

Town of Clifton Forge

Bicycle & Pedestrian Plan

2017



Acknowledgements

This Bicycle and Pedestrian Plan for the Town of Clifton Forge was prepared with contributions of support and ideas from town staff, the Parks & Trails Committee, Planning Commission, Town Council, and the citizens of Clifton Forge.

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I. Introduction

Plan Purpose

The *Bicycle and Pedestrian Plan* sets forth a framework for the enhancement of bicycling and walking accommodations and related programs in the Town of Clifton Forge, VA for the purpose of increasing opportunities for active transportation and physical activity for residents and tourists, facilitating safe non-motorized commutes, and improving the overall quality of life for town residents.

Background

The impetus behind this planning effort stems from goal setting at the local level in the *Town of Clifton Forge Comprehensive Plan* (2012) and regionally in both the *Alleghany Highlands of Virginia Tourism Strategic Plan* (2014) and *Downtown Covington and Clifton Forge Visioning & Strategic Plan* (2011). The *Comprehensive Plan* summarizes the town's perspective on bicycling:

"Clifton Forge has much potential to be a bicycle-friendly town, without extensive on-street accommodations. It is compact, with many key destinations within easy biking/walking distance; traffic pattern and speeds in areas of the town (i.e., central business district) allow for safe bicycling conditions; neighborhood streets provide areas for safe bicycling. The provision of ancillary facilities, such as bike racks, signage and pavements markings could be a cost effective method of improving bicycling conditions and promote bicycling in the town."

The *Comprehensive Plan* sets forth recommendations related to the expansion of bicycling and walking facilities, such as bike racks, sidewalks, bike paths, and trails for exercise and recreation. The Plan also incorporates goal statements from regional planning documents endorsed by Town Council and Planning Commission. For example, several goal statements in the *Alleghany Highlands of Virginia Tourism Strategic Plan* (2012) are identified in the *Comprehensive Plan* as having an impact on the town:

- Trail connection needed between Clifton Forge and Douthat State Park – Feasibility determination made by January 2017 (Chamber, DCR)
- Bike lane plan needed to connect town with assets
- Transportation plan to encourage various forms of transportation/livability
- Need bicycle rental locations

These same goals are also present in the most recent 2014 update to the *Alleghany Highlands of Virginia Tourism Strategic Plan*, which is indicative of the region's interest in being an attractive destination for outdoor recreation. The *Downtown Covington & Clifton Forge Visioning & Strategic Plan* (2011) echoes the regional goal of supporting bike paths and recreational trails, focusing the identified need to the downtown areas of the two localities.

To address these local and regional goals and meet public desire for improved bicycling and walking connectivity, the Town of Clifton Forge initiated the effort to develop this Bicycle & Pedestrian Plan.

Why Bicycle & Pedestrian Planning Matters

While walking and bicycling are the two most basic and low cost forms of transportation, facilities to support these modes have been overlooked in much of the United States since the popularity of the automobile exploded in the 1950s. In response to a commensurate increase in separation between residential and commercial land uses in the latter half of the 20th century, much of the nation's transportation infrastructure built during that time was designed to facilitate trips by car over longer distances and at higher speeds. While older urban centers such as downtown Clifton Forge have maintained a network of sidewalks constructed before this suburban shift occurred, the expansion of such non-motorized accommodations outside the downtown core is a relatively new concept in much of the country. Likewise, accommodations designed specifically for safe bicycle commuting did not enter the public consciousness at a national level until the turn of the century. While there are many theories to explain these recent ideological changes, American's views on walking and bicycling have undeniably become more favorable over the past twenty years. From 2000 to 2014, the national rate for commuting by bicycle increased by roughly 60%, a faster amount of growth than any other commute mode by a wide margin. During this period, the share of commuters walking to work flat lined after sharply decreasing each of the two preceding decades (U.S. Census Bureau, Decennial Census & American Community Survey). Though rates of walking and bicycling are still very low relative to automobile travel (0.6% for bicycling and 2.8% for walking - U.S. Census Bureau, ACS), planning for non-motorized transportation has become much more commonplace in recent years as a result of many factors, such as increased public demand, a desire to preserve finite roadway capacity by decreasing the number of trips made by car, and a recognition of the potential economic advantages to promoting walkable commercial areas and bicycle tourism.

Seated along the Jackson River in Alleghany County at the southern end of the scenic Shenandoah Valley, the Town of Clifton Forge is well positioned to capture the benefits of promoting bicycling and walking. The town of 3.1 square miles is bordered by the vast, undeveloped natural area of the George Washington National Forest and is within close reach of the many recreational opportunities offered by the Alleghany Highlands region. While Clifton Forge is small at a population of about 3,800 (U.S. Census Bureau, 2015 ACS estimate), it is within short driving distance of several population centers, including the Cities of Covington (11 miles), Lexington (31 miles), and Roanoke (48 miles), as well as two nationally known resorts, The Greenbrier (31 miles) and The Homestead (30 miles).

A recently completed study for Alleghany County's neighbors in the counties of Rockbridge, Augusta, Rockingham, and Shenandoah (inclusive of cities) found that the bicycle tourism industry in the Central Shenandoah Valley had a total economic impact of \$13.6 million and supported 184 jobs in 2015 (CSPDC, *The Economic Impact of Bicycling in the Central Shenandoah Valley*, 2016). These findings represent a parallel for the Alleghany Highlands region and provide an understanding of what part of the estimated \$133 billion per year U.S. bicycle recreation industry is captured in just one section of the Shenandoah Valley. The contribution of the overall active outdoor recreation industry in the U.S. is estimated to be \$730 billion, capturing many other activities popular in the Alleghany Highlands, such

as hiking, camping, and paddling. (Outdoor Industry Foundation, *The Active Outdoor Recreation Economy: A \$730 Billion Annual Contribution to the U.S. Economy*, 2006).

In addition to these potential economic benefits, bicycling and walking accommodations contribute toward a healthier, more livable community by providing alternative travel options to those without access to a vehicle and by increasing the attractiveness of outdoor recreation.

Vision Statement

The Town of Clifton Forge offers a network of public facilities and programs supportive of walking and bicycling, providing convenient non-motorized transportation and a natural extension of the vast outdoor recreational opportunities found in the beautiful Alleghany Highlands.

Goals

Goal 1 To expand and maintain a network of safe, well-connected walking and bicycling accommodations.

Objective 1.1 Ensure that maintenance efforts adequately address bicycle and pedestrian user accommodations.

Objective 1.2 Fill gaps in the on-street walking and bicycling network to provide convenient access between residential clusters and desirable destinations.

Objective 1.3 Ensure that the walking and bicycling network are supportive of all user ages and skill levels.

Objective 1.4 Provide recreational opportunities that take advantage of the scenic qualities of the Alleghany Highlands region.

Objective 1.5 Diversify funding opportunities for walking and bicycling accommodations.

Goal 2 To establish and foster programs and policies supportive of walking and bicycling.

Objective 2.1 Expand and continue town support of education and encouragement programs aimed towards bicycling, walking, active transportation, and outdoor physical activity.

Objective 2.2 Consider inclusion of walking and bicycling accommodations in all street improvement projects, maintenance efforts such as repaving, and other relevant public projects such as park renovations.

Objective 2.3 Revise the Code of Ordinances to facilitate implementation of the Clifton Forge Bicycle & Pedestrian Plan.

Objective 2.4 Ensure that local planning efforts reference and complement the Clifton Forge Bicycle & Pedestrian Plan.

Goal 3 To physically and logically connect walking and bicycling in Clifton Forge to its surrounding communities and outdoor recreational activities in the Alleghany Highlands region.

Objective 3.1 Ensure that regional and state planning efforts reference and complement the Clifton Forge Bicycle & Pedestrian Plan.

Objective 3.2 Promote local and regional tourism that highlights walking, bicycling, and outdoor recreation in Clifton Forge and the Alleghany Highlands region.

Objective 3.3 Engage in regional planning efforts that complement and expand upon the Clifton Forge Bicycle & Pedestrian Plan.

Planning Process

This planning process was initiated by the Town of Clifton Forge with the endorsement of the Town Council and Planning Commission. Town staff approached the Virginia Department of Transportation (VDOT) Staunton District Planning office in March 2016 to request assistance with the gathering of public input and plan development. To kick off the effort, town and VDOT staff hosted a public input meeting on May 17, 2016 at the Clifton Forge Public Library. Those in attendance were asked to consider the current state of the town's bicycling and walking atmosphere and make recommendations as to how it might be improved. A conceptual set of walking and bicycling routes developed by member of the Clifton Forge Parks & Trails Initiative was shared to spur conversation. Maps were provided for markup and visualization of existing trails and sidewalks. Most comments were made directly on the maps, with verbal comments also being gathered by facilitators. Four individuals chose to complete the written comment sheet that was openly available. These responses are detailed below:

- I. Please complete this statement, "A good bicycle & pedestrian network in Clifton Forge would allow me to..."
 - Exercise & enjoy the area
 - Run 6-10 miles without repeating myself every day
- II. What bicycle and/or pedestrian projects and programs do you recommend and why?
 - Repair swing bridge to complete loop
 - Bike racks at Kroger and gas stations
 - Recreation maps
 - Loop routes through town
- III. Other comments/suggestions:
 - Need sidewalk on Business 60/220 from Exxon to Kroger
 - Need a non-stop way of getting from downtown to The Heights near Linden Park
 - Connect Race Street to Rose Avenue
 - Connect Main St across A St bridge to Verge St

Following the meeting, the comment form was posted online, with the comment period remaining active until June 7, 2016. No responses were received during this period.



Maps were provided at the public meeting for markup by attendees

Comments made directly on the maps provided at the public meeting are summarized below:

- Widen shoulder on Route 60/Ridgeway St/Main St from downtown to Dabney S. Lancaster Community College
- New walking/mountain bike loop trail around Dabney S. Lancaster Community College campus
- New trail along south bank of Jackson River connecting Selma-Low Moor Rd in Selma to Frazier Hill Ln and Verge St in Clifton Forge
- Widen shoulder on Selma-Low Moor Rd from Selma to Low Moor
- Repair the swing bridge over Jackson River between downtown and Verge St
- New sidewalk on Route 60/Main St from Ingalls St in Clifton Forge to Longdale Furnace Rd in Cliftondale Park
- New trail along Route 220 to connect Route 60/Main St in Cliftondale Park to the south across the Jackson River bridge to Verge St in Clifton Forge
- New trail from Verge St in Clifton Forge to connect south to the community of Glen Wilton in Botetourt County via an abandoned road bed
- New trail parallel to I-64 and Route 60 to connect Lexington to Douthat State Park through Cliftondale Park
- New bike rack at:
 - o Memorial Park, Linden Park, Matthews Park, Clifton Forge School of the Arts, Booker T. Washington Park, Kroger grocery store, and Route 60 Exxon (Cliftondale Park)

The recommendations presented in this plan incorporate comments from the public and synthesize relevant ideas from previous planning efforts, including:

- *Comprehensive Plan, Town of Clifton Forge* (2012)
- *Alleghany Highlands of Virginia Tourism Strategic Plan, Alleghany Highlands Chamber of Commerce and Tourism* (2014)
- *Smith Creek Corridor Action Plan, Town of Clifton Forge* (2013)
- *Downtown Covington and Clifton Forge Visioning & Strategic Plan, Alleghany Highlands Chamber of Commerce and Tourism* (2011)
- *2035 Rural Long Range Transportation Plan, Roanoke Valley Alleghany Regional Commission* (2011)
- *Regional Bicycle Suitability Study: Phase II, Roanoke Valley Alleghany Regional Commission* (2004)

This plan builds upon existing and proposed walking and bicycling facilities to identify gaps in connectivity and additional ways to expand opportunities for physical activity and non-motorized, active transportation in Clifton Forge. Short-term and long-term recommendations are provided, covering both infrastructure-related and program-related solutions.

A draft version was submitted to the town in April 2017 and will be presented for public input in the spring of 2017. A final planning document will be submitted shortly thereafter to encapsulate comments received from town staff and the public.

[Insert details of draft plan public meeting and efforts following]

II. Existing Conditions

Overview

With its gridded street layout and compact land use pattern, Clifton Forge has a strong framework for walking and bicycling connectivity. These characteristics are particularly important given the challenging terrain that divides neighborhoods into interconnected tabletops at varying elevations. As seen in the existing bicycle & pedestrian network map, a robust sidewalk network around the town's core provides cohesion between downtown and its adjacent neighborhoods, making walking an easy option. Some of the more recently developed neighborhoods to the north and east of downtown lack sidewalks, but may be enhanced through off-street trail connections to nearby destinations. While Clifton Forge has no officially designated on-street bicycling facilities, such as bike lanes, 25 mph speed limits and relatively low traffic volumes contribute to favorable cycling conditions on most town streets.

In considering ancillary accommodations supportive of walking, Clifton Forge has done an admirable job in providing well placed and designed crosswalks on uncontrolled approaches in the downtown area. For example, the crosswalk across E Ridgeway Street at Loop Street is located where consistent pedestrian activity is expected, features restricted parking spaces to improve driver-pedestrian visibility, and incorporates in-street signage to supplement the marked crosswalk in physically highlighting the crosswalk location for drivers.



Crosswalk across E Ridgeway St at Loop St



Pedestrian accommodations have also been taken into consideration at the town's five traffic signals, all of which are located in the downtown area. Each signalized intersection has multi-way marked crossings, though wear and tear has faded markings at many locations. Signalized intersections are important areas of focus for pedestrian safety since right-of-way designation may be clear for the driver using the signal indication, but less clear for pedestrians who may not know when it is safe to cross without separate pedestrian signals. At signals that do not operate on a fixed cycle, pedestrian signals are also important for ensuring that the right-of-way is held for the pedestrian in the absence of vehicle traffic on a minor approach actuated by vehicle detection.

With pedestrian signals only being provided at the intersection of E Ridgeway Street & Commercial Avenue, consideration could be given to whether accommodations would provide safety benefits at the other four signalized intersections.



Traffic signal with pedestrian signals at E Ridgeway St & Commercial Ave

Even a brief trip through town reveals past efforts in improving connectivity across steep terrain and waterways. In the example below, stairs on Ridgeway St connect to an unimproved, narrow trail leading up to Alleghany St over a 40-foot elevation change using town right-of-way. Similar stairways can also be found on Pine St where walkways lead down to sidewalks paralleling the street at a lower elevation and also provide a public connection to Church St using an unimproved alley on A St.



Stairs connecting W Ridgeway St to Alleghany St



Stairs connecting Pine St to A St

Another interesting example of a historical connective facility can be found in the “swing bridge” over the Jackson River connecting residents on Verge St directly to the heart of downtown Clifton Forge, bypassing the longer route over the A St bridge. This bridge is owned by CSX railroad and was closed in recent years as a result of potential structural issues identified during an inspection.



CSX swing bridge over the Jackson River

Looking to current town planning efforts, significant expansions have been made to the off-street trail network in recent years, providing safer, more scenic, and direct connections for walking and bicycling when compared to on-street alternatives. Also notable in these recent projects is the implementation of a cohesive wayfinding sign theme, as seen in some of the examples below.



Hazel Run Trail extension to Richmond Avenue

Connects Booker T. Washington Park/Route 60 to Ingalls St and upper Jefferson St area



Fairmont Park Trail spur of the Hazel Run Trail
Connects Booker T. Washington Park/Route 60 to neighborhood surrounding Linden Park



Smith Creek Trail (first complete segment)
Connects Pine St downtown to Lowell St and Memorial Park area

In developing recommendations for this plan, opportunities for blending past and present infrastructure efforts will be explored to build a stronger overall walk-bike network.

Crash History

To evaluate where non-motorized safety issues may be present, a 5-year history of crashes involving pedestrians and bicyclists in Clifton Forge and within one mile of the town limits was gathered. From 2012 to 2016 there were 5 crashes involving pedestrians, each of which resulted in an injury and can be seen in the map below. No crashes involving a bicyclist were reported during this time period. Detailed reports were reviewed for the 5 pedestrian crashes to investigate the potential for improvements that may prevent future crashes of the same type. The results from this review are summarized below:

2012 – 2013

No reported crashes involving pedestrians or bicyclists.

2014

February – A pedestrian stepped out to cross Rt. 220B/Rt. 60B near Selma-Low Moor Rd during a severe winter storm and was struck by a vehicle. The driver and the pedestrian stated that they didn't see each other due to limited visibility during the storm.

October – Main St/Jefferson Ave – Pedestrian was struck by a vehicle turning right from Main St while crossing Jefferson Ave just north of the intersection.

2015

February – Vehicle in on-street parking space on W Ridgeway St near 1st St backed into a pedestrian that was shoveling snow.

May – Jefferson Ave/Church St – Pedestrian crossing Church St at its intersection with Jefferson St was struck by left turning vehicle on a stop-controlled approach.

2016

October – Pedestrian ran into traffic between parked cars outside of a crosswalk on E Ridgeway St near the Commercial Ave intersection and was struck by a vehicle.

With few crashes, each of which occurred at a different location, this analysis did not produce any identifiable trends with regard to a particular geographic area or set of conditions.



Virginia Geographic Information Network (VGIN)

Legend

- Pedestrian Crash
- Sidewalk
- Paved Trail
- Unpaved Trail
- Wide Shoulders

Crashes Involving Pedestrians (2012 - 2016)

Clifton Forge Bicycle & Pedestrian Plan

Walking Barriers & Countermeasures

The attractiveness of walking and bicycling may be reduced in areas where conditions are perceived as being dangerous or uncomfortable for one or more reasons. Identifying these physical and perceived “barriers” to walking and bicycling is a valuable exercise in understanding what improvements, or “countermeasures”, may be beneficial. These recommendations are provided as a toolbox of options that may apply in the context of Clifton Forge and are not necessarily targeted for a specific location.

Pedestrian Crossings

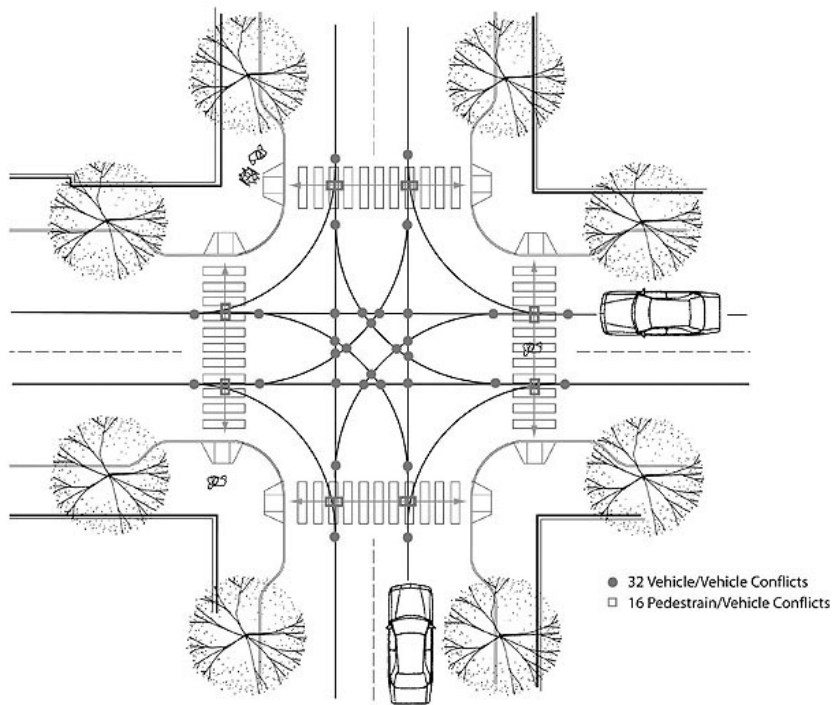
Pedestrians can generally be expected to follow desire lines between attractions when crossing a street, with higher volumes of foot traffic being found in locations having a concentration of commercial or tourism-related destinations. To facilitate the safe crossing of streets where vehicle traffic is also relatively high, marked crosswalks should be considered for installation following guidelines set forth by industry best practices, such as those detailed in VDOT’s memorandum *IIM-TE-384: Pedestrian Crossing Accommodations at Unsignalized Locations*.

Caution should especially be given to the placement of crosswalks mid-block and across uncontrolled intersection approaches, ensuring that the surrounding environment, travel speeds, and roadway geometry are such that drivers would have a reasonable expectation of crossing pedestrians. Additionally, conditions should provide drivers and pedestrians with high visibility of one another, while also encouraging vehicles to yield to crossing pedestrians using research-backed tools, such as those described in this section.

Crosswalk planning should focus on strategically enhancing crossing opportunities in areas where there are pedestrian attractions on both sides of the street, particularly at higher traffic intersections in the downtown area. Intersections with traffic signals but no pedestrian signals are an excellent starting point for crossing enhancement, as they combine the high number of vehicle-pedestrian conflict points inherent at standard intersections with the added confusion of not knowing when it is safe to cross because pedestrian right-of-way is not clearly indicated. Pedestrian signals more clearly designate right-of-way and hold the traffic signal for a set interval to allow time for pedestrians to cross without changing to serve a conflicting direction of vehicle traffic.



Pedestrian signals



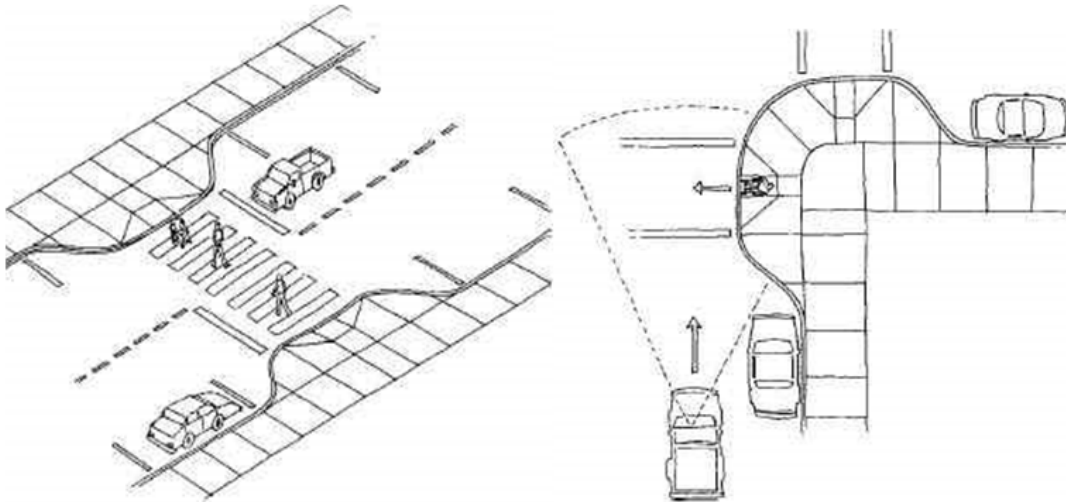
Pedestrian-vehicle conflict points at a 4-way intersection

As of 2017, pedestrian signals are only provided for one crossing movement at one intersection located at E Ridgeway Street & Commercial Avenue. Consideration should be given to whether accommodations can be provided at the town's other four signalized intersections, all of which are located in the downtown area where there is regular foot traffic. Prioritizing investments for these upgrades could take into consideration the volume of traffic on each cross street, the length of the crossing, and the posted speed limit, with higher values being an indication of a lower level of pedestrian comfort.



Pedestrian signals would enhance the crossing at the Main St & D St intersection at the entrance to the C&O Railway Heritage Center

Curb extensions are another example of how a pedestrian crossing may be enhanced. As seen in the images below, these features physically narrow the roadway by pushing out the curb at a pedestrian crossing to provide several advantages, including an improved sight line between pedestrians and drivers past on-street parking blocks, a protected waiting area for pedestrians, a visual cue to drivers that a crosswalk is present, and a traffic calming, or slowing, effect for vehicles. These features are also referred to as bulb-outs.



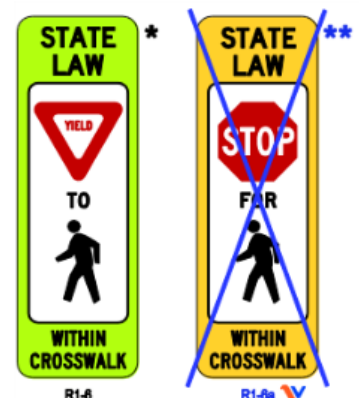
*Examples of curb extensions at crosswalk locations
(FHWA, Designing Sidewalks and Trails for Access)*

The *Manual on Uniform Traffic Control Devices (MUTCD)* and the *Virginia Supplement to the MUTCD* set forth recommended practice and requirements on the proper installation of pedestrian signals, marked crosswalks, and signage. With regard to crosswalk signage, the Virginia Supplement to the MUTCD offers some relevant requirements that should be considered in Clifton Forge during maintenance and enhancement efforts.

It is recommended that crosswalks at mid-block and uncontrolled locations be supplemented by a pedestrian crossing sign (W11-2) in each direction with a downward facing arrow plaque (W16-7P) pointing to the crossing location. These signs help call driver attention to the crossing location, particularly where the marked crosswalk is not clearly visible. In Virginia, these signs are required to have a fluorescent yellow-green background.



The MUTCD R1-6 in-street sign has been demonstrated to increase the likelihood of driver yield behavior by FHWA referenced studies and is currently used at several downtown locations to call attention to mid-block and uncontrolled crosswalks. In Virginia, these signs are required to have a fluorescent yellow-green background and use the “YIELD” statement. The “STOP” statement does not apply in Virginia because our state code requires that drivers at crosswalks *yield* the right-of-way to pedestrians



crossing the highway. When used, these signs are required to be placed in the middle of the street at the crosswalk rather than on the sidewalk or near the curb. All of applications of this signage in Clifton Forge are located appropriately, but consideration should be given to changing over to the “YIELD” text.



In-street pedestrian sign on Main St

Sidewalk Interruptions

Wide and closely spaced commercial entrances lower the comfort level for pedestrians and bicyclists by increasing the potential for conflict with turning motorists. Wide entrances to heavily trafficked businesses are of particular concern for pedestrians where sidewalks are interrupted, as the path of entering and exiting motorists is not clearly delineated. Such conditions increase the opportunity for pedestrian-motorist conflicts by reducing the predictability of where motorists will cross the sidewalk.

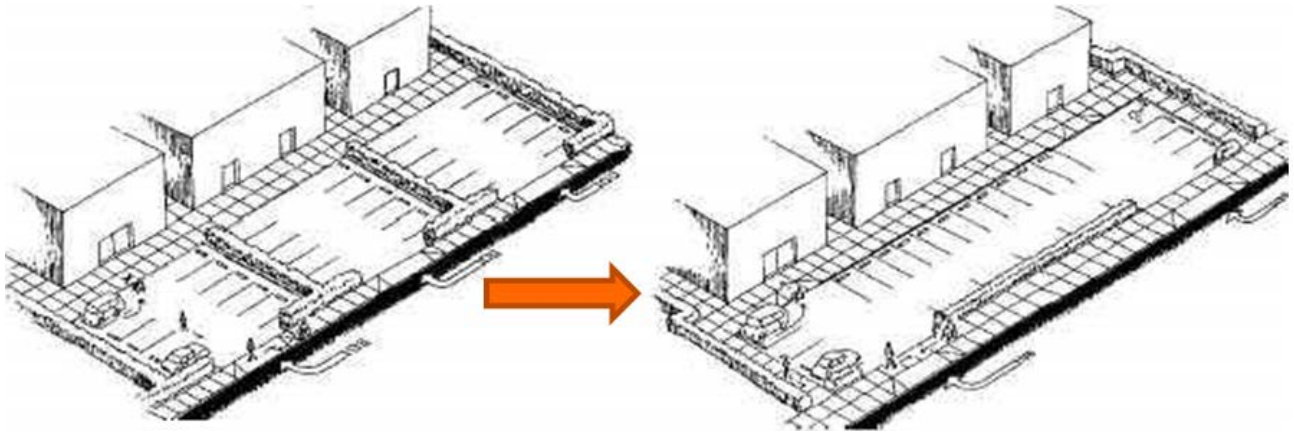


Example of wide and closely spaced commercial entrances on W Ridgeway St

Entrance design issues are typically addressed during the site plan phase of redevelopment projects when property owners are required to meet more recent standards with regard to the width, number, and spacing of entrances. Clifton Forge does not have its own design standards at present, but may defer to the *VDOT Access Management Guidelines* found in Appendix F of the *Road Design Manual*. Negotiations with private property owners outside of redevelopment actions may produce results if the town provides adequate incentive and the quality of site access can be maintained.

One common countermeasure used when multiple businesses are within close proximity is the use of parcel interconnections with shared entrances and parking areas, as demonstrated in the images below.

Such an arrangement reduces the total number of entrances needed, thereby minimizing the conflict points for both pedestrians and vehicles on the frontage street interacting with customers entering and exiting the parking lot. Additionally, this may improve pedestrian connectivity between adjacent businesses.



*Parcel interconnections with shared driveways and parking
(FHWA, Designing Sidewalks and Trails for Access)*

Rural Roadway Sections

Roadways on the more rural fringes of town may present a challenge for pedestrians because they lack a shoulder and may have vegetation, signs, drainage ditches, or other obstacles that prevent or limit the comfort of walking and bicycling. Examples include Main St east of Ingalls St and Sioux St, which transitions from an alley to Route 606 towards Hot Springs. The addition of 4-foot minimum shoulders during repaving efforts is a popular and cost effective way to add a minimal pedestrian and bicycling accommodation on such roadways, provided there is adequate level area and roadway drainage is adequate.



Example of shoulder on one side of Main St at Oakhill Ave

Bicycling Barriers & Countermeasures

On-Street Parking

On-street parking can lower the comfort level for bicyclists when use of on-street spaces is inconsistent, as cyclists typically feel inclined to move to the right to let vehicles pass and must move left to avoid parked cars. When bicyclists choose to position and reposition to avoid parked cars, the predictability of their actions is reduced from the motorist's perspective. While this is less of an issue on low volume residential streets, cyclist-motorists conflicts may increase when such conditions are present on higher trafficked roadways such as Main St and W Ridgeway St. To reduce conflicts between bicycles and vehicles, it is recommended that marked on-street parking be limited on collector and arterial classified streets to areas where parking demand is expected to be high and/or adjacent residents do not have convenient off-street parking opportunities.

On 25 mph roadways where bicyclists share the travel lane with motorists and on-street parking is occupied sporadically, shared lane markings or "sharrows" may be a beneficial treatment. In this application, shared lane markings clarify proper lane positioning for bicyclists outside of the parked car "door zone" while alerting motorists to the potential presence of bicyclists.

On-street parking may act as a beneficial feature for bicyclists in low volume residential areas if parking stalls are consistently filled, as their riding path is more predictable and physically constrained travel ways provide a traffic calming effect that naturally reduces driving speeds. Such conditions can be found in the older neighborhoods adjacent to downtown, Memorial Park, and Matthews Park where the majority of homes were constructed without driveways and residents regularly use on-street parking.

Topography

One of the more significant challenges in providing convenient connectivity for bicycling in and around Clifton Forge is the steep topography separating downtown from the higher elevation neighborhoods to the north. Creative off-street paths that follow the terrain to minimize grade steepness have been devised in previous planning efforts, including Hazel Run Trail beginning in Booker T. Washington Park and the conceptual Smith Creek Trail that would connect downtown to Memorial Park.

Challenges with terrain may exist on steep and narrow residential streets where bicyclists riding uphill have no space to move to allow a motorist to pass. Jefferson Ave provides on-street parking on the downhill side of the street only, demonstrating a configuration that prevents this issue, providing a predictable and uninterrupted climbing space for bicyclists even though the same space is shared with vehicles due to the narrow street width.



Limiting parking to the downhill side on Jefferson Ave provides a predictable bicycle climbing space

Bicycle Parking

Bicycle parking should be incorporated into public spaces and commercial properties to provide a safe and convenient storage location. Partnering with private businesses to incentivize or request a rack be installed on their property is one way that other communities have successfully approached the expansion of bicycle parking. For developing properties, it is recommended that bicycle parking be a site planning requirement. The Association of Pedestrian and Bicycle Professionals (APBP) provides bicycle parking guidelines that can be adopted locally for standardization. The Inverted U style rack is a common style that meets these guidelines because it supports a bicycle at two points, doesn't trap the wheels, and provides secure lockup.



Bicycle rack Masonic Amphitheater

III. Network Development

Origin-Destination & Network Gap Analysis

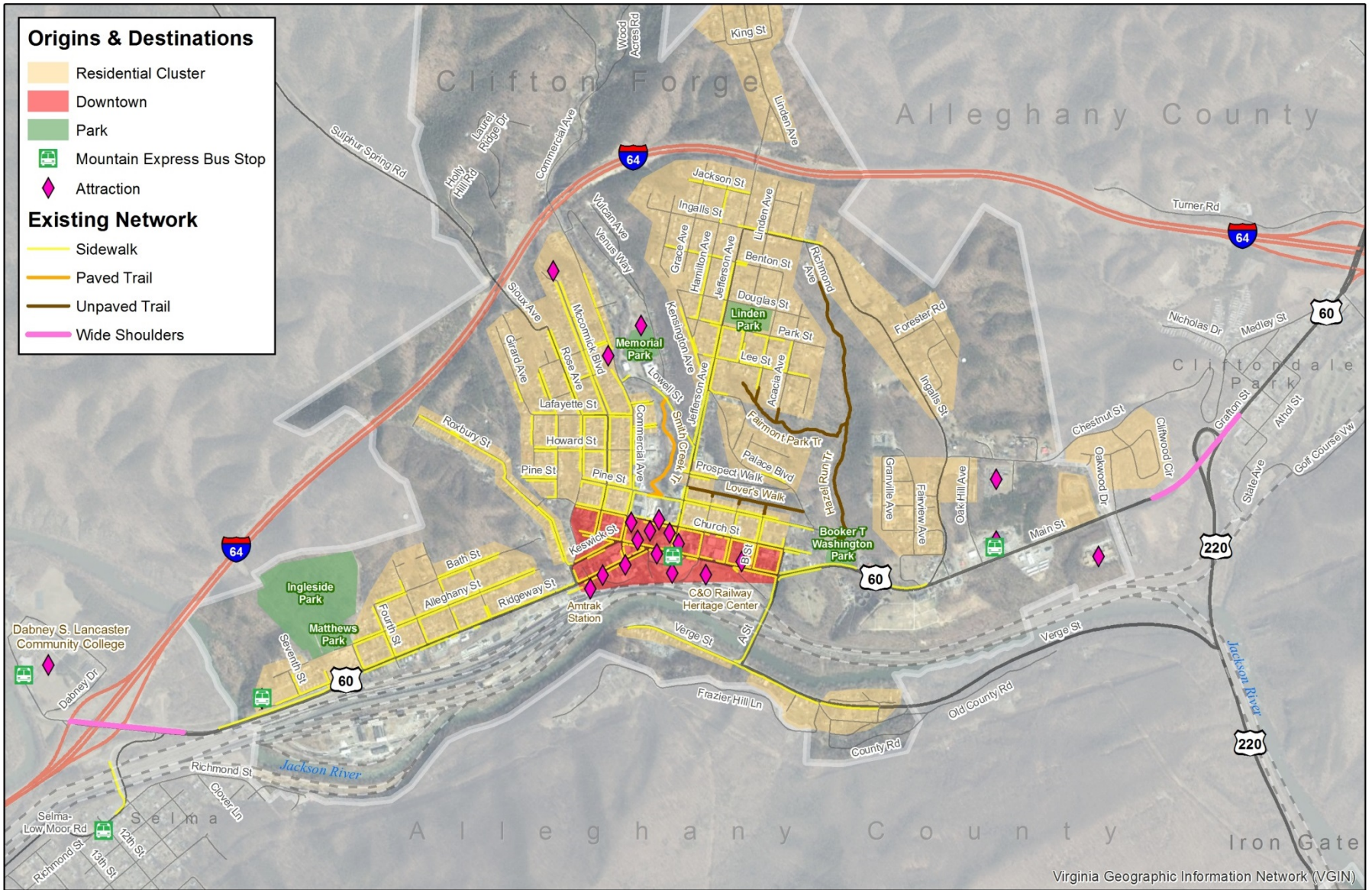
In planning for a well-connected, convenient pedestrian and bicycle network, it is necessary to understand the common starting and ending points of non-motorized trips in Clifton Forge. Visualizing these “origins” and “destinations” facilitates both the identification and prioritization of appropriate improvements between clusters of locations known to produce and attract pedestrians and bicyclists. The origin-destination analysis for this plan considers the following points of interest:

- Residential neighborhoods
- Retirement Communities
- Schools
- Public services
- Lodging
- Tourist attractions
- Parks
- Major retailers
- Major employers outside other categories
- Mountain Express bus stops
- Amtrak station
- Adjacent communities

The origins & destinations map below shows the spatial relationship of these categories and their location relative to existing bicycle and pedestrian accommodations. Each dense neighborhood residential area is grouped into a “residential cluster”. The other points of interest that aren’t separated on the map are grouped into the “attraction” category for simplicity. The downtown area is highlighted because it is one large attraction area, though specific attraction sites within downtown are still identified separately to visualize where they cluster.

Review of the origins & destinations map reveals existing gaps in sidewalk, bikeway, and trail connectivity in several areas. A few of the notable isolated areas include:

- Dabney S. Lancaster Community College, separated from Clifton Forge by a 35 mph 4-lane section of W Ridgeway St
- Major retailers and residential clusters at the eastern edge of Clifton Forge, separated from the heart of town by a 35 mph 3-lane section of Main St
- Residential clusters along Ingalls St and northern Jefferson Ave, separated by indirect connectivity to commercial destinations
- Nearby communities of Selma, Cliftondale Park, and Iron Gate, separated by 35 mph or higher arterial roadways



Virginia Geographic Information Network (VGIN)

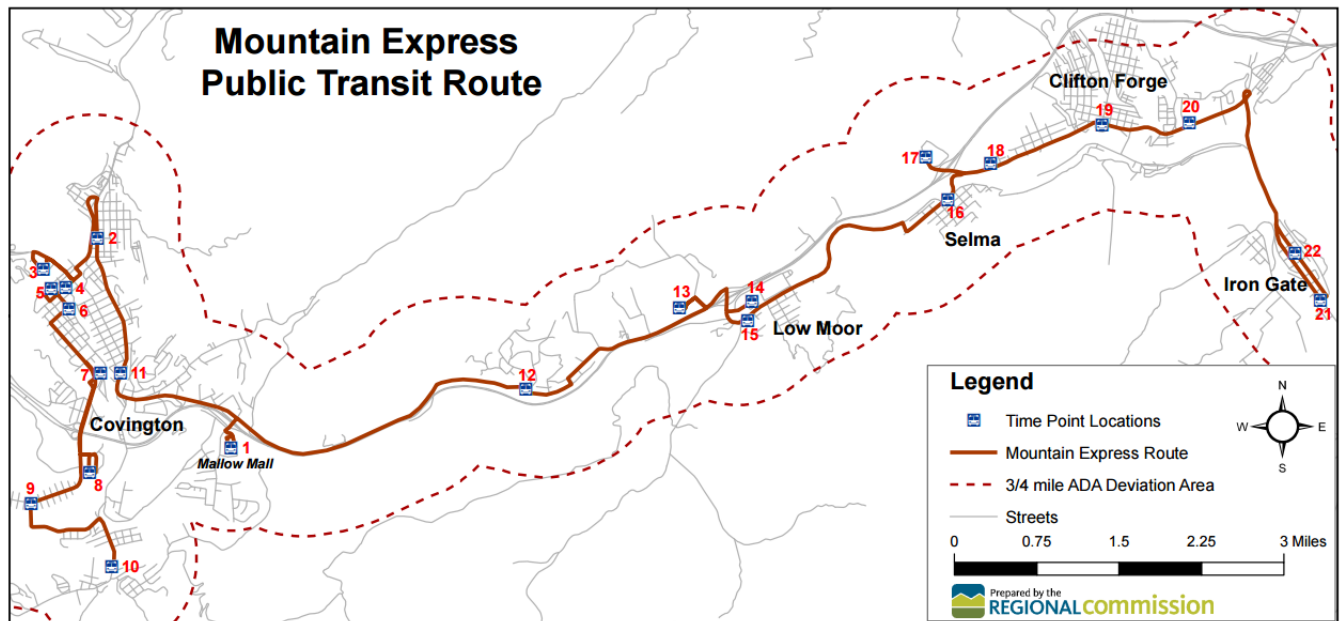


Origins & Destinations

Clifton Forge Bicycle & Pedestrian Plan



Bus stops for the Mountain Express service are also shown on the origins & destinations map. This regional bus service provided by RADAR Transit is depicted in the map below and operates Monday through Friday, 8 am to 5 pm, with 1.5 hour headways. Non-motorized accessibility to bus stops is a significant consideration, as those using the bus are less likely to own a vehicle. The bus has three stops in Clifton Forge: Scott Hill Apartments off of W Ridgeway St (stop 18), Clifton Forge Town Hall at Main St & Jefferson Ave (stop 19), and Kroger/Clifton Woods Apartments on Main St (stop 20).



Mountain Express bus route map from radartransit.org

RADAR Transit buses operating on the Mountain Express route currently have bicycle racks mounted on the front of the vehicle that hold up to two bikes. Consideration should be given to creating materials to provide online and on the bus to demonstrate how the rack is used to limit user hesitation at bringing a bike on their trip. Also, provision of bicycle parking in the vicinity of the bus stops should be a priority for those using other modes of travel at their destination.

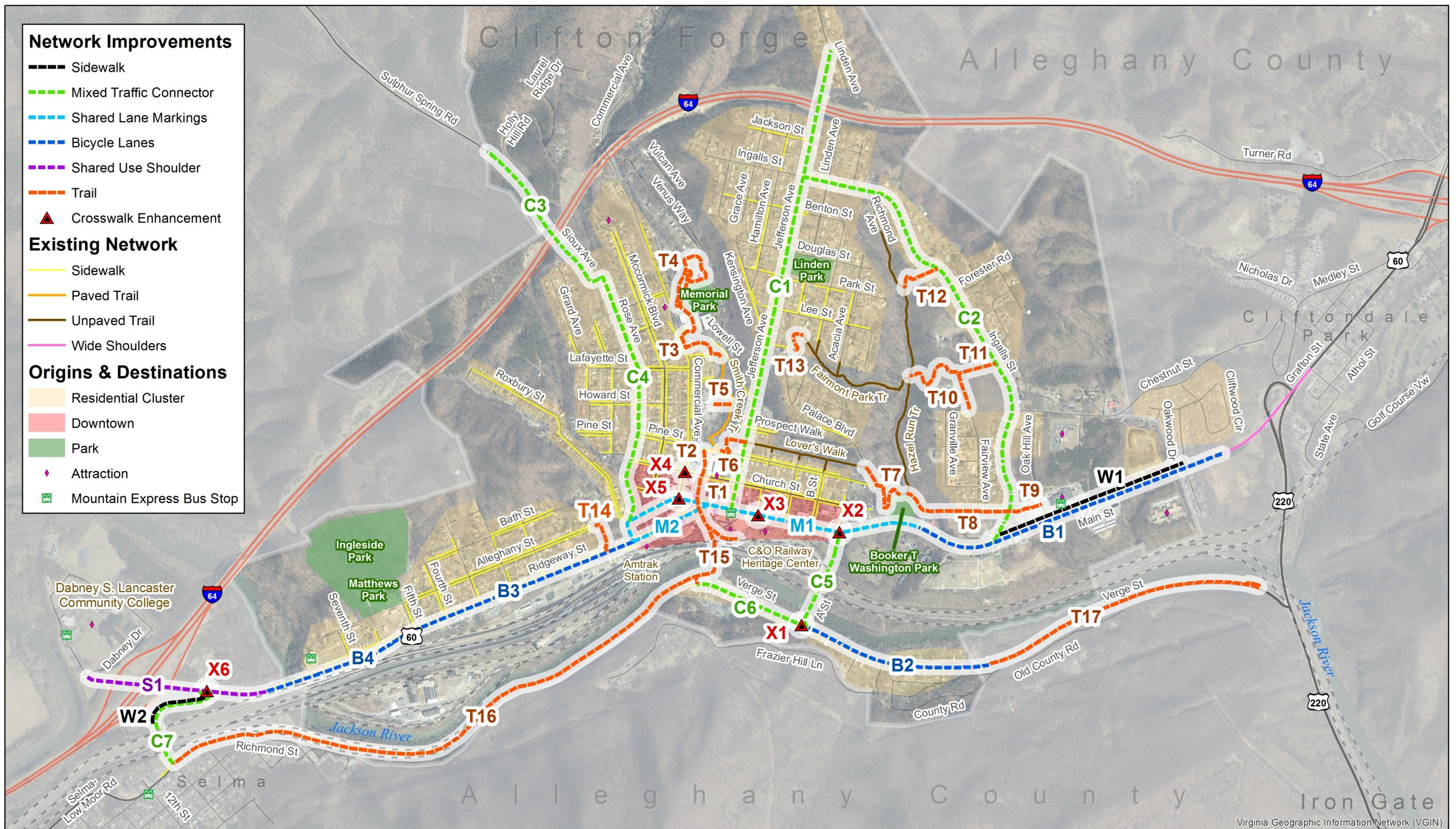
Summary of Proposed Network Improvements

In selecting improvement to fill gaps in bicycle and pedestrian network connectivity, consideration was given to the following:

- Existence and quality of existing network features
- Network connections proposed in previous planning efforts, through formal public input sessions, and through the Clifton Forge Parks & Trails Committee
- Cost of the proposed treatment type
- Appropriateness of a given treatment in the context of its surroundings
- Comfort level of the treatment for its anticipated users (preference given to accommodation of all bicycling skill levels)

- Locations of residential clusters and attractiveness of destinations accessible using the proposed connection
- Establishment of contiguous, looped recreational routes
- Topography
- Routes within town or state controlled rights-of-way or, in the absence of existing right-of-way for off-street trails, areas without privately owned structures and minimal property impact

The proposed network improvements map below summarizes the recommendations in the context of the origin and destination analysis and existing bicycle and pedestrian network features. The table that follows itemizes each project with a description of the improvement extent and treatment type. The design guidance section provides more detailed explanations for each treatment type.



Virginia Geographic Information Network (VGIN)



Proposed Network Improvements

Clifton Forge Bicycle & Pedestrian Plan



Table summarizing all proposed network improvements (distances are approximated)

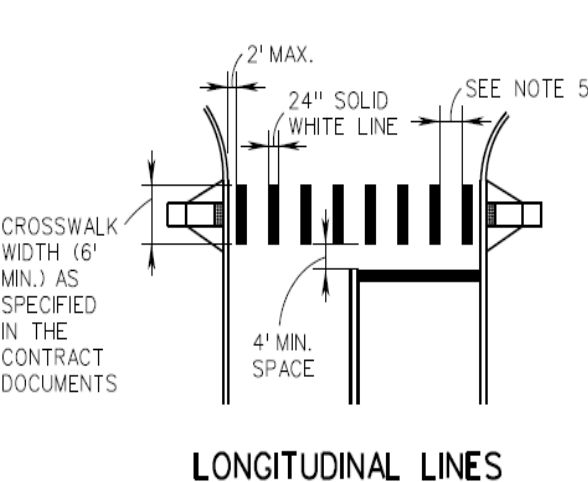
Project ID	Project Name	Improvement Type	Approx. Length (ft)
X1	Verge St & A St	Marked Crosswalk	-
X2	Main St & A St	Signalized Crosswalks	-
X3	Main St & D St	Signalized Crosswalks	-
X4	Commercial Ave & Church St	Signalized Crosswalks	-
X5	Main St & Commercial Ave	Signalized Crosswalks	-
X6	W Ridgeway St & Selma-Low Moor Rd	Marked Crosswalk & Median Refuge	-
W1	Main St (Ingalls St to Oakwood Dr)	Sidewalk	2500
W2	Selma-Low Moor Rd (W Ridgeway St to RR Bridge)	Sidewalk	900
C1	Jefferson Ave (Main St to Linden Ave)	Mixed Traffic Connector	6000
C2	Ingalls St (Main St to Jefferson Ave)	Mixed Traffic Connector	6150
C3	Tremont St/Sioux Ave (Rose Ave to N Town Limits)	Mixed Traffic Connector	2300
C4	Rose Ave (Keswick St to N Town Limits)	Mixed Traffic Connector	3250
C5	A St (Main St to Verge St)	Mixed Traffic Connector	1350
C6	Verge St (A St to western terminus)	Mixed Traffic Connector	1550
C7	Selma-Low Moor Rd (W Ridgeway St to Richmond St)	Mixed Traffic Connector	1650
M1	Main St/E Ridgeway St (Roxbury St to Park)	Shared Lane Markings	3800
M2	Main St/Keswick St/Roxbury St (E to W Ridgeway St)	Shared Lane Markings	1400
B1	Main St (Booker T. Washington Park to Ex. Shoulders)	Bicycle Lanes	4150
B2	Verge St (A St to E Town Limits)	Bicycle Lanes	2400
B3	W Ridgeway St (Fifth St to Roxbury St)	Bicycle Lanes	3000
B4	W Ridgeway St (Fifth St to Jackson River Bridge)	Bicycle Lanes	2050
S1	W Ridgeway St (Jackson River Bridge to Comm. College)	Shared Use Shoulder	2350
T1	Smith Creek Trail Segment 1 (C&O Depot/Amphitheater)	Trail	1200
T2	Smith Creek Trail Segment 2 (Pine St to Church St)	Trail	500
T3	Smith Creek Trail Segment 4 (Clay St to Memorial Park)	Trail	700
T4	Smith Creek Trail Segment 5 (Memorial Park Loop)	Trail	2500
T5	Smith Creek Trail Howard St Connector	Trail	250
T6	Lover's Walk to Smith Creek Trail Connector	Trail	600
T7	Lover's Walk to Hazel Run Trail Connector	Trail	1050
T8	Smith Creek Trail to Bryant St Connector	Trail	1000
T9	Bryant St to Oak Hill Ave Connector	Trail	850
T10	Hazel Run Trail to Fairview Ave Connector	Trail	1400
T11	Hazel Run Trail to Ingalls St (Fairview Ave Spur)	Trail	500
T12	Hazel Run Trail to Ingalls St Connector	Trail	600
T13	Oak St to Fairmont Park Trail Connector	Trail	400
T14	Alleghany St to W Ridgeway St Connector (Stairs)	Trail	450
T15	River St to Verge St Connector (Swing Bridge)	Trail	650
T16	Rail to Trail (Verge St to Selma-Low Moor Rd)	Trail	7850
T17	Verge St Scenic Loop (Town Limits Towards US-220)	Trail	3900

Design Guidance

What follows is general design guidance and resource references for each of the treatment types. This Bicycle & Pedestrian Plan proposes improvements at a master plan level in the absence of detailed engineering and environmental review. Further planning, public outreach, and engineering design for the improvements will be needed as projects are undertaken by the town, VDOT, or other entities. References to the resources used below can be found in the design standards and guidance documents section at the end of this chapter.

Crosswalks

All crosswalks installations should follow the guidelines set forth in VDOT’s memorandum IIM-TE-384: *Pedestrian Crossing Accommodations at Unsignalized Locations*, which includes information about compliance with Americans with Disabilities Act requirements. Compliance with the latest editions of the *Manual on Uniform Traffic Control Devices (MUTCD)* and the *Virginia Supplement to the MUTCD* is required for crosswalks and associated signage. It is recommended that high visibility crosswalks be used following the guidance in the *VDOT Road and Bridge Standards*, which matches what Clifton Forge has installed at other locations. The same standards manual also includes guidance for the installation of curb ramps in various scenarios.



NOTES:

1. ALL PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THESE STANDARDS, THE MUTCD AND THE VIRGINIA SUPPLEMENT TO THE MUTCD, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS.
2. THE LOCATION, WIDTH, AND TYPE OF THE PAVEMENT MARKINGS SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.
3. CROSSWALKS SHALL ALIGN WITH CURB RAMP IN ACCORDANCE WITH STANDARD CG-12. THE CROSSWALK SHALL BE AT LEAST AS WIDE AS THE LEVEL LANDING AREA OF THE CURB RAMP.
4. WHEN LONGITUDINAL LINES ARE SPECIFIED FOR THE CROSSWALK, THE LONGITUDINAL LINES SHALL BE PARALLEL TO THE PATH OF THRU TRAFFIC.
5. GAPS BETWEEN LONGITUDINAL LINES SHALL BE BETWEEN 2 - 5 FEET. GAP SPACING MAY VARY IN ORDER TO ALIGN LINES SUCH THAT THEY ARE OUTSIDE THE WHEEL PATHS OF THRU TRAFFIC. THE FIRST AND LAST LINES SHALL BE 2' MAXIMUM FROM EDGE OF SHOULDER OR EDGE OF GUTTER PAN.

Standard PM-3 excerpted from the VDOT Road and Bridge Standards

Crosswalk enhancements are recommended at six locations, seen in the table below.

Project ID	Project Name	Improvement Type
X1	Verge St & A St	Marked Crosswalk
X2	Main St & A St	Signalized Crosswalks
X3	Main St & D St	Signalized Crosswalks
X4	Commercial Ave & Church St	Signalized Crosswalks
X5	Main St & Commercial Ave	Signalized Crosswalks
X6	W Ridgeway St & Selma-Low Moor Rd	Marked Crosswalk & Median Refuge

Project X1

A crosswalk and accessible curb ramps are proposed at the Verge St & A St intersection. Existing conditions include sidewalk across the A St bridge terminating on the north side of Verge St to the west of A St and sidewalks along the south side of Verge St east and west of A St. The proposed improvement includes a crosswalk across the western leg Verge St with curb ramps between these two sidewalk sections.

Projects X2-X5

As discussed in the walking barriers & countermeasures section, signalized crosswalks are recommended for all movements at all traffic signals. Projects X2-X5 include locations that do not currently have pedestrian signals, but are located within the downtown area where there is regular foot traffic. Marked crosswalks exist at each of these locations, but many of the markings are in need of a maintenance review to improve visibility. Given the high cost of the decorative stamped crosswalks used at several of these intersections, the town may consider remarking the white edgeline stripes to provide visibility until funds are available for rehabilitation of the full crosswalk. Thermoplastic is a common choice for crosswalk markings due to its resistance to wear and significant longevity when compared to paint.



4-way crosswalk markings at Main St & A St lack visibility for approaching vehicles

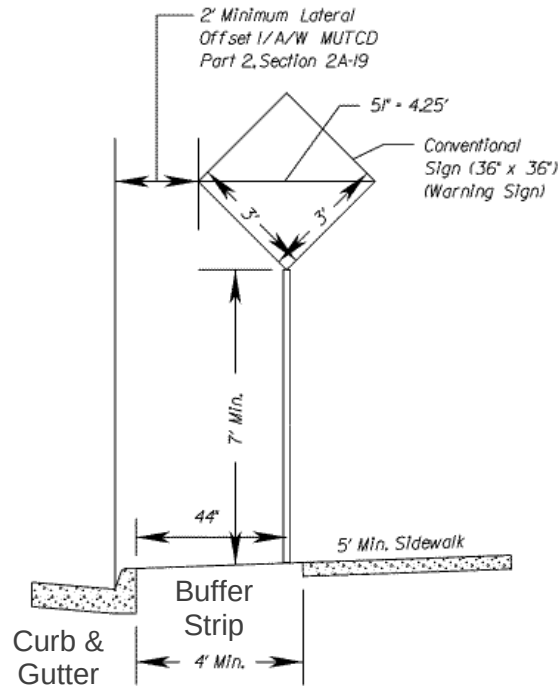
Project X6

A marked crosswalk with pedestrian median refuge and curb ramps is proposed at the W Ridgeway St & Selma-Low Moor Rd intersection. This improvement should be completed in tandem with project

W2 (Selma-Low Moor Rd sidewalk extension) after completion of the road diet to reduce vehicular travel lanes and provide a designated pedestrian walkway on W Ridgeway St (project S1).

Sidewalks

Sidewalk design requirements in the *VDOT Road Design Manual*, as seen below, are recommended. The VDOT typical section includes a 4 ft grassed buffer strip, which offers pedestrians physical separation from vehicle traffic for a more comfortable walking experience. The buffer strip is also a useful feature for road sign installation that prevents signs from being placed behind the sidewalk, which is closer to the edge of the motorist's cone of vision.



*Typical Urban Projects
Greater than 25 mph
Posted Speed*

Sidewalk design standards from the VDOT Road Design Manual

Sidewalk installation is recommended in two locations, seen in the table below.

Project ID	Project Name	Improvement Type	Approx. Length (feet)
W1	Main St (Ingalls St to Oakwood Dr)	Sidewalk	2500
W2	Selma-Low Moor Rd (W Ridgeway St to RR Bridge)	Sidewalk	900

Project W1

The Main St project extends the existing sidewalk ending at Ingalls St eastward to Oakwood Dr at the eastern town limits. The connection provides pedestrian access to nearby commercial destinations

along Main St to Mountain View and Clifton Woods Apartment complexes, neighborhood residents, and the Allegheny Golden Living Center Nursing Home.



Sidewalk is proposed on the north side (right in photo) of this section of Main St beginning at Oakwood Dr

Project W2

The Selma-Low Moor Rd project extends the existing sidewalk on the bridge over the rail yard to Selma up to the wide shoulders on W Ridgeway St. This improvement lies outside of the town limits, but has been included in this plan because it establishes a logical connection between existing and proposed network improvements and nearby Clifton Forge. Additionally, the Jackson River, CSX rail yard, and steep topography all act as barriers to Selma's connectivity to Clifton Forge, making Selma-Low Moor Rd the only feasible access point for bicycle and pedestrian traffic between the two towns and from Selma to Dabney S. Lancaster Community College. Coordination with Allegheny County and VDOT will be needed to complete this proposed improvement.

Following completion of the road diet along W Ridgeway St (project S1), the Selma-Low Moor Rd sidewalk extension is proposed to connect to the north side of W Ridgeway St with a marked crosswalk and median pedestrian refuge (project X6). This completion order allows for a two-stage crossing over a single lane in each direction of W Ridgeway St, providing pedestrians with reduced conflicts and a more comfortable crossing when compared to the existing 4-lane section.

Mixed Traffic Connectors

A mixed traffic connector is a low speed, local classified street that comfortably accommodates the sharing of travel lane space between bicyclists and motorists. The locations of proposed mixed traffic connector designations are listed in the table below.

Project ID	Project Name	Improvement Type	Approx. Length (feet)
C1	Jefferson Ave (Main St to Linden Ave)	Mixed Traffic Connector	6000
C2	Ingalls St (Main St to Jefferson Ave)	Mixed Traffic Connector	6150
C3	Tremont St/Sioux Ave (Rose Ave to N Town Limits)	Mixed Traffic Connector	2300
C4	Rose Ave (Keswick St to N Town Limits)	Mixed Traffic Connector	3250
C5	A St (Main St to Verge St)	Mixed Traffic Connector	1350
C6	Verge St (A St to western terminus)	Mixed Traffic Connector	1550
C7	Selma-Low Moor Rd (W Ridgeway St to Richmond St)	Mixed Traffic Connector	1650

With the exception of Selma-Low Moor Rd, each of the proposed local street bicycle connectors is located in a residential environment with low traffic volumes and a posted speed limit of 25 mph. Since these characteristics alone typically provide bicyclists with a high comfort level without the need for physical changes such as signs or markings, physical improvements to mixed traffic connectors are not recommended in this plan. The town should monitor interaction between vehicles and bicyclists along these segments to determine if future improvements become warranted, as comfort levels will tend to decrease where free flow vehicle travel speeds exceed the speed limit. Traffic calming efforts to reduce speed may include simple education and outreach efforts to the public, regular police enforcement, or physical changes to the roadway such as speed humps or channelizing devices. More information on traffic calming principles and procedure can be found in the *VDOT Traffic Calming Guide for Local Residential Streets*.

Where bicycling demand is high and traffic volume and/or speeds are an issue, some communities have implemented a bicycle boulevard, which incorporates a variety of elements to increase bicycling comfort by controlling vehicular traffic flow. These elements may include some combination of road markings, traffic calming measures, bicycle route wayfinding signage, and intersection modifications. While bicycle boulevards are not proposed in this plan for Clifton Forge, principles from such streets may be borrowed if there is a community desire to invest in improvements on mixed traffic roadway.

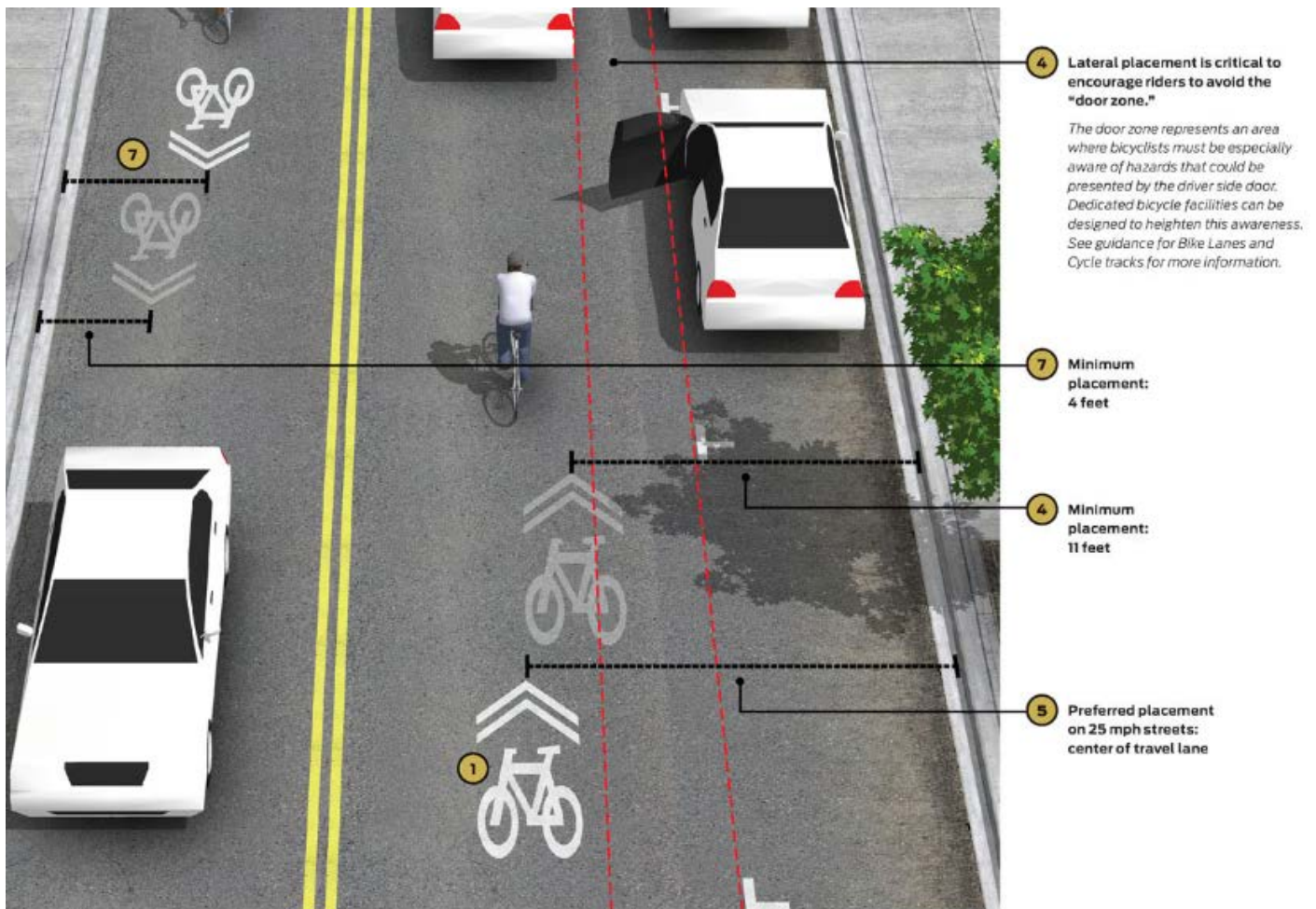


Demonstration bicycle boulevard from the FHWA Small Town and Rural Multimodal Networks Guide

Shared Lane Markings

Shared lane markings or “sharrows” are roadway markings installed within the travel lane to call attention to the presence of bicyclists and to clarify proper lane positioning for bicyclists in a lane that is too narrow for a vehicle and a bicycle to comfortably travel beside one another and physically separated facilities such as bicycle lanes are not feasible. Shared lane markings are not considered a bicycle facility type, as they are not a substitute for physically separated facilities such as bicycle lanes or a shared use path. Instead, shared lane markings are an element to support a bicycling network, preferably on streets with a posted speed limit at or below 25 mph and under appropriate circumstances. Some of the other applications of shared lane markings include:

- Guiding bicyclists outside of the “door zone” on streets with on-street parking
- Logically connecting physically separated facilities such as bicycle lanes through mixed traffic areas where bicyclists share lane space with motorists
- Guidance of bicyclists through challenging situations, such as through an intersection or over angled railroad tracks
- Wayfinding to guide bicyclists along a route with special accommodations, such as on a bicycle boulevard



Shared lane marking guidance from the National Association of City Transportation Officials (NACTO)

Lateral placement of shared lane markings is critical to guiding a bicyclist on the most appropriate riding path, particularly where on-street parking is present to avoid open doors from parked vehicles. The *Manual on Uniform Traffic Control Devices (MUTCD)* provides standards for shared lane marking size, placement, and frequency along a street. For additional guidance on appropriate placement in varied circumstances, reference are available from organizations such as the National Association of City Transportation Officials (NACTO) in their *Urban Bikeway Guide* and web-based materials, and the American Association of State Highway and Transportation Officials (AASHTO) in their *Guide for the Development of Bicycle Facilities*. More specific guidance for proposed applications of shared lane markings in Clifton Forge is provided below.

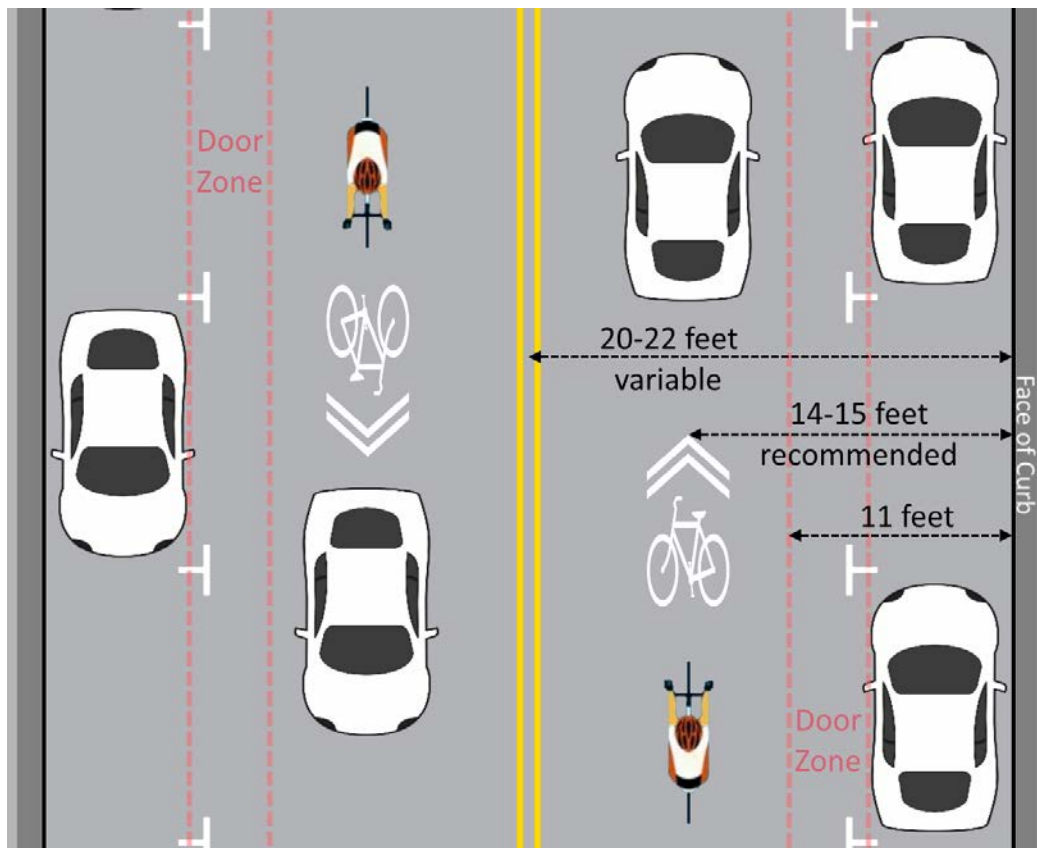
Shared lane markings are proposed in two locations within downtown Clifton Forge, primarily on US-60 Business:

Project ID	Project Name	Improvement Type	Approx. Length (feet)
M1	Main St/E Ridgeway St (Roxbury St to Park)	Shared Lane Markings	3800
M2	Main St/Keswick St/Roxbury St (E to W Ridgeway St)	Shared Lane Markings	1400

These proposed sections lack space for physically separated bicycling accommodations, but logically bind several other proposed network elements, including the bike lanes on either side of town on Main St and W Ridgeway St (projects B1 and B3), mixed traffic connectors to the north and south, and the Smith Creek and Hazel Run Trails. Both proposed applications are on streets characterized by a 25 mph posted speed limit, a downtown environment with narrow lanes that control vehicle speeds, and on-street parking along most sections. The highest traffic volume on either section is along W Ridgeway St at 7,600 vehicles per day.

On Main St between A St and Memorial Park, there is likely adequate space within the existing eastbound lane to mark bicycle lanes in lieu of shared lane markings on that side. Shared lane markings could then be marked in the westbound direction beside the on-street parking lane.

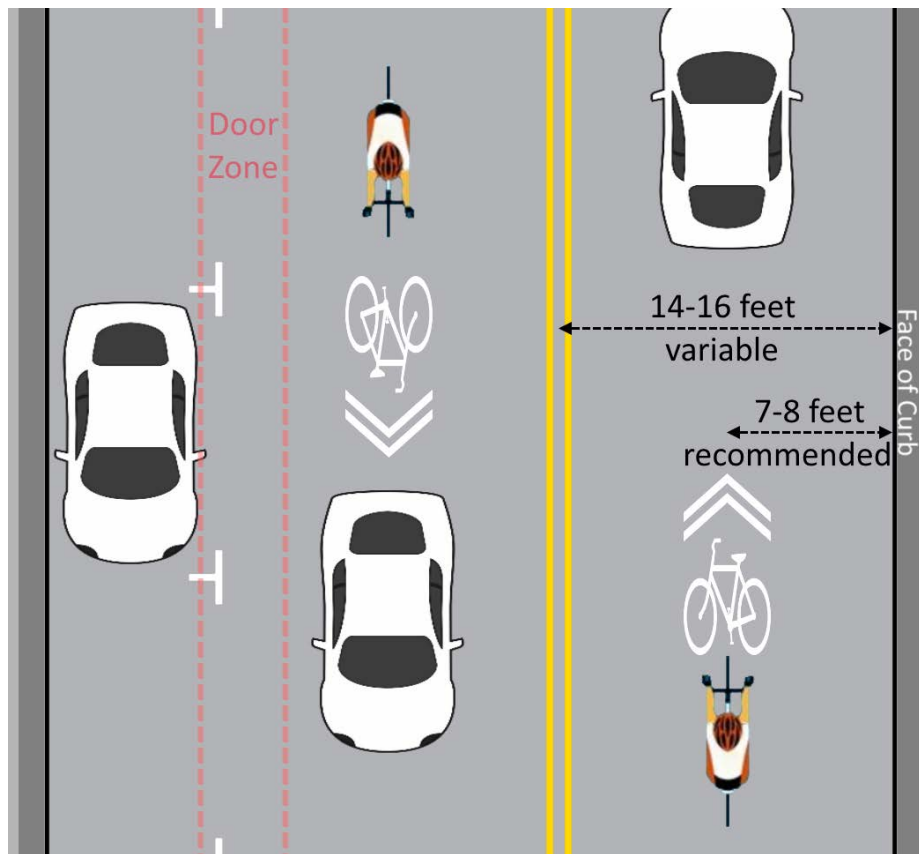
Placement of the shared lane markings on both proposed street sections should be in the center of the travel lane. The two figures below illustrate how placement differs with and without on-street parking, and demonstrate the impact of the parked car “door zone” on bicyclists positioning. All measurements in these figures are given relative to the face of curb and are provided as a guide rather than an exact placement location due to variability of lane widths. Note that the recommendations provided here differ from the distance standards in the MUTCD, which requires a minimum distance of 4 feet from the face of curb to the middle of the marking in lanes without adjacent on-street parking, and a minimum distance of 11 feet in lanes with on-street parking.



Recommended shared lane marking placement on Ridgeway St (two-sided parking sections)



Ridgeway St at Roxbury St facing east – shared lane markings are recommended in both directions



Recommended shared lane marking placement on Main St (one-sided parking sections)



Main St at Booker T. Washington Park facing west – shared lane markings are recommended in the westbound direction (right side in photo) with bike lanes in the eastbound direction (left side in photo) where space allows

Bicycle lanes, or bike lanes, provide an on-street bicycling space that is physically separated from traffic using road markings and accompanied by signage. With a separate space, bicyclists have an improved comfort level and more predictable behavior for passing motorists. Bike lanes are appropriate on roadways with posted speed limits at or below 35 mph with a low level of parking turnover and are typically considered helpful with a daily traffic volume > 3,000. Bike lanes are installed on both sides of the roadway and flow in the same direction as vehicular traffic in the adjacent travel lane. Bike lanes may be installed on only a single side on one-way streets and when intended as a climbing lane up a steep hill when there is insufficient width to support lanes in both directions.

10

1

2

16

11

6

9

4

Desired width: 6 feet

Wherever possible, minimize parking lane width in favor of increased bike lane width.

BIKE LANE
MUTCD R3-17

Separation between bike lane striping and parking boundary reduces risk of door zone conflicts.

6- to 8-inch solid white line

4 inch solid white line

42

Bicycle lanes are proposed in three locations, each of which requires special considerations for modifying existing, marked roadway elements, such as removal of on-street parking or installation of paved shoulder:

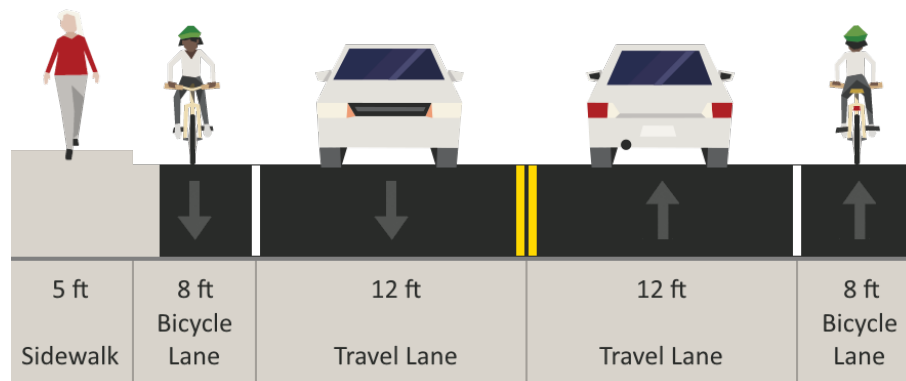
Project ID	Project Name	Improvement Type	Approx. Length (feet)
B1	Main St (Booker T. Washington Park to Ex. Shoulders)	Bicycle Lanes	4150
B2	Verge St (A St to E Town Limits)	Bicycle Lanes	2400
B3	W Ridgeway St (Fifth St to Roxbury St)	Bicycle Lanes	3000
B4	W Ridgeway St (Fifth St to Jackson River Bridge)	Bicycle Lanes	2050

Project B1

Bike lanes are proposed on Main St between the eastern terminus of the on-street parking in front of Booker T. Washington Park and the existing shoulders just outside the eastern town limits. This installation can be broken into two logical sections: Booker T. Washington Park to Ingalls St and Ingalls St to the shoulders at the eastern town limits.

On a 1,300 foot section of Main St between Booker T. Washington Park and Ingalls St bike lanes are proposed rather than shared lane markings because the posted speed limit increases to 35 mph. Consideration should be given to whether the center turn lane can be omitted from this area and replaced with bicycle lanes after repaving occurs. The curve in this section may act as a blind spot for motorists approaching cyclists under current conditions and, if converted to bicycle lanes with no center turn lane, sight of stopped vehicles waiting to turn may likewise be impeded. Though there are only a few entrances on Main St that might be impacted by the removal of the center turn lane, a review of the frequency of turning movements is recommended, particularly at the two cemetery entrances which may host funeral processions with significant turn traffic. If funeral processions are escorted by police officers, this potential issue may not be significant.

The cross section below demonstrates the recommended cross section from the eastern terminus of the on-street parking at Booker T. Washington Park to Ingalls St.



Proposed bike lanes on Main St from Booker T. Washington Park to Ingalls St



Main St near Booker T. Washington Park facing west – bike lanes are recommended following a feasibility review of removing the center turn lane

From Ingalls St to the existing shoulder section past the eastern town limits, a paved shoulder will need to be installed on both sides of Main St during the next repaving operation. Shoulders already exist on most sections along the north side of Main St from the Family Dollar entrance to the Mountain View Apartments entrance. The existing shoulders on Main St begin approximately 600 feet outside the town limits, meaning coordination with VDOT and possibly Alleghany County will be needed to complete the connection. A minimum 4-foot shoulder is required to mark bike lanes. 12 foot travel lanes are recommended to accommodate tractor trailer truck deliveries to the Oakhill Ave commercial area.

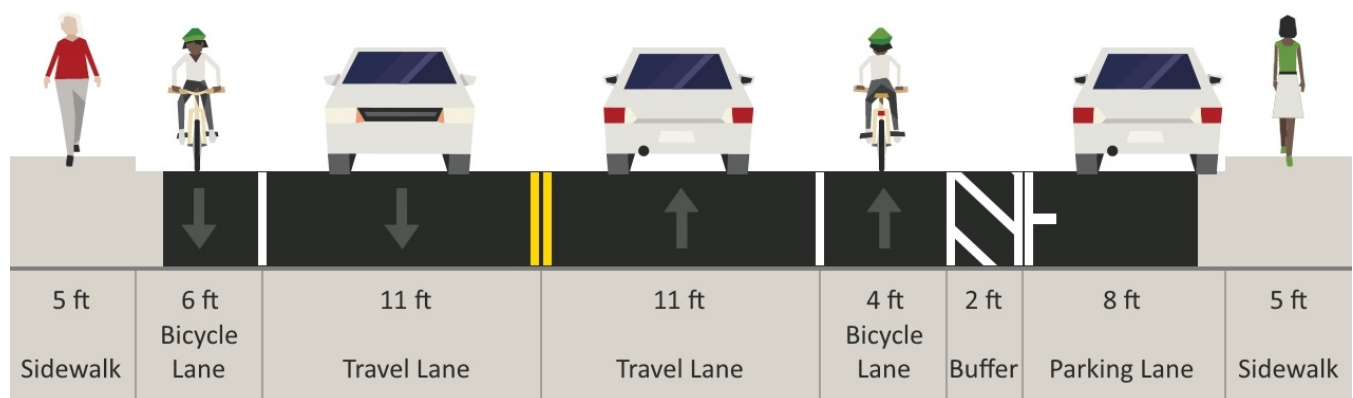
Project B2

Bike lanes are proposed on Verge St between the A St bridge and the eastern town limits where the street is approximately 38 feet wide. This section currently has two travel lanes, no center turn lane, and on-street parking only along part of the north side. It is recommended that the town review parking utilization in this section to determine whether adequate alternatives exists for those currently using the on-street spaces, as parking in a bike lane is illegal. If off-street alternatives do not exist but parking is rarely occupied, wide shoulders marked by a white edgeline may be a helpful alternative, providing a separated bicycling area that can also be used for parking. Caution should be applied with wide shoulders in the 35 mph section of Verge St beginning east of Spring St, as bicyclists will face a conflict when integrating into the travel lane to avoid parked cars. This may be less of a concern on the 25 mph section provided that traffic volumes are relatively low at about 2,000 vehicles per day. This volume is below the 3,000 vehicle per daily guideline for considering a separated facility, but mixed traffic situations are not preferred above 25 mph.

Project B3

Bike lanes are proposed along Ridgeway St between Fifth St and Roxbury St where the speed limit is 35 mph and the traffic volume is about 9,000 vehicles per day. It is recommended that the town review the usage level of the existing two-sided on-street parking on this segment with consideration given to omission of parking on one side to accommodate bike lanes when repaving occurs. Initial observations performed for this plan revealed a low level of parking utilization on the south side of Ridgeway St in the limited areas where it is allowed. Parking on the north side appears more regular and is currently striped along a much longer segment than the south side. Homes located on the south side appear to have off-street parking availability in the rear with access via alleyways, but this would need to be confirmed. Engagement with homeowners and business owners is recommended if removal of parking is undertaken by town staff.

If on-street parking is removed from one side, the cross section below is proposed to accommodate the added bike lanes and one sided parking where there is a width of 42 feet from curb face to curb face. The added buffer space adjacent to the on-street parking is not required, but provides a logical separation from parked vehicles that guides bicyclists outside of the “door zone”. Exact pavement widths may vary slightly. With a 41-foot section curb face to curb face, the buffer space may be reduced by one foot to provide the minimum 5 foot rideable surface beside the parking lane. If a section is found during project review to narrow below 41 feet, the travel lanes would need to be reduced towards a recommended minimum of 10 feet in each direction to provide bike lanes.



Proposed bike lanes on Ridgeway St from Fifth St to Roxbury St with one sided parking



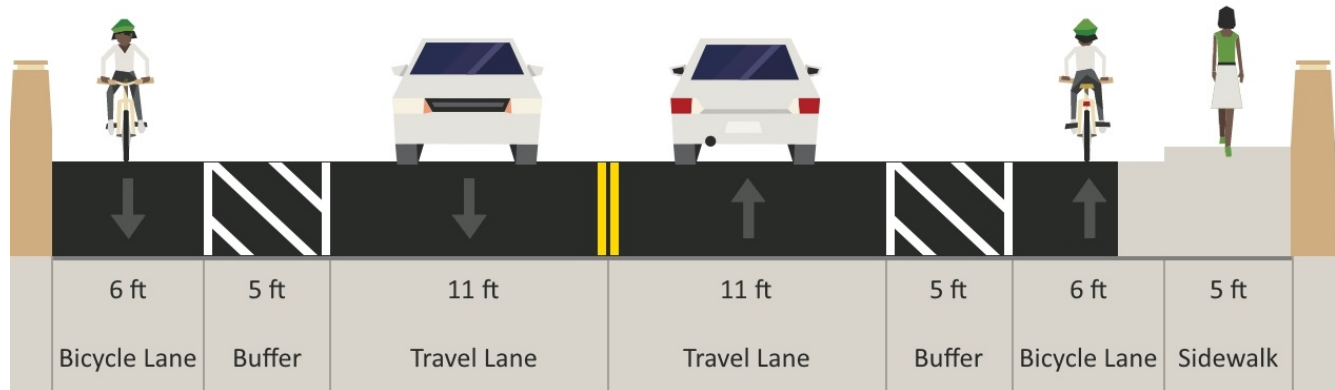
Ridgeway St at Fourth St facing west – bike lanes are recommended following a feasibility review of removing parking on one side

Project B4

The 4-lane variable width section of Ridgeway St between Fifth St and the west side of the Jackson River bridge carries about 8,700 vehicles per day, a volume that has been decreasing steadily since 2004. At this volume, there is adequate road capacity to handle traffic using one travel lane in each direction rather than two with no anticipated reductions in vehicle speed or travel time. Further, there are no minor approaches on this segment to interrupt the traffic stream. Given these characteristics, it is proposed to convert the width gained from the removal of a lane in each direction to establish bike lanes with a buffer to separate riders from traffic. This type of reconfiguration is commonly referred to as a “road diet” and would be completed following a repaving effort that removes all existing roadway markings. Additional information about road diets can be found in the FHWA *Road Diet Informational Guide*.

The illustration below demonstrates the proposed configuration between the end of the sidewalk just west of the Jackson River bridge and the beginning of the eastbound left turn lane onto Sixth St. The travel lanes will vary slightly between Sixth St and Fifth St as turn lanes are introduced, but the bicycle lane widths will remain 6 feet from the face of curb on either side. The 5-foot buffer space provides added bicycling comfort, making the accommodation more attractive to less skilled riders that may not otherwise be willing to ride if placed directly beside vehicles on a 35 mph roadway. This bike lane application is commonly referred to as buffered bike lanes.

Since markings on bridges are not typically altered due to sensitivity towards damaging the bridge deck, the typical section proposed below has been designed to avoid removal of existing markings. Existing lanes on the bridge are 11 feet wide with the centerline in the middle of roadway (22 feet in).



Proposed typical section from the Jackson River bridge to Sixth St



Ridgeway St at Jackson River bridge facing east – bike lanes are recommended in place of the outer travel lanes

Shared Use Shoulders

Shoulders are variable width sections of roadway that provide a bicycling and/or walking space that is separated from the travel lane using markings. In areas where there is no sidewalk, extra wide shoulders provide an opportunity to designate separate user space for bicyclists and pedestrians, but the space may just as well be left unseparated with lower volumes of bicyclists and pedestrians.



Example of a shoulder with designated bicycle and pedestrian spaces (<https://rebuildingtherustbelt.org>)

A similar treatment is recommended along Ridgeway St between the western town limits and Dabney S. Lancaster Community College, with markings potentially varying from those seen above. The full project section is summarized in the table below.

Project ID	Project Name	Improvement Type	Approx. Length (feet)
S1	W Ridgeway St (Jackson River Bridge to Comm. College)	Shared Use Shoulder	2350

The typical section illustrated below is recommended between the Jackson River bridge and the entrance to Dabney S. Lancaster Community College, which again involves a road diet with conversion of the outside travel lanes to non-motorized user accommodations. Additional delays for the minor street approaches at Selma-Low Moor Rd and the I-64 ramps is not anticipated with this conversion given current and projected traffic volumes and the presence of a median to facilitate two-stage left turns onto Ridgeway St when necessary. Since there is a variable width shoulder, the actual dimension of the pedestrian walkway may increase above 5 feet in some sections. Again, buffer space is provided for added bicycling comfort.



Proposed typical section from the Jackson River bridge to Dabney S. Lancaster Community College



Ridgeway St at Jackson River bridge facing west – bike lanes and a north side walking area are recommended in place of the outer travel lanes leading to Dabney S. Lancaster Community College

Where the roadway width narrows just west of the Jackson River Bridge, 13 feet on the outside of each travel direction could be converted to provide a 3 foot buffer, 5 foot bike lane, and 5 foot walkway (or simply a 10 foot shared use space).

Coordination with VDOT and possibly Alleghany County will be required to complete this proposed improvement. Additionally, public outreach efforts will be needed to ensure that the community understands and is supportive of the change, particularly since the proposal is part of a Clifton Forge rather than a county or regional plan, so has not undergone a public review period outside the town limits.

Trails

Off-street trails, or shared use paths, provide a high level of comfort for users with a two-way, separated facility removed from the fray of vehicular traffic. Trails are proposed at a number of locations to provide enhanced network connectivity in and around Clifton Forge:

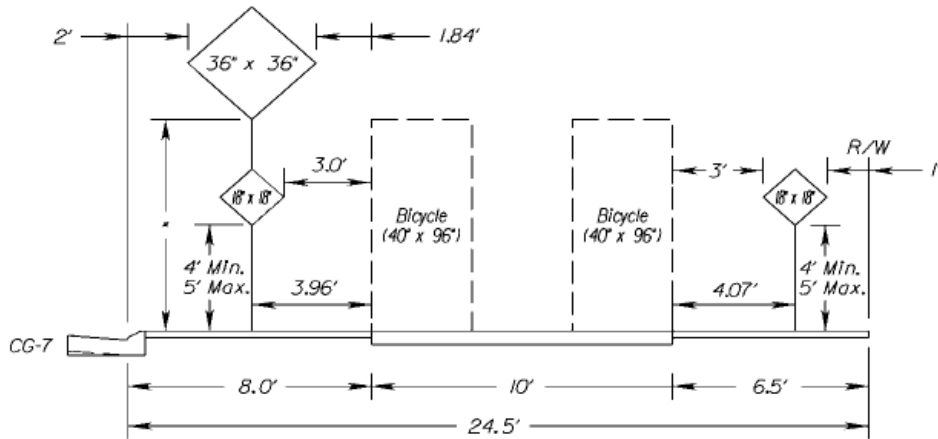
Project ID	Project Name	Improvement Type	Approx. Length (feet)
T1	Smith Creek Trail Segment 1	Trail	1100
T2	Smith Creek Trail Segment 2	Trail	400
T3	Smith Creek Trail Segment 4	Trail	1100
T4	Smith Creek Trail Segment 5	Trail	2150
T5	Smith Creek Trail Howard St Connector	Trail	250
T6	Lover's Walk to Smith Creek Trail Connector	Trail	600
T7	Lover's Walk to Hazel Run Trail Connector	Trail	1050
T8	Smith Creek Trail to Bryant St Connector	Trail	1000
T9	Bryant St to Oak Hill Ave Connector	Trail	850
T10	Hazel Run Trail to Fairview Ave Connector	Trail	1400
T11	Hazel Run Trail to Ingalls St (Fairview Ave Spur)	Trail	500
T12	Hazel Run Trail to Ingalls St Connector	Trail	600
T13	Oak St to Fairmont Park Trail Connector	Trail	400
T14	Alleghany St to W Ridgeway St Connector (Stairs)	Trail	450
T15	River St to Verge St Connector (Swing Bridge)	Trail	650
T16	Rail to Trail (Verge St to Selma-Low Moor Rd)	Trail	7850
T17	Verge St Scenic Loop (Town Limits Towards US-220)	Trail	3900

Depending on context, conditions, likely users, and constructability, as determined during project level planning, the surface material and width of each project will likely vary. Clifton Forge currently has a mix of trail surfaces, from unimproved, unpaved conditions on Lover's Walk, to a compacted base with crushed limestone on the Hazel Run Trail, to a paved, shared use path standard on the Smith Creek Trail. The paved shared use path provides the highest comfort experience for both bicyclists and pedestrians. Crushed limestone will slightly reduce bicycling comfort due to decreased tire grip and speed, likely making the trail undesirable to those riding road style bicycles with narrow tires. Unimproved, uneven dirt roads such as Lover's Walk may only provide an acceptable bicycling surface for those who own and are comfortable on a mountain bike with wider tires. Additionally, dirt surfaces are undesirable under wet conditions and are at a higher risk of being rutted or otherwise damaged by weather.

The VDOT *Road Design Manual* offers detailed design guidance for paved trails, which are commonly referred to as shared use paths. Per VDOT, the minimum width of a shared use path is 10 feet under typical conditions, but this may be reduced to 8 feet under one of more of the circumstances itemized in the manual. Additional guidance on the installation of trails and shared use paths can be found in

several different resources listed in the design standards and guidance documents section of this plan. Below are excerpts from VDOT and the *FHWA Small Town and Rural Multimodal Networks Guide*.

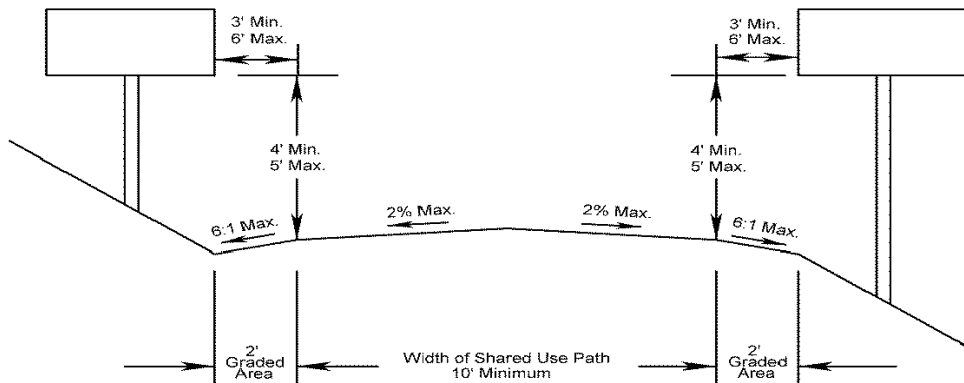
Typical section with roadway sign and shared use path sign.



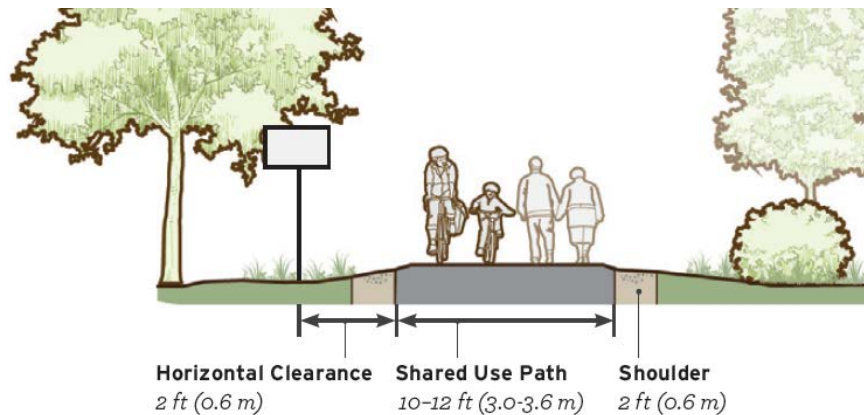
Notes:

- * For roadway signs 30" in width or less, use 7' minimum mounting height.
* For roadway signs greater than 30", use 8' minimum mounting height.

Shared use path standard drawing from the VDOT Road Design Manual (side path application)



Shared use path standard drawing from the VDOT Road Design Manual (off-street application)



*Shared use path typical section illustration from FHWA Small Town and Rural Multimodal Networks Guide
(note that VDOT standard calls for a 3 ft minimum horizontal sign clearance)*

Projects T1-T4 are detailed in the *Smith Creek Corridor Action Plan*. Projects T5-T13 are short connectors between existing or proposed trail segments and residential or commercial destinations. In selecting the locations for these connectors, consideration was given to the most likely desire lines of non-motorized travelers, opportunities to bypass steep topography present in many areas, town-owned parcels and rights-of-way, and the locations of existing privately-owned structures. Negotiations with private property owners will be necessary to complete several of the connections. Defining the extent of private properties impacts for each project is outside the scope of this plan and will be evaluated further upon project selection by town staff.

Projects T14 and T15 both involve rehabilitation of existing connective features that are currently in disrepair and not in use. Both the Ridgeway St stairway and the CSX swing bridge are described in the existing conditions overview section of this plan. The Ridgeway St stairway and connecting trail to Alleghany St are shown in the aerial image below. Formalizing this connection with repairs and wayfinding signage would shorten the walking route to downtown for neighborhood residents.



Existing stairs and trail from Ridgeway St to Alleghany St

Project T16 proposed a rail to trail conversion of an abandoned railway bed on CSX property along the south side of the Jackson River. The tracks have already been removed from this scenic area, making

trail installation less costly than a typical rail to trail conversion. Negotiations between the town and CSX will be needed to pursue this project, with special consideration given to how the trail might safely bypass the CSX repair yard off of Richmond St in Selma. Partnership with VDOT and Alleghany County will also be needed to complete the connection into Selma to reach Selma-Low Moor Rd. This trail sets up an attractive loop when connected to W Ridgeway St, Verge St, and A St back into Clifton Forge, offering an attractive facility for both recreational and travel uses. Further, this section may be considered as a piece of the existing Jackson River Trail near Covington, creating an opportunity for a future regional connection.

Project T17 involves the installation of a wide shoulder along the north side of Verge St from the town limits to a small turnaround loop just prior to reaching US-220. US-220 between US-60 Business and Iron Gate is 2-lanes, 45 mph segment with significant challenges for installing bicycle and pedestrian accommodations due to inadequate existing width and steep topography on either side of the roadway. The trail loop on Verge St would offer a scenic opportunity along the Jackson River, reachable using relatively comfortable street connections from downtown Clifton Forge, particularly after implementing the proposed bike lanes on Verge St between A St and the eastern town limits. Since this section of Verge St lies in Alleghany County, coordination will be needed with VDOT and county staff. It is recommended that installation of the shoulder be coordinated with a repaving effort to reduce project costs.

Design Standards and Guidance Documents

VDOT References

IIM-TE-384: Pedestrian Crossing Accommodations at Unsignalized Locations

http://www.virginiadot.org/business/traffic_engineering_memoranda.asp

Access Management Regulations and Standards

http://www.virginiadot.org/info/access_management_regulations_and_standards.asp

Road Design Manual

<http://www.virginiadot.org/business/locdes/rdmanual-index.asp>

Road and Bridge Standards

http://www.virginiadot.org/business/locdes/vdot_road_and_bridge_standards.asp

Virginia Supplement to the MUTCD

http://www.virginiadot.org/business/virginia_mutcd_supplement.asp

Federal Highway Administration (FHWA) References

Manual on Uniform Traffic Control Devices

<https://mutcd.fhwa.dot.gov/>

Small Town and Rural Multimodal Networks

https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/small_towns/

Road Diet Informational Guide

https://safety.fhwa.dot.gov/road_diets/info_guide/

Private Associations with Published Guidance

National Association of City Transportation Officials (NACTO)

<http://nacto.org>

American Association of State Highway State Highway and Transportation Officials (AASHTO)

<http://www.transportation.org/>

The excerpted list below from the FHWA *Small Town and Rural Multimodal Networks Guide* provides additional resources for reference under varying circumstances.

AASHTO Flexibility Guide 2004	American Association of State Highway and Transportation Officials, <i>A Guide for Achieving Flexibility in Highway Design</i> , 2004.
AASHTO Bike Guide 2012	American Association of State Highway and Transportation Officials, <i>Guide for the Development of Bicycle Facilities</i> , 2012.
AASHTO Pedestrian Guide 2004	American Association of State Highway and Transportation Officials, <i>Guide for the Planning, Design, and Operation of Pedestrian Facilities</i> , 2004.
AASHTO Pedestrian Guide 2017	American Association of State Highway and Transportation Officials, <i>Guide for the Planning, Design, and Operation of Pedestrian Facilities, 2nd Edition</i> , 2017.
AASHTO Green Book 2011	American Association of State Highway and Transportation Officials, <i>A Policy on Geometric Design of Highways and Streets</i> , 2011.
AASHTO Low Volume Roads 2001	American Association of State Highway and Transportation Officials, <i>Guidelines for Geometric Design of Very Low-Volume Roads, 1st Edition</i> , 2001.
AASHTO Low Volume Roads 2017	American Association of State Highway and Transportation Officials, <i>Guidelines for Geometric Design of Low-Volume Roads, 2nd Edition</i> , 2017.
FHWA Achieving Multimodal Networks 2016	Federal Highway Administration, <i>Achieving Multimodal Networks: Applying Design Flexibility and Reducing Conflict</i> , 2016.
FHWA Resurfacing Guide 2016	Federal Highway Administration, <i>Incorporating On-Road Bicycle Networks into Resurfacing Projects</i> , 2016.
FHWA MUTCD 2009	Federal Highway Administration, <i>Manual on Uniform Traffic Control Devices for Streets and Highways</i> , 2009.
FHWA Separated Bike Lane Guide 2015	Federal Highway Administration, <i>Separated Bike Lane Planning and Design Guide</i> , 2015.
PROWAG 2011	United States Access Board, <i>Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way</i> , 2011. Supplemental Notice of Proposed Rulemaking, <i>Shared Use Paths</i> , 2013.
PEDSAFE 2013	Federal Highway Administration. <i>Pedestrian Safety Guide and Countermeasure Selection System</i> , 2013.
BIKESAFE 2014	Federal Highway Administration. <i>Bicycle Safety Guide and Countermeasure Selection System</i> , 2014.

VI. Implementation

Strategies and Programs

While infrastructure improvements are a critical component of building user comfort, they only partially contribute to cultivating a pedestrian and bicycle friendly community. *The League of American Bicyclists* summarizes a holistic approach to building a culture around bicycling through the 5 E's framework, which includes engineering, education, encouragement, enforcement, and evaluation & planning. Here, focus is given to programmatic strategies for building a culture around bicycling and walking that run complementarily and concurrently to the high level engineering improvements detailed in earlier sections. The combination of these recommendations establishes an implementation approach for this Bicycle & Pedestrian Plan that addresses the 5 E's. Each of the strategy categories in the tables below is related to the plan's goals and objectives.

Goal 1 To expand and maintain a network of safe, well-connected walking and bicycling accommodations.

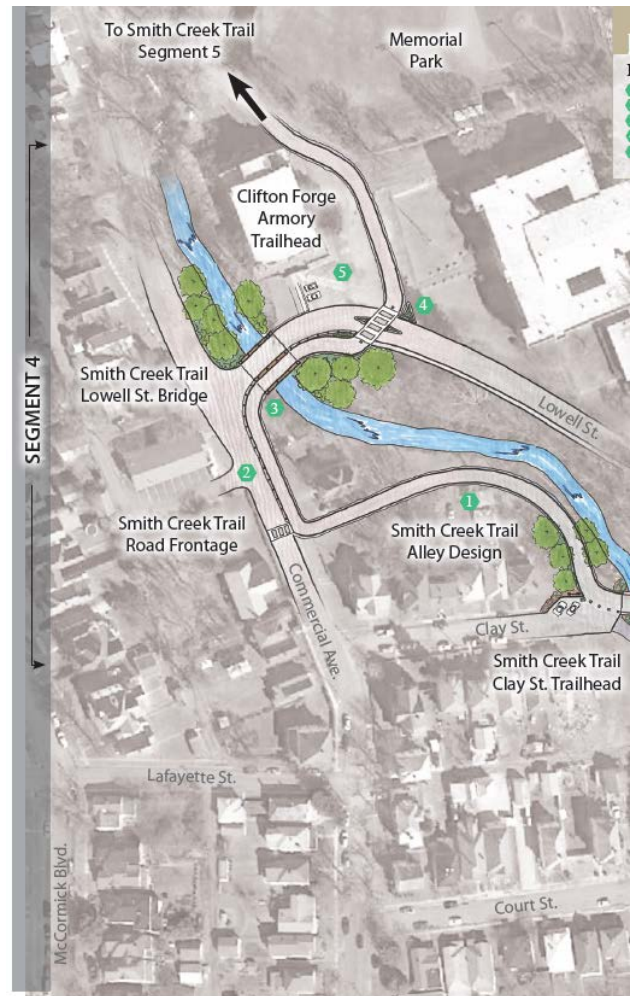
Objective 1.1 Ensure that maintenance efforts adequately address bicycle and pedestrian user accommodations.

Objective 1.2 Fill gaps in the on-street walking and bicycling network to provide convenient access between residential clusters and desirable destinations.

Objective 1.3 Ensure that the walking and bicycling network are supportive of all user ages and skill levels.

Objective 1.4 Provide recreational opportunities that take advantage of the scenic qualities of the Allegheny Highlands region.

Objective 1.5 Diversify funding opportunities for walking and bicycling accommodations.



Smith Creek Trail : Seg.4 “Lowell St. Bridge”

Smith Creek Corridor Action Plan 2013

Jackson Land Planning & Design : Ben Jackson

Objective(s) Addressed	Strategies
1.1 Maintenance	S1. Evaluate the town maintenance program to identify existing activities related to bicycle and pedestrian facilities.
	S2. Catalog existing hazards to pedestrians and bicyclists on public rights-of-way/properties, such as damaged or longitudinally positioned stormwater grates in the street, uneven sidewalk, and potholes, and identify an appropriate funding stream and plan to resolve those issues.
	S3. Identify opportunities to improve bicycling and walking facilities to comply with the Americans with Disabilities Act (ADA) Proposed Rights-of-Way Guidelines.
	S4. Evaluate snow & ice operations to determine whether bicycle and pedestrian facilities are being cleared in a timely manner.
	S5. Develop maintenance level of service standards for bicycle and pedestrian facilities, ensuring consistency in how degradation issues are addressed.
	S6. Evaluate the annual budget ensure that adequate funding is available to meet maintenance standards.
1.2 1.3 1.4 Network Improvements	S1. Construct the network improvements proposed in the Bicycle & Pedestrian Plan.
	S2. Seek opportunities to secure right-of-way for off-street trails that provide more direct connectivity to residential centers and desirable destination for pedestrians and bicyclists.
	S3. Design new facilities to meet or exceed VDOT standards and industry guidelines.
	S4. Design on-street and roadway adjacent facilities with buffer space between users and vehicles to maximize comfort level accommodate younger and less skilled users.
	S5. Catalog existing public and private bicycle racks and identify new locations at popular destinations, encouraging business owners to add racks to their property.
	S6. Provide bicycle parking at town sponsored events.
	S7. Provide bicycle parking at Mountain Express bus stops.
	S8. Consider freight mobility and commercial vehicle load zones that minimize conflicts with bicyclists.
1.5 Funding	S1. Explore opportunities for co-funding of new walking and bicycling accommodations through local tax dollars, federal and state programs, such as the Transportation Alternatives (TA) set-aside, Smart Scale, Revenue Sharing, and Bicycle and Pedestrian Safety (BPSP) programs.
	S2. Identify public and private partners that may be capable of providing financial or programmatic assistance for active transportation and outdoor recreation facilities.
	S3. Prioritize network improvements with local stakeholders and identify appropriate funding streams for project programming.
	S4. Identify opportunities to implement network improvements during maintenance and street projects to minimize cost.

Goal 2 To establish and foster programs and policies supportive of walking and bicycling.

Objective 2.1 Expand and continue town support of education and encouragement programs aimed towards bicycling, walking, active transportation, and outdoor physical activity.

Objective 2.2 Consider inclusion of walking and bicycling accommodations in all street improvement projects, maintenance efforts such as repaving, and other relevant public projects such as park renovations.

Objective 2.3 Revise the Code of Ordinances to facilitate implementation of the Clifton Forge Bicycle & Pedestrian Plan.

Objective 2.4 Ensure that local planning efforts reference and complement the Clifton Forge Bicycle & Pedestrian Plan.

Objective(s) Addressed	Strategies
2.1 2.2 Programs	S1. Expand and continue support of education and encouragement efforts to teach children safe riding habits, such as the Alleghany Highlands Bike Rodeo.
	S2. Expand and continue support of events that bring awareness to and encourage outdoor physical activity, such as the Alleghany Highlands Triathlon and the Gran Fondo Alleghany.
	S3. Include walking and bicycling accommodations in all street improvement projects, maintenance efforts such as repaving, and relevant public projects.
	S4. Support and advertise events and programs that provide helmets and other safety equipment at free or reduced rates.
	S5. Partner with major institutions and employers such as Dabney S. Lancaster Community College, Alleghany Regional Hospital, WestRock, and CSX to promote healthy transportation and recreation through outreach efforts, encouragement of active commute modes, and provision of on-site bicycle parking and shower facilities.
	S6. Develop a campaign with the Clifton Forge Police Department and Alleghany County Sherriff's Office to encourage safe walking and bicycling, educate the public about the laws related to pedestrians and bicyclists, and enforce relevant laws.
	S7. Work with RADAR transit and Mountain Express bus service partners to develop a user guide to bus-mounted bicycle racks, to be posted online and in printed form on buses.
2.3 Policies	S1. Modify the Code of Ordinances to include a site plan requirement that owners of developing and redeveloping properties of a certain type/scale shall construct sidewalk along the public street frontage(s) with ADA-compliant curb ramps where vehicles cross the sidewalk. In cases where insufficient right of way exists for sidewalk construction, right-of-way shall be dedicated by the property owner.
	S2. Modify the Code of Ordinances to include a site plan requirement that owners of

developing and redeveloping properties of a certain type/scale shall dedicate right-of-way to support publically planned street improvements included in the Comprehensive Plan and Bicycle & Pedestrian Plan.

S3. Modify the Code of Ordinances to include a site plan requirement that owners of developing and redeveloping properties of a certain type/scale shall include safe, clearly designated facilities to accommodate pedestrian movements within the development, with connection(s) provided between the public sidewalk and building entrance(s).

S4. Modify the Code of Ordinances to include a site plan requirement that owners of developing and redeveloping properties of a certain type/scale shall install a bike rack near the building entrance that meets industry best practices, such as those published by the Association of Pedestrian and Bicycle Professionals.

**2.4
Local
Planning**

S1. Incorporate walking and bicycling project and program priorities into the town's other relevant planning efforts, particularly the Comprehensive Plan.

S2. Ensure that the town's messaging, including relevant vision statements and municipal goals, complement the Bicycle & Pedestrian Plan.

S3. Identify opportunities to implement or further the goals of the Bicycle & Pedestrian Plan through existing public programs, committees, and inter-agency partnerships.

S4. Update the Clifton Forge website, Facebook page, and other outreach materials to promote the Bicycle & Pedestrian Plan.

S5. Develop a strategy for continued public engagement on walking and bicycling issues.



2015 Alleghany Highlands Bike Rodeo (from event YouTube video)

Goal 3 To physically and logically connect walking and bicycling in Clifton Forge to its surrounding communities and outdoor recreational activities in the Alleghany Highlands region.

Objective 3.1 Ensure that regional and state planning partners are aware of the Clifton Forge Bicycle & Pedestrian Plan and develop new plans in a complementary manner.

Objective 3.2 Engage in regional planning efforts to implement and expand upon network improvements and programs presented in the Clifton Forge Bicycle & Pedestrian Plan.

Objective 3.3 Promote local and regional tourism that highlights walking, bicycling, and outdoor recreation in Clifton Forge and the Alleghany Highlands region.

Objective(s) Addressed	Strategies
3.1 Regional Coordination	S1. Share the Bicycle & Pedestrian Plan with local and regional partners.
	S2. Incorporate the town's walking and bicycling project and program priorities into regional planning documents, such as the <i>Alleghany Highlands of Virginia Tourism Strategic Plan</i> and the <i>Rural Long Range Transportation Plan</i> .
3.2 Regional Planning	S1. Partner with state agencies, the Roanoke Valley Alleghany Regional Commission, and adjacent communities to develop a regional trail/bikeway plan that connects Clifton Forge to regional destinations, such as Douthat State Park, the Town of Iron Gate, and the City of Covington.
	S2. Partner with the George Washington and Jefferson National Forest to include Clifton Forge on trail wayfinding signage.
3.2 Tourism	S1. Partner with state and local tourism agencies, such as the Alleghany Highlands Chamber of Commerce and Tourism, to ensure that walking and bicycling assets in Clifton Forge are highlighted in tourism advertising efforts.
	S2. Update outreach materials to reflect new bicycling and walking network improvements in Clifton Forge.



Banner from visitcliftonforgeva.com tourism website

Planning Level Cost Estimates

Planning level cost estimates will be developed after review of the draft plan.

Funding Opportunities

A menu of funding options will be provided.