

TOWN OF VINTON GAP SUMMARY ROUTE 24 BIKE/PED PLAN



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ACKNOWLEDGMENTS

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ABOUT GAP-TA

Visit vtrans.org/about/GAP-TA for information about the Growth and Accessibility Planning Technical Assistance program.

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I. INTRODUCTION

GAP Technical Assistance

The following study was conducted under a Growth and Accessibility Planning (GAP) technical assistance grant. Administered by Virginia's Office of Intermodal Planning and Investment (OPII), GAP technical assistance projects seek to align infrastructure development with designated and emerging growth areas to improve efficiency and effectiveness. The Town of Vinton applied for this grant to develop a planning approach and process to develop a Multimodal Access and Improvement Study in partnership with Vinton staff, residents, and stakeholders. The study area includes the entirety of the area between Route 24, Washington Avenue, and South Pollard Street, an area that includes highly variable land uses from walkable downtown blocks to neighborhoods and commercial developments. Route 24 is an important route, not only to the Town of Vinton, but as an important commuter link in the greater Roanoke area.

Study Area and Background

The study area consists of the central portion of the Town of Vinton, and is bordered by Washington Avenue to the north, Bypass Road to the east, East Virginia Avenue/Hardy Road to the south, and South Pollard Street to the west. It features a variety of development patterns and land uses, including the Town's central business district, a historic residential neighborhood, and multiple strip-mall styled commercial developments.

This area was chosen for planning purposes due to the important role that it plays in the community and economic development efforts of the Town of Vinton. It includes the two major road corridors that serve the Town of Vinton, as well as five of the town's designated Urban Development Areas. The Town of Vinton desires to improve the accessibility, safety, and efficiency of multimodal travel in this area to make it more cohesive, and to further serve the local goals for community services and economic development.

Project Process and Activities

The project was conducted by the consultant team in close collaboration with Town staff. A project kickoff call was held on June 23, 2021 between Town of Vinton staff and technical assistance consultants to review the project scope and carry out initial discussions, after which bi-weekly project progress meetings were held virtually between the Consultant Team and Town staff project managers to guide project activities and review deliverables. This work was also guided by two separate steering committees: a Community Steering Committee made up of Vinton residents and members of elected and appointed committees, and

a Technical Steering Committee made up of Town and regional government staff.

Project activities began with a review of existing project area conditions by the Consultant Team, including data, physical conditions, and existing planning documents. The project solicited input from Vinton residents on safety issues and desired bike/ped facilities at both an in-person public meeting conducted in October 2021 and through an online survey.

Consultants used their experience to create a toolkit of potential bicycle and pedestrian improvement types for Vinton, using existing conditions information to apply toolkit improvements to appropriate segments and intersections in the project area.

Consultants presented draft project recommendations to the public at a second public meeting in March 2022. The team ranked potential improvements according to traffic stress, community need, and tactical viability priority criteria to arrive at a short list of priority projects, adding further detail and conceptual cost information to selected projects.

Steering Committees

Community Steering Committee

- Chasity Barbour, Citizen Representative/Town Community Programs Director
- Bob Benninger, Planning Commission/Board of Zoning Appeals Member
- Stephanie Brown, Board Executive of the Vinton Area Chamber of Commerce
- Mayor Brad Grose, Town Council Representative
- Mary-Beth Layman, Citizen Representative
- Sarah Reid, Planning Commission Member
- Janet Scheid, Greenway Commission Chair

Technical Steering Committee

- Cody Sexton, Assistant Town Manager
- William "Bo" Herndon, Public Works Director
- Kenny Sledd, Utility Systems Manager
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- Fayula Gordon, Associate Planner
- Rachel Ruhlen, Roanoke Valley-Alleghany Regional Commission
- Isaac Henry, Roanoke County Transportation Planner
- Carol Moneymaker, VDOT Planning Specialist, Salem District
- Michael Gray, VDOT Planning Manager, Salem District

II. EXISTING CONDITIONS ANALYSIS

The development of this report relied on a wide variety of data sources drawn from the Town of Vinton, Roanoke County, VDOT, and primary data collected by the consultant team to understand the existing condition of bicycle, pedestrian, and automotive traffic in Vinton. The data sets included, among others:

- Future Land Use
- Key Destinations
- Roadway Dimensions
- Vehicular Traffic Volumes
- Sidewalk and Trail Infrastructure
- Existing Bicycle Infrastructure
- Bicycle and Pedestrian Crashes

This analysis of current conditions helps to identify potential types and locations of improvements and strengthens the connection between this plan and previous planning efforts.

Existing VTrans Needs

While this project plans for potential bicycle and pedestrian improvements in the Route 24 area, the area is also subject to existing transportation needs identified in the 2021 VTrans Mid-Term Needs. Identified 2021 Mid-Term needs for streets, intersections, and areas in or near the project area can be found in Table 1.

Table 1: 2021 VTrans Mid-Term Needs

Route Segments	Needs
Washington Avenue (Pollard St. to Bypass Rd.)	<ul style="list-style-type: none">• Transportation Demand Management<ul style="list-style-type: none">• Transit Access• Bicycle Access• Pedestrian Access• Safety Improvement (Pollard to Poplar, Madison to Mountain View)• Intersection Safety Improvement (at Mountain View)
Pollard Street (Washington Ave. to Virginia Ave.)	<ul style="list-style-type: none">• Transportation Demand Management<ul style="list-style-type: none">• Transit Access• Bicycle Access• Pedestrian Access• Safety Improvement (Jefferson to Jackson)
E. Virginia Avenue (Pollard St. to Chestnut St.)	<ul style="list-style-type: none">• Transportation Demand Management<ul style="list-style-type: none">• Transit Access• Bicycle Access• Pedestrian Access• Safety Improvement

Table 1: 2021 VTrans Mid-Term Needs (cont'd)

Route Segments	Needs
Hardy Road (Chestnut St. to Bypass Rd.)	<ul style="list-style-type: none"> • Transportation Demand Management <ul style="list-style-type: none"> • Transit Access • Bicycle Access • Pedestrian Access • Safety Improvement (Spruce to Bypass)
Bypass Rd. (Hardy Rd. to Washington Ave.)	<ul style="list-style-type: none"> • Transportation Demand Management <ul style="list-style-type: none"> • Transit Access • Bicycle Access • Pedestrian Access • Safety Improvement
Areas	Needs
Town of Vinton Urban Development Areas (UDAs)	<ul style="list-style-type: none"> • Roadway capacity • Roadway operations • Intersection design <ul style="list-style-type: none"> • Street grid • Safety features • Traffic calming • Signage/wayfinding <ul style="list-style-type: none"> • Transit frequency • Transit operations • Transit capacity • Transit facilities • Bicycle infrastructure • Pedestrian infrastructure <ul style="list-style-type: none"> • Complete Streets <ul style="list-style-type: none"> • Sidewalks • On-street parking • Off-street parking <ul style="list-style-type: none"> • Environment

Review of Relevant Plans and Studies

The analysis included a review of previous plans and studies that addressed the area. This review identified many policies and prior findings that are relevant to multimodal planning for this area. The relevant studies that were reviewed included:

- Vinton Major Corridors Bicycle and Pedestrian Accommodations
- Town Of Vinton Comprehensive Plan
- Economic And Community Development Plan
- Vinton Area Corridors Plan
- Gus Nicks Boulevard/Washington Ave Corridor Improvement Study
- Town Of Vinton Urban Development Areas
- Vinton UDA - Downtown Public Realm Design Guidelines and Action Plan
- Vision 2040: Roanoke Valley Transportation
- 2018 Roanoke Valley Greenway Plan
- Regional Pedestrian Vision Plan
- Roanoke Valley Transit Vision Plan
- Valley Metro Transit Development Plan; Fiscal Years 2019-2028
- Bikeway Plan for Roanoke Valley Area Metropolitan Planning Organization 2012 Update
- Roanoke Valley Traffic Congestion Management Process
- Vinton Subdivision Ordinance Revisions Framework

As part of this review, relevant and consistent policy themes were identified from these prior studies that could serve to guide and direct the recommendations resulting from this planning process. A full summary of these themes and policy directions is in the Appendix to this report.

Policy Themes

Based on the review of prior plans and their policy direction, a series of five potential goals for this project were identified. These

potential goals were reviewed with the committees and the citizens of Vinton through a series of outreach efforts to verify and validate them as the guideposts for future multimodal planning in this area. The five affirmed goals for this plan are summarized below:

- 1) Improve Multimodal Travel** - Enhance or reconfigure roadway infrastructure to better accommodate multimodal travel.
- 2) Connect Activity Centers** - Establish corridors and services that will provide multimodal connections between activity centers in the Town of Vinton, as well as to other destinations in the Roanoke metro area.
- 3) Connect Neighborhoods to Activities** - Make strategic investments within neighborhoods adjacent to activity centers to improve the safety and desirability of multimodal access.
- 4) Reinforce Vinton's Sense of Place** - Support economic development efforts with placemaking improvements that enhance visual appearances and pedestrian safety.
- 5) Maintain Traffic Safety and Efficiency** - Maintain the safe and efficient operation of automotive travel.

Existing Land Uses & Key Destinations

The analysis examined the existing land uses and key destinations in the study area. The community's land use patterns determine which areas generate the most activity and how residents will travel to and from these places. This, in turn, determines which corridors will feature the most automobile traffic, and which may be most suitable to bicycle and pedestrian travel.

In general terms, the study area is characterized by a central core of residential development surrounded by commercial and business districts along the major road corridors that serve as the study area boundary. The western portion of the area features a traditional downtown commercial district that is centered around South Pollard Street. The southern and eastern portions of the area, by contrast, feature strip-mall style commercial developments that were built along Bypass Road, Hardy Road, and East Virginia Avenue. Finally, the northern edge of the study area is characterized by a mixture of residential homes and small, free-standing businesses along Washington Avenue.

Several important destinations are found in this area, but three stand out as key potential activity generators for multimodal travel.

1) Downtown - The first is Vinton's downtown central business district located on and around South Pollard Street. This area features a variety of stores, restaurants, and professional offices, as well as public services such as the town library and municipal building. The town has identified this area as a key generator of tourism and prime focus of economic development.

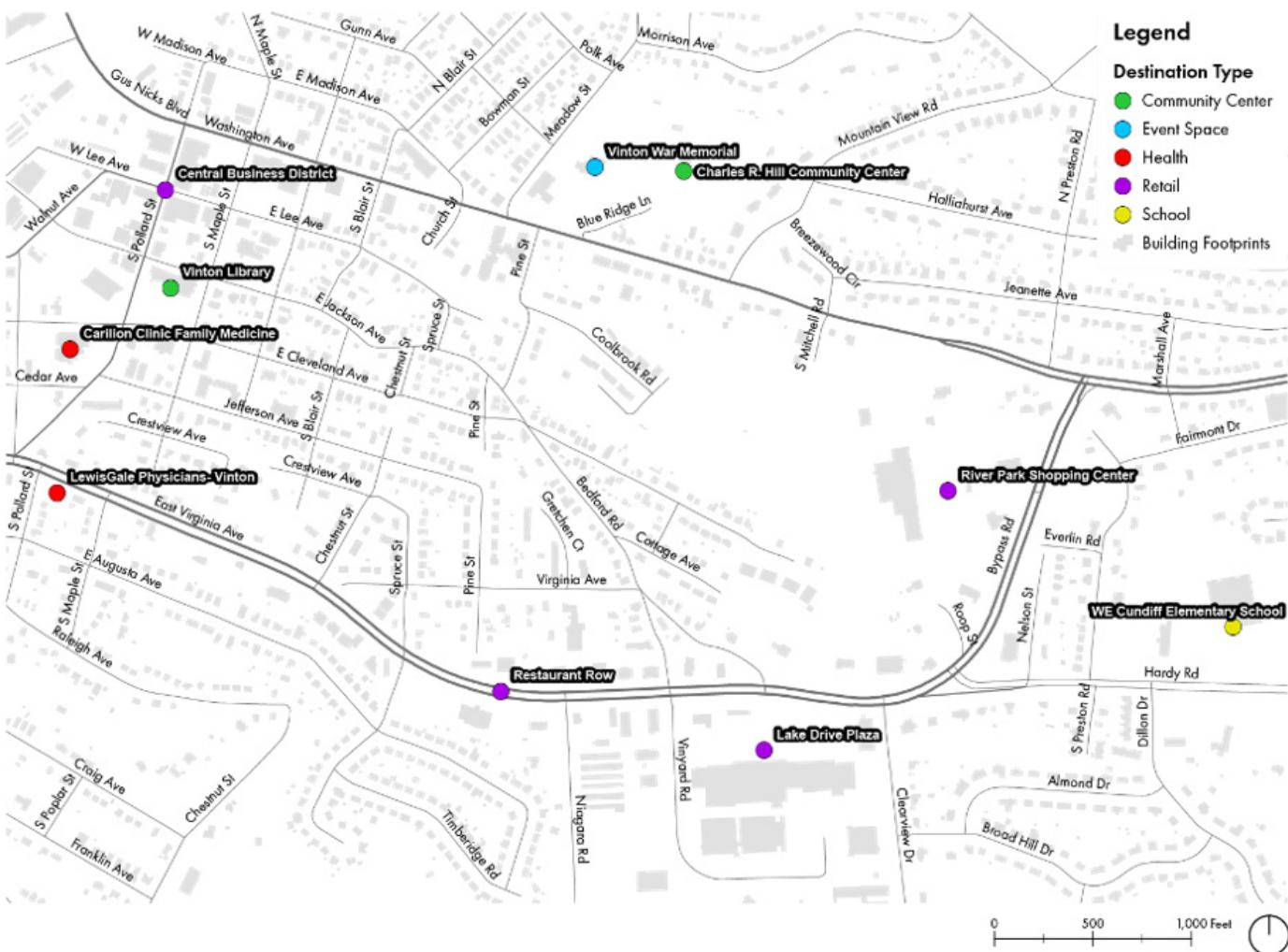
2) Lake Drive Plaza Shopping Center and Vinyard Rd Corridor - The second key activity center is the Lake Drive Plaza shopping center and Vinyard Road corridor located on the south side of Hardy Road. This area features numerous businesses and restaurants, entertainment venues, and a large grocery store. Though designed to be accessible primarily by car, it also serves as the endpoint of a Valley Metro fixed bus route line which will feature numerous transit-oriented amenities, such as bus shelters, planned for construction in the summer of 2022.

3) River Park Shopping Center - The third major activity center in the study is the River Park Shopping Center on the west side of Bypass Rd. This a smaller shopping center than Lake Drive Plaza Shopping Center, and currently primarily features discount retail stores. The Town of Vinton supports the redevelopment of this property, however, and intends on encouraging the establishment of a large mixed use, "town-center" style development at the location in the future.

Other key destinations that should also be considered include the Vinton War Memorial event venue on Washington Avenue, Carilion Clinic Family Medicine, and W. E. Cundiff Elementary School, which is located a short distance east of the study area on Hardy Road.

Any recommendations produced by this study should carefully consider bicycle and pedestrian accommodations that can be provided in and around these activity centers. They should also consider ways that the Town of Vinton can establish bicycle and pedestrian routes that can connect activity centers and residential neighborhoods to each other.

Map 1: Key Destinations



Roadway Conditions

The analysis also examined the traffic conditions and volumes present on the road corridors in the study area. The analysis used readily available traffic information from the Virginia Department of Transportation, as well as recent aerial images and mapping of the area. The purpose of this analysis was to understand where additional bike and pedestrian facilities could be accommodated most efficiently with minimal need for right of way acquisition or road widenings.

Pavement Width

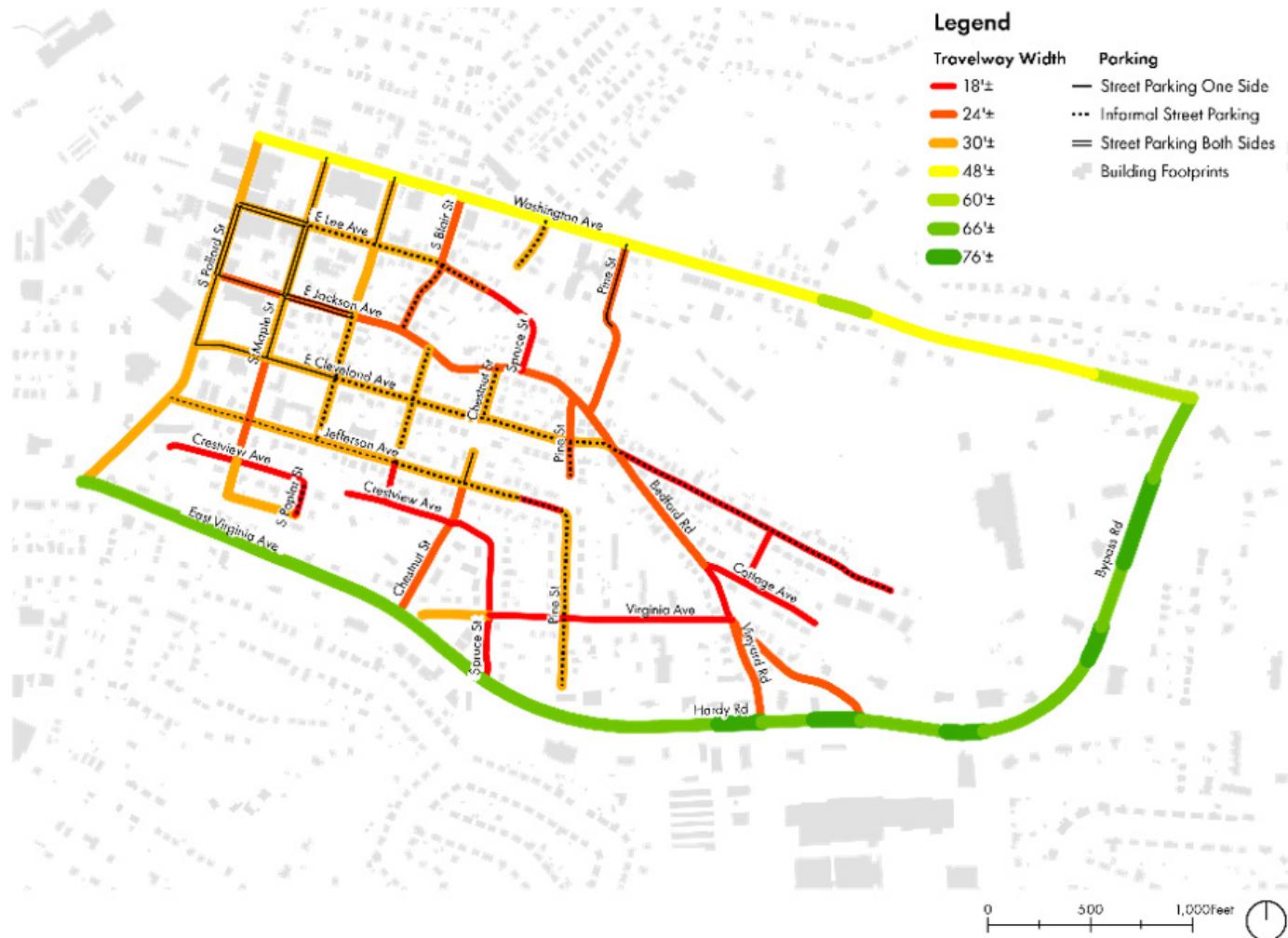
Pavement Widths were analyzed and approximated using aerial imagery. Most of the road corridors in the study area are narrow two-lane streets with paved travelway widths of approximately 30' or less. The notable exceptions to this are the highway corridors running along the northern, southern, and eastern edges of the study area—Washington Avenue, East Virginia Avenue, Hardy Road, and Bypass Road respectively. These highway corridors feature four lanes of travel and travelway widths of approximately 50'-75'. Center turn lanes with some medians are provided along East Virginia Avenue, Hardy Road, and Bypass Road.

Parking

On-street parking is provided along many of the streets in the central business district, as well as informally along wider portions of the adjacent neighborhood streets. On-street parking is not allowed along any of the major highway corridors.

This inventory of existing roadway conditions helps identify where bicycle and pedestrian accommodations could be added or enhanced most easily, as well as identifying locations where traffic volumes are high that may need special treatments for multimodal accommodation.

Map 2: Roadway Dimensions



Traffic

In 2019, VDOT reported traffic volumes generally correspond with the roadway widths and capacities. East Virginia Avenue, Hardy Road, and most of Washington Avenue average 20,000-25,000 vehicles per day. Bypass Road, by contrast, averages between 10,000-15,000 vehicles per day. All the other roads in the study area average fewer than 10,000 vehicles per day.

Map 3: Average Daily Traffic



Bicycle, Pedestrian, and Transit Infrastructure

This analysis also collected information about bicycle, pedestrian, and transit infrastructure. A sidewalk inventory was provided by the Town of Vinton, a trail inventory by Roanoke County, and bus stop locations were collected from Valley Metro Transit.

Existing Sidewalks

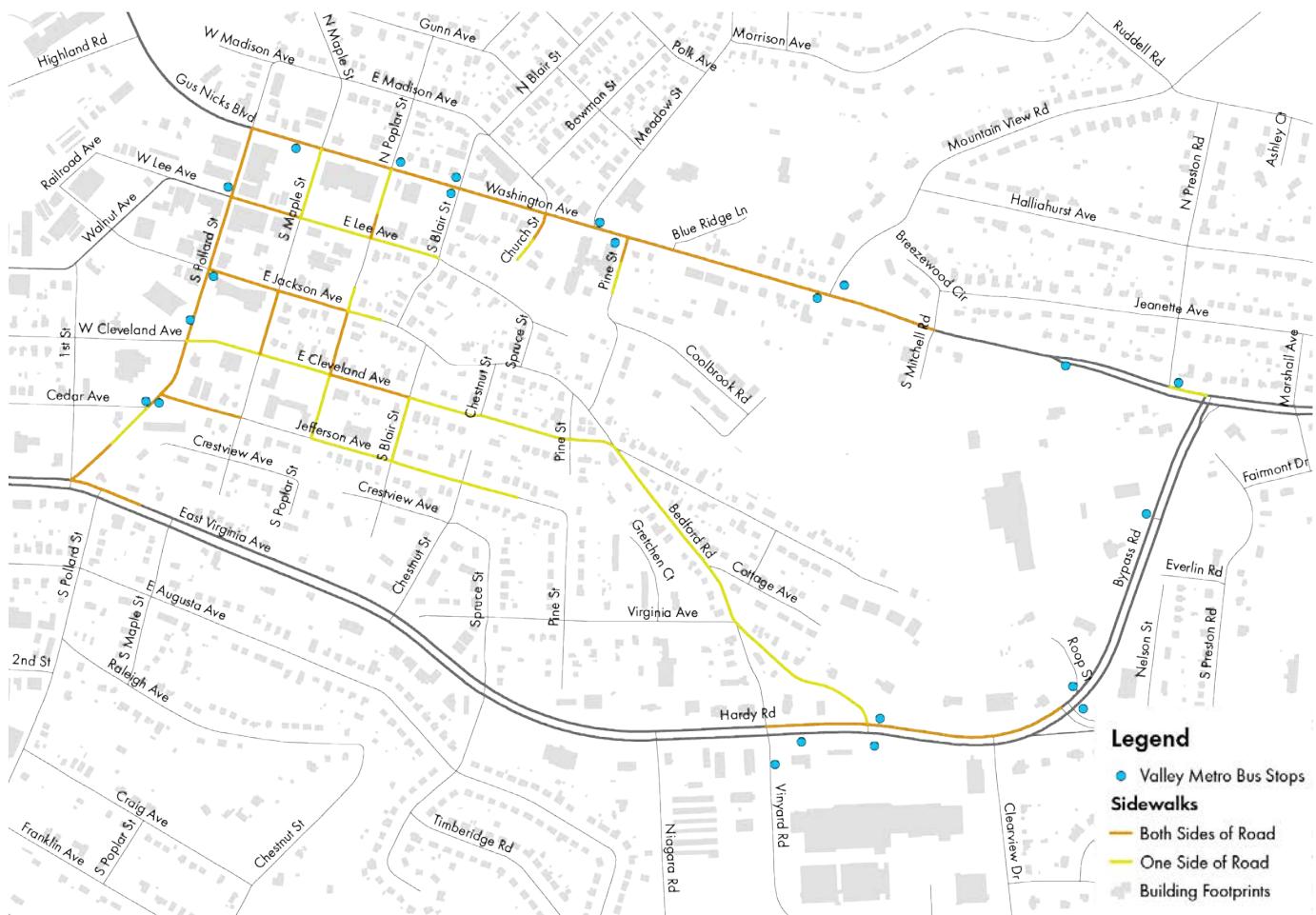
Sidewalks can be found along many streets in the study area. Sidewalks are provided on both sides of the roadway for most of Washington Ave and South Pollard St, as well as along Hardy Rd in front of the Lake Drive Plaza shopping center. Sidewalk coverage extends throughout most of the central business district area, as well as along some of the streets in the Jefferson Park neighborhood. Of note is the fact that the central business district can be connected to the Lake Drive Plaza shopping center with a continuous sidewalk path on at least one side of the street using East Cleveland Ave and Bedford Rd. There is, however, a notable lack of sidewalks along East Virginia Ave and Bypass Rd.

Bus Stops

Additionally, 22 bus stops were identified in the study area. These stops are located along South Pollard Street, Washington Avenue, Bypass Road, and Hardy Road. As mentioned previously, Lake Drive Plaza shopping center is an important destination, and has been identified as a potential future small bus transfer station. Sidewalk access is available to most of the bus stops, except for the stops located near the entrances of the River Park Shopping Center.

This inventory can help identify important gaps in the Town's existing multimodal infrastructure as well as identify opportunities that can be expanded to build a stronger multimodal network and foster greater use of alternative modes of transportation.

Map 4: Existing Sidewalks & Bus Stops

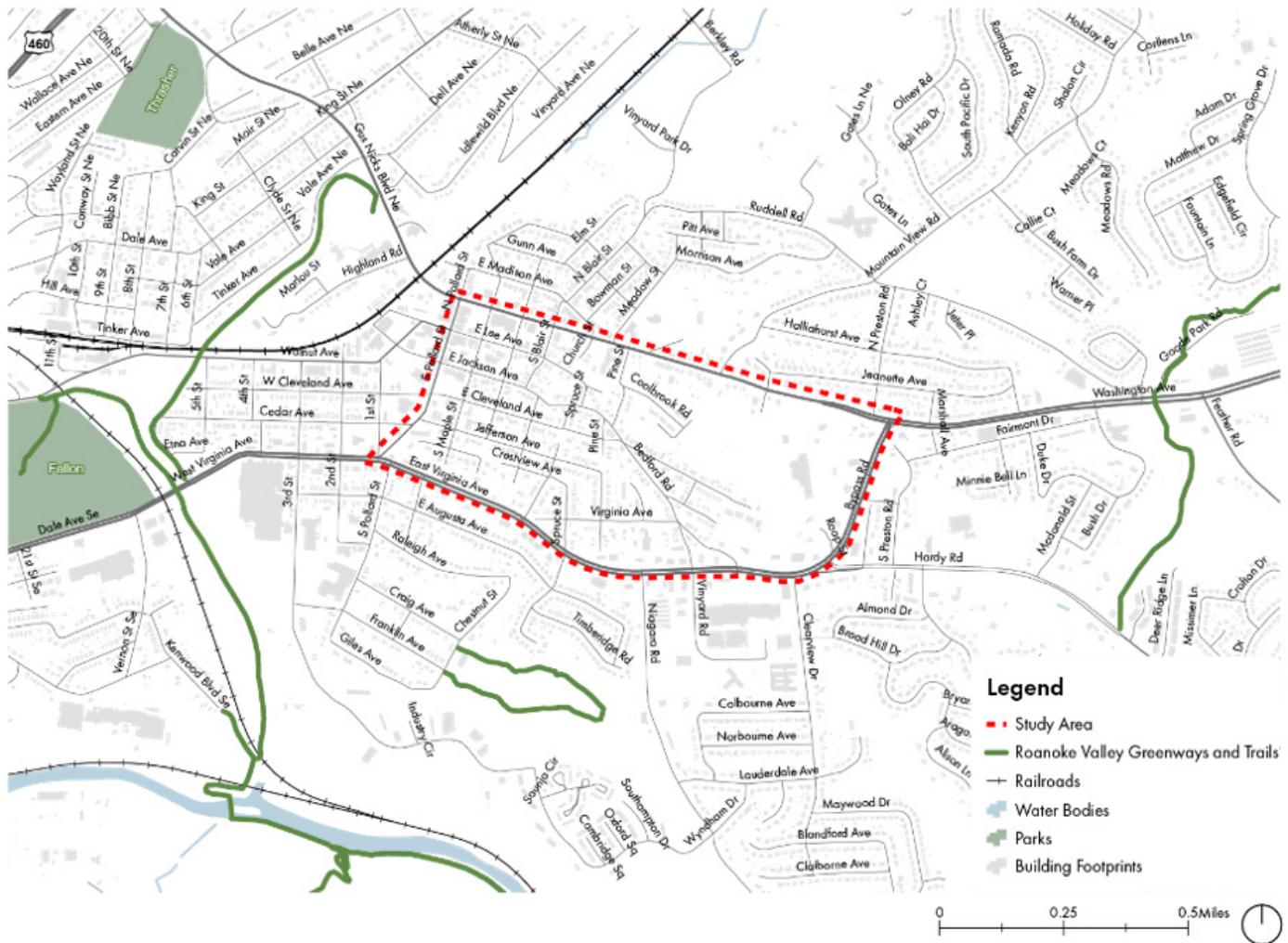


Source: Valley Metro Transit

Regional Trails

Existing bicycle infrastructure, by contrast, is very limited in the study area. No bicycle lanes or other formal bicycle markings are found in the study area. There are nearby off-road trails and roads, however, that are popular with bicyclists, including the Glade Creek Greenway, Wolf Creek Greenway, and Blue Ridge Parkway. Hardy Road, Walnut Avenue, and Washington Avenue are all commonly used to connect to these places from the study area.

Map 5: Regional Trails



Crash Data

The analysis also considered bicycle and pedestrian safety data. This information was provided by the VDOT Crash Analyst Tool. The database used by this tool offers the location of all reported crashes and accidents in the period from 2014-2021. During the reported period, only one auto accident involving a bicyclist or pedestrian was reported in the study area. This was a pedestrian accident that occurred on Jefferson Ave and resulted in a severe injury. No accidents involving a bicyclist were reported.

There were, however, three accidents involving bicyclists that occurred just outside of the study area. Two of these occurred on West Virginia Avenue, a few blocks west of the intersection of East Virginia Avenue and South Pollard Street. One resulted in a severe injury, while the other resulted in a minor, non-visible injury. The third accident involving a bicyclist occurred on West Lee Avenue, about one block west of

Map 6: Crash Data



Previously Planned Improvements

Finally, the inventory of existing conditions also included a review of previous planning and study efforts that have been conducted in the study area. This area has been the subject of several previous studies that have produced numerous improvement recommendations. Some of the recommendations that are most relevant to the current study effort include:

- The need for pedestrian accommodations at signalized intersections improvements in general
- The creation of a bicycle boulevard between downtown Vinton and the River Park Shopping Center
- The reduction of the width of the travel lanes on major road corridors
- The replacement of some on-street parking with bicycle lanes.

- 1) The first recommendation that was identified in multiple studies was the need to improve pedestrian amenities and infrastructure at signalized intersections. Studies noted that very few intersections offer crosswalks or pedestrian countdown signals. It has been recommended that these elements be added to every signalized intersection, and that pedestrian refuge islands also be added at strategic crossing points of four-lane roads.
- 2) The second recommendation provided by previous studies was the establishment of a bicycle boulevard between downtown Vinton and the River Park Shopping Center. This facility would parallel Washington Avenue and East Virginia Avenue as an additional east-west route across the study area. It would provide bicyclists with an alternative route that would avoid the heavy traffic and high speeds of the major road corridors. This recommendation also assumed that the River Park Shopping Center will be redeveloped as a new "town-center" style development that will generate additional activity and travel to the site.

3) The third notable recommendation made by previous studies was to reduce the width of the travel lanes on the major road corridors to 10' wide to provide space for bicycle lanes on these roads. A study of Washington Ave confirms the possibility of "road diet" treatments on this roadway.

4) Finally, the fourth notable recommendation was to remove on-street parking along some sections of streets in the central business district to avoid the potential conflict between bicyclists and parked cars. These recommendations suggested that marked bicycle lanes be added in place of the existing on-street parking spaces.

These prior recommendations offer guidance to the current study effort and provide useful starting points to test in the development of plan recommendations.

Summary of Opportunities and Challenges

This analysis revealed numerous challenges and opportunities as benchmarks for consideration in the planning process.

Challenges

One of the primary challenges for improving multimodal travel in the study area is the lack of existing bicycle and pedestrian infrastructure. Particularly notable is the complete absence of bicycle lanes or other formal bicycle markings, as well as the lack of pedestrian safety amenities at nearly all the signalized intersections in the study area.

Another challenge for providing multimodal accommodations is the narrow street dimensions that characterize the historic neighborhoods in the center of the study area. Narrow streets can be favorable for non-motorized travel due to their natural tendency to reduce automobile travel speeds. They also, however, can make it difficult or unfeasible to add amenities such as bicycle lanes or sidewalks using the existing right of way.

A third challenge for this study area is the high volume and speed of traffic that uses the major corridors such as Washington Ave and East Virginia Ave. These conditions can make bicycle and pedestrian travel along the corridors unpleasant, and often unsafe. Their importance as driving routes and their significant traffic volumes can also make it difficult to successfully propose changes such as narrowing or repurposing travel lanes to provide room for sidewalks or bicycle lanes.

Opportunities

Along with these challenges, however, the study area also provides numerous opportunities that support multimodal travel.

One such opportunity is the existing internal road network that offers complete, or nearly complete, connections between the major activity centers. These streets, such as Cleveland Ave and Bedford Ave, can provide bicyclists and pedestrians with alternative routes between destinations that avoid larger and busier road corridors.

Another opportunity is the relatively wide availability of sidewalks in the study area. While sidewalks are conspicuously absent from large portions of East Virginia Avenue and Bypass Road, their availability along South Pollard Street, Washington Avenue, in front of the Lake Drive Plaza shopping center, and along many of the internal neighborhood streets provides a solid foundation to support pedestrian travel in the area. This existing pedestrian network also allows future improvements to be more focused on relatively low-cost improvements such as crosswalks and pedestrian signals, rather than requiring the larger investments of large sections of new sidewalks.

A third opportunity supporting multimodal travel is the fact that much of the study area features characteristics of traditional neighborhood design such as short blocks, buildings located near to the street, sidewalks, and residential neighborhoods directly adjacent to commercial developments. All these characteristics provide a "human-scale" to the study area that supports the ease and comfort of non-motorized travel.

A final significant opportunity for multimodal travel is the presence of an existing bus route that serves most of the study area, including direct service to its three major activity centers. This route not only provides an alternative mode of transportation to reach these destinations, but also offers residents of the area with a way to reach other destinations around the Roanoke metro area without the need to independently own an automobile.

III. PUBLIC INVOLVEMENT

The Town of Vinton values the input of its residents and welcomed public input at several stages in the bicycle and pedestrian planning process for the Route 24 area.



Public Meetings

In-person public meetings provided one method of public involvement in the Route 24 bicycle and pedestrian plan. Public meetings were held both early in the process to solicit public input and experience, and late in the process to share draft recommendations for public comment.

Early Engagement

An initial public meeting was held in person at the Vinton War Memorial on October 4, 2021. The meeting was advertised extensively through Town of Vinton social media, newspaper advertisements, and other venues. At this meeting, consultants presented basic information about the technical assistance grant and project goals, displayed existing conditions maps and information, and welcomed public input on their use of, and desires for, the Route 24 project area. Accompanying the in-person meeting, a public survey offered an additional input opportunity at this stage. Input at this stage was used as consultants established potential improvements and critical needs of the project area.

Late Engagement

A second public meeting was held March 31, 2022, also at the Vinton War Memorial. Again publicized through the Town's existing social media, newspaper advertisements, and other methods, this meeting presented bicycle and pedestrian toolkit options and recommended improvements to the public for their input. The meeting was well-attended and included a presentation

by the Consultant Team and displays of toolkit graphics. Residents were welcomed to add notes to the overall recommendations map as well as ask questions of consultants and Town staff. Input at this stage was used to refine recommended improvements before project completion.

Community Survey

As a companion to the initial in-person public meeting, the Consultant Team launched an online survey allowing all residents an opportunity to engage with the planning process. The survey presented a map of the project area and asked participants to mark with four types of information: desired bicycle and pedestrian destinations, areas with safety concerns, desired bicycle improvements, and desired pedestrian improvements. Participants also had the ability to view, comment, and vote on comments submitted by others. The community survey remained open from September 9 to November 1, 2021 and was accessed by 340 unique users. Survey results were used extensively in identifying potential bicycle and pedestrian improvements in the project area.

Steering Committees

Work on the Route 24 Bicycle and Pedestrian Plan was guided by two separate steering committees, each giving additional public input to the study effort. A Community Steering Committee was made up of Vinton residents and members of elected and appointed committees, including Planning Commission, Town Council, and Board of Zoning Appeals among others. A Technical Steering Committee was made up of representatives from local and regional government, including Town of Vinton representatives from the Planning and Zoning Department, Public Works Department, and Town Administration, as well as representatives from the Virginia Department of Transportation, Roanoke County, and Roanoke Valley-Alleghany Regional Commission. Steering Committees met quarterly throughout the study process, providing local input, vetting draft recommendations, and revising final deliverables. Steering Committee members also served an important role in promoting public engagement opportunities.

Map 7: Summary of Input from the Map Survey

This map shows a summary of the locations of comments received by members of the community. Colored pins indicate safety concerns and needs for bicycle and pedestrian connectivity in the Study Area.



IV. TOOLKIT OF BICYCLE AND PEDESTRIAN IMPROVEMENTS

The GAP technical assistance for Vinton considered a variety of factors in recommending potential bicycle and pedestrian infrastructure improvements in the Route 24 study area. In consideration of bicycle and pedestrian destinations, pavement widths, traffic volume, existing sidewalks, and other factors, the Consultant Team constructed a toolkit of potential bicycle and pedestrian improvement types that fit the scale, character, and needs of Vinton. These toolkit options are based on the experience of other communities and may be used in locations specified by this study but may also be deployed in other areas of the Town to create a continuous multimodal network serving Vinton on the region.

Sidewalk Gaps

Sidewalks are the most typical and most familiar method of incorporating pedestrian infrastructure into the transportation network. Vinton has a significant inventory of existing sidewalks, varying widely in their design. A modern standard for sidewalk construction includes a five-foot minimum width sidewalk, with appropriate intersection curb ramps meeting requirements of the Americans with Disabilities Act (ADA). In areas with expectations for higher volumes of pedestrian use, including along multi-lane arterial streets and in established or planned commercial areas, wider sidewalks are appropriate and should be installed as right-of-way allows, accommodating the widest variety of users. While in some areas sidewalks may be separated from the street curb by a landscaped buffer, the realities of Vinton's existing streets, rights-of-way, and buildings will make adding sidewalks at the curb edge the most likely scenario. In areas where existing street conditions are especially difficult, the Town may consider painted sidewalks on existing pavement for limited installations and with approval of appropriate agencies. In all cases, sidewalks must be coordinated with crosswalks in appropriate locations to create a safe and connected pedestrian network.

Figure 1: Sidewalk Gaps on Multi-Lane Arterial Streets

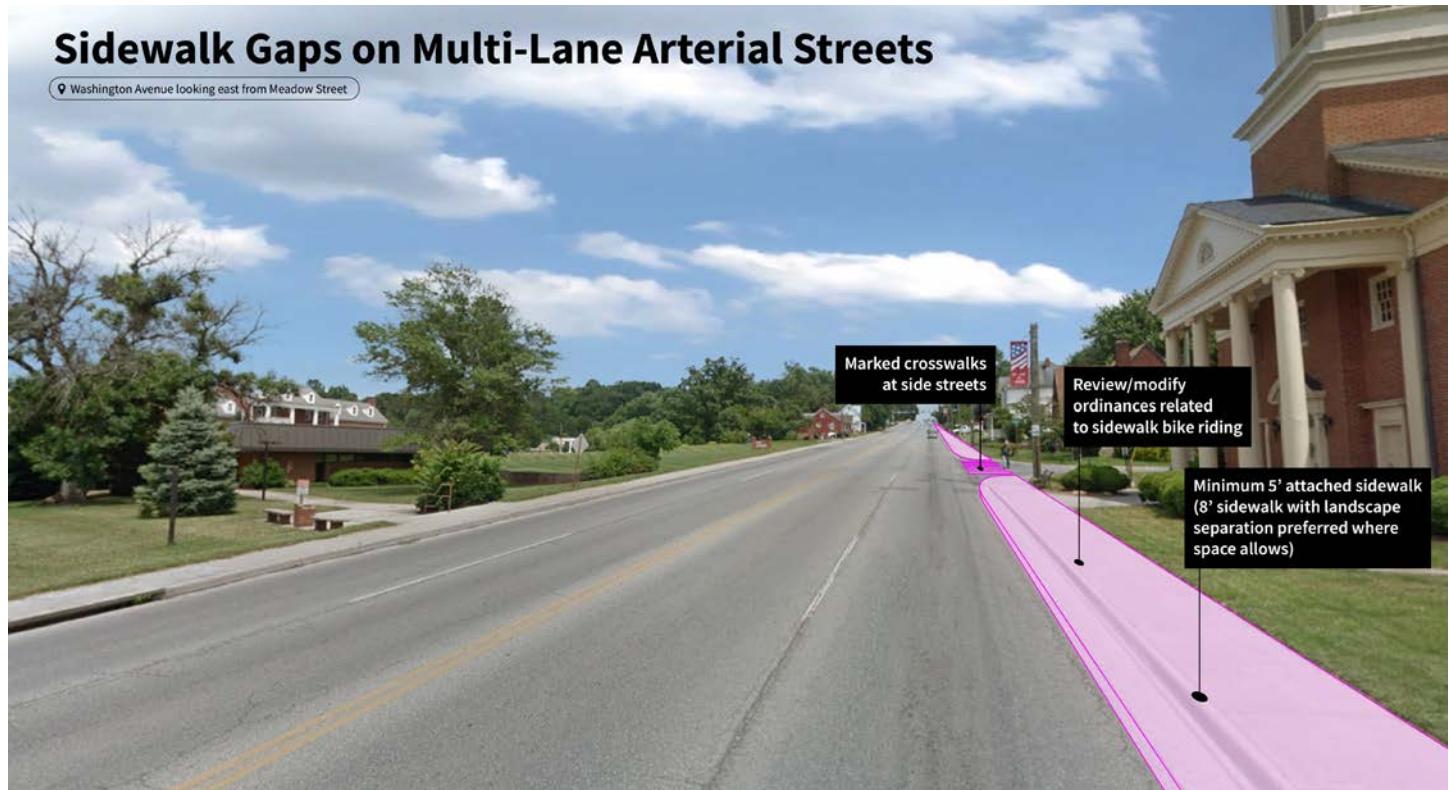
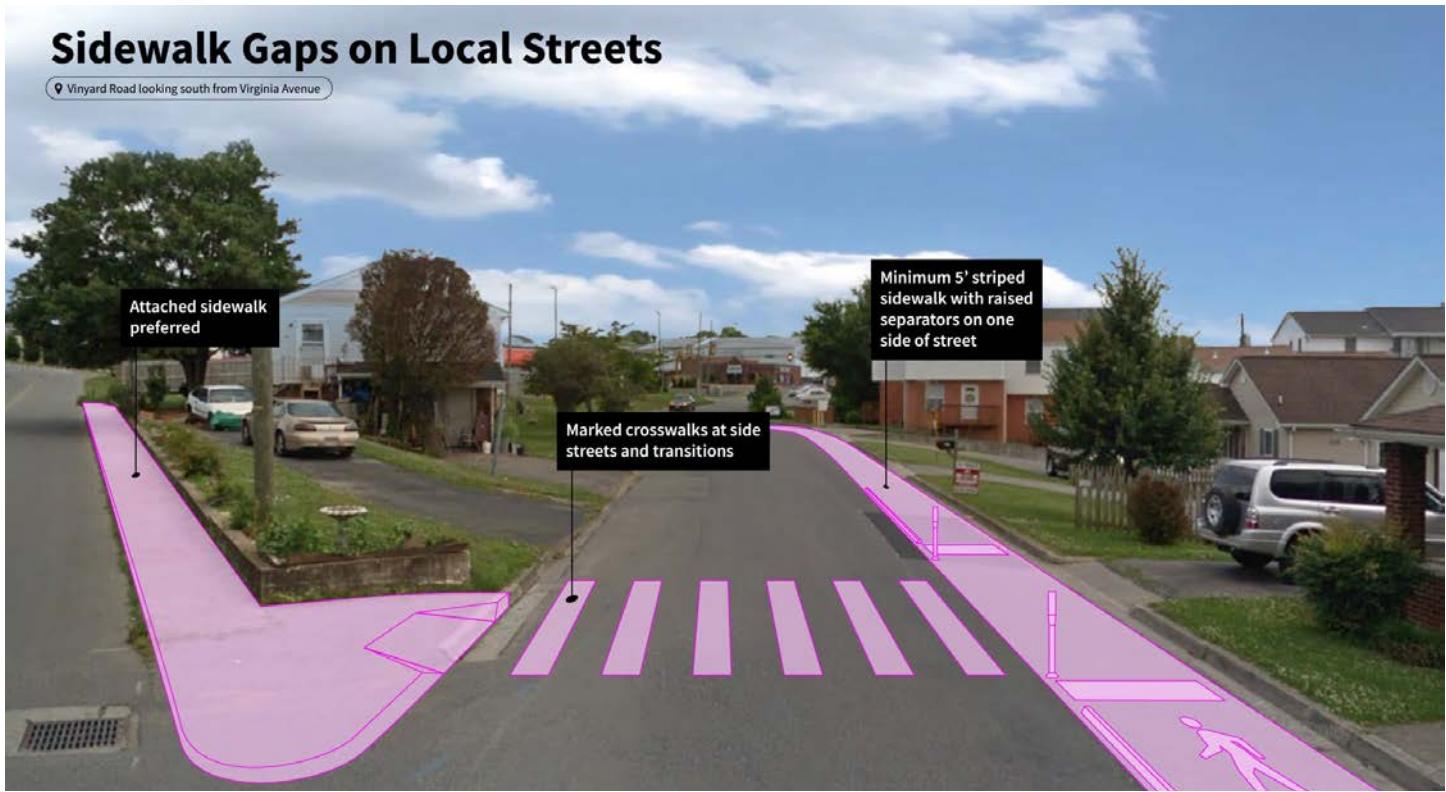


Figure 2: Sidewalk Gaps on Local Streets



Intersections are the most complex and most dangerous elements of the pedestrian transportation system. The goal of all intersection improvements will be to increase pedestrian and driver safety by increasing pedestrian visibility and reducing the distance pedestrians must cross.

At intersections with no existing vehicle traffic signals, crosswalk markings that make pedestrians more visible to drivers are a key improvement. While a wide variety of crosswalk designs exist, this analysis recommends high-visibility crosswalks made up of wide, longitudinal stripes marked on the roadway at regular intervals. Vehicle stop bars or yield lines that remind drivers to stop well back from crossing pedestrians also help to increase pedestrian visibility in the street. In addition to painted stripes, accessible curb ramps are required by the Americans with Disabilities Act (ADA) at all crosswalks. Flashing warning beacons that warn drivers of crossing pedestrians or pedestrian signals that stop vehicle traffic may be used in especially busy streets. Corner bulb-outs or median refuge islands that reduce the overall pedestrian crossing distance also enhance safety.

Where crosswalks must cross higher speed or higher volume roadways, or where automobile traffic signals are already in place, signalized crosswalks are recommended. Signalized crossings may be activated by a pedestrian push button and coordinate pedestrian crossing timing along with the timing of traffic lights for vehicle travel. Providing a crossing time countdown or prohibiting automobiles from turning right on red are among additional methods of increasing safety and visibility for pedestrians in the intersection.

Figure 3: Signalized Intersection Enhancements

Signalized Intersection Enhancements

Hardy Road (24) at Vinyard Road

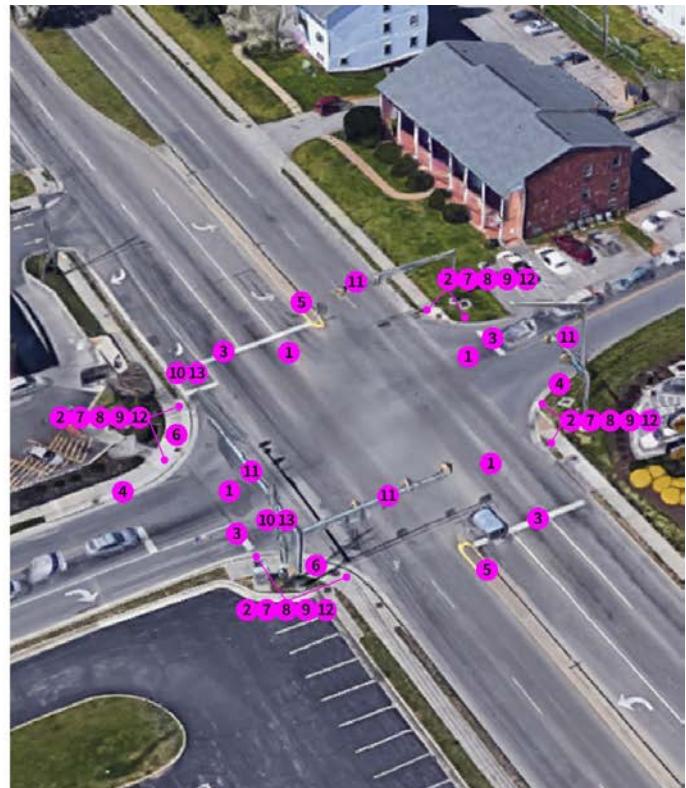
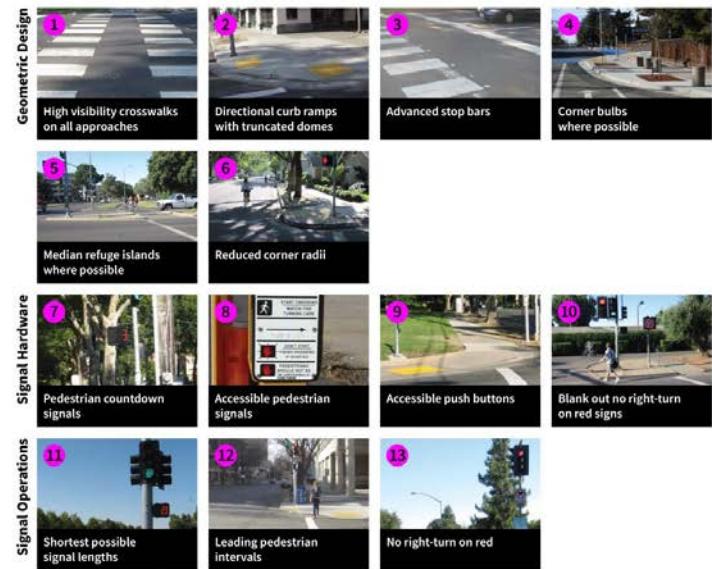
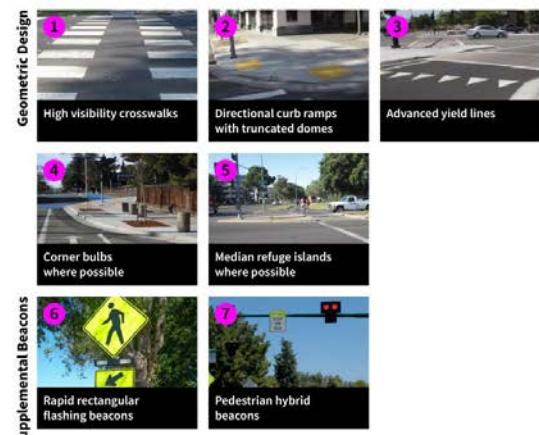


Figure 4: Uncontrolled Crossing Enhancements

Uncontrolled Crossing Enhancements

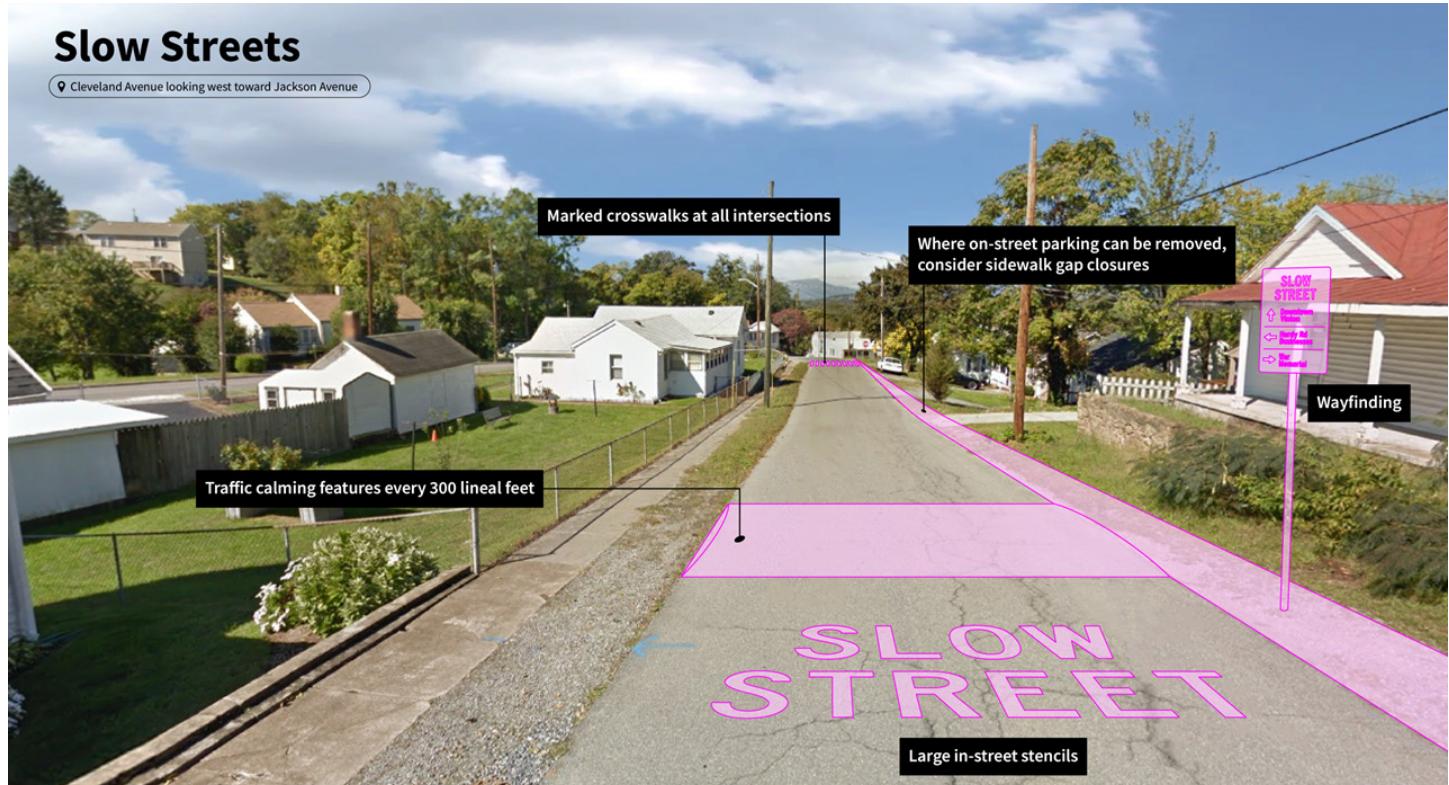
Washington Avenue at Meadow Street



Slow Streets

On many quiet neighborhood streets with low automobile traffic and speeds, it may be possible for pedestrians and vehicles to safely share the paved street surface. Improvements on these "Slow Streets" can help to reinforce the idea of a safe, shared space for both pedestrians and drivers. Slow Street improvements may include traffic calming measures such as speed bumps or speed tables, additional signage or street markings advising drivers of the presence of pedestrians and bicycles, or painted pedestrian zones on the street surface in areas where separate sidewalks are not feasible due to lack of right-of-way or other limitations.

Figure 5: Slow Streets



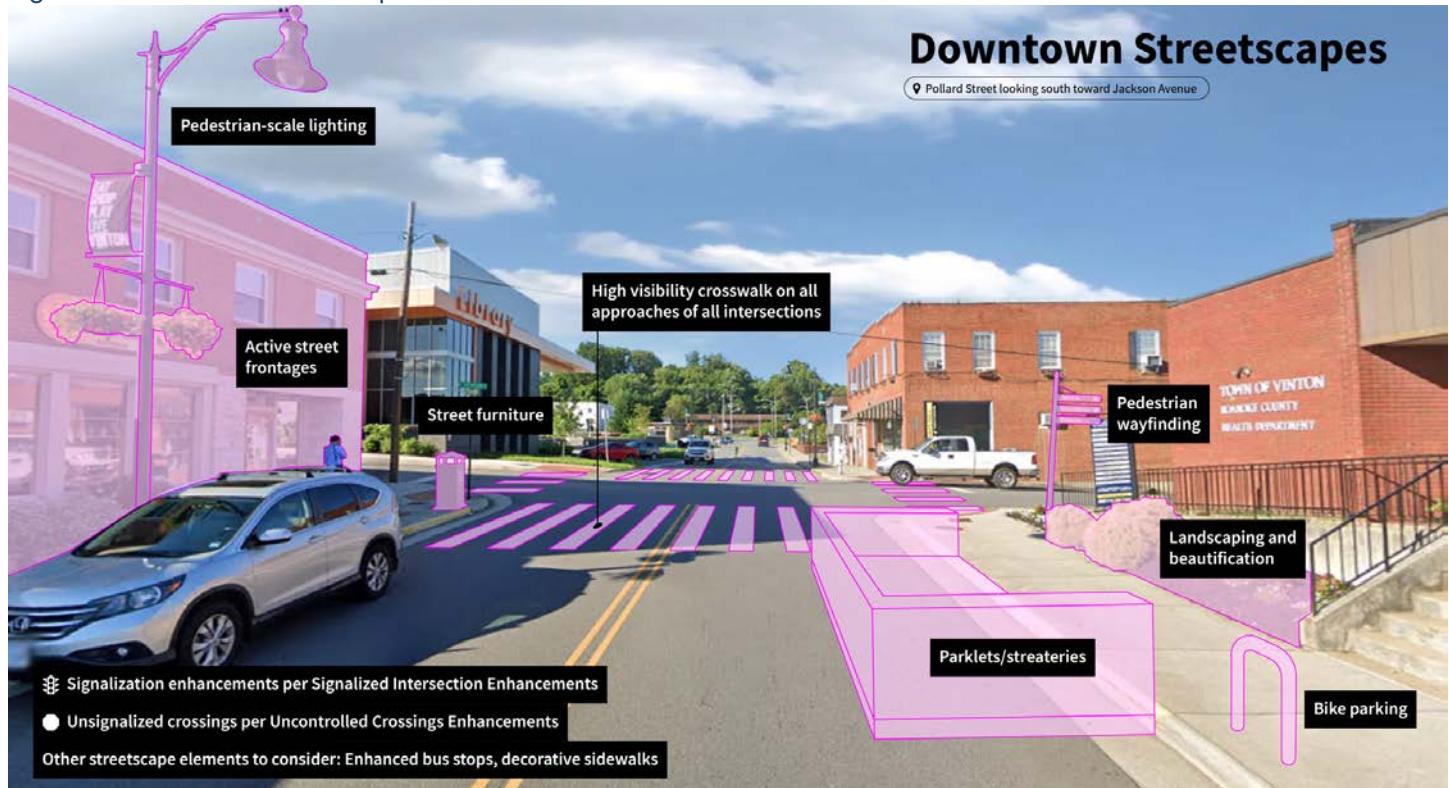
Bicycle Lanes

Bicycle lanes are portions of the roadway that has been designated by striping, signage, and pavement markings for the exclusive use of bicyclists. Bike lanes enable bicyclists to ride at their preferred speed without interference from prevailing traffic conditions and facilitate predictable behavior and movements between bicyclists and motorists. Bike lanes typically run in the same direction as traffic and are typically designated with painted lines only, although physical barriers are used in some cases. The configuration of a bike lane requires consideration of existing traffic levels and behaviors, adequate safety buffers to protect bicyclists from parked and moving vehicles, and enforcement to prohibit motorized vehicle encroachment and double-parking. Bike Lanes may be distinguished using color, lane markings, signage, and intersection treatments. Typical bicycle lanes are five feet in width and may be supplemented by a painted buffer zone on higher volume or higher speed streets to increase safety and comfort.

Downtown Toolkit

As Vinton continues to build the vitality of its downtown core, a variety of improvements can make the area more attractive and comfortable for pedestrians, including decorative lighting and street furniture, wayfinding signage, and café space.

Figure 6: Downtown Streetscapes



V. RECOMMENDATIONS

The GAP technical assistance for Vinton considered a variety of factors in recommending and prioritizing potential bicycle and pedestrian infrastructure improvements in the study area. Consultants reviewed existing long-range planning documents, conducted a map-based survey and stakeholder meetings for resident input, and incorporated a wide variety of transportation network data. Study data included nodes of activity, traffic volumes, speed, facility design, right-of-way, population density, employment density, safety criteria, and others.

Taken together, the steps of this process identify individual routes and projects to form future bicycle and pedestrian networks in Vinton.

Identifying Bicycle and Pedestrian Recommendations

To develop a plan for a safe and effective bicycle and pedestrian network in Vinton, this analysis began by creating an inventory of key destinations and activity centers in the study area. These were identified using prior studies and plans, stakeholder meetings, survey responses, and input from local staff. Downtown Vinton, Lake Drive Plaza Shopping Center, the River Park Shopping Center, and the Vinton War Memorial were included among key destinations for pedestrians and bicyclists. Stakeholders also expressed interest in improving connections to the Glade Creek Greenway and Wolf Creek Greenway.

Next, the analysis identified the key street corridors that provide bicycle and pedestrian access to these destinations, as well as those that could be used to connect activity centers to one another. The existing pavement widths, traffic volumes, on-street parking locations, posted speed limits, and sidewalk facilities for each key corridor were recorded. This information was used to better understand the challenges and opportunities for pedestrian and bicycle travel along each corridor.

Finally, recommendations for bicycle and pedestrian facilities were assigned to each key corridor. These recommendations varied depending on both roadway characteristics and anticipated levels of bicycle and pedestrian use. Some of the recommended improvements were drawn directly from suggestions offered by the public, while others were developed by consultants and Town staff.

Prioritization

The previous section described how the recommendations for bicycle and pedestrian improvements were developed. Part of the scope for this project also required the development of a

prioritization process to identify high priority recommendations. The purpose of this process is to be able to use a standard data analysis to guide the Town's project prioritization and selection process. In addition to this data, however, considerations such as local support or funding feasibility may also be considered as Vinton leaders advance projects for funding or construction.

All recommended projects were given priority scores in three categories: Traffic Level of Stress, Community Need, and Tactical Viability. Brief descriptions of each are provided below:

Traffic Level of Stress

The traffic level of stress evaluation is used to identify corridors where vehicular traffic creates the most hazardous travel conditions for bicyclists and pedestrians. Traffic Level of Stress was calculated using:

- Speed Limit
- Traffic Volume (AADT)
- Number of Travel Lanes
- Recorded Bike/Ped Crashes

Community Need

The community need evaluation is used to identify corridors where the built environment and demographic conditions are most likely to create a high demand for bicycle and pedestrian travel. Community Need was calculated using:

- Proximity to Activity Centers
- Proximity to Schools
- Proximity to Bus Stops
- Bike & Walk Scores
- Population Density
- Employment Density
- VTrans Equity Emphasis Areas

Project Viability

The project viability evaluation is used to identify corridors where additions or improvements are anticipated to be easiest to implement. Project viability was calculated using:

- Scale of Corridor
- Right-of-Way Needs
- Connectivity
- Project Readiness

Table 2: Prioritization Matrix

Traffic Level of Stress Score			
Element	Low (1 point)	Medium (2 points)	High (3 Points)
Speed Limit	25 or lower	30-40	45 or Higher
AADT	Less than 2,500	2,500 to 7,499	7,500 or Higher
Vehicle Lanes	2 Lanes	3-4 Lanes	More than 4 Lanes
Safety	No reported bicycle or pedestrian crashes	Non-fatal or serious injury bicycle or pedestrian crash	Fatal or serious injury bicycle or pedestrian crash

Community Need Score			
Element	Low (1 point)	Medium (2 points)	High (3 Points)
Activity Center	More than 0.5 miles from a VTRANS Activity Center or other primary community activity center	0.25-0.5 miles of a VTRANS Activity Center or other primary community activity center	Located within 0.25 miles of a VTRANS Activity Center or other primary community activity center
School	More than 0.25 miles from a school	Within 0.25 miles of a school	Located within 500 ft of a school
Transit	More than 0.25 miles from a transit stop	Within 0.25 miles of a transit stop	Segment includes transit stop
Bike Score/Walk Score	Located in an area with a combined Bike Score + Walk Score of less than 50.	Located in an area with a combined Bike Score + Walk Score of 50-99.	Located in an area with a combined Bike Score + Walk Score of 100 or more.
Population Density	Located in a Block Group that falls within the 4th or 5th quintile of population density for the community.	Located in a Block Group that falls within the 2nd or 3rd quintile of population density for the community.	Located in a Block Group that falls within the highest quintile of population density for the community.
Employment Density	Located within the 4th or 5th quintile of employment density for the community based on Census LEHD primary employment data.	Located within the 2nd or 3rd quintile of employment density for the community based on Census LEHD primary employment data.	Located within the highest quintile of employment density for the community based on Census LEHD primary employment data.
Equity Emphasis Area (VTRANS)	Not located in an Equity Emphasis Area	Located in Equity Emphasis Area with an index score that is less than the average index score of all EEA in the community.	Located in Equity Emphasis Area with an index score that is greater than the average index score of all EEA in the community.

Tactical Viability			
Element	Low (1 point)	Medium (2 points)	High (3 Points)
Scale of Corridor	Corridor has a "Principal Arterial" functional classification.	Corridor has a "Minor Arterial" or "Collector" functional classification.	Corridor has a "Local" functional classification.
ROW Needs	Additional right of way is anticipated to be acquired from multiple properties.	Additional right of way is anticipated to be acquired from a single property.	No additional right of way is anticipated.
Connectivity	Improvements enhance existing bike/ped infrastructure or are not connected to existing bike/ped facilities.	Improvements extend existing bike/ped infrastructure network but do not connect discontinuous facilities.	Improvements establish a link between existing but discontinuous bike/ped infrastructure.
Project Readiness	Improvements will require a new project.	Improvements are part of or can be incorporated into a planned project.	Improvements are part of or can be incorporated into a committed project.

Map 7: Recommended Improvements

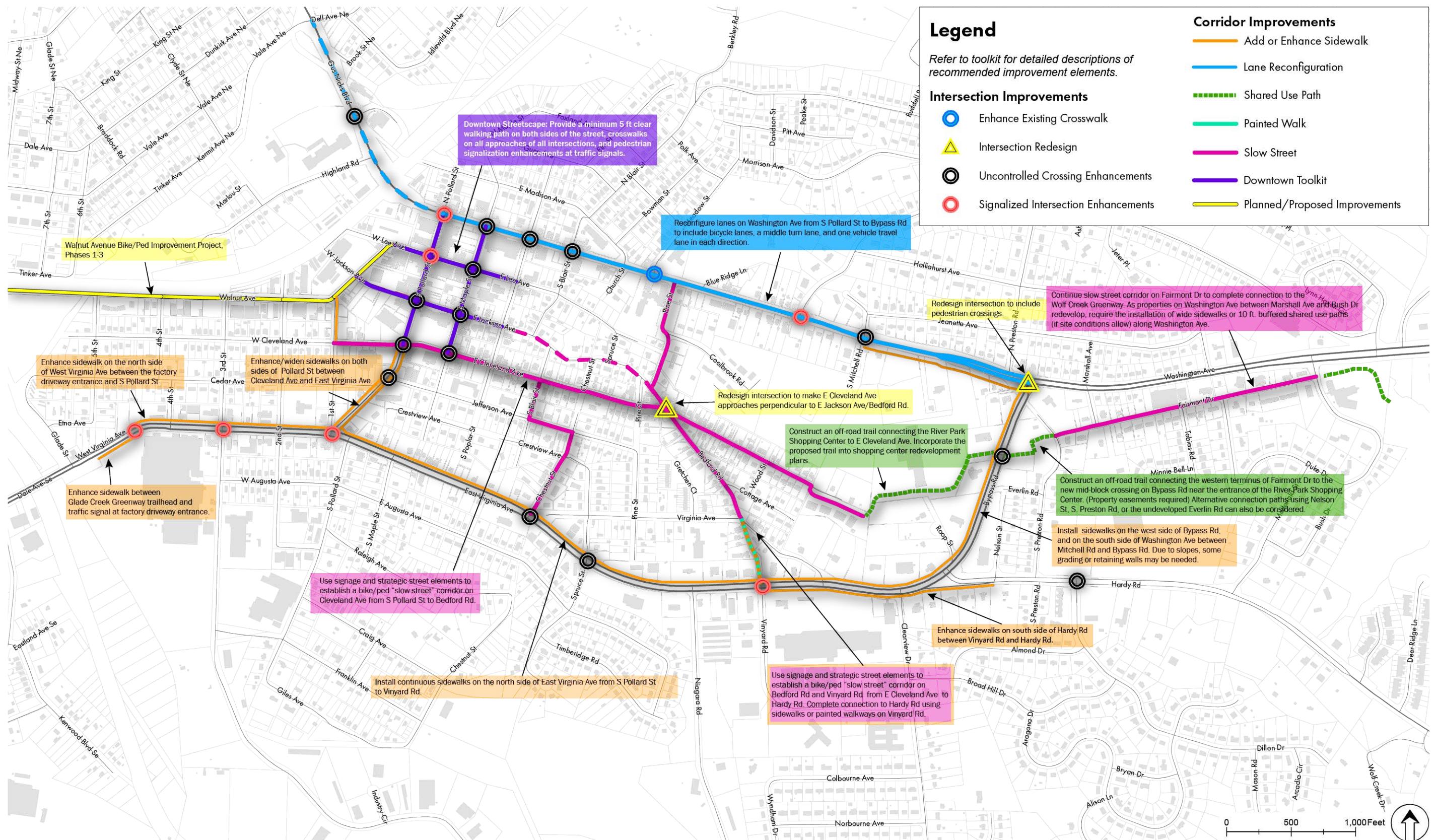


Table 3: Recommended Improvements

Segment	Start	End	Recommended Corridor Improvements	Recommended Intersection Improvements	Traffic Stress Rating	Community Need Rating	Project Viability Rating	Notes
S Pollard St	Cleveland Ave	Virginia Ave	Sidewalks - both sides	Signalized Intersection Enhancements at Virginia Ave, Uncontrolled Crossing Enhancements at Jefferson Ave & Cedar Ave	med	high	low	Install 6 ft wide sidewalks on both sides of Pollard Street. Install ADA curb ramps and high-visibility crosswalks at crossings.
E Cleveland Ave	Pollard St	Bedford Rd	Slow Street	Uncontrolled Crossing Enhancements at Maple, Poplar, Blair, and Pine Streets	low	med	med	Crosswalk, speed table and shared lane marking improvements for ped/bike slow street
S Blair St	E Cleveland Ave	Jefferson Ave	Slow Street		low	med	med	
Jefferson Ave	S Blair St	Chestnut St	Slow Street		low	med	med	
Chestnut St	Jefferson Ave	E Virginia Ave	Slow Street	Uncontrolled Crossing Enhancements at Hardy Rd	low	med	med	
Pine St	Washington Ave	E Jackson Ave	Slow Street		low	med	med	
E Cleveland Ave	Bedford Rd	Dead End	Slow Street	Intersection Redesign at Bedford Rd	low	med	med	Crosswalk, speed table and shared lane marking improvements for ped/bike slow street
Bedford Rd	E Jackson Ave	Virginia Ave	Slow Street	Intersection Redesign at E Cleveland Rd	low	med	high	Crosswalk, speed table and shared lane marking improvements for ped/bike slow street
Bedford Rd	Virginia Ave	Hardy Rd	Sidewalk - one side	Signalized Intersection Enhancements at Hardy Rd	low	med	med	Add sidewalk or painted walk, alternating sides
E Jackson Ave	S Poplar St	Pine St	Slow Street		low	med	med	
S Pollard St	Washington Ave	E Cleveland Ave	Downtown Toolkit	Signalized Intersection Enhancements at Washington Ave & E Lee Ave, Uncontrolled Crossing Enhancements at E Jackson Ave & E Cleveland Ave	med	high	med	
S Maple St	Washington Ave	E Cleveland Ave	Downtown Toolkit	Uncontrolled Crossing Enhancements at Washington Ave, E Lee Ave, E Jackson Ave, & E Cleveland Ave	low	med	med	
E Jackson Ave	W Jackson Ave	S Poplar St	Downtown Toolkit	Uncontrolled Crossing Enhancements at S Pollard St & S Maple St	low	med	med	

Table 3: Recommended Improvements (cont'd)

Segment	Start	End	Recommended Corridor Improvements	Recommended Intersection Improvements	Traffic Stress Rating	Community Need Rating	Project Viability Rating	Notes
E Lee Ave	W Lee Ave	S Poplar St	Downtown Toolkit	Signalized Intersection Enhancements at S Pollard St, Uncontrolled Crossing Enhancements at S Maple St	low	med	med	
1st St	Walnut Ave	W Cleveland Ave	Sidewalk		low	med	med	
Walnut Ave	West Town Limits	W Lee Ave	Planned/Proposed Improvements		low	med	med	Planned pedestrian and bicycle improvements already underway
Gus Nicks Blvd	Gearhart Park	Washington Ave	Planned/Proposed Improvements	Signalized Intersection Enhancements at S Pollard St, Uncontrolled Crossing Enhancements at W Madison Ave	med	med	low	Any lane reconfiguration for Washington Ave. may be extended on Gus Nicks
Washington Ave	S Pollard St	Bypass Rd	Lane Reconfiguration	Signalized Intersection Enhancements at S Pollard Rd & Mountain View Rd, Uncontrolled Crossing Enhancements at S Maple St, S Poplar St, S Blair St, & S Mitchell Rd, Enhance Existing Crosswalks at Meadow St	med	high	low	Reconfiguration from four travel lanes to two travel lanes with shared center turn lane and buffered bike lanes
Fairmont Dr	S Preston Rd	Bush Dr	Slow Street		low	low		
W Virginia Ave (Eastbound)	Glade Rd	Commercial Driveway	Sidewalk	Signalized Intersection Enhancements at commercial driveway	high	high	low	
W Virginia Ave (Westbound)	Commercial Driveway	S Pollard St	Sidewalk	Signalized Intersection Enhancements at commercial driveway, 3rd St, & S Pollard St	high	high	low	
Hardy Rd (Westbound)	Chestnut St	Vinyard Rd	Sidewalk	Uncontrolled Crossing Enhancements at Chestnut St & Spruce St. Signalized Intersection Enhancements at Bradford Rd	med	med	low	
Bypass Rd	Clearview Rd	Wishington Ave	Sidewalk	Uncontrolled Crossing Enhancements at Shopping Center. Intersection Redesign at Washington Ave	med	med	low	
Hardy Rd (Eastbound)	Vinyard Rd	Clearview Dr	Sidewalk	Signalized Intersection Enhancements at Bradford Rd	med	med	low	

Table 3: Recommended Improvements (cont'd)

Segment	Start	End	Recommended Corridor Improvements	Recommended Intersection Improvements	Traffic Stress Rating	Community Need Rating	Project Viability Rating	Notes
Private Drive	E Cleveland Ave	Dead End	Slow Street		low	med	low	Will require coordination with private property
Footpath	E Cleveland Ave	Bypass Rd	Off Road 10 ft Shared Use Path		n/a	med	low	Will require coordination with private property
Footpath	Bypass Rd	Fairmont Dr	Off Road 10 ft Shared Use Path		n/a	med	low	Will require coordination with private property
Footpath	Fairmont Dr	Wolf Creek Greenway	Off Road 10 ft Shared Use Path		n/a	med	low	Will require coordination with private property
Hardy Rd (Westbound)	Vinyard Rd	Clearview Dr	Sidewalk	Signalized Intersection Enhancements at Bradford Rd	med	med	low	
Hardy Rd	Clearview Rd	Nelson St	Sidewalk		med	low	low	
Washington Ave	Mitchell Rd	Bypass Rd	Sidewalk		med	med	low	Add sidewalk on south side of Washington, joining with proposed sidewalks on west side of Bypass Road
W Lee Ave	Walnut Ave	E Lee Ave	Downtown Toolkit	Signalized Intersection Enhancements at S Pollard St	low	med	med	
W Jackson Ave	Walnut Ave	E Jackson Ave	Downtown Toolkit	Uncontrolled Crossing Enhancements at S Pollard St	low	med	med	
W Cleveland Ave	1st St	Pollard St	Slow Street	Uncontrolled Crossing Enhancements at S Pollard St	low	med	med	
E Virginia Ave (Westbound)	S Pollard	Chestnut St	Sidewalk	Signalized Intersection Enhancement at S Pollard St. Uncontrolled Crossing Enhancements at Chestnut St & Spruce St	med	med	med	
E Jackson Ave	Pine St	Bedford Rd	Slow Street	Intersection Redesign at E Cleveland Rd	low	med	med	

VI. PRIORITY IMPROVEMENTS

The following is a list of high priority projects based on the recommendations and prioritization criteria in Section V.

A: Virginia Avenue Sidewalk (Pollard Street to Vinyard Road)

East Virginia Avenue and Hardy Road form a key commercial corridor and link between Vinton's downtown and shopping, restaurants, and other services in the area of Hardy Road and Vinyard Road. Future redevelopment of the corridor may continue to add business uses and pedestrian destination. Despite the importance of this corridor to the overall transportation and land use network in Vinton, no sidewalks are currently provided. Installation of a sidewalk on the north side of East Virginia Avenue can provide a key pedestrian connection in this area.

Recommended Improvements:

- Install continuous 5-foot wide sidewalk on north side of East Virginia Avenue / Hardy Road
- Provide high-visibility crosswalks, with appropriate curb ramps, at existing and future street crossings and major commercial entrances

Virginia Avenue Sidewalk



5/25/2022

B: Intersection Improvements (Pollard Street and Virginia Avenue)

The intersection of Pollard Street with Virginia Avenue is a key point of transition between Virginia Avenue's important commercial corridor and Pollard Street's downtown streetscape. The Town has already completed pedestrian upgrades at other key intersections, including the Pollard Street's northern intersection with Washington Avenue. Intersection upgrades will safely integrate pedestrians into an existing signalized automobile intersection. With potential development, improvements can serve this growing area and should be coordinated with development work if possible.

Recommended Improvements:

- Provide high-visibility crosswalks, with appropriate curb ramps, at crossings of Pollard Street, First Street, East Virginia Avenue, and West Virginia Avenue
- Modify existing medians on Virginia Avenue to allow safe pedestrian crossing
- Install button-activate pedestrian signals coordinated with existing vehicle traffic signals

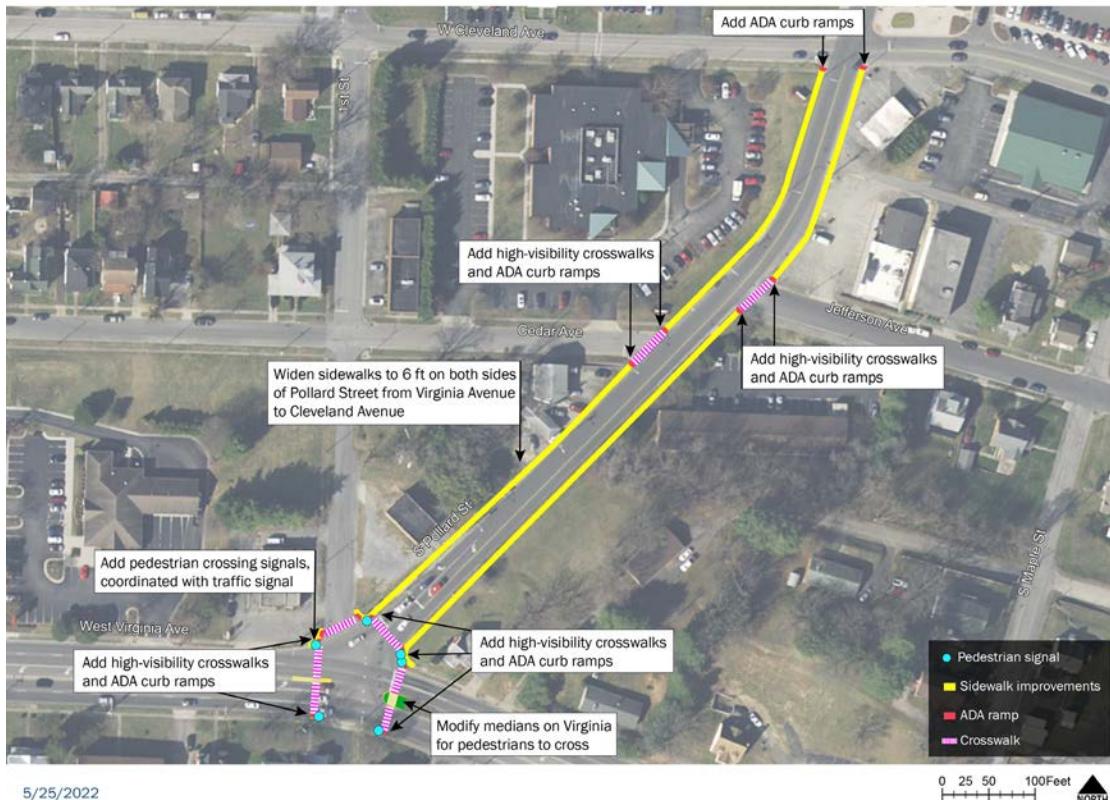
C: Pollard Street Sidewalks (Virginia Avenue to Cleveland Avenue)

Pollard Street is the critical center of Vinton's downtown and path to connect to downtown businesses and other uses. Pollard Street has already seen sidewalk improvements north of Cleveland Avenue as a part of streetscaping efforts and library construction. The segment of Pollard Street from Virginia Avenue to Cleveland Avenue can provide key continuity to Virginia Avenue commercial uses and potential new development in this area. While this segment of Pollard Street currently includes sidewalks, these walks are narrower than current standards, in general disrepair, and do not meet modern accessibility requirements of the Americans with Disabilities Act (ADA).

Recommended Improvements:

- Widen sidewalks to 6-feet on both sides of Pollard Street from Virginia Avenue to Cleveland Avenue
- Add high-visibility crosswalks and ADA curb ramps at crossings of Cedar Avenue and Jefferson Avenue

Pollard Street Sidewalks & Intersection Improvements at Pollard Street and Virginia Avenue



5/25/2022

D: Cleveland Avenue Slow Street (Pollard Street to Bedford Road)

East-west bicycle and pedestrian travel in the Route 24 study are complicated by high traffic on the area's major east-west routes, Washington Avenue and Virginia/Hardy. Cleveland Avenue provides one route option to make east-west connections through the study area on a lower-traffic street, and to engage the residential neighborhood internal to the study area in the bike/ped transportation network. Slow Streets are streets with low traffic where a combination of traffic calming, signage, and other visibility improvements can create a safer space for bicycles, pedestrians, and automobiles to share one corridor. While Cleveland Avenue does not currently have sidewalks on both sides of all blocks, sidewalks are available on at least one side of the street for the full length of this segment. Topographic issues will make the addition of new sidewalks complex. The recommendations included here do not include new sidewalks, but additional sidewalks may be considered by the Town in the long term.

Recommended Improvements:

- Install one traffic calming speed table per block between Maple Street and Bedford Road
- Add high-visibility crosswalks and ADA curb ramps at crossings of Maple Street (north side), Poplar Street (north and east sides), Blair Street (north and west sides), and Pine Street (south side)
- Paint bicycle shared lane markings (sharrows) approximately every 200 to 250-feet from Pollard Street to Bedford Road.

Slow Street Improvements on Cleveland Avenue from Pollard Street to Bedford Road



5/25/2022

0 125 250 500 Feet

NORTH

E: Washington Avenue Lane Reconfiguration (Pollard Street to Bypass Road)

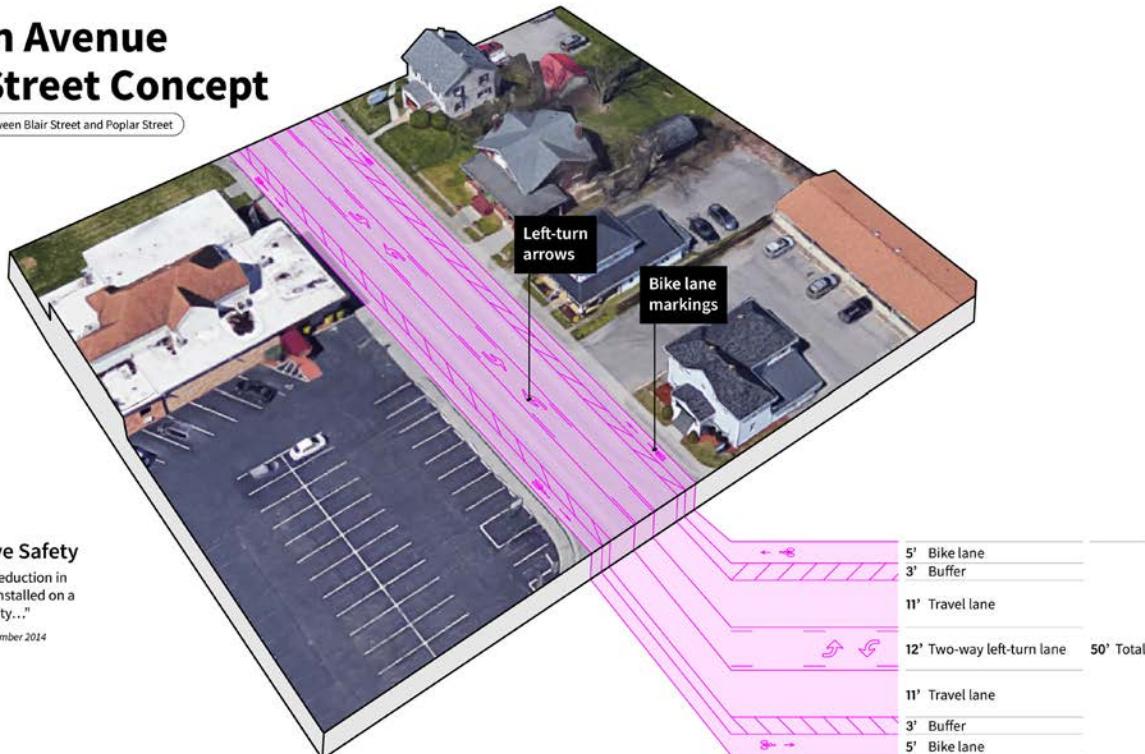
Washington Avenue is a key Vinton corridor and pass-through corridor for many commuters. The existing corridor provides two vehicle lanes in each direction, and high volume of traffic that may deter bicyclists. Washington presents an opportunity for a "road diet" or reduction in overall lanes to provide a more complete street that accommodates bicycle travel. While ample space is available for reconfiguration of existing lanes, additional study of existing and projected traffic volumes will be necessary before installation of improvements.

Recommended Improvements:

- Restripe Washington Avenue from Pollard Street to Bypass Road, reconfiguring from four travel lanes to one travel lane in each direction (11-foot widths) with a center turn lane (12-foot width) and two buffered bike lanes (5-foot lane with 3-foot painted buffer)
- Provide appropriate transitions at east and west corridor ends where the reconfigured segment reverts to other lane designs
- Reposition traffic signal heads as necessary

Washington Avenue Complete Street Concept

Washington Avenue looking north between Blair Street and Poplar Street



F: Vinyard Road/Bedford Road Pedestrian Improvements (Cleveland Avenue to Hardy Road)

Bedford and Vinyard Roads provide an important connection from residential areas internal to the study area to shopping and services in the area of Vinyard and Hardy. The Town of Vinton has previously improved the intersection of Vinyard Road and Hardy Road with pedestrian accommodations, but Vinyard itself does not provide pedestrian facilities.

Recommended Improvements:

- Install one traffic calming speed table per block between Cleveland Avenue and Hardy Road
- Provide high-visibility crosswalks, with appropriate curb ramps, at existing and future street crossings and major commercial entrances
- Paint bicycle shared lane markings (sharrows) approximately every 200 to 250-feet from Cleveland Avenue to Hardy Road
- Install 5-foot sidewalk on west side of Vinyard from Bedford Road to south of existing restaurant entrance, relocating the existing curb approximately 2.5-feet east and acquiring approximately 2.5-feet of right-of-way from adjacent properties. Alternatively, paint 5-foot on-street pedestrian walkway within existing pavement depending on right-of-way and pavement width available.
- Install 5-foot sidewalk on east side of Vinyard from existing restaurant entrance to Hardy Road

Pedestrian Upgrades on Bedford Road/Vinyard Road



5/25/2022

VII. CONCEPTUAL PROJECT COSTS

For each selected project the Consultant Team has constructed a conceptual estimate of project cost. Cost estimates are based on typical costs for individual construction elements including sidewalks, road markings, ADA curb ramps, and pedestrian signals, along with engineering, construction mobilization, and contingency costs. Typical costs have been drawn from regional sources, including recent construction projects in Vinton. While efforts have been made to recommend projects within existing rights-of-way, the cost of any necessary right-of-way acquisition have not been included.

The conceptual cost estimates provided in this document will aid the Town in budgeting for capital projects or seeking grants and outside funding. Importantly, project costs can vary widely depending on many factors. Specific engineering of individual projects may uncover issues that change project costs. Construction costs will also vary over time. The conceptual estimates included here should not be relied upon beyond six months from the publication of this document.

Table 4: Cost Estimates

Selected Project	Location	Recommendation	Conceptual Cost
A. Virginia Avenue Sidewalk	Pollard Street to Vinyard Road	Install conventional sidewalk on north side of street	\$2,535,944
B. Intersection Improvements (Pollard Street and Virginia Avenue)		Install crosswalks, ADA curb ramps, modified medians, and pedestrian crossing signals	\$194,231
C. Pollard Street Sidewalks	Virginia Avenue to Cleveland Avenue	Widen sidewalks to 6-foot width, ADA curb ramps, and crosswalks	\$1,634,473
D. Cleveland Avenue Slow Street	Pollard Street to Bedford Road	Install crosswalks, speed tables, ADA curb ramps, and sharrows	\$301,610
E. Washington Avenue Lane Reconfiguration	Pollard Street to Bypass Road	Reconfigure four-lane road to two lanes with center turn and buffered bicycle lanes	\$1,671,912 (includes milling and paving)
F. Vinyard Road/ Bedford Road Improvements	Cleveland Avenue to Hardy Road	Install crosswalks, speed tables, ADA curb ramps, sharrows, and conventional or painted sidewalks	\$196,556 (painted sidewalk option) \$402,729 (conventional sidewalk option)

Funding Considerations

These projects can be funded through a variety of sources and those sources can often be combined to ensure full project completion. The following section outlines potential sources of funding for bicycle and pedestrian projects and notes about each source.

SMART SCALE

SMART SCALE is the one of the most prominent sources of funding for transportation projects in the Commonwealth of Virginia. As of 2022, the program is in its fifth round and it is administered through the Office of Intermodal Planning and Investment (OIPI) with the assistance of the Virginia Department of Transportation (VDOT) and Department of Rail and Public Transportation (DRPT). It is a highly competitive program and projects are scored and the scores are relative to other projects in the VDOT district (in Vinton's case, that is the Salem District). There are a variety of factors that make projects competitive but adding bicycle and pedestrian elements to other projects potentially improves their scoring. For example, if a locality would like to pursue SMART SCALE for intersection improvements, the addition of bicycle and pedestrian facilities identified in planning documents increases the multimodality of the project and may make it more competitive. Vinton can refer to this plan when considering larger transportation (intersection or corridor) projects for opportunities to fund bicycle and pedestrian infrastructure.

Note that not all recommended projects may be eligible for SMART SCALE funds. While SMART SCALE may be ideal for establishing new sidewalks or bicycle facilities, this funding source may not support widening sidewalks where sidewalks already exist, or adding other streetscaping elements.

Transportation Alternatives Funding

The Transportation Alternatives Program (TAP) provides for construction and design of bicycle and pedestrian facilities through a formula program administered by VDOT. The program is intended to help localities fund projects that expand non-motorized travel choices centered around cultural, historical, and environmental resources.

Surface Transportation Block Grant Funding

The Surface Transportation Block Grant Program: Roanoke Valley Urbanized Area Suballocation Funding (STBG) provides federal funding that may be used by for a wide range of highway, transit, and other transportation projects. The Roanoke Valley Transportation Planning Organization (RVTPPO) administers this funding, with the Policy Board responsible for project selection and allocation of approximately \$6M/year for the Roanoke region.

New project applications have been accepted in the Spring 2013 (Round 1), September 2014 (Round 2), September 2017 (Round 3), September 2019 (Round 4), and September 2021 (Round 5). It is anticipated that new project applications will be accepted every other year, with the next round of applications due in September 2023.

Recreation-Oriented Grants

The Virginia Department of Conservation and Recreation (DCR) offers a number of grant programs but two programs that may assist in some of the off-road paths and trails is its Trail Access Grant program and the Recreational Trails Program. The former is a 100 percent reimbursement program for trail projects and projects that increase access to trails for individuals with disabilities. The latter is a matching program aimed at building and rehabilitating trails and acquiring land for trail corridors. These programs are potential funding options for connecting to Vinton and Roanoke area greenways.

Appendix 1: Cost Estimate Breakdowns

PROJ.: Virginia Avenue Sidewalk

Install continuous 5' sidewalk - north side only from Pollard to Vinyard, Intersection improvements at Chestnut and Spruce

SITE: (crosswalks/ramps), Utility Pole relocations, and access

ITEM	ITEM DESCRIPTION	UNITS	QUAN.	UNIT PRICE	AMOUNT	Locked	MOBILIZATION	\$	97,576.71	= \$80,000 + 5% OF (THE SUM OF BID ITEMS - \$1 MILLION)
101 CONSTRUCTION SURVEYING (CONSTR.)		LS	1	\$30,000.00	\$ 30,000.00					
111 CLEARING AND GRUBBING		ACRE	0.48	\$49,549.35	\$ 23,783.69					
120 REGULAR EXCAVATION		CY	852	\$76.08	\$ 64,820.16					
10128 AGGR. BASE MATL. TY. I NO. 21B		TON	800	\$51.83	\$ 41,464.00					
11040 CONCRETE ENTRANCE PAVE. 7"		SY	1200	\$255.00	\$ 306,000.00					
13108 CG 12 DETECTABLE WARNING SURFACE		SY	8	\$724.92	\$ 5,799.36					
13220 HYDR. CEMENT CONC. SIDEWALK 4"		SY	1614	\$99.98	\$ 161,367.72					
13540 CONC. CLASS A3 RETAINING WALL		CY	72	\$95.00	\$ 6,840.00					
24160 CONSTRUCTION SIGNS		SF	216	\$25.58	\$ 5,525.28					
27012 TOPSOIL CLASS A 2"		ACRE	0.48	\$17,757.46	\$ 8,523.58					
27101 TEMPORARY SEED		LB	48	\$29.80	\$ 1,430.40					
27102 REGULAR SEED		LB	58	\$28.30	\$ 1,641.40					
27103 OVERSEEDING		LB	58	\$19.75	\$ 1,145.50					
27451 INLET PROTECTION , TYPE A		EA	48	\$386.77	\$ 18,564.96					
49012 NS UTILITIES (Relocate Utility Poles)		EA	10	\$60,000.00	\$ 600,000.00					
49013 NS UTILITIES (Modify/adjust existing utilities)		LS	1	\$50,000.00	\$ 50,000.00					
54042 TY.B CL.I PAVE. LINE MARK. 24"		LF	816	\$27.00	\$ 22,032.00					
54044 TY.B CL.II PAVE. LINE MARK. 6"		LF	976	\$2.66	\$ 2,596.16					

PROJ.: Intersection Upgrade - Pollard and Virginia

Install High Visibility crosswalk, pedestrian features, curb ramps

SITE: and modify median for crossing.

ITEM	ITEM DESCRIPTION	UNITS	QUAN.	UNIT PRICE	AMOUNT	Locked	MOBILIZATION	\$	18,635.42	= 10% OF THE SUM OF BID ITEMS
101 CONSTRUCTION SURVEYING (CONSTR.)		LS	1	\$15,000.00	\$ 15,000.00					
111 CLEARING AND GRUBBING		ACRE	0.05	\$49,549.35	\$ 2,477.47					
10128 AGGR. BASE MATL. TY. I NO. 21B		TON	12	\$51.83	\$ 621.96					
10771 PLAIN HYDR. CEM.CONC. PAVE. 7"		SY	7	\$255.00	\$ 1,785.00					
12020 STD. CURB CG 2		LF	24	\$46.61	\$ 1,118.64					
13108 CG 12 DETECTABLE WARNING SURFACE		SY	7	\$724.92	\$ 5,074.44					
13220 HYDR. CEMENT CONC. SIDEWALK 4"		SY	30	\$99.98	\$ 2,999.40					
24160 CONSTRUCTION SIGNS		SF	108	\$25.58	\$ 2,762.64					
27451 INLET PROTECTION , TYPE A		EA	1	\$588.97	\$ 588.97					
50108 SIGN PANEL		SF	6	\$46.82	\$ 280.92					
51198 PEDESTRIAN ACTUATION PA 2		EA	6	\$1,600.00	\$ 9,600.00					
51210 PEDESTAL POLE PF 2 10'		EA	4	\$1,613.32	\$ 6,453.28					
51240 CONC. FOUNDATION PF 2		EA	4	\$1,381.19	\$ 5,524.76					
51600 14/2 CONDUCTOR CABLE		LF	360	\$2.98	\$ 1,072.80					
51602 14/4 CONDUCTOR CABLE		LF	380	\$2.20	\$ 836.00					
51832 HANGER ASSEMBLY SMB 1, ONE WAY		EA	6	\$301.50	\$ 1,809.00					
51910 SAW CUT		LF	24	\$3.25	\$ 78.00					
51942 MODIFY EXISTING CONTROLLER CABINET		LS	1	\$2,500.00	\$ 2,500.00					
52403 PEDESTRIAN SIGNAL HEAD SP 8		EA	6	\$688.35	\$ 4,130.10					
54042 TY.B CL.I PAVE. LINE MARK. 24"		LF	348	\$27.00	\$ 9,396.00					

PROJ.: Virginia Avenue Sidewalk

Install continuous 5' sidewalk - north side only from Pollard to Vinyard, Intersection improvements at Chestnut and Spruce (crosswalks/ramps),

SITE: Utility Pole relocations, and access management adjustments

ITEM	ITEM DESCRIPTION	UNITS	QUAN.	UNIT PRICE	AMOUNT	Locked	MOBILIZATION	\$	97,576.71	= \$80,000 + 5% OF (THE SUM OF BID ITEMS - \$1 MILLION)
101 CONSTRUCTION SURVEYING (CONSTR.)		LS	1	\$30,000.00	\$ 30,000.00					
111 CLEARING AND GRUBBING		ACRE	0.48	\$49,549.35	\$ 23,783.69					
120 REGULAR EXCAVATION		CY	852	\$76.08	\$ 64,820.16					
10128 AGGR. BASE MATL. TY. I NO. 21B		TON	800	\$51.83	\$ 41,464.00					
11040 CONCRETE ENTRANCE PAVE. 7"		SY	1200	\$255.00	\$ 306,000.00					
13108 CG 12 DETECTABLE WARNING SURFACE		SY	8	\$724.92	\$ 5,799.36					
13220 HYDR. CEMENT CONC. SIDEWALK 4"		SY	1614	\$99.98	\$ 161,367.72					
13540 CONC. CLASS A3 RETAINING WALL		CY	72	\$95.00	\$ 6,840.00					
24160 CONSTRUCTION SIGNS		SF	216	\$25.58	\$ 5,525.28					
27012 TOPSOIL CLASS A 2"		ACRE	0.48	\$17,757.46	\$ 8,523.58					
27101 TEMPORARY SEED		LB	48	\$29.80	\$ 1,430.40					
27102 REGULAR SEED		LB	58	\$28.30	\$ 1,641.40					
27103 OVERSEEDING		LB	58	\$19.75	\$ 1,145.50					
27451 INLET PROTECTION , TYPE A		EA	48	\$386.77	\$ 18,564.96					
49012 NS UTILITIES (Relocate Utility Poles)		EA	10	\$60,000.00	\$ 600,000.00					
49013 NS UTILITIES (Modify/adjust existing utilities)		LS	1	\$50,000.00	\$ 50,000.00					
54042 TY.B CL.I PAVE. LINE MARK. 24"		LF	816	\$27.00	\$ 22,032.00					
54044 TY.B CL.II PAVE. LINE MARK. 6"		LF	976	\$2.66	\$ 2,596.16					

PROJ.: Intersection Upgrade - Pollard and Virginia

Install High Visibility crosswalk, pedestrian features, curb ramps

SITE: modify median for crossing.

ITEM	ITEM DESCRIPTION	UNITS	QUAN.	UNIT PRICE	AMOUNT	Locked	MOBILIZATION	\$	18,635.42	= 10% OF THE SUM OF BID ITEMS
101 CONSTRUCTION SURVEYING (CONSTR.)		LS	1	\$15,000.00	\$ 15,000.00					
111 CLEARING AND GRUBBING		ACRE	0.05	\$49,549.35	\$ 2,477.47					
10128 AGGR. BASE MATL. TY. I NO. 21B		TON	12	\$51.83	\$ 621.96					
10771 PLAIN HYDR. CEM.CONC. PAVE. 7"		SY	7	\$255.00	\$ 1,785.00					
12020 STD. CURB CG 2		LF	24	\$46.61	\$ 1,118.64					
13108 CG 12 DETECTABLE WARNING SURFACE		SY	7	\$724.92	\$ 5,074.44					
13220 HYDR. CEMENT CONC. SIDEWALK 4"		SY	30	\$99.98	\$ 2,999.40					
24160 CONSTRUCTION SIGNS		SF	108	\$25.58	\$ 2,762.64					
27451 INLET PROTECTION , TYPE A		EA	1	\$588.97	\$ 588.97					
50108 SIGN PANEL		SF	6	\$46.82	\$ 280.92					
51198 PEDESTRIAN ACTUATION PA 2		EA	6	\$1,600.00	\$ 9,600.00					
51210 PEDESTAL POLE PF 2 10'		EA	4	\$1,613.32	\$ 6,453.28					
51240 CONC. FOUNDATION PF 2		EA	4	\$1,381.19	\$ 5,524.76					
51600 14/2 CONDUCTOR CABLE		LF	360	\$2.98	\$ 1,072.80					
51602 14/4 CONDUCTOR CABLE		LF	380	\$2.20	\$ 836.00					
51832 HANGER ASSEMBLY SMB 1, ONE WAY		EA	6	\$301.50	\$ 1,809.00					
51910 SAW CUT		LF	24	\$3.25	\$ 78.00					
51942 MODIFY EXISTING CONTROLLER CABINET		LS	1	\$2,500.00	\$ 2,500.00					
52403 PEDESTRIAN SIGNAL HEAD SP 8		EA	6	\$688.35	\$ 4,130.10					
54042 TY.B CL.I PAVE. LINE MARK. 24"		LF	348	\$27.00	\$ 9,396.00					

Enter % based on Pr specific conditions requirements

Appendix 1: Cost Estimate Breakdowns (cont'd)

PROJ.: Pollard Street, Vinton VA

Virginia Ave to Cleveland Ave - Replace existing sidewalk with 6'

wide sidewalk and add crosswalk/ramps at Cedar, Jefferson, and

SITE: Cleveland, grading/wall, Utility Pole relocations

ITEM	ITEM DESCRIPTION	UNITS	QUAN.	UNIT PRICE	AMOUNT	Locked	MOBILIZATION	\$	75,921.80	= \$20,000 + 7.5% OF (THE SUM OF BID ITEMS - \$200,000)
101 CONSTRUCTION SURVEYING (CONSTR.)		LS	1	\$20,000.00	\$ 20,000.00					
111 CLEARING AND GRUBBING		ACRE	0.12	\$49,549.35	\$ 5,945.92					
120 REGULAR EXCAVATION		CY	315	\$76.34	\$ 24,047.10					
10128 AGGR. BASE MATL. TY. I NO. 21B		TON	281	\$51.83	\$ 14,564.23					
11040 CONCRETE ENTRANCE PAVE. 7"		SY	300	\$255.00	\$ 76,500.00					
13108 CG 12 DETECTABLE WARNING SURFACE		SY	7	\$724.92	\$ 5,074.44					
13220 HYDR. CEMENT CONC. SIDEWALK 4"		SY	567	\$99.98	\$ 56,688.66					
13540 CONC. CLASS A3 RETAINING WALL		CY	24	\$95.00	\$ 2,280.00					
24160 CONSTRUCTION SIGNS		SF	108	\$25.58	\$ 2,762.64					
27012 TOPSOIL CLASS A 2"		ACRE	0.12	\$17,757.46	\$ 2,130.90					
27101 TEMPORARY SEED		LB	12	\$29.80	\$ 357.60					
27102 REGULAR SEED		LB	15	\$28.30	\$ 424.50					
27103 OVERSEEDING		LB	15	\$19.75	\$ 296.25					
27505 TEMP. SILT FENCE		LF	850	\$5.16	\$ 4,386.00					
49012 NS UTILITIES (Relocate Utility Poles)		EA	12	\$60,000.00	\$ 720,000.00					
54042 TY.B CL.I PAVE. LINE MARK. 24"		LF	344	\$27.00	\$ 9,288.00					
54044 TY.B CL.II PAVE. LINE MARK. 6"		LF	330	\$2.66	\$ 877.80					

Total Number of Bid items = 17

PROJ.: Cleveland Avenue Traffic Calming

Pollard to Bedford - Stripe crosswalks at Maple, Poplar, Blair, and

SITE: Pine. Add speed tables from Maple to Bedford, Add bike sharrows.

ITEM	ITEM DESCRIPTION	UNITS	QUAN.	UNIT PRICE	AMOUNT	Locked	MOBILIZATION	\$	17,136.95	= 10% OF THE SUM OF BID ITEMS
101 CONSTRUCTION SURVEYING (CONSTR.)		LS	1	\$10,000.00	\$ 10,000.00					
10628 FLEXIBLE PAVE. PLANING 0" 2"		SY	342	\$31.74	\$ 10,855.08					
10636 ASPHALT CONCRETE TY. SM 9.5D		TON	40	\$238.24	\$ 9,529.60					
13108 CG 12 DETECTABLE WARNING SURFACE		SY	27	\$724.92	\$ 19,572.84					
13220 HYDR. CEMENT CONC. SIDEWALK 4"		SY	583	\$99.68	\$ 58,113.44					
24160 CONSTRUCTION SIGNS		SF	216	\$25.58	\$ 5,525.28					
50108 SIGN PANEL		SF	92.5	\$46.82	\$ 4,330.85					
54042 TY.B CL.I PAVE. LINE MARK. 24"		LF	1540	\$27.00	\$ 41,580.00					
54617 PVMT SYMB MRKG SPEED HUMP YIELD, CONC. SURFACE TY B, CL I		EA	10	\$410.00	\$ 4,100.00					
54664 PVMT SYMB MRKG SHARED LANE TY B, CL II		EA	21	\$369.64	\$ 7,762.44					

Total Number of Bid items = 10

PROJ.: Pollard Street, Vinton VA

Virginia Ave to Cleveland Ave - Replace existing sidewalk with 6' wide

sidewalk and add crosswalk/ramps at Cedar, Jefferson, and Cleveland,

SITE: grading/wall, Utility Pole relocations

ITEM	ITEM DESCRIPTION	UNITS	QUAN.	UNIT PRICE	AMOUNT	Locked	MOBILIZATION	\$	75,921.80	= \$20,000 + 7.5% OF (THE SUM OF BID ITEMS - \$200,000)
101 CONSTRUCTION SURVEYING (CONSTR.)		LS	1	\$20,000.00	\$ 20,000.00					
111 CLEARING AND GRUBBING		ACRE	0.12	\$49,549.35	\$ 5,945.92					
120 REGULAR EXCAVATION		CY	315	\$76.34	\$ 24,047.10					
10128 AGGR. BASE MATL. TY. I NO. 21B		TON	281	\$51.83	\$ 14,564.23					
11040 CONCRETE ENTRANCE PAVE. 7"		SY	300	\$255.00	\$ 76,500.00					
13108 CG 12 DETECTABLE WARNING SURFACE		SY	7	\$724.92	\$ 5,074.44					
13220 HYDR. CEMENT CONC. SIDEWALK 4"		SY	567	\$99.98	\$ 56,688.66					
13540 CONC. CLASS A3 RETAINING WALL		CY	24	\$95.00	\$ 2,280.00					
24160 CONSTRUCTION SIGNS		SF	108	\$25.58	\$ 2,762.64					
27012 TOPSOIL CLASS A 2"		ACRE	0.12	\$17,757.46	\$ 2,130.90					
27101 TEMPORARY SEED		LB	12	\$29.80	\$ 357.60					
27102 REGULAR SEED		LB	15	\$28.30	\$ 424.50					
27103 OVERSEEDING		LB	15	\$19.75	\$ 296.25					
27505 TEMP. SILT FENCE		LF	850	\$5.16	\$ 4,386.00					
49012 NS UTILITIES (Relocate Utility Poles)		EA	12	\$60,000.00	\$ 720,000.00					
54042 TY.B CL.I PAVE. LINE MARK. 24"		LF	344	\$27.00	\$ 9,288.00					
54044 TY.B CL.II PAVE. LINE MARK. 6"		LF	330	\$2.66	\$ 877.80					

Enter % based on Pr
specific conditions
requirements

Network Version

Regression Model:	Linear
District:	Salem
Pricing Model Date:	2/8/2022

Current To 11/2021 Letting

PROJ.: Cleveland Avenue Traffic Calming

Pollard to Bedford - Stripe crosswalks at Maple, Poplar, Blair, and

SITE: Add speed tables from Maple to Bedford, Add bike sharrows.

ITEM	ITEM DESCRIPTION	UNITS	QUAN.	UNIT PRICE	AMOUNT	Locked	MOBILIZATION	\$	17,136.95	= 10% OF THE SUM OF BID ITEMS
101 CONSTRUCTION SURVEYING (CONSTR.)		LS	1	\$10,000.00	\$ 10,000.00					
10628 FLEXIBLE PAVE. PLANING 0" 2"		SY	342	\$31.74	\$ 10,855.08					
10636 ASPHALT CONCRETE TY. SM 9.5D		TON	40	\$238.24	\$ 9,529.60					
13108 CG 12 DETECTABLE WARNING SURFACE		SY	27	\$724.92	\$ 19,572.84					
13220 HYDR. CEMENT CONC. SIDEWALK 4"		SY	583	\$99.68	\$ 58,113.44					
24160 CONSTRUCTION SIGNS		SF	216	\$25.58	\$ 5,525.28					
50108 SIGN PANEL		SF	92.5	\$46.82	\$ 4,330.85					
54042 TY.B CL.I PAVE. LINE MARK. 24"		LF	1540	\$27.00	\$ 41,580.00					
54617 PVMT SYMB MRKG SPEED HUMP YIELD, CONC. SURFACE TY B, CL I		EA	10	\$410.00	\$ 4,100.00					
54664 PVMT SYMB MRKG SHARED LANE TY B, CL II		EA	21	\$369.64	\$ 7,762.44					

Enter % based on Pr
specific conditions
requirements

Network Version

Regression Model:	Linear
District:	Salem
Pricing Model Date:	2/8/2022

Current To 11/2021 Letting

Appendix 1: Cost Estimate Breakdowns (cont'd)

PROJ.: Washington Ave, Vinton VA

Pollard St to Bypass Road - Restripe from 4 travel lanes to two travel lanes with center turn land and two buffered bike lanes

ITEM	ITEM DESCRIPTION	UNITS	QUAN.	UNIT PRICE	AMOUNT	Locked	MOBILIZATION	\$	81,647.99 = \$80,000 + 5% OF (THE SUM OF BID ITEMS - \$1 MILLION)
101	CONSTRUCTION SURVEYING (CONSTR.)	LS	1	\$15,000.00	\$ 15,000.00				
10628	FLEXIBLE PAVE.PLANING 0" 2"	SY	29089	\$11.55	\$ 335,977.95				
10636	ASPHALT CONCRETE TY. SM 9.5D	TON	3418	\$123.85	\$ 423,319.30				
24160	CONSTRUCTION SIGNS	SF	432	\$25.58	\$ 11,050.56				
51938	RELOCATE EXISTING SIGNAL HEAD	EA	2	\$240.29	\$ 480.58				
54042	TY.B CL.I PAVE. LINE MARK. 24"	LF	600	\$27.00	\$ 16,200.00				
54043	TY.B CL.II PAVE. LINE MARK.4"	LF	37976	\$4.37	\$ 165,955.12				
54044	TY.B CL.II PAVE. LINE MARK. 6"	LF	9520	\$2.66	\$ 25,323.20				
54575	PVMT SYMB MRKG (SGL TURN ARROW) TY B, CL II	EA	36	\$289.44	\$ 10,419.84				
54652	PVMT SYMB MRKG BICYCLE THRU ARROW TY B CL II	EA	64	\$173.60	\$ 11,110.40				
54660	PVMT SYMB MRKG HELMETED BICYCLIST TY B CL II	EA	64	\$283.17	\$ 18,122.88				

Total Number of Bid items = 11

PROJ.: Pedestrian Upgrades; Bedford Road/Vinyard Road

Install crosswalks at Cleveland, Cottage Ave, Bedford/Vinyard Ave, and Across Vinyard. Install Sidewalk and Speed Tables. For SITE: sidewalk demo curb and install new curbing.

ITEM	ITEM DESCRIPTION	UNITS	QUAN.	UNIT PRICE	AMOUNT	Locked	MOBILIZATION	\$	20,706.82 = \$20,000 + 7.5% OF (THE SUM OF BID ITEMS - \$200,000)
101	CONSTRUCTION SURVEYING (CONSTR.)	LS	1	\$25,000.00	\$ 25,000.00				
111	CLEARING AND GRUBBING	ACRE	0.11	\$49,549.35	\$ 5,450.43				
120	REGULAR EXCAVATION	CY	247	\$76.08	\$ 18,791.76				
10128	AGGR. BASE MATL. TY. I NO. 21B	TON	260	\$51.83	\$ 13,475.80				
10628	FLEXIBLE PAVE.PLANING 0" 2"	SY	191	\$32.02	\$ 6,115.82				
10636	ASPHALT CONCRETE TY. SM 9.5D	TON	23	\$238.24	\$ 5,479.52				
11040	CONCRETE ENTRANCE PAVE. 7"	SY	240	\$255.00	\$ 61,200.00				
12020	STD. CURB CG 2	LF	265	\$46.61	\$ 12,351.65				
13108	CG 12 DETECTABLE WARNING SURFACE	SY	11	\$724.92	\$ 7,974.12				
13220	HYDR. CEMENT CONC. SIDEWALK 4"	SY	262	\$99.68	\$ 26,116.16				
13540	CONC. CLASS A3 RETAINING WALL	CY	20	\$95.00	\$ 1,900.00				
14120	REMOVAL OF COMB. CURB AND GUTTER	LF	250	\$16.18	\$ 4,045.00				
24160	CONSTRUCTION SIGNS	SF	108	\$25.58	\$ 2,762.64				
27012	TOPSOIL CLASS A 2"	ACRE	0.11	\$17,757.46	\$ 1,953.32				
27101	TEMPORARY SEED	LB	11	\$29.80	\$ 327.80				
27102	REGULAR SEED	LB	13	\$28.30	\$ 367.90				
27103	OVERSEEDING	LB	13	\$17.75	\$ 230.75				
27505	TEMP. SILT FENCE	LF	470	\$5.16	\$ 2,425.20				
50108	SIGN PANEL	SF	55.5	\$46.82	\$ 2,598.51				
54042	TY.B CL.I PAVE. LINE MARK. 24"	LF	320	\$27.00	\$ 8,640.00				

PROJ.: Washington Ave, Vinton VA

Pollard St to Bypass Road - Restripe from 4 travel lanes to two travel lanes with center turn land and two buffered bike lanes

ITEM	ITEM DESCRIPTION	UNITS	QUAN.	UNIT PRICE	AMOUNT	Locked	MOBILIZATION	\$	81,647.99 = \$80,000 + 5% OF (THE SUM OF BID ITEMS - \$1 MILLION)
101	CONSTRUCTION SURVEYING (CONSTR.)	LS	1	\$15,000.00	\$ 15,000.00				
10628	FLEXIBLE PAVE.PLANING 0" 2"	SY	29089	\$11.55	\$ 335,977.95				
10636	ASPHALT CONCRETE TY. SM 9.5D	TON	3418	\$123.85	\$ 423,319.30				
24160	CONSTRUCTION SIGNS	SF	432	\$25.58	\$ 11,050.56				
51938	RELOCATE EXISTING SIGNAL HEAD	EA	2	\$240.29	\$ 480.58				
54042	TY.B CL.I PAVE. LINE MARK. 24"	LF	600	\$27.00	\$ 16,200.00				
54043	TY.B CL.II PAVE. LINE MARK.4"	LF	37976	\$4.37	\$ 165,955.12				
54044	TY.B CL.II PAVE. LINE MARK. 6"	LF	9520	\$2.66	\$ 25,323.20				
54575	PVMT SYMB MRKG (SGL TURN ARROW) TY B, CL II	EA	36	\$289.44	\$ 10,419.84				
54652	PVMT SYMB MRKG BICYCLE THRU ARROW TY B CL II	EA	64	\$173.60	\$ 11,110.40				
54660	PVMT SYMB MRKG HELMETED BICYCLIST TY B CL II	EA	64	\$283.17	\$ 18,122.88				

Enter % based on Proj. specific conditions & requirements

Network Version

Regression Model: Linear

District: Salem

Pricing Model Date: 2/8/2022

Current To 11/2021 Letting

PROJ.: Pedestrian Upgrades; Bedford Road/Vinyard Road

Install crosswalks at Cleveland, Cottage Ave, Bedford/Vinyard Ave, and Across Vinyard. Install Sidewalk and Speed Tables. For sidewalk demo

PROJ.: Pedestrian Upgrades; Bedford Road/Vinyard Road

Install crosswalks at Cleveland, Cottage Ave, Bedford/Vinyard Ave, and Across Vinyard. Install Sidewalk and Speed Tables. For sidewalk demo

SITE: curb and install new curbing.

ITEM	ITEM DESCRIPTION	UNITS	QUAN.	UNIT PRICE	AMOUNT	Locked	MOBILIZATION	\$	20,706.82 = \$20,000 + 7.5% OF (THE SUM OF BID ITEMS - \$200,000)
101	CONSTRUCTION SURVEYING (CONSTR.)	LS	1	\$25,000.00	\$ 25,000.00				
111	CLEARING AND GRUBBING	ACRE	0.11	\$49,549.35	\$ 5,450.43				
120	REGULAR EXCAVATION	CY	247	\$76.08	\$ 18,791.76				
10128	AGGR. BASE MATL. TY. I NO. 21B	TON	260	\$51.83	\$ 13,475.80				
10628	FLEXIBLE PAVE.PLANING 0" 2"	SY	191	\$32.02	\$ 6,115.82				
10636	ASPHALT CONCRETE TY. SM 9.5D	TON	23	\$238.24	\$ 5,479.52				
11040	CONCRETE ENTRANCE PAVE. 7"	SY	240	\$255.00	\$ 61,200.00				
12020	STD. CURB CG 2	LF	265	\$46.61	\$ 12,351.65				
13108	CG 12 DETECTABLE WARNING SURFACE	SY	11	\$724.92	\$ 7,974.12				
13220	HYDR. CEMENT CONC. SIDEWALK 4"	SY	262	\$99.68	\$ 26,116.16				
13540	CONC. CLASS A3 RETAINING WALL	CY	20	\$95.00	\$ 1,900.00				
14120	REMOVAL OF COMB. CURB AND GUTTER	LF	250	\$16.18	\$ 4,045.00				
24160	CONSTRUCTION SIGNS	SF	108	\$25.58	\$ 2,762.64				
27012	TOPSOIL CLASS A 2"	ACRE	0.11	\$17,757.46	\$ 1,953.32				
27101	TEMPORARY SEED	LB	11	\$29.80	\$ 327.80				
27102	REGULAR SEED	LB	13	\$28.30	\$ 367.90				
27103	OVERSEEDING	LB	13	\$17.75	\$ 230.75				
27505	TEMP. SILT FENCE	LF	470	\$5.16	\$ 2,425.20				
50108	SIGN PANEL	SF	55.5	\$46.82	\$ 2,598.51				
54042	TY.B CL.I PAVE. LINE MARK. 24"	LF	320	\$27.00	\$ 8,640.00				

Enter % based on Proj. specific conditions & requirements

Network Version

Regression Model: Linear

District: Salem

Pricing Model Date: 2/8/2022

Current To 11/2021 Letting

Appendix 1: Cost Estimate Breakdowns (cont'd)

PROJ.: Pedestrian Upgrades; Bedford Road/Vineyard Road - Design Waiver
 Install crosswalks at Cleveland, Cottage Ave, Bedford/Vineyard Ave, and Across Vineyard. Install Sidewalk and Speed Tables. For sidewalk a painted 5 foot wide section with vertical delineators is proposed.

ITEM	ITEM DESCRIPTION	UNITS	QUAN.	UNIT PRICE	AMOUNT	Locked	MOBILIZATION	\$	10,210.73	= 10% OF THE SUM OF BID ITEMS
101	CONSTRUCTION SURVEYING (CONSTR.)	LS	1	\$15,000.00	\$	15,000.00				
111	CLEARING AND GRUBBING	ACRE	0.09	\$49,549.35	\$	4,459.44				
120	REGULAR EXCAVATION	CY	212	\$76.08	\$	16,128.96				
10128	AGGR. BASE MATL. TY. I NO. 21B	TON	157	\$51.83	\$	8,137.31				
10636	ASPHALT CONCRETE TY. SM 9.5D	TON	23	\$238.24	\$	5,479.52				
13108	CG 12 DETECTABLE WARNING SURFACE	SY	11	\$724.92	\$	7,974.12				
13220	HYDR. CEMENT CONC. SIDEWALK 4"	SY	123	\$99.68	\$	12,260.64				
13540	CONC. CLASS A3 RETAINING WALL	CY	20	\$95.00	\$	1,900.00				
24160	CONSTRUCTION SIGNS	SF	108	\$25.58	\$	2,762.64				
27012	TOPSOIL CLASS A 2"	ACRE	0.09	\$17,757.46	\$	1,598.17				
27101	TEMPORARY SEED	LB	9	\$29.80	\$	268.20				
27102	REGULAR SEED	LB	11	\$28.30	\$	311.30				
27103	OVERSEEDING	LB	11	\$17.75	\$	195.25				
27505	TEMP. SILT FENCE	LF	470	\$5.16	\$	2,425.20				
50037	FLEXIBLE POST DELINEATOR, GROUND MOUNT	EA	25	\$100.52	\$	2,513.00				
50108	SIGN PANEL	SF	55.5	\$46.82	\$	2,598.51				
51968	NS INSTALL (Pedestrian Green Paint)	LF	250	\$37.82	\$	9,455.00				
54042	TY.B CLI PAVE. LINE MARK. 24"	LF	320	\$27.00	\$	8,640.00				

PROJ.: Pedestrian Upgrades; Bedford Road/Vineyard Road - Design Waiver

Install crosswalks at Cleveland, Cottage Ave, Bedford/Vineyard Ave, and Across Vineyard. Install Sidewalk and Speed Tables. For sidewalk a painted 5 foot wide section with vertical delineators is proposed.

SITE: painted 5 foot wide section with vertical delineators is proposed.

SUBTOTAL \$ 112,317.99

ENGINEERING \$ 28,079.50 **25.0%** OF SUBTOTAL

CEI \$ 33,695.40 **30.0%** OF SUBTOTAL

CONTINGENCIES \$ 56,158.99 **50.0%** OF SUBTOTAL

TOTAL \$ 196,556.48

Network Version

Regression Model: **Linear**

District: **Salem**

Pricing Model Date: **2/8/2022** Current To 11/2021 Letting

Enter % based on Pr
specific conditions
requirements

Appendix 2: Summary of Policy Themes from Prior Plans

Policy Theme	Elements	Notes and Recommendations
<p>1. Enhance or reconfigure roadway infrastructure to better accommodate multimodal travel.</p>	<p>Roadway Configuration</p> <p>Intersections</p> <p>Site Improvements</p>	<p>Bicycle accommodations are proposed for all of the major corridors surrounding the study area. Washington Ave is listed as a priority corridor, while Pollard St, Virginia Ave, Hardy Rd and Bypass Rd are classified as Vision Corridors. (1)</p> <p>Given existing road configurations, all of the major corridors in the study area receive a Bicycle Compatibility Index (BCI) score between moderately low and extremely low. (1)</p> <p>On street parking on Pollard St is cited as a concern or obstacle for cyclists. A parking assessment is recommended to explore the possibility of replacing parking with bicycle lanes. (1)(4)</p> <p>An "advisory bicycle lane" marking is recommended for Lee St in the downtown area. (1)</p> <p>Lanes on major corridors are recommended to be reduced a width of 10' to slow traffic speeds and create space for bicycle lanes. (1)</p> <p>All of the roadway improvement projects listed in the Town's comprehensive plan include the addition of sidewalks and/or bicycle lanes. (2)</p> <p>The Town's comprehensive plan calls for an investment strategy of installing curbs and gutters and sidewalks along all qualified streets in the town. (2)</p> <p>Bicycle accommodations such as signage and bicycle lanes are recommended to be added to roads wherever feasible and practical. (4)</p> <p>It is recommended that the town consider ways to narrow or reduce the number of vehicle travel lanes on Washington Ave between Pollard St and Bypass Rd. (5)(6)</p> <p>It is recommended that the town establish complete street policies, including streetscape manuals for all major corridors. (6)(7)</p> <p>A proposed revision of the town's subdivision ordinance would require a sidewalk with a minimum width of 5' and a planted strip for street trees with 6' width between the curb and sidewalk, on both sides of all new streets built in the town. (15)</p> <p>The close proximity of intersections in Downtown Vinton is cited as a concern or obstacle for cycling due to the large number of potential vehicle conflict points at intersections and lack of bicycle markings and accommodations to enhance safety. (1)</p> <p>Curbextension bulb outs are recommended for the intersection of Lee Ave & Pollard St. (1)</p> <p>Painted crosswalk markings are recommended for major intersections in the study area. Currently, only one intersection features a marked crosswalk. (1)(4)(5)(6)</p> <p>Pedestrian signals are recommended to be added to all signalized intersections. (1)(4)(6)</p> <p>The Virginia Ave & Pollard St intersection is recommended to be realigned and relocated to improve vehicle turning movements and downtown access. (3)</p> <p>The Washington Ave & Pollard St intersection has received funding for improvements. (5)</p> <p>Pedestrian amenities such as bulb outs and pedestrian islands are recommended for key pedestrian crossings of Washington Ave. (5)(8)(14)</p> <p>Sidewalk curb ramps are missing at numerous locations along the major road corridors. (1)(5)</p> <p>Mid-block pedestrian crossings are recommended to be added or improved along major corridors at locations with long distances between street intersections. (1)(5)</p> <p>New pedestrian infrastructure such as sidewalks and crosswalks should be prioritized in locations surrounding bus stops due to the key role that they play in safe transit use. (1)(10)</p> <p>It is recommended that the town fill in missing sidewalk sections, with special emphasis on Pollard St between Virginia Ave and Cleveland Ave. (4)</p> <p>Pedestrian and bicycle wayfinding signage should be added at strategic locations in the study area. (6)(7)</p> <p>Pedestrian improvements should be prioritized first in Multimodal Centers (downtown Vinton) and then in Multimodal districts (Jefferson Park Neighborhood). (10)</p>
<p>2. Establish corridors and services that will provide multimodal connections between activity centers in the Town of Vinton, as well as to other destinations in the Roanoke metro area.</p>	<p>Internal Connections</p> <p>External Connections</p>	<p>A new east-west "bicycle boulevard" is recommended to connect downtown Vinton and the River Park Shopping Center, to provide an alternative bicycle route that would parallel Virginia Ave, Hardy Rd, Bypass Rd, and Washington Ave. (1)</p> <p>The town is recommended to identify potential "urban trail routes", or separate bike/ped paths that would provide alternatives to major road corridors. (3)</p> <p>A recreational area is recommended to be created behind the proposed new "town center" development at the River Park Shopping Center that would include a pedestrian path to connect the new development to downtown and the Jefferson Park neighborhood. (3)</p> <p>Bicycle and pedestrian access to local schools should be improved. (6)</p> <p>A mid-term recommendation in Valley Metro's Transit Vision Plan is the establishment of a new hourly circulator route in Vinton to improve access and reduce paratransit demand. (11)</p> <p>The bicycle and pedestrian connections between the study area and Walnut Ave is particularly important due to the access Walnut Ave provides to downtown Roanoke and the greenway system. (1)(8)</p> <p>Washington Ave serves as a key connection route for cyclists travelling to the Blue Ridge Parkway and surrounding greenways (including Glade Creek and Wolf Creek Greenways). (5)(9)</p> <p>It is recommended that the town add bicycle lanes to Gus Nicks Blvd between Pollard St and the town limits. (5)</p> <p>The region's greenway plan recommends adding bicycle and pedestrian amenities to roadways to enhance connections and access to greenway trails. The plan observes that downtown Vinton is "technically connected, but improvements are needed." (9)</p> <p>The Tinker Creek Greenway will ultimately be used to connect Botetourt County, Roanoke County, the City of Roanoke, and the Town of Vinton. (9)</p> <p>Downtown Vinton is identified by Valley Metro as one of "the most transit friendly places in the region." (11)</p> <p>Short term transit improvements in Vinton include the addition of Sunday service and 30 minute peak service to the existing transit routes. (11)</p> <p>A long term recommendation in Valley Metro's Transit Vision Plan is the establishment of a new bus route that would provide frequent and direct service between Grandin Village, downtown Roanoke, and downtown Vinton. (11)</p> <p>Recommendation in the Valley Metro's Transit Development Plan include the provision of bi-directional service on Washington Ave and the removal of service on Virginia Ave between Lake Creek Plaza and Pollard St. (12)</p>

Appendix 2: Summary of Policy Themes from Prior Plans (cont'd)

Policy Theme	Elements	Notes and Recommendations
<p>3.</p> <p>Make strategic investments within neighborhoods adjacent to activity centers to improve the safety and desirability of multimodal access.</p>	<p>Multimodal Districts</p>	<p>To the extent feasible, Vinton should promote a pedestrian-oriented environment in denser areas of town by investing in improvements such as: installing and repairing sidewalks, improving street lighting, installing sidewalk in low/moderate income areas with limited automobile access, and encouraging aesthetic and streetscape improvements along major pedestrian routes. (2)(3)</p> <p>Consider establishing "historic walks" through older neighborhoods as a visitor attraction. (3)</p> <p>Recommendations for the Jefferson Park neighborhood include establishing street trees and sidewalks along roads wherever possible, and improving pedestrian links to surrounding activity centers. (3)</p> <p>The lack of internal pedestrian access routes between neighborhoods and activity centers is identified as a significant issue for the town to address. (3)</p> <p>Cleveland St. serves as an important pedestrian access route between the Jefferson Park neighborhood and downtown. (7)</p> <p>The region has identified the Jefferson Park neighborhood as part of a "multimodal district" surrounding the downtown Vinton "multimodal center" that should be a focus point for multimodal improvements to connect homes to activity centers. (8)</p>
<p>4.</p> <p>Support economic development efforts with placemaking improvements that enhance visual appearances and pedestrian safety.</p>	<p>General Principles</p> <p>Downtown Vinton</p> <p>Activity Centers</p> <p>Gateways</p>	<p>The development objectives for the Town of Vinton include promoting compact business developments over strip style developments. (2)</p> <p>The establishment of streetscape standards along major corridors to enhance pedestrian characteristics and to create a friendly shopping environment is recommended as an economic development strategy. (3)</p> <p>Corridor improvements should enhance visual appearances while preserving the community's character and identity. (4)</p> <p>Excessive pavement coverage is regarded as a detractor for placemaking efforts. (5)</p> <p>The region's greenway system should be utilized as an economic development marketing tool. (9)</p> <p>An attractive and comfortable pedestrian environment is considered one of the unique attributes of downtown Vinton that should be emphasized in revitalization efforts. (2)(4)</p> <p>Pedestrian amenities, including sidewalks, marked crosswalks, and ADA accessible curb ramps should be added to all downtown streets to help make it a visitor's destination. (3)(7)</p> <p>The segment of Washington Ave between Pollard St. and Blair St. should be emphasized for corridor improvements and redevelopment efforts that can serve to establish a unique identity for Vinton. (3)</p> <p>Infrastructure improvements and redevelopment efforts should be used to establish a focal point in the downtown development area. (6)</p> <p>Downtown Vinton has been identified by the region as a "multimodal center." (8)</p> <p>A walkable "town center" style development should be encouraged as a redevelopment option for the River Park Shopping Center on Bypass Rd. (4)(6)</p> <p>A mid term recommendation in Valley Metro's Transit Vision Plan is to establish a small transit transfer station in Vinton near the Lake Drive Plaza shopping center. (11)</p> <p>One of the transportation objectives for the Town of Vinton is to create effective and attractive gateway corridors that provide a sense of arrival, community identity, and a distinctive town image. (2)(3)</p> <p>Landscape elements, signage, and traffic calming features are recommended as tools that can be used to enhance the town's gateway corridors. (3)(4)</p>
<p>5.</p> <p>Maintain the safe and efficient operation of automotive travel.</p>	<p>Traffic Operations</p>	<p>An access management plan is recommended for the major corridors in the study area to consolidate or eliminate excessive driveway access points. (1)(4)(5)</p> <p>For many years, economic growth in Vinton has depended on businesses developing along the town's two major highway corridors. (2)</p> <p>A majority of residents in Vinton work in other jurisdictions. (2)</p> <p>The transportation objectives for the Town of Vinton include minimizing non-local traffic using neighborhood streets. (2)</p> <p>Improvements to major corridors should strive to increase safety and capacity. (4)</p> <p>Bypass Rd (including its intersection with Washington Ave) has been identified as a STARS II project development corridor. (5)</p> <p>The region supports the use of ITS as a way to address congestion during peak traffic hours without the need to widen roads or add travel lanes. (8)</p> <p>The Gus Nickle Blvd Washington Ave corridor has been identified by the region as a priority corridor for congestion management improvements. (14)</p>

