

Thesis Project Portfolio

Ivy Corridor Phase II Redesign

(Technical Report)

**The Analysis of Mixed-Use Developments vs Segregational Zoning and their Effects on
Community Sustainability**

(STS Research Paper)

An Undergraduate Thesis

Presented to the Faculty of the School of Engineering and Applied Science

University of Virginia • Charlottesville, Virginia

In Fulfillment of the Requirements for the Degree

Bachelor of Science, School of Engineering

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Spring, 2023

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Sociotechnical Synthesis

Although research from my thesis never directly influenced the design of Ivy Corridor, or vice versa, these contents are related on the basis of use- and development- types. In the Ivy Corridor Phase II Redesign we proposed a development which utilized three different types of building spaces: academic, residential, and dining, as well as outdoor academic and ecological areas. This redesign was in response to the University's increased need for usable space as it grows in population and as it attempts to fulfill its goal to house all first- and second-year students. There was also a wish for the university to connect Central and North Grounds via Ivy Corridor, both creating various transportation routes and creating architectural flow in the form of consistent land development patterns to the rest of the University. My sociotechnical thesis looks at the combination of use types and how they have affected community sustainability (economic, environmental, and social) throughout the US. It postulates that multi-use developments have been very uncommon throughout most of modern-day history (since the early 1900s) making way for single-use housing and decentralized development. This form of development led to unsustainable communities, some of which pushed for changes in the way that they develop. This brought about the re-emergence of mixed-use developments and with it, the potential for more facets of a sustainable community, even though they are not directly correlated.