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**PROJECT:** Afton Mountain Traffic Study  
Rockfish Gap, Virginia

**CLIENT:** Zach Beard  
Central Shenandoah Planning District Commission (CSPDC)

**DATE:** August 31, 2023

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### **Project Understanding**

We understand that the scope of this project is to perform a traffic study to review the operations, safety, access management, and potential improvements necessary along US Route 250 (Rockfish Gap Turnpike) and Route 610 (Howardsville Turnpike) to support future redevelopment of the property located on top of Afton Mountain at Rockfish Gap. The project is being completed within the SAWMPO region.

In addition, the area between the western portal of the Blue Ridge Tunnel to the Blue Ridge Parkway will be reviewed for potential bicycle and pedestrian accommodations along US Route 250. This is in conjunction with the proposed RAISE grant project to install a shared use path along US Route 250 from the City of Waynesboro and the western portal.

In accordance with the discussions with CSPDC, Timmons Group will provide overall project management, data collection, safety analysis, operational analysis, intersection alternatives analysis, engineering design, and conceptual options – all consistent with VDOT TOSAM guidelines and requirements.

Our detailed scope of services includes the following:

#### **Task 1 – Site Visit and Existing Conditions Review**

- A. Obtain previous studies, planned developments/improvements, other transportation projects that have been considered, and/or any projects that are currently funded adjacent to the project location.
- B. Perform a visual geometric assessment of the existing roadway infrastructure, such as: width of lanes, length of turn lanes, location of pedestrian/bicycle facilities, roadway geometry, sight distance, clear zones, drainage, surface conditions, signage, pavement markings, lighting, barriers, traffic volumes/operations, pedestrian/bicycle volumes, operating speeds, surrounding land uses, and user expectancy evaluation, and adequacy of existing traffic control devices.  
*Note: This does NOT include detailed survey work.*
- C. Identify potential opportunities or constraints for the study area based on field assessment, existing geometry, and the obtained available data.
- D. Review study area for potential pedestrian and bicycle accommodations along US Route 250.
- E. Access management will be assessed per VDOT spacing standards between the existing study intersections in case of modifications associated with an alternative intersection implementation.

## **Task 2 – Traffic Data Collection**

- A. Directional turning movement counts will be collected at the following four (4) study intersections:
  - 1. US Route 250 at Blue Ridge Parkway
  - 2. US Route 250 at Route 610
  - 3. US Route 250 at Afton Circle
  - 4. Route 610 at Blue Ridge Parkway
- B. All data will be collected in 15-minute intervals and broken down into passenger vehicles, heavy vehicles, pedestrians, and bicycles.
- C. Traffic data will be collected on a Tuesday/Wednesday/Thursday (with schools in session) at all four (4) study intersections during the AM and PM peak hours (assumed to be 2 hours of data collection per peak).
- D. Traffic data will also be collected on a Saturday at all four (4) study intersections during the mid-day peak hours (assumed to be 4 hours of data collection).
- E. Information from the ongoing VDOT traffic signal analysis at the US Route 250 interchange with I-64 will be utilized to compare background growth and understand traffic patterns in the area.

## **Task 3 – Operational Analysis**

A traffic analysis will be performed in the study area in accordance with the latest version of the Manual on Uniform Traffic Control Devices (MUTCD), the Virginia Supplement to the MUTCD, the VDOT Traffic Engineering Design Manual, and the VDOT Traffic Operations and Safety Analysis Manual (TOSAM). The Synchro/SimTraffic software platform will be utilized for this traffic analysis.

The traffic analysis will include the four (4) existing intersections at which traffic data will be collected. Representatives from CSPDC, Augusta County, City of Waynesboro, and VDOT will provide all future development and active planning/zoning projects within the study area for use in determining appropriate growth rates and potential changes to traffic patterns.

- A. Analysis will be performed for existing conditions (2023) and design year (TBD). The design year will be agreed upon between CSPDC, VDOT, and the Engineer prior to moving forward with the traffic analysis.
- B. Development of background traffic forecasts for the buildout and design year analyses will be performed for the AM/PM/Saturday peak hours. The applicable growth rate and approved background development traffic will be agreed upon between the CSPDC, VDOT, and the Engineer prior to moving forward with the traffic analysis.
- C. Identification of improvements that may be necessary at the study intersections- to address the operational issues.
- D. Development of future build traffic forecasts with the improvements for the design year analysis will be performed for the AM/PM/Saturday peak hours.

#### **Task 4 – Safety Analysis**

- A. Analyze crash data from publicly-available VDOT sources to identify crashes within the study area and determine if any crash patterns/trends may affect the improvement recommendations.
- B. Crash data will be analyzed for the most recent available data for a 5-year period. At this time, the dates are assumed to be June 2018 to June 2023.
- C. Compile a list of identified safety issues within the study area. Compare field visit findings with crash data to identify those areas with the greatest opportunity for mitigation measures.
- D. Review collected traffic and pedestrian data to understand existing conditions and operations, including routing and patterns within the study area.
- E. Identification of geometric improvements that may be necessary within the study area, including identification of mitigation measures for safety issues. Mitigation measures may include engineering, education, enforcement, or other actions beneficial to user safety. Mitigation measures will be grouped into short-, intermediate-, and long-term options, as applicable.

#### **Task 5 – Alternatives Analysis**

- A. Complete screening process utilizing the VDOT Junction Screening Tool (VJuST) for consideration of alternative/innovative intersection options for the intersection of US Route 250 at Route 610, as required by VDOT TE-387.1.
- B. Coordinate with CSPDC and VDOT on the results of the screening process and the crash analysis and select up to three (3) alternatives that will be considered for further analysis.
- C. Perform an operational analysis of the design year conditions for up to three (3) of the selected alternatives. Analyses will be completed using the appropriate TOSAM-approved software. For these locations, it is expected that either Synchro or SIDRA will be the only software tools required to complete the analysis. If other analysis software is required, a change order may be necessary.

#### **Task 6 – Pedestrian/Bicycle Assessment and Recommendation**

- A. Perform an assessment of potential improvements for pedestrian and bicycle access and linkages along US Route 250, the entrance to the Blue Ridge Parkway, Shenandoah National Park, Appalachian Trail, and the Crozet Blue Ridge Tunnel – West Portal.
- B. Research and review the available data from the RAISE grant submission for the shared use path from the City of Waynesboro to the western portal of the Blue Ridge Tunnel.
- C. Coordinate with agencies on bicycle/pedestrian volumes and attendance data at the Blue Ridge Tunnel and any known patterns.
- D. Identify options that meet VDOT standards, as well as understanding any necessary exceptions or waivers that may be required.

### **Task 7 – Conceptual/Schematic Geometric Alternatives**

- A. Develop conceptual/schematic layouts for up to three (3) improvement alternatives within the study area.
- B. Exhibits will be developed to a concept-level sketches. The intent of these exhibits is to visually convey potential intersection improvement location/configuration, property impacts, and is to be used for discussion purposes only.
- C. The exhibits will incorporate both the vehicular improvements for operations, safety, and access management, but also any recommended bicycle and/or pedestrian accommodations.
- D. Preparation of all alternatives will be clearly depicted on sheets at scale.
- E. This task includes review time with CSPDC and VDOT staff to ensure the potential alternatives can be implemented. It is assumed that a minimum of two (2) meetings will occur between all parties, assumed virtual. Timmons Group will provide regular updates to CSPDC at all times during the project.

### **Task 8 – Technical Report**

- A. Prepare a technical report documenting all the tasks and providing a summary of Timmons Group’s approach, findings, and recommendations for CSPDC and VDOT.
- B. Incorporate vehicular and multi-modal recommendations.
- C. Incorporate any recommendations made by the Blue Ridge Parkway Foundation Blue Ridge Rising (BRR) for the Comprehensive Action Plan that affect the study area, including coordination with BRR.
- D. Coordinate with other on-going work related to the Afton Mountain site and incorporate elements of improvements or recommendations that may affect the vehicular or multi-modal analysis within the study area.
- E. Coordinate with CSPDC and VDOT staff on the recommendations of the report and address comments received from staff. This proposal assumes that up to two rounds of comments will be addressed.

### **Notes:**

- (1) No data is to be collected on the Blue Ridge Parkway itself. The 2 intersections nearby, one on US Route 250 and one on Route 610, are within the ROW that may be impacted by this project. There is no intent to make improvements along the main Blue Ridge Parkway alignment, only the VDOT intersections and/or roadway corridors nearby. If additional data collection and analysis is requested on the Blue Ridge Parkway, a change order will be required.
- (2) Our fees shall not deviate from the figures indicated below without prior written approval from the CSPDC. Fees indicated as ***budget*** may need to be adjusted up or down based on actual field conditions or regulatory requirements. If for any reason a change to this agreement becomes necessary, the CSPDC will be notified by a change order written by the Project Manager. After the date of this agreement, changes in the scope of work required by state or federal regulatory agencies, or by CSPDC revisions, may require a change order.