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Portland's Sustainable Construction Practices

Over and Under the Influence of Increasing Density Incentives

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Project Description

This summer I hope to use the Evan Rose Fund to work with TaylorSmith, a Portland-based sustainable construction company. TaylorSmith is currently pursuing a B corp certification to ensure that their work balances social and environmental equity with profit. As an Environmental Studies - Economics major, I feel that TaylorSmith provides me with the perfect opportunity to simultaneously utilize and expand my skill sets. The TaylorSmith team has worked with me to come up with a two part project to provide me with a well rounded opportunity that will place my skill sets in the context of sustainable and affordable housing work. Over the course of ten weeks, I will work on a few construction projects and a research project. I plan to spend one day at each construction site. The remainder of the work week will be dedicated to research and some office work. My office work will include looking into new project leads and answering phone calls.

My construction work will involve a few building projects, a building on Sauvie Island, a duplex in NE Portland, an expansion in SW Portland, and an expansion in Sellwood. The four different types of construction projects will show me how sustainability considerations differ across environments. I will gain this understanding through hands-on work with subcontractors, such as painters and woodworkers. I will complete manual prep-work between subcontractor jobs, and I will review subcontractor proposals to ensure that tasks are completed according to TaylorSmith's specifications for sustainability, scope, and cost. Through these tasks, I will learn how sustainable construction differs from regular construction work. Most importantly, I will come to thoroughly understand the processes that control sustainable construction work.

An understanding of sustainable construction processes will strongly support the completion of my project's research portion. For my research, I will study Portland's Residential Infill Project (RIP), a policy initiative that promotes increased housing density in Portland. So far, the RIP has expanded different zones' eligibility for density and has changed limitations on square footage, height, and parking, among other things. Studying the RIP's changes will build my knowledge of exactly how policy impacts practice. For example, if the RIP is meant to increase density but the policy creates so many requirements that dense development isn't worth pursuing in reality, what does the policy actually accomplish?

My research will focus specifically on the RIP's permittances for cottage clusters. Cottage clusters are a development option that could potentially allow developers to split a single lot into several lots. In these little lots, developers can build "cottages" that house several people, instead of a single house or condo. The permittance of lot division would remove the legal and financial disincentives which are posed by condos and also, allow cottage clusters to satisfy the market demand to own (rather than rent) small or dense housing units. I will determine whether or not the RIP's policies allow cottage clusters to fulfill these potentials. After I identify the RIP's cottage cluster permittances, I will determine TaylorSmith's ability to build cottage clusters and finally, put together a developer's Pro Forma.

The Pro Forma's general purpose will be to develop a financial plan that will ensure TaylorSmith's ability to create middle-income housing that is more affordable than the median housing price in the Portland metro area. I will use the research and construction experience I gather over the course of the project to identify Pro Forma parameters that will determine TaylorSmith's resource-allocation for affordable housing projects. In creating and calculating the Pro Forma's setup, I will employ skills that I have acquired in econometrics and microeconomics courses, for example, profit-maximization. Upon completion of my project, TaylorSmith will

be able to use the Pro Forma to input values for the selected parameters and ultimately, determine the course of future projects.

My project's impact extends beyond TaylorSmith to the Portland general public. My study of the RIP will be recorded and publicly posted to improve policy accessibility for the city. In my experience, even when policies are written with understandable language, the documents' length and formatting diminish the busy world's ability to digest the content. I will digest the RIP's information so that people can simply and effectively understand the importance of the RIP's policy changes and their impact on communities.

I am confident that my personal and academic experiences have properly prepared me to take on all of these project responsibilities. My lifelong interest in the environment has been driven by a realization that people are a crucial part of ecosystems. Therefore, people's needs and behaviors cannot be ignored in environmental work. After considering people's needs, some areas of land conservation do not seem sensical when there are people without land to live on. Through my personal interests, overtime, I have collected these sorts of ideas that now form my passion for urban planning.

While my coursework at Reed has not provided me with an explicit opportunity to explore the subject of urban planning, the initiative and independence I've developed through my Reed career will carry me through this project. My data science project demonstrates my initiative and independence along with my history of interest in sustainable urban design. For my data science project, I created an R data package that combines D.C.'s tree data with D.C.'s census tract data. The spatial data package allows users to explore relationships between population density and tree cover. Receiving funding for this project would allow me more time to explore my interests than initiative and a single class project can ever allow.

If I am granted funding for this project, the experience will be incredibly valuable when I pursue admission to an urban planning program after Reed. Without funding, I will not be able to pursue this opportunity, because TaylorSmith is run by a team of six. Such a small company cannot afford to pay an intern, and I cannot afford to work an unpaid internship. Therefore, I wholeheartedly appreciate any consideration to provide my project with funding.

Thank you.