

KANAWHA TRESTLE & RAIL TRAIL MASTER PLAN

UPDATE - OCTOBER 2013



ACKNOWLEDGMENTS

KANAWHA TRESTLE & RAIL TRAIL MASTER PLAN

The City of Charleston

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Prior Reports & Master Plans

West Side Revitalization Plan - **1996**

Florida Street Revitalization Project - **2004**

Kanawha Trestle & Rail Trail Master Plan - **2004**

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INTRODUCTION

Project History

Original Vision. The vision to create a comprehensive trail system throughout the “West Side” neighborhoods of Charleston, WV began in 1996 after the City of Charleston and the West Side Neighborhood Association (WSNA) commissioned an overall master plan for the West Side (**Appendix 1**). The leading goal of that master plan was to focus on ways to rehabilitate the West Side, which had slowly fallen into disrepair over the previous years. Although many recommendations from streetscaping to the development of greenspace were provided within the report, perhaps the most prominent proposal was the creation of linkages through a system of trails.

The trail linkage system was designed to not only connect the neighborhoods within the West Side, but also the West Side to surrounding parts of the City and metropolitan area. Although the trail system outlined in the report is lengthy and will require three phases before it’s total completion, one catalytic project was later identified to put things into motion; the conversion of the CSX railroad trestle, known as the Kanawha Trestle, into a greenway that would connect the north and south banks of the Kanawha River.

Charging Forward. After the release of the 1996 West Side Master Plan and the following release of a more in-depth 2004 Kanawha Trestle and Rail Trail Master Plan (**Appendix 2**), the concept of repurposing the Kanawha Trestle as a pedestrian greenway became a mission of the City of Charleston and the WSNA. Through the determination and dedication of the City, the WSNA, and numerous stakeholders and members of the

community, funding from grants and other sources was accumulated towards bringing the trestle project into realization.

As one of the final steps in determining the overall cost of repurposing the Kanawha Trestle, the City of Charleston commissioned a feasibility study that analyzed the structural integrity, anticipated repairs, and proposed trail conversion of the trestle. Upon completion of the report, it was found that although successful conversion of the trestle is possible, it would need substantial structural repairs and improvements in addition to the already assumed work in converting the trestle into a pedestrian trail. Regrettably, it was decided that due to the costs being driven up by repairs, the conversion of the Kanawha Trestle would have to be completed in a later phase when the heightened funds become available.

A New Approach. Following the unfortunate news that the Kanawha Trestle would not become the first phase of the proposed West Side trail system, the City of Charleston sought out another way to provide the West Side with a comparable linkage to the surrounding communities. Fortunately, the solution to the problem had, in a way, already been addressed through recommendations in the 1996 West Side Master Plan that had already been initiated and partially completed; the Florida Street revitalization project (**Appendix 3**).

Florida Street, which had been identified in the West Side Master Plan as a crucial connection through the heart of the West Side, underwent the first phase of a revitalization project in

2006 following an extensive master plan that stretched its entire length from Kanawha Boulevard to Washington Street. Conveniently, Florida Street runs parallel to the West Side portion of the Kanawha Trestle less than a block away to the west. The City of Charleston saw this as an opportunity to utilize Florida Street as an additional trail connection from the West Side neighborhood to Kanawha Boulevard, which is planned to provide a two lane bike path in addition to a current walking/jogging path.

Intent

With the addition of the bike path along Kanawha Boulevard and the connection to Florida Street, the original vision of providing linkages throughout the West Side and to its surrounding areas can still be realized in the first phase of the overall trail master plan. The following text and figures have been assembled to display how Kanawha Boulevard will act as a comparable and beneficial solution in light of the current infeasibility of utilizing the Kanawha Trestle.

In addition to the Kanawha Boulevard / Kanawha Trestle revision, two extensions to the trail are proposed beyond the original 2004 Kanawha Trestle and Rail Trail Master Plan. The first extension reaches from the Patrick Street Bridge to downtown South Charleston. The second extension stretches from the Elk River to the WV State Capitol campus. With these additions, the greenway system truly becomes a comprehensive network of trails throughout the entire City of Charleston and its surrounding areas.

GOALS & OBJECTIVES

Goals Summary

The goals and objectives for the updated Kanawha Trestle and Rail Trail Master Plan, in most cases, parallels the original goals set forth by the 2004 master plan. The main aspects that differ are in relation to utilizing the Kanawha Boulevard as a crucial connection throughout the City of Charleston. Additionally, the updated plan provides an extension to the overall trail plan that reaches west to the neighboring municipality of South Charleston and east to downtown Charleston and the East End neighborhood.

By utilizing the Kanawha Boulevard as a key link within the West Side trail system, more pedestrians and bicyclists than ever before will have access to Charleston's greatest resource, the Kanawha River. This aspect alone opens up tremendous potential for additional economy-boosting riverfront development that can serve the West Side and surrounding communities.

Perhaps the most compelling goal that the original master plan met was the connection to the south bank of the Kanawha River, which would provide a direct link to South Charleston. Beneficially, the addition of the Kanawha Boulevard bike trail will also provide this link as it will stretch from Magic Island to the Patrick Street Bridge. Because the Patrick Street Bridge already has sidewalks on both of its sides, it can accommodate pedestrian and bicycle traffic and provide the important connection to South Charleston.

Finally, a couple of goals that were imperative to the success of the original master plan were the identification and remediation of environmental issues and the acquisition of property that the trail would encroach. Fortunately, the addition of Kanawha Boulevard to the overall plan causes no additional environmental concerns within its entire length. Also, in terms of property acquisition, the newly proposed length of trail along Kanawha Boulevard is planned within the City owned right-of-way, thus eliminating the need to acquire land in order to bring that portion of the plan into fruition.

The following list is a complete breakdown of the project goals and objectives:

Kanawha Boulevard Bike Trail: Project Goals & Objectives

Goal 1: Create a Greenway Plan to connect the East End, West Side, and Downtown areas

Goal 2: Define an additional connection to South Charleston for Phase I implementation

- Utilize the Kanawha Boulevard and Patrick Street Bridge to provide connection.
- Extend trail west along MacCorkle Avenue into downtown South Charleston.

Goal 3: Provide multiple trailhead options for easy access to the trail system

Goal 4: Enhance separation between vehicular and pedestrian traffic patterns

- Create greenway buffers in areas where there is a vehicular and pedestrian conflict.
- Avoid road crossings where possible to minimize conflicts.
- Create safe and obvious crossings where vehicular and pedestrian conflicts are unavoidable.

Goal 5: Improve visual aesthetics along the project corridor

- Create a true "greenway" with enhanced vegetation.
- Encourage redevelopment and rehabilitation of properties along the trail system.

Goal 6: Identify key nodes along the proposed trail to further develop

- Create or identify destinations along the trail system.
- Identify locations for overlooks and / or gateways and wayfinding.

Goal 7: Identify and encourage development areas along the project corridor

Goal 8: Identify encroachments of proposed trail system on existing properties

Goal 8: Improve public safety and promote healthy lifestyles

- Provide "Safe Routes to School."
- Encourage walking and biking by providing convenient access and multiple destinations.

RECOMMENDATIONS

Kanawha Trestle Trail System Overview - West Charleston



1" = 1000'

 Proposed Trail

 Minor Trail Node

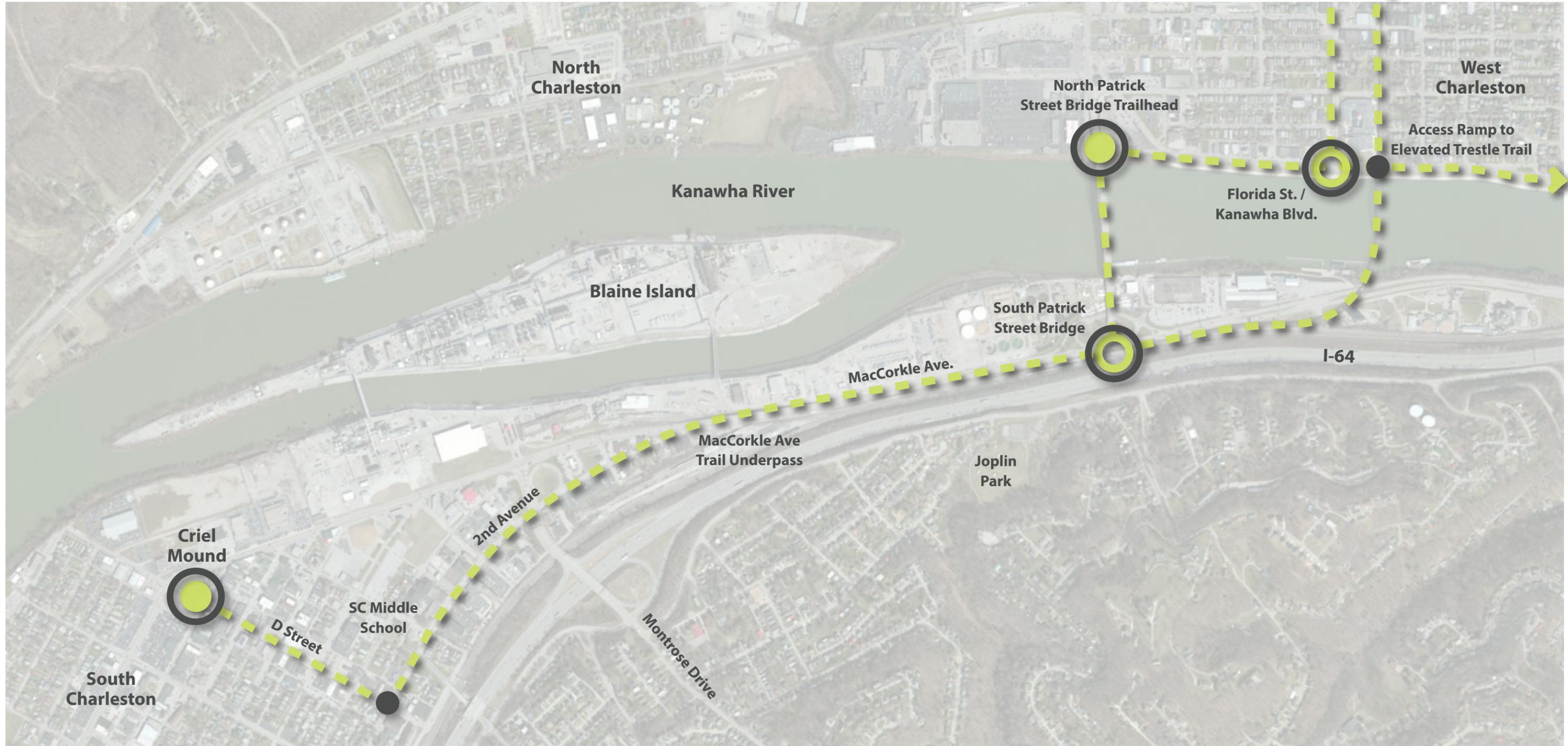
 Major Trail Node

 Trailhead

RECOMMENDATIONS

KANAWHA TRESTLE & RAIL TRAIL MASTER PLAN

Kanawha Trestle Trail System Overview - South Charleston



RECOMMENDATIONS

RECOMMENDATIONS

KANAWHA TRESTLE & RAIL TRAIL MASTER PLAN

Kanawha Trestle Trail System Overview - Downtown & East Charleston



1" = 1000'

 Proposed Trail

 Minor Trail Node

 Major Trail Node

 Trailhead

RECOMMENDATIONS

RECOMMENDATIONS

Phase I: Kanawha Boulevard Typical Trail Section A

To the right is an example of how the proposed bike trail along Kanawha Boulevard will not only offers space for the two lane bike trail itself, but how it will also provide enough space to include an 11' greenway that stretches along a portion of the project. To gain the space required for these design elements, the center median of the boulevard and the on street parking in the west bound lanes have been removed. Additionally, the lane widths have been reduced from 12' to 10.5'.

With the addition of the large greenway that separates the boulevard and bike trail, there is ample space to include site furnishings and street trees. Also, the separation between the bike trail and boulevard adds a level of safety and comfort for bicyclists and pedestrians.



Design Highlights

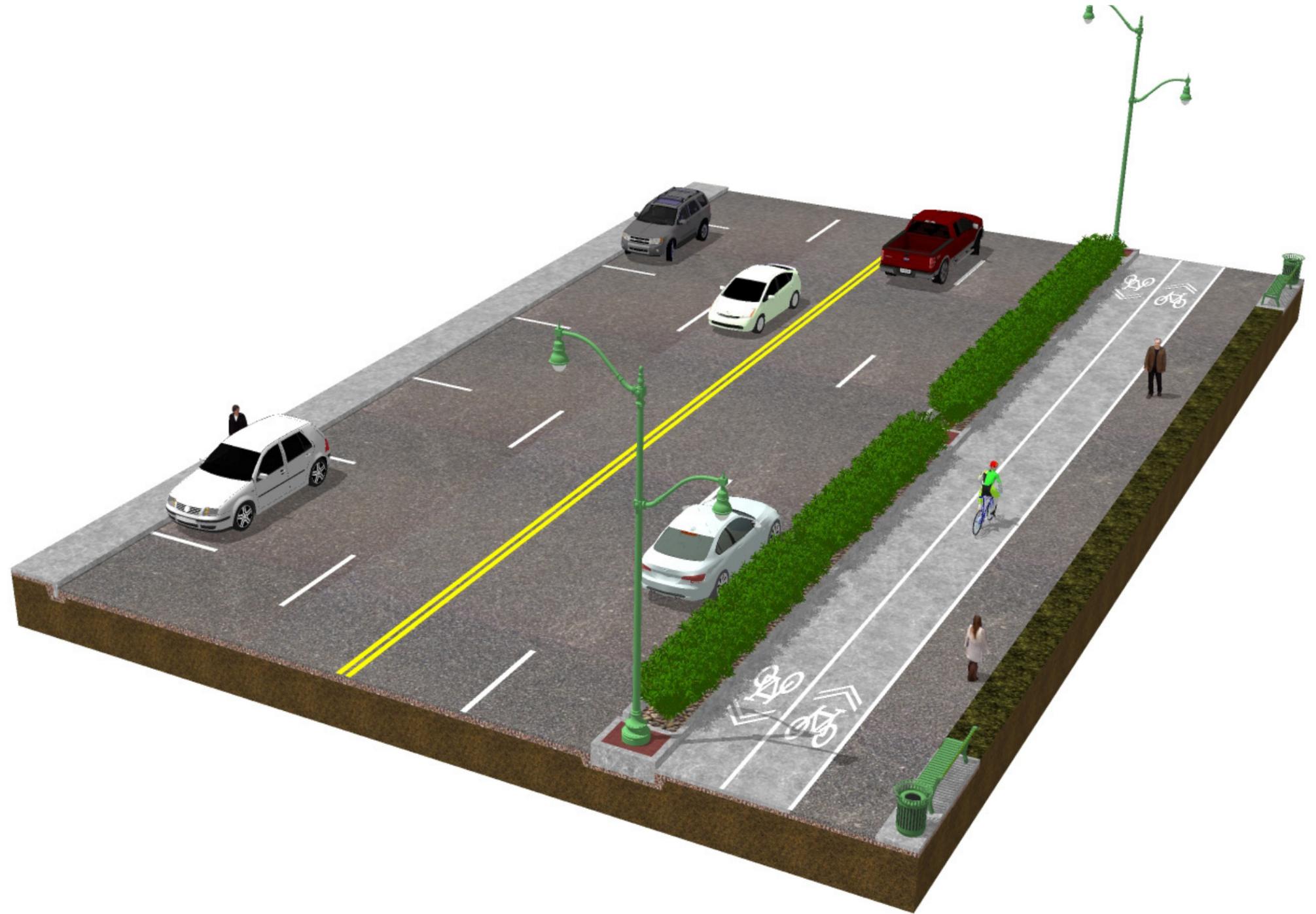
- Two lane bike trail
- Maintained walking / jogging path
- Wide greenway buffer
- Enhanced streetscape
- Reduced lane widths
- Potentially slower drive speeds
- Stormwater infiltration

RECOMMENDATIONS

Phase I: Kanawha Boulevard Typical Trail Section B

In areas where an 11' greenway buffer is not allowable due to parking requirements and width of right-of-way, a smaller, yet effective 4' wide buffer will separate vehicular traffic from bicycle and pedestrian traffic.

Although the greenway is only 4' wide, there is still ample space for smaller plantings such as shrubs and ornamental grasses. Also, site furnishings, such as benches and waste receptacles, are proposed along the south side of the existing walking / jogging trail at the top of the river bank.



Option Highlights

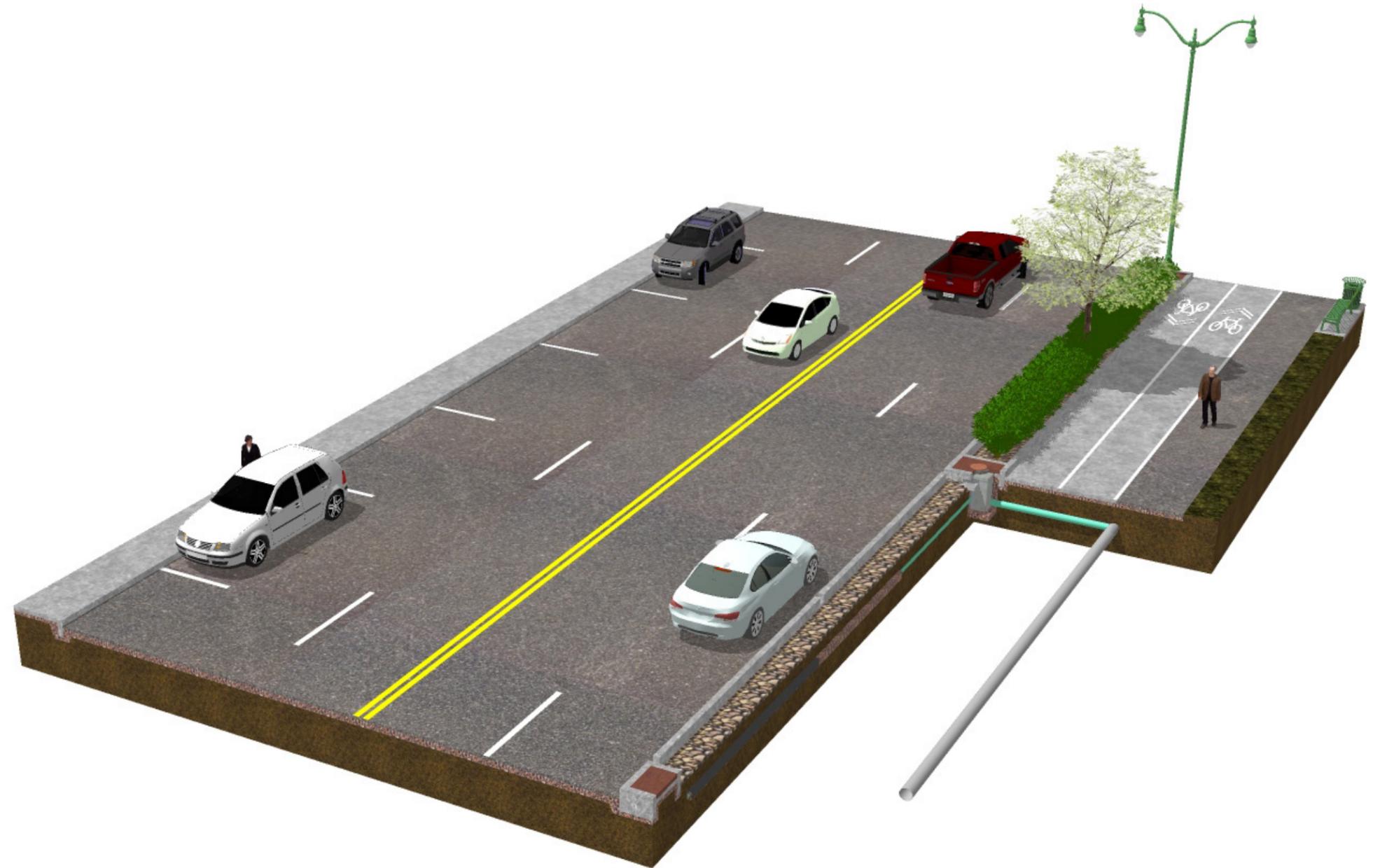
- Two lane bike trail
- Maintained walking / jogging path
- Narrow greenway buffer
- Enhanced streetscape
- Maintained on-street parking
- Reduced lane widths
- Potentially slower drive speeds
- Stormwater infiltration

RECOMMENDATIONS

Phase I: Kanwaha Boulevard Stormwater Infiltration

As an effort to not only comply with the City of Charleston's MS4 permit, but also as a best practice in relation to stormwater design, it is proposed that the greenway buffer be used as a means of conducting and infiltrating stormwater runoff. Through the use of apertures in the curbs adjacent to the boulevard and the bike trail, stormwater will be conducted into the greenway buffer that will contain a special planting medium that is designed specifically to infiltrate water more efficiently.

Should the greenway buffer become over-taxed by runoff during high intensity storm events, any excess stormwater not handled by the system will enter an overflow that will conduct the water into the existing storm sewer. However, with the proposed length of the bike trail and associated greenway buffer, the system will have the capacity handle typical rainfall events effectively.

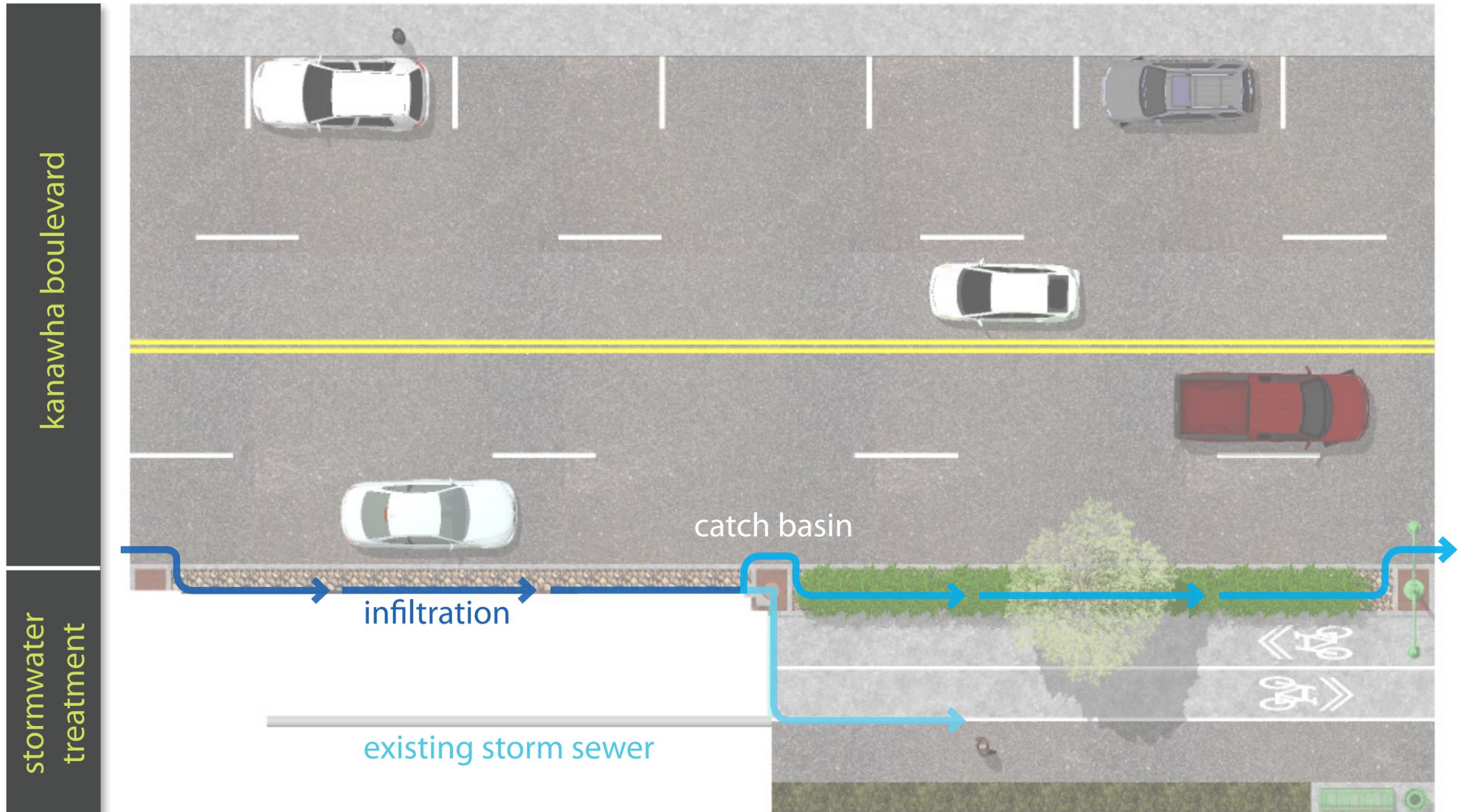


Concept Highlights

- In compliance with City MS4
- A stormwater management best practice
- Decreases load on existing storm sewer
- Passive irrigation for greenway landscape

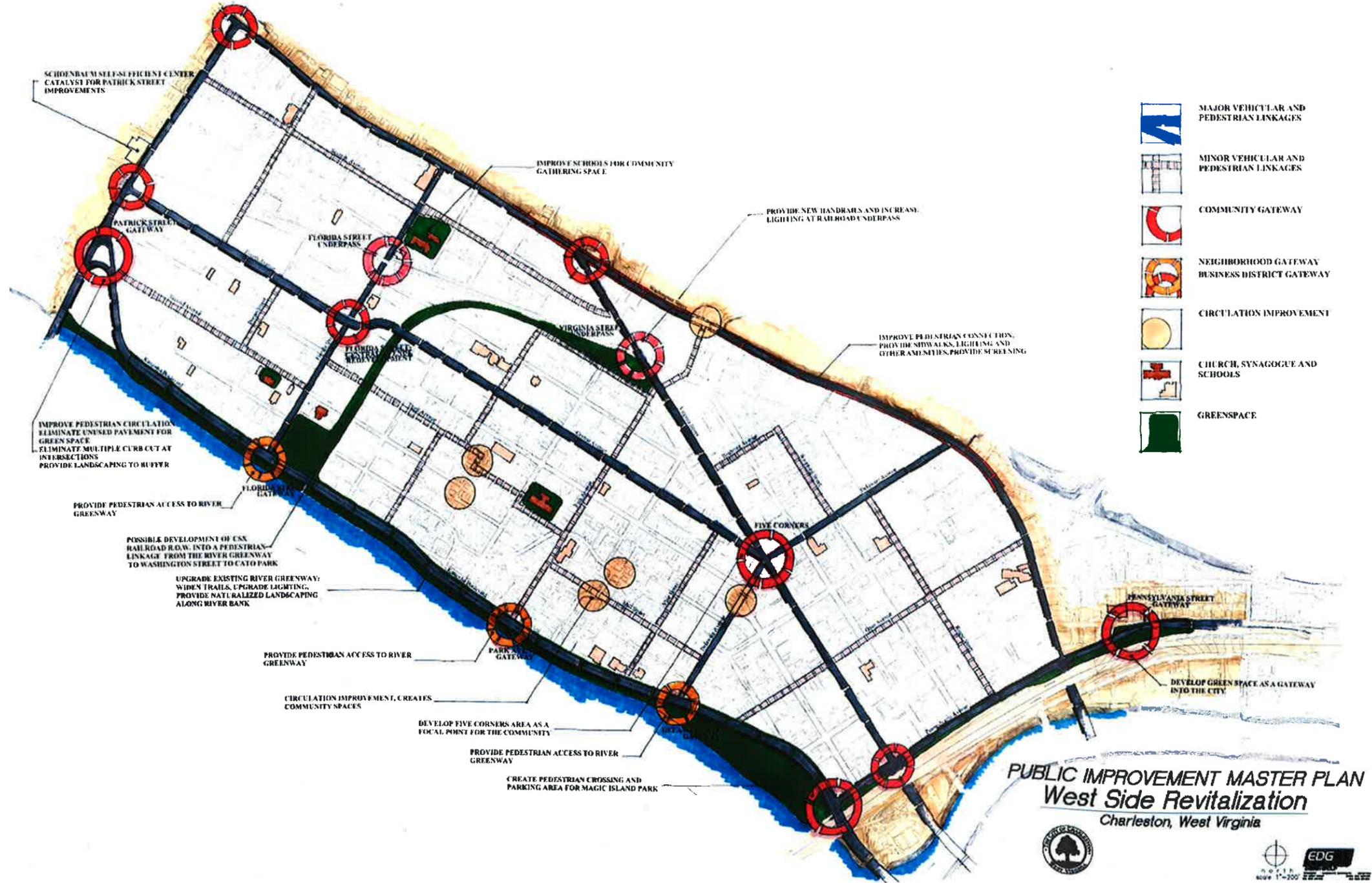
RECOMMENDATIONS

Phase I: Kanawha Boulevard - Storm Water Infiltration



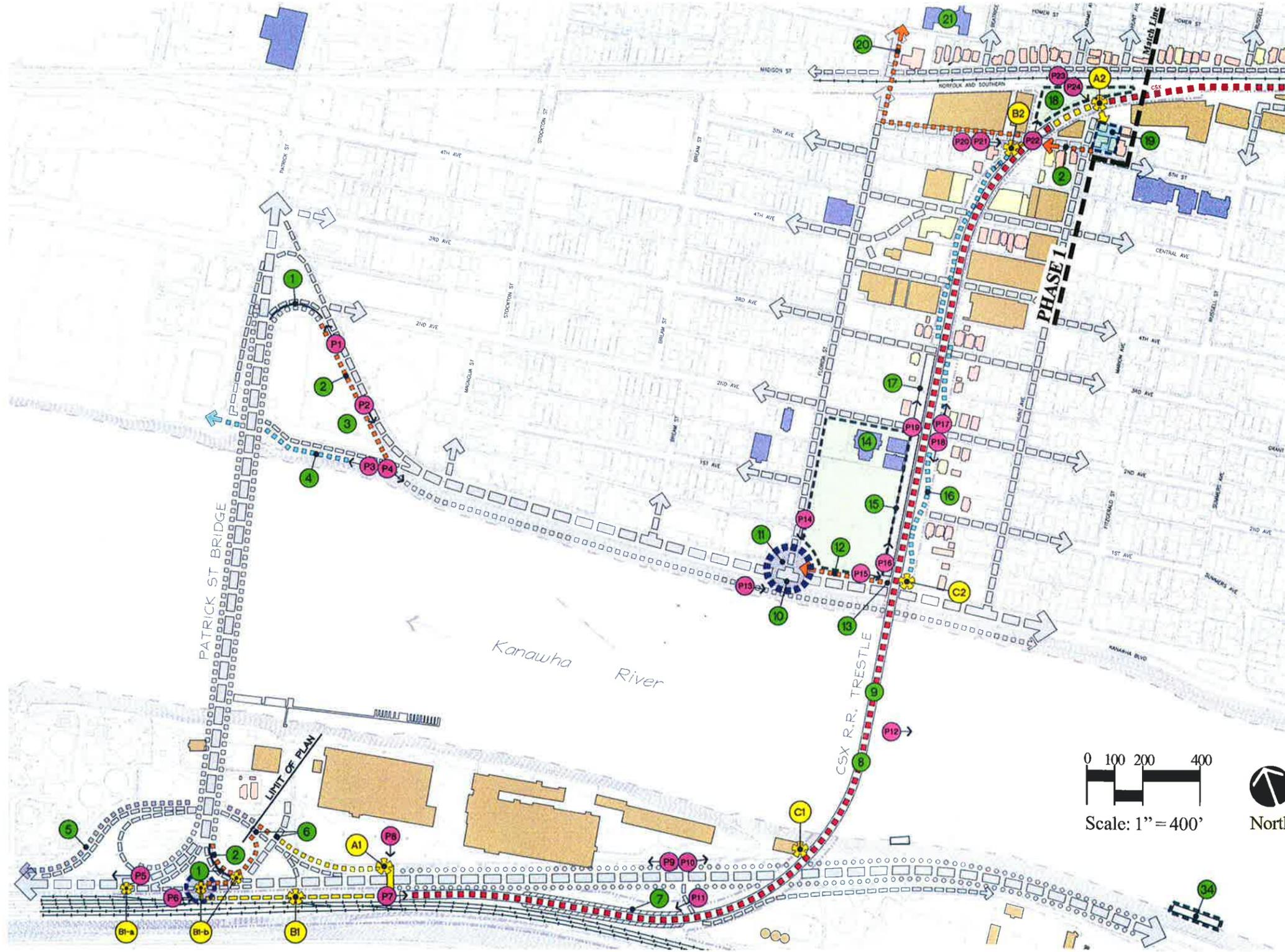
APPENDIX 1

KANAWHA TRESTLE & RAIL TRAIL MASTER PLAN



APPENDIX 2

KANAWHA TRESTLE & RAIL TRAIL MASTER PLAN



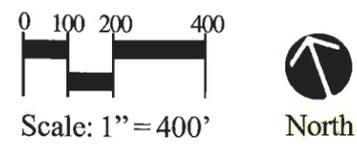
Phase One

scale: as noted

MASTERPLAN KEY:

	Trestle Access/ Trail Route Alt.		Residential
	MP Key Notes		Vacant/Abandoned
	Existing Site Photos		Commercial/Light Industrial
	Elevated Trestle		Community/School/Church
	Pedestrian/Bike Rte		Municipal
	Alt. Trail Routes		Existing Railroad Track
	Sidewalk Improv.		Road/Trail Intersection
	Asphalt/Gravel Trail		Railroad Right-of-Way Line
	Future Trail Exten.		Vehicular Alleyway
	Exist. Pedest. Way		Primary Vehicular Circ.
	Existing Bike Way		Secondary Vehicular Circ.
	Potential Dev. Area		Propsd Overpass Widening
	Potential Green Spc		Proposed Pedestrian Bridge
	Potential Trailhead		
	Wet Area		

- TRESTLE ACCESS ALTERNATIVES**
- ALTERNATIVE-A**
- A1** South Trestle Landing - Provide elevated pedestrian bridge across Mac-Corkle Avenue with handicap accessible spiral down or longitudinal ramp.
 - A2** North Trestle Landing - Provide at grade handicap accessible ramp with paved trail to trailhead parking.
- ALTERNATIVE-B (In lieu of Alternative-A)**
- B1** South Trestle Landing - Negotiate with CSX a 700' easement along existing railway to provide handicap access to MacCorkle Avenue. Easement would also act as emergency vehicle access.
 - a Provide signal warning east bound vehicular traffic of approaching pedestrian crossing.
 - b Provide pedestrian crosswalks to connect with Patrick Street Bridge walkway.
 - B2** North Trestle Landing - Provide handicap accessible spiral down or longitudinal ramp.
- ALTERNATIVE-C (In lieu of Alternative-A or B)**
- C1** South Trestle Landing - Provide ADA accessible spiral down, longitudinal ramp or regular stairwell if accessibility is realized elsewhere.
 - C2** North Trestle Landing - Provide ADA accessible spiral down longitudinal ramp or regular stairwell if accessibility is realized elsewhere.



APPENDIX 2

KANAWHA TRESTLE & RAIL TRAIL MASTER PLAN

MASTER PLAN KEY:

- Trestle Access/Trail Route Alternates
- Master Plan Key Notes
- Existing Site Photographs
- Elevated Trestle
- Pedestrian/Bike Route
- Alternate Trail Routes
- Sidewalk Improvements

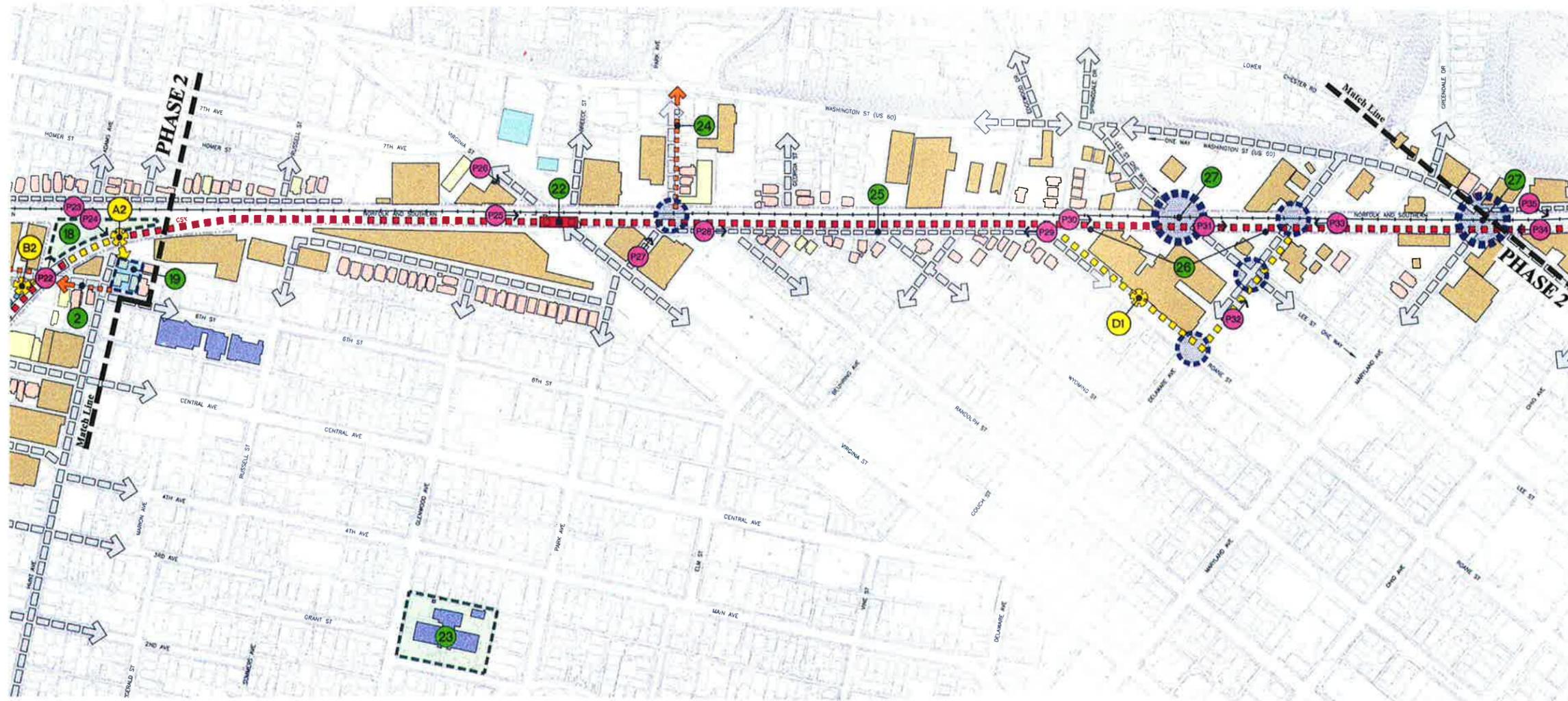
- Asphalt/Gravel Trail
- Future Trail Extension
- Existing Pedestrian Way
- Existing Bike Way
- Existing Railroad Track
- Potential Development Area
- Potential Green Space
- Potential Trailhead
- Wet Area

- Residential
- Vacant/Abandoned
- Commercial/Light Industrial
- Community/School/Church
- Municipal
- Road/Trail Intersection

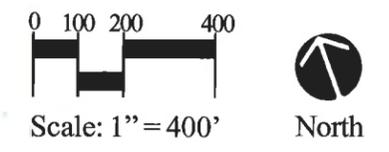
- Railroad Right-of-Way Line
- Vehicular Alleyway
- Primary Vehicular Circulation
- Secondary Vehicular Circulation
- Proposed Overpass Widening at Virginia Street
- Proposed Pedestrian Bridge over MacCorkle Avenue

ALTERNATE TRAIL ROUTE:

ALTERNATIVE-D (In lieu of typical at-grade trail/road crossings)
(D1) Lee Street Crossing - Provide signage routing trail users to nearest crossing with light. Improve sidewalks along route and upgrade light to include pedestrian signal.



Phase Two
 scale: as noted



APPENDIX 2

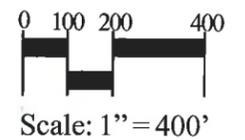
KANAWHA TRESTLE & RAIL TRAIL MASTER PLAN

MASTER PLAN KEY:

- | | | | |
|---------------------------------------|----------------------------|-----------------------------|--|
| Trestle Access/Trail Route Alternates | Asphalt/Gravel Trail | Residential | Railroad Right-of-Way Line |
| Master Plan Key Notes | Future Trail Extension | Vacant/Abandoned | Vehicular Alleyway |
| Existing Site Photographs | Existing Pedestrian Way | Commercial/Light Industrial | Primary Vehicular Circulation |
| Elevated Trestle | Existing Bike Way | Community/School/Church | Secondary Vehicular Circulation |
| Pedestrian/Bike Route | Existing Railroad Track | Municipal | Proposed Overpass Widening at Virginia Street |
| Alternate Trail Routes | Potential Development Area | Road/Trail Intersection | Proposed Pedestrian Bridge over MacCorkle Avenue |
| Sidewalk Improvements | Potential Green Space | | |
| | Potential Trailhead | | |
| | Wet Area | | |



Phase Three
scale: as noted



APPENDIX 3

KANAWHA TRESTLE & RAIL TRAIL MASTER PLAN

