

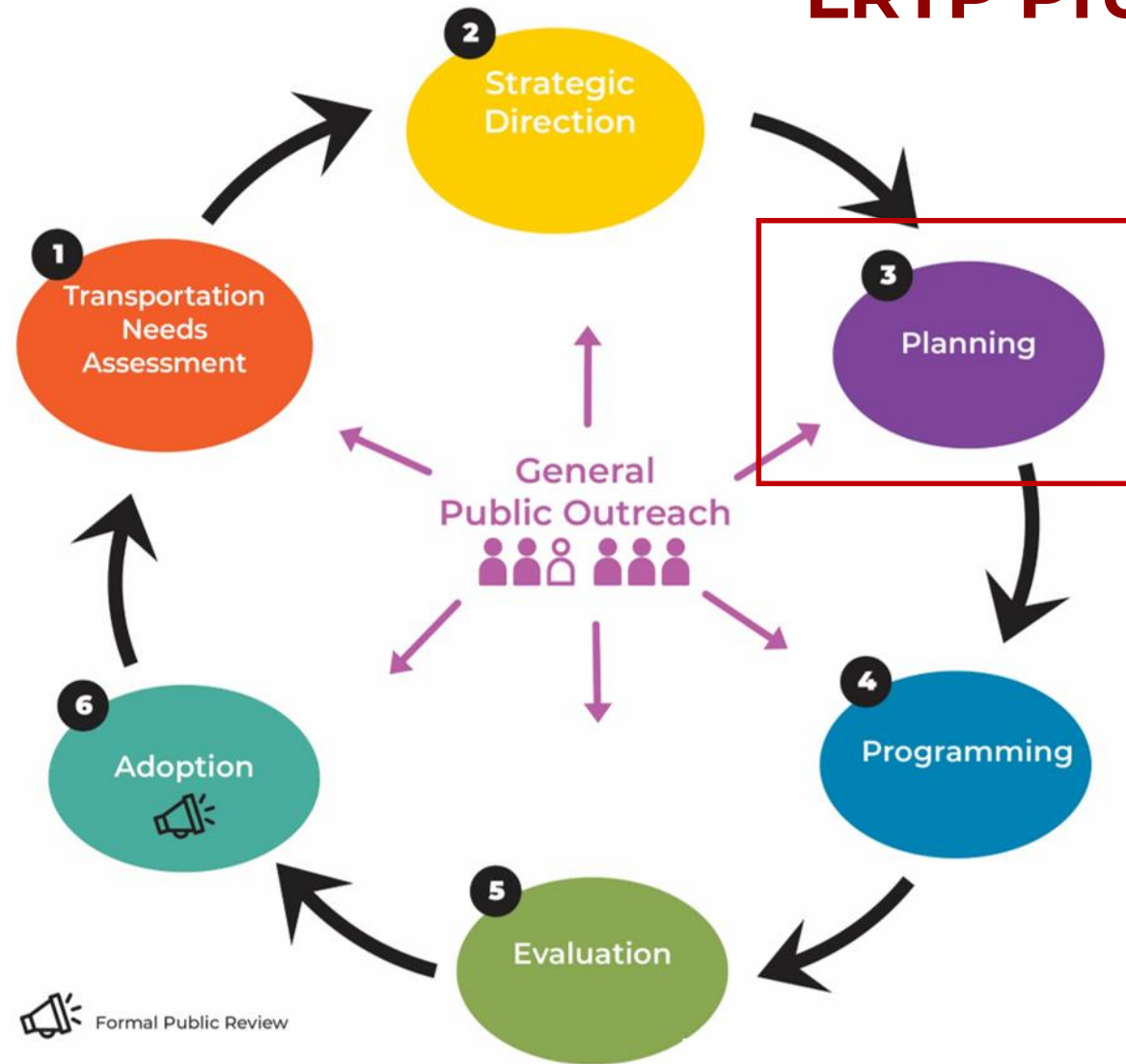
Richmond Regional
**Transportation
Planning
Organization**

SUPPORTED BY **PlanRVA**
THE REGIONAL
COMMISSION

4. LRTP Process Update Task 3

Planning

LRTP Process Flow



Universe of Project – First Look

Highways

- 166 Projects and counting
- Projects divided into 10 types
- Project ready for implementation
- Projects at the conceptual level
- Intersection Improvement projects require detail information
- Highway Needs - **\$ 4,911,105,765**

Highway Project Type	Number of Projects
Road Widening	68
Interchange Modification	44
Auxiliary Lane	16
Road Extension	15
Intersection Improvement	10
New Interchange	7
New Road	2
Road Realignment	2
New Overpass	1
Road Relocation	1
Total	166

Universe of Project – First Look

Bridge

- 16 Bridge Replacement/Rehabilitation Projects
- Structurally Deficient Bridges in the National Highway System
- Bridge with Capacity Constraint (widening with added capacity) in the Highway List
- Cost Estimates for 10 Bridges still missing
- Bridge Replacement Needs- **\$ 72,859,950**
- Bridge Rehabilitation Needs- **\$ 45,006,067**

Locality	Number of Bridges
Chesterfield	2
Henrico	4
New Kent	1
Richmond	9
Total	16

Universe of Project – First Look

Transit

- 10 Projects
- 4 BRT Routes
- 5 Enhanced Service Routes
- 1 Transit Center
- Capital costs
 - Net new buses to operate
 - New stops in area not currently served every 1/4 mile on both sides
 - New shelters every mile
 - Sidewalks both side where none exist
 - Crosswalks outside City
 - Intersections incl ped signals
 - TSP w/ bus hardware & signals
- Operational Cost not Included
- Transit Needs - **\$663,708,000**

Corridor	Type	From	To
Midlothian corridor	Enhanced Service	CBD	Chesterfield Town Center
Midlothian corridor	BRT	CBD	Westchester Commons
RIC Airport	Enhanced Service	CBD	RIC Airport
Rt 1 North	Enhanced Service	CBD	Parham Road
Rt 1 North	BRT	CBD	Ashland
Broad St	Enhanced Service	Willow Lawn	Short Pump
Broad St	BRT	Willow Lawn	Short Pump
West End South	Enhanced Service	Cary/Main	Gayton Crossing
West End South	BRT	Cary/Main	Short Pump

Universe of Project – First Look

Active Transportation

- 40 Projects and counting
- All unfunded segments of Fall Line Trail within RRTPO Boundary (25 segments)
- Fall Line Trail Spurs
- Virginia Capital Trail Spur
- Major Connectors and Multi-jurisdictional Trails
- Some projects not yet in the list due to no cost estimate or agreed upon alignment
- Active Transportation Needs - **\$185,744,914**

Universe of Project – First Look

Park and Ride

- 15 Park and Ride Projects
- 14 new and one expansion
- 2,650 + New Parking Spaces
- Park and Ride Needs - **\$ 71,500,000**

Location/Route	Jurisdiction
VA Center Commons/I-295/I-95	Henrico or Hanover
Lewistown Rd/Lakeridge Pkwy or Ashland	Hanover or Ashland
Midlothian @ Chippenham	Richmond or Chesterfield
East End CBD at Pulse Terminus-Rocketts	Richmond or Henrico
I-64/US-60 at Laburnum Rd	Henrico
I-295at US-60-Technology Blvd/Elko Rd	Henrico or New Kent
VA-10/VA- 288 at I-95/I-295	Chesterfield
US-250 at Willow Lawn/Staples Mill	Henrico or Richmond
Huguenot Rd at Forest Hill Ave	Chesterfield or Richmond
I-64 at I-295 in Short Pump	Henrico
VA- 5	Henrico
VA- 76/US-60	Chesterfield
VA-76/Jhanke	Chesterfield
VA-288 at US-250	Goochland
I-64 & VA- 623 (Ashland Rd)	Goochland

Universe of Project – First Look

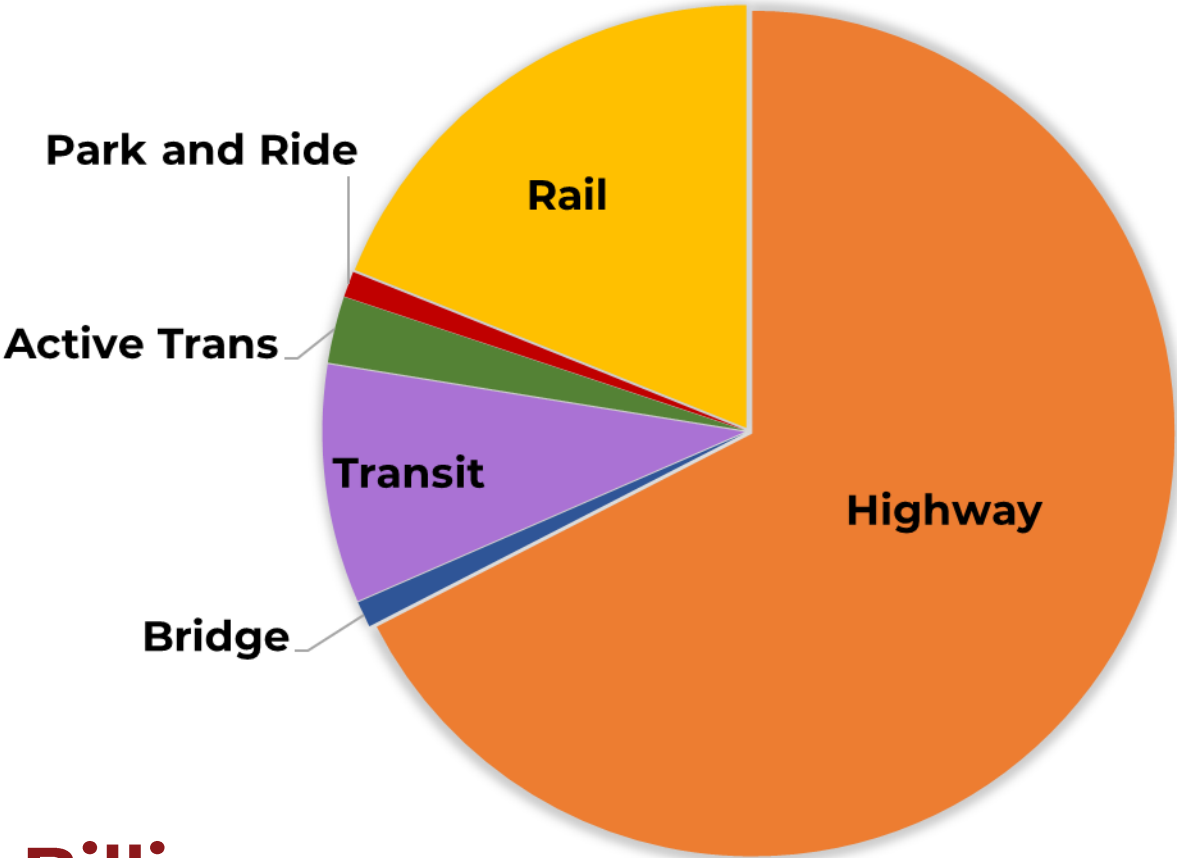
Rail

- 10 Projects
- Transforming Rail in Virginia Initiative- 3 Projects
 - Enhancement related to Capacity Change, Grade separation, etc.
- Industrial Access – 4 Projects
 - Alleghany Warehouse and Altria/DuPont- CSX
 - RIC/White Oak area – NS
 - RIC/White Oak area – CSX
 - Meadowville area - NS
- Staples Mill Station Replacement and Enhancement – 3 projects (3 phases)
- Rail Needs - **\$ 1,376,540,000**

Universe of Project – Summary

Transportation Project Type	Needs (Dollars)	Total Number of Projects
Highway	\$ 4,911,105,765	166
Bridge	\$ 72,859,950	16
Transit	\$ 663,708,000	10
Active Transp.	\$ 185,744,914	40
Park and Ride	\$ 71,500,000	15
Rail	\$ 1,376,540,000	10
Total	\$ 7,281,458,629	257

TRANSPORTATION NEEDS (DOLLARS)
BY PROJECT TYPE



Total Needs -\$ 7.28 Billion

Universe of Project – Next Steps

Staff /Champions

- Addition of any projects missed out in the draft.
- Removal of any projects which have already secured funding
- Removal of any projects not supported by the Project Champions
- Filling of any missing Information
- Cost Estimates Validation

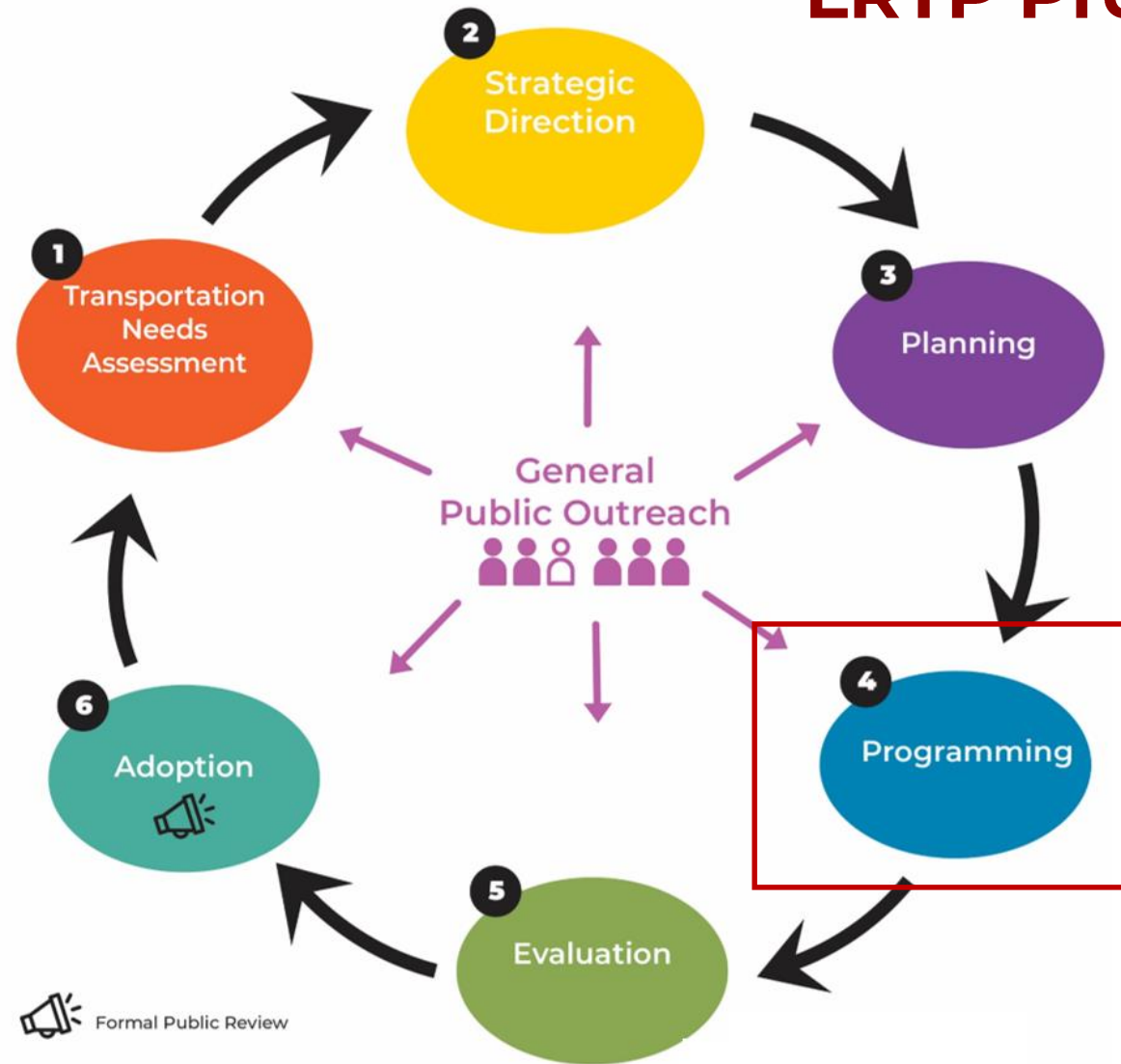
Timeline

- LRTP- AC Member/ Project Champions comments – **March 15**
- Final Draft excluding Public comments – **March 18**
- Public Comment Period – **March 8 – March 22**
- LRTP-AC Endorsement – **March 25**

5. LRTP Process Update Task 4

Programming

L RTP Process Flow



Fiscally Constrained Plan Development

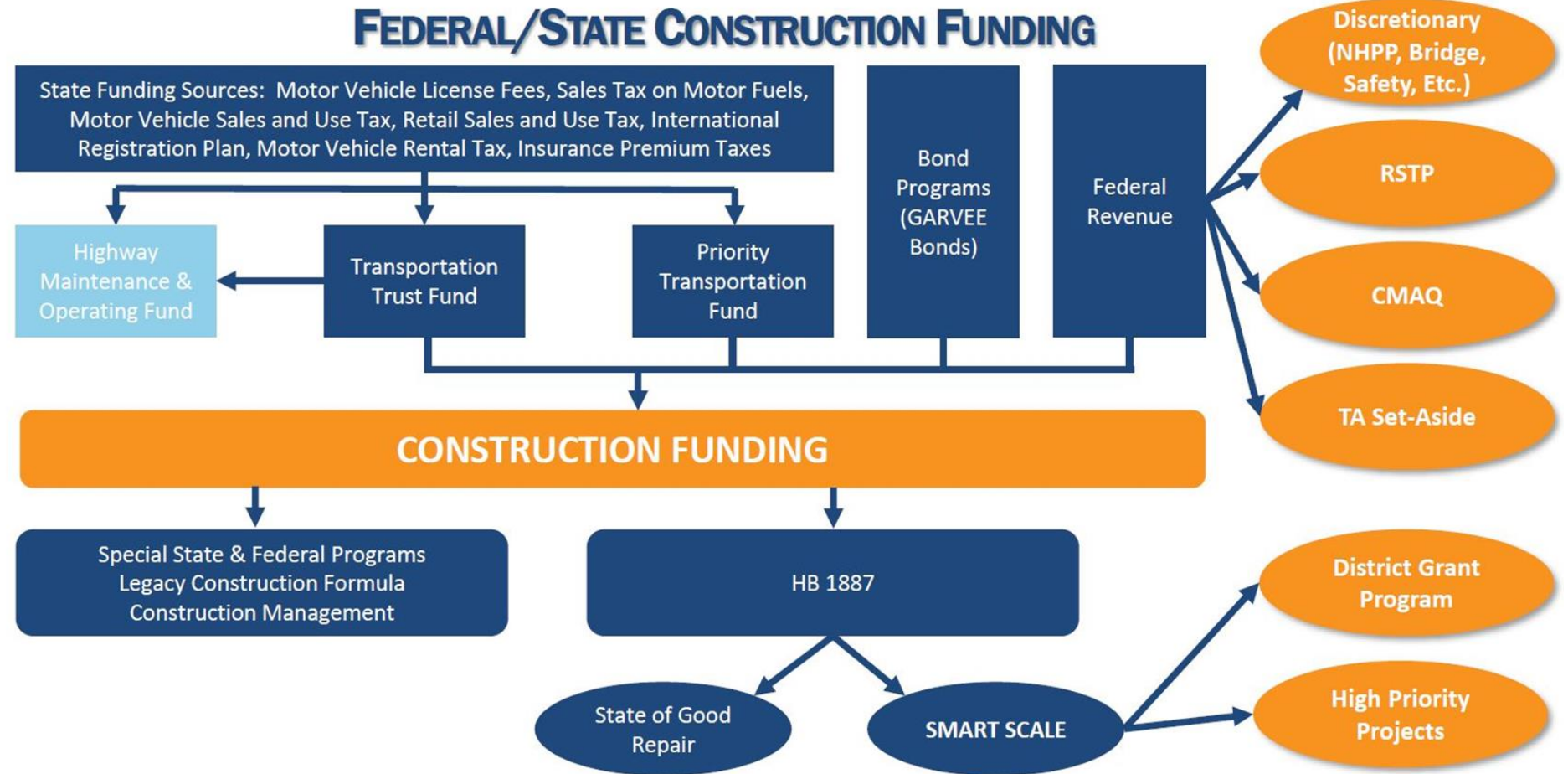
Fiscal Constraint

- Comparison of Revenues and Cost and Demonstration of sufficient revenues to
 1. Operate and Maintain the Existing Transportation System – cannot be compromised
 2. Implement proposed Transportation System Improvements -Universe of Projects (\$7.28 Billion) – If not sufficient – then prioritize
 3. Set-aside revenue for Local/Programmatic Projects

Fiscally Constrained Plan Development

ConnectRVA 2045 Revenue Estimates

- VDOT
- DRPT
- CVTA
- Private/Local



Fiscally Constrained Plan Development

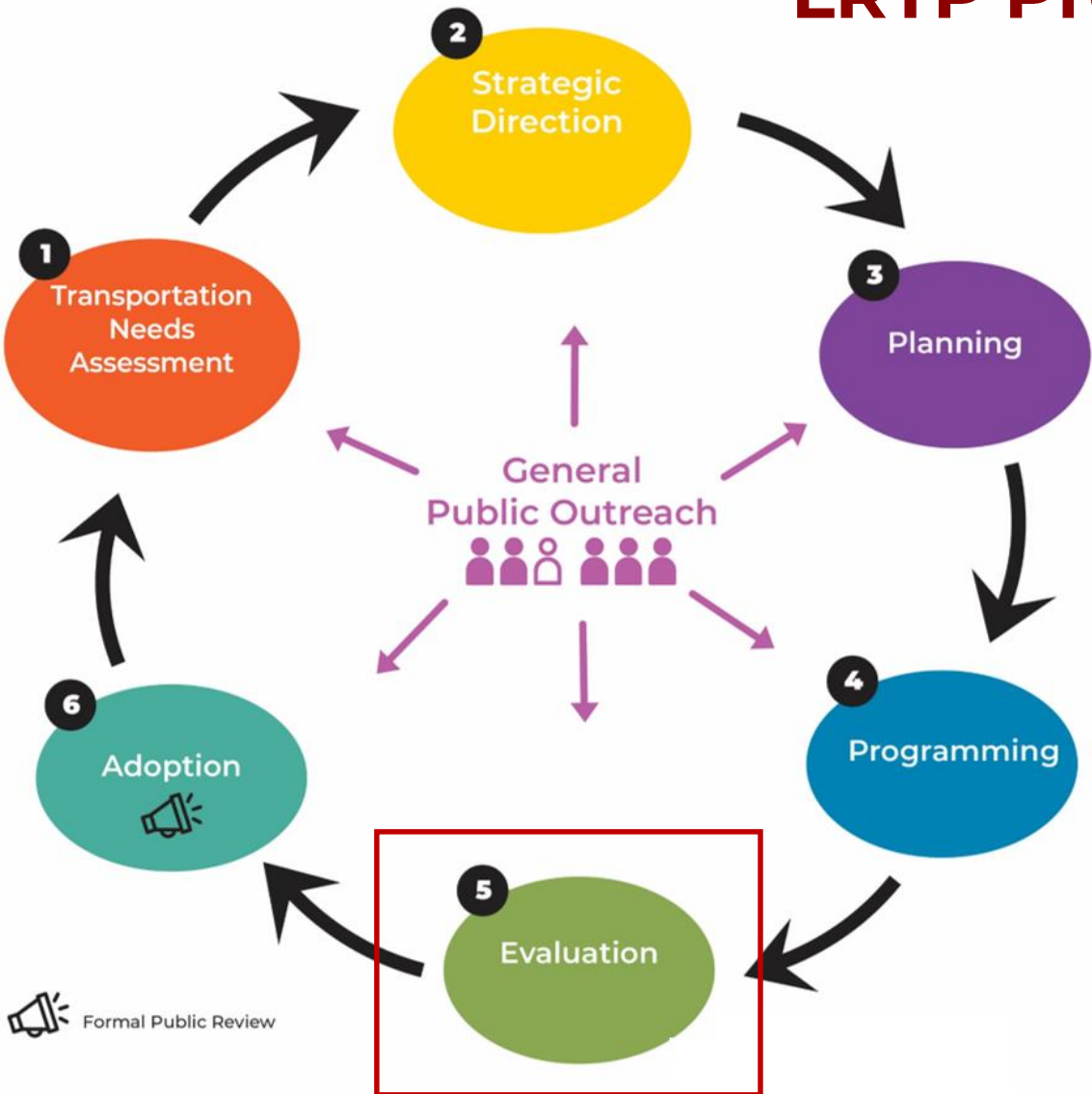
Next Steps

- Revenue Estimates through 2045 from VDOT & DRPT
- Calculate the actual revenue available and split the revenue by four Time-Bands
- Develop staff recommendation for revenue split for Regional and Local/Programmatic Projects.
- Calculate existing Funding Allocation by Project Type from the FY 2021-2026 SYIP (First Time Band) and develop different Funding Allocation Scenarios for the Next three-time bands.
- Determine Inflation factor for each Time Band.

6. LRTP Process Update Task 5

Evaluation

L RTP Process Flow



Evaluation of the Constrained Plan

As the Richmond region first performance-based plan, the following tasks would evaluate various aspects of the plan.

- 5.0 Base Year Transportation Performance Reports and Targets
- 5.1 ConnectRVA Performance Measures Evaluation
- 5.2 Economic Impact Analysis
- 5.3 Environmental Justice Analysis
- 5.4 Accessibility Assessment
- 5.5 Air Quality Conformity/ Interagency Consultation
- 5.6 Public Participation Evaluation

Evaluation is to be done after the Constrained Plan is approved by the RRTPO policy Board.

Evaluation of the Constrained Plan

5.0 Base Year Transportation Performance Reports and Targets

Category	Performance Measure
Highway Safety	Number of fatalities
	Rate of fatalities per 100 million VMT
	Number of serious injuries
	Rate of serious injuries per 100 million VMT
	Number of non-motorized fatalities and serious injuries
Bridge and Pavement Condition	Percent of Interstate pavement in Good condition
	Percent of Interstate pavement in Poor condition
	Percent of Non-Interstate NHS pavement in Good condition
	Percent of Non-Interstate NHS pavement in Poor condition
	Percent of NHS bridges in Good condition
	Percent of NHS bridges in Poor condition
System Performance	Percent of person-miles traveled on Interstate system that are reliable
	Percent of person-miles traveled on non-Interstate system that are reliable
	Truck travel time reliability index

Evaluation of the Constrained Plan

5.1 ConnectRVA Performance Measures Evaluation

- Total Lane Miles and Congested Lane Miles
- SOV/HOV person trips
- VMT and/or VMT per capita
- Congestion/Operational Savings of the LRTP
- Safety Savings of the LRTP
- Travel time Improvement in Major corridors
- Premium Transit Miles
- Transit Ridership and Person Trips.
- Percentage Population served by Transit
- Active Transportation Dedicated Miles

Evaluation of the Constrained Plan

5.2 Economic Impact Analysis (EIA) - TBD

Cumulative economic growth generated in the 2045 Built Scenario (Full Implementation of the Constrained Plan) because of changes in productivity and competitiveness attributable to changes in transportation conditions.

How do transportation projects as a whole impact our regional economy?

Quantify and monetize two main types of impacts

1. Direct Impacts - Jobs, wages, output
2. Supplier and Wage Impacts – Jobs, wages, output
3. Total Impacts (the sum of direct, supplier and wage impacts)

Evaluation of the Constrained Plan

5.3 Environmental Justice Analysis

- Federal requirement of identifying and addressing disproportionately high and adverse effects of the ConnectRVA 2045 plan on the EJ Population to achieve an equitable distribution of benefits and burdens.
- Identification of EJ Population and designation of Environmental Justice Areas
- Spatial analysis to see the number of transportation projects partially or fully located within these areas.
- Calculation of the total constrained plan spending in EJ areas and Non-EJ Areas.
- Comparison of per capital spending on EJ-Areas, Non-EJ Areas and All Areas. If proportional fine, if disproportional - discussion of mitigation efforts.

Evaluation of the Constrained Plan

5.4 Accessibility Assessment

1. Accessibility - Benefit and Burden

This analysis will afford a comparative assessment of the benefits and burdens across the spectrum of Environmental Justice (EJ) and non-EJ populations. The analysis would include the following scenarios:

- Base year for Plan
- No-Build
- Full implementation of all projects in the ConnectRVA 2045 plan

Measures:

- Average number of work and non-work opportunities within specified travel times
- Percentage of EJ population within a specified travel time of an activity center
- Average travel times for EJ and non-EJ population by purpose

Evaluation of the Constrained Plan

2. Analysis of accessibility to different destinations by different Transportation mode within Specific Travel Time

Destinations	Transportation Mode	Travel Time (Minutes)
Government Center	Auto	20
	Transit	30
	Biking	30
	Walking	30
Libraries	Auto	10
	Transit	20
	Biking	15
	Walking	20
Jobs/Employment	Auto	45
	Transit	60
	Biking	30
	Walking	30

Destinations	Transportation Mode	Travel Time (Minutes)
Grocery Stores Supermarkets	Auto	10
	Transit	30
	Biking	30
	Walking	30
Health Care Facilities	Auto	20
	Transit	40
	Biking	30
	Walking	30
Schools	Auto	10
	Transit	20
	Biking	20
	Walking	20
Parks	Auto	10
	Transit	30
	Biking	15
	Walking	10

For Biking and Walking Travel time needs to be converted into miles based on average biking and walking speed.

Average Biking Speed 12 miles/hr

Average Walking Speed 3 miles/hr

Evaluation of the Constrained Plan

3. Analysis of Access to Transit within certain walking and biking travel times.

	Walking				Biking	
Travel Time (Minutes)	5	10	15	30	10	30

- Analysis for
- Total Population
 - EJ Population
 - Non-EJ Population
 - Households
 - Zero-Car Households

Evaluation of the Constrained Plan

5.5 Air Quality Conformity/ Interagency Consultation

- Air quality conformity is a federal requirement that requires staff to ensure that the projects, when considered collectively, contribute to the air quality improvement goals as stated in the Clean Air Act Amendments of 1990.
- VDOT Environmental Staff will perform a series of tests using EPA MOVES model that will estimate air pollution levels from mobile sources over the course of the plan.
- There are emissions ceilings called “mobile budgets” for vehicle or mobile sources. If the emission are within the mobile budget in each time-band then EPA certifies that the plan is “in conformity”.
- Interagency Consultation and a 30-day Public Review period is required.

Evaluation of the Constrained Plan

5.6 Public Participation Evaluation

- Self-evaluation of overall Public Participation during the planning process
- Outreach efforts including phone calls, emails, virtual & in-person outreach meeting etc.
- Types of Tools Used
- Surveys and Number of Respondents
- Total Comments Received
- Social Media Posts and Sharing

Connect RVA 2045



Website

www.connectrva2045.org

Contact Information

ConnectRVA2045@planrva.org

Chet Parsons

cparsons@planrva.org

Sulabh Aryal

saryal@planrva.org