

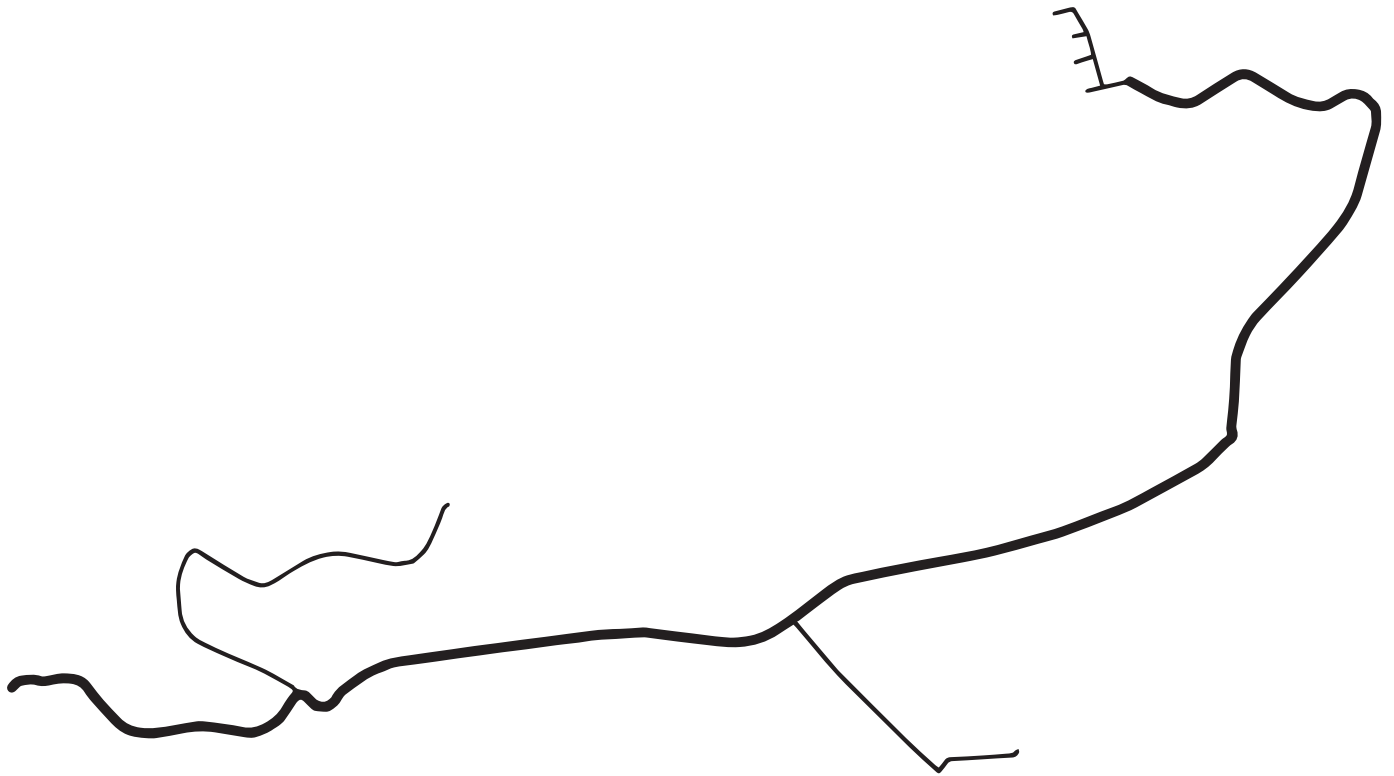
GILLIES CREEK GREENWAY



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GILLIES CREEK

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EXECUTIVE SUMMARY

Gillies Creek Greenway will be a network of separated, paved, multi-use paths through the East End of Richmond along Gillies Creek. This area is comprised of the Richmond neighborhoods of Fulton, Montrose Heights, Oakwood, and Chimborazo Park. Each neighborhood has its own connectivity issues. Solutions to those problems are included in this plan.

Major findings show a needed emphasis on alternative transportation routes, safe routes, and connecting routes; all of which are accomplished by the creation of the greenway. Two area neighborhoods, Oakwood and Montrose Heights, have much higher rates of households without an automobile (over a quarter of households in both neighborhoods) than the city of Richmond as a whole. The city however, has a significantly higher rate of households without an automobile (about 17%) than the average in the Richmond region (near five percent). Area households without an automobile are likely travelling into Downtown Richmond and would greatly benefit from having a bicycle and pedestrian route accommodating their non-motorized lifestyles. With that in mind, it must be made clear that such facilities, even in the form of sidewalks, are not present along the creek (Jennie Scher Rd and Stony Run Rd from E. Richmond Rd to Williamsburg Ave). This equates to potentially unsafe and uncomfortable trips into the city of Richmond. The greenway will connect to the Virginia Capital Trail, greatly increasing the bicycle and pedestrian network for the East End. This connection is essential, as it opens up a separated route from the East End to Downtown to the Canal Walk, from there to the foot of Oregon Hill, and eventually across the River via the Potterfield Memorial Bridge.

The main portion of the greenway will be completed in three phases. Phase 1 is the body, running along Stony Run Rd between Williamsburg Ave and Jennie Scher Rd. Phase 2 connects the body to the capital trail. Phase 3 connects the body to Oakwood around the E. Richmond Rd Landfill. Three branch trails have been identified to further boost connectivity. Based on community response, the most important of these trails is the Chimborazo Park connector, which will run from the park onto a bridge across three abandoned CSX bridge pilings, and onto the western side of Williamsburg Ave. The second branch path will take advantage of city-owned right-of-way and connect Montrose Heights to the greenway through Gillies Creek Park. The final branch path is a series of connecting paths in the uncompleted Oakwood grid, cutting down travel times for greenway users in the uphill neighborhoods.

This plan includes costs, funding sources, and community outreach methods to help ensure the success of the greenway. Total cost for the project is estimated at \$5,170,481. This cost can be reduced by up to \$4.3 million if maximum grant funding is secured, leaving a total cost of \$823,456.22.

INTRODUCTION

THE CLIENT

The Gillies Creek Greenway Plan was requested by the Pedestrian, Bicycles and Trails Commission Coordinator, Jakob Helmboldt and supported by James River Park System Park Superintendent Nathan Burrell. The plan fulfills the professional plan requirement of the Masters of Urban and Regional Planning program in the L. Douglas Wilder School of Government and Public Affairs at Virginia Commonwealth University.



CITY OF RICHMOND SEAL

The Mayor's Pedestrian, Bicycling and Trails Planning Commission (the Commission), formed by Mayor Dwight Jones in 2010, provides the City's administration with advice on how to incorporate walking and bicycling as safe and viable transportation modes in the City of Richmond. The City's efforts are led by Jakob Helmboldt, the city's first Pedestrian, Bicycling and Trails Coordinator. The coordinator position was created at the recommendation of the Commission. The Coordinator serves as the primary conduit and liaison, both internal and external to the City of Richmond, leading a broad range of initiatives and projects to enhance the bikeability and walkability of the City of Richmond. A central component of this position is the planning and development of infrastructure projects that will ultimately result in a complete network of bike and pedestrian infrastructure to enhance access throughout the City.

One of the Commission's primary recommendations was to establish greenways, blueways, trails, and pedestrian routes. The Commission, working with the Richmond Area Metropolitan Planning Organization (now known as the Richmond Regional Transportation Planning Organization, or RRTPO) has identified multiple corridors throughout the city that, if developed as greenways, would connect residents and visitors to a large and diverse network of amenities. Many of these identified corridors run alongside city creeks where a sizeable right of way is already owned by the government. Gillies Creek is one such corridor.

The James River Parks System (JRPS) is a unique, substantial collection of parklands on both the north and south sides of the James River and many islands within. JRPS features a diverse offering of outdoor activities, such as mountain biking, kayaking and canoeing, hiking, rock climbing, swimming, and bird-watching. Gillies Creek features many of these aspects currently and includes a mountain biking single track to be preserved with the addition of the Greenway. The greenway itself is to connect to the riverfront via the Virginia Capital Trail. With these considerations in mind, JRPS is a more than fitting steward for the greenway in the future.

ALIGNMENT

The greenway will run from the Virginia Capital Trail, cross Route 5, enter the proposed Stone Brewery Site (between Gillies Creek and Nicholson St.), cross Williamsburg Ave, travel alongside Gillies Creek, cross Government Rd, meet Jennie Scher Rd, Cross Gillies Creek, climb uphill, and connect to Briel Street in Oakwood. The greenway will have three branch paths connecting Chimborazo, Oakwood, and Montrose Heights directly to the greenway. A map of the greenway's alignment can be viewed with its proposed branches in Figure 1.1.

PURPOSE

The Commission Coordinator has requested the Gillies Creek Greenway Plan for various reasons. First and foremost, the planning of greenways is under the purview of the Commission. With one of the proposed greenways completed (Canon Creek) and planning underway for other creek corridors, the Gillies Creek Greenway will keep the proposed greenway network moving forward. The Greenway will primarily serve as a safe connecting corridor for the East End of Richmond. No safe pedestrian routes exist along the proposed greenway and desire paths (beaten trails from high pedestrian activity) show a need for a walkway. Finally, several large projects occurring on city-owned land around the Creek are drawing attention to the area. Major projects are listed below:

VIRGINIA CAPITAL TRAIL:

The Virginia Capital Trail is a 52-mile, separated bicycle and pedestrian trail running from the City of Richmond to the Jamestown Settlement. With an expected completion date of September 1, 2015, the Virginia Capital Trail will provide the region and state unprecedented recreational opportunities.¹ The Virginia Capital Trail, once completed, will lie just south of Williamsburg Road (Rt. 60) and cross over Gillies Creek. The Virginia Capital Trail, being both a long-distance cycling opportunity and a safe route to Downtown Richmond, is the perfect terminus for the Gillies Creek Greenway.

RIVERFRONT NETWORK

The Virginia Capital Trail, the completed Richmond Canal Walk, and the upcoming T. Tyler Potterfield Memorial Bridge form the continuous Riverfront Network. This network is a separate-from-road route that connects several neighborhoods to Downtown Richmond and Manchester across the river. The Riverfront

Network will be further explored in the research section. A map of the Riverfront Network with Gillies Creek can be found in Figure 1.2

STONE BREWERY

Stone is constructing its first East Coast brewery on a parcel adjacent to Gillies Creek on Williamsburg Road. Stone Brewing Co. is a California-based craft beer brewery, the tenth largest in the United States.² After initial construction of the brewery, Stone plans to rehabilitate the Intermediate Terminal building on the riverfront and the Virginia Capital Trail into a Beer Garden.³ Upon completion of both sites, Stone expects to offer 288 jobs to the city.⁴ Large development projects such as these, though having a degree of risk, can revitalize surrounding areas. Preliminary maps of the proposed brewery indicate a pedestrian path connecting the Intermediate Terminal to the Brewery, crossing the Virginia Capital Trail.⁵ The greenway must travel through the Stone site to access the Capital Trail and should be planned in conjunction with Stone to align pedestrian and bicycle interests along this span.

Church Hill North Redevelopment: The facility formerly used as Armstrong High School lies abandoned on the opposite end of the Greenway. This site is slated for redevelopment as a 300 unit, mixed-income housing development.⁶ Just northeast of the Armstrong site is Creighton Court, a low-income housing development. Creighton is built in a suburban-court style: a low density collection of buildings encircling a center courtyard. Proposed redevelopment on

1 "Virginia Capital Trail Foundation." Virginia Capital Trail Foundation.

2 "Brewers Association Lists Top 50 Breweries of 2013." Brewers Association.

3 Michael Martz. "Deal Imminent on Property for Stone Bistro and Beer Garden." Richmond Times-Dispatch, October 9, 2014.

4 Annie Tobey. "Richmond Is Getting Stone Brewing Co. AND a Restaurant, Too." Richmond Times-Dispatch, October 14, 2014.

5 Annie Tobey. "Richmond Is Getting Stone Brewing Co. AND a Restaurant, Too." Richmond Times-Dispatch, October 14, 2014.

6 Graham Moomaw. "300 Homes Planned for Old Armstrong High School Site." Richmond Times-Dispatch, January 5, 2015.



Source: Esri, DigitalGlobe, GeoEye, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

FIGURE 1.1: GILLIES CREEK GREENWAY ALIGNMENT WITH BRANCH PATHS

this site will take this inappropriate, low density, 500 unit development and replace it with a denser, urban neighborhood in fitting with its surroundings.⁷ Density increases such as these, if done well, can transform neighborhoods and will increase the population of an area. Higher populations will result in more need and desire for safe, connecting routes such as the Gillies Creek Greenway.

AREA BACKGROUND

In addition to the development projects occurring along Gillies Creek, the history and current conditions of the area give reason to create the Greenway. The road system along the creek lacks pedestrian and bicycle infrastructure and is not well integrated into the city's street grid. The greenway will provide nearby communities safe access to jobs, passive and active recreation, routes to their homes, and access to the

riverfront. The study area includes five neighborhoods: Chimborazo Park, Oakwood, Montrose Heights, Fulton, and Montrose. Montrose is a neighborhood outside of the City of Richmond, in Henrico County, but its proximity to the proposed greenway justifies its inclusion. Considerations for path placement will not be made for Montrose, but it will be included in demographic research. A map of the area neighborhoods can be found in Figure 1.3.

The least connected neighborhood to the greenway route, Chimborazo Park, is much wealthier and enjoys little blight compared to the other neighborhoods. This is in part due to its ubiquitous brick architecture which does not lend itself to becoming blighted as easily as the wooden structures that occupy surrounding areas. Chimborazo is disconnected from the Riverfront Network; an off-road transportation route comprised of the Capital Trail, Canal Walk, and soon-to-come Potterfield Memorial Bridge. This discon-

⁷ Zachary Reid. "A Glimpse of Creighton's Future?" Richmond Times-Dispatch, January 14, 2015.

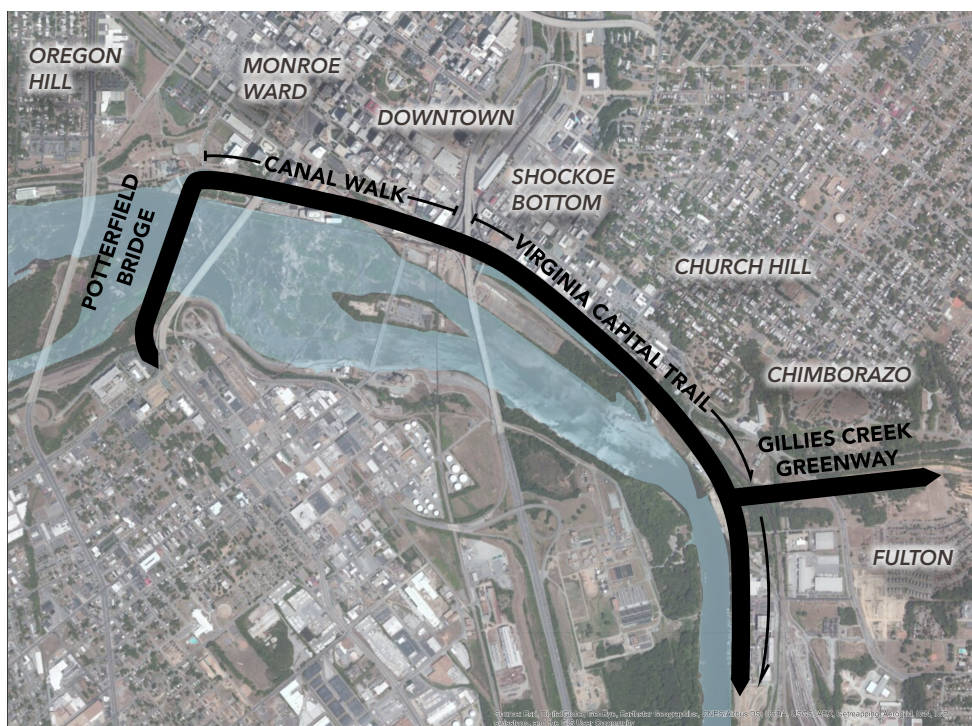


FIGURE 1.2: RIVERFRONT NETWORK

nectedness is due in large part to the steep hill on which the neighborhood is situated. The lack of safe routes to surrounding parks and the river leaves Chimborazo at a recreational disadvantage. This can be alleviated through the reuse of bridge supports that lead to Chimborazo Park.

Oakwood is an architecturally diverse neighborhood to the northeast of Chimborazo, featuring a mix of mid-19th century and early 20th century styles. The area has varying degrees of blight and features connectivity issues based on its incomplete grid and the East Richmond Road Landfill, which requires bicycles and pedestrians to travel down E. Richmond Road and the Jen-

nie Scher Rd. This neighborhood will see great benefit in the greenway through a reduction in travel times to the riverfront and in an increase in safe routes. The neighborhood will also see an increase in travel with a completed grid. The current grid system is disrupted by a steep ravine and causes all modes of traffic to travel around the ravine.

Montrose Heights is mostly comprised of wood bungalows constructed around the mid-20th century. This neighborhood, like Oakwood, has blighted structures scattered throughout but is in decent shape architecturally. Montrose Heights features a similar predicament in river accessi-

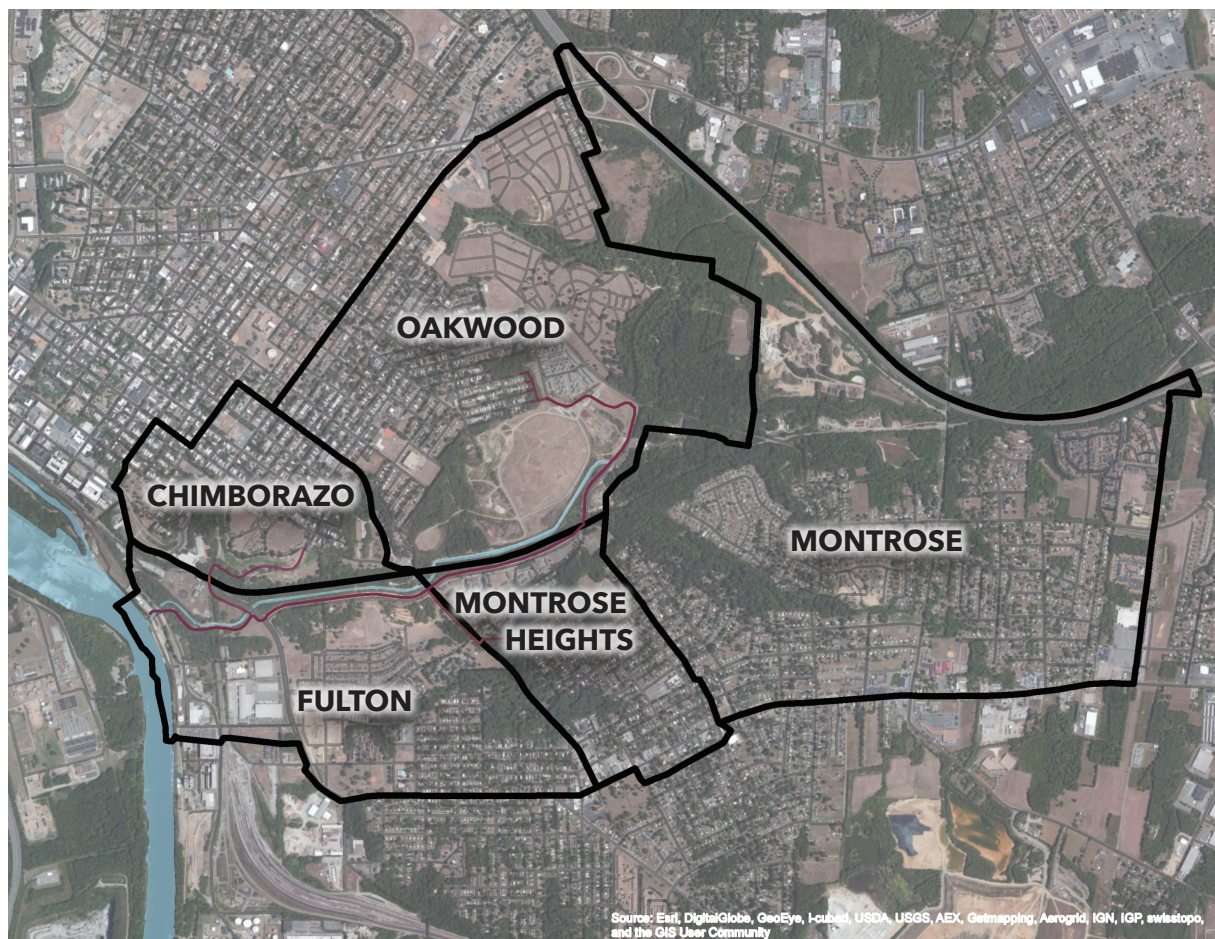


FIGURE 1.3: AREA NEIGHBORHOODS

bility as Oakwood in that bicycle and pedestrian travel is bottlenecked through a single route, Accomac St, an access point to Stony Run Rd via Jennie Scher Rd and Government Rd. This route is safer than the Oakwood route as it features sidewalks on both sides for most of its length. However, government-owned properties leading up the hill to Montrose Heights open the opportunity to continue a separated path to this neighborhood from the greenway.

Fulton has two areas; a lower portion sometimes called "Fulton Bottom" and a higher portion. Fulton bottom fell victim to urban renewal policies in the 1970s when it was leveled after a community struggle to save it. Once a vibrant and urban-in-form neighborhood, Fulton Bottom today bears little resemblance to its former self. The houses that occupy the still-present grid of the demolished neighborhood are suburban in form.⁸ Fulton Bottom has the highest connectivity to the Riverfront Network. The upper portion is similar to Montrose Heights, with a higher number of pre mid-20th buildings. To access the Riverfront Network, bicycle and pedestrian traffic must travel along Williamsburg Ave or Government Rd, both having sidewalks.

⁸ Scott Bass, "The Greatest Place on Earth," Style Weekly, September 12, 2007.



FIGURE 1.5: TYPICAL OAKWOOD STREET



FIGURE 1.6: TYPICAL MONTROSE HEIGHTS STREET



FIGURE 1.4: TYPICAL CHIMBORAZO STREET



FIGURE 1.7: TYPICAL FULTON STREET

The study area makes contact with three neighborhoods directly: Fulton, Montrose Heights, and Oakwood. Fulton and Montrose Heights are part of an active community organization, the Greater Fulton Hill Civic Association. Oakwood is not part of any neighborhood association. Wider-reach neighborhoods include Church Hill and Church Hill North, each having its own neighborhood associations: the Church Hill Association and the Church Hill Central Civic Association, respectively.

EXISTING PLANS

While many plans have neglected to include areas south of Church Hill North like the Fulton neighborhood, some planning work has been completed on the topic of an East End greenway. Below are two existing plans which will serve to inform the Gillies Creek Greenway Plan. Both recommend the creation of the Gillies Creek Greenway to connect the various amenities throughout the area.

RICHMOND RIVERFRONT PLAN

Increased river access and access along Gillies Creek is recommended in the Richmond Riverfront Plan, completed by the City of Richmond. The study area around Gillies Creek is between the James River and the Capital Trail and Rt. 60 (Williamsburg Road). The plan primarily seeks to improve the areas directly around the river while creating as many connections to the riverfront as possible. It recommends that a trail connect to the “Uphill Neighborhoods,” those from Chimborazo Park and Libby Hill Park eastward to the Henrico County line.⁹

2013 VIRGINIA OUTDOORS PLAN

Completed by the Virginia Department of Conservation and Recreation, this plan mentions the a connecting path that will become Gillies Creek Greenway, saying the city should “create

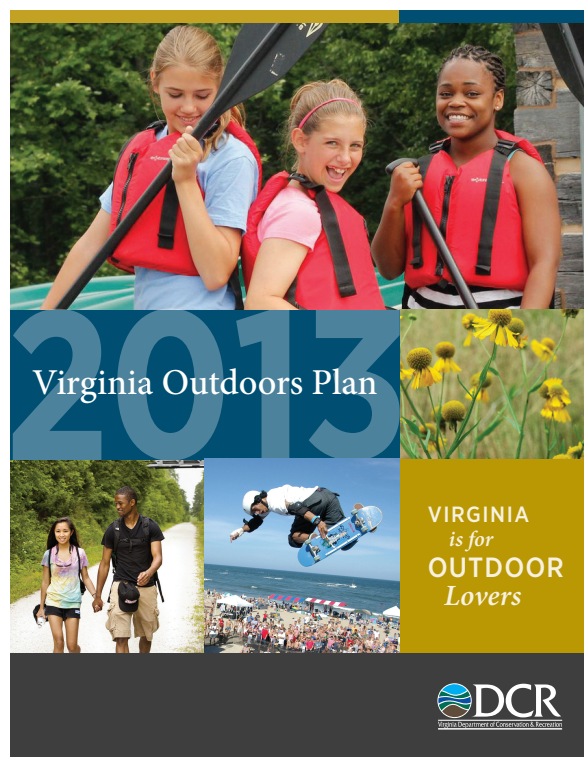


FIGURE 1.8: EXISTING PLANS

a continuous linkage between historic sites in Richmond’s east end...These proposed park connections include the designation of natural areas surrounding Gillies Creek Park.”¹⁰

⁹ “Richmond Riverfront Plan,” City of Richmond, November 26, 2012.

¹⁰ Virginia Outdoors Plan,” Virginia Department of Conservation and Recreation, 2013.

REALIZATION OF PRECEDENT PLANS

To accomplish the proposals of these two plans, three considerations apart from those mentioned will include formalized amenities at Gillies Creek Park, the completion of the Oakwood grid, and the reuse of bridge pilings on Williamsburg Road. Certain informal uses and passive space in Gillies Creek Park will become formal uses and active spaces through the addition of exercise infrastructure. In Oakwood, a small path network will connect the grid never completed by the city, due to topography. This plan also makes recommendations for the use of three pilings from a former train bridge that leads to Chimborazo Park. These pilings are owned by Norfolk Southern and could be adapted as supports for a pedestrian bridge.

STATE OF THE ART

Greenway planning can fall under different fields in planning, such as recreation or transportation. Because the Gillies Creek Greenway fills a void left in the current pedestrian travel network, it falls under the umbrella of connectivity planning. Theories and practices surrounding this type of planning are explained in the following paragraphs.

Within the study of planning, connectivity is a well-defined concept formed by Kevin Lynch. Lynch introduced the idea that increased access is followed by increased choice, which in turn is followed by a plethora of benefits. Lynch, in the 1960s, studied the elements of a place which make it memorable and navigable. He determined that, at the most basic level, well-designed cities are made of well-designed connections, described in his words as “legibility” and “structural understanding.”¹¹ On structural understanding Lynch writes:

“Like any good framework, such a structure gives the individual a possibility of choice and a starting-point for the acquisition of further information. A clear image of the surroundings is thus a useful basis for individual growth.”¹²

Lynch’s studies would culminate as *The Image of the City*, which famously defines the elements of a city as paths, landmarks, edges, nodes, and districts. These elements work together to create a network, and if planned well, a memorable network. Lynch goes into great detail on how to achieve this, as well as the psychological impacts good design has on people.¹³

Once a high level of connectivity is achieved, greenways can be used to accomplish other ends. In his work “Greenways as a Planning Strategy,” Jack Ahern describes greenways as routes that lessen the impact of fragmentation and isolation.¹⁴ Greenway plans can use several approaches to complete this goal and may be ecological, recreational, cultural, and/or aesthetic in nature.¹⁵ Greenway planning should attempt to achieve multiple benefits through connections to the existing network of amenities, while being sympathetic to land uses.¹⁶

Greenways and connectivity are not solely a transportation issue, but also one of equity. In “Access, Equity, and Urban Greenways: An Exploratory Investigation,” a study by Greg Lindsey, Maltie Maraj, and SonCheong Kuan, access and equity are measured and evaluated in conjunction. The research team defined accessibility to

11 Kevin Lynch, *The Image of the City*, MIT Press, 1960.

12 Ibid.

13 Kevin Lynch, *The Image of the City*, MIT Press, 1960.

14 Jack Ahern, “Greenways As a Planning Strategy,” *Landscape and Urban Planning*, 1995.

15 Ibid.

16 Ibid.

greenways as census tracts within a half-mile of a greenway.¹⁷ In determining equity, they collected census data on population density, proportion of African Americans, educational attainment, median household income, proportion of persons in poverty, median housing value, proportion of households without a vehicle, and number of assault cases per capita, creating a metric on which to measure the equity of a greenway route.¹⁸

Moving from theory to practice, the Virginia Department of Conservation and Recreation released a “toolbox” for planning, implementing, and maintaining new greenways in the Commonwealth. In combination with its recreational focus, the toolbox emphasizes establishing strong connection points to strengthen a proposed greenway. The Virginia Greenways and Trails Toolbox has a litany of recommendations and strategies. For planning and design, it gives detailed lists of considerations which include slopes, widths, paving materials, positioning, wayfinding, and trail amenities.¹⁹

The Gillies Creek Greenway was planned with the context of the surrounding network in mind. The creation of a path with multiple connections to a wide array of amenities will serve a population that rarely makes it into city-adopted plans. The process, defined in the following section, is pragmatic and rational as well as collaborative, and allows well-informed placement of the greenway through data collection and stakeholder input.

APPROACH

Demographics: Demographic data collected from the five neighborhoods in the study area formed a picture of the residents to be served by the greenway. Further demographics were collected for the Richmond Region, being the town of Ashland, the counties of Charles City, Chesterfield, Goochland, Hanover, Henrico, New Kent, Powhatan, and the City of Richmond, to be used as comparison data. Race, age, sex, and households without a vehicle were selected as the most essential and relevant demographic characteristics.

PUBLIC MEETING

The Fulton Community was informed of the plan during their February 2015 meeting at the Fulton Neighborhood Resource Center. The presentation included a brief overview followed by a question and answer period.

ONLINE SURVEY

A survey was distributed first through NextDoor; a social networking site for neighborhoods. The survey was posted on Church Hill Peoples News and later shared on Facebook by Bike Walk RVA. Over the course of seven days, 159 participants answered the survey. These responses aided in determining needed branch paths for the greenway.

RECREATION

Using the Virginia Department of Conservation and Recreation’s 2013 Virginia Outdoors Plan, needs and demands for recreation in both the state and the Richmond region were assessed and used as supporting reasons to create the greenway.

17 Greg Lindsey, Maltie Maraj, and SonCheong Kuan, “Access, Equity, and Urban Greenways: An Exploratory Investigation,” *The Professional Geographer*, 2010.

18 Ibid.

19 “The Virginia Greenways and Trails Toolbox.” Parsons Harland Bartholomew & Associates, 2000.

GREENSPACES

The greenspaces in the area were described and placed in an inventory in the plan. Strengths of each greenspace were noted to show their diversity, as well as the role each park plays in the system.

Existing Bicycle Infrastructure: Major completed and planned projects were researched and listed, examining general design points as well as the implementation process. Cannon Creek Greenway proved to be the most useful bicycle infrastructure researched due to its similarities to the Gillies Creek Greenway.

GRTC SERVICE

Bus service and future BRT service were examined and reported in detail.

DEVELOPMENTS

Future developments were explored in greater depth. These consisted of the Stone Brewery, and the redevelopments of the old Armstrong High School and Creighton Court.

ALIGNMENT

Placing the greenway was completed through the use of topographic GIS data and visual investigation of the eastern end of the greenway. This route requires a slightly winding path uphill on the parameter of the East Richmond Road Land-fill before connecting to Briel St in Oakwood. This is the path of least resistance; making for the easiest ride and uphill walk. The path occupies mostly city-owned lands, requiring minimal right-of-way purchasing.

BRANCH PATHS

Having outlined the greenway corridor as well as nearby amenities, additional needed connections are proposed in this plan. These were informed by survey responses coupled with ease of implementation and cost.

ROAD MAP

The remainder of this plan is broken into four parts: Existing Conditions, Public Participation, The Plan, and Implementation.

EXISTING CONDITIONS, FUTURE DEVELOPMENTS, AND PUBLIC PARTICIPATION

This portion examines the study area and the plans for its future. This is accomplished through:

- Greenway Route and Road Conditions
- Topography
- Area Demographics
- Bus Lines and BRT
- Parks and Greenspaces
- The Riverfront Network
- Bicycle Infrastructure
- Stone Brewery
- Uphill Development
- Regional Recreation Demand
- Public Presentation
- Survey
- Summary

THE PLAN

This section places the greenway and its branch paths through:

- Main Path Alignment
- Branch Path Alignments

IMPLEMENTATION

This section gives an in depth strategy of implementation through:

- Costs
- Engineering
- Public Engagement
- Railroad Negotiations
- Implementation Process
- Funding Sources
- Construction

RESEARCH

EXISTING CONDITIONS

GREENWAY ROUTE AND ROAD CONDITIONS

The Gillies Creek Greenway corridor runs alongside Stony Run Rd and Jennie Scher Rd between E. Richmond Rd and Wharf St. No sidewalks exist on these roads. A single-track mountain bike trail snakes through the woods and occasionally meets the proposed greenway route. This single track is to be preserved as possible to allow for more recreational options. The route crosses Wharf St, Main St, Williamsburg Ave, intersects Government Rd, crosses the Norfolk Southern railroad, and has a bridge over Gillies Creek. These major crossings will each have special considerations in the Plan section to follow.

Portions of this route can be considered unsafe for pedestrian travel. The posted speed limit is 25 mph on both Stony Run Rd and Jennie Scher Rd, but the width and general straightness of the road result in frequent speeding. Most of Jennie Scher Rd puts pedestrians in close contact with auto traffic. On Stony Run Rd, pedestrians are able to walk in the grassy area between the creek and the road along the proposed greenway route. Pedestrian desire lines show this is a well-traveled path. The higher travel speeds may be of concern for cyclists, even with the adequate passing room allowed by the road widths.

Trucks travelling on Route 60 East have been routed onto Stony Run Rd and Government Rd in order to meet Williamsburg Ave. This may cause some pedestrians and cyclists discomfort as trucks pass.

TOPOGRAPHY

For the main branch of the greenway along the creek, elevation remains constant with a gentle eastward rise. However, the connection to the uphill neighborhoods via Oakwood will be a challenge. From the creek to the top of the hill around the East Richmond Road Landfill, there is an elevation difference of about 120 feet.

Figure 2.1 shows topographic contour lines for the study area. Darker lines represent greater heights. Closely paired lines indicate greater slopes, such as cliffs or hills. The greenway and its branch paths are shown in purple.

Slopes uphill should be gradual to allow for all levels of cyclists and to accommodate those with disabilities. Slope recommendations from the Virginia Department of Conservation Resources (DCR) Greenways and Trails Toolbox dictate a 5% slope shall not exceed 50 feet in length and a 8% slope shall not exceed 30 feet.¹ Ideal slopes are 2-3%.² However, these are guidelines and not necessarily enforceable requirements consistent with Americans with Disabilities Act (ADA) and American Association of State Highway and Transportation Officials (AASHTO) guidelines and standards. It is more likely the path will be able to follow the current road grade. While precise engineering for the greenway will be completed outside of this plan, it is likely the path routes not adjacent to the road will take a somewhat serpentine route up the hill between E Richmond Rd and the East Richmond Road Landfill.

AREA DEMOGRAPHICS

Study Area Census Tracts: The study area includes five adjacent Census Tracts, four in the city of Richmond and one in Henrico County. The four Richmond tracts with their associated neighborhoods in parentheses are 020800 (Chimborazo Park), 020900 (Oakwood), 021000 (Montrose Heights), 021100 (Fulton). The Henrico County tract is 201102 (Montrose). A map of the tracts can be found below in figure 2.2. The following demographic data has a base year of 2014 and was retrieved from the U.S. Census Bureau. Study area figures are compared to those of the Richmond Region, which includes the counties

1 "The Virginia Greenways and Trails Toolbox." Parsons Harland Bartholomew & Associates, 2000.

2 Ibid.



Source: Esri, DigitalGlobe, GeoEye, Earthstar, USDA, USGS, AEX, Geomatics, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

FIGURE 2.1: TOPOGRAPHY

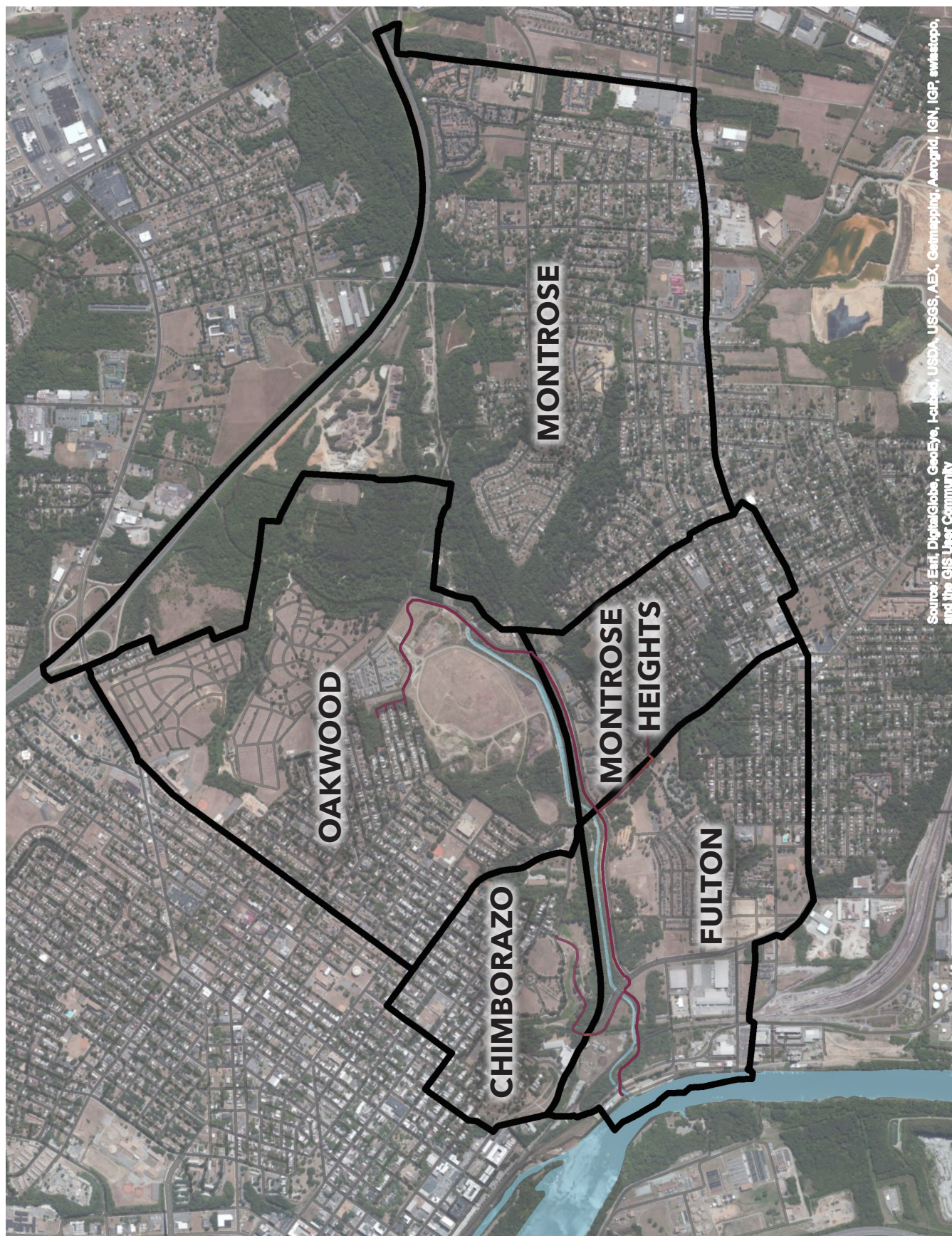


FIGURE 2.2: AREA NEIGHBORHOODS

of Hanover, Henrico, Chesterfield, New Kent, Charles City, Goochland, Powhatan, the Town of Ashland, and the City of Richmond.

Race: The study area is predominantly Black (71.26%) with about a quarter of the population being White (24.3%). The remaining population is comprised of 2.73% two or more races, 0.73% Asian, 0.72% other, and 0.26% American Indian or Alaskan Native. This area is not representative of the racial distribution of the region, where the majority is White and about 30% is Black. This distribution difference is indicative of the area's history as a collection of primarily black neighborhoods.

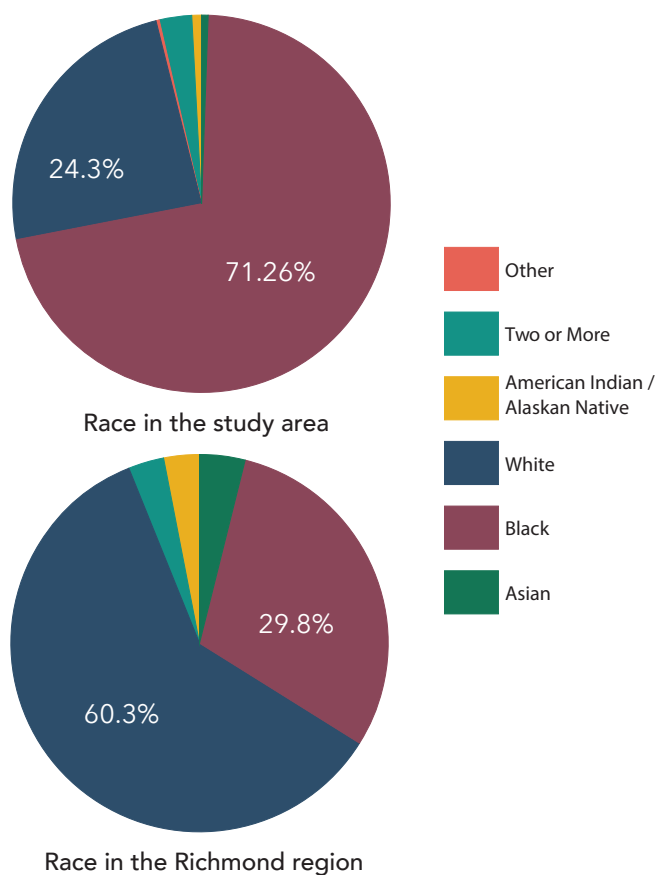


FIGURE 2.2: RACE

Sex and Age: Sex is distributed to near equal levels per age group. The population shows a large base of newborns to elementary-aged children, with a dip in the number of middle school- and high school-aged children and a slight increase in post-high school adults under 25. The largest group in this area is the older end of the millennial generation: 25-34 year olds. This is the foundation of the largest part of the population, staying consistent until the retirement age group, 65-74 and up. The elderly population is the smallest part of this area's total population. These trends seem to indicate an influx of new families and an outflow of the elderly. High populations of families with children

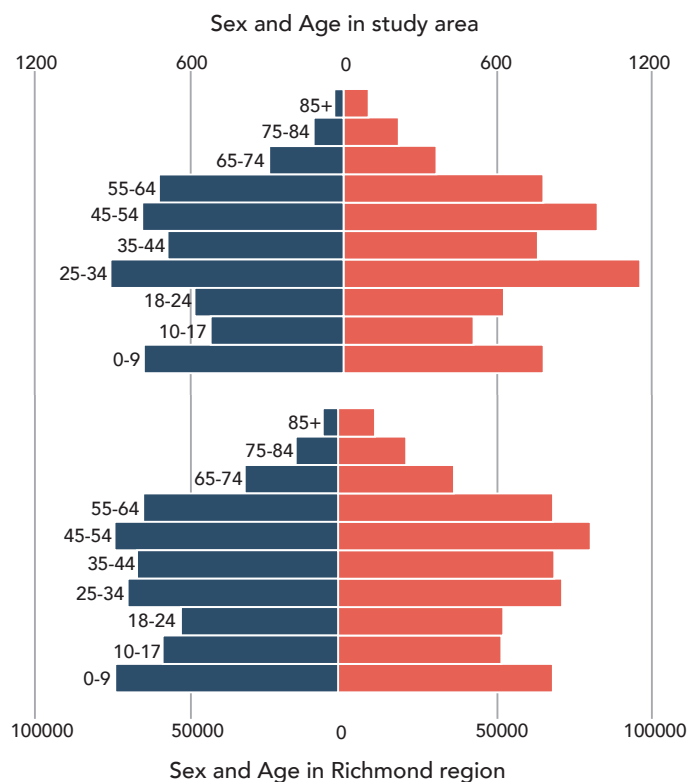


FIGURE 2.3: SEX AND AGE

give need for recreation amenities to be used for both leisure and exercise. To attract more nearby residents, routes to these areas should be safe for travel.. Safe routes also enable more autonomy as younger children age and become more independent and personally responsible. In comparing the study area pyramid to one of the Richmond Region, age and sex is distributed in a similar pattern, but with a noticeably higher 25-34 year old age group.

Households without a Vehicle: More than one quarter of the households of Oakwood and Montrose Heights are without a vehicle. Both of these neighborhoods are at the eastern end of the proposed greenway and would benefit the most because of their current lack of safe routes to the river and the city. While together the study area has about the same vehicle per household percentage (around 17%), Oakwood and Montrose Heights feature much higher percentages. When compared to the Richmond Region, all of the neighborhoods in the study area and the city as a whole have higher rates of households without a vehicle. → Residents of this area find other ways to travel. They may go by bus, bike, foot, or carpool. Regardless, they are travelling without extensive use of an automobile. This calls for safer routes into the city, making the greenway the

Area	Percent
Chimborazo	7.81%
Fulton	11.94%
Montrose Heights	27.84%
Oakwood	27.56%
Montrose	6.91%
Study Area	17.50%
City of Richmond	17.10
Richmond Region	4.96%

FIGURE 2.4: HOUSEHOLDS WITHOUT AUTOMOBILES

perfect transportation corridor for these families without automobiles

BUS LINES AND BRT

Current System: Most of the study area is serviced by Greater Richmond Transit Company's (GRTC) 52-53 line and 41-51 line. 52-53 adequately serves Montrose Heights and Fulton, transporting riders as far as 2nd street and terminating at the Transfer Plaza. Major stops include Admiral Gravelly and Government, Parker and Williamsburg, Accomac and Jennie Scher, and Main and 13th. For Oakwood and Chimborazo Park, GRTC line 41-51 line transports riders as far north as Briel St. to the Transfer Plaza. Major stops include 21st and Marshall, Oakwood and R St., and Briel St.



FIGURE 2.5: BUS LINES

BUS RAPID TRANSIT

With an expected completion date of 2017, Bus Rapid Transit (BRT) is a major step forward in transportation for the Richmond Region. The proposed line, named “The Pulse,” travels on the Broad Street Corridor from Willow Lawn in Henrico County and switching to the Main Street corridor at the Main Street Train Station, to Rocketts Landing. The BRT will run on both dedicated bus lanes and in traffic. Each of the stops will have permanent, elevated stations allowing direct boarding of the bus.¹ The bus will run every 10 minutes at peak times and cost \$1.50, the same as the standard bus fare.²

In anticipation of the Stone Brewery and other far-east riverfront redevelopment, a BRT stop has been slated for construction at Main near Nicholson Street. For riders coming east, this station will provide access to the Virginia Capital Trail and the Stone Brewery. For East End riders, this station is a gateway to the rest of north-of-the-river Richmond. The Gillies Creek Greenway will

provide a safe connection directly to the Capital Trail and thus the BRT line. Having a stable path of least resistance will attract pedestrians and create a more predictable route to the BRT line, especially for the uphill neighborhoods and those who live directly by the Greenway.

PARKS AND GREENSPACES

The study area is home to an impressive collection of city parks which foster recreational activity. The five parks described below each bring unique attractions and values to the area and serve as destination points for both visitors and local residents alike. The following map shows their locations. A map of greenspaces can be found in figure 2.6

Oakwood Cemetery: Oakwood Cemetery is an active cemetery on Nine Mile Road. Over 17,000 Confederate soldiers are buried therein; their bodies having been gathered from nearby hospitals and battlegrounds around Richmond. The grounds are extensive, spanning nearly a

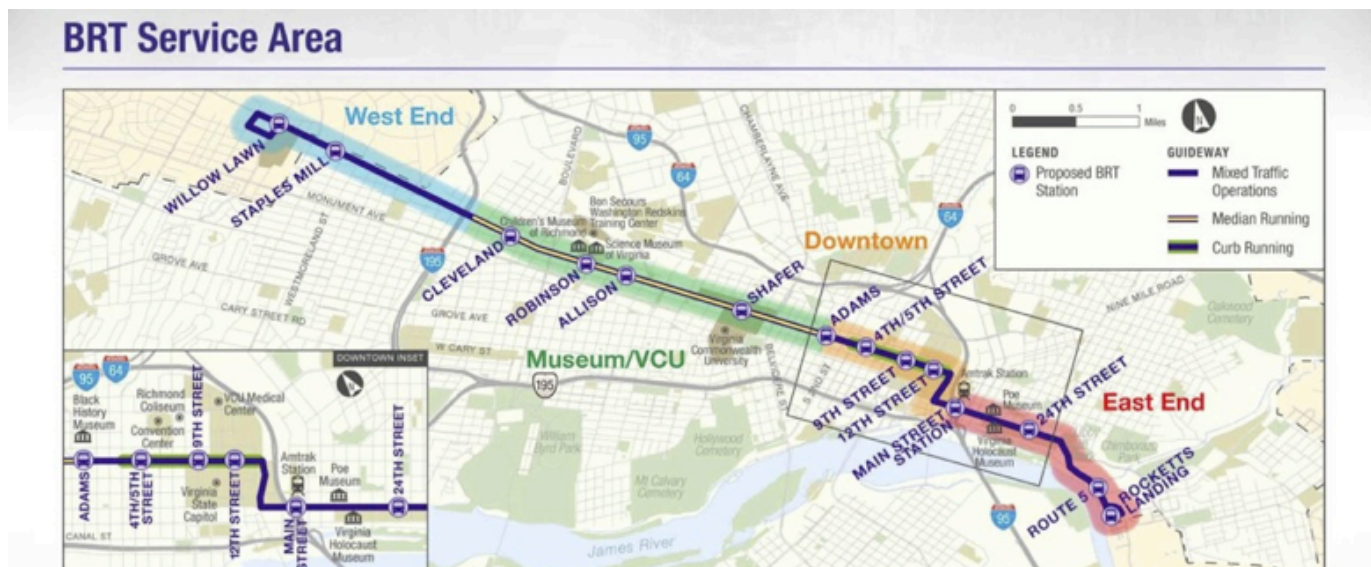


FIGURE 2.6: PROPOSED BUS RAPID TRANSIT LINE

1 Nathan Cushing, “RVA’s bus rapid transit updated.” RVA News January 27, 2015.

2 Ibid.



Source: Esri, DigitalGlobe, GeoEye, Earthstar, USDA, USGS, AeroGRID, IGN, IGP, Swisstopo, and the GIS User Community

FIGURE 2.7: AREA GREENSPACES

mile north to south. The cemetery is operated by the city's Department of Parks, Recreation, and Community Facilities. Entrances can be found on Oakwood Avenue and Nine Mile Road.

Gillies Creek Park: At the intersection of Williamsburg Road and Stony Run Drive is the 40 acre Gillies Creek Park. The park features a unique set of recreational infrastructure including an 18-hole disc golf course and the city's sole BMX race track. Richmond BMX uses the track as its home course and is affiliated with the National Bicycle League.

Chimborazo Park: Chimborazo Park is located on the far eastern end of E. Broad Street. The 30-acre park provides a passive and scenic experience with a view of both the James and the city. Inside the park is a Richmond National Battlefield Headquarters, part of the US National Park Service. The location of the headquarters is due to the park's former use as the expansive Chimborazo Hospital, which served as one of the world's largest military hospitals during the Civil War.

Libby Hill Park: Libby Hill Park is located on E. Franklin Street in Church Hill. This park features one of the most famous views of the city and of a particular bend in the James River. This bend is said to so closely match a bend in Richmond upon Thames, London, that the city took the name Richmond. The park features the Confederate Soldiers and Sailors monument, erected in 1894.

Great Shiplock Park and Chapel Island: Great Shiplock Park is the most eastern parcel in the James River Park System and can be accessed via Dock Street. The Park is adjacent to the final lock in the James River Canal. Across the canal is Chapel Island, which features a small wooded trail system among the ruins of the Trigg Shipyard, a naval shipbuilding operation in the early

1900s. A small boat launch gives non-motorized watercraft direct access to the James River.

REGIONAL RECREATION DEMAND

Based on a comprehensive public outreach process conducted in 2011, the Department of Conservation and Recreation's 2013 Virginia Outdoors Plan reports the recreational needs of all the regions in Virginia. To report more tailored and accurate results, the Richmond region, (the counties of Hanover, Henrico, Chesterfield, New Kent, Charles City, Goochland, Powhatan, the Town of Ashland, and the City of Richmond) is featured in its own section, as are the other regions of the state.

The most needed activities in the Richmond Region are trails for hiking and walking, public access to state waters for fishing, swimming, and beach use, natural areas, and trails for bicycling.³ The Gillies Creek Greenway will accomplish all of these needs as a walking and bicycling trail that connects to the river and the natural areas of Chapel Island. This was recognized by the document itself in recommending the construction of a connecting path to the wealth of East End park amenities.

RIVERFRONT NETWORK

The Virginia Capital Trail, The Richmond Canal Walk, and the T. Tyler Potterfield Memorial Bridge make up Richmond's riverfront pedestrian and bicycle network. While there are additional trails beyond Brown's Island, these are off-road routes intended for mountain biking, as opposed to the more urban routes of the Capital Trail, Canal Walk, and Potterfield Bridge. From the Richmond city line to Brown's Island and across the River is a three-mile, safe, off-road pedestrian and bicycle path network. In this three miles the neighborhoods Fulton, Church Hill, Downtown, Monroe Ward, and Manches-

³ "Virginia Outdoors Plan," Virginia Department of Conservation and Recreation, 2013.



FIGURE 2.8: RIVERFRONT NETWORK

ter can be directly accessed, with northeastern neighborhoods in close reach. In the case of the Gillies Creek Greenway, most pedestrians and cyclists will be travelling out of the area and into the core of Richmond by foot, bike, or bus. The components of the Riverfront Network are described below.

Virginia Capital Trail: The Virginia Capital Trail is a 52-mile, off-road, multi-use trail running from the City of Richmond to the Jamestown Settlement. With an expected completion date of September 1, 2015, the Virginia Capital Trail will provide the region and state with unprecedented recreational opportunities.

Planning for the trail began in 1991 when the Virginia Department of Transportation (VDOT) recommended the creation of bicycle lanes along Route 5 to the General Assembly.⁴ Surveying for the trail began in 2003, and in 2004 the Capital Trail Foundation was formed as a non-partisan advocacy group for the trail.⁵ The Capital Trail secured MeadWestvaco and Dominion Power as major financial backers.⁶ In 2008, construction of the first segment of the trail, located in Charles City County, began.⁷

The Capital Trail through Richmond, starting at Rocketts Landing, will travel along a disused rail line, cross Gillies Creek, run south of Dock Street, enter Great Shiplock Park, continue along Dock under the CSX Viaduct, and terminate in Shockoe Bottom under the I-95 overpass. From there, another multi-use trail, the Richmond Canal Walk begins.

Canal Walk: The Richmond Canal Walk was completed in the late 1990's as a Department of Public Utilities project aiming to mitigate com-

bined sewer overflow issues and to revitalize the riverfront.⁸ The Canal Walk has a mix of historical and recreational uses and is accessible from several different streets.

The Canal Walk stretches 1.25 miles along the James River Canal, Kanawha Canal, and Haxall Canal. The path is briefly disrupted at S 12th Street, where it meets the road as a sidewalk. The Canal Walk then continues south of Byrd Street and terminates at Brown's Island.

T. Tyler Potterfield Memorial Bridge: Though not completed, the river crossing formerly known as the Brown's Island Dam Walk, is a coming addition to Richmond's array of pedestrian and bicycling amenities. At this time, full project funding has been awarded and final designs have been approved by the City Planning Commission and the Urban Design Committee.⁹ The Potterfield Bridge will connect Brown's Island to Manchester across the James River. This pedestrian and bicycle route will use the existing Vepco Dam structure and adapt it for safe travel. The new bridge will be 10 feet wide, allowing for comfortable two way traffic of both cyclists and pedestrians.¹⁰ Once on the Manchester side, pedestrians and cyclists can choose to connect to Manchester through the Suntrust parking lot or they may access the floodwall directly.¹¹ The steep hill on the Manchester side requires a longer, more graded route up the hill or the use of a stairway already in place.

Although they are not connected to the greenway or the Riverfront Network, other important bicycle and pedestrian projects, listed below, are underway in Richmond, .

4 History of the Trail." Virginia Capital Trail Foundation.

5 Ibid.

6 Ibid.

7 Ibid.

8 "Canal Walk." Venture Richmond.

9 "Richmond Riverfront Plan." Planning and Development Review, Richmondgov.com.

10 "Brown's Island Dam Walk Schematic Design." City of Richmond, February 28, 2013.

11 Ibid.

Cannon Creek Greenway: The Cannon Creek Greenway is Richmond's first greenway. The 1.9 mile route runs through Northside along the Richmond-Henrico Turnpike. Its implementation was greatly aided by community participation and the Virginia Army National Guard, both groups providing invaluable service hours to the project.¹² The path is a 10' wide asphalt surface which crosses the turnpike twice and intermittently leaves its viewshed. The greenway will one day end in Shockoe Bottom, but the city is still finalizing design and acquiring right-of-way.

Floyd Avenue Bike-Walk Street: Stretching from Thompson Street in the Museum District, through the Fan, and to the edge of VCU at Monroe Park on Laurel, the proposed Floyd Avenue Bike Walk-Street would be the first of anticipated many safe streets in Richmond. Plans include traffic calming features including neighborhood traffic circles, raised crosswalks, lowered speeds, and eventually, traffic diverters all working together to allow safer, quicker travel for cyclists along this already popular route. The project has met with some resistance from Floyd residents due to the removal of parking spots, though these spots are within an illegal parking distance from intersection.¹³ The Urban Design Commission has approved a final design for the Bike-Walk Street.

Downtown Cycle Track: Connecting to the Floyd Avenue Bike-Walk Street, another proposed project would create a cycle track on Franklin and Main to the Capital at 9th Street. The cycle track would be a 15 block, barrier-separated bike lane running one way in the direction of traffic.¹⁴ The project is in its earliest phase and preliminary engineering has yet to take place.

Reedy Creek Greenway: A project similar to the Gillies Creek Greenway is being planned by GroundworkRVA. Reedy Creek, like Gillies Creek, has a sizeable city-owned right of way fit for a greenway. The greenway would connect the James River Park System, Forest Hill Park, Crooked Branch Park, and George Wythe High School in Southside Richmond.¹⁵ The plan has been put on hold at this time.

Lanes and Diets: Multiple roads across the city are being redesigned to accommodate bicycle lanes, such as the Lee and the Manchester Bridges and Oliver Hill Way.¹⁶ A completed redesign project can be seen on the Martin Luther King Jr. Memorial Bridge, linking Downtown Richmond and the upper East End via E. Leigh St.

STONE BREWERY

The construction of the Stone Brewery is a major factor in the Greenway's creation. Stone Brewing Co. is a California-based craft beer brewery, the tenth largest in the United States.¹⁷ Stone was found by craft beer enthusiasts in 1996 in San Marco, California, eventually moving to their current Escondido, California location in 2005.¹⁸ Shortly after announcing they would be opening the first American brewery in Europe, Stone revealed they had chosen Richmond as their first East Coast brewing site.¹⁹ This East Coast expansion will begin on Gillies Creek at Williamsburg Road, across from Stony Run Road. After initial construction of the brewery, Stone plans to rehabilitate the Intermediate Terminal building on the riverfront and the Virginia Capital Trail into a Beer Garden.²⁰

12 "Richmond Cannon Creek Greenway Bicycle Pedestrian Trail First Phase." Richmond City Council, April 17, 2012.

13 "Two proposed bike projects would make RVA bike friendly." RVA News, February 24, 2015.

14 Graham Moomaw, "Richmond plans 'cycle track' bike lanes downtown." Richmond Times-Dispatch, January 20th, 2015.

15 "Reedy Creek Greenway." Groundwork RVA.

16 Catherine Komp, "Bike commuters eager for Richmond's new infrastructure." Community Idea Stations. October 30, 2014.

17 "Brewers Association Lists Top 50 Breweries of 2013." Brewers Association.

18 "About Stone Brewing Co." Stone Brewing Co.

19 Ibid.

20 Michael Martz. "Deal Imminent on Property for Stone Bistro and Beer Garden." Richmond Times-Dispatch, October 9, 2014.

This new brewery promises to bring economic benefits to the city. Upon completion of both sites, Stone expects to offer 288 jobs to the city.²¹ Large development projects such as these, though having a degree of risk, can revitalize surrounding areas. Stone is an active part of its surrounding community in California. In 2013, it donated (both financial and in-kind) nearly \$650,000 to local charities and nonprofits.²²

As of April, 2015, the city has broken ground on the site. Stone is facing certain challenges in Virginia Law, primarily in the three-tiered system. This is law introduced post-prohibition to separate brewing, distributing, and retailing. No business may do any more than one of those three tiers. The only exception to the law, as it applies

to breweries, is that breweries can sell their products on the same site where they brew their beer. Stone's claims its beer garden is not on the same site as the brewery, meaning they would not be allowed to sell their own beer there.

The Stone Brewery will be an asset to Richmond and the East End in particular. Projects successfully capitalizing on the brewery will be strengthened. Preliminary maps of the proposed brewery indicate a pedestrian path connecting the Intermediate Terminal to the Brewery, crossing the Virginia Capital Trail.²³ Because a connection to the Capital Trail is essential for the Greenway, using Stone's proposed pathway route will bring that connection to the Capital Trail and a connection to the brewery itself. Stone being a draw east from the Capital Trail will entice cyclists to travel further east on the Greenway, just as Stone

21 Annie Tobey. "Richmond Is Getting Stone Brewing Co. AND a Restaurant, Too." Richmond Times-Dispatch, October 14, 2014.

22 "About Stone Brewing Co." Stone Brewing Co.

23 "Stone Farms." Stone Brewing Co.



FIGURE 2.9: PRELIMINARY SITE PLAN FOR THE STONE BREWERY

and the Capital Trail will draw the uphill neighborhoods and areas to the east in a western direction.

UPHILL REDEVELOPMENT

The uphill neighborhoods of Church Hill North, Creighton, and Oakwood have several planned projects for the future. Though not every plan comes to fruition, the plans generally seek to increase density and amenities for this area. Below is a list of major projects.

Creighton Court: Creighton Court is a low-income housing development built as a low density collection of buildings encircling a center courtyard. Proposed redevelopment on this site will take this low density, 500 unit development and replace it with a denser, urban neighborhood in fitting with its surroundings.²⁴

Armstrong High School: Just east of the proposed uphill end of the green way sits the long abandoned Armstrong High School. After eleven years of vacancy, the city's Planning Commission approved a 300 unit, mixed-income housing development.²⁵

This development will most likely be used to house the displaced residents from Creighton Court while it undergoes redevelopment efforts. Preliminary site designs show the demolition of the school and removal of its recreation fields, a loss of crucial greenspace in the uphill neighborhoods.²⁶ The development is proposed to be residential, missing an opportunity to bring much needed commercial space to the area.²⁷

These projects combined may bring up to 1,500 new housing units in the East End.²⁸ Density increases such as these, if done well, can transform neighborhoods and will increase the population of an area. Higher populations will result in greater demand for leisure spaces and safe connecting routes to them. The Gillies Creek Greenway will connect these redeveloping neighborhoods to leisure and recreation, as well as transit opportunities with the BRT that would prove unsafe and difficult to access without the route.

PUBLIC PARTICIPATION PUBLIC PRESENTATION

This plan was first presented to the public at the Greater Fulton Hill Neighborhood Civic Association during their February Meeting at the Greater Fulton Neighborhood Resource Center. This civic association includes the Fulton and Montrose Heights neighborhoods within the study area. The five minute presentation covered the general route of the greenway, implementation challenges, the benefits to the community, and the importance of public support in its creation. The public expressed concerns over road crossings and stressed the importance of lighting at night. Overall, the public supported the plan and wanted to know how residents near Cannon Creek were leveraged in the implementation process of the greenway alongside the creek.

SURVEY

After meeting with the public and performing more research on the area, a survey was distributed by the Civic Association through their NextDoor account. NextDoor is a private social networking website that connects residents within a neighborhood. The following day the survey was posted on the Church Hill People's News (CHPN) website. Five days after the survey was posted on NextDoor, Bike Walk RVA, a bicycling

24 Zachary Reid. "A Glimpse of Creighton's Future?" Richmond Times-Dispatch, January 14, 2015.

25 Graham Moomaw. "300 Homes Planned for Old Armstrong High School Site." Richmond Times-Dispatch, January 5, 2015.

26 Church Hill North Revitalization. "Old Armstrong High School Site." City of Richmond, December 8th, 2014.

27 Ibid.

28 Graham Moomaw. "300 Homes Planned for Old Armstrong High School Site." Richmond Times-Dispatch, January 5, 2015.

advocacy group, posted the CHPN link onto their facebook. Over the course of seven days, the survey was completed 159 times.

The survey was designed to be simple and brief. With seven questions and a space for comments and concerns, it assessed public interest in the City's completion of this project. When questions were answered with a Likert scale, four options were given rather than five to avoid middle-of-the-road, indecisive answers. A link to a GIS Online map showing the proposed alignment of the route was given at the top of the survey. The map allowed participants to explore the route to refresh their minds or introduce them to Gillies Creek's location in the East End.

The survey produced a wealth of both quantitative and qualitative data showing strong support from the local community and from Richmond residents beyond the area. Ideas for what the greenway should be are in line with each other, and the emerging vision of the public is a safe route to recreational amenities in the East End. Questions are examined below.

Public Support: The survey asked if the participant supported creating the greenway along the proposed route. Results show an overwhelming support of the greenway's construction with 80.5% of respondents choosing "Very Supportive" as their answer. The next largest answer was "Supportive" with 13.8%, likely representing a group with some reservations about the greenway. This was followed by the group answering "Somewhat Supportive" (4.4%). The least answered response was "Not Supportive" with just two responses.

Reasons for supporting or not supporting:

Participants were asked to explain their position on support. The answers were diverse and personalized in many cases, general patterns and common answers are documented below.

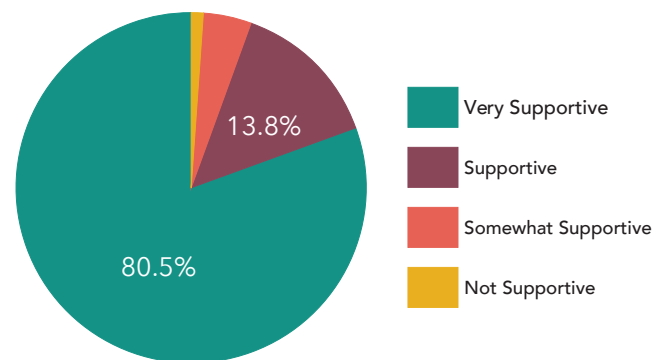


FIGURE 2.10: SURVEY RESULTS SHOWING SUPPORT OF THE GREENWAY

The "Very Supportive" group most frequently answered they wanted to see an increase in connectivity. These answers called for connections to the Capital Trail, the James River, the parks in the area, and the surrounding neighborhoods. Many of these answers cited the current lack of ease of movement through the east end. The next-most frequent answer was a desire for more non-automobile transportation corridors. Participants who responded in this category supported any sort of bicycle and pedestrian infrastructure. Safety was the next most frequent and was primarily a call from parents for safe bicycle travel with their children. Public Health was the final high-frequency answer, which was given by those who support any sort of outdoor and recreational amenity increases in the city.

The "Supportive" group supported the greenway for connectivity, non-automobile routes, public health, safety, and community strengthening reasons. Their reservations were in making the route wide enough to accommodate bicycles and pedestrians, the underutilization of the creek, and the cleanliness of the area.

From the "Somewhat Supportive" group, one respondent noted a bike lane would be more sensible on Stony Run Rd. Another wanted to see other East End enhancements.

From the “Not Supportive” group, one participant felt the East End was too dangerous due to the low income housing in the area, while the other feared the greenway would destroy the natural beauty along the creek.

Likelihood of Use: When asked how likely they would be to use the greenway, the majority of respondents (56.6%) said they would be very likely to use the greenway. Coupled with the group of respondents “likely” to use the greenway (25.2%) makes 81.8%, of participants of this survey (130 people) potential cyclists and pedestrians.

Greenway Use: When asked what they would use the greenway for, participants were allowed to check all boxes that applied and/or fill in an

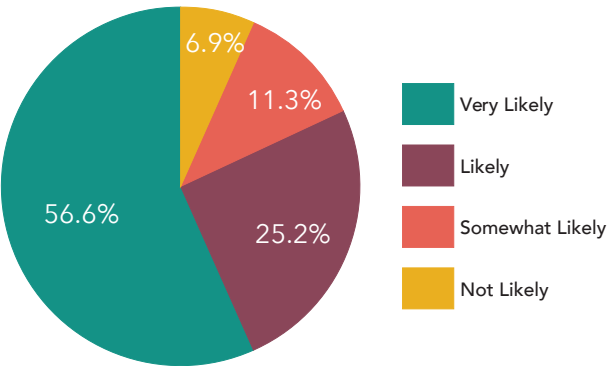


FIGURE 2.11: SURVEY RESULTS SHOWING LIKELIHOOD OF USE

“other” line. The most frequent use selected was parks. This area, as already shown, has a wealth of parks but a lack of safe and comfortable routes between them. Excluding “other,” the next most frequent was taking the route home, followed by taking the route to stores, then to work, and least frequently, to the bus. “Other” had a wide variety of personalized uses, but include many recreation and exercise uses, such as extending a bike ride, walking a dog, fishing, and exploring nature. Some also indicated using the route to get to the river, visiting friends, and

going to restaurants in Shockoe Bottom and Rocketts Landing.

Purpose of the Greenway: This question was asked to determine priorities in trail design.

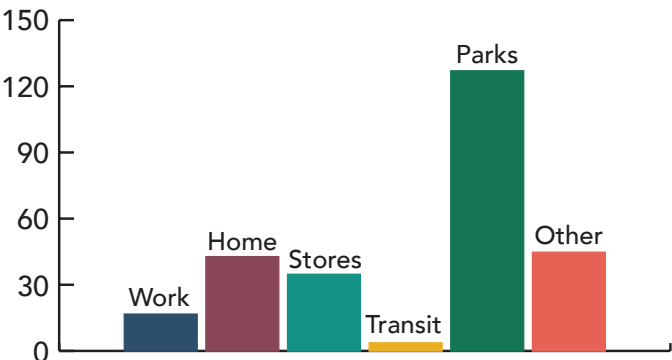


FIGURE 2.12: SURVEY RESULTS SHOWING HOW RESPONDENTS WOULD USE THE TRAIL

Answering “safety” would indicate a needed emphasis on monitoring the greenway, as well as increased lighting and safer crossings. Answering “recreational” would indicate the need for more exercise amenities along the greenway. Answering “transportation” would indicate the need for less impeded movement along the greenway corridor. An “other” choice was added in case the participants had other ideas.

The most frequent response was recreation, indicating participants desire for increased recreational amenities in this area as well as a desire for connections to existing amenities. This was followed by safety, and then transportation. The “other” category consisted of participants saying all three were equal.

Possible Branch Paths: Participants were asked if they could identify locations that would benefit from a connection to the greenway. Results show that most participants wanted a safe connection from Chimborazo Park to the river and parks, via the greenway. Responses indicated a

lack of safe paths downhill from this neighborhood, showing that this may be the most disconnected neighborhood in the study area. Other public recommendations included connections to the area parks, the Stone Brewery, and each neighborhood in the study area. Other suggestions, though logical, would not be feasible due to their great distances. Branch paths will be considered in the Connectivity section to follow

Likelihood of aiding the city: Based on the work completed for the Cannon Creek Greenway, where community-man hours played an important role in its construction, participants were asked if they would be willing to participate in a similar way. Forty respondents were very likely to participate, 48 were likely, 48 were somewhat likely, and 19 were not likely. This makes 136 potential volunteers with 88 strong candidates for lending their man-hours to the city to complete this project.

SUMMARY

The findings presented in this section of the Gillies Creek Greenway Plan are intended to present the existing conditions of the area and to support the creation of the greenway. With the East End drawing attention through projects like the Stone Brewery acquisition, and the various other development projects set to occur in the near future, this potential increase of population coupled with the demand for more safe recreation routes leaves this area in need of pedestrian and bicycle infrastructure.

The next chapter builds from these findings and proposes the body of the greenway be divided into three segments for implementation purposes. After completion of the main trail, branch trails are proposed and placed based on the results from the community survey.

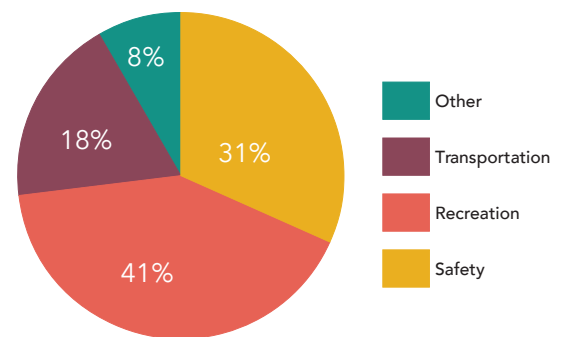


FIGURE 2.13: SURVEY RESULTS SHOWING WHAT RESPONDENTS WANTED FOR THE TRAILS PURPOSE

THE PLAN

OVERVIEW

This section describes the alignment, components, total cost, and challenges of each segment proposed for the greenway. The main trail has been broken into three phases, starting with the body, then the connection to the Capital Trail, ending with the Uphill connection. Phasing allows parts of the project to serve the area while remaining parts are completed.

Ideally, the main path of the greenway will be completed before the branch paths are undertaken. The branch paths are not listed in any particular priority. Demand should be evaluated after the greenway sees public usage to determine populations best served by a branch path. Based on results from the survey, it is likely the Chimborazo Branch is the most needed connection to the greenway.



PHASE 1: BODY

0.97 MILES - ESTIMATED COST: \$1,574,842.35

Phase One will be the construction of the longest segment, the body. The body of the main trail will run for about a mile along the southern side of Gillies Creek from Williamsburg Ave, across Government Rd, to the intersection of Jennie Scher Rd, Stony Run Rd, and the Norfolk Southern Railroad. This segment will be constructed first to establish the trail as a travel corridor while the connector ends and the branch paths are being engineered and constructed.

The Government Rd crossing will require engineering treatments to ensure a safe and highly visible crossing, alerting and slowing drivers approaching the greenway.

This segment will include a crosswalk into Gillies Creek Park. Having a directed route into the park will direct traffic and make bicycle and pedestrian crossings on Stony Run Rd more predictable. This crosswalk should be placed between the BMX course and the Baseball field in an underutilized section of the park. Fitness amenities at this entrance point would make this unused section more active. This area could be home to an East End equivalent of the Byrd Park Vita Course, a popular running trail interspersed with exercise equipment.

This segment should also include a crosswalk across both directions of Williamsburg Ave to the western side for a safer crossing to the Stone Brewery.

Lighting should be pedestrian-oriented and consist of 13 feet high lanterns spread 50' apart, as recommended by the Project for Public Spaces. Lighting must be plentiful as this area is not directly or indirectly lit by any source, other than passing automobile headlights.

In addition to path and road engineering, this segment will require:

- 0.96 miles paved multi-use trail
- Four crosswalks
- Signage to warn motorists
- 100 pedestrian-oriented lights



FIGURE 3.2: PHASE 2: CAPITAL TRAIL CONNECTOR ALIGNMENT AND NEIGHBORING PARCELS

PHASE 2: CAPITAL TRAIL CONNECTOR

0.36 MILES - ESTIMATED COST: \$501,091.93

The second phase of greenway construction will be the connection to the Capital Trail. This phase is essential to the success of the greenway and should be completed either simultaneously with phase one or shortly thereafter. The Capital Trail Connector will span from Williamsburg Ave, through the Stone Brewery site, travel alongside Gillies Creek under a CSX rail bridge, cross E. Main Street (Rt. 5), and connect with the Capital Trail.

This segment, at E. Main St. will need a crosswalk that requires engineering treatments to ensure a safe and highly visible crossing, alerting and slowing drivers approaching the greenway. This segment will also need some clearance of the dense wooded area on the parcels west of the Stone Brewery site.

Because the Stone Brewery and its parking lot are expected to be lit, lighting should occur on this segment for approximately 0.2 miles beyond the brewery.

Complicating this alignment is its route through a vacant parcel owned by CSX Transportation Inc Tax Department and two vacant parcels under the ownership of the Chesapeake & Ohio Railway Tax Department, though it is likely CSX could be attributed ownership after their buyout of C&O. Passage through these parcels is key in keeping the trail from crossing the creek. The alternative to this would be to divert greenway traffic to the north and through the abandoned Fulton Gas Works and then onto a Richmond Housing and Redevelopment parcel, requiring the Gas Works site to be made safe for bicycle and pedestrian through-travel.

In addition to path and road engineering, this segment will require:

- 0.36 miles paved multi-use trail
- One Crosswalk
- Signage to warn motorists
- 21 pedestrian-oriented lights



FIGURE 3.3: CONSTRUCTION ON THE CAPITAL TRAIL'S GILLIES CREEK CROSSING

PHASE 3: UPHILL CONNECTOR

0.65 MILES - ESTIMATED COST: \$1,157,753.16

The final phase of the main trail connects the greenway from Jennie Scher to Oakwood via Briel St. Its alignment crossing the Norfolk Southern Railroad, crossing Gillies Creek, having a placement on the perimeter of the landfill, and climbing the hill presents some issues.

The Norfolk Southern crossing requires that the greenway joins with Jennie Scher Rd to cross the tracks. This crossing is narrow; about 22' at its widest point. Here, two lanes of traffic barely fall into the FHWA's safety requirements for lanes on local roads (minimum of 9').¹ With no room on the current paved surface for the greenway in its full width or a reduced width, this crossing compromises the safety of the greenway for those traveling to and from the Uphill neighborhoods. To alleviate this dilemma, the crossing should be extended 5-10' on the western side of Jennie Scher Rd. The greenway will meet with Jennie Scher on this new shoulder, wrap around the western side of the current crossing signal arm, and continue off-road. Signage should prepare pedestrians and cyclists for the upcoming crossing.

The greenway will run from the railroad crossing to the Gillies Creek crossing through thick brush that will require some clearing..

At Gillies Creek, a bridge for the trail will be constructed, spanning 100' with same 10' width. The bridge should be made of wood and steel with weatherized decking.

The final leg of this segment will continue alongside Jennie Scher Rd into the East Richmond Road Landfill parcel owned by the Department of General Services. On the far northern side of this parcel, almost to E. Richmond Rd, the greenway will start its uphill climb, running in a serpentine way to minimize lengths of steep slopes. The road will cross the landfill's entrance road and run along the north-western tree line until finally connecting with Briel St in Oakwood.

In addition to path and road engineering, this segment will require:

- 0.65 miles paved multi-use trail
- 5-10' road widening at railroad
- Signage to warn trail users of railroad
- 100' wooden bridge
- 68 pedestrian-oriented lights



FIGURE 3.5: EAST RICHMOND ROAD LANDFILL

¹ "Lane Width." Federal Highway Administration.



FIGURE 3.6: CHIMBORAZO BRANCH ALIGNMENT AND NEIGHBORING PARCELS

CHIMBORAZO BRANCH

0.7 MILES - ESTIMATED COST: \$1,085,178.55

The Chimborazo branch path uses the CSX bridge supports across Williamsburg Ave. These once carried a rail line into the Church Hill Tunnel, which collapsed in the 1920's. The strength of these supports, coupled with their lack of potential future use as a railway bridge, makes them a prime candidate for an adaptive reuse project.

The bridge will connect to the Chimborazo Dog Park entrance path. This path needs to be repaved for bicycle and pedestrian use. The path connects to the abandoned rail line, where from Chimborazo, the route will curve to the right and cross the new bridge. On the southern side of Williamsburg Ave, the route will either curve, make right angles, or simply slope downward for placement beside the current sidewalk.

The route will cross through the Stone Brewery Site once it leaves the bridge and may require coordination with Stone.

The route will cross Gillies Creek to link with the greenway. Between the sidewalk and the extent of the culvert that carries the creek under Williamsburg Ave is a piece of land wide enough to accommodate the branch path, but it will require grading. This is the only proposed removal of any part of the existing network of single track mountain bike paths.

In addition to path and road engineering, this segment will require:

- 0.12 miles paved multi-use trail
- 4220 sq. ft. steel truss bridge
- Signage to warn motorists
- One Crosswalk
- 57 pedestrian-oriented lights



FIGURE 3.7: BRIDGE SUPPORTS OVER WILLIAMSBURG AVE



FIGURE 3.5: CHIMBORAZO BRANCH ALIGNMENT AND NEIGHBORING PARCELS

MONTROSE HEIGHTS BRANCH

0.5 MILES - ESTIMATED COST: \$513,819.06

The Montrose Heights branch path will be a paved 10' wide multi-use trail. The route will take advantage of a city owned right-of-way that connects Accomac Rd to Government Rd while bypassing Jennie Scher Rd.

Once the path reaches Williamsburg Ave, it will cross and run on a vacant parcel owned by the Richmond Redevelopment and Housing Authority. The route will then cross Admiral Gravely Blvd and enter Gillies Creek Park. It then crosses Stony Run Rd and connects with the greenway.

In addition to path and road engineering, this segment will require:

0.31 miles paved multi-use trail

- Signage to warn motorists
- One Crosswalk
- 33 pedestrian-oriented lights



FIGURE 3.4: CHIMBORAZO BRANCH ALIGNMENT AND NEIGHBORING PARCELS

OAKWOOD BRANCH

ESTIMATED COST: \$337,795.96

The Oakwood branch will be a trail system installed through the ravine that disrupts the Oakwood street grid. The City owns right-of-way to this unrealized grid.

The branch will connect 37th St to the ravine, across the end of an alley to a parcel owned by the Department of Recreation and Parks, to 38th St, which will connect to Briel Street and the greenway via wooden bridge.

In addition to path engineering, this segment will require:

- 0.17 miles paved multi-use trail
- 100' wooden bridge

IMPLEMENTATION

IMPLEMENTATION OVERVIEW

This section identifies steps to move the Gillies Creek Greenway from planning to reality. The greenway will encounter the typical challenges of projects of this sizeface, primarily in the cost of construction. However, with most of the greenway's alignment on city-owned property, the costs and difficulties of land acquisition are lessened.

This section will first provide the costs to construct the greenway and its branches. Political and citizen support require understanding the potential cost of a project.. Once the project begins to move forward, these estimated costs will be replaced by another set of estimates from the engineering phase.

Concurrent with engineering, a period of public engagement will take place to better determine the desires of the citizenry. Strategies for engaging the public will be included in this section, and will follow some of the methods implemented in the Cannon Creek Greenway construction project.

Funding sources at the local, state, and federal level apply to projects like these. The city will apply for these funds to construct the greenway. Private backers will be leveraged to provide additional funding.

Following a successful community participation period, interested members will participate in the greenway's construction, once funds are acquired. Here, the National Guard may also provide aid, as they did in the Cannon Creek Greenway.

Parties holding land in the greenway, including the Departments of Public Works, Recreation

and Parks, and General services, Richmond Redevelopment and Housing Authority, CSX, Norfolk Southern, and Stone Brewing Inc., will be consulted.

COSTS

Cost estimates were completed using UNC's Costs for Pedestrian and Bicyclist Infrastructure Improvements, a resource compiled for the Federal Highway Administration (FHWA). After extensive research on pedestrian and bicycle projects across the U.S., it calculates average costs of projects per measurement unit. As a disclaimer, it should be known that these are estimates and actual costs assessed by contractors may be higher or lower. Cost estimates are presented in the figures to follow.

PRELIMINARY ENGINEERING

Using the city's preferred method of public infrastructure engineering, the greenway should be designed before presenting the greenway to the public. This will give citizens an accurate understanding of the trail's limitations in alignment. The design may change after the public comment period if parts are found to be unsuitable or capable of improvement..

PUBLIC ENGAGEMENT PERIOD

Public support is necessary to the success of the greenway. Engagement should be comprised of public meetings, to assess interest and desire, and public comment to satisfy public needs. At these meetings volunteers may be recruited for the construction phase of the project. They may also encourage potential investors who are interested in the project. Through this planning process, two groups have become obvious targets for this process, residents of the study area and the city as a whole.

Phase 1: Main Path				
Infrastructure	Description	Lenth or Amount	Cost Per Unit	Cost
Multi-use Trail	10' paved shared-use path with 2' shoulders	0.96	\$1,073,329.18	\$1,030,396.01
Crosswalk	High Visibility	6.00	\$600.00	\$3,600.00
Signage	High Visibility	6.00	\$461.02	\$2,766.12
Signage	In-pavement yield paddles	6.00	\$235.87	\$1,415.22
Lighting	Pedestrian-Oriented	100.00	\$5,366.65	\$536,665.00
Engineering	Intersection re-engineering for safety	N/A	N/A	TBD
			Subtotal	\$1,574,842.35
Phase 2: Capital Trail Connector				
Infrastructure	Description	Lenth or Amount	Cost Per Unit	Cost
Multi-use Trail	10' paved shared-use path with 2' shoulders	0.36	\$1,073,329.18	\$386,398.50
Crosswalk	High Visibility	1.00	\$600.00	\$600.00
Signage	High Visibility	2.00	\$461.02	\$922.04
Signage	In-pavement yield paddles	2.00	\$235.87	\$471.74
Lighting	Pedestrian-Oriented	21.00	\$5,366.65	\$112,699.65
Right-Of-Way	Acquire lands for greenway	N/A	N/A	TBD
Engineering	Intersection re-engineering for safety	N/A	N/A	TBD
			Subtotal	\$501,091.93
Phase 3: Uphill Connector				
Infrastructure	Description	Lenth or Amount	Cost Per Unit	Cost
Multi-use Trail	10' paved shared-use path with 2' shoulders	0.65	\$1,073,329.18	\$697,663.97
Road Widening	10' paved shared-use path with 2' shoulders	0.003	\$1,073,329.18	\$3,219.99
Signage	High Visibility	2.00	\$461.02	\$922.04
Bridge	10' wide, 100' long Pedestrian Bridge, Weathering Steel, Treated Decking	1.00	\$91,014.97	\$91,014.97
Lighting	Pedestrian-Oriented	68.00	\$5,366.65	\$364,932.20
Engineering	Intersection re-engineering for safety	N/A	N/A	TBD
			Subtotal	\$1,157,753.16
			Grand Total	\$3,233,687.45

FIGURE 4.1: COSTS FOR PHASE 1-3

Chimborazo Branch				
Infrastructure	Description	Lenth or Amount	Cost Per Unit	Cost
Multi-use Trail	10' paved shared-use path with 2' shoulders	0.12	\$1,073,329.18	\$128,799.50
Crosswalk	High Visibility	1.00	\$600.00	\$600.00
Bridge and access ramp	Pedestrian Overpass (Prestressed Girder, Steel Truss)	4220	\$154.00	\$649,880.00
Lighting	Pedestrian-Oriented	57.00	\$5,366.65	\$305,899.05
Engineering	Intersection re-engineering for safety	N/A	N/A	TBD
			Total	\$1,085,178.55

Montrose Heights Branch				
Infrastructure	Description	Lenth or Amount	Cost Per Unit	Cost
Multi-use Trail	10' paved shared-use path with 2' shoulders	0.31	\$1,073,329.18	\$332,732.05
Crosswalk	High Visibility	2.00	\$600.00	\$1,200.00
Signage	High Visibility	4.00	\$461.02	\$1,844.08
Signage	In-pavement yield paddles	4.00	\$235.87	\$943.48
Lighting	Pedestrian-Oriented	33.00	\$5,366.65	\$177,099.45
Engineering	Intersection re-engineering for safety	N/A	N/A	TBD
			Total	\$513,819.06

Oakwood Branch				
Infrastructure	Description	Lenth or Amount	Cost Per Unit	Cost
Multi-use Trail	10' paved shared-use path with 2' shoulders	0.17	\$1,073,329.18	\$182,465.96
Bridge	10' wide, 100 ft long Pedestrian Bridge, Weathering Steel, Ipe Decking	1585	\$98.00	\$155,330.00
Engineering	Intersection re-engineering for safety	N/A	N/A	TBD
			Total	\$337,795.96
			total	\$1,936,793.57

FIGURE 4.2: COSTS FOR BRANCH PATHS

Main Path Total:	\$3,233,687.45
Branch Path Total:	\$1,936,793.57
Project Total:	\$5,170,481.02

FIGURE 4.3: TOTALS

Gaining Support in the Study Area: Individual attention should be paid to the residents of the study area. After a long history of poor planning decisions made for the East End, the citizenry is shaping the future of their communities. Addressing these neighborhoods increases the likelihood of them taking ownership over the greenway once completed. Community ownership is essential to the success of the greenway. Individuals with a stake in the greenway will prevent it from falling into disrepair or becoming a crime center.

Two civic associations, the Greater Fulton Hill Civic Association, and the Church Hill Association are active in the study area, in the 7th Council district, known as the "East End." Neither include the Oakwood neighborhood, which may make outreach to this neighborhood problematic.

In conjunction with the schedule of public meetings, Bike Walk RVA, a pedestrian and bicycle advocacy group in Richmond, should work to support efforts in the East End. Bike Walk RVA makes it their mission to build community support for separated trails like the Gillies Creek Greenway. It could train East End residents not only in bicycle safety, but also in how to lobby the 7th district councilperson to support the greenway. The group itself engages with politicians, but direct contact with their constituents, Council will give more consideration to funding the greenway.

Citywide Support: Results of the survey (available in the Appendix) show a group of citizens interested in the greenway even though they are not residents of the East End. This shows the pro-biking atmosphere being fostered through efforts like the upcoming Bicycle Master Plan, the various infrastructure projects already listed in this plan, and the 2015 UCI bicycle race expected to bring international attention to the city. The

survey shows that Richmonders are interested in any sort of bicycle infrastructure gains.

This other group will also be instrumental in the creation of the greenway, not only through volunteer labor, but seeking support from their own council members. The more council members who are aware of this support, the more likely they will be to favor a measure to fund the greenway.

RAILROAD NEGOTIATIONS

Both CSX and Norfolk Southern must be consulted to move forward on this project. CSX owns two vacant parcels behind the Stone Brewery site as well as the bridge supports across Williamsburg Ave to Chimborazo Park, all needed for full realization of the plan. The bridge supports lead to a collapsed tunnel unlikely to be restored for use. The two vacant parcels are wooded and zoned industrial. Norfolk Southern meets a choke point intersection for the greenway and has its own safety standards regarding crossings.

PROCESS

The following sections are part of a repeating process for each phase branch of the greenway. The process begins with securing funding from the city and private donors. The City will then accept bids on the project and select a contractor. The National Guard and the public will be invited to help clear the greenway's route. After the route is clear, the winning contractor will construct a portion of the greenway. Two grants, the Recreational Trails Program and Transportation Alternatives will be used to partially reimburse the costs of the greenway.

FUNDING

Two significant, federal-level grants, the Recreational Trails Program and Transportation Alternatives, are available for the greenway. These sources will be described below. Both are

reimbursement programs, meaning the project must secure and spend the full amount of funds required before becoming eligible for these grants.

This process should begin with private donations. During the public participation period, key donors should be identified and approached. Pledges from private companies and other donors, in combination with vocal public support, will give the project a greater chance of being funded by the city.

City Council begins its biennial budgeting process in October, requiring an approved budget by the start of the next fiscal year on July 1st. Public support is important in this period, as there are several public meetings regarding the budget.

Recreational Trails Program: The Virginia Recreational Trails Program is a matching reimbursement grant program funded through the Federal Highway Administration (FHWA). The program allocates funds for recreational trails and is administered by the Department of Conservation and Recreation (DCR). Nonprofits, City and County governments, and other governmental bodies are eligible to compete for funds.

The Recreational Trails Program requires that 30% of all funds go to motorized recreational trails, 30% go to non-motorized recreational trails, and the remaining 40% go to recreational trails with the greatest number of compatible uses or innovative multi-use trails.¹ The program does not fund planning, studies, analysis, or administrative costs.² Reimbursement is capped at \$200,000.³ To receive reimbursement, the city must apply with a 20% match.⁴ Only completed

projects are eligible for funding. Volunteer labor counts toward the match as \$20.90 per person per hour.⁵

In the application, the DCR asks how the project fits into the Virginia Outdoors Plan. As mentioned before, this plan directly recommends a connecting trail in the East End along Gillies Creek.

For the greenway, the Recreational Trails Program could be tapped multiple times, if the project is completed in phases. This program reimburses expenses and requires the expenditure of funds before the project becomes eligible. However, the cap at \$200,000 leaves the city with the majority of the project unfunded.

Transportation Alternatives: FHWA's transportation alternatives program is intended to help localities expand transportation choices. This program funds projects, primarily pedestrian and bicycle infrastructure, which mitigate the negative impacts of the highway system.⁶ The program is a reimbursing, 20/80 match grant, and includes the Recreational Trails Program.⁷ Richmond enjoys an elevated status in the program due to its population. Fifty percent of all funds per state must go to urbanized areas with populations over 200,000.⁸ However, four regions in Virginia share this status, making the granting processes competitive.⁹ In Virginia, this project would fall under a transportation alternative, administered by VDOT, and as a recreational trail, administered through the DCR and described in the Recreational Trails Program section. Preliminary engineering, land acquisition, and construction are eligible in this program.

1 Virginia Recreational Trails Program 2013-2014. Virginia Department of Conservation and Recreation.

2 Ibid.

3 Ibid.

4 Ibid.

5 Virginia Recreational Trails Program 2013-2014. Virginia Department of Conservation and Recreation.

6 Transportation Alternatives Program Guide. Virginia Department of Transportation, August 2013.

7 Ibid.

8 Ibid.

9 Ibid.

Phase 1	
Total Cost	\$1,574,842.35
RTP	\$200,000.00
After RTP	\$1,374,842.35
TA	\$1,000,000.00
Minimum Cost	\$374,842.35
Phase 2	
Total Cost	\$501,091.93
RTP	\$200,000.00
After RTP	\$301,091.93
TA	\$240,873.55
Minimum Cost	\$60,218.39
Phase 3	
Total Cost	\$1,157,753.16
RTP	\$200,000.00
After RTP	\$957,753.16
TA	\$766,202.53
Minimum Cost	\$191,550.63
Total Minimum	\$626,611.37

Chimborazo Branch	
Total Cost	\$1,088,178.55
RTP	\$200,000.00
After RTP	\$888,178.55
TA	\$710,542.84
Minimum Cost	\$177,635.71
Montrose Heights Branch	
Total Cost	\$513,819.06
RTP	\$200,000.00
After RTP	\$313,819.06
TA	\$251,055.24
Minimum Cost	\$62,763.81
Oakwood Branch	
Total Cost	\$337,795.96
RTP	\$200,000.00
After RTP	\$137,795.96
TA	\$110,236.77
Minimum Cost	\$27,559.19
Total Minimum	\$267,958.71

FIGURE 4.4: POTENTIAL MINIMUM COSTS WITH FULL GRANT FUNDS

	Phases 1-3	Branches
Original Cost	\$3,200,000.00	\$1,900,000.00
After Reimbursement	\$627,000.00	\$269,000.00

Grand Total:	\$896,000.00
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FIGURE 4.5: MINIMUM COST OF ALL PHASES AND BRANCHES AFTER FULL GRANT FUNDING

Applications are submitted by November 1 to the Richmond Regional Transportation Planning Organization (TPO), which determines eligible projects. Funding requests are limited to \$1,000,000 per cycle.¹⁰ However, VDOT notes the historical average of funds granted is \$250,000 and suggests other funding sources.¹¹ All allocated funds are to be used within four years of allocation.¹²

TA grants will be a major funding source for the greenway and can be accessed throughout the multiple phases of the project.

Minimum Funding: If all grants are secured, which may not occur, project costs will be significantly reduced. The chart below shows the minimum cost for each phase with TA and Recreational Trails Program grants. The city will have to budget the full cost of the project before receiving reimbursement through these grants.

CONSTRUCTION

With funds secured, construction should begin as soon as possible because of the deadlines placed on spending funds. In its initial phase, the National Guard and the public are essential for the construction of the greenway. With the Cannon Creek Greenway, the National Guard completed clearing and grading for the trail with the aid of city residents. For the National Guard, this was a chance to practice techniques they may use in emergency or disaster situations. The public enjoyed this as a volunteer opportunity. This also instilled pride and ownership in the greenway. After clearing, the city should proceed with the winning-bid contractor to construct the greenway.

¹⁰ Transportation Alternatives Program Guide. Virginia Department of Transportation, August 2013.

¹¹ Ibid.

¹² Ibid.

APPENDIX A: SURVEY

Gillies Creek Greenway Community Survey

*** Please take a moment to view the proposed greenway route: <http://arcg.is/1zAbgl1> ***

1. How supportive are you of a bicycle and pedestrian trail on this route?

Mark only one oval.

- ☐ Not supportive
- ☐ Somewhat supportive
- ☐ Supportive
- ☐ Very supportive

2. Why are you or Why are you not supportive?

.....

.....

.....

.....

.....

3. How likely would you be to use this trail?

Mark only one oval.

- ☐ Not likely
- ☐ Somewhat likely
- ☐ Likely
- ☐ Very likely

4. Where would you take the trail? (Check all that apply)

Check all that apply.

- ☐ Work
- ☐ Home
- ☐ Stores
- ☐ The Bus
- ☐ Parks
- ☐ Other:

5. What should be the primary concern of the trail?*Mark only one oval.*

- ☐ Safety
- ☐ Recreation
- ☐ Transportation (moving from one destination to another)
- ☐ Other:

**6. Can you identify any areas that would benefit from having a connecting route to the trail?
Please be specific (streets, neighborhoods, parks, etc.).**

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.....

7. How willing would you in a volunteer day to help the City in the construction of the trail?*Mark only one oval.*

- ☐ Not likely
- ☐ Somewhat likely
- ☐ Likely
- ☐ Very likely

8. Is there anything you'd like to add?

.....

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.....

.....

APPENDIX B:

INFORMATIONAL FLYER



VIRGINIA COMMONWEALTH UNIVERSITY

VCU

GILLIES CREEK GREENWAY

THE GREENWAY:

Running alongside Gillies Creek in the East End, the Greenway will connect the River and Virginia Capital Trail to the uphill neighborhoods of Oakwood and Church Hill North. Being on the southern side of the creek will make the greenway accessible to neighborhoods to the east and south.

The Greenway will be a:

- Safe bicycle and pedestrian route
- New recreation amenity
- Connector to existing recreation amenities and other destinations.

PLANNER AND CLIENT:

This plan is being completed by Josh Mallow, a second year graduate student in VCU's Master of Urban and Regional Planning Program in the L. Douglas Wilder School of Government and Public Affairs.

The plan is being completed for the City of Richmond's Pedestrian, Bicycles and Trails Commission under the coordination of Jakob Helmboldt. The James River Parks System serves as the secondary client.

TIMELINE

The project is in the planning phase. In May 2015, a finished document will be made available to the public and will include a detailed implementation strategy, aiming to involve area residents with its creation.



Right: Greenway Vision
Bottom: Map of study area



Questions? Contact Jakob Helmboldt via email:
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