

Regional Study on Transportation Project Prioritization for Economic Development and Growth



Roanoke Valley Transportation
PLANNING ORGANIZATION
Staffed by the
REGIONAL commission

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Introduction

This update will replace the 2018 Regional Study on Transportation Project Prioritization for Economic Development and Growth (i.e. TED Study) and its list of priority projects. The update focuses on understanding and addressing transportation needs from current businesses, business advocacy groups, and local economic development departments.

Previously, a steering committee guided the selection of 10 transportation projects for economic development. In the Spring of 2020, the RVTPO Policy Board determined that the RVTPO's Transportation Technical Committee (TTC) would be responsible for selecting/updating the project list but that the steering committee would be re-engaged. Given the turnover in original committee members and the re-assignment of the committee's primary responsibility to the TTC, an updated and more comprehensive approach for conducting this study included:

- Understanding transportation needs related to economic development by soliciting input from businesses on current transportation problems that affect their business or doing business in general in the region,
- Interviewing local government economic development staff and business representatives to better understand economic development transportation needs,
- Utilizing an ED needs prioritization committee made up of business / economic development representatives to

prioritize needs identified in the survey rather than a general steering committee

- Engaging the full Transportation Technical Committee to select 10 projects that best address the priority needs identified by the ED committee

Relationship to the Roanoke Valley Transportation Plan

The purpose of the projects identified in this study is to address the transportation related economic development needs of the Roanoke Valley and contribute to the overall regional priorities identified RVTPO's Roanoke Valley Transportation Plan.

The economic development needs and project priorities identified in the TED Study are some of many to consider in the region's Transportation Plan development. The needs, solutions, and projects in this study will be combined with those from other RVTPO studies/plans such as the Roanoke Valley Regional Transportation Safety Study, Congestion Management Process, Roanoke Valley Transit Vision Plan, Regional Pedestrian Vision Plan as well as studies and plans from the Virginia Department of Rail and Public Transportation and the Virginia Department of Transportation (such as the I-81 Corridor Improvement Plan and the U.S. 460 Operational Improvements Study) to form an overall list of priority projects for the region.

TED Study Update Process

The study update process included the following steps and is based on the RVPTPO Framework for Prioritization.

1. Identify and Prioritize Economic Development Needs/Problems related to Transportation

- Business Survey
- Interviews with Local Economic Development staff and businesses
- Economic Development Stakeholder Committee Input

2. Identify Strategies/Solutions to Address those Needs/Problems

- Business Sector Input
- Economic Development Stakeholders Committee Input
- Transportation Technical Committee Member Input

3. Identify Priority Projects to best address Priority Economic Development Needs

- Transportation Technical Committee Input

RVPTPO Framework for Prioritization



Defining Needs, Solutions and Projects

The Economic Development Stakeholders Committee and TTC were asked to identify needs, solutions, and projects for the study update. These terms were defined as follows:

Need

A transportation need is the problem people or businesses experience getting to where they are going or moving what they are selling/receiving. A transportation need states a problem, not a specific solution, and could be solved by multiple possible solutions.

Solution

A solution is the transportation infrastructure/service/program to address the transportation need. It is likely that any given transportation need has multiple potential solutions to address the need.

Project

A transportation project is a clearly defined undertaking between start/end points for which a detailed cost can be determined. A project may be one part of a broader solution to address a transportation need.

Stakeholder Input Opportunities

The following activities have taken place during the input gathering and prioritization phases of the project.

September 24, 2020	RVTPO Policy Board Meeting – TED Study update process briefing	March 25, 2021	RVTPO Policy Board reviews priority and other transportation needs for economic development
October 1, 2020	ED Stakeholder Group meeting #1		
October/November, 2020	Online survey of businesses	April 8, 2021	TTC meeting - Discussion on TTC Suggested Solutions
December 2, 2020	Comprehensive Economic Development Strategy (CEDS) Committee briefing	May 13, 2021	TTC meeting - Review of draft project priority list
December 3, 2020	ED Stakeholder Group meeting #2	June 10, 2021	TTC meeting - Review of 6 priority projects and additional input
December 10, 2020	Joint RVTPO Policy Board and TTC meeting	July 8, 2021	TTC meeting - Finalize recommended list of 10 Priority Projects
December 14-18, 2020	Individual meetings with ED Stakeholders		
January/February, 2021	Review, clarification, and categorization of identified needs and priorities	August 26, 2021	RVTPO Policy Board reviews draft update
February 25, 2021	ED Stakeholder Group final review of needs listing		RVTPO Policy Board approves final update
February 25, 2021	RVTPO Policy Board update		
March 3, 2021	CEDS Committee briefing		
March 11, 2021	TTC Meeting – Review transportation needs affecting economic development and indicate an urgency to identify 10 projects by summer 2021 to prepare for upcoming grants		

Role of the Economic Development Stakeholder Committee

A stakeholder committee was created to help identify transportation needs related to economic development. The stakeholder committee was composed of representatives from private sector businesses, non-profits, business advocacy organizations, and local government economic development staff.

The committee was tasked with six activities:

1. Provide advice on survey questions to ask businesses regarding transportation problems and needs,
2. Provide advice and assistance on disseminating the survey,
3. Review the summary of input provided by businesses,
4. Share reflections on business input and opinions on other transportation needs/problems affecting economic development in the Roanoke valley TPO Study Area,
5. Determine a method for prioritizing the region's ED transportation needs/problems, and
6. Offer any solutions to address identified needs and/or problems.

Survey of Businesses and Stakeholders

Staff met with the committee on October 1, 2020 and December 3, 2020. In addition, eight follow-up one-on-one meetings were held in Mid-December 2020.

The October committee meeting provided an introduction to the RVTPO planning process, a review of the draft online survey, and the methodology for defining needs, solutions and projects.

The Economic Development Stakeholder Committee and Business Sector Survey was conducted in October and November 2020. The survey was available online from October 12 to November 12, 2020. The survey was targeted toward private sector businesses. Survey distribution was accomplished through direct email, social media, and newsletters and included assistance from the Roanoke Regional Chamber, Roanoke County Economic Development Department, Botetourt Chamber of Commerce, Roanoke County, and the City of Roanoke Department of Economic Development. The survey received a total of 38 responses.

Survey Results Review and Problem Prioritization

The survey results were reviewed at the committee's December 3, 2020, meeting. The review also offered an opportunity for the committee to provide additional input about transportation problems and initiate a discussion of how the problems should be categorized.

RVTPPO staff explained that the goal was to identify transportation problems (i.e. needs) not specific projects. Following the terminology and categorization in the survey, problems could be geographically categorized at the local, regional, or national level. The problems could address any travel mode - air, car/truck, pedestrian, rail, or transit. Problems should also be more directly focused on one aspect of a business such as those associated with labor force (getting employees to the job site), shipping (sending and/or receiving materials and products), or those associated with customers (getting customers to business site). Problems that do not fit into the categories could also be considered.

Staff categorized the problems identified in the survey responses by type and added any known ongoing solutions from current plans and projects and solutions suggested by the Economic Development Stakeholder Committee. It should be noted that not all needs had solutions and that not all of the listed solutions had an identified need.

The survey responses were grouped into the following categories:

- General problems affecting economic development
- Underutilized assets/Transportation infrastructure - Future Opportunities
- Specific Problems affecting economic development
- Congestion
- Travel Times too long
- Reliability
- Safety
- Maintenance
- Operations
- Future Land Development Opportunities

Problems and Suggested Solutions

General Problems affecting Economic Development	Solutions in Progress
Congestion on all roads during rush hour	
Travel times too long on public transportation	
Travel times too long on air travel	Airport in discussions with air carriers about destinations.
Travel times too long on Walk from bus stops to work	
Travel times too long on Emergency plumbing/drain cleaning vehicles need quicker mobility to emergency sites.	
Unreliable Freight rail service	
Limited destinations on public transportation beyond current network.	
Limited destinations on air travel and high price.	Airport in discussions with air carriers about destinations.
Limited places to park to access transit / share rides.	
Businesses have a hard time getting employees.	
People who don't drive or own a car can't get to jobs where there is no public transp.	
Employees have limited transportation options to access 2nd/3rd shift jobs.	
People with disabilities have limited accessible transportation options.	
Airport is not able to accommodate larger aircraft due to insufficient runway length.	Airport investigating the possibility of extending the runway across I-581.
Storage for freight arriving on rail.	
Bus stops are not accessible (no landing pad or sidewalk); don't connect to nearby places.	

Underutilized Assets / Transportation Infrastructure – Future Opportunities	Solutions in Progress
Rail Infrastructure – tracks in general; Both CSX & NS have facilities in Botetourt County.	
Public transit system due to inconveniences (long travel times, many stops, limited destinations, lack of pedestrian supportive infrastructure, inflexible schedule, system in Salem not suitable for some trips due to route structure)	
Ride sharing and carpooling due to limited incentives	
Freight rail service underutilized - tap into the rail freight industry that passes through Roanoke and increase manufacturing in the region.	
Ride a bus to get onto a train.	
Potential for rail spur to Southern States property in Vinton.	
Figure out ways to reduce trucks on major corridors.	
Increase geographical footprint of Valley Metro to include areas where county employers are located.	

Congestion	Solutions in Progress	Other Solutions Suggested
Congestion on U.S. 220 North of Route 11		
Congestion on U.S. 220 South of Route 419; can't go fast.	Access management/signal coordination.	Build I-73 to avoid lights, driveways.
Congestion on Route 460 East of I-581; too many lights on 460.	Multiple access management/ intersection improvements.	
Congestion on Yellow Mountain Road (Jefferson Street to U.S. 220) handles more traffic than it was built for.		
Congestion on Exit 150 Park and Ride Lot – too small for use by commuters and AT users.		
Congestion on U.S. 220/International Parkway	Intersection redesign is funded and design is underway.	
Congestion on Route 419 – limited number of entrances, cross access/secondary access to parcels.	Route 419 Streetscape improvements from Starkey Road to Ogden Road received in draft SMART SCALE Round 4 funding scenario.	Consolidate entrances; address crossover issues making cross development more compatible.
		Fallowater Lane extension.
		Time the lights on Route 419.
Congestion on I-81/Rout 11/Route 460 – Ongoing issue with traffic on I-81 being rerouted onto Salem streets because of accidents. Salem's streets cannot handle the resulting traffic volumes during incidents. Two lane section between Broad Street and Route 419 is a bottleneck.	Widening I-81 from Exit 137-Exit 150.	Truck route or bypass route.
		Four-lane E. 4th Street between S. Broad Street and Colorado Street.
Congestion on Hard to develop/redevelop properties along major through corridors in Vinton (Bypass Road, Hardy Road, Virginia Avenue, Washington Avenue) and Bypass Road/Hardy Road/Virginia Avenue intersection.		
Congestion on Route 24		Synchronization of traffic signals.
Congestion on Too many trucks on I-81 and Route 220		
Congestion on Insufficient truck parking near I-81		

Travel times too long	Solutions in Progress	Other Solutions Suggested
Travel times too long - Roanoke to west – Midwest, Chicago		
Travel times too long - Roanoke to east – Port of Virginia		
Travel times too long - Roanoke to south – Blacksburg, Radford	Amtrak service extension to Christiansburg; I-81 widening to exit 137.	Build the SMART Road to save on driving time.
Travel times too long - Roanoke to south – North Carolina, Florida		Build I-73.
Travel times too long - West Main Street in Salem takes a long time to get through.		

Unreliable	Solutions in Progress	Other Solutions Suggested
Long-term parking near Amtrak is not attractive, not well-signed, un-reliable.		
Unreliable travel time on Route 460 east inhibits growth.		
Accidents on I-81 delay deliveries.	Widening I-81 from Exit 137 to Exit 150.	

Limited options/Access	Solutions in Progress	Other Solutions Suggested
Only one road to get from Roanoke to Bedford (U.S. 460)		
Only one road to get from Roanoke to Franklin County (U.S. 220)		Build I-73.
Businesses in Salem, Clearbrook, Route 460 east and west in Roanoke County have a hard time getting employees.		
People in the City of Roanoke who don't drive or own a car can't get to jobs where there is no public transportation.		
People in Franklin County, Martinsville who don't drive or own a car can't get to jobs in the Roanoke Valley.		
Amtrak and public transit schedules are not aligned.		
Consumers have a hard time accessing primary commercial areas on U.S. 220 north of Exit 150 near the Howard Johnson.		
The Hollins area has the highest concentration of employment in Roanoke County but there are limited options for people to get there and for employers to recruit employees who don't drive.		Expand Valley Metro Service
RR bridge over Lynchburg Turnpike is too low and restricts the ability of trucks through Salem.		Fixing the Route 419 and Texas Street intersection may alleviate the issue with trucks not being able to travel on Lynchburg Turnpike under the railroad.
Route 419/Texas Street – Trucks coming from east side of downtown (Carter Machinery) – no good way to get to Route 419. Hard to accommodate I-81 traffic. Not too many semi's unless there's a problem on I-81.		Widen Texas Street
		Install a signal at the Route 419/Texas Street intersection.
Additional access to Richfield (on Route 460 west) for people who don't drive would be helpful.		Expand Valley Metro Service.

Limited options/Access	Solutions in Progress	Other Solutions Suggested
Tractor Trailers are not allowed in front of the Salem Civic Center on Roanoke Boulevard due to an agreement with the neighbors when the road was built that the road would not be turned into a commercial corridor.		
Wise Avenue flooding issues at low water bridge. Railroad crossing prohibits the possibility of this road being a truck corridor.		Work with NS to realign the railroad bridge.
		Eliminate Wise Avenue as a truck route.
Vinyard Road and intersection with Virginia Avenue – only road in/out to destinations along Vinyard Road		Alternate ways for people to get to/from destinations along Vinyard Road such as a second entrance/exit (connecting roadway to Clearview Drive and/or between Niagara Rd. and Vinyard Rd. between Virginia ABC and Rosie's); extend sidewalk between Lakedrive Plaza and Vinyard Manor.

Safety	Solutions in Progress	Other Solutions Suggested
Route 460 East of I-581	Multiple access management/ intersection improvements	
I-81	Widening to 3 lanes	
Woodhaven Road over I-581 appears and feels unsafe though it is structurally sound – this feeling is an impediment to some companies.		
Downtown Salem, Roanoke, Vinton – pedestrian safety concerns.		Crosswalks, completion of sidewalks.
U.S. 220 South safety concerns		Build I-73 to avoid twists/turns of current 220 facility.

Maintenance	Solutions in Progress	Other Solutions Suggested
Major entrances to Botetourt County, City of Roanoke, Roanoke County, Salem, Town of Vinton could be more attractive and provide directional aid to visitors going to destinations.		Gateway and wayfinding signs – uniform signage.
Lack of character in Downtown Salem, Roanoke, Vinton results in people not wanting to be there.		

Operations	Solutions in Progress	Other Solutions Suggested
Amtrak and transit station are not well connected and people aren't sure where to go.		
Left turn lane on Peters Creek Road eastbound to Valleypointe Parkway is too short for stacking vehicles.		
Valleypointe Parkway does not align well with Woodhaven Road to allow for development of adjacent lands.	Draft funding via SMART SCALE Round 4 has been received to correct this misalignment.	
I-81/I-581 – too much traffic and demand on the interchange to have people doing weaving movements on I-81S to get to I-581S.		
I-581/Orange Avenue interchange – merging on/off the interstate is terrible.		
Traffic movements on Thirlane Road NW from Peters Creek Road to Woodhaven Road are not flowing right to provide good access to the adjacent developable properties, and there are safety concerns.		
Improve traffic flow at Oak Grove and Keagy Village – turning movement and crossover issues.		
I-81 Exit 140 - Turn radius issue.		

Traffic generated by the Salem Civic Center could flow better (Lynchburg Turnpike and Texas Street).		Build a roundabout.
Hard to turn left from River Park Shopping Center in Vinton onto Bypass Road.		
3rd Street/Virginia Avenue - Very tight intersection for trucks to get to/from Vinton Industrial Park.		
Kessler Mill Road – accommodate trucks from Mersen USA site.		
		Wide speed bumps on Kenwood Blvd. SE

Future Land Development Opportunities	Suggested Considerations
Parcels around Exit 150 area will need road access.	
100-acre parcel owned by Ralph Smith in Botetourt County is difficult to access due to topography.	
AT spur trail in Botetourt is blocking 170 acres of property that is prime for development but locked due to the spur trail.	
Tanglewood Mall is getting denser with new commercial retail (no residential) coming including Carilion development. 1500 people/day coming from 100-mile radius.	
Secondary roadway access to Macado's signal on Route 419 would create additional opportunities for land development.	
Room for growth along the U.S. 220 corridor into Franklin County.	Build an interstate (I-73).
	Improve the current road to remove twists/turns and blind driveways.
Land available for commercial development along Apperson Drive – build-out may overwhelm roadway with additional vehicle trips.	Four-lane Apperson Drive to match 4 lanes on Colorado Street and in Roanoke City.
Parcels along Route 460 east corridor don't meet national chain/franchise site requirements (signalized intersections, turn movements in all four directions, crossover intersections, etc.). Additional growth towards Bedford.	How to develop without a ton of driveway access points; restricting turn movements may not help economic development access.
Rail facilities – FreightCar America Plant in Roanoke City and old N&W railroad station in Salem.	Intermodal facility.

Woodhaven Industrial Park is a new business development opportunity. Concerns over large vehicles being able to easily get to the site.	
Increasing development along Vinyard Road	
Connection of vacant properties between Downtown Vinton and Riverpark Shopping Center.	Provide pedestrian connection.

Review of Needs and Solutions

Due to the limited amount of time available for the December 3, 2020, Economic Development Stakeholder Committee meeting, staff set up times to meet with committee members for one-on-one discussions the week of December 14th. Staff responded to eight (8) requests for follow-up meetings to discuss needs with the following participants:

1. Stephen Lemon (Private Sector)
2. Lucas Thornton (Private Sector)
3. Ken McFadyen (Botetourt County)
4. Jill Loope (Roanoke County)
5. Peter Peters, Anita McMillan, Nathan McClung (Town of Vinton)
6. Jay Taliaferro (City of Salem)
7. Ben Tripp (City of Salem)
8. Marc Nelson, Aisha Johnson (City of Roanoke)

The additional input from the one-on-one meetings was then incorporated into the problems and solutions data.

The Economic Development Stakeholder Committee members were then asked to select their “Top 10” priority needs and submit those back to staff. Each of the needs on the resulting priority list received multiple votes from stakeholders as priorities. These votes were tallied, and a draft list of unranked priority needs was created.

Based on the committee votes, the list had 18 needs. This list of 18 needs was forwarded to the TTC for discussion regarding possible solutions and projects to address the needs.

Economic Development Stakeholder Committee Priority Needs

Item	Identified Need
1	Limited destinations on air travel and high price.
2	Airport is not able to accommodate larger aircraft due to insufficient runway length.
3	Travel times too long for air travel
4	Businesses have a hard time getting employees
5	Congestion on Route 460 East of I-581; too many lights on 460.
6	Safety on Route 460 East of I-581.
7	Only one road (U.S. 220) to get from Roanoke to Franklin County
8	Travel times too long - Roanoke to south – North Carolina, Florida
9	U.S. 220 South safety concerns
10	Congestion on U.S. 220 South of Route 419; can't go fast.
11	Left turn lane on Peters Creek Road eastbound to Valleypointe Parkway is too short for stacking vehicles.
12	Valleypointe Parkway does not align well with Woodhaven Road to allow for development of adjacent lands.
13	Woodhaven Industrial Park is a new business development opportunity. Concerns over large vehicles being able to easily get to the site.
14	Congestion on Exit 150 Park and Ride Lot – too small for use by commuters and AT users.
15	Congestion on Route 419 – limited number of entrances, cross access/secondary access to parcels.
16	I-581/Orange Avenue interchange – merging on/off the interstate is terrible.
17	Long-term parking near Amtrak is not attractive, not well-signed, un-reliable.
18	Major entrances to Botetourt County, City of Roanoke, Roanoke County, Salem, Town of Vinton could be more attractive and provide directional aid to visitors going to destinations.

Note: Item number does not indicate higher/lower priority over another priority need.

TTC Review and Input

The TTC and RVTPO staff spent April through June refining the list of solutions and projects. As part of this exercise, staff was asked to review several key planning documents and studies that affect transportation project scheduling and funding. These include the 2018 TED Study, the current Roanoke Valley Transportation Plan, the I-81 Corridor Improvement Plan, and ongoing and planned STARS studies.

[2018 TED Study Projects Status](#)

As part of the TTC process for identifying solutions and projects, staff was asked to review of the status of the previous 2018 TED Study priority projects. The [2018 Regional Study on Transportation Project Prioritization for Economic Development and Growth](#) resulted in a list of 10 priority projects which have been pursued by the RVTPO and/or local governments. The following table shows the status of each of the priority projects. Six of the projects have been fully funded along with the I-581 Peters Creek Road Interchange Study and many greenway and pedestrian related projects.

[Roanoke Valley Transportation Plan Review](#)

RVTPO staff also conducted a review of the region's planned projects in the [Roanoke Valley Transportation Plan's Fiscally Constrained and Vision Lists of Projects](#) to identify projects that address the 18 identified Economic Development priority needs for the TED Study update. Several of the identified needs are

addressed by multiple projects in the Roanoke Valley Transportation Plan; seven of the 18 identified needs are not addressed. Three of those needs are specific airport related needs, and one is an employee recruitment and commuting need. The other two needs not addressed are related to Amtrak parking and regional/local wayfinding.

[Interstate 81 Corridor Improvement Plan Review](#)

Roanoke County has requested that a project expanding I-81 to six lanes from Exit 128 to Exit 137 be added to the Transportation and Economic Development study for the reasons of congestion and traffic safety.

The I-81 Corridor Improvement Plan adopted by the Commonwealth Transportation Board in 2018 identifies widening I-81 northbound to three lanes from Exit 128 to Exit 137 as one of 13 projects recommended for funding in the Salem District with estimated construction between 2027 and 2032.

The I-81 Corridor Improvement Plan did not recommend funding to add a lane to southbound I-81 from Exit 128-137. The Exit 128-137 segment was identified as a Corridor of Concern in the Traffic Congestion Management Process based on public input. The TTC did not recommend the project as a priority project for economic development due to the timeframe for construction not being urgent. Further review of the need and justification for this project is recommended.

Status of 2018 TED Study Priority Projects

Number	Project(s)	Project Status
1	Widen I-81 from 4-6 lanes between Exits 140-141	Fully funded
2	Widen I-81 SB from 2-3 lanes between Exit 150 and the Truck Weigh Station	Fully funded
3	Widen I-81 from 4-6 lanes between Exits 137 and 140	Fully funded
4	Reconstruct U.S. 460 between 11th Street NE and Gus Nicks Blvd to increase capacity and operations	Various potential spot improvements suggested in Rt. 460 Study.
5	Construct a diverging diamond interchange with bike/pedestrian accommodation at Rt.419/220	Fully funded
6	Reconfigure U.S. 220/International Parkway intersection to increase turning capacity and improve safety	Fully funded
7	Reconstruct the I-581/Peters Creek Rd. interchange to improve turning movements and access to Valleypointe Pkwy. and Thirlane Rd.	Study funded but project not funded in SMART SCALE Round 4
8	Build the downtown Roanoke Intermodal Station (Amtrak, intercity bus, transit)	Fully funded
9	Construct high regional priority pedestrian projects located within the RVTPO's multimodal centers as documented in the Regional Pedestrian Vision Plan	Many projects - status of each varies.
10	Complete the Roanoke River Greenway, followed by the Phase II Greenways: Tinker Creek, Hanging Rock/Mason Creek, Lick Run, and Glade Creek.	Many projects - status of each varies.

Other projects/studies mentioned in the 2018 TED Study for further study included:

- Widening I-81 from 4-6 lanes from Exits 146-150
- Widening I-81 from 4-6 lanes from Exits 132-137
- Studying the I-581/I-81 interchange
- Studying potential ITS and shoulder improvements to enable the use of I-81 shoulders as driving lanes during incidents and peak hours.
- Extending the VA Smart Road to connect to I-81
- U.S. 220/Franklin County Summit View Business Park intersection improvements

Consideration of Ongoing Corridor Studies

The TTC desired to include information from ongoing and soon to be underway STARS (Strategically Targeted Affordable Roadway Solutions) studies. While results from these studies are not yet available, consideration should be given to recommendations and specific projects that could affect economic development in the region and be considered as candidates for inclusion in the Roanoke Valley Transportation Plan.

The objective of the STARS Program is to develop comprehensive, innovative transportation solutions to relieve congestion bottlenecks and solve critical traffic and safety challenges throughout the commonwealth. STARS projects typically result in multiple recommended improvements that may be eligible for funding and implementation under maintenance budgets, applications in the SMART SCALE process, applications for the Highway Safety Improvement Program (HSIP), State of Good Repair budgets, and/or applications for revenue sharing.

Proposed/planned STARS studies include the following:

- I-581 / Orange Avenue Interchange
- Route 419 Corridor (Ogden to Rt 311)
- I-81 Exit 150 area (Rt 11 and 220 connections)
- City of Roanoke
- City of Salem

Identifying Solutions and Projects

The TTC reviewed the needs and possible solutions identified by the Economic Development Stakeholders Committee and proposed a list of specific projects to address each item where appropriate.

The TTC chose not to directly address needs that are not highway construction related such as additional flight destinations from the airport, Amtrak parking, and wayfinding signage with the understanding that while these needs are important, they could be better addressed by other organizations and funding sources.

The TTC considered ongoing projects, anticipated applications for STBG and SMARTSCALE funding, and carryover projects from the previous 2018 TED Study in their identification of projects to address the identified priority needs.

The priority needs along with their specific preferred solutions and recommended projects are shown in the following table.

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Priority ED Needs Not Being Addressed with Transportation Solutions at this Time

Need	Jurisdiction	Project Title	Project Limits	Project Description	Est. Cost in Year of Expenditure	Notes
Congestion on Route 460 East of I-581	City of Roanoke	Orange Avenue	0.006 mi. W Int. 11th St. NE to 0.232 mi. E Int. Gus W. Nicks Blvd. NW	Implementation of STARS Study recommendations - RCUTS, Thru CUTS, median closures, turn lane improvements, access management	Unknown	
Congestion on Route 460 East of I-581	City of Roanoke	Orange Ave at I-581 interchange	Gainsboro Road to Williamson Road	Interchange reconfiguration = potential signalization of 581 both off ramps to eliminate weaving issues	Unknown	Short term and long term recommendations expected from STARS Study
Congestion on Route 460 East of I-581	City of Roanoke	Orange Ave at Williamson Road	I-581 to east of Williamson	Intersection modifications to accommodate geometric and signal timing changes - dual EB left turn lanes, improvements on the north leg of Williamson Road	Unknown	Recommendations expected from STARS Study at 581 Interchange
Congestion on Route 460 East of I-581	City of Roanoke	Orange Ave & Kimball/ Plantation		Widening side street approaches on Kimball and Plantation and lengthen WB left	Unknown	

Priority ED Needs Not Being Addressed with Transportation Solutions at this Time

Need	Jurisdiction	Project Title	Project Limits	Project Description	Est. Cost in Year of Expenditure	Notes
				turn lane on Orange at Kimball		
	Roanoke County	Improve U.S. 460/Challenger Ave. (continuation of Roanoke City project - from Roanoke City Limits to Botetourt Co.)	Roanoke City Limits to Botetourt County Limits	Implementation of STAR Study recommendations	Unknown	
Congestion on Route 460 East of I-581	Roanoke County	Route 460 and Alternate Route 220 Intersection Improvements	Intersection of Route 460 at Alt. Rt. 220		\$21,800,000	
Left turn lane on Peters Creek Road eastbound to Valleypointe Parkway is too short for stacking vehicles.	Roanoke County and City of Roanoke	I-581 & Peters Creek Rd. Interchange Improvements (enhancing access to Valleypointe Dr.)	I-581 and Peters Creek Road	Operational and safety improvements at the I-581 Exit 2 Interchange including close two I-581 off-ramps with substandard weave movements, signalize remaining I-581 off-ramps, restrict left turns from SB Thirlane Rd to minimize conflict points near interchange ramps,	\$28,200,000	

Priority ED Needs Not Being Addressed with Transportation Solutions at this Time

Need	Jurisdiction	Project Title	Project Limits	Project Description	Est. Cost in Year of Expenditure	Notes
				add a downstream U-turn along Peters Creek Rd for re-directed left turns, add a second EB Peters Creek left turn lane onto Valleypointe Pkwy to increase capacity, and add pedestrian and bicycle accommodations along Peters Creek Rd.		
Woodhaven Industrial Park is a new business development opportunity. Concerns over large vehicles being able to easily get to the site.	Roanoke County and City of Roanoke	Project above proposed to address this need as well.				
Congestion on Exit 150 Park and Ride Lot – too small for use by commuters and AT users.	Botetourt County	Exit 150 Park and Ride	In the vicinity of Exit 150 and U.S. 220	Construct New Park and Ride facility near Exit 150 in Daleville. The facility will also include bus shelters, bicycle racks, sidewalk, and wayfinding signs.	\$11,000,000	

Priority ED Needs Not Being Addressed with Transportation Solutions at this Time						
Need	Jurisdiction	Project Title	Project Limits	Project Description	Est. Cost in Year of Expenditure	Notes
Congestion on Route 419 – limited number of entrances, cross access/secondary access to parcels.	Roanoke County	Rt. 419/Ogden Rd. to Rt. 221 – Intersection improvements along with bike, pedestrian facilities along corridor	Route 419/Starkey Road to Rt. 221	Rt. 419/Ogden Rd. to Rt. 221 – Intersection improvements along with bike, pedestrian facilities along corridor	Unknown	

Priority ED Needs Not Being Addressed with Transportation Solutions at this Time						
Need	Jurisdiction	Project Title	Project Limits	Project Description	Est. Cost in Year of Expenditure	Notes
Businesses have a hard time getting employees.						Employees lack access to transportation
Only one road (U.S. 220) to get from Roanoke to Franklin County.						
Long-term parking near Amtrak is not attractive, not well-signed, unreliable.						

Priority ED Needs Not Being Addressed with Transportation Solutions at this Time

Need	Jurisdiction	Project Title	Project Limits	Project Description	Est. Cost in Year of Expenditure	Notes
Major entrances to Botetourt County, City of Roanoke, Roanoke County, Salem, Town of Vinton could be more attractive and provide directional aid to visitors going to destinations.						

Priority ED Needs Being Addressed by the Airport and not by Surface Transportation Solutions

Need	Jurisdiction	Project Title	Project Limits	Project Description	Est. Cost in Year of Expenditure	Notes
Airport has limited destinations on air travel and high price.						
Airport is not able to accommodate larger aircraft due to insufficient runway length.						
Travel times too long on air travel.						

Priority ED Needs currently being addressed with funded projects						
Need	Jurisdiction	Project Title	Project Limits	Project Description	Est. Cost in Year of Expenditure	Notes
Travel times too long - Roanoke to south – North Carolina, Florida.	Roanoke County	U.S. 220 Improvements	Electric Rd. to Franklin County Limits	Signal improvements at intersection along Rt. 220 to improve safety currently under design by VDOT.	\$16,000,000	No additional projects on 220 at this time.
Congestion on U.S. 220 South of Route 419; can't go fast.	Roanoke County	U.S. 220 Improvements	Electric Rd. to Franklin County Limits	Signal improvements at intersection along Rt. 220 to improve safety currently under design by VDOT.	\$16,000,000	No additional projects on 220 at this time.
U.S. 220 South safety concerns.	Roanoke County	U.S. 220 Improvements	Electric Rd. to Franklin County Limits	Signal improvements at intersection along Rt. 220 to improve safety currently under design by VDOT.	\$16,000,000	No additional projects on 220 at this time.
Safety on Route 460 East of I-581.	City of Roanoke	Orange Avenue (U.S. 460) Improvements (UPC 115454)	King St. at Blue Hills/Mexico Way	Extend the westbound turn lane at the intersection of Orange Avenue and King Street to reduce congestion resulting from left turn vehicles spilling back into adjacent through movement. Implement safety	\$4,019,220	

Priority ED Needs currently being addressed with funded projects						
Need	Jurisdiction	Project Title	Project Limits	Project Description	Est. Cost in Year of Expenditure	Notes
				countermeasures aimed at addressing crash trends at and between the King and Blue Hills/Mexico Way intersections. Improve the bicycle, pedestrian, and transit facilities along the corridor.		
Valleypointe Parkway does not align well with Woodhaven Road to allow for development of adjacent lands.	Roanoke County	SMART22 - Valleypointe Parkway Realignment (UPC 119468)	From Concourse Drive to Wood Haven Road	Reconstruction w/ Added Capacity	\$9,837,000	
I-581/Orange Avenue interchange – merging on/off the interstate is terrible.	City of Roanoke	I-581 / Orange Avenue Interchange STARS Study	I-581 and Orange Avenue interchange area	Interchange reconfiguration and associated improvement along Orange Ave from Williamson Road to Gainsboro Road	Already funded by VDOT.	Solutions identified in this study may be considered for future project lists.

Additional Suggested Projects by the TTC not identified as needs by Economic Development Stakeholders

Need	Jurisdiction	Project Title	Project Limits	Project Description	Est. Cost in Year of Expenditure	Notes
Need - unstated.	Roanoke County	Explore Park Access Road	Hardy Road to Explore Park	Construct new access road from Hardy Road to Explore Park	Already funded by VDOT.	This item is being studied in FY22. Solutions identified in this study may be considered for future project lists.
Completion of Roanoke River Greenway	City of Salem	Roanoke River Greenway - Mill Lane to West Riverside Drive	Mill Lane to Riverside	Construct new paved greenway	\$450,000	
Completion of Roanoke River Greenway	City of Salem	Roanoke River Greenway - Apperson Drive to Cook Drive	Apperson Drive to Cook Drive Trailhead	Construct new paved greenway	\$1,000,000	
Completion of Roanoke River Greenway	City of Roanoke	Roanoke River Greenway - Underhill Section	Underhill Section	Construct new paved greenway	\$6,406,000	PE and ROW funded at \$850,000
Completion of Roanoke River Greenway	Roanoke County	East Roanoke River Greenway	WVWA Property to Niagara	Construct new paved greenway	\$6,605,000	
I-81 Congestion and Safety Improvements	Roanoke County	I-81 widening to 6 lanes		I-81 widening to 6 lanes from Exit 128 to Exit 137	Unknown	NB already included in FY22-27 SYIP; SB not recommended by I-81 plan - further evaluate project/solution in RVTP

Finalizing the Priority Project List

The TTC selected projects that are important to the overall transportation network and will have a positive impact on economic development.

Several project descriptions were updated or modified based on input from the TTC, and five additional projects were suggested for the list that were beyond the priority needs identified by economic development stakeholders. These projects are:

- Roanoke River Greenway - Mill Lane to Riverside Drive
- Roanoke River Greenway - Apperson Avenue to Cook Drive
- Roanoke River Greenway - Underhill Section
- Roanoke River Greenway - Western Virginia Water Authority Property to Niagara

Follow up discussions with TTC members resulted in the addition of three projects in the City of Roanoke which address the Economic Development Stakeholders Committee priority need to address congestion on Route 460 East of I-581:

- Orange Ave at the I-581 - Interchange reconfiguration with potential signalization of 581 both off ramps to eliminate weaving issues
- Orange Ave at Williamson Road - Intersection modifications to accommodate geometric and signal timing changes - dual EB left turn lanes, improvements on the north leg of Williamson Road
- Orange Ave at Kimball/Plantation Road - Widening side street approaches on Kimball and Plantation and lengthen WB left turn lane on Orange at Kimball

The finalized recommended priority project list is show below.

Recommended Project Priority List						
Transportation Need to Address for Economic Development	Jurisdiction	Project Title	Project Limits	Project Description	Est. Cost in Year of Expenditure	Notes
Congestion on Route 460 East of I-581	City of Roanoke	Orange Ave at I-581 interchange	Gainsboro Road to Williamson Road	Interchange reconfiguration = potential signalization of 581 both off ramps to eliminate weaving issues	Unknown	Short term and long term recommendations expected from upcoming STARS Study
Congestion on Route 460 East of I-581	City of Roanoke	Orange Ave at Williamson Road	I-581 to east of Williamson	Intersection modifications to accommodate geometric and signal timing changes - dual EB left turn lanes, improvements on the north leg of Williamson Road	Unknown	Recommendations expected from STARS Study at I-581 Interchange
Congestion on Route 460 East of I-581	City of Roanoke	Orange Ave & Kimball/ Plantation		Widening side street approaches on Kimball Ave. and Plantation Rd. and lengthen WB left turn lane on Orange Ave. at Kimball Ave.	Unknown	
Congestion on Route 460 East of I-581	Roanoke County	Route 460 and Alternate Route 220 Intersection Improvements	Intersection of Route 460 at Alt. Rt. 220	Reconstruct the intersection with a Displaced Left Turn configuration.	\$21,800,000	With \$2,544,860 leverage, this project was unsuccessful in SMART SCALE Round 4.

Recommended Project Priority List						
Transportation Need to Address for Economic Development	Jurisdiction	Project Title	Project Limits	Project Description	Est. Cost in Year of Expenditure	Notes
Left turn lane on Peters Creek Road eastbound to Valleypointe Parkway is too short for stacking vehicles.	Roanoke County and City of Roanoke	I-581 & Peters Creek Rd. Interchange Improvements (enhancing access to Valleypointe Dr.)	I-581 and Peters Creek Road	Operational and safety improvements at the I-581 Exit 2 Interchange including close two I-581 off-ramps with substandard weave movements, signalize remaining I-581 off-ramps, restrict left turns from SB Thirlane Rd to minimize conflict points near interchange ramps, add a downstream U-turn along Peters Creek Rd for re-directed left turns, add a second EB Peters Creek left turn lane onto Valleypointe Pkwy to increase capacity, and add pedestrian and bicycle accommodations along Peters Creek Rd.	\$28,200,000	Applied for in SMART SCALE Round 4 but was unsuccessful.

Recommended Project Priority List						
Transportation Need to Address for Economic Development	Jurisdiction	Project Title	Project Limits	Project Description	Est. Cost in Year of Expenditure	Notes
Congestion on Exit 150 Park and Ride Lot – too small for use by commuters and AT users.	Botetourt County	Exit 150 Park and Ride	In the vicinity of Exit 150 and U.S. 220	Construct New Park and Ride facility near Exit 150 in Daleville. The facility will also include bus shelters, bicycle racks, sidewalk, and wayfinding signs.	\$11,000,000	Applied for in SMART SCALE Round 2 but was unsuccessful; requested \$7.7M with no leverage.
Completion of Roanoke River Greenway	City of Salem	Roanoke River Greenway - Mill Lane to West Riverside Drive	Mill Lane to Riverside	Construct new paved greenway	\$450,000	Previously funded with STBG, right-of-way issues caused it to not be constructed with the adjacent portions.
Completion of Roanoke River Greenway	City of Salem	Roanoke River Greenway - Apperson to Cook Drive	Apperson Drive to Cook Drive Trailhead	Construct new paved greenway	\$1,000,000	
Completion of Roanoke River Greenway	City of Roanoke	Roanoke River Greenway - Underhill Section	Underhill Section	Construct new paved greenway	\$6,406,000	PE and ROW funded at \$850,000
Completion of Roanoke River Greenway	Roanoke County	East Roanoke River Greenway	WVWA Property to Niagara	Construct new paved greenway	\$6,605,000	Previously funded with STBG, right-of-way issues led the County to return the STBG funding.

Next Steps

The RVTPO and its planning partners are committed to advancing the identified regional economic development priorities as part of ongoing regional transportation prioritization. This document is intended to provide input to the Roanoke Valley Transportation Plan with needs, solutions, and individual projects refined as part of the RVTPO's overall planning process.

This 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 region's prioritization processes through further incorporation of existing data and identification of any specific data gaps.
- Additional study and discussion of transportation related economic development needs that were identified during development of this study but were not able to be addressed with standard highway or surface transportation funds. Examples include expanded service at Roanoke-Blacksburg Regional Airport, expanded hours and routes for Roanoke Valley Metro service, and completion of recommendations for large corridor projects involving intersection improvements, additional lanes, and pedestrian related improvements.
- Improved coordination between economic development interests and transportation planning efforts to continuously provide input to updates of the Roanoke Valley Transportation Plan. Additional meetings with the Roanoke-Alleghany Comprehensive Economic Development Strategy committee, Chambers of Commerce, and key industry stakeholders could better inform the process of identifying transportation needs and solutions to support economic development.
- Identification of additional non-typical funding sources for transportation projects that affect economic development such as the Appalachian Regional Commission Access Road program, the US Economic Development Administration, and the FHWA funded VA Department of Conservation and Recreation's Recreational Trails program.

Non-Discrimination

RVARC assures that no person shall, on the grounds of race, color, or national origin, as provided by Title VI of the Civil Rights Act of 1964 and the Civil Rights Restoration Act of 1987 (Public Law 100.259), be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity. RVARC further assures that every effort will be made to ensure nondiscrimination in all of its programs and activities, whether those programs and activities are federally funded or not. In the event RVARC distributes federal-aid funds to another governmental entity, it will include Title VI language in all written agreements and will monitor for compliance.

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.

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