

February 3, 2022

MEMORANDUM

TO: Members, Transportation Technical Committee
 FROM: Cristina Finch, AICP, LEED AP, Secretary to the Transportation Technical Committee
 SUBJ: February 10, 2022 TTC Meeting/Agenda

The February meeting of the Transportation Technical Committee (TTC) will be held Thursday, February 10, 2022 at 1:30 p.m. at the Roanoke Valley-Alleghany Regional Commission office (Top Floor Conference Room), 313 Luck Avenue, SW, Roanoke, VA. In accordance with Virginia Occupational Safety and Health regulations, all attendees (vaccinated or unvaccinated) must wear a mask while inside the Commission building. All attendees who are unvaccinated or are otherwise at-risk must physical distance themselves from others. RVARC staff will make the necessary accommodations to comply with these regulations.

TTC AGENDA

1. Welcome, Call to Order *Chair Jamison*
2. Roll Call (including consideration of remote participation) *Chair Jamison*
3. **Action Requested:** Approval of the Consent Agenda items: *Chair Jamison*
 - A. Approval of the Agenda
 - B. Action on the January 13, 2022 TTC Minutes, pp. 3 – 7
4. Chair’s Remarks *Chair Jamison*
5. Continued Development of the Roanoke Valley *Cristina Finch & David Jackson,*
 Transportation Plan, pp. 8 – 32 *Cambridge Systematic*
6. **Action Requested:** Recommendation on FY23-24 Transportation Alternatives*Bryan Hill*
 Set-aside Program Allocations, pp. 33 – 63
7. **Action Requested:** Recommendation on FY24 SMART SCALE RVTPO *Bryan Hill*
 Candidate Project Requests, pp. 64 – 68
8. **Action Requested:** Recommendation on Adjustment of FY22-27 Surface *Cristina Finch*
 Transportation Block Grant (STBG) Financial Plan, pp. 69 – 74

TPO POLICY BOARD: Cities of Roanoke and Salem; Counties of Bedford, Botetourt, Montgomery and Roanoke;
 Town of Vinton; Greater Roanoke Transit Company (*Valley Metro*); Roanoke-Blacksburg Regional Airport;
 Virginia Department of Rail & Public Transportation; Virginia Department of Transportation

9. Other Business
10. Comments by TTC Members and/or Citizens
11. Adjournment (by 3:00 p.m.)

Members of the Transportation Technical Committee may, under certain circumstances, request remote attendance to TTC meetings if a quorum is physically present for the meeting. To request remote participation, please contact the Chair and the Secretary of the TTC with your request.

TPO POLICY BOARD: Cities of Roanoke and Salem; Counties of Bedford, Botetourt, Montgomery and Roanoke; Town of Vinton; Greater Roanoke Transit Company (*Valley Metro*); Roanoke-Blacksburg Regional Airport; Virginia Department of Rail & Public Transportation; Virginia Department of Transportation

MINUTES

The January meeting of the Transportation Technical Committee was held on Thursday, January 13, 2022 at 1:30 p.m. at the Roanoke Valley-Alleghany Regional Commission, 313 Luck Avenue, SW, Roanoke, VA.

VOTING MEMBERS PRESENT

Mariel Fowler	County of Bedford
Jonathan McCoy	County of Botetourt
Megan Cronise	County of Roanoke
Isaac Henry (<i>alternate</i>)	County of Roanoke
Wayne Leftwich	City of Roanoke
Mark Jamison, <i>Vice Chair</i>	City of Roanoke
Crystal Williams	City of Salem
Cody Sexton	Town of Vinton
Nathan McClung (<i>alternate</i>)	Town of Vinton
Frank Maguire	Roanoke Valley Greenway Commission
Michael Gray (<i>via zoom</i>)	Virginia Dept. of Transportation - Salem District
Daniel Sonenklar (<i>via zoom</i>)	Virginia Dept. of Rail and Public Transportation

VOTING MEMBERS ABSENT

David Givens	County of Botetourt
Dan Brugh	County of Montgomery
Will Crawford	County of Roanoke
Anita McMillan	Town of Vinton
Nathan Sanford	Unified Human Serv. Transp. System (RADAR)
William Long	Greater Roanoke Transit Company

NON-VOTING MEMBERS ABSENT

Kevin Jones	Federal Highway Administration
-------------	--------------------------------

RVARC Staff Present: Cristina Finch, Bryan Hill, Rachel Ruhlen (*via zoom*), Jeremy Holmes (*via zoom*), Emma Howard-Woods and Virginia Mullen.

1. WELCOME, CALL TO ORDER, ROLL CALL

Chair Jamison called the meeting to order at 1:30 p.m. and asked Cristina Finch, Secretary to the TTC, to call the roll. Ms. Finch stated that a quorum was present.

Chair Jamison reported that Mr. Michael Gray, representing Virginia Department of Transportation, requested to participate remotely from home in today's TTC meeting under the "RVTPO Policy for Electronic Meeting Participation," allowing for remote participation for temporary or permanent disability or other medical reason, and a physical quorum is present. Chair Jamison asked if there were any objections. None were voiced. The request was approved via unanimous consent.

2. APPROVAL OF CONSENT AGENDA ITEMS

The following consent agenda items were distributed earlier:

- A. January 13, 2022 RVTPPO Meeting Agenda
- B. December 9, 2021 TTC Minutes
- C. January 5, 2022 Special Called TTC Minutes

Motion: by Cody Sexton to approve items (A), (B) and (C) under the consent agenda, as presented; seconded by Wayne Leftwich.

TTC Action: Motion carried unanimously.

3. CHAIR REMARKS

- Chair Jamison introduced Ms. Emma Howard-Woods. Ms. Howard-Woods joined the Regional Commission’s staff last month. Ms. Howard-Woods will provide technical assistance at today’s meeting.
- Chair Jamison noted that the Regional Commission is testing a new technology- the Meeting Owl, located in the middle of the room. The owl will serve as microphone, speaker and video broadcasting for people attending remotely.

4. UPDATE ON FY24 SMART SCALE RVTPPO PROJECT REQUESTS

Mr. Bryan Hill provided a summary of the project requests as outlined in the staff report.

Mr. Jonathan McCoy noted that the first sentence after the table on page 1 of the staff report should read as follows: “*Since the last TTC meeting, staff has updated information from Botetourt County on Request #5: ~~the Route 220 Superstreet Improvement~~ Exit 150 Improvement Project.*”

Mr. Hill noted that Megan Cronise had also submitted additional information about the West Main Street Phase 3 Sidewalk project, noting that it was already underway with PE work, which increased the score of the project by five points for a total of 45.

Mr. Hill asked TTC members to consider recommending to the Policy Board to apply for the first four projects, in order, from the staff report as follows:

No.	Agency	Project Name
1	Roanoke Co.	Pedestrian Improvements on Williamson Road (UPC 113947)
2	Roanoke Co.	Pedestrian Crossing Improvements on Route 419 and at Plantation/ Hershberger Intersections (UPC 117212)
3	Botetourt Co.	Rte. 220 Superstreet Improvement (UPC T24740)

4	Roanoke Co.	West Main Street Phase 3 Sidewalk
---	-------------	-----------------------------------

Additional information on regional priorities is needed to determine if the RVTPO should initiate a fifth tentative application. More information is anticipated to become available in February.

Megan Cronise noted that, just this morning, VDOT had informed her that an estimate and final sketch for “U.S. Route 11/460 at Dow Hollow Road Intersection Improvements” project will be available soon, meaning that this project’s score will increase.

Ms. Cronise asked when the final deadline was. Mr. Hill replied that TTC members should be ready to make their recommendation to the Policy Board at their February 10th meeting. Mr. Hill offered that should any changes occur following the TTC meeting and before the TPO meeting on February 24th, staff will adjust the original recommendation according to the scores of the project requests at that time.

Ms. Cronise commented that currently one project request has been received for the four available RVARC slots and inquired if some of these projects could fill those spots. Mr. Hill replied that after the TPO’s list is developed, and all rural application requests have been identified, there may in fact be room for other project requests from the urbanized area.

Mr. Cody Sexton asked if there would be a way to have a reasonable assurance from staff that there will be no unused slots. Mr. Hill replied that given the number of requests exceeds slots available, he does not anticipate that there will be anything unused.

Chair Jamison asked if all these projects are eligible to compete for one of the three RVARC slots. Mr. Hill replied yes.

Mr. Michael Gray commented that VDOT will look and make sure that all these projects are eligible to be submitted by a regional agency and there are no restrictions.

Mr. Hill explained that the Policy Board will receive the same update on the FY24 SMART SCALE RVTPO Project requests (updated with the feedback received from today) at their January meeting to serve as their first reading. Members were concerned that since the scores are not final, distributing this information to the RVTPO may create confusion. TTC members recommended sharing only the list of projects that localities have asked the RVTPO and/or the RVARC to apply for.

Ms. Finch replied that she will forward this request to Mr. Jeremy Holmes, Secretary to the TPO, for consideration in the development of the January TPO meeting. Mr. Sexton asked that it is noted and known to the TPO what the TTC has decided.

5. ACTION NEEDED: RECOMMENDATION ON DRAFT FY23-28/29 SURFACE TRANSPORTATION BLOCK GRANT (STBG) FINANCIAL PLAN

Ms. Finch presented the staff report and the supplemental information that was distributed to the TTC members prior to the meeting. Ms. Finch asked the TTC to recommend a draft financial plan to the Policy Board, so the Board could review and release it for public comment.

Megan Cronise commented that Roanoke County will support the inclusion of the Town of Vinton's Glade Creek Phase 3 PE (even though it is way down the list) because that would help with the County's Transportation Alternatives application which is to be deemed ineligible unless they can show a connection to something for which the Glade Creek greenway project would address. Mr. Cody Sexton agreed with Ms. Cronise.

Mr. Gray asked if they could approve and send only the prioritization list without the funding information since that is still being developed and address the financial part at the February or March meeting. Ms. Finch replied that this is similar to the six-year improvement program, where the procedures outline that it is the financial plan that is released for public comment, therefore the numbers by fiscal year have to be listed.

Ms. Cronise noted that in the past there has been collaboration on optimization of the funding based on project schedules, updates, etc. and asked if a similar process will take place in the near future. Ms. Finch replied that she had already met with Mr. Guy with VDOT and went over the current project funding schedules, and it looks like the money is where it needs to be. Ms. Finch noted that they will look at the numbers again before the March TTC meeting.

Motion: by Cody Sexton to recommend to the RVTPO the FY23-2028/29 Surface Transportation Block Grant (STBG) Financial Plan, as presented but noting that because of the newly available funds and new project requests, some of the dollar amounts associated with fiscal years and projects could continue to move around; seconded by Megan Cronise.

TTC Action: Roll Call Vote: Ayes - 11(Fowler, McCoy, Cronise, Henry, Leftwich, Jamison, Williams, Sexton, McClung, Maguire, Gray), No - 0; Abstained - 0. Motion carried unanimously.

6. OTHER BUSINESS

A. Update on Work Program Process

Cristina Finch reported that the Regional Commission will be reviewing its overall work program process this year. There have been challenges with not having enough resources to manage the projects submitted in the past. The Commission is working on developing a new more strategic and flexible process and will focus on engaging with the planning departments at each of its member organizations throughout the year to help identify needs and develop projects and studies to address that. Ms. Finch encouraged the TTC members to speak with herself or Jeremy Holmes about any suggestions they may have. It is anticipated that a draft Work Program will be shared with the TTC in March and the final draft in April.

B. Update on FTA 5310 Funding and the RVTPO’s Program Projects

Mr. Bryan Hill reported that annually, regional transit providers focused on meeting the transportation needs of older adults and people with disabilities apply for Section 5310 Program funds from the Federal Transit Administration. There are four applications that are being submitted.

Applicant	Project Type	Project	Requested Amount	Match
Roanoke County (CORTRAN)	Operating	Operating Service for one year	\$613,338	\$306,669 (50% Federal) \$245,335 (40% State) \$61,334 (10% Local)
enCircle	Capital	2 replacement minivans	\$130,000	\$104,000 (80% Federal) \$26,000 (20% Local)
LOA	Capital	1 9-passenger van w/lifts	\$70,000	\$56,000 (80% Federal) \$14,000 (20% Local)
RADAR	Capital	2 15-passenger vans	\$134,000	\$107,200 (80% Federal) \$26,800 (20% Local)

It is anticipated that approximately 30% more in additional funds will be provided for this round through the Infrastructure Investment and Jobs Act (IIJA). More information will be shared as it becomes available.

7. COMMENTS BY MEMBERS AND / OR CITIZENS

No other comments were made.

8. ADJOURNMENT

The meeting was adjourned at 2:45 p.m.

Cristina D. Finch, AICP, LEED AP, Secretary,
Transportation Technical Committee

STAFF REPORT

TTC Meeting February 10, 2022

SUBJ: Continued Development of the Roanoke Valley Transportation Plan

Following a productive special-called meeting in January with the TTC, the RVTPO Policy Board was briefed on the current status of the Roanoke Valley Transportation Plan (RVTP) update at their January 27 meeting. The effort has now moved into the Solutions phase of the process.

Solutions Overview

Solutions are ideas of how the region can achieve desired results. Solutions address specific transportation needs and contribute to meeting a regional objective. Some transportation solutions may lead directly to an existing project concept or a new project, whereas others may require further study/analysis.

Included within the agenda packet is a detailed methodology document from the VA Office of Intermodal Planning and Investment (OIPI) GAP consultant team detailing how solutions will be developed as part of the Plan process – using the results of the needs assessment and information from priority needs, being guided by the objectives; and relying on existing projects and stakeholder perspective to focus on a priority list of solutions.

Solutions Process

The solutions process initiated in late January and will run through April, with multiple opportunities for TTC review and feedback.

The outcome of this process will be a list of preferred solutions addressing the priority gap needs that will be able to proceed as potential projects for consideration within the RVTP.

- Note: gap needs are those needs where recently completed, existing and committed projects (per the Six-Year Improvement Program / Transportation Improvement Program) do not exist.
- The number of priority gap needs the RVTP team will be able to address is uncertain at this time. This will be a decision made among the RVTP team with TTC members in Step 6 following the completion of Step 4 and Step 5.



Next Steps

The RVTP consultant team and the OIPI GAP consultant team will continue to work together with RVTP staff to implement the approach to developing solutions. The February TTC meeting will further review this approach and specifically the common transportation solutions (to be shared separately). The March TTC will be in a position to review the results of the Step 4 gap review and the Step 5 initial development of solutions in order to confirm priority gap needs and solutions. By the April TTC meeting, the goal is to have recommended preferred solutions for the agreed set of priority gap needs for TTC review and recommendation to the Policy Board.

TTC Action: None.

Task 4:

PROCESS FOR IDENTIFYING AND EVALUATING SOLUTIONS TO TRANSPORTATION NEEDS

Solutions Development Process

The process for identifying and evaluating solutions to transportation needs is intended to be implemented as part of the Roanoke Valley Transportation Plan (RVTP) development process after the identification of objectives and system performance measures (task 3). It directly precedes the identification and prioritization of projects (task 5). This process is intended to allow for the identification and prioritization of infrastructure and policy solutions and to account for new solutions that have not historically been implemented in the region non-transportation solutions to transportation problems. The process combines different kinds of inputs ranging from historical projects to best practices research and stakeholder involvement to capture the breadth of possible solutions and their areas of appropriate application.

The process was developed by considering national best practices in light of the Roanoke Valley Transportation Planning Organization's (RVTPO) intent for the process and the data that is likely to be available for process execution. The process synthesizes elements of four primary approaches, namely stakeholder involvement, analysis of existing and committed projects, engineering and planning judgment, and automation to generate recommendations.

The proposed process has three phases, each comprised of multiple steps as summarized in Figure 1. Phase I defines common transportation solutions that could support the region's goals and objectives. Phase II takes the prioritized transportation needs and recently completed, existing, and committed projects to identify needs without a solution in progress (gap needs) and potential solutions. Finally, phase III evaluates the potential solutions to prioritize them and select a preferred solution for each need evaluated based on several criteria that are used to evaluate infrastructure and policy solutions. The following sections detail each of these phases.

Definitions of Terms

There are several terms that are important for understanding the proposed process. These terms are defined below.

Need – Transportation problem or issue identified in the community currently. As described in the Roanoke Valley Transportation Needs Assessment, a transportation need “states a problem, not a specific solution, and could be solved by multiple possible solutions.”¹

Gap Need – A need without a related project or a solution in progress.

Addressed Need – A need with a recently funded solution to be reviewed for performance outcomes prior to any further solutions identification, if needed.

Solution – An idea of how the region can achieve desired results. Solutions address specific transportation needs and contribute to the realization of a regional objective. Some transportation solutions may be simple enough to lead directly to a project whereas others may require further study/analysis.

Project – A specific scope of work describing how the solution will be implemented including start/end points, length, and cost.

Study/Analysis – Additional work required to derive a project from a solution.

Solutions Identification – The development of a universe of possible solutions (including non-transportation solutions) that can respond to a transportation need.

Solutions Evaluation – The prioritization and winnowing of solutions in response to a particular need. This evaluation may be a function of location-specific, organizational, and / or regional characteristics.

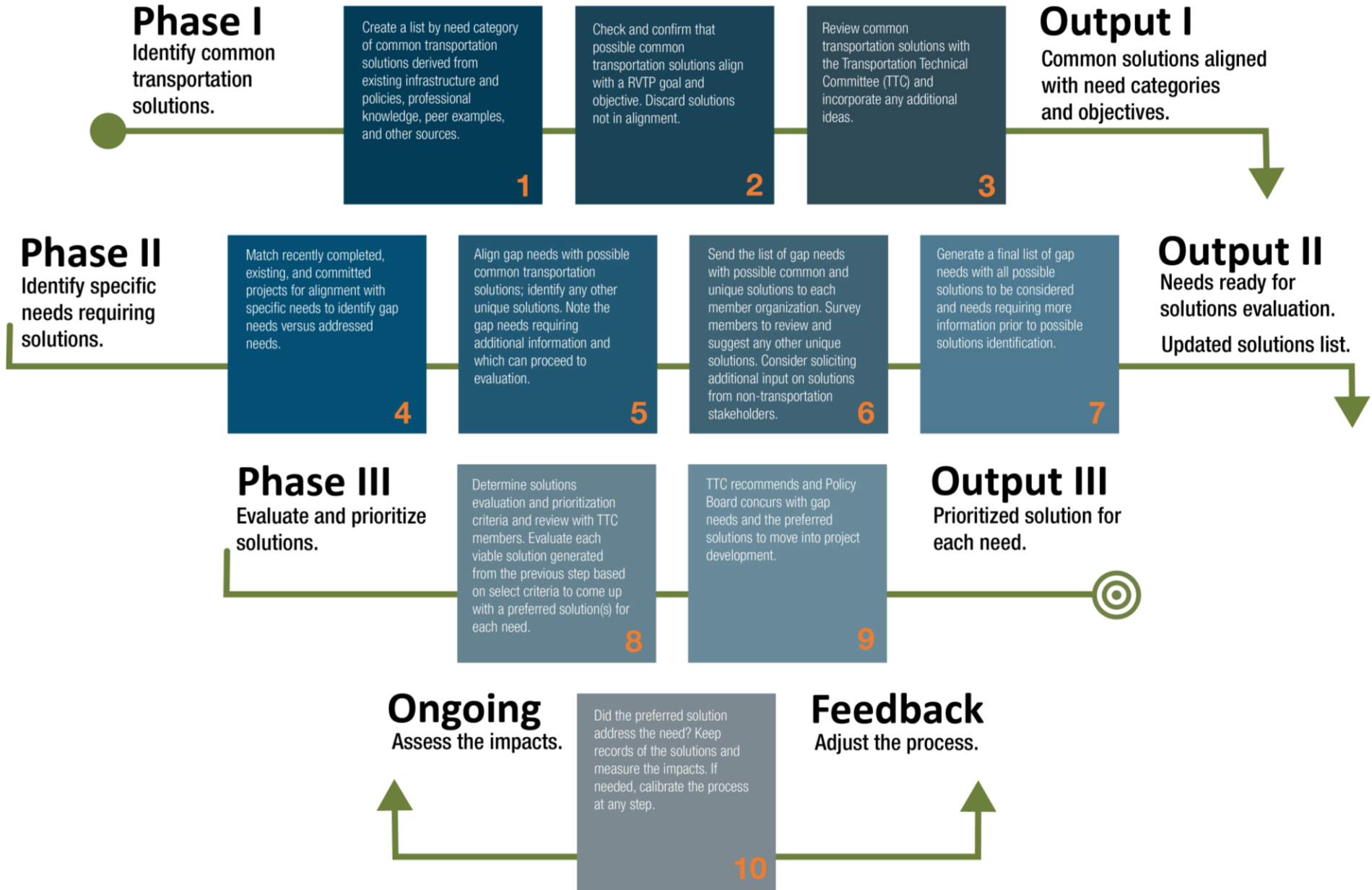
Common Solution – A transportation solution deriving from sources that are not related to the context of a

¹ RVTP (2021). Roanoke Valley Transportation Needs Assessment. Approved April 22, 2021.

particular need, such as past projects, peers, and best practices. It contrasts with unique solutions, which derive from a particular need's context.

Unique Solution – A solution deriving from the context of a particular need, in contrast to a common solution, which derives from past projects, peers, or best practices before being applied to a particular need. Unique solutions may be transportation or non-transportation solutions.

Figure 1: Solutions Identification and Evaluation Process Flow Chart



Phase I: Identifying Common Transportation Solutions

Phase I determines the options for addressing the region's transportation needs by defining common transportation solutions. Infrastructure solutions are drawn from recently completed, current, and historical project lists, professional knowledge, peers, and other sources (step 1). These solutions are aligned with RVTPO goals and objectives to ensure that each solution supports the future that the region has envisioned (step 2) before soliciting feedback from the Transportation Technical Committee (TTC) (step 3). The following subsections describe the inputs and deliverables from the process, along with each of the three steps.

Phase I Inputs

The following inputs are needed for execution of phase I.

- a. **Projects from Transportation Improvement Program (TIP) for fiscal years 2021-2024:** <https://rvarc.org/transportation/mpo-urban-transportation/tip/>.
- b. **Projects from Vision 2040:** Roanoke Valley Transportation Plan (2017). <https://rvarc.org/transportation/mpo-urban-transportation/long-range-plan/>.
- c. **Project features:** List of project features presented by the Office of Intermodal Planning and Investment (OIPI).²
- d. **Plans/studies:** These state, regional and local plans and studies are intended to provide solutions to populate the solutions list. Plans and studies to be examined are included in Appendix A along with any other studies underway.
- e. **Prioritized needs:** The transportation needs refer to the needs derived from the Roanoke Valley Transportation Needs Assessment that was approved on April 22, 2021.
- f. **Final goals and objectives:** The final objectives are identified using the process defined in Task 3. The goals refer to the transportation plan goals, which were identified in May 2021.
- g. **Research material:** Sources for researching best practices and/or access to peers.
- h. **Future factors summary:** The *Roanoke Valley Transportation Plan – Future Factors* summary document dated July 28, 2021.
- i. **Feedback** from Transportation Technical Committee (TTC).

Phase I Deliverables

The output of phase I is a table listing common solutions that are typically implemented in response to each

transportation needs category and those solutions' alignment with regional objectives. Appendix B includes a template of the table to be populated (Table 2).

Step 1: Develop List of Common Transportation Solutions

The RVTPO's staff or consultant team will review projects from the current transportation plan, from one or more previous transportation improvement programs (TIPs), or other known improvements. The intent is to identify common solutions implemented through similar elements of projects based on the project descriptions and / or scopes. Common solutions are those that derive from past projects, peers, best practices, and other sources that do not consider a particular need's context in defining the solution. The solutions derived in this step are a first draft of possible solutions to transportation needs. Appendix C shows a list of example solutions derived from the fiscal year (FY) 2021-2024 TIP.

Searching project scopes or descriptions by key word such as "widening," "new lane," "auxiliary lane," and "roundabout" is recommended to automate the categorization of project elements into common solutions. The key words and their association with possible solutions will be developed through exploratory analysis. A project may address more than one need, and the possible solutions are intended to be precise enough to guide eventual project development while allowing for the specific project details to be selected based on more detailed analysis and site conditions. It is not necessary to analyze all possible solutions, as long as a large and representative sample is examined.

The RVTPO's staff or consultant team executing the RVTP will supplement these draft common solutions with other sources to flesh out the list for new project types that have not previously been implemented in the Roanoke Valley. The purpose is to derive potential transportation solutions from peers, best practices, and studies. One such source is the list of project features that OIPI uses for some SMART SCALE processes, which provides a fairly comprehensive set of common transportation solutions. A screenshot from a Virginia Office of Intermodal Planning and Investment (OIPI) presentation is in Appendix D. Additionally, RVTPO / consultant staff will review best practices, other plans and studies, and peers to complete the list of common transportation solutions.

Best practices: Potential sources for best practices research include the following:

1. Transportation Research Board presentations

² Office of Intermodal Planning and Investment (2021). SMART SCALE. Presentation by Brooke Jackson to the RRTPO Technical

Advisory Committee. November 8, 2021. Retrieved from <https://youtu.be/p1QJMbY966E?t=2840>.

2. Publications by the Transportation Research Board (TRB), including National Cooperative Highway Research Program (NCHRP), National Cooperative Transit Research Program (NCTRP), National Cooperative Railroad Research Program (NCRRP), and National Cooperative Freight Research Program (NCFRP) reports
3. Transportation journals
4. Publications by organizations such as the Lincoln Institute of Land Policy and the American Planning Association (APA)

Plans and studies: Many existing regional and local plans and studies define solutions or provide recommendations from which more generalized solutions can be derived. These studies are listed in Appendix A.

Peer Research: If possible, a handful of peer metropolitan planning organizations (MPOs) can be examined through plan reviews and interviews to assess any innovative or creative solutions that they have considered and/or used. It is recommended to select MPOs that vary by size and location to create variety in the solutions that they use.

Future Factors: While the future factors related to technology, society, economy, sustainability, and funding & finance do not dictate solutions, they do provide context for where the region is going and for the breadth of solutions that may be required in the future. The future factors should be consulted while developing lists of common solutions to make sure that at least some of the solutions identified will help the region prepare for these future factors. If very few of the solutions would help the region prepare for future factors, then the future factors may merit special attention in the development of unique solutions in phase II. Appendix E lists the future factors.

At this point, it is not necessary to evaluate the RVTP's level of influence over implementing the solution since the purpose is to define a broad set of potential solutions to each problem. The output from this step is a list of common transportation solutions to transportation needs.

Step 2: Check Alignment between Common Transportation Solutions, and Goals and Objectives

Each common transportation solution is assessed to ensure that realization of the solution will promote one or more of the regional objectives as described in the RVTP. Solutions that do not promote achievement of at least one objective are removed. Implementation of solutions should uniformly advance the region toward its goals and objectives, although there may be trade-offs among objectives. Additionally, at this step the solutions are aligned with the needs categories such that it is possible

to say for each category which transportation solutions could be considered to resolve it. Solutions can be aligned with more than one need category.

Step 3: Review Common Transportation Solutions List with Transportation Technical Committee (TTC)

The TTC reviews the common transportation solutions list to provide feedback or add other solutions. Feedback may include new solutions to consider, changes to the way in which solutions are categorized or described, changes to the needs or objective alignment, or elimination of solutions that are unlikely to be useful. Questions to ask the TTC that may generate helpful feedback include the following.

1. Are there other solutions that should be included?
2. Do any of these solutions appear infeasible in our region, even over the long term?
3. Do any solutions appear unrelated to the resolution of the need that they are aligned to? If so, this could indicate either a problem with how the solution is explained or an error in its alignment to the need.

Phase II: Identify Specific Needs Requiring Solutions

The purpose of phase II is to identify gap needs, assign common solutions to gap needs, and identify unique solutions to gap needs. Needs are matched to relevant recently completed, existing, and committed projects to identify addressed needs and reveal gap needs (step 4). At this point, common transportation solutions are assigned to priority gap needs, and unique solutions for these needs are identified (step 5). Gap needs and their common and unique solutions are shared with each locality to review and identify any other possible unique transportation or non-transportation solutions to consider for that particular need (step 6). This produces a list of gap needs with matched common and unique solutions (step 7). The following subsections detail the phase II inputs and deliverables, along with each step.

Phase II Inputs

The following inputs support phase II execution.

- a. **Phase I deliverable:** The table that aligns potential solutions with needs categories and regional objectives.
- b. **Prioritized transportation needs:** As derived from the Roanoke Valley Transportation Needs Assessment that was approved on April 22, 2021 and subsequent needs prioritization methodology.
- c. **Recently completed, existing and committed projects:** Projects which have been recently completed, for which construction has begun, or for which funds have been committed, as listed in

the fiscally constrained TIP and the RVTPO Annual List of Federally Obligated Transportation Funds.

- d. **Plans and studies:** Select plans and studies to examine are listed in Appendix A along with any others underway.
- e. **Stakeholder feedback:** Localities are consulted to generate unique solutions for particular needs.
- f. **Feedback** from the Transportation Technical Committee (TTC).

Phase II Deliverable

Phase II produces a list of gap needs requiring a solution with all potential solutions to each gap need. Depending on the quantity of gap needs, it is possible to focus on priority gap needs and continue matching lower priority gap needs with solutions in subsequent years. Appendix F includes a template of the final product. The second phase II deliverable is a revised solutions list to include the unique solutions generated through stakeholder input in phase II.

Step 4: Match Needs with Recently Completed, and Existing and Committed Projects to Identify Gap Needs

Projects are matched to needs based on their ability to solve a specific need. Projects are overlaid with needs via geographic information systems (GIS) analysis to determine which projects may resolve a given need, and then each project is assessed for its ability to fully or partially resolve the needs that they overlap. Projects often spatially overlap needs to resolve them, though not always, such as congestion or reliability needs where a project at one location can resolve issues downstream or safety needs where routing travelers to an alternate route was determined to be the preferred solution. Additionally, non-spatial needs should be reviewed to assess if and how existing and committed projects will address them.

The RVTPO staff / consultant team will use recently completed, existing and committed projects to identify addressed needs. Addressed needs are those needs for which a project that is recently completed, currently underway, or programmed for construction is expected to cover the need.

All other needs without recently completed, existing or committed projects will be considered “gap needs”. Gap needs could be covered by other planned projects, for example, projects in the fiscally constrained Vision 2040 plan, vision list projects, or other recommendations from recent plans or planning studies. Gap needs also may have no recent planning or project development activity, representing an opportunity for assessing possible solutions.

The result of this step is the distinction between gap and addressed needs.

Step 5: Align Gap Needs with Possible Common Transportation Solutions

In this step, RVTPO / consultant staff align gap needs with possible common transportation solutions and identify any other possible unique transportation or non-transportation solutions. Some needs can be addressed through policies, such as how enforcement measures can remedy some safety needs, while others might be addressed through non-transportation factors such as land use and development-related policies. Below are some examples of transportation needs that may be solved through non-transportation solutions.

- A need for access to a given service can be provided by moving all or portions of the service online or to one or more geographically central locations.
- A perceived need for motorist/pedestrian safety around a homeless shelter can be addressed by improving housing access or improving shelter conditions.

The RVTPO / consultant staff will also brainstorm unique transportation and non-transportation solutions for each need. In some cases, the gap need may require more information to better understand the need before progressing to solutions evaluation. In some cases it may be determined that the need is not a regional transportation need and may be referred to another agency.

Step 6: Send List of Gap Needs with Possible Solutions to Member Organizations

This step elicits feedback from member organizations about any other unique or non-transportation solutions to consider.

Unique transportation solutions: RVTPO / consultant staff will share a list of the gap needs and their potential solutions with each member organization to allow them to consider where other unique solutions might exist. Additionally, member organizations may be requested to provide feedback on their preferred solutions and on unique solutions via a survey or at a meeting with RVTPO staff.

As time allows, RVTPO / consultant staff may moderate a workshop with the localities to identify the needs where other unique solutions may exist and to jointly describe these solutions. Future factors may be discussed at this workshop so that participants consider not only where the region is today but also the conditions that the solutions may need to respond to in the future. Localities’ preferences will inform designation of a preferred solution.

If there are a lot of needs with unique solutions in each locality, then it is best to host separate workshops or meetings for each locality. If the number of needs is small, then holding a common workshop for all or several localities may generate more creative solutions through the dialog among localities and the facilitators.

Unique non-transportation solutions:

Non-transportation stakeholders may participate in the workshops and may be consulted to generate unique non-transportation solutions to priority gap needs and to assess stakeholders' support for these solutions, their feasibility, and potential implementation roles.

There are three substeps in consulting non-transportation stakeholders.

1. Identify additional stakeholders in local and state government that might have insights into unique solutions regardless of whether the stakeholder might have any responsibility for implementing the eventual solution. Potential stakeholders may include local planning departments, local police, housing authorities, social services, libraries, and parks and recreation.
2. Contact these stakeholders to explain the work, request their involvement, and describe how their involvement may improve the region. When possible, relate the request to the organization's mission and possibilities to help achieve their mission through the connections resulting from their involvement since this may increase buy-in and likelihood of participation.³
3. Invite these stakeholders to the workshop with locality staff or organize a separate workshop to convene participants from these stakeholders to discuss transportation needs to which a non-transportation solution may be possible. It may help to prime discussion by describing categories of needs and having maps or photos illustrating the needs. Begin discussion with brainstorming about potential solutions without immediately narrowing the list by feasibility or responsibility for implementation to generate as large a list as possible. As the workshop continues, it can be helpful to focus on better defining the solutions, assessing feasibility, and potential implementation roles. If the solution is mutually beneficial to the participants' organization and the RVTPO, this information is important to point out. When possible, record the participants' preferred solution.

³ In future version of the RVTP, including select non-transportation stakeholders in RVTP committees may increase buy-in to the solution and garner feedback about areas of

Step 7: Generate Final List of Potential Solutions Aligned with Gap Needs

RVTPO / consultant staff consolidates the output of the prior steps in this phase into a single list of priority gap needs with a set of potential solutions assigned to each. The list should include a unique identifier for each need that can be used to join the solutions to a specific point or line in a spatial file such as a shapefile or geodatabase of prioritized needs. Note that not all needs are spatial, so some needs and their solutions may not include spatial data. Appendix F includes a template for the final product. At this step, needs requiring more information prior to possible solutions identification are flagged.

Phase III: Evaluate and Prioritize Solutions

Phase III uses the phase II deliverables to evaluate and prioritize solutions. The solutions for each need are evaluated (step 8), allowing staff to recommend a preferred solution for each need for TTC recommendation and Policy Board Concurrence (step 9). The following subsections details the phase III data inputs, deliverables, and steps.

Phase III Inputs

Phase III requires the following inputs—

- a. **Phase II deliverable:** The list of gap needs requiring a solution with potential solutions assigned to each.
- b. **Stakeholder feedback:** Stakeholders are consulted about solutions' appropriateness for resolving specific needs.
- c. **RVTP goals, objectives, and performance measures:** The final RVTP goals, objectives, performance measures and supporting data sources to inform solution ratings.
- d. **Future factors summary:** The *Roanoke Valley Transportation Plan – Future Factors* summary document dated July 28, 2021.
- e. **TTC review:** Feedback from the TTC on goal and criteria weights, and on preferred solutions.

Phase III Deliverables

Phase III produces the following deliverables—

- a. List of needs referred for further study before a preferred solution is selected.
- b. A preferred solution for needs. In some cases, this may include a short-term and a long-term solution.
- c. List of needs with a preferred solution to be further developed into a project.

synthesis with non-transportation functions for other parts of the plan.

Step 8: Determine Solutions Evaluation/Prioritization Criteria, Prioritize Solutions, and Identify Preferred Solutions

RVTPPO / consultant staff draft solutions evaluation criteria and finalize with input from the TTC. Using the criteria, RVTPPO / consultant staff evaluate the solutions applied to the gap needs and meet with locality staff to review resulting priorities and adjust as necessary. Given the feedback, RVTPPO / consultant staff note a preferred solution for each need for TTC review, revision, and / or recommendation to the Policy Board for progression to the project phase.

It may be desirable to retain two high-scoring solutions for a given need when the two solutions are on a very different timeframe. In this case, there can be a preferred short-term solution that can be pursued during the next five years between transportation plan updates and a long-term solution that would involve a longer pursuit period to more completely resolve the need over a longer time horizon. Most needs are not expected to have a short-term and long-term solution, with the option of two solutions remaining open for a minority of needs where the highest-scoring and/or most effective solution will take many years to implement. For instance, a congestion need might be partially resolved in the short term with additional roadway capacity while over the long term a more effective solution given expected population and employment growth might be coordination between land use and transportation.

The remainder of this section details the process for evaluating solutions. The process is described with two example criteria shown in Table 1, one related to the solution's efficacy and another related to its potential to generate unintended new needs. Each solution is rated for its efficacy in advancing the region toward its objectives. The better the solution promotes regional objectives that are relevant to the need that it resolves, the higher its score. Each solution is also rated on its likelihood to produce unintended new needs through its implementation within each of the region's goals. The more likely a solution is to produce unintentional new needs or exacerbate existing needs, the lower its score. These objective and goal ratings are then weighted, summarized, and combined as described in the following sections to produce a single score for each solution that can be used to compare it with other solutions for the same need.⁴

Table 1: Example Evaluation Criteria

Criteria	Rating	Considerations
Efficacy	Highly Effective (3), Moderately Effective (2), Somewhat Effective (1), or No Effect (0).	How effective is the solution expected to be at advancing the region toward its objectives?
Potential to Generate Unintended New Needs	Highly Unlikely (3), Unlikely (2), Likely (1), Certain (0)	What is the likelihood that this solution would exacerbate or create another problem or need?

Consider documenting the rationale for the rating given for future reference.

1. **Criterion on Efficacy:** The efficacy criterion refers to the ability of the proposed solution to effectively achieve the objectives by addressing the transportation need. The following steps should be followed for each solution to calculate an efficacy score.
 - 1.1. Score each objective that is relevant to the need that it solves from 0 (No Effect) to 3 (Highly Effective) for its ability to advance the objective. The score could be derived quantitatively based on a solution's potential impact on the objectives' performance measure. or it can be based on planning or engineering judgment supported by research.
 - 1.2. Sum the scores within each goal area and divide by the maximum score possible, which is the product of 3 by the number of objectives within the goal.
 - 1.3. Weight the goal-level score by goal weights. This can be done by multiplying the output for the previous step by the goal weight. Guidance for determining goal weights is provided in the following section.
 - 1.4. Sum the result of the previous step across the RVTP goals to produce an efficacy score.
2. **Criterion on Potential to Generate Unintended Needs:** Identify the negative effects that the proposed solution may have in the future and determine the degree to which the solution may generate unintended new needs or exacerbate other existing needs related to each RVTP goal. The unintended needs scoring process may involve the following considerations for

⁴ Roanoke Valley Transportation Planning Organization (2022). TTC Special-Called Meeting, Staff Report. January 5, 2022. Pages

17-21. Retrieved from <https://rvarc.org/wp-content/uploads/2022/01/RVTP-Staff-Report-2.pdf>.

each solution:

- 2.1. Score each objective from 0 (Certain) to 3 (Highly Unlikely).
- 2.2. Divide the score from the previous step by the maximum score possible (which is 3) to normalize.
- 2.3. Multiply the scores from the previous step by goal weights by multiplying the two numbers together. Use the same goal weights as for the efficacy criterion.
- 2.4. Sum the result of the previous step across the RVTP goals to produce a score for the criterion.

Goal Weights

It is recommended to weight each goal area so that the goals that are more important to the TTC and the Policy Board influence solutions' criteria scores more than those that are less important. Weights should sum to 100%. Goal weights may be assigned in multiple ways:

1. RVTP and consultant staff may consider the goals against each other and propose weights for each that sum to 100%. This method is appropriate if consensus can be achieved about goals' relative importance. As a starting point, the group might consider weights used for SMART SCALE.⁵
2. There may be cases where discussion does not lead to consensus about the overall weights but there is consensus about how each goal relates to the other goals individually. In this case, pairwise comparison among goals can allow overall weights to be derived. Analytical Hierarchy Processing (AHP) provides one such scale and calculations for assessing importance.⁶
3. A final option is to assign equal weights to all goal areas, which may be done if there is not consensus about the relative importance of goals. The decision to assign equal weights to goals should be taken explicitly rather than done by default.

Combined Scores

The next step of the solutions rating process is combine each solution's scores across the criteria to generate a single score for each solution. Weights for the criteria may be determined similarly to goal weights. The team may discuss the criteria's importance and select weights that reflect their relative importance. The criteria may also be given equal weight if the criteria are deemed to be equally important. Weights should sum to 100%.

Whichever methods are selected, RVTP and/or consultant staff will derive weights and the TTC will provide feedback before the weights are finalized.

Combined scores are produced by summing the product of the criteria weights and scores across the two criteria.

Future Factors

RVTP has identified future factors related to technology, society, the economy, sustainability, and funding and finance. These factors may impact the appropriateness of certain transportation solutions. For instance, transportation solutions that help the region adapt to one or more future factors would help the region beyond meeting the need(s) that they are selected to address.

Future factors may be considered in the solutions process by multiplying the combined score by a future factor adjustment. The score can be raised by 5% or another amount selected by the TTC for each future factor theme for which the solution helps prepare the region. If 5% were used as the multiplier, solutions could receive up to a 25% bonus if they helped the region respond to all future factors. Appendix E lists the future factors.

Final Scores

Final scores are the combined scores plus the adjustment for future factors. They are used to identify the solution with the highest overall score. In cases where solutions' scores are similar or where locality staff disagree about the preferred solution, the RVTP / consultant team should gather stakeholder feedback and / or TTC input for assistance. The solution that most comprehensively meets the criteria is the recommended solution for the need.

A solutions evaluation template is provided in Appendix G.

Step 9: RVTP Decision

The TTC considers the preferred solutions identified. In many cases, the preferred solution will be the one ultimately recommended by the TTC to the RVTP Policy Board, although sometimes there may be location-specific considerations that make the solution that has been designated as the preferred solution different from the one ultimately chosen. If the TTC is not comfortable making a recommendation and believes that additional study is required, it can also refer a need for ad hoc analysis or a formal transportation study.

Once a course of action is selected, RVTP staff and/or the consultant team should ensure solution follow-up. For

⁵ Office for Intermodal Planning and Investment (2022). "SMART SCALE - How to Works." Retrieved from http://smartscale.org/how_it_works/default.asp.

⁶ Coyle, G. (2004). Practical strategy, open access material. AHP. Retrieved from <https://training.fws.gov/courses/references/tutorials/geospatial/CSP7306/Readings/AHP-Technique.pdf>.

transportation solutions, follow-up will occur at least in part through the project identification and prioritization process. Implementation of policy solutions may require coordination with the RVTPO Policy Board or coordination between consultant or RVTPO staff with policy branches in stakeholder organizations. Implementation of non-transportation solutions will likely depend heavily on partnership with stakeholders, many of which may have been involved in the identification of non-transportation solutions. It would build momentum to begin implementation with non-transportation solutions for which stakeholders have indicated high buy-in and the potential to take an ownership role. After these quick-wins have been realized, consultant or RVTPO staff can pursue meetings with other stakeholders that may play a role in implementation.

Ongoing Activity

Step 10: Ongoing Assessment and Feedback

When the TTC recommends and the Policy Board selects a preferred solution that is different from the one recommended by the evaluation criteria, RVTPO / consultant staff should record these decisions and use them to adjust the evaluation criteria and/or criteria weights in future iterations. Additionally, data about how well the selected solution resolved the need should be collected to refine the solutions evaluation criteria and weights.

Other refinements may be made to the process as time allows. One such refinement to consider is the establishment of decision guidelines to assess common solutions' viability for a given need before scoring the need through evaluation criteria. Steps to develop decision guidelines are provided in Appendix H.

Appendix A – Relevant Plans and Studies

Relevant Plans and Studies

Plan	Locality	Year
419 Town Center Plan	Roanoke County	2019
Hollins Center Plan	Roanoke County	2021
Oak Grove Plan	Roanoke County	2021
Hollins Area Plan	Roanoke County	2008
Glenvar Community Plan	Roanoke County	2012
Roanoke County Community Strategic Plan	Roanoke County	2016
Roanoke County Comprehensive Plan	Roanoke County	2005
419 Town Center Plan	Roanoke County	2019
Explore Park Adventure Plan	Roanoke County, Bedford County	2016
Vinton Area Corridors Plan	Vinton	2010
Vinton Comprehensive Plan	Vinton	2004
Vinton Urban Development Areas	Vinton	2016
City Plan 2040	Roanoke City	2020
Senior Quality of Life Survey	Roanoke City	2018
City of Roanoke Downtown Plan	Roanoke City	2017
Downtown Intermodal Study	Roanoke City	2015
Age Friendly Community AARP Survey	Roanoke City	2019
Melrose Avenue Bus Stop Improvement	Roanoke City	2016
Exit 150 Market Study	Botetourt	2015
Botetourt Comprehensive Plan	Botetourt	2017
Gateway Crossing Area Plan	Botetourt	2016
Salem Downtown Plan	Salem	2016
Salem Comprehensive Plan	Salem	2015
Vision 2040: Roanoke Valley Transportation Plan	Regional	2017
Community Health Assessment	Regional	2018
I-81 Corridor Improvement Plan	Regional	2018
81 & 581 Auxiliary Lane Study	Regional	2016
Route 11/460 Corridor Study	Regional	2013
Route 419 Corridor Study	Regional	2010
Route 460 Operational Improvement Study	Regional	In progress
Bus Stop Accessibility Study	Regional	2013
RADAR Transit Development Plan	Regional	2018
Valley Metro Transit Development Plan	Regional	2018

Plan	Locality	Year
Valley Metro Comprehensive Operations Analysis	Regional	2018
Regional Transit Vision Plan	Regional	2016
Coordinated Human Services Mobility Plan	Regional	2013
Roanoke Valley Greenways Plan	Regional	2018
Regional Bikeway Plan	Regional	2012
Regional Pedestrian Vision Plan	Regional	2015
Traffic Congestion Management Process	Regional	2020
Roanoke Valley Regional Transportation Safety Study	Regional	2019
2019 Travel Demand Model	Regional	2021

Appendix B – Template for Aligning Needs, Solutions, and Objectives

Table 2: Phase I Deliverable – Table Aligning Need Categories, Common Solutions, and Regional Objectives

Need Category	Common Solutions	Objective
System Management (Assets)	Improve/replace existing bridge(s)	Maintain state of good repair.
Congestion	Add New Through Lane(s)	Reduce traffic congestion on primary travel corridors within the region.
Safety (Ped)	Improve Bike/Pedestrian Crossing (At Grade)	Reduce the number and rate of non-motorized fatalities and serious injuries.
Safety (Bike)	Add/Construct Bike Lane	Reduce the number and rate of non-motorized fatalities and serious injuries.
Safety (Auto)	Rumble Strip Installation	Provide a safe and secure environment for the traveling public.
Access (All Modes)	Develop properties to be multimodal-accessible	Provide safe, reliable, and affordable connections to employment, education, healthcare, and other essential services.

Note: This table is populated with example needs, possible common transportation solutions, and objectives.

Appendix C – Illustration of Common Solutions Derived from TIP

Table 3 illustrates how draft common solutions derived from the FY 2021 to 2024 Transportation Improvement Program (TIP). Common solutions are derived primarily by examining the project name and description to deduce the work that has been completed with as much precision about the type of work as possible. Some project names and descriptions are not detailed enough about the type of work completed to permit for a detailed solution to be identified. When the project name and description do not specify the project details, the common solution will need to be derived from other sources described in step 1.

Table 3: Example Solutions Derived from FY 2021 to 2024 TIP

UPC	Project Name	Description	Solution Category	Common Solution
107061	Rte. 419 Safety Improvements at Tanglewood	From: 0.45 Mile South of Int. of Route 11 & Route 117 To: Int. of Route 11 & Route 117 (2017 HB2/SMART SCALE project)	Safety Countermeasures	<i>Not specified</i>
116203	#I-81 - MM136 to MM139 adding lane in each direction	From: I-81 Exit 137 Interchange To: Red Ln. Overpass	Highway Capacity Expansion	Add New Through Lane(s)
113173	I-81 Exit 137 SB Safety Improvements	From: Beginning of I-81 Exit 137 SB Off-Ramp To: End of I-81 Exit 137 SB Off-Ramp	Safety Countermeasures	<i>Not specified</i>
108906	I-81 NB Auxiliary Lane from Exit 141 to 143	Add one lane on I-81 NB - From: 0.026 Mi. West of Int. SBL I-81 Entrance Ramp To: I-81 (2017 HB2/SMART SCALE project)	Highway Capacity Expansion	Auxiliary Lanes
119462	Route 419 Streetscape Improvements, Phase 2	Improvements between Ogden & Starkey Rds. include converting north and south shoulders to shared through/right turn lanes, sidewalks and bicycle lanes on the north and south sides, and pedestrian signals w/crosswalks at the Starkey Rd. intersection.	Pedestrian Improvements (Sidewalks) Pedestrian Improvements Bicycle Improvements Intersection Improvements	Construct Sidewalk Improve Bike/Pedestrian Crossing (At Grade) Add/Construct Bike Lane Turn Lane Improvements

Source: Projects extracted from the fiscal year (FY) 2021-2024 Transportation Improvement Program (TIP). Retrieved from <https://rvarc.org/wp-content/uploads/2021/08/FY21-24TIP-083121.pdf>.

Appendix D – Project Features Used in SMART SCALE

Figure 2: Screenshot Showing Project Features Used in SMART SCALE

E.2 Process Improvements

Tiering based on features selected

- Tier 1 = 30 ft
- Tier 2 = 1/8 mile
- Tier 3 = 1/4 miles

Project Feature	E.2 Tier
Access Management	1
Add/Construct Bike Lane	1
Bike/Pedestrian Other	1
Construct or Convert Existing General Purpose or Parking Lane to Bus-only Lane	1
Construct or Improve Bus Stop / Shelter	1
Construct Shared-Use Path	1
Construct Sidewalk	1
Improve Bike/Pedestrian Crossing (At Grade)	1
Improve Bike/Pedestrian Crossing (Grade Separated)	1
Improve Grade-Separated Interchange	1
Improve Rail Crossing	1
Increase Existing Route Service – Addtl Vehicles or Increased Frequency	1
Innovative Intersection(s) / Roundabout(s)	1
Intercity Passenger Rail Service Improvements	1
Intersection Improvement(s)	1
ITS Improvement(s) / Adaptive Signal Control	1
New Intersection	1
New Route/Service	1
New Traffic Signal	1
New/Expanded Vanpool or On-Demand Transit Service	1
Other Transit Technology Improvements	1
Rail Service Improvements	1
Ramp Improvement(s)	1

Project Feature	E.2 Tier
Road Diet	1
Roadway Reconstruction/Realignment	1
Shoulder Improvement(s)	1
TDM Other	1
Traffic Signal Modification	1
Turn Lane Improvement(s)	1
Widen Existing Lane(s) (No New Lanes)	1
Construct/Expand Bus Facility	2
Freight Rail improvements	2
Improve Park and Ride Lot	2
New Intercity Passenger Rail Station or Station Improvements	2
New Park and Ride Lot	2
New Station or Station Improvements	2
Right-of-Way/Easements acquisition required	2
Add New Through Lanes(s)	3
Highway Other	3
Improve/replace existing bridge(s)	3
Managed Lane(s) (HOV/HOT/Shoulder)	3
New Bridge	3
New Interchange, Limited Access Facility	3
New Interchange, Non-Limited Access Facility	3
Rail Transit Other	3
Roadway on New Alignment	3

Source: Office of Intermodal Planning and Investment (2021). SMART SCALE. Presentation by Brooke Jackson to the RRTPO Technical Advisory Committee. November 8, 2021. Retrieved from <https://youtu.be/p1QJmby966E?t=2840>.

Appendix E: Future Factors

Theme 1: Technology	Theme 2: Society	Theme 3: Economy	Theme 4: Sustainability	Theme 5: Funding & Finance
Connected & Automated Vehicles (CAV)	Aging Society	Labor Force	Climate Change	Revenue Sources
Drone / Automated Vehicle deliveries	Equity	Job Types and Skills	Electrification	Pricing
Broadband	Increased Reliance on Remote Services	High-Tech Startups and Entrepreneurial Regional	Alternative Energy	Costs
On-Demand Transit	Transportation Impact of the COVID-19 pandemic	Fewer “Brick and Mortar” Retailers	Natural Resources	
Mobility as a Service		Tourism	Alternatives to Single Occupant Vehicles	

Source: Roanoke Valley Transportation Planning Organization (RVTPO). *Roanoke Valley Transportation Plan – Future Factors*. July 28, 2021.

Appendix F – Template for Potential Solutions

Table 4 provides a template for aligning potential solutions with gap needs. The need IDs are unique identifiers that can be created to match the table with a spatial file showing each needs' location in a geographic information system (GIS)-compatible format. All the potential solutions are listed as columns in this table, allowing for a check mark or 'X' to indicate when a solution may be applied to a given need.

Table 4: Phase II Deliverable – Potential Solutions Assigned to Prioritized Needs by Need Category

Need ID	Simple Location	Detailed Location	Need	Need Priority	Solution #1	Solution #2	Solution #3	Solutions Summary
1					x		x	Solution 1, Solution 3
2								
3								
4								
5								
6								

Appendix G – Example Solutions Evaluation Template

Instructions:

- Fill in goal weights.
- Fill in efficacy criterion with rating for each objective that is relevant to the solution.
- Fill in the potential to generate unintended needs criterion for each goal area where a solution may generate an unintended need.

Goal Weights	Goal	Objective	Efficacy Criterion	Potential to Generate Unintended Needs Criterion.
	Goal 1: Provide a safe and secure transportation system	a. Eliminate fatalities and reduce injuries on the multimodal transportation system.		
	Goal 2: Enable reliable mobility	a. Maintain vehicle travel time reliability on priority corridors.		
		b. Maintain transit and passenger rail on-time performance (OTP).		
	Goal 3: Enable convenient and affordable access to destinations	a. Provide motorized access to inaccessible properties identified for future development.		
		b. Increase accessibility to key destinations by transit.		
		c. Increase transportation connections to markets outside the region, including across Virginia and the U.S.		
		d. Increase transit, bicycle and pedestrian connections for all users within multimodal centers and districts.		
	Goal 4: Foster environmental sustainability	a. Minimize emissions from motorized on-road transportation.		
		b. Minimize / mitigate new impervious surfaces created by transportation infrastructure.		
	Goal 5: Maintain and operate an efficient and resilient transportation system	a. Maintain state and national standards for infrastructure and asset condition.		
	Goal 6: Support economic vitality	a. Ensure redevelopment and new developments in designated growth areas and multimodal centers/districts are supported by more than one mode of transportation infrastructure.		
		b. Maintain truck travel time reliability.		

Goal Weights	Goal	Objective	Efficacy Criterion	Potential to Generate Unintended Needs Criterion.
		c. Maintain acceptable levels of congestion during peak travel periods on priority corridors.		
	Goal 7: Promote equitable transportation investments	a. Assess planning-level benefits or disproportionate adverse effects of transportation projects included in this plan on Equity Emphasis Areas and identify mitigation strategies.		
		b. Ensure that non-drive alone mobility investments create opportunities for people in Equity Emphasis Areas.		
		c. Eliminate fatalities and reduce serious injuries in Equity Emphasis Areas.		
		d. Maintain state and national standards for infrastructure condition in Equity Emphasis Areas.		
100%	TOTAL			

Source: Roanoke Valley Transportation Planning Organization (2022). TTC Special-Called Meeting, Staff Report. January 5, 2022. Pages 17-21. Retrieved from <https://rvarc.org/wp-content/uploads/2022/01/RVTP-Staff-Report-2.pdf>.

Appendix H – Development of Decision Guidelines

Decision guidelines can filter solutions before scoring them along criteria by assessing their viability for resolving a particular need. Solutions that are not viable to resolve a given need based on the sites' characteristics can be excluded from later evaluation. Developing decision guidelines is intended to save the staff time by filtering solutions through research- or practice-informed network or performance criteria and to ensure that only solutions that are viable based on the sites' characteristics are selected as a preferred solution to a given need.

Decision guidelines are derived from existing and accepted tools and regulations insofar as possible (primarily be for infrastructure solutions). When these tools and regulations are inadequate, planning and infrastructure staff at the VDOT Salem district office, RVTPO staff, and planning and engineering experts in peer regions can be interviewed to identify appropriate guidance for applying each solution. Finally, the RVTPO staff's and consultant team's planning and engineering judgment—informed by research—provide the final source for the decision guidance.

The decision guidance is manually formed into a 'decision tree' for each needs category that says when a certain solution is the appropriate based on sequentially examined criteria. A decision tree is composed of a set of hierarchical criteria for which the answers progressively lead to one or more viable solutions to the need. There are generally two decision trees for each needs category: one for infrastructure solutions and another for policy solutions (both transportation and non-transportation). One decision tree may refer the user to another decision tree, such as when a non-recurring congestion problem may have an operational or a safety solution. Decision trees can be created by hand or in any software such as MS PowerPoint that allows for the criteria and connections among criteria depending on the answers to be inserted. Figure 3 and Figure 4 show example decision trees.

Figure 3: Example Decision Tree for Congestion Needs

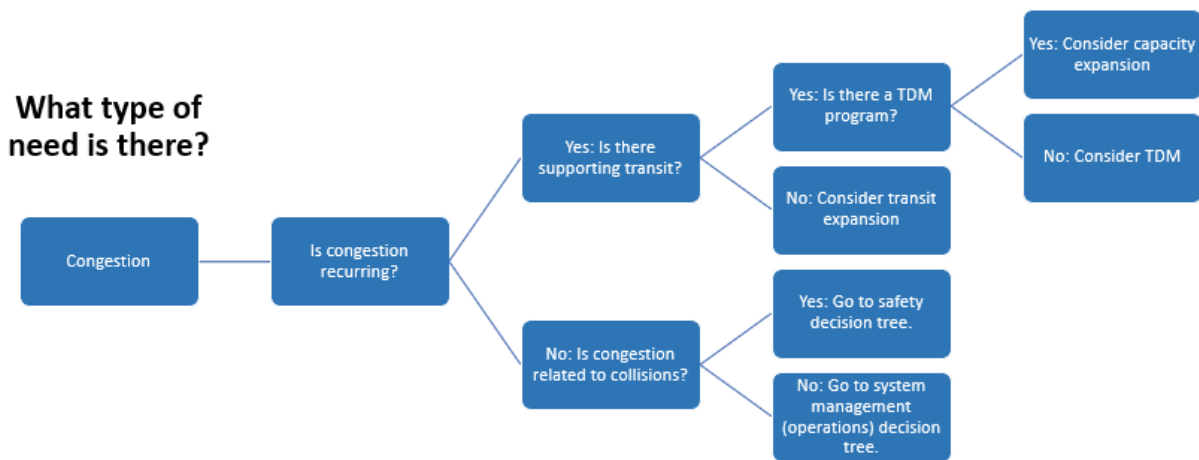
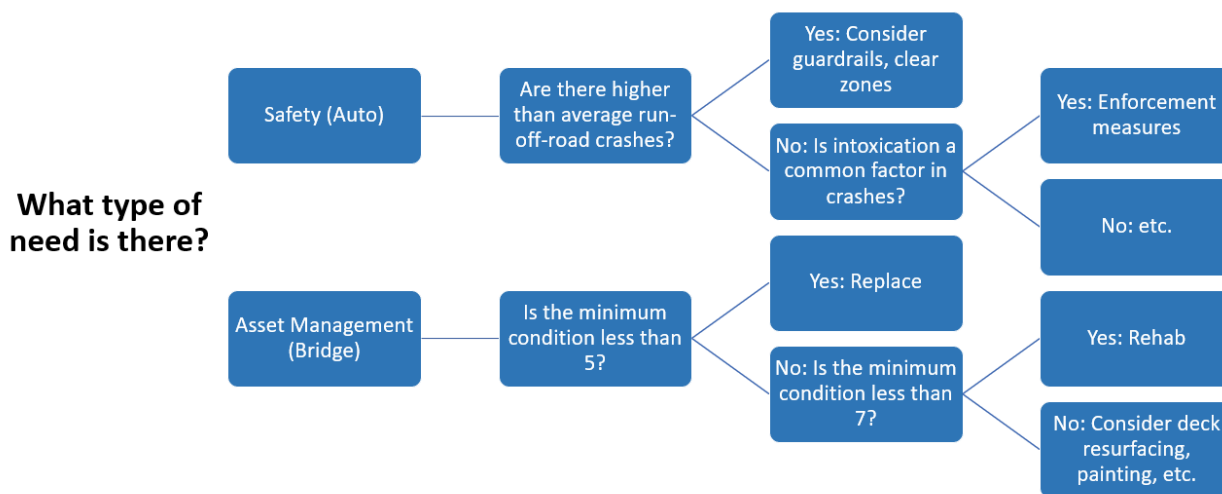


Figure 4: Example Decision Trees for Safety and Bridge Asset Management Needs



The most important part of constructing a decision tree is identification of the proper criteria and the actions taken depending on the answer to the criteria. It is recommended to constitute these criteria through the following sequential steps.

- a. **Existing tools and regulations:** Examine tools and regulations with embedded decision trees or prioritization guidance. These may be found in documentation for MPO or state solution selection processes. A list of already identified tools is in Table 5, along with the data inputs that are needed. The list of tools in Table 5 is not exhaustive but rather shows the tools that are likely most appropriate for use based on widespread acceptance (in Virginia when possible or nationwide otherwise), their low cost or lack of cost, and their close alignment with the need categories.

Table 5: Sample of Tools and Regulations with Decision Trees and Decision Guidance (Primarily for Infrastructure Solutions)

Needs Category	Tool(s) or Research that are Sources for Decision Trees	Inputs
Safety (auto)	Safety Performance for Intersection Control Evaluation (SPICE) Tool	Intersection Type, Analysis Year, Opening Year, Design Year, Facility Type, Facility Secondary Type (For Roundabouts Only), Number of Legs, Opening Year – Major Road AADT, Opening Year – Minor Road AADT, Number of Approaches with Left-Turn Lanes, Number of Approaches with Right-Turn Lanes, Number of Uncontrolled Approaches with Left-Turn Lanes, Number of Uncontrolled Approaches with Right-Turn Lanes + A group of optional inputs for calibration
Safety (ped)	PEDSAFE: Pedestrian Safety Guide and Countermeasure Selection System	Performance objective, Crash type of interest (ex: bus-related, turning vehicle, dart/dash, etc.), Area type (rural/urban), Road functional class, ADT, Speed limit, Number of through lanes, Traffic signal presence (with an indication of whether addition/removal is an option), Location description (intersection/midblock), Special location features (transit route, school zone, work zone, railroad crossing)

Needs Category	Tool(s) or Research that are Sources for Decision Trees	Inputs
Safety (bike)	BIKESAFE: Bicycle Countermeasure Selection System	Performance objective, Crash type of interest (ex: bus-related, turning vehicle, dart/dash, etc.), Area type (rural/urban), Road functional class, ADT, Speed limit, Number of through lanes, Traffic signal presence (with an indication of whether addition/removal is an option), Location description (intersection/midblock), Location description (on-road/off-road), On-road bike facility type
Safety (transit)	PEDSAFE has some transit-related safety countermeasure [Transit Stop Improvements, Access to Transit, Bus Bulb Outs]	Performance objective, Crash type of interest (ex: bus-related, turning vehicle, dart/dash, etc.), Area type (rural/urban), Road functional class, ADT, Speed limit, Number of through lanes, Traffic signal presence (with an indication of whether addition/removal is an option), Location description (intersection/midblock), Special location features (transit route, school zone, work zone, railroad crossing)
Congestion	Capacity Analysis for Planning of Junctions (CAP-X) Tool	Number of legs at the intersection, number of lanes for each movement in each leg, Major street direction, turning movements volumes, Adjustment factors for turning movements, percentage of heavy trucks per leg, Volume growth percentage by leg, Truck to PCE factor, Multimodal activity level, Critical lane volume sum limits, Number of ped crossings at the intersection, Number of lanes crossed by ped for each crossing, Vehicle speed at the crossing, Number of bicycle crossing segments at the intersection, Number of segments per intersection, Type of bike lane by segment, Vehicle speed
	VDOT Junction Screening Tool – VJuST	Number of through lanes for each leg, Turning movements volumes, Adjustment factors for turning movements, Percentage of heavy trucks per leg, Truck to PCE factor
System Management (operations, assets)	<i>None identified</i>	<i>Not available</i>
System Management (transit)	Transit Signal Priority Recommendation Tool	Dedicated Right-of-Way, Number of Lanes per Direction, Vertical Alignment, Bus Schedule Adherence, Transit Frequency, Number of Passengers, Transit Level of Service, the percent of buses operating in the corridor that have GPS/AVL, Bus Stop Placement, walk score, Transit-Dependent Population, Intersection Control Delay, Signal Control System, Signal Coordination
Access (all modes)	VDOT TransCAD Accessibility model	Point of interest and network data from HERE Technologies, transit networks based on General Transit Feed Specification (GTFS), and land use forecasts

To illustrate the tools' use with a hypothetical safety need, if a pedestrian safety need exists at a certain

location, the PEDSAFE tool can be used to provide a list of appropriate countermeasures. The tool allows the user to answer a series of questions related to the location's geometric and operational characteristic, such as the number of through lanes and functional classification. The output of this tool is a list of countermeasures that can address the need, such as curb extension and pedestrian crossing island installation in the case of pedestrian safety needs.

- b. **Interviews:** Interview MPO and DOT staff about selection criteria that are not featured in documentation to fill in gaps. This step may be especially important for establishing viability of non-infrastructure and non-transportation policies and strategies.
- c. **Research-Informed Judgment:** Use research and engineering / planning judgement to fill gaps in the criteria left from the previous two sources. This will be especially important for new solutions that have not been implemented in the past and for non-infrastructure / non-transportation policies.

For policy solutions, supplemental research about each policy solution will be conducted to assess the circumstances in which it may be useful. Research can be found in examining sources that include the following list for studies that relate to the solution.

- i. TRB reports (including NCHRP, NCTRP, NCRRP, and NCFRP)
- ii. Academic articles found on Google Scholar or Microsoft Academic Search
- iii. Think tanks and research centers (e.g., Smart Growth America, Voorhees Transportation Center, Urban Institute)
- iv. Professional associations and advocacy groups (e.g., Institute of Transportation Engineers, American Planning Association, Association of Metropolitan Planning Organizations, Virginia Bicycling Federation, The League of American Bicyclists)
- v. Government Organizations (e.g., Vole Center)

After decision trees are formed for infrastructure and non-infrastructure transportation solutions under each needs category, they are applied to the needs resulting from phase II to identify one or more viable infrastructure and non-infrastructure solutions for each need.

STAFF REPORT
February 10, 2022 TTC Meeting
SUBJ: Recommendation on FY23-24 Transportation Alternatives
Set-aside Program Allocations

At the September 23, 2021 RVTPO Policy Board meeting, a resolution of endorsement was adopted for two Transportation Alternatives (TA) Set-aside Program project applications from localities in the Urbanized Area. The projects were submitted by or before October 1, 2021 and subsequently scored. The projects are listed in scoring priority order as follows:

Name	Sponsor	Description	TA Request	Total Project Cost
1) Williamson Road Pedestrian Improvements	City of Roanoke	This project seeks to improve pedestrian safety by adding a sidewalk where none currently exists, and includes ADA curb ramps at intersections and driveway crossings.	\$460,000	\$575,000
2) Glade Creek Greenway Vinyard Park West	Roanoke County	This project seeks to improve pedestrian/ bicyclist safety for travelers between Downtown Vinton and Vinyard Park by constructing Phase 4 of the Glade Creek Greenway along Glade Creek through part of Roanoke County's Vinyard Park, from the Berkley Road parking lot to the western edge of the park located in the Town of Vinton.	\$521,000	\$651,375

The RVTPO Policy Board will have a preliminary amount of \$715,036 in FY23 and FY24 to allocate to TA projects (potential adoption, 2/24/22). The current project TA requests total \$981,000.

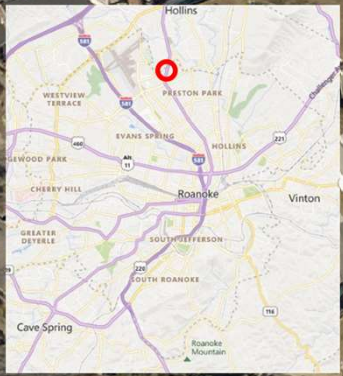
Staff, in coordination with Salem District VDOT staff and CTB Member Dr. Raymond Smoot, submits the following scenario for consideration towards a recommendation of the RVTPO TA allocation:

Locality	Project	Total Project Cost	TA Amount Requested	CTB Member Recommended Allocations	TPO Allocations
City of Roanoke	Williamson Road Pedestrian Improvements	\$575,000	\$460,000	\$0	\$460,000
Roanoke County	Glade Creek Greenway Vinyard Park West	\$651,375	\$521,000	\$266,064	\$255,036
	TOTALS	\$1,226,375	\$981,000	\$266,064	\$715,036

As Roanoke County mentioned at the last TTC meeting, the Glade Creek Greenway Vinyard Park West project may not be eligible to receive TA funds as the project would not connect to anything if built on its own. This proposed funding scenario assumes that the RVTPO will fund the Town of Vinton's Glade Creek Greenway Phase 3 PE project (from Washington Avenue/Pollard Street via North Pollard Street to Vinyard Park) via the Surface Transportation Block Grant (STBG) funding program which VDOT has said would indicate a connection and make Roanoke County's TA request eligible to receive the funding.

TTC Action:

Recommendation of TA Set-Aside Block Grant Program funding allocation to the RVTPO Policy Board.



Williamson Rd Pedestrian Improvements Project Scope

- Include sidewalk where none currently exist on Williamson Rd as shown in blue.
- Provide ADA curb ramps at Hawthorne, Woodbury, and driveway access points.
- Project includes curb and gutter and will reset a stormwater inlet reducing ponding and improve stormwater channelization on Williamson Rd.
- Anticipated project cost is \$575,000
- Project funding via the Transportation Alternatives program.
- Construction completion projected for 2027.

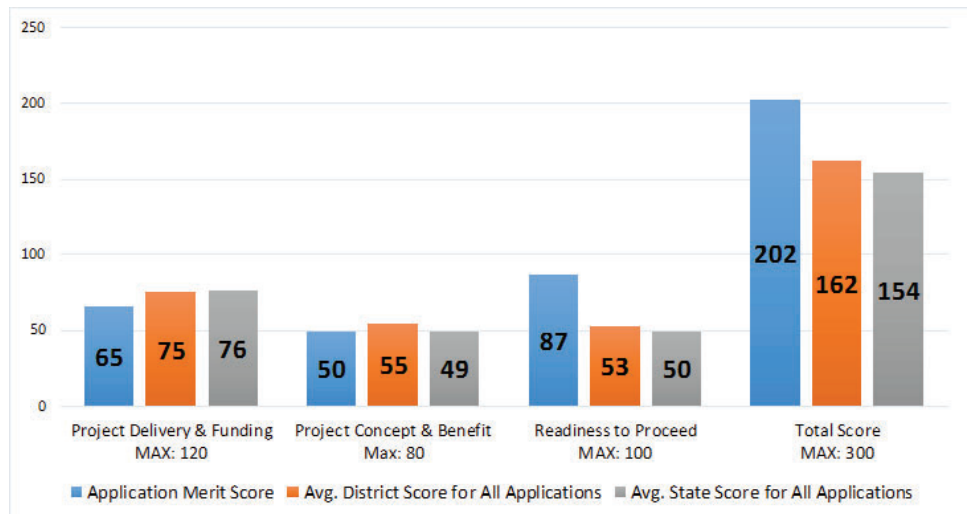
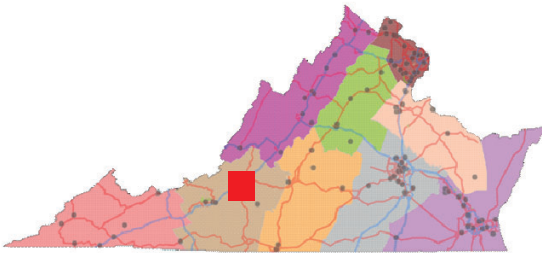
App ID: **8059**
Title: **Williamson Road Pedestrian Safety**

Submitting Entity: **City of Roanoke**
VDOT District: **Salem**

The Williamson Rd pedestrian improvement project seeks to add a sidewalk where none currently exists. This sidewalk project includes ADA curb ramps at intersections and driveway crossings.

<p>202</p> <p>PROJECT MERIT SCORE</p> <p>MAX SCORE: 300</p>	# 11 RANK OF 121 STATEWIDE
	# 2 RANK OF 11 DISTRICTWIDE

TA Requested Funds.....**\$460,000**
Total Project Cost.....**\$575,000**



Population Based Funding Eligibility:

Project eligible for TMA set-aside? - **Yes**

PROJECT DETAILS:

Project Category: **Improvement or system that will provide safe routes for non-drivers**
 Will project funding support a Safe Routes to School Non-Infrastructure Program? **No**
 If applicable, has a Request to Administer (RtA) been approved by the respective VDOT District? **Yes**
 Has VDOT District staff evaluated and concurred with the applicant's estimate? **No**
 Did application receive a Deductive Score measure due to past performance? **No (0)**
 Is this an existing project, and has it received a Priority Score? **No**

Will project benefit an Underserved Community? **Yes**
 Will project benefit a Multi-jurisdictional Trail? **No**

APPLICATION NOTES:

Detailed Unit Cost Estimate was not provided and Estimate Workbook provided had limited CN Phase info with no supporting information, no CEI, and no VDOT Oversight Costs.



TA Set-Aside Application

Williamson Road Pedestrian Safety

Project Status: Screened In

Organization: Roanoke City

Project ID: 8059

General

Project Sponsor

Organization

City of Roanoke - Transportation Division

Point of Contact

Dwayne D'Ardenne

Title

Transportation Manager

Address

1802 Courtland Rd

City

Roanoke

ZIP Code

24012

ZIP+4

0000

Email

dwayne.D'ardenne@roanokeva.gov

Phone

(540) 853-1756

Responsible Person

Name

James Knuckles

Title

Civil Engineer II

Address

215 Church Ave

City

Roanoke

ZIP Code

24011

ZIP+4

0000

Email

james.knuckles@roanokeva.gov

Phone

(540) 853-5208

Project Information

Sponsor DUNS Number

006704316

Is this an existing project – has the Applicant received prior TA funds for a project having the same termini as identified on this application?

No

Do you want to administer this project if funding is awarded?

Yes

Project Title

Williamson Road Pedestrian Safety

Provide a description of the project and a clearly defined scope of the improvements to be made utilizing Transportation Alternatives funds. Should additional space be needed, please use the Upload Supporting Documents feature. Label the document “Project Description”.

Williamson Rd between Hawthorne Rd and Woodbury St is a four-lane road with grass shoulders. Due to the lack of adequate infrastructure, safe passage is difficult for pedestrians attempting to commute along this block of Williamson Rd. The Williamson Road Pedestrian Safety Improvements Project will provide sidewalk and ADA curb ramps along the west side of the block where none currently exist. The proposed sidewalk connects pedestrians with the existing sidewalk located to the south. In conjunction with the new sidewalk, driveways will be updated to meet ADA cross-slope requirements. Finally, due to Woodbury St's large curb radius and wide crossing, a refuge island is planned to allow safer pedestrian crossing.

Project Short Description

The Williamson Rd pedestrian improvement project seeks to add a sidewalk where none currently exists. This sidewalk project includes ADA curb ramps at intersections and driveway crossings.

Select primary category of eligibility even if other categories may apply.

Improvement or system that will provide safe routes for non-drivers

What is the project's primary relationship to transportation? Select the best option from the list provided.

Connections to daily needs: shopping, school, library, post office, etc.

Describe the specific purpose and need for the proposed improvements. Explain how the project will improve the existing transportation network.

In February 2021, a pedestrian using a mobility device was struck and killed by a motor vehicle. The incident occurred within the project scope area along the outside lane of Williamson Rd. The lack of sidewalk, distracted driving, and roadway lighting contributed to the incident. Transportation staff worked with Appalachian Power to install higher luminous lighting shortly after the incident. The addition of sidewalk and ADA ramps would provide a clear and safe access route for future pedestrian traffic.

Provide the name and title of the current employee within your organization that has successfully completed VDOT's Locally Administered Qualifications program?

James Knuckles

 Location

Location Details

According to the 2010 Census, is the population of your locality less than 5,000?

No

Is the proposed project located within a designated historic or business district?

No

Is this project located within a Transportation Management Area (TMA)?

Yes

Start Location

Hawthorne Dr

End Location

Woodbury St

Project ZIP Code **ZIP+4**

24012 000
 0

Select the project's location from the list provided.

Roanoke City

Is this project part of a multi-phased or larger project that crosses multiple jurisdictions?

No

Could this be considered a regionally significant project?

No

Districts Served

- Salem

Jurisdictions Served

- Roanoke City

MPOs Served

- Roanoke Valley
Transportation
Planning
Organization

PDCs Served

- Roanoke Valley-
Alleghany
Regional
Commission

 Delivery/Funding

Phase Estimate and Schedule

Phase Milestone

Status

PE (Survey, Environmental, Design)

Underway

Base Cost Estimate

\$0.00

Start Date

2021-09-01

Phase Estimate + Contingency

\$0.00

Phase Milestone

RW (Right of Way and Easement Acquisition, Utility Relocation)

Status

Not Started

Base Cost Estimate

\$488.00

Start Date

2025-08-19

Phase Estimate + Contingency

\$582.00

Phase Milestone

CN (Construction, Oversight, Contingencies)

Status

Not Started

Base Cost Estimate

\$278,045.00

Risks/Contingency/Unknowns

40.00 %

Start Date

2026-10-03

End Date

2027-10-03

CEI

20.00 %

Phase Estimate + Contingency

\$574,418.00

Total Cost Estimate

\$575,000.00

Project Financing Details

Tentative TA Funding Request

\$460,000.00

Local Match Requirement

\$115,000.00

Other Project Funds (Non-TA Funds) - Include local funds, other grants and donations

\$0.00

Total Project Cost

\$575,000.00

Federal TA Funds - This Application (FY2023-FY2024)

\$460,000.00

Local 20% Match - This Application (FY2023-FY2024)

\$115,000.00

Federal TA Funds - Prior TA Funding Received

\$0.00

Local 20% Match - Prior TA Funding Received

\$0.00

Do you plan to use third-party donations other than cash, to meet all or part of the 20% local match requirement?

No

Identify the funding source(s) for any project funding above the required 20% Local Match amount; this amount should be shown as "Other Project Funds".

City of Roanoke sidewalk capital account

 Concept

Project Concept

The use of federal transportation funds requires compliance with the Americans with Disabilities Act (ADA), describe how the project will meet these design requirements.

ADA compliance is achieved through detailed survey work and plan design for sidewalk cross-slope, curb ramp transition, and curb ramp landing area. The project includes curb ramps at the convergence of the sidewalk with streets and driveway crossings.

Describe any anticipated challenges to meeting ADA design requirements including slope / terrain, width/clearance limitations, historic features, etc.

Due to street grade along Hawthorne Rd and Maitland Ave, we anticipate some additional design work is required to ensure the landing areas for the ADA curb ramps match the 2% cross-slope requirement.

Project Features

 Improves Transportation Network

Project Improves Transportation Network

Does this project improve access and / or service to an underserved community?

No

Does this project include improvements to multi-modal transportation options including connections to metro stations, train stations, bus stops, etc.?

Yes

Supporting Information

The Williamson Rd Sidewalk project includes a

Does the project provide bicycle/pedestrian facilities where none previously existed?

sidewalk that connects to metro stops located on Airport Rd and Hershberger Rd. Metro stops are within .25 miles of the proposed sidewalk.

Does this project increase opportunities to meet daily needs without motorized transportation?

Yes

Does this project add features/devices that will improve bicycle and pedestrian safety (ex. crosswalks, bike/ped signals, lighting, physical barriers to separate facilities, etc.)?

Yes

Supporting Information

A splitter island is included at the intersection of Woodbury St and Williamson Rd. The island narrows Woodbury forcing slower entry speeds for vehicles. In addition, the splitter island serves as a refuge island for pedestrians crossing Woodbury St. High visibility crosswalks at the Woodbury St crossing are included with this project.

Yes

Why was this location chosen?

This location was selected due to its lack of sidewalk, forcing pedestrians to travel either in the grass or in a vehicle travel lane.

Supporting Information

Many area residents travel as pedestrians to access surrounding businesses for shopping or mass transit routing. Including the sidewalk where none currently exists provides a safer route for these pedestrians.

Supporting Information

ADA compliant crosswalks are included to cross moderate to high traffic driveways and Hawthorne Rd, Woodbury St, and Maitland Ave.

Does this project incorporate traffic calming design elements such as bump outs, raised intersections, street trees or crosswalks in a contrasting color?

Yes

Is this project specifically identified / named in the local and / or regional transportation plan?

Yes

Provide name of the plan and date completed.

This project was recently included in the RVTPO transportation plan list.

▶▶ Project's Readiness To Proceed

Project's Readiness to Proceed

Design / engineering will be performed:

Utilizing an outside consultant firm already procured for use on this project

These funds will not participate in the costs of master plans, feasibility and/or preliminary engineering studies. Has this work been completed using other funding source(s)?

Yes

Identify specific preliminary work / activities completed to date.

Design plans and cost estimating are 50% completed. Finalization of design will commence once the award is provided for the project.

Has design work started?

Yes

Design has been started, and _____ plans have been completed.

50%

This program will not participate in the cost of relocating overhead utilities for scenic beautification or betterment purposes. It will however participate in the costs required to eliminate conflicts. Are there existing overhead utilities located within the proposed project that will need to be relocated in order to meet ADA width/clearance requirements?

No

Has the proposed project been discussed with VDOT staff?

Yes

Who within the VDOT organization have you coordinated with? Select all that are applicable.

- Residency Staff

Which of the following topics were discussed with VDOT staff? Select all that are applicable.

- Cost
- Right of Way

Has a preliminary site visit been conducted?

Yes

Identify the attendees present:

Hong Liu, Andrea Garland, Ian Coffey

Describe the observations made:

Attendees inspected street lighting, road geometry/elevation, sight distance, and general infrastructure inspections.

Explain the possible challenges identified:

Some possible challenges include utility pole relocation on Hawthorne, stormwater mitigation along Williamson Rd, and access management for driveways.

The following are design elements / areas that may require additional investigation:

Access management will need to be addressed with businesses if driveway widths are to be reduced. If width reduction is unsuccessful, a contingency includes addressing cross-slope by improving driveway entrances with asphalt and providing ADA ramps for the sidewalk at each applicable driveway.

Have the anticipated right-of-way needs for the project been evaluated?

Yes

Who performed the evaluation (name, title, and organization)?

Hong Liu, City Traffic Engineer and Ian Coffey, Traffic Engineer, City of Roanoke Howard Boggess, Engineer, Lumdsen Assoc.

Knowledge of the current right-of-way situation is critical to the project's cost estimate and schedule. Select the most accurate assessment of the current right of way status.

All right of way required is publicly owned (local and/or state)

 Sponsor Certification

Public Information / Participation Meeting Held

Advertisement or other evidence attached

Yes

MPO Endorsement (if applicable)

Endorsement Attached

Yes

Resolution from Project Sponsor

Resolution Attached

Yes

Sponsor Certifies

The Responsible Person is familiar with Transportation Alternatives eligibility criteria and the Locally Administered Projects (LAP) Manual.

Yes

The Responsible Person will provide technical guidance and oversight to staff and/or consultants throughout project development.

Yes

Budget accurately reflects cost of proposed project based on preliminary work performed.

Yes

Project development will comply with all state and federal regulations, including ADA requirements.

Yes

It is understood that this project must be under construction, or at a point of contract award, within four (4) years of the initial federal funding allocation.

Yes

We will be responsible for ensuring future maintenance and operating costs of the completed project.

Yes

It is understood that the sponsor must have in its employ, a full-time staff member who has successfully completed the LAP qualifications program in order to administer a TA project.

Yes

Sponsor Certification

By selecting agree I certify that the above statements are true and correct to the best of my knowledge.

Yes

Sponsor Name

Dwayne D'Ardenne

Date

2021-09-21

 Attachments

Projects Located in TMA

Describe how the project is consistent with the MPO's current long range transportation plan (LRTP).

As found in the RVTPO Vision 2040 long-range transportation, the Williamson Rd sidewalk project is an investment into the region's transportation infrastructure providing safer and more convenient modes of travel for pedestrians.

Describe how the project fits within local adopted master plans and specific goals of local and/or state government agencies and other organizations. Describe how the project originates from planning work conducted in the jurisdiction. Note if the project is included in any planning documents and how it supports the local land use plan.

The inclusion of a sidewalk where none currently exist on Williamson Rd directly aligns with the City's Complete Streets policy. There are several methods the City utilizes to implement infrastructure for pedestrians associated with the Complete Street policy. First, new sidewalk is established through the development of a parcel by a developer as defined by City Code. Another method of establishing new sidewalk is through CIP projects. In the case of the proposed Williamson Rd sidewalk project, no new development or CIP improvement projects are expected as a means to meet the public need. Therefore, after identifying a need for improving sidewalk infrastructure at this location due to a pedestrian fatality

Describe how the project makes the region's transportation facilities safer and less intimidating for pedestrians, bicyclists, and other non-drivers.

With the inclusion of a sidewalk where none currently exists, pedestrians benefit from an access route that provides separation from vehicular traffic, leading to a safer, more predictable, and therefore less intimidating environment.

Describe how this project enhances transportation facilities for those with special needs, pursuant to Americans with Disabilities Act (ADA) requirements.

ADA compliance for the project is achieved by ensuring that sidewalk cross-slope does not exceed 2% grades. In addition, the project intends to place at street and driveway crossing a detectable plate curb ramp with transition space not to exceed 8% grades. Where applicable, landings that provide a five-foot by five-foot turning area will be included. These landings will also have grades no greater than 2%. The appropriate design of these ADA-compliant ramps is underway based on detailed surveys performed for the project.

Describe all public participation activities to date on the proposed project and what has been done to obtain public and community support. Please also describe any project coordination with other jurisdictions or agencies.

The Transportation Division has received a letter of support from the Williamson Road Area Business Association (WRABA). In April 2021, WRABA presented a budget plan for beautification and infrastructure upgrades to the Williamson Rd corridor. Both the City of Roanoke Council and Williamson Rd businesses


support the WRABA plan. The proposed sidewalk plan directly aligns with the above WRABA initiatives.

Safe Routes to School

Detailed Cost Estimate (Project Budget)

Status of Existing Projects

Request for VDOT Administration

 Supporting Documents

Attachment Type	Description	File Name
Local Comprehensive Plan	City-Plan-2040-Adopted-12.21.20.pdf	City-Plan-2040-Adopted-12.21.20.pdf
Crash Report	Police Report.pdf	Police Report (1).pdf
Request to Administer	RTA.doc	RTA.doc
Other	8059 Pre-App Screening Comments.xlsx	8059 Pre-App Screening Comments.xlsx
Request to Administer	8059 Salem District Approved RTA.pdf	8059 Salem District Approved RTA.pdf
Project Delivery Schedule	Williamson Rd Project Schedule.pdf	Williamson Rd Project Schedule (1).pdf
Letter of Support	GWRABA Support Letter VDOT TA grant - sidewalks Wmson Road 2021.pdf	GWRABA Support Letter VDOT TA grant - sidewalks Wmson Road 2021.pdf
MPO Endorsement	FY23-24 RVTPO TA Project	FY23-24 RVTPO TA Project

Attachment Type**Description****File Name**

	Endorsements Resolution-092321.pdf	Endorsements Resolution-092321.pdf
Project Sketch	Williamson Rd Street Improvement Site Plan 09.28.2021.pdf	21279 Williamson Rd Street Improvement Site Plan 09.28.2021.pdf
Detailed Cost Estimate	21279 LAPC - VDOT Estimate_Workbook 09.28.2021.xlsm	21279 LAPC - VDOT Estimate_Workbook 09.28.2021.xlsm
Resolution of Support	Resolution 42160-092021.pdf	Resolution 42160-092021.pdf

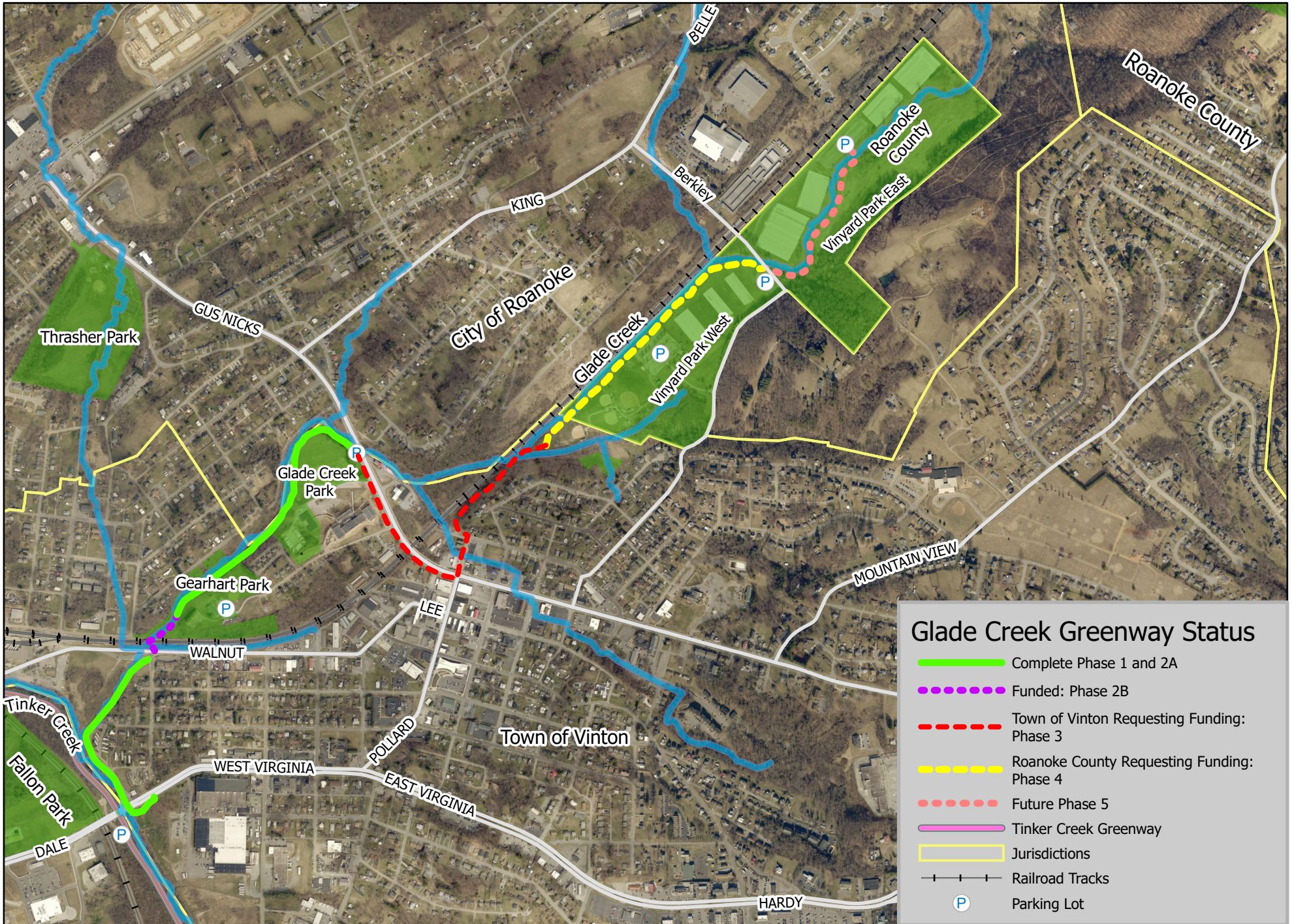


Virginia Department of
Rail and Public
Transportation
600 East Main Street,
Suite 2102
Richmond, VA 23219
(804) 786-4440



VDOT Central Office
1401 East Broad Street
Richmond, VA 23219
(804) 367-7623 (toll-free)
711 (hearing impaired)

© 2021 Commonwealth Transportation Board

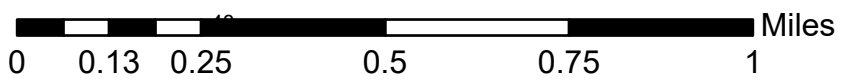


Glade Creek Greenway Status

- Complete Phase 1 and 2A
- ⋯⋯⋯ Funded: Phase 2B
- - - - - Town of Vinton Requesting Funding: Phase 3
- - - - - Roanoke County Requesting Funding: Phase 4
- ⋯⋯⋯ Future Phase 5
- Tinker Creek Greenway
- Jurisdictions
- Railroad Tracks
- P Parking Lot

Glade Creek Greenway

September 7th, 2021



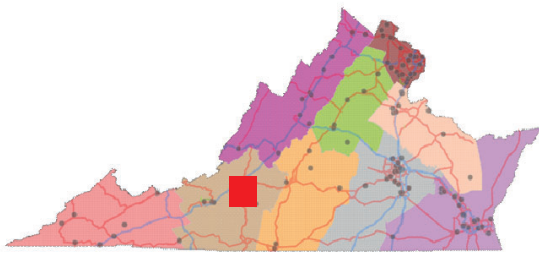
App ID: **8025**
Title: **Glade Creek Greenway Vinyard Park West**

Submitting Entity: **Roanoke County**
VDOT District: **Salem**

Construct Phase 4 of the Glade Creek Greenway along Glade Creek through Roanoke County's Vinyard Park West, from the Berkley Road parking lot to the western edge of the park located in the Town of Vinton.

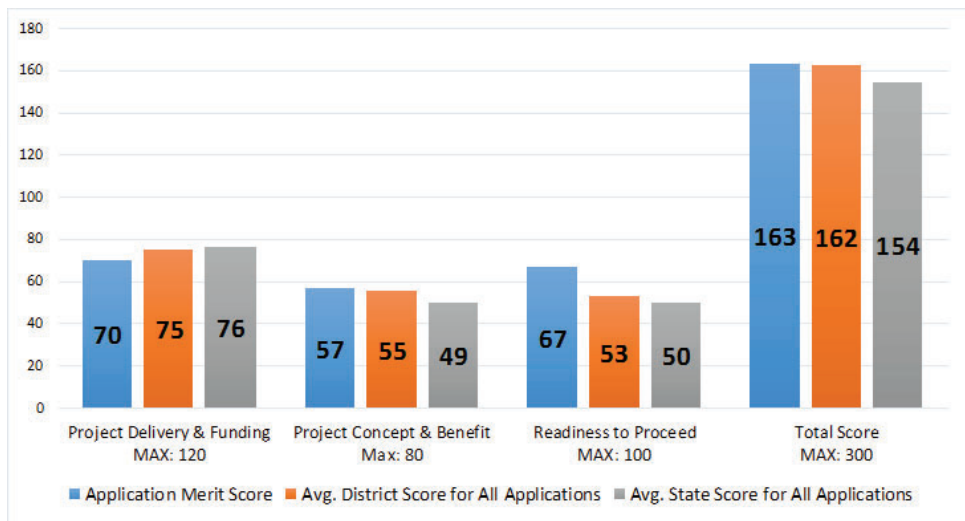
<p>163</p> <p>PROJECT MERIT SCORE</p> <p>MAX SCORE: 300</p>	<p># 50 RANK OF 121 STATEWIDE</p>
	<p># 5 RANK OF 11 DISTRICTWIDE</p>

TA Requested Funds.....**\$521,100**
Total Project Cost.....**\$651,375**



Population Based Funding Eligibility:

Project eligible for TMA set-aside? - **Yes**



PROJECT DETAILS:

Project Category: **Construction of bicycle and pedestrian facilities**

Will project funding support a Safe Routes to School Non-Infrastructure Program? **No**

If applicable, has a Request to Administer (RtA) been approved by the respective VDOT District? **Yes**

Has VDOT District staff evaluated and concurred with the applicant's estimate? **Yes**

Did application receive a Deductive Score measure due to past performance? **Yes (-30)**

Is this an existing project, and has it received a Priority Score? **No**

Will project benefit an Underserved Community? **Yes**

Will project benefit a Multi-jurisdictional Trail? **Yes**

APPLICATION NOTES:

None.



TA Set-Aside Application

Glade Creek Greenway Vinyard Park West

Project Status: Screened In

Organization: Roanoke County

Project ID: 8025

General

Project Sponsor

Organization

Roanoke County Department of Planning

Point of Contact

Megan Cronise

Title

Transportation Planning Administrator

Address

PO Box 29800

Address 2

5204 Bernard Drive

City

Roanoke

ZIP Code

24018

ZIP+4

4345

Email

mcronise@roanokecountyva.gov

Phone

(540) 772-2106

Fax

(540) 776-7155

Responsible Person

Name

David Henderson

Title

Roanoke County Engineer

Address

PO Box 29800

Address 2

5204 Bernard Drive

City

Roanoke

ZIP Code

24018

ZIP+4

4345

Email

dhenderson@roanokecountyva.gov

Phone

(540) 772-2083

Fax

(540) 776-7155

Project Information

Sponsor DUNS Number

062353610

Is this an existing project – has the Applicant received prior TA funds for a project having the same termini as identified on this application?

No

Do you want to administer this project if funding is awarded?

Yes

Project Title

Glade Creek Greenway Vinyard Park West

Provide a description of the project and a clearly defined scope of the improvements to be made utilizing Transportation Alternatives funds. Should additional space be needed, please use the Upload Supporting Documents feature. Label the document "Project Description".

Construct a segment of the Glade Creek Greenway along Glade Creek through Roanoke County's Vinyard Park West. The ten-foot-wide asphalt bicycle and pedestrian trail will begin at the parking lot adjacent to Berkley Road and will continue west for approximately one-half mile along Glade Creek past athletic fields and another parking lot to the edge of the park, which is located in the Town of Vinton.

Project Short Description

Construct Phase 4 of the Glade Creek Greenway along Glade Creek through Roanoke County's Vinyard Park West, from the Berkley Road parking lot to the western edge of the park located in the Town of Vinton.

Select primary category of eligibility even if other categories may apply.

Construction of bicycle and pedestrian facilities

What is the project's primary relationship to transportation? Select the best option from the list provided.

Connections for tourism: connection to historic district, historic site, regional trail system, etc.

Describe the specific purpose and need for the proposed improvements. Explain how the project will improve the existing transportation network.

Glade Creek Greenway is identified in the 2018 Roanoke Valley Greenway Plan, which has been adopted by the Roanoke County Board of Supervisors. The Town of Vinton has constructed two segments of the greenway (Phases 1 and 2A) and a third segment (Phase 2B) is funded and in design. The Town has conceptually scoped a greenway alignment (Phase 3) that will connect the constructed segment to this proposed greenway and has requested Surface Transportation Block Grant funding. The proposed Roanoke County segment in Vinyard Park West (Phase 4) will continue to extend the greenway east through Vinyard Park East and towards residential neighborhoods in the City of Roanoke (Phases 5 and 6). These neighborhood connections will enable residents to walk from their homes along Glade Creek through Vinyard Park East and West, to downtown Vinton, to the Tinker Creek Greenway and to the Roanoke River Greenway. See attachment "Glade Creek Greenway Overview" for a map indicating all of the described segments.

Provide the name and title of the current employee within your organization that has

Could this be considered a regionally significant project?

Yes

Provide details regarding overall project and purpose including any anticipated benefits to tourism, commuter travel or local economy. Also describe what measures are in place to sustain and promote the completed facility.

The greenway will be located within Vinyard Park West, which is a County-owned and maintained facility comprised of 40 acres that lies in both Roanoke County and the Town of Vinton, and is adjacent to the City of Roanoke. See attachment "Glade Creek Gwy Phase 4 Map" for details. Vinyard Park is a key asset in Roanoke County's sport tourism inventory that includes fields for baseball, football, soccer, and lacrosse, as well as a playground area and picnic shelter. The heavily utilized facility hosted more than 1,091 recreation, travel/select, high school and Olympic Development games, training sessions and tournaments last year. Roanoke County recently completed a stream restoration project along Glade Creek, which was designed to also preserve a greenway corridor through the park. The section of Glade Creek through Vinyard Park is stocked with trout by the Virginia Department of Wildlife Resources and Vinyard Park is a popular recreational destination for fishermen within an urbanized area. The proposed Glade Creek Greenway will enhance Vinyard Park by providing an accessible shared use path for a variety of recreational users. When complete, Glade Creek Greenway will provide a commuter route for residents living in the City of Roanoke and Town of Vinton to access employers in both jurisdictions. Businesses located in the Town of Vinton will also benefit from the completed Glade Creek Greenway, as users will be able to easily walk to, shop and eat at local establishments. The Glade Creek Greenway through Vinyard Park West will be regularly maintained with the rest of the park by Roanoke County Parks, Recreation and Tourism staff. Orvis has also adopted Vinyard Park as a Roanoke County Park Partner, which requires organized litter control and/or park beautification work days at least four times per year. Roanoke County staff, Town of Vinton staff and the Roanoke Valley Greenway Commission will promote the completed facility.

Districts Served

- Salem

Jurisdictions Served

- Roanoke County
- Vinton Town

MPOs Served

- Roanoke Valley Transportation Planning Organization

PDCs Served

- Roanoke Valley-Alleghany Regional Commission

\$ Delivery/Funding

Phase Estimate and Schedule

Phase Milestone

PE (Survey, Environmental, Design)

Status

Not Started

Base Cost Estimate

\$90,000.00

Risks/Contingency/U

nknowns

10.00 %

Start Date

2022-07-01

Phase Estimate + Contingency

\$108,177.00

Phase Milestone

RW (Right of Way and Easement Acquisition, Utility Relocation)

Status

Not Needed

Phase Milestone

CN (Construction, Oversight, Contingencies)

Status

Not Started

Base Cost Estimate

\$293,865.00

Risks/Contingency/Unknowns

30.00 %

Start Date

2025-06-06

End Date

2026-06-02

CEI

24.00 %

Phase Estimate + Contingency

\$543,198.00

Total Cost Estimate

\$651,375.00

Project Financing Details**Tentative TA Funding Request**

\$521,100.00

Local Match Requirement

\$130,275.00

Total Project Cost

\$651,375.00

Federal TA Funds - This Application (FY2023-FY2024)

\$521,100.00

Local 20% Match - This Application (FY2023-FY2024)

\$130,275.00

Federal TA Funds - Prior TA Funding Received

\$0.00

Local 20% Match - Prior TA Funding Received

\$0.00

Do you plan to use third-party donations other than cash, to meet all or part of the 20% local match requirement?

No

Identify the funding source(s) for any project funding above the required 20% Local Match amount; this amount should be shown as "Other Project Funds".

The 20 percent local match is anticipated to be Roanoke County Cash through the Capital Improvement Program.

 Concept

Project Concept

The use of federal transportation funds requires compliance with the Americans with Disabilities Act (ADA), describe how the project will meet these design requirements.

Vinyard Park West is fairly flat, as it is located primarily in the Glade Creek Greenway floodway and 100-year floodplain. Accordingly, there will be minimal elevation change and the maximum greenway grade will be three percent. The greenway will be 10 feet wide and constructed of asphalt, which may be narrowed slightly at pinch points next to sports fields. Entrances to the greenway at both parking lots will be at grade so no ramps will be needed.

Describe any anticipated challenges to meeting ADA design requirements including slope / terrain, width/clearance limitations, historic features, etc.

There may be width challenges at pinch points near sports fields where the greenway may need to be narrowed to eight feet.

Project Features

 Improves Transportation Network

Project Improves Transportation Network

Does this project improve access and / or service to an underserved community?

Yes

If yes, explain specifically how the project will benefit the referenced community

The Glade Creek Greenway will provide a free and alternative mode of transportation for concentrated populations of children, elderly people, low-income households, and people with disabilities. The census tract this project is located in (Roanoke County Census Tract 311.02) has a higher percentage of people under the age of 18 than either Roanoke County or the Town of Vinton. Both Roanoke County Census Tract 311.02 and the Census Tract immediately adjacent to Vinyard Park (Roanoke City Census Tract 6.02) have a lower median household income and a higher percentage of people with disabilities than the localities they are contained within, the State of Virginia, and the United States. Roanoke County,

the Town of Vinton, and the City of Roanoke all have a higher share of residents over the age of 65 than the State of Virginia and the United States. In addition, Roanoke City Census Tract 6.02 has a higher share of residents over the age of 65 than Roanoke City as a whole.

Does this project include improvements to multi-modal transportation options including connections to metro stations, train stations, bus stops, etc.?

Yes

Supporting Information

When Glade Creek Greenway Phases 3 and 4 are complete, the greenway will connect to an existing Valley Metro bus route that travels along Washington Avenue to South Pollard Street. By catching the bus on either of these roads, riders can travel to other destinations within the Town of Vinton, within Northeast Roanoke, or to Campbell Court in Downtown Roanoke where riders can transfer to other bus routes that circulate throughout the Roanoke Valley. Please see the attachment "TOV Valley Metro Route Connection".

Does the project provide bicycle/pedestrian facilities where none previously existed?

Yes

Why was this location chosen?

The proposed paved greenway will provide bicycle and pedestrian facilities for Vinyard Park West users where there is currently not a facility in place. Once connected to Phase 3, users will be able to easily travel to destinations within the Town of Vinton and beyond. When future Phases 5 and 6 are constructed, the greenway will connect to residential neighborhoods in the City of Roanoke as well (see attachment "Mountain Brook Villas PUD Phase 6.pdf").

Does this project increase opportunities to meet daily needs without motorized transportation?

Yes

Supporting Information

When Phases 3 and 4 are complete, the Glade Creek Greenway will enable users to access the extensive network of sidewalks throughout the Town of Vinton to easily meet daily needs. Nearby destinations include restaurants, the Vinton Library, the Vinton Municipal Building, the Vinton Post Office, the Vinton Farmers' Market, several churches, banks, doctors' offices, salons, automotive repair businesses and convenience stores.

Does this project add features/devices that will improve bicycle and pedestrian safety (ex. crosswalks, bike/ped signals, lighting, physical barriers to separate facilities, etc.)?

No

Does this project incorporate traffic calming design elements such as bump outs, raised intersections, street trees or crosswalks in a contrasting color?

No

Is this project specifically identified / named in the local and / or regional transportation plan?

Provide name of the plan and date completed.

The Glade Creek Greenway through Vinyard Park West is specifically identified in Vision 2040:

Yes

Roanoke Valley Transportation, the Constrained Long-Range Multimodal Transportation Plan for the Roanoke Valley Metropolitan Planning Organization which was adopted by the Roanoke Valley Transportation Planning Organization on September 23, 2021. Please see the attachment labeled "Vision 2040: Roanoke Valley Transportation excerpt".

▶▶ Project's Readiness To Proceed

Project's Readiness to Proceed

Design / engineering will be performed:

In-house utilizing a current on-call contract

These funds will not participate in the costs of master plans, feasibility and/or preliminary engineering studies. Has this work been completed using other funding source(s)?

Yes

Identify specific preliminary work / activities completed to date.

Roanoke County staff identified the preferred route for the greenway through Vinyard Park West. Using the route, County staff designed conceptual plans utilizing survey data from a recent Glade Creek Stream Restoration project. The conceptual plans are attached as "Glade Creek Gwy Concept Plans". When funding is obtained, on-call consultants will be able to use the detailed conceptual plans as a solid foundation for the Preliminary Engineering phase.

Has design work started?

No

This program will not participate in the cost of relocating overhead utilities for scenic beautification or betterment purposes. It will however participate in the costs required to eliminate conflicts. Are there existing overhead utilities located within the proposed project that will need to be relocated in order to meet ADA width/clearance requirements?

No

Has the proposed project been discussed with VDOT staff?

Yes

Who within the VDOT organization have you coordinated with? Select all that are applicable.

- District Staff
- Residency Staff
- Central Office Staff

Which of the following topics were discussed with VDOT staff? Select all that are applicable.

- Scope
- Termini
- Cost
- Right of Way
- Schedule

Has a preliminary site visit been conducted?

Yes

Identify the attendees present:

Visit 1: (Roanoke County Staff) Lindsay Webb - Parks, Planning and Development Manager; Mark Courtright - Assistant Director of Parks; Eric Vest - Parks Manager; David Henderson, P.E. - County Engineer; Brian Epperley - Transportation Engineer; Nickie Mills, Civil Engineer II Visit 2: (Roanoke County Staff) Lindsay Webb - Parks, Planning and Development Manager; Allen Hayes, Recreation Program Manager for Athletics; Eric Vest - Parks Manager; David Henderson, P.E. - County Engineer; Brian Epperley - Transportation Engineer; Will Crawford, Transportation Planner; Megan Cronise, Transportation Planning Administrator; (Town of Vinton Staff) Anita McMillan, Planning Director; Nathan McClung, Assistant Planning & Zoning Director; (VDOT Staff) Brian Blevins, P.E., Salem Residency Assistant Resident Engineer; Jessie Nester, Salem District Location & Design, LAP Project Coordinator

Describe the observations made:

At both visits, the groups walked the route of the previously completed Glade Creek Stream Restoration project, which created a bench for a portion of the greenway route. Observations made included suitable greenway termini, how and where the Town of Vinton's Phase 3 segment can connect, acceptable proximity to the creek and distance from existing athletic fields. The size, type and location of fields change depending upon the season and number of participants/teams playing various sports. Planning the greenway to avoid the maximum footprint that can be utilized for athletic fields, while not pushing too far towards Glade Creek, requires careful measurements. See attachment "Glade Ck Gwy Site Visit Photos" for images of the park and proposed greenway location taken on August 6, 2021.

Explain the possible challenges identified:

Several athletic fields will need to be avoided to keep from impacting Parks and Recreation operations. Drainage culvert improvements and additions will be needed to facilitate adequate discharge to Glade Creek. A tall net located between the end of a football field and Glade Creek, to keep footballs from being punted into the creek, may need to be relocated closer to the football field so the greenway can pass behind it. Fencing is also proposed in two locations along the edge of the greenway at the top of the slope down to Glade Creek to keep users from accidentally sliding along the slope into the creek.

The following are design elements / areas that may require additional investigation:

As mentioned above, a tall net may need to be relocated and fencing will most likely be needed between the greenway and the creek at two locations. There are also two existing access points to Glade Creek that are proposed for improvement and formalization with asphalt paths connecting to the proposed greenway that will need investigation. Please see the attachment "Stormwater Management Narrative" which explains the anticipated approach to stormwater quantity and quality for the project.

Have the anticipated right-of-way needs for the project been evaluated?

Yes

Who performed the evaluation (name, title, and organization)?

David Henderson, P.E., Roanoke County Engineer; Brian Epperley, Roanoke County Transportation Engineer

Knowledge of the current right-of-way situation is critical to the project's cost estimate and schedule. Select the most accurate assessment of the current right of way status.

All right of way required is publicly owned (local and/or state)

Public Information / Participation Meeting Held

Advertisement or other evidence attached

Yes

MPO Endorsement (if applicable)

Endorsement Attached

Yes

Resolution from Project Sponsor

Resolution Attached

Yes

Sponsor Certifies

The Responsible Person is familiar with Transportation Alternatives eligibility criteria and the Locally Administered Projects (LAP) Manual.

Yes

The Responsible Person will provide technical guidance and oversight to staff and/or consultants throughout project development.

Yes

Budget accurately reflects cost of proposed project based on preliminary work performed.

Yes

Project development will comply with all state and federal regulations, including ADA requirements.

Yes

It is understood that this project must be under construction, or at a point of contract award, within four (4) years of the initial federal funding allocation.

Yes

We will be responsible for ensuring future maintenance and operating costs of the completed project.

Yes

It is understood that the sponsor must have in its employ, a full-time staff member who has successfully completed the LAP qualifications program in order to administer a TA project.

Yes

Sponsor Certification

By selecting agree I certify that the above statements are true and correct to the best of my

knowledge.

Yes

Sponsor Name

Megan Cronise

Date

2021-10-01

 Attachments

Projects Located in TMA

Describe how the project is consistent with the MPO's current long range transportation plan (LRTP).

The Glade Creek Greenway through Vinyard Park West is specifically identified in Vision 2040: Roanoke Valley Transportation, the Constrained Long-Range Multimodal Transportation Plan for the Roanoke Valley Metropolitan Planning Organization. Please see the attachment labeled "Vision 2040: Roanoke Valley Transportation excerpt".

Describe how the project fits within local adopted master plans and specific goals of local and/or state government agencies and other organizations. Describe how the project originates from planning work conducted in the jurisdiction. Note if the project is included in any planning documents and how it supports the local land use plan.

The Glade Creek Greenway is identified in the 2018 Roanoke Valley Greenway Plan which has been adopted by the Roanoke Valley Greenway Commission, the Roanoke County Board of Supervisors and governing boards in the Town of Vinton, City of Roanoke, City of Salem and Botetourt County (see attachment "Greenway Plan Excerpts Glade Creek 6-16-21.pdf"). Greenways are also identified in the Roanoke County Comprehensive Plan as features to be incorporated within neighborhoods as well as from neighborhoods to adjacent institutional services, other neighborhoods and commercial centers (see attachment "RoCo Comprehensive Plan"). The Vinton Area Corridors Plan, adopted as part of the Roanoke County Comprehensive Plan, also identifies the Glade Creek Greenway as a priority for Town and County citizens. See attachment "VACP Excerpt". The RVTPO Regional Pedestrian Vision Plan identifies segments of the Glade Creek Greenway located in several jurisdictions, to include the proposed alignment in Vinyard Park West (see attachment "Ped Vision Plan"). The Roanoke County Strategic Plan endorses regional strategies that improve the transportation network, as well as encouraging different modes of transportation for bicycles and pedestrians (see attachment "Strategic Plan"). The Comprehensive Economic Development Strategy for the Roanoke Valley-Alleghany Regional Commission includes the completion of the Roanoke Valley Greenway network as a strategy and specifically includes completion of the Glade Creek Greenway in Roanoke County (see attachment "CEDS"). Lastly, the Virginia Outdoors Plan includes the Roanoke River Greenway Network and specifies that the 2017 Virginia Outdoors Demand Survey indicated 43 percent of Virginians ranked trails as the most needed recreational opportunity (see attachment "VOP").

Describe how the project makes the region's transportation facilities safer and less intimidating for pedestrians, bicyclists, and other non-drivers.

Greenways are intended to be off-road facilities and frequently incorporate grade-separated crossings of roadways, railroads and other features. The proposed Glade Creek Greenway segment in Vinyard Park West is designed to connect to parking lots for convenience but there are no opportunities for walkers or bicyclists to be interacting with vehicles while on the greenway. Greenways are by design safer and less intimidating than on-road bicycle facilities or sidewalks adjacent to roadways because greenways are typically located away from roadways and along watercourses.

Describe how this project enhances transportation facilities for those with special needs, pursuant to Americans with Disabilities Act (ADA) requirements.

The proposed greenway project creates a transportation facility that is currently non-existent for those with special needs. The relatively flat orientation of the proposed greenway, combined with an asphalt surface, creates an easily-navigable surface for those with disabilities to use.

Describe all public participation activities to date on the proposed project and what has been done to obtain public and community support. Please also describe any project coordination with other jurisdictions or agencies.


In addition to the Board of Supervisors Public Hearing held on September 21, 2021, Roanoke County Planning staff reached out to Vinyard Park West users on two different occasions during busy nights at the park. See attachment "Glade Creek Outreach and Survey Results.pdf" with details about the the dates, times and method of soliciting feedback, as well as the survey instrument and final survey results. Eight respondents indicated unanimous support for the proposed greenway segment. County staff coordinated with Town of Vinton staff regarding how Phases 3 and 4 will connect together. County staff also collaborated with City of Roanoke staff about the future Phase 5 crossing of Berkley Road, a City roadway, and the alignment of the greenway past Vinyard Park East when it enters the City of Roanoke. See related attachments "Town of Vinton Letter of Support" and "Mountain Brook Villas PUD Phase 6.pdf" which shows a proposed alignment for a segment of Phase 6 in the City of Roanoke.

Safe Routes to School

Detailed Cost Estimate (Project Budget)

Status of Existing Projects

Request for VDOT Administration

 Supporting Documents

Attachment Type	Description	File Name
Project Delivery Schedule	Scheduling Tool for Glade Creek Gwy	Scheduling Tool GladeCkGwy PreApp 6-24-21.xlsx

Attachment Type	Description	File Name
Other	County Administrator Designee Ltr wOrdinance	CA Designees Signatory Authority Ltr wOrdinance 3-13-20.pdf
Other	Glade Creek Greenway VDOT Estimate Workbook	Glade Creek Greenway VDOT Estimate Workbook for Pre Application 6-29-21.xlsm
Detailed Cost Estimate	Estimate Template GladeCkGwy	Revised Estimate Template GladeCkGwy 6-24-21 for PreApp.xlsx
Request to Administer	Glade Creek Gwy RtA	Glade Creek Gwy RtA Final Signed 7-1-21.pdf
Other	8025 Pre-App Screening Comments.xlsx	8025 Pre-App Screening Comments.xlsx
Local Comprehensive Plan	Greenway Plan Excerpts Glade Creek 6-16-21.pdf	Greenway Plan Excerpts Glade Creek 6-16-21.pdf
Other	Roanoke County Response RE_ [EXTERNAL] - New Alert on VDOT SMART Portal Pre-Application.pdf	Roanoke County Response RE_ _EXTERNAL_ - New Alert on VDOT SMART Portal Pre-Application.pdf
Request to Administer	8025 Salem District Approved RTA.pdf	8025 Salem District Approved RTA.pdf
Public Notice	RT Glade Creek Advertisement 9-23-21.pdf	RT Glade Creek Advertisement 9-23-21.pdf
Resolution of Support	BOS Resolution Glade Creek.pdf	09-21-#4-reso-Glade Creek.pdf
MPO Endorsement	FY23-24 RVTPO TA Project Endorsements Resolution	FY23-24 RVTPO TA Project Endorsements Resolution-092321.pdf
Letter of Support	Town of Vinton Letter of Support	TM Ltr of Support for ROCO GCG_August 2021_pete.pdf
Project Sketch	Mountain Brook Villas PUD Phase 6.pdf	Mountain Brook Villas PUD Phase 6.pdf
Planning Study/Safety Study	Vision 2040: Roanoke Valley Transportation excerpt	Glade Creek EXCERPT Vision-2040-Plan.pdf
Other	TOV Valley Metro Route Project ID: F35-000008527-R01	TOV Valley Metro Route and

Attachment Type	Description	File Name
	Connection	Phase 3.pdf
Project Sketch	Glade Creek Gwy Concept Plans	Glade Creek Concept Plans 8-31-21.pdf
Other	Stormwater Management Narrative	DHenderson Stormwater Management 10-1-21.pdf
Local Comprehensive Plan	RoCo Comprehensive Plan	Glade Creek EXCERPT 2005 Comprehensive Plan.pdf
Local Comprehensive Plan	VACP Excerpt	VACP Excerpts.pdf
Other	Ped Vision Plan	REGIONAL-PEDESTRIAN-VISION-PLAN-Excerpt.pdf
Other	Strategic Plan	Strategic Plan - Excerpt.pdf
Local/Regional Economic Development Strategy	CEDS	Glade Creek EXCERPT 2021_RVAR_CEDS.pdf
Other	VOP	vopchapt08.pdf
Other	Glade Creek Outreach and Survey Results.pdf	Glade Creek Outreach and Survey Results.pdf
Other	Glade Creek Greenway Overview	Glade Creek Greenway Overview 9-27-21.pdf
Other	Glade Ck Gwy Site Visit Photos	Glade Ck Gwy Site Visit Photos 8-6-21.pdf
Other	Glade Creek Gwy Phase 4 Map	Glade Creek Gwy Phase 4 Map 9-13-21.pdf



Virginia Department of
Rail and Public
Transportation
600 East Main Street,
Suite 2102
Richmond, VA 23219
(804) 786-4440

VDOT Central Office
1401 East Broad Street
Richmond, VA 23219
(804) 367-7623 (toll-free)
711 (hearing impaired)

STAFF REPORT

TTC Meeting February 10, 2022

SUBJ: Recommendation of FY24 SMART SCALE RVTPO Candidate Project Requests

At the January TTC meeting, staff shared initial project scores based on 10 candidate project request forms submitted from RVTPO localities for the FY24 round of SMART SCALE. As was discussed last month, two projects may be funded through the Highway Safety Improvement Program (HSIP); however, those projects have not received funding. Based on discussions at and following last month’s meeting, Botetourt County informed staff that it wishes to withdraw its request for the Rte. 220 Superstreet project.

The following table lists the nine requests in the order that they were received.

No.	Agency	Project Name	SMART SCALE Request (\$)
1	City of Roanoke	I-581/Orange Ave Interchange Improvements	Unknown
2	City of Roanoke	Orange Ave and Williamson Rd. Intersection Improvements	\$7,669,270 (if successful in STBG, request may be \$2,669,270)
3	City of Roanoke	Virginia Tech Carilion Research Institute Interchange Project	Unknown
4	Botetourt Co.	Exit 150 Improvement Project	Unknown
5	Roanoke Co.	West Main Street Phase 3 Sidewalk <i>(If unsuccessful in STBG)</i>	\$3,016,962
6	Roanoke Co.	Pedestrian Improvements on Williamson Road (UPC 113947)	Unknown
7	Roanoke Co.	U.S. Route 11/460 at Dow Hollow Road Intersection Improvements	Unknown
8	Roanoke Co.	Route 419 Intersections/Projects (one or more) between Bower Road and Apperson Drive	Unknown
9	Roanoke Co.	Pedestrian Crossing Improvements on Route 419 and at Plantation/ Hershberger Intersections (UPC 117212)	Unknown

Highlights – Impact to Major Programs

Program	Update Cycle	FY2022-2027 Increase
State of Good Repair Program (SGR)	Annual	\$661.2M
Regional Surface Transportation Program (RSTP)	Annual	\$137.5M
Congestion Mitigation Air Quality (CMAQ)	Annual	\$37.5M
Unpaved Roads (adjustment for up to \$25M per year)	Annual	\$15.0M
Innovation and Technology Transportation (ITTF) (adjustment for up to \$25M per year)	Annual	\$15.0M
Construction District Grant (DGP) – including Supplemental Fuel Tax Revenue	Even fiscal years	\$376.0M
High Priority Projects (HPP)	Even fiscal years	\$377.3M

With regard to state and federal funding as a result of the Infrastructure Investment and Jobs Act, the Commonwealth Transportation Board in January released five-year increases in these and other funding sources. Among the major programs affected, the District Grant Program will see a \$376 million increase from FY22-27; and the High Priority Projects Program will increase by \$377.3 million in FY22-27.

The RVTPO has a maximum of four applications it can submit in August 2022 but may initiate five pre-applications in March. Staff developed a simple and straightforward prioritization and scoring process for the requests, in order to recommend to the RVTPO Policy Board up to five project applications to initiate in March with four ultimately being submitted in August 2022.

Primarily utilizing questions from the request form, staff developed a series of quantitative criteria to score and rank the requests.

Criteria	Points
Is this project already underway (existing UPC #, PE, RW initiated)?	10 – yes; 5 - no
Is the project in the Roanoke Valley Transportation Plan?	10 – constrained; 5 – vision; 0 – no
Is the project in the region's Comprehensive Economic Development Strategy (CEDS)?	5 – yes; 0 – no
Does the requesting agency plan to use its complement of four SMART SCALE applications?	5 – yes; 0 – no
Does the project have a cost estimate?	10 – yes; 5 – under development; 0 – no
Is there planned leverage on the project?	10 – yes; 5 – no
Does the project cost estimate exceed \$15 million?	10 – yes; 5 – no; 0= N/A

In the table below, the answers to the above questions are provided. Highlighted in **green** are key responses.

Summary of Answers to Criteria Questions for SMART SCALE Project Requests

Criteria	City of Roanoke			Botetourt County	Roanoke County				
	581/Orange Ave. Interchange	Orange Ave./Williamson Rd. Intersection	VTCRI Interchange	Exit 150 Improvements	W. Main St. Sidewalk Ph. 3	Ped. Impr. Williamson Rd. (UPC 113947)	11/460 @ Dow Hollow Rd.	Rte. 419 Intersections from Bower Rd. - Apperson Dr.	Ped. Crossing Improvements on 419 and Plantation/Hershberger Rd. (UPC 117212)
Is this project already underway (existing UPC #, PE, RW initiated)?	No	No	No	No	Yes	Yes	No	No	Yes
Is the project in the Roanoke Valley Transportation Plan?	Vision	Vision	Vision	No	Vision	Constrained	Vision	Vision	Constrained
Is the project in the CEDS?	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Does the requesting agency plan to use its complement of four SMART SCALE applications?	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Does the project have a cost estimate?	Under development	Under development	Under development	Under development	Yes	Under development	Under development	Under development	Under development
Is there planned leverage on the project?	Yes, \$2M from STBG	Yes, \$5M from STBG	Yes, \$80k from City	No	No	Yes, \$1.5M HSIP & other Federal	No	No	Yes, \$450k, HSIP & other Federal
Does the project cost estimate exceed \$15 million?	N/A, no estimate	N/A, no estimate	N/A, no estimate	N/A, no estimate	No, \$3,016,962 per STBG application (\$2,700,000 included in Vision List)	No, \$2,725,000 in SYIP	No, \$2M in RVTP	N/A, no estimate	No, \$450,000 in SYIP (additional needed unknown)

The raw scores and rankings have been determined based upon the information received to date as shown on the following tables.

Resulting Scores based on Criteria

Criteria	City of Roanoke						Botetourt County		Roanoke County									
	581/Orange Ave.		Orange Ave./Williamson Rd.		VTCRI		Exit 150 Improvements		W. Main St. Sidewalk		Ped. Impr. Williamson Rd. (UPC 113947)		11/460 @ Dow Hollow Rd.		Rte. 419 Intersections		Ped. Crossing Improvements (UPC 117212)	
	Answer	Pts.	Answer	Pts.	Answer	Pts.	Answer	Pts.	Answer	Pts.	Answer	Pts.	Answer	Pts.	Answer	Pts.	Answer	Pts.
Is this project already underway (existing UPC #, PE, RW initiated)?	No	5	No	5	No	5	No	5	Yes	10	Yes	10	No	5	No	5	Yes	10
Is the project in the Roanoke Valley Transportation Plan?	Vision	5	Vision	5	Vision	5	No	0	Vision	5	Constrained	10	Vision	5	Vision	5	Constrained	10
Is the project in the CEDS?	Yes	5	Yes	5	Yes	5	No	0	Yes	5	Yes	5	Yes	5	Yes	5	Yes	5
Does the requesting agency plan to use its complement of four SMART SCALE applications?	Yes	5	Yes	5	Yes	5	No	0	Yes	5	Yes	5	Yes	5	Yes	5	Yes	5
Does the project have a cost estimate?	Under development	5	Under development	5	Under development	5	Under development	5	Yes	10	Under development	5	Under development	5	Under development	5	Under development	5
Is there planned leverage on the project?	Yes	10	Yes	10	Yes	10	No	5	No	5	Yes	10	No	5	No	5	Yes	10
Does the project cost estimate exceed \$15 million?	N/A, no estimate	0	N/A, no estimate	0	N/A, no estimate	0	N/A, no estimate	0	No	5	No	5	N/A, no estimate	0	N/A, no estimate	0	N/A, no estimate	0
TOTAL POINTS	35		35		35		15		45		50		30		30		45	

Based upon the scores, out of a possible 60 points, the projects requests are ranked accordingly in this table:

Rank	Place	Score	Agency	Project Name
1	1	50	Roanoke Co.	Pedestrian Improvements on Williamson Road (UPC 113947)
2	2	45	Roanoke Co.	West Main Street Phase 3 Sidewalk
3	2	45	Roanoke Co.	Pedestrian Crossing Improvements on Route 419 and at Plantation/ Hershberger Intersections (UPC 117212)
4	3*	35	City of Roanoke	Orange Ave and Williamson Rd. Intersection Improvements
5	3	35	City of Roanoke	I-581/Orange Ave Interchange Improvements
6	3	35	City of Roanoke	Virginia Tech Carilion Research Institute Interchange Project
7	4	30	Roanoke Co.	U.S. Route 11/460 at Dow Hollow Road Intersection Improvements
8	4	30	Roanoke Co.	Route 419 Intersections/Projects (one or more) between Bower Road and Apperson Drive
9	5	15	Botetourt Co.	Exit 150 Improvement Project

*As there are ties, any project with a cost estimate will be ranked higher than those without; otherwise, tied projects are arranged in the order in which they were received by staff.

Based on this information, staff recommends the TTC consider recommending the Policy Board pursue the first four ranked projects. As discussed last month, should staff receive any information following the TTC recommendation and before the Policy Board meeting which changes the scoring or rankings, the next logical ranks will be recommended.

The RVTPO Policy Board will be presented with these rankings at their February 24 meeting so project pre-applications may be submitted in March.

TTC Action:

Recommend a list of FY24 SMART SCALE candidate projects to the RVTPO Policy Board.

STAFF REPORT
TTC Meeting February 10, 2022
SUBJ: Adjustment to FY22-27 Surface Transportation Block Grant (STBG)
Financial Plan

The RVTPO Policy Board annually reviews currently funded STBG projects and accepts requests for additional funding in the Fall. Two project requests were submitted at that time for which the Transportation Technical Committee in December recommended the Policy Board not fund giving preference to candidate projects that were submitted in the biannual new application process in September. In January, the Town of Vinton made known to staff and the TTC about a cost overrun on the existing STBG project Walnut Avenue Bicycle and Pedestrian Accommodations (5th Street to City/Town limit). The matter was not heard at the TTC's January meeting because per the RVTPO's STBG Project Development and Selection Procedures, the deadline for considering such requests had passed. The Town made a request to the Policy Board at their January 27 meeting for an exception to the policy (Policy #7) which the Board granted and approved the public input be sought on the \$370,000 request.

Per Section 5 of the Procedures, the TTC is responsible for providing the Board with a recommendation on changes to existing projects. The Board makes decisions about additional funding requests prior to committing unallocated funds to new projects. Although this has been done during the same meeting in the past and communicated in one financial plan for the next six-year period, it can also be done at separate meetings. This year existing project requests will be addressed as an adjustment to the FY22-27 STBG Financial Plan which enables any approved funds to be available following Board action. The FY23-28/29 Plan that the TTC has been working on will be addressed in March and will reflect allocations for new projects considering the updated FY28 and assumed FY29 funding.

As was mentioned at the January TTC meeting, increases in state revenues as well as the new federal infrastructure law have provided an additional funding in the FY22-27 period. This information was not known when the TTC made its original recommendation in December to not support the two existing projects that had requested additional funding in the Fall and was provided to the TTC the morning of the January meeting. The amount at that time was \$5,338,440 additional available and staff was notified in February that this amount has gone up to \$5,339,443, a difference of \$1,003.

The three projects that have requested additional funding are summarized below and are listed in the order in which they were originally submitted and prioritized within the RVTPO's STBG program.

1.) Tinker Creek Trail Extension

UPC: 110101

Current STBG funding: \$3,227,047

Additional funding request: \$1,589,254

Total STBG: \$4,816,301

(Note: Total project cost is more than \$9M and includes funding from other sources such as Transportation Alternatives, Revenue Sharing, Local, Legacy CN, etc.)

STBG Round 1:

- 5-23-13: Tinker Creek Greenway Connectivity Study approved for \$250,000.

STBG Round 2:

- 3-12-15: Funding deallocated to make funding available for Round 2 new applications.
- 3-12-15: Tinker Creek Trail Extension \$1,220,000 and Tinker Creek Greenway Connectivity Study \$400,000 approved.

STBG Round 3:

- 3-22-18: Tinker Creek Greenway Trail Bridges, Orange Avenue to Deschutes Site \$1,008,413 approved.
- 4-25-19: Three projects and their funding merge totaling \$2,628,413:
 - Tinker Creek Trail Extension \$1,220,000
 - Tinker Creek Greenway Connectivity Study \$400,000
 - Tinker Creek Greenway Trail Bridges, Orange Avenue to Deschutes Site \$1,008,413
- 5-28-20: City of Roanoke requests additional \$598,634 approved by the Board for a total of \$3,227,047.

STBG Round 4:

- March 2021: City of Roanoke requests additional \$1,589,254 which was not approved due to insufficient funds and prioritization of other investments.

STBG Round 5:

- November 2021: City of Roanoke requests additional \$1,589,254.
- December 2021: TTC prioritizes candidate project requests rather than covering existing project overruns given the available funds known at that time.

2.) Walnut Avenue Bicycle and Pedestrian Improvements (5th Street to City/Town limits)

UPC: 111649

Current funding:	\$1,684,030
Additional funding request:	\$ 384,112 (see final note below)
Total STBG:	\$2,068,142

(Note: Per SYIP, project also has \$120k other funds above the current STBG funds.)

STBG Round 1:

- 5-23-13: Glade/Tinker Creek Pedestrian Bridge allocated \$1,800,000 and Walnut Avenue Phase II project (covering 5th St. to City/Town limits) allocated \$2,088,000.
- 3-12-15: Both projects were deallocated to make funding available for Round 2 new applications.

STBG Round 2:

- 3-12-15: Tinker Creek Pedestrian Bridge allocated \$1,459,500.
- Walnut Avenue & 8th Street Intersection Project \$2,334,931 was applied for but not included in the Financial Plan.

STBG Round 3:

- Glade/Tinker Creek Pedestrian Bridge was not able to be constructed where desired due its location in a floodplain.
- 3-22-18: The Board allowed the funds to be moved to a new project not formally requested during the STBG Round 3 process; the Walnut Avenue Bicycle and Pedestrian Improvements (5th Street to City/Town limits) was allocated \$1,446,282.
- 5-28-20: The Town of Vinton requested an additional \$237,748 to cover right-of-way and utility costs not originally included in the estimate which the Board granted for a total of \$1,684,030.

STBG Round 4:

- No change.

STBG Round 5:

- Fall 2021: In the annual project update, Vinton stated the 90% plans were complete and planned to advertise for construction by March 2022.
- January 2022: Vinton notified RVTPO staff that with 100% plans now complete and re-estimating the project cost, the price had gone up and additional funding was requested. Due to the STBG Procedures, the matter was not placed on



the TTC agenda in January, and the policy exception request was made by Vinton at the RVTPO Policy Board January meeting and granted. The Board approved releasing for public comment Vinton’s request for an additional \$370,000.

- February 2022: Since the January RVTPO Policy Board meeting, the cost estimate has been further refined, and Vinton’s request is now \$384,112.

3.) Orange Market Park and Ride/Parking Lot Improvements

UPC: T24579

Current funding:	\$343,573
Additional funding request:	\$892,526
Total STBG:	\$1,236,099

(Note: This project only has STBG funding.)

STBG Round 4:

- 6-25-20: \$343,573 approved by the Board to curb, pave, and stripe Orange Market & Creekside lots, add ADA ramps, crosswalks, landscaping, bike racks, signage to direct people to Hanging Rock Battlefield Trail – elements to supplement the roundabout project funded separately.
- November 2020: Roanoke County requests additional funding, amount TBD.
- February 2021: \$892,526 additional is requested but not approved due to insufficient funds and prioritization of other investments.

STBG Round 5:

- November 2021: Roanoke County requests additional \$892,526.
- December 2021: TTC prioritizes candidate project requests rather than covering existing project overruns given the available funds known at that time.

The draft adjustment to the FY22-27 STBG Financial Plan is attached with only funding for the Walnut Avenue project included. For additional context, the draft FY23-28/29 STBG Financial Plan being released for public comment is also attached. The Board will consider the public comment and hold a public hearing at the February 24 meeting before making a decision on the adjustment to the FY22-27 STBG Financial Plan.

TTC Action:

Recommendation to the Policy Board on an adjustment to the FY22-27 STBG Financial Plan regarding the three requests for cost overrun funding.

Adjustment to FY 2022-2027 Surface Transportation Block Grant (STBG) Financial Plan
Draft February 3, 2022

For TTC information:

Project	Project UPC	Conditionally Committed Funding	Committed Funding	Previous Allocations	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Project Updates/ Other Notes
Roanoke River Greenway - Greenhill Park (Roanoke County) to Riverside Park (Salem)	97171		\$ 7,673,829	\$ 6,963,829	\$ 710,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Roanoke River Greenway - Eddy Avenue Bridge (Salem)	106486		\$ 1,289,114	\$ 1,289,114	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Complete, awaiting closeout.
Roanoke River Greenway - City of Salem line to Bridge Street	105439		\$ 4,363,800	\$ 4,363,800	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Complete, awaiting closeout.
Roanoke River Greenway - Water Pollution Control Plant to the Blue Ridge Parkway	91191		\$ 1,505,371	\$ 1,505,371	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Plantation Road, Bicycle, Pedestrian and Streetscape Improvement Project	103607		\$ 1,679,503	\$ 1,679,503	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Complete, awaiting closeout.
Tinker Creek Trail Extension	110101		\$ 3,227,047	\$ 2,731,551	\$ 495,496	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Request for \$1,589,254 not included.
Bus Replacement and Rebuild Program	T18675/DRPT		\$ 13,622,784	\$ 9,618,071	\$ 1,955,439	\$ 2,049,274	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Garden City Trail Connection	106265		\$ 200,000	\$ 200,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Complete, awaiting closeout.
Walnut Avenue Bicycle and Pedestrian Accommodations (5th Street to City/Town limit)	111649		\$ 2,068,142	\$ 1,446,282	\$ 384,112	\$ 237,748	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Exception to Policy #7 granted by the Policy Board on 1-27-22 to permit consideration of a request from the Town of Vinton for \$370,000 additional funding. Vinton has since requested \$384,112.
Route 419/U.S. 220 Diverging Diamond Interchange	115460		\$ 5,731,866	\$ 1,736,198	\$ 535,198	\$ 87,225	\$ 1,098,627	\$ 1,223,223	\$ 1,051,395	\$ -	\$ -	\$ -	
Roanoke River Greenway Bridge across Barnhardt Creek	113568		\$ 897,770	\$ 897,770	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Complete, awaiting closeout.
Roanoke River Greenway through Explore Park	113567		\$ 3,020,308	\$ 431,678	\$ 384,378	\$ 393,937	\$ 1,810,315	\$ -	\$ -	\$ -	\$ -	\$ -	
Walnut Avenue Bicycle and Pedestrian Accommodations (W. Lee Avenue to 1st Street)	113565		\$ 417,610	\$ 405,610	\$ 12,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Route 220 at International Parkway Improvements	115457		\$ 300,000	\$ 300,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Starkey Road/Buck Mountain Road Intersection Improvements	113144		\$ 2,098,115	\$ -	\$ 30,327	\$ 778,090	\$ 641,759	\$ 647,939	\$ -	\$ -	\$ -	\$ -	
Elizabeth Greenway	113566		\$ 1,104,400	\$ 191,068	\$ -	\$ 913,332	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
I-581 Exit 2 Interchange Study	113570		\$ 190,000	\$ 190,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
New Downtown Transit Transfer Center - Real-Time Transit Passenger Information (RTPI) Project	TBD		\$ 400,000	\$ 400,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Route 220 Superstreet and Access Management	T24740		\$ 924,000	\$ -	\$ -	\$ -	\$ 735,389	\$ 188,611	\$ -	\$ -	\$ -	\$ -	
Orange Market Park and Ride/Parking Lot Improvements	T24579		\$ 343,573	\$ 343,573	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Request for \$892,526 not included.
Route 419 Streetscape Improvements, Phase 2	119462		\$ 4,347,150	\$ -	\$ -	\$ -	\$ 194,193	\$ 1,616,639	\$ 2,358,948	\$ 177,370	\$ -	\$ -	
Roanoke River Greenway - East	119666		\$ 710,000	\$ 710,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Aviation Drive/Valley View Blvd. Pedestrian Improvements	119555		\$ 131,332	\$ -	\$ -	\$ -	\$ 125,000	\$ 6,332	\$ -	\$ -	\$ -	\$ -	
Valleypointe Parkway Realignment	119468		\$ 2,500,000	\$ -	\$ -	\$ -	\$ 100,000	\$ 692,293	\$ 479,769	\$ 1,227,938	\$ -	\$ -	
Gus Nicks Boulevard Pedestrian/Bicycle Crossing	119911		\$ 403,912	\$ 403,912	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Greenway Connection - Riverland Road	119586		\$ 975,568	\$ 645,421	\$ 330,147	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Oak Grove Streetscape Improvements - Crosswalk	T24550		\$ 218,748	\$ 218,748	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Route 460 (Orange Ave) Improvements near Blue Hills Drive	119464		\$ 676,720	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 676,720	\$ -	\$ -	
Route 460 (Orange Ave) Improvements at King Street	119461		\$ 550,280	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 550,280	\$ -	\$ -	
Route 460 at West Ruritan Road Intersection Improvements	119450		\$ 785,549	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 785,549	\$ -	\$ -	
Route 460 Intersections from Carson Road to Huntridge Road	119449		\$ 427,803	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 427,803	\$ -	\$ -	
Route 460 and Alternate Route 220 Intersection Improvements	120611		\$ 2,544,860	\$ -	\$ -	\$ 486,592	\$ 325,000	\$ 740,761	\$ 992,507	\$ -	\$ -	\$ -	
Total Funding Allocated:			\$ 68,851,098	\$ 40,193,443	\$ 4,837,097	\$ 4,946,198	\$ 5,030,283	\$ 5,115,798	\$ 4,882,619	\$ 3,845,660	\$ -	\$ -	
Total STBG Funding Available:			\$ 86,154,555	\$ 40,193,443	\$ 5,280,296	\$ 5,804,646	\$ 5,920,739	\$ 6,021,391	\$ 6,123,755	\$ 6,227,859	\$ 5,291,213	\$ 5,291,213	Reflects updated additional funding from state revenues, IJA through FY27 as notified on 2-2-22.
Balance Entry (UPC 104126):			\$ -	\$ -	\$ 443,199	\$ 858,448	\$ 890,456	\$ 905,593	\$ 1,241,136	\$ 2,382,199	\$ 5,291,213	\$ 5,291,213	
										\$ 6,721,031			
											\$ 12,012,244		
												\$ 17,303,457	
TOTAL UNALLOCATED FUNDS FY14-29:													

FY 2023-2028/29 Surface Transportation Block Grant (STBG) Financial Plan
Draft January 27, 2022 - for public comment

Project	Project UPC	Conditionally Committed Funding	Committed Funding	Previous Allocations	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Project Updates/ Other Notes
Roanoke River Greenway - Greenhill Park (Roanoke County) to Riverside Park (Salem)	97171		\$ 7,673,829	\$ 7,673,829	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Roanoke River Greenway - Eddy Avenue Bridge (Salem)	106486		\$ 1,289,114	\$ 1,289,114	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Complete, awaiting closeout.
Roanoke River Greenway - City of Salem line to Bridge Street	105439		\$ 4,363,800	\$ 4,363,800	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Complete, awaiting closeout.
Roanoke River Greenway - Water Pollution Control Plant to the Blue Ridge Parkway	91191		\$ 1,505,371	\$ 1,505,371	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Plantation Road, Bicycle, Pedestrian and Streetscape Improvement Project	103607		\$ 1,679,503	\$ 1,679,503	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Complete, awaiting closeout.
Tinker Creek Trail Extension	110101		\$ 3,227,047	\$ 3,227,047	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Request for \$1,589,254 not included at this time.
Bus Replacement and Rebuild Program	T18675/DRPT		\$ 13,622,784	\$ 11,573,510	\$ 2,049,274	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Garden City Trail Connection	106265		\$ 200,000	\$ 200,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Complete, awaiting closeout.
Walnut Avenue Bicycle and Pedestrian Accommodations (5th Street to City/Town limit)	111649		\$ 2,054,030	\$ 1,816,282	\$ 237,748	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Exception to Policy #7 granted by the Policy Board on 1-27-22 to permit consideration of a request from the Town of Vinton for \$370,000 additional funding. That amount is included here - Increase committed funding from \$1,684,030 to \$2,054,000 and Previous Allocations from \$1,446,282 to \$1,816,282.
Route 419/U.S. 220 Diverging Diamond Interchange	115460		\$ 5,731,866	\$ 2,271,396	\$ 87,225	\$ 1,098,627	\$ 1,223,223	\$ 1,051,395	\$ -	\$ -	\$ -	
Roanoke River Greenway Bridge across Barnhardt Creek	113568		\$ 897,770	\$ 897,770	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Complete, awaiting closeout.
Roanoke River Greenway through Explore Park	113567		\$ 3,020,308	\$ 816,056	\$ 393,937	\$ 1,810,315	\$ -	\$ -	\$ -	\$ -	\$ -	
Walnut Avenue Bicycle and Pedestrian Accommodations (W. Lee Avenue to 1st Street)	113565		\$ 417,610	\$ 417,610	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Route 220 at International Parkway Improvements	115457		\$ 300,000	\$ 300,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Starkey Road/Buck Mountain Road Intersection Improvements	113144		\$ 2,098,115	\$ 30,327	\$ 778,090	\$ 641,759	\$ 647,939	\$ -	\$ -	\$ -	\$ -	
Elizabeth Greenway	113566		\$ 1,104,400	\$ 191,068	\$ 913,332	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
I-581 Exit 2 Interchange Study	113570		\$ 190,000	\$ 190,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
New Downtown Transit Transfer Center - Real-Time Transit Passenger Information (RTPi) Project	TBD		\$ 400,000	\$ 400,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Route 220 Superstreet and Access Management	T24740		\$ 924,000	\$ -	\$ -	\$ 735,389	\$ 188,611	\$ -	\$ -	\$ -	\$ -	
Orange Market Park and Ride/Parking Lot Improvements	T24579		\$ 343,573	\$ 343,573	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Request for \$892,526 more not included at this time.
Route 419 Streetscape Improvements, Phase 2	119462		\$ 4,347,150	\$ -	\$ -	\$ 194,193	\$ 1,616,639	\$ 2,358,948	\$ 177,370	\$ -	\$ -	
Roanoke River Greenway - East	119666		\$ 710,000	\$ 710,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Aviation Drive/Valley View Blvd. Pedestrian Improvements	119555		\$ 131,332	\$ -	\$ -	\$ 125,000	\$ 6,332	\$ -	\$ -	\$ -	\$ -	
Valleypointe Parkway Realignment	119468		\$ 2,500,000	\$ -	\$ -	\$ 100,000	\$ 692,293	\$ 479,769	\$ 1,227,938	\$ -	\$ -	
Gus Nicks Boulevard Pedestrian/Bicycle Crossing	119911		\$ 403,912	\$ 403,912	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Greenway Connection - Riverland Road	119586		\$ 975,568	\$ 975,568	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Oak Grove Streetscape Improvements - Crosswalk	T24550		\$ 218,748	\$ 218,748	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Route 460 (Orange Ave) Improvements near Blue Hills Drive	119464		\$ 676,720	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 676,720	\$ -	\$ -	
Route 460 (Orange Ave) Improvements at King Street	119461		\$ 550,280	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 550,280	\$ -	\$ -	
Route 460 at West Ruritan Road Intersection Improvements	119450		\$ 785,549	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 785,549	\$ -	\$ -	
Route 460 Intersections from Carson Road to Huntridge Road	119449		\$ 427,803	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 427,803	\$ -	\$ -	
Route 460 and Alternate Route 220 Intersection Improvements	120611		\$ 2,544,860	\$ -	\$ 486,592	\$ 325,000	\$ 740,761	\$ 992,507	\$ -	\$ -	\$ -	
I-581/U.S. 460 and Williamson Road Interchange Improvements	TBD	\$ 2,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 320,147	\$ 1,445,553	\$ 234,300	\$ -	Leverage for TBD project (total cost unknown) in SMART SCALE Round 5.
Orange Ave. (U.S. 460) - 11th to 24th St. Improvements	TBD	\$ 5,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	Leverage for \$23M project in SMART SCALE Round 5, previously unsuccessful in SMART SCALE Round 4.
Orange Ave. (U.S. 460) and Williamson Rd. Intersection Improvement	TBD	\$ 5,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	Leverage for \$7.6M project in SMART SCALE Round 5.
I-581 at Exit 2 (Peters Creek Road) Interchange Improvements, Phase 1	TBD		\$ 4,058,056	\$ -	\$ 405,024	\$ 890,000	\$ 905,239	\$ 921,346	\$ 936,447	\$ -	\$ -	Committed funds to be used as leverage in SMART SCALE Round 5 toward \$16.9M project.
Glade Creek Greenway, Phase 3 PE	TBD		\$ 275,000	\$ -	\$ 275,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Included by Board on 1-27-22 for public comment.
Total Funding Allocated:			\$ 85,170,042	\$ 45,016,428	\$ 5,626,222	\$ 5,920,283	\$ 6,021,037	\$ 6,124,112	\$ 6,227,660	\$ 5,234,300	\$ 5,000,000	
Total STBG Funding Available:			\$ 86,153,552	\$ 45,473,428	\$ 5,804,606	\$ 5,920,283	\$ 6,021,037	\$ 6,124,112	\$ 6,227,660	\$ 5,291,213	\$ 5,291,213	Reflects additional funding from state revenues, IJA through FY27 as notified on 1-12-22.
Balance Entry (UPC 104126):			\$ -	\$ 457,000	\$ 178,384	\$ -	\$ -	\$ -	\$ -	\$ 56,913	\$ 291,213	
										\$ 692,297		
											\$ 291,213	

Remaining through FY28:
Remaining through Year 7 (FY29):