

Section 2: Existing Conditions

The study area for the Patuxent Branch Trail Extension Feasibility Study encompasses the area between the northern limit of the existing Patuxent Branch Trail near Lake Elkhorn and Downtown Columbia. See Figure 2.1 for a map of the study area and the desired connection.

Patuxent Branch Trail

The 4.6-mile Patuxent Branch Trail serves as a recreation and commuter trail in Howard County, Maryland. Following the north/south direction of the Patuxent River, the trail runs from Savage Park to Columbia's Lake Elkhorn at Broken Land Parkway. Currently, the trail serves as a hiker/biker trail with paved and unpaved segments.

Downtown Columbia Revitalization

In 2010, Howard County approved a 30-year master plan for Downtown Columbia. Thirteen million square feet of retail, commercial, residential, hotel and cultural development is planned during the downtown development project. The plan includes a number of features and programs designed to enhance the sustainability of Downtown by improving public transportation, enhancing pedestrian and cycling connections within and into downtown, and improved stormwater and watershed management.

A key part of the Downtown Columbia Revitalization plan is the Downtown Columbia Multi-Use Path. The 10-foot wide shared-use path will run 3.25 miles from Howard General Hospital to Blandair Park, crossing the southern boundary of Downtown Columbia. The first phase of the pathway is under construction and future phases may potentially connect with the Patuxent Branch Trail Extension.

Broken Land Parkway

Broken Land Parkway is considered a major roadway connection for motorists traveling in the north/south direction between Downtown Columbia and RT 32. The Parkway is comprised of 3 travel lanes along the north and southbound directions between Snowden River Parkway and Stevens Forest Road. Between Stevens Forest Road and Little Patuxent Parkway, travel lanes range from 2 to 3 lanes with additional turn lanes at major intersections at Stevens Forest Road, Hickory Ridge Road, and Little Patuxent Parkway. A center median, ranging from 6 to 60 feet in width, divides the north and southbound travel lanes from Snowden River Parkway to Little Patuxent Parkway. The posted speed on Broken Land Parkway is currently 45 miles per hour; however after discussions with the County's Department of Public Works, motorists are known to speed due to the width of the road and distance between stop lights.

Based on the most recent Howard County traffic counts on Broken Land Parkway, the average daily traffic per day (ADT) throughout the following locations is:

- 35,968 at East of Columbia Pike (US 29)
- 29,717 at North of Cradlerock Way South
- 33,062 at South of Little Patuxent Parkway
- 20,488 at North of Patuxent Freeway (MD 32)

Plans are under consideration to also provide better transit service and identify a high quality transit option from Downtown Columbia, park and ride lots, employment centers and Anne Arundel County using the Broken Land Parkway corridor. This further reinforces the need to provide better pedestrian and bicycle access, as riders will need alternatives to access transit stops along the length of this route.

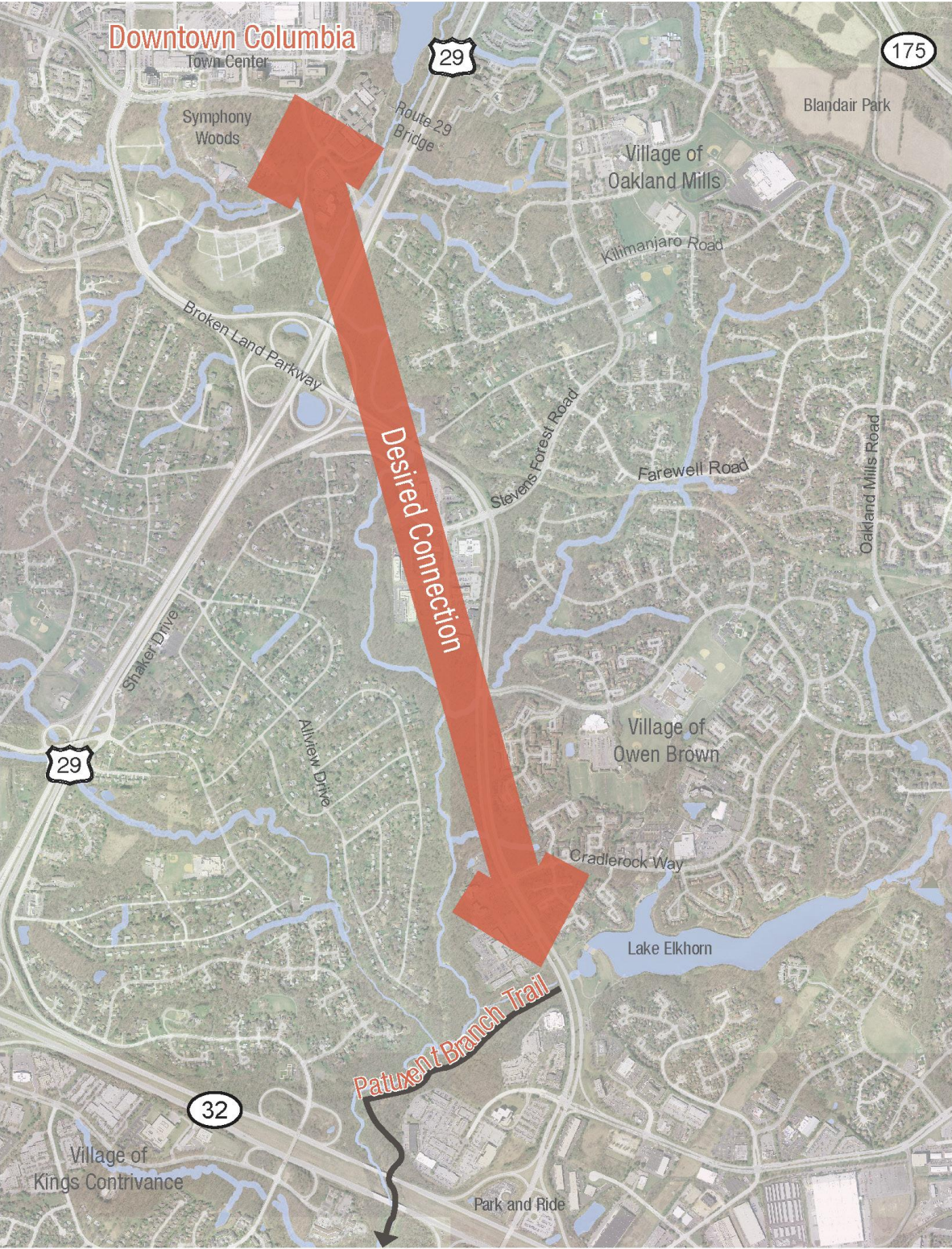
Broken Land Parkway Park and Ride

Connections to the Broken Land Parkway park and ride locations were taken into consideration during the evaluation of the potential pathway alternatives. The Broken Land Parkway park and ride lot operates as a major transportation hub with commuter bus routes serving both Baltimore and Washington DC. These commuters primarily use cars to access the lots, but a number of cyclists also use the lot.

Pathway Safety and Crime

While a crime data report was unable to be obtained during the timeline of this study, based on the conclusions from discussions with the Howard County Department of Police (HCDP), there has been very few crime events reported on the Patuxent Branch Trail, as well as the Columbia Association's pathway network, within the last several years. The HCDP, in general, characterizes the current pathway system as "very safe".

Figure 2.1 Study Area



Resource Analysis

The following resource analysis was developed based on a desk review of the relevant base mapping documentation.

Environmental/Physical Resource Analysis

The following describes the range of physical and environmental features that make up the study area.

Surface Waters – The study area is located within the Patuxent River watershed. The Little Patuxent River runs in a north/south direction, and encompasses several branches and tributaries. Lake Elkhorn is a large stormwater management lake in Columbia (37 acres) and is located in the Village of Owen Brown; to the east of Broken Land Parkway.

Wetlands – The study area consists of Federal (NWI) and State (DNR) wetlands. Primarily, these wetlands are focused in areas within and surrounding the Little Patuxent River floodplain and its tributaries. The majority of wetlands within this study area are classified as Palustrine forested (PFO), which is defined as a forested swamp or wetland. Areas surrounding ponds or lakes (e.g. Lake Elkhorn) are classified as Palustrine Unconsolidated Bottom (PUB) wetlands or as Lacustrine (L) wetlands, which are described as a deep water reservoir basin. Similarly to southern sections of the Patuxent Branch Trail, boardwalks would be needed over wetland areas.

Topography – The study area, along with most areas of Columbia, largely consists of rolling topography. The steepest grades primarily lie within the stream valleys and lake perimeters, which include Lake Elkhorn and the Little Patuxent River and its tributaries; however, steep grades are also present along some county roads (i.e. Shaker Drive and Seneca Drive) and existing pathways.

Floodplain – The majority of the floodplains within the study area primarily lie within the buffers of the Little Patuxent River and its tributaries. The majority floodplains are located along the Little Patuxent River and are classified as 100-year floodplains (Zone AE-High Risk Flood Areas). One-hundred year floodplains are defined as areas with a 1-percent annual probability of flooding and where predicted flood water elevations, above mean sea level, have been established. Floodplains surrounding the Little Patuxent River's tributaries are classified as 500-year floodplains (Zone X-Moderate Flood Hazard Area) and are defined as areas with a 0.2-percent annual probability of flooding.

Little Patuxent River Flood Monitoring Data – Based on flood monitoring information received from the county's Stormwater Management Division, the stream met the "overbank" level (where the water level of a river or stream rises above bank level) an average of 9.5 times a year for the past five years. Most of these storm events are minor, however 2-3 times per year, the water continued to rise into the adjacent floodplain. Flows into the overbank area tend to be shallow and of low velocity. This flooding also occurs further south where the existing Patuxent Branch Trail extends adjacent to the Little Patuxent River. During significant overbank flood events, it is Howard County's practice to close the

Patuxent Branch Trail. Past flood events have caused minor damage to the existing Patuxent Branch Trail, such as sedimentation and slight damage to boardwalks requiring replacement of a few boards.

Woodland Area – The majority of the woodland areas commonly lie within the Little Patuxent River stream valleys and its tributaries.

The following environmental features were part of the study's evaluation, however were found to be not applicable to the study area: General Sensitive Species Habitat.

Refer to maps in Appendix A for a physical representation of the existing environmental and physical resources.

Cultural Resources, Utilities, and Transportation Analysis

Historic Landmarks – Based on a review of Howard County's historic GIS data, there are several historic landmarks in the study area, however a preliminary desktop analysis found that no historic landmarks would be disturbed as a result of the potential pathway alignments.

Utility Easements – There are two significant utility easements located within the study. A BGE power line easement runs in an east/west direction between Broken Land Parkway and the Sewells Orchard Community; just east of Oakland Mills Road. Additionally, a parallel sewer easement runs in a north/south direction, paralleling the Little Patuxent River, between Patuxent Hwy (RT 32) and Lake Kittamaquundi, and beyond.

Property Ownership – Within the study area, land ownership is distributed between private properties, Columbia Association property, County and County Board of Education property, State-owned property, and utility easements.

Bicycle and pedestrian facilities –

Off Road Facilities: Within the study area, off-road facilities include the Columbia Association pathway system, county pathways, and the Patuxent Branch Trail. These pathways make up an extensive network, however, there is a gap in the network's connection from the Patuxent Branch to Downtown Columbia. Additionally, the current conditions of the pathway network vary within the study area. Many pathways consist of steep grades, are fairly narrow, and do not meet the current AASHTO pathway guidelines. Columbia Association's Active Transportation Action Agenda, known as "Connecting Columbia", plans for significant pathway improvements for the pathway network within this study area, as well as the rest of Columbia. Some roads in the study area have sidewalks, others (including many in Allview Estates) do not. Additionally, the county's future 10-foot wide, Downtown Columbia Shared-use Pathway will be located within the study area and will extend from Howard General Hospital to Blandair Park.

On Road Facilities: There is currently a bike lane along Stevens Forest Road from south of Kilimanjaro Road to just east of Broken Land Parkway. The County is currently developing the Howard County Bicycle Master Plan which is anticipated to be completed in 2014. An extensive amount of bicycle facilities are recommended with this study area.

Refer to maps in Appendix A for additional detail on the physical resources in the study area.