The Temporal and Spatial Connectivity of the Gambles Mill Corridor, Richmond, VA


Introduction

The City of Richmond and the Virginia Department of Transportation proposed to rehabilitate the Gambles Mill Trail connecting the University of Richmond (UR) to the intersection of Huguenot and River Road. Planners envision this trail as a sustainable model for the reduction of nutrient and sediment flow and as a vital path in a city-wide network of bike and pedestrian trails. Meanwhile, UR also proposes to rehabilitate the corridor in their new Master Plan. Nevertheless, until now, no substantive studies exist on the trail or the corridor linking the trail to the south side of the James River through the hazardous River-Huguenot Road intersection and the Huguenot Bridge currently under construction. The University of Richmond’s Geography 221 Course, Mapping Sustainability: Cartography and Geographic Information in an Environmental Context, is working with a variety of stakeholders (public, private, and community-based) to map the past, present, and future of the Gambles Mill Corridor and influence local and regional sustainability of transportation, hydrology, and recreation in a floodplain ecosystem. Students produce maps grouped around four scales: local corridor, UR to the River, a city scale sustainable transport network, and a temporal scale tracing previous transportation routes in the area such as the 1930s street car system and the colonial canal system.

History

The historical mapping group provides historical context to the Gambles Mill Corridor. Fieldwork and community collaboration have given insight into the history of the corridor, and we can now begin to paint a picture of how the corridor has looked throughout history. Maps produced display the evolution of land use and patterns of human mobility over time. This includes past transportation routes, residential neighborhoods, and historic photographs (Figs. 1.1, 1.2). The area was originally targeted for settlement largely because of its proximity to the river; an aspect our historical group hopes to emphasize through maps. Mapping historical transportation networks such as the 18th century canal system and early 20th century streetcar system can inform planners of these more sustainable transportation networks even as we work to once again improve connectivity from the University to Richmond and beyond (Fig. 1).

The Gambles Mill Corridor

Currently, the Gambles Mill Corridor is the most neglected part of the University of Richmond campus. Largely unknown to the student body, the degraded asphalt service road is barred to vehicle traffic on the southern side while the northern side is used only by those accessing UR’s community garden, the occasional biology class conducting field observations, along with a trickle of intrepid bikers and runners (Fig. 2). Those individuals who use the trail witness a marginalized wilderness characterized by nutrient run off from the neighboring golf course, incised stream banks, and an open deciduous forest overgrown with invasive wild grapevine and poison ivy (Figs. 2.1, 2.2, 2.3). The UR master plan proposes to transform this neglected landscape into an “ecological” corridor connected to campuses by multiple paths, while also providing a pedestrian and bike friendly gateway to the river and city of Richmond. Another proposal recommends transforming not only the purpose of the corridor, but also the nature of the path by replacing asphalt with a permeable natural surface capable of filtering excessive nutrients and chemicals from storm-water runoff.

Future of the Intersection

This intersection is a key zone, linking the Gambles Mill corridor to residential and commercial regions south of the University of Richmond and the James River, including the James River Park System. The development of a safe pedestrian crossing through the Huguenot-River Road intersection will provide connectivity to these adjacent areas while initiating sustainability efforts, greater transportation efficiency, and increased pedestrian and bike safety for the University of Richmond campus and Richmond City residents.

Small Scale

This map represents the potential bike route between Richmond and the university while highlighting the strategic importance of the Gambles Mill Corridor. The corridor will allow students to access the river and the city via sustainable transport (Fig. 3). This map demonstrates the distance from the University of Richmond campus via the potential routes, allowing students to calculate the time and effort needed to reach their desired destination. Parks on the map show the accessibility of outdoor recreation areas of great interest to Richmond students and community members. Parks such as Pony Pasture and Maymont Park are iconic landscapes of Richmond city allowing community members and students to connect to the environment and the cultural history of the region. The last feature on this map demonstrates the safety aspects of the route, an important feature for any cyclist or pedestrian. Safety information is based on data such as vehicle accidents, number of lanes, and size of shoulders. This information will help cyclists and pedestrians decide where to travel and by which route. Comprehensive, these maps encourage students at the University of Richmond and other community members in the West End of Richmond to enjoy and explore their city using sustainable transport.

Methods

The students in this introductory computer cartography and community-based learning course used ArcGIS 10 and Adobe Photoshop CS 5 to create maps based on data from the Gamble Mill Corridor both for the students of the course and for the public. These digital images scanned from archival maps, engineering drawings, GIS data from government institutions, Google Earth, and ESRI. To obtain this data, students were directed to a variety of resources such as utilities, community organizations, and local civic organizations. The students created these maps to demonstrate the practical application of learning fellowship from the University of Richmond’s Center for Civic Engagement allowed students to do academic research in an applied environment. This learning opportunity allows students to not only develop their critical thinking skills and technical mapping proficiency, but also to understand the interdisciplinary, communication, and personal challenges that they will face in the workplace following graduation.

Conclusions

At the creation of this poster, the course continues, but preliminary conclusions include an appreciation for the complexity of human-environment planning across multiple institutions, jurisdictions, and stakeholder interests. We hope feedback for this poster will help us improve on our map making efforts and allow us to more clearly represent the issues at hand in the sustainable development of the Gambles Mill Corridor. Preliminary research included an appreciation for the strategic importance of the Gambles Mill Corridor both for the students of the University of Richmond and the larger Richmond community.

Sources