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Abstract

In an effort to improve student well-being, connection to nature, and community engagement with nature and green spaces, the following paper details a proposal for Riverfront UR (RFUR), an initiative to acquire property along the James River for use by University of Richmond students. The proposal began in Dr. Salisbury's fall Geography 345 class, and this analysis builds upon that proposal by delving into the connection between student health and quality of life with time spent outdoors and in natural spaces. Indeed, a riverfront off-campus property would be competitively advantageous for the University and would likely improve our STARS ratings, as well. The paper includes and builds upon previous information gathered towards the Riverfront UR Proposal with emphasis on student health and well-being.

Literature

- In regard to stress on a biological level, a study by Klaunig et al. (2016) explained a study conducted, in which participants visited a natural park, taking pre-visit and post-visit samples of saliva. The saliva was used to measure levels of cortisol, a hormone linked to stress. The findings of the study demonstrated a significant decline in the levels of cortisol after the visit to the natural area, as well as a positive correlation between time spent at the park and cortisol reduction (Klaunig et al., 2016).
- Nisbet and Zelenski (2011) determine in their study that outdoor walks in natural environments resulted in greater happiness for participants than indoor walks, although participants tended to underestimate the extent of the benefit of walking in nature. Furthermore, Nisbet and Zelenski (2011) articulate that it is likely that individuals do not maximize the time they spend in nature and therefore do not capitalize on increasing their own happiness and satisfaction.
- McFarland et al. (2008) specifically delves into the implications on student health on campuses. The study begins by explaining that the perceptions students hold of their academic experience and campus setting correlates to academic accomplishment, a statement we may find fairly intuitive. The article further explains that the study reported was conducted to research "the relationship between undergraduate university student use of campus green spaces and their perceptions of quality of life at a university in Texas" (McFarland et al., 2008). Indeed, the study investigated the relationship and found that students who spent more time in green spaces tended to rate their cognitive function and quality of life higher than their counterparts who spent less time in green spaces (McFarland et al., 2008).

Technology and Nature: A Difficult Balance to Strike

During an age when technology in the form of phones and computers increasingly consumes our precious commodity of time, the advantages of such technology are evident, such as faster communication, efficiency in tasks, and access to data, for example. However, the inherent consequences of our newfound time commitment to being plugged-in are beginning to unfold as we hear about arising issues, such as "nature deficiency disorder" in youths, increasing levels of anxiety, and the emerging negative health effects of social media (Lou, 2010). Some would also argue that the shift towards reliance on technology has indirectly caused a shift away from nature.

For students, college students in particular, this easily becomes the case as one slips into a monotonous routine of attending classes, doing homework, studying, working, and socializing, most of which take place indoors. While the University of Richmond's beautiful recreation and wellness center allows in swaths of natural sunlight through its windows, the indoor gym is still just that, indoors. Students can make time for the outdoors, of course, by participating in a sport, organizing trips with friends, or even utilizing the Outdoor Adventure and Recreation (OAR) facilities, for example. There is nothing quite alarming about limited time spent outdoors, objectively speaking. However, numerous implications for student health, community, and experience are interwoven with time spent in nature and outdoor recreation. Over the course of this paper, we will delve into these implications in detail and subsequently introduce and discuss a proposed initiative that could catalyze student connections with the James River.

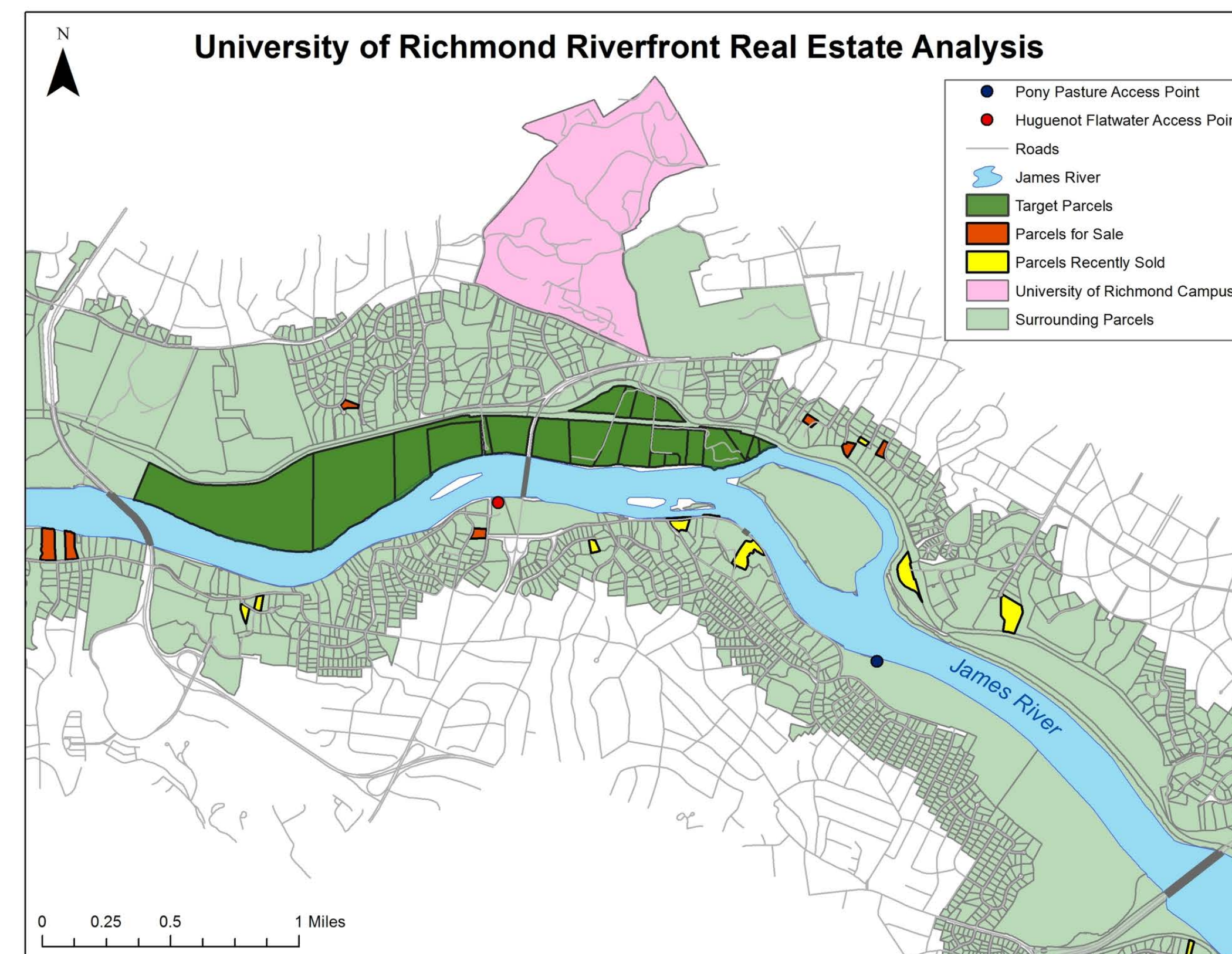


Figure 2: Map of Riverfront Real Estate Analysis
Map contributors: Ethan Boroughs, Conor Tenbus, and Savannah Kelly

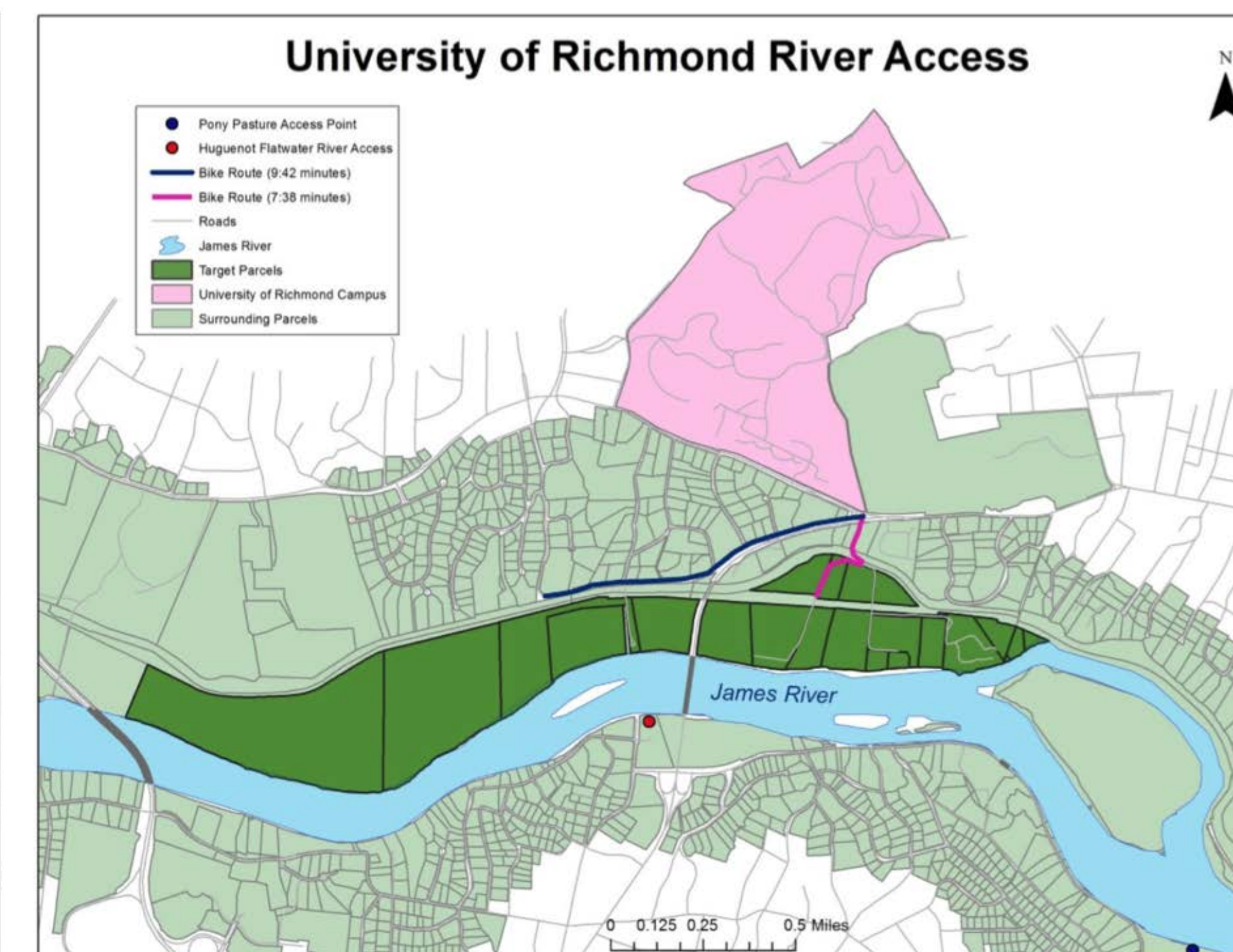


Figure 3: Map of James River Properties and River Access
Map contributors: Ethan Boroughs, Conor Tenbus, and Savannah Kelly

Riverfront UR (RFUR) Proposal

Riverfront UR (RFUR) is a proposed plan to significantly strengthen the student community, provide opportunities for student engagement near the James River, and improve student inclusivity overall. The proposal began in the fall semester of 2017 when students of *Geography 345: Society, Economy, and Nature* took on the project. Since then students have researched various subjects in relation to acquiring and utilizing riverfront property, such as the spatial analysis portion of research, mapping accessibility, location, and a map-based market projection. Another group took on the economics of the project, conducting a market analysis, in order to estimate the various current and future values of properties and the assets associated with each. Some students conducted a comparative analysis regarding our closest competing universities and comparable liberal arts institutions to learn how other institutions are currently using off-campus plots and engaging with the environment. In this analysis, we will delve into the health and well-being benefits of more exposure to green space and increased time spent in the outdoors, a likely outcome of acquiring and developing riverfront access, in relation to student health and well-being.

The objective of the Riverfront Project is largely to take advantage of our proximity to the James River through the creation of a sustainability and recreation center that provides educational engagement opportunities through direct access to the ecologically vibrant river and acres of wilderness along the James River. Of course, exact plans of how such a plot would be utilized is yet to be formally determined, but some possibilities include the aforementioned sustainability and recreation center, an outdoor classroom, a small research center, a mindfulness natural area, and other forms of green spaces.

Justification and Conclusion

Given the vast amount of literature that exists, regarding the psychological and physical influences of spending time outdoors or simply in the vicinity of nature, it goes without saying that the quality of life of UR students would improve with increased exposure to nature. The question of how to bring out such an increased exposure subsequently arises, and a possible solution lies in Riverfront UR, the aforementioned proposal to invest in sustainable and "green" usage of a plot along the James River. While the possibilities for such a plot are boundless during these initial stages, the existence of such a property and perhaps, facility, would undoubtedly result in a greater number of students spending time outdoors, as well as an overall increase in time spent in natural environments. Not only would such increases result in happier students, a goal that would be rewarding alone; student happiness relates to better perceptions of quality of life, better academic performance, and lower perceptions of life stress. These factors, subsequently, benefit the University of Richmond as an institution, as well, considering happier students make for a more fulfilled university and campus experience, which thereby foster a stronger campus community and future investment from graduates, due to such a rewarding experience. In addition, by improving student health and well-being through increased access to the James River, students would be further helping carry out the goals of the University of Richmond's Strategic Plan. Indeed, such a green space would require stewardship and the fostering of an inclusive community, two of the goals within the Strategic Plan. With the student and faculty health benefits of spending just a little bit more time outside, our University will continue fueling the practice of gradual evolution and improvement as we work on bettering our campus and experience through initiatives, such as Riverfront UR.

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Rank	Number	Research Station or Natural Area	Size (acres)	Proximity (Mi.)	Use
1	Williams	Hopkins Forest	2600	3.1	Research, Courses, Recreational
		Canopy Walkway	65 ft. above	3.1	Research, Courses, Recreational
2	Amherst	Book & Flow Farm	0.5	On Campus	Recreational and internships
		Greenway	12	On campus	Fully Recreational
3	Bowdoin	Kent Island	200	Canada	research
		Coastal Studies Center	118	12	Courses research, marine laboratory, terrestrial laboratory,
3	Swarthmore	Crum Woods	220	Adjacent	Recreation, Laboratory, Courses
3	Wellesley	The Wellesley College Botanic Gardens	22	On campus	Research, Courses,
6	Middlebury	Battel Research Forest	100	5.5	Research, Undergraduate Theses
		Natural Area	48	Adjacent	Recreational, Research, Laboratory
		Bread Loaf Campus	169	12	Recreational, Research, Living laboratory
		Snowbowl Ski Mountain	600+	14	Recreational

Table 1. Excerpt from Chart of Research Stations and Natural Areas owned by Top 25 Liberal Arts Colleges., By Alexis Szepezy and Kidest Gebre



Figure 1. Dr. Salisbury's Geography 345 class along a bike ride to the James River