



City of Charles Town

Walkability and Connectivity Study

August 2016



Source: Jefferson County Convention & Visitors Bureau

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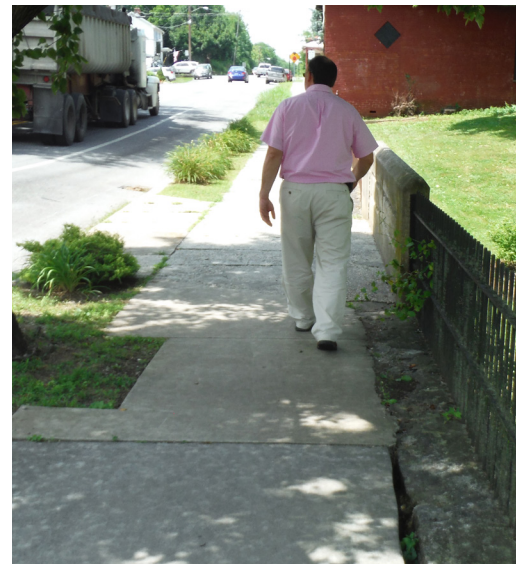
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Introduction

Walkable communities are experiencing a resurgence in America, with new generations desiring to live a less auto-focused lifestyle and the baby-boomer generation downsizing, there is demand for affordable urban areas that are walkable. Walkable communities allow residents to complete most daily activities within a convenient walk of their home in a way that is safe, comfortable, and interesting. Walkable communities encourage sidewalks to be used as “outdoor living rooms” with a seamless connection between businesses and the public realm. The ultimate goal for walkable communities is to enable residents to live their lives in the way they choose, and with the option of doing so without a car.

Communities that support walking and other active transportation modes have a measurable positive impact on public health. In one study, men and women age 50–71 who took a brisk walk nearly every day had a 27% reduced death rate compared to non-exercisers.¹ Americans are becoming more sedentary and obese and, consequently, are putting their lives at risk, according to reports prepared by the Center for Disease Control and Prevention. Engaging in light to moderate physical activity reduces the risk of coronary heart disease, stroke, and other chronic and life-threatening illnesses.

The health benefits of walking stretch well beyond physical health improvement. A 2010 University of New Hampshire study found that people living in walkable neighborhoods trust neighbors more, participate in community projects and volunteer more than in non-walkable areas. All of these facts combined present a compelling case to create a walkable community and consistently make improvements to the infrastructure that support walkability. Beyond these quality of life benefits, walkable communities can attract investment and increased economic activity, and boost the property values of neighborhoods.



¹ http://www.pedbikeinfo.org/data/factsheet_health.cfm

With these inherent benefits in mind, the **Charles Town Walkability and Connectivity Study** aims to address two major goals:

Goal 1: Achieve an accurate assessment of the current state of existing sidewalks within downtown Charles Town and identify key corridors and trail connections to connect residents and visitors with downtown.

Goal 2: Provide the City with a resource roadmap and implementation strategy for future walkability improvements, including:

- Prioritization of high-activity sidewalks in need of repair
- Identifying future walking trails or paths
- Identifying priority corridors that connect with downtown
- Templates for complete streets and similar improvements in various areas in the City
- Strategy to ensure all projects connect in a way that will promote pedestrian movement

The Charles Town Walkability and Connectivity Study represents the first step in improving the walkability and livability of Charles Town. Improvements recommended in the plan completed over time will help position Charles Town as a preferred destination within the Eastern Panhandle region.

Project Study Area

For the purpose of the ***Charles Town Walkability and Connectivity Study***, a priority area was identified for detailed analysis. This priority area was established to maximize the effectiveness of the study and was selected as the area including and immediately surrounding downtown Charles Town. This area is the well-established “Old Town” where walkability is critical to success with minimal parking, commercial and retail businesses, and higher-density residential development. Additionally, the downtown can be considered a public asset that bellows to all residents of Charles Town. Instead of choosing individual neighborhoods where improvements may only benefit a few, improvements made within downtown Charles Town will benefit all City residents that patronize businesses, conduct personal or professional business, or participate in civic activities and festivals. The limits of the priority area are illustrated in **Figure 1**.

Integration with Historically Hip Charles Town 2040

The City of Charles Town is currently undergoing an update to the municipal comprehensive plan, an effort dubbed Historically Hip Charles Town 2040. The comprehensive plan is still in the development phase and the outcomes of this study will be integrated into the planning themes addressing mobility, connectivity and accessibility. Specifically, the mobility, accessibility and connectivity theme will address the following key focus areas:

- Connectivity to downtown
- Transportation and circulation
- Pedestrian and bicycle mobility
- Complete streets
- Wayfinding/signage
- Parking

These focus areas are discussed at length through multiple sections of this report, and will be expanded upon more generally to cover all of Charles Town and guide the development of transportation-related projects throughout the UGB to the year 2040.

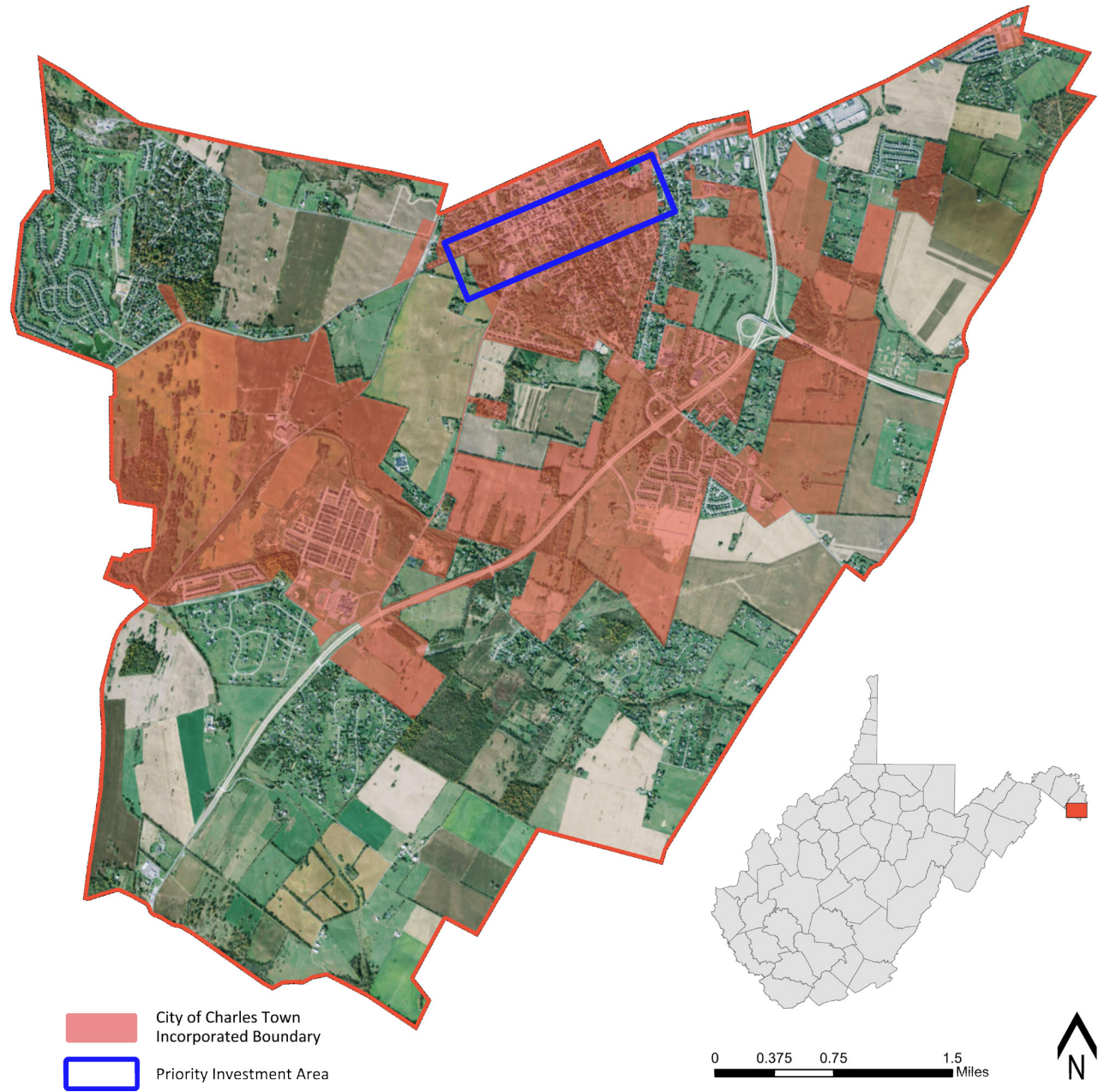


Figure 1: Limits of the Priority Area

Sidewalk Inventory and Assessment

To promote a prosperous downtown, sidewalk infrastructure is vital to allow pedestrians to maneuver easily throughout the City. Charles Town promotes preserving the history of the City as well as modernizing the town to accommodate future mobility goals and visions. Bricks are used in sidewalks to display tradition and provide a visual reminder of Charles Town's history. The most notable segments where bricks are used are located at the intersection of George Street and Washington Street. When designing Charles Town, Charles Washington dedicated the four corners of this block to public buildings. Establishing a walkable community starts with connecting residents to downtown and providing an economical alternative to driving.

Along the downtown district, brick buffers on the sidewalks compliment the historic buildings by adding a separator from street and walkway. Buffers provide an area for utility poles and other sidewalk amenities so that they are not directly positioned in the walking area. Separating street and sidewalk through a brick buffer allows for a safe and walkable sidewalk as well as providing a visually appealing characteristic. Sidewalks near the town center must be kept in excellent condition to allow residents and tourists the ability to connect to other parts of the City. Upon exiting the downtown, sidewalk quality starts to decline and there are noticeable gaps in the sidewalk network. Maintaining equal sidewalk priorities throughout the City boundary is important in sustaining a conducive sidewalk network.

The purpose of the sidewalk inventory and assessment was to evaluate the existing conditions of the selected study area in the City of Charles Town. The study area included the downtown district as well as main corridors exiting Charles Town that connect pedestrians to main points of the City. The selected corridors extend in each direction and serve as potential linking areas for pedestrians to the downtown. Two hundred and four (204) sidewalk segments were inventoried during the sidewalk assessment along the downtown district of Charles Town between Liberty and Congress Streets. This assessment was designed to create a detailed inventory of sidewalks based on existing conditions and width, as well as ADA compliance. The focus was to assess the ramps entering the streets by grading the slope, lip, and if there was an entrance to the road from the sidewalk. Upon completion of the field inventory, the sidewalks were then rated based on criteria designed to display conditions of each sidewalk. Sidewalks that were assessed a poor grade are considered a high priority for future repair and maintenance.



Field Study

A field study was completed to accurately determine the overall condition and quality of each sidewalk in the study area. A total of 6.2 miles of sidewalk were inventoried during this field study that produced a detailed description of each sidewalk segment in downtown Charles Town. To assess the sidewalk segments, devices were used to efficiently document distance, obstructions, ramps, width, and other sidewalk impurities that negatively impacted the pedestrian experience. Using a measuring wheel with a camera mounted on it gave an exact measurement on width and distance of the sidewalk. The camera mounting provided a video of each sidewalk segment to use as a reference upon grading each section. A GPS (Trimble) device was used to pinpoint locations of obstructions along each sidewalk segment. The GPS device was able to document visual photography of defects in the sidewalk, which were then mapped in ESRI ArcMap using the coordinate location.

The two main designs of sidewalks in Charles Town are brick and concrete. Concrete requires less maintenance and preservation compared to brick. However, brick sidewalks provide a traditional feeling that grasps the historical background of Charles Town. Vegetation was a factor when assessing the rating for the sidewalks. Trees, shrubs, and grass reduce the walking area on sidewalks and in some areas restrict walking completely. Bricks must be well maintained to prevent vegetation growing through the cracks and displacement along the sidewalk. Tree roots were found in some areas dislodging bricks and causing a hazard. Removing roots from the sidewalks will alleviate any risk of injury along the sidewalk and will greatly increase the quality of the walkway.



Example of Field Study Video



Example of Obstruction

Condition Assessment: Sidewalk Width

Sidewalks were scored good, fair, or poor on condition of the sidewalk and overall width. Width is a contributing factor in evaluating the overall quality of the sidewalk. Typically wider sidewalks should be found in the downtown area where pedestrian traffic and usage is much greater. In the width assessment, each individual sidewalk segment was broken down further into a first and second portion to display more in-depth details of each section. Two sidewalks stretched for half of the street so they were counted as one total portion instead of being separated in two.

Out of the total 204 sidewalk segments, 143 were classified as good with minimal restrictions and obstructions (shown in **Figure 2** on the following page). Obstructions included utility poles, trees and other vegetation, porches, and any objects that decreased travel area on a sidewalk. The field team determined whether an obstruction constricted the walkway by measuring and documenting where problems occurred. Sidewalk width changes were sporadic so to record them, points were made in the GPS and on paper to cross reference and confirm the location of where changes occurred. The width of the sidewalks were graded as follows:

- **Good:** Sidewalk was over five feet in width
- **Fair:** Sidewalk was between four to five feet in width
- **Poor:** Sidewalk was under four feet in width

Condition Assessment: Sidewalk Condition

To sustain a walkable city, sidewalk conditions must be assessed to ensure a safe sidewalk network that is easy to travel on for all age groups. Fifty-two (52) of the 204 sidewalk segments in the study area were in good condition with most being located around the center of town along Washington and George Streets (shown in **Figure 3** on page 10). Sidewalk segments are in worse condition on the outskirts of the downtown and need to be updated to ensure a walkable environment in Charles Town. Sidewalks along West Liberty at Jenkins Way and Higgs Boulevard have a substantial lip and steep grade making walking challenging. The brick sidewalk at Jenkins Way appeared to be recently redone but was never completed leaving a gap and sharp drop-off from sidewalk to street. The grading criteria for sidewalk condition is as follows:

- **Good:** Segment is in good working condition and does not need to be fixed
- **Fair:** Issues with the sidewalk that is up to the discretion of the City to either fix or not
- **Poor:** Sidewalk should be considered to be replaced

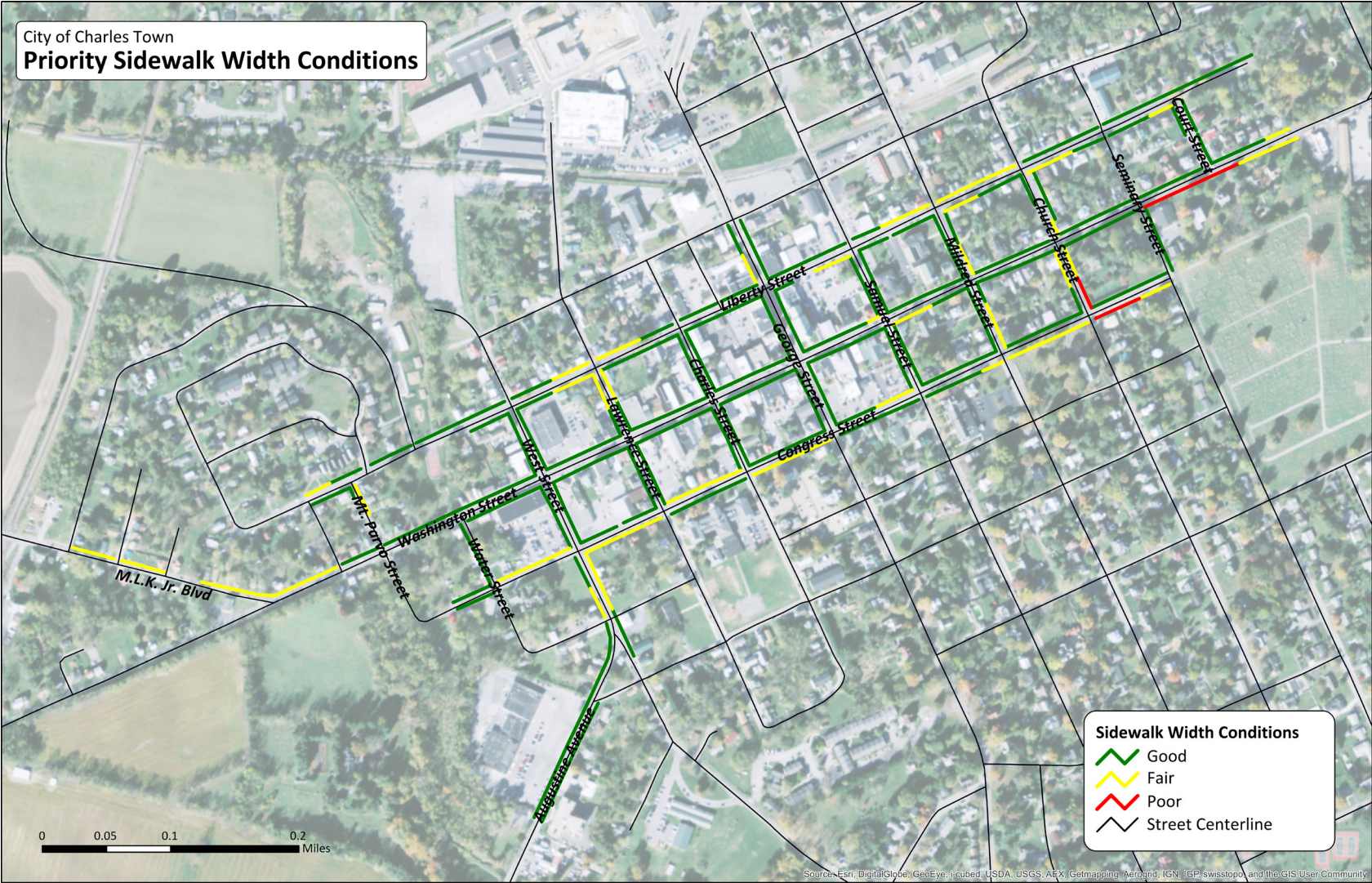


Figure 2: Sidewalk Width Conditions within the Priority Study Area

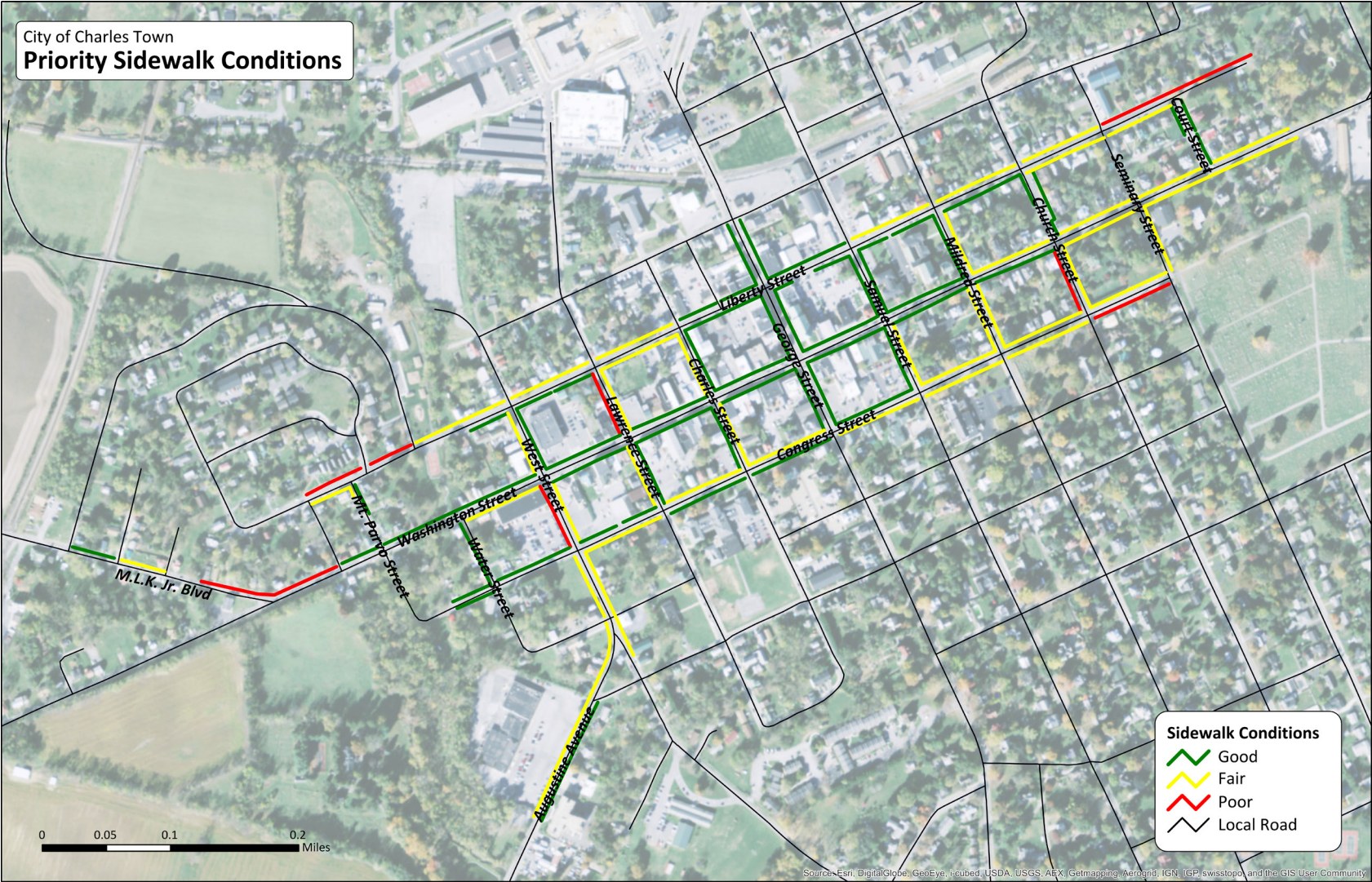


Figure 3: Sidewalk Conditions within the Priority Study Area

Overall Condition Assessment

While both sidewalk width and condition are independently important, overlaying the two assessments provides a better picture of overall condition. Based on the good, fair, poor assessment criteria, there are nine potential combined conditions. Each of these condition assessment combinations has been assigned a relative priority based on the overall condition. Higher priority ratings indicate worse overall condition and more deserving of timely investment. Sidewalk segments that are narrow with poor physical conditions received a higher priority rating, while segments that are in good and fair condition with appropriate width are not rated as highly.

Priority	Width Assessment	Condition Assessment
1	Poor	Poor
2	Fair	Poor
3	Poor	Fair
4	Good	Poor
5	Poor	Good
6	Fair	Fair
7	Good	Fair
8	Fair	Good
9	Good	Good

The majority of the City’s sidewalks in the downtown center are in good condition. However, when making sidewalk investments, Charles Town must weigh each of the assessment priorities identified above against areas that have no sidewalks at all. In respect to pedestrian connectivity, the lack of a sidewalk will be more important to address than most of the priority sidewalks based on condition. **Figure 4** depicts sidewalk conditions ratings based on the field assessment and identifies sidewalk gaps in the study area network.

Priority Sidewalk Investment Area

Based on the combined condition ranking, the City of Charles Town should identify priority sidewalk segments for incremental improvements. Probable costs for such improvements, as well as the legal and policy roles and responsibilities are identified in later sections. Using the combined condition rating, there are several specific areas that should be considered for priority investment:

- 1. **Sidewalk gaps in the immediate downtown area** – filling gaps in sidewalks in a mostly-complete network is the most important improvement that can be made. Sidewalk gaps inhibit mobility and stop pedestrians from travelling further along a path. They can also be unsafe if a pedestrian chooses to continue on and are inherently not ADA compliance.
- 2. **Repair and/or replace sidewalks with the worst overall condition** – Based on the condition ranking, eight (8) segments have been identified for prioritized improvements. The segments are not identified in any particular order, and should be further prioritized by City officials and local stakeholders.

Figure 5, shown on page 14, displays the priority sidewalk investment area based on the above criteria.

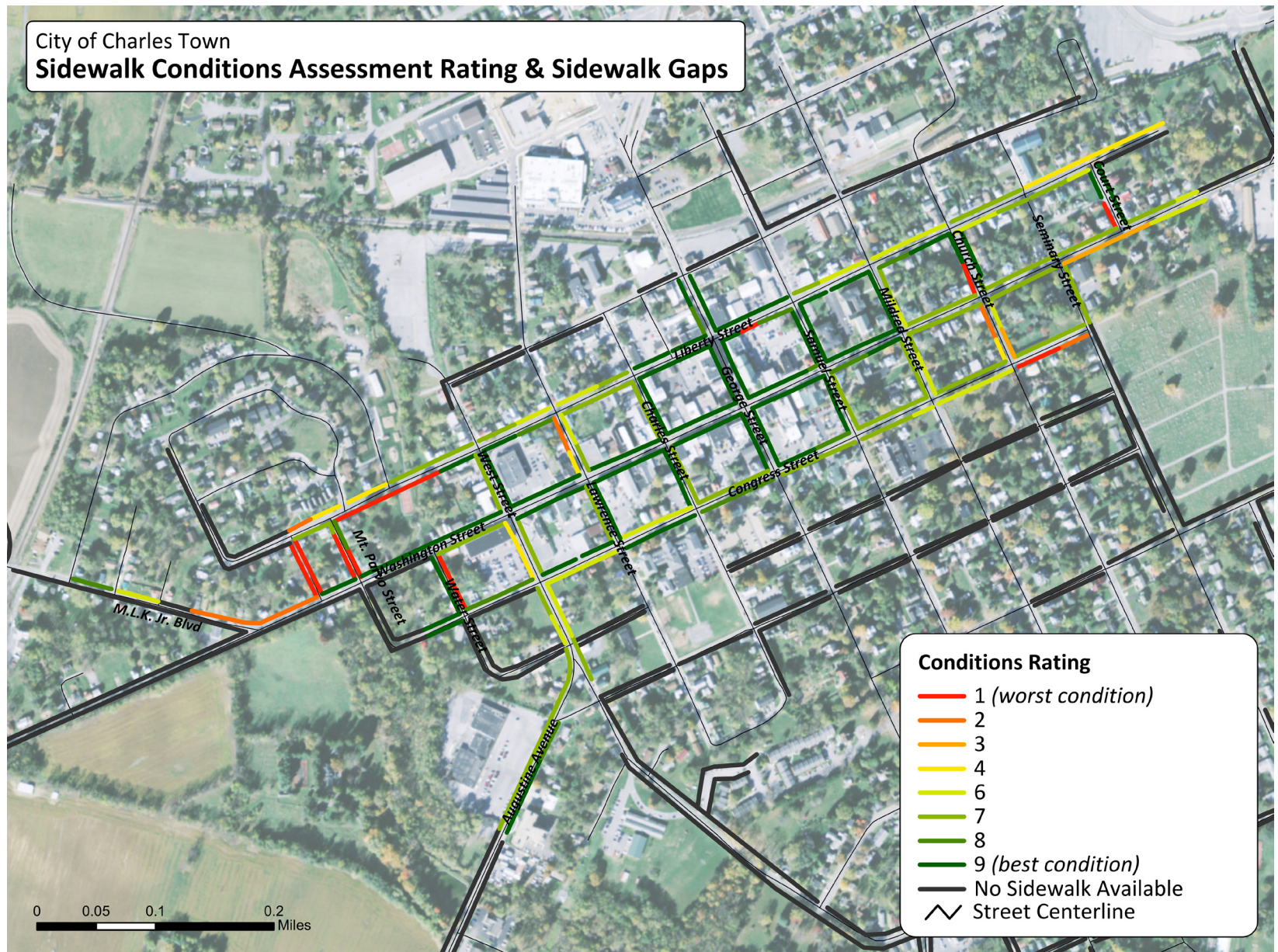


Figure 4: Sidewalk Conditions Assessment Rating & Sidewalk Gaps in Downtown

Sidewalk Inventory and Assessment

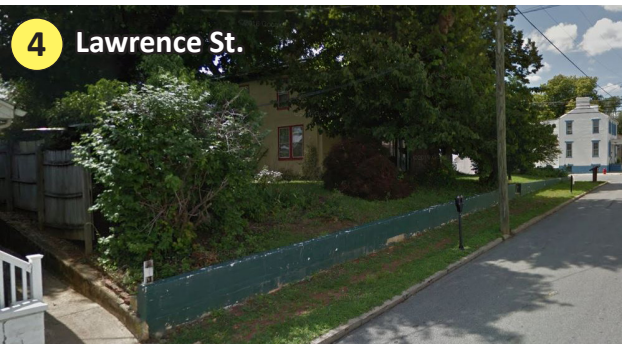




Figure 5: Priority Sidewalk Investment Areas in Downtown Charles Town

Americans with Disabilities Act (ADA) Compliance

ADA compliance takes on a number of forms in the urban walking environment. There are three particular areas of concern related to sidewalks in Charles Town:

- **Sidewalk Width** – sidewalks are required to be at least four feet wide with areas of at least five feet to allow persons using mobility devices (i.e. wheelchairs) to pass one another. For this reason, ADA compliance sidewalks are predominately considered to be at least five feet in width. Charles Town is planning to require all future sidewalks to be 5 feet in width to meet this standard.
- **Sidewalk Condition** – sidewalks should not have excessive gaps in horizontal or vertical surfaces, or obstructions that limit the width of the sidewalk to less than the minimum sidewalk width identified above.
- **Sidewalk Ramps (crosswalks)** – sidewalks approaching intersections should end in ramps of specific dimensions, not to exceed 1/48 cross slope, and should contain a detectable warning surface (dws) to alert pedestrians that they are entering the street.

The field team documented all non-ADA compliant ramps within the study area. **Figure 6** depicts the final ADA ramp assessment. Out of 151 sidewalk ramps, 66 were observed to likely be compliant with ADA standards, leaving 85 ramps that are likely not ADA compliant. All sidewalks must be easily accessible and be built to accommodate ADA requirements. Each sidewalk ramp was marked using the GPS device and a field determination was made on whether it was compliant or not. The videos recorded through the mounted camera were reviewed and used as a reference when determining the compliance of the ramps. ADA compliance must be achieved to ensure a walkable environment for all pedestrians of Charles Town, not just those with disabilities.



Example of Detectable Warning Surface



Example of Sidewalk with No Ramp

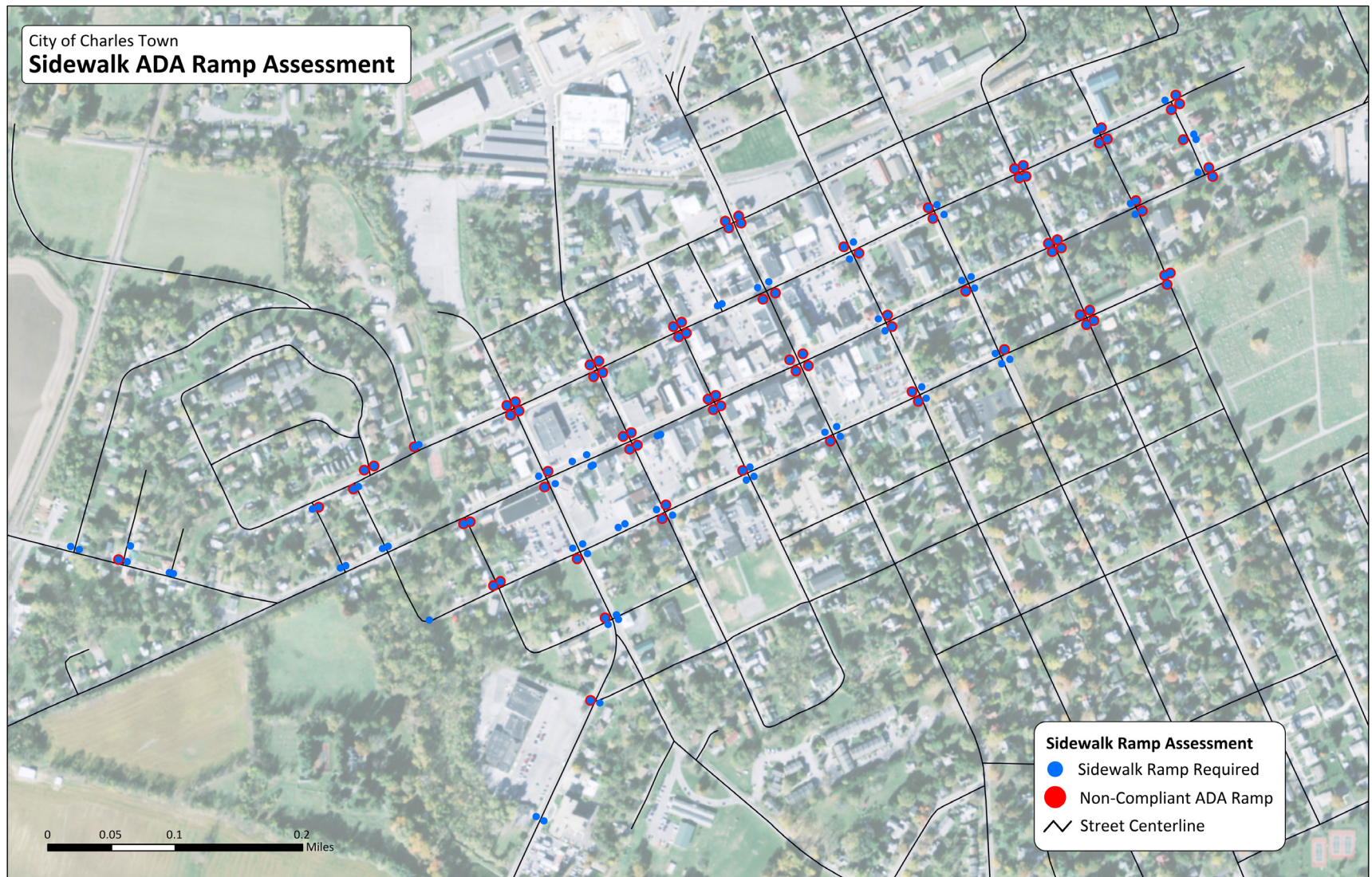


Figure 6: Sidewalk ADA Ramp Assessment in Downtown Charles Town

Trail Connectivity

To create a more complete multimodal network, trail systems must also be considered. The City of Charles Town currently lacks a comprehensive trail network and connections to downtown are nonexistent. However, multiple agencies, including the City, the Hagerstown-Eastern Panhandle Metropolitan Planning Organization (HEPMPO), and the Jefferson County Parks & Recreation Commission, have proposed bicycle and trail improvements as priorities in their long range plans and each has a key focus in the central hub of downtown Charles Town. Most of the proposed improvements connect with existing sidewalks and will make non-motorized forms of transportation more prevalent in the downtown. **Figure 7** depicts proposed and existing trails in Charles Town.

Agency	Planning Document(s)	Proposed Project Description
City of Charles Town Parks & Recreation	West End Master Plan	Evitts Run Trail: The Park Master Plan identifies a number of pedestrian improvements within the park and to the Ranson Civic Center, as well as a future trail connection.
1) City of Ranson 2) HEPMPO	1) Comprehensive Plan 2012 & Fairfax Boulevard and George Street Complete/Green Street Plan 2) Long Range Transportation Plan 2014	George Street Bicycle Lanes: There is an interest in connecting the Route 9 Bike Path to Charles Town and Ranson. The City of Ranson has studied the corridor for “complete street” opportunities, including dedicated bicycle lanes along George Street. HEPMPO included bicycle lanes along the George Street corridor as a proposed project in Jefferson County and referenced the City’s Comprehensive Plan as a source.
HEPMPO	Regional Bicycle Plan	Augustine Avenue Trail: The Regional Bicycle Plan proposes a 1.9 mile multi-use path along Augustine Avenue, connecting the Huntfield residential development in southwestern Charles Town to the downtown core. Harpers Ferry - Charles Town Multi-use Trail: Improving bicycle facilities between Harpers Ferry and Charles Town/Ranson was identified as a priority in the Regional Bicycle Plan and a proposed shared-use path is recommended.
		Cattail Run Trail: Potential stream corridor trail identified through the City's comprehensive Urban Growth Boundary to the Shenandoah River.

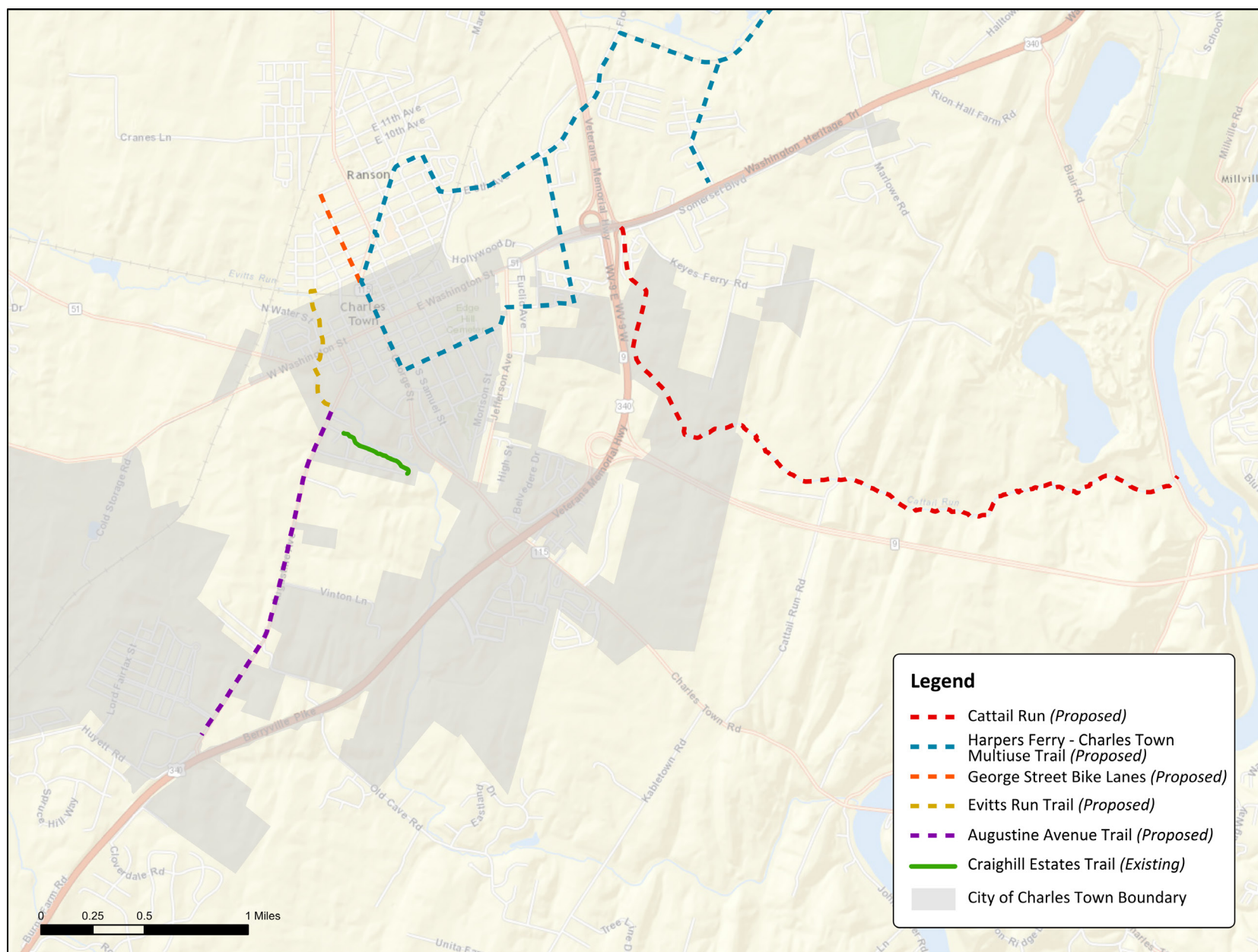


Figure 7: Trail Connectivity in Downtown Charles Town

This study identifies priority pedestrian-bicycle trail projects that could be pursued to connect the central downtown to key Charles Town neighborhoods, other regional hubs and assets, and a broader regional trail network. Among these priorities, there are three that have been widely discussed among community members and leaders, considered in preliminary concept plans, and identified as high priorities for Charles Town:

1.) Evitts Run Park Trail: The City of Charles Town has identified opportunities to reclaim the eastern shore of the Evitts Run Creek as a community park, recreational, and ecological asset. The West End Revitalization Plan calls for the removal of brownfields, blighted areas, and overgrown and inaccessible segments of the Evitts Run Creek, and the installation of parks, recreational amenities, green infrastructure, and walking-biking trails. There are already several segments of trail along with Evitts Run Creek, at the existing Evitts Run Park north of W. Washington Street, and along the creek in Charles Washington Park in the Craighill Estates area, which could be expanded and connected to form a continuous pedestrian-bicycle trail connecting the Ranson Civic Center and Jefferson County Boys & Girls Club at one end, with the Happy Retreat Community Center at the other. Also note that there is a rough trail cleared in the rear of Happy Retreat north of the Evitts Run Creek along an existing municipal utility easement.

With improvements and connections, a future Evitts Run Trail system could run as follows:

Along the eastern side of the Evitts Run Creek – from the Ranson Civic Center on the north end of the Evitts Run Creek; past the Boys & Girls Club; past and through the planned “Lake Rutherford” restoration of the old water reservoir, public works yard, and Dixie-Narco parking lot area; through the existing Evitts Run Park (with an existing trail segment completed); through the Supertane brownfields revitalization area (with a trail segment construction planned for 2016); around the back of Hilldale Shopping Center to the Perry Pond; and across Augustine Avenue onto the south-western side of the Evitts Run Creek through the Charles Washington Park (with an existing trail segment); with a trail spur crossing from near the Charles Washington Grave site to the northern side of Evitts Run Creek leading to the backyard of Happy Retreat. A continuous Evitts Run Trail would also need effective crosswalks over West Washington Street and Augustine Avenue.

2.) Augustine Trail: A second high priority for trail connectivity in Charles Town is the “Augustine Trail”, which would be a 1.9 mile pedestrian/bicycle trail from the intersection of Augustine Avenue/Old Route 340 and the US 340 Bypass at its southern terminus, and connect at the northern terminus to the City’s existing sidewalk grid just past Evitts Run Creek at Creamery Place in the West End of Charles Town’s downtown. The Augustine Avenue Trail is expected to be widely used for health and recreation, as well as basic access to neighborhoods, schools, downtown, job centers, parks and recreational areas and other key nodes by a mix of citizens including 1,200 students and teachers at Washington High School, the 434 teachers and students at Page-Jackson Elementary School, the ~1,200 citizens living in the Huntfield mixed-use community at the southern end of the proposed Trail, the senior citizens and low-income residents of the Charles Tower Apartment complex at the northern terminus of the proposed Trail, and the 1,000+ residents of the West End neighborhood. This 1.9 mile corridor of “Old Route 340 has no sidewalks, no trail, barely even road shoulders, and overall unsafe conditions for walking, biking, or other non-motorized transportation choices.

3.) Connecting Southern Neighborhoods to Old Town – The neighborhoods of Crosswinds, Norbourne Glebe, Greenfield, Hillside, and the Saint James Church area are located on the eastern side of the Route 340 Bypass, generally arrayed around Route 115 south. The residents of these neighborhoods do not have good or safe options for walking or biking into the core “Old Town” area along Route 115 or any other route. Charles Town could consider roadway improvements that would foster better connectivity for pedestrians and bicyclists from those neighborhoods, beginning at the intersection of Fairleigh Drive at Route 115, down to the area around the 7-Eleven store between Jefferson Avenue and Samuel Street, and then further down Route 115 north as it becomes George Street, to George’s intersection with Blakely Place, which is where the City’s sidewalk grid commences on George – a total distance of approximately 1.3 miles.

The West Virginia Division of Highways plans to create a roundabout feature at the current 4-way stop at the intersection of Route 115 and Citizens Way just west of the 340 Bypass which, if properly designed, could incorporate features for optimum pedestrian/bicycle access and crossing at that area. Further, a shoulder on Route 115 could be dedicated for pedestrian and bicycling usage, improved with signage, painting and striping, barrier separations that could include fencing or other materials, enhanced crosswalk facilities, and other techniques. With these methods, Charles Town could create a “Southern Neighborhood Connector” pedestrian-biking facility build links between Charles Town’s older and newer neighborhoods.

Walkability Design Standards

To achieve greater walkability in the City of Charles Town, a coordinated effort is needed for all future pedestrian-related infrastructure projects within the City. While the City's Subdivision and Land Development Ordinance (Part 13, Articles 1331 – 1336, of the Charles Town Code) provides some specifications for sidewalks, streets, and walking trails, more could be done to unify future construction projects with regards to walkability.

To achieve unification, this Section outlines the City's current policies and regulations pertaining sidewalk, streets and walking trail construction and maintenance requirements. It also introduces a Standard Design Template to achieve uniformity in future construction projects whether completed by the City and/or a private entity.

Role of Municipal & Property Owners in Sidewalk and Trail Improvements

Given the significant costs associated with sidewalk construction and improvements for just the highest priority segments, it is unlikely that the City of Charles Town will be able to conduct these sidewalk projects on a rapid basis, or conduct them with only municipal funds. Further, although this report finds that these high priority segments are the areas most in need of improvement in the central core of the city, there could be legitimate concerns about fairness raised if the City uses general taxpayer funding for improvements in these few areas, without identifying, paying for, or conducting improvements in other areas of the city that may also have significant problems with sidewalk gaps, conditions, widths or handicapped accessibility.

The City should therefore consider the proper role of municipal funding of priority sidewalk improvements, versus funding by the private landowners whose properties abut the priority targeted areas.

First, the City may decide that some priority sidewalk improvement areas, even if abutting private landowners' property, are worthy of public investment because they provide common public benefits to the entire community. For instance, this report calls for prioritization of sidewalk improvements on MLK Boulevard & West Washington Street (#1) and East Washington Street (#8). The City could decide that, because these are gateway entrances on the City's main street with major sidewalk gaps yet heavy pedestrian usage, and a compelling justification to keep these gateways in top condition to be able to maintain the quality of life and economic competitiveness of the core downtown – that these could be improved and paid as a general public works project.

Second, the City should confirm its long-standing law and policy that, for most cases of poor sidewalk condition, the responsibility for paying for and conducting the sidewalk construction and improvements rests with the property owner whose land abuts the specific segment.

The design and construction of trails within the City of Charles Town is regulated by Section 1333.18 of the City's Subdivision and Land Development Ordinance. Trails constructed by and within a common interest community – as defined by West Virginia Code Section 36B-1-103, et seq. – are owned and maintained as part of the development's Homeowners Association (HOA). Trail facilities designed and constructed by the City are typically associated with general public improvements for the benefit and use by all City residents and are maintained by the Public Works Department under the auspices of the City's Parks and Recreation Commission.

The design and construction of sidewalks within the City of Charles Town is regulated by Section 1333.18 of the City's Subdivision and Land Development Ordinance and the enforcement for sidewalk construction, maintenance and repair thereof is regulated through the City's Codified Ordinance, Section 909.05. This approach to the construction, maintenance and repair of sidewalks is consistent with the way that sidewalks are installed and maintained throughout the United States. The following sections address both in further detail as they relate specifically to the City of Charles Town.

1. Municipal Subdivision and Land Development: Sidewalk installation traditionally occurs during the land development process, whereby a landowner and/or developer includes sidewalks as part of the overall development project. The requirements and standards by which sidewalks are thereby installed is typically stipulated in a municipality's subdivision and land development ordinance or other pertinent sections of a codified ordinance. Section 1333.09 of the City of Charles Town's Subdivision and Land Development Ordinance outlines the City's requirements for the location and design of sidewalks; the maintenance and repair of which are ultimately the responsibility of the property owner. Under this scenario, the costs of installing the sidewalks are typically included as part of the overall land development project and are financed as part of the overall project costs (e.g., construction loan, mortgage, etc.).

However, the City of Charles Town's Subdivision and Land Development Ordinance was just recently enacted and made effective in July and September 2012, respectively. Previously, the requirements and standards for sidewalks were based on the general requirements specified under Chapter 8A of the West Virginia Code. Prior to the state code requirements, little or no standards existed for sidewalks and in many cases sidewalks constructed in the Old Town Residential Zoning District areas vary in their design and placement, or are non-existent along some stretches of Avis, Academy, Hunter, and Mason Streets, as well as Eagle Ave., Park and Center Streets.

2. Sidewalk Construction and Repair Policy: Municipal sidewalk construction and repair policies typically apply to the ongoing maintenance and repair of existing sidewalks, but also may be administered to require the construction of new sidewalks where development currently exists. Section 909.05 of the City's Codified Ordinance outlines the regulations for the construction, maintenance and repair of sidewalks and specifically stipulates that "Sidewalks shall be maintained by the owner and the occupier of the adjoining real estate. All sidewalks shall be kept in a proper state of repair and maintained free from hazardous conditions.....Every owner of property in the City of Charles Town shall, on ninety days' notice from the City of Charles Town Code Official, construct or reconstruct either a sidewalk or curb, or both...." ³ The section further stipulates the requirements and penalties that are enforceable by the City upon property owners that fail to comply with regulations. Therefore, these regulations are enforceable where sidewalks currently exist as well as areas that are void of sidewalks including locations where gaps may exist in the existing sidewalk network. In all cases, the property owner is ultimately responsible for the financial costs associated with the engineering, design, construction and ongoing maintenance and repair of sidewalk improvements.

Such sidewalk regulations can be challenging for municipalities such as Charles Town to enforce and administer due to several issues:

- **Costs** – According to this study (Prioritized Implementation Plan), the average construction cost per linear foot is approximately \$50- \$75 per linear feet for a typical five foot wide concrete sidewalk, which coupled with permitting, design and labor costs could ultimately cost a typical property owner well over \$3,500 to reconstruct a typical 50 foot section of sidewalk. As such, most homeowners lack the means to upfront the costs to either proactively make the appropriate sidewalk repairs or effectively respond to a code enforcement notice issued by the City.

³ Codified Ordinances of the City of Charles Town, WV. Accessed online August 26, 2016 at <http://whdrane.conwaygreene.com/NXT/gateway.dll?f=-templates&fn=default.htm&vid=whdrane:WVCharlestown>

•**Time** – The City Code requires property owners to construct or reconstruct sidewalk and/or associated curbing within 90 days of receiving notice from the City. As discussed, most property owners are unable to finance the necessary construction costs and therefore, may ultimately be in violation of the Code requirements. In turn, the City then is responsible for making the necessary repairs and incurring the costs, but the City needs a more robust capital plan and budgeting process to finance these improvements. As a result, the City’s sidewalk repair and maintenance program lacks a sustainable funding source to maintain a viable, City-wide sidewalk repair and maintenance program.

•**Responsibility of Ownership** – Most property owners often view the sidewalk area as the City’s property and ultimately its responsibility for repair and maintenance. This viewpoint may be well-founded based on the definition of sidewalk specified in the West Virginia State Code, which defines "Sidewalk" as “...that portion of a street between the curb lines, or the lateral lines of a roadway, and the adjacent property lines, intended for the use of pedestrians.”⁴ This definition implies that the sidewalk is part of the public street and not part of the adjacent property. This, in turn, further complicates the City’s ability to successfully enforce and administer the Code requirements for the construction, maintenance and repair of sidewalks and this ultimately contributes to code violations as described above.

The Prioritized Implementation Plan, further addresses these challenges by identifying several opportunities that the City may consider to improve its pedestrian design standards and achieve its overall walkability objectives.

Given these challenges, Charles Town could consider taking three steps to encourage property owners to fulfill their responsibilities for sidewalk maintenance:

- 1.) **Public Outreach and Communication:** Certainly property owners will not want to be surprised with a major sidewalk enforcement campaign that could impose significant and costly responsibilities, without having the opportunity to engage and discuss these priorities with the City first. City officials should consider conducting significant public outreach and communication, particularly with the owners and residents who own and/or live, or conduct business operations at these priority sidewalk segments. The City should put this completed report on its web site. The City could draft a short flier explaining the new initiative to identify and fix sidewalks, and describing the long-standing regulation that places responsibility for sidewalk maintenance on abutting property

4 West Virginia Code, §17C-1-38.

owners. This flier, including a web link to (or hard copy of) this report, could be delivered or mailed to the potentially affected landowners. The City could hold a public workshop, inviting all citizens, but with special effort to engage potentially affected landowners at priority improvement areas.

2.) Foster the Use of Sidewalk Templates: In some cases, property owners may seek to replace or repair their sidewalks on their own, without being triggered by any enforcement requirements or orders. The City will want to make sure that it has easily-accessible and easily-understood information about the sidewalk design templates that the City will require for all facilities. These materials should be made available to all property owners seeking a permit to replace or repair a sidewalk. Further, the City could consider stuffing a flier or postcard within water bills mailed to property owners, letting them know that the City has adopted a revised sidewalk policy that includes design templates providing detailed instructions on how all facilities should be constructed.

3.) Sidewalk Incentive Program: The City could also consider establishing a program to provide financial and technical incentives to property owners who wish to upgrade their sidewalks, either on their own or as part of the Section 909.05 requirements process. The City could establish the “Sidewalk Team Encouragement Program” or “STEP”, which would bring a team of municipal and contractor personnel together with financial incentives for those property owners who step up to address sidewalk deficiencies. These STEP incentives could include:

- The City could establish a relationship with one or more qualified sidewalk construction vendors who understand Charles Town’s design templates, and who would be willing to provide a cost discount to Charles Town homeowners who take advantage of the STEP program.
- The City could offer to provide in-kind public works services from City work crews, such as existing sidewalk demolition or ground excavation, or tree planting services. These could be provided at discounted costs to the customer, saving even further money.
- The City could provide matching grants to a specific number of owners who take advantage of the program. For instance, the City could provide \$500 grants to the first 10 landowners who take advantage of the program each year.
- The City could also consider setting up a loan fund which, for a zero or very low interest fee, could provide a loan to a property owner for the cost of installing a new sidewalk or repairing existing sidewalks. These loans could be paid back through payments on the customer’s water bill over a period of time, further lessening the burden on the property owner.

In these ways – discounted services from preferred vendors, in-kind contributions from City work crews, grants, and/or loan services, the burden of sidewalk upgrades can be lessened for those property owners who “STEP” forward to take advantage of these incentives.”

Standard Design Template

The purpose of the Standard Design Template is to allow the City or private entity to bid complete street, sidewalk, and walking trail improvements to conform to the City’s standards specified in its Subdivision and Land Development Ordinance. The template includes performance-based specifications, standard construction details, and construction specifications that aim to provide a high quality and consistent walking experience as construction projects are completed throughout the City. As such, the City should amend its Subdivision and Land Development Ordinance to incorporate the template’s design standards therein.

As stated above, a unified approach for all future construction projects is crucial to building consistent walking areas throughout Charles Town. This will be accomplished utilizing the following items:

- **General Standards**

These standards will be common throughout all construction projects involving roadways, sidewalks, or walking trails in Charles Town.

- **Specifications**

Construction specifications will be used to create continuity among all future projects. These include detailed dimensions and material types.

- **Standard Details**

Standard drawing details of common construction items that may be found within Charles Town. These items will be conducive to walkability through the City.

- **Typical Sections**

These roadway sections are created for each major roadway throughout the City. They include typical widths, materials, and other information that might be common along specific roadway corridors.

All of these items have been selected based on coordination with the City’s Public Works and Planning Departments. They have been determined to be the best standards to achieve a uniform appearance for future projects, and will blend well with the existing infrastructure.

General Design Standards

These design standards should be maintained by The City's Planning Department and any revisions to these standards will be coordinated between the City and any other private entities.

Sidewalks

General design standards for sidewalks for the City of Charles Town will be as follows:

- A) Sidewalks will be provided in accordance with the requirements specified in table.
- B) Sidewalk will be constructed either with concrete or brick with concrete subbase. See Appendix A, Details D-2 and D-3.
- C) All utility poles, traffic posts, water hydrants, fire hydrants, sign posts, and any other object positions within the sidewalk must be separated with a one-half inch expansion joint providing a clearance of six (6) inches.
- D) Sidewalks will be constructed according to the typical materials section shown in Appendix A, Details D-2 and D-3.
- E) Sidewalks will not be constructed with a curb as a single integral unit.
- F) Where sidewalks are part of a driveway or access drive, the sidewalk will maintain grade, with no depression, except where necessary to tie into the entrance.
- G) Handicap Accessible (ADA) Ramps will be provided on the sidewalks at all street intersections and pedestrian crossings. See Appendix A WV DOH Standard Sheet PVT7.
- H) When brick/clay is used in a sidewalk, and the sidewalk crosses a driveway, stamped concrete will be used across the driveway instead of brick/clay. See Appendix A, Detail D-4.

Sidewalk Requirements			
Land Use	Average Lot Size	Density	Sidewalk Requirement Street Frontage
	Sq ft	Du/acre	
Residential	> 30,000	1.46 or more	None
Residential	15,001 – 30,000	2.90 – 1.45	One Side of Street
Residential	12,001 – 15,000	3.00 – 5.50	Both Sides of Street
Residential	< 12,000	> 5.51	Both Sides of Street

Source: Charles Town Subdivision and Land Development Ordinance

Streets

General design standards for complete streets for the City of Charles Town should be as follows:

- A) The use of shared use lane markings (sharrows) is recommended on streets through the City. See Appendix A, Detail D-6.
- B) Where possible, construct raised crosswalks across roadways for pedestrian use. See Appendix A, Detail D-5.
- C) All signs designated for traffic use that are within sidewalk limits will be a minimum of eight (8) feet high.

Walking Trails

General design standards for walking trails for the City of Charles Town will be as follows:

- A) Walking trails will be constructed in accordance with Detail D-1.
- B) Appropriate lighting and signage, landscaping, buffering, and drainage measures, along with considerations for security will be incorporated in the design of walking trails.
- C) A private access easement will be provided for all trails outside of City of Charles Town right-of-way and will include a minimum of three (3) feet of width on both sides of the trail.

Washington and Charles Street Design Standards

While current sidewalks along Washington and North Charles Streets provide for safe and easy movement of pedestrians, these streets are still predominantly car oriented with wide travel lanes. Reducing the width of the travel lanes will allow for the streets to become more pedestrian oriented with wider sidewalks. Increasing sidewalk widths will activate public spaces resulting in an increase in commerce for businesses. In addition, wider sidewalks create safer places for pedestrians to walk, allow for storefronts to expand on to the sidewalk, and increase outdoor seating options.

Washington Street

Currently, Washington Street is car oriented with 16 feet wide travel lanes in both directions. In order to create a more pedestrian oriented street, the travel lanes should be narrowed to 12 feet allowing for an increase in sidewalk widths for additional seating or expansion of storefronts. While the ideal travel lane width would be 10 feet in order to reduce speed, Washington Street serves as a main thoroughfare that currently conveys a significant number of commercial vehicles on a daily basis. See Appendix C for current cross section, Appendix B for proposed cross sections, and Appendix D for proposed renderings.

Charles Street

Similar to Washington Street, North Charles Street currently has a 16ft wide travel lane. The travel lane would be narrowed to 10 feet to reduce vehicular speeds and sidewalks widened to allow for additional seating or expansion of storefronts. In addition, the roadway should be raised to the same height as the sidewalks to create a continuous surface commonly known as a "shared street". A Continuous surface would allow for the road to be completely turned into a pedestrian street when the road was closed to traffic. Pedestrian areas, parking lanes and travel lanes would be denoted with changes in material. See Appendix C for current cross section, Appendix B for proposed cross sections, and Appendix D for proposed renderings.

Specifications

This section details specifications for individual walkability items. These are shown pictorially within Appendix A: Standard Details below, and are combined with the general standards above to show overall roadway cross sections in Appendix B.

Sidewalks

Specifications for sidewalks for the City of Charles Town should be as follows:

- A) Sidewalks will have a minimum width of five (5) feet.
- B) Sidewalks will have weakened plane traverse joints at four (4) foot intervals, and no more than forty (40) feet between expansion joints.
- C) Sidewalk concrete will be no less than four (4) inches deep.
- D) Concrete material will have a minimum PSI of 3,500.
- E) Sidewalk cross slope will be a maximum $\frac{1}{4}$ in per foot.
- F) A four (4) inch subbase of Aggregate Base Course Class 1 will be used under the concrete.
- G) Stamped concrete across driveways will have a minimum PSI of 4,000.

Streets

Specifications for complete streets for the City of Charles Town should be as follows:

- A) Spacing between sharrows will be no less than 150 lane feet.

Walking Trails

Specifications for walking trails for the City of Charles Town should be as follows:

- A) Pedestrian trails will have a minimum width of six (6) feet.
- B) The maximum grade for all pedestrian trails will be ten (10) percent.
- C) Trail cross slope will be a maximum $\frac{1}{4}$ in per foot.
- D) Trail will be constructed using hot mix asphalt concrete, at 1 $\frac{1}{2}$ in to 2 in depth.
- E) A four (4) inch subbase of Aggregate Base Course Class 1 will be used under the concrete.

Other Combined Improvements

While the improvements described above are primarily concerned with walkability through the City, additional improvements are also available that can be included during construction of these walkability improvements. A “dig once” mentality is in view here. Rather than construct the walkability improvements by themselves, and then construct any additional improvements later, it would be much more cost efficient to propose and construct all improvements at the same time. The following items are proposed to include with walkability construction.

Street Trees

Street trees are native trees purposefully planted within sidewalks along roadways. They offer many benefits, from beautifying neighborhoods to providing storm water reductions through root absorption. There is even some evidence that shows street trees encourage reduced vehicle speeds along roadways. Because these trees are often placed within sidewalk limits (when placed along city roadways), it is essential that these plants are included in sidewalk walkability improvement plans. Otherwise, new sidewalk would need to be removed to plant the new trees later.

Flow-Through Planters

Flow-through planters are stormwater management facilities that do not allow for storm water infiltration back into the water table, utilizing trees and other plants to pre-treat and reduce storm water runoff before entering a traditional drainage system. These are used mostly in infiltration-preclusive or high-density urban areas, and are constructed alongside the roadway within the sidewalk limits.

It is recommended here that the street trees proposed above be used in conjunction with these flow-through planters. Rainwater would enter the planter from the roadway and sidewalk and be absorbed by the tree roots in the soil.

Similar to the street tree improvements, any planters that might house the trees would also need to be included in walkability improvement plans.

City of Charles Town Preliminary Wayfinding Signage Location Analysis

The ability to navigate a city is critically important to its economic prosperity. Residents and visitors must be able to confidently orient themselves within the community as they find local services and points of interest. Proper wayfinding infrastructure has the ability to inform people of their nearby surroundings in an unfamiliar environment and display information at strategic points to guide them in the right direction. Even with the proliferation of smart-phones and other mobile technologies, physical wayfinding elements – such as directional signs, interpretive boards, monuments, and directories – can enhance pedestrian experiences within the community. Further, local wayfinding systems can serve as an educational tool for visitors on the boundaries, destinations, and key cultural or historical features of the community.

Project Overview

The City of Charles Town Preliminary Wayfinding Signage Location Analysis (Preliminary Wayfinding Analysis) serves as an initial framework for implementing an effective and appealing signage system that directs pedestrians, bicyclists, and automobile drivers to key destinations within the City and its vicinity. Because planning and designing a comprehensive wayfinding signage program is a significant undertaking, the purpose of this Preliminary Wayfinding Analysis is to identify potential locations for wayfinding signs to serve as a base for future implementation efforts. Various plans and studies related to walkability, community development, and economic revitalization have been initiated within the City of Charles Town in recent years and findings from these resources will be used to inform the Preliminary Wayfinding Analysis:

- Existing Sidewalk Inventory & Conditions Assessment tasks of the City of Charles Town Walkability and Connectivity Study
- Charles Town Parking Study
- C*Town Arts and Cultural District
- City of Charles Town Comprehensive Plan
- Jefferson County Convention & Visitors Bureau's "Walking Tour of Charles Washington's Town" brochure

The study area for this Preliminary Wayfinding Analysis includes all areas within the City of Charles Town Urban Growth Boundary, with a key focus on priority sidewalks located in the downtown. **Figure 8** shows the extent of the study area.

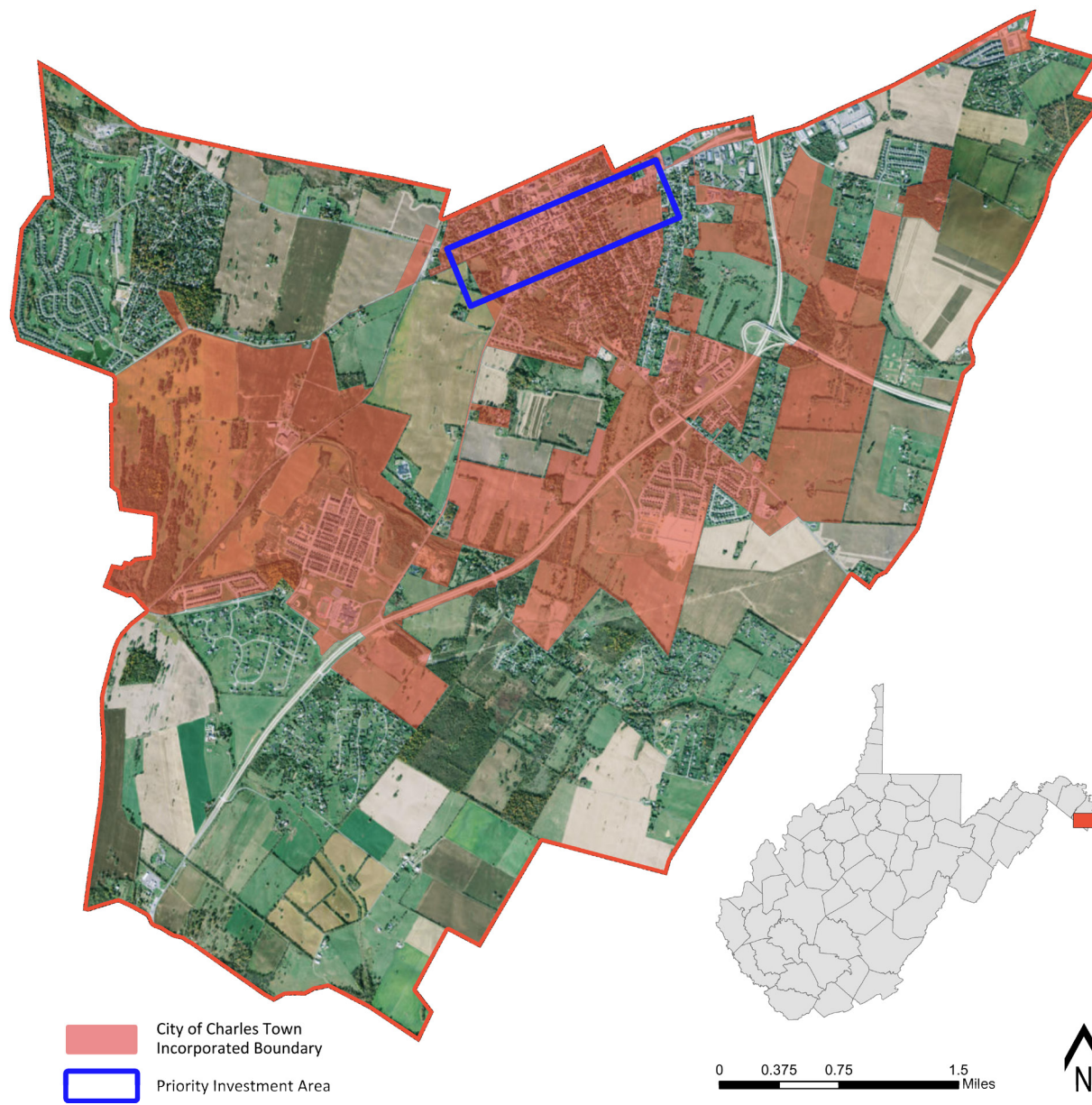


Figure 8: City of Charles Town Preliminary Wayfinding Analysis Study Area

Hierarchy of Wayfinding Signage

An effective wayfinding system should connect people to the unique destinations and attractions located within a city and its region. Signage and mapping elements can create a hierarchy of destinations and simplify the city's layout to allow for ease of navigation. The City of Charles Town has many historic downtown attractions, which lends itself well to a pedestrian-scale signage system (especially along the Washington Street corridor). However, getting to the historic attractions often means traveling via automobile along highway routes. Identifying districts based on the number of and types of destinations available can be beneficial in outlining a wayfinding signage system at the local and regional scale.

City of Charles Town Signage Districts

Like many historic small towns, the City of Charles Town has a large concentration of noteworthy attractions within its downtown. As the “hub” of the region, the downtown historic district composed of Washington Street, Liberty Street, and East Congress Street (shown in **Figure 9**) should have the greatest number of pedestrian-oriented signage. Additionally, there are three public parking lots in downtown Charles Town that should be clearly marked for vehicular traffic and have locational signage for individuals transitioning from vehicular to pedestrian travel mode to allow them to orient themselves to their immediate environment.

Just outside of the downtown district, there are fewer attractions that are more widely dispersed. These attractions are still accessible to pedestrians and should be identified in any wayfinding mapping products, particularly those of regional significance (e.g. the Charles Washington Grave Site and the Gibson-Todd House, where John Brown was executed). However, locational signage within the secondary signage district will not be as frequent or as prominent as it is within the downtown.

The City of Charles Town is within close proximity to two regional roadways (U.S. Route 340 and WV Route 9) and can use these higher-volume, through corridors to alert drivers of the nearby historic downtown. Specifically, the City can work with West Virginia Division of Highways (WVDOH) to add signage along the WV Route 9 bypass, prior to the exit ramp, that notifies drivers of the upcoming historic district. Once the driver has exited the highway, the City should have prominent gateway signage to welcome residents and visitors to the town.

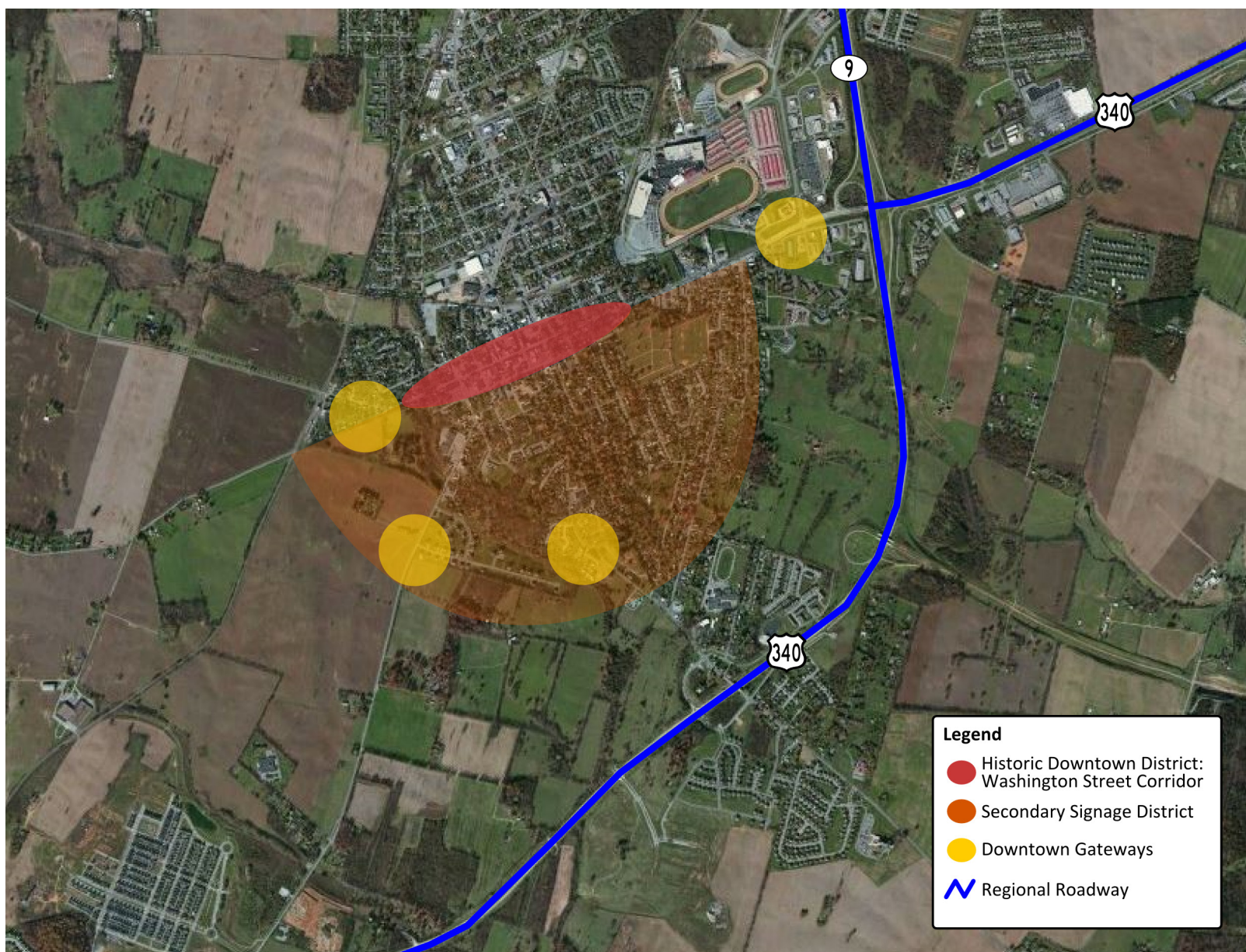


Figure 9: Downtown Charles Town Wayfinding Signage Districts

Signage Requirements by Transportation Mode

The U.S. Federal Highway Administration (FHWA) has established requirements for roadway and community wayfinding signage, which is outlined in their Manual on Uniform Traffic Control Devices (MUTCD). The intent of the MUTCD is to provide national standards for all traffic control devices on all public streets, highways, private roads, and bikeways that are open to public traffic. Design details for these signs are generally not included in the MUTCD; however, FHWA provides design guidance through the Standard Highway Signs and Markings (SHSM) book. Examples of signs regulated by the MUTDC and SHSM include street signs, stop signs, and “destination guide signs” often found along the highway.

Vehicular Signage

Vehicular signs are intended to move vehicles from freeways leading into Charles Town to major destinations and to parking areas along those travel routes. These signs should contain limited information so as to not distract or confuse drivers. Vehicular signage should focus on tourists and individuals who are new to the area. They should be located at key intersections and appear frequently enough to assure the driver that they are headed in the right direction. Once the driver has parked, the pedestrian signage system should take over. **Figure 10** provides examples of vehicular signage.

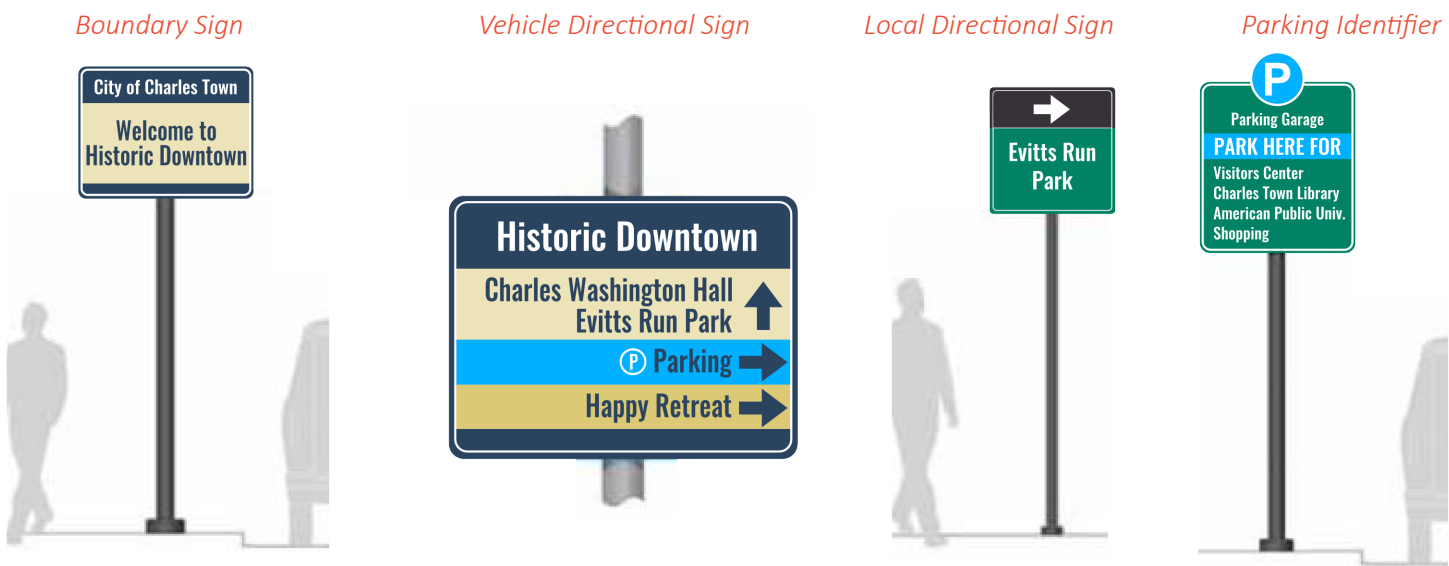


Figure 10: Vehicular Signage Examples

Pedestrian & Bicyclist Signage

Once the visitor is no longer navigating by vehicle, the next level of wayfinding signage should contain more information about specific destinations that are within walking distance, as well as maps to help orient the visitor to their surroundings. The signs should be located near parking and areas of high activity to reinforce predetermined routes so the visitor never feels unsafe or lost. Pedestrian signage includes directional signs, interpretive signs, trail markers, and information kiosks/directories with locator maps. The pedestrian signage network should focus on streets that provide activities that attract visitors and residents (e.g. shopping, dining, parks, museums, historic landmarks, and art galleries).

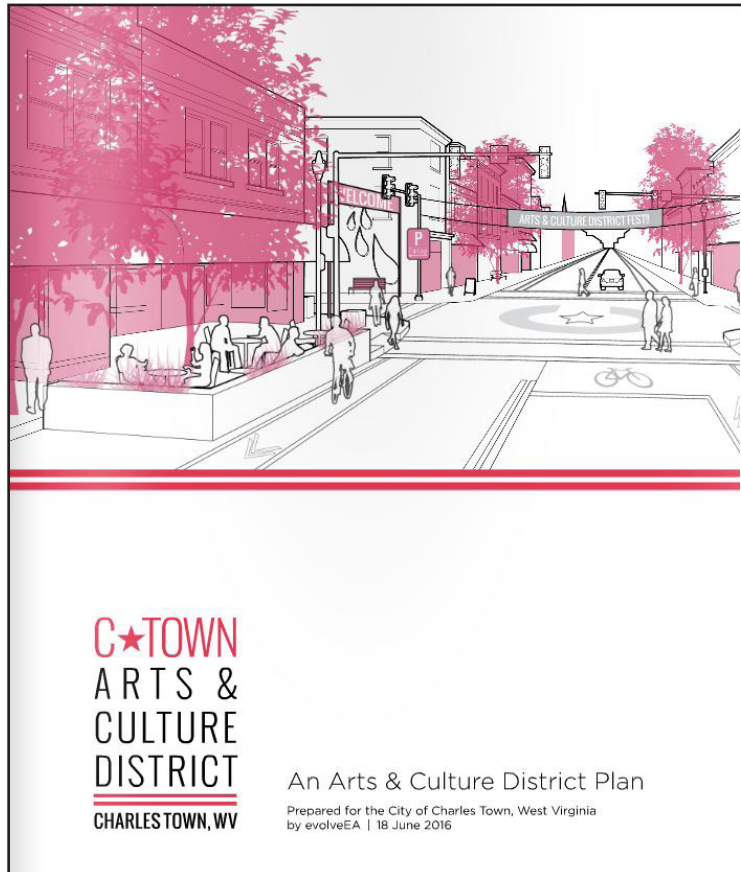
In addition to directional signage, the City of Charles Town could benefit from additional interpretive signage. Interpretive signage is designed to draw attention to historic landmarks and other sites of interest and should present relevant information in a concise and convenient manner. The location of interpretive signage should fall within high pedestrian activity areas to make the pathways interesting to residents and visitors. **Figure 11** shows examples of pedestrian wayfinding signage, including interpretive sign boards.



Figure 11: Pedestrian Signage Examples

Defining the City of Charles Town

In summer 2016, the City of Charles Town, along with partnering organizations, launched a new **C*Town Arts & Culture District** with the intent of boosting arts, heritage, and tourism in the downtown. The new district is the result of a two-year planning process sponsored by the National Endowment for the Arts through a creative placemaking grant. The C*Town Arts & Culture District Plan (**Figure 12**) outlines a future vision that celebrates arts, culture, and history and provides an implementation schedule for creating a district with a strong sense of place. The plan places a large emphasis on walkability and connectivity, going as far as suggesting that within the next five years, the City should deploy complete streets principles to Washington Street, encourage tactical urbanism throughout the district, and initiate traffic calming techniques to make the streets more pedestrian friendly.



As part of the Arts and Culture District Plan, the City identified potential branding and marketing materials to bolster its public identity. **Figure 13** demonstrates potential signage designs that were one outcome of the Plan and can be used as an example of a unified sign theme during future discussions about wayfinding and community image. A key next step of this study will be a more detailed signage design project that will include local stakeholders, specifically the Design Committee of Charles Town Now and the C*Town Creative Council.

The signage design project will focus on the aesthetic and functional elements of signage, specifically color standards, font and typography standards, symbology, and branding.

Figure 12: City of Charles Town Arts & Culture District



Figure 13: Example Wayfinding and District Branding Signage Designs

Opportunities for Wayfinding Signage

A wayfinding signage system for the City of Charles Town should be organized to direct visitors and residents to major attractions and destinations, regardless of their transportation mode. Signage should be strategically located along priority routes that connect to areas of high activity. In addition to navigation, the signs can alert newcomers to the presence of these attractions and encourage “pedestrian propulsion”, or some element of the street that entices one to walk further than originally intended. Fortunately, the City has many points of interest located in its downtown and within walking distance of downtown.

Attractions

To begin identifying potential wayfinding signage locations, the project team compiled a list of 77 attractions, including cultural and historic destinations, community facilities, shopping plazas, and schools. Many of the attractions are clustered around downtown Charles Town and are within walking distance of one another, specifically along Washington Street (shown in **Figure 14**). Most of the identified attractions were included in the “Walking Tour of Charles Washington’s Town” brochure, published by the Jefferson County Convention & Visitors Bureau. The following section provides recommendations for potential signage locations based on the City’s points of interest.



Source: Jefferson County Convention & Visitors Bureau



Figure 14: Attractions in Downtown Charles Town

Preliminary Signage Location Plan

As a starting point for the City, a set of proposed wayfinding signage locations has been identified based on the regional significance of nearby attractions. For each location, a type of sign has been suggested, as well as potential locations to be included on the sign. **Figure 15** shows potential wayfinding sign locations.

Signage Locations

Map ID	Signage Type	Signage Location	Details
1	Gateway Sign	W. Washington St. & MLK Jr. Blvd.	Branded City of Charles Town Welcome Sign
2	Gateway Sign	Augustine Ave.	Branded City of Charles Town Welcome Sign
3	Gateway Sign	S. George St.	Branded City of Charles Town Welcome Sign
4	Pedestrian Sign	W. Washington St. & West St	Directs visitors to “Fisherman’s Hall”, “Charles Washington's Grave Site”, “Charles Washington Park” and “Evitts Run Park”
5	Parking Sign	W. Washington St. & S. Lawrence St.	Directs visitors to parking on N. & S. Lawrence St.
6	Pedestrian Sign	W. Washington St. & N. Charles St.	Directs visitors to “Tiffin House”, “Episcopal Reading Room Site”, and “Charles Washington’s Office”
7	Information Kiosk	Washington St. & George St.	Provides visitors with more specific information about nearby destinations and a map for orientation. Additional vehicular directional signs directing visitors to “Charles Washington Hall Visitors Center”, “Fine Hall Art Gallery”, “Historic Jefferson County Courthouse”, and “Happy Retreat”
8	Parking Sign	W. Washington St. & N. Samuel St.	Directs visitors to parking on N. & S. Samuel Street
9	Pedestrian Sign	E. Washington & S. Samuel St.	Directs visitors to “John Brown Hanging Site”, “Jefferson County Museum” and “Blessing-Webb Historic Houses”
10	Pedestrian Sign	E. Washington & S. Seminary St.	Directs visitors to “Carriage Inn” and “Historic Civil War Battlefield”
11	Vehicular Sign	Hollywood Casino Entrance, south on Rt. 51	Branded using “C*Town Arts, Culture & Historic District” Directs visitors to the casino, “John Brown Hanging Site”, “African American Historical Sites” and “Happy Retreat”
12	Gateway Sign	Rt. 51, east of Hollywood Casino entrance	Branded City of Charles Town Welcome Sign
13	Vehicular Sign	0.5 miles south of the Rt. 340/Rt. 51 interchange	Highway directional sign directs visitors to “C*Town Arts, Culture & Historic District”, and “Visitor Center”
14	Vehicular Sign	0.5 miles north of the Rt. 340/Rt. 51 interchange	Highway directional sign directs visitors to “C*Town Arts, Culture & Historic District” and “Visitor Center”

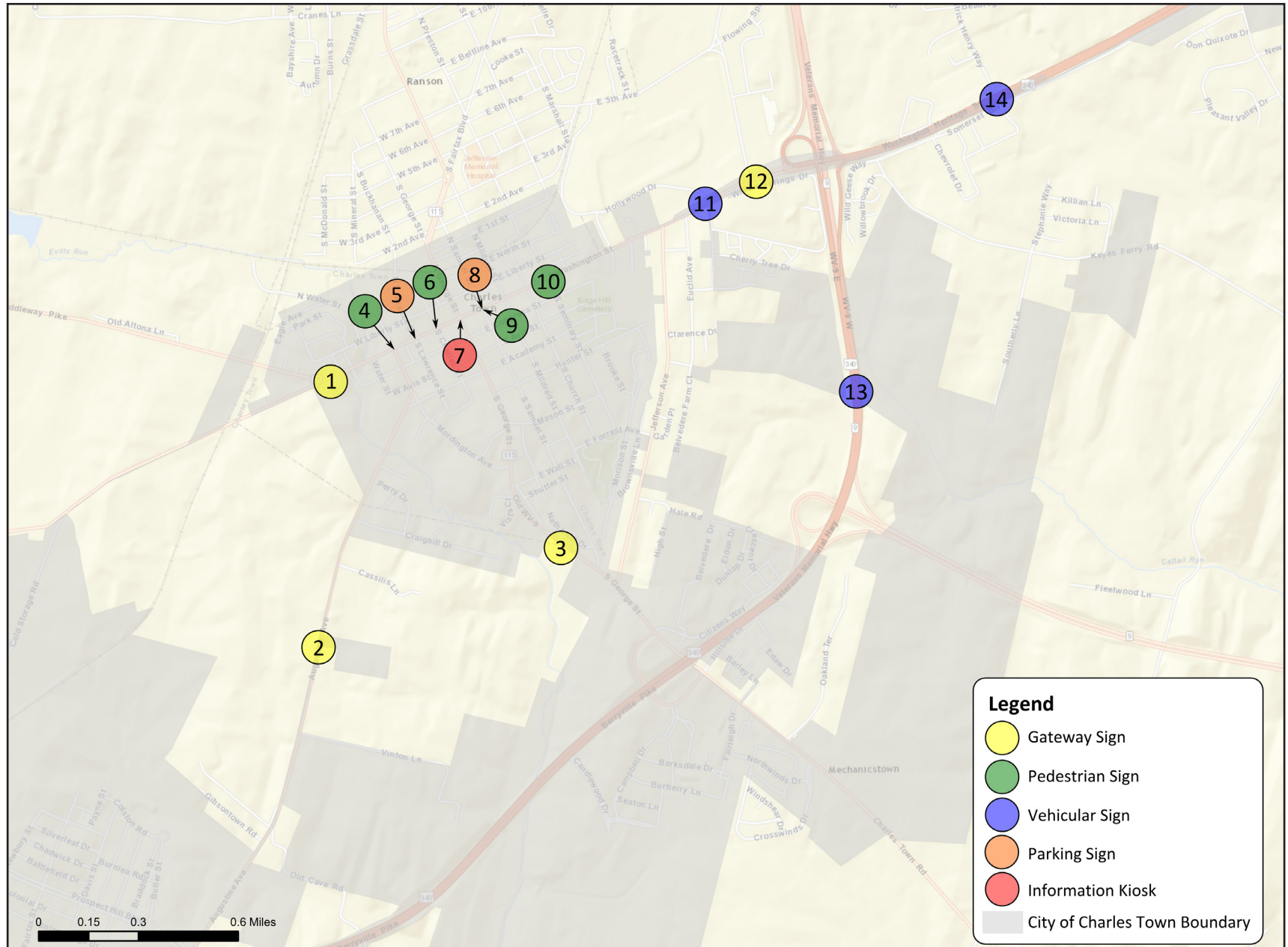


Figure 15: Potential Wayfinding Signage Locations

Wayfinding Study Next Steps

Often times, the most difficult part of a planning study is determining what must be done to implement the study recommendations. This Preliminary Wayfinding Analysis is an early product of what could be a more robust wayfinding signage and city placemaking effort. The following key next steps have been identified as necessary actions for

- **Signage Design Project** - The City should convene local stakeholder groups, including the Design Committee of Charles Town Now and the C*Town Creative Council, for a signage design project to confirm a final style for the wayfinding sign types identified in this study.
- **Confirm Signage Locations** - Similarly, the City should work with local groups to confirm the best locations for signage using the previous section as a foundation for further analysis. The local group could include representatives from the Design Committee of Charles Town Now and other historic society organizations, specifically the City of Charles Town Historic Landmarks Commission. In addition to preferred signage locations, the local stakeholder group could be charged with drafting location content for the individual signs.
- **Coordinate with WVDOH** - Because a few of the proposed sign locations exist on state-owned roads, the City will need to coordinate with the WVDOH to confirm the parameters for the different types of signage in terms of style, materials, and approval process to ensure all signage is compliant with state regulations.
- **Signage Cost Estimates** - As part of a broader walkability study, the City will estimate the cost of proposed signage and identify potential sources of funding for the implementation of the final signage plan and the deployment of signs.



Source: Jefferson County Convention & Visitors Bureau

Prioritized Implementation Plan

Many barriers to pedestrian mobility were identified in previous sections, ranging from gaps in the existing sidewalk network to inadequate pavement conditions. Using information gathered from the completed sidewalk conditions assessment and initial sidewalk and trail connectivity plan, this section seeks to outline anticipated costs of sidewalk improvement and trail connection projects identified along selected priority corridors in downtown Charles Town. Additionally, a resources roadmap has been developed that identifies potential sources of funding to support City consideration of implementation actions. The final component of the ***City of Charles Town Walkability and Connectivity Study*** is an outline of recommended “Next Steps” for the City to consider as it continues to prioritize walkability and connectivity improvements in the downtown core.

Opinion of Probable Construction Cost Assumptions

In producing the Charles Town Walkability Opinion of Probable Construction Cost (OPCC), various assumptions were made to create the costs. The following items were assumed as part of the proposed improvements:

- Assume a 1’ excavation depth wherever excavation is needed
- Sidewalk widening widths were averaged where there were varying existing sidewalk widths
- Proposed curb was assumed to be a combination concrete curb and gutter, with the total width of curb being 2.5’. For excavation purposes, total curb excavation width was assumed to be 3.5’ to give a 1’ wide buffer into the existing roadway.
- For the Route 115 Trail, assume warning signs at the major highway intersection, and new Bicycle Route Signs every quarter mile of roadway.
- For the Route 115 Trail, assume a 3’ shoulder widening where needed, and 2’ shoulder repair where needed.
- For Evitts Run Park and Augustine Trails, assume 10’ wide trails.

Washington, George, and Charles Streets

The OPCC provides a range of cost for the typical section recommended for Washington and George Streets including both sidewalk and curb replacement. Since these streets typical sections recommend a “Road Diet” they will require the replacement of the curb along their entire length. The cost are shown in both a linear foot replacement cost and a total OPCC based on the entire study area being updated.

Other Charles Town Streets

The OPCC for Other Charles Town Streets is further broken sown to show the cost difference in replacing sidewalk only versus replacing sidewalk and curb. These OPCC again provide a range of cost for the recommended typical section. The cost are shown in both a linear foot replacement cost and a total OPCC based on the entire study area being updated.

ADA Compliance

In addition the OPCC provides a cost for the replacement of the ADA ramps within the study area that are not ADA compliant in a per ramp bases and the total study area bases to meet current ADA standards.

Grand Total OPCC

Two separate grand totals ranges are shown for the study area. The first assumes that all curb is replaced on the “Other Charlestown Streets” in the study area and the second assumes that no curb is replaced on the “Other Charlestown Streets” in the study area.

Prioritize Implementation Plan

CHARLES TOWN WALKABILITY STUDY OPINION OF PROBABLE CONSTRUCTION COST							
CROSS SECTION (SEE TYPICAL SECTION SHEETS)	TOTAL PER FOOT COST*			SEGMENT LENGTH	TOTAL SEGMENT COST*		
SIDEWALK IMPROVEMENT SECTIONS							
EB Washington St 1 Sidewalk	\$136	-	\$163	1380	\$187,578	-	\$225,093
EB Washington St 1 Curb	\$36	-	\$44		\$50,344	-	\$60,413
EB Washington St 2 Sidewalk	\$168	-	\$202	1388	\$233,390	-	\$280,068
EB Washington St 2 Curb	\$36	-	\$44		\$50,636	-	\$60,764
George St Side- walk	\$104	-	\$124	1680	\$174,222	-	\$209,067
George St Curb	\$36	-	\$44		\$61,289	-	\$73,547
Charles St Sidewalk	\$104	-	\$124	1120	\$116,148	-	\$139,378
Charles St Road- way and Curb	\$134	-	\$161		\$150,018	-	\$180,021
Other Charles Town Streets Sidewalk	\$62	-	\$74	26476	\$1,641,512	-	\$1,969,814
Other Charles Town Streets Curb	\$36	-	\$44		\$947,605	-	\$1,164,944
ADA RAMPS							
All Intersections (85 ramps)	N/A			N/A	\$102,000	-	\$122,400
TRAIL PROJECTS							
Evitts Run Park Trail	N/A			N/A	\$440,000	-	\$528,000
Augustine Trail	\$118	-	\$142	10032	\$1,187,500	-	\$1,425,000
Southern Neighborhood Connector Trail	\$34	-	\$41	6864	\$233,440	-	\$280,128

GRAND TOTAL = \$5,425,665 - \$6,538,615

* Cost ranges for each item are the base cost to base cost plus 20% contingency

Next Steps

The probable construction cost assumptions outlined in the previous section, totaling between \$5.425 million and \$6.538 million, are large for a community of Charles Town's size and budgetary capacity. Implementing these improvements will require careful long-term capital planning, policy determinations on what is expected of private landowners and developers, proactive efforts to secure grant funding, and a willingness to finance these capital projects through bonding that is backed by municipal taxes or fees. Charles Town can begin to address the funding goals for these priority walkability projects using the following suggested approach and key next steps:

1. Rank and Confirm Priorities: Charles Town's elected leaders and staff management should review the priority sidewalk improvement, ADA compliance, and trail connection projects in this report, giving them priority ranking for funding and implementation.

2. Capital Planning and Budgeting: The planning, engineering, design and construction costs for the sidewalk, trail connectivity and wayfinding initiatives will require the City of Charles Town to undergo a robust capital planning and budgeting process to identify and program the revenue resources required to achieve these multi-year improvements. This will enable the City to identify the appropriate phasing strategy that is often necessary to meet desired capital improvement goals of the City.

3. Engage the Public and Property Owners: The City should take specific steps to build public understanding and support for its walkability initiatives, because such backing will boost the success of longer-term capital planning. Further, as mentioned earlier in this report, Charles Town should engage property owners abutting priority sidewalk improvement areas about the approach the City will use to require improvements by those landowners. Public engagement can involve the straightforward methods of making this report available on the City's web site and through any future citizen internet notice systems established by the city; summarizing this report in a simple 2-page flier that can be distributed city-wide; reaching out directly to specific property owners; holding one or more public workshops; and working with the local newspapers to explain the Charles Town walkability initiative.

4. Policy Approach on Sidewalk Responsibilities of Private Property Owners: As discussed in detail earlier in this report, the City has a standing legal approach that makes abutting property owners responsible for sidewalk improvements. The City should determine whether and how it wishes to exercise this policy with respect to priority sidewalk improvement areas now, including whether the City wishes to set up a “Sidewalk Team Encouragement Program” (STEP) incentive program to provide support and lower costs to property owners who step forward to undertake improvements.

The City may also wish to take action now to consider ordinance or policy changes that would allow the City’s Planning Commission to require any development of land in areas that are planned for trails, to contribute to the construction of such a trail at the time of development (for instance, on Old Route 340).

5. Connect with WVDOH: Ultimately, the WVDOH will need to be involved in Charles Town’s sidewalk and trail projects, whether from a planning and permitting perspective, and/or from a grant funding role. Once Charles Town has confirmed its sidewalk and trail connection priorities, it would be valuable for City leadership to seek meetings with the District 5 Engineer, the Planning team in the WVDOH headquarters, the designated Bike-Ped Program coordinator at WVDOH, and WV Department of Highway senior leadership. These meetings can help gain DOH’s support for these projects, identify key planning and permitting issues, and set up these projects to be more competitive for funding applications. One key reason for this DOH coordination is to ensure that the roundabout planned for the intersection of Route 115 and Citizens Way can be designed and constructed by DOH in a manner that supports an eventual walkability connection between the Southern neighborhoods and the core community.

6. Coordinate with Hagerstown-Eastern Panhandle Metropolitan Planning Organization (HEPMPO): HEPMPO is the local/regional planning unit responsible for identifying and planning transportation priorities for this region, and a key ally and potential conduit for grant funding. Charles Town should coordinate with HEPMPO leadership and its Interstate Council and Technical Advisory Committee decision-making bodies, to ensure that these priority Walkability projects are included in HEPMPO’s Transportation Improvement Plan (TIP), which establishes priority transportation projects that will be pursued over the succeeding four-year period. Charles Town can also seek HEPMPO technical assistance, potential planning funding, and other support for pursuing your priority projects.

7. Conduct Planning / Engineering Projects: The trail connectivity and wayfinding signage projects will require additional planning, design, engineering, possible permitting, and construction bid documentation work before the projects are “shovel ready” and before they are highly competitive for grant funding. Charles Town should identify the costs for such pre-construction planning and make such consulting work a priority for project implementation.

8. Consider Role of Public Work Crews: Charles Town should consider City’s Public Works Department’s certain capabilities to provide demolition and construction management of sidewalk improvements.

9. Consider Establishment of Municipal Service Fee & Other Capital Revenue Strategies: The cost of these Charles Town Walkability projects cannot be handled with grant funding alone, particularly as the federal transportation funding system was drastically changed in 2011-2012 in ways that has substantially reduced funding to local government projects. Even with success in grant funding, Charles Town will need to produce significant matches for such grants. Thus, to accomplish these projects, the City of Charles Town will need to consider a tax levy dedicated to key walkability projects, or a municipal service fee that charges households a monthly charge on the property or water bill to cover capital costs or to service the municipal bonds supporting those costs. For instance, Charles Town could add to its existing service fee that covers road maintenance and paving, to add funding for sidewalk/trail maintenance and construction. To move forward on consideration of such an approach, Charles Town should clearly identify project costs that will not be covered by private property owners (#2 above), identify what portion of these costs can be handled through normal capital planning using existing revenue streams, and thus identify the gap in funding needed to conduct these projects. City officials could consider covering such gap with a municipal service fee or municipal tax levy.

10. Grant Funding: It is always worthwhile to identify and pursue any state or federal grant funding that could be used to supplement local funding and lower the local costs of a project. After a drastic reduction in these kinds of transportation grants to locals in the 2012 and 2015 federal transportation authorization statues, and with the demise of the congressional earmarking system in 2011, there are few opportunities left for such transportation grant funding. Note that the likely incoming 2017-2020 U.S. President has indicated that one of her highest priorities will be to create major investments in infrastructure, including infrastructure, which may provide new opportunities.

It is also unlikely that Charles Town would be competitive for grant funding for normal sidewalk maintenance and replacement projects, even if they are high priorities, unless they are on central roadways that have commercial, tourism, or other substantial public benefits. For example, “gateway” sidewalk projects on Washington Street and MLK Boulevard may be fundable with grants, but sidewalk replacements off the main corridor into the neighborhoods, likely would not be.

Major trail connections and community wayfinding signage projects are the kinds of projects that can attract grant funding, and thus the Evitts Run Creek / Happy Retreat pathways, the Augustine Trail, and the Southern Connector are the kinds of projects that can be packaged for grant applications and advocacy.

Following are some of the grants that Charles Town could pursue for trail, wayfinding, and gateway sidewalk projects:

Agency	West Virginia Department of Transportation
Grant Program	Transportation Alternatives Program (TAP)
Description	• TAP projects focused on creating safe, accessible, attractive, and environmentally-sensitive communities where people want to live, work, and recreate. • Eligible TAP activities include: • Pedestrian and Bicycle Facilities including funding for the planning, design and construction of new or reconstructed sidewalks, walkways, curb ramps, bike-lane striping, pedestrian and biking signals, traffic calming techniques, lighting and other safety-related infrastructure, wide paved shoulders, bike parking, bus racks, off-road trails, bike and pedestrian bridges, and underpasses. • Safe Routes to Schools projects including off- and on-street bicycle and pedestrian facilities, pedestrian and bicycle improvements, sidewalk improvements, and traffic calming improvements which directly support increased safety and convenience for elementary and middle school children in grades K-8 to bicycle and/or walk to school. Projects may indirectly benefit high school age youth or the general public, however these constituencies cannot be the sole or primary beneficiaries. This category would support the Augustine Trail project, as it would serve Page-Jackson Elementary and Washington High Schools. • The Stormwater Mitigation category provides funding to address stormwater management control and water pollution prevention or abatement related to highway construction or due to highway runoff, including activities for runoff pollution studies, soil erosion controls, detention and sediment basins, and river cleanups. See more at: www.transportation.wv.gov/highways/programplanning/planning/grant_administration/transportationalternativesprogram/Pages/default.aspx and www.fhwa.dot.gov/map21/guidance/guidetap.cfm
Timing	Call for applications expected to open in the first quarter of 2017.
Amount	Up to \$500,000, but with the most competitive applications under \$200,000
Match	At least 20% of total project cost

Prioritize Implementation Plan

Agency	W.V. Division of Highways
Grant Program	Surface Transportation Projects (STP) and State Discretionary Funds
Description	The WV Division of Highways annually receives Federal Highway Administration pass-through funding which, together with funding authorized by the West Virginia legislature, can be provided to support local projects. WV DOT tends to hold these funds for its own projects, or for local projects with high political backing, which means that Charles Town will need to work closely with both WV DOH and its legislative delegation to boost the support for your walkability projects and their chances of obtaining these funds. These funds can include the State's annual allocations of federal Surface Transportation Project funding.
Timing	Rolling
Amount	Depends on project, and ability to secure DOH support
Match	Typically 20%

Agency	U.S. Department of Transportation
Grant Program	Transportation Invest Generating Economic Recovery (TIGER) Discretionary Grants Program
Description	- Provides capital investments in surface transportation infrastructure, including for trail connectivity projects - Highly competitive, requiring highly compelling project and strong political backing to be successful - Successful TIGER projects leverage resources, encourage partnership catalyze investment and growth, and fill a critical void in the transportation system - Potential that Evitts Run Trail, Augustine Avenue Streetscape, and Augustine Trail combined into one project could be competitive - Will need to be "shovel-ready" with at least near-complete project design, engineering and permitting completed See more at: https://www.transportation.gov/tiger
Timing	Expected announcement for TIGER each Spring
Amount	\$1 million- \$20 million, with average grants for smaller communities ~\$5 million
Match	Between 30-50% to be competitive

Agency	West Virginia Department of Commerce
Grant Program	Land & Water Conservation Fund (LWCF)
Description	•As Charles Town knows from successfully securing these funds in past years, the WV Department of Commerce provides annual LWCF grants to local governments and municipal parks & recreational authorities for a wide range of planning and construction projects for publicly-accessible parks and recreational facilities. These can include public recreational trails. The trail component of the Evitts Run Park project t could utilize LWCF grant resources. •Projects must be listed in, or compatible with, the WV Statewide Comprehensive Outdoor Recreation Plan (SCORP) See more at: www.wvcommerce.org/people/communityresources/infrastructure/landandwater-conservationfund/default.aspx
Timing	Typically requires a letter of intent in January and an application in March each year.
Amount	Up to \$250,000, with typical grant awards averaging ~\$75,000
Match	50/50 reimbursable grant

Agency	National Recreation & Parks Association (NRPA)
Grant Program	Great Urban Parks Initiative
Description	• In 2016 NRPA launched a “Great Urban Parks Campaign”, and gave grants to three winners in the nation, in a partnership with the American Planning Association and the Low Impact Development Center. If NRPA conducts the project again, Charles Town should re-apply for Evitts Run Park, including the trail component. Charles Town applied in 2016 but was not selected; the City can and should obtain a debrief from NRPA to determine how it can become more competitive for the next round of funding. • Provides funding for projects that provide outstanding urban park and recreation construction which have a green infrastructure component to reduce stormwater pollution, particularly projects in distressed minority neighborhoods. See more at: www.nrpa.org/greeninfrastructure/
Timing	Spring 2017
Amount	Up to \$550,000
Match	No match required, but leverage important

11. Effective Grants Advocacy: Charles Town should consider using certain effective tactics for boosting your grants advocacy:

a.) Create project briefing sheets: It is valuable to put together a compelling briefing sheet that can be used to succinctly convey to the public, key stakeholders, and funders the scope, objectives, benefits, status, progress, supporters, funding secured, challenges, and outstanding needs of the walkability project. When drafting a project briefing sheet, keep in mind the following tips:

- Keep it short: no more than two pages (one sheet, front and back).
- Liven up the sheet with graphics or pictures, and the organization/sponsor logo. Remember the adage that “a picture is worth a thousand words” . . . and maybe a million dollars. Consider creating an artist’s rendering of the project.
- Include specific funding requests or opportunities currently being sought.
- Include the lead point of contact for inquiries about the project.
- Continuously update the briefing sheet as goals are achieved, funding secured, new partnerships are formed, or as project objectives change.

Distribute and email these briefing sheets widely and often. The briefing sheets can help create a buzz about the project and build support for funding efforts. They are much more effective business cards alone. It is surprising how the briefing sheets can circulate and give a boost to a project

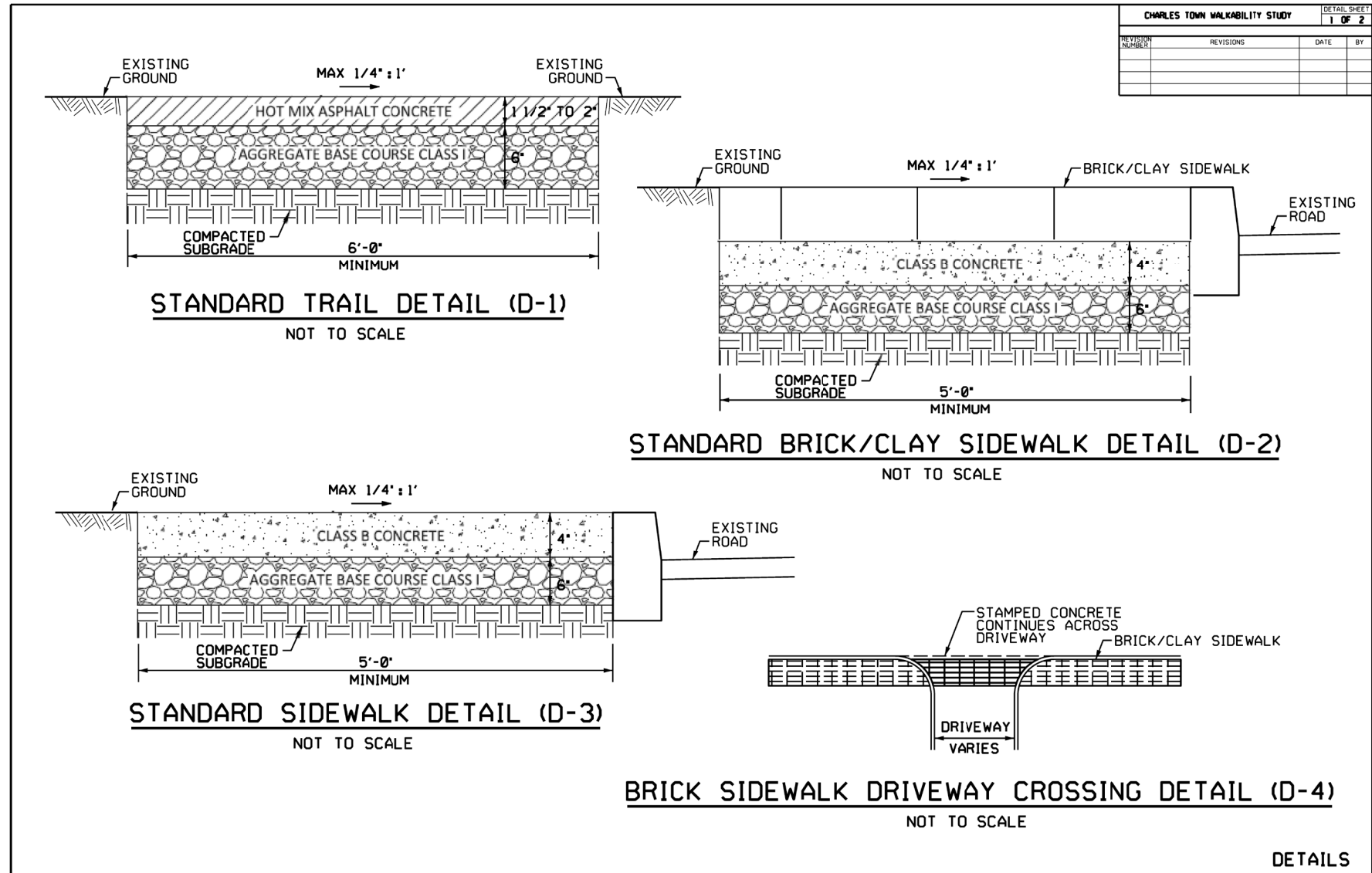
b.) Visit Agency Program Managers & Senior Officials: It is important to build understanding and support among both the program managers and senior leadership of key agencies which, in the case of these walkability projects, would be the WVDOH, the West Virginia office of the Federal Highway Administration, and the West Virginia Department of Commerce. Plan visits to their Charleston offices, and invite these officials to tour your community projects in Charles Town

c.) Collaborate with Elected Leaders: It is likewise important to brief Charles Town’s state and federal elected representatives early in the planning process for these walkability projects, invite them to tour your projects and reviews planning materials, to seek their help when grants are submitted, and to make them part of groundbreakings and ribbon cutting events for these projects.

12. Renew Priorities Periodically: Over time, other priority projects will emerge – and other areas of existing sidewalks will deteriorate in condition. Make sure that Charles Town reviews and renews this Walkability & Connectivity study every five years or so, to ensure that the City stays on top of these challenges and opportunities for enhancing community walkability.

Appendix A -Proposed Template for Sidewalk and ADA Ramp Design

Standard Details



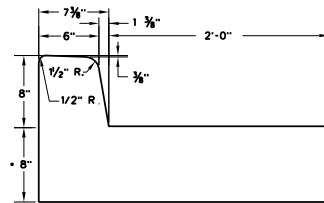
Standard Details



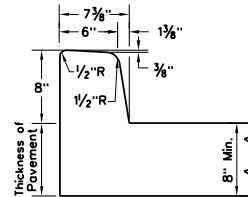
CHARLES TOWN WALKABILITY STUDY			DETAIL SHEET	
			2 OF 2	
REVISION NUMBER	REVISIONS	DATE	BY	

WV DOH Standard Details

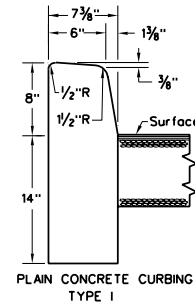
- * or thickness of pavement, when abutting concrete pavement.
- ** Does not apply when abutting concrete pavement. Instead a longitudinal joint with tie bars or tie bolt assemblies shall be constructed at this location.



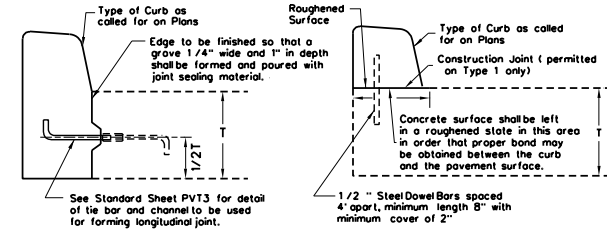
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TYPE I



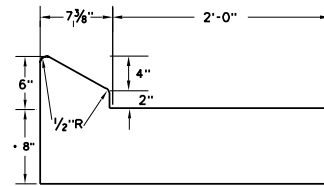
INTEGRAL CONCRETE CURBING
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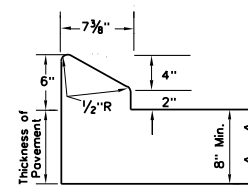
PLAIN CONCRETE CURBING
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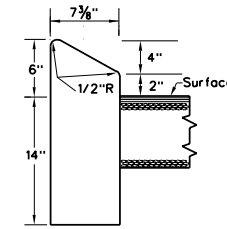
DETAILS SHOWING PLACING OF CONCRETE CURB BY SEPARATE METHODS



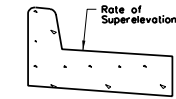
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TYPE II



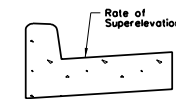
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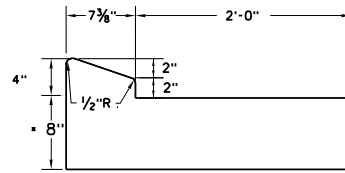
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TYPE II



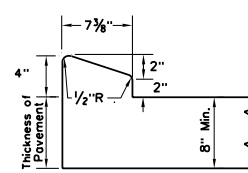
SKETCH SHOWING METHOD
OF PLACING CURB ON HIGH
SIDE OF SUPERELEVATED
SECTION



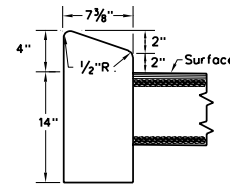
SKETCH SHOWING METHOD
OF PLACING CURB ON LOW
SIDE OF SUPERELEVATED
SECTION



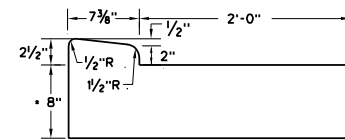
COMBINATION CONCRETE CURB AND GUTTER
TYPE III



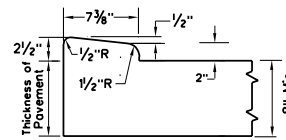
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TYPE III



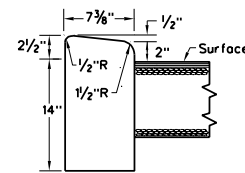
PLAIN CONCRETE CURBING
TYPE III



COMBINATION CONCRETE CURB AND GUTTER
TYPE IV



INTEGRAL CONCRETE CURBING
TYPE IV



PLAIN CONCRETE CURBING
TYPE IV

NOTES

For all Concrete Curbing, the face of the curbing shall be offset a minimum of two feet from the edge of traffic lane, unless otherwise shown on the Plans.

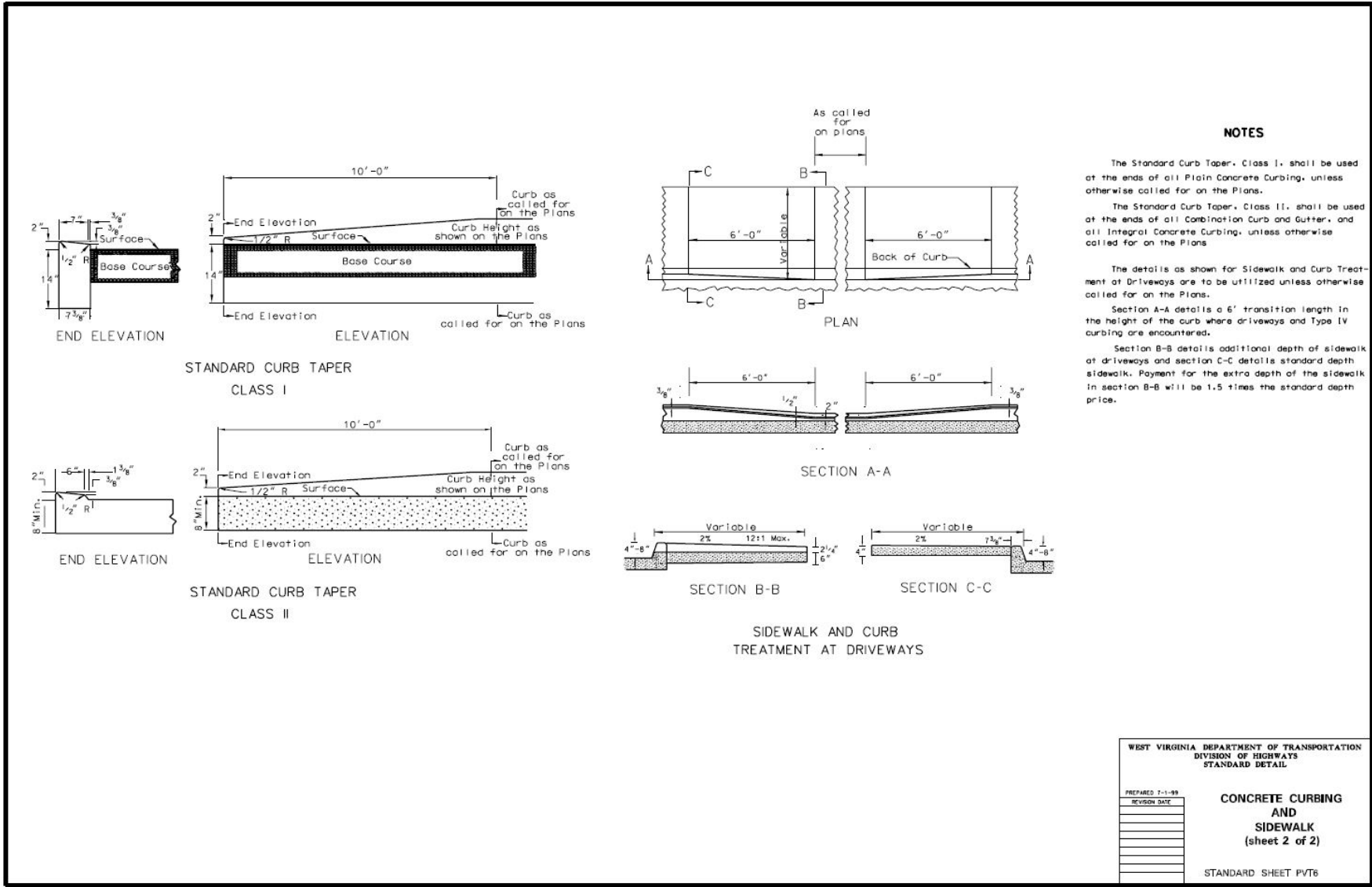
Construction of Concrete Curbing shall be by the "Separate Method" when sawed joints are constructed in the pavement.

All curb joints shall be made by acceptable forming methods.

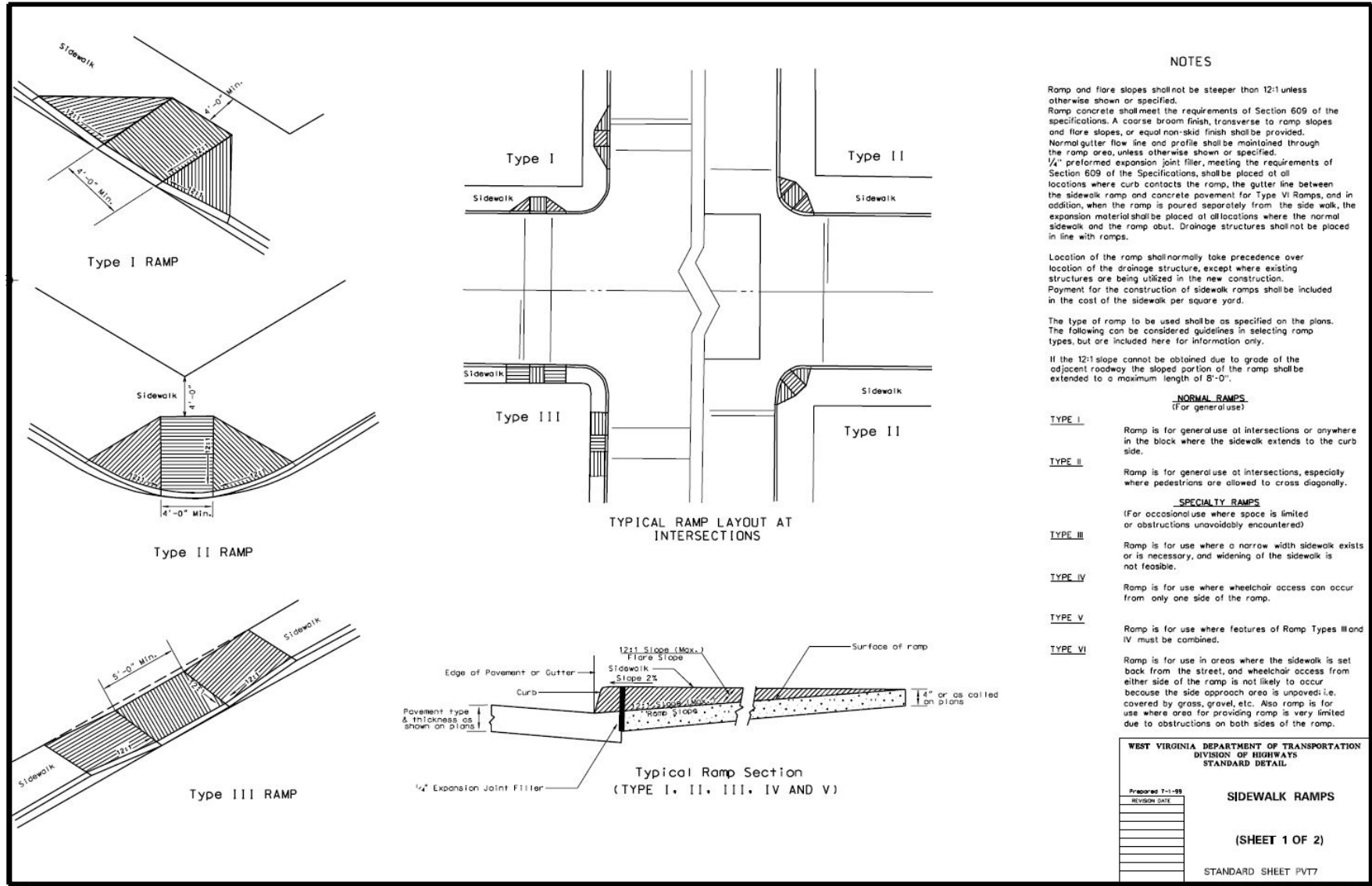
For Combination Concrete Curbs And Gutters, the slope of the 2'-0" wide concrete gutter shall conform to the pavement slope or as otherwise specified on the Plans. For Integral and Plain Concrete Curbing, the slope of the concrete or bituminous surface abutting the raised portion of the curb shall be as specified on the plans.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS STANDARD DETAIL	
PREPARED 7-1-99	CONCRETE CURBING AND SIDEWALK (sheet 1 of 2)
REVISION DATE	STANDARD SHEET PVT6

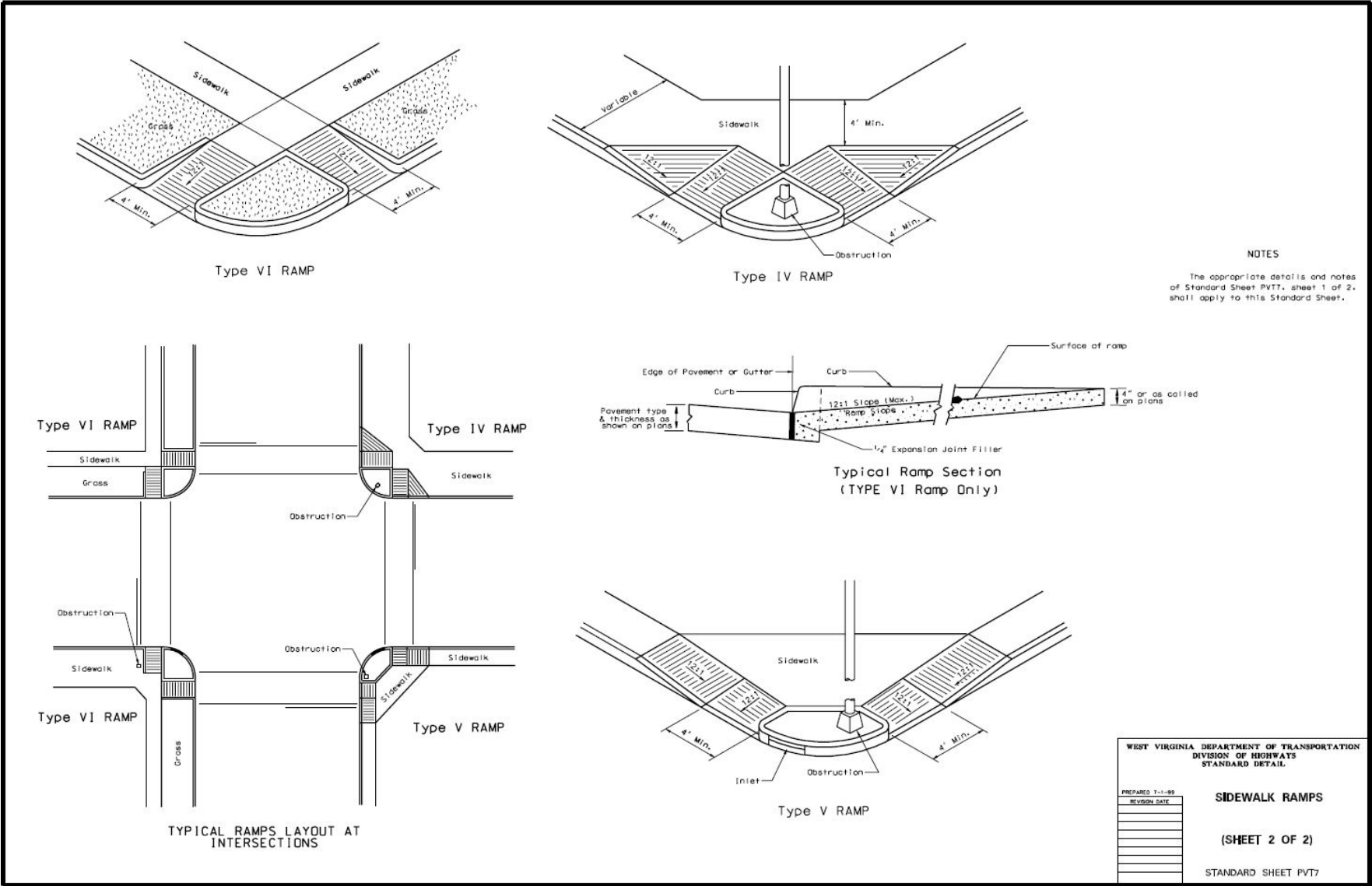
WV DOH Standard Details



WV DOH Standard Details

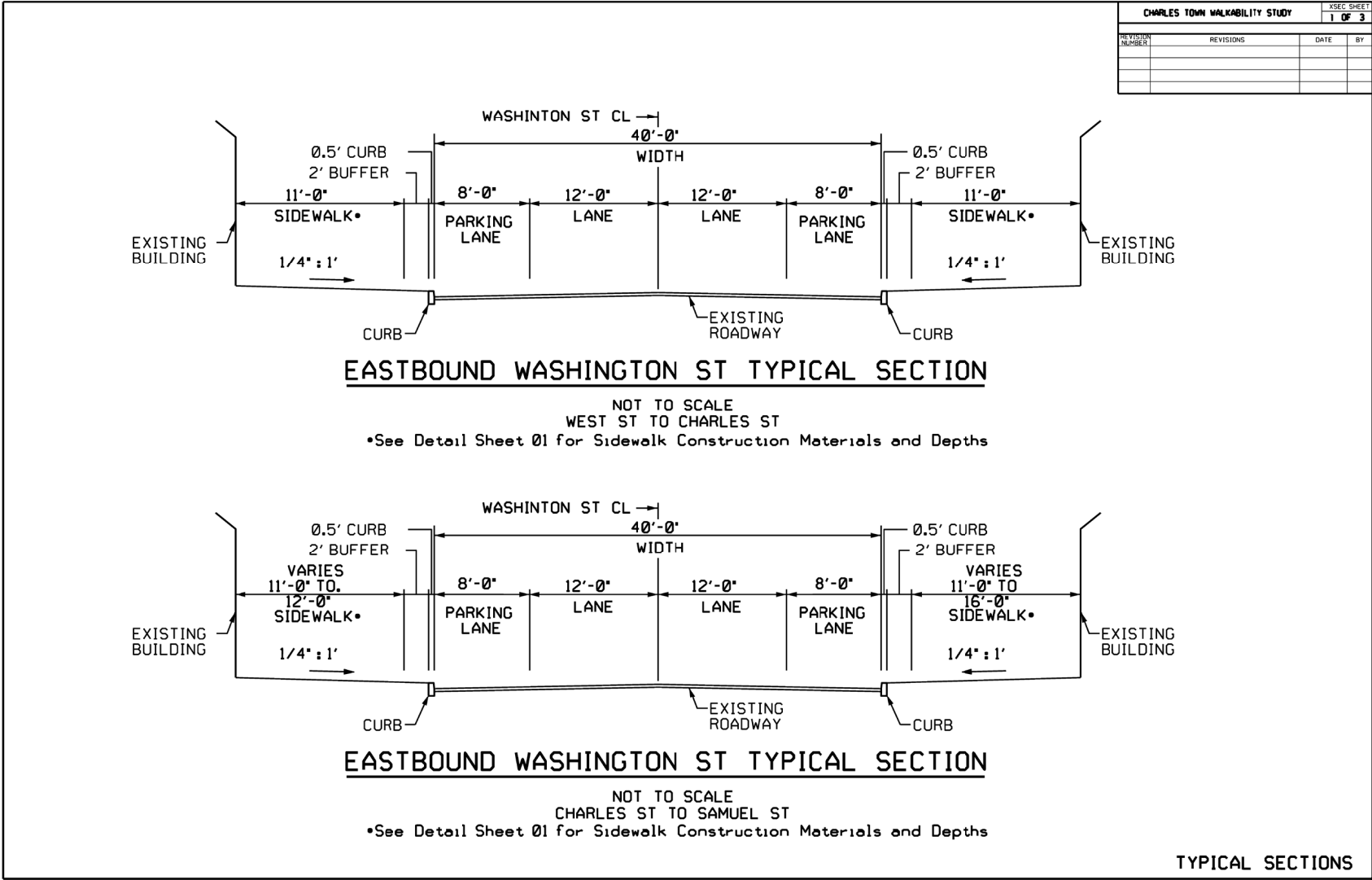


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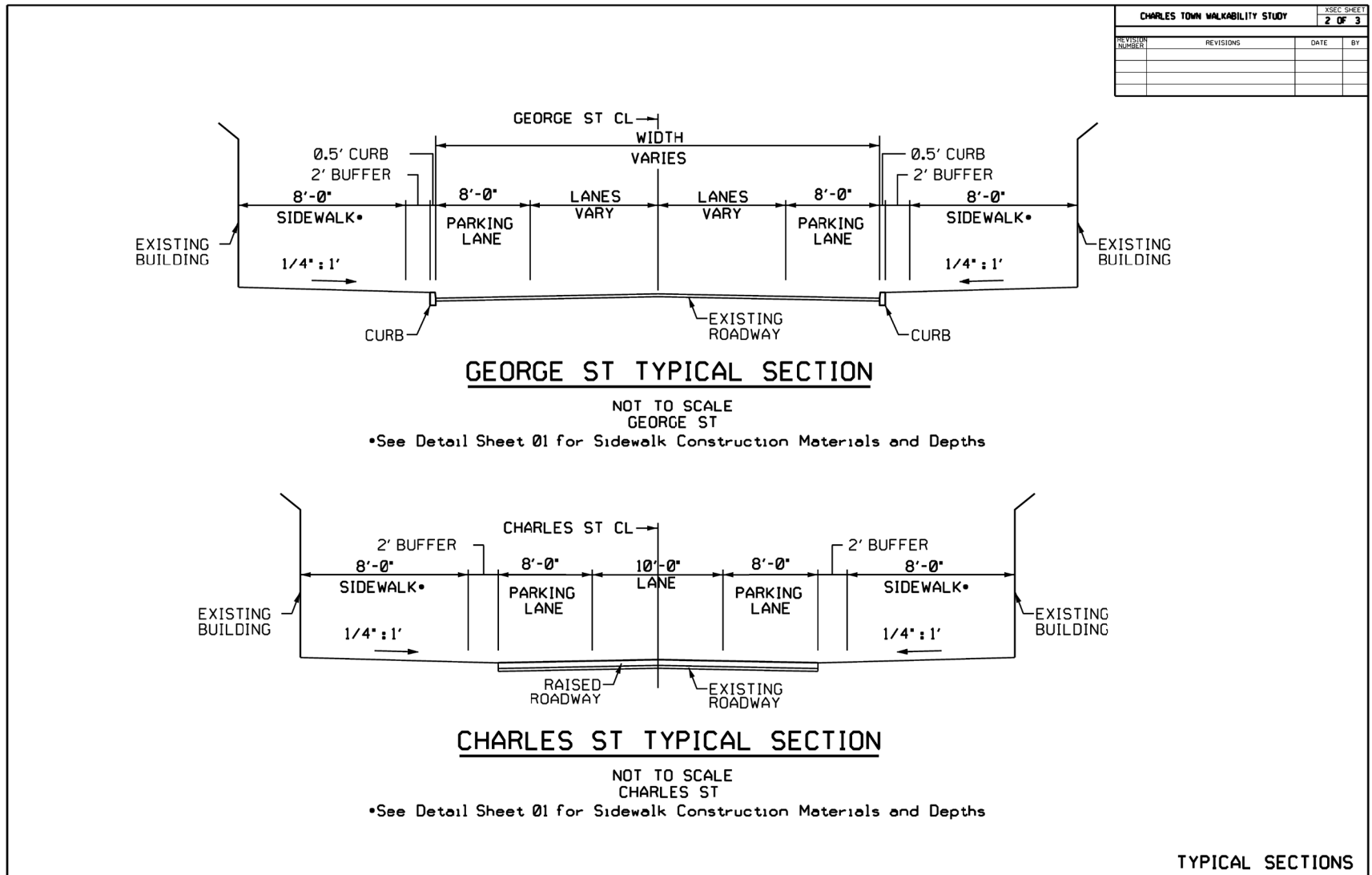


Appendix B -Street & Sidewalk Design Templates for Washington, George and N. Charles Streets

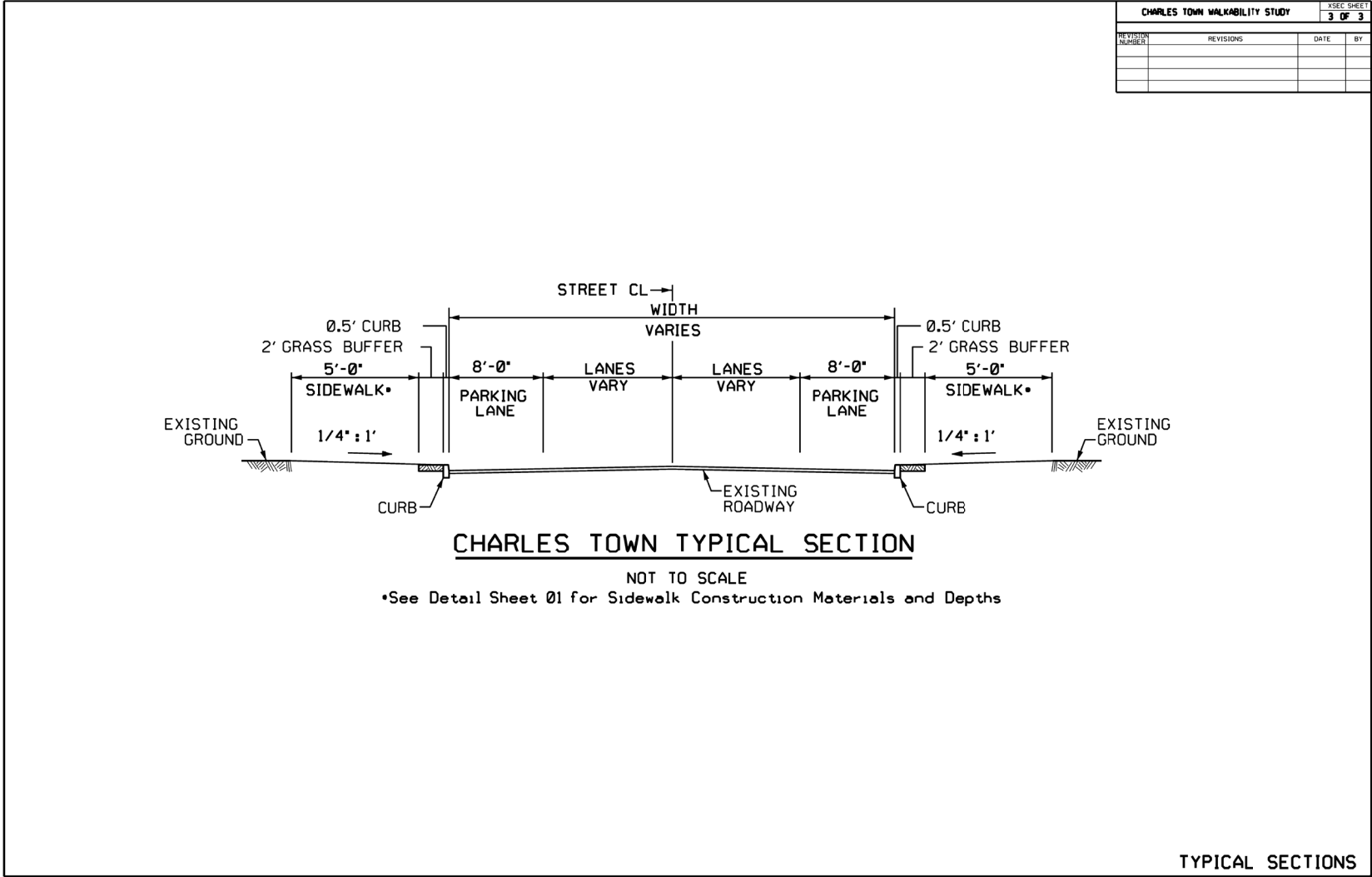
Typical Roadway Sections



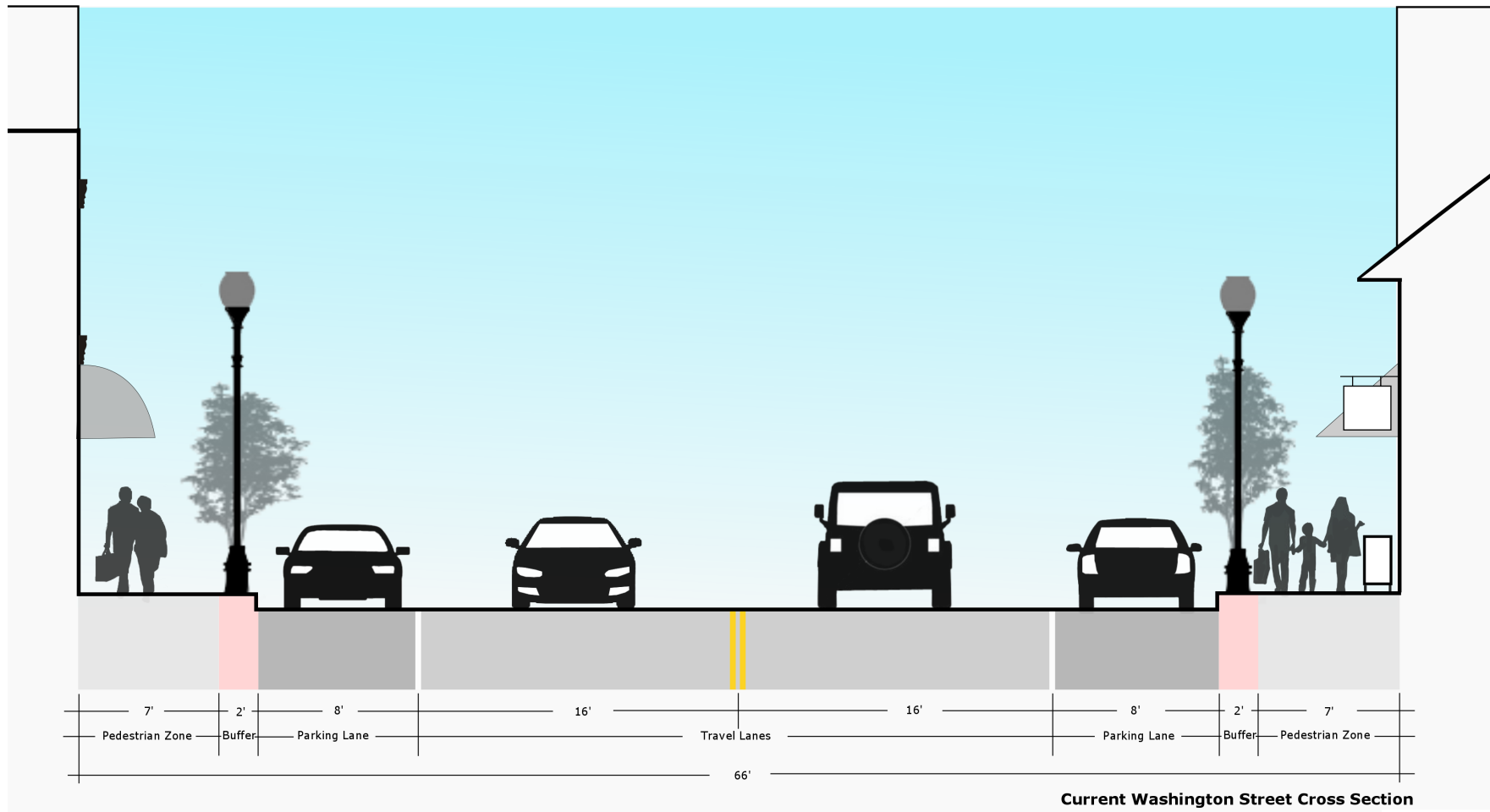
Typical Roadway Sections



Typical Roadway Sections

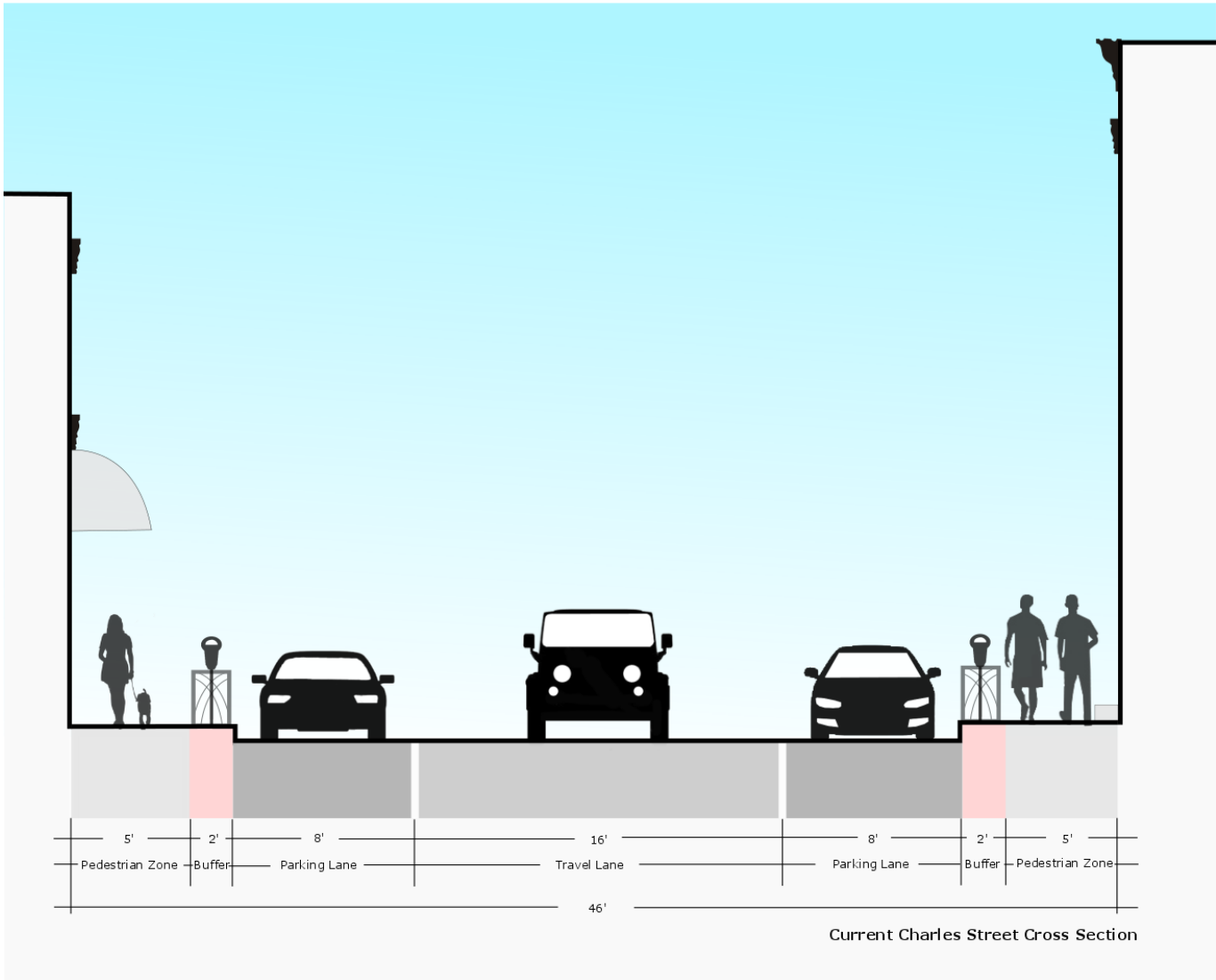


Current Cross Section



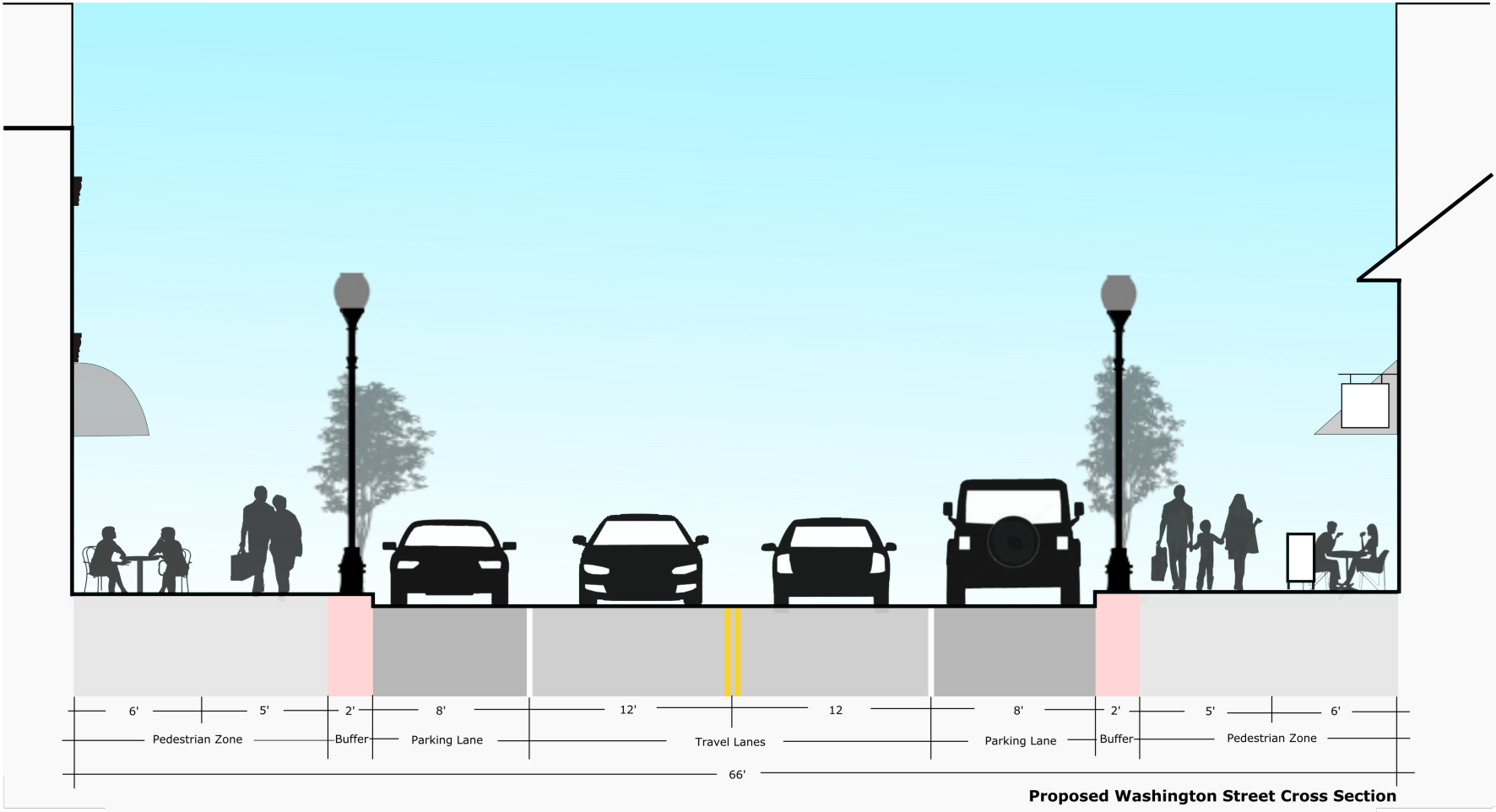
Current Washington Street Cross Section

Current Cross Section

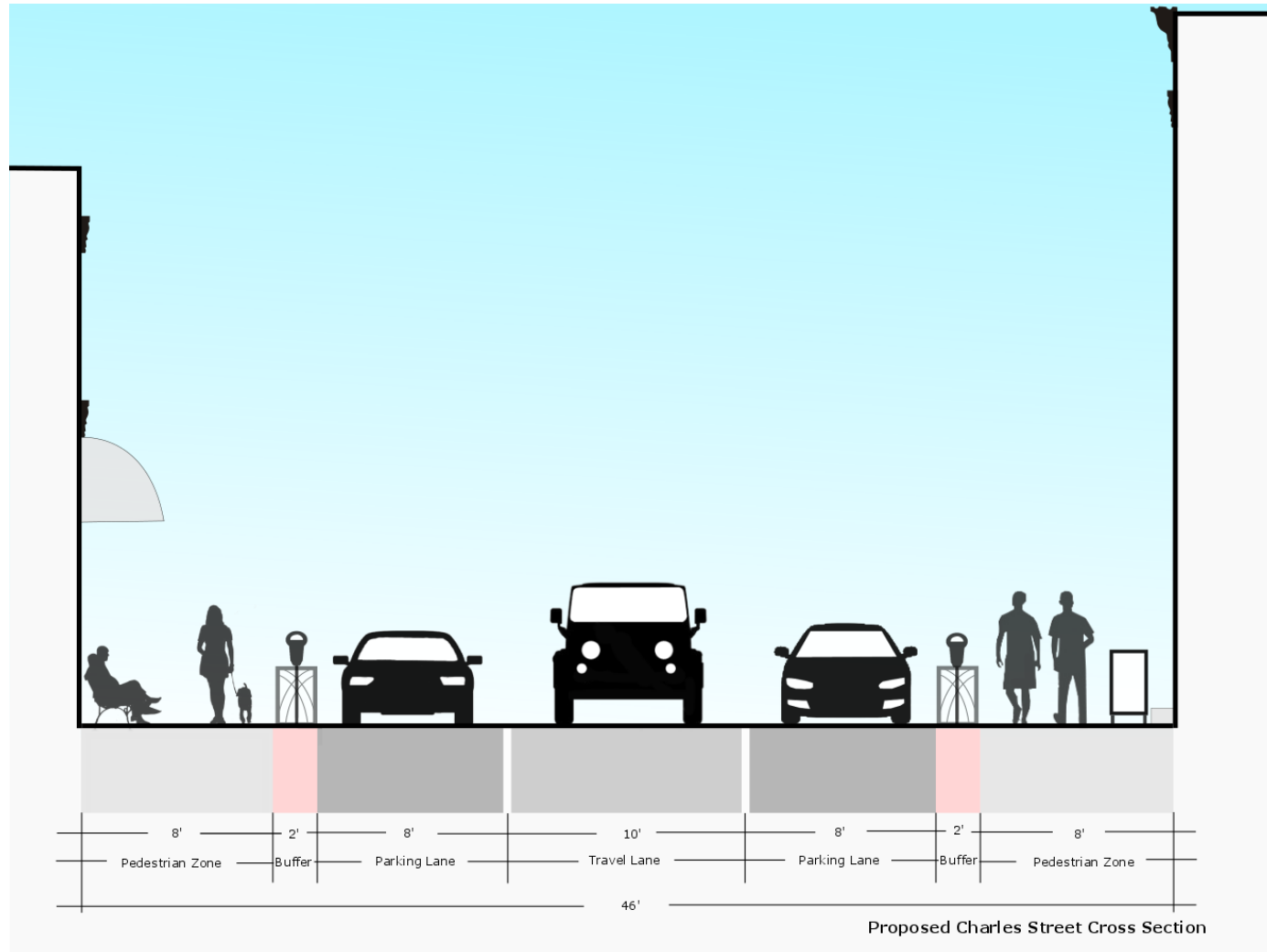


Appendix C - Street & Sidewalk Cross Sections for Washington and Charles Streets, Showing Wider Sidewalks

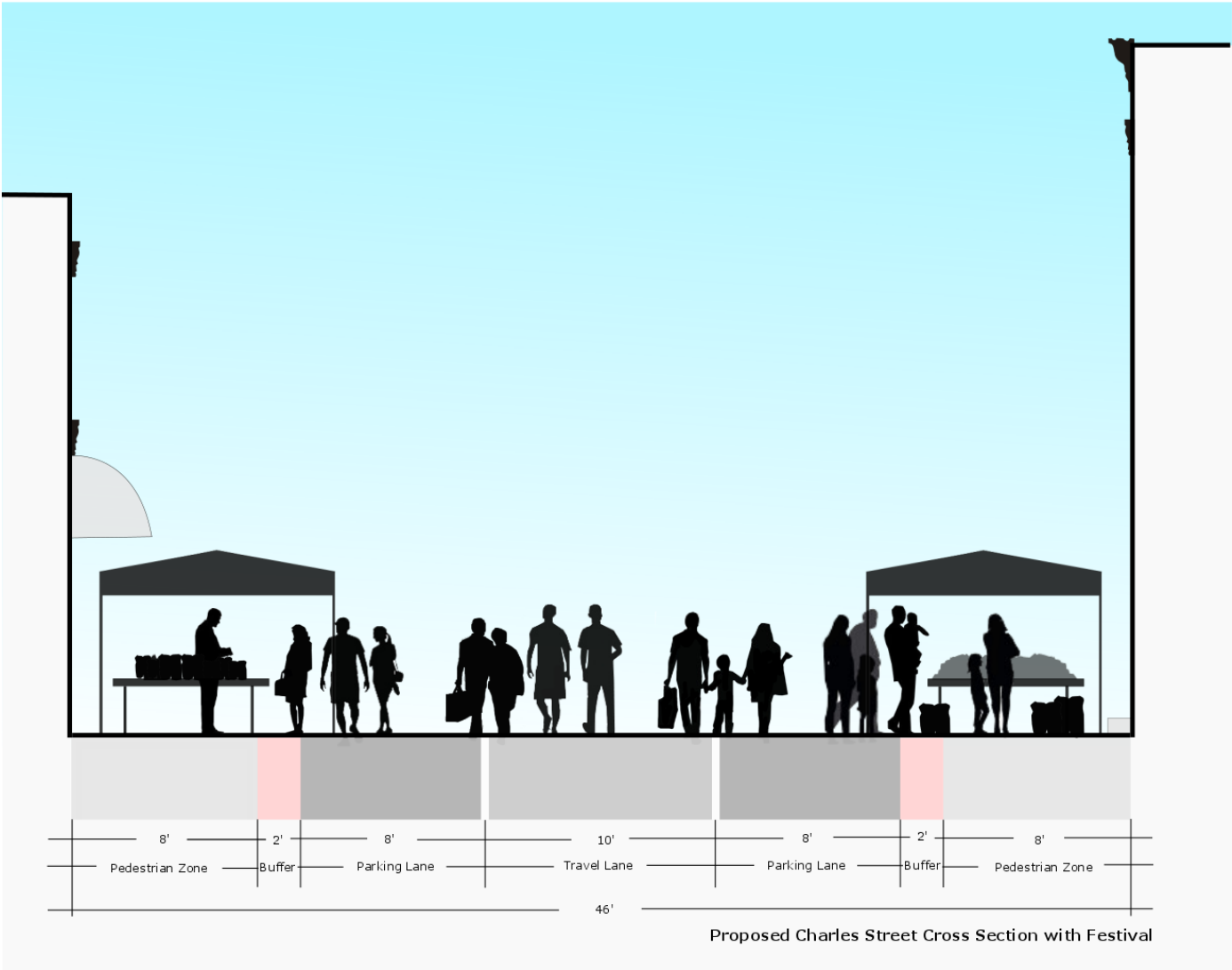
Proposed Cross Section



Proposed Cross Section



Proposed Cross Section



Appendix D - Renderings of Washington and Charles Streets, Showing Wider Sidewalks

Washington Street



North Charles Street



North Charles Street

