; most units = best score
Evaluation Tool	GIS	RTC Model	RTC Model	GIS

* Proposed metric is not a performance measure (no before/after comparison)

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Staff Recommendations

GUIDING PRINCIPLES:
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6. **Sustainable freight network** for efficient goods movement.

VISION: Transportation in the Richmond Region will connect people, provide opportunities for all to thrive and live healthy lives, and support a prosperous community. We do this by regionally planning a transportation system that prioritizes multimodal investment and accelerates the delivery of resilient infrastructure and service in an equitable manner to improve connectivity, accessibility, safety and reliability for all users.

Goal	Objectives	Federal Performance Measures	Project Selection Performance Measures
Safety			
Improve the safety of the transportation system for all people.	• Reduce the number of crashes • Reduce fatalities and serious injuries	• Number of fatalities • Rate of fatalities • Number of serious injuries • Rate of serious injuries • Number of non-motorized fatalities and serious injuries	• Crash rate • Crash frequency
Environment/Land Use			
Reduce the negative impact the transportation system has on the natural and built environment.	• Address roadways prone to flooding • Reduce transportation related pollutants • Reduce Vehicle Miles Travelled (VMT) per capita • Increase number of trips traveled through active transportation modes • Improve work/life balance • Tie the land use potential to transportation investments		• Sensitive features/resiliency • Air pollution • Vehicle Miles Travelled (VMT) per capita • Connections to Activity Centers

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Staff Recommendations

Equity/Accessibility			
Improve accessibility and mode choice for all people.	• Reduce peak period travel times • Reduce peak period travel times for all population including Environmental Justice or EJ (historically underserved and disadvantaged) populations • Reduce trip lengths for all population including EJ Population. • Increase access to jobs and community services via transit, walking and biking for all population Including EJ Population.	Pavement quality Bridge quality Interstate reliability Non interstate reliability	• Access to Jobs • Access to Jobs EJ Population • Access to Destinations • Access to Destinations EJ Population
Economic Development			
Improve connectivity and mobility for strong economic vitality	• Increase transportation investment which focus on economic development • Improve reliability of travel to and within regional activity centers • Reduce freight bottlenecks and restrictions • Increase multimodal access to tourist destinations		• Job Growth • Truck Throughput
Mobility			
Increase travel efficiency and mode choice, and maintain the transportation system in a state of good repair	• Increase the percent of the network that incorporate complete streets elements • Increase system efficiency through technology-based projects • Improve system reliability	• Interstate truck reliability	• Person Throughput • Person Hours of Delay

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