The effects of Shadows on the Spartan Superway

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Introduction

Urban environments have factors that cast shadows (such as high rises and foilage), which can block potential energy for solar panels

4. Foliage analysis





Objective

In order to study this phenomena, four cases were chosen: Shadows from a high rise building, shadows from one and two story houses, shadows from an athletic stadium, and shadows from foil. An entire route of the Spartan superway was created in a real –time modeling software to perform this analysis

Conclusions

From study 1, we found that high rise-buildings cause massive shading

1. The high rise



2. Single and double story unit compared



From study 2, we found that single story houses do not cause much damage and multi-story cause highly impinging shadows on solar panels

From study 3:, we found that it would be pragmatic if we put solar panels on the other side of the street for solar power generation

From study 4, we found that foliage only causes noticeable impingement around mid-day, which could be easily remedied by putting the track on the other side of the road.



3. Athletic stadium



Acknknoledgments

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> SPARTAN SUPERWAY

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