

Spatial analysis of residential development processes: uncovering the Dutch densification potential

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Urban areas are rapidly transforming. This is particularly true in the Netherlands where residential development is continuing to claim agricultural land alongside with transforming vacant industrial buildings or filling under-used sites. How to steer future urban development is the topic of heated debates and especially the potential of urban transformations to accommodate the projected growth in housing stock is questioned.

We study the feasibility of further intensification with a spatial analysis approach that distinguishes different residential development processes and quantifies their relative importance. Using highly detailed cadastral data related to location, age and function of all individual buildings in the country, we differentiate between processes such as: densification of residential neighbourhoods, transformation of brownfields and greyfields and green field redevelopment.

Our results indicate that just over half of the total net increase of around 1 million residences in the past 17 years took place within the existing urban fabric. Only a small proportion of the total increase (5.5%) was placed on former green areas within cities, whereas densification of existing residential areas and transformation accommodated 25% and 21% of the increase respectively. Using binomial logistic regression techniques, we assess the importance of a range of different drivers for this process. The results suggest that there is still substantial scope for further intensification in the coming decades when another million or so new residences have to be constructed.