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Increasing Access to the James River Park System: A Community Roadmap with the Blackwell, Oak Grove, and Bellemeade Neighborhoods

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Increasing Access to the James River Park System: *A Community Road Map with the Blackwell, Oak Grove, and Bellemeade Neighborhoods*



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The City of Richmond, James River Park System

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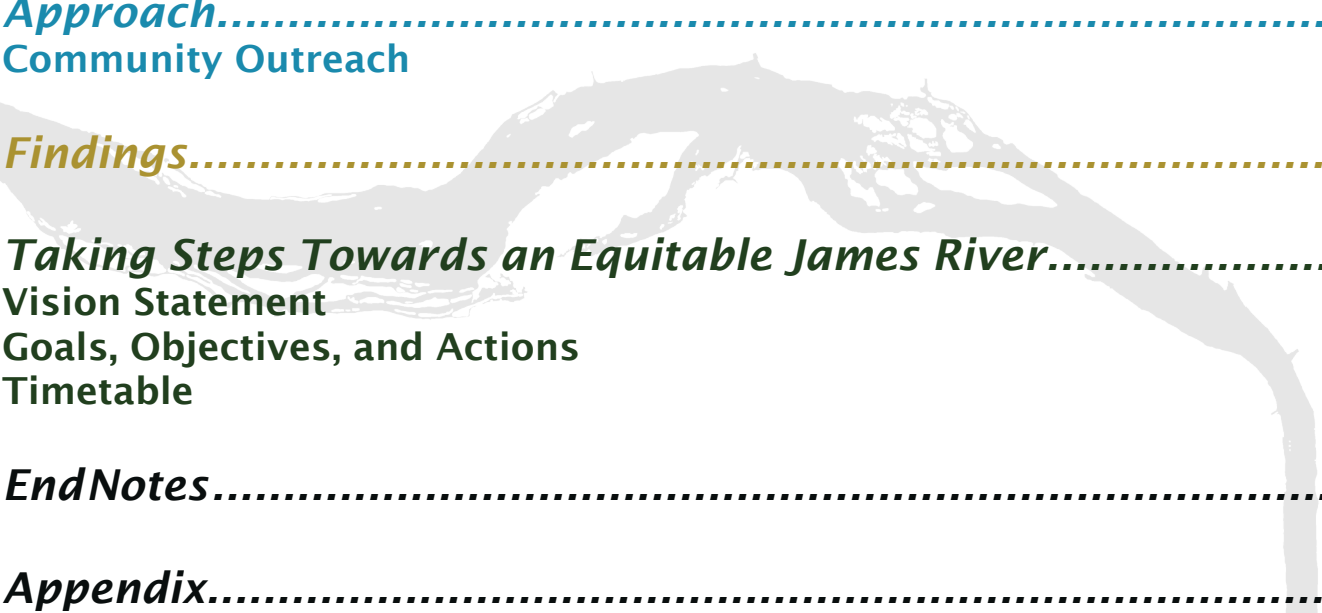
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Executive Summary

The planning field has gone through a series of evolutions. The top down approach popular through the 1960s has received backlash, resulting in the contemporary processes that take more community input into consideration before planners make decisions. While this evolution has occurred in other fields, research suggests that park planning has not evolved at the same rate as housing and transportation. Due to budget shortages, less backlash, and other variables, park planning as whole does not have the capacity to adopt a more community based approach.


Increasing Access to the James River Park System: A Community Roadmap with the Blackwell, Oak Grove, and Bellemeade neighborhoods challenges this lack of evolution by shifting the focus of the process on to the groups that parks are rarely planned for: minority communities who do not visit parks. The process for this plan will unveil what changes need to be done to attract new visitors to the James River Park System.

The amount of people that visit the James River Park System has increased drastically over the past couple of years. Over 2 million visitors were recorded in 2017, with over 60% of those visitors living outside of the City of Richmond. This plan outlines ways in which community members in the Blackwell, Oak Grove, and Bellemeade neighborhoods can get better access to the James River Park System, a resource that is right in their backyard.





Introduction



City parks have long acted as a release valve from the stressors created by the urban environment. The population boom of the mid-1800s, due to the Industrial Revolution, resulted in public health problems that the leading minds of the time thought could be solved with an increase in greenspace¹. Today, the tangible benefits of urban greenspace are better understood. They offer a relief from the stresses of everyday life while also benefitting people physically, socially, mentally and economically. While these benefits exist, park access is not experienced equally by all races. Barriers such as an absence of park attractions, a lack of dissemination of information, poor programming, discrimination, and poor maintenance make it more difficult for minority communities to access parks².

The Richmond Riverfront Plan, adopted in 2012 and most recently amended in September of 2017, serves to highlight how the City of Richmond's downtown area can best use the James River as a resource for the city. The plan identifies 10 locations along the James River that can be improved by increasing connectivity, improving streetscapes, creating more open space and adjusting programming to better suit the communities that live along the river. The plan also highlights ways in which the James River can be used to increase the tax base of Richmond by spurring development and uplifting property values³. This plan takes a city-wide approach to addressing the needs of the area surrounding the James River.

Increasing Access to the James River Park System: A Community Roadmap with the Blackwell, Oak Grove, and Bellemeade Neighborhoods is designed to address health inequalities along racial and socio-economic lines in the City of Richmond⁴ by navigating the barriers preventing park access for the neighborhoods in the study area; the Blackwell, Oak Grove, and Bellemeade neighborhoods in Richmond, VA.

Leveraging relationships with nonprofit organizations, such as the James River Association and Groundwork RVA, that do work in the Blackwell, Oak Grove, and Bellemeade neighborhoods will help to get a representative community response. While this plan intends to create a more accessible James River Park System (JRPS), it is also building relationships between the JRPS and these communities in Richmond.



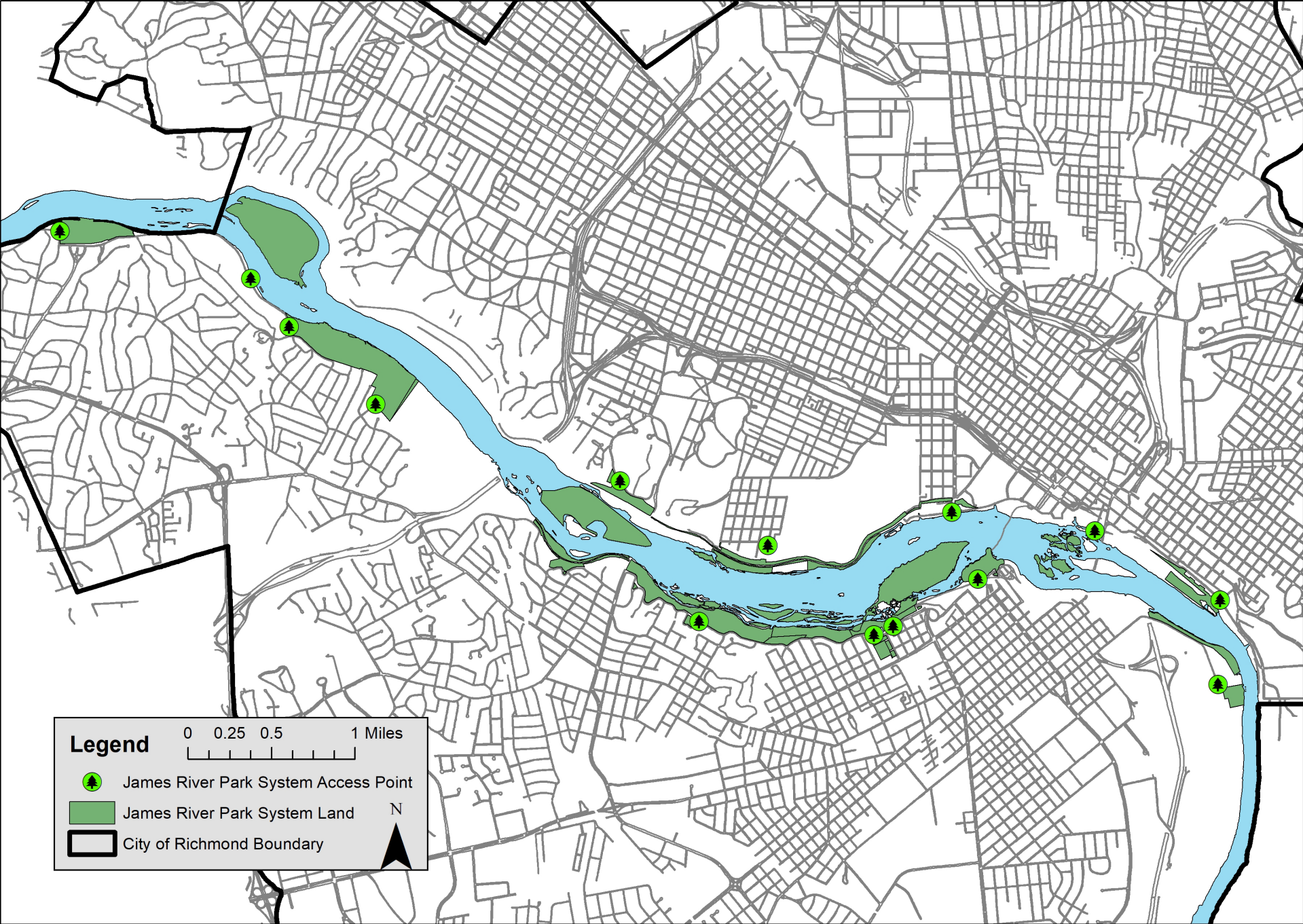
Purpose

The purpose of this plan is to determine the factors that limit visitation to the James River Park System (JRPS) by racial and ethnic minority populations within the Blackwell, Oak Grove, and Bellemeade neighborhoods, and to propose a series of recommendations to make the JRPS more accessible and attractive to stakeholders of all ages, races and ethnicities within underserved communities. The JRPS is a great resource that spans the entirety of the city from east to west, but does not offer equal access to its benefits for all communities along its breadth.

Recent research shows that location is not the only variable that needs to be considered when designing and programming a park⁵. This plan will identify the existing barriers to JRPS access for minority communities throughout Richmond, Virginia and will determine strategies to connect these communities to the park by employing thorough community outreach efforts as part of the methodology. The purpose of this is to create a process that is replicable in other locations in Richmond as well as other cities in the United States.



James River Park System Land



Map 1

Client

Increasing Access to the James River Park System: A Community Roadmap with the Blackwell, Oak Grove, and Bellemeade Neighborhoods is requested by the James River Park System and fulfills the requirements of the Masters of Urban and Regional Planning Program in the L. Douglas Wilder School of Government and Public Affairs at Virginia Commonwealth University (VCU). The James River Park System (JRPS) is a part of the City of Richmond's Department of Parks, Recreation, and Community Facilities and manages the 18 sections along the river from the Huguenot Flatwater in the west end to Ancarrows Landing in the east (Map 1). The Park System manages and maintains the parks through a mix of staff and volunteer activities, including programs such as Science in the Park and the Invasive Plant Task Force, as well as various nonprofit sponsored events⁶.

As a natural area, the JRPS offers a multitude of activities not available in traditional city parks. Park visitors are welcome to engage in mountain biking, fishing, canoeing/kayaking, paddle boarding, whitewater rafting, rock climbing, swimming, fishing, wildlife viewing, sunbathing, and power boating. The JRPS also organizes staff-led opportunities through the JRPS Adventure Recreation Program. The JRPS supports nonprofit organizations by promoting events, such as cleanups and group hikes, through the JRP Calendar.



A photograph of a park area. In the foreground, there is a brick path leading to a large, rusted metal structure that looks like a sculpture or a piece of industrial art. The structure has a complex, lattice-like design. To the left, there is a body of water and some trees. In the background, there are some buildings and utility poles. The overall scene is somewhat overcast and has a slightly muted color palette.

Why Parks?

Determining the benefits associated with parks and why people can and cannot go to them are topics that have been researched dating back to the times of Frederick Law Olmsted. Olmsted believed that parks could be used to mitigate the ailments of industrialization and, while the benefits were not researched by Olmsted and his associates extensively, he was not far from the truth⁷. Since then research on parks has become more refined. Researchers today are able to use creative methodologies in order to determine benefits of park as well as factors that determine whether or not people will visit them.





Benefits of Parks

In recent years, organizations and localities, locally and abroad, are recognizing the benefits of urban greenspace. The National Recreation and Parks Association (NRPA) has linked proximity to parks with an increase in physical activity and the benefits associated with more physical activity⁷. The Institute of Health Equality in London has conducted studies linking access to quality urban greenspace with improvements to mental health, including depression and dementia, lower Body Mass Index (BMI) and a longer life span in older park goers⁸. Parks offer many diverse benefits, some obvious and some less so, including social, environmental, psychological and physical, each impacting different age groups in different ways.

The social benefits that urban parks add can come in different forms, impacting children developmentally, and older populations by limiting social isolation, a common experience in older populations⁹. Studies also show that linear and natural parks, typologies associated with the JRPS, can offer social benefits (as well as environmental and physical benefits) that include spending time with friends, being around good people and connecting with family¹⁰. Natural parks have direct environmental benefits that can improve air quality, water quality, filter noise pollution, adjust the urban heat island effect and encourage biodiversity¹¹. The psychological/mental health benefits

that parks offer include a positive impact on dementia, depression, stress, and they simply make people happier¹². The physical and public health benefits associated with parks are arguably the most impactful. Parks, especially linear and natural parks like the JRPS, improve cardiovascular health¹³, and lower the rates of obesity, asthma, and hypertension, which are all public health outcomes that disproportionately impact minorities in the United States¹⁴.

These benefits are also interwoven; an aesthetically pleasing natural environment will attract adolescents, providing the social benefits as well as creating a feedback loop, as research shows that peer influence plays a large role in improving park visitation¹⁵. Patients who could see urban greenspace from their hospital bed recovered from injuries more quickly due to positive psychological impacts¹⁶. Proximity to parks can help homeowners by increasing property value, leading to a reduction in financial related stress¹⁷. Physical activity in urban parks is related to all other benefits that parks offer; walking around in parks can help to relieve stress (psychological), going to parks frequently increases stewardship (environmental) and influences the park attendance of friends and families (social)¹⁸. The benefits of parks are all intertwined but are not experienced equally by all racial and ethnic groups¹⁹.

Minority Park Visitation

Parks in the United States have a diversity problem. Extensive studies show that National Parks are visited and staffed by an overwhelmingly white population,²⁰ and similar trends exist in smaller scales throughout city parks as well, including the James River Park System in Richmond, Virginia. Professor KangJae Lee at the University of Missouri identified that a lack of access, beyond just physical access, is a major issue with park visitation for minority groups in the United States²¹.

The barriers limiting access to parks for minority groups include an absence of park attractions, poor park programming, and discriminatory barriers. Park attractions need to match the skillset of park visitors. A park can have the best bike trails in the world but if no one in the vicinity knows how to mountain bike, due to either a gap in skills or financial limitations, then the trails will be under used²². Historically, parks have been programmed to cater to the needs of the population that uses them the most, often neglecting populations who have never visited the park²³. In order to attract these minority populations being neglected, park programs must be targeted to their needs and desires. Discriminatory barriers impact minority groups in a number of ways: negative experiences due to racism can make certain groups feel as if they do not have a stake in their park,²⁴ while the legacy of Jim Crow Laws have prevented park visitation in multiple generations of black communities in the American South.

A 2012 study completed by Dr. Victoria Shivy, a professor of psychology at VCU, found that the JRPS attracted nearly 1.5 million visitors annually, with a significant percentage of these visitors coming from outside of the city limits²⁵. While no definitive statistics have been collected on the racial breakdown of JRPS visitors, Nathan Burrell, superintendent of the James River Park System, reiterated the research, adding that the racial makeup of the City of Richmond, which is 56% non-white²⁶, and the racial makeup of park visitors does not match²⁷. This observation, and studies elsewhere, suggest that while parks offer a host of benefits including social, environmental, psychological and physical wellbeing, parks are not accessed consistently among different demographic groups, exacerbating existing health disparities races in the U.S.

While the benefits park goers receive are universal, minority communities are impacted more due to the inequality of health and lack of quality green space in majority minority communities. Urban greenspace, when done effectively, can be used to create more social equity by increasing a sense of community and creating a sense of place and ownership²⁸ by lowering crime rates²⁹. Having effective park space in diverse and minority communities can help dissuade racial discrimination as well as have a positive impact on racial identity for minority youth³⁰. Health inequities between races and ethnicities mean that parks can have a greater impact on these communities overall health.

Urban greenspace, when done effectively, can be used to create more social equity



Health Disparities in Richmond, Virginia

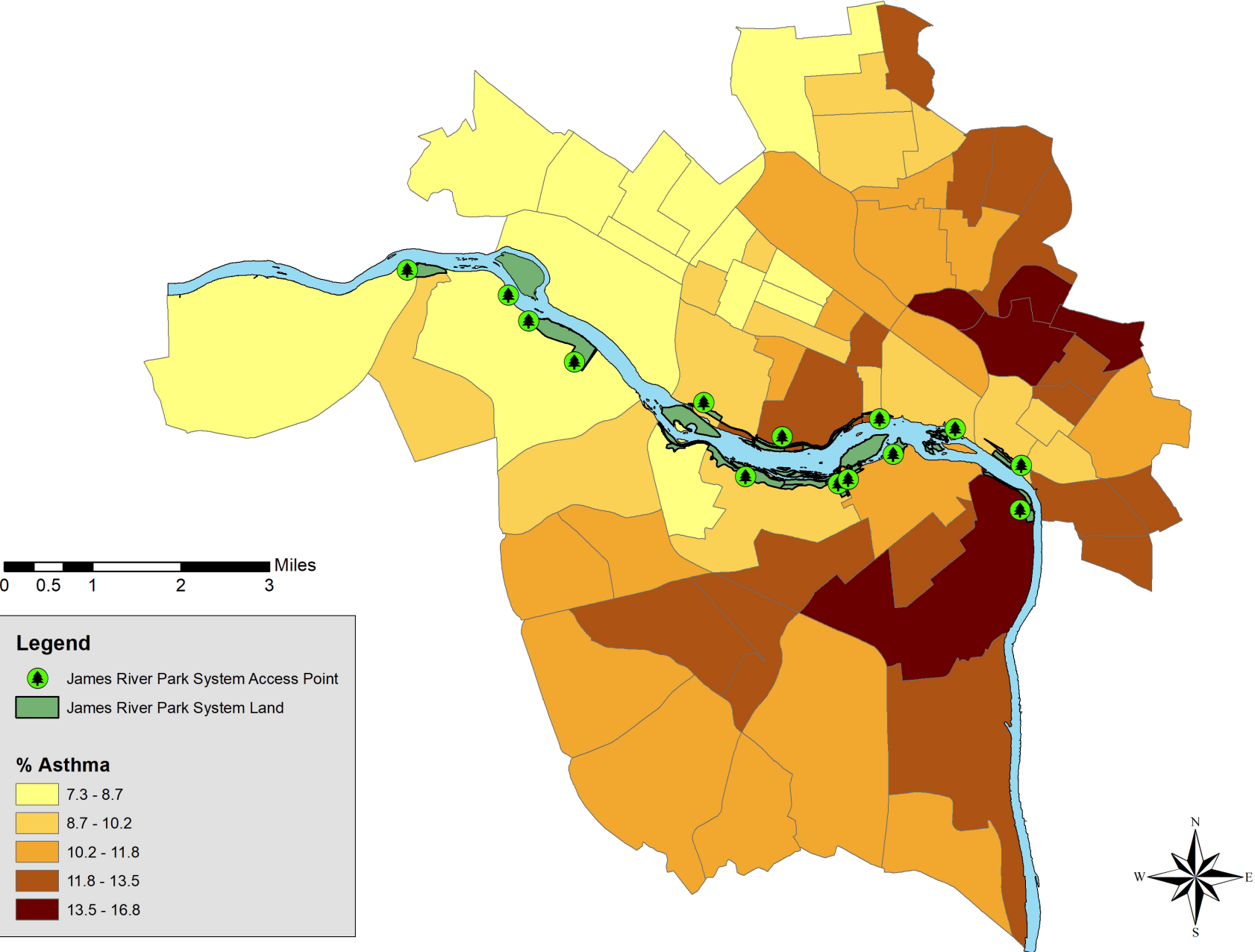
According to the VCU Center on Society and Health's Health Equity in Richmond, Virginia report, the City of Richmond's minority residents have worse health outcomes than white residents. While this report used data from 2012, using the same methodology with more up to date data shows that Richmond's minority enclaves are more likely to be obese and are more likely to develop preventable diseases including high blood pressure, cardiovascular diseases, and diabetes³¹. By using resources like the Center for Disease Control's (CDC) 500 cities project to collect public health data as well as demographic data from the Census Bureau and American Community Survey it will be possible to identify where in the city these minority populations live and where the health disparities exist in the city.

Data from the CDC highlights that there are two areas of the City of Richmond where health inequity is a serious problem: these areas are north of Interstate 95 on the Northside of Richmond and on the eastern side of the Jefferson Davis Corridor (the location for the study area of this plan). High asthma (Map 2), high blood pressure (Map 3), and obesity rates (Map 4), all of which are public health issues that are mitigated by park visitation, are concentrated in two portions of Richmond that have dense minority populations. Focusing this plan on neighborhoods in affected areas will help increase health equity in the city. While this plan will only focus on the Blackwell, Oak Grove, and Bellemeade communities, due to time constraints and

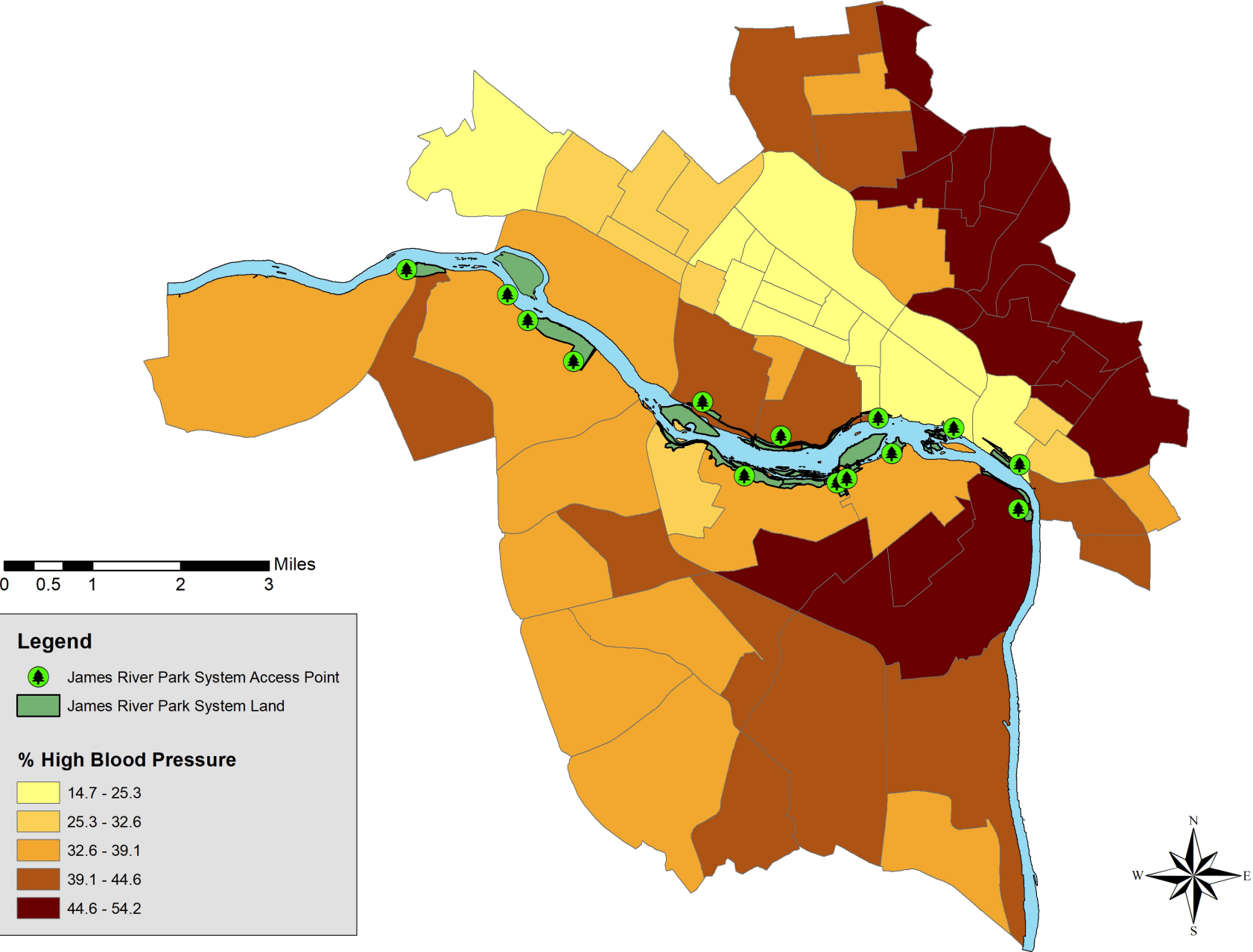
a lack of park-related planning in this part of the city, one of this plan's goals is to create a methodology that can be adapted for other communities to address similar needs.

Researchers have largely operated under the assumption that if one lives near a park they are likely to go there, pointing out that the problem with park access in minority communities is that parks are not as common as they are in majority white communities³². Organizations like The National Recreation and Parks Association (NRPA) and the Trust For Public Land (TPL) have released studies showing a positive correlation between health and distance to parks³³. While this relationship may be true in general, for minority communities there are other barriers that prevent access as well. These institutional barriers include an absence of park attractions, a lack of dissemination of information, poor programming, discrimination, and poor maintenance.

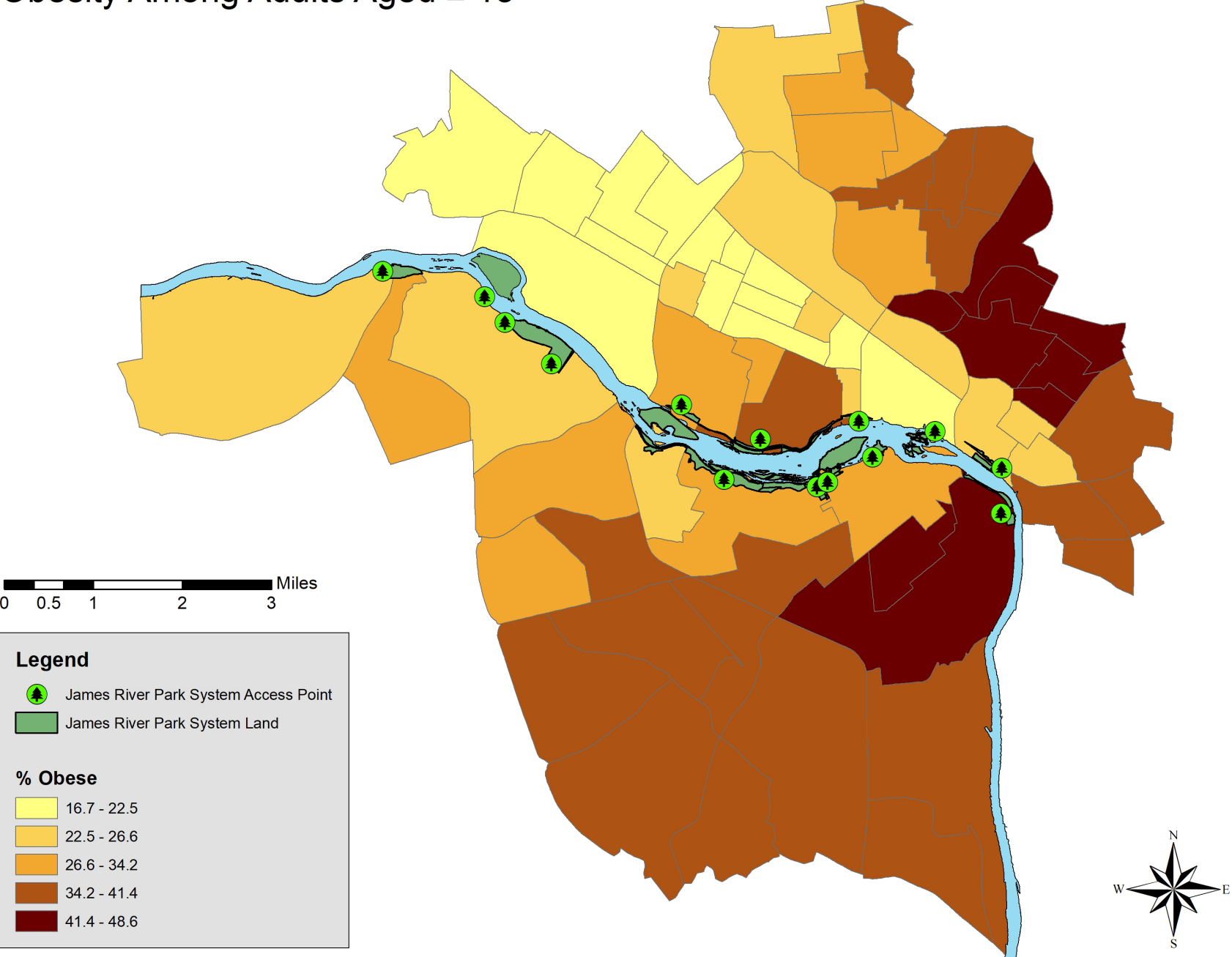
Current Asthma Rates Among Adults Aged ≥ 18



High Blood Pressure Among Adults Aged ≥ 18

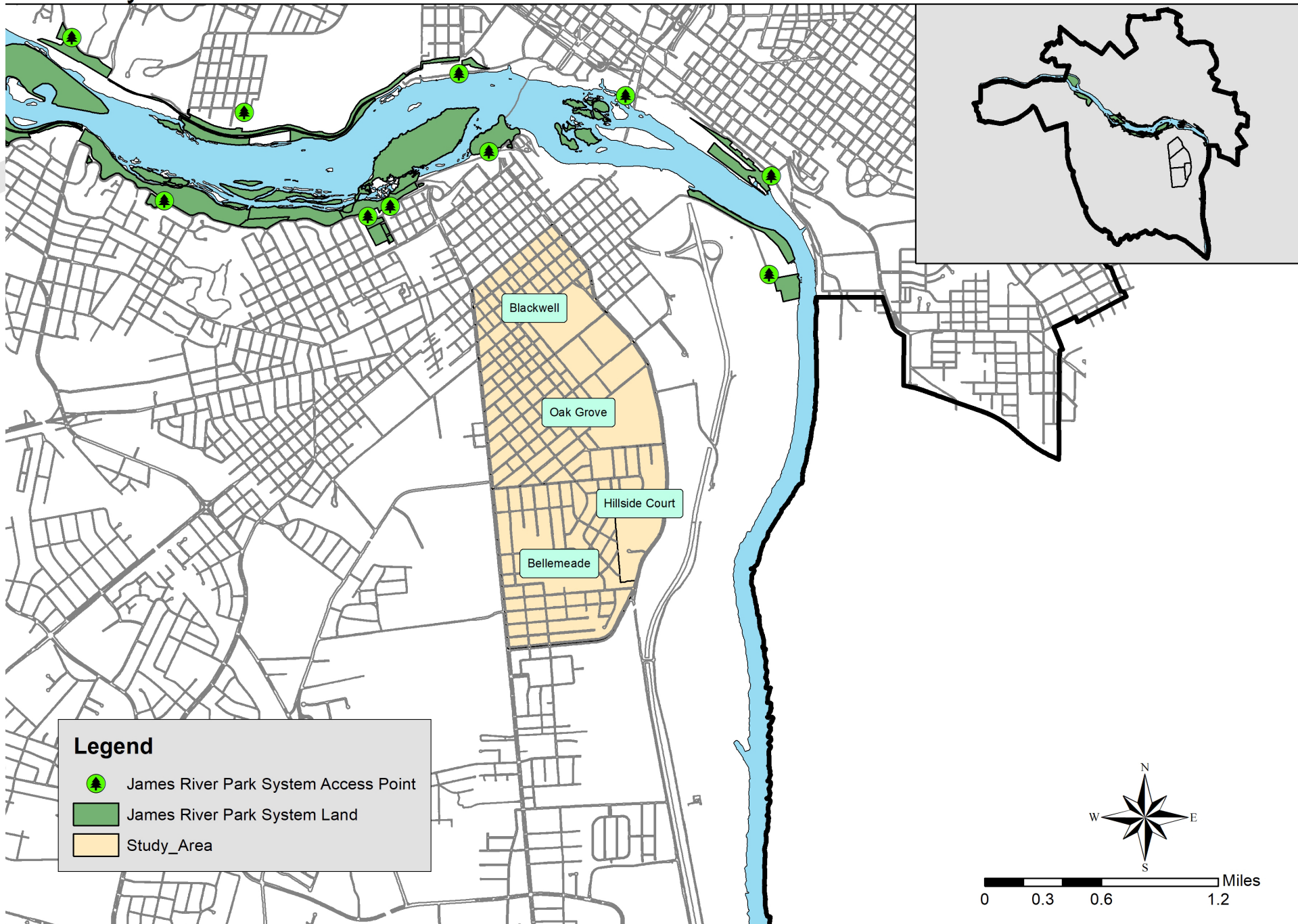


Obesity Among Adults Aged ≥ 18



Map 4

Study Area

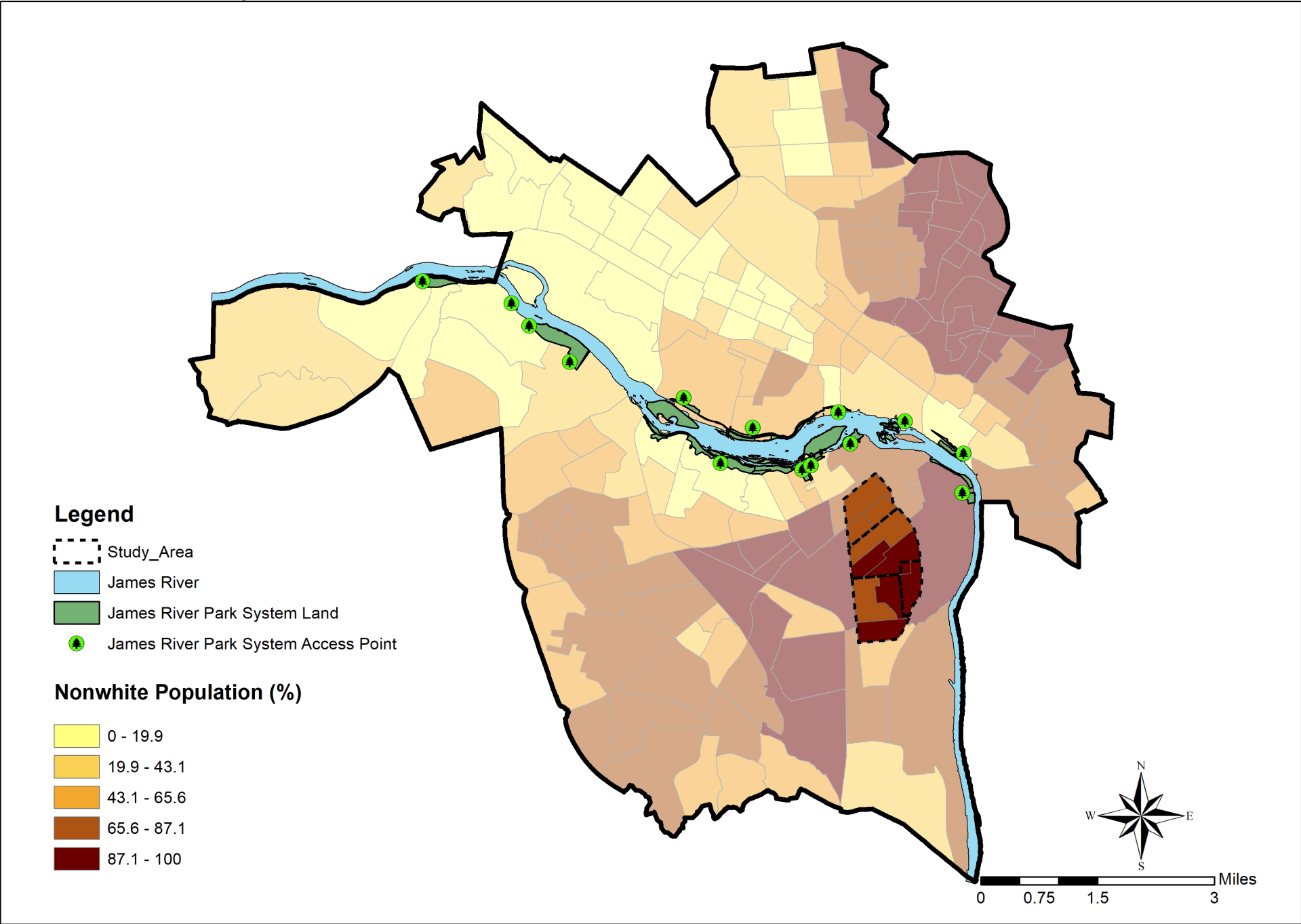


Study Area

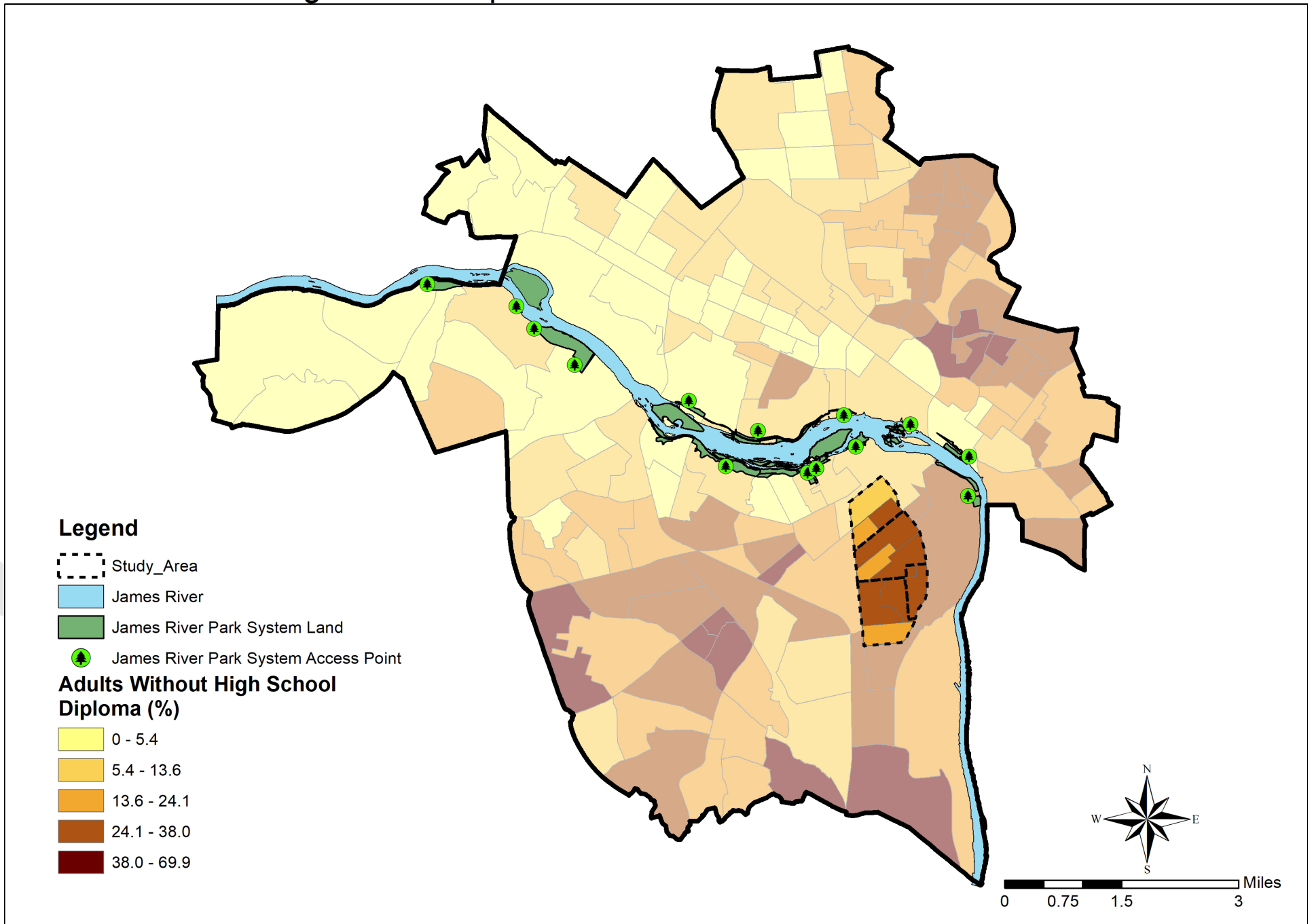
Increasing Access to the James River Park System: A Community Road Map with the Blackwell, Oak Grove, and Bellemeade Neighborhoods will focus on several neighborhoods south of the James River in Richmond, Virginia. The plan will include the following neighborhoods: Blackwell, Oak Grove, and Bellemeade, including the Hillside Court housing project, with Hull St. (north), Commerce Road (east), Bellemeade Road (south), and The Jefferson Davis Highway (west) framing the study area (Map 5). Blackwell and Oak Grove are separated by Dinwiddie St. and Oak Grove and Bellemeade are separated by Harwood St. These neighborhoods were chosen because these areas have a higher rate of hypertension, obesity, and asthma compared to the rest of the City of Richmond. As stated previously, a goal for this plan is to have a process that can be replicated other places where health equity is an issue in order to determine recommendations appropriate for these communities.

The Health Equity in Richmond, Virginia report, produced by VCU's Center on Society and Health, looks at the impact one's physical location has on their health. The report identifies several demographic factors that can point to health inequality, including race, educational attainment, and income³⁴. The following maps (Maps 6-9) show the geographic breakdown of the following public health outcomes of the study area within the context of the City of Richmond. The study area for this plan is in a heavily minority-populated portion of Richmond (84.5% of the study area being nonwhite compared to 55.8% in the City of Richmond), has a disproportionate number of households that have earned less than a high school diploma (19% in the study area compared to 16% in the City of Richmond), and earn less than the median income for the city (61.4% in the study area compared to 48.6% in the city). At this point in time, cars are the primary way that visitors get to the James River Park System³⁵. The study area for this project has a higher percentage of people who do not own a car (21.5% compared to the rest of Richmond, Virginia, 16.8%³⁶).

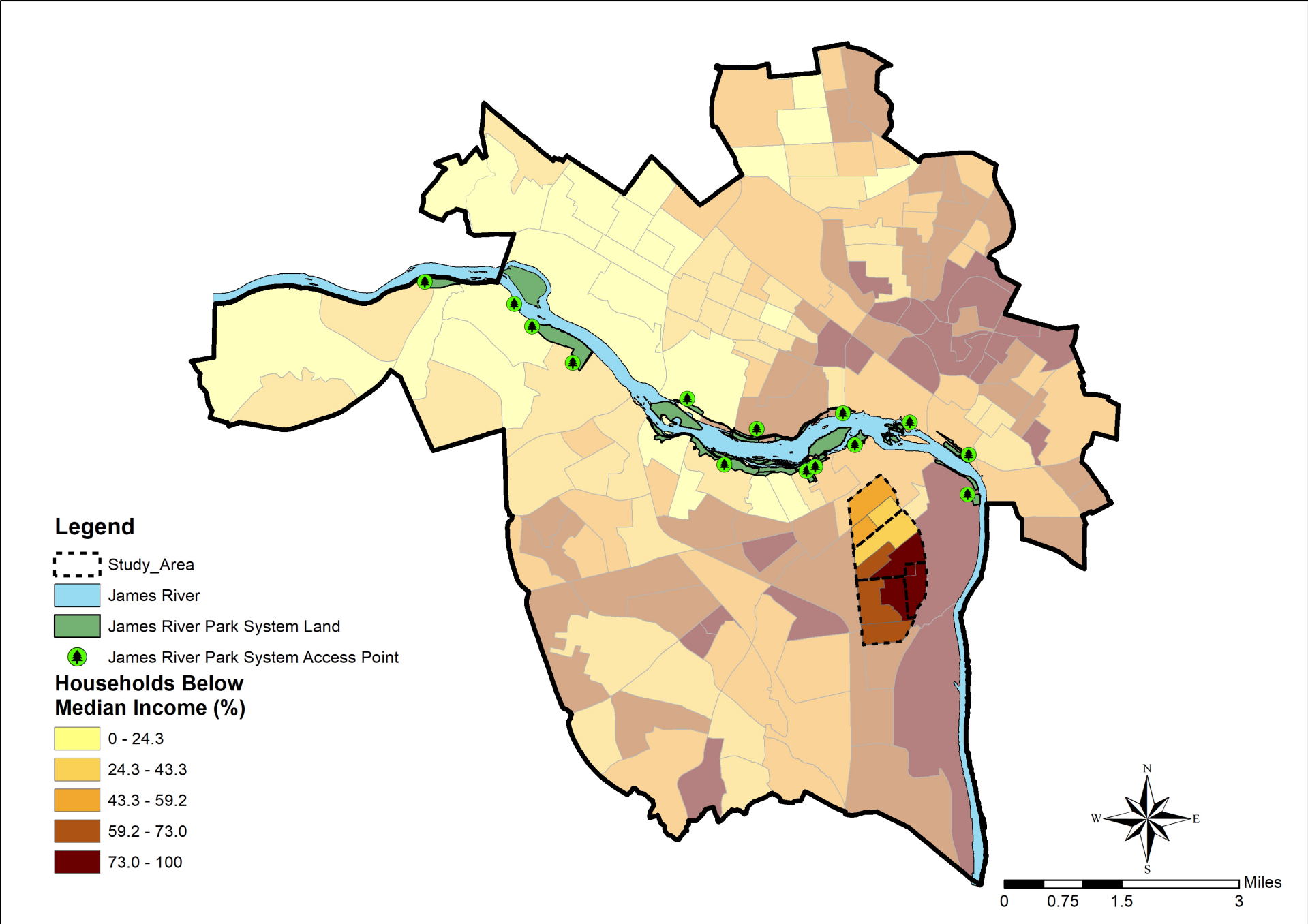
Nonwhite Population



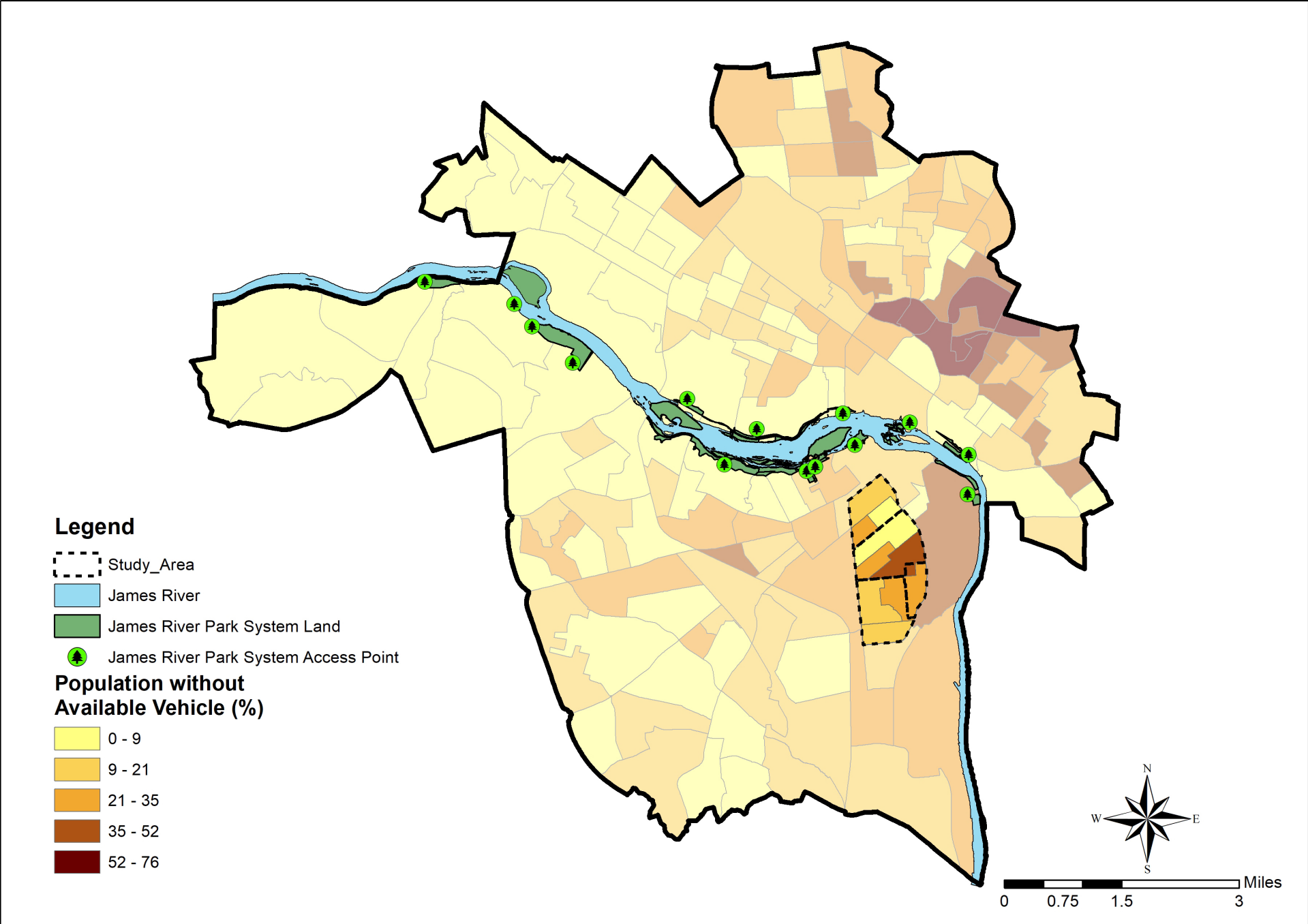
Adults without High School Diploma



Households below Median Income (\$38,266)




Percent of Population without Available Vehicle



Approach

NOISSI



Urban planning and public health, subjects that are both rooted in the hyper urbanization of the Industrial Revolution, have taken divergent paths since their relatively common historic origins⁴¹. As the two fields begin to converge again, urban planners are citing the health benefits associated with sustainability and urban greening as a reason to invest in those fields⁴². As urban populations numbers rise, the previously articulated health benefits will be essential when considering how cities will evolve to address the needs of the people that live in them.

These health factors (Psychological, environmental, social, physical) need to be considered in the theoretical framing of the process of this plan. In *The Democratization of Planning: Elusive or Illusory*, Leonie Sandercock observes that the growth in public consultation in planning grew from “the crisis of expert knowledge,” that in order to address the failures of city-building planners must consult with those living in the communities who are impacted the most⁴³. The theoretical frameworks that dictate this plan are communicative action and the just city.

This plan is framed by the just city model and communicative action theories. The just city model frames why and where the plan should take place while communicative action determines how. In spite of the systems in place, planners attempt to do what is best for the communities they work with⁴⁴. Historic planning processes in the City of Richmond have made the study area disproportionately unhealthy⁴⁵: the just city approach results in a more equitable JRPS. The communicative action theory manifests itself in this plan through intentional community outreach. By going directly to the communities, it ensures that the plan is being completed with them, not for them, guaranteeing that their opinions and recommendations are taken into account when the plan is completed. Building trust, by going to the community and interacting directly with residents, is essential to a successful process⁴⁶. Borrowing aspects of both of these approaches and integrating them with public health thinking creates a more efficient and inclusive process.



Community Outreach

Increasing Access to the James River Park System: A Community Road Map with the Blackwell, Oak Grove, and Bellemeade Neighborhoods utilizes public health data from the Center for Disease Control (CDC) that outlines health outcomes (obesity rates, hypertension rates, and asthma rates) for the City of Richmond at the block group level, academic literature that details the benefits of parks and barriers that minority groups experience, and an in depth, yet replicable, community engagement process. Data from the CDC serves to determine what locations within the City of Richmond are disproportionately affected by public health outcomes that parks can help mitigate. Academic literature informs on the benefits parks offer and the potential barriers that prevent park visitation.

Consistent with the approach, the community engagement process occurred in three phases: (1) a participatory spatial exercise, (2) surveys and (3) a public meeting held at the Bellemeade Community Center on February 26, 2018.

Participatory Spatial Exercise

The purpose of the participatory spatial exercise is to use an interactive way to solicit data from varying age groups. While this exercise was primarily held with elementary school aged children, older community members participated as well. During this exercise, community members identified locations within the

James River Park System (JRPS) that they visit and have never visited but would like to by putting different colored stickers on the appropriate locations. This data was collected by going directly to community centers in the Blackwell, Oak Grove, and Bellemeade neighborhoods three times, twice at the aftercare programs at Bellemeade Community Center and once at the aftercare program at the Blackwell Community Center. At these community centers, information was gathered from students, family members who picked them up, and staff at the community centers.

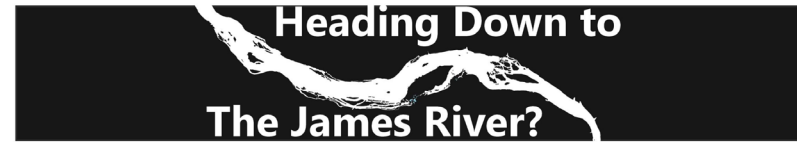
Surveys

The goal of the surveys was to answer important questions that are centered around whether or not one goes to the James River (Appendix A). Identifying how often, how they get there, who they go with, and how the river is perceived by community reveals information about what type of transportation options need to be supplemented and what programming changes need to be made in order to cater to all age groups within the community. The surveys (n = 38) were administered, in person, at community centers and civic association meetings with the target age group being at least high school age.

Community Outreach

Public Meeting

The public meeting for this plan was held on February, 26, 2018 at the Bellemeade Community Center. At the community meeting initial findings from the spatial exercise and the surveys were revealed to inform a discussion amongst community members. Once these findings were revealed and initial discussions held, three opportunities to improve access, gleaned from best practices utilized around the United States and rooted in results from the findings, were shown and a discussion was held to discover ways the strategies could be best adapted in these communities. The public meeting event was promoted at the Bellemeade civic association meeting on February 15, 2018 as well as through flyers (Figure 1) posted at the Public Library at 1400 Hull St., at the Blackwell Community Center, and the Bellemeade Community Center.



Come out to the Bellemeade Community Center to discuss ways to make it easier to get to the James River from your neighborhood

Food and snacks will be provided!

When: Monday, February 26 from 6:00 pm - 7:00 pm

Where: Bellemeade Community Center, 1800 Lynhaven Ave,
Richmond, VA 23224

Who: You! Your family and friends too!



Figure 1



A scenic view of a river with people kayaking and a person on the grassy bank. The river is calm and reflects the surrounding greenery. In the foreground, a person is crouching on the grass, and another person is standing near a wooden bench. The background shows a dense line of trees and a hillside with houses.

Findings

Each phase of the approach yields different results. The goal of the participatory spatial exercise was to find out where people in the Blackwell, Oak Grove, and Bellemeade neighborhoods use the James River Park System, where they would like to go, and what potential activities that are available in the JRPS that they would like to do. The survey responses explore how the JRPS is used, perceived, and how people in the study area get there, with whom people in the study area go to the JRPS with and how all of this differs between age groups. The public meeting revealed more details from the surveys and also identified potential opportunities to increase access for the residents of the Blackwell, Oak Grove, and Bellemeade neighborhoods.





Opportunities

Increase Ease of Travel to and from the James River Park System

The participatory spatial exercise revealed the locations that (primarily students under the age of 10) in the Blackwell, Oak Grove, and Bellemeade neighborhoods visit and would like to visit. To help participants identify specific locations in the park, the study used visual cues and a list of activities along with a map of the James River Park System (Figure 2).



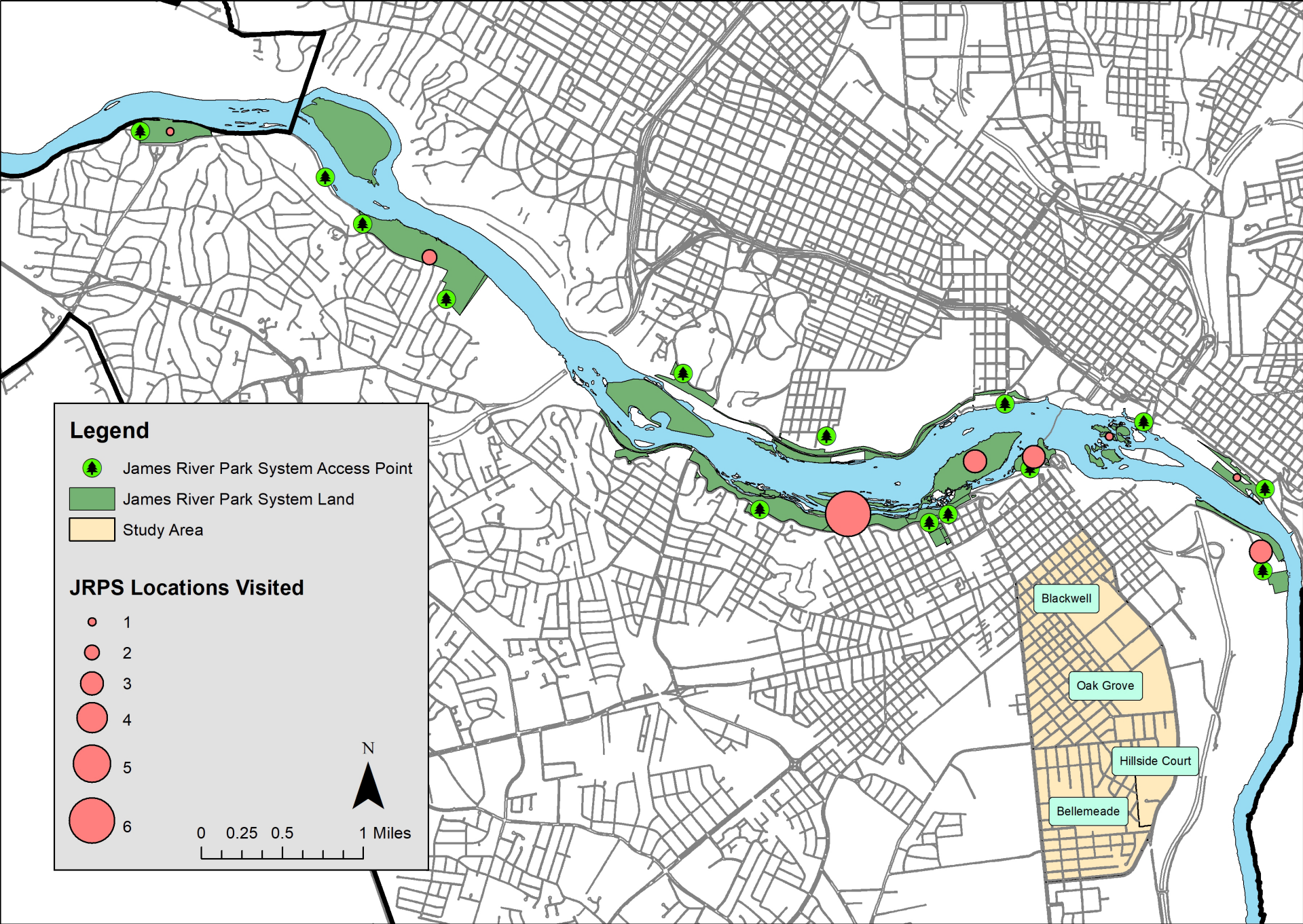
Figure 2

When community members (n=32) were asked what locations at the JRPS they have been to the most popular location was the main area/Buttermilk Trail. This received the most responses with 6 while Belle Isle, the Tyler Potterfield Bridge, and Ancarrow's Landing each received 3 responses (Map 10). The access points for these locations are the access points that are closest to the study area, showing that when community members of the Blackwell, Oak Grove and Bellemeade neighborhoods do use the JRPS they go to locations that are near. While these were the most common locations visited, 12 people identified that they had never been to the river before.

The second question asked during the participatory spatial exercise was "which location that you have not been to would you be interested in going to?" In order to figure out which locations were of interest, visual cues, in the form of pictures of each park that are part of the JRPS and a list of activities one can do in those locations, were used to facilitate a discussion about desired locations to visit. The most popular responses to this question (n=28) was Belle Isle (7), Main Section/Buttermilk Trail (6), and the Tyler Potterfield Bridge (4) (Map11).

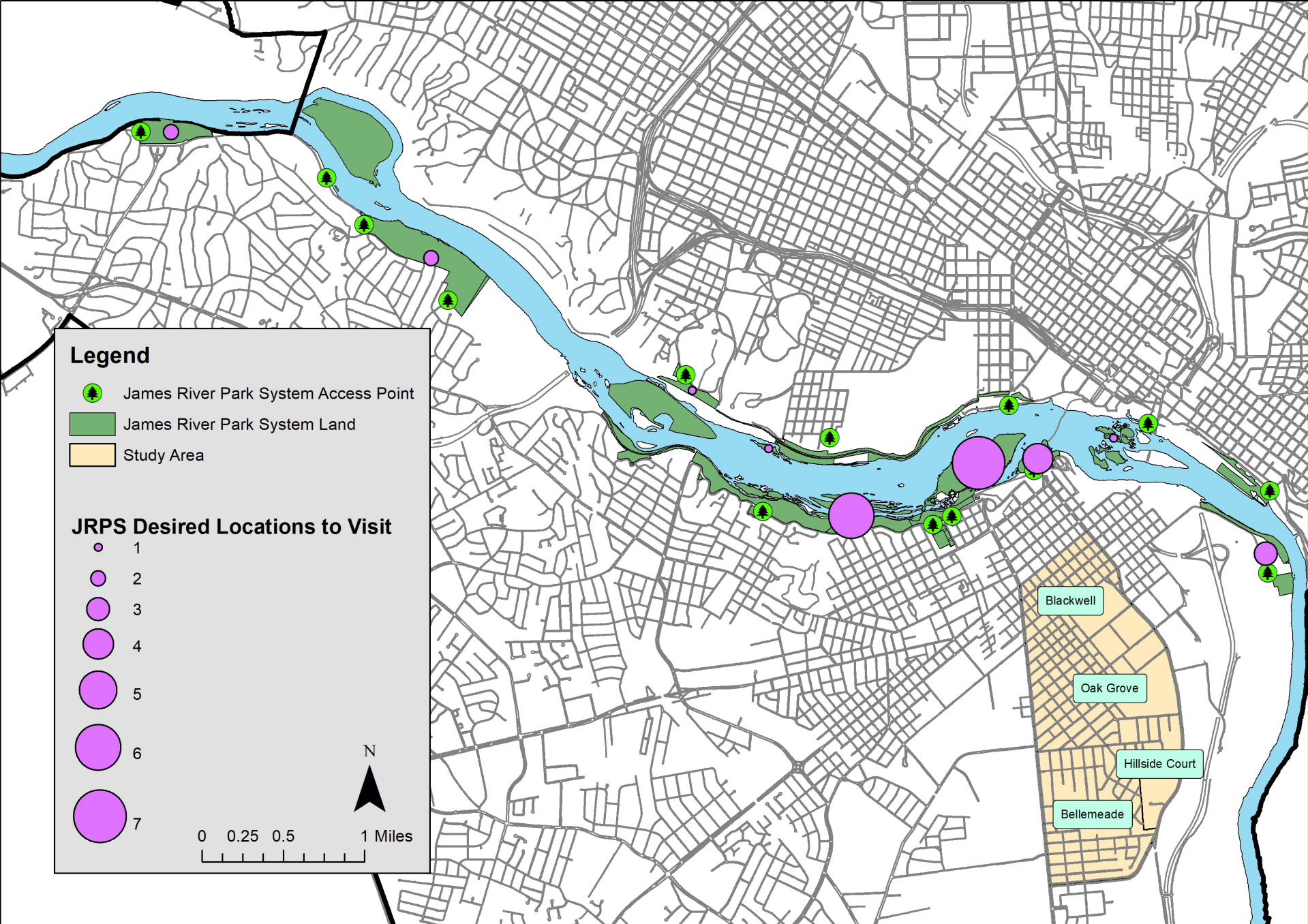
During the spatial exercise, students and community center staff members at both the Bellemeade

JRPS Visited Locations



Map 10

JRPS Desired Locations to Visit



Map 11

Opportunities

Community Center and the Blackwell Community Center noted that the majority of the times the students went to the James River was during summer camp held at the community centers or from field trips at the schools.

While the responses to the Participatory Spatial Exercise showed where residents currently visit and would like to visit at the JRPS, survey responses show how they get there. One question from the survey sought to answer how residents in the community get to the JRPS. The survey responses indicated that the vast majority of residents who visit the JRPS get there via car and that the bus was rarely used to get to the river (Table 1). At the public meeting, residents expressed that if they did want to get to the JRPS they did not know how to get there, showing potential opportunity to improve way-finding to the James River.

Age	Car	Walking	Bus	Bike	Taxi
<18	3	2	1	1	0
18-24	5	3	1	1	0
25-34	2	2	0	0	0
35-44	5	1	0	1	0
45-54	7	2	0	1	0
55-64	2	0	0	0	0
65>	4	0	0	2	0
Total	28	10	2	6	0

Table 1 - I get to the James River by...

community center and the Blackwell community center noted that the majority of the times the students went to the James River was during summer camp held at the community centers or from field trips at the schools.

While the responses to the Participatory Spatial Exercise showed where residents currently visit and would like to visit at the JRPS, survey responses show how they get there. The survey responses indicated that the vast majority of residents who visit the JRPS get there via car and that the bus was rarely used to get to the river (Table 1). At the public meeting, residents expressed a desire to go to the JRPS, but they did not know how to get there, which shows an opportunity to improve way-finding to the James River.

Among responders who go to the James River the most popular responses when asked who they go with were friends (13) and kids (9). When looking at the difference in age, 8 of the 13 (61.5%) responders who go with their friends were under the age of 35 while none above the age of 65 go with friends (Table 2). One interesting thing to note is that among responders who go to the river by themselves the the method in which they get there is distributed evenly, potentially showing that cars are necessary when going to the JRPS in a group.

Age	I Dont	Mom	Dad	Grand children	Sister	Brother	Kids	Grand parents	Friend	Myself
<18	0	1	1	0	0	2	0	0	3	0
18-24	0	1	1	0	2	2	1	1	4	2
25-34	0	0	0	0	0	0	2	0	1	0
35-44	0	1	0	0	0	0	4	0	1	2
45-54	4	0	0	1	0	0	2	0	3	1
55-64	0	1	0	0	0	0	0	0	1	0
65>	6	0	0	0	0	0	0	0	0	1
Total	10	4	2	1	2	4	9	1	13	6

Table 2 - I Go to the James River with My...

Opportunities

These responses show that there is a population of residents who do use the JRPS as well as a population who would like to, even if they have not yet, and that the locations of interest are relatively close to the neighborhoods in which they live and work. Making it easier to get to and from the JRPS could be a step towards increasing access to the JRPS for the residents of the Blackwell, Oak Grove, and Bellemeade neighborhoods.

Disseminate Information about the James River Park System

When asked “How often do you go to the James River?” 19 of 36 (52.8%) responded with “Less than once a year” or “Never been” with 17 of the 19 (89.4%) who responded in this way were older than 45. 7 of the 8 (87.5%) of those who responded that they had never been to the James River were over the age of 65 (Table 3). These survey results show an existing disconnect between age and visitation to the JRPS.

Age	Less than once a year	Once a year	Once a month	Once a week	More than once a week	Never been
<18	0	2	1	0	0	0
18-24	1	1	2	0	0	0
25-34	0	1	1	0	0	0
35-44	1	2	2	0	0	0
45-54	6	1	2	0	0	1
55-64	1	1	0	0	0	0
65>	2	1	0	0	0	7
Total	11	9	8	0	0	8

Table 3 - How often do you go to the James River?

Opportunities

Survey respondents identified that the feelings that the James River evokes the most are happiness (19), freedom (15), and peacefulness (14). Among the 36 responders who took the survey only 3 had negative emotional responses to the James River, with one responder answering that the river makes them feel “stressed” and two responders answering that it made them feel “unsafe.” All three of these responders are over the age of 65 (Table 4).

While studies show that perception of park benefits is understood regardless of access to park space, survey responders who identified that they went to the James River “less than once a year” or that they have “never been” were less likely to associate happiness, freedom, or peacefulness with the James River, the most popular responses among all those that answered. These results show how age impacts visitation and that a lack of visitation impacts how they perceive the JRPS.

When probed further about these results at the public meeting, one older resident who had never been to the James River before noted that they aren’t aware of any reasons they would need to visit the river. The results from the survey, as well as the

comments made during the public meeting, show that an opportunity exists to better disseminate information about the James River and the James River Park System.

Available Activities at the James River Park System

The recently updated James River Park System website has a page highlighting each location one can go to, with a list of activities to do at each location. The overwhelmingly popular activity at the James River, receiving more than twice as many responses when compared to other activities, was nature watching. While swimming (6), fishing (5), and running (5) are the next most popular activities, the popularity of the activity was different for each age group. Swimming is more popular with younger people, fishing more popular with older people, and running is more evenly distributed among age groups (Table 5). This shows that there is a difference in use between ages in the Blackwell, Oak Grove and Bellemeade neighborhoods.

Age	Safe	Happy	Sad	Thoughtful	Scared	Stressed	Unsafe	In Danger	Energized	Valued	Free	Fortunate	Peaceful
<18	2	2	0	0	0	0	0	0	1	0	3	0	2
18-24	0	4	0	2	0	0	0	0	1	0	4	0	3
25-34	0	2	0	0	0	0	0	0	3	0	1	0	3
35-44	0	3	0	2	0	0	0	0	2	0	3	0	0
45-54	2	5	0	1	0	0	0	0	0	0	3	2	4
55-64	0	0	0	0	0	0	0	0	0	0	1	0	0
65>	0	3	0	0	0	1	2	0	0	0	0	0	2
Total	4	19	0	5	0	1	2	0	7	0	15	2	14

Table 4 - The James River Makes Me Feel...

Age	Bird Watching	Fishing	Snorkeling	Hiking	Running	Dog Walking	Picnic	Photography
<18	0	0	0	0	0	0	0	1
18-24	0	1	0	1	2	1	1	0
25-34	0	0	0	0	0	0	0	0
35-44	1	0	0	2	0	0	2	2
45-54	0	1	0	1	3	1	1	1
55-64	0	0	0	0	0	1	1	0
65>	0	3	0	0	0	0	0	1
Total	1	5	0	4	5	3	5	5
Age	Nature Watching	Tubing	Kayaking	Climbing	Swimming	Boating	Other	
<18	3	0	0	0	2	0	0	
18-24	0	0	0	0	3	1	3	
25-34	2	0	0	1	0	0	0	
35-44	2	0	0	0	0	0	1	
45-54	6	0	1	0	1	0	2	
55-64	0	0	0	0	0	0	0	
65>	0	0	0	0	0	0	0	
Total	13	0	1	1	6	1	6	

Table 5 - When I am at the James River I go...

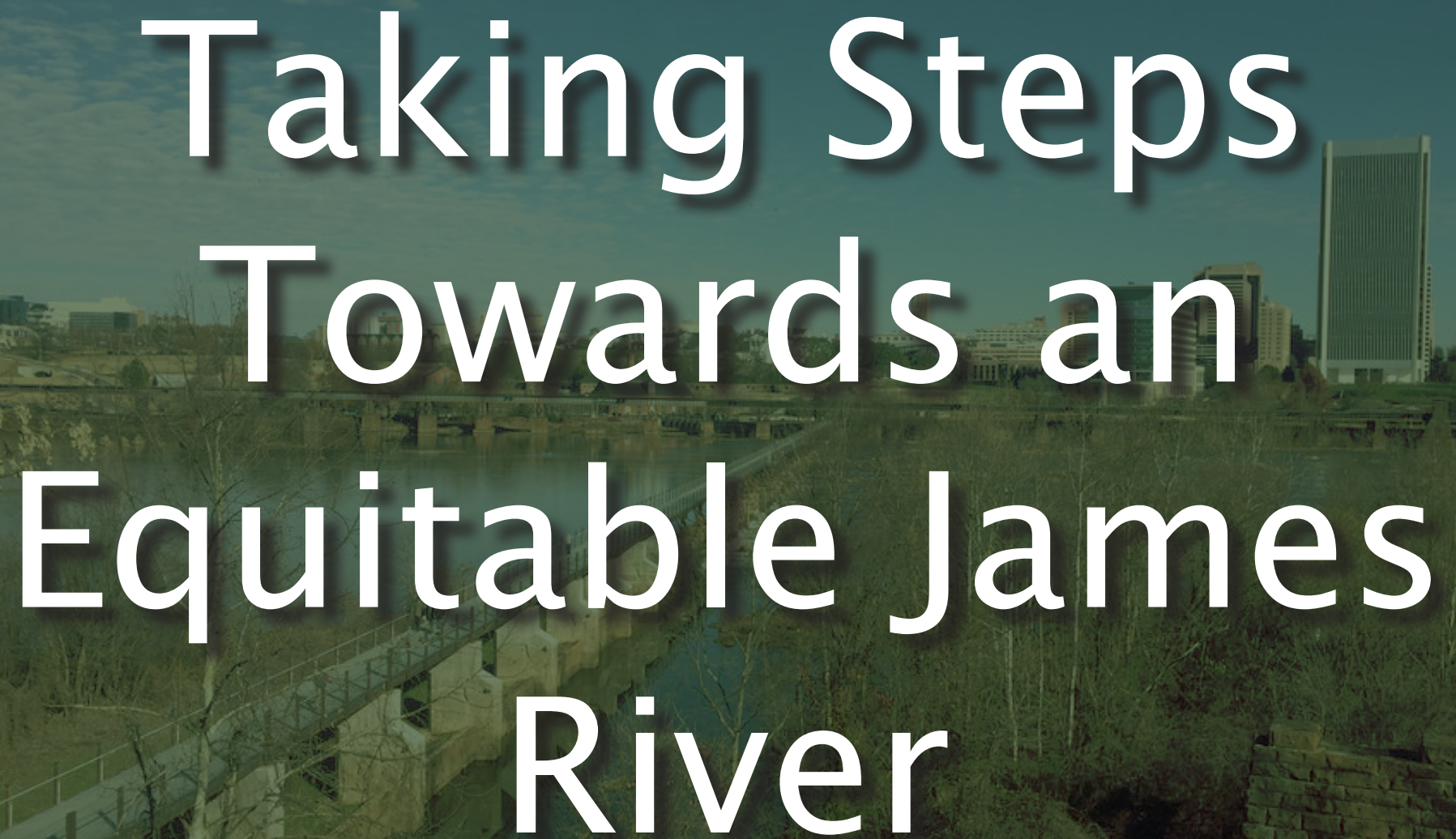
Opportunities

During the Participatory Spatial Exercise, participants were also asked to identify activities that they have done and activities that they have not done but are interested in doing. Biking, hiking, and swimming were amongst the most popular activities from students in the after-school program at the community centers while fishing, tubing, and kayaking received a lot of interest in regards to activities the majority of students had never done before. While an interest in activities is broad a lot of them require park visitors to own specialized equipment or to be trained in how to use it. Expanding services that are already offered regarding these activities and as making sure the availability of them are known throughout the Blackwell, Oak Grove, and Bellemeade neighborhoods.

The findings from the participatory spatial exercise, survey, and the conversations had at the public meeting reveal a few things about the Blackwell, Oak Grove, and Bellemeade communities and how they use the JRPS. While the older population does not use the JRPS often, the younger generations are starting to visit it and do so more often. When they go, they are often going with their friends. This is particularly important because studies show that one of the ways to increase park stewardship is through the influence of peers; as more young people go to the park they will inspire their friends to go to the park as well⁴⁸. The overwhelming perception of the

James River is positive; however, older residents have negative feelings towards the river which could be addressed through education about the river. While people of all ages enjoy the natural aspect of the JRPS, older populations are more likely to fish on the river while younger responders identified that swimming is an activity they enjoy. This is particularly interesting when looking at the results of the participatory spatial exercise where elementary school children identified tubing and kayaking as the activity they are most interested in.

These findings help to identify the barriers that specifically impact residents of the Blackwell, Oak Grove, and Bellemeade neighborhoods. These barriers include: physically getting to the park, which is exacerbated by a lower rate of car ownership⁴⁹, a portion of the resident population that is unaware of why they would even want to go to the park, and a skill and financial gap in programming that caters to the wants and needs of the predominantly white population that has historically used the JRPS. Creative strategies need to be applied in order for the JRPS to address the needs of all members of the Blackwell, Oak Grove and Bellemeade communities.

An aerial photograph of the James River in Richmond, Virginia. The river flows through a lush green landscape, with a large concrete dam structure visible in the foreground. In the background, the city skyline is visible under a clear blue sky. The image is overlaid with a semi-transparent dark blue filter. On the left side, there is a vertical bar with four colored segments: purple, blue, yellow, and green.

Taking Steps Towards an Equitable James River

Vision

It is essential that the JRPS is equally accessible to all residents in Richmond, Virginia. The proposed recommendations address the opportunities that were identified by the residents of the Blackwell, Oak Grove, and Bellemeade neighborhoods and will set the stage for making the JRPS more accessible for the residents of these neighborhoods and create a more equitable James River.



Goal:

Create a Sense of Ownership of the James River Park System for Minority Communities in Richmond, Virginia

Use a targeted community outreach model to attract new visitors to the James River Park System

- Produce a multi-lingual brochure that gives information about the benefits, activities that can be done, and entrance points to the JRPS that can be distributed to community centers throughout Richmond, VA
- Partner with Richmond Region Tourism to create a diverse and inclusive ad campaign that can give a sense of ownership for new and returning minority visitors to the JRPS

Disseminate information about, and improve safety measures in the James River Park System

- Display basic visitor safety measures at James River access points and in informational material produced
- Establish and maintain communication with emergency services about visitor safety measures



Figure 3 - Ancarrow's Landing Entrance

Recommendations

At the public meeting, when a resident was asked if there were any reasons why they had never been to the James River before, the resident responded that they “had no reason to go there.” At the root of this is the idea that residents do not see the JRPS as a place that they can recreate in, which is something that can be changed by creating a sense of ownership of the JRPS for these communities. This can be done in two ways: by employing targeted community outreach to attract new visitors, and by informing new and returning visitors about safety protocol while at the JRPS. The first step in this process is to create a multi-lingual brochure that gives information about the benefits, activities that can be done, and entrance points to the JRPS that can be distributed at various locations throughout the city. This will allow residents to be aware of all of the benefits and opportunities that are available at the JRPS. The second step is a partnership with Richmond Regional Tourism to create a diverse and inclusive ad campaign that can give a sense of ownership by showing diverse residents using the JRPS.

Residents who expressed concern about the JRPS being unsafe expanded on this concern at the public meeting, stating that it wasn't fear of crime that made them feel unsafe, but rather a fear of injury with no one around to assist them. While there are safety protocols in place, displaying these safety measures

at park entrances (figure 3), and including them in the proposed brochures, will help people feel more comfortable at the various JRPS locations. Emergency services in Richmond are trained to arrive at nearest mile markers, which have GPS location devices installed in them. Maintaining this partnership and ensuring that it continues through staff turnover is a step that can be taken to ensure that safety protocols remain intact.

Goal: Provide Programs that are more Accessible

Promote and increase
availability of current
program activities at
the James River Park
System

- Expand instructional courses to include dedicated group and family sessions
- Increase use of flyers to promote classes that are already offered
- Create a new reservation process that is simpler, easier to find, and highlights above recommendations

Use community
partnerships to
increase program
opportunities

- Partner with The VCU Office of Sustainability's RamBikes program and Groundwork RVA to establish a service learning course where VCU students teach bike maintenance skills to youth at the new Bellemeade Enterprise Center
- Partner with the Richmond YMCA to offer water safety classes in community centers and in the James River
- Create a process where local community centers can partner with the Blue Sky Fund to reserve their shuttle bus for large trips to the James River Park System
- Increase hours of operations at community centers

Make it easier to get
to the James River Park
System

- Expand RVA Bikes to include stations in various locations in the study area and at JRPS access points
 - Partner with GRTC to set up a system where buses announce when they are approaching the JRPS
 - Add signage directing pedestrians towards the JRPS that is consistent with signage on the north side of the river
- Increasing Access to the James River Park System 56

Recommendations

There is a plethora of activities that can be done at the JRPS: kayaking, mountain biking, fishing, tubing, hiking, and swimming, just to name a few. Certain activities require a certain skill set or the ability to pay for the equipment necessary to do the activity. Promoting existing activities, utilizing community partnerships, and improving way-finding so it is easier for people to get to the JRPS are the objectives that need to be fulfilled in order to provide accessible programming for Richmond residents.

The JRPS currently offers beginner (and higher) level programs to teach the skills necessary to recreate in and around the river. In its current state, the Parks Recreation and Community Facilities reservation webpage is hard to navigate, and requires knowledge of where the page is located in order to find the times of the activities. Better promotion of these activities by posting flyers around the city and expansion of classes to include dedicated group and family sessions that can be scheduled ahead of time, will help attract new visitors to the JRPS and its programs. The current reservation process is archaic and frustrating to use. Improving the interface for the project will improve the user experience, leading to an increase in the number of people who sign up for the classes⁵⁰.

Taking advantage of existing community partnerships and creating new ones will help to increase

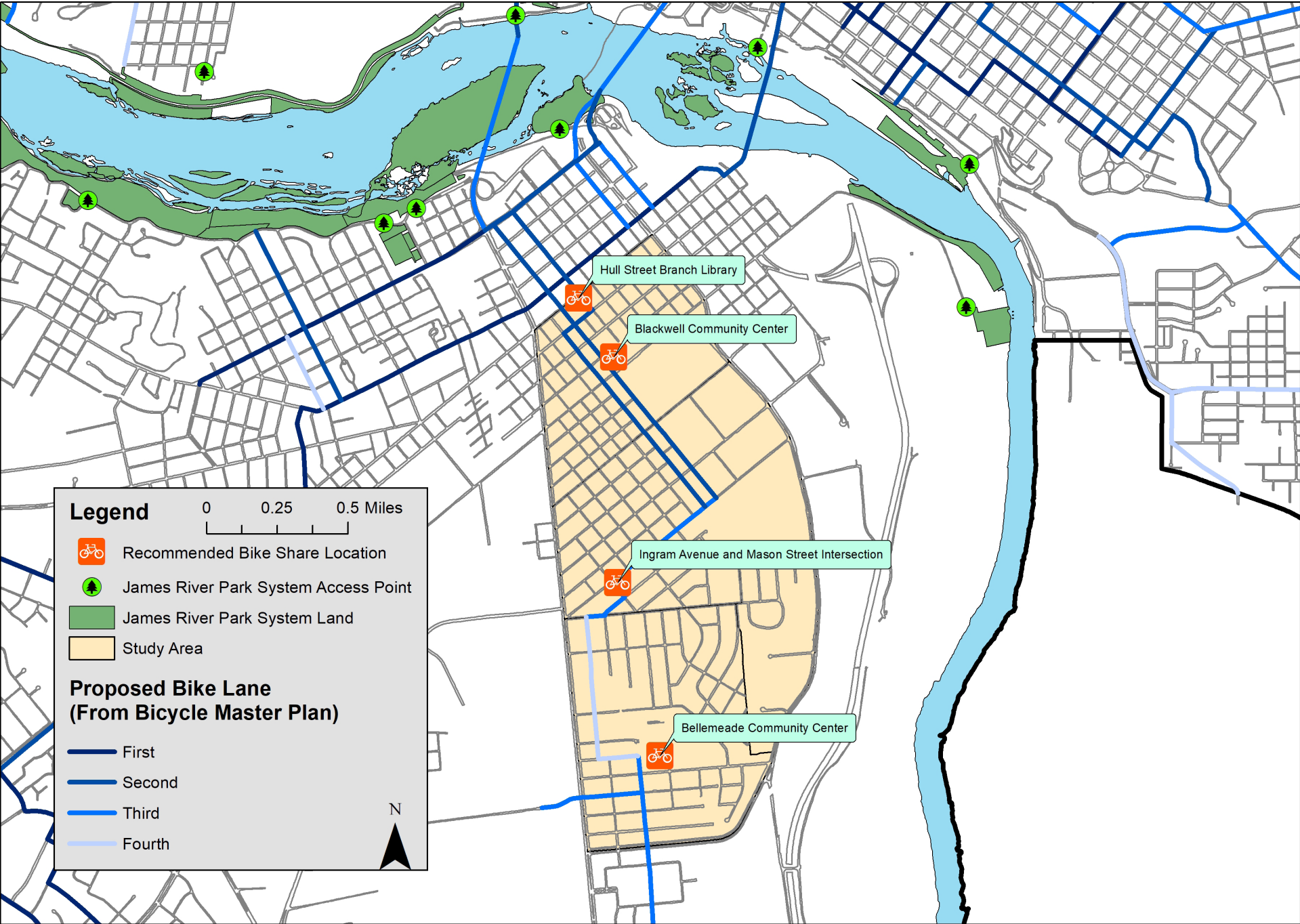
the number of programs that are offered and the ability for Richmond residents to take part in current activities at the park. The VCU Office of Sustainability's RamBikes coordinator is interested in becoming more involved in the City of Richmond by establishing a service learning class in which VCU students can teach bike maintenance skills to Richmond youth in partnership with Groundwork RVA and the Bellemeade Enterprise Center. The Richmond YMCA previously offered water safety classes in swimming pools throughout the city. Re-introducing this program and expanding water safety to the James River will give Richmond residents the water skills necessary to recreate in the James River. Taking advantage of resources available from the nonprofit Blue Sky Fund, such as their shuttle bus, can help get larger groups to the James River. Increasing the hours of operation at community centers around the city will help to accommodate the increase in program activities.

Based on the findings, most residents in the study area who go to the James River get there via car. Improving way-finding to the James River will help to make it easier for residents to get there not just by car, but by other means as well. Expanding RVA Bikes, the recently introduced bike share station, to include stations at JRPS access points and at the Hull Street Branch Library, Blackwell Community Center, Ingram Ave. and

Recommendations

Mason St. Intersection, and the Bellemeade Community Center (map 12), will make it easier to ride a bicycle to the JRPS. Partnering with Greater Richmond Transit Company to amend bus stop names to include “James River Park System” at stops closest to the JRPS access points will help residents get to the river by bus. Adding signage that helps direct visitors to the JRPS will go a long way in showing residents how to get to the James River Park System. Employing these programs will help JRPS staff provide programs that are more accessible.

Recommended Bike Share Stations



Map 12

Goal:

Create a Strategic Plan for Outreach Towards Minority Residents in Richmond, Virginia

Identify existing conditions of the James River Park System

- Partner with professors at local universities to get a demographic outlook of current James River Park System users
- Partner with the City of Richmond, Department of Transportation, to do an in-depth analysis about optimal routes to get to the James River Park System

Create a committee that will head the strategic planning process

- Reach out to community leaders in varying neighborhoods to create a committee that is representative of Richmond's population
- Establish a partnership with the City of Richmond Parks and Recreation board to assist with outreach in the district's board members represent
- Create a Community Outreach staff position that coordinates with Parks and Recreation board representatives and neighborhood leaders to carry out strategic plan outreach

Recommendations

From the onset, one of the goals of this plan was to create a process that could be replicated throughout the city. In order to do this in an efficient and consistent way, a strategic plan for outreach needs to be created. The first step towards creating a strategic plan is understanding the existing conditions for the JRPS. The plan must utilize researchers at local universities in the City of Richmond, some of whom have done studies related to the James River already, to do a demographic analysis of JRPS visitors, from where they are visiting, and from what parts of the city people are not visiting. After this, an analysis of how people get to the parks can be done to understand the transportation aspect of access to the JRPS.

Once the existing conditions are understood, a committee should be formed to head the strategic planning process. The committee should be comprised of stakeholders of the JRPS, community representatives throughout the city, and members of the City of Richmond Parks and Rec Board. It is imperative that community representatives be given positions of power in the strategic planning process in order to reinforce a sense of ownership of the James River. Hiring a new staff member, either as part of the James River Park System staff or in the Parks, Recreation, and Community Facilities Department, to be the backbone of this process will ensure that it is done efficiently and with the community in mind.

Implementation Timetable

Goals, Objective, Actions		2018				2019				2020				Responsible Party
		Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	
Goal 1	Create a Sense of Ownership of the James River Park System for Minority Communities in Richmond													
<i>Objective 1.1</i>	<i>Use a targeted community outreach model to attract new visitors to the James River Park System</i>													
Action 1.1.1	Produce a multi-lingual brochure that can be distributed to community centers throughout Richmond, VA													JRPS - Capital Improvement Plan
Action 1.1.2	Partner with Richmond Region Tourism to create a diverse and inclusive ad campaign													JRPS - Grant Allocated
<i>Objective 1.2</i>	<i>Disseminate information about, and improve safety measures in the James River Park System</i>													
Action 1.2.1	Display basic visitor safety measures at James River access points and in informational material produced in Action 1.1.1													JRPS - Capital Improvement Plan
Action 1.2.2	Establish and maintain communication with emergency services about visitor safety measures													JRPS - Capital Improvement Plan

Phase 1

Phase 2

Implementation Timetable

Goals, Objective, Actions		2018				2019				2020				Responsible Party
		Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	
Goal 2	Provide Programs that are More Accessible													
<i>Objective 2.1</i>	<i>Promote and increase availability of current program activities at the James River Park System</i>													
Action 2.1.1	Expand instructional courses to include dedicated group and family sessions													JRPS - Capital Improvement Plan
Action 2.1.2	Increase use of flyers to promote classes that are already offered													JRPS - Capital Improvement Plan
Action 2.1.3	Create a new reservation process													Richmond Parks, Recreation, and Community Facilities
<i>Objective 2.2</i>	<i>Use community partnerships to increase program opportunities</i>													
Action 2.2.1	Establish a service learning course where VCU students teach bike maintenance skills to youth at the new Bellemeade Enterprise Center													Community Partnership
Action 2.2.2	Partner with the Richmond YMCA to offer water safety classes in Community Centers and in the James River													Community Partnership
Action 2.2.3	Partner with the Blue Sky Fund to reserve their shuttle bus													Community Partnership
Action 2.2.4	Increase hours of operations at community centers in order to accommodate an increase in program opportunities													Richmond Parks, Recreation, and Community Facilities
<i>Objective 2.3</i>	<i>Make it easier to get to the James River Park System</i>													
Action 2.3.1	Expand RVA Bikes to include stations in various locations in the study area and at JRPS access points.													City of Richmond - RVA Bikes
Action 2.3.2	Partner with the Greater Richmond Transit Company (GRTC) to set up a process where buses announce when they are within 1/2 mile of the JRPS													Greater Richmond Transit Company
Action 2.3.3	Add signage directing pedestrians towards the JRPS that is consistent with signage on the north side of the river.													City of Richmond - Planning and Development Review

Phase 1
Phase 2

Implementation Timetable

Goals, Objective, Actions		2018				2019				2020				Responsible Party
		Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	
Goal 3	Create a Strategic Plan for Outreach Towards Minority Residents in Richmond, Virginia													
<i>Objective 3.1</i>	<i>Identify existing conditions of the James River Park System</i>													
Action 3.1.1	Partner with professors at local universities to get a demographic outlook of current James River Park System users													Community Partnerships
Action 3.1.2	Analyze optimum routes to get to the James River Park System													Transportation Engineering Division
<i>Objective 3.2</i>	<i>Create a committee that will head the strategic planning process</i>													
Action 3.2.1	Reach out to community leaders in varying neighborhoods create a committee that is representative of Richmond's population													JRPS - Capital Improvement Plan
Action 3.2.2	Establish a partnership with the City of Richmond Parks and Recreation board to assist with outreach in the districts board members represent													JRPS - Capital Improvement Plan
Action 3.2.3	Create a Community Outreach staff position													JRPS - Capital Improvement Plan

Phase 1

Phase 2

Implementation

Increasing Access to the James River Park System: A Community Roadmap with the Blackwell, Oak Grove, and Bellemeade Neighborhoods will be implemented in phases which can focus on short term projects that address immediate needs and long term recommendations that will take the first steps that are necessary to make a long term impact on visitation rates to the JRPS. The following chart presents a timeline (monthly) for completion of this plan.

Community Partnerships

In local politics, when budgets get tight, public funding for parks tends to be the first thing to get cut in order to make room for projects that are deemed more important. In order to carry out the recommendations for this plan, being strategic with community partnerships will be essential. Utilizing partnerships that exist, such as the Friends of the James River, James River Outdoor Coalition, James River Association, and many more, along with new partnerships recommended in this plan, will help to accomplish the goals that have been outlined. In instances where these community partnerships cannot fulfill the tasks necessary to achieve the goals of this plan, funding must come from other sources.

Funding Resources

Grant funds are specific and must be used to fulfill needs of the programs they are serving. The following agencies have grants that will be applicable to the actions recommended in this plan.

Land and Water Conservation Fund (Federal)

The Land and Water Conservation Fund (LWCF), an arm of the National Park Service, provides matching grants to states and local governments for the acquisition and development of public outdoor recreation areas and facilities. The grants awarded provide opportunities to increase accessible recreation to America's youth. The State and Local Assistance Programs Division offers the Urban Park and Recreation Recovery program to assist in state level funding⁵¹.

Virginia Recreation Trails Program (Federal)

The Recreation Trails Program, which is administered through the Federal Highway Administration, provides funds to states to develop and maintain recreational trails. Project eligibility is determined on a state level⁵². Virginia's funding tends to get funneled towards Greenways and Trails, Water Trails, and the Trails Toolbox, a program that highlights that trails should exist within 15 minutes from most

Implementation

American's homes⁵³. The toolbox is designed to enhance trail-building at the grass roots level.

Virginia Land Conservation Fund (State)

The Virginia Land Conservation Fund, established in 1999, was created to fund the protection of natural resources in Virginia. While many grants are allocated to the purchase of land for the purpose of a permanent conservation easement, the foundation does offer matching for state funded grants⁵⁴.

Recreational Access Program (State)

The Virginia Department of Transportation (VDOT) offers grants to programs that increase access for a multitude of resources. The Recreational Access Program assists localities in providing access to public recreational or historic areas owned by the Virginia or a locality. In order to be eligible for this funding a master plan, project description, and cost estimates (among other things) must be provided. The projects are reviewed monthly and can be used towards Bikeways and Access roads⁵⁵.

Nonprofit Grants

Non-profit organizations such as the National Recreation and Parks Association and the City Parks Alliance compile grant funding opportunities that the JRPS can use to implement the recommendations of this plan.

Utilizing these grants available will assist in lifting the financial restraints the James River Park System will face to implement the recommended actions of this plan, setting the stage for a more equitable James River Park System.



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Appendix A

Survey

1. **Date** _____

2. **Zip Code** _____

3. **How old are you?**

< 18 18-24 25-34 35-44
 45-54 55-64 65 >

4. **Which race or ethnicity do you identify as?**

White Black/African American Hispanic Asian

Native American Other _____

5. **When you are outside where do you relax/hang out?** _____

6. **Do you ever go to the James River?**

Yes No

7. **How often do you go to the James River?**

Less than once a year Once a year Once a month

Once a week More than once a week Never Been

8. **If you would like to discuss this topic further, please write down an email address I could contact you at** _____

Please turn this page over

For this section please circle 1 or 2 words in each category that you associate with the James River

I attend the James River with

I don't go to the park Mom

Dad Grandchildren

Sister Brother

Kid(s) _____ Grandparents

Friend By myself

Other _____

When I am at the James River I go

Bird Watching Fishing

Snorkeling Hiking Running

Dog Walking Picnic Photography

Nature Watching Tubing

Kayaking Climbing Swimming

Boating Other _____

The park makes me feel

Safe Happy Sad

Thoughtful Scared Stressed

Unsafe In Danger Energized

Valued Free Fortunate

Peaceful Other _____

I get to the James River by

Car Walking/Running

Bus Bike Taxi

Other _____

Appendix B

Survey Responses

Zip	Age	Race/Ethnicity	When you are outside, where do you relax/hang out?	Do you go to the James River	How often?	I Dont	Mom
23234	35-44	Black/African American	Byrd Park	No	Less than Once a Year	0	1
23224	45-54	Black/African American	Parks	Yes	Less than Once a Year	0	0
23837	45-54	Black/African American		Yes	Less than Once a Year	0	0
	18-24	2 Races - White and Black/	The Rocks	Yes	Once a Month	0	0
23225	18-24	Black/African American	Bellemeade	Yes	Once a Month	0	0
23219	35-44	Black/African American	Relax Mostly	Yes	Once a Month	0	0
23112	45-54	Black/African American	Parks	Yes	Once a Month	0	0
23234	45-54	Black/African American	Buttermilk/Northbank	Yes	Once a Month	0	0
23224	18-24	White	Everywhere	Yes	Once a Month	0	1
23234	35-44	Black/African American	Parks or Belle Isle	Yes	Once a Month	0	0
23234	<18	Black/African American	Hangout	Yes	Once a Year	0	0
23224	<18	Black/African American	Gym	Yes	Once a Year	0	1
23231	18-24	Black/African American	Local Parks	Yes	Once a Year	0	0
23224	45-54	Black/African American	Byrd Park	Yes	Once a Year	0	0
23112	55-64	Black/African American	Conan Republic	Yes	Once a Year	0	0
23234	45-54	Black/African American	Beach	No		1	0
23224	45-54	Black/African American	Listen to Music	No	Less than Once a Year	1	0
23224	18-24	Black/African American	Basketball Court	No	Less than Once a Year	0	0
23224	<18	Black/African American	In my Backyard	Yes	Once a Month	0	0
23224	25-34	Black/African American	Sometimes go to rocks or walk to park	Yes	Once a Month	0	0
23224	25-34	Black/African American	Backyard	Yes	Once a Year	0	0
23224	35-44	Black/African American	Park/Backyard/Playground	Yes	Once a Year	0	0
23224	35-44	Black/African American	Football Field/Basketball Practice	Yes	Once a Year	0	0
23234	45-54	Black/African American	Psalm 91 Barbershop and Beauty Salon	No	Less than Once a Year	1	0
23234	45-54	Black/African American	At Home	No	Less than Once a Year	1	0
23234	45-54	Black/African American	Backyard	No	Less than Once a Year	0	0
23224	55-64	Black/African American	At Home	Yes	Less than Once a Year	0	1
23225	65>	Black/African American		No	Less than Once a Year	0	0
23224	65>	Black/African American		Yes	Less than Once a Year	0	0
23224	65>	Mixed	Home	No	Never Been	1	0
23224	65>	Black/African American	In Backyard	No	Never Been	1	0
23224	65>	Black/African American	Out	No	Never Been	0	0
23224	65>	Black/African American		No	Never Been	1	0
23224	65>	Black/African American	Home	No	Never Been	1	0
23224	65>	Black/African American	At Library	No	Never Been	1	0
23224	65>	Black/African American	Eating out	No	Never Been	1	0
23224	65>	Black/African American	Backyard	Yes	Once a Year	0	0

Appendix B

Survey Responses

Dad	Grandchild	Sister	Brother	Kids	Grandpare	Friend	Myself	Other	Safe	Happy	Sad	Thoughtful	Scared
0	0	0	0	1	0	1	0	0	0	0	0	0	0
0	0	0	0	0	0	1	0	0	0	0	0	0	0
0	0	0	0	1	0	0	0	1	0	0	0	0	0
0	0	0	0	0	0	1	0	0	0	0	1	0	1
0	0	0	1	0	0	1	0	0	0	0	1	0	0
0	0	0	0	1	0	0	0	0	0	0	1	0	0
0	1	0	0	0	0	0	0	0	0	0	1	0	0
0	0	0	0	0	0	1	0	0	0	0	1	0	0
1	0	1	1	1	1	1	1	1	0	0	0	0	0
0	0	0	0	0	0	0	0	1	0	0	1	0	1
0	0	0	0	0	0	1	0	0	0	0	0	0	0
0	0	0	1	0	0	1	0	0	0	1	1	0	0
0	0	1	0	0	0	1	0	0	0	0	1	0	1
0	0	0	0	1	0	1	0	0	0	1	1	0	0
0	0	0	0	0	0	1	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	1	0	0
0	0	0	0	0	0	0	0	1	0	0	1	0	0
1	0	0	1	0	0	1	0	Cousins	1	1	0	0	0
0	0	0	0	1	0	1	0	0	0	1	0	0	0
0	0	0	0	1	0	0	0	0	0	0	1	0	0
0	0	0	0	1	0	0	0	0	0	0	0	0	0
0	0	0	0	1	0	0	1	0	0	0	1	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	Really Don	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	1	0	0
0	0	0	0	0	0	0	1	0	0	0	1	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	Nephew	0	1	0	0	0

Appendix B

Survey Responses

Stressed	Unsafe	In Danger	Energized	Valued	Free	Fortunate	Peaceful	Bird Watch	Fishing	Snorkeling	Hiking	Running	DogWalkin
0	0	0	0	0	1	0	1	0	0	0	1	0	0
0	0	0	0	0	1	1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	1	0	1	0	0	0	0
0	0	0	0	0	1	0	1	0	0	0	0	0	1
0	0	0	0	0	1	0	0	0	0	0	1	0	0
0	0	0	1	0	1	0	1	0	0	0	0	0	0
0	0	0	1	0	1	1	0	0	0	0	1	1	0
0	0	0	1	0	1	0	1	0	0	0	0	1	1
0	0	0	0	0	1	0	1	0	1	0	0	1	0
0	0	0	1	0	0	0	1	1	0	0	0	0	0
0	0	0	0	0	1	0	0	0	0	0	0	0	0
0	0	0	0	0	1	0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	0	0	0	1	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	1	0	1	0	0	0	0	1	0
0	0	0	1	0	1	0	1	0	0	0	0	0	0
0	0	0	0	0	1	0	0	0	0	0	0	0	0
0	0	0	1	0	0	0	0	0	0	0	0	0	0
0	0	0	1	0	1	0	0	0	0	0	1	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	0	0	0	0	0
0	0	0	0	0	1	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	1	0	0	0	0
0	1	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	1	0	1	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	1	0	0	0	0

Appendix B

Survey Responses

Picnic	Photography	Nature Watching	Tubing	Kayaking	Climbing	Swimming	Boating	Other	Car	Walking/Running	Bus	Bike	Taxi
0	0	0	0	0	0	0	0	0	1	1	1	1	0
0	0	1	0	0	0	0	0	0	0	1	0	0	0
0	0	1	0	0	0	0	0	0	0	1	0	0	0
0	0	0	0	0	0	1	0	0	0	0	0	0	0
0	0	0	0	0	0	1	0	Rocks	1	0	0	0	0
0	1	1	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	1	0	0	0	0
0	1	1	0	1	0	1	0	Biking	1	0	0	1	0
0	0	0	0	0	0	1	1	Biking	0	0	0	0	0
1	1	1	0	0	0	0	0	0	0	0	0	0	0
0	1	1	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	1	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	1	1	1	1	0
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0	0	1	0	0	0	0	0	0	1	1	0	0	0
0	0	0	0	0	0	0	0	Chilling	1	0	0	0	0
0	0	1	0	0	0	1	0	0	1	0	0	0	0
0	0	1	0	0	0	0	0	0	1	0	0	0	0
0	0	1	0	0	1	0	0	0	1	0	0	0	0
1	0	0	0	0	0	0	0	0	1	1	0	0	0
0	0	0	0	0	0	0	0	Walking	1	0	0	0	0
0	0	0	0	0	0	0	0	0	1	1	0	0	0
0	0	1	0	0	0	0	0	0	1	0	0	0	0
0	0	0	0	0	0	0	0	Watching	1	0	0	0	0
0	0	0	0	0	0	0	0	0	1	1	0	0	0
0	0	0	0	0	0	0	0	0	1	1	0	0	0
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0	0	0	0	0	0	0	0	0	1	1	0	0	0
0	0	0	0	0	0	0	0	0	1	1	0	1	0
0	0	0	0	0	0	0	0	0	1	0	0	0	0



