

EXECUTIVE SUMMARY

Overview

This report documents the work, findings, and recommendations of the *Regional Study on Transportation Project Prioritization for Economic Development and Growth*.

This study addresses the following goals:

- Improve understanding of alignment between regional transportation and economic development goals
- Identify regional transportation needs including previously documented needs, as well as additional or refined needs
- Develop a regional economic profile to highlight economic trends and conditions in the region, together with an identification of challenges, strengths, and potential opportunities
- Identify a small number of key transportation projects that merit a concerted push from the region based on their ability to advance regional economic development objectives

During the same period as this study, RVTPO engaged Transportation for America (T4America) in technical assistance on transportation performance management in order to successfully meet changing federal performance management requirements and use performance measures to advance regional goals. This study and the T4America technical assistance effort coincided at two workshops on November 29, 2017 and March 13, 2018 (Table 1).

Study Approach

Table 1 outlines the key deliverables and stakeholder engagement activities undertaken as part of the study process. The study was organized in five phases and was grounded in the RVTPO's adopted Framework for Prioritization, shown in Figure 1.

Transportation needs—defined as improvements necessary for the region to maintain its current economy and spur sustainable new economic growth—underlie all subsequent identification of priorities, solutions, and projects.

To develop and refine priorities, key input was provided by (1) the project steering committee, (2) regional economic development stakeholders, (3) the Roanoke Regional Chamber, and (4) the TPO's Policy Board.

Key findings of each phase of the study are summarized in the following section. The full stand-alone deliverables of the study are also included as part of this package: Technical Memorandum 1, Technical Memorandum 2, and the Public Information Brochure on Transportation Priorities developed to assist the region in educating residents, stakeholders, and policy-makers.

The *RVTPO Performance Management Recommendations Report*, developed by T4America with input from EDR Group, was submitted to RVTPO separately.

Table 1 Key Engagement Activities and Deliverables by Study Phase

Study Phase	Key Engagement Activities and Deliverables
Understand Economic Development and Transportation Goals and Needs	<ul style="list-style-type: none"> • November 29, 2017 Stakeholder Workshop and Steering Committee Meeting* • <i>Technical Memorandum 1</i>
Profile the Regional Economy	<ul style="list-style-type: none"> • <i>Technical Memorandum 2</i>
Refine Needs and Identify Strategies That Reflect Region’s Economic Development Goals.	<ul style="list-style-type: none"> • January 4, 2018 Meeting with Roanoke Regional Chamber • January 18, 2018 Meeting with Economic Development Stakeholders • February 2, 2018 Steering Committee Meeting
Identify Transportation Priorities	<ul style="list-style-type: none"> • February 2018 Interactive Web Feedback on Draft Priorities from Steering Committee • Draft Public Information Brochure on Transportation Priorities • February 22, 2018 RVTPO Policy Board Meeting • March 13, 2018 Stakeholder Workshop and Steering Committee Meeting* • March 22, 2018 RVTPO Policy Board Meeting
Final Project Findings and Recommendations	<ul style="list-style-type: none"> • <i>Final Public Information Brochure on Transportation Priorities</i> • <i>Final Report</i> • <i>RVTPO Performance Management Recommendations Report**</i> • April 26, 2018 Approval of Study Deliverables by RVTPO Policy Board

*Conducted in coordination with T4America. **Developed by T4America with input from EDR Group.

Figure 1 RVTPPO Framework for Prioritization



Key Findings

Transportation and Economic Development Goals

Transportation infrastructure and system performance are critical to economic development. Businesses depend on access via the transportation system to workers and material inputs. They also rely on transportation to move goods along a supply chain to customers. Costs and reliability of transportation affect a business’s “bottom line.” Market access enabled by transportation affects the quality of labor or suppliers reachable by a business. Moreover, the efficiency of company operations can also be influenced by the effect of greater market reach enabled by transportation on productivity, enabling greater output for a given unit of input. Both the Commonwealth of Virginia, statewide, and the Roanoke region therefore apply an economic development lens to transportation planning and prioritization.

Virginia’s long-range transportation planning process, *VTrans 2040*, asked how transportation can help in attracting and retaining the best workforce as well as help support freight that is key to the ability of Virginia businesses to operate and sell their goods to outside markets. Similarly, existing planning documents in the Roanoke region show an alignment of transportation and economic development goals. These 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* center around four key areas:

- **Connectivity:** ensuring adequate connectivity both internally within the region and to outside markets, to support opportunities for people to access jobs, services, and activity centers, and to further facilitate the growth of high-wage industry clusters.
- **Competitiveness:** focusing on how well the transportation system supports business, addressing specific sectors like tourism, and focusing on a diverse business base that includes both large employers and entrepreneurial activity.

- **Maintenance:** 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.
- **Sustainability:** recognizing the ample natural and cultural resources in the region and seeking to align transportation and economic development strategies to keep the region and its growth sustainable in the long run.

Building from an Understanding of Transportation Needs

VTrans 2040 defined a need as, “[T]he gap between the transportation system in place currently that serves the current industries in a region, and the future transportation system needed to serve the desired future economy in the region.” This high-level concept of need can be further broken down into three components:

1. **Maintain what is working well** (requires an understanding of the current ways in which the economy of the region relies on transportation)
2. **Improve existing elements that are essential but not working well** (as identified through analysis of performance relative to standards of acceptability)
3. **Sustainably support economic growth** (based on an evaluation of emerging needs and a shared vision of the desired regional economic future)

In looking to define key regional needs, it helps to build on those that have already been identified. At the state level, the *VTrans 2040* Regional Needs Profile for the Roanoke Region¹ identified a need for more walkable and bike-able places in the region, particularly in activity centers. It also points to a need for reliability in major highway corridors as well as ways to better manage and get out ahead of congestion. The needs assessment recognized that the region is closely linked to others such as Lynchburg and Blacksburg/Christiansburg. From a multimodal perspective, the profile defines a need to strengthen the level of transit accessibility at and between major activity centers and addresses the multimodal opportunities presented by the new Amtrak service. Finally, the profile points to targeting local bottlenecks where they do occur.

RVTPO’s *Vision 2040* plan has addressed needs from many different perspectives, but two stand out as relating to economic development: First is the identification of areas of emphasis within the Congestion Management Plan (CMP). This identification process addresses the notion of “Improving existing elements that are essential but not working well,” introduced above. Figure 2 shows the top 10 CMP Areas of Emphasis. *Vision 2040* also introduced multimodal districts and centers in the region as a way of targeting the planning and implementation of integrated multi-modal transportation systems. This addresses the approach of “sustainably supporting economic growth.” Table 2 summarizes the characteristics of multimodal districts and centers. These designations represent a way of recognizing locations where there is already potential for more modal balance and to build on that. The *Vision 2040* plan also noted there is significant overlap between these different types of focus areas or identification of needs. In these areas of overlap, strategies aimed at meeting the need for greater modal options can yield further benefits by assisting in congestion mitigation.

¹ http://www.vtrans.org/resources/vmtp_oct2015/DRAFT_RoanokeNeedsProfile_10_02_15.pdf

Figure 2 Congestion Management Plan Areas of Emphasis and “Watch List”²

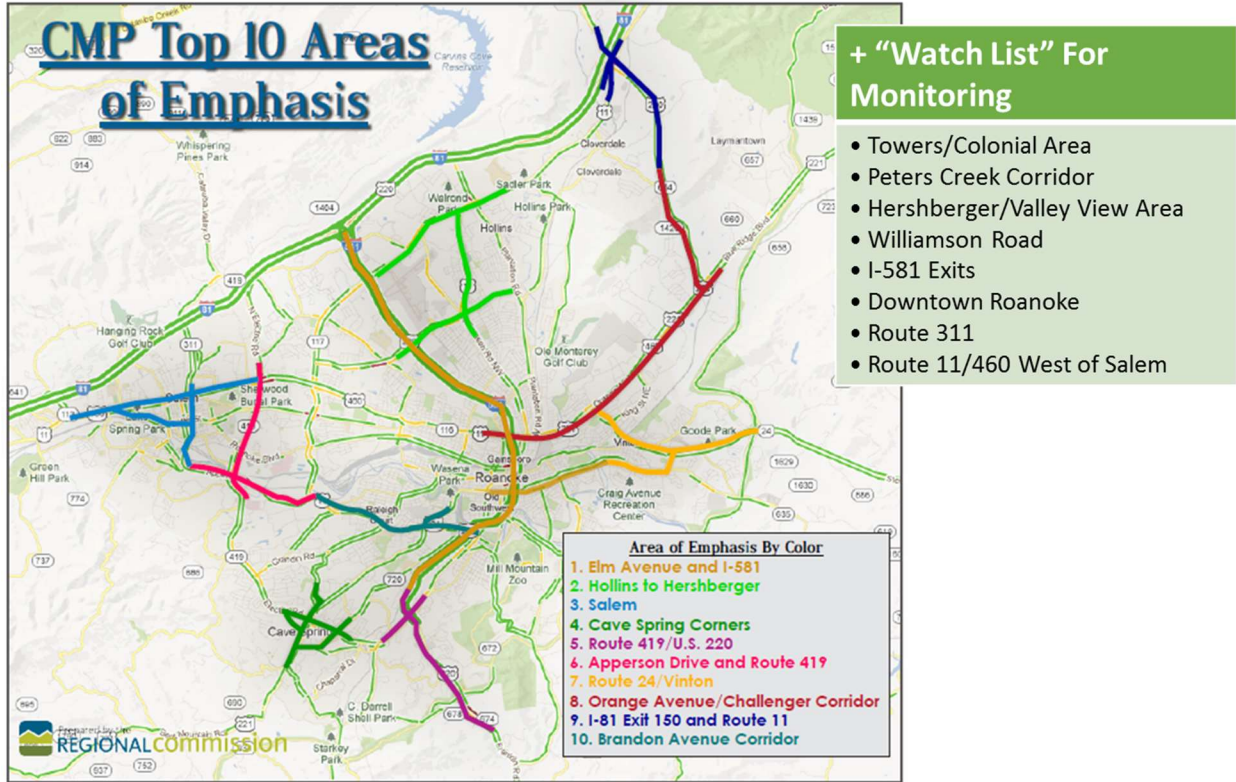


Table 2 Characteristics of Multimodal Districts and Centers³

Designation	Characteristics
Multimodal District	<ul style="list-style-type: none"> • Land use characteristics support multimodal travel (higher density, mixed-use) • Relatively easy to make trips without a car – as characterized through the number of bus routes and the existence of safe walking/biking paths (currently or proposed)
Multimodal Center	<ul style="list-style-type: none"> • A smaller area of even higher multimodal connectivity and more intense activity • Roughly equivalent to a 10-minute walk or a one-mile area

² <http://rvarc.org/transportation/mpo-urban-transportation/long-range-plan/>

³ Adapted from <http://rvarc.org/transportation/mpo-urban-transportation/long-range-plan/>

Regional Economic Context

This study assembled information on the Roanoke Region, addressing (1) economic and demographic, and labor force trends; (2) key industries; (3) human capital, innovation, and livability; and (4) transportation conditions. While full detail can be found in Technical Memorandum 2, the data suggest the following observations about the region's economic context and competitive advantages and disadvantages:

- 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, including young adult population growth.
- The largest employment sectors in the region are: Health Care and Social Assistance, Government, Retail, Manufacturing, and Accommodation and Food Services. Manufacturing is key to bringing outside money into the economy, as are the sub-portions of Retail and Accommodations and Food Services that support tourism activity.
- The Roanoke region is competitive in several industry clusters, including: Transportation & Logistics; Electrical Equipment, Appliance & Component Manufacturing; Glass & Ceramics; Biomedical/Biotechnical (Life Sciences); Transportation Equipment Manufacturing; Mining; Chemicals & Chemical Based Products; Forest & Wood Products.
- One of the primary challenges facing the region is human capital—both in scale of the available workforce and in educational attainment. The region has struggled with attracting and retaining young people. Transportation can play a supporting role in addressing this challenge as there is growing evidence that young professionals (and to some extent retirees as well) are seeking “urban-like” communities that are more supportive of transit, walking, and biking.
- While the region still lags according to various indicators of innovation and entrepreneurship, there are positive signs of changes in their realm, including a rapid increase in recent years in venture capital investment in the Roanoke metro area.
- The Roanoke region competes well with other locations in terms of cost of living, which is a major component of livability.
- The region currently benefits from relatively low levels of congestion. However, there is a need to ensure that future growth does not erode this strength—by planning “for a future with mixed uses and multiple modes.”
- Connectivity to surrounding regions, particularly the Blacksburg/Christiansburg area, is key to the continued competitiveness of the region and may require targeted improvement strategies. Amtrak passenger rail service is a new strength for the region that may present new opportunities. The region's growing tourism industry also presents new opportunities for strengthening the economy.
- The region is faced with a planning paradigm in which fiscal limitations mean very few large-scale transportation projects are likely to be built in the future, but big-picture regional decision making is nevertheless increasingly key to success. This points to transportation strategies that

focus on key corridors or forms of connectivity as a framework within which incremental improvements can be made over time.

Transportation Priorities

From an understanding of the region’s strategic goals, transportation needs, and economic context, and with extensive input from regional stakeholders, the Roanoke regional priority needs shown in Figure 3 were identified as being key to the long-term economic development of the area.

Figure 3 Roanoke Regional Transportation Priorities



Each of these needs can be addressed through a variety of strategies, identified based on existing regional planning as well as specific suggestions from the project steering committee. Furthermore, specific implementation proposals for the identified strategies were collected in the form of “projects” or “studies.” These represent incremental actionable items that address the overall RVTPO priorities. The fourth section of this report, “Roanoke Region Transportation Priorities for Economic Development and Growth,” provides full detail on proposed strategies and projects. The RVTPO and its planning partners are committed to advancing these as part of ongoing regional prioritization. The outcome of this study, therefore, is a “living document” with needs, solutions, and individual projects to be further refined on an ongoing basis as part of the RVTPO’s planning process.

Performance Measurement Moving Forward

Moving forward, RVTPO and its planning partners can further refine and advance regional transportation priorities through performance management. Specifically, the use of performance measures and related tools and data can help to:

- **Further identify project opportunities** that address identified needs. For example, VDOT's alternative intersections tool (VJuST) may be used to identify innovative intersection and interchange configurations to be evaluated for further study, analysis, and design.
- **Communicating the region's needs and the benefits of proposed investments** to build buy-in and support among elected leaders, other decision-makers, and the public.
- **Strengthen the prioritization process** through further incorporation of existing data and identification of any specific data gaps.

As the region works towards the establishment of performance measures, RVTPO can consider measures focused on the region's economic vitality. To weigh the relative impacts of projects on the region's economy, RVTPO could consider a range of measures beyond congestion-related metrics that can be used to relate transportation projects to economic development outcomes.

For example, some traditional indicators of business efficiency include travel time or operating costs accruing for freight or business travel. More sophisticated measures may include addressing issues of reliability improvements, changes in multimodal accessibility, and changes in intermodal connectivity. In addition, RVTPO may wish to consider measures related to broader issues of business attraction/retention and livability, such as indicators of alignment with existing economic development plans or the quality of pedestrian and bicycle amenities. Some regions and states specifically allocate points to projects that support economically disadvantaged communities, specific target industries, or locations where a region wishes to support reinvestment and growth. Similarly, if RVTPO determines that tourism is important to the regional economy, the region might focus on developing a measure that captures access to recreational and cultural destinations.

Measures of accessibility to destination are some of the most promising economic measures currently in use among leading transportation agencies. From the perspectives of businesses, access measures that have been shown to relate to firm productivity include: (a) the size of the labor market with access to the firm's site, and (b) the level of access to key passenger freight and intermodal facilities such as airports, intermodal rail facilities, and seaports.⁴ A growing number of transportation agencies are implementing measures of accessibility, including VDOT. Some agencies also use accessibility metrics along with other performance indicators such as travel time and operating costs savings as inputs to subsequent economic impact modeling, based on empirically observed relationships between transportation conditions and industry growth.⁵

Additional detailed recommendations on how to align performance measures with economic development goals are included in the *RVTPO Performance Management Recommendations Report* (submitted separately).

⁴ Alstadt, Weisbrod, and Cutler. The Relationship of Transportation Access and Connectivity to Local Economic Outcomes: A Statistical Analysis. <http://www.edrgroup.com/pdf/Alstadt-Weisbrod-Market%20Access-TRB-2012.pdf>

⁵ For example, using tools such as TREDIS.

Acknowledgements

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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.