



HYATTSVILLE TRANSIT CIRCULATOR FEASIBILITY STUDY

December 2018 | FINAL

CONTENTS

Executive Summary	2
Report Purpose	4
Existing Conditions	4
Routing Plan	16
Business Proforma and Financial analysis	22
Recommendations	26



Example of a Circulator, the Bethesda Circulator

EXECUTIVE SUMMARY

In response to resident demand for a high-quality transit connection from the Gateway Arts District to other key destinations, the Hyattsville City Council commissioned a study to evaluate the feasibility of a local transit circulator. This study assesses the operational and financial viability of a high-frequency circulator service in Hyattsville.

Study Approach

This report considered factors such as public survey results, existing trip patterns, interviews with peer circulator systems in the DC metro area, information from Prince George's County Department of Public Works & Transportation (DPW&T) and private bus circulator operators and a national study of downtown circulators from around the country. Building on these factors and incorporating additional datasets, two routing plans and a ridership projection were developed.

What is a Circulator?

A transit circulator is a localized transit system that provides direct, frequent service between neighborhoods, commercial areas and other activity centers, and even other regional transit hubs (i.e. Metro, MARC) within a community.

What We Learned

Some key takeaways from this Report:

- **Survey Respondent Preferences:**
 - o Respondents support a circulator that operates seven days a week, including mornings and evenings.
 - o Out of 71 respondents, 64 percent would be willing to pay up to \$1.00 per ride.
 - o 73 percent of respondents would be willing to wait up to 15 minutes for the bus.
- **Existing Trip Patterns:** Existing trip patterns were determined using a "Big Data Analysis", which utilized anonymized data from location services on mobile devices. This analysis demonstrated a high demand for auto trips between the Prince George's Plaza Station and the Gateway Arts District neighborhoods, some of which have the potential to be replaced by transit trips if a convenient and efficient service was available.
- **Peer System Lessons Learned:** Three peer systems were interviewed as part of this study, including the Bethesda Circulator (Bethesda, MD), the King Street Trolley (Alexandria, VA), and the Charm City Circulator (Baltimore, MD). The interviews provided insights into specific operational details of each circulator. Each of the three circulator services operates as fare-free service. Key Statistics:
 - o Headways (bus frequency): 10-15 minutes
 - o Route Distances: 2-5 miles
 - o Monthly Ridership: 30,000 – 146,000 riders
 - o Annual Operating Costs: \$728,551 - \$958,936 (note cost for Charm City Circulator was not available).
- **Estimated Ridership:** The estimated ridership of a future Hyattsville transit circulator would be between 12,000 and 38,000 riders each month.
- **Operational Models:** Of the three operational models available for owning and operating the circulator (municipal ownership, transit agency partnership, and private contracting), the most feasible option is either a partnership with DPW&T (transit agency partnership) or private contracting.

- **Anticipated Costs:** Depending on the operational model and service characteristics, a circulator system operated by DPW&T would cost the City of Hyattsville between \$1,300,000 to \$4,300,00 per year. A circulator system operated by a private contractor would range in cost from \$715,000 to \$3,300,000 per year. The routing of the circulator (one-way versus two-way) and headways are primary drivers between the lowest cost for each option and the highest cost.

Key Recommendations

Based on the public survey results and circulator best practices, any future transit circulator in Hyattsville should adopt following operational characteristics to ensure that the circulator is attractive to potential riders:

- a. Clockface-headways every 10-15 minutes,
- b. Two-way circulation,
- c. Hours of operation seven days a week, from early morning until late evening, with late night hours on Friday and Saturday nights,
- d. Free fares, and
- e. A strong branding and outreach campaign.

Next Steps

If the City decides to move forward with this project, the City of Hyattsville should take the following steps to implement a high-quality transit circulator.

1. Determine the desired operational characteristics (e.g. one-way versus two-way, headways, fares)
2. Identify dedicated long-term funding mechanism in the range of \$715,000 - \$4,300,000 annually to provide quality transit circulator service to residents, employees and visitors alike.
3. Seek partnership with Prince George's County DPW&T to modify their current Route 13 The Bus service to meet the operational goals of the proposed circulator, i.e. new route, hours of service, frequency, etc. Ideally DPW&T would agree to modify the existing route for little to no cost to the City. Alternatively, DPW&T may require a financial partnership with the City in order to achieve the operational goals.
4. If the partnership with Prince George's County is not feasible, Hyattsville should pursue contracting with a private contractor to operate the circulator.

REPORT PURPOSE

This report assesses the operational and financial viability of a high-frequency circulator service that would connect key destinations within Hyattsville: the Gateway Arts District on Route 1, the Washington Metropolitan Area Transit Authority (WMATA) Metrorail stations (Prince George's Plaza and West Hyattsville), and the Maryland Area Regional Commuter (MARC) Riverdale station.

Circulators are typically designed to serve tourists and employees by connecting key destinations along short, closed loops. These localized transit systems can have multiple benefits - Circulators can support economic vitality in urban areas and have the potential to reduce congestion and pollution. Circulators can also contribute to a pedestrian-friendly downtown area. In Hyattsville's case, by providing a reliable transit linkage between the Gateway Arts District and Hyattsville's major transit stations, a circulator could facilitate the viability of commuting with transit in lieu of private automobiles. However, circulators have limited potential for fare box recovery (portion of operational costs paid by riders) and are generally costly to operate with the service characteristics that make them successful (i.e., frequent service, extended operation and low cost to customers).

The Gateway Arts District is an emerging economic, retail, and residential hub that currently lacks a frequent transit connection to Hyattsville's key Metrorail stations. Over the past few years, Hyattsville residents have continued to express support for a circulator service that connects the Gateway Arts District with other parts of the community. A 2017 resident-created online petition received 188 signatures in support of a circulator. That year, in response to persistent resident demand, Councilmember Edouard Haba (Ward 4) submitted a proposal to the Hyattsville City Council to study a potential circulator. Hyattsville's City Council included funding in its Fiscal Year 2018 budget to evaluate the feasibility of a circulator study. This study is the result of that funding.

The *2018 Draft Hyattsville Transportation Study* includes a policy to prioritize connections to and from the Metro stations and the Gateway Arts District. Three related strategies are suggested to implement this policy, including a strategy to conduct a feasibility study to assess the viability of establishing a circulator service between the Metro stations and the Gateway Arts District, connections that existing transit services fail to provide directly and efficiently. This policy was included based on public comment, a "big data analysis", as well as a public survey, all of which provide community support a circulator. The big data analysis revealed that there is significant travel between Prince George's Plaza station, the Gateway Arts District, and West Hyattsville. In addition, a public survey conducted as part of this study received several responses that described the desire for a circulator to better link the Metro stations to the Arts District.

EXISTING CONDITIONS

The Gateway Arts District, the historic heart of the City, has seen tremendous growth in recent years, in part spurred by land use changes and economic development incentives introduced by Prince George's County Planning Board in 2004. The area is now a vibrant hub of arts institutions, retail destinations, residences, and visitor attractions. The district's population increased by 22% from 2011 to 2016.¹ During this same time, median household income increased by 40% and the number of housing units increased by 9%.² The percentage of workers that commute using transit in the district increased by almost 20%, and the average commute time to work increased by four minutes.³ The total share of zero-vehicle housing units decreased from 15.6% to 7.6%.⁴

¹ Comparison of rolling averages for Census Tract 8063 for the 5-year period from 2012-2016 and 2007-2011, from American Communities Survey 5-year estimates.

² *Ibid.*

³ *Ibid.*

⁴ *Ibid.*

These trends show that the growing population in the area has been accompanied by changing commute preferences. While more workers are commuting to and from Washington and Baltimore using transit, a lower percentage of households have zero vehicles. Transit options have not expanded to keep pace with demographic changes or the dynamic, mixed-use nature of the Gateway Arts District. For example, while the existing Prince George's County TheBus Route 13 does connect the Gateway Arts District to Hyattsville's two Metrorail stations, its frequency is limited and the service only operates on weekdays from 6:00 am to 8:00 pm. Residents, workers, visitors, and businesses could benefit from a transit connection that operates on weekends and weeknight evenings.

Existing Transit Service Characteristics

Hyattsville is currently serviced by several transit options. Route maps for each of these agencies are included in Appendix A.

WMATA Metrorail

Hyattsville is serviced by WMATA's Green Line, which connects to downtown Washington D.C., via West Hyattsville and Prince George's Plaza stations. The Green Line operates Monday through Thursday from 5 am to 11:30 pm, Friday from 4 am to 1 am, Saturday from 7 am to 1 am, and Sunday from 8 am to 11 pm. Headways during weekday peak hours are 8 minutes and range from 12 minutes to 20 minutes during off-peak hours. Fares vary based on time of day and distance between stations. As an example, a peak-hour trip from Washington D.C. to the West Hyattsville Metro station would cost \$4.80 using SmarTrip Fare.⁵

Metrobus

Several Local and Major Metrobus routes provide service to Hyattsville. The Major Metrobus route 83 as well as several Local Metrobus routes serve the Gateway Arts District. Headways vary for each route and time of day, ranging from 10 to 60 minutes. Service hours vary by route and day of the week. The fare for regular Metrobus routes is \$2.00 and the fare for express routes is \$4.25.⁶

MARC Train

The MARC Train's Camden Line services Hyattsville's Riverdale Station with access to Washington D.C. (Southbound) and Baltimore (Northbound). Headways range between 25 to 60+ minutes. Service is limited to morning and evening peak hours on weekdays only, with no mid-day service. Fares range based on the destination, but as an example, the fare from Hyattsville's Riverdale Station to Baltimore is \$7.00 and the fare from Riverdale Station to Washington, D.C., is \$5.00.⁷

TheBus

TheBus, operated by Prince George's County's Department of Public Works and Transportation (DPW&T), has five routes that service Hyattsville: 12, 13, 14, 17, and 18. The fare is \$1.25 for adults. Headways vary for each route and time of day, ranging from 30 to 60 minutes.⁸ TheBus Route 13 connects key destinations within Hyattsville that could also be served by any future circulator. Route 13 operates every 40 minutes, with service hours beginning at 6:00 am and ending at 8:00 pm, Monday through Friday.

UMD Shuttle

The University of Maryland (UMD) operates a fleet of over 75 vehicles servicing the University of Maryland Campus and moving over 2.6 million riders a year. The shuttle is designed to serve UMD staff and students but Hyattsville residents are eligible to receive a pass to use the shuttle free of charge. UMD Shuttle 113 services

⁵ Washington Metropolitan Area Transit Authority. <https://www.wmata.com/>

⁶ *Ibid.*

⁷ Maryland Transit Administration. "MARC Train." <https://mta.maryland.gov/marc-train>

⁸ Prince George's County. "Maps & Schedules." <https://www.princegeorgescountymd.gov/1122/Maps-Schedules>

Hyattsville and operates Monday through Friday during the school year with approximately 60-minute headways. The service is offered from 7:00 am to 11:00 pm Monday through Thursday, and from 7:00 am to 9:00 pm on Friday. The route has 34 stops, including the Mall at Prince George's and Prince George's Community College in Hyattsville.⁹ It should be noted that UMD has been consolidating some of its shuttle routes recently.

MDOT MTA Purple Line

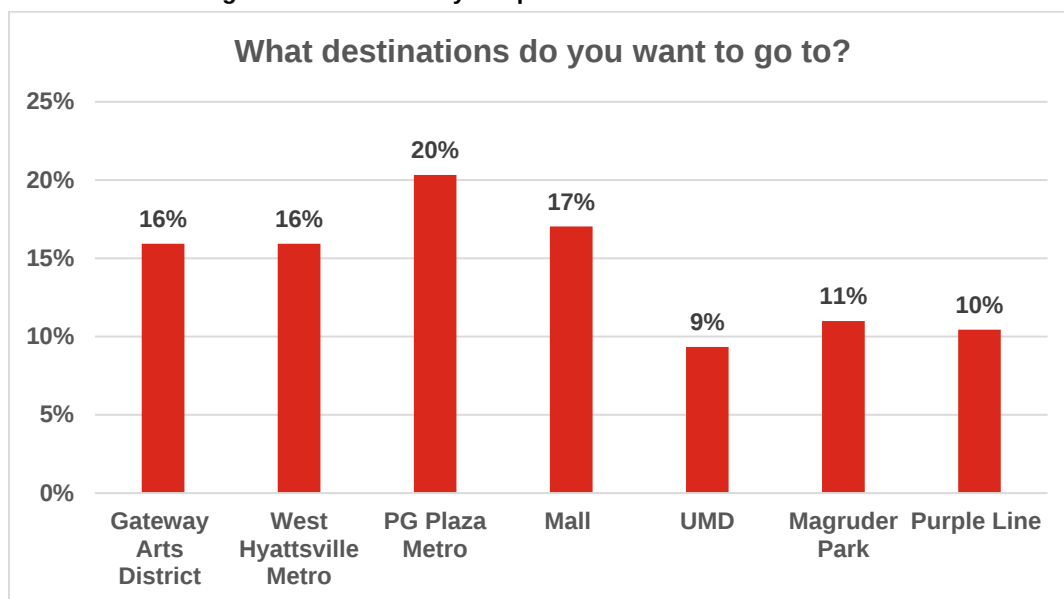
The Maryland Department of Transportation Maryland Transit Administration's (MDOT MTA) Purple Line is currently under construction and is anticipated to be completed by 2022. When completed, the Purple Line will be 16.2 miles long with service from New Carrollton in Prince George's County to Bethesda in Montgomery County. The Purple Line will include four stations servicing the University of Maryland, one of which will provide a direct connection to WMATA's Green Line and MARC's Camden Line.

Public Survey Results

The City of Hyattsville posted a survey about a potential circulator both on their public-facing website as well as on the City's Speak Up portal. **The survey was available from June 16 through July 25, 2018. In total, 71 responses were received.** The survey included questions about how regularly the respondents currently travel using other transit services as well as preferences about service characteristics of the potential circulator. The full survey results can be found in Appendix B but select response results are described below. Generally, survey respondents support a circulator that operates seven days a week, including mornings and evenings, with a nominal fare. Many of the survey respondents currently commute with one or more existing transit services: 53% use Metrorail, 24% use Metrobus, 44% use TheBus, and 19% use the UMD Shuttle.

Figure 1 shows the destinations respondents want to reach by circulator. Prince George's Plaza station, The Mall at Prince George's, West Hyattsville station, and the Gateway Arts District were the top four destinations. Other destinations (outside of Hyattsville) indicated by respondents include Riverdale Park, Cheverly, Bowie, Wisconsin Avenue, Washington Hospital Center, Georgetown Hospital, Kennedy Center, and DC nightlife.

Figure 1. Public Survey Responses – Preferred Destinations



⁹ The University of Maryland. "The Department of Transportation Services." <https://www.transportation.umd.edu/schedules.html>

Figure 2 indicates how long respondents would be willing to wait for a circulator service. **Approximately 76% of respondents are willing to wait up to 15 minutes, which is generally thought of as “frequent” service.** While about a quarter of respondents are willing to wait longer than 15 minutes, infrequent service is generally known to discourage ridership.

Figure 2. Public Survey Responses – Preferred Wait Times

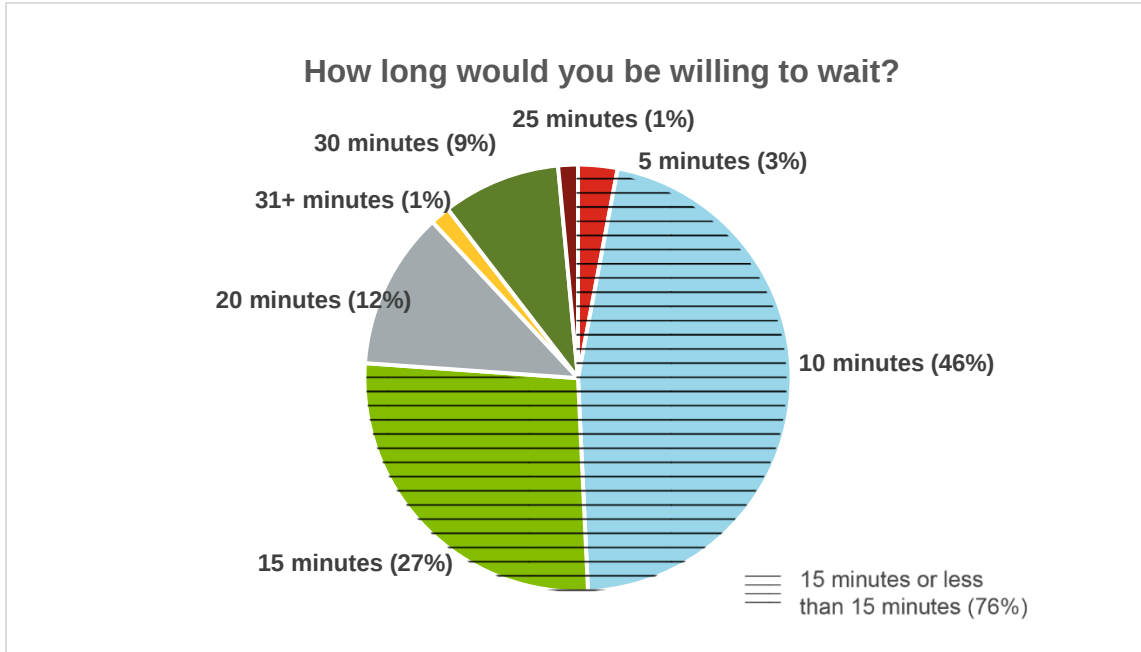
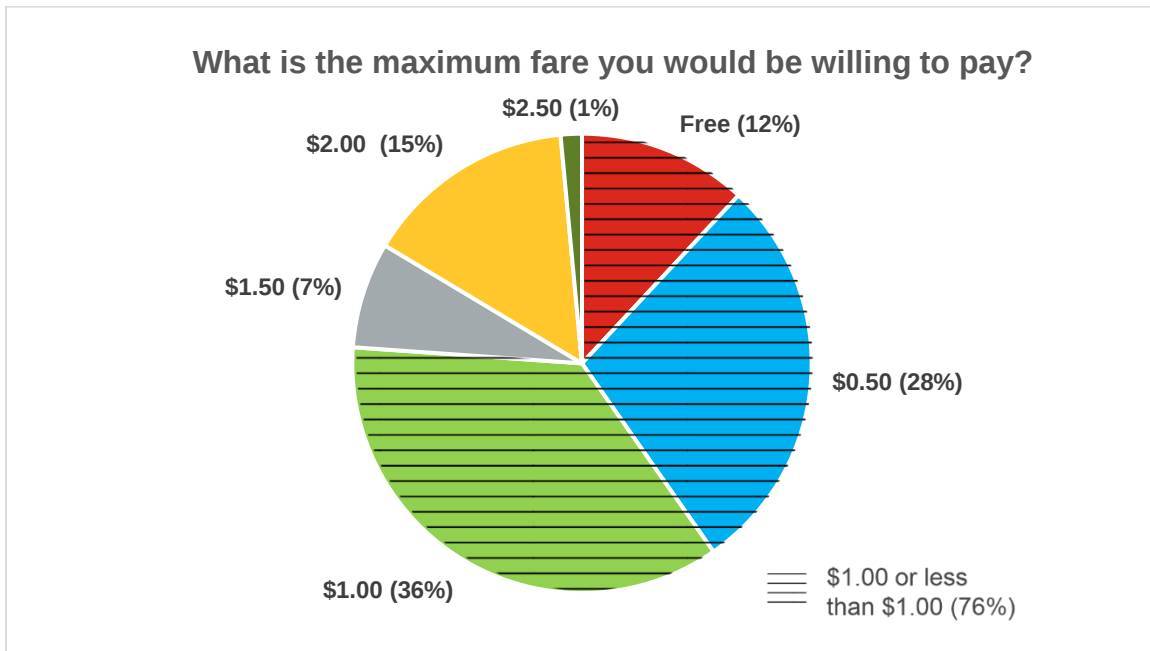


Figure 3 shows the maximum fare respondents would be willing to pay. While 12% of riders are not willing to pay a fare, 28% would be willing to pay \$0.50, with another 36% willing to pay \$1.00. **Approximately 76% of respondents are willing to pay \$1.00 or less.**

Figure 3. Public Survey Responses – Preferred Fares.



When considering the circulator's operational characteristics, the survey results should be referenced. In addition, a target market should be identified and designed for. Any future circulator's target market would likely include residents, employees, and tourists. It is more common for circulators to be geared towards one or two target markets. As such, it will be important to balance the needs of each of these target markets when designing the circulator. For example, Hyattsville today is likely to have more residential and employee demand for a circulator than tourists.

This space is left blank intentionally

Big Data Overview

A big data analysis was conducted as part of this feasibility study in order to inform the route and understand the demand for the circulator. The data was provided by StreetLight Data, a company that creates metrics about traffic volume and trips based on archival cellular location data (e.g. cell phones, tablets, etc.). StreetLight Data's sample includes records from over 62 million devices, or about 23% of the adult population, across the US and Canada. StreetLight Data uses anonymized cell-phone location services to provide information on automobile travel patterns. As part of the *2018 Draft Hyattsville Transportation Study*, Hyattsville was divided into 16 zones based on different land uses in order to frame the data analysis. This big data analysis demonstrates significant automobile trip volume between zones that would be serviced by potential future circulator. The West Hyattsville station is located in Zone 1, Prince George's Plaza station is located in Zone 3, and the Gateway Arts District is located in Zone 13. As such, Zones 1, 3, and 13 were the focus of this analysis.

Origin Maps

The following maps show the destinations of trips originating from each of the numbered zones in grey, ranked from high to low. For example, in Figure 4, the first map on the top-left corner shows the trips that originated in Zone 1 and highlights in red the zone which received the most trips from Zone 1. Key highlights from the origin maps, relevant to the zones that would be serviced by the potential circulator, are included below, organized by the relative volume of trips.

Highest Volume of Trips

- Trips originating in Zone 3, ending in Zone 13
- Trips originating in Zone 13, ending in Zone 3

High-Med Volume of Trips

- None (relevant to the potential circulator)

Low-Med Volume of Trips

- Trips originating in Zone 1, ending in Zone 3
- Trips originating in Zone 3, ending in Zone 1

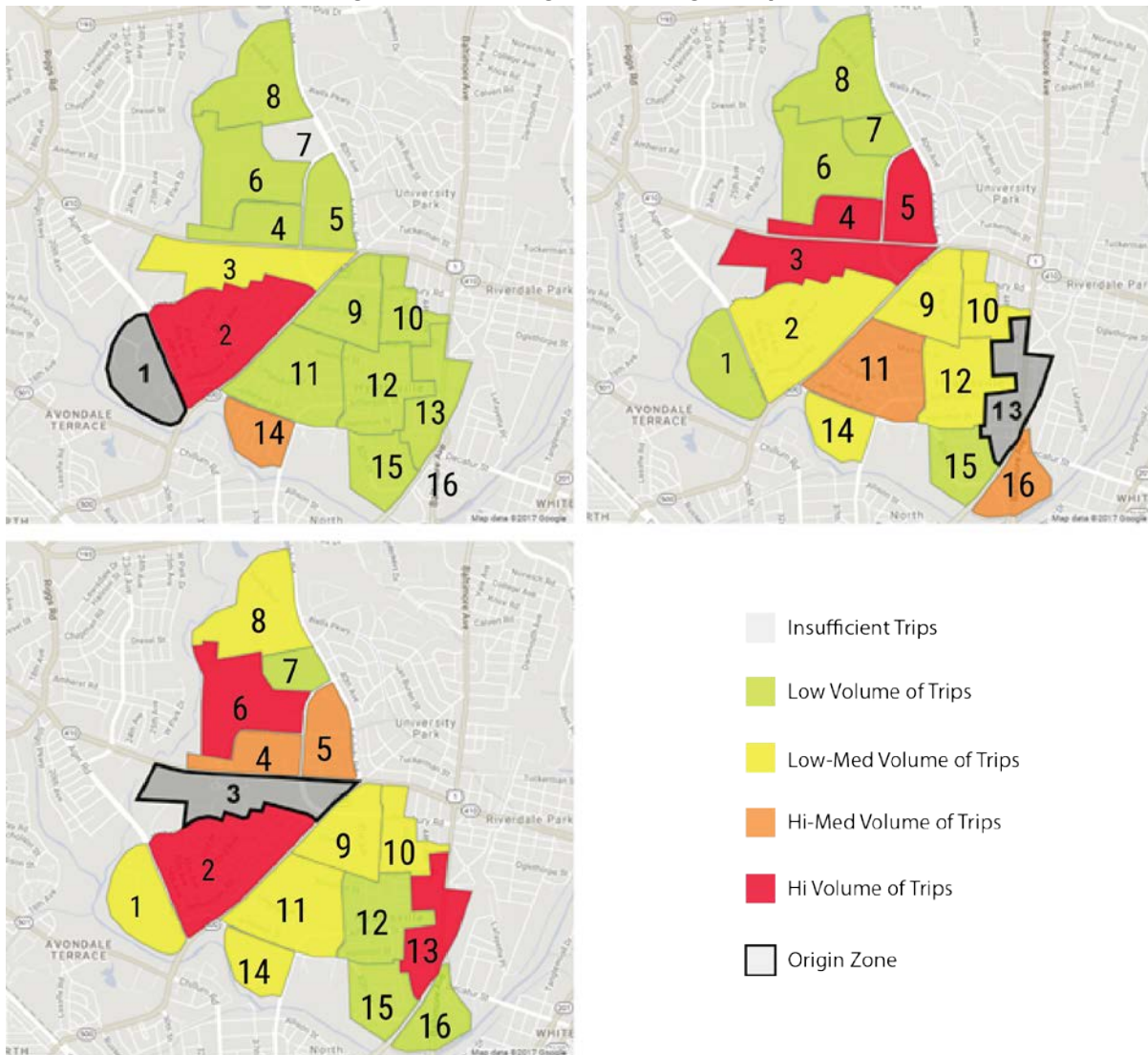
Lowest Volume of Trips

- Trips originating in Zone 1, ending in Zone 13
- Trips originating in Zone 13, ending in Zone 1

Some of these automobile trips could potentially be replaced by transit trips if a frequent, reliable, and convenient option were available. For a detailed breakdown of the origin rate in percent for each zone, refer to Appendix C.

This space is left blank intentionally

Figure 4 – Streetlight Data Origin Maps



Destination Maps

The following maps show the origins of trips that reach each of the numbered zones, ranked from high to low. For example, the top-left map of Figure 5 shows the trips that end in Zone 1 and highlights in red, the zones with the highest origin rate of trips ending in Zone 1. Key highlights from the origin maps, relevant to the zones that would be serviced by the potential circulator, are included below, organized by the relative volume of trips.

Highest Volume of Trips

- Trips ending in Zone 13, originating in Zone 3.

High-Med Volume of Trips

- Trips ending in Zone 1, originating in Zone 3.
- Trips ending in Zone 3, originating in Zone 13.

Low-Med Volume of Trips

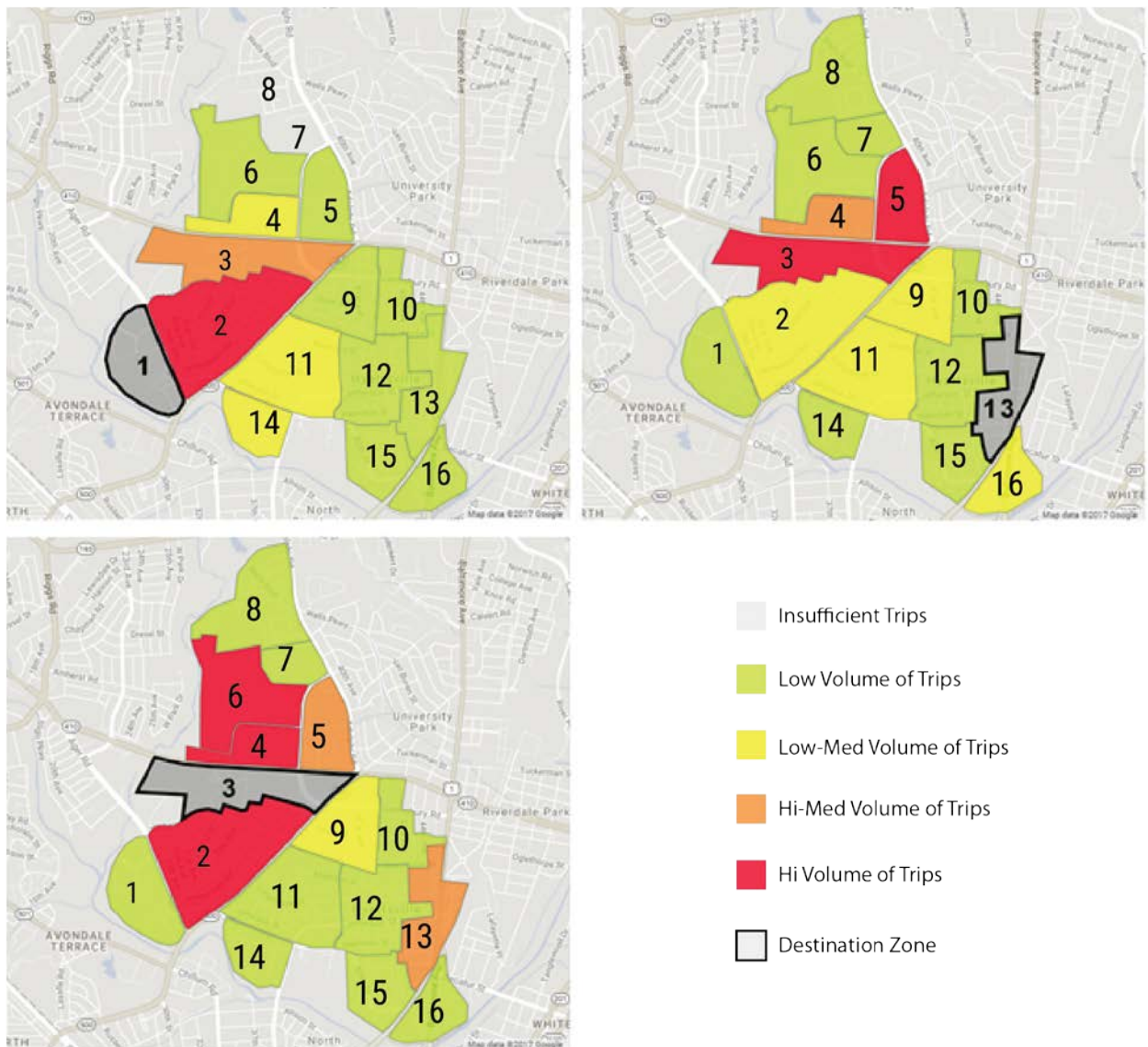
- None (relevant to the potential circulator)

Lowest Volume of Trips

- Trips ending in Zone 3, originating in Zone 1.
- Trips ending in Zone 13, originating in Zone 1.

Similar to the origin maps, the destination maps demonstrate significant automobile trip volume between the zones that would be serviced by future circulator, that have the potential to be replaced if a convenient transit option were available.

Figure 5 – Streetlight Data Destination Maps



A review of the origin and destination traffic patterns between the zones that would be serviced by the transit circulator indicates that there is a moderate demand for travel between the West Hyattsville station and Prince George's Plaza station, and a fairly high demand for travel between the Gateway Arts District and Prince George's Plaza. There is some demand for travel between the Gateway Arts District and the West Hyattsville station, though not as significant as demand between other key destinations. Because these areas are less than 1.5 miles apart, there is the potential for a portion of these trips to be replaced by transit trips if a convenient and efficient service was available, as long as funding is available to provide such a service.

Peer System Review

As part of the research for this report, interviews were conducted with three comparable cities that have existing circulators. The information collected on these peer systems provided an understanding of typical system characteristics including operating hours, service frequency, ridership, fares, financial and ownership models, as well as the successes and challenges faced by each community. The peer communities studied include Bethesda, MD, Baltimore, MD, and Alexandria, VA. **Each of these circulator services are operated as fare-free (no cost) services, with headways ranging from 10 to 15 minutes.** Two of the three circulators studied contract the ownership and operation of the circulator service to private operators, while one circulator is publicly owned. While some elements of these communities are comparable to Hyattsville, none are identical to the City. Each circulator system is designed to fulfill a unique purpose and will therefore have special circumstances meriting diverse design or service characteristics. Profiles of each community are included below.

Bethesda Circulator Profile

Overview

- Number of Routes: 1
- Number of Buses: 3
- Number of Stops: 20
- Service Length: 2.1 miles
- Operating Hours: 7:00 am – 11:00 pm (Mon-Thurs); 7:00 am – 12:00 am (Fri); 10:00 am – 12:00 am (Sat)
- Headways: 10 minutes
- Fares: Free
- Monthly Ridership: 35,000

Ownership Model

- Ownership Model: The Bethesda Urban Partnership oversees the Bethesda Circulator and has contracted out the ownership, maintenance, and operation of the service to private operators.
- Financing Model: Contractor is paid an hourly rate (\$73.74) for 9,880 hours annually with a maximum annual amount of \$728,551. The existing contract runs from July 1, 2014 through June 30, 2020.
- Funding Source: County Mass Transit Dollars
- Capital Costs (to Bethesda/Montgomery County): None. Capital costs are incurred by contractor.
- Operating Costs (to Bethesda/Montgomery County): None. Operating costs are incurred by contractor.

Successes and Challenges

- Contractor Recommendations: The Bethesda Urban Partnership has had success hiring a local transportation company (RMA Worldwide Chauffeured Transportation Services) to operate the service as it provides high level of maintenance, customer service, and driver excellence.
- Vehicle Recommendations: The Bethesda Circulator previously operated with trolleys which did not withstand the harsh conditions of the service. Low floor transit buses are recommended over specialty vehicles like trolleys.
- Short Headways: Headways must remain between 10-15 minutes for the service to remain attractive.

King Street Trolley (Alexandria, VA) Profile

Overview

- Number of Routes: 1
- Number of Buses: 6
- Number of Stops: 18
- Service length: 2.7 miles
- Operating Hours: 11:00 am – 10:30 pm (Sun-Wed); 10:30 am – 12:00 am (Thurs-Sat)
- Headways: 10 minutes
- Fares: Free
- Monthly Ridership:
 - o 2016 Average – 74,119
 - o 2017 Average – 75,615
 - o 2018 (Jan – July) Average – 69,345

Ownership Model

- Ownership Model: Public. The King Street Trolley is run by the Alexandria Transit Company (ATC), a City-owned and independently run non-profit public service corporation which has an independent board of directors including City residents and employees nominated by the Alexandria City Council. ATC also runs the city's DASH bus system and stores and operates the King Street Trolley as if it were an extension of the DASH system. ATC also handles the procurement of the trolleys.
- Funding Source: General Lodging Tax (\$1 per room per night) and general fund
 - o FY 17 (Actual): \$756,583
 - o FY 18: \$952,938
 - o FY 19: \$958,936
- Capital Costs: The City of Alexandria covers capital costs through the CIP and owns the trolleys.
- Operating Costs: The City of Alexandria covers most operating costs.

Successes and Challenges

- Trolley Origins: The Trolley was originally envisioned to encourage tourism and prevent a loss of tourism to the newly developed National Harbor. The trolley connects the King Street Metro with the King Street Corridor, Old Town Alexandria, and a Potomac Water Taxi station. The water taxi connects Alexandria and National Harbor and was originally promoted as a "Free River-to-Rail Service."
- Service Provider Issues: From 2008 – 2012, the King Street Trolley was operated through a City-awarded contract with Martz Gold Line who owned the trolleys. The ridership on the route was lower than expected due to less than advertised service headways. When this contract ended, the City switched to the current model. As a result of this switch, ridership increased by 50% and service headways were reduced from 15 minutes to 10 minutes.
- Budget Cuts and Service Cuts: The budget for ATC and the King Street Trolley have been reduced in recent years resulting in service cuts. The service originally began at 10:00 am on weekdays, was changed to 10:30 am (July 2017), and now operates beginning at 11:00 am.
- Vehicle Recommendations: ATC recommends low floor vehicles with two doors on all vehicles. The current low floor trolleys helped to improve the service over the originally trolleys and two doors would help to reduce the amount of time spent loading and unloading.

Charm City Circulator (Baltimore, MD) Profile

Overview

- Number of Routes: 4
- Number of Buses: 24
- Operating Hours: 7:00 am – 8:00 pm (Mon-Thurs); 7:00 am – 12:00 am (Fri); 9:00 am – 12:00 am (Sat); 9:00 am – 8:00 pm (Sun)
- Headways: 10-15 minutes
- Fares: Free
- Monthly Ridership (June 2014):
 - o Orange Route – 109,447
 - o Purple Route – 146,695
 - o Green Route – 55,864
 - o Banner Route – 28,305¹⁰

Ownership Model

- Ownership Model: City of Baltimore Department of Transportation Transit Bureau oversees the Charm City Circulator and has contracted out the ownership, maintenance, and operation of the service to Transdev. Note that the City has recently awarded a contract to RMA Worldwide Chauffeured Transportation Services (operator of Bethesda Circulator) following a contract dispute with the previous vendor.
- Financing Model: The contractor is paid an hourly rate and has a seven-year contract (5+1+1). The new RFP anticipates 97,000 revenue hours per year.
- Funding Source: City Parking Tax; General Funds; FTA Funds
- Capital Costs: None (for the City). Capital costs are incurred by contractor. The new RFP includes an option for the operator to use 12 City of Baltimore buses as part of the plan.
- Operating Costs: None (for the City). Operating costs are incurred by contractor.

Successes and Challenges

- Operate on Headways, Not Schedule: Instead of setting a schedule and trying to stick to it, maintain headways of 10 minutes or less. This way people can expect the service to come quickly.
- Increase Term, Decrease Price: Increasing the term of the contract reduces risk for the contractor and thus reduces the overall costs for the City of Baltimore.
- Federal Purchasing Requirements: Federal requirements for the purchase of buses using FTA funds can be quite burdensome. If the contractor is required to own, operate, and maintain the buses then this requirement can be avoided.
- Revenue Hours and Scope Creep: Be sure to clearly define what a revenue hour is otherwise invoicing may include other non-revenue hours. Clearly define what the operator is responsible for and can bill for to avoid scope creep.
- Dedicated Funding Source: It is recommended that a dedicated funding source be identified to reduce uncertainty about the services future.

The experience of transit circulator operation in these communities can inform operational decisions for any future Hyattsville circulator. These profiles also informed the ridership estimates included in this report.

¹⁰ Charm City Circulator. "Month of June 2014 Ridership Stats." <https://www.charmcitycirculator.com/news/2014/jul/month-june-2014-ridership-stats>

Takeaways from Transit Cooperative Research Program's Synthesis of Downtown Circulators

Transit Cooperative Research Program's 2011 publication, *Practices in the Development and Deployment of Downtown Circulators* ("TCRP Study"), synthesizes the state of practice of downtown circulators across the country. As part of this study, 78 agencies across the United States completed surveys about the successes, benefits and drawbacks, desired changes, and lessons learned from operating downtown circulators. Of the respondents, most were transit agencies, with only three city departments of transportation responsible for the circulator's operation, and one association affiliated with a business improvement district. The major findings of the study are summarized below:

- The importance of a stable funding source. Operating funding was a major constraint faced by many survey respondents.
- Branding as a key tool to establish identity, especially if tourists and visitors are a target market.
- Simple routes, frequent service, no fares, and clockface headways are most attractive to riders.
- The most common target markets are employees and tourists.
- Partnerships are critical to build political support.
- Size impacts ridership. Of 13 agencies with service area populations below 500,000, only two reported a daily ridership as high as 1,000. Both of these circulators cater to tourists (one is a ski resort operating only during the winter).
- Circulators will not bring visitors to a downtown area that is already struggling.
- Flexibility is key, and many circulator routes have changed over time to adapt to changes in the downtown area.
- Maintenance costs and other issues are often overlooked when selecting vehicles.
- Circulators geared towards tourists had the highest median ridership.¹¹

The study also included a literature review which included a summary of conclusions reach in a 2005 study by Perk et. al. A few of these conclusions are summarized below:

- Successful circulators are associated with frequency, reliability, good connections with other transit modes, and relatively high population and/or employment density.
- Simple routing and ample signage are important for the typical circulator rider who is often unfamiliar with transit.
- Free or low fares encourage ridership.
- Circulator identity is important, and each circulator should be designed to meet the purpose it is serving. For example, downtown employees are not interested in touring local attractions.¹²

Many of these takeaways are germane to any future circulator in Hyattsville and should be strongly considered as planning continues. In particular, the importance of stable funding, the power of branding and partnerships, and the importance of operational characteristics that are attractive to riders should be considered. Proper system development can ensure that the circulator meets the needs of its target market and remains well-used over time.

¹¹ National Academies of Sciences, Engineering, and Medicine. 2011. *Practices in the Development and Deployment of Downtown Circulators*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/14499>.

¹² Perk, V., M. Catalla, J. Volinski, J. Flynn, and M. Chavarriaet, *Strategies for an Intra-Urban Circulator System*, Florida Department of Transportation/National Center for Transit Research, Tallahassee, Nov. 2005.

ROUTING PLAN

Routing and Operation Plan

In order to identify a route that would service areas of Hyattsville that need it most, a Transit Needs Index was created. This analysis identified the activity centers, other destinations, and demographic factors that would be conducive to circulator service. The Transit Needs Index was developed using demographic, transit, and attractions data, which were weighted according to the factors shown in Table 1 and combined. The resulting Transit Needs Index is shown in Figure 6.

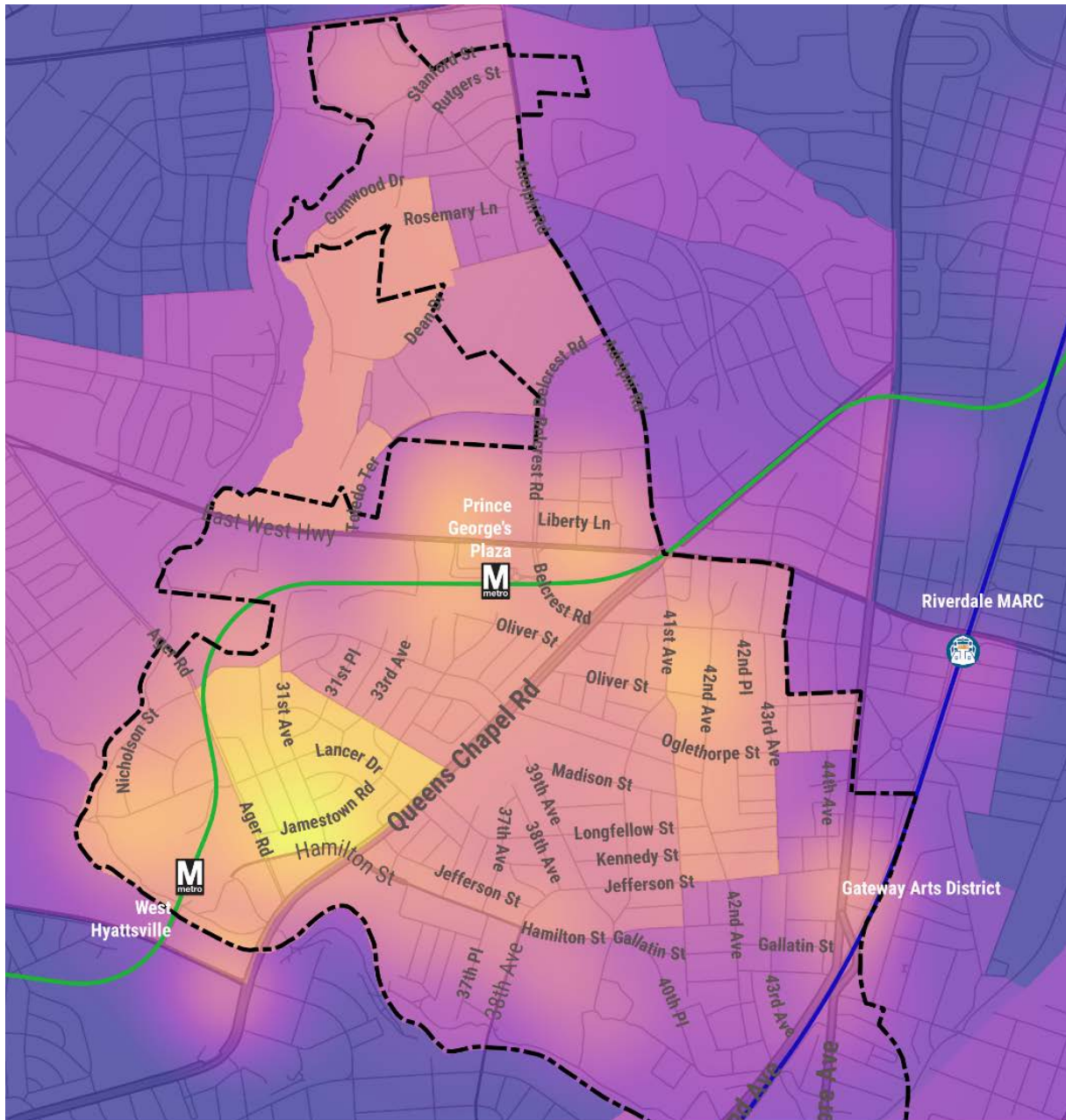
Table 1 – Transit Needs Index Inputs

Input	Data Source	Distance (Miles)/ Geography	Factor
Population Density	2016 American Communities Survey	Census Block Group	20%
Employment Density	2015 LEHD Workplace Area Characteristics	0.5	20%
Transit	-	-	25%
Metrorail Station Proximity	Map data	0.5	
Transit Mode Share	2016 American Communities Survey	Census Block Group	
Attractions	Local knowledge	0.25	25%
Equity	-	-	10%
Low-Income Households	2016 American Communities Survey	Census Tract	
Zero-Car Households	2016 American Communities Survey	Census Tract	
Total			100%

Based on the route proposed by Hyattsville residents (shown as the dashed red line in Figure 7), conversations with the City, the Transit Needs Index, and local knowledge, two potential circulator route options were considered. Both the route options are anticipated to provide a two-way service due to the large service area that the routes have to cover. As opposed to one-way service, which entails circulation along a loop in one direction, two-way service offers circulation in both directions at the same time. The downside of one-way service is that the trips to- and from- a traveler's origin and destination are likely to have different lengths, with one trip significantly longer than the other. For example, if someone was travelling from the southern portion of the Gateway Arts District to the northern portion of the district and back, one of these trips would be fairly direct, while the other would be very lengthy and indirect. Due to this inconvenience of one-way service, a two-way service is recommended.

Overall, the two potential routes considered in this report better reflect the needs identified in the Transit Needs Index than the original route proposed by citizens. Both routes differ from the route proposed by Hyattsville residents in that they include an additional circuit continuing on Belcrest Road, Toledo Road, and Adelphi Road to capture the demand in the Mall at Prince George's that was highlighted in the Transit Needs Index. Both routes have also been changed to travel from the Gateway Arts District to the West Hyattsville Metrorail station via Gallatin Street and Hamilton Street (Farragut Street and Gallatin Street for counter clockwise travel) instead of 40th Place. This would allow closer access to City Hall and Prince George's County Court Building, which are key destinations. In addition, both routes have been updated to travel through the Queens Chapel Manor neighborhood to varying degrees. Access to Queens Chapel Manor neighborhood is important because of its high rank on the Transit Needs Index due to its relatively high population density. Option 1 (shown as the blue line in Figure 7) is directed on Lancer Drive and Jamestown Road (Jamestown Road and Nicholson Street for counter clockwise travel). Option 2 (shown as the yellow line in Figure 7) fully circumnavigates the neighborhood on Ager Road and Nicholson Road, which provides access to additional high-density areas and destinations including Heurich Park, Edward M. Felegy Elementary and Nicholas Orem Middle School.

Figure 6 – Transit Needs Index



0

1 / 2 mile



Transit Needs Index

Low Need

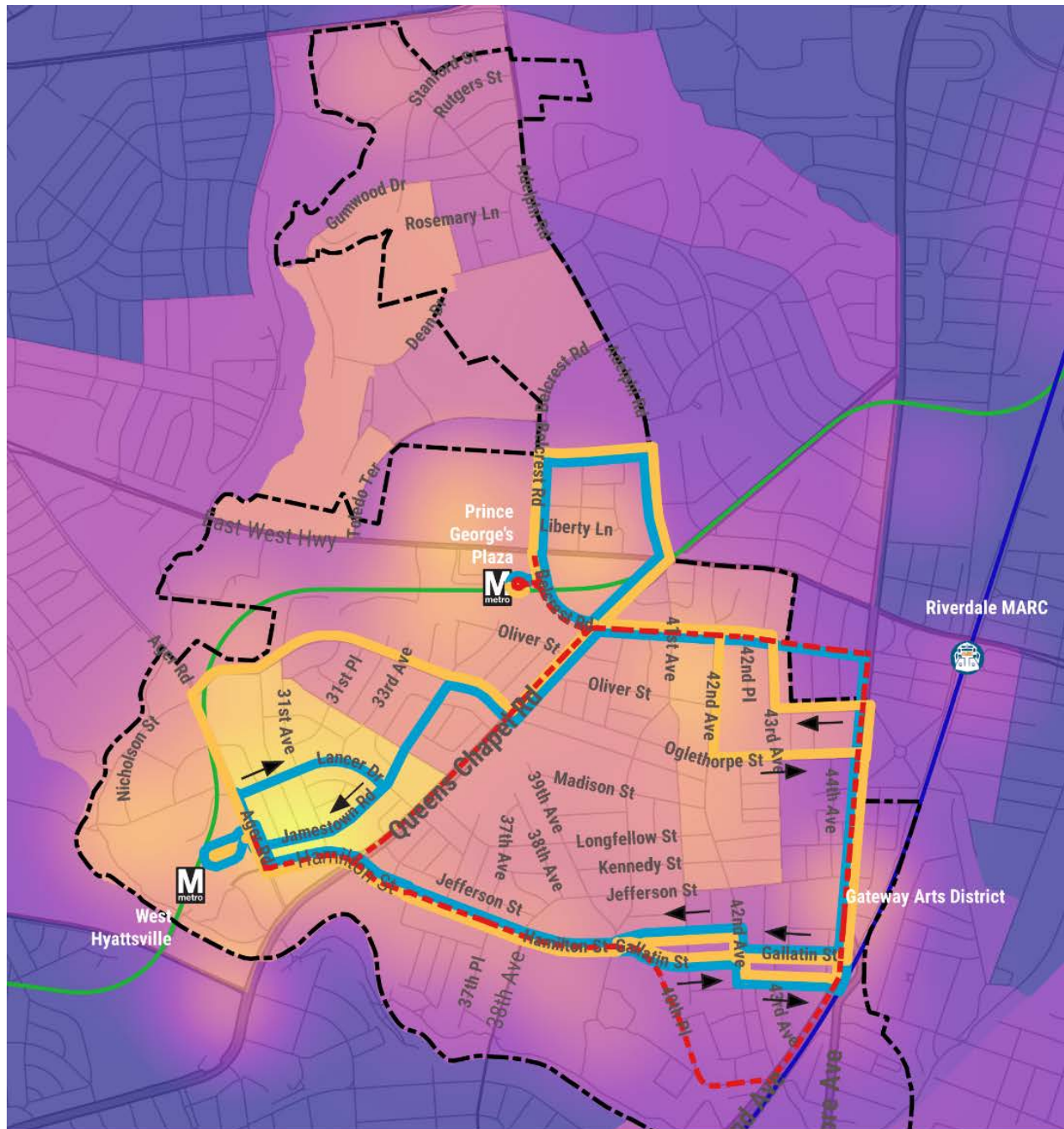
Medium Need

High Need

MARC Train Camden Line

WMATA Green Line

Figure 7 – Potential Route Options



0 1 / 2 mile



- Route Option 1
- Route Option 2
- - - Citizen Proposed Route
- MARC Train Camden Line
- WMATA Green Line

Transit Needs Index

- Low Need
- Medium Need
- High Need

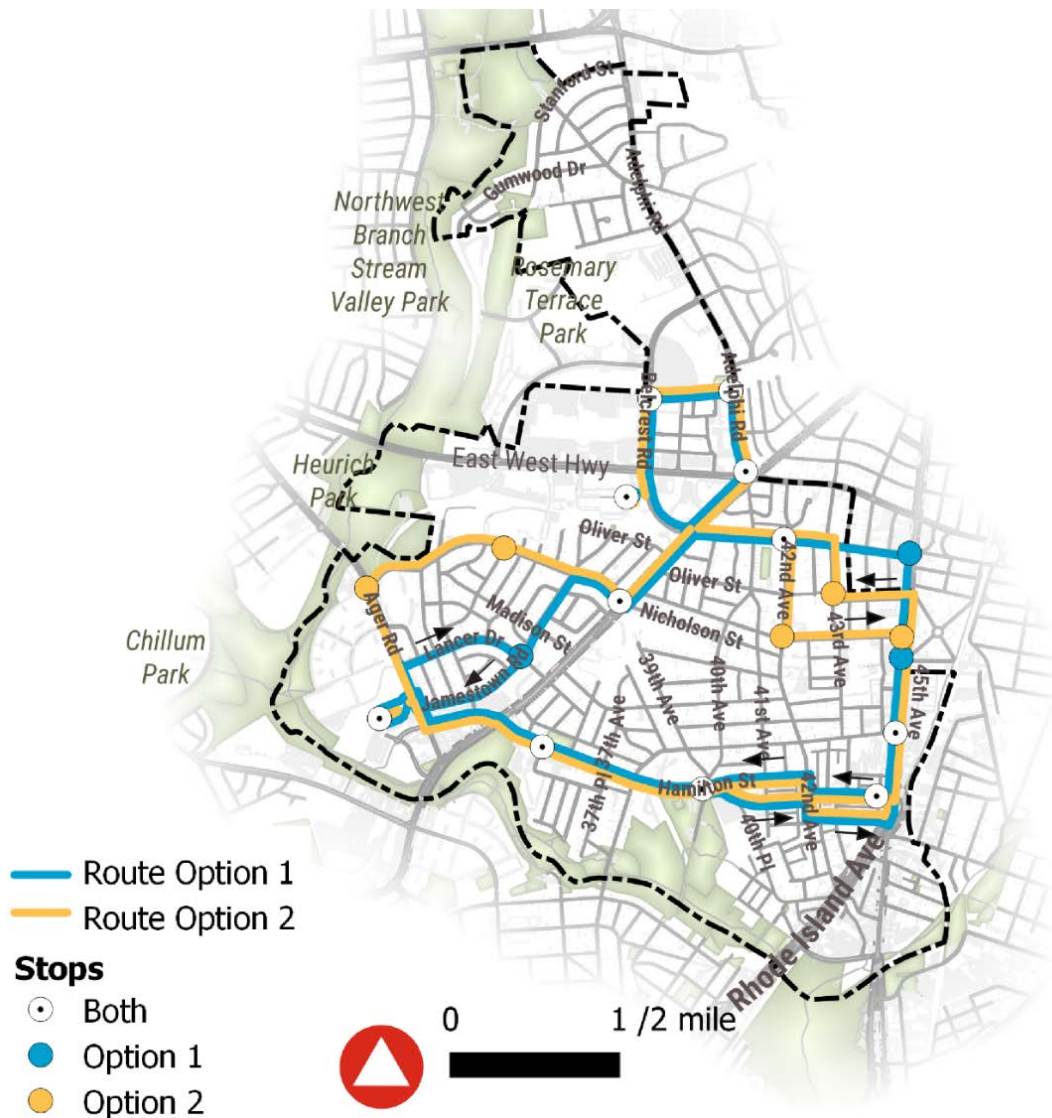
Route Option 2 also differs from Route Option 1 in that it diverts from Queensbury south onto 42nd Street, connecting to Baltimore Avenue on Oglethorpe Street. While this option allows better access to the area near Hyattsville Middle School, which ranks highly on the Transit Needs Index due to attractions and employment density, this provides less direct access to the Riverdale MARC station. Instead of the 0.25-mile walk to the MARC station offered by Option 1, Option 2 would require a 0.5-mile walk to the station. The City will need to determine which of these routing tradeoffs is preferable.

Recommended major stops are shown in Table 2 and Figure 8. The major stops were also informed by the Transit Needs Index. Additional stops may be added based on community input and other key destinations. Unless servicing a key destination or addressing a particular need, any additional stops should be spaced at least ¼ mile apart. This distance ensures that stops are within a reasonable walking distance from each other along the route.

Table 2 – Potential Major Stops

Stop Location	Justification	Route
Baltimore Ave and Jefferson St	Gateway Arts District	Option 1 and 2
Gallatin St and Church Pl	City Hall and Prince George's District Court	Option 1 and 2
Hamilton St and 39th Ave	Magruder Park	Option 1 and 2
Hamilton St and 35th Pl	Hyatt Park and Police Department Headquarters	Option 1 and 2
West Hyattsville Station	Metrorail connection	Option 1 and 2
Jamestown Rd and Lancer Dr	Residential density	Option 1
Queens Chapel Rd and Nicholson St	Major street connection	Option 1 and 2
Prince George's Plaza Station	Metrorail connection	Option 1 and 2
Belcrest Rd and Toledo Rd	The Mall at Prince George's	Option 1 and 2
Belcrest Rd and Adelphi Rd	Prince George's Plaza Community Center and other destinations	Option 1 and 2
Adelphi Rd and East West Hwy	University Town Center and other destinations	Option 1 and 2
Queensbury Rd and 42nd Ave	High employment and population density, destinations	Option 1 and 2
Queensbury Rd and Baltimore Ave	Transit connection	Option 1
Baltimore Ave and Madison St	Gateway Arts District	Option 1
42nd Ave and Oglethorpe Ave	High employment and population density, destinations	Option 2 (Clockwise)
43rd Ave and Oliver St	High employment and population density, destinations	Option 2 (Counter Clockwise)
Oglethorpe St and Baltimore Ave	Gateway Arts District, DeMatha Catholic High School	Option 2
Ager Rd and Nicholson St	Heurick Park, high population density	Option 2
Nicholson St and 31st Pl	Edward M. Felegy Elementary and Nicholas Orem Middle Schoc	Option 2

Figure 8 – Potential Bus Stops



Ridership Scenarios

It is estimated that the ridership for a future transit circulator would be between 12,000 and 38,000 riders each month. The low-end of this estimate is based on the median ridership of circulators operating in cities with service area populations under 500,000, provided in the TCRP Study. The high-end of this estimate is based on current ridership and demographic characteristics of five comparable circulator services, including Bethesda's circulator, Alexandria's King Street Trolley, and three routes of Baltimore's Charm City Trolley.

For each circulator, the population density and employment density within one-quarter mile of each route was plotted against ridership. A trendline was fitted to these results, as shown in Figures 9 and 10, and Hyattsville's population density and employment density within $\frac{1}{4}$ mile of the potential route (Option 1) were used to create two ridership estimates—one based off of population density and one based off of employment density. The higher of these two estimates is included here as the high-end estimate. These are estimates only, and actual ridership will vary seasonally and based on the service characteristics of the circulator as well as branding and outreach efforts.

Figure 9 – Employment Density Ridership Trendline Estimate

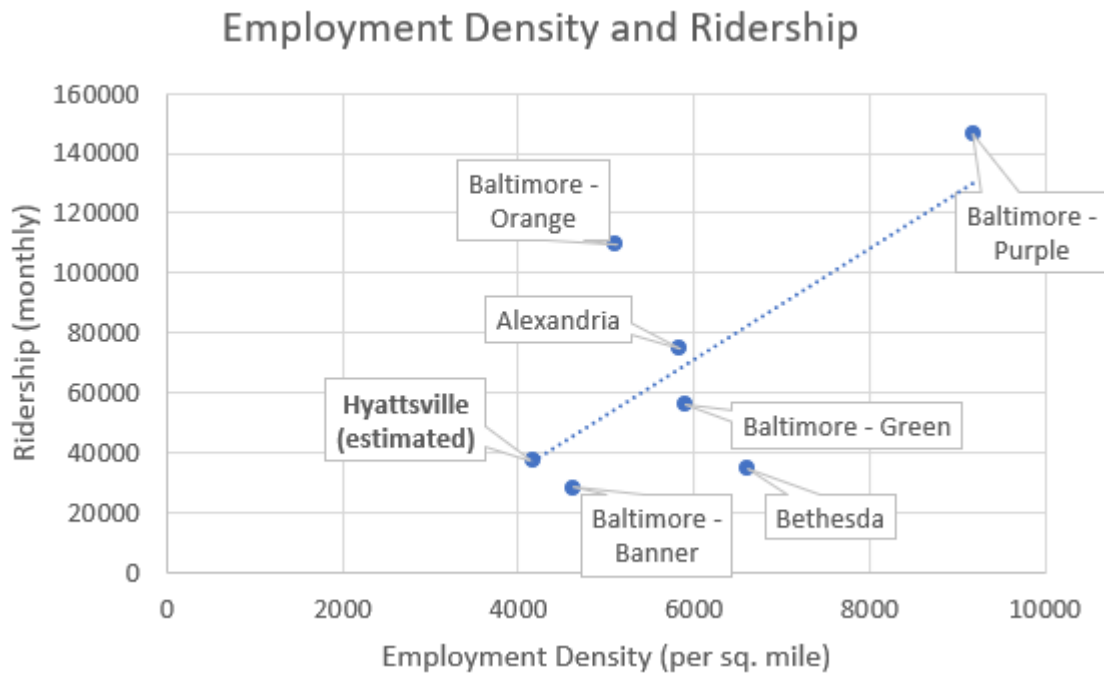
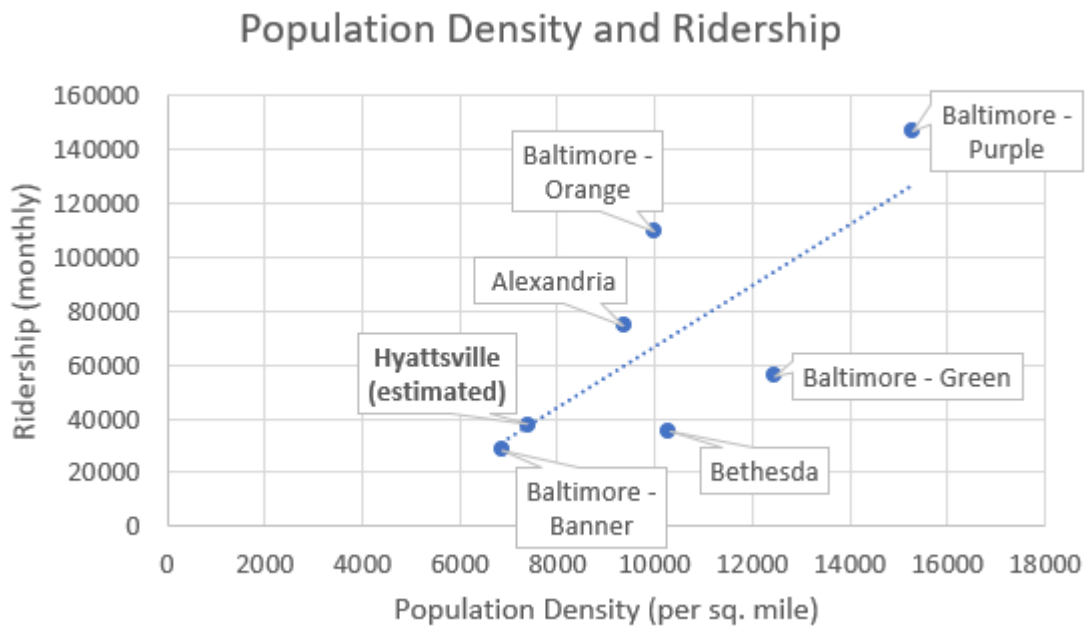


Figure 10 – Population Density Ridership Trendline Estimate



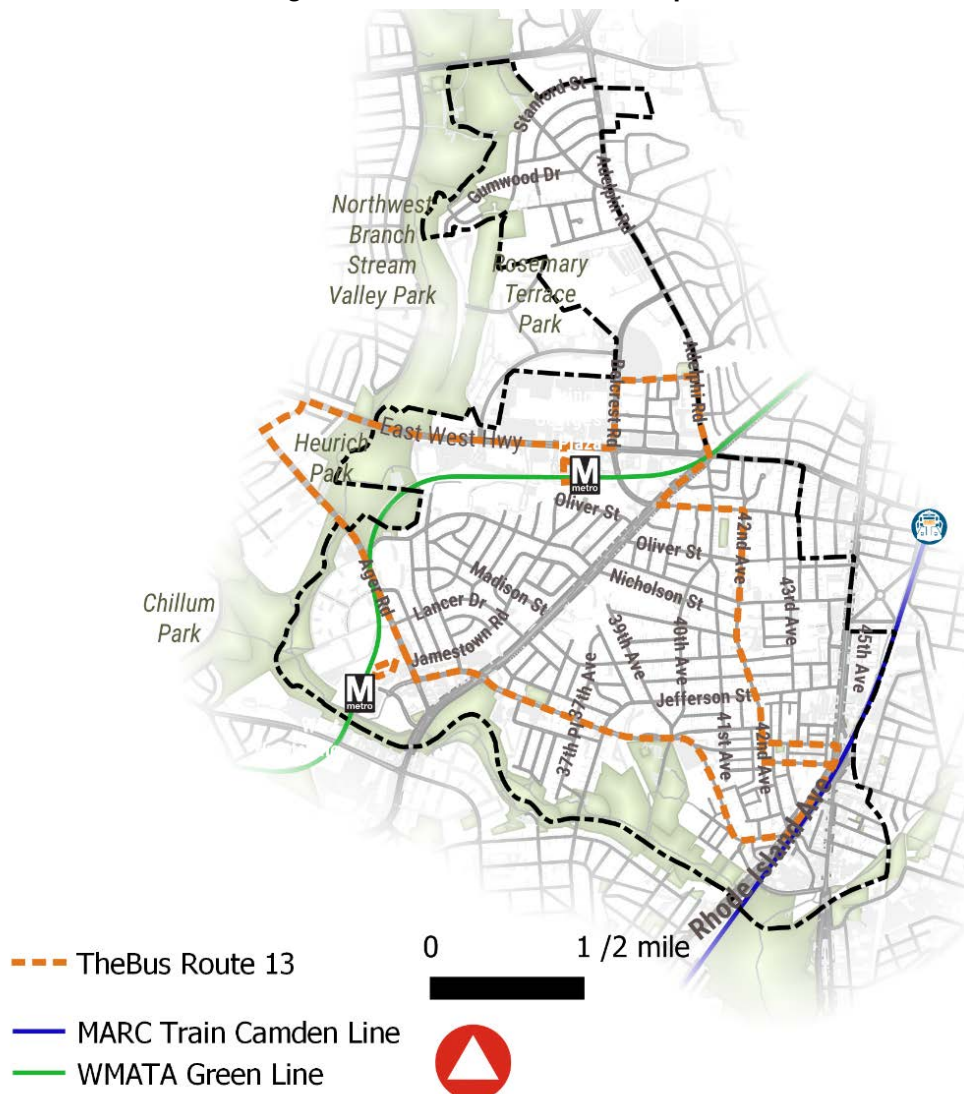
BUSINESS PROFORMA AND FINANCIAL ANALYSIS

Operational Models

There are three models available for owning and operating the circulator: municipal ownership, transit agency partnership, and private contracting. The municipal model would entail the City of Hyattsville owning and operating the circulator. Generally, cities without a history of operating a transit system do not choose this option. Because the City does not currently own, operate, or oversee transit services, this model is not recommended due to the sizeable costs and the complexity associated with setting up the infrastructure that would be required to operate a transit system.

A second option is to partner with Prince George's County DPW&T and form a partnership to improve the existing TheBus Route 13 to match the needs of the City. The existing route that Route 13 takes is included below (Figure 11).

Figure 11 – TheBus Route 13 Map



With contribution of City funds, this route could potentially be expanded to become a more viable transit connection for the Gateway Arts District. Transformation of this two-way route into a convenient transit connection would entail reducing headways from the current 40 minutes to no more than 15 minutes and adding weekend service. In addition, to meet the goals of the future circulator, the route that the existing TheBus Route 13 travels will likely need to be updated. Within Hyattsville, the portion of the route that travels along 42nd Avenue would need to be partially or wholly re-routed to Baltimore Avenue. Currently, the route travels outside of Hyattsville to the northwest. To best serve Hyattsville residents and reduce route length, this would need to be re-routed to travel within Hyattsville through the Queens Chapel Manor neighborhood. This potential re-routing would need to be negotiated with the County and will require a discussion about the priorities of Route 13 and who it is intended to serve. The costs would be based on conversation and negotiation with Prince George's County. When conducting this study, Prince George's County DPW&T provided general cost of operating the transit service, which is described in detail below. If Prince George's County is amenable to working with the City, and the City and County can come to agreeable terms, this operational model is preferred.

The third option would be to contract out the ownership, maintenance, and operation of service to a private firm with experience operating similar transit service in the region. This model is used both in Bethesda and Baltimore. For reference, the request for proposal that was issued for the operation of Bethesda's circulator is included here as Appendix D. A cost estimate for the private model is included below.

Costs

Approximate cost estimates reflecting a County owned, maintained, and operated system as well as a privately owned, maintained, and operated service are included below. Both the County-operated and privately-operated cost estimates are based on the operator provided hourly operational costs multiplied by the service hours that would be needed to accommodate different headways and hours of operation.

The cost estimates for the privately-owned and operated system are based on an hourly operating cost provided by one of the private operators currently working in the region. The hourly rate varies between \$55/hour to \$75/hour depending on vehicle type.¹³ The Bethesda Circulator originally utilized specialty trolley vehicles, which did not hold up well over time. Several agencies in the TCRP study also noted that specialty trolleys were much more expensive to maintain. The Bethesda Urban Partnership recommends low-floor transit buses and currently uses the El Dorado vehicle, which is a relatively low-cost bus that provides low-floor capabilities. Similarly, Alexandria recommended low-floor vehicles with two doors, noting that these vehicles improved service over the original trolleys and two doors help reduce dwell time at stops.

The cost estimates for the County owned and operated system are based on an hourly operational cost of \$97.96/hour provided Prince George's County Department of Public Works and Transportation (DPW&T).¹⁴

Assuming the route operates with 14 stops, a travel time of 27 minutes (based on Google Maps) with a dwell time of 12.5 seconds per stop, and a 15% layover time at each terminal, the total cycle time is estimated to be just over 34 minutes.¹⁵ The cycle time was used to determine the number of vehicles required to meet the specified headways.

The tables below include cost estimates for the annual costs needed for County and private operation of the circulator. The costs are presented based on different service characteristics. The estimates for the privately-

¹³ The hourly cost estimates can be used to consider the costs of additional vehicles or service hours.

¹⁴ The cost estimates for a County-operated system are based on the assumption that this service would travel along Route Option 1, identified on page 19, not along the current route of TheBus Route 13.

¹⁵ These estimates are derived from Route Option 1 presented in this report.

operated system are provided in a range which will vary based on the type of vehicle selected, ranging from smaller shuttles up to a low floor transit bus. While the estimates are derived from rounded operating hours, these were based on two proposed operating schedules, as follows:

- The **Extended** hours of operation option is based on service hours from 7:00 am – 11:00 pm (Mon-Thurs); 7:00 am – 12:00 am (Fri); and 10:00 am – 12:00 am (Sat-Sun).
- The **Limited** hours of operation is based on service hours from 7:00 am – 10:00 pm (Mon-Thurs); 7:00 am – 11:00 pm (Fri); 10:00 am – 11:00 pm (Sat), with no service on Sundays.

Table 3: Annual Total Cost Comparison of a One-way Service

Hours of Operation	Operator	10 Minute Headways (4 vehicles)	15 Minute Headways (3 vehicles)
Extended	County	\$2,155,120 ^a	\$1,665,320 ^b
	Private	\$1,210,000 - \$1,650,000 ^a	\$935,000 - \$1,275,000 ^b
Limited	County	\$1,736,280 ^c	\$1,273,480 ^d
	Private	\$990,000 - \$1,350,000 ^c	\$715,000 - \$975,000 ^d

^a22,000 hours of service

^b17,000 hours of service

^c18,000 hours of service

^d13,000 hours of service

Table 4: Annual Total Cost Comparison of a Two-way Service

Hours of Operation	Operator	10 Minute Headways (8 vehicles)	15 Minute Headways (6 vehicles)
Extended	County	\$4,310,240 ^e	\$3,330,640 ^f
	Private	\$2,420,000 - \$3,300,000 ^e	\$1,870,000 - \$2,550,000
Limited	County	\$3,526,560 ^g	\$2,546,960 ^h
	Private	\$1,980,000 - \$2,700,000	\$1,430,000 - \$1,950,000

^e44,000 hours of service

^f34,000 hours of service

^g36,000 hours of service

^h26,000 hours of service

As shown in the table above, generally, a County-operated system is anticipated to be more expensive than a privately-operated system, mainly due it's to the higher cost per revenue-hour. However, based on the information provided by the County, DPW&T is currently spending approximately \$661,000 annually to operate Route 13. As a County-operated circulator would likely replace Route 13, the current operating cost of the route could potentially be considered as the County's contribution to a County-operated bus circulator system around Hyattsville. In this scenario, the City would conceivably be responsible for the balance of the annual cost. If such an agreement can be reached with the County, the County-operated system could be more cost effective than a privately-operated bus circulator system.

It should also be noted that a privately-operated circulator would have additional costs that fall outside of the scope of the estimates outlined above. These additional costs include installation and maintenance of signs and other stop amenities as well as the one-time costs associated with developing a logo and marketing materials, which will vary based on the reach of this campaign. The City may choose to develop marketing materials in-house or could seek in-kind donations or advertising to support marketing efforts.

Funding Sources

Various funding sources are available to offset costs and it is likely that a mixture of several sources will ultimately be necessary to fund a circulator. Potential funding sources are included below.

City Funds

A key funding source will come from any available City funds, which may include General Fund revenue, parking revenue, or other tax revenue.

State Funding

MDOT MTA issues a Statewide Transit Innovation Grant to support local transit efforts. The grant program is intended to support local transit initiatives that will improve transit reliability, improve access and connections to activity centers, and improve transit mobility options. \$2 million in state funds are available for FY 2019 and 2020 with a required local match.¹⁶

Fares

Based on best practices identified in the peer city interviews and TCRP study, a free fare is recommended. That said, the public survey responses indicate some willingness to pay a fare, as described in the Public Survey section of this report. Based on a 20 percent collection cost and the ridership estimates in this report, estimated monthly revenues from fare collection are included in the table below for varying levels of fares. **While this would offset costs, it would not be a major revenue source, and would make the circulator service less attractive to riders.** If fares are required, the City will need to consider payment options, which may include a cash only option or compatibility with SmarTrip cards (which could potentially increase startup costs).

Table 5: Fare Revenue Estimates

Fare	Low Ridership	High Ridership
\$0.50	\$4,800	\$15,200
\$1.00	\$9,600	\$30,400

Advertising Revenue and Naming Rights

While advertising revenue is an attractive option, it is unlikely that this revenue would be a major factor in overall system operating costs. Advertising revenue could pay for capital costs associated with signs and other stop amenities. Naming rights offered to a private contributor may be another funding option, particularly for developers or businesses located in the Gateway Arts District, as they will greatly benefit from the future circulator.

Federal Funding

Another option is to seek capital funding from the Federal Transit Administration (FTA). While there are several federal funding sources available, downtown circulator projects tend to use Small Starts grants. These grants are available to projects with a total project capital cost less than \$300 million and requesting less than \$100 million in federal funds. Small Starts funds can be used for up to 80 percent of capital costs, but in practice, the FTA typically limits these grants to 50% or less of total capital costs. Other potential Federal funding sources may include Better Utilizing Investments to Leverage Development (BUILD) Transportation Grants Program (formerly TIGER), Congestion Mitigation/Air Quality (CMAQ), Surface Transportation Program (STP), FTA Section 5307 for transit agencies, and Community Development Block Grants.

¹⁶ Maryland Department of Transportation Maryland Transit Administration. "Grants" <https://mta.maryland.gov/grants>

Other Funding Sources

Some cities leverage their development review processes to provide funding support for transit. Hyattsville could consider contributions to a transit fund as a mitigation requirement for large developments.

The City could seek partnership with developers and non-profits to contribute funding to the circulator's operation. Appropriate partners are those that stand to benefit from the circulator's operation.

RECOMMENDATIONS

This study has estimated planning-level ridership, costs, and revenue sources for a potential circulator connecting key destinations with Hyattsville's two Metrorail stations. Table 6 shows the summary of three ownership models reviewed in this study. Based on the review of the cost, operational control and oversight needs, partnering with Prince George's County to modify currently operating Route 13 is the most viable option for the Hyattsville.

Table 6: Ownership Model Comparison

Ownership Models	Capital Cost	Maintenance/ Operating Cost	Operational Control	Oversight Needs
Option 1 City Owned	High	High	High	High
Option 2 County Owned	Low	Medium *	Low	Low
Option 3 Privately Owned	Low	Low	Medium	Medium

If the City determines that the ridership estimates are favorable enough to justify the associated costs and wishes to pursue introduction of a transit circulator service, recommended next steps are included below.

1. **Identify dedicated funding sources.** For any type of transit circulator system to operate, Hyattsville needs to identify a dedicated long-term funding sources to finance the circulator. The cost of such a circulator would likely range from \$715,000 to operate a limited one-way privately-operated service to \$4,300,000 to operate an expanded two-way County-operated system. However, the cost of the County-operated system could change significantly based on the negotiation with the County to modify Route 13.
2. **Pursue a partnership with Prince George's County.** Because Prince George's County's TheBus Route 13 currently operates on a route similar to the potential future circulator route, the most cost-effective provision of a frequent transit connection to key destinations for the City would be achieved by upgrading the service currently offered by TheBus Route 13. This option relies on Prince George's County's earnest engagement and cooperation with the City.

In order for Route 13 to meet the standards of a high-quality circulator described in this report, headways would need to be reduced from 40 minutes to no more than 15 minutes, service hours would need to be expanded to include weekends and later hours on weeknights, and the route itself would need to be updated. The disadvantage to this arrangement is that the City of Hyattsville would lack direct control over routing, branding, or service.

The City should discuss this option with Prince George's County to understand its viability. Based on information provided by DPW&T and the cost estimates outlined on page 25, it would likely cost at least

\$615,000 for the City to cover the extra cost of DPW&T modifying Route 13 to meet the routing and operational recommendations in this report. While the incremental investment needed to improve the route is cheaper than contracting the service to a private operator, the route's total operational costs, including City and County contributions, would be greater than a privately-operated system.

3. **Hire Private Operator.** If the discussion with Prince George's County does not end in an amicable solution, Hyattsville should consider hiring a private company to operate the proposed transit circulator. This provides the City with more control over the service and they would be able to monitor the operation to ensure that a high-quality service is provided to residents, employees and visitors alike. At a minimum, this option would cost approximately \$715,000. Improved service may be provided if significantly more funds can be secured. Once funds are identified, a request for proposals for the operation of the circulator should be issued. This contract should include operation, maintenance, fueling, insurance, and management of the circulator vehicles.
4. **Finalize the circulator's operational characteristics.** Based the public survey results and circulator best practices identified by peer systems and in the TCRP report, the following operational characteristics are recommended to ensure any future circulator is attractive to potential riders.
 - a. Clockface-headways every 10-15 minutes,
 - b. Two-way circulation,
 - c. Hours of operation seven days a week, from early morning until late evening, with late night hours on Friday and Saturday nights,
 - d. Free fares, and
 - e. A strong branding and outreach campaign.

While a service that offers longer headways, one-way circulation, limited hours and requires a fare has the potential to be a less costly service to operate, this type of service would not offer a high-quality transit connection and would likely have lower ridership rates. However, the final operational characteristics may also be determined by the amount of dedicated funding that can be secured.

Transit circulators can bring many benefits to downtown areas and can facilitate mode-share shifts in communities. In Hyattsville's case, high-quality transit connections are lacking, and a circulator could serve to greatly enhance the transit connectivity between key destinations within the City. However, circulators have limited potential for fare recovery and are costly to operate with the service characteristics that make them successful (e.g., frequent service, extended operation and low cost to customers). The City of Hyattsville will need to identify long-term stable funding sources, create a strong identity, and offer reliable and convenient service for the circulator to attract and maintain steady ridership over the long run.