

**Thesis Portfolio**

Improving Pedestrian Safety

How the Combination of Zoning, Design, and Gentrification Enhance de facto Segregation

An Undergraduate Thesis

Presented to the Faculty of the School of Engineering and Applied Science  
University of Virginia • Charlottesville, Virginia

In Partial Fulfillment of the Requirements for the Degree  
Bachelor of Science, School of Engineering

Hanna Custard

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Department of Engineering Systems and Environment

## **Sociotechnical Synthesis**

"We have come a long way from the days where there was state-enforced segregation, but we still have a way to go" (Ginsburg). Ginsburg shares this quote in an interview to contrast her colleagues, who often vote on the premise that racism is an artifact of the past. That being said, while zoning ordinances in the past were solely able to abet racial segregation, it is the goal of this research paper to determine if civil design and gentrification further enhance segregation. More specifically, how these variables enhance de facto segregation in residential areas. The Technical portion of this paper focuses on pedestrian safety, and what immediate changes can be made today as well as anticipation of future technological solutions.

The technical portion of this report is related to the STS in that it attempts to find a solution for an area that has been innately segregated. The demographic is majority Hispanic, and the built environment has no pedestrian infrastructure. The lack of sidewalks is not only a safety hazard but provides no connectivity for the community. Without a sidewalk, the people in this community are segregated from businesses and surrounding neighborhoods. The example is quintessential of how design or lack there of can lead to segregation in residential areas.

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