

Roanoke Region Transportation Priorities for Economic Development and Growth

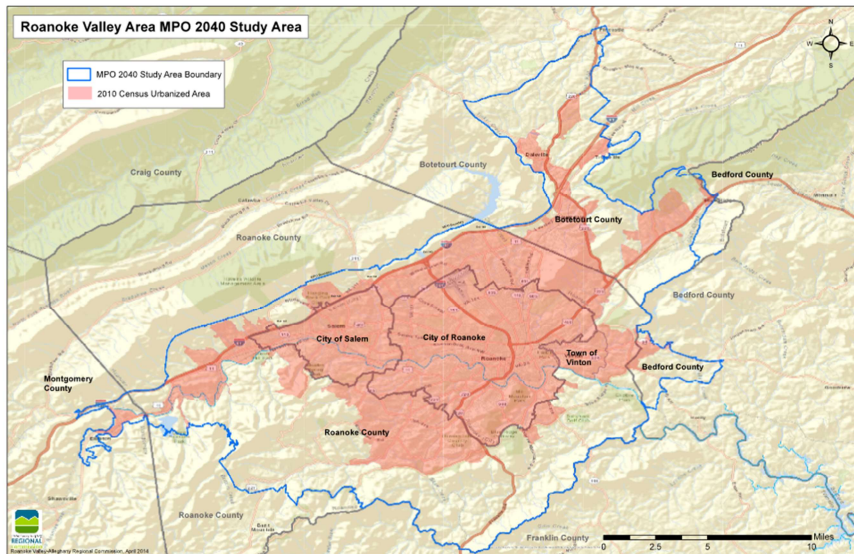


Roanoke Valley Transportation
PLANNING ORGANIZATION
Subsidiary of the
REGIONAL commission

March 29, 2018

Introduction

The Roanoke Valley Transportation Planning Organization (RVTPO) developed this document as part of the *Regional Study on Transportation Project Prioritization for Economic Development and Growth*.



Source: RVARC. <http://rvarc.org/wp-content/uploads/2014/04/mpostudyarea.pdf>

Project Purpose

The purpose of this study and resulting document is to identify key transportation priorities that will enhance the region's economic development opportunities.

Economic development and transportation go hand in hand. To produce goods and services, businesses need workers and material inputs—whether that's office paper or car parts. Their access to these

inputs depends on the transportation system. Similarly, transportation is necessary to move goods along a supply chain through intermediate stages such as wholesale and distribution to the point of consumption by customers. Costs and reliability of the transportation system at points along this process affect a company's "bottom line" directly. Transportation can also affect the quality of labor or suppliers that a company can reach. Moreover, the efficiency of company operations can also be influenced by agglomeration economies wherein greater market reach enabled by transportation allows for higher productivity (greater output for a given unit of input).

Recognizing the importance of transportation to economic development, the RVTPO entered into this study with the goal of *building regional consensus around a small number of transportation projects that merit a concerted push from the region based on their ability to advance regional economic development objectives*.

The Region's Transportation and Economic Development Goals

The Roanoke Region's transportation and economic development goals, as encapsulated in the region's most recent long-range transportation plan (LRTP), *Vision 2040*, and in the recently adopted *Roanoke Valley-Alleghany Regional Comprehensive Economic Development Strategy (CEDS) 2017 Annual Update*, are in alignment centering around four key areas: connectivity, competitiveness, maintenance, and sustainability.

Connectivity. The connectivity theme addresses the need to maintain connections within the region and with the broader global economy:

- **LRTP:** "Provide opportunities for people to access jobs, services, and activity centers and for businesses to access distribution hubs and the region's workforce."

- **CEDS:** “... facilitate the growth of higher-wage industry clusters and to ensure connectivity with regions nationally and globally.”

Competitiveness. Competitiveness represents a focus in the region on how well the transportation system supports business, addressing specific sectors like tourism, and focusing on a diverse business base:

- **LRTP:** “Invest in a transportation system that supports a robust and diversified economy, enables global competitiveness, productivity, and efficiency, and enhances travel and tourism.”
- **CEDS:** “Encourage regional economic vitality through an increasingly diverse base of businesses including entrepreneurial startups and large employers.”

Maintenance. Maintenance refers to the mandate to think as a region about long term care of the system as well as how to get the most value from the assets the region already has:

- **LRTP:** “Maintain the transportation system in good condition and leverage technology to optimize system performance and operations.”
- **CEDS:** “Ensure the region has adequate infrastructure in place...Improve the Multimodal Transportation Network of the Roanoke Valley-Alleghany Region.”

¹ 2012-2016 American Community Survey 5-Year Estimates

² 2011-2015 5-Year Estimates, American Community and Survey Demographic and Housing Estimates, 2017 and US Census of Population, 2000, as cited in 2017 CEDS

Sustainability. The alignment area of sustainability recognizes the ample natural and cultural resources in the region and seeks to align transportation and economic development strategies to keep the region and its growth sustainable in the long run:

- **LRTP:** “Protect the agricultural, natural, historic, and cultural environment; preserve good air quality; minimize stormwater impacts and promote active living through multimodal transportation options.”
- **CEDS:** “Seek to maintain and promote the region’s natural beauty as well as its cultural amenities, and seek sustainable growth opportunities.”

Regional Economic Context

Growth and Prosperity

The Roanoke Metropolitan Statistical Area (MSA) is the fourth largest in Virginia.¹ While the region is growing and has made meaningful gains in prosperity, it is still lagging Virginia and the nation with regard to certain indicators of overall economic development. Between 2000 and 2015, the population of the Roanoke Valley - Alleghany region grew 5%, which lagged an overall growth rate in Virginia of 16.6%.² Similarly, in terms of recent GDP growth, the Roanoke MSA is gaining more slowly than Virginia or the nation, increasing 6% from 2013 to 2015, compared to 8.1% for the US as a whole.³ Gross Domestic Product (GDP) per capita is another indicator of regional prosperity; from 2001–2015, the Roanoke MSA gained in GDP per capita but also dropped from the fourth to the fifth quintile of regions, meaning that growth has lagged other regions.⁴

³ Bureau of Economic Analysis, 2017, as cited in 2017 CEDS.

⁴ U.S. Cluster Mapping (<http://clustermapping.us>), Institute for Strategy and Competitiveness, Harvard Business School.

Challenges

One of the primary challenges facing the Roanoke Region is limited human capital. Many of the localities in the region have seen a decline in the size of their labor force, compared to moderate increases at the state level.⁵ Educational attainment, measured as the percentage of the population age 25 years and older with an Associate's Degree or higher, is also lower for most parts of the region (all but Roanoke County) when compared to Virginia as a whole.⁶ In addition, the Roanoke region as a whole has struggled to maintain its young adult population growth. Nationally, the percentage of young adults (25 to 44) in the total population steadily declined from 1998-2016. However, for Roanoke, this decline has been steeper, and the current regional percentage (23.43%) is lower than the U.S. average (26.35%).⁷

Strengths and Opportunities

The Roanoke Region is poised to take advantage of several strengths and opportunities. While the region still lags in certain indicators of innovation and entrepreneurship such as average establishment size,⁸ there are bright spots like the rapid recent growth in venture capital investment: The growth rate in venture capital investment the region experienced between 2005 and 2012 was the seventh fastest in the country.⁹ In addition, the Roanoke region competes well with other locations in terms of cost of living, an important component of livability. According to the Cost of Living Index, as computed by the Council for Community and Economic Research, Roanoke comes in at 90, benchmarked against a national average of 100, or the index of other

⁵ Bureau of Labor Statistics, 2017, as cited in 2017 CEDS.

⁶ 2011-2015 American Community Survey 5-Year Estimates, as cited in 2017 CEDS.

⁷ U.S. Cluster Mapping (<http://clustermapping.us>), Institute for Strategy and Competitiveness, Harvard Business School.

⁸ Virginia Employment Commission: Virginia Community Profile, Roanoke Valley-Alleghany RC, January 2018.

http://virginialmi.com/report_center/community_profiles/5109000305.pdf

communities such as Charlottesville, VA (103.7) or Washington, DC (146.8).¹⁰

The region also benefits from relatively low levels of average congestion and manageable commutes. This highlights the importance of targeted intervention or preserve this current asset. As described in Vision 2040:

“The Roanoke Valley’s population has not yet grown to a size where the primary reliance on driving for people or freight mobility has hampered quality of life or business, but with every new land development, it is important to plan for a future with mixed uses and multiple modes.”

Finally, the regional CEDS identified a series of opportunities that the region seeks to capitalize on going forward, including proximity to Virginia Tech and its dynamic student population and research, increasing opportunities from tourism, the recent introduction of Amtrak service, and opportunities to better attract and retain students and young professionals through initiatives aimed at quality of life. **Each of these identified opportunities provide a basis for identification of transportation priority needs, solutions, and projects.**

Identification of Transportation Priorities

The process for identifying regional transportation priorities for the Roanoke area was grounded in the RVTPO’s adopted Framework for Prioritization, shown in the following diagram. Transportation needs—defined as improvements necessary for the region to maintain its

⁹ U.S. Cluster Mapping (<http://clustermapping.us>), Institute for Strategy and Competitiveness, Harvard Business School.

¹⁰ ACCRA, 2015 Annual Average Data, as cited in Roanoke Regional Chamber Greater Roanoke Virginia Statistical Guide, 2017, <http://65.169.107.207/wp-content/uploads/2017/10/2017-Statistical-Guide-Web-Version.pdf>

current economy and spur sustainable new economic growth—underlie all subsequent identification of priorities, solutions, and projects.

Also, in developing and refining priorities, key input was provided by (1) the project steering committee, (2) regional economic development stakeholders, (3) the Roanoke Regional Chamber, and (4) the RVTPO's Policy Board.

RVTPO Framework for Prioritization



Regional Priorities

Regional priority needs are summarized in the figure below.



The following pages provide detail on the solutions and projects identified to address each of these four key regional needs. In some cases, additional studies or projects outside the Roanoke Valley are also identified.

Visual Key to Presentation of Priorities:

Need.

→ **Solution**

Project

Improve Connectivity between the Roanoke Valley and the New River Valley by:

- **Widening/Improving I-81 between the Roanoke and New River Valleys (Exit 150-Exit 118)**
- **Improving U.S. 460 traffic flow west of Salem to Christiansburg**
- **Improving U.S. 460/Alt. 460 traffic flow around Downtown Salem**
- **Improving and expanding transit options between the Roanoke Valley and New River Valley**



Specific Proposals:

- **Widening/Improving I-81 between the Roanoke and New River Valleys (Exit 150-Exit 118)**

PRIORITY PROJECTS

1. Widen I-81 from 4 to 6 lanes between Exits 140 and 141
2. Widen I-81 SB from 2-3 lanes between Exit 150 and the Truck Weigh Station
3. Widen I-81 from 4 to 6 lanes between Exits 137 and 140

Following the above priority projects, widening I-81 from 4-6 lanes would be prioritized as follows: Exits 143-146, Exits 146-150, and Exits 132-137

STUDIES

- I-581/I-81 interchange
- Potential ITS and shoulder improvements to enable the use of I-81 shoulders as driving lanes during incidents and peak hours

SUPPORT FOR PROJECTS OUTSIDE THE TPO AREA

- Extend the VA Smart Road to connect to I-81



Improve Connectivity between the Roanoke Valley and the Lynchburg Area by:

- Reducing congestion on U.S. 460 and improving capacity between 11th Street and the TPO boundary
- Pursuing opportunities for alternative intersections along U.S. 460 East
- Improving capacity on US 220 Alt between I-81 and US 460 East
- Improving and expanding transit options between the Roanoke Valley and Lynchburg Area

Specific Proposals:

- Reducing congestion on U.S. 460 and improving capacity between 11th Street and the TPO boundary

PRIORITY PROJECTS

4. Reconstruct U.S. 460 between 11th Street NE and Gus Nicks Blvd to increase capacity and operations



Orange Avenue/
U.S. 460
East

Improve Connectivity from Botetourt and Franklin Counties to the central Roanoke Valley localities by:

- Reducing congestion on U.S. 220 North of I-81 and South of Route 419 which may include widening and/or Super Street concepts
- Pursuing opportunities for alternative intersections along U.S. 220/I-581
- Improving and expanding transit options between Botetourt and Franklin Counties and the central Roanoke Valley localities
- Construct I-73 between West Virginia and North Carolina

Specific Proposals:

- Reducing congestion on U.S. 220 North of I-81 and South of Route 419 which may include widening and/or Super Street concepts

PRIORITY PROJECTS

5. Construct a diverging diamond interchange with bike/pedestrian accommodation at Rt. 419/220
6. Reconfigure U.S. 220/International Parkway intersection to increase turning capacity and improve safety

SUPPORT FOR PROJECTS OUTSIDE THE TPO AREA

- U.S. 220/Franklin County Summit View Business Park intersection improvements

→ Pursuing opportunities for alternative intersections along U.S. 220/I-581

Route 11/I-81 Exit 150/Alt. 220 Roundabout



PRIORITY PROJECTS

- 7. Reconstruct the I-581/Peters Creek Rd. interchange to improve turning movements and access to Valleypointe Pkwy. and Thirlane Rd.

Improve Mobility within Urban Development Areas (UDAs) and Designated Growth Areas (DGAs) by:

- Expanding multimodal accommodations across the region to connect Central Business Districts, commercial and employment centers, institutions of higher learning, and transportation hubs.
- Continuing to implement the Roanoke Valley Greenway Plan, Bikeway Plan, Pedestrian Plan, and Transit Plan

A vision for Main Street in Downtown Salem



Reimagine 419: A distinct and vibrant new destination for businesses and residents that accommodates all travel modes



Specific Proposals:

→ **Continuing to implement the Roanoke Valley Greenway Plan, Bikeway Plan, Pedestrian Plan, and Transit Plan**

PRIORITY PROJECTS

8. Build the downtown Roanoke Intermodal Station (Amtrak, intercity bus, transit)

9. Construct high regional priority pedestrian projects located within the RVTPO's multimodal centers as documented in the Regional Pedestrian Vision Plan

Examples include: Route 220 Appalachian Trail crossing, Williamson Road Streetscape, Main Street Streetscape in Downtown Salem, Route 419 sidewalk/streetscape in multiple activity centers, and Walnut Avenue at 8th Street

10. Complete the Roanoke River Greenway, followed by the Phase II Greenways: Tinker Creek, Hanging Rock/Mason Creek, Lick Run, and Glade Creek.

Roanoke Amtrak Platform



Next Steps

The RVTPO and its planning partners are committed to advancing the identified regional priorities as part of ongoing regional prioritization. This is intended to be a “living document” with needs, solutions, and individual projects refined as part of the RVTPO’s planning process. The process is expected to include:

- Continued work to secure funding for identified priority projects and studies, whether through SMART SCALE or other appropriate funding mechanisms.
- Strategic bundling of projects and project components to ensure that desired improvements can be implemented as incremental opportunities arise.
- Incorporation of available performance data and tools to further identify project opportunities under the solution areas. For example, VDOT’s alternative intersections tool (VJuST) may be used to identify and screen innovative intersection and

interchange configurations to be evaluated for further study, analysis and design.

- An ongoing commitment to ensuring projects represent the most effective use of limited funds to achieve specific performance outcomes.
- Subsequent strengthening of the prioritization process through further incorporation of existing data and identification of any specific data gaps.

Acknowledgements

Prepared in cooperation with the U.S. Department of Transportation, Federal Highway Administration, and the Virginia Department of Transportation.

The contents of this report reflect the views of the author(s) who is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Federal Highway Administration, the Virginia Department of Transportation, or the Planning District Commission. This report does not constitute a standard, specification, or regulation.

FHWA or VDOT acceptance of this report as evidence of fulfillment of the objectives of this planning study does not constitute endorsement/approval of the need for any recommended improvements nor does it constitute approval of their location and design or a commitment to fund any such improvements. Additional project level environmental impact assessments and/or studies of alternatives may be necessary.

ECONOMIC DEVELOPMENT RESEARCH GROUP, INC.

Peter Plumeau	Vice President
Naomi Stein	Senior Analyst
Adam Blair	Senior Analyst

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Wayne Strickland	Executive Director
Cristina Finch	Director of Transportation
Rachel Ruhlen	Transportation Planner
Eddie Wells	Director of Community Development

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Michael Gray	VA Dept. of Transportation
John Hull	Roanoke Regional Partnership
Rebekah Gunn	Roanoke Regional Chamber
Joyce Waugh	Roanoke Regional Chamber
Jill Sluss	Salem-Roanoke County Chamber