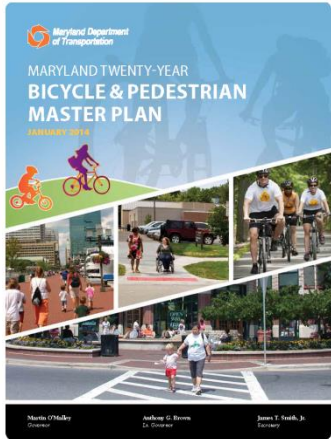


APPENDICES

APPENDIX 1 – LOCAL AND REGIONAL PLANS AND POLICIES

MARYLAND BICYCLE AND PEDESTRIAN PLAN 2014



In 2013 the Maryland Department of Transportation revised its 2003 Statewide Pedestrian and Bicycle Master Plan. This revision serves as a guide for decision making and prioritization of bicycle and pedestrian infrastructure, particularly to advance the transportation element of the state's Economic Growth, Resources Protection and Planning Policy. Furthermore, the Plan outlines objectives and strategies to evaluate and propose improvements for the pedestrian and bicycling environment in jurisdictions across the state. The Plan identifies locations in Downtown Columbia as an area with a higher potential for short

trips – trips that could be served by active transportation. This Plan specifically recommends bike share implementation as a 2013-2018 strategy to integrate active transportation and transit:

- Support installation of bike share stations at transit hubs and other high demand locations, and incorporate siting guidelines into appropriate guidance documents¹

Finally, the Plan identifies potential funding sources to implement bicycle and pedestrian projects that ostensibly could contribute to implementing a bike share system in Howard County:

- MDOT dedicated funding, Consolidated Transportation Program
- Maryland Heritage Areas Authority
- Community Legacy Program
- Program Open Space

PLANHOWARD 2030

Howard County's general Master Plan strives to establish a sustainable economic, environmental, and community focused future for the County. The Plan recognizes the difficulties in creating a well-connected bicycle and pedestrian network due to past land use and transportation decisions.² To this end, the Plan aims to emphasize the promotion of transit, bicycle and pedestrian transportation.³ Although the Plan does not discuss bike share significantly, it recommends the promotion of "rideshare and bike share systems, HOV programs, and expanded park and ride lots"⁴ to help reduce traffic congestion, energy consumption, and greenhouse gases.

PlanHoward also recommends amending the exiting Countywide design manual to include Complete Streets as an approach to building new and upgrade existing bicycle and pedestrian facilities. Furthermore, the Plan discusses the existing Transportation Demand Management (TDM) efforts to maximize the efficiency and sustainability of the complete transportation network.⁵

2009 HOWARD COUNTY SHORT-RANGE TRANSPORTATION DEVELOPMENT PLAN

This Plan is Howard County's short-term plan, approximately five years, to guide transit development in the County. The Plan examines and ranks the transit dependent areas and densities in the county.⁶ The highest ranked transit dependent populations are located in the central and eastern parts of the county. The Plan also recommends the implementation of new transit service and expanded public transportation coverage throughout these areas. Although the Plan does not mention bike share, bike share station locations could complement transit by providing first-mile and last-mile connections to-and-from bus corridors.

¹ Maryland Twenty-Year Bicycle and Pedestrian Master Plan. January 2014. Page 29.

² Plan Howard 2030, Executive Summary. February 2013. Page 7.

³ Plan Howard 2030. February 2013. Page 95.

⁴ Plan Howard 2030. February 2013. Page 175.

⁵ Plan Howard 2030. February 2013. Page 97.

⁶ Howard County Short-Range Transportation Development Plan, February 2009. Page 1-10 – 1-18.

BIKE HOWARD – THE HOWARD COUNTY BICYCLE MASTER PLAN 2014 (DRAFT)

This draft Bicycle Master Plan provides a framework to guide policy and investments to improve the County's bicycle infrastructure and to promote bicycling as a safe and convenient travel option. Although bike share is only briefly mentioned as a possible recommendation for Howard County, achieving the Plan's goals could greatly benefit a bike share system. For instance, three of the Plan's goals which may be able to be achieved through the implementation of a bike share program include:⁷

- Create a safe and seamless network
- Increase participation and safety
- Promote active living

The document details the inventory of bicycle facilities and recommends further improvements based on facility type in order to create a complete bicycling network. The Plan also provides recommendations related to the bicycle network and active living programming, which could benefit the implementation of a bike share system, including:

- Integration of bicycle transportation with transit.⁸
- Development of "Complete Streets" design guidelines that incorporate bicycle facilities.⁹
- Expansion of the bicycling elements of the County's Transportation Demand Management program.¹⁰

By providing Howard County residents increased access to bicycling, a bike share system may be able to help achieve the Bicycle Master Plan's goals, particularly recommendations related to the encouragement of bicycling and healthier lifestyles, establishment of an active living partnership, and continuation of the Cycle2Health program, which is a non-competitive, peer-led, bicycling club for adults of all ages and riding abilities, coordinated by the Health & Wellness Division of the Howard County Office on Aging.

Finally, the Bicycle Master Plan could have a significant and beneficial impact on a bike share implementation in Howard County. This plan will

guide bicycle infrastructure investments and consequentially influence possible implementation and expansion of a bike share system throughout the County. The Plan may also help improve the bicycling environment and in turn make bicycling an easier and more convenient form of transportation throughout Howard County.

DOWNTOWN COLUMBIA PLAN

The Downtown Columbia Plan is an amendment to the Plan Howard 2030 Comprehensive Plan. Although this Plan does not explicitly mention bike share, it does promote the development of a multi-modal transportation system through transit, bicycle, and pedestrian improvements.¹¹ Moreover, the Plan recommends a "Complete Streets" approach to street design within the downtown grid. These recommendations may help create a better environment for bicycling, and consequentially a better environment for bike share.

This Plan also recommends that the County develop a Transportation Demand Management plan, to further improve the utility of the transportation network. Bike share can play an important role in such a transportation demand management program, especially promoting the use of the bicycle for short trips, and for first/last mile legs of a longer trip. Finally, the Plan provides a bicycle and pedestrian circulation plan to help guide where bicycle and pedestrian facilities should be located to help bicyclists and pedestrian travel throughout Downtown.¹² The Circulation Plan should be consulted by County Staff to help with the placement of potential station locations so as to be easily accessible from multiple directions.

CONNECTING COLUMBIA: ACTIVE TRANSPORTATION ACTION AGENDA

Connecting Columbia is Columbia Association's Plan to provide recommendations to create a more interconnected and comprehensive bicycling and pedestrian circulation system throughout Columbia. This in turn will help achieve CA's health, recreation, and transportation

7 Bike Howard, The Howard County Bicycle Master Plan, draft. February 2014. Page 1.

8 Bike Howard, The Howard County Bicycle Master Plan, draft. February 2014. Page 48.

9 Bike Howard, The Howard County Bicycle Master Plan, draft. February 2014. Page 11.

10 Bike Howard, The Howard County Bicycle Master Plan, draft. February 2014. Page 54.

11 Downtown Columbia Plan: A General Plan Amendment. February 2010. Page 35.

12 Downtown Columbia Plan: A General Plan Amendment. February 2010. Page 45.

goals.¹³ *Connecting Columbia* recommends studying the feasibility of implementing a bike share program and it notes that interest in bike share has grown among residents and community leaders throughout the last few years.¹⁴

Many of *Connecting Columbia*'s recommendations relate to the implementation of a bike share program as they provide for improving the quality of existing bicycle lanes and shared-use pathways, implementation of new pathway connections to link neighborhoods and commercial centers, and for increasing the comfort, security and safety of path users. *Connecting Columbia* also discusses potential funding sources for active transportation projects, such as:

- Federal Transportation Enhancements¹⁵
- Congestion Mitigation Air Quality Program
- Cycle Maryland
- Horizon Foundation

Implementation of *Connecting Columbia* may directly influence bike share implementation by increasing the connectivity between and within Columbia's communities and in turn make bicycling (and bike share) a more convenient option for transportation.

POLICIES AND COUNTY ORDINANCES

As bike share programs are relatively new, the form of equipment, installation, and operations are not typically codified into existing zoning, permitting, and other ordinances. Howard County must therefore consider what policies and ordinances will require some updates or modifications to allow for the implementation and promotion of bike share. Furthermore, the County will need to understand the process under which potential bike share stations will



be permitted and installed and will also need to understand whether the current regulations surrounding advertising and sponsorship will allow for such revenue generating avenues to help implementation of the program.

The following is a review of several regulations within Howard County's Zoning Ordinance that could have an impact on the potential implementation of a bike share system. There are several regulations within the Howard County Zoning Ordinance that could have an impact on the potential implementation of a bike share system.

Mixed Use Districts

Mixed use districts are established to permit flexible and efficient use of large parcels at key locations by combining housing, employment, local commercial and open space uses in accordance with a unified design.¹⁶ Setback requirements in Mixed Use Districts range from 30 to 75 feet, potentially providing enough space to install a bike share station, with cooperation of the building owner. Additionally, in these districts, minor additions and modifications to site development plans, such as minor accessory structures or parking lot additions, do not require Planning Board Approval.¹⁷

Transit Oriented Development (TOD) Districts

A Transit Oriented Development (TOD) District is intended to encourage development of residential and commercial centers with safe and convenient access to public transit.¹⁸ In each TOD District, setback requirements for buildings adjacent public right-of-ways range from 10 to 30 feet, which may allow enough space for installing a bike share station in some areas, but not all.¹⁹ Bike share, which has been promoted as an additional transit mode, could be a natural component of a TOD District.

Traditional Neighborhood Center (TNC) Overlay District

The Traditional Neighborhood Center (TNC) Overlay District is intended to provide pedestrian-oriented areas with a mix of retail, service, office,

¹³ Connecting Columbia: Active Transportation Action Agenda. September 2012. Page 3.

¹⁴ Connecting Columbia: Active Transportation Action Agenda. September 2012. Page 5.

¹⁵ Since publication of Connecting Columbia, Federal Transportation Enhancements have been replaced with the Transportation Alternatives Program

¹⁶ Howard County Zoning Ordinance. Section 127.0.A.

¹⁷ Howard County Zoning Ordinance. Section 127.0.F.3.

¹⁸ Howard County Zoning Ordinance. Section 127.4.A.

¹⁹ Howard County Zoning Ordinance. Section 127.4.E.3.

and residential use.²⁰ Setback requirements in this type of district range from 0 to 100 feet, which will allow enough space to install a bike share station in some, but not all areas.²¹

Community Enhancement Floating (CEF) District

The Community Enhancement Floating (CEF) District is intended to encourage creative development and redevelopment to enhance surrounding uses and create a coherent, connected development.²² Property developers apply to the County to designate an area as a CEF District, by including amenities that could benefit the community. When a district is designated as a CEF District, developers are able to change the existing zoning district to another which may be more amenable to the surrounding areas. Under this ordinance, bicycle, pedestrian and/or transit improvements which provide connections to off-site destinations or other bicycle pedestrian or transit facilities are considered enhancements beneficial to the community and can be used to apply for a CEF District. The County may be able to codify bike share stations as improvements allowed under CEF District status.

Signage

Signs are a key component of a bike share operation, as they provide information and maps of the system and directions to nearby bike share locations. In Howard County commercial districts, directional signs are permitted by a variance in all areas except in Downtown Columbia, assuming the sign or signs are necessary for the public convenience and are consistent with the intent of the ordinance. These signs must be located at intersections with a maximum allowable area of 12 square feet and there may not be more than four signs for any single business.²³ These signs may be located in the public right-of-way with approval from the Department of Inspections, Licenses and Permits.²⁴

In Downtown Columbia, commercial directional signs are allowed and must conform to the Downtown Neighborhood Design Guidelines.²⁵ Pedestrian directional signs can be placed on private land or in the public right-of-way and must conform to design standards that direct

and inform pedestrians.²⁶ Public signs, or signs in a non-commercial nature in the public interest, are exempt from the provisions set forth for other signs. These signs include directional, regulatory, and information signs.²⁷ In all commercial districts and in all areas within Downtown Columbia, signs used to advertise a product or service at the site and location of the sign are permitted as “accessory to the building or use.”²⁸

The code limits the size of informational signs to two square feet for each linear foot of building frontage,²⁹ suggesting that this section would need to be revisited for relevance to bike share signage. The code also limits signs from encroaching in the public right of way. Given the County Code of Ordinances, it is the consultants opinion that signs on a bike share station that provide the name or other information about bike share would be permitted by the code, pending additional interpretation of the Code.

Advertising

Howard County's municipal code identifies outdoor advertising as billboards or poster panels which advertise products or businesses not connected with the site or building on which they are located.³⁰ Furthermore, the code limits outdoor advertising to be temporary in nature and located on unimproved property in industrial or manufacturing districts. This extends to any outdoor advertising, for example advertising on bus shelters.

General advertising (e.g., for commercial products or businesses) on a bicycle station would be considered outdoor advertising and would not be allowed by the current code. Also, in Downtown Columbia, advertising signs that are three square feet or larger and on vehicles are also prohibited by the code.³¹ Unless revised, these policies will limit the County's ability to use advertising as an additional revenue source for implementing bike share.

20 Howard County Zoning Ordinance. Section 127.6.A.

21 Howard County Zoning Ordinance. Section 127.6.E.5-12.

22 Howard County Zoning Ordinance. Section 121.0.A.

23 Howard County Code of Ordinances. Title 3-Buildings, Subtitle 5. Sec. 3.501 (c)8.

24 Howard County Code of Ordinances. Title 3-Buildings, Subtitle 5. Sec. 3.505A (b)3.

25 Howard County Code of Ordinances. Title 3-Buildings, Subtitle 5. Sec. 3.501 (c)8.

26 Howard County Code of Ordinances. Title 3-Buildings, Subtitle 5. Sec. 3.501 (c)8c.

27 Howard County Code of Ordinances. Title 3-Buildings, Subtitle 5. Sec. 3.503 (a).

28 Howard County Code of Ordinances. Title 3-Buildings, Subtitle 5. Sec. 3.500 (b).

29 Howard County Code of Ordinances. Title 3-Buildings, Subtitle 5. Sec. 3.501 (c) (1).

30 Howard County Code of Ordinances. Title 3-Buildings, Subtitle 5. Sec. 3.500 (d).

31 Howard County Code of Ordinance. Title 3-Buildings, Subtitle 5. Sec. 3.505 (a)10.

Please note that interpretation of all zoning and advertising regulations were based on a preliminary review. It is recommended that all County regulations and ordinances be reviewed with the County attorney prior to system implementation. Additionally, Howard County engineering, planning and permitting staff should consider creating a general blanket permit to help regulate and expedite the placement of bike share facilities. Finally, it is recommended that Howard County staff work with local officials to establish a specific set of guidelines to allow for the use of bike share sponsorship and advertising.

APPENDIX 2 – STAKEHOLDER AND PUBLIC ENGAGEMENT SUMMARY

On May 1st, 2014, the study team sat down with community stakeholders and members of the public to discuss the benefits of bike share, provide an overview of the planning efforts underway, and solicit feedback on the feasibility of bike share in Howard County. The day began with four stakeholder meetings targeted at the following groups:

- Public-sector partners
- Local non-governmental organizations (NGOs)
- Representatives from Howard County's economic development and tourism offices
- Howard County Community College

Following these meetings, an open house was held in the evening with the general public. The meeting provided an overview of the plan underway and concluded with an open discussion session.

Throughout the day a number of common themes emerged that helped frame the discussion of the feasibility of bike share in Howard County. Participants voiced what they saw as the opportunities and challenges faced by bike share in the county. The discussion also brought up a number of goals participants felt bike share should strive to achieve. Finally the discussion touched on how a bike share system in Howard County would integrate with existing and planned systems in the region.

Opportunities for Bike Share

Howard County is an active community, with many people cycling already for recreational purposes. The county, especially in Columbia, has an extensive trail network that connects to recreational facilities, village centers, and parks. Participants saw bike share as a means to further promote active living, allowing residents to explore local parks, lakes and trails.

Bike share also could serve a mobility need in Howard County. Bike share could provide a last-mile connection to transit, connecting commuters from the MARC train to their homes and places of work, including the National Security Agency (NSA) in Ann Arundel County. Columbia features a number of large employers, the Mall in Columbia, and Howard County Community College, all within biking distance to

residential areas. Residents could use bike share for non-work trips as well. Stations could provide improved access to the county's extensive library system, local recreation centers, and retail destinations.

Finally, participants saw economic benefits to bike share. Howard County's economy depends on attracting a well-educated, mobile, and highly-competitive workforce. Bike share provides an additional amenity that sets the community apart from its peers. The county attracts hundreds of thousands of visitors a year to its festivals and concerts; bike share would encourage people to explore the county more when they visit. Although Howard County is one of the wealthiest counties in the nation, not all residents are so well-off. Bike share could provide additional mobility options for low-income households without car-access and connect residents to jobs, services, and retail they otherwise could not reach.

Participants suggested a number of locations for bike share in the county. Generally the discussion focused on Columbia. Stakeholders and the public saw opportunities for bike share along the corridor that includes downtown Columbia, Howard County Community College, and Howard County General Hospital. These areas are experiencing a great deal of development, and especially at the community college, there are parking constraints.

Columbia's lakes were another potential location for bike share. Providing bicycles at places like Lake Elkhorn and Centennial Lake could facilitate "lake-to-lake" trips. Outside Columbia, participants saw opportunities for bike share along the Route 1 corridor, in Maple Lawn, and between MARC stations and the NSA.

Challenges to Bike Share

In many ways Howard County is an untested market for bike sharing in the United States. Some participants questioned how bike share could function in such a low-density, suburban area. How would bike share function in Columbia's villages, where residents are dispersed across a large area? One participant pointed out that bike share stations in the suburban areas of Montgomery County, MD are attracting little ridership. As driving is the most convenient way to get around in Howard

County, there is less incentive to adopt bike share as a means of travel than in places like Washington DC.

Cycling infrastructure is another challenge. Howard County has few bike lanes or other on-street cycling facilities. The wide streets encourage fast driving and are a hostile environment for biking. While Columbia has an extensive trail system, the lack of wayfinding makes it hard to navigate even for longtime residents. The county's hilly topography is another barrier to biking. Some participants questioned whether bike share bikes without electronic assistance would be practical.

Finally, bike share faces regulatory hurdles to implementation in Howard County. The county's zoning code would prohibit selling ad space on bike share stations, a potential source of operating revenue. In Columbia, strict sign regulation governed by each of the community's village covenants, would make it impossible to create one unified station design that conforms to each village's sign restrictions. Changing the sign regulations would be a time-consuming process as it would require separate special exemptions for each village.

Goals for Bike Share

Participants identified the following goals for bike share:

- Improve public health by encouraging physical activity
- Reduce parking demands in places like the Howard County Community College and downtown Columbia
- Promote a cycling culture in the county
- Ensure a system that is fiscally sustainable
- Provide a transportation alternative to driving
- Enhance the mobility of residents and visitors
- Encourage visitors to explore the county more, especially tourists attending local concerts or fairs
- Provide a last-mile connection to transit
- Make Howard County more economically competitive

Integration with Other Systems

As an equal share of residents work in Baltimore and Washington DC, participants generally did not show a preference for integrating with the system in one city over the other. One participant stated that integration with Capital Bikeshare should be a priority, simply because

the system is so extensive. Participants recognized that bike share may take a different form in Howard County and that integration concerns should not limit the options considered during this study.

Private-Sector Funding Opportunities

An important component of determining bike share feasibility is identifying funding sources for capital and operations. Participants felt that there were a number of potential funding partners in the community that could help support bike share. Major institutions like Howard County Community College and the General Hospital would make excellent partners as they have existing transportation needs that bike share could support. The county has a strong employer base that might be interested in sponsoring in bike share. Developers may be interested in funding bike share as a way to reduce parking requirements. Finally, there are existing non-profits and foundations that are active in investing in Howard County.

STAKEHOLDER MEETINGS

PUBLIC SECTOR GROUP

Participants

- David Cookson, Howard County Department of Planning
- Scott Templin, Columbia Association
- Allison Calkins, Office of Transportation
- Bob Frances, Department of Licensing and Permits
- John Byrd, Department of Parks and Recreation

Facilitators

- Mauricio Hernandez, Toole Design Group
- Andrew Zalewski, Foursquare Integrated Transportation Planning

Summary

The purpose of this meeting was to brief public sector stakeholders on the bike share feasibility study underway, discuss the potential for bike share within the county, and better understand the challenges to implementing bike share. The meeting began with a discussion of how bike share works. Participants were interested in how much memberships typically cost, how large the stations are, and who would operate a system. Stakeholders provided valuable information on the

regulatory challenges bike share faces in the community and discussed their goals for a potential system.

Background

Howard County features world class public amenities, including an extensive trail system and park network. The Department of Parks and Recreation (DPR) is already studying the feasibility of increasing private sector involvement in funding parks and recreation facilities. DPR sees potential in private firms sponsoring public facilities.

Financially, operating funds in the county are likely to be more challenging to identify than capital funding. The stakeholders felt that bike share could receive a public funding commitment from the county if strong public support is demonstrated. None of the government agencies present had the financial resources available to fund bike share in their current budgets.

Challenges to Bike Share

There are existing advertising and signage restrictions that pose potential barriers to implementing bike share. The county has a ban on off-premise advertising which would forbid the selling of advertising space on bike share stations.

Existing signage regulations, notably in Columbia, are another regulatory barrier to implementing bike share. The covenants of each village in Columbia separately govern the appearance of signage. These regulations are some of the most restrictive in the country and, as stands, would make it impossible to design a bike share stations that conforms to each village's signage code. While there have been multiple attempts at reforming the code since the 1970's, signage regulations remain largely unchanged. Any change to the code would have to be enacted by each village council.

Opportunities for Bike Share

The group saw a number of opportunities for bike share in the county. There are a number of organizations that could be key partners in supporting bike share, including the Horizon Foundation and the county's major employers, such as Applied Physics Laboratory (APL) and the National Security Agency (NSA).

From a health and recreation standpoint, bike share would provide residents new opportunities for physical activity. Users could ride bike share to county parks, reducing the pressure on parking, or access community resources such as recreation centers and libraries. Participants saw bike share as benefiting a diverse population in the county, including the county's growing senior population.

Finally, bike share could improve mobility for county residents. Stakeholders saw opportunity for bike share to provide last-mile connections to transit. Bike share could make communities like Columbia and Maple Lawn less car dependent. Bike share would fit within existing transportation demand management (TDM) policies aimed at reducing single-occupancy auto use. Finally bike share could expand transportation options for low-income residents, most notably along the Route 1 corridor.

Goals for Bike Share

Participants identified the following goals for bike share:

- Fiscal sustainability
- Promote environmental sustainability
- Support active living and improve public health
- Reduce driving to county parks
- Provide a last mile connection to transit
- Facilitate short trips by means other than driving
- Expand mobility options for low income residents

NON-PROFIT STAKEHOLDERS

Participants

- Jane Dembner, Columbia Association
- Sean Harbaugh, Columbia Association
- Alex Obrecht, Bike Maryland
- Chris Tsien, Bicycling Advocates of Howard County
- Larry Schoen, Transportation Advocates

Facilitators

- David Cookson, Howard County Department of Planning
- Alison Cohen, Toole Design Group
- Mauricio Hernandez, Toole Design Group
- Andrew Zalewski, Foursquare Integrated Transportation Planning

Summary

This session brought together stakeholders from non-governmental organizations, including Columbia Association, Transportation Advocates, Bike Maryland, and Bicycling Advocates of Howard County. Participants all were familiar with bike share and most had used bike share in other cities, most notably Capital Bikeshare in Washington DC. A number of stakeholders had questions about bike share, including about technology, ways feasibility is determined, and whether being unbanked is a barrier to bike share use. The group helped define a number of opportunities and challenges bike share faces in the County.

Challenges to Bike Share

The group was concerned whether Howard County's suburban land uses and auto-oriented road network provide conditions conducive to making bike share successful. Participants saw bike share as supporting strategic objectives like improving cycling infrastructure but were not sure if bike sharing could succeed without more bike-friendly streets. Stakeholders wondered how bike share can serve low-density residential neighborhoods, such as Columbia's villages. One participant stated: "When I think of Columbia and who lives here, I wonder how bike share can work". Major employment centers near Columbia such as Gateway are challenging to reach by bike.

There are other barriers to bike share usage. The group saw Columbia's restrictive signage covenants as a challenge for bike share. As each of Columbia's villages has separate covenants in place, creating a uniform exemption for bike share would be a complicated effort.

Columbia's extensive trail network is an asset, but the lack of wayfinding across the network makes it hard to navigate the trails. Bike share is expected to draw in inexperienced riders who would not be familiar with the trail network.

Opportunities for Bike Share

Overall the group felt that bike share could benefit Howard County. Howard County is already a very active community. Columbia features an extensive trail network that bike share could build off from. One participant saw an opportunity to create a "lake to lake" bike share system that connects Columbia's multiple lakes and parks such as Centennial Park, Lake Kittamaqundi, and Lake Elkhorn.

Downtown Columbia, Howard County General Hospital and the Howard County Community College were mentioned as promising locations for bikes share. The college features a large student body and too little parking to accommodate demand. The completion of the trail between the Community College, the hospital and downtown will establish a corridor of destinations that bike share could serve.

Bike share could connect users to Columbia's recreation facilities and libraries as well. The community features one of the most extensive library systems in the country. Recreation centers operated by Columbia Association see hundreds of thousands of visits each year.

Howard County has existing mobility needs that bike share could help address. The system would improve connection to the MARC stations, especially along the Route 1 corridor. The NSA, located just across the county line in Ann Arundel County, is Howard County's largest employer. Bike share could provide an alternate mode for county residents commuting to jobs at the NSA.

Integration with Neighboring Communities

When asked whether integration with Baltimore's future bike share system or Capital Bikeshare is more important, participants saw integration with Capital Bikeshare as more appealing as it has a large existing network of stations. Since an equal number of residents work in Baltimore and Washington DC, integration with one system over another does not yield greater benefits to county commuters. One participant voiced concern that striving to integrate bike share with a system like Capital Bikeshare may "price us out of the market".

Goals for Bike Share

Participants identified the following goals for bike share:

- Promote public health and physical activity
- Get more people to ride bicycles
- Improve local mobility
- Increase the visibility of alternative modes such as biking
- Shift trips away from automobiles
- Promote complete streets and cycling-friendly policies

ECONOMIC DEVELOPMENT STAKEHOLDERS

Participants

- Rachelina Bonacci, Howard County Tourism
- Terry Owens, Howard County Economic Development Agency
- Scott Templin, Columbia Association

Facilitators

- David Cookson, Howard County Department of Planning
- Alison Cohen, Toole Design Group
- Mauricio Hernandez, Toole Design Group
- Andrew Zalewski, Foursquare Integrated Transportation Planning

Summary

The study team met with representatives from Howard County Tourism and Howard County Economic Development Agency (EDA) to learn more about Howard County and the potential of bike share to support economic development and tourism locally. While neither representative was a regular bike share user, they were familiar with the concept of bike share and its impact in other communities, notably Capital Bikeshare in Washington DC.

County Economy

Howard County features a dynamic local economy supported by one of the most highly educated work-forces in the country. The county ranks as the third wealthiest per capita in the United States, with a median household income of over \$100,000. About an even proportion of residents work in the Washington DC region, Baltimore region, and in Howard County. The county's economy features a high concentration of knowledge industry jobs, with employment focused around technology, defense, and professional services. The local economy depends on attracting a highly educated workforce. Howard County sees itself as competing with other major suburban communities nationwide that provide a similar high quality of life such as Cherry Hill, NJ and Reston, VA.

Tourism

Howard County's tourism strategy is focused around both attracting visitors to the county and retaining tourism dollars from local residents. The county's most popular tourist attraction is Merriweather Post Pavilion, an outdoor concert venue in Columbia that attracts a number

of major music festivals. Approximately 350,000 people attend concerts at the venue every year, many of them from out of county.

Other major attractions include:

- Historic downtown Ellicott City, a major draw for residents in the region
- Agri-tourism, including the county's 23 farmers markets
- Local festivals, including Maryland's largest wine festival
- Outdoor recreation opportunities; Howard County has over 100 miles of trails and is a major mountain-biking destination
- Adventure destination along Route 1 such as a BMX park and laser tag

In addition to leisure visitors, the county is competitive at attracting business travelers and benefits from its position between Washington DC and Baltimore that provides "two cities for the price of one".

The county competes with other exurban local markets such as Loudon County, VA in attracting visitors. One of the greatest challenges is to encourage visitors coming to Howard County for events to spend more time in the area.

Opportunities for Bike Share

The group felt very positive about bike share in Howard County. From an economic-development perspective it will provide an additional amenity to attract the educated and highly mobile workforce its economy depends on. Howard County's major employers could be attracted to sponsoring the program. While the type of industries based in Howard County (defense and professional services) may not be particularly interested in sponsorships as a means to build brand awareness, they have a history of actively investing in the community.

For tourism, bicycling is also increasingly important. The Sheraton hotel in Columbia already has bicycles available for guests. Proximity to bike share has become a selling point for businesses and hotels in Washington DC. Bike share could be a means to help tourists explore the county, especially drawing visitors from Merriweather Post Pavilion to downtown Columbia.

Parts of Howard County, such as downtown Columbia, are increasingly becoming more dense and developed. Bike share could help serve this growing area. Other opportunities for bike share include at the community college and at the trails to Catonsville and BWI airport.

The group was not discouraged by the limited examples of bike share in a suburban setting. Howard County has a history of “firsts” and they saw an opportunity for the county to be a pioneer in bringing bike share to a new setting.

Goals for Bike Share

The group saw bike share as supporting the following goals:

- Public health
- Providing an alternative to driving and reduce the impact of future development on traffic congestion and parking
- Tourist amenity; brand Howard County as a bicycle destination
- Economic development tool

MAJOR INSTITUTIONS GROUP

Participants

- Bob Marietta, Howard County Community College
- Scott Templin, Columbia Association

Facilitators

- Alison Cohen, Toole Design Group
- David Cookson, Howard County Department of Planning
- Mauricio Hernandez, Toole Design Group
- Andrew Zalewski, Foursquare Integrated Transportation Planning

Summary

This meeting was conceived as an opportunity to talk with major employers about bike share in Howard County. Only Howard County Community College was able to attend but the Community College was interested in the plan and will likely be a key stakeholder if bike share moves forward.

Overview of Community College

The Howard County Community College is a major anchor institution in Howard County, with over 30,000 enrolled students (13,000 full-time

equivalents) and approximately 2,000 employees. The majority of students attend classes at the main campus in Columbia, however satellite campuses are located in Laurel, Mount Airy, and Gateway.

The Community College continues to expand and a new master plan is currently under development. The northern end of campus, home today to the campus's core, is nearly entirely built-out and future development will likely occur to the south.

The growth of the campus has placed strains on the existing parking supply. The main campus features only 3,000 parking spaces on its main campus, with additional parking available off-site. There is nearly not enough parking to allow every student and employee to drive to campus. Many students are dropped off at campus, walk, or take transit. The majority of the students live within five miles of campus. A trail is currently under construction that will provide direct access from the Community College to downtown Columbia.

As classes are spread across the 120 acre campus, some students drive from one location on campus to another, farther exasperated parking constraints and auto-congestion on campus. As the campus continues to grow to the south, the need to encourage non-motorized circulation through campus will grow.

Opportunities for Bike share

Howard County Community College seems very interested in bike share, both as a means to connect students and employees to campus, but also as a way to provide improved campus mobility. The construction of the trail link to campus will make cycling to campus much more appealing. The link will also provide an alternative for students traveling to shops and food in downtown Columbia.

The Community College is interested in helping support a bike share system in Howard County. It sees a lot of potential in bike share and may explore implementing a system even if no countywide system is established. The college does not see itself as operating the system but would be willing to discuss helping financially support the system in some way.

Goals for Bike Share:

Participants identified the following goals for bike share:

- Provide an alternative to driving and reduce the demand on parking
- Promote sustainability on campus
- Promote improved health and wellness of faculty and students

PUBLIC MEETING

Overview

The following are highlights of the feedback provided at the public meeting on May 1st:

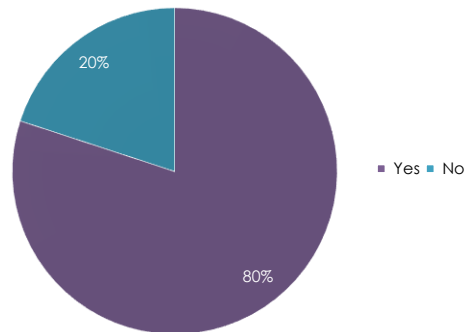
- "I live in Oakland Mills and the thought of picking up a bicycle in the village center and biking to the mall is appealing. I hate going to the mall because of parking"
- Bike share has very low ridership at many suburban Capital Bikeshare stations, including stations in Rockville, Maryland. How can bike share succeed in Howard County when it is poorly utilized in nearby peer communities?
- Columbia has very different conditions from cities where bike share is successful. The lack and cost of parking make bike share appealing for short trips in Washington DC. In Columbia there are few barriers to driving so residents have little incentive to use bike share.
- The steep grades in Howard County can be a barrier to bicycle usage. Some participants voiced interest in E-bikes. One person present expressed that E-bikes present an infrastructure challenge as most bike share stations are solar powered and existing solar systems do not provide the kind of power necessary to charge bicycles.
- Wayfinding for cyclists is a challenge in Howard County. While Columbia has an extensive path network, the lack of signage makes it hard to navigate around.
- Bike share may have to serve a different market here than it does in urban areas. Howard County was designed for the

automobile. Parking is plentiful and easy to find. A bike share system may serve more of a recreation purpose than it would in Downtown DC or Baltimore.

APPENDIX 3 - ONLINE SURVEY RESULTS

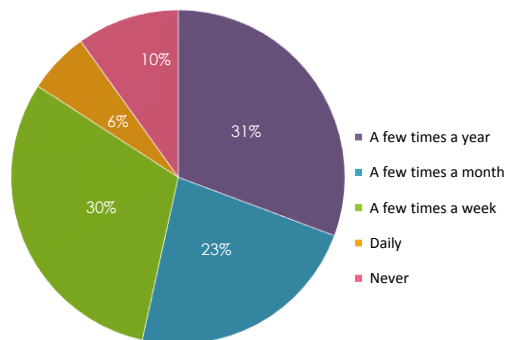
The following is a summary of input received through the online survey that was linked to the Howard County Bike Share Feasibility Study website www.howardcountybikeshare.com. The survey was open for general comment from April 3 through June 13, 2014.

1. Do you currently have access to a working bicycle?



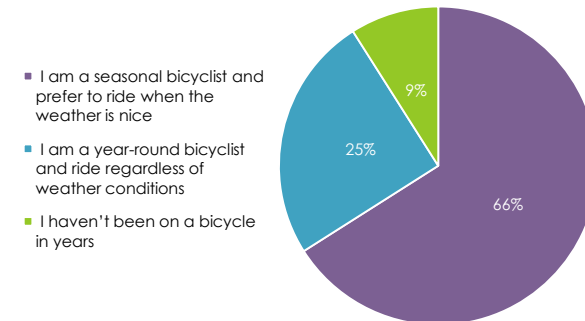
Total responses: 152

2. How often do you ride a bicycle?



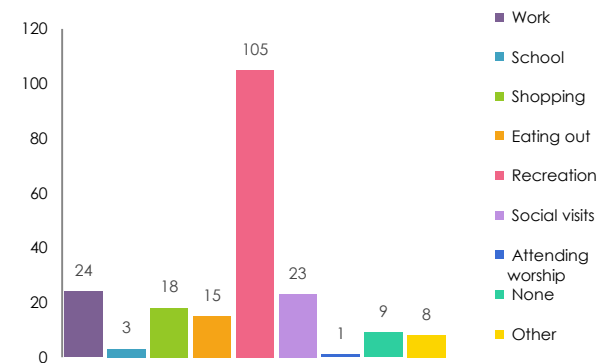
Total responses: 121

3. Which of the following best characterizes your bicycling behavior?



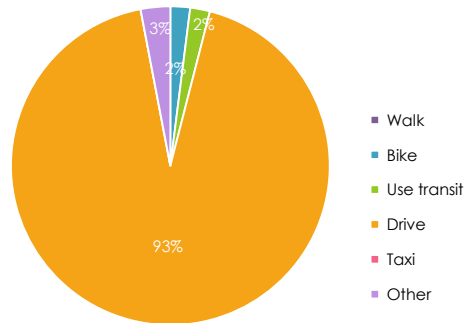
Total Responses: 120

4. What types of trips do you currently use a bicycle for?



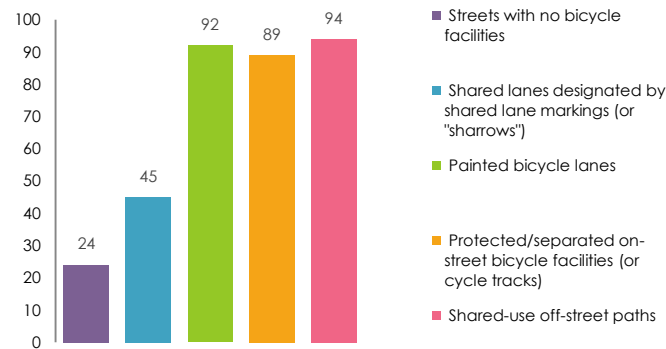
Total responses: 121

5. What is your primary mode of transportation for destinations in Howard County?



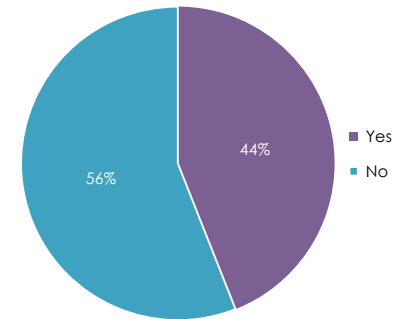
Total responses: 152

6. Which of these bicycle facilities would you feel comfortable riding bike share on:



Total responses 143

7. Do you think the existing trails, paths and bicycle lanes in Howard County will be sufficient to encourage you to utilize a bike share system?



Total responses: 147

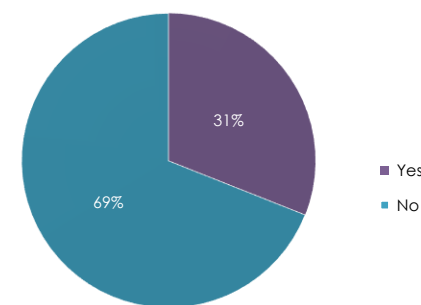
8. Why not?

Count	Response
1	Bicycle lanes when taken from existing roadways are dangerous and should be banned.
1	Could not safely get to work if I decided to bike.
1	Don't go directly and safely to shopping areas.
1	Don't like them
1	Existing trails don't seem to go anywhere. The villages need to be inter-connected better.
1	I don't need a bike, I need better infrastructure.
1	I have my own bike
1	I so not like riding bicycles
1	I want a bike when I want it, not if it is available.
1	If I were to go somewhere by bike, I would use my own, not bike share.
1	It's fine for a ride i the park, but not to commute.
1	Need better access
1	Not marked well at all as to rules of behavior for safety and directions to various destinations
1	Not safe. Not near where I would need them. Lack of directional signs
1	Some paths are cut off and do not make it easy to get around all the time
1	Some streets are too dangerous!
1	The paths are designed for recreational use and neighborhood to neighborhood access.
1	There are no trails near my residence
1	They are too narrow
1	They don't get me where I need to go, if they do it certainly isn't the fastest route there.
1	They don't go the entire route I wan to take.
1	Too crowded
1	Too crowded. Too dangerous (criminals).
1	Too far to effectively bike anywhere.
1	Too large of an area
1	Too many areas shared with vehicles
1	Too much opportunity for robbery and stolen bikes.
1	Trails don't go everywhere
1	WAY TOO MUCH TRAFFIC CALMING
1	can be dangerous
1	communities are separated too far for nothing other than recreational riding
1	folks don't ride enough to warrant spending money to support.
1	need more roadway facilities so get to destinations.
1	not enough lanes !
1	not enough quick and safe access.
1	way too crowded as it is.

1	I would think the bike share bikes would be cumbersome to ride on the hilly, uneven paved columbia pathways, and are not really suited for sidewalks. I believe that the population of people that you might get to use the bike share (i.e. people with not too much bike safety experience) would not feel comfortable riding in a lane with cars.
1	I do not agree with riding on ANY ROADWAY in Howard County. Many of the streets are narrow and heavily traveled. Too dangerous for the rider and driver!!
1	The major roads like Cedar Lane and Broken Land, Snowden River, Little Patuxent do not have shoulders and I never feel safe riding a bike on those major road ways. Until something is done to address this issue, I don't think biking is safe. I work 5 miles from my home and would love to be able to ride my bike to work but I never consider that option because it involves roads with no shoulders.
1	The bike paths are good for walking and awful for biking. Main roads have no bike lanes and are dangerous to ride on. Columbia is not bike friendly at all.
1	Missing bike facilities between major sections of Howard County (fast suburban roads with little or no shoulder).
1	Trails are already very crowded with joggers, pedestrians, etc. Commuting in many places requires crossing busy streets (e.g. between lake kittamaqundi and the mall). A decent used bike can be bought at Race Pace for under \$150. People in columbia already live on or near a trail most places. The issue is crossing busy streets like 175, 108, patuxent parkway, and 29, etc.
1	Too much bicycle/jogger/pedestrian traffic already on the existing trails. More infrastructure is needed.
1	Most of my Howard County trips are home to destination. If I am traveling from home, I am going to want to take my own bike. Bike Share seems to work best in places that have a mode of transit between home and destination. Example: Home --> Metro --> Destination.
1	Many trails aren't big enough for both pedestrians and bicyclists. And to get to a destination on the other side of the mall or rt 29 requires me to go quite a distance out of the way to find a safe route. I ride slowly, so I try and avoid all but the quietest neighborhood roads.
1	To narrow of shoulders in some locations that don't offer necessary protections between drivers and cyclists. Often, riders are forced into the lanes of on-coming vehicles.
1	The existing system is confusing unless you already know where the trails lead. Additionally, the trails do not necessarily lead to many commercial locations safely.
1	I don't feel that existing roads throughout Howard County are overall very bike friendly. I live in the Emerson community and Gorman Road & Murray Hill Road have absolutely no shoulder or designated bike lane.
1	There are way too few and they have insufficient interconnectivity. If I'm riding a bike to get from A to B (as opposed to recreational) I don't want to be on shared paths maneuvering around walkers and runners and children on bikes and skateboards.
1	No designated and painted bike lanes on main arteries. Paths are nice but not good for road bikes and too inefficient for commuting or running errands by bike. Share the road signs are not enough to convince drivers that bikes belong on the road. There are also a lack of secure bike racks in key places.
1	Howard County needs more bike friendly trails. Road sharing by creating separate lanes would be great. Like they do in Holland.
1	i live in Scaggsville and we are not connected to the rest of columbia, so riding my bike to somewhere is dangerous at the moment. I wish there were more bike lanes and sidewalks in my area. it is too dangerous for the kids to walk or ride anywhere from my house, and it is sad because there are restraints and shops that COULD be in walking distance.
1	There aren't many separated bike lanes. I wouldn't feel safe riding around. If there was a bike share at Centennial Park or something, that could be cool so people wouldn't have to bring their bikes.
1	Don't feel that the trails are a safe place to ride especially alone. There are always news clips in the Flier of the thugs assaulting someone, stealing phones, wallets and such.
1	Still have to cross some busy streets and motorists, in my experience, are not likely to share road with bikes
1	People speed on most roads, and although they are not supposed to, I regularly see people texting or talking on their phones while driving. Unless there is a wide shoulder or a dedicated bike lane, I am always nervous that I will be hit by someone who is distracted.
1	If there was a market for a bike share system, someone would start a privately owned one. The fact that government is attempting to subsidize it means it will fail.
1	I live in Elkridge and I do not feel like it is safe for bicyclists to be on the road there because of lots of traffic, and narrow lanes and lack of paths/bike lanes.
1	Most trails do not go to places of interest. They are for recreation. If transportation is desired, better facilities are needed.
1	I would like to bike to work but there are no trails or lanes that would bring me to Ridge Rd. in Ellicott City.
1	I don't think there are enough bike lanes in HoCo. Also roads are narrow surrounding Columbia and throughout HoCo. Many roads/streets do not have shoulders or are wide enough to allow a bike to travel safely when there's significant traffic.

1	The county is too geographically dispersed for bike share to be feasible. There are miles of separation between our largest suburban centers with multiple physical and logistical obstacles for a feasible path selection. Bike shares tend to be done in increments of 30 minutes. This works in places like the City of San Francisco, but does not work in rural/suburban counties.
1	There are many areas in Howard County where I would hesitate to ride my bike or a bike share bike due to the lack of bike lanes and heavy traffic. And I would think that the most logical places for stations would be in these very busy areas, such as Columbia Town Center and shopping centers.
1	The paths are not wide enough and there are no streets I can think of where I would feel safe riding. For example, if I wanted to go from my home near Cradlerock South to the E. Col. Library I would have to ride on Cradlerock, where I would be in traffic, or go straight across through land where muggings have occurred.
1	There are no maps to show how they are connected or where the trails go... at least I'm not familiar with any maps that do exist. Also, would they go where I need them to go?
1	Land use is too sprawling, destinations are too far apart and high speed stroads create major barriers.
1	Not enough safe riding area continuity. Snowden is a nightmare to ride on. Consider an off-street path the length of Snowden.
1	The trails are wonderful, but often you must go on major streets to connect the trails. A sign that says "Share the Road" isn't good enough, really scary w/ the drivers around here. Dedicated painted bike lanes would be great in the streets that connect the paths.
1	I love to bike and I own a bike now but I never ride because I believe that I would be putting my life in jeopardy because of the crazy drivers. There would have to be many more bike lanes made before it would be safe to ride in Howard County!!!
1	Paths bring criminal element preying on helpless yuppies on expensive bikes waiting to get mugged.
1	there's not enough and it's not safe to ride a bike on most streets in howard county. there is not enough education to drivers to respect other forms of transportation on the road. it' extremely dangerous. there needs to be better education for drivers and cyclists and clearly marked bike lanes with signs and painted roads. Barriers would also prevent motorists from entering the bike lanes for any reason which would also increase safety.
1	I've tried to commute to work on existing trails and paths, and it is way too convoluted and in complete. I end up on the roads half the time. Now I just bike the roads---much quicker, and no pedestrians with dogs to worry about---only cars, buses, trucks!
1	Because biking is not a good mode of transportation is a county as spread out as Howard. This is not New York City.
1	Bike system is currently designed for recreational cycling in CA region, not commuting or casual errands as bikeshare is often utilized for. Also, bikes will need to be designed for longer distance rides since HoCo point-point distances are longer than urban cycling systems.
1	Most trails are narrow and I feel that cycling on them is dangerous to the walkers. Bicycle lanes are good and I feel safe, but there are very few of them.

9. Have you had an opportunity to use an existing bike share system before?

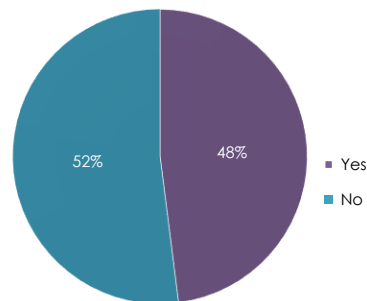


Total responses: 131

10. Where?

Count	Response
1	Chicago
10	DC
1	DC and Arlington.
1	DC, Boulder, Chattanooga, Oklahoma City
1	DC, Chicago
1	DC, Montreal
1	DC, NYC
1	DC; NYC
1	DC; Paris, France
1	Dc
1	Holland
1	Holland and D.C.
1	In Netherlands
1	Miami
1	MoCo, DC
1	NYC
1	New York City
1	New york. Charlotte
1	Paris
1	Paris but I used my roller blades back then
1	Portland
1	Quebec City
1	San Francisco, CA
1	Silver Spring, District
5	Washington DC
1	amsterdam
1	washington DC
1	washington, DC
1	I've walked to every village center, savage park, ellicott city. Keep bike paths away from cars and keep them in park like settings.

11. Do you think bike share is a good idea for Howard County?



Total responses: 131

12. Please tell us why you think bike share is a good idea for Howard County.

Count	Response
1	An alternative to cars and no need to own/maintain/store a personal bike.
1	Bike riding is better for our physical fitness and for the environment.
1	Biking in general is a much healthier way of traveling short distances.
1	Biking is better than driving for health and for the environment.
1	Get cars off the road, get people exercising and moving, more use of the paths already available
1	Howard County is a young fit county. Lets support it!
1	It could cut down on traffic and get people active.
1	It will provide a transportation and recreation option that people want.
1	It would be nice to borrow a bike to ride in our many parks.
1	It would be wonderful and would open up Howard County to its residents
1	It would prove beneficial for those who cannot afford a vehicle
1	Less cars on the road!
1	Less driving is always a good thing
1	More Urban areas need options.
1	More bikes = better living.
1	More people on bikes is always a good thing
1	NICE FOR FOLKS TO HASVE ACCESS
1	Reduce auto traffic, increase business revenue, increase mobility, attract young people.
1	The more bikes present the better.
1	Traffic control and health.
1	We already have tons of trails to get you where you need to go.
1	better for health and environment
1	exercise
1	the bus system is available but not always convenient
1	the county is easily accessible by bike ;
1	So many trips are short, to pick up something quickly. It's not necessary to drive because the shop is close by, and the items purchased can be placed in a bike basket.
1	Mixed feelings. Good way to get from center to center, but I would most likely leave from home, so wouldn't use the bike share.
1	It will generate traffic in the Village Centers and reduce vehicle emissions. Also, citizens will get to exercise.
1	It would give the opportunity to have a cleaner environment, provide extreme health benefits to residents and be cost efficient alternative transportation as well.
1	Encouraging more people to bike would reduce the number of cars on the road, making it even safer to bicycle around town. Plus there would be less road noise and cleaner air, so I'd be more comfortable in public places.
1	County has existing trails that could be shared with bikers; sidewalks are not heavily used by pedestrians (e.g. not as bad as DC) and could be shared with bikers; Howard County is a health-conscious county; bikeshare has been rolled out regional, so individuals may be familiar with it; many stores are within biking distances of one another, thus providing a high "bike-ability" factor
1	What a great way to continue to develop a "green" environment. I also believe with the existing path system the idea is just another great alternative for healthier living.
1	The existing network of bike trails seems well-suited to allowing Columbia residents use bikes for shopping, socializing, or possibly going to work.
1	The bike network is growing and more people want to get around by bike for some of their trips. Bikeshare will be good for the local economy because it encourages people to shop locally. More vibrant street activity with people walking, biking and taking transit makes Howard County a better place to live.
1	There are a lack of viable public transit options here. For example, if I want to arrive to work (HCGH) at 7am in the morning, I would need to get a bus from my house at about 5am in order to make a 6am transfer at the mall, however the buses do not run this early, so I really must drive. However, if I could ride a bike to the mall and then catch a bus, that would be another story.
1	Good way to get around without having worries about risk of having my bike damaged or stolen. Great for one way trips or when there is alternate transport for other leg of trip. Efficient way for commuters to get to job or school. Fun way to get to pools, gym.
1	There are a lot of nice paved paths hidden in Columbia, at least. It would be fun to bike these, but I do not own a bike.
1	I don't use a bike often and enjoy walking. But, the bike paths in the park settings are essential to the character of Columbia. We need more beautiful paths. More thought should have been put in the design of the Dobbin/Snowden area. I hope it's not too late to add paths there as development continues.

1	Anytime you can encourage people to get out of their cars, it's a good thing. Downtown Columbia needs more off-street pathways connecting shopping and points of interest. More bike stands are a must as well.
1	I've always marveled at the bike share programs in DC and think providing people an opportunity to do the same in HOCO would make sense
1	Howard County already has a tremendous system of walkways and trails, which might experience different types of usage if there were a bikeshare program.
1	If the system guaranteed safety (separate bike lanes) and reduced my fear of my bike being stolen while at work, I would be definitely open to this idea or new way of city life.
1	Makes it easier (more accessible) to ride instead of drive. Good for the health, and good for the environment.
1	Get more people using bikes instead of cars. Better for health, better for environment, better for community.
1	Lots of people have bikes, but only a few actually ride them (probably b/c their bikes have flat tires and need maintenance). If the bike shares are placed well, people will probably ride. An app to find the bike shares would be a good idea.
1	Only if the existing roads are expanded to include a sufficient shoulder or dedicated biking lane.
1	It encourages people to bike, less driving and traffic, more active life style. We are european, so we love bikes and would love to have that implemented here.
1	I think the extensive pathways that Columbia already has in place would be ideal for bike sharing in my area. I would LOVE to get in my car less, and this could be an incentive. Plus, would be great for my kids to get around.
1	In the central district, there seems to be enough slow roads (residential streets) that could easily be utilized in addition to the current bike path system. Though the current bike path system is a bit too narrow for mainstream commuters.
1	HoCo has a large population of cyclists and an even larger population of eco-enthusiasts. HoCo already has a large number of off-road paths for cycles and a growing number of neighborhoods encouraging non-vehicular mobility.
1	It gets the community to exercise more and gets people to drive less. Re: question 8 & 9, if people take public transit, it would be very helpful to have bike shares integrated between Baltimore and Washington.
1	There needs to be better options moving forward, there should have been bike lanes already on the roads. encouraging bicycle riding would necessitate making the roads more bike friendly and expand greatly the quality of life in Howard County. Enabling people to utilize the outdoors much more and cutting down on parking and road congestion problems and pollution, not to mention saving people money in the long run. i see it as a big draw for the younger generation to move to the area. Move forward Howard County, don't get left behind, we have much going for us.
1	It will promote health, ease congestion, and increase transportation options for people who do not own a car.
1	Would make it possible for those who can not afford a bike or want to go biking once in a while to enjoy the weather and get some exercise
1	As the population grows, especially near Town Center, there needs to be alternative methods of transportation.
1	Any increase in bicycle ridership in howard county makes it easier for cyclists to coexist on the county roads with cars. I would like to envision our community in the near future as one in which it is safe enough for even our kids to ride to school without fear of being hit by a car.
1	If there was a bike share I would bike more places than drive. My current bikes are road/racing bikes that are not as good on trails.

13. Please tell us why you don't think bike share is a good idea for the County.

Count	Response
1	Access to inexpensive bikes is not a problem in HoCo. Roads and trail capacity are the problem.
1	Because there are no safe places to ride.
1	Bikes are inexpensive and I prefer to own my own.
1	County can't afford any new expenses.
1	Does not have the density to support bike share
1	Don't use county funds.
1	Encourages dangerous bike use in heavily trafficked areas.
1	HoCo is too spread out and the bike infrastructure is lacking.
1	How much would it cost to expand and maintain? I am already taxed too much by the county.
1	I do not see the purpose for it outside of a city!
1	I don't believe this is a wise use of tax money at this time.
1	Impractical and dangerous. Overwhelming number of vehicles and grid-lock traffic.

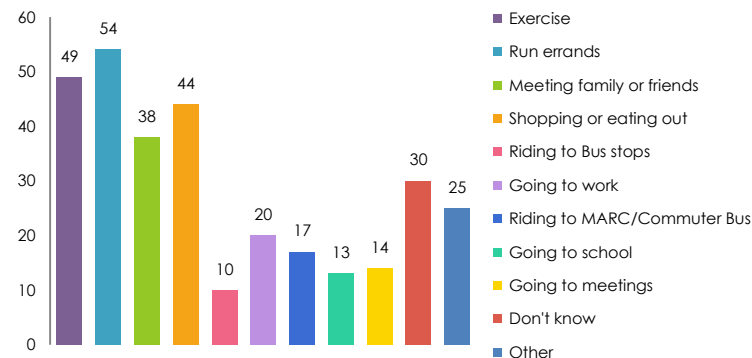
1	Lack of biking safety infrastructure such as designated and painted bike lanes on main arteries.
1	No helmets. No good facilities. People should buy their own bikes and helmets.
1	No part of the county, including downtown Columbia, is dense enough to support it.
1	There are more important problems to worry about.
1	Too rural.
1	Traffic
1	You have too many bikers as it is and the ride on the worst roads i.e. college ave etc.
1	it's too dangerous and ties up traffic
1	not convenient
1	stop wasting my tax dollars!
1	HoCo isn't connected to anything besides itself. Despite Rouses' visions, there is a lot of progress needed to revitalize the neighborhood centers to create the destination. I know the chicken/egg because I work in the profession, but most use these for short trips, not recreational ventures, as they are bulky.
1	I don't think the roads /paths are appropriate for running errands, etc. I road my bike to my CSA once this year and it was a horrible experience. First work on improving/increasing the bike lanes and connecting major shopping centers to the Columbia Trail system before investing in something like a bike share system. If people don't feel safe, they will not use it. I am a very experienced biker and wish I could take my children - by bike - to the shops/restaurants at Dobbin Center but there is not even a sidewalk for them to ride on once the CA trail ends.
1	I am not sure. Like I said before...make the major roadways safer for bikers (bike lanes/shoulders) and then I think it would be a great idea.
1	Bikeshare is best implemented to augment an existing multi-modal transit infrastructure where cycling infrastructure is already in place or vehicle speeds are slow enough to accomodate casual cycling. HoCo cycling infrastructure is in its infancy, point-point distances for destinations are often too far for casual cycling, and the bikeshare infrastructure is not backed up with a high frequency (very long headway) transit system especially at night.
1	Almost everyone would have to DRIVE to get to where a bike was..so what would be the point? Howard County is too spread out for it to be workable. AND there is not a good system of paths, and the roads are barely safe for bikes.
1	(1) It's unnecessary for transportation needs. The County is still primarily a bedroom community for DC, Washington Business Park, Fort Meade, etc.; (2) if someone wants to ride a bike, they can buy a bike for \$100 (which would pay for several months of rental/share); and (3) the resources should be better spent on hard transportation/civil projects or unfinished parks/recreation projects (Blandair Park).
1	If people want a bike, they should buy a bike. If it were a good idea, there would be an independent non-government company doing it.
1	Perhaps on Main St. Ellicott City and Savage/Laurel where people go from store to store/restaurant. Parking is plentiful everywhere else.
1	Priorities. I would rather see sidewalks built for pedestrian traffic. This would eliminate virtually ALL available right of ways for bikes.
1	I would qualify my answer with "at this time." I like the concept. If the idea is to get infrastructure in place before increased urbanization, I'd be in favor of that. But reality is that many of us who have bikes already would use them for all kinds of trips if there were enough safe places to ride but there aren't. Also, I fail to see a demographic that would use the facility in sufficient numbers. Columbia in particular doesn't have enough young people given no large universities and not a lot of affordable housing. As for commuting, it seems most people who live in Columbia don't work there and vice versa. And the public transit seems so lightly used that it would hardly supply enough who wanted to finish their commute on a bike.
1	It is a waste of tax dollars. People would only ride bike when the weather is good, which is almost never.
1	I think most of the people who would ride bikes in Howard Co are residents - and they more than likely already have bikes. Long term bike ownership is more cost effective than renting. There are not locations to draw people to bike from place to place as in a big city.
1	It is a car dominated area, better to use resources for more busing. Most non riders will only ride during nice days.
1	The roads are already crowded. The distances are too great for bikes to be practical or useful. If there was a market for a bike share, a privately owned business would spontaneously form to address this market.
1	It's Howard County not DC. People have room for bikes. The roads are just not safe for bike travel.
1	I want to say maybe. It is a good idea because it allows Howard County to present itself as a sustainability leader. Maybe in the denser parts of the county, but I live in Ellicott City. A reason I don't think bike share is a good idea is because I don't think it will have high enough demand. I see a lot of bicyclists out, but they tend to be the strong and confident cyclists in lycra who don't carry locks because they aren't going to stop anywhere on their ride. When I ride to the grocery store it is usually only my bike locked outside, and very few stores are accessible by bike for people who are nervous about traveling on or over Rt 40. The lycra clad bike rider does not ride for utility purposes, despite their

	physical ability and confidence. Howard County needs the infrastructure to encourage casual cyclists before we invest in Bike Share.
1	See my previous comment block for details. Economic subsidization of private industry by government interests is a waste of money and lacks sound fiscal discipline. This state is wasting money left and right and the infrastructure required for this type of project does not exist.
1	While I support the concept of bike sharing I don't believe Howard County and Columbia have the population density to support this program.
1	Howard County is too spread out and this is the last thing on earth the county needs to get involved in. The county can't even respond to snow removal effectively and efficiently as evidenced by this last winter, why on earth are you hand-wringing about silly projects like this? How about you pay attention to and service the infrastructure you already have? If the county wants to get involved in ANY sort of new transit endeavors, pitching access to either MARC or WMATA's Metro in Howard County should be the focus.
1	People are going to get mugged and its going to cost a lot of money to replace all the stolen bikes.
1	Most people in Howard Co that want to ride a bike already have one. I think the people that will rent one will not know how to follow the rules of the road ... will cause accidents for themselves or others.
1	Not many people ride bikes to work. On my drive I see 1 person biking to work seasonally. Most avid cyclists will ride regardless of whether or not there are designated lanes and they own their own bikes.
1	We are a suburban community not a major city. Don't have enough people without cars or places to park as in DC.
1	I think most people who would ride already own a bike. The money could be better spent creating real bike lanes.
1	You do not have bike lanes or even shoulders on a lot of our roads. Sometimes it's unsafe riding down roads like Homewood let alone busier streets.
1	People who want to ride a bike have one of their own. This idea is only good for tourist areas and maybe students at a large university. If you don't have a bike, it would be dangerous to just pick one up and try to ride.
1	This model works well in Cities... it may work well if limited only to downtown Columbia. I don't see it working well throughout Columbia, it won't get enough use to justify the cost.
1	Anticipated fees and costs will prevent so many people from using the system much. People in cars cost the county much more money. Make bikes low cost and subsidize them to get autos reduced in numbers just as in Copenhagen and many places in Europe
1	It's a silly idea and a waste of money. It's the suburbs; people drive most places (and expensive bike rental will not change that). The people who do want to bike can already buy one and keep in their house for a few days worth of rental. This is not New York where people don't have room for bikes.
1	To do so the right way will be very costly, and the tax payers already pay waaaaay too much for the limited service we get in return. This will (sadly) end up costing way more than it should due to who will be implementing / running it.
1	More bicycles on public streets will lead to more accidents, people in cars getting stuck behind bicycles, etc.
1	Back to earlier comment. If on one of the bike trails, near the mall, anywhere on Stevens Forest. It is not a safe place to be especially alone with the resident Ho. Co. thugs
1	There are only a handful of locations where I can envision sufficient activity to warrant a station. A very limited system would be extremely inefficient and costly to operate for the likely amount of usage.
1	Bike share is about supplementing existing convenient mass transit, which Columbia doesn't really have. This is because you need an alternate means of transportation if 1. No Bikes Available 2. It starts to rain/snow or you just don't want to ride back. One of the main issues I have with DC's bikeshare (before it broke me) was that when I came in to Union Station in the morning, all the bike were gone as they were in use by people who got there before I did. And even worse is the reverse. When I would be returning to Union Station, all the slots were full and I had to go to an alternate and would end up missing my train. Columbia is hilly and too spread out for these types of bikes which aren't designed for long distance and only have three speeds.
1	Nothing is centralized in the county...I don't see the purpose. I see buses driving up and down my street and no one ever uses that public transportation, why would they use a bike? Additionally, when monitoring the daily police blotter, bikes are the most commonly stolen item. If the bike share is targeting those individuals who have limited means of transportation, why would they give the bike back?
1	Currently too many peckerheads riding around HOCO being a nuisance on roads they have no business being on. If the road does not have a shoulder there should be no bicycle traffic on it. Like 108, Old Frederick, Burntwoods, Florence, Jennings Chapel or even Rt 32 where I FREQUENTLY get stuck behind a pack of these pests. Narrow windy roads are not the place to be leisurely cycling around. Yet HOCO sponsors rides several times a year.
1	If it is feasible let a private company do it. Not where I need my tax dollars in a state running a 1/2 billion deficit.

1

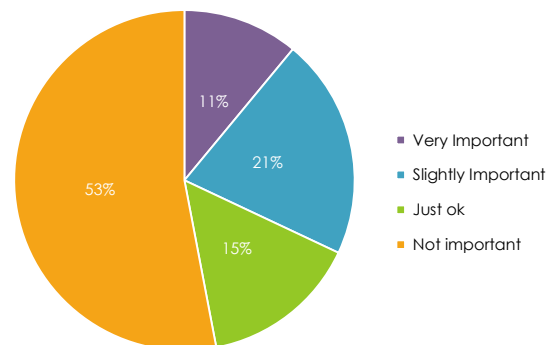
I believe that our county relies heavily on cars and buses for transportation. I also believe that these new riders will not obey the laws of the road and use the sidewalks.

14. If bike share were available, throughout the County what types of trips do you think you would use the bikes for?



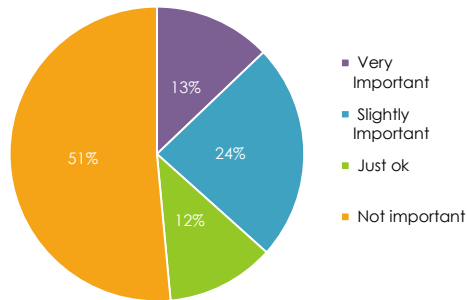
Total responses: 122

15. How important would it be to integrate a potential bike share system in Howard County with the proposed bike share system in Baltimore?



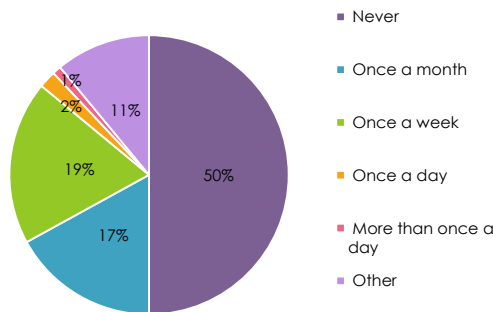
Total responses: 128

16. How important would it be for any potential system in Howard County to integrate with the existing bike share system in Washington, DC?



Total responses: 127

17. About how often do you think you would use bike share?



Total responses: 129

18. How much are you willing to spend on an annual bike share membership?

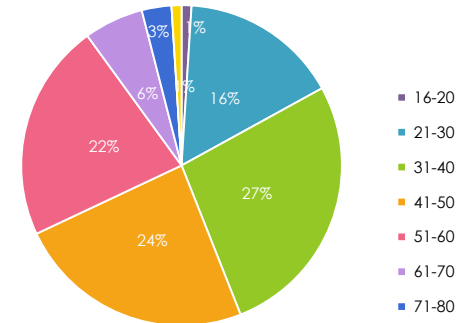
	Average	Min	Max	StdDev	Responses
Annual membership fee:	58.14	0	200	58.79	85
Weekly membership fee:	11.66	0	200	24.8	67
Daily or casual membership fee:	12.02	0	200	31.01	81

19. Please let us know which of the following objectives are the most important for the County to focus on for implementing its bike share program.

Objective	Score	Overall Rank
Expand the on-road bicycle facility network to accommodate more bicycle trips around priority station locations.	548	1
Promote a culture of safety among bike share users.	488	2
Integrate bike share as an extension of transit.	482	3
Educate the public about safe biking practices and rules of the road.	457	4
Optimize the number of origins and destinations that can be served by a bike share system serving as many neighborhoods and destinations as possible.	451	5

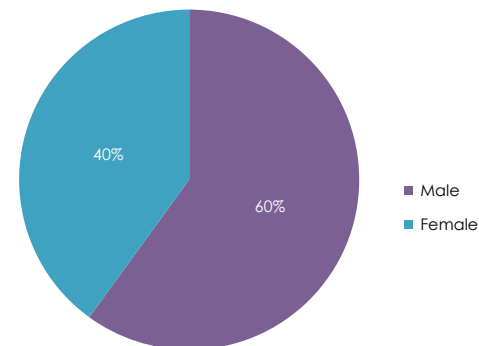
Develop a system that engages and serves users in minority and low-income communities and improves their access to key destinations, such as jobs, educational centers and recreational centers	383	6
Plan for and ensure sustainable capital funding for system growth and ongoing equipment replacement.	368	7
Provide station locations not only in the denser parts of the County but also in neighboring residential areas and eventually expand the geographic coverage across the County.	349	8
Cover all capital and operating expenses without public assistance.	349	9
Focus the system only in the denser County core.	299	10

20. Age



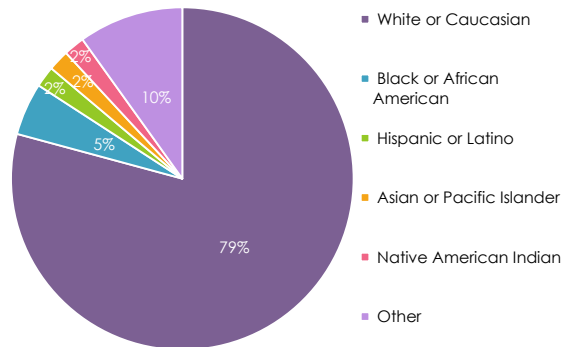
Total responses: 127

21. Sex



Total responses: 123

22. Ethnicity

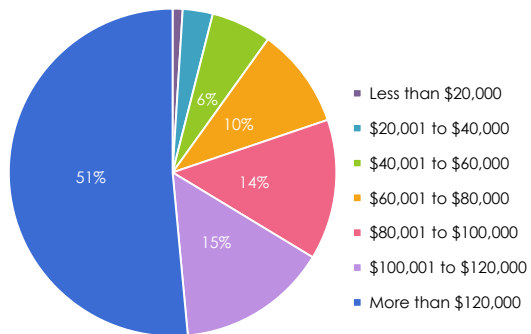


Total responses: 123

23. How many people reside in your household?

Count	Response
1	0
7	1
47	2
1	21
25	3
25	4
10	5
3	6
1	7

24. What is your annual household income?

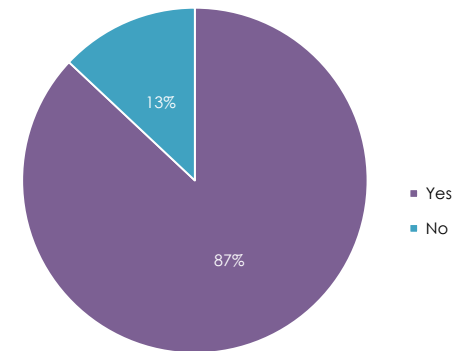


Total Responses: 116

25. 5-digit zip code for your home address

Count	Response
7	20723
8	20759
1	20763
1	20777
1	20794
1	20814
1	20902
1	21029
12	21042
4	21043
30	21044
30	21045
12	21046
1	21048
1	21060
7	21075
1	21737
1	21738
1	21794
1	21797

26. Are you currently employed?

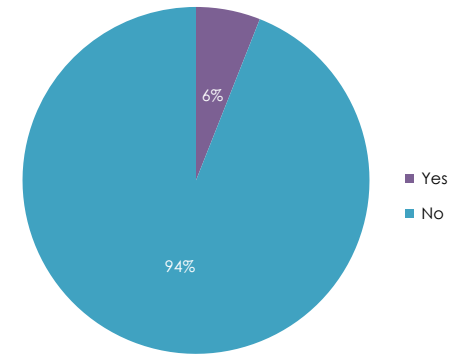


Total responses: 125

27. What is the zip code of your place of employment?

Count	Response
2	20001
1	20002
2	20006
1	20009
1	20024
1	20173
1	20506
1	20706
2	20707
8	20723
1	20740
1	20742
3	20755
3	20759
1	20777
1	20783
1	20794
1	20892
2	20910
1	20993
1	21031
1	21042
2	21043
11	21044
7	21045
10	21046
1	21048
3	21075
2	21076
1	21077
2	21090
1	21093
1	21117
1	21201
2	21202
1	21204
1	21217
1	21218
1	21226
1	21235
1	21287
1	21401
1	21784
1	22033
1	22102
2	22202
1	22204
1	22209
1	22314

28. Are you currently enrolled in school?



29. What is the zip code of the school you attend?

Count	Response
1	20742
2	21044
1	21205
1	21218
1	36561

30. Please provide any additional comments here:

Count	Response
1	Bad idea
1	Columbia is not this place for such a program. Save our money for better uses.
1	Don't spend my tax payer money on this. If you get private money for it going ahead.
1	Howard county doesn't have a bike problem, we have a biking environment problem.
1	I really hope this goes through, I would love to be able to bike through Wilde Lake.
1	I think it is silly and idiotic. I think someone is looking for votes.
1	I would like the see a bike share location in Maple Lawn.
1	If it feasible let private business do it.
1	Keep the bike paths in park like settings. Focus on beauty and culture.
1	Love the idea!
1	Make dedicated bike lanes a priority
1	Thank you for your hard work in bicycle advocacy in howard county!
1	This is a waste of tax dollars and/or CA dues.
1	This is exciting, I think bikeshare would be a great option for travel in Howard County!
1	Until the streets are made safer for bicyclists, this program will be under utilized
1	none
1	I think I bike share system would be great - but only after making significant road improvements that make it safer to bike. All of the people involved in planning this program should get on their bicycles and ride to major shopping destinations around HoCo or even just Columbia and see how safe they feel. While you can get to the village centers easily on the paths (yea!) you can't get to HCC, to/around Dobbin Center, to/around Columbia Crossing, to Wegmans/Apple Ford area, etc. I would routinely bike to these places if it were safer - a bike share system alone will not make it any more likely for people to bike.
1	It seems that bike share can be a part of transit options in the most dense parts of Columbia, but it also can be seen as a recreational opportunity to make use of the trail systems. Maybe bikeshare can be placed at the big trail entry points, such as near the lakes and off Patuxent Branch Trail.
1	I think Bike share would be most effective if all the roads were equipped to handle bikes first. that should be the number one priority. if there is still funding after that for a bike share program then that is great! I hope it comes soon.Best of luck!

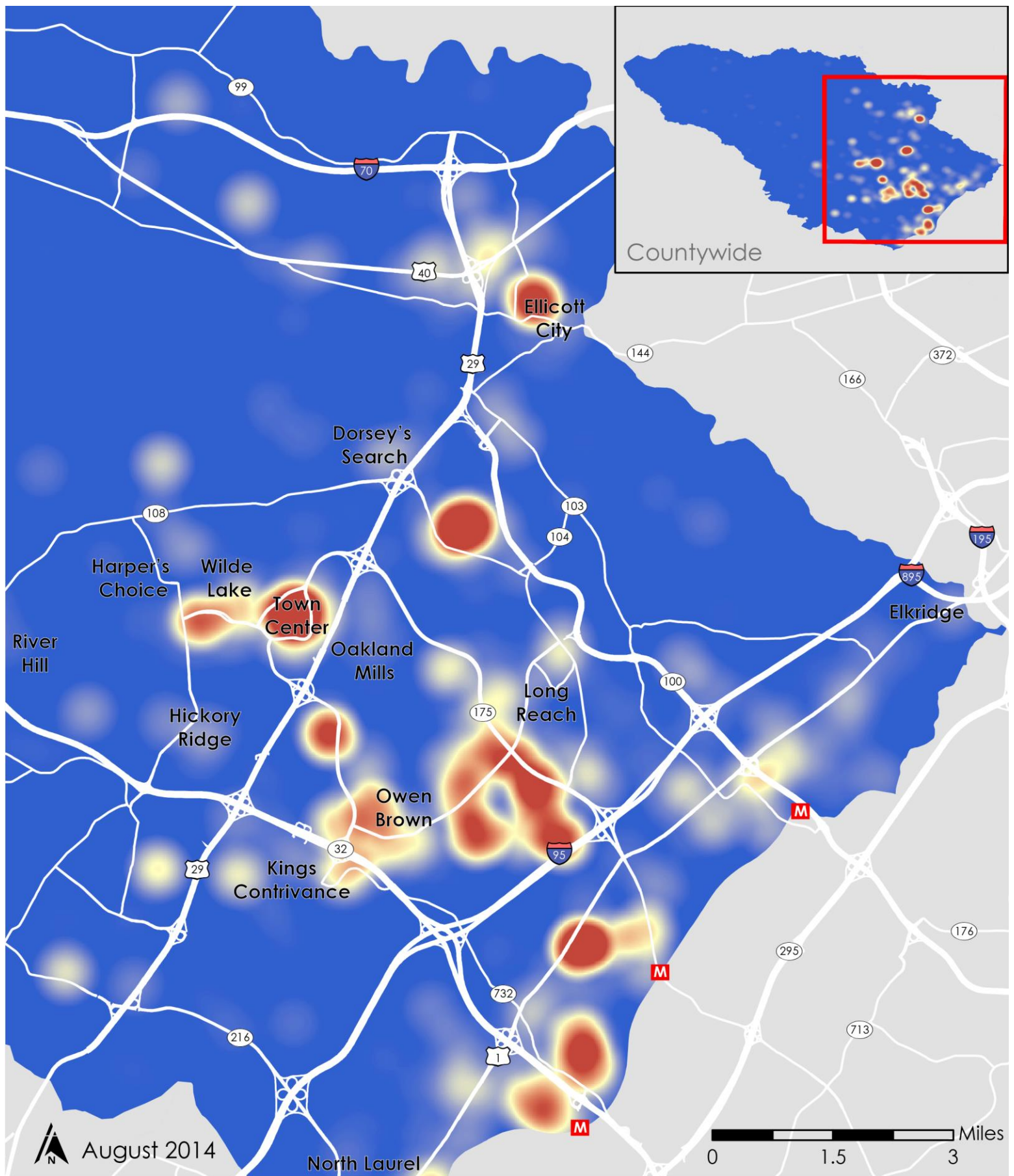
1	I would support a bike share program, even though I would be unlikely to use it because I already ride my own bikes throughout Howard County.
1	Columbia was built on the idea of walking to village centers. The idea has failed - just witness that entire Columbia area is wall-to-wall with cars on the week-ends. Only a very few people will use existing or new bike facilities and infrastructure.
1	Although I would probably not use bike share much I would love to see it implemented as an environmentally friendly means of transport, a healthy form of exercise and a means of reducing traffic, noise, pollution, etc ...
1	Instead of bike share, use funds to put in designated and painted bike lanes on all main arteries.
1	I believe this is a wonderful initiative for the future. I prefer to know my children can ride bikes rather than grow up car-dependent. I would ultimately use a bike too to go to work and go with kids to school, but a sense of bike safety is a major issue for me right now today.
1	You really need to substantiate the need for this. It can be very expensive and then end up not being used much. Makes sense in an urban area like DC or Baltimore, but Howard County is not urban.
1	My answers may be skewed because I own and actively use a bike. Not likely to use the bikeshare bikes but I would benefit from the increased focus on bikes and especially MORE BIKE RACKS AROUND THE COUNTY!
1	In parts of Germany the bike lanes adjoin the sidewalks, and walkers had better not intrude on the bike lanes! Our bike/walk paths are not safe for walkers because the majority of bikers do not give warning as they approach walkers from the rear.
1	Improving the infrastructure for a bike share program would help people be able to use their personal bikes too. Wouldn't even need to add bikeshare-specific stations all over, even just adding regular secured bike racks would help.
1	If you start a Bike Share, you should start one in the Villages Centers. This helps reach the county's overall goal to increase traffic to the Village Centers. Also, Columbia Gateway. Lots of Bikers are there on the weekends.
1	For pity's sake....before investing in a lot of new bikes out there, could we possibly concentrate on making it safer for bikes first?!? WHY oh WHY can't there at least be a SHOULDER to ride on 108?!? There are so many more bikers who would commute if there was something that looked like a dedicated bike lane on the major routes...175, 108, Snowden River, 29. I like my 30 minute bike commute, but it sure has increased my PRAYER LIFE!
1	Bike sharing works best in areas with high population density and many users of public transportation. I am a lifelong resident of Ho Co and friend of the environment and don't see where I ever would use bike sharing. The only place where I would use it would be to transfer from a bus or metro stop to my work or shopping. Otherwise, like most county residents I know, I would use my own bike or use a car. The county should talk to the bus riders as this would be a benefit to them. In the areas with the lakes the renting of bikes for recreational purposes might break even, otherwise this is a bad decision for our area.
1	Bike Share does not need to come to Howard County unless private companies find it feasible, and based on the fact that they don't already exist I would assume that it is a money-loser. There's no reason Howard County needs to get involved, especially given the poor level of service Howard County gives to its existing infrastructure.
1	Please expand roads throughout the county that are bicycling friendly. Too many roads that are dangerous with no shoulder or dedicated bicycling lane!
1	What are the results of other feasibility studies from communities most similar to Columbia and not a large city?
1	If the county moves forward with this program, I hope they will also be committed to improvements to make HoCo more bike friendly.
1	Getting from point a to b takes time in a spread out community like ours. Weather is a big factor for an occasional rider. Functional riding to a store or restaurant means you need storage for the bike and proper safety equipment. We have great trails for recreation. more bikes and pedestrian are asking for trouble on trails. Added lanes would be great.
1	Bike Share program planning needs to be integrated with planning for improved pathways, new bridge over Route 29 in Oakland Mills, and improved transit services.
1	I see bike riders run stop signs and red lights. They ride the wrong way on roads. They ride on sidewalks and almost knock people down. Bike riders must be made to ride on roads or bike lanes and obey all traffic laws. They should have to have a bike license and a license plate for their bike.
1	I love the idea of the bike share, however, the roads are not safe for bikers. Without shoulders or bike lanes I don't see this happening. People don't mind riding through the back paths some of the time, but some of those paths have big hills and do not connect. I don't see how you can do this safely.
1	Your survey seems to ignore the issue of almost no safe place to ride a bike. My answers might have been different if there had been some clarity about the road/path conditions under which bike share would be implemented.
1	I think it is more important to add a set of trails to directly inter connect the different villages.

1	I think that it is a great idea for Columbia in particular, given the existing trail system and the proposed trail improvements.
1	While I am a fan of broadening services and opportunities, I don't think that a Bike Share really should be a priority for the County or the CA. The County has enough major capital projects or issues with major transportation (29 expansion), civil (flooding in Ellicott City), parks (Blandair & Merriweather) to stay busy without adding another unnecessary project. The CA is in the middle of several projects as well (Haven on the Lake, new member services, and Inner Arbor) and should address aging facilities (Supreme Gym and Swim Center have continuous issues and need to shutdown frequently). In short, there are many more important issues to tackle than the creation of a Bike Share in a sprawling suburb.
1	You need to simplify membership and participation. There may be a danger of bureaucratic demands upon persons interested
1	Nice to know all other problems in the County have been addressed and we can focus on somebodies feel good pipe dream planned community utopia concept. Really this is a concern a bike share?
1	Maybe a very limited system in TC/HCC would be used. Apartment dwellers near the mall and HCC students may bike from home or school to the mall or whole foods. But I don't think such a limited system could possibly be economic to operate.
1	This is a terrible idea and an example of something that government should not be doing. Let the free market decide whether there is a market for a bike share or not. If Howard County has to subsidize it, there is no market and no point in wasting tax revenue.
1	I do not support spending my tax money on this effort. Please use our tax money for education or to ease road congestion.

APPENDIX 4 - CHALLENGES AND OPPORTUNITIES

Item	Challenges	Opportunities
Geography, Climate and Land Use	<ul style="list-style-type: none"> • Difficult topography makes bicycling challenging in some parts of the County. • Street connectivity is impacted by existing development practices in some areas of the County. 	<ul style="list-style-type: none"> • Relatively well connected network of pathways and trails throughout eastern parts of the County. • Older communities have a more interconnected street grid. • Temperate weather throughout the year.
Demographics and Employment	<ul style="list-style-type: none"> • Lower population and employment densities in Western areas of the County. • Population and employment densities in central and eastern parts of the County remain low in comparison to denser peer jurisdictions with existing bike share programs. 	<ul style="list-style-type: none"> • Areas in southeastern parts of the County (i.e. Downtown Columbia along Little Patuxent Parkway, Ellicott City and North Laurel) exhibit higher population and employment densities than those areas in the west. • Development patterns in some areas of the County (ex., Downtown Columbia and Route 1 Corridor) are expected to encourage increased density of employment and population.
Transportation Mode share	<ul style="list-style-type: none"> • High dependency on single occupancy vehicles • Low parking rates and availability of free on-street parking • Infrequent bus transit service and limited number of routes throughout the County. • MARC commuter rail stations are relatively far from higher density areas 	<ul style="list-style-type: none"> • Downtown Columbia is the central node of many of the bus services in the County, opening the opportunity for first- and last-mile connections to and from this location. • County residents without access to a vehicle, represent an important demographic for bike share implementation, as it could help serve as a convenient and flexible complement to existing public transit services.
Bicycle Infrastructure	<ul style="list-style-type: none"> • Existing major highways act as barriers to connectivity. • Incomplete way-finding and signage program. • Street design encourages high speed of motorists. • Difficult connectivity to key destinations around Downtown Columbia. 	<ul style="list-style-type: none"> • Limited but ever increasing bicycle friendly facilities network. • Existing and approved active transportation plans calling for the expansion of bicycle and pedestrian facilities throughout the County.
Tourism	<ul style="list-style-type: none"> • Reaching the visitor population may require targeted marketing via strategic partnerships with local groups and tourist destinations. 	<ul style="list-style-type: none"> • Existing significant destinations and events that attract a steady number of tourists who may be potential users of a bike share program. • Well-organized Tourism and Promotions office which may provide some in-kind marketing and promotion services • Existing trail and pathway network provides a strong recreational opportunity for visitors. • Existing regional destinations in the vicinity of Downtown Columbia (ex., Columbia Mall, Merriweather Post Pavilion, Howard Community College)
Local and Regional Plans and Policies	<ul style="list-style-type: none"> • Current zoning ordinances do not allow for bike share station installation. • Existing signage ordinances may do not allow for the use of advertising, sponsorship. 	<ul style="list-style-type: none"> • Comprehensive transportation plans aim to achieve multi-modal and active transportation goals, which will benefit implementation of a bike share system • State and local plans address a need to improve the bicycle network • Howard County recommends further expansion of its ride share and transportation demand management programs, which can include a bike share element
Public Input and Stakeholder Engagement	<ul style="list-style-type: none"> • Public remains skeptic about implementation of bike share program in a suburban setting • Public recognized that as driving is the most convenient way to get around in Howard County, there is less incentive to adopt bike share as a means of travel • Public Stakeholders recognized the existing cycling infrastructure is incomplete and not connected. • Public stakeholders agreed that bike share faces regulatory hurdles to implementation in Howard County in the form of its existing Zoning Code. 	<ul style="list-style-type: none"> • Strong interest in remaining an active and healthy community. • Strong interest in implementing a system that supports recreational activities • Strong support for using bike share as a catalyst for increased bicycle friendly infrastructure. • Strong interest in increasing mobility options and access to various areas of the County for residents. • Support for bike share as a way to attract a well-educated, mobile, and highly-competitive workforce.

APPENDIX 5 – INDIVIDUAL VARIABLE MAPS



Employment Density

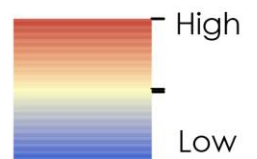
BIKE HOWARD

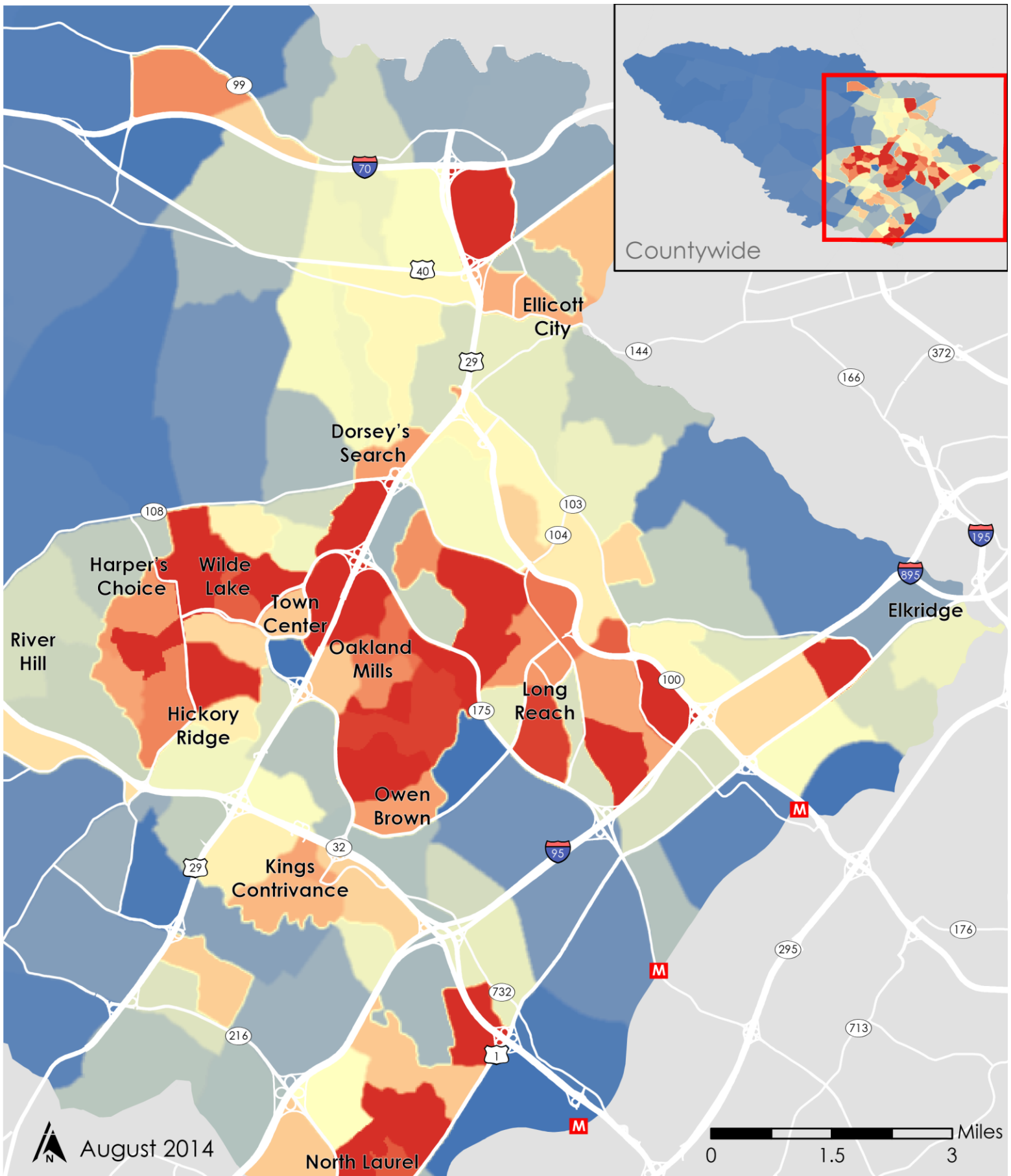
Bike Share Feasibility Study



M MARC train

Source: US Census Bureau. Longitudinal Employer-Household Dynamics. Area Profile Analysis in 2011 by Primary Jobs





Population Density

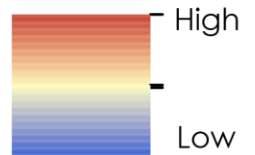
BIKE HOWARD

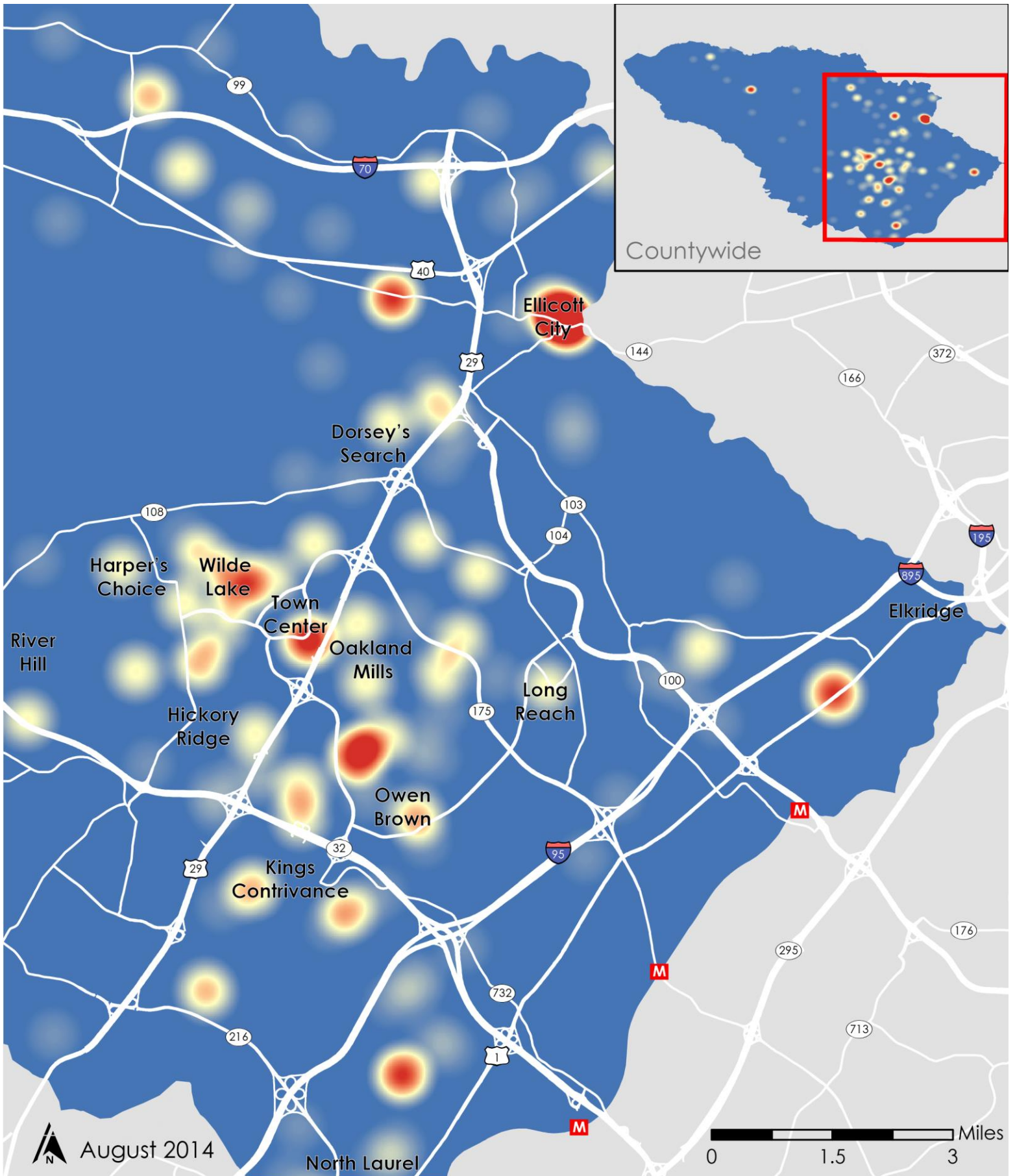
Bike Share Feasibility Study



Source: 2008-2012 American Community Survey 5-Year Estimates.
File S0101 Age and Sex. U.S. Census Bureau.

 MARC train





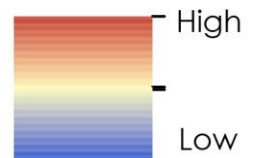
Destinations BIKE HOWARD

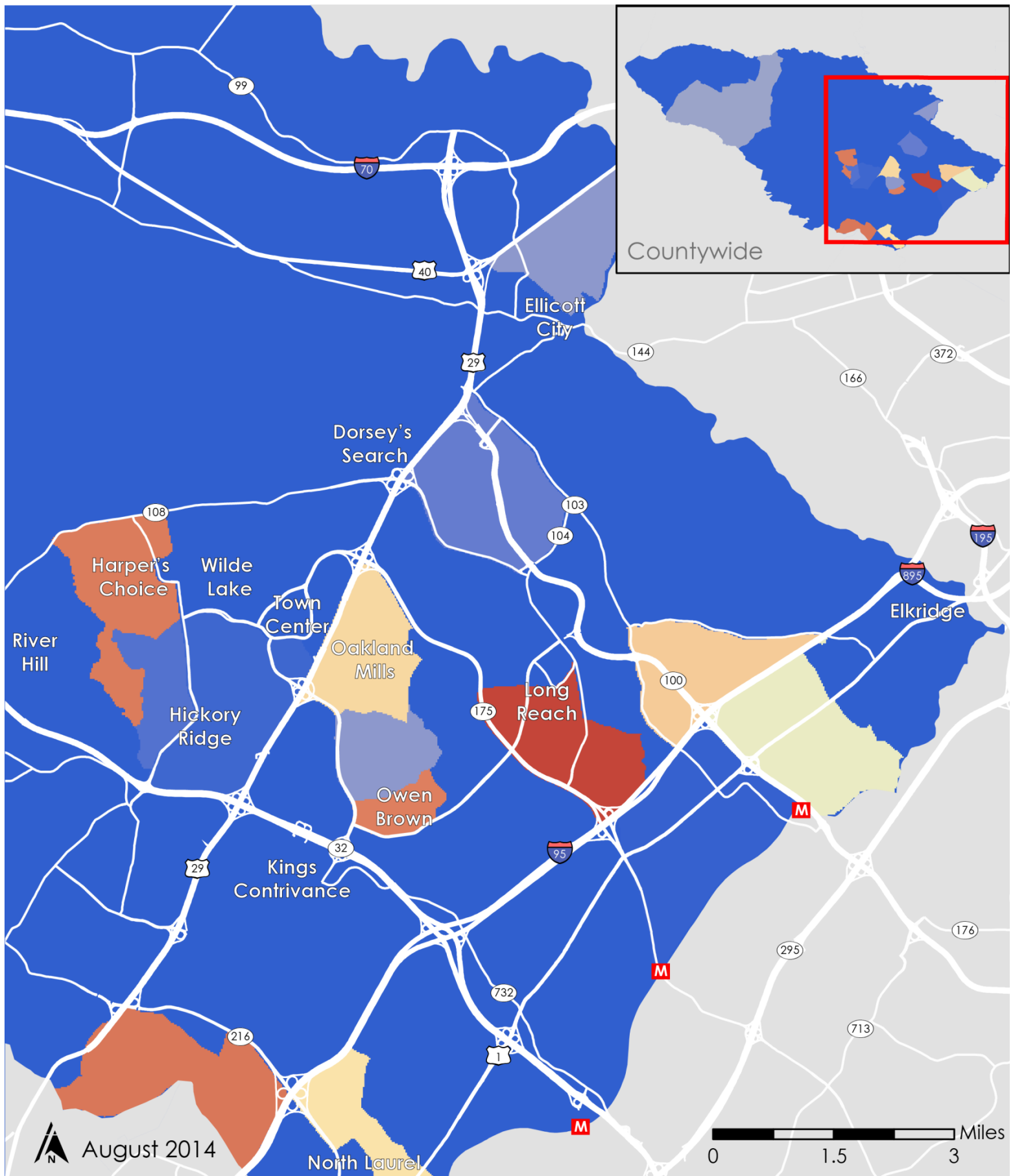
Bike Share Feasibility Study



M MARC train

Source: Howard County DPZ Staff. File: Core Places





Bicycle Modeshare

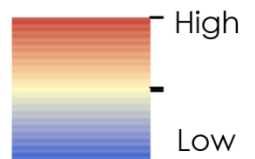
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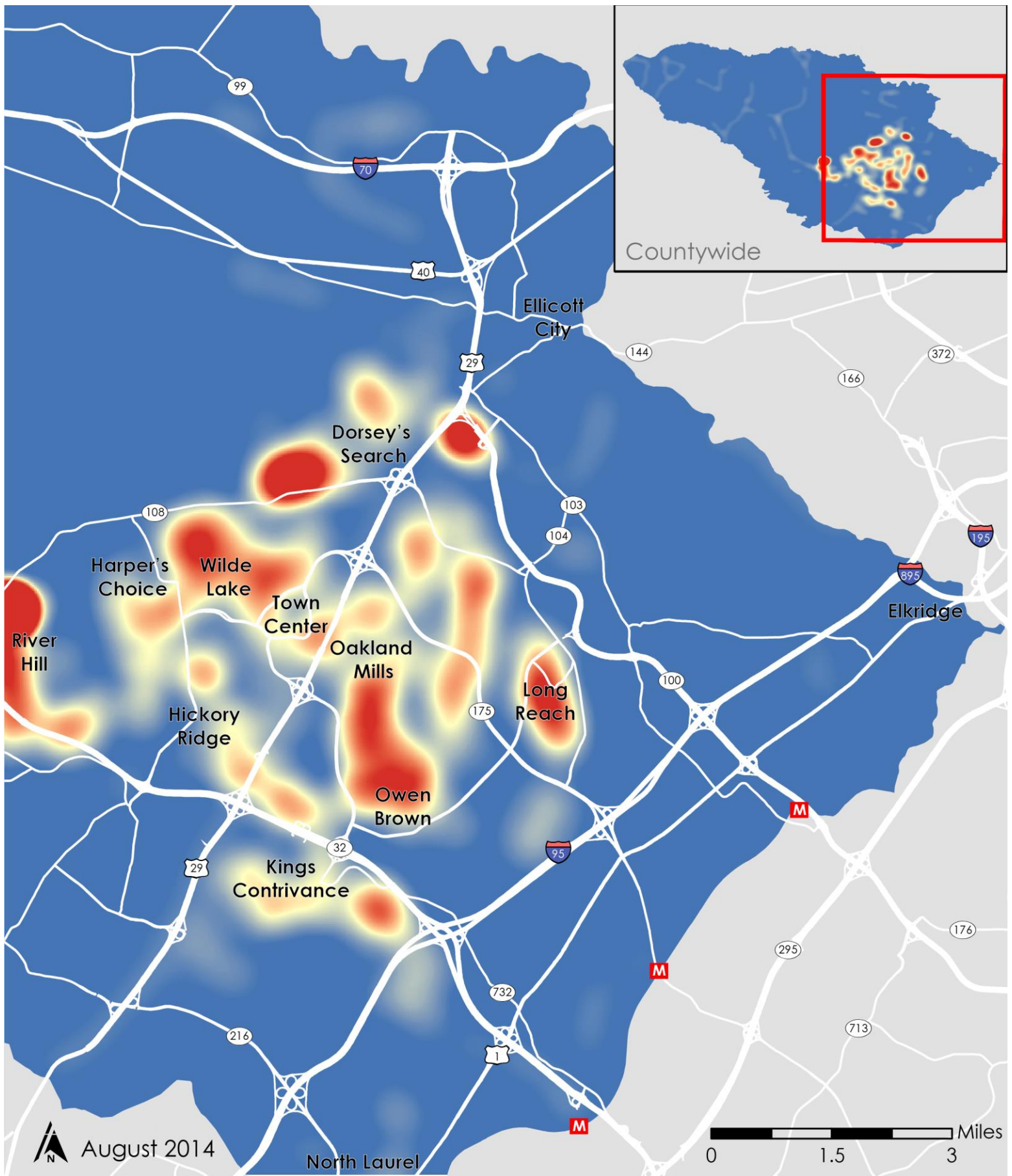
Bike Share Feasibility Study



M MARC train

Source: 2006-2010 American Community Survey 5-Year Estimates. File B08101 Means of Transportation to work by age. U.S. Census Bureau and 2010 Transportation Analysis Zones provided by Howard County DPZ Staff.





Proximity to Existing Bicycle Infrastructure

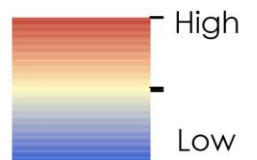
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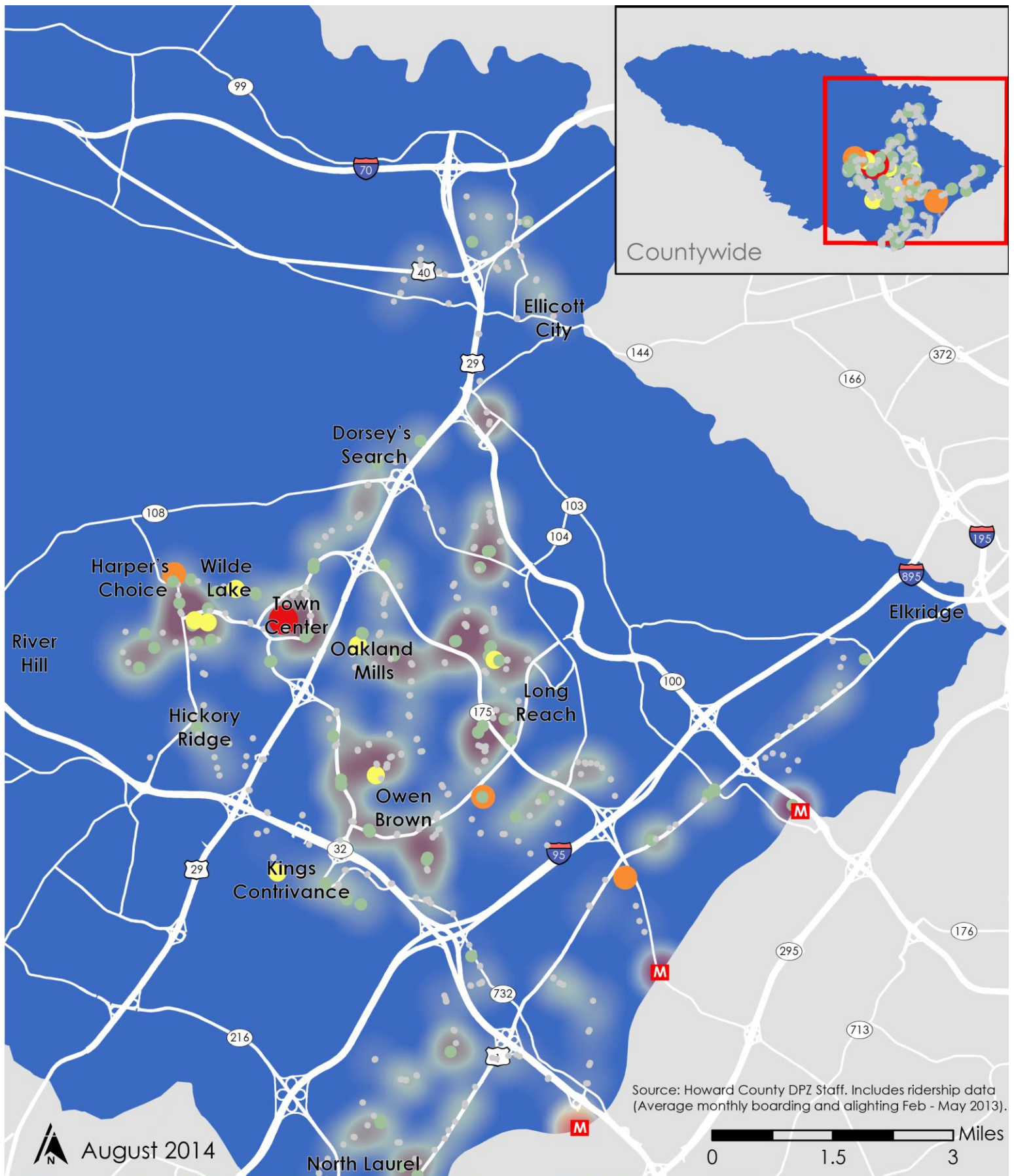
Bike Share Feasibility Study



M MARC train

Source: Howard County Bicycle Master Plan and
Howard County DPZ Staff





Proximity to Transit vs Ridership

BIKE HOWARD

Bike Share Feasibility Study



Bus Boarding and Alighting

0 - 1,122

1,123 - 4,506



4,507 - 11,298



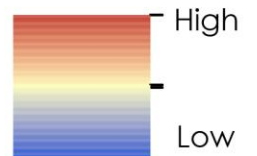
11,299 - 27,728

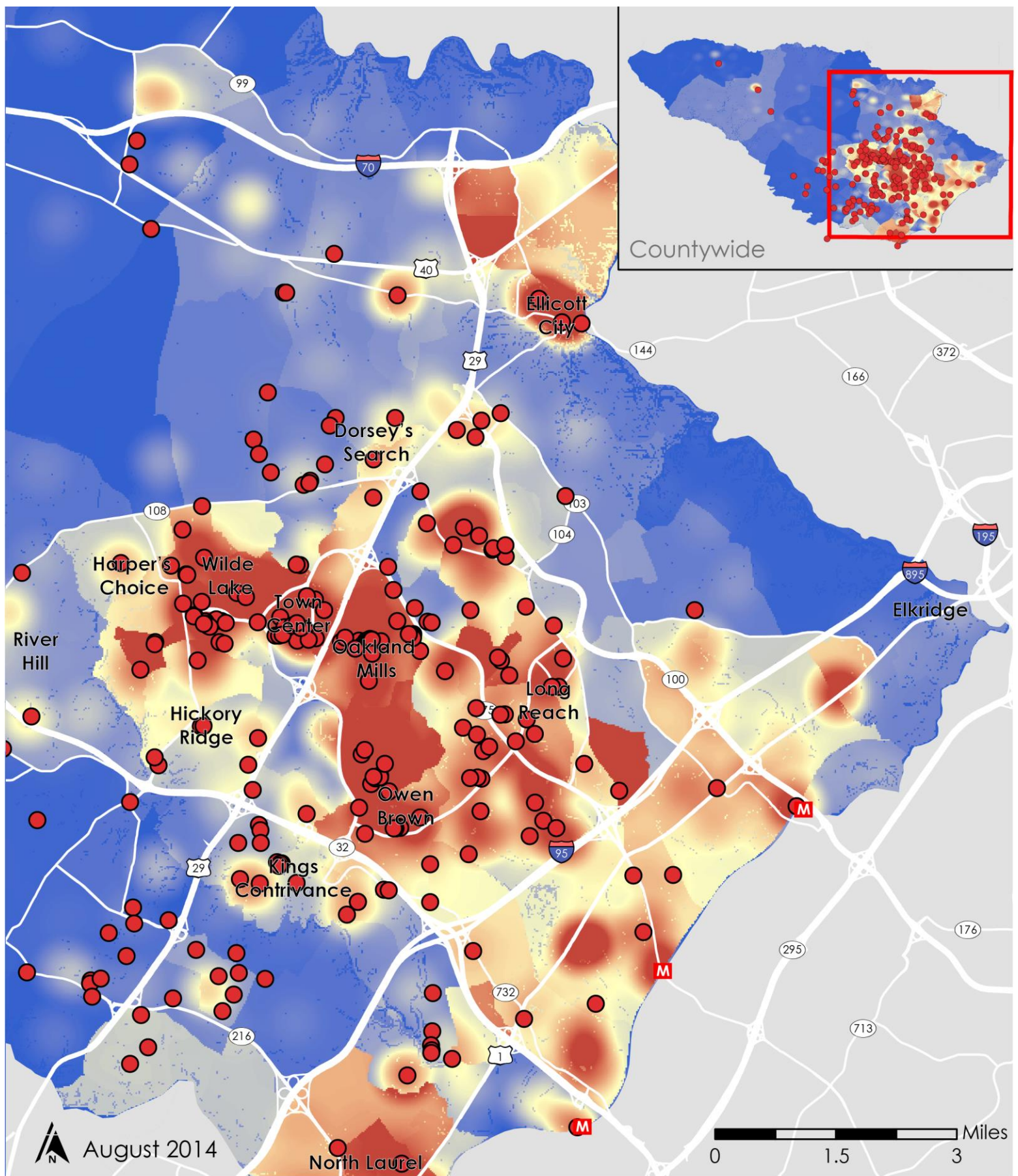


27,729 - 21,3012



MARC train





Publicly Suggested Locations

BIKE HOWARD

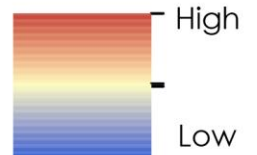
Bike Share Feasibility Study

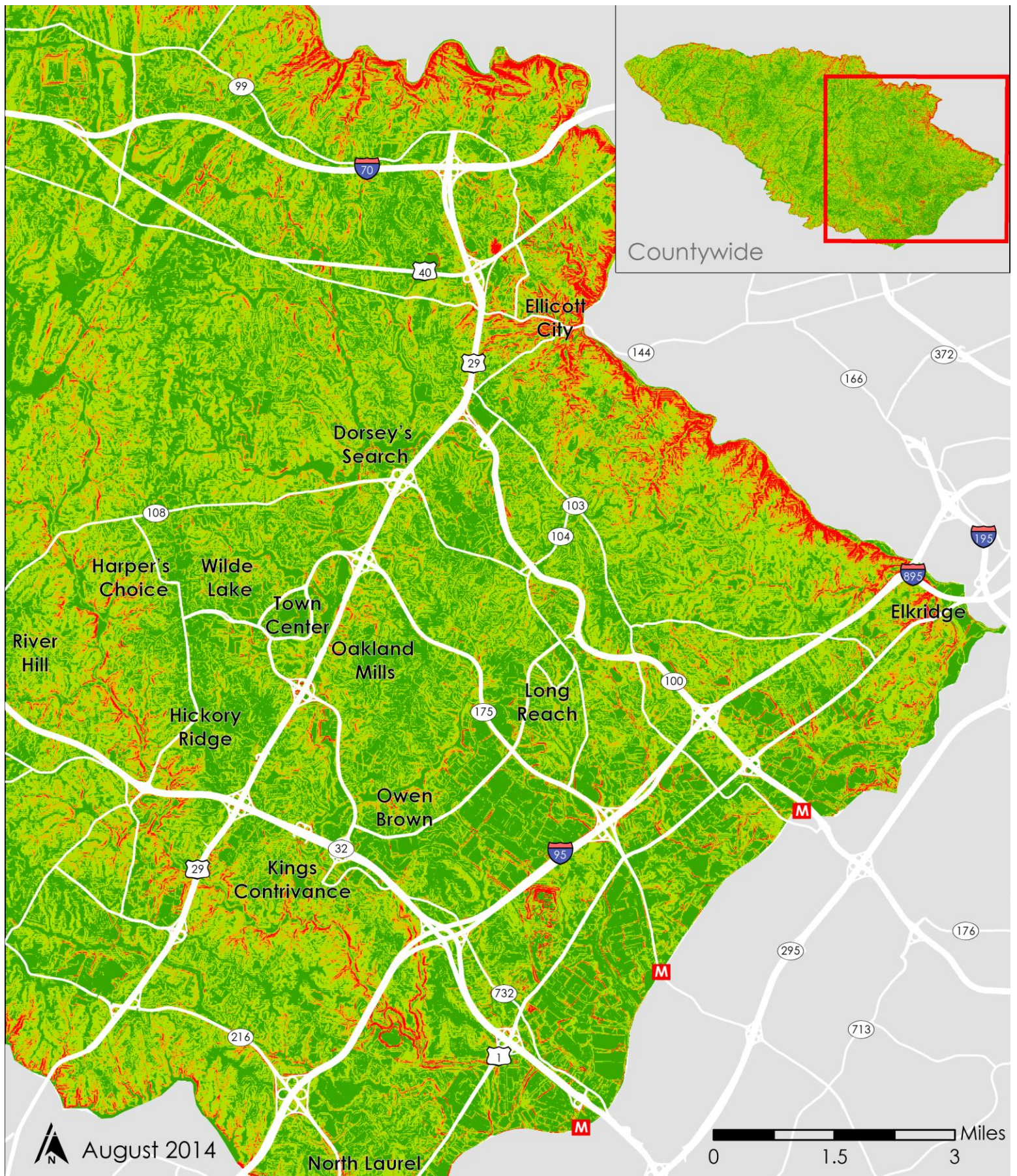


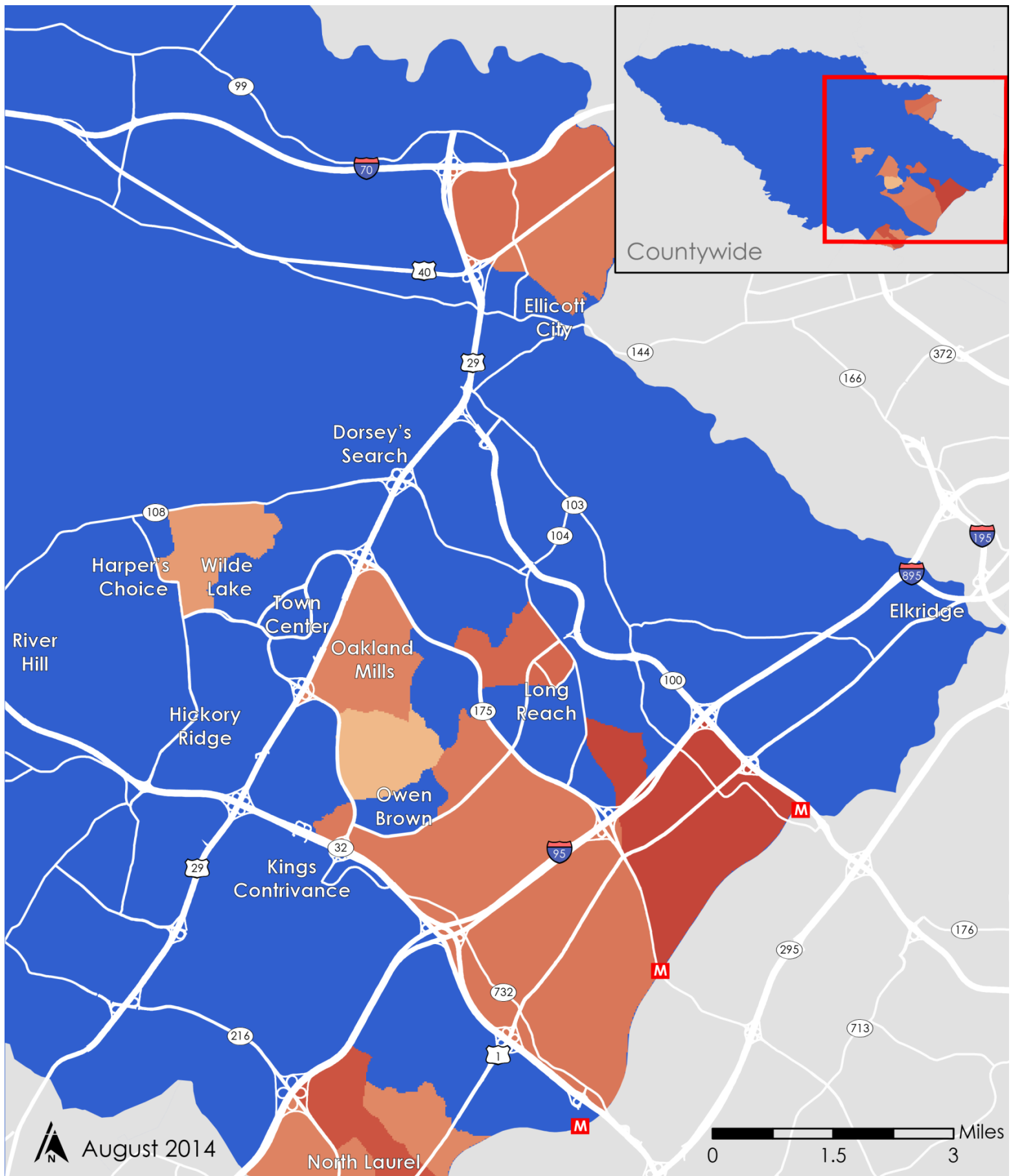
M MARC train

● Public Suggestions

Source: Publicly suggested station locations
via www.howardcountybikeshare.com







APPENDIX 6 – PILOT PROGRAM

Should funding be unavailable for launching bike share as the full Phase 1A, a smaller pilot program could be created that focuses bike share in Downtown Columbia, the Community College, and Howard County General Hospital. The eight station pilot could then be expanded at a later date to encompass the entire Phase 1A. Developing a smaller pilot is not necessarily ideal as there is a strong network effect that impacts bike share; larger systems can accommodate a more diverse range of trips due to the larger number of origins and destinations available. However, by pursuing a pilot phase first it will allow the County to test bike share's feasibility in the local market, and make any necessary strategy changes before committing to a larger scale program. The pilot will also allow the program owner to build institutional capacity to eventually manage a larger program.

SERVICE AREA AND PHASING

Based on the recommendations contained in the Business Plan, a smaller area of the County is proposed as the staging area for a bike share pilot program. The proposed phasing area and generalized station locations are presented in the map below.

This proposed Pilot Program is expected to provide a resource for transportation and recreation travel, connecting various activity centers in the core of the County including the Villages of Harpers Choice, Oakland Mills and Wilde Lake. The project would also provide service to Howard Community College, Howard General Hospital, Downtown Columbia, Blandair Park and Lake Kittamaqundi.

The pilot would provide effective service between a mix of recreational trip origins and destinations and increase transportation options between existing activity centers. However, because of the existing land use patterns and bicycle infrastructure, the predominant types of bike share trips expected for the program's outset will be recreational in their nature (ex. a resident living close to Oakland Mills Village Center wanting to go for a recreational ride around Blandair Park) even as there might be opportunities for each trip to have transportation related purposes.

The proposed pilot program as defined includes eight stations in an area of 2.1 square miles for a total station density of around 3.9 stations per square mile, double the density of stations of the overall proposed program. Based on this proposed density and phasing, the Pilot is expected to serve around eight percent of the County's total jobs and just over five percent of the County's residents based on place of residence and place of employment. The system is also expected to serve County visitors who go to Downtown Columbia for its shopping, restaurants, parks, etc. Finally, the proposed pilot program has the potential to serve 30,000 students who are enrolled at Howard Community College, with the majority of them living within five miles of campus.³²

PROPOSED STATION LOCATIONS

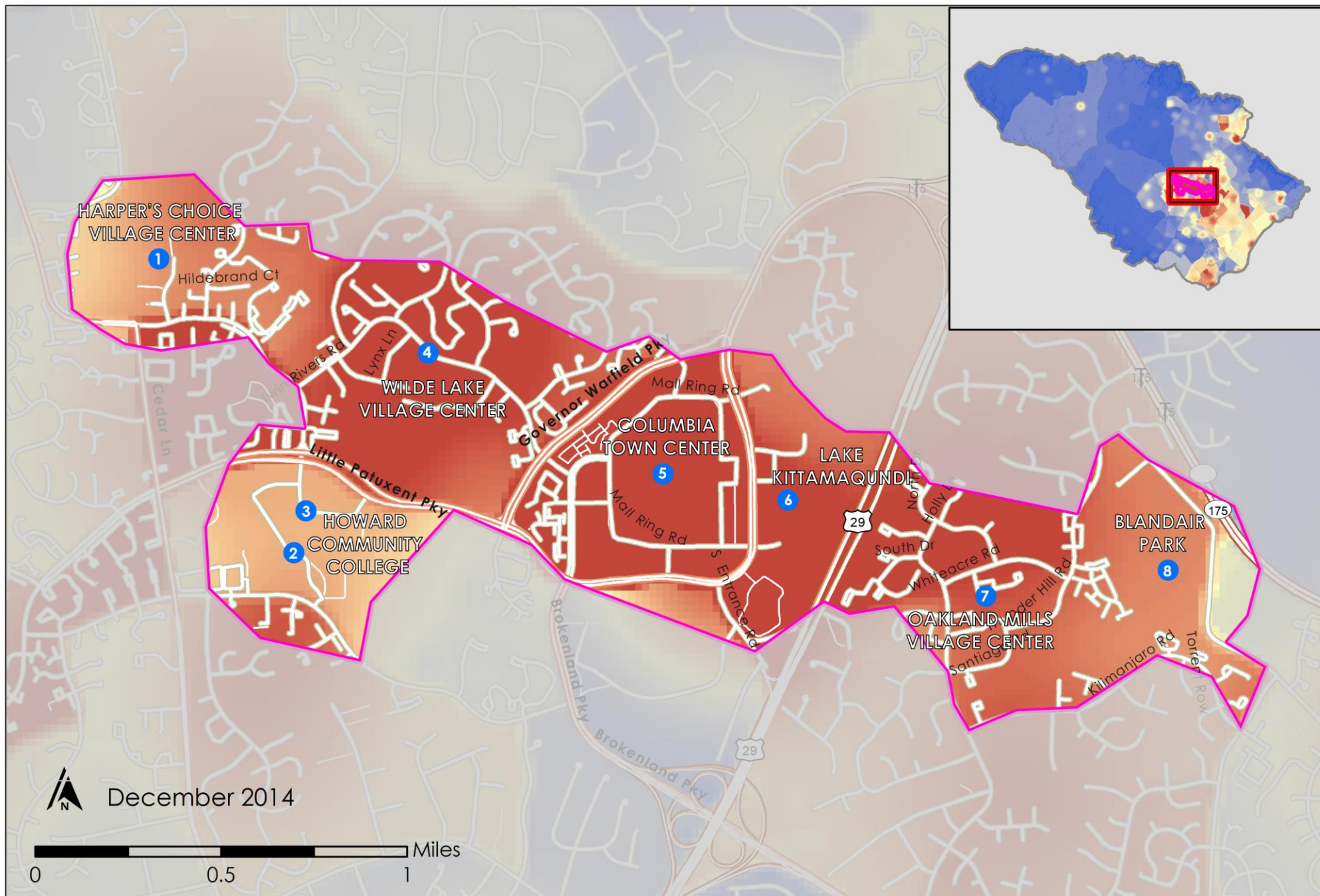
General station locations were determined based on public and stakeholder input, as well as heat map analysis performed as part of the Feasibility Analysis. The proposed locations were further refined with the feedback from County and Columbia Association representatives. The proposed station locations are included in the table and map below:

Proposed Station Locations

Station Location	Station Number
Harpers Choice Village Center	1
Howard Community College	2
Howard Community College/Howard General Hospital	3
Wilde Lake Village Center	4
Columbia Town Center	5
Lake Kittamaqundi/Whole Foods	6
Oakland Mills Village Center	7
Blandair Park	8

Please note that the final station placements will require additional public outreach and field work to determine and confirm availability of space, and right of way ownership among others. The proposed locations for bike share stations contained in this report are to be used only as a general guide.

³² Interview with Bob Marietta of Howard County Community College, May 2014

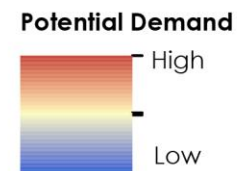


Proposed Pilot Phasing **BIKE HOWARD** Bike Share Feasibility Study



Proposed Pilot Phasing Area

Proposed Station Location



FINANCIALS

PROGRAM COSTS AND RIDERSHIP

Two cost and ridership assumptions differ for a pilot phase from those used for the entire system. A higher ridership rate is used for the pilot than assumed for the whole system at 0.5 trips/bike/day. A pilot would also require only 0.5 full-time equivalents (FTE) of administrative support, as opposed to 0.75 FTEs for Phase 1A. The program is expected to serve just over 10,000 trips in its first fiscal year, and nearly 15,800 in its second fiscal year, the first full year of operations. Cost recovery will follow the same trajectory as projected for the whole program, with the recovery ratio growing from 29 percent to 46 percent in six years. The pilot's capital costs are projected to be just under half a million dollars.

Projected Operating Costs and Ridership for Pilot (\$000s)

Fiscal Year	Pre-Launch	Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5	Yr. 6
System Size							
Stations	0	8	8	8	8	8	8
Bicycles	0	80	80	80	80	80	80
Docks	0	160	160	160	160	160	160
Ridership							
Registered Users		5,100	7,900	8,600	9,000	9,500	9,900
Casual Members		5,100	7,900	8,600	9,000	9,500	9,900
Total Ridership		10,200	15,800	17,200	18,000	19,000	19,800
Revenue							
Memberships							
Registered		\$26k	\$39k	\$46k	\$49k	\$52k	\$54k
Casual		\$16k	\$25k	\$29k	\$31k	\$32k	\$34k
Usage Fees							
Registered		\$1k	\$1k	\$1k	\$1k	\$1k	\$1k
Casual		\$9k	\$15k	\$17k	\$18k	\$19k	\$20k
Advertising		\$6k	\$7k	\$7k	\$8k	\$8k	\$8k
Total Revenue		\$58k	\$87k	\$100k	\$107k	\$112k	\$117k
Operating Costs							
Daily Operations	\$0k	\$124k	\$153k	\$157k	\$162k	\$167k	\$172k
Administration	\$52k	\$53k	\$55k	\$56k	\$58k	\$60k	\$61k
Marketing	\$0k	\$21k	\$21k	\$22k	\$23k	\$23k	\$24k
Total Operating Costs	\$52k	\$197k	\$229k	\$235k	\$243k	\$250k	\$257k
Funding Gap							
Cost Recovery Ratio	N/A	29%	38%	43%	44%	45%	46%
Operating Deficit/Surplus	-\$52k	-\$139k	-\$142k	-\$135k	-\$136k	-\$138k	-\$140k

Estimated Capital Costs for Pilot Phase

	Pilot
New Stations	8
New Bicycles	80
New Stations and Bicycles	\$378,000
Site Planning and Installation Costs	\$34,000
Start Up and Parts	\$73,000
Total	\$485,000

PROGRAM IMPACTS

Estimates of Select Health, Emissions, and Congestion Indicators

Year	Trips	Trip Miles	Calories Burned	Vehicle Miles Diverted	GHD Reduction (LB of CO2)
Year 1	10,264	15,396	585,066	3,233	2,182
Year 2	15,700	23,551	894,921	4,946	3,338
Year 3	17,152	25,728	977,661	5,403	3,647
Year 4	18,010	27,014	1,026,544	5,673	3,829
Year 5	18,910	28,365	1,077,871	5,957	4,021
Year 6	19,856	29,783	1,131,764	6,254	4,222

The health, mobility, air quality, and congestion impacts of the program pilot mirror those of the full system, but on a smaller scale. Like with the full system, the largest benefit will be to public health. The program is estimated to result in over a million combined calories burned per year by its fourth year in operation. Congestion, air quality, and transit impacts are more challenging to quantify. The impact on total vehicle miles traveled and greenhouse gas emissions is expected to be negligible. The program could improve mobility in its service area, especially for trips between key destinations such as Downtown Columbia, Howard Community College, and Howard County General Hospital. Finally, while a pilot would provide improved accessibility to the transit hub in Downtown Columbia, the data from peer systems is inconclusive to quantify its impact on overall transit ridership. Bike share could also reduce trip and parking demand at the Howard Community College, especially for intra-campus car trips.