

## **Abstract**

Major modern cities in Western Europe are becoming increasingly dominated by high rise buildings, or skyscrapers. As the competition for useable land space grows, the desire for tall structures also progresses. Their high-intensity use of this land affects the dynamics of the city. From infrastructure to population movement to aesthetics, the effect of the modern skyscraper can no longer be taken for granted. In general planning terms, it is important to be able to locate and quantify the effect that these zones have on the makeup of the city. Until recently, most urban studies have focused on abstract measures of population and functions (number of coexisting land uses) across the city. These studies take for granted the true physical properties of the structures in which they exist. The emergence of new high detail data has made it possible to study, with great detail, the characteristics of these high rise zones. Presented in this thesis is a methodology for determining urban volume, a value calculated using building heights, to measure density within city zones. This process can be used for studying the patterns and inherent spatial characteristics of the city – as is showcased in two case studies selected in the western Netherlands.