

Baltimore National Heritage Area (BNHA)  
1524 Hollins Street, Baltimore, Maryland 21223

# Baltimore National Heritage Area (BNHA)

## ***Preliminary Transit Analysis and Partner Engagement***

*Prepared by the U.S. Department of Transportation Volpe National Transportation Systems Center  
on behalf of the Baltimore National Heritage Area*



Baltimore National Heritage Area Points of Interest  
Source: U.S. Department of Transportation Volpe Center, October 2023



The Baltimore National Heritage Area (BNHA), nationally designated in 2009, promotes, preserves, and enhances Baltimore’s cultural and historic legacy and natural resources for current and future generations. Originally in the Office of the Mayor, BNHA is now managed through the non-profit Baltimore Heritage Area Association, Inc. The purpose of the heritage area is s to help local agencies and non-profits with projects and programs that recognize and protect heritage resources; develop recreational and educational opportunities; increase public awareness and appreciation of natural, historic, scenic, and cultural resources; protect and restore historic places that reflect the area’s themes; and identify points of interest.



*Financial and technical assistance for this study was provided by the National Park Service Chesapeake Gateways Office, Chesapeake Gateways Program.*

Through Chesapeake Gateways, the NPS Chesapeake Gateways Office inspires and helps people discover, experience, and connect with the natural and cultural heritage and recreational opportunities of the Chesapeake Bay and the rivers, landscapes, and communities across its watershed. NPS Chesapeake Gateways works with people and partners to conserve and steward special places important to communities, visitors, and the nation, for this and future generations. Support through this program is typically in the form of collaborative partnerships, technical assistance, and grants. NPS Chesapeake Gateways provides technical assistance through staff expertise to aid the managers and partners of Chesapeake places and programmatic partners in conserving, restoring, interpreting, and providing access to cultural, natural, and recreational resources within the watershed.



The U.S. DOT Volpe Center was established within U.S. DOT in 1970 to bring technical capability and a future-oriented outlook to pressing national transportation issues. The DOT Volpe Center provides technical expertise and develops solutions to complex transportation challenges in support of U.S. DOT, other Federal, State, and local agencies, non-profit organizations, private entities, and others. NPS Chesapeake Gateways funds an interagency agreement with the DOT Volpe Center to bring transportation and access expertise and technical assistance to aid Chesapeake places and partners.

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## Introduction

### *Project Purpose*

This report summarizes the preliminary feasibility of implementing a transit shuttle service connecting the points of interest and communities within the Baltimore National Heritage Area (BNHA) and other sites of interest in the City of Baltimore in Maryland. The service route options provided herein are based on existing area transit services, historic visitation patterns (as available), potential interest in a dedicated BNHA shuttle service, anticipated implementation requirements, and other factors. The goal is to provide BNHA with information to support and inform future decision-making and next steps for partnering to implement the proposed service.

The U.S. DOT Volpe Center (Volpe) performed this preliminary transit analysis on behalf of BNHA and the National Park Service Chesapeake Gateways Office (NPS Chesapeake Gateways). This is a preliminary feasibility study, and as such, the concepts and proposed shuttle route scenarios serve only as an example of how transit service might be integrated into a managed access program for BNHA. This report is not a plan, proposal, or decision-making process. Potential concepts identified in this report would need to go through further planning, NEPA compliance, Section 106, design process and other steps prior to any implementation, for which BNHA and potential partners would be responsible for conducting.

### *Project Background*

The BNHA comprises historic structures, landscapes, cultural traditions, parks, museums, and other resources that collectively convey the unique heritage of Baltimore. BNHA's mission is to promote, preserve, and enhance Baltimore's cultural and historic legacy and natural resources for current and future generations. BNHA staff express a need to improve transit service to Heritage Area sites, which will help support the agency's mission by increasing visitation and equitable access to Heritage Area sites. A transit service route that connects the BNHA sites in an intentional way could also provide a new, unique visitor experience, providing visitors with a cohesive story about Baltimore's heritage. This report investigates scenarios for improving transit service to BNHA sites, either through a new partner-operated service or through enhanced collaboration with the City of Baltimore on the existing Charm City Circulator.

The City of Baltimore operates a public transportation service, the Charm City Circulator, which provides connectivity to many of the BNHA sites; however, BNHA staff indicate that current service connections do not connect visitors to these sites in an intentional and sufficient way. For example, there are gaps in service connections to some sites, schedule and operating conditions are not tailored to Heritage Area visitor needs, and there is a general lack of cohesion among the Heritage Area sites and the transit service.

This study is informed by the 2019 Baltimore Heritage Bus Tour Business Plan (the business plan), developed by the John Hopkins Carey Business School for BNHA. The business plan addressed a concept for a Baltimore Heritage Bus Tour (BHBT) to provide transportation to key historical tourist destinations. The business plan conducted a market analysis and financial projections, as well as identified and outlined key functions of the system to include organization and management, marketing/sales, service/product, funding, and next steps. The business plan envisioned the BHBT as a hop-on, hop-off tour circulator through key historical areas within the City of Baltimore.



## *Methodology and Report Organization*

For this study, the Volpe team:

- Performed research to develop three case studies documenting similar example transit services (See Peer Systems Section);
- Supported partner engagement identifying needs and opportunities related to the Heritage Area transit service (See BNHA Partner Coordination Section); and
- Conducted a preliminary transit analysis evaluating routing and scheduling options informed by the needs and opportunities expressed by Heritage Area sites.

The project team conducted this analysis using the following steps. First, the team conducted on-the-ground observations and received input from partners in the BNHA and the City of Baltimore. The team also performed peer research to better understand the operations of similar transit systems in other regions. The team then collected visitation and existing public transit service data with the assistance of partners, and gathered and reviewed other sources of information, such as prior studies to inform the analysis. The project team developed three possible operating scenarios for a transit service route to serve BNHA based on input gathered from on-the-ground observations, the City's existing public transportation services/routes, and conversations with BNHA, NPS, and project partners. A preliminary analysis of the three transit scenarios is included in the Transit Shuttle Service Route Scenarios Section of this report.

The primary audience for the report includes BNHA and heritage site partners; the secondary audience includes the City of Baltimore or other partners that may be interested in collaborating to implement the service. This report is organized into the following sections:

- **The Current Conditions section** describes the Heritage Area context and its regional context, BNHA boundaries layout, NPS-recognized National Historic Landmarks, existing BNHA programming, site visitation patterns, existing public transportation services in the City of Baltimore, multimodal access, and previous studies.
- **The Transit Scenarios section** describes some possible transit scenarios and supporting context.
- **The Peer Systems section** summarizes the operations of three similar transit systems in other regions to include the D.C. Circulator, Discover Niagara, and the Havre de Grace Trolley System.
- **The BNHA Partner Coordination section** describes the partner engagement with other Heritage Area sites and key points of interest within BNHA boundaries.
- **The Next Steps section** discusses possible follow-on activities, based on partner discussions to date.

## **Current Conditions**

### *Project Area*

The City of Baltimore is located on the Patapsco River, near where it empties into the Chesapeake Bay, in north-central Maryland (Figure 1). The City of Baltimore is mostly surrounded by Baltimore County except for the south, which is bordered by Anne Arundel County. The City of Baltimore is the most populous city in the State of Maryland and the 30<sup>th</sup>-most populous city in the country, with a population of 585,708 people as of the 2020

census.<sup>1</sup> In addition, the Baltimore Metropolitan Area is the 20<sup>th</sup>-largest metropolitan area in the country, with a population estimated at over 2.8 million people as of the 2020 census.<sup>2</sup> The City's Port of Baltimore is the nation's furthest inland port and serves as the top domestic port for cars in the nation and a major hub for other goods such as forest products, farm equipment, and sugar. The Maryland Port Administration's 2017 Economic Impact of the Port of Baltimore in Maryland report found that the port was directly responsible for approximately 15,000 jobs (directly) and 22,000 jobs (indirectly) generating \$4.7 billion in economic value to the State of Maryland.<sup>3</sup>

The Baltimore National Heritage Area is one of 13 certified heritage areas in Maryland and one of 62 Congressionally designated national heritage areas across the country.<sup>4</sup> BNHA encompasses 26 square miles within the bounds of Baltimore City to include the central portion of the City, waterfront, inner neighborhoods, and portions of the City's park system, containing a significantly high concentration of historic, cultural, and natural resources with the potential to attract tourists (see Figure 1 for a map of the boundary). The harbor of the Patapsco River acts as the southernmost point within the Heritage Area, extending northwest along the Gwynn Falls River, culminating at the Windsor Hill area.<sup>5</sup> To the north, the Heritage Area follows along the Jones Falls River, through Seton Hill, Old West Baltimore, Upton's Marble Hill, and Druid Hill Park. In the east, the boundary includes the Canton, Fells Point, Upper Fells Point, Paterson Park, and East Monument areas.

There are 449 heritage resources located within the BNHA boundary, which spans across 176 of the 236 unique neighborhoods within Baltimore City.<sup>6</sup> The [National Park Service's BNHA webpage](#) identifies 15 National Historic Landmarks included within the BNHA (Table 1).

Baltimore's history goes back to its founding in colonial times and the critical role that the city played in the defense of the nation during the War of 1812, then continues as Baltimore grew into a center of industry and philanthropy, and eventually as a touchstone for the fight for equality of all Americans. The BNHA was created to promote, preserve, and enhance Baltimore's cultural and historic legacy and natural resources for current and future generations through a community-driven approach. BNHA provides several programs related to historic preservation, natural resource conservation, recreation, heritage tourism, and educational programming for visitors to include trails and walking tours (Table 2). Available resources include [self-guided tour books and brochures](#) available at the Baltimore Visitor Center or any downtown Inner Harbor hotel lobby and [the BNHA Walking Tour Mobile Application](#).

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<sup>1</sup> "[QuickFacts: Baltimore city \(County\)](#)". United States Census Bureau. Retrieved April 9, 2024.

<sup>2</sup> "[Metropolitan and Micropolitan Statistical Areas Population Totals: 2020–2021](#)" (CSV). 2021 Population Estimates. [United States Census Bureau](#), Population Division. May 2022. Retrieved April 9, 2024.

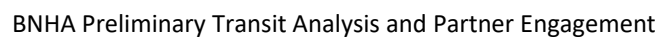
<sup>3</sup> "The 2017 Economic Impact of the Port of Baltimore in Maryland". Prepared for the Maryland Port Administration by Martin Associates. October 15, 2018. Retrieved April 9, 2024. [https://mpa.maryland.gov/Documents/EcononmicimpactofPOBMaryland2017\\_101518.pdf](https://mpa.maryland.gov/Documents/EcononmicimpactofPOBMaryland2017_101518.pdf).

<sup>4</sup> Heritage areas are regions where historic structures, landscapes, cultural traditions, and other resources (such as parks and museums) work together to tell patterns of history unique to the location. Accessed November 14, 2023. <https://www.explorebaltimore.org/page/about>.

<sup>5</sup> Baltimore City's harbor connects it to the Chesapeake Bay.

<sup>6</sup> Baltimore National Heritage Area's "Explore" webpage. Accessed April 1, 2024. <https://www.explorebaltimore.org/explore>.

Source: Volpe Center, April 2024





**Table 1: National Park Service Recognized National Historic Landmarks within the BNHA**

Source: Volpe Center, November 2023

Site	Location	Programming Hours
<a href="#">Basilica of the Assumption</a>	409 Cathedral Street	8:30 am – 8:00 pm, Monday through Friday; 8:30 am – 5:30 pm, Saturday and Sunday
<a href="#">Davidge Hall</a>	520 W Lombard Street	8:00 am – 5:00 pm, Monday through Friday; Tour reservations outside of hours are possible
<a href="#">Edgar Allan Poe House</a>	203 N Amity Street	11:00 am – 4:00 pm, Wednesday through Sunday; Tour reservations are required
<a href="#">First Unitarian Church of Baltimore</a>	1 W Hamilton Street	Church office hours are 10:00 am – 1:00 pm, Monday through Friday; No tours provided
<a href="#">Star-Spangled Banner Flag House</a>	844 E Pratt Street	10:00 am – 3:00 pm, Tuesday through Friday; 10:00 am – 4:00 pm, Saturday
<a href="#">Lightship Chesapeake (Historic Ships in Baltimore)</a>	Pier 3, Baltimore, MD	10:00 am – 5:00 pm, Friday through Monday (May vary based upon season)
<a href="#">Mount Clare Station and Roundhouse</a>	901 W Pratt Street	10:00 am – 4:00 pm, Monday through Sunday
<a href="#">Peale Museum</a>	225 Holliday Street	3:00 pm – 7:00 pm, Thursday through Friday; 10:00 am – 4:00 pm, Saturday and Sunday
<a href="#">Phoenix Shot Tower</a>	801 E Fayette Street	Free drop in visits 10:00 am – 12:00 pm, Saturday (through November); Paid tours at 4:00 pm, Saturday and Sunday year-round
<a href="#">Historic Ships in Baltimore (USCGC Taney, USS Constellation, USS Torsk)</a>	Pier 5, Baltimore, MD	10:00 am – 5:00 pm, daily (May vary based upon season)
<a href="#">Steam Tug Baltimore (Baltimore Museum of Industry)</a>	1415 Key Highway	9:00 am – 4:00 pm, Wednesday through Saturday; 11:00 am – 4:00 pm Sunday

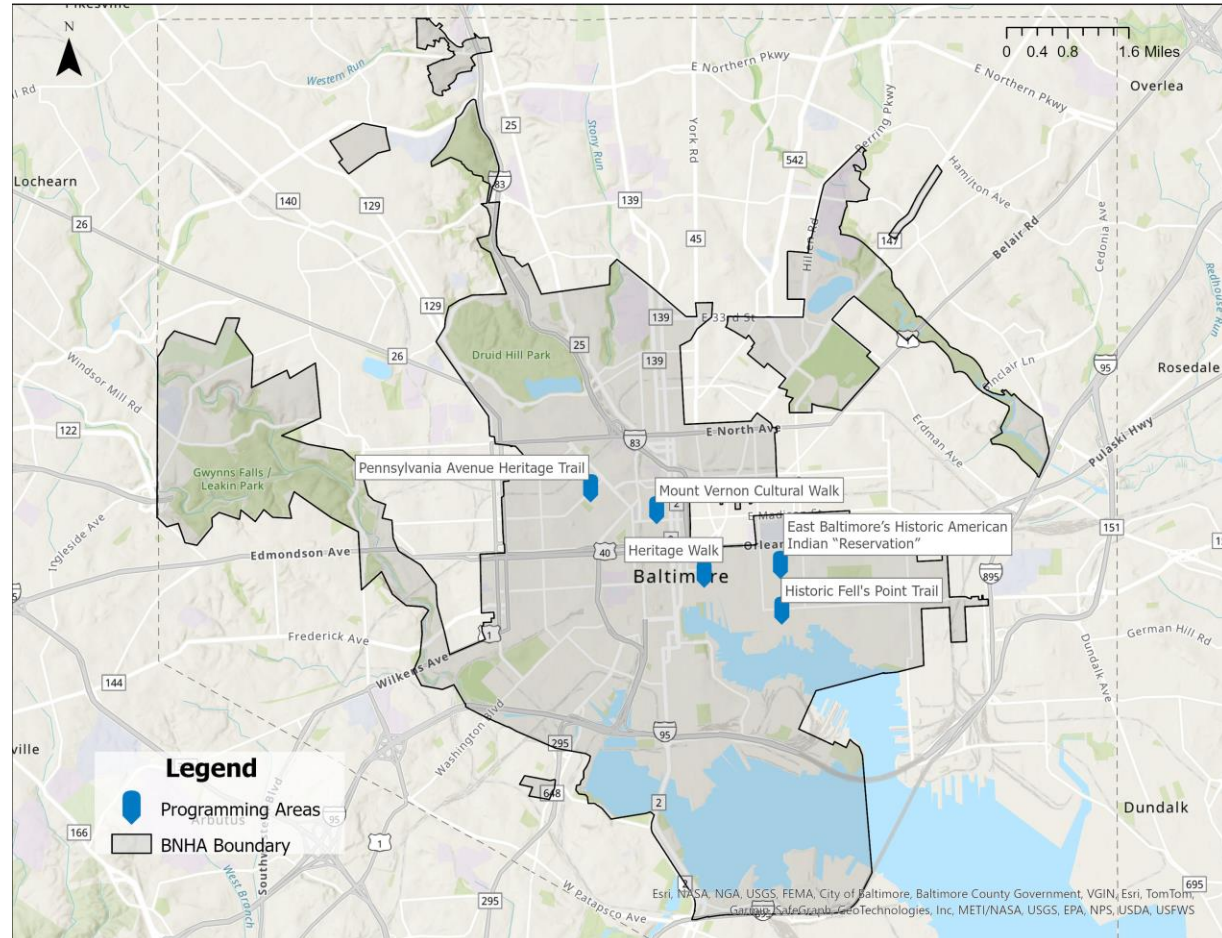
**Table 2: BNHA’s Existing Programming within Heritage Area Boundaries**

Source: Volpe Center, January 2024

Trails and Walking Tour Programming	Location	Description
<a href="#">Heritage Walk</a>	Inner Harbor, Little Italy, and Historic Jonestown	Visitors can discover the roots of the real Baltimore in the neighborhoods where it all began. This two-mile walking tour includes more than 20 of the City’s most unforgettable landmarks and historic sites to include the Flag House and Star-Spangled Banner Museum, the Carroll Mansion, the Jewish Museum of Maryland, and the Reginald Lewis Museum of Maryland African American History and Culture. The tour is self-guided.
<a href="#">Mount Vernon Cultural Walk</a>	City Center to Pennsylvania Station	Visitors can discover the city’s rich cultural landscape along this walk, which takes them through Charles Street and Mount Vernon offering examples of architecture to include the Beaux Arts B&O Railroad Building and modern One Charles Center, as well as cultural institutions to include the Peabody Institute and the Walters Art Museum. The two-mile tour is self-guided.
<a href="#">Pennsylvania Avenue Heritage Trail</a>	Pennsylvania Avenue through Old West Baltimore	Visitors can discover Baltimore’s historic African American neighborhood, Old West Baltimore, which was the heart of the city’s black culture and life and served as an important center of the Civil Rights Movement. Visitors can experience the spirit of African American pride through the legacies of Thurgood Marshall and Billie Holiday, among others. The two-mile tour can either be self-guided or guided for groups of six or more by reservation only.
<a href="#">Historic Fell’s Point Trail</a>	Fell’s Point	Visitors can discover the historic neighborhood known for its maritime heritage and over 70 buildings that witnessed the trials of the 1814 Battle of Baltimore. The trail highlights the city’s oldest urban residence, the Robert Long House – 1765, and site of significant African American history to include historic shipyards owned by black entrepreneur Issac Myers. The tour is self-guided.
<a href="#">East Baltimore’s Historic American Indian “Reservation”</a>	The “Reservation” (East side of Baltimore in the area that bridges the neighborhoods of Upper Fells Point and Washington Hill)	Visitors can discover the city’s places and spaces important to American Indian history and heritage in the city, with a focus on East Baltimore’s Historic American Indian “Reservation” in the 20 <sup>th</sup> Century. The self-guided tour includes points of interest such as the South Broadway Baptist Church, the Hokahey Indian Trading Post, the Baltimore American Indian Center, the Baltimore American Indian Center Inter-Tribal Trading Post, and the Storefront Church Pre-South Broadway Baptist, and New Jazz City to name a few.

**Figure 2: BNHA's Existing Programming within Heritage Area Boundaries**

Source: Volpe Center, April 2024



### *Goals for Shuttle Service and Identified Route*

The primary goal for a potential shuttle service would be to improve connectivity to cultural, historical, and recreational points of interest within the BNHA for increased and equitable access. As discussed earlier, this study includes two options for models that could support this goal:

- Partnership with the existing regional transit providers (i.e., Baltimore Charm City Circulator) to implement a BNHA-focused route; or
- Implementation of a separate partnership-based, seasonal, hop-on/hop-off shuttle service. A hop-on/hop-off shuttle service is one where visitors pay for one ticket per day and have access to the service throughout the day. Visitors may exit the shuttle at any stop to explore and then may board another shuttle later in the day.

Goals for a BNHA-focused route on the Charm City Circulator would be developed in partnership with the City of Baltimore. The city recently completed the Baltimore City Transit Development Plan for the Charm City Circulator,

which identified opportunities where the Charm City Circulator service could improve efficiency and equity.<sup>7</sup> This Plan is expected to be implemented Spring/Summer 2024, and there may be opportunities to tailor the service to also meet Heritage Area visitor needs.

For the separate partnership-based, seasonal, hop-on/hop-off shuttle service, BNHA envisions the system operating between approximately 10:00 AM and 5:30 PM from April – October. BNHA identified a preference for a “hop-on, hop-off” model without an interpretive guided component, at least during core touring hours. BNHA identified the points of interest that this shuttle service would serve, which include:

- National Great Blacks in Wax Museum
- Maryland Zoo / Druid Hill Park
- PS 103 Thurgood Marshall Amenity Center
- B&O Railroad Museum
- Fort McHenry National Monument and Historic Shrine
- Edgar Allan Poe House & Museum
- Mount Clare Museum House (Carroll Park)
- Inner Harbor (Baltimore Visitor Center, National Aquarium, Historic Ships in Baltimore)
- Patterson Park (Creative Alliance)
- Baltimore Museum of Industry
- Camden Yards
- American Visionary Art Museum
- Maryland Center for History and Culture
- Lexington Market
- Reginald F. Lewis Museum
- Frederick Douglass-Issac Myers Maritime Park
- Cross Street Market
- Babe Ruth Museum and Birthplace

Figure 3 illustrates a map of two proposed routes that could potentially serve these Heritage Area sites. Each proposed route scenario is further detailed in the Transit Shuttle Service Route Scenarios section of this report.

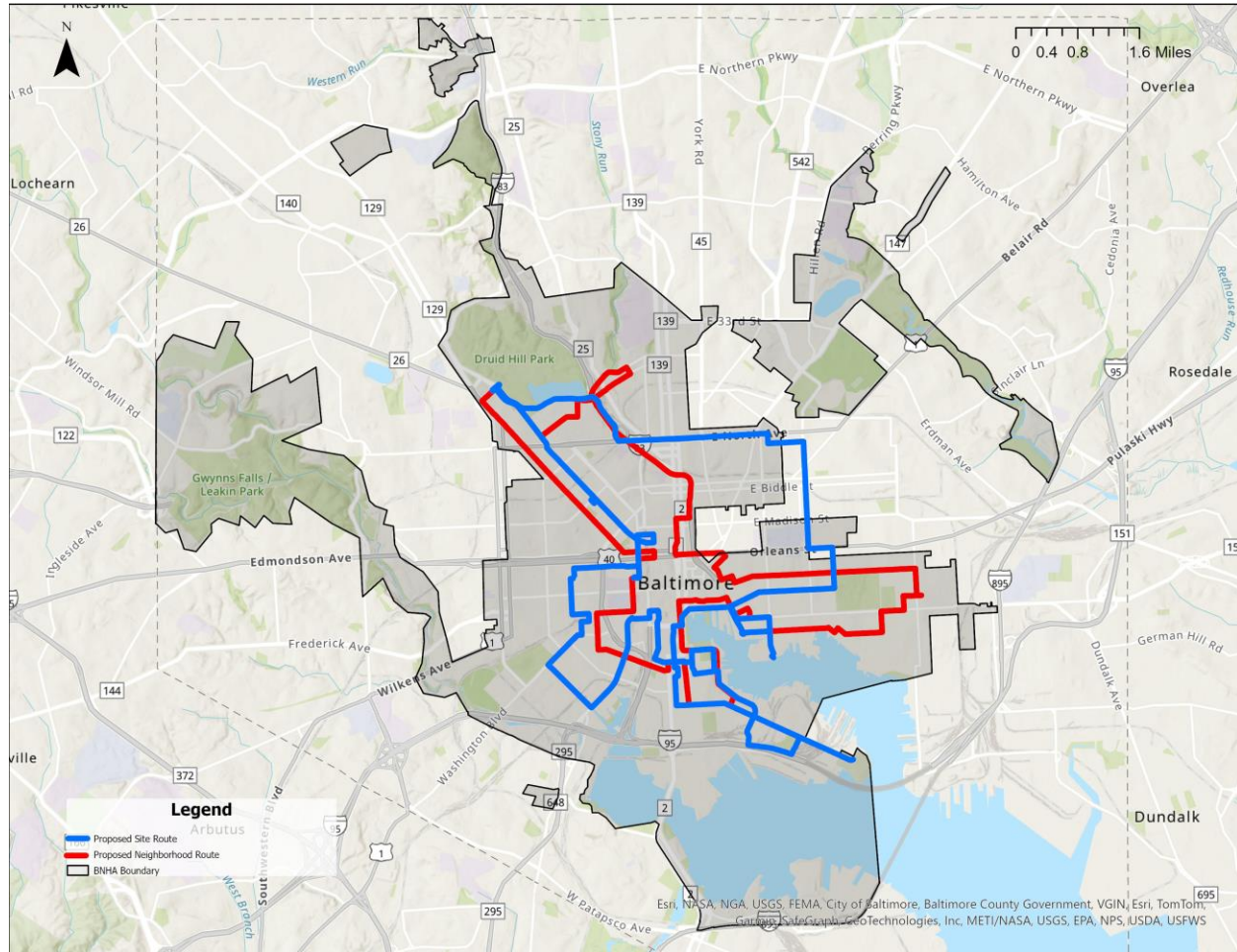
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<sup>7</sup> The City of Baltimore, Charm City Circulator. 2022. “The Baltimore City Transit Development Plan.” Accessed February 20, 2024. <https://storymaps.arcgis.com/stories/dcd8dc9a4de54bea9e272cd8a25f02e9>.



**Figure 3: Map of Proposed Shuttle Routes**

Source: Volpe Center, June 2024



## Multimodal Access

Most visitors currently access most of the BNHA sites via personal vehicles, despite there being existing public transit stops near many sites. A more detailed study would need to be undertaken to better understand why residents and visitors do not take the existing public transit service. However, upon a preliminary examination of the existing service stops, routing, and schedule, the project team believes the following could be limiting BNHA visitor ridership:

- Some BNHA sites do not have a direct, accessible transit stop connection (i.e., across the existing public transportation options citywide, available transit service does not cover 100 percent of the BNHA sites / points of interest as illustrated in Figure 4, specifically in the west/north west area surrounding Gwynns Falls / Leakin Park and the northeast area surrounding Clifton Park);
- Due to the current routes, BNHA visitors would not be able to visit many BNHA sites in one day or would have to make multiple connections to do so; and
- The current schedule limits options for visitors to access multiple BNHA sites in one trip; and

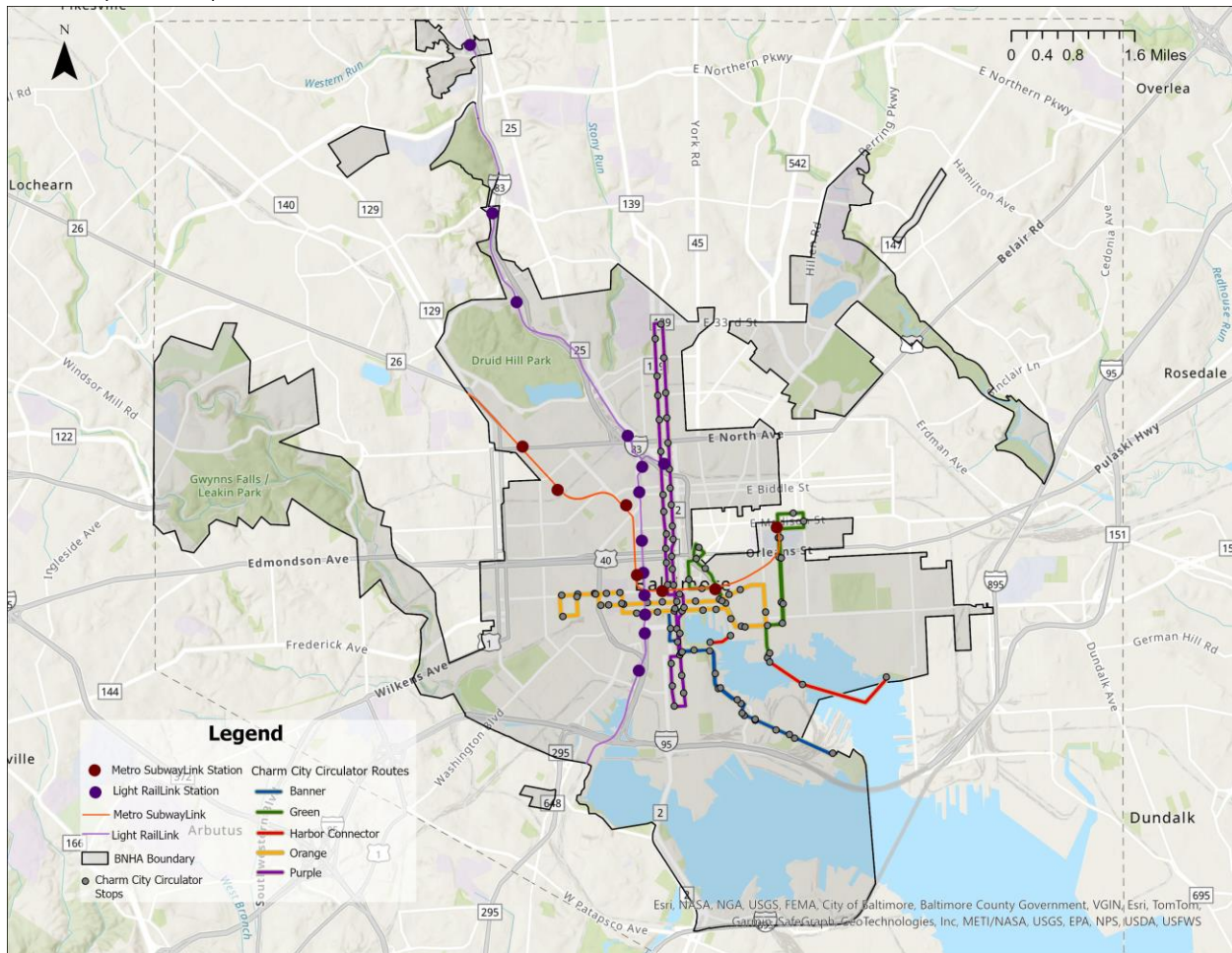


- There may be a lack of public awareness of public transportation service options available to BNHA sites.

This section describes existing multimodal public transportation services in the vicinity, further illuminating the context for a possible future shuttle service.

**Figure 4: Existing Charm City Circulator Shuttle, MTA MetroSubway Link, and MTA Light RailLink Services within the Baltimore National Heritage Area Boundaries**

Source: Volpe Center, April 2024



### Charm City Circulator

The Baltimore City Department of Transportation (DOT) launched the Charm City Circulator (CCC) in 2010 to reduce short-distance personal vehicle trips and improve multi-modal transportation within the downtown core. The CCC consists of four separate routes:<sup>8</sup>

<sup>8</sup> The City of Baltimore, Charm City Circulator. 2022. "The Baltimore City Transit Development Plan." Accessed April 15, 2024. <https://storymaps.arcgis.com/stories/dcd8dc9a4de54bea9e272cd8a25f02e9>.

1. **Green Route** (7.3 miles), which runs from City Hall to Fells Point to the Johns Hopkins Hospital Campus with major transfers to other transit services at the John Hopkins Metro SubwayLink Station and the Shot Tower Metro Subway Link Station.
2. **Purple Route** (8.2 miles), which runs from 33rd Street to Federal Hill with major transfers to other transit services such as the CCC's Green and Banner routes, as well as Penn Station (connections to Amtrak)<sup>9</sup> and the Visitors Center.
3. **Orange Route** (5.4 miles), which runs from Hollins Market to Harbor East with major transfers to other transit services such as the Light RailLink and the CCC's Purple, Green, and Banner routes.
4. **Banner Route** (5.3 miles), which runs from the Inner Harbor to Fort McHenry with major transfers to other transit services such as the CCC's Purple and Orange routes, as well as the Harbor Connector 3.<sup>10</sup>

April 2022 data indicates the Purple Route has the highest ridership, with 1,566 daily riders, followed by the Orange Route (1,089 daily riders), the Banner Route (306 daily riders), and the Green Route (225 daily riders).<sup>11,12</sup> Buses run every 15-20 minutes on the Green, Orange, and Purple Routes and every 20-25 minutes on the Banner Route. All four routes operate from 7:00 am – 8:00 pm Monday – Thursday; 7:00 am – Midnight on Friday; 9:00 am – Midnight on Saturday; and 9:00 am – 8:00 pm on Sunday (Figure 5).<sup>13</sup> This timing is well aligned with operating days and hours of the Heritage Area sites within the BNHA. Riders can view a full map with bus locations in real-time on the Baltimore City DOT CCC webpage here: <https://charmcity.passiogo.com/>.

Though the CCC does offer service to many popular BNHA points of interest such as Fort McHenry, Flag House Museum, Inner Harbor, Lexington Market, and Reginald F. Lewis Museum, existing CCC routes do not service the full BNHA (Figure 6). Coverage gaps include areas west of Charles Street and north of Fayette Street, as well as east of Charles Street and north of Orleans Street. As such, major points of interest within the BNHA, such as the Maryland Zoo, PS 103 Thurgood Marshall Amenity Center, Edgar Allen Poe House, and National Great Blacks in Wax Museum are currently not accessible via the CCC.

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<sup>9</sup> Riders should get off at the [Charles Street and Penn Station Northbound stop](#) as per Google Maps. Accessed April 15, 2024. <https://maps.app.goo.gl/s7UN3VThkAFw8Brn7>.

<sup>10</sup> Notably, the Banner Route [began in 2012](#) as a grant-funded shuttle to take riders from the Inner Harbor to Fort McHenry.

<sup>11</sup> The City of Baltimore, Charm City Circulator. 2022. "The Baltimore City Transit Development Plan." Accessed April 15, 2024. <https://storymaps.arcgis.com/stories/dcd8dc9a4de54bea9e272cd8a25f02e9>.

<sup>12</sup> Using these daily numbers, the CCC served approximately 95,580 riders across all routes for April 2022 –  $[(1,566 \text{ riders} * 30 \text{ days}) + (1,089 \text{ riders} * 30 \text{ days}) + (306 \text{ riders} * 30 \text{ days}) + (225 \text{ riders} * 30 \text{ days})] = 95,580 \text{ total riders}$ .

<sup>13</sup> Full timetables for each route are on CCC's webpage (<https://transportation.baltimorecity.gov/transit-services/maps-and-schedules>).

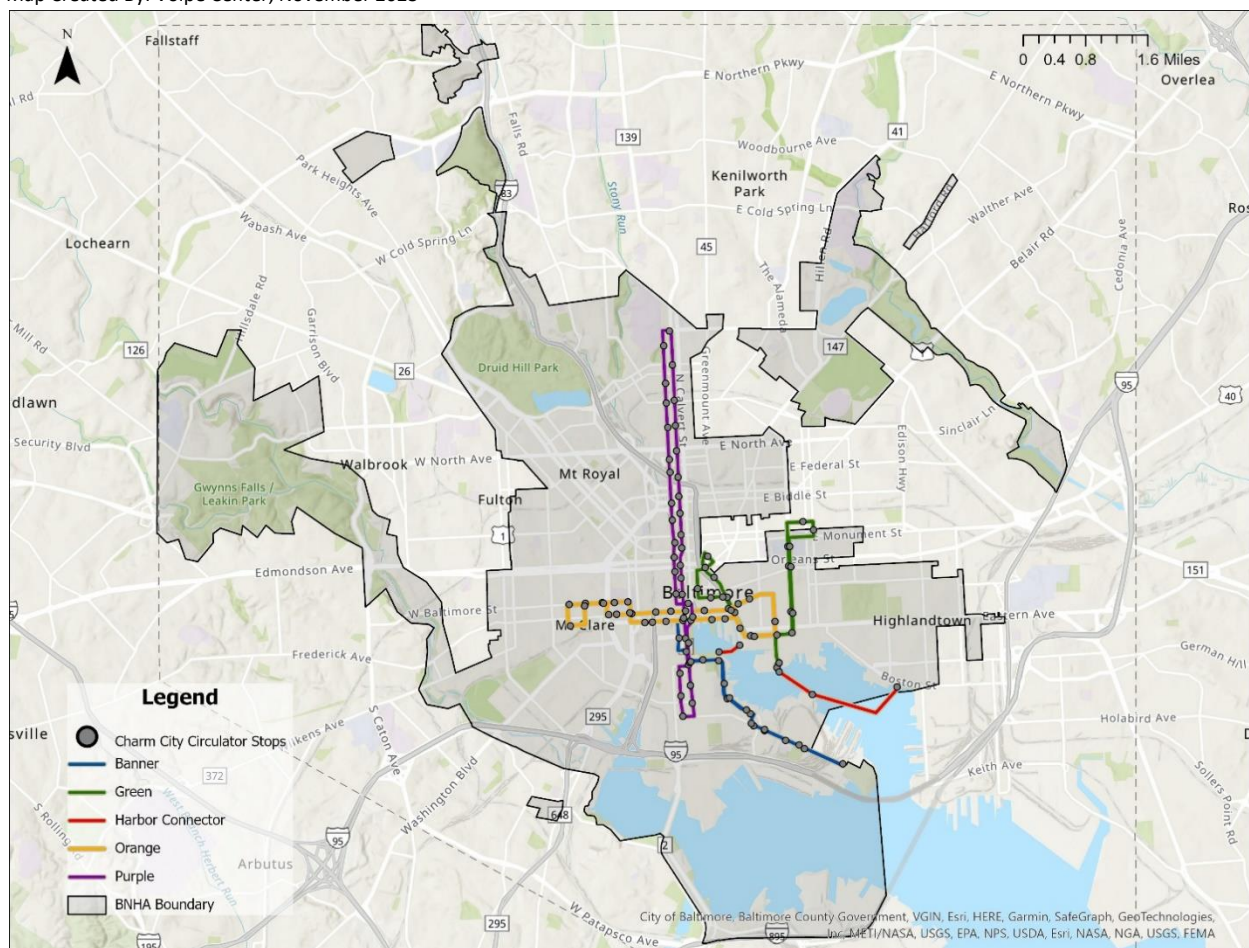
**Figure 5: Charm City Circulator Service Hours as of April 2024**

Source: [Baltimore City Department of Transportation Charm City Circulator](#), 2024



**Figure 6: Charm City Circulator Service within BNHA**

Map Created By: Volpe Center, November 2023



### Baltimore Water Taxi's Harbor Trolley / CCC's Harbor Connector

The Baltimore Water Taxi is a privately owned and operated water taxi service offering sightseeing and transportation service (known as the Harbor Trolley) to points along the Baltimore Inner Harbor via boat.<sup>14</sup> The Harbor Trolley service is oriented toward tourists and runs seasonally, offering views of historical landmarks while providing multiple stops to key waterfront attractions.<sup>15</sup> It has three routes with seven stops – Fells Point-Broadway Pier (start of all routes), Harbor East, Inner Harbor-Harborplace, Federal Hill, Locust Point, Lighthouse Point, and Fort McHenry (Figure 7). The Harbor Trolley operates seasonally, with service varying by route – exact schedules can be found on the Harbor Trolley webpage here: <https://www.baltimorewatertaxi.com/trolley> (Table 3). One-way tickets are \$18 for adults and \$12 for children. There is also an All-Day Pass that provides unlimited stops, which costs \$20 for adults and \$12 for children or a seasonal trolley pass that provides up to 30 credits for the passholder and their guests, which costs \$150.

The Harbor Trolley service connects to the city-owned harbor connector commuter service, the Harbor Connector (HC), which is an extension of the Charm City Circulator. The HC is the City's free maritime transit service, connecting key waterfront locations along three routes. The HC runs 6:00 am – 8:00 pm, Monday – Friday with departures every 15 to 30 minutes – exact schedules can be found on the HC webpage at <https://www.baltimorewatertaxi.com/connector> (Table 3, Figure 8). The Connector #1 Route links Maritime Park and Locust Point; the Connector #2 Route links Canton Park and Locust Point; and the Connector #3 Route links Federal Hill and Pier Five (Figure 7, Figure 8).

**Table 3: Baltimore Water Taxi's Harbor Trolley and Baltimore City's Harbor Connector Schedules**

Source: [Baltimore Water Taxi](#), April 2024

Route	April, September, October	May - August	Year-Round
Downtown Loop	Saturday & Sunday, 11:00 am – 6:00 pm	Thursday – Sunday, 11:00 am – 8:00 pm	--
Local Line	Saturday & Sunday, 11:00 am – 6:00 pm	Saturday & Sunday, 11:00 am – 8:00 pm	--
Fort Line	--	Friday – Sunday, 11:00 am – 8:00 pm	--
Harbor Connector	--	--	Monday – Friday, 6:00 am – 8:00 pm

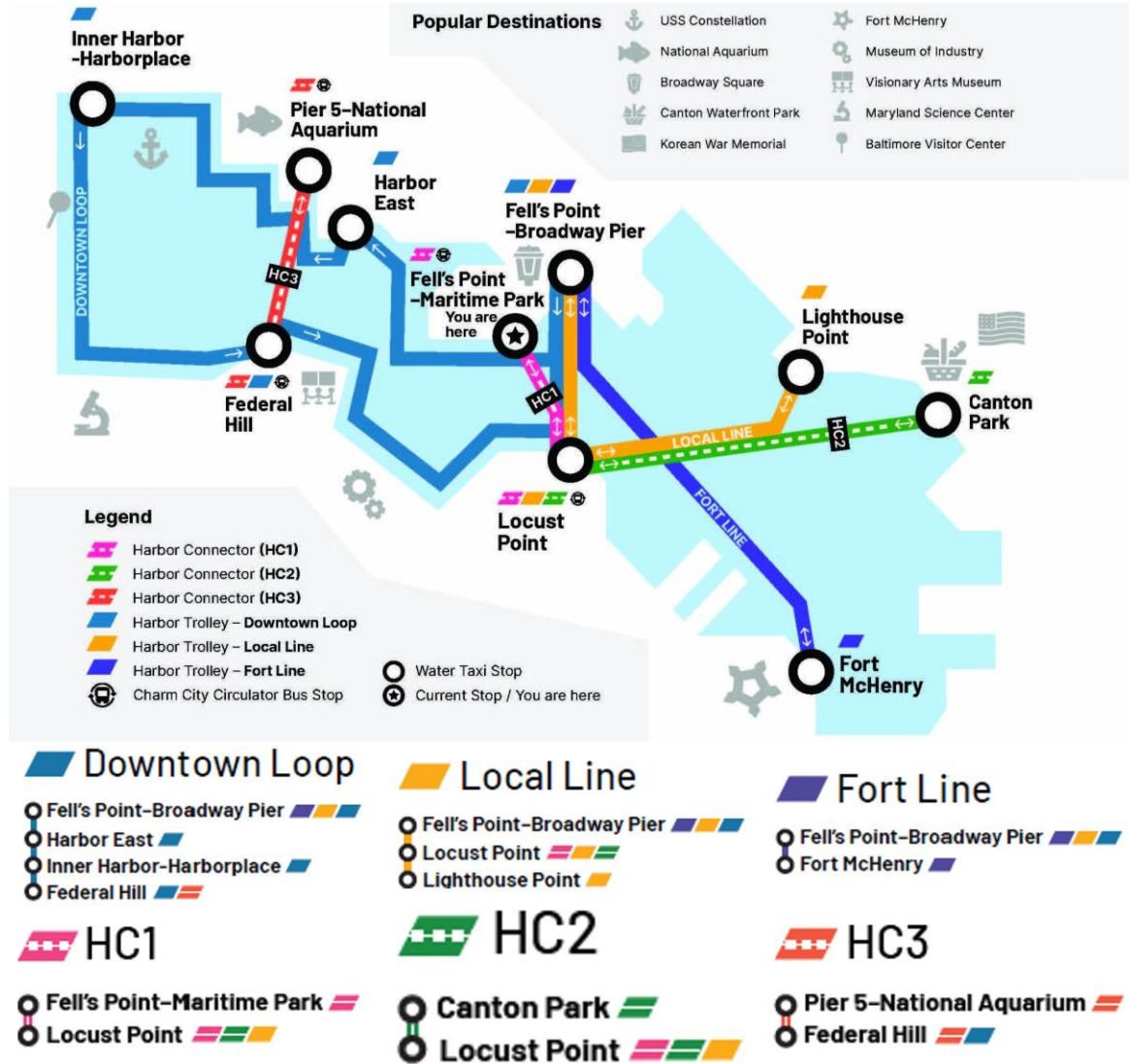
<sup>14</sup> Sagamore Ventures, an investment company owned by the founder and CEO of Under Armour, Kevin Plank, owns the Baltimore Water Taxi and Harbor Boating Inc., the company that operates the Baltimore Water Taxi. In 2016, Harbor Boating Inc. was provided exclusive rights to the city-owned docks and public landings for the next 20 years with the option of two five-year renewals. (Source: [Kevin Plank's Sagamore Ventures Acquires Baltimore Water Taxi Service - Baltimore Magazine](#)).

<sup>15</sup> Though traditionally the service is used by tourists, there are increasing efforts to use the service as a commuter transportation mode.



**Figure 7: Baltimore Water Taxi's Harbor Trolley and Baltimore City's Harbor Connector Routes**

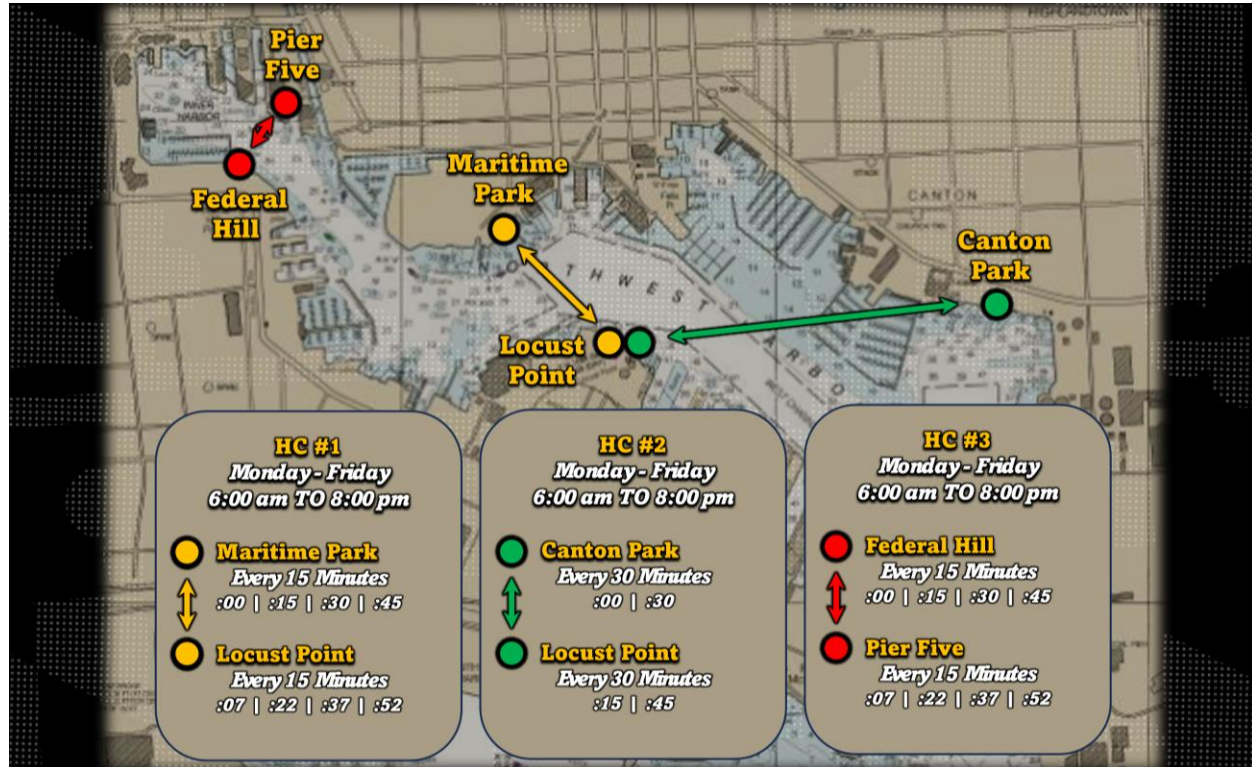
Source: [Baltimore Water Taxi](#), April 2024





**Figure 8: Baltimore Water Taxi Harbor Connector Route**

Source: [Baltimore Water Taxi](#), April 2024



### Maryland Transit Administration Operated Services

The Maryland Department of Transportation Maryland Transit Administration (MDOT MTA or MTA) is a state-operated mass transit administration in Maryland and is part of the Maryland Department of Transportation. MTA operates throughout the Washington-Baltimore metropolitan area and includes bus services, Metro SubwayLink, and the Light RailLink.<sup>16</sup> The fee structure for local bus services, SubwayLink, and RailLink is shown in Table 4.

**Table 4: MTA Fare Structure**

Source: Maryland Transit Administration, November 2023

Fares & Passes	Full Fare	Senior/Disability	Student	Mobility
One-way	\$2.00	\$1.00	\$1.50	\$2.20
Day Pass / 1-Day Pass	\$4.60	\$2.30	--	--
Weekly / 7-Day Pass	\$22.00	--	--	--
Monthly / 31-Day Pass	\$77.00	\$23.00	--	--

<sup>16</sup> MTA also administers the Maryland Area Rail Commuter (MARC) train which includes three lines radiating from Union Station in Washington, D.C.

### **Metro SubwayLink**

Metro SubwayLink is a rapid transit north-south line serving Baltimore and its northwestern suburbs, operated by the MTA. The line serves Johns Hopkins Hospital, downtown Baltimore, Penn Station (Amtrak), and west Baltimore, near the Maryland Zoo. There are 14 stops in total, seven of which are within the BNHA (Figure 9). Headways range from 8 minutes during daytime peak hours to 11 minutes late at night and on weekends. Trains run from 5:00 am to midnight on weekdays and 6:00 am to midnight on weekends. In June 2023, ridership was 95,439 riders, a decrease of approximately 91 percent from the 1,022,871 riders in June 2017 (See [MDOT MTA Performance Improvement Page](#)). The Metro SubwayLink offers connections to several MTA bus routes at most stations. Bicycles (any standard-size) are permitted on the Metro SubwayLink, except on crowded trains, but riders must be 18 years of age or accompanied by an adult who is 18 years of age to bring a bicycle on MDOT MTA modes (see Table 5 on page 22 for more information).

### **Light RailLink**

The Light RailLink serves Baltimore and its northern and southern suburbs. The light rail runs from Hunt Valley in the north to BWI Airport and Glen Burnie in the south. There are 33 stations, 11 of which are within the BNHA boundary (Figure 9). The light rail operates from 4:00 am to 12:45 am on weekdays, 4:15 am to 12:45 am on Saturdays, and 10:00 am to 10:00 pm on Sundays and major holidays. Most of the system has 10-minute peak and 15-minute off-peak headways, except for the BWI–Hunt Valley and Glen Burnie–Fairgrounds routes, which have 20–30-minute headways. The RailLink is the second most used MTA mode after the bus. However, similar to the SubwayLink, the RailLink has also seen a significant decline in ridership over the last several years. In June 2023, ridership was 327,644 riders, a decrease of approximately 47 percent from the 620,794 riders in June 2017 (See [MDOT MTA Performance Improvement Page](#)). The Light RailLink offers connections to Baltimore Penn Station and BWI Airport.<sup>17,18</sup> Bicycles (any standard-size) are permitted on the Light Rail, except on crowded trains, but riders must be 18 years of age or accompanied by an adult who is 18 years of age to bring a bicycle on MDOT MTA modes (see Table 5 on page 22 for more information).

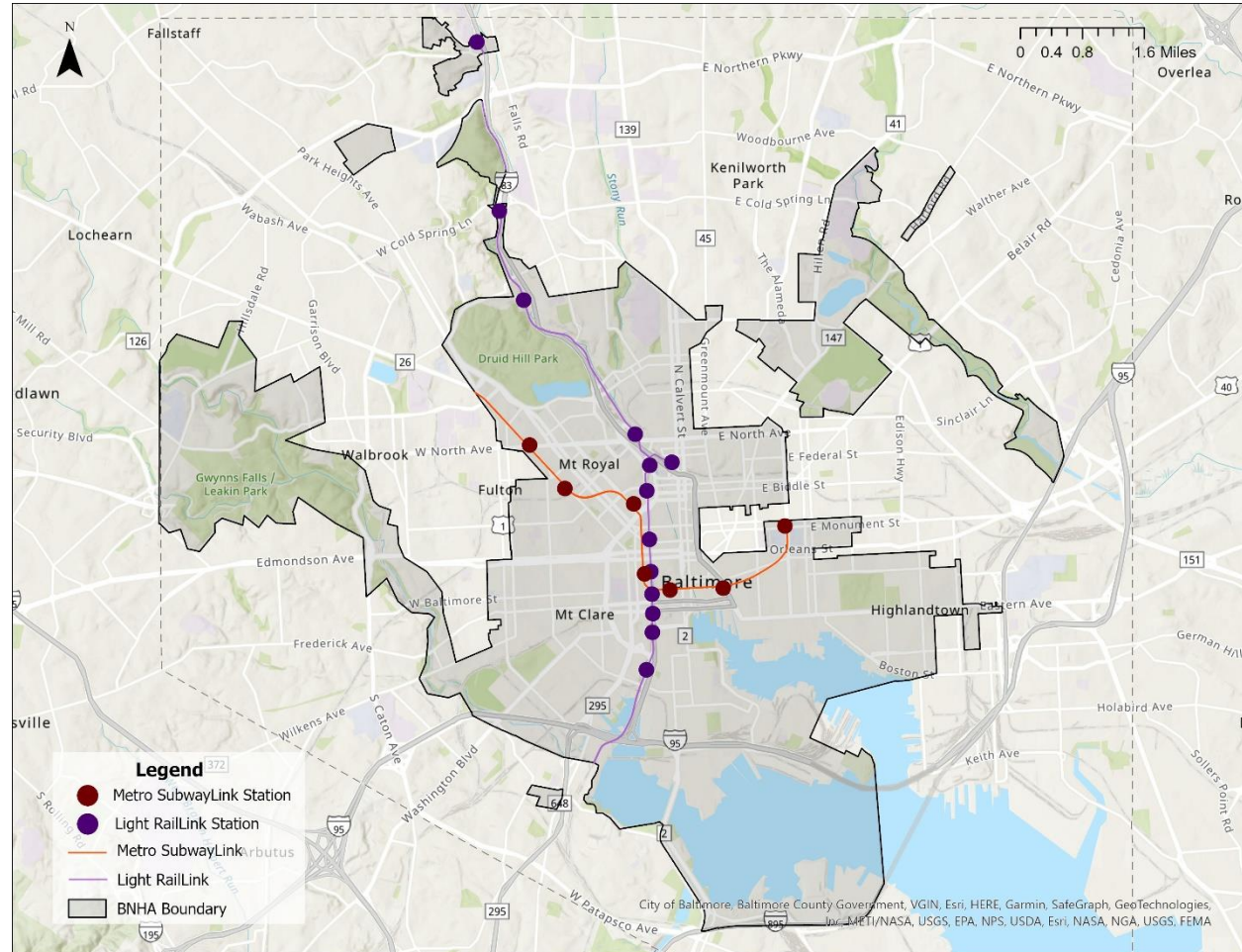
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<sup>17</sup> Light RailLink stop at Baltimore Penn Station is located immediately outside the lower level of the terminal building, adjacent to Concourse E. Source: <https://bwiairport.com/to-from-bwi/transportation/transit/mta-light-rail/>. Accessed April 15, 2024.

<sup>18</sup> Light Rail Service is provided by the Maryland Department of Transit Maryland Transit Administration (MDOT MTA) to and from BWI Marshall Airport. The Light RailLink stop at BWI Marshall Airport Light Rail Station is located immediately outside the lower level of the terminal building, adjacent to Concourse E. To go to Penn Station, riders should exit the train at Mt. Royal Avenue and take the Penn Station Light Rail. Source: <https://bwiairport.com/to-from-bwi/transportation/transit/mta-light-rail/>. Accessed April 15, 2024.

**Figure 9: Metro SubwayLink and Light RailLink Services within BNHA**

Map Created By: Volpe Center, November 2023



### Maryland Area Commuter Rail (MARC)

The Maryland Area Commuter Rail (MARC) is a commuter-rail system in the Washington-Baltimore area. MARC service is administered by the MTA and operated under contract by Alstom and Amtrak on track owned by CSX Transportation (CSXT) and Amtrak. There are three lines, the Penn Line, the Camden Line, and the Brunswick Line providing service to 42 stations. All three lines provide service to Union Station in Washington, D.C. The Penn Line runs along the far southern leg of Amtrak's Northeast Corridor between Washington, D.C., and Perryville Maryland, via Baltimore Penn Station, with most trains operating between Washington, D.C., and Baltimore Penn. The Penn Line also serves the BWI Airport Rail Station and provides limited service to the Martin State Airport, as well as Perryville, Maryland.<sup>19</sup> It is the only line with weekday and weekend service, operating from 4:00 am –

<sup>19</sup> “BWI Marshall Airport offers free, frequent, and convenient shuttle service between the MARC/Amtrak station and the BWI Marshall Airport terminal. Shuttle Service operates 24 hours a day, 365 days a year. Shuttles run approximately every 10 minutes, except between the hours of 1:00 a.m. and 5:00 a.m. when service operates every 25 minutes. At the MARC/Amtrak station, shuttles stop adjacent to the rail station garage, directly across from the rail station. At the BWI Marshall Airport terminal, shuttles drop you off near each designated airline check-in counter.

Midnight, Monday – Friday, and 7:00 am – 12:15 am, Saturday and Sunday. The Camden and Brunswick Lines run on CSX-owned tracks. The Camden Line offers service between Washington, D.C., and Camden Station in Baltimore from 5:00 am – 9:00 pm, Monday – Friday. The Brunswick Line offers service between Washington, D.C., and Martinsburg, West Virginia from 4:45 am – 9:30 am and 3:30 pm – 8:30 pm, Monday – Friday. Almost all stations served by MARC connect with local bus or Metrobus service, with Baltimore Penn Station and Camden Station offering connections to the Baltimore Light RailLink as well. Riders can also board MARC trains from Baltimore’s Penn Station.

MARC fare prices vary depending on the line and length of trip.<sup>20</sup> As of 2023 (Q4), the MARC system had approximately 12,400 riders per weekday or 3,860,600 total riders.<sup>21</sup> Timetables and full route maps for each line can be found on MTA’s webpage here: <https://www.mta.maryland.gov/schedule?type=marc-train>. All of the MARC trains accommodate full-size bicycles, but riders must be 18 years of age or accompanied by an adult who is 18 years of age to bring a bicycle on MDOT MTA modes (see Table 5 on page 22 for more information).

### **Buses (CityLink, LocalLink, Express BusLink)**

MTA operates an extensive network of local bus services including the CityLink, LocalLink, and Express BusLink. CityLink routes operate at a higher frequency and for a longer duration than LocalLink routes, and there are eight Express BusLink lines in the Baltimore area. Combined, these services provide significant coverage within the BNHA (Figure 10). MTA’s local bus services account for roughly two-thirds of all MTA ridership, though it has experienced similar declines over the past several years as other modes. In June 2017, ridership was 5,957,079 and in June 2023 ridership was just 3,942,067, a decrease of approximately 34 percent. Notably, local buses were on time 74 percent of the time in June 2023 (See [MDOT MTA Performance Improvement Page](#)). No bicycles are allowed on board MDOT MTA Buses; however, local Buses are equipped with bicycle racks above the front bumper to carry up to two bicycles (see Table 5 on page 22 for more information).

MTA offers service to Baltimore Penn Station and BWI Airport via certain bus lines. The MTA Commuter Bus 201 operates between the Gaithersburg Park and Ride lot located at I-270 and MD 124 in Montgomery County and BWI Marshall Airport, stopping at Concourses A (Southwest Airlines) and E (International terminal). Passengers are dropped off on the upper level and picked up on the lower level.<sup>22</sup> The MTA Local Link #75 bus operates from BWI Marshall Airport connecting to Parkway Center, Arundel Mills Mall, Airport 100 Park, and the Patapsco Light Rail Stop.<sup>23</sup> MTA bus lines #51, #95, #103, CityLink GREEN, CityLink SILVER, and the Purple Route all stop at Baltimore Penn Station.<sup>24</sup>

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On your return, shuttles pick up on the lower level, outside of baggage claim at **four** designated stops to take you back to the rail station. The MTA offers a feature known as the MARCTracker which enables passengers to determine the location and status of every operating MARC train. For more information on this new service, log onto [www.MARCTracker.com](http://www.MARCTracker.com).<sup>20</sup> Source: <https://bwiairport.com/to-from-bwi/transportation/transit/mta-marc-train/>. Accessed April 15, 2024.

<sup>20</sup> Ticket fares for specific trips can be calculated here: [MARC Train Service Order Form - CommuterDirect.com](https://www.mta.com/marc-train-service-order-form).

<sup>21</sup> Source: <https://frederickcountymd.gov/DocumentCenter/View/323253/TSAC-MARC-101-presentation>.

<sup>22</sup> Route terminates at the BWI Rail Station. Buses depart BWI Marshall Airport hourly on weekdays from 5:05 am to 11:05 pm and on weekends/holidays from 9:05 am to 11:05 pm. Source: <https://bwiairport.com/to-from-bwi/transportation/transit/mta-commuter-bus-201/>. Accessed April 15, 2024.

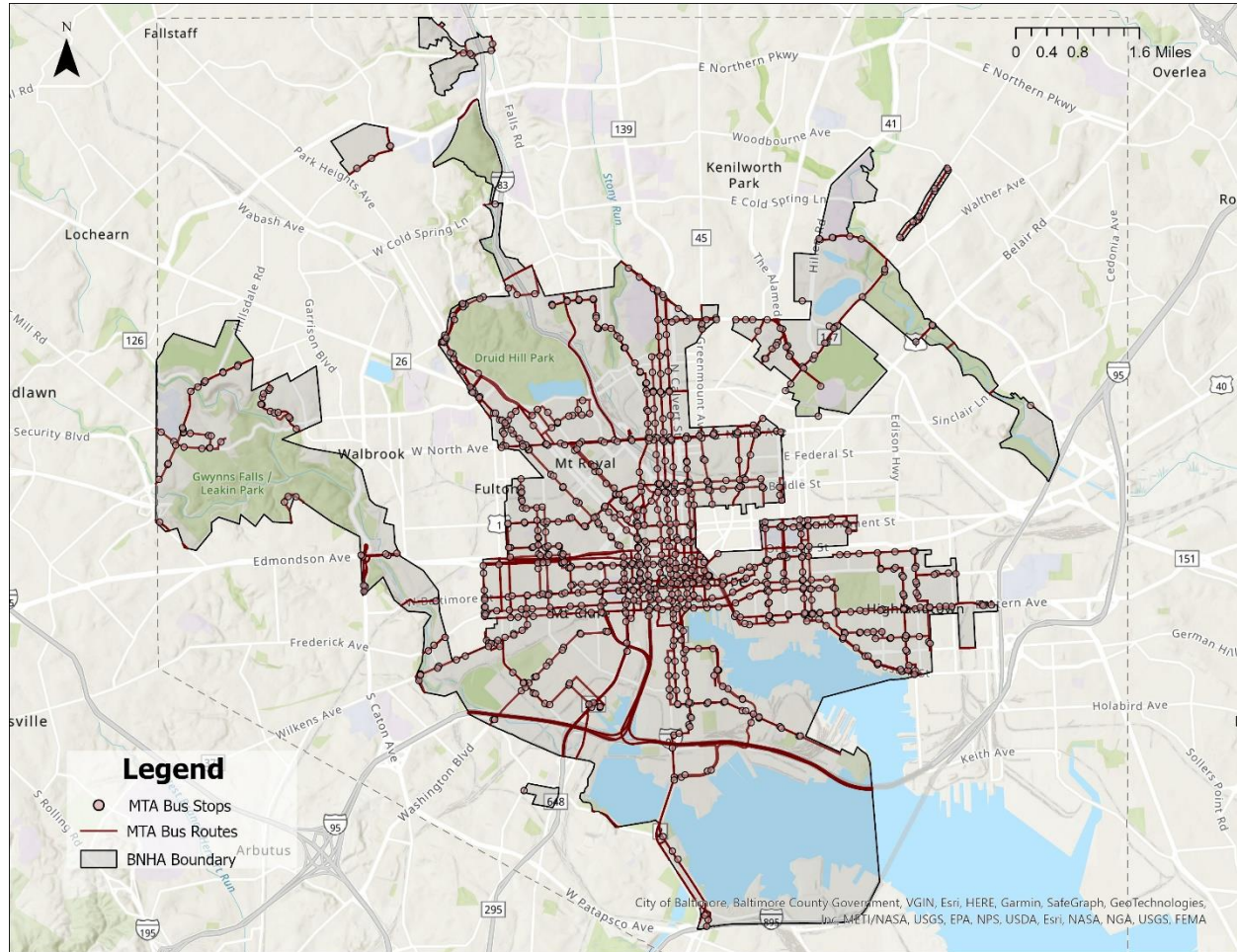
<sup>23</sup> Source: <https://bwiairport.com/to-from-bwi/transportation/transit/mta-bus-services/>. Accessed April 15, 2024.

<sup>24</sup> Riders should get off at the [Charles Street and Penn Station Northbound stop](#) as per Google Maps. Accessed April 15, 2024.



**Figure 10: MTA Bus Service within the BNHA**

Map Created By: Volpe Center, November 2023



### City Trail and Bicycle Networks

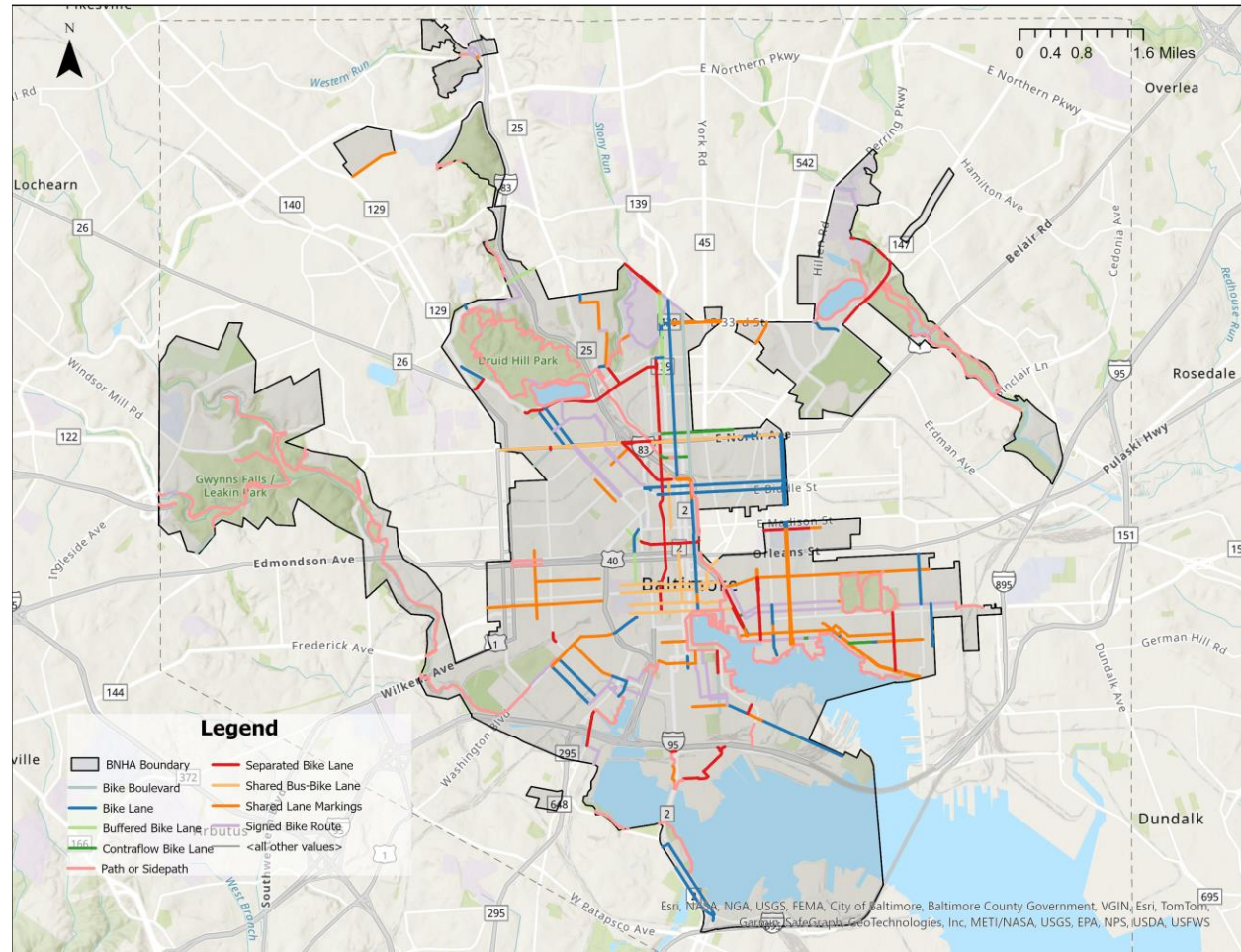
In addition to public transit services, Baltimore has a trail network for both cyclists and pedestrians. This network includes over 30 miles of paved trails and 25 miles of natural surface trails (Figure 11). Baltimore's existing cycle track network provides buffered two-way bicycle routes along several key routes in the city and offers key connections to numerous destinations, including Amtrak at Baltimore Penn Station. The bicycle network surrounding Penn Station includes two buffered, two-way cycletracks – the Maryland Avenue and the Mount Royal Avenue Cycletracks – to provide safe bicycle and scooter connections from Johns Hopkins University to Downtown Baltimore. The Maryland Avenue Cycletrack is located one block to the west of Baltimore Penn Station and runs north to south from Johns Hopkins University to Downtown Baltimore. The Mount Royal Avenue Cycletrack is two blocks south of the station and runs along Mount Royal Avenue from Fallsway to North Avenue. A third cycle track is being installed near Penn Station connecting Maryland Avenue to the North Avenue Light Rail Station and Mount



Royal Avenue.<sup>25</sup> Baltimore City DOT has created an interactive bike map that users can access for more information pertaining to bike trail infrastructure city-wide (Figure 12).

**Figure 11: Baltimore City, Bike and Trail Facilities within the BNHA**

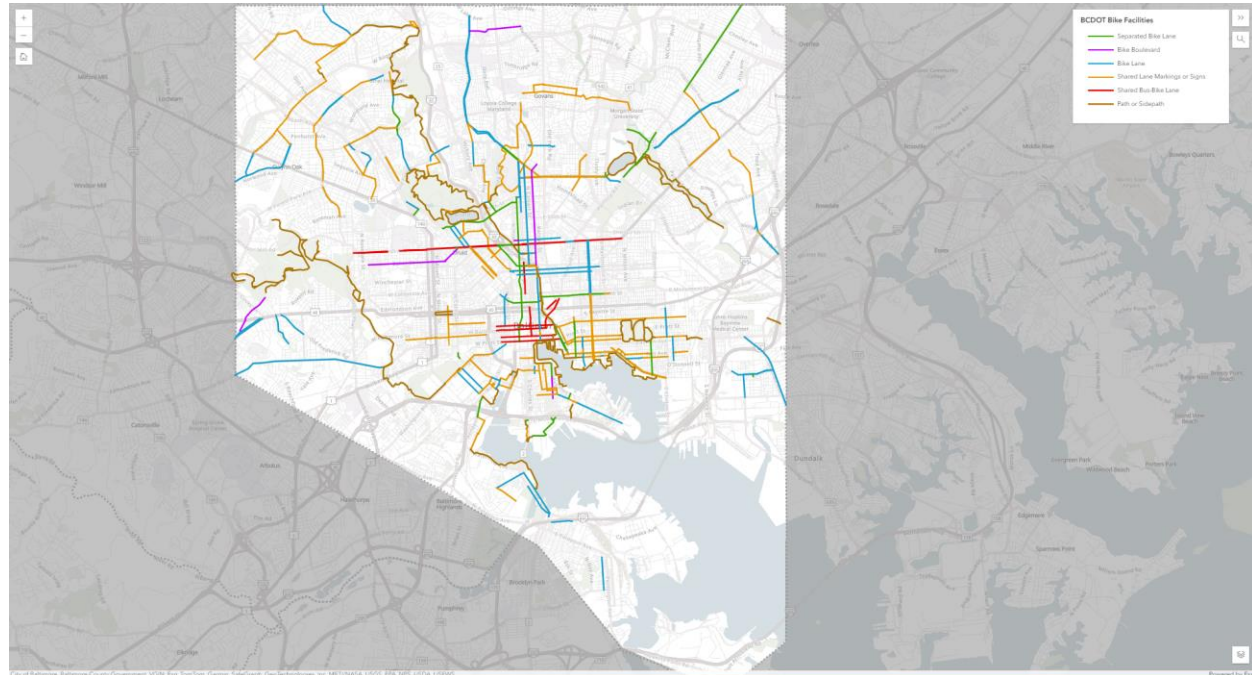
Source: Volpe Center, [Baltimore City DOT](#). April 2024



<sup>25</sup> Source: [https://www.mdot.maryland.gov/OPCP/Building\\_Baltimore\\_Penn\\_Station\\_Connections.pdf](https://www.mdot.maryland.gov/OPCP/Building_Baltimore_Penn_Station_Connections.pdf). Accessed April 15, 2024.

**Figure 12: Baltimore's Interactive Bike Map (Screenshot)**

Source: [Baltimore City DOT](https://www.baltimorecity.gov/transportation/bike). Accessed April 15, 2024.



MTA transit modes mostly allow bicycles on board their vehicles, as does the Baltimore WaterTaxi Harbor Trolley; some of the CCC and HC shuttles can accommodate bicycles, such as the Purple route, though there is no information on the Charm City Circulator website or the Baltimore Water Taxi website related to this (Table 5). Most MTA Light Rail stops and Metro Subway stations have bicycle racks available at no cost to users, as do many of the MARC Train stations. In addition, bike lockers are available throughout the MTA system at several Light Rail stops, Metro Subway stations and MARC Train stations. Use of the bike lockers does require a \$25.00 deposit for the locker key, which is refundable, or users can rent a locker for the year, which costs \$70.00. On MTA transit vehicles, no more than two bicycles are permitted per wheelchair-accessible transit vehicle.

Further, Baltimore City offers a shared mobility program, which was developed by the city in coordination with the City's bike advocacy group, [Bikemore](https://www.bikemore.net/), back in 2018-2019. Lime and Spin are the current permit holders operating under the City's shared mobility program. The dockless program replaced the former Baltimore Bike Share program for docked bikes that was implemented in 2016. Since its permanent implementation in 2019, the existing dockless vehicle program averages 120,000 trips per month, which is over 50 times the ridership of the former Baltimore Bike Share.<sup>26,27</sup> Lastly, the Baltimore Greenway Trails Network project is currently underway. The Project will connect three existing trails – the Gwynns Falls Trail, the Jones Falls Trail, and the Herring Run Trail – to

<sup>26</sup> Source: [https://www.mdot.maryland.gov/OPCP/Building\\_Baltimore\\_Penn\\_Station\\_Connections.pdf](https://www.mdot.maryland.gov/OPCP/Building_Baltimore_Penn_Station_Connections.pdf). Accessed April 15, 2024.

<sup>27</sup> More information about the program is available via the following webpages: <https://www.bikemore.net/sharedmobility>, <https://transportation.baltimorecity.gov/sites/default/files/dockless%20FAQ%202021.pdf>, and <https://transportation.baltimorecity.gov/bike-baltimore/dockless-vehicles>.

create a 35-mile-long trail throughout Baltimore so that users can walk or bike to 50+ neighborhoods, as well as numerous destinations, parks, businesses, and more (Figure 13).<sup>28</sup>

**Table 5: Bicycle Policies on Existing Public Transit**

Source: [Baltimore Water Taxi](#), April 2024

Transit Mode	Policy	Rules
Baltimore City DOT CCC	<ul style="list-style-type: none"> <li>Varies by route and vehicle.</li> </ul>	<ul style="list-style-type: none"> <li>Varies by route and vehicle.</li> </ul>
Baltimore City DOT HC	<ul style="list-style-type: none"> <li>Varies by route and vehicle.</li> </ul>	<ul style="list-style-type: none"> <li>Varies by route and vehicle.</li> </ul>
Baltimore WaterTaxi Harbor Trolley <sup>29</sup>	<ul style="list-style-type: none"> <li>Select boats can accommodate bikes, because there are strict Coast Guard regulations regarding where and how bikes must be stored on vessels to ensure proper space in walkways in emergency situations.</li> <li>In most cases, one boat per route should be able to carry bikes.</li> </ul>	<ul style="list-style-type: none"> <li>None listed on the webpage.</li> </ul>
MTA Metro Subway Link <sup>30</sup>	<ul style="list-style-type: none"> <li>Bikes (any standard-size) are permitted on the Metro Subway Link and Light RailLink, except on crowded trains.</li> <li>Boarding a vehicle with an e-bike/scooter may be restricted when passenger volume is already at or over capacity.</li> <li>Riders must be 18 years of age or accompanied by an adult who is 18 years of age to bring a bike on MDOT MTA modes.</li> <li>Riders may bring personally owned e-scooters and e-bikes onto transit modes that already make accommodations to carry collapsible and full-size bikes, so long as the e-scooters and e-bikes are foldable and weigh less than 50 pounds.</li> <li>Gas-powered bikes and scooters are prohibited, regardless of whether they are also battery powered.</li> <li>No more than two bikes are permitted per wheelchair-accessible transit vehicle.</li> <li>Bikes with trailers or training wheels, tricycles, stationary, cargo, or tandem bikes are not allowed on MDOT MTA services.</li> <li>Only one (1) bike per person is allowed on board.</li> </ul>	<ul style="list-style-type: none"> <li>E-bikes must be held firmly upright in the priority seating area. Riders will need to be prepared to move the bike to make way for seniors and individuals with disabilities, who have priority for this seating area.</li> </ul>
MTA Light RailLink <sup>31</sup>	<ul style="list-style-type: none"> <li>Same rules as MTA Metro Subway Link (above).</li> </ul>	<ul style="list-style-type: none"> <li>E-bikes are only allowed on the last car of the train.</li> <li>E-bikes must be held firmly upright in the priority seating area. Riders will need to be prepared to move the bike to make way for seniors and individuals with</li> </ul>

<sup>28</sup> Source: <https://www.bikemore.net/greenwaytrailsnetwork>. Accessed April 15, 2024.

<sup>29</sup> Source: <https://baltimorewatertaxi.zendesk.com/hc/en-us/articles/4405924727963-Can-I-bring-my-bike>. Accessed April 15, 2024.

<sup>30</sup> Source: <https://www.mta.maryland.gov/bike>. Accessed on April 15, 2024.

<sup>31</sup> Source: <https://www.mta.maryland.gov/bike>. Accessed on April 15, 2024.

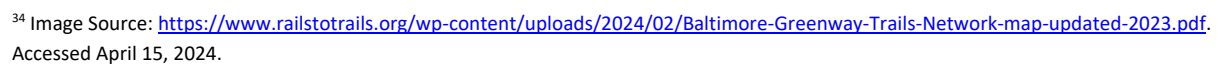
Transit Mode	Policy	Rules
		disabilities, who have priority for this seating area.
MTA MARC <sup>32</sup>	<ul style="list-style-type: none"> <li>• Full-size bikes are permitted on MARC trains.</li> <li>• Boarding a vehicle with an e-bike/scooter may be restricted when passenger volume is already at or over capacity.</li> <li>• Riders must be 18 years of age or accompanied by an adult who is 18 years of age to bring a bike on MDOT MTA modes.</li> <li>• Passengers must bring two (2) bungee cords to secure their bikes, as not all types of rail cars have racks for bikes.</li> <li>• Passengers are not permitted to bring their bikes on a railcar that does not have bike racks if they do not have bungee cords to secure their bike.</li> <li>• Riders may bring personally owned e-scooters and e-bikes onto transit modes that already make accommodations to carry collapsible and full-size bikes, so long as the e-scooters and e-bikes are foldable and weigh less than 50 pounds.</li> <li>• Gas-powered bikes and scooters are prohibited, regardless of whether they are also battery powered.</li> <li>• No more than two bikes are permitted per wheelchair-accessible transit vehicle.</li> <li>• Bikes with trailers or training wheels, tricycles, stationary, cargo, or tandem bikes are not allowed on MDOT MTA services.</li> <li>• Only one (1) bike per person is allowed on board.</li> </ul>	<ul style="list-style-type: none"> <li>• Collapsible e-bikes and folding e-scooters are not permitted to be stowed in overhead storage bins.</li> <li>• Riders boarding with standard e-bikes must use bike cars and bring two bungee cords on every trip to secure the bike.</li> </ul>
MTA Local Buses <sup>33</sup>	<ul style="list-style-type: none"> <li>• No bikes are allowed on board MDOT MTA Buses; however, local buses are equipped with bike racks above the front bumper to carry up to two bikes.</li> <li>• Riders must be 18 years of age or accompanied by an adult who is 18 years of age to bring a bike on MDOT MTA modes.</li> <li>• Riders may bring personally owned e-scooters and e-bikes onto transit modes that already make accommodations to carry collapsible and full-size bikes, so long as the e-scooters and e-bikes are foldable and weigh less than 50 pounds.</li> <li>• Gas-powered bikes and scooters are prohibited, regardless of whether they are also battery powered.</li> <li>• No more than two bikes are permitted per wheelchair-accessible transit vehicle.</li> <li>• Bikes with trailers or training wheels, tricycles, stationary, cargo, or tandem bikes are not allowed on MDOT MTA services.</li> <li>• Only one (1) bike per person is allowed on board.</li> </ul>	<ul style="list-style-type: none"> <li>• Riders must fold e-scooters when boarding the bus.</li> <li>• E-scooters must be placed between the riders' legs if seated or close to the rider if standing.</li> <li>• All bikes must be placed on the bike rack situated on the front of each bus.</li> </ul>

<sup>32</sup> Source: <https://www.mta.maryland.gov/bike> and [Bikes on MARC Train | Maryland Transit Administration](#). Accessed on April 15, 2024.

<sup>33</sup> Source: <https://www.mta.maryland.gov/bike>, accessed on April 15, 2024.



Map Courtesy Of: [Rails to Trails Conservancy](#), May 2023.<sup>34</sup>





## Visitation

Visitation varies a great deal from site to site in the study area, with the most popular points of interest drawing one million+ visitors per year, and less frequented sites drawing 15,000 or less visitors per year (Table 6). Given that the Heritage Area sites are largely managed independently of one another, it is hard to determine the exact visitation to the BNHA itself – whether these are each unique visitors or the same visitors going to multiple sites. The City of Baltimore, in general, had more than 27 million visitors in 2023 for overnight and day trips, increasing from 2022 by approximately 2.9 percent.

**Table 6: Summary of Visitation for Points of Interest within the BNHA**

Source: National Park Service, 2023 and partner communications / websites as indicated within the table.

Note: Red highlighted sites have an annual visitation of 200k+ visitors (high), yellow highlighted sites have an annual visitation between 50k and 200k visitors (medium), and green highlighted cells have an annual visitation of 50k or less visitors (low).

BNHA Point of Interest	2022 Annual Visitation Est.	2023 Annual Visitation Est.	Total Monthly Visitation During Seasonal Peak (Apr – Oct 2022)	Total Monthly Visitation During Seasonal Peak (Apr – Oct 2023)	2022 Seasonal % of Total Annual Visitation	2023 Seasonal % of Total Annual Visitation	Entrance Proximate to Public Transit?
Fort McHenry National Monument and Historic Shrine <sup>35</sup>	223,957	429,967	181,380	326,897	81%	76%	Yes (two bus lines)
National Great Blacks in Wax Museum (On-Site)	--	39,223	--	22,857		58%	Yes (two bus lines)
Camden Yards *Oriole Park MLB Total Season Attendance Only <sup>36</sup>	1,368,367	1,936,798	--	--	--	--	Yes (four bus lines, a MARC station, and a light rail station)
Reginald F. Lewis Museum	12,251	15,137	--	--	--	--	Yes (four bus lines)

<sup>35</sup> Source: [https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Annual%20Park%20Recreation%20Visitation%20\(1904%20-%20Last%20Calendar%20Year\)?Park=FOMC](https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Annual%20Park%20Recreation%20Visitation%20(1904%20-%20Last%20Calendar%20Year)?Park=FOMC). Accessed April 15, 2024.

<sup>36</sup> Source: <https://www.baseball-almanac.com/teams/baltatte.shtml>. Accessed April 15, 2023.

BNHA Point of Interest	2022 Annual Visitation Est.	2023 Annual Visitation Est.	Total Monthly Visitation During Seasonal Peak (Apr – Oct 2022)	Total Monthly Visitation During Seasonal Peak (Apr – Oct 2023)	2022 Seasonal % of Total Annual Visitation	2023 Seasonal % of Total Annual Visitation	Entrance Proximate to Public Transit?
<i>*General Admission Attendees<sup>37</sup></i>							
Maryland Zoo <sup>38</sup>	428,764	423,344	--	--			Yes (at least four bus lines and a metro subwaylink station)
Baltimore National Aquarium <sup>39</sup>	1 M+	--	--	--	--	--	Yes (at least seven bus lines, two ferry stops, and a HC shuttle)
The Peale Museum	--	5,487	--	446	--	<b>8%</b>	Yes (at least 12 bus lines)
Dr. Samuel D. Harris National Museum of Dentistry <sup>40</sup>	829	1,287	608	540	<b>73%</b>	<b>42%</b>	Yes (at least 10 bus lines)
Baltimore Visitor Center	--	71,655	--	44,844	--	<b>63%</b>	Yes (at least six bus lines, two ferry stops, and one HC shuttle)

<sup>37</sup> Source: <https://www.lewismuseum.org/about/financials/>. Accessed April 15, 2024.

<sup>38</sup> Source: <https://www.marylandzoo.org/wp-content/uploads/2022/12/Annual-Report-FY22-compressed.pdf> and <https://www.marylandzoo.org/wp-content/uploads/2024/02/Annual-Report-FY23-final-min.pdf>. Accessed April 15, 2024.

<sup>39</sup> Source: <https://aqua.org/contact-us/newsroom/press-releases/2023-02-24-national-aquarium-reports-robust-economic-impact-for-period-including-pandemic>. Accessed April 15, 2024.

<sup>40</sup> Patrick Cutter, the assistant director, noted that the 2019 data is more representative of their current and future visitation numbers, as currently they are on track to have visitation numbers at around 130% of the 2019 numbers this year based on current scheduled field trip programs and estimates based on previous years. It was explained that the 2023 numbers are much lower because the National Museum of Dentistry experienced a significant water pipe break that flooded portions of the museum in 2023, which caused them to essentially be closed to the public from June-October 2023. In 2019, the total visitation annual visitation was 2,666 visitors; of which, 1,313 visitors went from April – October (49% of the total annual visitation in 2019).

BNHA Point of Interest	2022 Annual Visitation Est.	2023 Annual Visitation Est.	Total Monthly Visitation During Seasonal Peak (Apr – Oct 2022)	Total Monthly Visitation During Seasonal Peak (Apr – Oct 2023)	2022 Seasonal % of Total Annual Visitation	2023 Seasonal % of Total Annual Visitation	Entrance Proximate to Public Transit?
City of Baltimore (as a whole) <sup>41</sup>	26.7 M	27.5 M	--	--	--	--	Not Applicable

Disclaimer: Annual visitation data for many of the points of interest within the BNHA was not accessible. That said, the sites included within this table only represent a small sample of annual visitation data. Any next steps towards a potential service implementation would need to rely on actual visitation numbers for these areas and would therefore need to undergo additional analysis using that greater level of detail.

BNHA and other partner sites identified a key annual visitation trend – each year they observe seasonal visitation spikes, with higher visitation / use across Heritage Area sites from April – October. Of the four sites that could quantify seasonal visitation, Fort McHenry and the Dr. Samuel D. Harris National Museum of Dentistry experienced the majority of visitors during this seasonal period for 2022 (81 percent and 73 percent respectively), while Fort McHenry and the Baltimore Visitor Center experienced the majority of visitors during this seasonal period for 2023 (76 percent and 63 percent respectively). While some sites are open consistently seven days a week, others are open for longer hours on the weekends and/or may close on certain weekdays.

The overall intent is to be able to bring additional access and visibility to less visited sites. That said, there is a diverse range of visitation numbers across the BNHA sites, which raises the question of whether some of the less visited sites are inaccessible to visitors or if there is lack of programming and awareness of these sites. Of the sites with available annual visitation data, the lesser visited sites (sites with low annual visitation numbers of 50k or less visitors per year), such as the National Great Blacks in Wax Museum, the Reginald F. Lewis Museum, the Peale Museum, and the Dr. Samuel D. Harris National Museum of Dentistry, are all accessible by public transportation with at least two bus lines operating proximate to the site. However, the National Great Blacks in Wax Museum and the Peale Museum are not currently accessible by any free existing public transit services (such as the Charm City Circulator). As such, it is not as easy to determine if the lack of visitation there is due to a lack of access or if it is due to a lack of programming and awareness of these sites, in which case, visibility would need to be increased.

## Parking Conditions

Most BNHA visitors arrive by personal vehicle (primarily by car and some by transportation network companies such as Uber or Lyft). About half of the BNHA points of interest offer on-site parking for visitors while the other half of the sites do not offer on-site parking (Table 7).

Sites vary in their capacity to accommodate large vehicles, such as buses. Some can accept large vehicles on-site in their current condition without any changes. These sites include Fort McHenry, the Mount Clare Museum House, the Baltimore Museum of Art, the Baltimore Museum of Industry, the Maryland Center for History and Culture, the B&O Railroad Museum, the Great Blacks in Wax Museum, and the Maryland Zoo.

<sup>41</sup> Source: <https://viewer.joomag.com/visit-baltimore-annual-report-fy2023-2023/0972924001699995590?short&>. Accessed April 15, 2024.

**Table 7: Summary of Parking Capacity and Large Vehicle Accessibility for Points of Interest within the BNHA**

Source: (National Park Service 20XX) and partner communications

BNHA Point of Interest	Parking Situation (Red= None On-Site, Blue= On-Site Capacity)	Large Vehicle Accessibility?
Fort McHenry National Monument and Historic Shrine	Parking for cars is available on site	Yes
Poe House	No visitor lot on site, parking is available on-street	No
Mount Clare Museum House	Parking for cars and buses is available on the park road near the house. There is also a large parking lot near Mount Clare. Buses may discharge passengers directly in front of Mount Clare's gates before parking.	Yes
Baltimore Museum of Art	Visitor parking is available on site at the East and West Lots (Paid parking after 30 minutes)	No
Baltimore Visitor Center	Free parking is available at a designated location. Visit Baltimore reimburses for MTA transportation.	Yes
Creative Alliance (at Patterson Park)	None on site, unmetered street parking is available surrounding Creative Alliance or limited paid parking (\$10) is available for purchase in the lot on East Avenue across from The Patterson, behind Apex Counseling Center.	No
Babe Ruth Museum and Birthplace	None on site, metered parking is available to visitors on Pratt Street, Portland Street, and Emory Street, all of which are adjacent to the museum. Paid garage parking is also available on the north side of Pratt Street.	No
Baltimore Museum of Industry	Free on-site parking is available for museum visitors (up to 150 cars)	Yes
Camden Yards	None on site, though Oriole Park Stadium is officially connected to several paid parking lots for visitors. Limited on-street parking is available to the west and north of the park.	Yes (Lots C and J)
American Visionary Art Museum	None on site, parking is available either on-street (metered) on Covington Street and Key Highway or in the public lot at The Rusty Scupper Restaurant on Key Highway (paid parking)	Yes
Maryland Center for History and Culture	Limited onsite parking is available on the weekend only in the Center's parking lot located off W. Monument Street between North Howard Street and Park Avenue (first come, first serve). Otherwise, parking is available to visitors at the Franklin Street Parking Garage or on-street in the	Yes



BNHA Point of Interest	Parking Situation (Red= None On-Site, Blue= On-Site Capacity)	Large Vehicle Accessibility?
	surrounding neighborhood (both paid and free options). *The Center's website notes that ample parking is typically available unless the Center is hosting a large program.	
Reginald F. Lewis Museum	None on site, parking is available to visitors either across the street in the PMI Garage (\$9 validated parking for museum visitors) or on-street throughout the Harbor East and Little Italy Neighborhoods (free and metered).	No
Dr. Samuel D. Harris National Museum of Dentistry	None on site, parking is available either on-street on Greene Street and West Pratt Street or at nearby public parking garages	No, but B&O Motorcoach Facility offers parking for motorcoaches and school buses within one (1) mile of the museum or at the Camden Yards Sports Complex in Lots C and J
B&O Railroad Museum	Free off-street, on-site parking is available for visitors during regular museum hours	Yes
National Great Blacks in Wax Museum	Limited, free parking on-site is available for visitors. Website notes that these spaces fill quickly, especially during summer and over holidays.	Yes
Maryland Zoo	General parking available on site at Lots B & C	Yes, there is a bus pick up and drop off zone in Lot C by the Eagle Gate
Baltimore National Aquarium	None on site, parking is available to visitors at a discounted rate at three nearby garages	Yes
The Peale	None on site, parking is available either on-street or at nearby public lots	No
PS 103 Thurgood Marshall Amenity Center	Property includes eight adjacent parking lots, located on the 1300 block of Etting Street	Yes

## Summary of Previous and Ongoing Transit Studies and Planning Efforts

### 2019 Baltimore Heritage Bus Tour Business Plan

The John Hopkins Carey Business School developed a business plan in 2019 for a Baltimore Heritage Bus Tour (BHBT) concept to provide transportation to key historical tourist destinations. The business plan conducted a market analysis and financial projections, as well as identified and outlined key functions of the system to include organization and management, marketing/sales, service/product, funding, and next steps. The business plan envisioned the BHBT as a hop-on, hop-off tour circulator through key historical areas within the City of Baltimore. The 2019 business plan's emphasis on providing better access to historic sites and developing an overarching marketing plan is shared in the development of this feasibility study. Stakeholders may pair the plan's focus on financial projections with this study's exploration of route feasibility to create a holistic path forward.

## Charm City Circulator Transit Development Plan

The Baltimore City Department of Transportation (DOT) has been working to develop a new Transit Development Plan for the CCC over the past few years, referred to as [the Baltimore City Transit Development Plan](#) (TDP). The Baltimore City TDP was a multi-year planning process effort to develop a five-year transit investment strategy for the CCC bus service, identifying opportunities for improved service efficiency and equity and analyzing unmet needs, potential route changes to address those needs, and short- and long-term operating plans for the service. The routes identified in the TDP prioritize the neighborhoods with the highest percentage of households who don't have cars and close gaps in places MTA buses don't cover with the circulator's service area. The Draft TDP was completed in June 2022, which included recommended changes to these routes based on a data- and equity-driven approach, some of which are expected to be implemented as early as spring/summer 2024.<sup>42</sup> As noted in the TDP, approximately 57.5 percent of the CCC Community Survey respondents said they depend on the services when traveling between their homes and recreation destinations. The TDP's proposed changes to the CCC service along each route, as well as proposed service for two new routes – the Cherry Route (short-term) and the Poe Route (long-term) – are noted in the plan as follows (Figure 14, Figure 15, and Figure 16):<sup>43</sup>

### **1. Green Route**

- Direct connection between the Downtown Central Business District and Johns Hopkins Hospital complex along Orleans Street. Orleans Street is not currently served by the MDOT MTA BaltimoreLink Service.
- Extended bus service from Johns Hopkins Hospital up Broadway to North Avenue.
- Connection to Harbor Point would be shifted to the Orange Route.

### **2. Purple Route**

- Expand service to 33rd Street and Greenmount Avenue.
- Service would extend as far south as the Maryland Science Center, making way for the newly proposed "Cherry" Route (detailed below) to provide service to South Baltimore.

### **3. Orange Route**

- Add stops near Lexington Market, Perkins Homes, and Poe Homes.
- Add an extension to Harbor Point.
- Optimized to extend from Pigtown to Harbor Point and on to Canton (*long-term improvement*)

### **4. Banner Route**

- No proposed changes noted, though as seen in Figure 14, it appears that this route could be integrated into the Cherry Route (along with a portion of the Purple Route as noted above).
- Note: If the Cherry Route was to be put into service, Locust Point would continue to be served by multiple MDOT MTA Link lines, including #71 and #94 buses offering connectivity between the neighborhood, the Downtown Central Business District, and other parts of the city.

### **5. Cherry Route (New Proposed Route, *Short-Term* – See Figure 15), which would run from the Downtown to the Cherry Hill neighborhood with major transfers to other transit including the Cherry Hill Light RailLink, the CCC's Purple Route, LocalLinks 71 and 94, and the CityLink Silver.**

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<sup>42</sup> The implementation phase of the TDP, which is anticipated for spring 2024, includes the planning and finalization of bus stop locations, the design and construction needed for the new bus stops, and the installation of improvements at current stops. This time frame also includes federal and city regulatory requirements regarding public outreach and notification about the planned transit changes. (Source: The City of Baltimore, Charm City Circulator. 2022. "The Baltimore City Transit Development Plan." Accessed April 15, 2024. <https://storymaps.arcgis.com/stories/dcd8dc9a4de54bea9e272cd8a25f02e9>.)

<sup>43</sup> The City of Baltimore, Charm City Circulator. 2022. "The Baltimore City Transit Development Plan." Accessed April 15, 2024. <https://storymaps.arcgis.com/stories/dcd8dc9a4de54bea9e272cd8a25f02e9>.

- Incorporates the Banner and Federal Hill stops of the Purple Route with a completely new route.
- Intended to provide efficient connection to downtown for Federal Hill and Cherry Hill residents.
- Cherry extends to Pratt St. and overlaps with the Purple Route at the Visitor's Center.

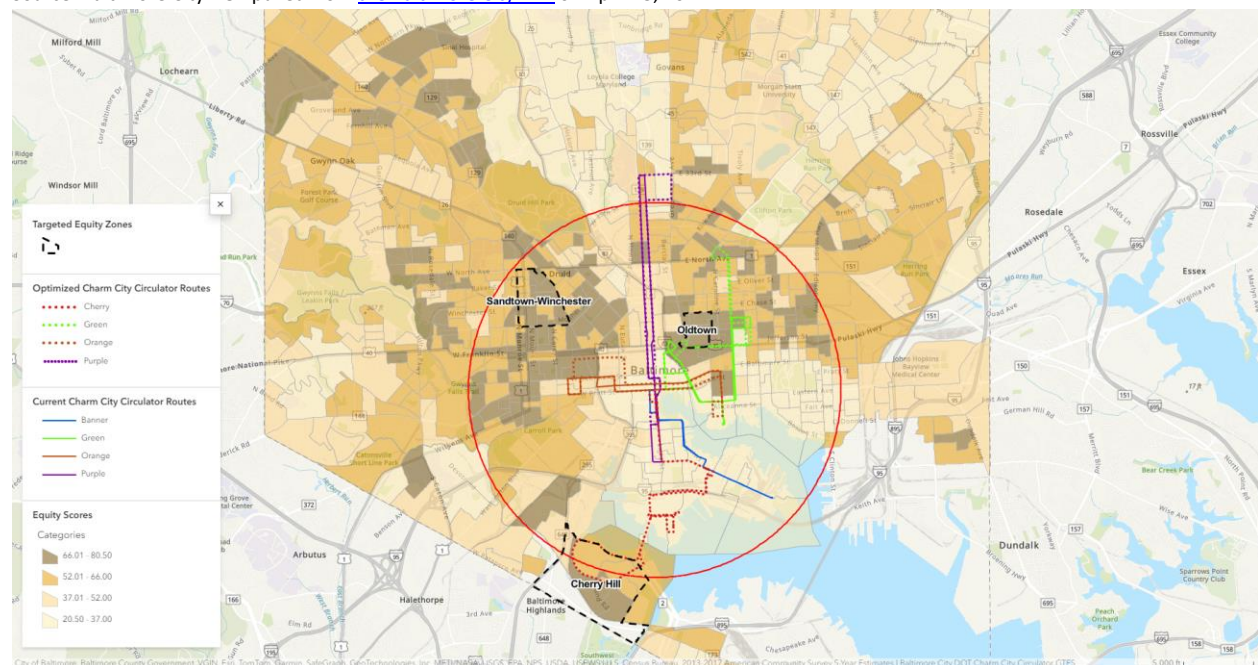
**6. Poe Route\*\*** (New Proposed Route, *Long-Term* – See Figure 16), which would run from the Downtown to the Cherry Hill neighborhood with major transfers to other transit including the Cherry Hill Light RailLink, the CCC's Purple Route, LocalLinks 71 and 94, and the CityLink Silver.

- Extend service west to the West Baltimore MARC Station.
- Service along W. Lexington Street.

**\*\*Note:** Future service development plans included within the Baltimore City TDP are dependent on further study and seeking additional funding and grants by the Baltimore City DOT. As noted in the TDP, options for service improvements over a 3- to 5- year period are currently under review and could include new destinations such as the West Baltimore MARC Station, Pigtown, and the Shops at Canton Crossing, as well as the service for a proposed new route, the Poe Route.<sup>44</sup>

**Figure 14: Charm City Circulator Service – Existing and Proposed within the Baltimore City TDP**

Source: Baltimore City DOT pulled from [the Baltimore City TDP](#) on April 15, 2024

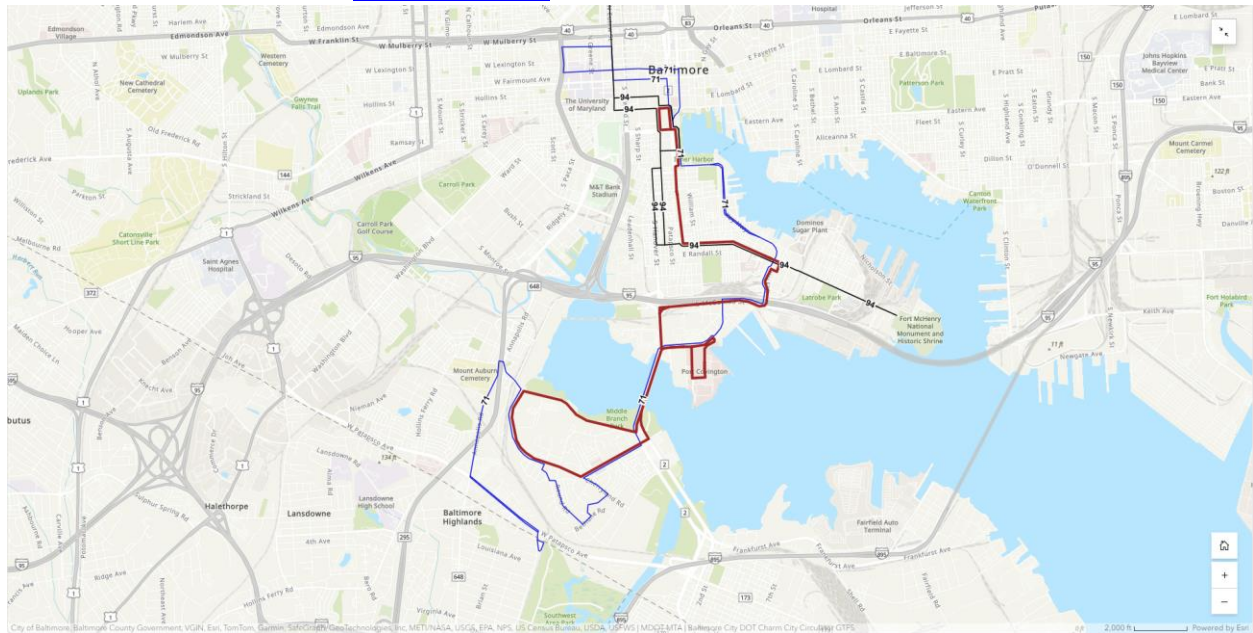


<sup>44</sup> The City of Baltimore, Charm City Circulator. 2022. "The Baltimore City Transit Development Plan." Accessed April 15, 2024. <https://storymaps.arcgis.com/stories/dcd8dc9a4de54bea9e272cd8a25f02e9>.

**Figure 15: Charm City Circulator Service – Proposed Cherry Route within the Baltimore City TDP, Short-Term**

Note: Proposed Cherry Route is indicated by the Dark Red/Maroon Line.

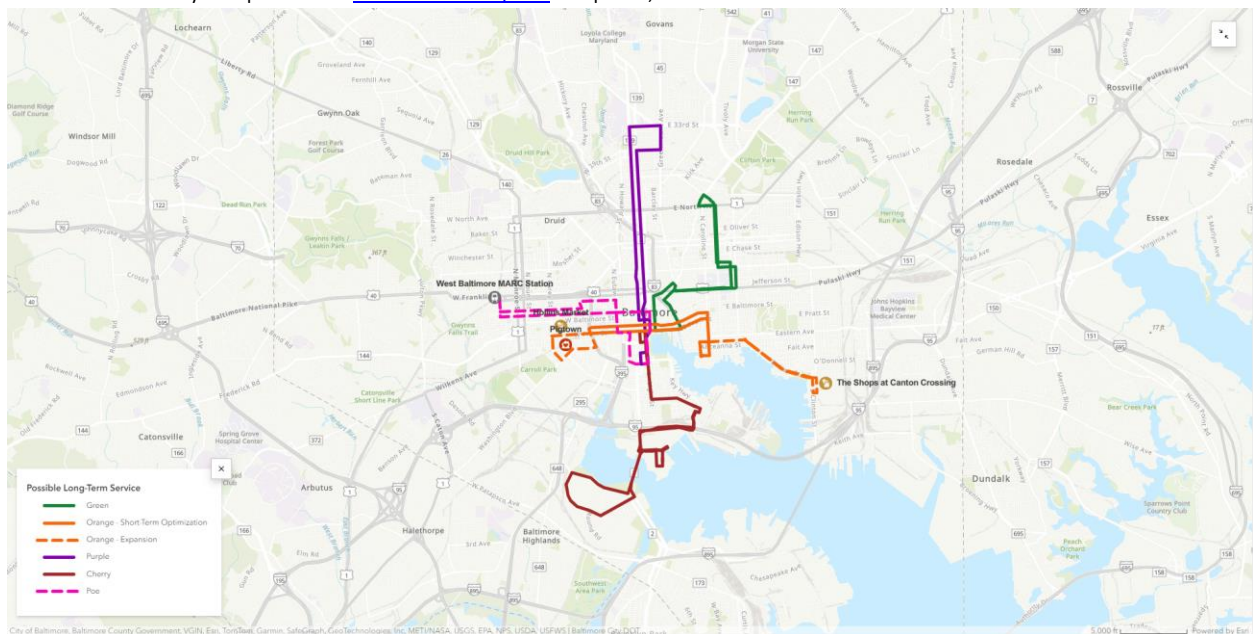
Source: Baltimore City DOT pulled from [the Baltimore City TDP](#) on April 15, 2024



**Figure 16: Charm City Circulator Service – Possible Long-Term Service Routes within the Baltimore City TDP**

Note: Proposed Cherry Route is indicated by the Dark Red/Maroon Line.

Source: Baltimore City DOT pulled from [the Baltimore City TDP](#) on April 15, 2024





## [Maximize2045](#)

*Maximize2045: A Performance-Based Transportation Plan* is the Baltimore Metropolitan Council’s regional long-range transportation plan. The plan seeks to make the best use of—or maximize—the resources that make up and support the Baltimore region’s transportation system. It contains a list of major capital transportation projects totaling \$12 billion, which the region expects to implement from 2024 to 2045, and includes \$65 billion in planned investment overall, with \$53 billion allocated for operations and preservation of transportation systems in the region. In addition, the plan takes into account anticipated funding levels through 2045, future trends and demographics, and an analysis of potential Environmental Justice effects of the major projects.

The plan discusses two “mega-regional” facilities with regional freight implications, one of which is identified as the B&P Tunnel that carries freight and passenger traffic through Baltimore City. It mentions that this facility needs significant improvements (or replacement) to handle increased rail traffic, noting that MDOT is studying alternatives for improving these facilities to better accommodate current and future rail traffic.<sup>45</sup> Further, Chapter 7 of the Plan lays out the Preferred Alternative – Major Capital Projects for FY 2024-2045. Of the 74 major capital projects described in the plan, eight projects are located within the City of Baltimore to include five roadway projects and three transit projects. Four of the roadway projects are programmed within the 2024-2034 timeframe, while the remaining roadway project and the three transit projects are programmed within the 2035-2045 timeframe.<sup>46</sup> Given that many of these projects identified will take place within BNHA boundaries, construction and completion of the projects could potentially impact service to Heritage Area sites.

Maximize2045 also includes a section on Travel and Tourism (Chapter 2), as required by Federal Law that metropolitan regions consider a series of factors when developing their transportation programs and plans to include “enhanced travel and tourism.” As described in the plan, as part of efforts to understand regional issues and opportunities related to travel and tourism, the Technical Committee that advises the BRTB heard presentations from VisitBaltimore and the Maryland State Office of Tourism Development. One of the concerns identified in the Maryland State Office of Tourism Development’s presentation related to on-line information for tourists, including customized trip planning tools, and smartphone apps.<sup>47</sup> This is relevant to BNHA, as it could be a reason that tourists are not utilizing the existing public transit services to move between Heritage Area sites.

## [MDOT MTA Transit Priority Initiative](#)

Under MDOT MTA’s Transit Priority Initiative, the agency is working with local jurisdictions to increase bus reliability, speed, and passenger safety throughout the BaltimoreLink system. As part of these efforts, MDOT MTA pursued a data-driven approach to identify opportunities in the system, focusing on reliability, bus speeds, and travel delays at bus stops. Potential targeted investments to the roadway that prioritize transit riders include curb-extensions at bus stops, transit signal priority, dedicated bus lanes, queue jumps, and more. Corridor efforts underway through this initiative include:

### Corridor Projects

- [Garrison Boulevard Transit Priority Initiative](#)
- [Belair Road/Gay Street Corridor](#)
- [North Avenue Rising](#) (Hilton Street to Milton Avenue)

- [RAISE Transit Priority Project](#) (CMS to Fox Ridge)

Pilots of Dedicated Bus Lanes

<sup>45</sup> Source: [max2045\\_s04\\_ch2\\_factors-and-trends.pdf \(baltometro.org\)](#). pg. 22 (PDF p. 24). Accessed April 15, 2024.

<sup>46</sup> Source: [max2045\\_s09\\_ch7\\_major-capital-projects.pdf \(baltometro.org\)](#). pg. 7 - 25. Accessed April 15, 2024.

<sup>47</sup> Source: [max2045\\_s04\\_ch2\\_factors-and-trends.pdf \(baltometro.org\)](#). pg. 22 (PDF p. 24). Accessed April 15, 2024.

- [Charles & Light Street Bus Lane Pilot](#) (Conway Street to Saratoga Street; Pratt Street to Lombard Street)
- [Harford Avenue Bus Lane Pilot](#) (Forrest Avenue to Biddle Street)
- [York Road Bus Lane Pilot](#) (Radnor Avenue to Bellona Street)

Some of these initiatives such as the Charles & Light Street Bus Lane Pilot as well as the RAISE Transit Priority Project include efforts that will take place within the BNHA boundaries.

### **[MDOT MTA Cornerstone Plans](#)**

MDOT MTA's Cornerstone Plans translate its mission statement into strategic priorities, policies, programs, and initiatives for each transit mode. Each plan synthesizes agency plans, policies, and reports with performance data, local and national trends, and stakeholder input. MDOT MTA comprehensively analyzes this information to create targeted recommendations for growth and investment in each mode that coordinates with the needs of the transit system overall. Cornerstone Plans for each transit mode are linked below.

- [Bus Cornerstone Plan](#)
- [Light RailLink Cornerstone Plan](#)
- [MARC Growth and Transformation Plan](#)
- [Metro SubwayLink Cornerstone Plan](#)
- [MobilityLink Cornerstone Plan](#)

Given that these modes all provide service within BNHA boundaries, implementation of recommendations within these plans could potentially impact service to Heritage Area sites.

### **[Connecting Our Future: A Regional Transit Plan for Central Maryland](#)**

The Maryland Department of Transportation Maryland Transit Administration published its Regional Transit Plan (RTP), [Connecting Our Future: A Regional Transit Plan for Central Maryland](#), in October 2020 as a guide for MDOT MTA, local transit operators, local jurisdictions, and planning agencies to focus planning efforts and investment on addressing service coverage gaps and areas of need. The Central Maryland Region covered in the plan includes Anne Arundel County, Baltimore City, Baltimore County, Harford County, and Howard County. The plan identifies 30 transit corridors that together would create a strong transit network in Central Maryland. The transit corridors are places that show a strong demand for transit and connect people across the region, serving as opportunities to explore new ways to make it easier to travel without a car, including new transportation modes, schedules, routes, and infrastructure.

Several transit improvements within Baltimore City are identified in the plan to include improvements to fixed-route services; several new local and express transit routes for the Inner Harbor (ferry), Belair Road (local bus), and Harford Road (local bus); small area plans and shared mobility solutions for the inner harbor; improvements to existing rail corridors and transit hubs; and transit-oriented development.<sup>48</sup> The plan also discusses the North Avenue Rising Project, which is a collaborative project between MDOT MTA, Baltimore City, the Federal Transit Administration (FTA), and community partners to support economic revitalization along North Avenue through increased mobility and access to economic opportunity.<sup>49</sup> Given that some of the transit improvements identified

<sup>48</sup> Source: [Connecting Our Future RTP CentralMD.pdf \(maryland.gov\)](#). pg. 49. Accessed April 15, 2024.

<sup>49</sup> Source: [Connecting Our Future RTP CentralMD.pdf \(maryland.gov\)](#). pg. 67. Accessed April 15, 2024.

in the plan will take place within BNHA boundaries, implementing some of these transit improvements could potentially impact service to Heritage Area sites.

### **North-South Corridor Study**

As part of the Central Maryland RTP, MTA, in partnership with Baltimore City and Baltimore County, conducted the North-South Corridor Study. A corridor study identifies a range of options (also known as Alternatives) that best serve existing and future transit demand between the Towson area of Baltimore County and downtown Baltimore. To undertake the study, MDOT MTA and its partners worked with jurisdictional partners and the public to set corridor-specific goals and objectives to evaluate potential routes, modes, and service characteristics (stop/station locations and frequency).

The [North-South Corridor Feasibility Study Final Report](#), which was published in December 2023, identified seven different alternatives – two alternatives for light rail transit, four alternatives for bus rapid transit, and one alternative for heavy rail transit (subway). The conclusions of the North-South Corridor Feasibility Study will serve as the basis of the preliminary alternatives that will be studied in detail during the Alternative Analysis (AA) phase, which is expected to take approximately two years to complete, depending on the number and complexity of alternatives included for study. In 2024, the project team will present the preliminary alternatives that will continue into the AA phase and share the public engagement plan for stakeholder and public feedback during this phase of the project. The AA phase will conclude with the selection of a preferred alternative. Given that the study includes Downtown Baltimore, which is within the BNHA boundaries, and that the modes identified in the alternatives all provide service within BNHA boundaries, the preferred alternative derived from these efforts could potentially impact service to Heritage Area sites.

### **East-West Corridor Study and the Red Line Project**

As part of the Central Maryland RTP, MTA, in partnership with Baltimore City and Baltimore County, conducted the [East-West Corridor Study](#), which was completed and published in December 2022. The relaunching of the Red Line Project, which is a high-frequency, high-capacity transit line for the Baltimore Region that was cancelled in 2015 but is now currently underway again, was a result of the East-West Corridor Study. The Red Line Project is intended to create better, faster east-west connections across the region through Downtown Baltimore. It will address a major gap in east-west transit service between Bayview and Woodlawn, through downtown Baltimore City. The Red Line Project will run through the BNHA boundaries, as such, it is likely that the project could impact service to Heritage Area sites to some capacity.

### **MDOT MTA FAST Forward Initiative**

MDOT MTA is investing \$43 million in its core service area through the Fast Forward: Customer Experience Enhancement Project, accelerating projects that create a transit system that is more reliable, accessible, and easier to use. Fast Forward improvements, for which construction or installation is targeted for 2024, include:

- **Bus Stops & Shelters**
  - Construct approximately 45 new bus shelters across the Baltimore region.
  - Upgrade 200+ bus stops in transit-dependent communities to be ADA accessible.
- **Wayfinding**
  - Install and update wayfinding signs at all Light Rail Stations.
  - Create a more accessible station at Charles Center by updating wayfinding signs and markings based on recommendations from an inclusive outreach process.

- Real-Time Information Signs
  - Install new solar powered "e-paper" signs at 27 bus stops that will display real-time bus arrival times.
- Dedicated Bus Lanes
  - DBLs will be piloted with new signage and striping at York Road, Harford Avenue, Charles Street, and Light Street.
- Pilot Dedicated Bus Lanes
  - Red paint will create permanent DBLs on Pratt Street and Lombard Street.
- Bike Parking
  - Add bike racks so that there is bike parking available at every MDOT MTA rail station, making it more convenient to access transit via bicycle.
- War Memorial Transit Hub
  - Improve the bus transit hub near the War Memorial Building to provide additional layover and bus space and add amenities for waiting passengers.

Given that some of the Fast Forward improvements planned as part of this initiative will take place within BNHA boundaries, implementing some of these improvements could potentially impact service to Heritage Area sites.

#### [RAISE East-West Priority Corridor Project](#)

The Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Transit Priority Project is a collaborative effort between the MTA and Baltimore City Department of Transportation with the assistance of other agencies such as the State Highway Administration (SHA) and Baltimore County. The project proposes enhancements to the CityLink Blue and CityLink Orange lines to provide faster, more reliable transit and improved pedestrian safety along the 20-mile corridor extending from the Western terminus of CMS in Baltimore County through Baltimore City and ending at the Eastern Terminus of Fox Ridge in Baltimore County. Once complete, the project will enhance access and mobility to essential services, jobs, health care, and schools along the corridor. Financing for the \$50 million project is being provided through a combination of Federal, State, and local funding, including \$22 million from the US Department of Transportation's 2021 RAISE grant program, as well as a \$18 million investment from MDOT and \$10 million from Baltimore City DOT. The Project will run through the BNHA boundaries, as such, it is likely that the project could impact service to Heritage Area sites to some capacity.

## **Transit Shuttle Service Route Scenarios**

This section describes three possible transit scenarios and supporting context. The section begins with a high-level overview of the scenarios then describes each scenario in detail. The analysis is intended to be a preliminary sketch showing how the Heritage Area service could operate either as a route for the Charm City Circulator or through a separate service provider; the preliminary routing scenarios will need to be refined once it is determined whether the service would be operated by the City of Baltimore or a separate service provider. The scenarios considered as part of this study include routing, schedules, and maximum ridership capacities, shown both in relationship to current Charm City Circulator routing and as stand-alone routes, documenting the results of the analysis as well as challenges, opportunities, and next steps.



## Overview of Scenarios

The project team developed three possible operating scenarios for a transit service route to serve BNHA based on input gathered from on-the-ground observations, the City's existing public transportation services/routes, and conversations with BNHA, NPS, and project partners. These route opportunities include:

1. **Existing Current Charm City Circulator Service:** This scenario represents how visitors can use the existing Charm City Circulator service to access sites identified as high interest (i.e., will identify ways to transfer, develop education on how to use multimodal connections for visitors, etc.).
2. **Points of Interest as Stops Loop:** This scenario comprises a route loop to include stops strictly at the BNHA points of interest identified in earlier sections.
3. **Neighborhoods/Communities as Stops Loop:** This scenario comprises a route loop to include stops mixed between the BNHA points of interest and neighborhoods / communities identified in earlier sections.

Each of the above three transit shuttle service route scenarios are described in more detail in the sub-sections that follow; the scenario descriptions include:

- Potential route (to include daily total route mileage, roundtrip miles, and approximate travel time).<sup>50</sup>
- Headways (amount of time between buses).
- Potential schedule (to include daily service hours).
- Passenger capacity for a typical busy day.

### Coverage versus Frequency

Stopping at more locations increases coverage by reducing walking distances. However, this also increases travel times and resulting headways (assuming a fixed number of vehicles are in operation). Adding vehicles reduces headways, but at higher cost. Table 8 illustrates findings of research from the Transportation Research Board, demonstrating how users respond to various levels of service (LOS) based on headway rates.<sup>51</sup>

**Table 8. Transit Levels of Service**

Source: Transportation Research Board and National Academies of Sciences, Engineering, and Medicine, 2013

Level of Service	Headway (Minutes)	Frequency (Vehicles per Hour)	Comments
A	< 10	> 6	Passengers do not need schedules
B	10-14	5-6	Frequent service, passengers consult schedules
C	15-20	3-4	Maximum desirable time to wait if bus/train missed
D	21-30	2	Service unattractive to choice riders
E	31-60	1	Service unavailable during that hour
F	> 60	< 1	Service unattractive to all riders

<sup>50</sup> Travel time is based on 20 miles per hour, which is the maximum speed for the trams.

<sup>51</sup> Transportation Research Board and National Academies of Sciences, Engineering, and Medicine, 2013.

## Routing and Headways

BNHA identified points of interest for Volpe to include on a proposed shuttle route (detailed in Scenarios). A logical way to connect these points is by looping them into one large route. All the scenarios use this common route framework, using the rate of service established by the Charm City Circulator as guide for possible expansion that can meet the intentions of the BNHA.

The Volpe Center relied largely on Google Maps in calculating driving and walking times between two points. This data informed researchers on how best to incorporate points of interest between differing scenarios. Specifically, the Volpe Center used the Google Maps Directions Application Program Interface (Google Maps API). The Google Maps API returns the most efficient routes when calculating directions, with travel time as the primary factor optimized and other factors such as distance and number of turns also taken into account.<sup>52</sup> Given that this document is a preliminary transit feasibility study, the estimated headways are rough approximations, based solely on drive time and dwell time, absent of any significant traffic. The headway ranges provided account for the possibility of delays that may arise due to several different factors. Nevertheless, the variables that contribute to route slowdowns are numerous and have the potential to occur outside of the realm of consideration. The actual headways of the vehicles would likely be longer than the estimates presented in this study, for several reasons.

- **Traffic:** While current driving times are reflected in the study, the impacts from future driving times—including assumptions around the increasing or decreasing of traffic congestion due to seasonal influence and developments in construction—are difficult to measure. Datasets that provide insight to historic traffic volumes are not detailed enough to predict travel times in the future.
- **Break/Cleaning Times:** The headways do budget for some time between runs for drivers to take breaks and clean vehicles, but do not account for longer lunch breaks or for unanticipated, significant cleanings that may occasionally occur due to incidents on the bus. Lunch and other breaks would need to be refined through a driver contract, and unexpected cleanings (similar to unexpected traffic or road closures) may not be able to be accounted for due to their infrequent nature.

## Ridership Estimation

This analysis estimates ridership for the shuttle scenarios based on a review of ridership data from peer shuttle bus services. Peer shuttle services include those in the 2022 NPS National Transit Inventory that provide voluntary “mobility to or within the park,” as well as the Charm City Circulator.

The method involved dividing ridership by overall relevant visitation (for the sites served during the shuttle’s operational months) for each peer service, to calculate “ridership as a percentage of visitation,” or “relative ridership,” a metric that is comparable across systems, regardless of size.

The nine (9) shuttle systems from the 2022 NPS National Transit Inventory had an average relative ridership of 25 percent. However, the median is only 10.45 percent, which indicates that most services have much lower relative ridership. Table 9 below shows a table comparing these peer shuttles.

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<sup>52</sup> <https://developers.google.com/maps/documentation/directions/overview>.

**Table 9. Peer Shuttle Services Comparison (2022)**

Source: NPS, 2022

System Name	Description	Ridership (as % of Visitation)	Service Start	Service End	Fare
Acadia Island Explorer	Hop-on hop-off service connecting trails	10.45%	June	October	Free
Bryce Canyon Shuttles	Aims to reduce parking congestion in the park	24.89%	April	October	Free
Fairfax Connectors Wolf Trap Express	Connects WMATA subway to WOTR for shows in the summer	0.60%	May	August	\$5
Glacier Visitor Transportation System Shuttle	Alt. to driving, no parking or traffic issues noted	0.60%	May	August	Free
Grand Canyon Village (Blue) Route Shuttle	Alternative to driving to trails, points of interest, and hotels where there is parking congestion	29.50%	March	September	Free
Muir Woods Shuttle	Takes visitors from 3 outlying towns to Muir Woods	9.43%	March	October	\$3.00 Round Trip, plus \$8.50 per vehicle for shuttle parking
Sequoia Giant Forest Shuttle	Serves the park and multiple stops outside the park	63.60%	June	September	\$20
YARTS: Yosemite Area Regional Transportation System	Local transit to Yosemite from neighboring towns, about 2+ hour runs	1.95%	January	December	\$5 - \$22
Yosemite Valley Shuttle	Shuttle stopping at destinations in the Valley	27.68%	January	December	Free
Charm City Circulator – Banner Route*	City-led public transit shuttle runs through the same area the BNHA shuttle would cover	49.87%	January	December	Free

\*Note: This was calculated using an average of 306 daily riders from April 2022 (provided in the Baltimore City Transit Development Plan) compared with the Fort McHenry National Monument and Historic Shrine visitation.

It is important to note that the ridership estimates presented here are initial coarse hypotheses, from which stakeholders can begin to make decisions. This analysis uses the same ridership estimates above for all scenarios; while it is true that changing the scenario attributes and the fare level will affect ridership, there is not sufficient data to capture these changes quantitatively. The overall ridership is designed to capture the range of these influences, without conveying a false sense of precision that would be implied by showing quantitative ridership differences between specific scenarios/fare combinations. BNHA stakeholders could consider administering a

survey to existing and potential visitors to better understand how many visitors would be willing to ride a shuttle between these points of interest.

Urban area size and initial fare level are the major variables affecting fare elasticity; large urban areas and large fare increases both lead to greater elasticity of transit demand. The former can be explained by understanding that a larger urban area likely has more alternatives to transit than rural areas. In rural areas, the only travel options may be by car or transit, whereas urban areas may be accessed by walking, biking, scootering, or via ride hail services. BNHA is located in an urban area.

### **Seasonality**

BNHA sites and many of the other proposed shuttle stops identified that there is a seasonal trend in visitation. This analysis assumes a seasonal operation from April to October, 10:00 am to 5:30 pm, and does not attempt to assess the feasibility of year-round service.

### ***Scenario One: Existing Charm City Circulator Service***

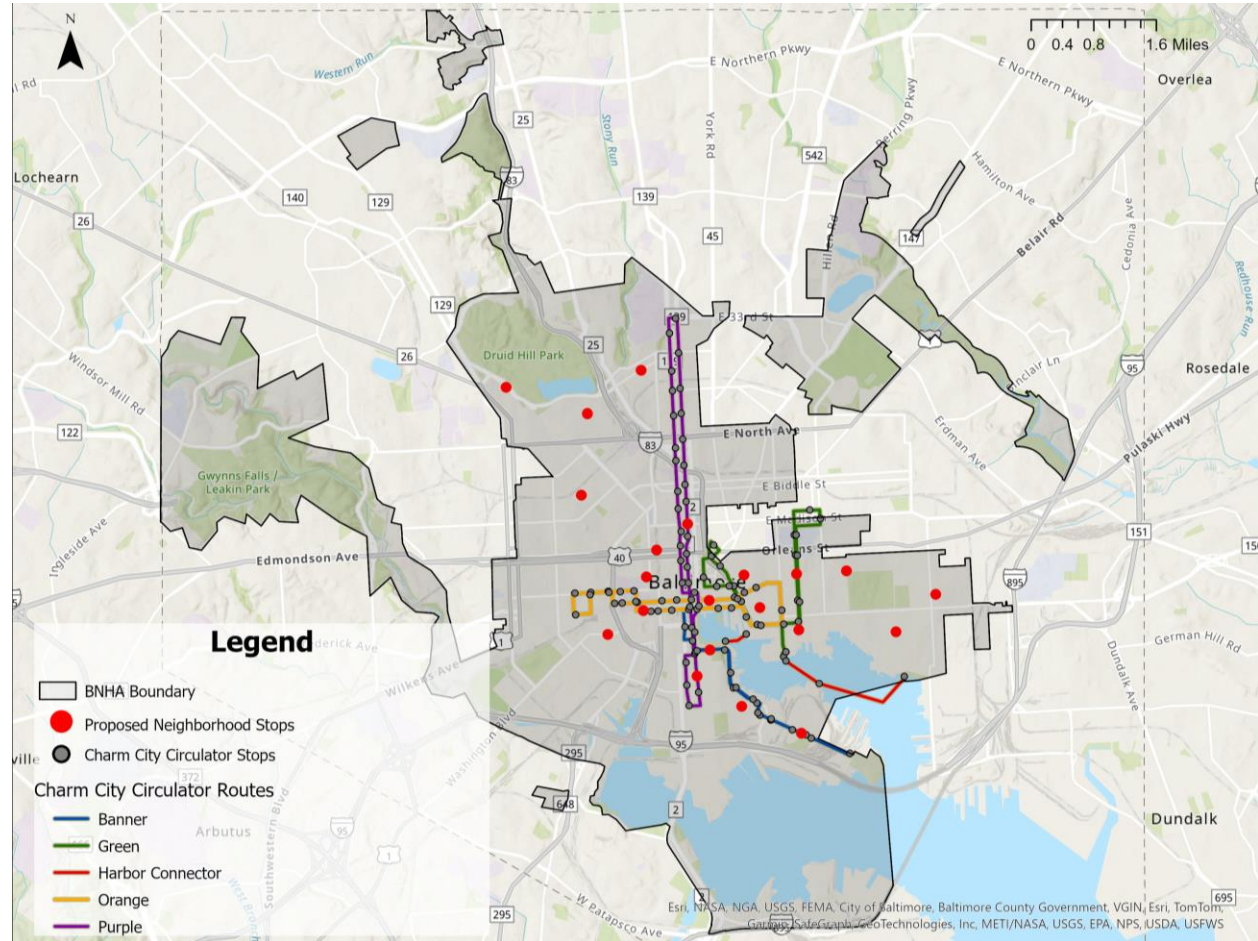
Scenario One includes the established 111 stops, divided into four different routes (the Green with 25, Purple with 38, Orange with 28, and the Banner with 20). The Banner Route, according to expansion efforts highlighted in the TDP, would be replaced by the Cherry Route, detailed earlier in this report. The natural beginning point for this scenario is the Fort McHenry site, utilizing the Banner/Cherry route. Natural transfers from this route would follow from the Purple, to Orange, and then Green by way of stop transfer. Due to the dual utility of the Charm City Circulator as a commuting tool for residents as well as a better actualized tool for visitor experience, the routing schedule set outside of site operating hours would remain intact.

The current headways for the Charm City Circulator see buses running every 15 to 20 minutes, apart from the Banner Route, which provides 20 to 25 minutes of bus intervals. The Purple Route, which extends the furthest north of the entire system, completes its route in 56 minutes. The Banner Route, which extends furthest south amongst the entire system, requires 31 minutes for route completion. Extending furthest west, the Orange Route requires 44 minutes for trip time. The Green Route, which stretches northeast, secures a travel time of 22 minutes. Travel times and frequencies fall under C and D levels of service. This generally meets user expectation and willingness to participate in service offerings that coincide with C levels. Assuming most visitors are considered “choice riders” that would deem D level service unattractive, but promoting the addition of more buses within service like the Banner Route would reduce headways to more acceptable levels. Providing consistent headways across all routes provides further ease of advertising for visitors. Figure 17 and Figure 18 demonstrate how existing Charm City Circulator routes serve the identified neighborhood stops and points of interest within the BNHA.



**Figure 17. Map of Charm City Circulator Routes and Neighborhood Stops**

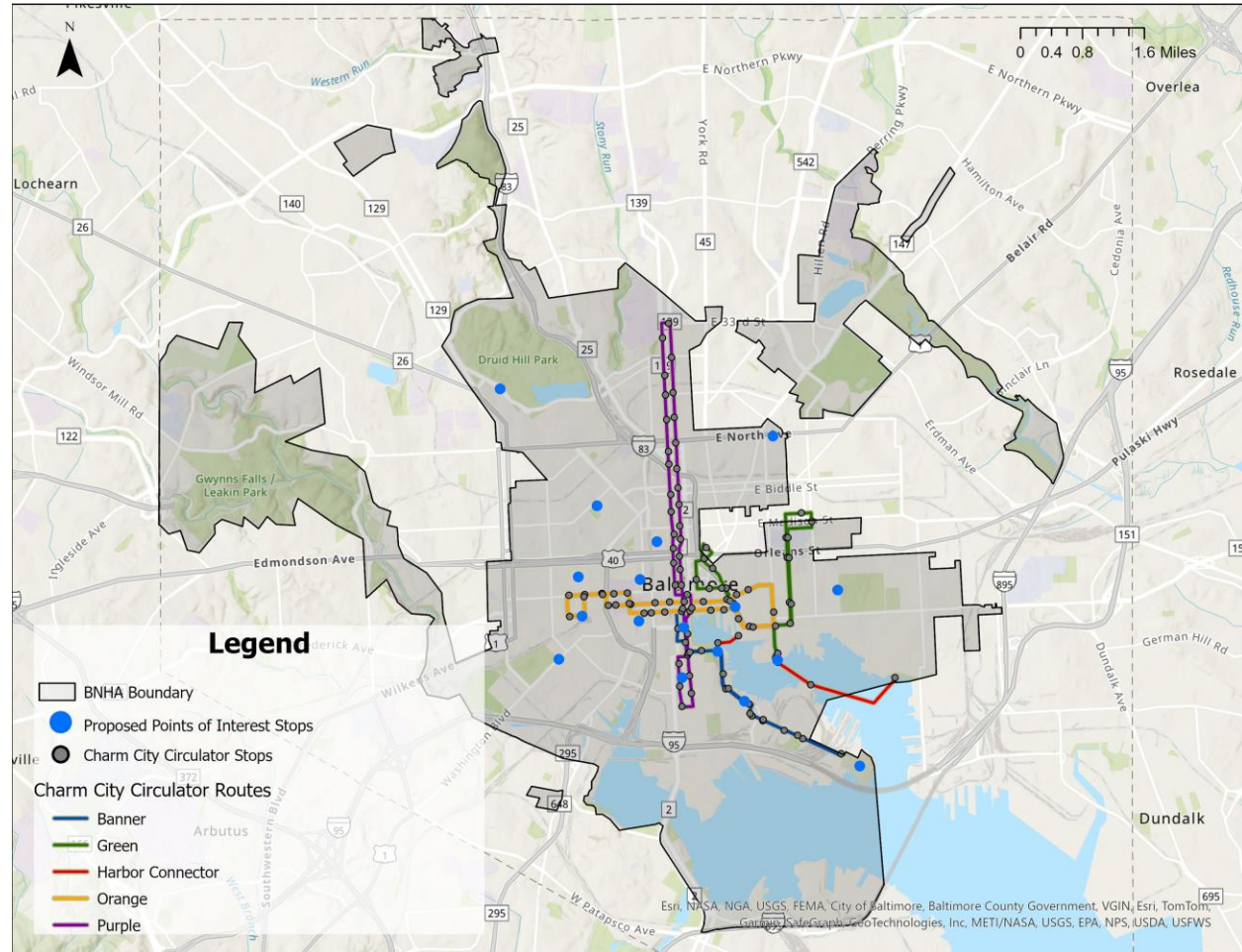
Source: Volpe Center, June 2024



Note: This is not illustrative of the connectivity to the sites via other existing public transportation services, rather the CCC was used in this scenario since it is a free public transit service option (as opposed to the other paid transit service options), thereby providing more equitable access.

**Figure 18. Map of Charm City Circulator Routes and Points of Interest**

Source: Volpe Center, June 2024



Note: This is not illustrative of the connectivity to the sites via other existing public transportation services, rather the CCC was used in this scenario since it is a free public transit service option (as opposed to the other paid transit service options), thereby providing more equitable access.

## Scenario Two: Points of Interest Route

Scenario Two, the Points of Interest Service Scenario, includes Heritage Area sites indicated by stakeholders as primary places within the BNHA (Figure 19). The proposed route would begin at the Baltimore Visitor in the Inner Harbor. The Baltimore Visitor Center coincides with several existing public transit services on Light Street such as the CCC's Purple and Banner Routes, MTA bus line 67, 71, and 94 and MTA's CityLink Silver. The Visitor Center is also proximate to several other existing public transit services such as the CCC's Orange Route, MTA bus lines 54, 65, and 154, and MTA's CityLink Brown, CityLink Navy, and CityLink Yellow routes on East Pratt Street, as well as the Baltimore Water Taxi's Harborplace and Federal Hill ferry stops and the City's Harbor Connector 3 shuttle line.

From the Baltimore Visitor Center, two separate lines of buses could operate bidirectionally – east and south – to provide variability in user choice at a low cost. The eastbound line would briefly run north along Light Street, then east onto Pratt Street, before heading south onto President Street towards the Frederick Douglass-Issac Myers

Maritime Park and Reginald F. Lewis Museum, while the other route would head south towards the American Visionary Museum, Baltimore Museum of Industry, and Fort McHenry. This eastbound service would continue to Patterson Park before heading north up Washington Street and then east onto North Avenue towards the National Great Blacks in Wax Museum. Following North Avenue to Gwynns Fall Parkway, the route would arrive at the Maryland Zoo/Druid Hill Park, before heading southeast towards the PS 103 Thurgood Marshall Amenity Center, the Maryland Center for History and Culture, and the Lexington Market. After which, the route would head west towards the Edgar Allan Poe House & Museum, then south again traveling to the B&O Railroad Museum and the Mount Clare Museum House. At this juncture the route would head back northeast towards Camden Yards before reaching Cross Street Market, and Fort McHenry, and then loop back north towards the Baltimore Visitor Center stopping at the Baltimore Museum of Industry and the American Visionary Art Museum along the way (Figure 19). The southbound service would complete said route in reverse. Service that lowers headways in just one direction may present enough variability for visitors as well.

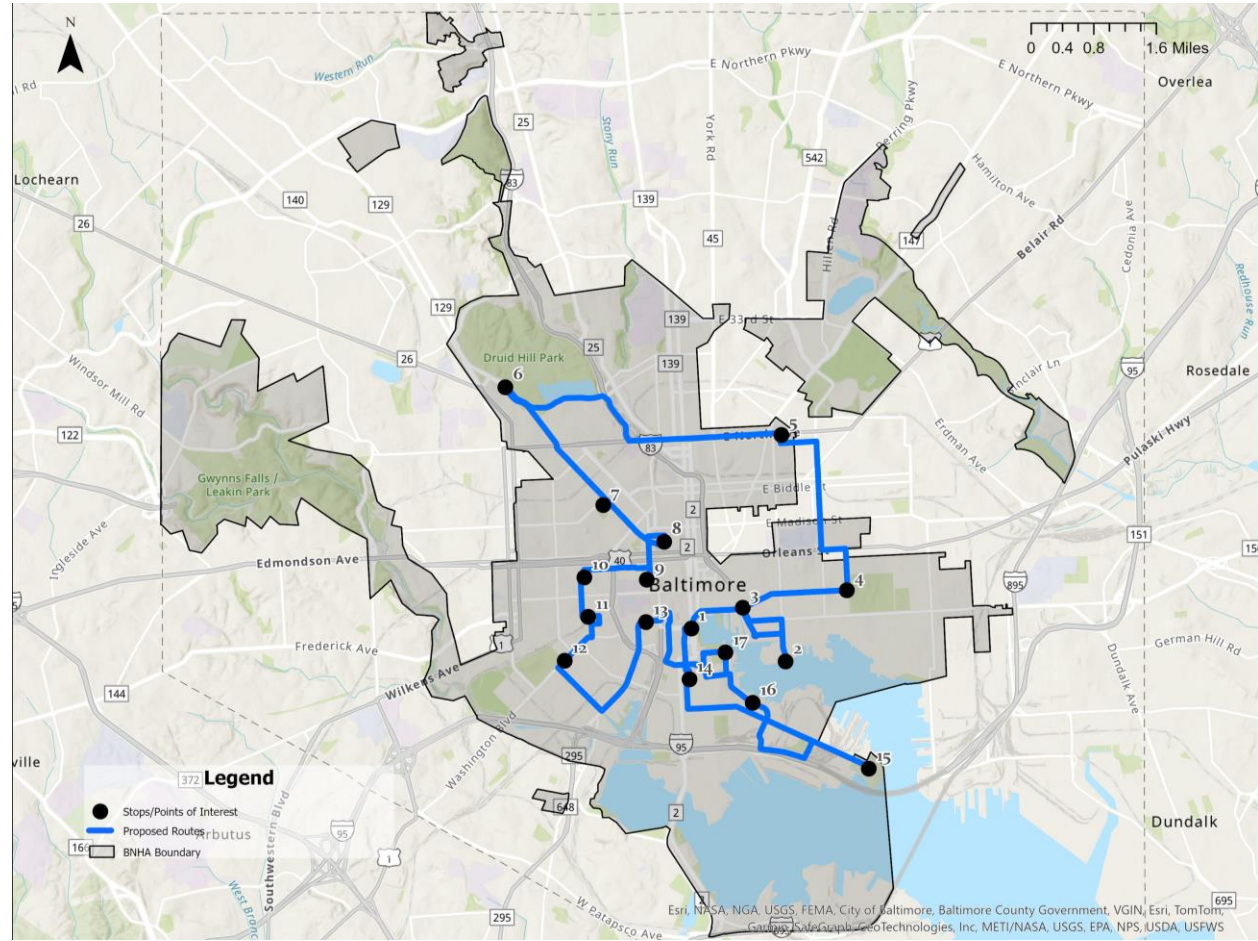
Some of the points of interest closer to the outskirts of the loop, such as the Creative Alliance (at Patterson Park) to the east and the National Great Blacks and Wax Museum to the north have similar constraints in hours of operation, whereas the sites are closed much of the week and open Thursdays - Sundays (12:00 pm – 6:00 pm, Friday through Saturday for the Creative Alliance and 10:00 am – 5:00 pm, Thursday through Saturday and 12:00 pm – 5:00 pm on Sunday for the National Great Blacks in Wax Museum; 10:00 am – 4:00 pm). To address these challenges, buses may provide alternating service that satisfy peak weekend visitation demand and could have a shortened route schedule Monday through Wednesday that does not include these stops. Given the relative lack of visitation on Wednesdays or Thursdays, less prioritization is necessary to address present limitations.

The proposed Points of Interest route scenario would provide headways of at least 15 minutes and at most 20 minutes, ideally with a published schedule. A range of seven to nine buses will be available on each route to produce the desired frequency. These buses will have similar capacity to the types of vehicles that are used for the Charm City Circulator Routes. At maximum capacity, each bus can accommodate 80 passengers. There are 17 stops total within this scenario (Table 10), with 87 percent of the sites included in this route falling within four-square miles of each other. This service would partially overlap at key instances with the Charm City Circulator, directly addressing gaps in service and bringing visitors to transit and areas they may have generally avoided due to any negative perceptions.



**Figure 19: Map of Proposed Points of Interest Route**

Source: Volpe Center, June 2024



**Table 10. Points of Interest Route – Stop Locations**

Source: Volpe Center, April 2024

Stop No.	Name	Stop No.	Name
1	Baltimore Visitor Center	10	Edgar Allan Poe House & Museum
2	Frederick Douglass-Isaac Myers Maritime Park	11	B&O Railroad Museum
3	Reginald F. Lewis Museum	12	Mount Clare Museum House
4	Patterson Park	13	Camden Yards
5	The National Great Blacks in Wax Museum	14	Cross Street Market
6	The Maryland Zoo/Druid Hill Park	15	Fort McHenry National Monument and Historic Shrine
7	PS 103 Thurgood Marshall Amenity Center	16	Baltimore Museum of Industry
8	Maryland Center for History and Culture	17	American Visionary Art Museum
9	Lexington Market		

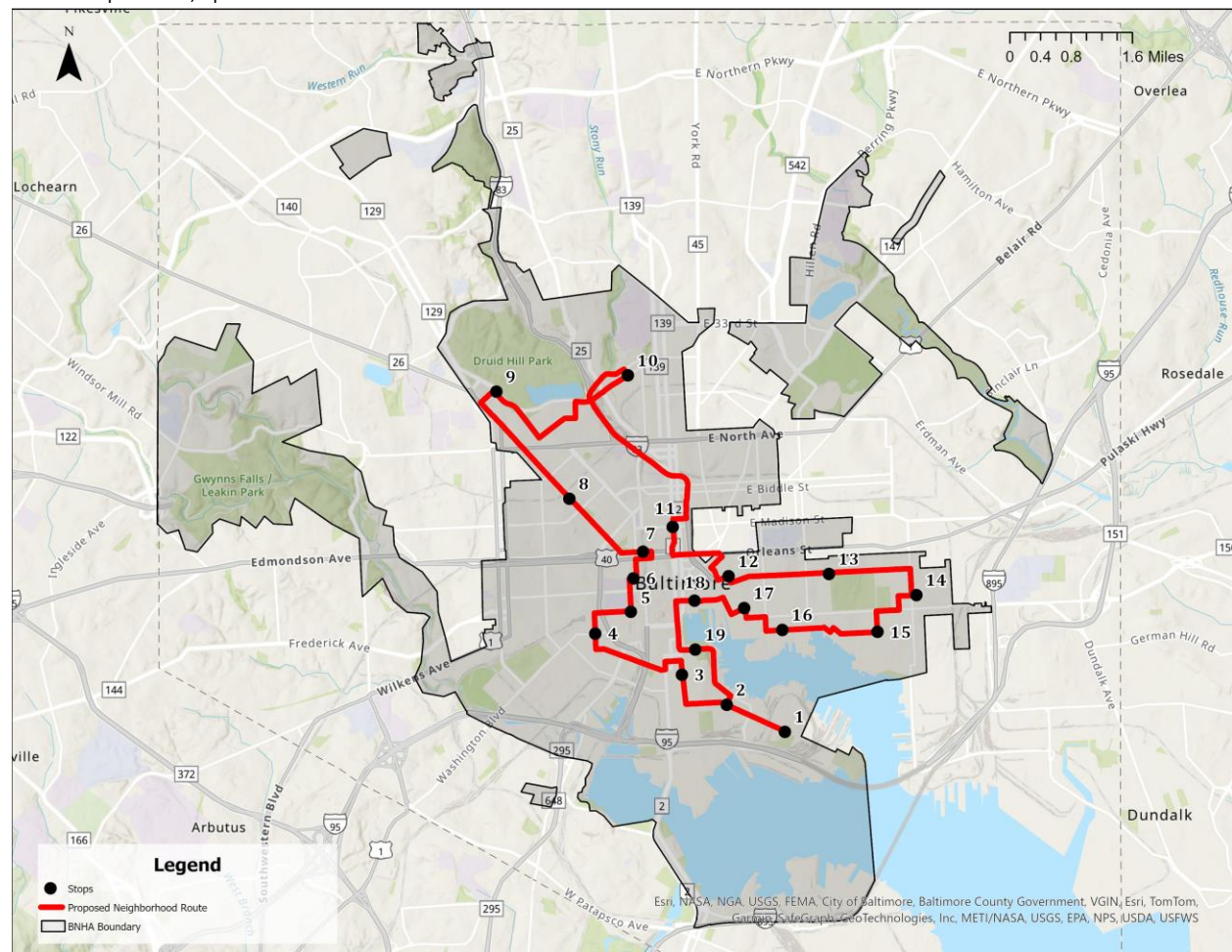


### Scenario Three: Points of Interest and Neighborhoods Route

Scenario Three focuses on unlocking neighborhoods, with two lines heading eastbound and southbound, respectively, and beginning in the Inner Harbor. The eastbound route begins with highlighting the already programmed Heritage Walk along the Inner Harbor, Little Italy, and Historic Jonestown. The route then shifts north to the Mt. Vernon, Remington, and Druid Hill Park communities, before heading back south towards the Upton/Black Arts District and Bromo Arts District. The route continues south to touch Lexington Market, Camden Yards, Pigtown, Cross Street Market, and Locust Point, before circling back north through Federal Hill, returning to the Inner Harbor. The two lines of the proposed route, highlighted in Figure 20, would operate in opposite directions along the loop to achieve maximum possible coverage and frequency. Headways would aim for 15–20-minute interval times between stops (with six to eight buses in use) along the entirety of the 19-stop loop (Table 11). As in Scenario Two, buses will have similar capacity to the types of vehicles that are used for the Charm City Circulator Routes.

**Figure 20: Map of Proposed Points of Interest and Neighborhoods Route**

Source: Volpe Center, April 2024



**Table 11. Points of Interest and Neighborhoods Route – Stop Locations**

Source: Volpe Center, April 2024

Stop No.	Name	Stop No.	Name
1	Locust Point	11	Mount Vernon
2	Riverside	12	Jonestown
3	Cross Street Market	13	Upper Fells Point/Patterson Park
4	Pigtown	14	Highlandtown
5	Camden Yards	15	Canton
6	Lexington Market	16	Fells Point
7	Bromo Arts District	17	Little Italy
8	Upton/Black Arts District	18	Inner Harbor
9	Druid Hill Park	19	Federal Hill
10	Remington		

### *Comparison of Transit Shuttle Service Scenarios*

There are benefits and drawbacks to each of the three scenarios. The infrastructure and operations are in place to support Scenario One; however, this scenario depends on partnership with the City of Baltimore Charm City Circulator, more efficient dissemination of information that ties sites together, and there is concern since visitors do not tend to use the current service.

Both Scenario Two and Scenario Three would require new partnerships for operating the service as well as potentially capital purchases of vehicles and other infrastructure as well as driver, maintenance, and other staffing needs. However, both scenarios offer direct, intentional opportunities for visitors to access sites in the BNHA.

In the case of Scenario Two, by prioritizing the creation of an efficient route, the service omits some stops within walking distance of another nearby stop. For the best result, Scenario Two would ideally coincide with new wayfinding and pedestrian safety improvements to strengthen the walking connections between nearby sites. In addition to the attentiveness to stronger wayfinding, physical callouts in the form of signs at sites, online guides, and visitor brochures providing accessibility information would also need consideration.

By creating new thematic connections, Scenario Three omits key points of interest in the BNHA, repeating the issues established in the Charm City Circulator Service. Sites themselves provide location variance that ultimately will affect any kind of shuttle service implementation that desires to be efficient in providing access to visitors. The variability in site location seen in Scenarios Two and Three necessitates frequent turns that would add difficulty to buses remaining on schedule.

**Table 12. Transit Scenario Comparison**

Source: Volpe Center, April 2024

Transit Scenario	Approximate Route Length (Minutes)	Standard Hours of Operation	No. of Stops	Desired Headway (Minutes)	Approximate No. of Vehicles	Daily Capacity Range
One	31 minutes	7:00 am – 9:00 pm	20	15-20 minutes	2-3 vehicles	3,360 – 4,480 riders
Two	119 minutes	10:00 am – 5:30 pm	17	15-20 minutes	7-9 vehicles	1,800 – 2,400 riders
Three	100 minutes	10:00 am – 5:30 pm	19	15-20 minutes	6-8 vehicles	1,800 – 2,400 riders

Note: Scenario One as included in this table is referencing the CCC's Banner Route.

## Peer Systems

When estimating numbers for the BNHA shuttle such as cost and ridership and when predicting best practices for vehicle options, agreement types, and general operations, it is helpful to consider past and present peer shuttle systems with similar existing conditions and goals. This section describes the three case studies conducted as part of this project to help shed light on potential challenges and transferrable lessons.

### *D.C. Circulator*

The National Park Service (NPS), in partnership with the D.C. Department of Transportation (DDOT), developed the D.C. Circulator's National Mall Route as a convenient, low cost, frequent transportation option for visitors. The route stretches from the U.S. Capitol to the Potomac River to include 15 stops, providing visitors access to 29 sports fields, 14 museums, and 13 monuments and memorials. Hours vary by season, with the winter season operating from October 1st to March 31st and the summer season operating from April 1st to September 30<sup>th</sup>. During peak use, 14 buses service the route (dropping to roughly nine during low tourism periods) and buses arrive at 10-minute intervals during normal service conditions. There are numerous connections to other transit options and the entire Circulator system, including the National Mall route, costs \$1.00 to ride. Annual ridership for the National Mall route was just under 800,000 riders in 2019. Operating costs are shared; DDOT pays two-thirds of the operating cost and NPS pays the remaining one-third of the operating costs, partially funded by parking fees on the National Mall.

### *Discover Niagara*

The Discover Niagara Shuttle initially began in 2016 as an initiative of the Niagara Falls National Heritage Area to provide a comprehensive transportation network connecting visitors and residents with the natural, cultural, and historic assets within the Niagara Falls Heritage Area located in New York. Discover Niagara operates seasonally, with service available Fridays through Sundays from May to September. There are seven shuttles servicing the area and headways vary across routes, but shuttles arrive every 30 minutes (traffic dependent) during the day, and 40 minutes in the evenings. Occupancy taxes in the area are the largest source of funding for the shuttle and have allowed the service to be operated fare-free. The New York Power Authority also makes a significant annual contribution to the shuttle. Discover Niagara provides service along three different routes. The shuttles are ADA accessible and equipped with bike racks, complimentary Wi-Fi, and digital displays that play narrated segments about each of stops on a constant loop. Ridership has increased since the service began and is used by both tourists and residents.

## *Havre de Grace*

“The Tide” Trolley System serves the City of Havre de Grace, Maryland. The city first implemented the service in May 2022 as a 3.7-mile loop to include 14 stops. The Tide operates seasonally from April through mid-December, with service running most Fridays, Saturdays, and Sundays during its seasonal operation and schedule modifications for special events. There are six trolleys servicing the route, arriving every 10-15 minutes at stops during normal service conditions. The Tide does not connect to other transit options, but there are free parking areas that provide access to the trolley. The service is fare-free and four electric shuttles service the route. Ridership is a combination of residents and visitors and ridership reached 17,505 riders in 2022. In 2023, ridership increased to 20,483 riders (an increase of approximately 17 percent). The Tide is owned and operated by the City of Havre de Grace and is funded through the municipal budget. The Tide’s success has been supported by its funding structure, partnerships, and its ambassadors’ active role in improving the system.

## **BNHA Partner Coordination**

Volpe supported BNHA to engage with the City of Baltimore and Heritage Area sites to better understand needs and opportunities for the transit service. The proposed BNHA transit service requires a partner to own and operate the system. As discussed in the Background section, a key opportunity is for the Heritage Area service to be provided within the existing Charm City Circulator operations. As such, the City of Baltimore is an important partner to engage in this project. Since the BNHA sites are managed by a collection of distinct agencies and organizations, it is also important to engage them as partners to better understand the needs for the service.

Volpe consulted with NPS Chesapeake Gateways and worked closely with BNHA to identify the appropriate contacts at the City of Baltimore and Heritage Area sites. From this, Volpe developed a spreadsheet summarizing the partners and related information, including primary points of contact. On April 3, 2024, Volpe, BNHA, and NPS Chesapeake Gateways hosted a Partner Engagement meeting to get partner feedback on the challenges and opportunities at their individual sites.

The partners collectively viewed analysis of further site connection as a positive effort. Stakeholders present for the meeting were quick to exchange anecdotes with one another regarding the visibility of both NPS-Designated Historic Landmarks and NPS Park Units to potential visitors. 51 percent of stakeholders that were part of formal outreach participated in the engagement meeting. Participation ranged from site representatives that would be part of the proposed route stops and those outside of route consideration.

While representatives from the Mount Clare Station and Roundhouse and Fort McHenry noted that there was sufficient parking available near their site, many of the participants noted that parking throughout the BNHA was limited. Several representatives, such as Historic Ships in Baltimore and the Peale Museum, identified being well-connected to current transit options. This is attributed to their central location within the core of the city of Baltimore. Sites that are on the edge of the BNHA, like the National Great Blacks in Wax Museum, noted a lack of established transit connections and the visibility of vacancy in the surrounding area affecting visitation. Representatives from the Cultural Alliance, also on the periphery of proposed routes, echoed the sentiment that there were concerns from visitors affecting safety perceptions.

Several partners provided direct areas of improvement that could be addressed through additional routing systems in the city of Baltimore. Partners from the Edgar Allan Poe House prioritize the emphasis of better thematic connections between sites as a tool to raise awareness to visitors. An online guide that provides an

approach to address accessibility and disability concerns for each site was also a suggestion for better cohesion. Overall, partners agreed that the frequency and reliability issues of the current transit service would benefit from additional systems that could provide consistent coverage.

BNHA should continue to engage partner sites and maintain open communications to advance this project.

## **Recommended Next Steps**

This study recommends that BNHA coordinate with the City of Baltimore Charm City Circulator to identify whether the existing service could accommodate a BNHA route that serves the needs of BNHA and visitors. Since the Charm City Circulator already services many of the sites, the cost to implement the system could be much lower than to initiate a new system with a new operator. In addition, there could be benefits to the Charm City Circulator and its ridership to partner with BNHA as well.

If the Charm City Circulator is not a suitable option for implementing the service, BNHA could solicit a Request for Information (RFI) to identify a partner to own and operate the service. Once a partner is identified, a more detailed transit feasibility study would need to be undertaken to consider the specific requirements of the owner/operator and other factors. In the interim, there are several initiatives that BNHA could start, including:

- Data collection
- Financial analysis
- Coordination with existing transportation
- Pilot shuttle route

Each of these initiatives is described in more detail below.

### **Data Collection**

To better evaluate the proposed scenarios and next steps for the BNHA, the Heritage Area could collect and analyze additional visitor data. Visitation data could provide insight into the travel needs of visitors across time of year, day of week, and time of day and could include both quantitative data as well as a qualitative visitor survey (i.e., how visitors accessed site and transportation challenges to reaching destination). More detailed visitation data would also provide insight into which sites might benefit from improved transportation service and targeted outreach. Importantly, visitation data would allow the BNHA to project potential ridership which could be used to inform financial analysis and partner engagement.

Considering the issue of capacity for many sites, one of the simplest ways to collect qualitative visitor data is through direct interview as visitors enter sites or shortly before their exit. Feedback may extend to websites or social media, establishing a clear connection to a site's online presence. Creating incentives around designed questions counteract limitations such as time constraints and general response bias. Sites may also make a concerted, internal effort to observe and track visitor behavior as it pertains to access.

### **Financial Analysis**

To inform partner discussions and further evaluate feasibility, the BNHA could conduct a financial analysis. A financial analysis will be essential for potential funding partners and will help the BNHA weigh the most cost-



effective strategies to improve transportation access in the Heritage Area. Market data and input from community partners will develop the evaluation criteria necessary to establish financially based alternatives.

### **Coordination with Existing Transportation**

The BNHA could coordinate with existing transit providers in the region (e.g., Baltimore City Department of Transportation, Maryland Department of Transportation) to understand existing transit service and opportunities for connections. This may include improved signage and wayfinding to direct visitors to sites and indicate which transportation services provide access to key destinations. Additionally, the BNHA could explore the inclusion of transit information in its marketing materials. For instance, BNHA could include information on existing transit services and tools, such as the Baltimore City DOT's interactive bike map or the City's [car free near me tool](#), in its materials and encourage partners to post the information on site websites.

### **Pilot Shuttle Route**

With respect to implementation, BNHA and its partner sites could run a pilot. A pilot could help gather data to refine service details and inform full implementation. BNHA could develop a request for information (RFI) to gauge whether private or public transit service operators are interested in providing the pilot service. Such an RFI could ask respondents which type of vehicle they would operate, the number of vehicles they have or would need to purchase, and the fee structure (daily flat rate, per service mile or hour). The RFI responses could help BNHA and its partners further define service details and potential operating costs. The RFI responses may also help BNHA to determine whether the service qualifies for grants from the State, Federal agencies, or other organizations.