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 southern 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 historical transportation networks such as the 18th century street car system and the colonial canal system. 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 irrepressible 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 campus 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.

Figure 1. This map, highlighting the history of the Gambles Mills area and the University of Richmond, demonstrates the past sustainable transportation methods with the 1930s street car line and colonial era canal system.

Figure 2. Showing the current layout and features of the Gambles Mills Corridor, this map particularly focuses on the vegetation and environmental phenomena surrounding the path. This information may be useful for the adoption of a nature-themed walk along this corridor.

Figure 3. This map shows the connectivity of the Gambles Mill Corridor to the greater Richmond area through bike paths. These are further complemented by which paths are safer or more dangerous. As recreation is a major attraction for users of these paths, the local park regions have been highlighted. Distance is shown through the concentric circles at half-mile intervals.

Figure 4. This map proposes new pathways to be constructed to aid pedestrians and bicyclists through the congested and dangerous intersection. Providing access to the shopping centers and to the James River from the corridor will promote student and public use of the pathways.

Methods

The students in this introductory computer cartography and community-based learning course used ArcGIS 10 and Adobe Photoshop CS to create maps based on data from GPS, street-level collection in the field, digital files scanned from archival maps, engineering drawings, GIS data from government institutions, Google Earth, and ESRI. To obtain and analyze data, students reached out to engineers, city and county officials, community organizations, archivists in regional and local libraries, and University of Richmond professors. The community-based element of the course, funded by a Community-based 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 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 and the larger University of Richmond and the larger Richmond community.

Sources

The student geographers and professor of the University of Richmond’s Geography 221 course studying the Gambles Mills Corridor...