

CITY OF BUENA VISTA

US 60 SMALL AREA PLAN



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ACKNOWLEDGMENTS

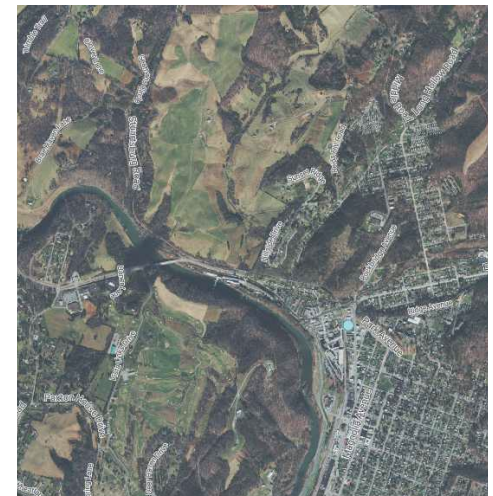
The Virginia Office of Intermodal Planning and Investment (OIPI) thanks the City of Buena Vista and the Virginia Department of Transportation for their time and input. Unless credited otherwise, all photos, maps, and illustrations in this study were provided by OIPI, the City of Buena Vista, its project partners, or its consultant Toole Design.

ABOUT GAP-TA

The Growth and Accessibility Planning Technical Assistance (GAP-TA) program supports Virginia localities in planning and developing multimodal transportation opportunities. The program has four components, and each component has differences in eligible applicants, eligible activities, expected outcomes, and application evaluation criteria. Component 1 involves conducting multi-modal planning within existing or planned Urban Development Areas or Growth Areas. Component 2 involves developing or evaluating strategies to address emerging planning issues. Component 3 involves developing an accessibility planning process. Finally, component 4 involves conducting multi-modal planning outside urbanized areas. Visit vtrans.org/about/GAP-TA for information about the Growth and Accessibility Planning Technical Assistance program.

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I. INTRODUCTION

1.1 Project Background

The City of Buena Vista is a small and vibrant city of approximately 6,500 located in Southwestern Virginia, in the Shenandoah Valley region. The layout of the city, presented as a map in Figure 1, is sited at the foot of the Blue Ridge Mountains (to the east) with boundaries defined by the Maury River to the west and Rockbridge County to the north, and surrounding context of the Jefferson and George Washington Forest. The heart of the city is the downtown grid on the eastern bank of the Maury River; on the west bank of the River is the Hill Top District which features a public park, residential neighborhoods, and a community commercial center including the city's grocery store. These two areas are connected by the east-west roadway US Route 60 (US 60), which provides a major connection to Lexington, VA (about ten minutes by car or bus) and access to I-81.

US Route 60 is an important route for its regional connections and a critical link between the two sides of the city. The Hill Top area is an important commercial area with proposed plans for the area in various stages of development but lacks the multimodal facilities that would offer connections along and across the corridor. The City is working toward revitalizing its downtown and encouraging Hill Top development, and recognizes the need for strategic improvements to this corridor.

This study, the US 60 Small Area Plan, will **develop a vision for future land use and transportation development** along the US 60 (Midland Trail) corridor and **conceptualize the future transportation network** that serves the proposed (and existing) developments with safe, comfortable, multimodal connections. The Small Area Plan will equip the City of Buena Vista with recommendations and will serve as a resource for the City, its partners, and the development community.

This project is made possible through the Growth & Accessibility Planning Technical Assistance Program (GAP-TA) at Virginia's Office of Intermodal Planning and Investment (OIPI). GAP-TA projects offer Virginia municipalities the opportunity to engage technical assistance that meet select criteria. The US 60 Small Area Plan addresses *component 1: conduct multi-modal planning within existing or planned Urban Development Areas* as the corridor serves an important community connection, and improvements to study area accessibility is foundational to the City's revitalization and growth initiatives.

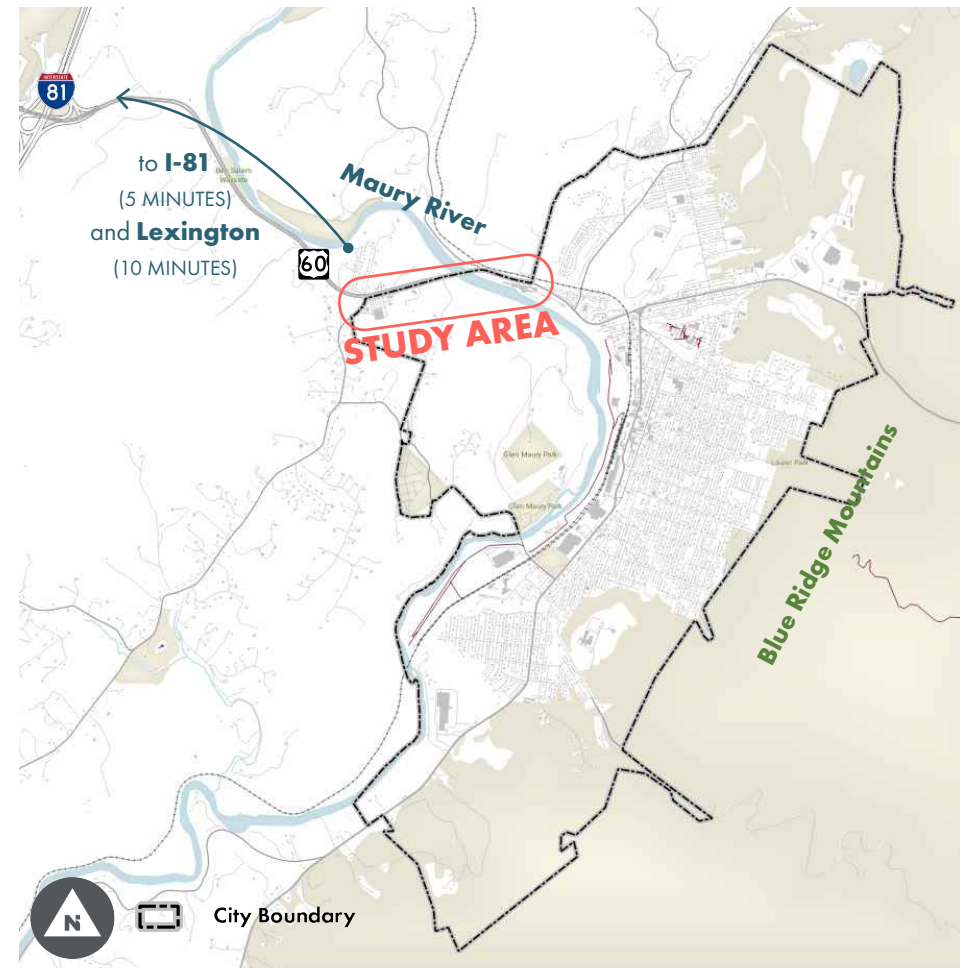


Figure 1 City of Buena Vista Context

1.2 Planning Approach

The planning process was supported by a project steering committee, including representatives from the City of Buena Vista Office of Community Development, Central Shenandoah Planning District Commission (CSPDC), the Virginia Department of Transportation (VDOT), and participation from the Virginia Office of Intermodal Planning and Investment (OIPI) staff. The approach and key milestones are outlined in Figure 2.

The project began with an **existing conditions analysis**, compiling and processing available data including multimodal facilities, services, safety and function; environmental and natural features; existing and proposed land use, future development, and community points of interest. The project team reviewed local adopted plans and guidance including Comprehensive Plans for the City of Buena Vista and Rockbridge County, the Downtown Revitalization Strategy and Hill Top Master Plan, as well as development proposals and supportive materials relevant to the corridor. This data analysis was followed by a **field visit** to verify local conditions and infrastructure along each corridor and potential parallel facilities.

Building on the existing conditions study, the team identified a **conceptual future transportation network** based on the current context and proposed development, and drawing on the City's existing plans and revitalization strategies, with a focus on expanding multimodal connectivity and improving pedestrian safety.

The team organized charrette-style workshops with the project and study teams to **evaluate potential pedestrian connections**, drafting a range of alternatives and design options to improve connections along the corridor. A selection of final **alternatives** were explored further including facility design, alignment, conceptual cross sections to demonstrate facility options and use, and planning level cost estimates. These recommendations and potential next steps for advancing these concepts are presented in the final section of this plan.

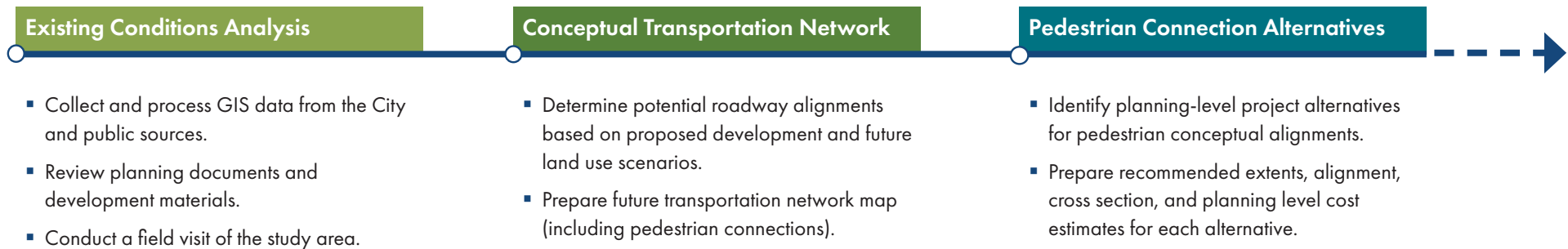


Figure 2 Project Approach and Timeline

II. EXISTING CONDITIONS

This section evaluates the existing multimodal infrastructure in the study area to identify access gaps, key considerations related to existing and proposed development and activities, and begins to define potential connectivity areas of interest for further conceptualization and for consideration in future grant applications. The analysis process included a review of past plans and studies, a review of available traffic, land use and development plans, and geographic information systems (GIS) data, and field work in December 2023. The consultant team visited the City of Buena Vista on Wednesday, December 13th, 2023, and were joined by staff from the City, VDOT, and the Central Shenandoah Valley Planning District and VDOT for part of the field visit.

2.1 Study Area

The Study Area is centered on US 60, also referred to as Midland Trail, and includes the roadway network connected to a 0.6-mile segment of US 60 spanning from Forge Road (Route 745) to Stuartsburg Road (Route 608) and the adjacent parcels. Roadways that connect to US 60 and are included in the study area are Vista Links Drive (0.4-mile segment extending to Mountain Gateway Community College) and Forge Road (0.1-mile

segment connecting to the Food Lion). The intersections of these roadways are considered as part of the analysis and include US 60 at Forge Road, CJ Morrison Drive, Baner Lane, Vista Links Drive, and Stuartsburg Road.

The corridor's character is primarily suburban, though the study area falls within the City's Urban Development Area (UDA). Existing destinations in the study area include:

- Food Lion Shopping Center and other adjacent commercial properties including CVS Pharmacy, Dollar General, and TAP Head Start Childcare;
- Mountain Gateway Community College;
- Rockbridge County 911 Center; and,
- Recreational amenities, including Glen Maury Park and (former) Municipal Golf Course.

The relationship between these destinations and their current connections to US 60 is presented in Figure 3, below. The length of this segment of the US 60 corridor as shown (i.e., from the entrance to the Food Lion at CJ Morrison Drive to the intersection of US 60 and Vista Links Drive) is approximately 0.3-miles or an estimated 5-minute walk. Figure 4 presents the full study area, including key destinations within and proximate to the area.

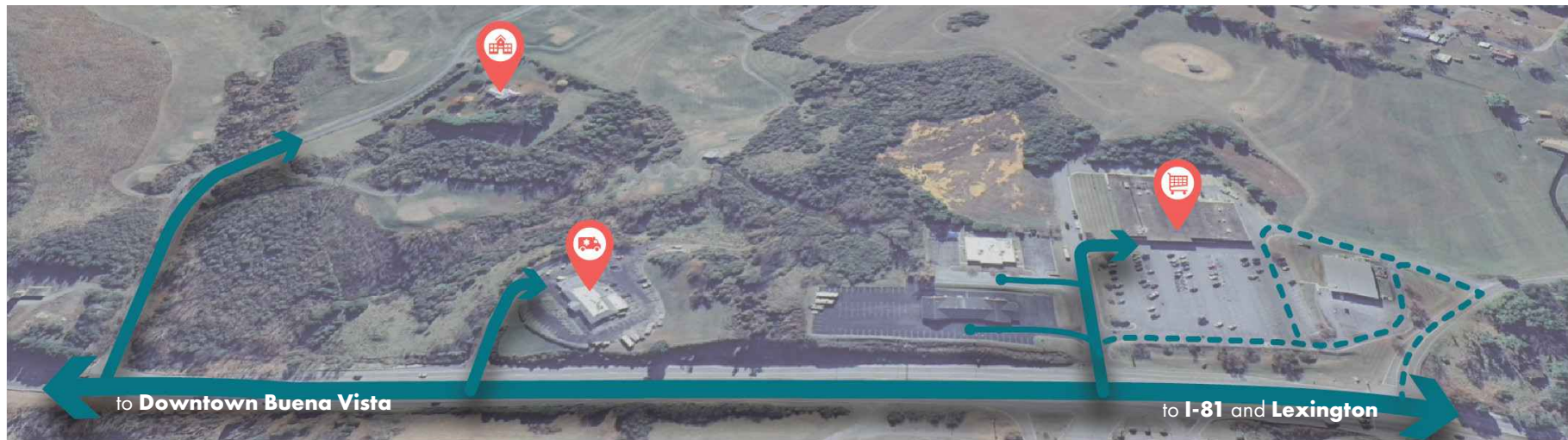


Figure 3 US 60 Corridor and Key Destinations (Forge Road to Vista Links Drive)



Figure 4 Study Area (US 60 from Forge Road to Stuartsburg Road, and connecting parcels)

Corridors and Segments

The study area considers the following roadways:

- 0.6-mile segment of US 60, from Forge Road to Stuartsburg Road
- 0.4-mile segment of Vista Links Drive, from US 60 to the Mountain Gateway Community College building
- .01-mile segment of Forge Road, from US 60 to the shopping center entrance (Food Lion, Dollar General, and other sites)

The study area considers five US 60 intersections:

- Forge Road
- CJ Morrison Drive
- Baner Lane
- Vista Links Drive
- Stuartsburg Road

2.2 Existing VTrans Needs

The Virginia Office of Intermodal Planning and Investment (OIPI) prepares a statewide analysis of multimodal transportation needs and prioritizes these needs based on their alignment with and contribution to the statewide transportation vision. Needs are addressed on a segment level, and compiled for public review on an interactive website, as well as presented and addressed in the statewide plan. This process and the underlying framework is outlined in the *Policy for the Identification and Prioritization of VTrans Mid-term Needs*. The most recent updates to the VTrans Mid-term Needs (2023) were published during the current project.

VTrans Mid-term Needs can apply to roadway segments, intersections, or areas such as Urban Development Areas (UDAs) and Industrial and Economic Development Areas (IEDAs). UDAs are defined as growth areas supported by local initiatives and prioritized for emphasis on walkability and community economic development (e.g., transportation, housing, utilities, placemaking, or other public improvements). In particular, UDA's support Traditional Neighborhood Design (TND) with priority to walkability, connectivity, mixed and diverse land uses, and supporting multimodal networks to enable a range of mobility options.

The City of Buena Vista is one of Virginia's 230 UDAs, established in 2011. VTrans also identifies Corridors of Statewide Significance (CoSS), which are multimodal facilities that provide direct and interregional connections between destinations or other activity centers. US 60 is identified as one of the twelve CoSS for its role providing important East-West connections for people and goods.

Table 1 VTrans Mid-term Needs

Area or Segment	VTrans Mid-Term Needs (2023)
US 60 (Forge Road to Stuartsburg Road)	- Transportation Demand Management (non-limited Access Corridor of Statewide Significance (CoSS)) - Safety Improvement (including CoSS and non-CoSS segments)*
Intersection of US 60 and Stuartsburg Road	Intersection Safety Improvement
City of Buena Vista UDA <i>Roadways within the UDA including US 60, Forge Road, CJ Morrison Drive, Baner Lane, Vista Links Drive, and Stuartsburg Road</i>	- Urban Development Area (UDA) needs identified for the Buena Vista UDA include: - Pedestrian Infrastructure - Sidewalks - Signage/Wayfinding - Bicycle Infrastructure - Complete Streets - Street Grid - Roadway Capacity - Roadway Operations - Safety Features - Transit Capacity - Transit Facilities - Transit Frequency - Transit Operations - Traffic Calming - Intersection Design - Environment - Off-Street Parking - On-Street Parking

* Safety Improvement needs for US 60 were included as Mid-Term Needs in 2021, but were not included in the 2023 update.

2.3 Transportation Infrastructure

This section explores and evaluates how people currently move along the US 60 corridor with a look towards the available transportation infrastructure and services. This includes a summary of the current roadways, pedestrian and bicycle facilities, and public transport in the study area. The transportation infrastructure discussion concludes with a corridor safety analysis based on reported crash data.

Roads

US 60

US 60, also referred to as the Midland Trail, is an east-west US highway owned and maintained by VDOT in the study area. The roadway is classified as a minor arterial and carries 10,740 vehicles per day (2022 AADT). Of note, the roadway is identified as a major truck or freight corridor with its connection to I-81 and continuing westbound to the City of Lexington. As discussed in section 2.2, the corridor is also one of Virginia's Corridors of Statewide Significance.

US 60 serves as a gateway route into the City of Buena Vista and gradually integrates with the gridded street network in the downtown and historic parts of the City. Figure 5 illustrates the most prevalent cross section in the study area: four 14-foot lanes separated by direction and divided by an approximately 40-foot grass median. Some areas include a paved shoulder, as shown.

After crossing the Maury River, US 60 becomes West 29th Street and the streetscape is increasingly pedestrianized with painted crosswalks across driveways and sidewalks on both sides of the roadway, and the number of lanes is reduced from four (two in each direction) to three (one lane each way and a center turning lane).

Likewise, the travel speed of US 60 changes drastically while traversing the study area. As US 60 transitions from the more rural western end of the corridor, the posted speed limit changes from 55 MPH to 40 MPH (at CJ Morrison Drive), and finally 35 MPH (at Vista Links Drive).

Outside of the study area, by the intersection with Orchard Avenue, the roadway posted speed drops to a safer and more comfortable 25 MPH. **Especially in the eastbound direction, the most important safety and functional element of US 60 is its transition from a divided arterial with an undeveloped, rural context and speed limits of 55 MPH to a gridded street network with speeds of 25 MPH. This drastic change occurs entirely within the 0.6-mile study area segment.**

The City has several initiatives and plans in place to strengthen US 60's role as a gateway corridor and to better emphasize the entrance to the City and alert drivers and other travelers to change their behavior to reflect the city context. Plans to improve and reinstall signage at the city border, next to the entrance to the Shopping Center and other placemaking concepts to help build an identity for the City are outlined in the Downtown Revitalization Plan (2021) and Hill Top–Glen Maury Park Master Plan (2002).

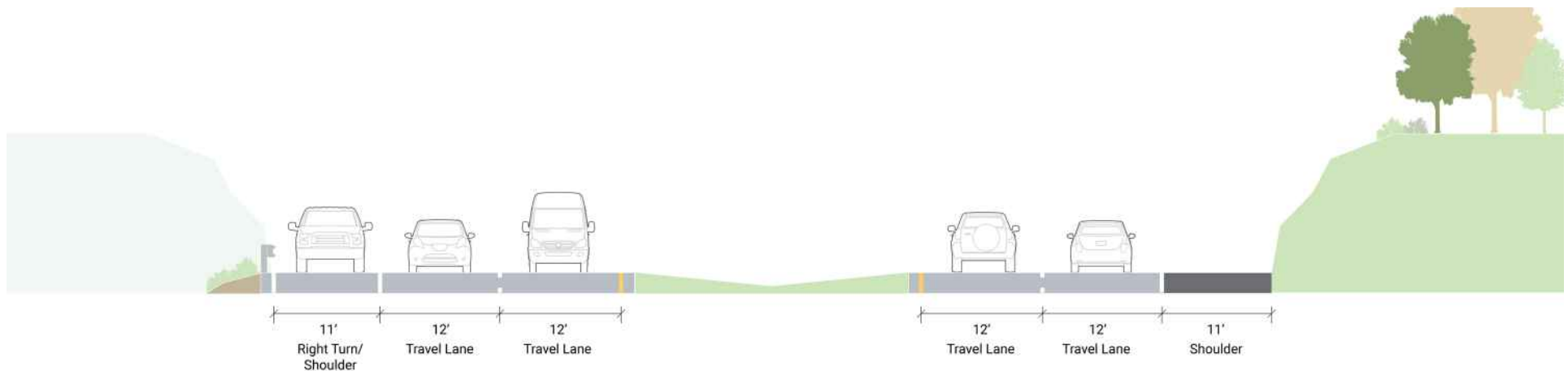


Figure 5 Typical US 60 Cross Section

Intersections

The corridor features connections to several secondary roadways that provide access to commercial, residential, and recreational properties both within and outside the study area. These include, on the south side (eastbound) of US 60: Forge Road, CJ Morrison Drive, Baner Lane, Vista Links Drive, and Stuartsburg Road on the north side (westbound) of US 60. The north side of US 60 (adjacent to westbound lanes) includes a driveway to a gas station and a series of residential roads and driveways including Pathfinder Drive and a private right-of-way connecting to parcels recently sold (anticipated to feature mixed use or primarily residential development). Five intersections along US 60 are assessed as part of the current project: US 60 at Forge Road, CJ Morrison Drive, Baner Lane, Vista Links Drive, and Stuartsburg Road.

US 60 at Forge Road

Forge Road is a major collector and its intersection with US 60 is the only signalized intersection in the study area. In addition to serving local collector and residential roads, Forge Road features access to the Food Lion shopping center with a driveway approximately 350 feet south of the intersection. At the intersection, turning movements and markings in this area include westbound left turn lanes for vehicles accessing Forge Road from US 60, eastbound left turn lanes for vehicles turning onto Pathfinder Drive and a right turn lane onto Forge Road, and a left turn lane for vehicles accessing US 60 westbound. Of note, the intersection carries 301 large vehicles (trucks) each day.

Negotiating these turning movements is shown to present safety challenges, as reflected in the 10-year crash data for this intersection. Since 2015, VDOT reports 12 crashes at this intersection with 50 percent resulting in an injury. Most crashes were angle crashes, with two reports identifying distraction as a contributory factor. Two of the crashes involved rear-end collisions on the westbound side of US 60, with one crash resulting in an injury.

US 60 at CJ Morrison Drive

CJ Morrison Drive serves vehicles accessing the Food Lion shopping center—including large trucks servicing the commercial businesses. CJ Morrison is approximately 40 feet wide, with arrow markings to organize bidirectional movement (entering and exiting) as drivers negotiate movement through the unsignalized intersection. Eastbound drivers can turn right onto US 60; westbound drivers can cross the two lanes of US 60 and wait in the median before turning onto US 60.



Figure 6 Approaching Forge Road from US 60 (Source: Google Maps)



Figure 7 Approaching CJ Morrison Drive from US 60 (Source: Google Maps)

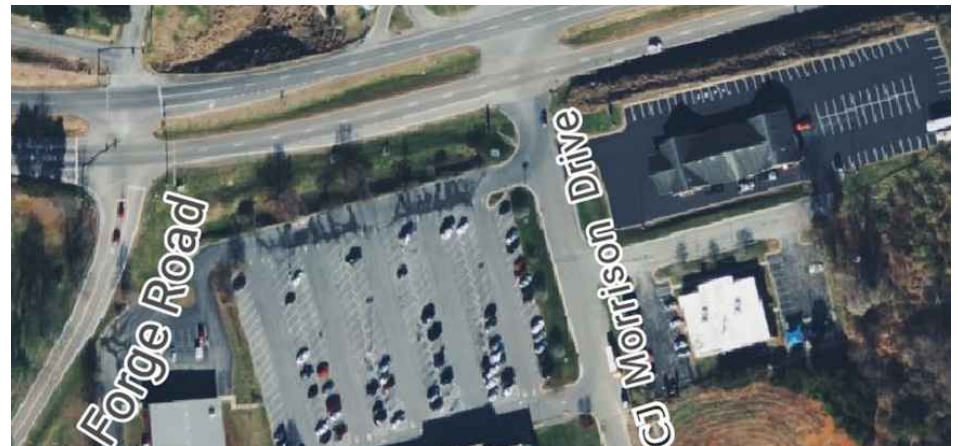


Figure 8 Intersections of Forge Road (signalized) and CJ Morrison Drive

This intersection has been linked to eight crashes in the last ten years with most resulting in injuries. Most crashes were angle crashes (i.e., drivers traveling on US 60 east or westbound struck vehicles turning in or out of CJ Morrison Drive), however the most severe crash was a rear-end collision approaching the intersection that resulted in a serious injury. Figure 8 presents the aerial view of the intersection at Forge Road, as well as the intersection of CJ Morrison Drive, to illustrate both the intersection design and the vehicle circulation through the Food Lion Shopping Center.

US 60 at Baner Lane

Baner Lane is a steep and narrow road that connects to (and currently terminates at) the Rockbridge County Emergency Management Center. As a result, the vehicles departing Baner Lane are often emergency service professionals, sometimes driving emergency apparatus such as firetrucks or ambulances, responding with urgency to a scene. As shown in Figure 9, the function of Baner Lane as an emergency access route is further complicated by the topography and steep vegetation that limits visibility of vehicles exiting and turning on to US 60. There have been two rear-end crashes proximate to this intersection with one resulting in a severe injury. However, the crash data only reports events resulting in a collision and fails to capture the near-miss events, and local stakeholders recognize this intersection as a safety concern in its present design.

US 60 at Vista Links Drive

As US 60 approaches Vista Links Drive, the roadway changes from a divided arterial to a 50-foot wide bidirectional arterial with two lanes in each direction and no median. The intersection has been the site of three rear-end crashes over the past 10 years, with one resulting in an injury (note: a 2016 side-swipe crash occurred within the transition area to a temporary work zone and as a result is not considered in the evaluation of current intersection design). In advance of Vista Links Drive there is a wide shoulder that could accommodate turning vehicles from the eastbound direction. Figure 10 depicts the design change as US 60 approaches Vista Links Drive from US 60 westbound, noting the transition from divided arterial. Similar to Baner Lane, Vista Links Drive turning movement is complicated by limited visibility with steep edge vegetation.



Figure 9 Approaching Baner Lane from US 60 (Source: Google Maps)



Figure 10 Approaching Vista Links Drive from US 60 (Source: Google Maps)

US 60 at Stuartsburg Road

The intersection of US 60 and Stuartsburg Road (Figure 11) was identified as an Intersection Safety Improvement 2021 VTrans Mid-term Need. The intersection is located on the other side of the Maury River, as US 60 transitions from a major to a minor arterial and eventually becomes 29th Street, part of the Buena Vista street grid, east of this intersection. The visibility of Stuartsburg road is complicated by the geometry of US 60 as it turns slightly to approach the bridge, the topography surrounding the intersection, and the geometry of Stuartsburg Road – an acute turn that limits the visibility of the roadway from US 60 east and westbound as well as any approaching vehicles. Since 2015, there have been several crashes at this intersection including two off-road crashes (one resulting in an injury), three rear-end crashes, and two crash involving a turning vehicle with one resulting in a severe injury.

US 60 / H. Russell Robey Memorial Bridge

The US 60 / H. Russell Robey Memorial Bridge (Robey Bridge) that passes over the Maury River is an important segment of the transportation and roadway network within the study area. The bridge features two lanes in each direction, with no available shoulders and a narrow sidewalk on the eastbound side (see Figure 12). VDOT data from 2021 reports that the bridge carries approximately 4,335 vehicles per day.

The bridge was constructed in 1984 and is currently in “fair” condition with a general condition rating (GCR) value of 5 (based on a 0-9 scale with 0 reflecting failed condition and 9 reflecting excellent condition) a deck rating of 7, according to the 2023 VTrans data.

Connecting from the Study Area to Downtown Buena Vista

As US 60 continues eastbound beyond the study area and into the downtown core of Buena Vista, it is renamed West 29th Street and the roadway lane configuration transitions to a three-lane (one lane in each direction and a center median/turning lane) cross-section, shown in Figure 13. The posted speed limit approaching this cross section drops to 25 MPH (from 35 MPH west of Orchard Avenue).



Figure 11 Approaching Stuartsburg Road from US 60 (Source: Google Maps)



Figure 12 Pedestrian Infrastructure on the Robey Bridge (Source: Google Maps)



Figure 13 US 60 Lane Reconfiguration, Approaching Orchard Avenue (Source: Google Maps)

Pedestrian and Bicycle Infrastructure

The primary goal of this plan is to improve the safety and connectivity of the US 60 corridor connecting the downtown and Hill Top areas. This section reviews the state of walking and biking in the study area, today.

Walk Score®

Compared to downtown Buena Vista, the US 60 study area is significantly less comfortable and safe for non-motorized users. Walk Score® is a standardized metric aimed to capture these differences in experience and understand how friendly an environment is for walking, biking, or riding transit. Walk Score® quantifies walkability on a scale of 0-to-100 with the lowest quartile reflecting car-dependent areas and the highest reflecting very walkable areas in which most activities and errands do not require a car to perform. This data is used to prioritize VTrans Mid-term needs, and is available for reference on the InteractVTrans.

For context, the following Walk Score® data reflect the context and conditions moving from downtown Buena Vista to the Study Area and continuing towards Lexington:

- Downtown street grid: **70 (Very Walkable)**
- Grid network from 22nd Street to 29th Street: **61 (Somewhat Walkable)**
- 29th Street/US 60 to Orchard Avenue: **33 (Car Dependent)**
- Avenue to Vista Links Drive: **21 (Car Dependent)**
- Vista Links Drive to Forge Road: **18 (Car Dependent)**

Walk Score® also produces a Bike Score® dataset that similarly ranks the bikeability of a corridor. Throughout the entire study area and into downtown Buena Vista, the roadway network ranks as “Somewhat Bikeable,” defined as areas with minimal bike infrastructure.

Pedestrian Infrastructure: Sidewalks

There are limited sidewalks available in the study area. The existing pedestrian infrastructure (Figure 14) includes sidewalk facilities (solid line) and pedestrian-friendly pathways (dashed line) on private property that, even if open to public access, currently offer limited or no direct connections to key community destinations.

Facilities include a sidewalk on the south side of US 60 that connects Downtown to Vista Links Drive. The facility is less than 6 feet wide and the constrained width is exacerbated by the surrounding conditions. The facility is likely perceived as even narrower as pedestrians prefer a safe buffer

from high-speed traffic in the adjacent lane. Likewise, for pedestrians using the sidewalk to traverse the bridge across the Maury River, the desired walking path would tend to leave a comfortable distance from the bridge railing.

The current sidewalk ends approximately 0.3-miles from CJ Morrison Drive or the entrance to the Food Lion Shopping Center—a 5-minute walk. Reported experiences, desktop research, and Google streetview imagery suggest that pedestrians are completing this leg of the journey using any available shoulder or on grassy areas within the right-of-way once the sidewalk ends at Vista Links Drive. An example is shown in Figure 15.

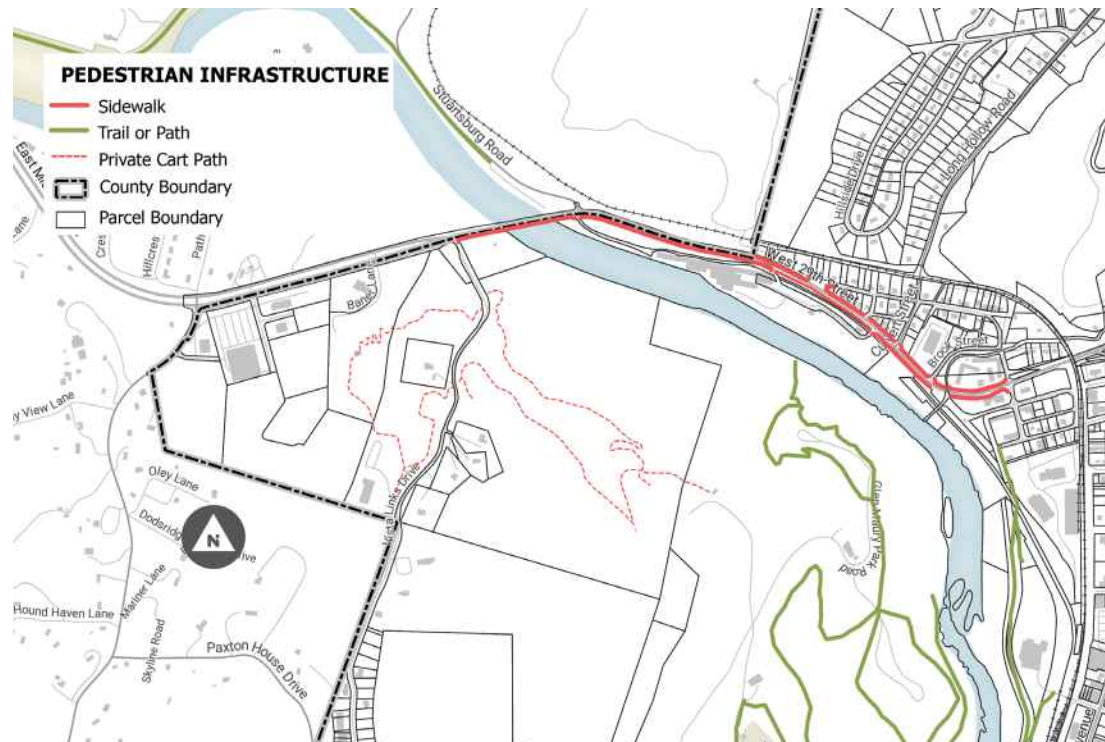


Figure 14 Pedestrian and Bicycle Infrastructure Connecting to US 60

East of the study area there is sidewalk available on both sides of US 60/29th Street. The sidewalk on the westbound side of the roadway terminates by Bontex Drive and there is an available crosswalk at this location (Figure 16). However, the crosswalk features no other warning devices to slow vehicles or alert drivers to pedestrians, further challenged by limited sight distance due to the downhill movement of eastbound drivers.

Without a formal analysis, consider the safety of this crosswalk by noting the variables: The average pedestrian travels at 4.5 linear feet per second, suggesting pedestrians would need 12-15 seconds to safely cross US 60 at this crosswalk. Vehicles cresting the hill are traveling at a rate of 50 feet per second (35 mph) and will need approximately 120 feet to come to a complete stop, including time to perceive the pedestrian and brake, and decelerate to a stop. This relation of crossing and reaction time is further challenged by the lack of traffic control signs to alert drivers to pedestrian crossings.

This crosswalk and connecting sidewalk does not have any ramps or detectable surfaces to guide pedestrians, and is poorly illuminated with only 40-foot cobra head-style lamps spaced approximately every 100 feet. Despite the safety gaps and needs, pedestrians have no other options as there are no marked crosswalks available on 29th Street.

Along the study area and extending towards the downtown area, there are many conflict zones such as driveways, roads with unsignalized intersections, and other access routes where pedestrians using the sidewalk may interact with turning vehicles. An example of one such conflict zone is shown in Figure 17 (the entrance to the Chessie Trail). These driveways and roadways often do not have, but could benefit from, marked crossings or stop lines to guide pedestrian movement and approaching vehicles through the conflict zone.

Bicycle Infrastructure (on-road)

There is no designated bicycle infrastructure within the study area. Without a dedicated space for bicycle travel, VDOT requires that people on bicycles ride with the flow of traffic and as close as possible to the edge of the roadway. For many, this may mean attempting to ride along the paved shoulder of US 60. However, the inconsistency in the available shoulders limits the possibility of the rights-of-way functioning as advisory shoulders or bikeable shoulders. The safety of this movement is also of note as riding outside of the lane can make people on bicycles less visible to motorists (further complicated by the surrounding lighting conditions and vegetation).



Figure 15 Example of pedestrians walking along the shoulder of US 60
(Source: Google Maps)



Figure 16 Sidewalk and Crosswalk by Bontex Drive (Source: Google Maps)



Figure 17 Sidewalk at the Chessie Trail Access Point (Source: Google Maps)

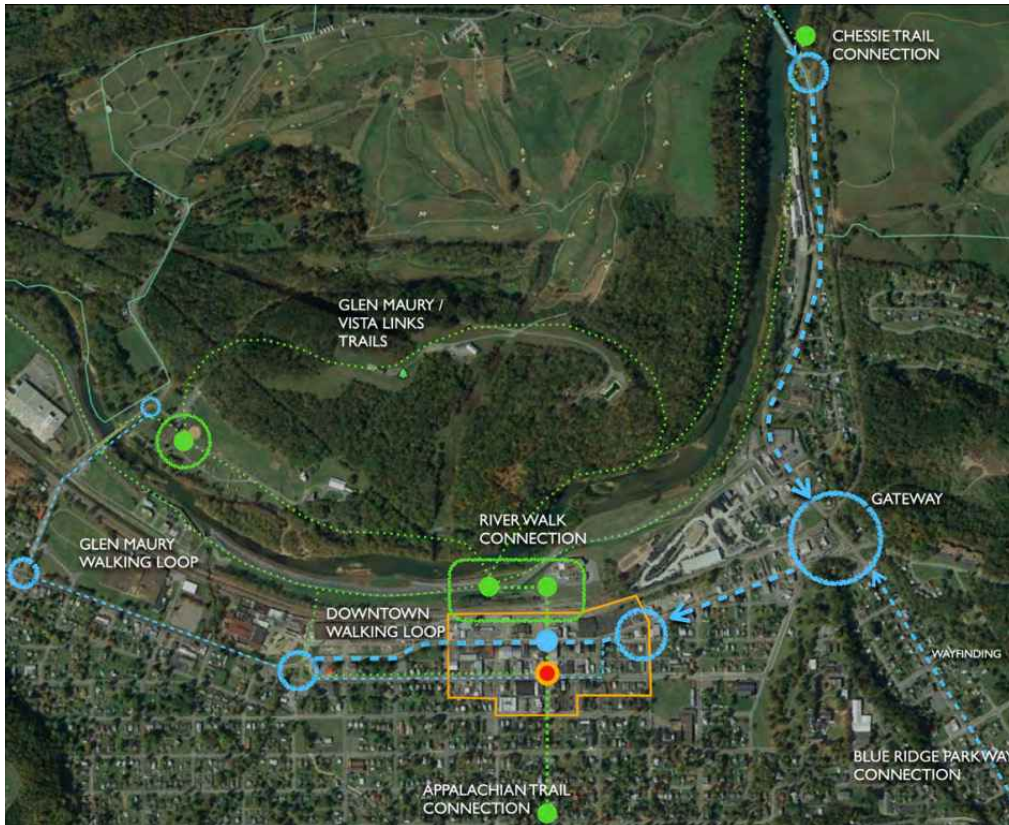


Figure 18 Trail Connections to and within Downtown Buena Vista
(Source: *Downtown Revitalization Strategy*, 2021)



Chessie Nature Trail

The Chessie Nature Trail is an approximately seven-mile multiuse trail that follows the Maury River from Buena Vista to Lexington. This Rails-to-Trails facility re-purposed the decommissioned Chesapeake and Ohio (C&O) rail right-of-way. The Chessie Nature Trail trailhead is located on Stuartsburg Road, next to a boat launch. The City and County have engaged in planning activities and discussions to further connect the Nature Trail with downtown Buena Vista and other local trails (e.g., the City's River Walk).

River Walk

The River Walk is a 2.5-mile trail that runs parallel and between the Maury River and the adjacent Norfolk Southern Railway tracks. To access the River Walk there is an existing at-grade rail crossing at 21 Street, and the River Walk is also accessible from Factory Street and 10th Street. Community interest in linking the River Trail to Glen Maury Park has referenced a new pedestrian bridge over the Maury River, as in the Buena Vista Forward: Downtown Revitalization Strategy.

As emphasized in the local plans, efforts to expand the River Walk with links to the Chessie Nature Trail and other trail facilities are gaining momentum in Buena Vista. Additional facilities for walking and biking are presented in Figure 18. This map highlights local trail and walking loop connections within the City, including the Vista Links Trails and both existing and proposed connections across the Maury River.

Appalachian Trail

Improving trails, pedestrian connections, and bicycle-friendly facilities is especially important in Buena Vista as the City is a designated Appalachian Trail Community (A.T. Community) with access to the trail nine miles west of the city. Beyond offering close access to a recreational amenity of national significance, the proximity to the trail is an important community economic development and tourism generator for the City. Many pass-through hikers and trail users may opt to visit and explore Buena Vista as a detour or opportunity to rest, eat, and resupply; the City can likewise function as a regional trailhead for day trips along the trail. Improving safe, active access from the Appalachian Trail to Buena Vista and strengthening walkable connections throughout the city are important amenities as a designated trail community.

Walking and Biking in Buena Vista

A preliminary analysis US Census data is applied to better understand the function of these pedestrian and bicycle facilities and other conditions that impact walking and biking in the City.

Approximately one-quarter of City residents also work within the City. Nearly 8 percent of residents walk to work in Buena Vista, excluding employees who work from home. Five-year estimates of residents' commute mode choices suggest that 10 percent of residents living in the downtown and Hill Top District walk to work. This percentage rises to over 20 percent in the neighborhood adjacent to Southern Virginia University (SVU). These rates stand in contrast to 2 percent Statewide.

Alternative modes of transportation and ways to travel throughout the City increase mobility options for all residents and visitors, but are particularly important for individuals without access to a vehicle. About 5 percent of households in the City do not own a car, a figure that reaches 14 percent in the downtown neighborhood near Southern Virginia University. Unsurprisingly, there are no reported zero car households in the residential areas of the currently auto-centric study area.

The National Walkability Index measures factors that affect active transportation propensity, with a focus on development patterns and access-related variables that are correlated with walking or encouraging walking.

Developed by the US Environmental Protection Agency (EPA) Office of Community Revitalization, the Walkability Index explores and analyzes data at a Census Block Group-level. Figure 19 presents the 2020 Block Group boundaries for Buena Vista; of note, the study area includes the City's walkable, downtown, Historic District. Data for this area is listed alongside each metric for reference:

- Intersection Density: **10 (out of 20)**
- Proximity to Transit Stops: **14 (out of 20)**
- Diversity of Land Uses: **20 (out of 20)**
- National Walkability Index: **14.67 (out of 20)**

The Hill Top/Historic area score suggests that Buena Vista ranks as "Above Average Walkable," further supporting the need to address key network gaps to leverage the existing characteristics that support walking, biking, and rolling as a primary form of transportation.

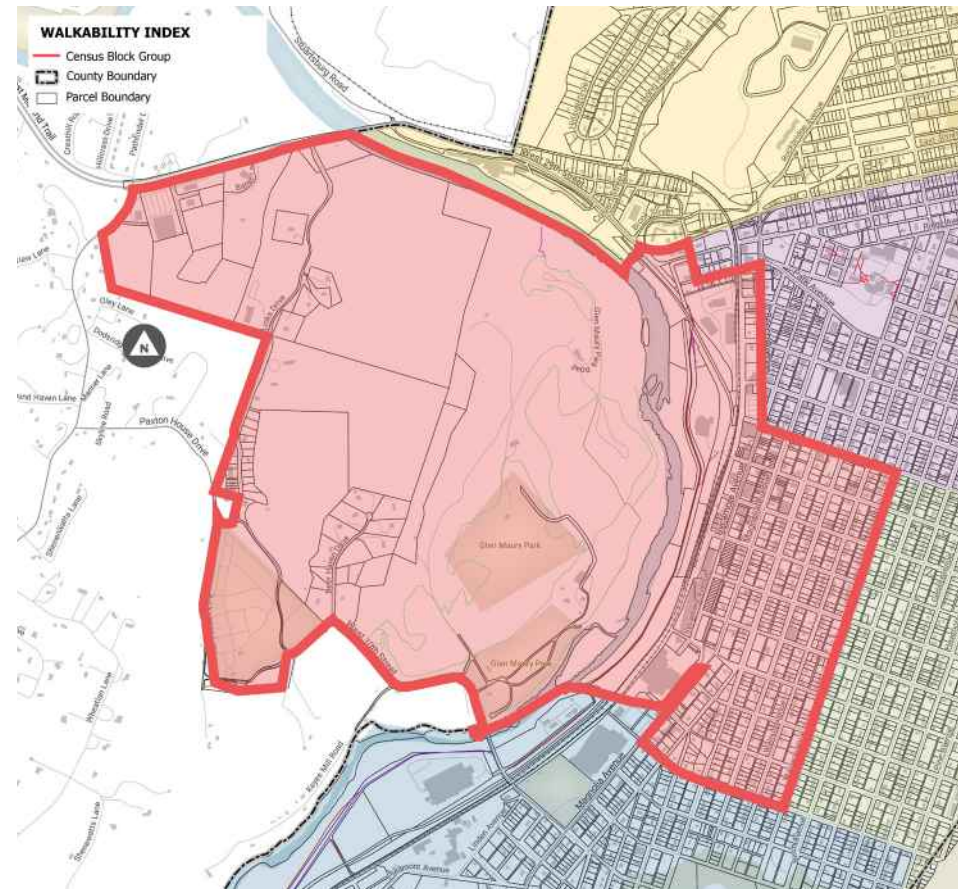


Figure 19 Census Data in the Study Area

Transit and Other Mobility Services

Fixed Route Transit

The Maury Express is the public transport available along the corridor connecting the project area sites with downtown destinations. The Food Lion stop is the only fixed stop served within the study area, though the Maury Express makes a stop at the Burger King near the eastern boundary of the study area. Service is available weekdays from 8AM through 6PM and on Saturdays from 10AM until 4PM. The Maury Express is operated by RADAR, a non-profit transport services provider that offers coverage across Buena Vista, Lexington, and Rockbridge County. The Maury Express route is shown in Figure 20.

On-Demand Service

Other mobility services are limited to on-demand and paratransit services, available upon request through the Rockbridge Area Transportation System (RATS).

Golf Carts

A unique personal mobility option within the City-owned street network is the use of golf carts, which were approved by the City in November 2016 (see: City Ordinance Chapter 32, and Virginia Law 46.2-1010 Chapter 32). Golf carts are a popular option for short trips throughout the City street network, connecting to and traveling throughout Glen Maury Park, and particularly popular for connections trips from the RV park on the southern side of the park by 10th Street. Golf carts are not, however, permitted to operate on US 60, other State and County roads, or roads with a posted speed above 25 mph. Golf carts are allowed to cross these restricted roads (e.g., State and County roads including US 60 and US 501) only where permitted by specific signage; for US 60 this is outside of the study area, close to the Southern Virginia University campus.

Rail Infrastructure

A rail line owned by Norfolk Southern, part of the Crescent Corridor, runs alongside the Maury River and the River Trail and continues north-south parallel to I-81. This active Class I railway includes one existing spur to the ADS site and could potentially accommodate a second spur to the industrial park.



Figure 20 Maury Express Buena Vista Route (source: RADAR)

Crash Analysis

The US 60 corridor is an identified safety priority for the City. Based on crash data available through VTrans, there have been 30 reported crashes within the study area since 2015. As part of the overall crash analysis, crashes are organized by the resulting impact or injury, ranging (in order of severity) from fatal crashes to crashes resulting in a severe injury, a visible injury, a non-visible injury, and property damage only (if no injury is reported or expected). This section outlines findings from review of reported crashes, however, this data does not include unreported events (i.e., typically minor collisions that do not involve a police report) and fails to capture the many near miss events or conflicts that contribute to the perceived safety of the area. Perceived safety and comfort is a particularly important consideration when working to expand and encourage the pedestrian access.



Figure 21 Map of Crashes along US 60 (data source: VDOT, 10-year Crash Data)

Crash Location

A map of crashes, including a heat map to depict more common crash locations, is shown in Figure 21. Half of the crashes that reported within the study area occurred within intersections or within 150 feet of an intersection. Of these intersection-related crashes, six resulted in an injury. Details about the crashes associated with each intersection are presented in the Intersection review.

Crash Severity

More than one-third of crashes resulted in an injury (36.67%) with 13 percent of all crashes resulting in a serious injury. Half of the crashes that resulted in injuries occurred within an intersection, with three injury-involved crashes at the intersection of Forge Road and US 60.

Crash Trends

Year over year crash data shows that the corridor experiences an average of three annual crashes with the highest crash rates in 2016 (six crashes) and 2021 (five crashes). A general review of crash events by year and date finds the most frequently represented season among crashes was summer, with one-third occurring in the months of June, July, or August.

Contributory Factors

This crash analysis considered lighting, weather, road conditions, and driver details as factors that contribute to crashes. Overall, few crashes were linked with poor weather or lighting conditions. Only two crashes occurred during weather events—one in rain with wet pavement and one in snow, when the roadway condition was icy. Both crashes occurred at dawn, and these were the only crashes occurring at dawn during the assessed period.

The majority of crashes occurred in daylight (80%), and four crashes (13%) occurred in nighttime conditions in unlit areas. Aside from icy and wet conditions associated with weather-related crashes, pavement conditions were dry (87% of crashes). Older drivers were disproportionately represented in the crash data, with 30 percent of crashes involving senior drivers; in comparison, there were five crashes involved young drivers (younger than 20 years old at the time of the crash). Approximately 10 percent of crashes involved driver distraction, and one crash reported drug-use as a contributory factor.

2.4 Environmental Context

This section presents the environmental features, natural assets, and other considerations that complicate efforts to travel along the US 60 study area and connect between the Hill Top and Downtown Buena Vista. Two specific environmental features are discussed: topography and water resources.

Water Resources: The Maury River

The Maury River separates the downtown and Hill Top areas of Buena Vista. Designated one of the state's Scenic Rivers, the segment of the Maury River that runs through and along Buena Vista is a recreational and scenic asset with river trails (including the River Walk), a boat launch by the Chessie Nature Trail, and several vistas to appreciate the view of the city and surrounding mountains.

US 60 crosses the Maury River on the H. Russell Robey Memorial Bridge (Robey Bridge) and several bridges outside of the study area carry US 60 over Maury River tributaries. Outside of the study area, the 10th Street Bridge connects downtown Buena Vista to Glen Maury Park. The 10th Street Bridge features sidewalks on both sides of the structure, with the sidewalk continuing along the southern side of the street before terminating at Maury River Drive (entrance to the Glen Maury Park and campsite area).

Topography

The location of Buena Vista, at the foot of the Blue Ridge Mountains and bisected by a river, creates significant topographical features and considerations. Figure 22 illustrates the existing topography and elevation within the study area. The aptly-named Hill Top District features significant and steep changes in elevation above 1000 feet in Glenn Maury Park.

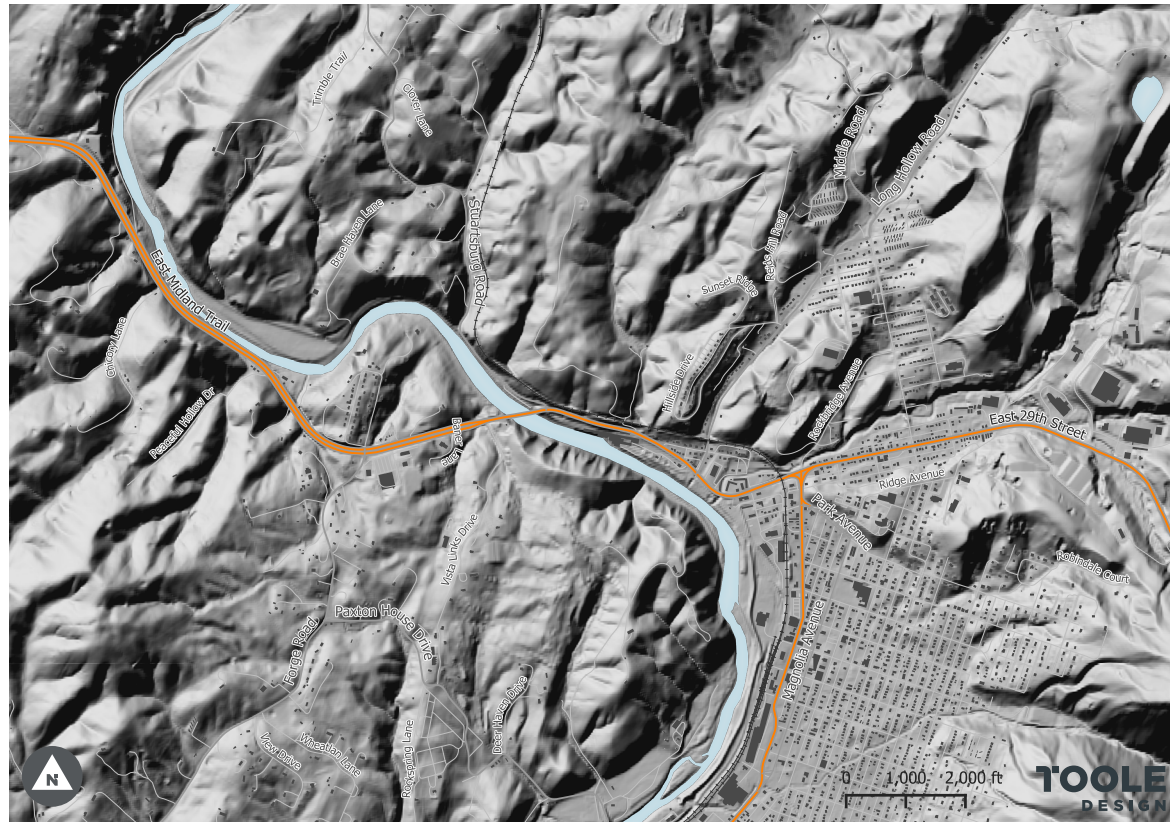


Figure 22 Study Area Topography

Topography is a feature of key interest for the current Plan as steep drop-offs can constrain the available width for on-road and off-road facilities; similarly, topography can be a major obstacle when considering facilities that are comfortable for walking, biking, or rolling. As an example of these conditions, the existing trails in the Municipal Golf Course demonstrate the frequency of switch-backs and other designs necessary to reduce the slope of the hillside for pedestrians and carts (Figure 23).



Figure 23 Private Trails in the Study Area

2.5 Land Use

The existing land use along the US 60 corridor within the study area is mostly auto-oriented commercial and lower-density residential. Figure 24 presents the zoning map for the area, which includes both City of Buena Vista ordinance and Rockbridge County ordinance data (noted with "*" in the figure).

North of the study area (in Rockbridge County), the parcels closest to US 60 are B-1 General Business, surrounded by R-1 Residential General. The parcels south of US 60 within the City of Buena Vista are part of the Hill Top District, established in 2003, that serves to "create a pedestrian-scaled neighborhood that promotes the health, safety or general welfare of the public and fulfills one or more of the goals as enumerated in Virginia Code, § 15.2-2283." Existing zoning promotes primarily Mixed-Use Business - Hill Top (MXB-HT) and Planned Unit Development Residential District-Hilltop District (PUD-RES-HT). The parcel west of Forge Road is zoned Agricultural Transitional (A-T), and the remaining areas are Agricultural General (A-2).

The City is interested in updating the Zoning Code to reflect a more integrated and intentional consideration of connectivity especially for walking, biking, rolling, and riding transit. The updated comprehensive plan suggests incorporating Context Sensitive Design Criteria for, including strengthened requirements for pedestrian connections and circulation with new or re-development projects. Other relevant ordinance recommendations include specific evaluation of sidewalk infrastructure and targeted efforts to complete the pedestrian network, and consideration of a full Bicycle and Pedestrian Master Plan to identify and prioritize design, policy, and transportation projects to improve safe access for all modes.

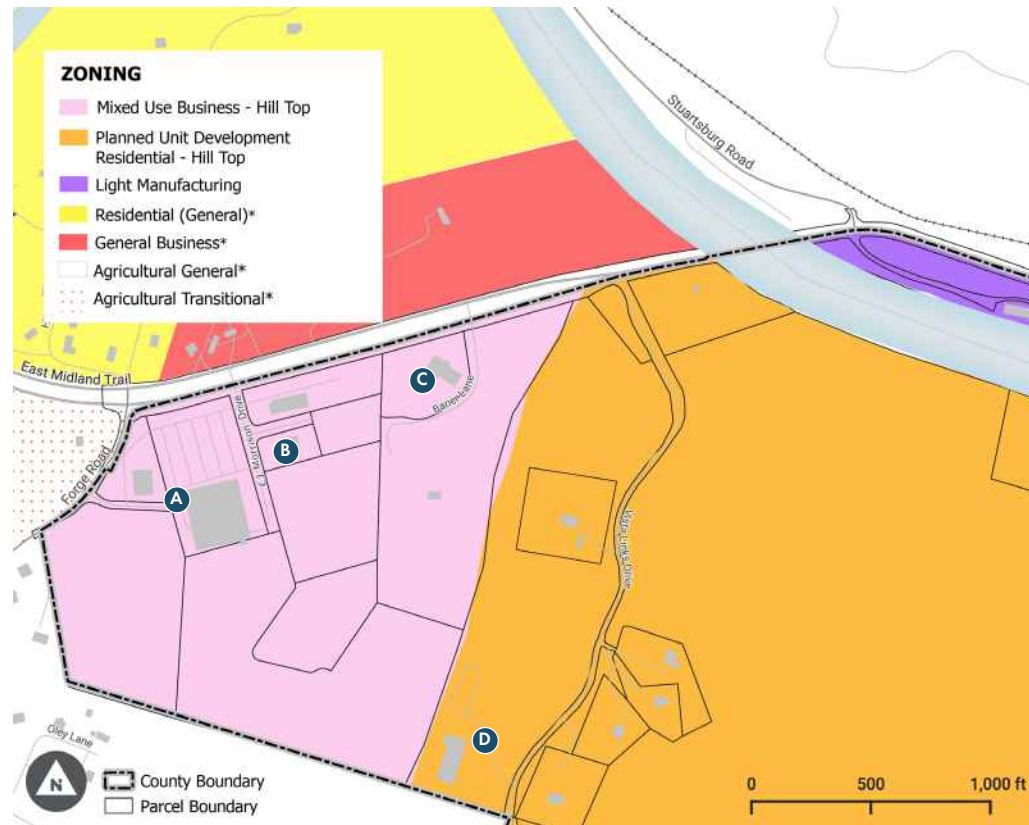


Figure 24 Study Area Zoning Map

Key Destinations

Figure 24 notes key existing destinations within the study area, including:

- A.** Shopping Center (Food Lion, CVS, and Dollar General stores)
- B.** TAP Head Start Childcare Center
- C.** Rockbridge County Emergency (911) Management Center
- D.** Mountain Gateway Community College

2.6 Plan Review

The study team conducted a literature review of local and regional documents particularly relevant to the study area and Route US 60 connectivity. The plans and reports reviewed include:

- City of Buena Vista, Viewpoints: Buena Vista Comprehensive Plan (2011)
- City of Buena Vista, Buena Vista Forward: Downtown Revitalization Strategy (2021)
- City of Buena Vista, Hill Top – Glen Maury Park Master Plan (2002)
- VDOT (prepared by CSPDC) – Blue Ridge Parkway/Skyline Drive Gateway Studies – Study #1: Rockbridge County and the City of Buena Vista (2010)
- Rockbridge County, Comprehensive Plan (2016)
Note: The study team reviewed the most recent Comprehensive Plan for Rockbridge County (2016) and identified the forthcoming Rockbridge County Comprehensive Plan, currently in development, as a potentially relevant plan for the purpose of this study. Where possible, the team will include reference to draft materials and may connect with the Rockbridge County Planning Commission to discuss key recommendations.

In addition, the study team reviewed documents and other materials related to proposed developments along US 60 and the surrounding parcels within the study area. Specific site plans include: the Buena Vista Pentecostal Holiness Church (BVPHC), the Vista Links Golf Course, and the Mountain View parcels. The data from the reviewed development plans are synthesized into the “future land use and development” maps and other graphics provided in this section.

Viewpoints: Buena Vista Comprehensive Plan (2011)

The Buena Vista Comprehensive Plan (2011) reviews existing conditions (population, economic, environmental, transportation, utilities, and more) and trends, and identifies priorities and long-term strategies to progress community development in the city. The content of this plan provides a baseline for understanding current and future needs and serves as the foundation of the City’s planning efforts and materials (such as the Zoning Ordinance).

A recent update to the transportation section of the Plan presents the city’s commitment to expanding and improving pedestrian and bicycle infrastructure, reinforced by the VTrans 2045 needs assessment that identifies pedestrian Infrastructure, wayfinding, and other Complete Streets Improvements as top needs. Key deficiencies identified by the Plan and relevant to the study area revolve around intersection safety concerns along US 60 at Forge Road, Vista Links Drive, Stuartsburg Road, and at the entrance to the Food Lion. Together these intersections reported 23 crashes between 2013 and 2020, with 9 involving injuries (40%). The plan identifies crossings and bridges as major conflict points. Proposed project priorities include new pedestrian bridges that would connect the Hill Top and Downtown areas of Buena Vista.

The updated transportation section reviews the 2040 projected roadway volumes on the network, finding that the existing network will suit vehicle throughput needs and that expected growth on US 60 is primarily westbound to/from I-81.

Goals of the Plan related to the study include:

- Directing the number and location of entrances (access management).
- Design streets to be safe and comfortable for active transportation users.
- Promote and establish gateways to the City.
- Create Context-Sensitive Design Criteria in transportation planning and design.
- Require new developments to integrate connections to existing and planned networks.
- Strengthen zoning ordinance language related to bicycle and pedestrian access and facilities.
- Map and analyze the availability of sidewalks in the City, and use this data to seek programming to address gaps.
- Invest in a bicycle and pedestrian plan, a parking study, and design standards for parking facilities.
- Encourage collaboration with local, regional, state, and federal agencies including pursuit of competitive opportunities to advance these and other Citywide goals.

“ Buena Vista has adequate capacity on its road network, and does not anticipate growth in population or employment that will strain road capacity. Transportation system needs will focus on **improving safety, maintenance of existing infrastructure, and improving multimodal connectivity for the residents.** ”

Buena Vista Comprehensive Plan

Buena Vista Forward: Downtown Revitalization Strategy (2021)

The Downtown Revitalization Strategy (2021) outlines strategies to help Buena Vista craft a local identity, promote economic development, and apply for Community Development Block Grant (CDBG) Implementation Grant funding to conduct physical improvements. The strategic plan focused on the City's Historic District and defined its study area from Sycamore/Beech Avenues to Forest Avenue, and 19th Street to 23rd Street. The Downtown Revitalization Strategy identifies broad challenges and opportunities relevant to this analysis, such as demand for active transportation facilities, wayfinding issues, and the lack of connectivity to Vista Links and the Maury River as a lost opportunity to engage residents and tourists; the economic evaluations in this report may be useful in development review activities along the study area corridor.

Supporting the Revitalization Strategy are recommendations to help branding and marketing for the City that will craft a sense of community and local identity. The report analyzes market conditions and consumer feedback to understand the location quotient of select industries within the City and in 4 and 10-mile radii from the Historic District, and what the community is interested in bringing to the area.

The plan identifies connectivity issues within the study area, such as inconsistency in the availability and design of pedestrian infrastructure. Specific concerns and conditions including damaged walkways, substandard (or lack of) crosswalks and ADA-compliant ramps, and other walkway obstructions such as utility poles, parking spots, and non-accessible driveways. Providing human-scale lighting is suggested as a pedestrian amenity that doubly supports local character and aesthetics. The connection of US 60 is identified as a gateway opportunity for travelers entering the downtown area, and also discusses connections to amenities such as the boat launch and trail.

Hill Top – Glen Maury Park Master Plan (2002)

The 2002 Glen Maury Park Master Plan presented an early, long-term vision for development and new uses that the area could accommodate with the cooperation of public and private partners. The plan focused on the 600-acre Hill Top-Glen Maury Park study area, bound by the Maury River, Forge Road, and US 60. The vision, as presented in Figure 25, proposed expanding Glen Maury Park, including an 18-hole public golf course, and supporting mixed-use development with a community center, attached and detached homes, and public spaces. In the decades since this plan, subsequent developments have made the original plan infeasible.

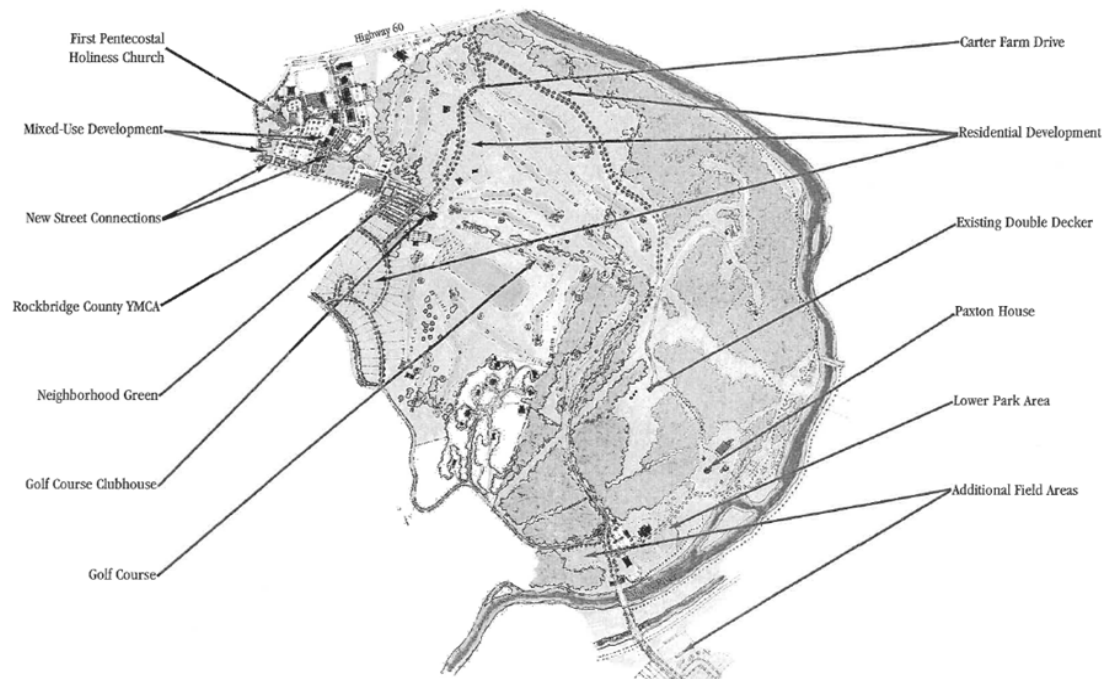


Figure 25 Master Plan Concept (source: Hill Top - Glen Maury Park Master Plan)

Blue Ridge Parkway/Skyline Drive Gateway Study #1: Rockbridge County and the City of Buena Vista (2010)

The Blue Ridge Parkway Gateway Studies explore community development opportunities related to urban design, transportation connectivity, land use and development, and crafting a sense of place through wayfinding and gateway treatments. This plan focuses on the US 60 corridor but outside of the study area. Key recommendations include:

- Define entry treatments such as landscaping and streetscape elements to alert travelers to the transition to a downtown environment (e.g., the study discusses shifting from parkway to rural to town streetscapes).
- Improve wayfinding and directional cues by (1) reducing sign clutter, (2) installing trailblazer signs with improved legibility through reinforcing design treatments (e.g., signposts) and signage design (e.g., larger fonts with higher contrast), and (3) ensuring suitable and highly-visible placement of wayfinding signs and other directional signs (see Figure 26).



Figure 26 Proposed Wayfinding Signs (Source: Blue Ridge Parkway Study)

Rockbridge County Comprehensive Plan (2016)

The Rockbridge County Comprehensive Plan (2016) discusses US 60 in the context of transportation safety and aligning infrastructure with community development. Several goals are related to the scope of this study, as below:

- Enhance and expand connectivity by improving its active transportation network and amenities (e.g., bicycle racks and bus shelters). Example strategies include:
 - a. Encouraging sidewalks and trails in urbanized and suburban areas (as appropriate) and in commercial areas. The Plan highlights multi-use trails for key community links to commercial areas.
 - b. Installing dedicated on-road bicycle facilities.
 - c. Evaluate opportunities to integrate active transportation facilities into routine maintenance (e.g., re-striping as an opportunity to add a crosswalk or bikeway).
- Minimize curb cuts on US 60 to reduce conflicts and queuing with turning vehicles. This land use strategy does not specify the method to reduce curb cuts; see “Access Management” in the existing conditions review for details on the study area driveways and curb cuts).

- Emphasize the connection between land use and transportation decisions, with emphasis on “incentivizing growth near established community nodes” and minimizing strip development in favor of multi-use/traditional neighborhood designs.
- Encourage infill development within or adjacent to developed areas like Buena Vista.
- Strengthen multi-jurisdictional collaboration at all levels to coordinate transportation project planning efforts. Within the study area, this includes ongoing coordination between the City, the County, and other agencies on analysis and near-term recommendations and potentially partnering on funding proposals.

The Plan identifies US 60 as an important passenger vehicle and freight corridor that maintains mostly free-flowing traffic conditions, noting that the 2.5 mile segment between I-81 and Route 608 — which includes the study area — is evaluated at a Level of Service (LOS) A in 2012 and anticipated to remain LOS A conditions in 2035 despite carrying an additional 5,000 vehicles (projected AADT of 17,000 in 2035). This and other segments of US 60 are highlighted as a Priority Transportation Project for the County, identified as a Roadway Safety Deficient Corridor.

Proposed Developments

Several projects are in various stages of development in the study area and surrounding parcels (Figure 27). The projects and any presented details are subject to change as plans move from conceptual to preliminary design. See Appendix A for more details about proposed and active development projects.

Department of Social Services

A new building to house the Rockbridge Area Department of Social Services (DSS) is in development, with initial plans to site behind the existing TAP Head Start Buena Vista facility on CJ Morrison Drive. As part of the DSS site plan, a new connection will be created linking Baner Lane—continuing behind the Rockbridge County Emergency Management Center—to the TAP Head Start driveway and parking area. The driveway to the new DSS Center will be accessed from CJ Morrison Drive. As part of the site plan, 135 total parking spaces will be provided including ADA accessible spaces.

Buena Vista Pentecostal Holiness Church Master Plan (BVPHC)

The Buena Vista Pentecostal Holiness Church (BVPHC) prepared a master plan for a new church and community facilities on approximately 30 acres, to be constructed behind the Food Lion. This plan was shared with the City for review in 2019; BVPHC is advancing to preliminary designs and engineering currently. A draft concept of the master plan site, which includes a church and annex buildings, a pavilion, playground, and sports fields, and features a walking trail and stormwater management. Proposed connectivity is via a main entrance on Forge Road and via CJ Morrison Drive at the southeastern corner of the Food Lion Shopping Center.



Figure 27 Proposed Development Areas

Vista Links Municipal Golf Course

The Vista Links Municipal Golf Course was sold in 2022, though no proposed concepts or redevelopment plans were publicized as part of the transaction. Based on prior planning activities, there is a possibility of site redesign to accommodate mixed use and commercial properties such as a hotel or incubator space, retain golfing or other recreational features, and build connections across the Hill Top area and to downtown.

Mountain Gateway Community College

Investment in a new workforce training center in Downtown Buena Vista may enable the current Mountain Gateway Community College building to be repurposed or completely redesigned at the site level.

Other Development Opportunities

The City of Buena Vista is making strides with development initiatives that will spur and strengthen demand for new and re-development in the Hill Top area. In recent years the City successfully secured funding for façade and streetscape improvements and a state-of-the-art Workforce Development Center; published a Downtown Revitalization Plan with placemaking and marketing concepts, earned designation as an A.T. Community, and hosts regular festivals, parties and markets in newly designed public spaces. The entire city (including the study area) is an Opportunity Zone, unlocking investment benefits for development throughout Buena Vista.

IV. CONCEPTUAL TRANSPORTATION NETWORK

3.1 Vision for a Future Transportation Network

The City of Buena Vista has envisioned a development strategy for the Hill Top District that is directly connected to, and reflective of, the City's downtown and destinations. A walkable, bikeable, convenient and comfortable transportation network is recognized as a foundational element of this strategy and the economic growth of the City. This project evaluated potential development scenarios to **identify a vision for a future transportation network that enhances the experience of traveling along US 60 and within the study area**, and directly serves the City's destinations and natural features. Figure 28 presents a snapshot of walking and biking in Buena Vista, with new bicycle infrastructure, a concept for connecting both sides of the Maury River, and pathways in the Hill Top District.

The purpose of this section is to present the preliminary conceptual transportation network, including the new and redesigned connections, potential roadway typologies associated with each, and pedestrian infrastructure to be considered within the study area. The conceptual network defined in this section serves as a starting point for conversations, and should be refined as each development project moves towards design and construction, as sites are surveyed, and as property access is negotiated by the City and property owners.

Key Themes

Building on the existing plans and planning documents, review of proposed developments, site observations and input from the study group, the team noted themes and principles to help shape development of a conceptual network. Vision-related themes include:

1. **Stronger connections between the Hill Top District and Downtown Buena Vista unify the City and activate both sides of the Maury River.**

Safe and multimodal infrastructure provides all users — whether by foot, bike, golf cart, or car — with expanded options to easily move between both sides of the Maury River, providing direct and friction-free access to the commercial, recreational, natural and cultural assets on both sides of the river. Travel is more inclusive and more interesting for all users.

2. **Walking, biking, and rolling are safe and enjoyable for all ages and abilities, and are preferred options for traveling in the City.**

All users feel comfortable and confident using active transportation facilities. Facilities reflect best practices in design, offer adequate protection from vehicles, and include thoughtful amenities. Active transportation is the mode of choice for many residents and visitors alike.



New "Bike BV" bicycle parking installed downtown. Source: Main Street Buena Vista (www.mainstreetbuenavista.org)



Concept for a new pedestrian/golf cart bridge over the Maury River (Source: Buena Vista Forward: Downtown Revitalization Strategy)



Current pathways within the Hill Top District (Source: Project Team)

Figure 28 Walking and Biking in Buena Vista: Today and Tomorrow

3. Vibrant gateways and placemaking treatments celebrate the culture, character, and natural beauty of Buena Vista.

Buena Vista's name says it all: consistent branding and design treatments offer a shared identity for the City and reinforce Buena Vista as a beautiful place to live, work, and visit. Gateway treatments at key entrances (including on US 60) provide a distinguishable welcome to the City and begin to establish the study area as a place to go to, not just through.

4. The City's reputation as a trail community and regional destination for recreation and scenic tourism are amplified by new connections that link trails with park spaces and Downtown amenities.

Intuitive and clear wayfinding, safe connections, and local programming reinforce Buena Vista as an obvious destination for active adventures. People traveling the Appalachian Trail are eager to visit and resupply, locals and visitors alike enjoy the local trails, expansive Glen Maury Park, riverfront and water activities, and are able to seamlessly move between these and downtown amenities.

5. Transportation and land use decisions are directly integrated to ensure the City and its partners are moving forward, together.

Where we go and how we get there are at the core of planning discussions, with focus on supporting a walkable and welcoming environment that makes Buena Vista a desirable place for development. New plans are vetted to prioritize improving mobility and balance traffic needs with quality of life benefits.

Transportation Network Challenges and Opportunities

To inform how these themes are applied to the conceptual network, the following challenges and strengths or opportunities were identified. These serve to emphasize the barriers to a connected pedestrian network, and what features or characteristics will help enable the City to advance a vision for a multimodal US 60 corridor and connected Hill Top District.

Challenges

- Significant and steep topography constrains on-road connection feasibility along US 60.
- Existing roadway design of US 60, particularly stormwater management, limits the potential reallocation of right-of-way (e.g., reclaiming the median).
- Limited existing active transportation facilities in the study area.
- Existing land use and development pattern is auto-centric, requiring a car to get around, especially west of the Maury River.
- High upfront capital costs for facilities necessary to accommodate terrain.

Challenges

- Existing downtown gridded street network and proximity to regional and local trails.
- Current gap in the pedestrian network from Downtown Buena Vista to the commercial area of the Hill Top District is relatively short (less than 1 mile).
- Path environment features several scenic vistas and links to the City's natural assets.
- Active transportation priorities have interest and momentum at the City, region, and State.
- Site plans in various stages of development and a welcoming environment for investment; City has been successful and active with many revitalization efforts and applications.

3.2 Conceptual Transportation Network

The proposed conceptual transportation network focuses on first exploring the most likely near-term development opportunities in the Hill Top District and associated network additions or realignments. The project team conducted a gap analysis to identify remaining connectivity issues in the study area and connecting to the downtown area. Finally, the team explored the design considerations that would influence the facility designs and alignments for this network.

Guiding principles for this network are highlighted in the Federal Highway Administration (FHWA) *Network Report on Case Studies in Delivering Safe, Comfortable, and Connected Pedestrian and Bicycle Networks*, outlined below:

FHWA's Principles of a Complete Network

COHESION

Bicycle and pedestrian connections are continuous. Projects and policies that address or fill network gaps are prioritized.

DIRECTNESS

Connections are convenient, direct, and minimize travel distance between City destinations.

ACCESSIBILITY

Bicycle and pedestrian infrastructure is safe and comfortable for all users, regardless of age or ability.

ALTERNATIVES

A multimodal network offers multiple alternative mobility options to travelers (i.e., different routes or different modes).

SAFETY & SECURITY

Pedestrians and bicyclists are protected from exposure to unsafe conditions or risks (e.g., high speed roadways).

COMFORT

Wayfinding, amenities, and facility designs make walking and biking a welcoming and enjoyable experience.

Adapted from the FHWA *Network Report on Case Studies in Delivering Safe, Comfortable, and Connected Pedestrian and Bicycle Networks*



Approach | Support safe and convenient facilities for walking and biking that are comfortable for all ages and abilities, connected to City destinations, assets, and essential services, and welcoming to both residents and visitors with designs that celebrate Buena Vista's character and natural resources.

Figure 29 provides a high-level overview of the proposed network and connections. Of note, this includes off-road trails and also includes private trails that are currently not available for public use, but could potentially be transitioned to public-serving connections in the future (especially relevant for golf cart connections between downtown, the park, and the shopping center).

3.3 Other Transportation Network Concepts

The City may consider other improvements to update the existing roadway infrastructure to support a more walkable, bikeable Hill Top District. These concepts include:

- Add dedicated walking and biking facilities along local roadways where appropriate.
- Provide clear pedestrian access routes adjacent to community destinations, throughout the transportation network, and connect to recreational amenities.
- Consider opportunities to formalize desire lines or informal walking paths as trail facilities.
- Provide consistent and pedestrian-scale lighting along roadways, paths, and trails.
- Add or improve visible crosswalks and consider other warning devices for pedestrian crossing where appropriate.
- Audit the existing pedestrian infrastructure for gaps in the network (e.g., missing sidewalks, curb ramps, or crosswalks) and prioritize projects that address these gaps with targeted improvements.
- Offer amenities, such as bicycle racks or repair stations, benches, and wayfinding at key locations throughout Buena Vista (both downtown and the Hill Top District).

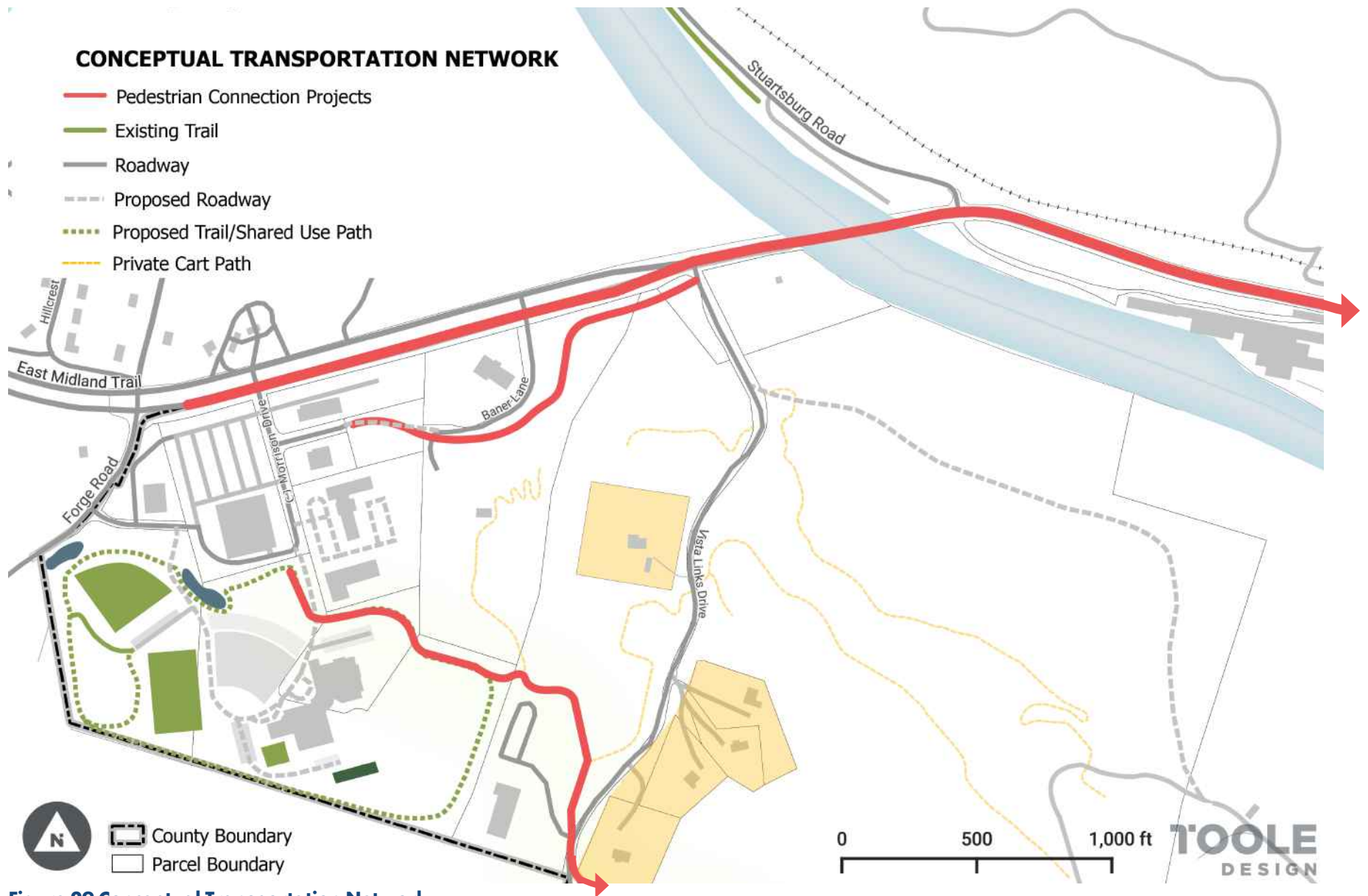


Figure 29 Conceptual Transportation Network

VI. PEDESTRIAN CONNECTION ALTERNATIVES

The conceptual transportation network features new opportunities to establish pedestrian connections between downtown Buena Vista and the developments planned for the Hill Top District, and especially the shopping center adjacent to Forge Road. The following section outlines potential on-road and off-road connection alternatives to provide safe, convenient, and continuous pedestrian access across the City and to key destinations.

4.1 Approach

The alternatives in Section 4 present planning-level conceptual alignments, design considerations, and potential actions to progress project scoping. These concepts are designed to spark conversation and help orient the City and its stakeholders to potential opportunities, without prescribing any single recommendation above others.

The process for defining, vetting, and designing these alternatives is summarized in Figure 30. Each alternative responds to the conceptual network outlined in Section 3, as well as the existing conditions and current planning priorities outlined in Section 2.

In this section, three pedestrian connections are introduced with a brief summary, a map of the extents of the project, cross sections and other graphics to depict potential design, and a planning-level cost-estimate.

The planning-level cost estimates are intended to provide a general level of investment required to realize each alternative. Cost estimates are prepared using the VDOT Pre-Quantity Tool (PQT), version 1.3, which evaluates the key variables of design for each alternative. Actual costs for design and construction will vary based on the ultimate plan, actual site conditions, schedule, and economic conditions at the time of construction. Details about the PQT and the PQT user guide are available for download on the VDOT website.

The concepts and details available in this section serve to equip the City of Buena Vista with information and ideas to support funding and other implementation opportunities at the regional, state, and national level, and to help generate momentum for community planning and conversations around these important themes of connectivity and managing growth with transportation networks that serve all users.

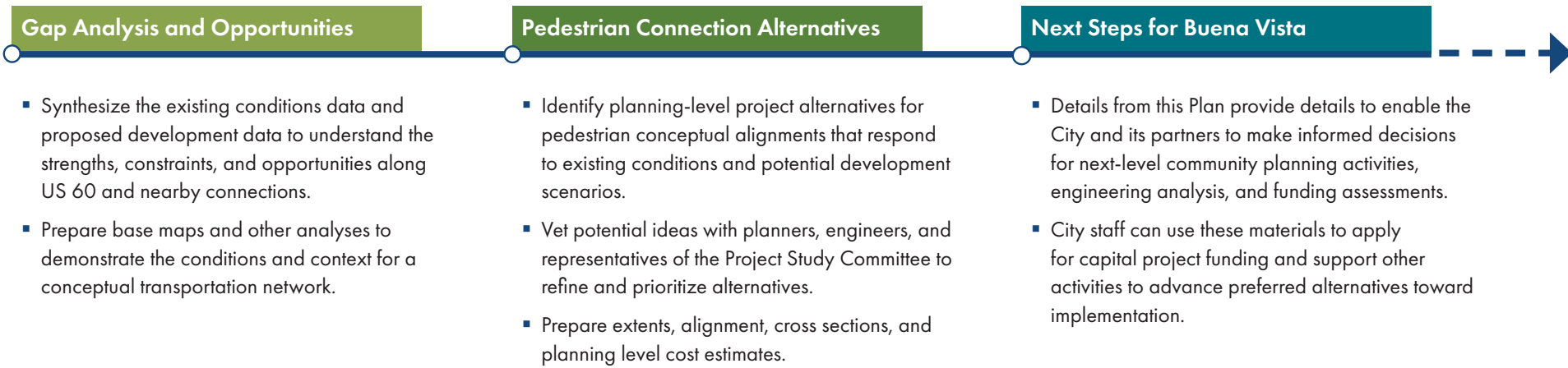


Figure 30 Concept Design Approach

Alternative 1: Midland Trail/Vista Links Shared Use Path

Overview

The existing pedestrian infrastructure along US 60, a narrow sidewalk on the eastbound side of the roadway, currently terminates at Vista Links Drive. To continue this pathway and extend the connection to the shopping center, **Alternative 1** proposes an off-road shared-use path that begins where the sidewalk ends, at Vista Links Drive, and connects to Baner Lane before connecting to CJ Morrison Drive (Figure 31). As the conceptual transportation network features a new connection between Baner Lane and CJ Morrison Drive, it is recommended that continuation of a shared use path as a separate facility would provide the most comfortable connection.

Design Considerations

Design principles for each alternative reflect the specific guidance from the City of Buena Vista, best practices in bicycle and pedestrian facility design, and guidance from the Virginia Department of Transportation (VDOT) guidance for active transportation facilities as published in the 2023 (updated) Complete Streets: Bicycle and Pedestrian Facility Guidelines, Bus Stop Design and Parking Guidelines.

The purpose of Alternative 1 is to continue the sidewalk/pedestrian infrastructure available on US 60 with a direct and low-stress pathway from Vista Links Drive to the Food Lion Shopping Center. As a separate and off-road facility, Alternative 1 has no impact on the US 60 corridor. Figure 32 presents an example cross section of this path featuring no adjustments to the US 60 lane configuration.

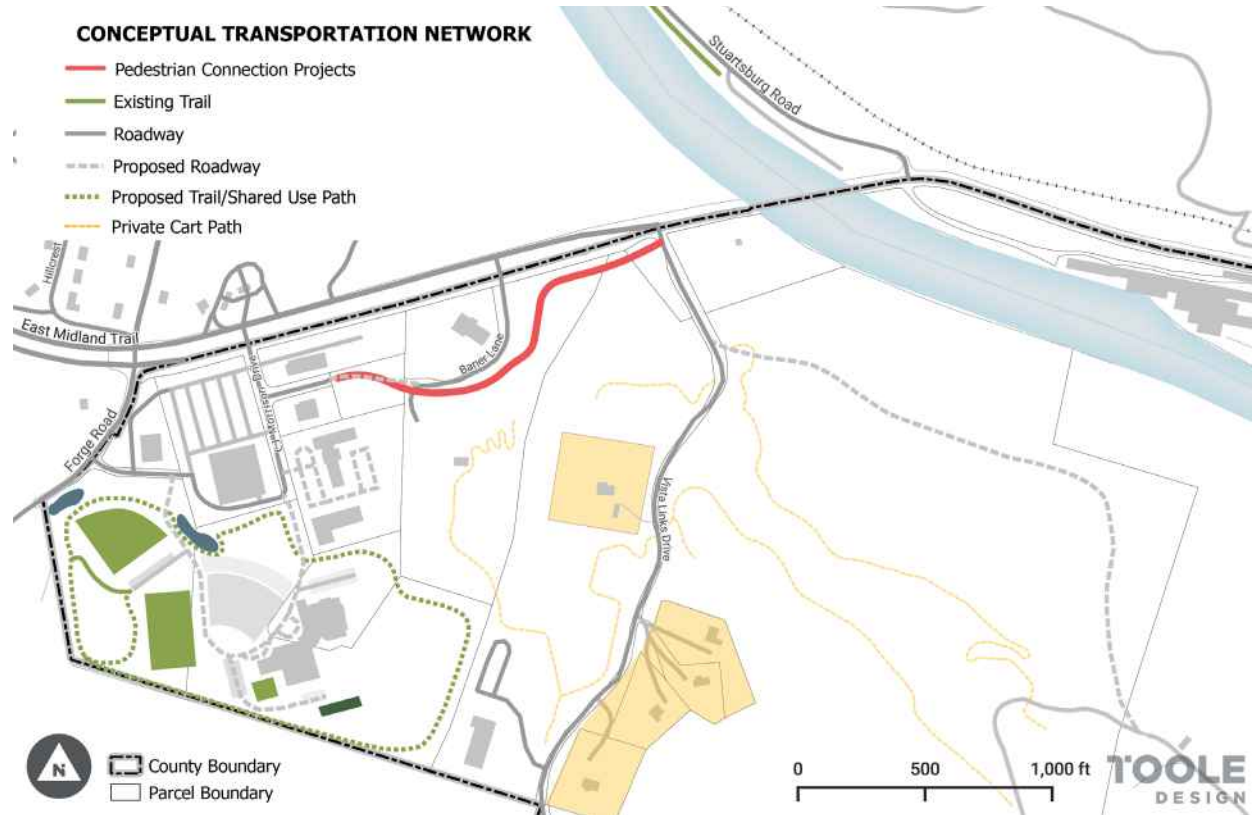


Figure 31 Alternative 1 Project Extents and Alignment

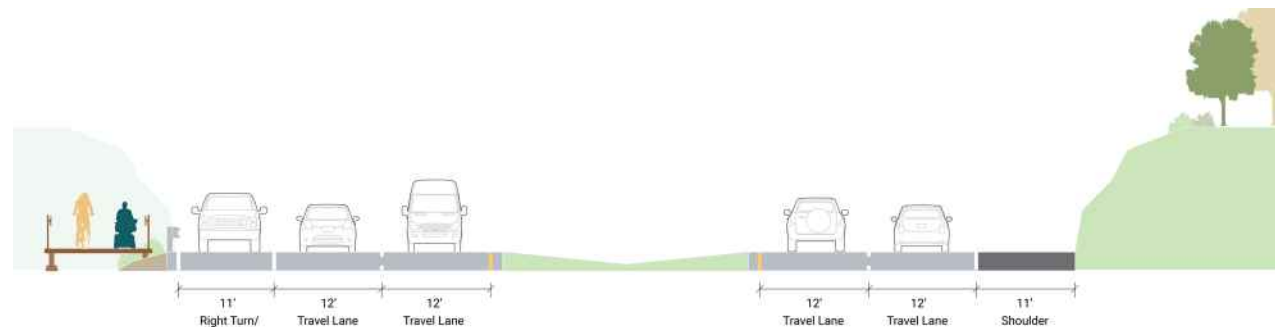


Figure 32 Alternative 1 Proposed Cross Section

The existing topography along US 60 does not allow for a separated sidepath adjacent to the existing roadway, and presents challenges as the alignment connects from Vista Links over a gully and up a hill to Baner Lane. The solution presented in Alternative 1 is to construct an elevated (e.g., wooden) structure that reaches the Baner Lane hill, including switchback designs to enable a consistent slope meeting ADA and PROWAG standards while traversing challenging terrain.

This structure would eventually connect to a surface-level paved facility as the shared use path approaches Baner Lane. This 10-foot wide paved pathway would continue as a separated shared use path on the new roadway planned between the current Baner Lane end and the shopping center. This new roadway would likely be designed as a shoulder and ditch typical section, with the shared use path running parallel.

Figure 33 depicts the placement of Alternative 1 as sited in the current conditions of the study area, with an example of the area featuring a switchback movement. "A" suggests a potential transition from the wooden structure to the surface-level pathway.

Amenities such as lighting and signage will be important for directing users to this facility and ensuring the path is safe and comfortable. Lights may be installed on the structure, and signage should match the recommendations presented in Buena Vista Forward and other community studies, such as the Blue Ridge Parkway trailhead designs. With the necessary switchbacks, there is opportunity to include community-focused art or educational wayfinding elements such as placards to help activate the structure and enhance the experience of using this shared use path. Figure 34 presents a conceptual graphic of this alternative at a Vista Links entrance.

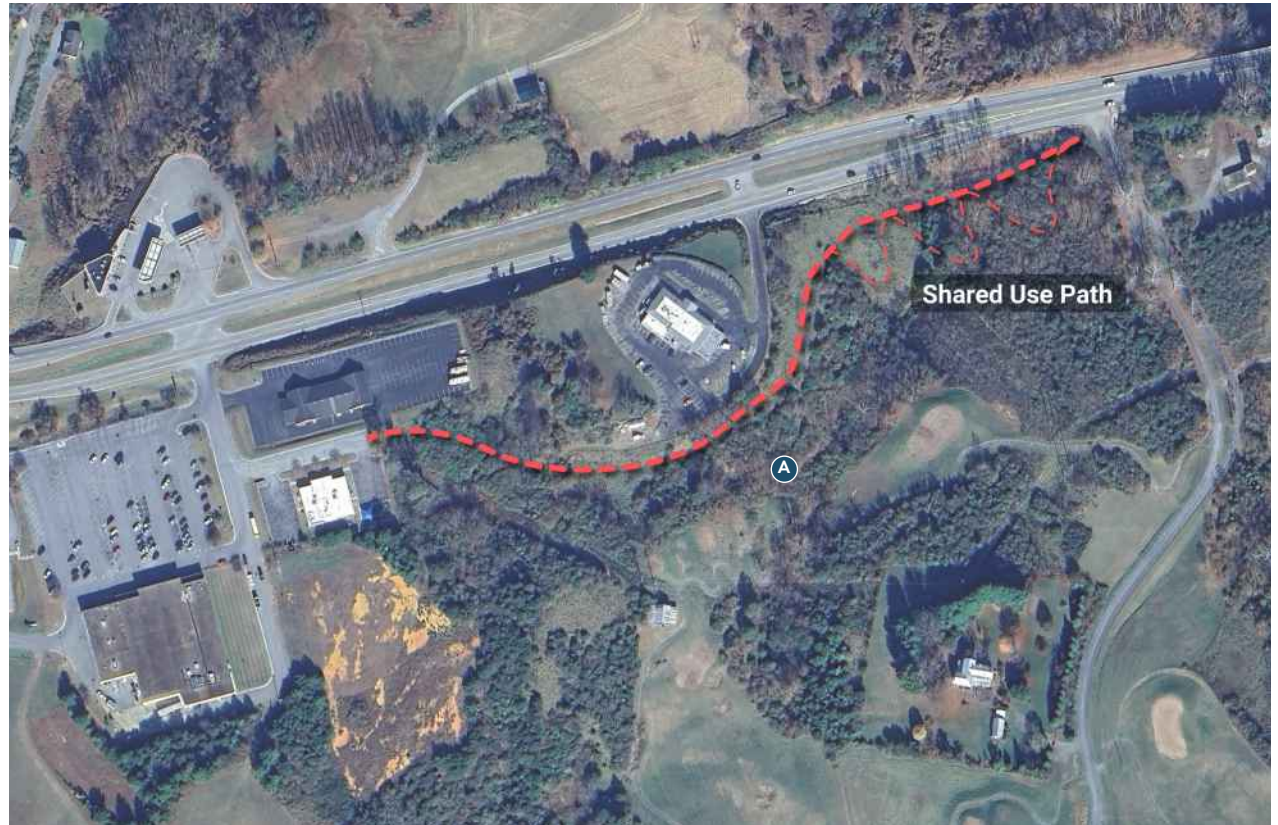


Figure 33 Alternative 1 Aerial View



Figure 34 Alternative 1 Concept Design

Alternative 2: US 60 Eastbound Lane Reconfiguration

Overview

The current carrying capacity on US 60 exceeds what is necessary for today's traffic volumes and is ample to meet the needs of projected traffic volumes in 2040 and beyond. This is particularly pronounced in the eastbound lanes of US 60; whereas the westbound is a major access for I-81, the eastbound lanes carry fewer daily trips. Reallocating the existing lanes will enable US 60 to maintain current volumes—and accommodate expected future throughput—while providing a dedicated bicycle and pedestrian facility, providing a separated and safe connection between the shopping center and Downtown Buena Vista.

This alternative looks towards reconfiguring the available right-of-way to accommodate one lane eastbound, turning lanes where necessary, and a protected 10-foot shared use path.

Proposed extents for this alternative extend beyond the study area to connect to the existing three lane configuration at Orchard Avenue. The extents, as well as a high-level overview of potential striping design and lane configuration, is presented in Figure 35.

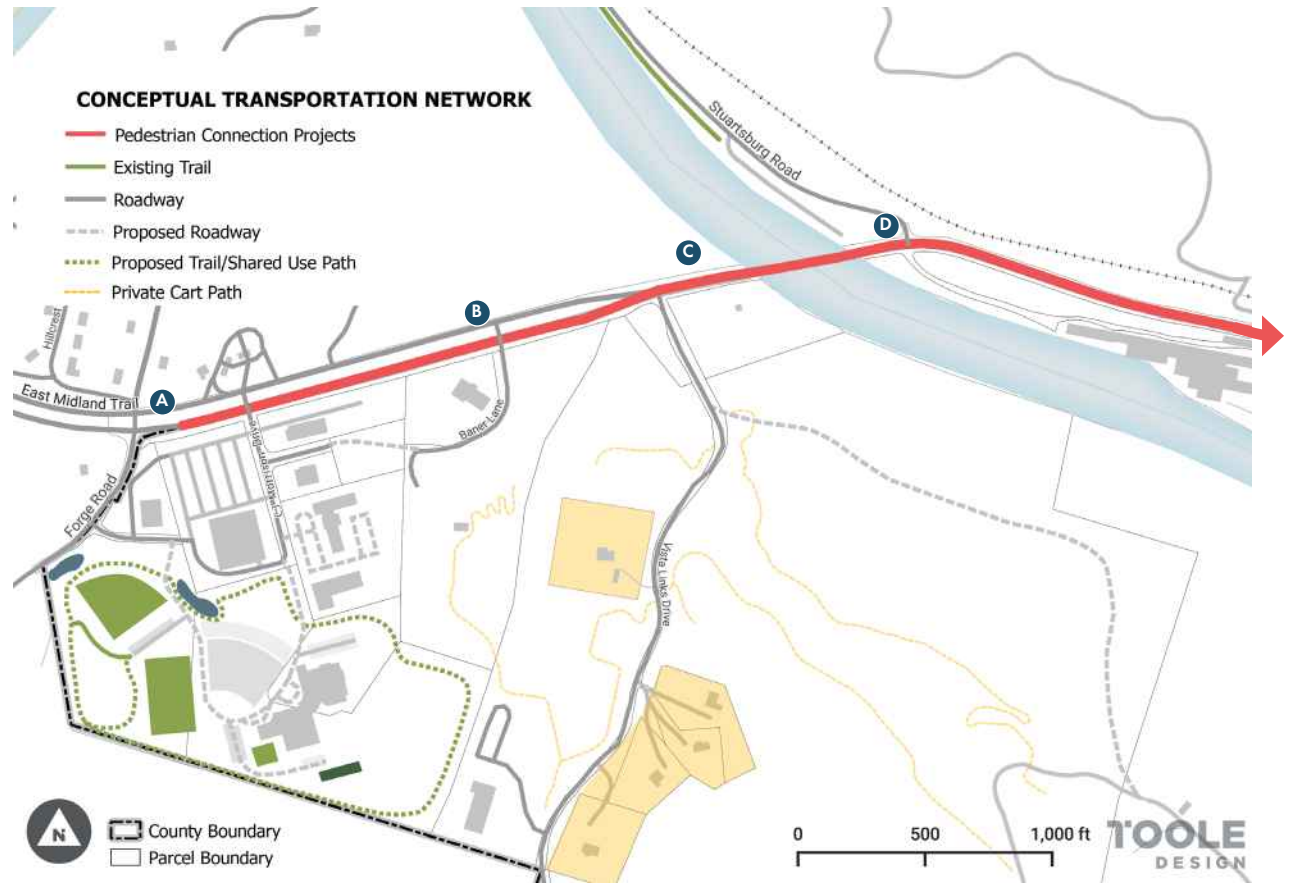


Figure 35 Alternative 2 Extents (Forge Road to Orchard Avenue) and Concept Design

Conceptual design for US 60 lane reconfiguration is organized into four segments, based on the unique right-of-way context and existing design conditions each segment presents. These include:

- A.** US 60 from Forge Road to Baner Lane
- B.** US 60 from Baner Lane to Vista Links Drive
- C.** US 60 approaching and crossing the Robey Bridge
- D.** US 60 between Stuartsburg Road and Orchard Avenue

Lane Reconfiguration Traffic Impacts

As alternative 2 presents the most significant impacts on US 60 operations, the following section briefly introduces the potential safety and efficiency improvements and impacts the proposed lane reconfiguration may support.

Safety Impacts

This design alternative will be a major safety improvement for a corridor with identified crash and conflict areas and recognized need for pedestrian and bicycle infrastructure. The roadway transitions to a three-lane (one lane each direction and a center turning lane) as US 60 approaches the downtown area; the posted speed similarly reduces from 45 MPH to 25 MPH within this segment between Forge Road and Orchard Avenue. Reducing eastbound lanes earlier will be an effective traffic calming tool to reduce speeds and reduce crash risk with turning movements at connecting roadways (including CJ Morrison Drive, Vista Links, and Baner Lane). Similarly, the reduction in lanes will improve visibility for all users negotiating movement at intersections, driveways, and crosswalks.

Suitability and Level of Service

US 60 meets criteria to be evaluated for a lane reconfiguration, according to State and Federal guidance and best practices. The FHWA Road Diet Informational Guide advises volumes below 20,000 ADT as suitable candidates for lane reconfigurations and reductions, whereas the VDOT Roadway Reconfiguration Guidance recommends 16,000 ADT for conversions (similar to the redesign proposed by alternative 2). US 60 falls well within these targets, carrying 10,740 vehicles per day (2022 AADT) and projected to carry approximately 17,000 in 2035. Based on these volumes and the design of alternative 2, the capacity of US 60 would likely not be affected and conditions would have limited impact on LOS.

Of note, these data and recommendations focus on vehicle LOS which fails to account for the movement of people and goods across multiple modes. The FHWA, State DOTs, and best practices suggest shifting the framing of efficiency and service to integrate available travel modes (see: Bicycle LOS (BLOS) and Pedestrian LOS, as well as the Multimodal LOS included in the Highway Capacity Manual).

Similarly, the design for bicycle and pedestrian facilities often considers the experience of these users which can induce latent demand (i.e., people feel comfortable walking and biking and opt to use the routes) or displace demand onto alternative routes (i.e., routes have a high level of traffic stress and pedestrians or bicyclists are exposed to dangerous conditions).

After meeting criteria for further consideration for lane reconfiguration, the evaluation considers the appropriate bicycle and pedestrian connection for the corridor. Based on the volume on US 60 (today and projected) as well as the varying speeds along the corridor (from 45 MPH to 25 MPH), the preferred facility design is fully separated, such as a shared use path. Figure 36 presents the FHWA Bikeway Selection Guide reference for different bikeway types based on the context of a roadway's speed and volume. In addition to these factors, a physically separated and protected facility is highly recommended for this corridor based on factors such as the surrounding topography, current density, and lighting conditions which can complicate visibility and interactions between modes.

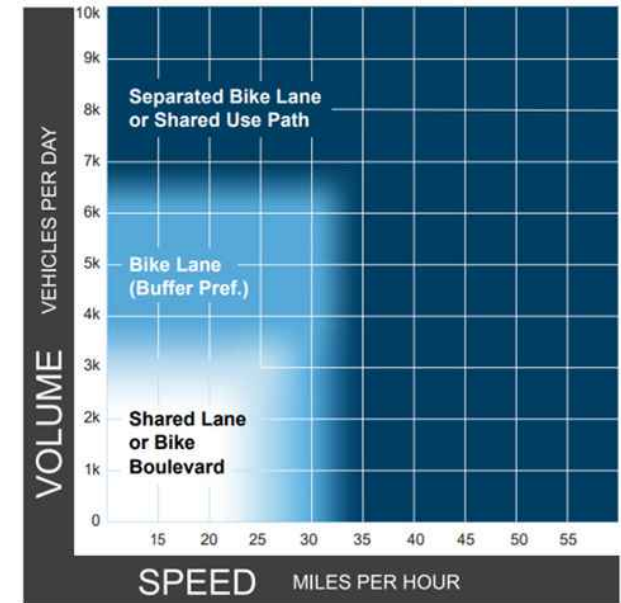


Figure 36 Preferred Bikeway Type for Volume and Speed Contexts (Source: 2019 FHWA Bikeway Selection Guide)

Context-Sensitive Design

This alternative and its approach to reduce speed and provide multiple options to safely connect to Downtown Buena Vista is an example of context-sensitive design. Context-sensitive design centers on creating transportation facilities that meaningfully reflect the character and needs of the surrounding community, and preserves the surrounding environment (physical, cultural, environmental, etc.). The change in lane configuration and introduction of a shared use path alerts travelers to the City context and serves as a gateway or 'welcoming' treatment for the corridor. Placemaking, wayfinding, and other amenities are supported by the slower and safer design.

Design Considerations

A 10-foot shared use path will accommodate active transportation between downtown Buena Vista and the shopping center. The shared use path proposed cross section is depicted in Figure 37 and reflects adjustments to the existing right-of-way at the intersection of US 60 and Vista Links Drive. The proposed adjustments to travel lanes on the Robey Bridge are also represented for consideration. A graphic of this design within the US 60 context is presented in Figure 38.

One of the most important design considerations for this alternative is the safe protection of people walking and riding bikes from vehicles. The proposed cross sections reflect the most protective options available, including a 4-foot buffer and a jersey barrier between the path and the adjacent travel lane. While designs within the VDOT Appendix A suggest this may be replaced with flexible delineators, it is highly encouraged that a more substantial and fixed barrier is in place between Forge Road and approaching the Robey Bridge based on the challenges of visibility, topography, and unsignalized turning movements throughout the study area. The barrier would be replaced with flexible delineators on the bridge, however (see Figure 36) due to the weight restrictions on the structure. For continuity and to transition into the denser downtown environment, this cross section may be continued along US 60/29th Street into downtown, or replaced with an alternative form of separation.

A high-level concept for this lane reconfiguration, including assumptions, design concepts, and proposed dimensions based on the four (A-D) sections defined in Figure 35 (on the page 34), is presented on the following page.

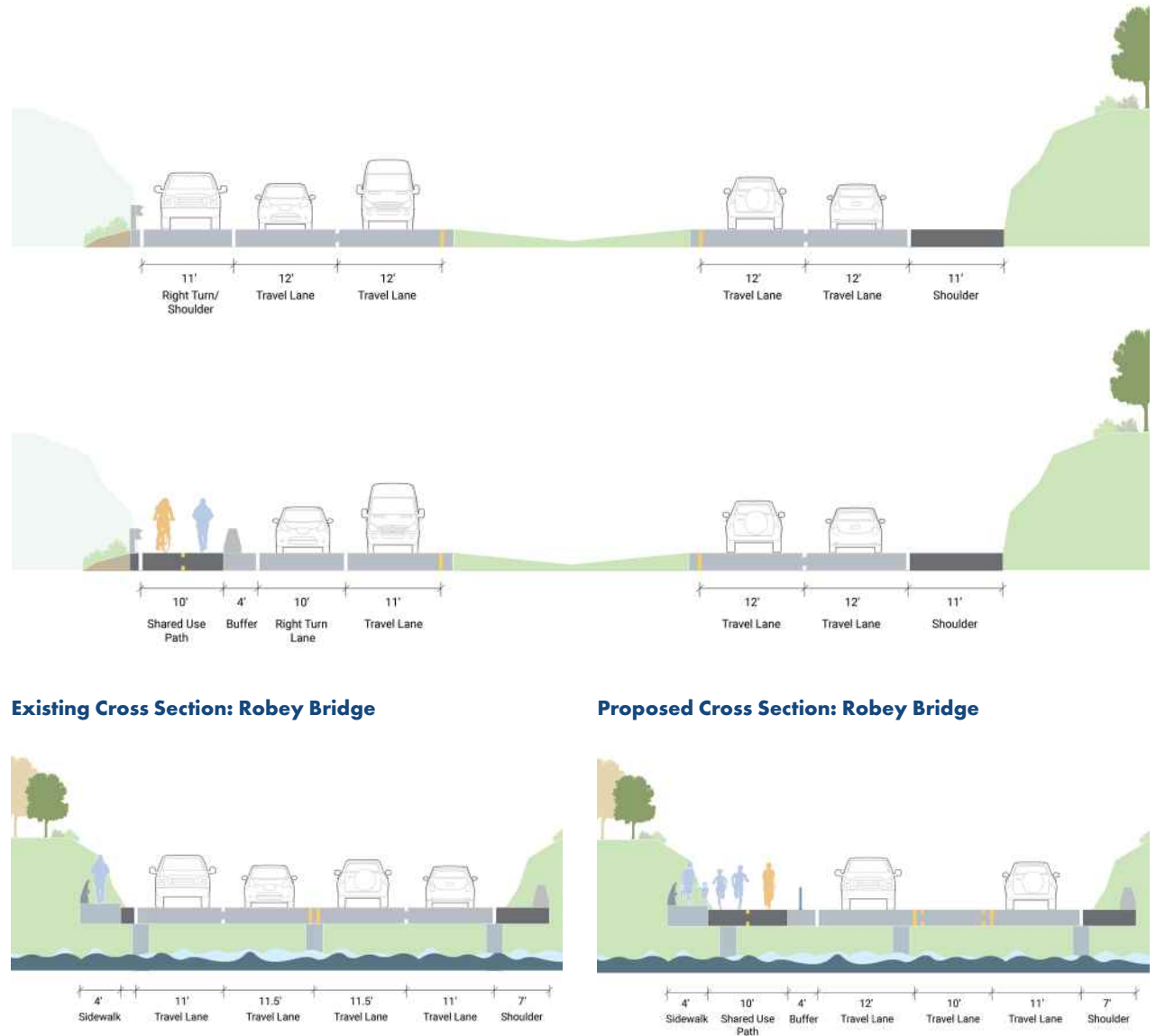
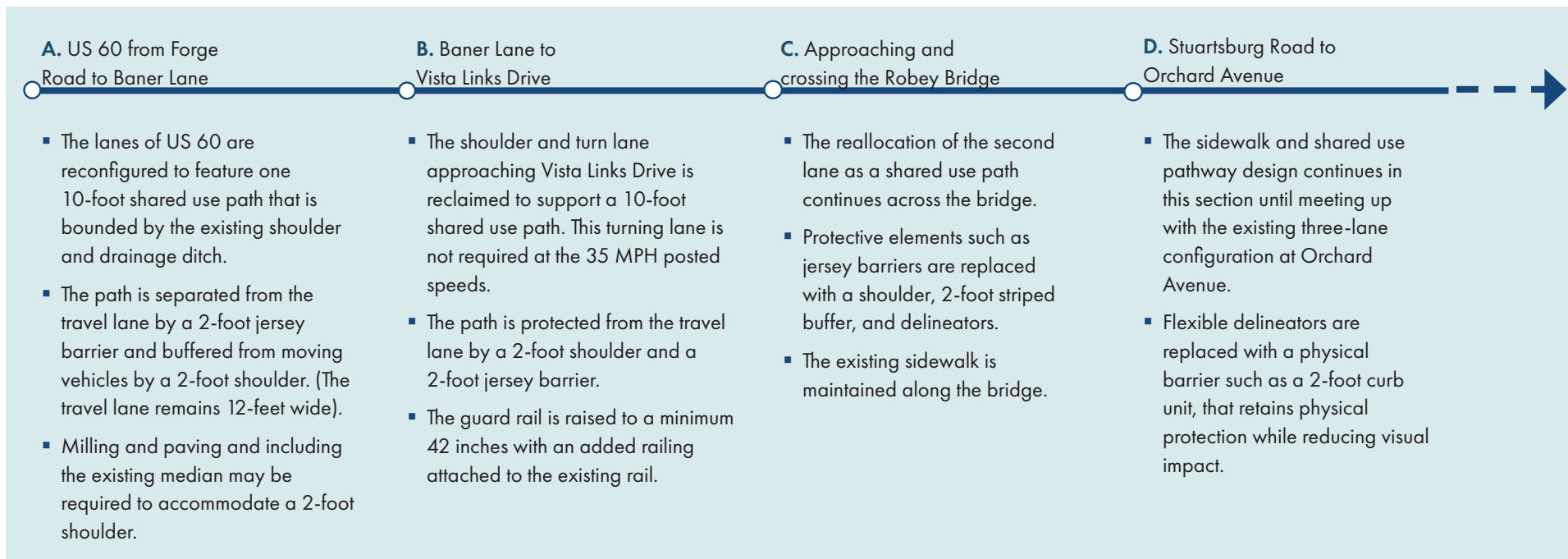


Figure 37 Alternative 2 - Existing and Proposed Cross Sections



Other Considerations

As golf carts are not legally allowed to operate on US 60 they are excluded from this design. Future exclusions or policy changes may consider expanding the available width to accommodate slow moving motorized mobility devices or golf carts.

In Buena Vista, golf carts and similar low-speed powered devices can facilitate access for all users and abilities, enabling convenient and comfortable connections between destinations, especially for trips that involve carrying goods (e.g., groceries), children (e.g., transporting children to and from the TAP Head Start program), or other considerations that can complicate transport by foot or by bike. Unlocking this mobility option for residents and visitors can support equity by reducing car dependence and providing lower-cost options for traveling throughout the area.

Though these devices are not directly addressed in the proposed alternatives, planning facilities for golf carts and low-speed powered devices should consider the following:

- A typical golf cart has a width of four feet (48 inches), and an operating space (e.g., preferred width in which a users feels comfortable) of **7 feet**.
- The operating space for a bicyclist is **5 feet** (4-foot minimum).
- The current 10-foot shared use path (alternative 2) supports bidirectional travel, social riding (side by side), comfortable passing, and walking or biking while maintaining adequate operating space.
- However, a 10-foot shared use path will feel constrained and too narrow to safely accommodate golf carts alongside other users (e.g., consider a bicycle with a 5-foot operating space attempting to pass or travel past a 4-foot wide cart with a 7-foot operating space). This constrained condition will be further impacted by the presence of physical barriers, which travelers prefer to leave a buffer. This may also merit the inclusion of striping or pavement changes to clearly define paths or directionality.
- If the City aims to integrate golf carts and other low-speed powered devices, the design of the shared use path should be revised to **a minimum of 14-feet wide**.
- Expanding the shared use path should include updated amenities for these modes and users, such as parking, charging, and updated wayfinding for legal and preferred routes.

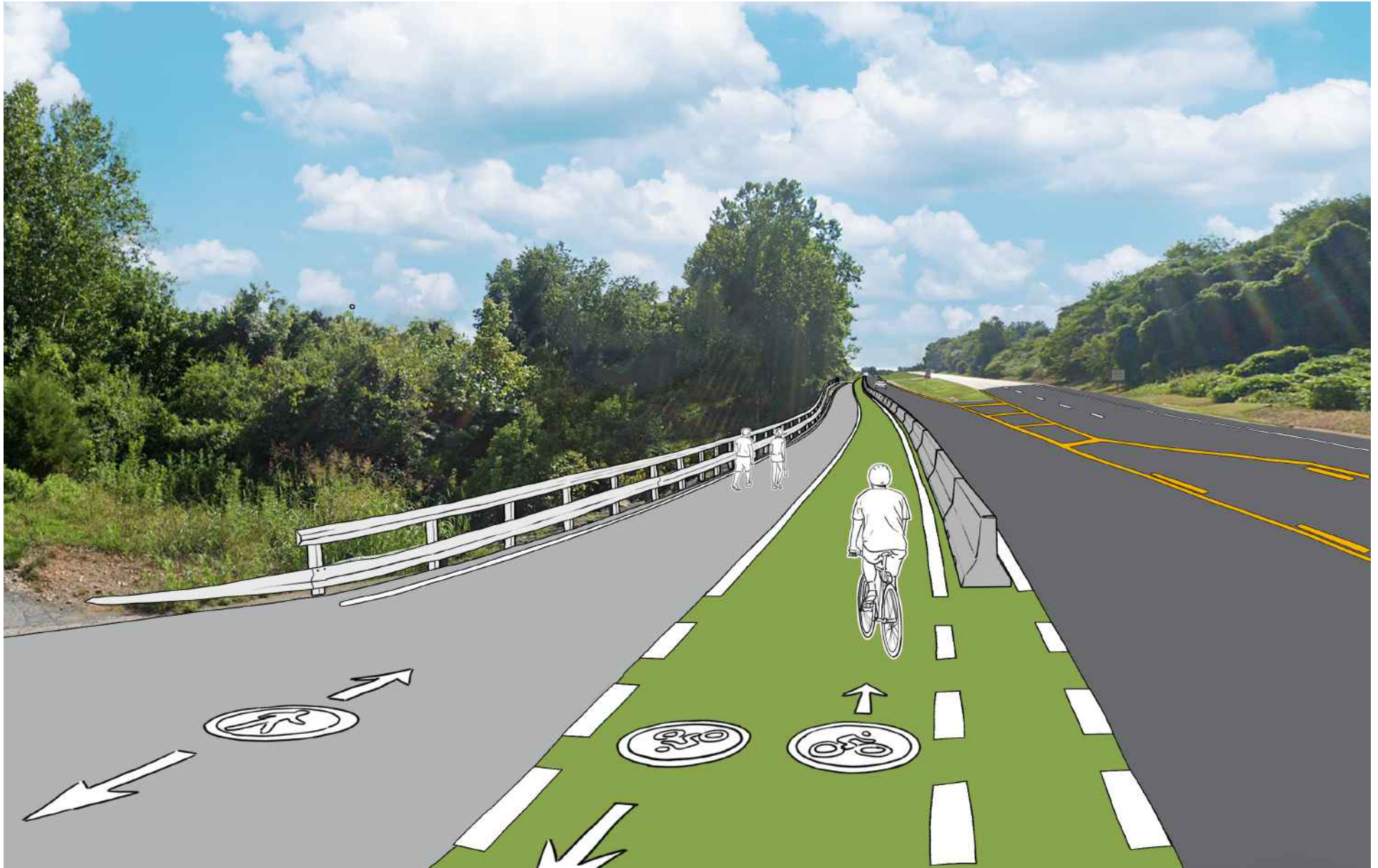


Figure 38 Alternative 2 Concept Design

Alternative 3: Park Access Pathway

Overview

The City has identified a potential pedestrian, bicycle, and golf cart bridge at 21 Street to connect the downtown street network and the River Walk to Glen Maury Park. **Alternative 3** expands on this proposed bridge with a multiuse trail that connects the 21 Street/ Maury Park Bridge to the shopping center.

This pathway would follow the power line easement through Glen Maury Park, utilize existing trails as available, and cross Vista Links Drive before passing the Mountain View Community College, BVPHC site, and DSS building.

The pathway would directly connect to the River Walk Trail on the eastern side of the Maury River, and would provide direct connections to downtown Buena Vista through the at-grade rail crossing.

Design Considerations

Design considerations for the park access pathway alternative focus on safe pedestrian amenities and adequate lighting to make the pathway comfortable and convenient. However, the topography of this pathway route features repeated and significant climbs and steep hills that will ultimately make this path less desirable for travelers on foot or bike that are accessing the Food Lion and other Hill Top destinations (see Figure 40).

In addition, the feasibility of this route is challenged by the presence of the overhead wires and utility poles from a liability and design standpoint, as well as a cost-efficacy and public acceptance perspective. As such, design concepts for the park access pathway are only provided at the highest and most conceptual level.



Figure 39 Alternative 3 - Proposed Bridge and Park Access Pathway

Future development within this area would benefit from alternative and any proposed sites should consider a community benefits agreement that includes an active transportation circulation and crossing over the Maury River.



Figure 40 Alternative 3 Topography Challenges

Cost Estimates

Cost estimates were developed for the two preferred pedestrian connections identified: Midland Trail Shared Use Path and the US 60 Lane Reconfiguration (Alternatives 1 and 2). These estimates are intended to be general and support the City with details and baseline concepts for funding applications. Estimates were prepared using the VDOT Pre-Quantity Tool (PQT) Version 1.3, downloaded and available from the VDOT website (www.vdot.virginia.gov/doing-business/technical-guidance-and-support/cost-estimation/). The full details regarding assumptions and considerations is included as an appendix to this Plan.

The PQT tool uses estimated design elements, such as distances for new pavement or numbers of curb ramps, to estimate potential costs. These costs are then used as inputs to create percentage estimates of project cost, across different elements of project delivery including engineering, traffic management, and earthworks. These estimates do not include any survey inputs and will require further evaluation to refine the expected costs of each project alternative.

Based on the preliminary cost estimate analysis and the PQT tool, Table 2 presents a summary of the cost estimate for each pedestrian connection alternative.

Table 2 Cost Estimates

Alternative	Construction Estimate	Preliminary Engineering	Traffic Management (MOT-TMP)	Roadway	Hydraulics	Traffic Devices	Bridge Structures	Earthworks
Alternative 1: Midland Trail/Vista Links Shared Use Path	\$2,984,000	\$597,000	\$78,000	\$183,000	\$255,000	\$582,000	\$1,451,000	\$227,000
Alternative 2: US 60 Eastbound Lane Reconfiguration	\$2,487,000	\$497,000	\$485,000	\$1,023,000	\$212,000	\$518,000	\$0	\$69,000

* Alternative 3 (Maury Park Bridge and Path) excluded from preliminary cost estimate efforts.

Conclusions and Next Steps

This GAP Technical Assistance project explores the potential connectivity improvements that can expand multimodal travel options for residents and visitors —particularly for people who are walking, biking, or rolling in Buena Vista. A safer US 60 will reknit the City’s Downtown and Hill Top Districts and enable safe, seamless travel across the City’s commercial, natural, and recreational destinations.

The decisions that will ultimately inform future development of the study area and the resulting transportation network may not align with this project’s assumptions or recommendations. However the following should be considered by the City and its partners as efforts to stimulate economic development, downtown revitalization, and multimodal connectivity are gaining momentum:

- New developments and proposed circulation within the Hill Top District must consider and integrate pedestrian access. Where possible, walking trails or other active transportation facilities should be connected and organized to create a walkable, bikeable network.
- Connections to Downtown should be clear and easy-to-navigate, and include engaging treatments that reflect the City’s identity and branding strategy.
- Opportunities to reallocate underutilized infrastructure to more efficient modes of travel or to public space (e.g., building pathways, reconfiguring excess lanes, or activating streets as gathering spaces for markets and events) should be considered as part of the planning and evaluative process whenever possible.

- Capital investment and funding opportunities to support strengthened connectivity are drivers of economic growth and community. The concepts and analysis included in this project should be leveraged to support applications for federal and other competitive funding opportunities.

VII. APPENDIX A.

Attached is a Planning Level Cost Opinion.



