Introduction

Bicycle and pedestrian travel volumes have continued to rise on both a local and national level, each mode remaining both significant and beneficial alternatives to motorized transportation. Transportation by way of cycling or walking—commonly referred to as non-motorized or active transportation—is utilized for more than just getting from place to place. Community members of all ages have become more reliant on using these modes for travel to residential and commercial locations, as well as important destinations such as workplaces or educational institutions. The Bicycle and Pedestrian Element of the Kanawha-Putnam 2045 Regional Transportation Plan (RTP) encompasses current initiatives, future recommendations, and the overall planning process for bicycle and pedestrian projects and improvements.

Residents of West Virginia and the Kanawha-Putnam planning area have become increasingly aware of the importance of bicycle and pedestrian infrastructure to accommodate non-motorized transportation. Specifically, in the Kanawha-Putnam planning area, there is a need for regional connectivity between key facilities and community resources for all users. Beneficial to residents and communities alike, active transportation promotes healthier living and is better for the environment.

In densely populated, high-traffic areas of the state, such as the Kanawha-Putnam planning region, the continuation of developing improvements for alternative, active transportation is imperative. The recent and ongoing bicycle and pedestrian endeavors for the Kanawha-Putnam planning area are further detailed in this chapter.
Goals and Objectives

The following goals were developed by the RIC Bicycle and Pedestrian Advisory Committee and Steering Committee specifically relating to the Bicycle and Pedestrian Element of the Regional Intergovernmental Council’s Kanawha-Putnam 2045 Regional Transportation Plan (RTP).

- Increase bicycle and pedestrian connectivity between population centers and educational institutions, public recreational areas, and retail/entertainment activity centers in Kanawha and Putnam counties.
- Improve safety and user comfort levels on all bicycle and pedestrian facilities.
- Increase public awareness of bicycle and pedestrian facility locations.
- Promote education of bicycle safety among both motorized and non-motorized users.
- Promote the adoption and implementation of Complete Streets concepts within each community in Kanawha and Putnam counties.

Federal Requirements

Bicycle and pedestrian legislation is contained in Sec. 217 (g) of the United States Code (U.S.C.). This legislation includes a provision titled “Planning and Design,” which states:

“(1) In general. - Bicyclists and pedestrians shall be given due consideration in the comprehensive transportation plans developed by each metropolitan planning organization and State in accordance with sections 134 and 135, respectively. Bicycle transportation facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation facilities, except where bicycle and pedestrian use are not permitted.

(2) Safety considerations. - Transportation plans and projects shall provide due consideration for safety and contiguous routes for bicyclists and pedestrians. Safety considerations shall include the installation, where appropriate, and maintenance of audible traffic signals and audible signs at street crossings.”
Current Initiatives

West Virginia State Legislation

During the 2014 West Virginia legislative session, a Bicycle Safety Bill (WV HB-4304) successfully passed and became law, effective on June 2, 2014. The bill addressed safety-related requirements to support a less dangerous environment for cyclists traveling on roadways. Specifications in the law included adding a minimum 3-foot Passing distance for motorists overtaking a bicycle on roadways. It also removed the requirement for cyclists to utilize a side path when adjacent to a roadway.

Kanawha Boulevard Improvement Project

Development of the City of Charleston’s Kanawha Boulevard bicycle and pedestrian improvement project, formerly known as the Kanawha Trestle Walk and Bikeway System, is underway. The project proposes to construct bike lanes from Patrick Street to Magic Island, along approximately 1.3 miles of Kanawha Boulevard, separated from the roadway by a grass buffer. Each of the four traffic lanes of Kanawha Boulevard will be narrowed, measuring 10.5 feet in width, including removal of the roadway’s median. Additional improvements include signal upgrades, signage, roadway markings, and traffic calming features. During 2016, the Charleston City Council accepted a base bid of $4.8 million for this project.

Complete Streets Initiative

The Complete Streets concept promotes safer, more livable streets designed to serve all citizens alike, including motorists, cyclists, pedestrians, wheelchairs or mobility scooter users, transit passengers, and shoppers. Several states and municipalities have already passed legislation for and adopted Complete Streets concepts. During the 2013 legislative session, with the passage of Senate Bill 158, West Virginia became the 28th state to adopt the Complete Streets policy. In addition to creating safer street environments for all users, the bill also proposed to establish a Complete Streets Advisory Board. The advisory board is to be composed of members representing various agencies, including the West Virginia Department of Transportation (WVDOT).

Bicycle and Pedestrian Survey
In early 2016, RIC initiated a computerized bicycle and pedestrian survey for residents of the local community. This survey was created in an effort to generate public input by encouraging response submissions regarding bicycle and pedestrian travel throughout the planning area. The survey included questions about user habits, such as ride frequency and personal preference on the benefits of using cycling as a mode of transportation.

Additionally, respondents were given the opportunity to provide feedback on where they would like to see future bicycle infrastructure improvements such as bike lanes, bike parking, improved signage, etc. The survey results proved to be a useful tool and were included as a part of RIC’s public participation process.

**Bicycle and Pedestrian Advisory Committee**

Beginning in early 2016, RIC formed a Bicycle and Pedestrian Advisory Committee in collaboration with local planning agencies, community members, and bicycle activists. The committee’s purpose is to promote ideas and discussion for bicycle and pedestrian related improvements within the planning region. During the development of the Kanawha-Putnam 2045 Regional Transportation Plan (RTP), the committee played an important role by providing ideas, feedback, and table discussions regarding project recommendations for current and future bicycle and pedestrian improvements.

The Bicycle and Pedestrian Advisory Committee convenes several times per year, concurrent with ongoing planning efforts, in order to provide essential feedback and foster ideas for improvements. With members comprised of not only local planning officials but also bicycle enthusiasts, the committee promotes widespread participation.

**Existing Planning Efforts**

**City of Charleston’s Bike & Trail Master Plan**

In 2016, the City of Charleston released its *Bike & Trail Master Plan*, the city’s first all-inclusive bike and trail master plan. This plan’s project vision states, “The City of Charleston Bike and Trail Master Plan
envisions an expanded network of bikeways and trails connecting all parts of the community, so that bicycling is a common part of everyday life, providing multi-modal travel choices, expanding recreation opportunities, and strengthening Charleston’s image as the cultural, recreational, and business capital of the Appalachian Mountains. People of all ages and abilities will enjoy access to safe, comfortable, and convenient bicycling routes and benefit from enhanced quality of life and economic opportunity.” The plan was prepared and based on a 20-year template, containing various narratives with topics ranging from bicycle safety and education to a consolidated list of 10 “priority” projects, listed in the table below.

Table 5-1: City of Charleston’s Priority Projects

<table>
<thead>
<tr>
<th>CORRIDOR</th>
<th>FROM</th>
<th>TO</th>
<th>RECOMMENDATION</th>
<th>COST ESTIMATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virginia St. W</td>
<td>Tennessee Ave.</td>
<td>Park Ave.</td>
<td>Two-Way Cycle Track</td>
<td>$99,000-$150,000</td>
</tr>
</tbody>
</table>
| Quarrier St. | Elk River Trail at Civic Center | Elizabeth St. | • Two-Way Cycle Track (riverfront trail to Summers Street)  
• Shared Lane Markings (Summer St. to Morris St.)  
• Bicycle Boulevard (Morris St. to Elizabeth St.) | $88,600-$139,500 |
| Kanawha Ave. Bike Route; Kanawha Landing; Lancaster Ave. | — | — | • Bicycle Boulevard upgrade to existing bike route  
• Bicycle boulevard through Kanawha Landing  
• Shared-Use Path on Lancaster Ave. with bicycle boulevard spurs | $993,200-$1,214,900 |
| MacCorkle Ave. | Frontage Rd. | Thayer St. | Shoulder Maintenance Improvements | — |
| Kanawha Blvd. | Leon Sullivan Way | Magic Island | Cycle Track/Side path | $2,020,900 |
| South Side Bridge | Ferry St. | Virginia St. | Priority Shared Bike Lanes (“Green-Backed Sharrows” and signage) | $2,700-$5,200 |
| Capitol St./Summers St. | Kanawha Blvd. | Smith St. | Bicycle Boulevard | $23,400-$40,900 |
| Piedmont Rd. and Court St. | Capitol St. | Slack St. | Two-Way Cycle Track | $58,100-$88,000 |
| Kanawha Blvd. – Patrick St. | North Ford in Roadway | 5th Ave. | Separated Two-Way Cycle Track | $115,500-$175,100 |

City of South Charleston Bike Plan

The city of South Charleston completed the Master Plan for
Pedestrian and Bicycle Trail Corridors in 2011. The plan focuses on recreation and connectivity improvements along key corridors such as the Kanawha Turnpike and MacCorkle Avenue. The plan recommends locations for bike lanes, “share the road” signage, sidewalk improvements, and connector trails. Additionally, the study recommends a connector trail from the South Charleston Memorial Ice Arena to Little Creek Park and the golf course.

Imagine Charleston

Prior to the City of Charleston’s development of the Bike & Trail Master Plan, a plan titled Imagine Charleston (2013) came to fruition. Imagine Charleston is a comprehensive, citywide, downtown redevelopment plan for the city that recommends various bicycle and pedestrian improvements. The focus of the plan was to provide connections between key destinations, such as schools, parks, cultural institutions, and existing non-motorized facilities inside the city.

An excerpt from the Action Plan portion states: “Charleston’s Comprehensive Plan was developed through a highly interactive process that engaged the community in defining a preferred future. Through this collaborative effort, the City, community leaders, and the public have contributed both resources and personal time to formulate a useful, exciting, and visionary blueprint for the future. This level and breadth of participation signals Charleston’s commitment as a community to seek creative solutions to its many challenges. The plan will position Charleston to manage future development, redevelopment, capital improvements, collaborative partnerships, and programs on a solid foundation of fiscal, social, and environmental sustainability.”
Planning Process

For bicycle and pedestrian improvement projects, extensive planning efforts are critical for successful completion of the multifaceted planning process. The Bicycle and Pedestrian Element of the Kanawha-Putnam 2045 Regional Transportation Plan was developed in collaboration with local entities and members of the general public, including the RIC Bicycle and Pedestrian Advisory Committee, Steering Committee, WV DOH, and Transportation Technical Advisory Committee (TTAC).

The planning process for bicycle and pedestrian improvement projects takes specific considerations that are exclusive to bicycle and pedestrian travel versus those of motorized travel. The Bicycle and Pedestrian Advisory Committee and RIC Staff developed measurable criteria, specific to bicycle and pedestrian travel, as part of the planning prioritization process. Following are descriptions of these project prioritization criteria:

- **Regional Connectivity** – This criterion how connectivity is improved within the Kanawha-Putnam transportation planning area for non-motorized users
- **Access to Local Facilities** – The capability and ease of accessibility for non-motorized users is important for travel to local community facilities and resources
- **Emphasis on Low-Income Communities** – Utilizing data from the United States Census Bureau, this measurement focuses on the transportation planning area’s local communities that possess a higher volume of low-income households
- **User Safety** – This measurement highly emphasizes the variable of safety for motorized and non-motorized users alike for recommended projects or improvements
- **User Population/Demographics** – Criteria for this measurement include inclusivity of all users, regardless of factors such as age or rider skill level
- **Condition of Facility Type** – This measurement relates to the existing surface conditions or land terrain of the project or improvement
- **Bicycle & Pedestrian Advisory Committee Feedback** – The final measurement is exclusive to project or improvement feedback provided by members of the RIC Bicycle and Pedestrian Advisory Committee
Potential Funding Sources

For bicycle and pedestrian projects and improvements, funding sources typically stem from federal, State, and local contributions. Available federal funds for these projects have consistently increased due to the growing demand for bicycle and pedestrian facilities and the continual rise of non-motorized users.

It is important to note that the location of projects and/or improvements has a direct impact on potential project funding and fiscal responsibilities. For example, fiscal obligation for a project or improvement would be the primary responsibility of the entity that owns the affected facilities or roadway(s). Several project recommendations from this plan are located on non-State owned roads or facilities, meaning that the financial responsibility of the project would be obliged to the owning entity. The West Virginia DOH does not own nor maintain all roads within the transportation planning area.

The narrative below details eligibility criteria under the federal guidance of the Moving Ahead for Progress in the 21st Century Act (MAP-21):

**Surface Transportation Block Grant (STBG Program)**

With the enactment of the Fixing America’s Surface Transportation Act (FAST), the Surface Transportation Block Grant (STBG) Program was created. The STBG Program includes set-aside funding for a variety of bicycle and pedestrian improvement projects in addition to projects that were currently eligible under the Transportation Alternatives Program (TAP). The Federal Highway Administration (FHWA) references these funds as the Transportation Alternatives Set-Aside or TA Set-Aside. These set-aside funds include all projects and activities that were previously eligible under TAP, and subsume several types of smaller-scale transportation projects. These projects include bicycle and pedestrian facilities, recreational trails, safe routes to school projects, community improvements such as historic preservation and vegetation management, and environmental mitigation related to stormwater and habitat connectivity.

**Recreational Trails Program**

The Recreational Trails Program falls under the TA Set-Aside and distributes funding to each state to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses.

*Additional Information:*
https://www.fhwa.dot.gov/Environment/recreational_trails/
Congestion Mitigation and Air Quality Improvement Program

CMAQ is a federal program designed to provide funding for transportation projects that improve air quality and alleviate traffic congestion. Transportation projects that receive CMAQ funds must be located in areas that are not considered to meet air quality standards. CMAQ is administered by FHWA and has provided more than $30 billion to fund over 30,000 transportation related environmental projects for state DOTs, MPOs, and other sponsors throughout the US.

Additional Information:
https://www.fhwa.dot.gov/environment/air_quality/cmaq/

Highway Safety Improvement Program (HSIP)

The Highway Safety Improvement Program (HSIP) is a federal program aimed at achieving a significant reduction in fatalities and serious injuries on roadways. Funding by HSIP is a data-driven process that apportions funds to each state. Each state is responsible for administering HSIP funds to address their individual safety needs. Projects that receive HSIP funds must also be consistent with each state’s Strategic Highway Safety Plan (SHSP).

Additional Information:
https://safety.fhwa.dot.gov/hsip/

Recommendations

Please note that the listing order of the following bicycle and pedestrian project recommendations is not indicative of priority. Additionally, several of the below-listed project recommendations are intended to be completed in conjunction with roadway improvement projects listed previously in Chapter 4.

The ID’s listed in bold, italicized font represent projects that are located on non-State owned roads or facilities.
### Table 5-2: Kanawha County

<table>
<thead>
<tr>
<th>ID</th>
<th>PROJECT TYPE</th>
<th>PROJECT ROAD</th>
<th>EXTENT FROM</th>
<th>EXTENT TO</th>
<th>DESCRIPTION</th>
<th>PROJECT SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPK-2</td>
<td>Bicycle</td>
<td>Quarrier St.</td>
<td>Elk River Trail at Civic Center</td>
<td>Elizabeth St.</td>
<td>Two-way cycle track (riverfront trail to Summers St.), shared lane markings (Summers St. to Morris St.), bicycle boulevard (Morris St. to Elizabeth St.)</td>
<td>Charleston Bike and Trail Master Plan</td>
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<tr>
<td>BPK-6</td>
<td>Bicycle</td>
<td>Kanawha Blvd.</td>
<td>Leon Sullivan Way</td>
<td>Magic Island</td>
<td>Cycle Track</td>
<td>Charleston Bike and Trail Master Plan</td>
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<tr>
<td>BPK-8</td>
<td>Bicycle</td>
<td>Capitol St.</td>
<td>Kanawha Blvd. E</td>
<td>Smith St.</td>
<td>Bicycle Blvd.</td>
<td>Charleston Bike and Tail Master Plan</td>
</tr>
<tr>
<td>BPK-3</td>
<td>Bicycle</td>
<td>Kanawha Ave.</td>
<td>—</td>
<td>—</td>
<td>Bicycle boulevard upgrade to existing bike route; bicycle boulevard through Kanawha Landing; Shared-use path on Lancaster Ave. with bicycle boulevard spurs</td>
<td>Charleston Bike and Trail Master Plan</td>
</tr>
<tr>
<td>BPK-1</td>
<td>Bicycle</td>
<td>Virginia St. W</td>
<td>Tennessee Ave.</td>
<td>Park Ave.</td>
<td>Two-way cycle track</td>
<td>Charleston Bike and Trail Master Plan</td>
</tr>
<tr>
<td>BPK-17</td>
<td>Bicycle and Pedestrian</td>
<td>MacCorkle Ave.</td>
<td>—</td>
<td>—</td>
<td>Add street-calming devices such as street trees, bollards, and narrowed lanes to increase safety for bicyclists and pedestrians along MacCorkle Ave.</td>
<td>—</td>
</tr>
<tr>
<td>BPK-9</td>
<td>Bicycle</td>
<td>Capitol Market to Slack St. via Piedmont Rd. and Court St.</td>
<td>Capitol St.</td>
<td>Slack St.</td>
<td>Two-way cycle track</td>
<td>Charleston Bike and Trail Master Plan</td>
</tr>
</tbody>
</table>
### Table 5-2: Kanawha County

<table>
<thead>
<tr>
<th>ID</th>
<th>PROJECT TYPE</th>
<th>PROJECT ROAD</th>
<th>EXTENT FROM</th>
<th>EXTENT TO</th>
<th>DESCRIPTION</th>
<th>PROJECT SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPK-15</td>
<td>Bicycle and Pedestrian</td>
<td>MacCorkle Ave.</td>
<td>Patrick St. bridge</td>
<td>Second Ave.</td>
<td>Bike lane and sidewalk improvements</td>
<td>City of South Charleston Bicycle and Pedestrian Plan</td>
</tr>
<tr>
<td>BPK-7</td>
<td>Bicycle</td>
<td>South Side Bridge</td>
<td>Ferry St.</td>
<td>Virginia St.</td>
<td>Priority Shared Bike lanes</td>
<td>Charleston Bike and Trail Master Plan</td>
</tr>
<tr>
<td>BPK-10</td>
<td>Bicycle</td>
<td>Kanawha Blvd. - Patrick St.</td>
<td>North Fork in roadway</td>
<td>5th Ave.</td>
<td>Cycle Track</td>
<td>Charleston Bike and Trail Master Plan</td>
</tr>
<tr>
<td>BPK-4</td>
<td>Bicycle</td>
<td>MacCorkle Ave. SE</td>
<td>Frontage Road</td>
<td>Thayer St.</td>
<td>Shoulder Maintenance Improvements</td>
<td>Charleston Bike and Trail Master Plan</td>
</tr>
<tr>
<td>BPK-18</td>
<td>Bicycle and Pedestrian</td>
<td>Dunbar Ave (WV 25)</td>
<td>10th St. (Dunbar)</td>
<td>Patrick St.</td>
<td>Buffered bike lanes and sidewalk improvements</td>
<td>City of South Charleston Bicycle and Pedestrian Plan</td>
</tr>
</tbody>
</table>

### Table 5-3: Putnam County

<table>
<thead>
<tr>
<th>ID</th>
<th>PROJECT TYPE</th>
<th>PROJECT ROAD</th>
<th>EXTENT FROM</th>
<th>EXTENT TO</th>
<th>DESCRIPTION</th>
<th>PROJECT SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPP-3</td>
<td>Pedestrian</td>
<td>Teays Valley Rd. (CR 33)</td>
<td>WV 34</td>
<td>Great Teays Blvd.</td>
<td>Construct sidewalks along both sides in conjunction with roadway widening</td>
<td>—</td>
</tr>
<tr>
<td>BPP-12</td>
<td>Pedestrian</td>
<td>Sleepy Hollow Dr.</td>
<td>Teays Valley Road (WV 34)</td>
<td>Cow Creek Road</td>
<td>Construct a sidewalk along the entire length of roadway in conjunction with roadway widening</td>
<td>WV DOH Mt. Vernon Road Sidewalk Design Study</td>
</tr>
<tr>
<td>BPP-2</td>
<td>Bicycle and Pedestrian</td>
<td>Teays Valley Rd. (CR 33)</td>
<td>Thomas Dr.</td>
<td>Great Teays Blvd.</td>
<td>Construct a multi-use path in conjunction with roadway widening</td>
<td>Teays Valley Subarea Transportation Study</td>
</tr>
</tbody>
</table>
Figure 5-1: Kanawha County Bicycle and Pedestrian
Figure 5-2: Putnam County Bicycle and Pedestrian

Putnam County Bicycle and Pedestrian Recommendations