ConnectRVA 2045

The Transportation Future of the Richmond Region
I. Acknowledgement

II. RRTPO Board Members

III. LRTP-AC Members and Project Staff

IV. Resolution of Approval

1. Executive Summary/Citizen’s Guide

2. Introduction

3. What are the Transportation Issues to Address?
   a) Highways
   b) Transit
   c) Park and Ride
   d) Active Transportation (Bicycle, Pedestrian and Trails)
   e) Passenger Rail
   f) Freight and Intermodal
   g) Maintenance and Safety
   h) Other Strategies and Initiatives
      i. Transportation Demand Management
      ii. Emergency Management Alliance of Central Virginia
   i) Environmental Resources and Mitigation
   j) System Resiliency
   k) Economic Development/Tourism

4. What Matters most for the Future?
   a) Vision and Goal Development Process
   b) Vision Statement
   c) Goals
   d) Objectives
   e) Performance Measures

5. What are the Options?
   a) Project Development and Screening Process
   b) Universe of Needs/Projects

6. How can we realistically get there?
   a. Financial Resources and projections from VDOT and DRPT
   b. Allocation Guidelines for different Time Bands
   c. Project Ranking and Selection Process
   d. Constrained list of projects
   e. Policy Needs
   f. Unfunded Regional Needs

7. How did we do this time and how can we do better next time?
   a) Base Year Transportation Performance Reports and Targets
   b) ConnectRVA Performance Measures Evaluation
   c) Economic Impact Analysis
   d) Environmental Justice Analysis
   e) Accessibility Assessment
   f) Air Quality Conformity/Interagency Consultation
   g) Public Participation and Outreach Evaluation
   h) Scenario Planning

8. Technical Appendices
A separate system includes urban streets, maintained by cities and towns with the help of state funds. The Town of Ashland and the City of Richmond maintain their own roads. Additional toll roads that are maintained by other public and private entities include the Downtown Expressway (I-95) in the city of Richmond, Powhite Parkway and Powhite Parkway Extension (VA-764) in Richmond and Chesterfield County, the Boulevard Bridge (the "Nelson Bridge") in the city of Richmond and Pocahontas Parkway (VA-95) in Chesterfield and Henrico County.

**Congestion Management Process**

The Congestion Management Process (CMP) is a cyclical process which continually evolves as congestion issues, data sources, strategies, and goals and objectives change over time. The CMP tracks system performance measures, outlines strategies to manage demand, and works to ensure the continued reliability and safety of the regional multimodal transportation system. As such it is a continuous part of the metropolitan planning process, which includes the Long Range Transportation Plan (ConnectRVA 2045), the Transportation Improvement Program (TIP), and the Unified Planning Work Program (UPWP). Through the CMP, data is collected on roadways which are part of the National Highway System (NHS) in the Richmond region. The interstates, expressways, and major roads of the region are designated as part of the NHS.

The CMP tracks several performance measures. As shown on Exhibit 6, the Travel Time Index (TTI) measures how long a trip would take compared to free flow time. Level of Travel Time Reliability (LTTTR) measures the reliability of the network and Truck Travel Time Reliable (TTTR) measures reliability of the network for freight. Exhibit 7 shows the Richmond region scores well on all measures.

**Exhibit 6: Travel Time Index for the Richmond CMP Network Average of AM (7-9) and PM (4-6) Peak Hours**

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTI</td>
<td>84.0%</td>
<td>94.4%</td>
<td>94.8%</td>
</tr>
</tbody>
</table>

**Exhibit 7: Level of Travel Time Reliability**

<table>
<thead>
<tr>
<th>Federal Performance Measure</th>
<th>VDOT Target</th>
<th>RRTPO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of Person-Miles Traveled that are Reliable (Interstates)</td>
<td>82.0%</td>
<td>94.4%</td>
</tr>
<tr>
<td>Percentage of Person-Miles Traveled that are Reliable (Non-Interstate NHS)</td>
<td>82.5%</td>
<td>90.6%</td>
</tr>
<tr>
<td>Truck Travel Time Reliability Index</td>
<td>1.56</td>
<td>1.42</td>
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The TTI for the network has consistently been under 1.06 since 2016 meaning average travel on the network is very close to free flow speed. The LTTTR of 94.1% is well above the target of 82% set by VDOT, and TTR, at 1.48 is also below VDOTs target of 1.56. These measures show a regional roadway network which is performing well overall, but also having areas of the network which experience congestion. The CMP uses the TTI statistics gathered on the network to examine where and when travel times are especially high. Morning T-9 am and evening 4-6 pm peak hours are tracked at a segment level over time to show how and where congestion occurs. The CMP RoadMap contains animations of this data for both the morning and evening peak hours.

Bottlenecks, or areas of recurring sustained congestion, are highlighted by the CMP. Eight (8) major bottlenecks occur during the peak hours. Four (4) of these bottlenecks (1, 2, 4, 6) occur where traffic enters the portion of the network known as the "95/195 overlap" where traffic from the two interstates comes together as it travels through the city of Richmond.

Another bottleneck (#6) occurs at VA 76 (Powhite Parkway) and VA 150 (Chippaham Parkway) where the two expressways meet. This bottleneck occurs on only Powhite Parkway. The no-thousand segments experience the bottleneck during the morning peak hours and the southbound segments experience the bottleneck during the evening peak hours.

**Exhibit 8: Bottlenecks**

Transportation Issues 19
Richmond Regional Transportation Planning Organization (RRTPO)

The RRTPO is a policy-making organization made up of local elected officials from each of the region’s nine member jurisdictions and state and federal transportation agencies, area transportation service providers, the Virginia Department of Motor Vehicles (DMV), and the Virginia Department of Transportation (VDOT). The RRTPO develops policies, programs, and projects by conducting regional planning and providing a forum for local elected officials to work together and make decisions about regional transportation issues. The RRTPO is required by federal law to carry out transportation planning processes in cooperation with state and local government agencies.

RRTPO Planning and Programming Process

The RRTPO’s planning and programming process is divided into three main stages: long-range planning, short-range planning, and implementation. The long-range planning process is the most important, as it sets the stage for all other transportation planning activities. The short-range planning process is used to develop projects and programs that are consistent with the long-range plan. The implementation process is used to design, build, and operate transportation projects and programs.

Long-Range Transportation Plan (LRTP)

The RRTPO’s LRTP is a comprehensive plan that identifies the region’s transportation needs and priorities for the next 20 years. The LRTP is developed through a process that involves input from the public, local elected officials, and transportation agencies. The LRTP is approved by the RRTPO’s Board of Directors and submitted to the Virginia Department of Transportation (VDOT) for review.

The LRTP is a policy-making organization made up of local elected officials from each of the region’s nine member jurisdictions and state and federal transportation agencies, area transportation service providers, the Virginia Department of Motor Vehicles (DMV), and the Virginia Department of Transportation (VDOT). The RRTPO develops policies, programs, and projects by conducting regional planning and providing a forum for local elected officials to work together and make decisions about regional transportation issues. The RRTPO is required by federal law to carry out transportation planning processes in cooperation with state and local government agencies.

The RRTPO Planning and Programming Process

The RRTPO developed a transportation planning and programming process in compliance with the current appropriations bill for the 2015 Fixing America’s Surface Transportation Act (FAST Act). The process ensures that transportation plans, projects, and programs are consistent with federal and state requirements.

The RRTPO Planning and Programming Process includes the following stages:

1. Long-Range Transportation Plan (LRTP)
   - The LRTP is a comprehensive plan that identifies the region’s transportation needs and priorities for the next 20 years.
   - The LRTP is developed through a process that involves input from the public, local elected officials, and transportation agencies.
   - The LRTP is approved by the RRTPO’s Board of Directors and submitted to the Virginia Department of Transportation (VDOT) for review.

2. Short-Range Transportation Plan (SRTP)
   - The SRTP is a detailed plan that identifies specific transportation projects and programs for the next 4 years.
   - The SRTP is developed through a process that involves input from the public, local elected officials, and transportation agencies.
   - The SRTP is approved by the RRTPO’s Board of Directors and submitted to the Virginia Department of Transportation (VDOT) for review.

3. Implementation
   - The implementation stage involves designing, building, and operating transportation projects and programs.
   - The implementation stage is guided by the LRTP and SRTP.

The RRTPO Planning and Programming Process is designed to ensure that transportation plans, projects, and programs are consistent with federal and state requirements.

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Exhibit 5: National Highway System
Exhibit 7: Level of Travel Time Reliability

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<tr>
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<td>&lt;1.56</td>
<td>1.42</td>
<td>1.47</td>
<td>1.48</td>
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Exhibit 14: Near Term Recommendations for Enhanced Routes

Exhibits
Exhibit 22: Regional Logistics Assets
Exhibit 24A: Fatalities for Motorized and Non-Motorized Travel

Exhibit 24B: Severe Injuries for Non-Motorized Modes
The transportation system in the Richmond Region will reliably and safely connect people, prioritize more equitable opportunities for all to thrive and live healthy lives, promote a strong economy, and respect environmental stewardship.
Guiding Principles

G1. Create a safe system for all users committed to the proven strategies in planning, design, operations and maintenance as well as advances in technology to eliminate fatal and serious injury crashes.

G2. Choice among all travel modes regionwide.

G3. Expansion of regional bicycle and pedestrian networks to provide active travel alternatives to driving for better individual and community health.

G4. A robust transit network which delivers comprehensive, effective, and convenient service, particularly in areas of greatest need and to key destinations.

G5. Equity and inclusion in all transportation spending and planning decisions in the region with a focus on historically under-represented and under-served communities.


G7. Alignment of transportation investment and planning with land use, community health, and environmental stewardship.
A. Safety

Improve the safety of the transportation system for all people.

A1. Enhance safety and comforts of bicycle and pedestrian facilities.
A2. Work to eliminate all serious injuries and fatalities resulting from vehicular accidents.
Goals and Objectives

B. Environment/Land Use

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

- **B1.** Address roadways prone to flooding and consider climate impacts in transportation planning prioritization and funding decisions.
- **B2.** Reduce transportation related pollutants.
- **B3.** Reduce VMT (vehicle miles travelled) per capita.
- **B4.** Increase number and share of trips taken by shared and active transportation modes.
- **B5.** Tie land use planning to transportation investments through encouragement of walkable and transit-oriented communities.
- **B6.** Minimize impacts of transportation system on natural resources and communities with a particular emphasis on Environmental Justice (EJ) populations.
Goals and Objectives

C. Equity/Accessibility

Improve equitable access through greater availability of mode choices that are affordable and efficient

C1. Reduce trip lengths for all people with a focus on Environmental Justice (EJ) populations.

C2. Increase access to jobs and community services via transit, walking, and biking for all people with a focus on EJ populations.
Goals and Objectives

D. Economic Development

Improve connectivity and mobility for strong economic vitality

D1. Reduce peak period travel times.
D2. Increase transportation investment which focuses on economic vitality.
D3. Improve reliability and accessibility of travel to and within the regional activity centers.
D4. Reduce freight bottlenecks.
D5. Increase multimodal access to tourist destinations.
Goals and Objectives

E. Mobility

Increase travel efficiency and mode choices by maintaining the transportation system in a state of good repair

**E1.** Increase the percent of complete streets across the highway network to maximize use of available capacity.

**E2.** Increase system efficiency through operational, transportation demand management (TDM), and technology-based solutions.

**E3.** Improve system reliability across all modes.