


Spring 5-23-2018

Designing Model Experiments Around Harriet Tubman Middle School

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Citation Details

Crist, Ryan, "Designing Model Experiments Around Harriet Tubman Middle School" (2018). *Undergraduate Research & Mentoring Program*. 30.

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Designing model experiments around Harriet Tubman middle school

Air quality is of concern in densely populated areas and especially near sources of inefficiently exhausted fossil fuel such as near the highway. Harriet Tubman middle school in North Portland, Oregon is situated alongside highway 5. Here, model experiments are designed and proposed to observe the instantaneous flow fields reflect modifications. LIDAR data was used to model the school and surrounding topography three-dimensionally in order to construct a model school and surrounding area from laser cut cardboard with a surface smoothed with paper mache. This model will be placed in the Portland State University wind tunnel; transport of mean and fluctuating quantities may be measured by way of particle image velocimetry (PIV). The data obtained from PIV can be used for reconstruction of flow passage with respect to the region of interest.