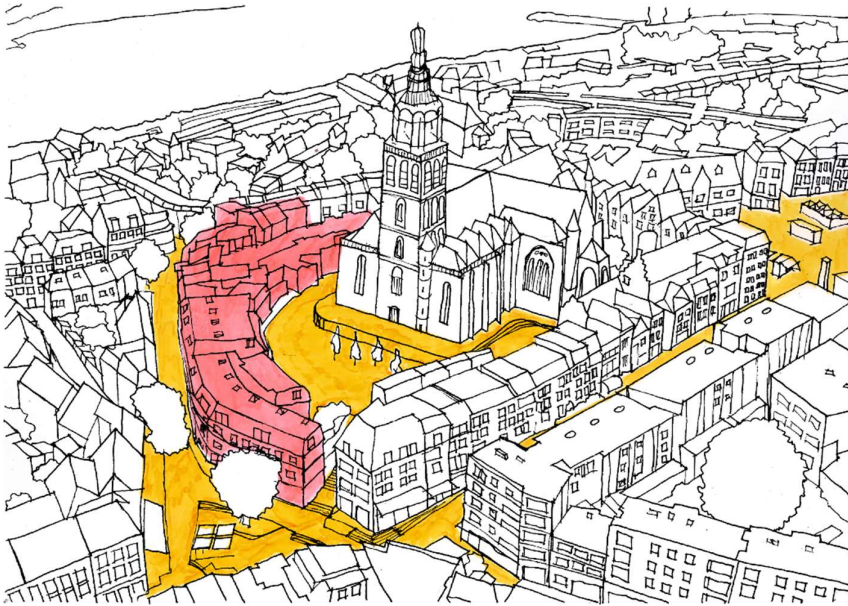


Research AR3A010
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Problem Statement

The growing need for housing in the Netherlands comes with a new set of challenges for planners and designers on how to design new buildings in a country that already has every square inch planned out and dedicated. This lack of building land naturally leaves us with the question on how to increase the **density** in the city without overburden its citizens and infrastructures. In this regard the town and city-centers should be given especially careful attention in seeking out potential spaces that plug into the existing infrastructures and building cultures. Filling up vacant lots and adding top stories to existing buildings is a particularly sustainable and non-destructive way of increasing the **density** in the city. Another way is the refitting or removal of existing building blocks and structures in order to enhance them with structures that offer more space and opportunities for the citizens of the city in question.

In our case-study Nijmegen we see a city sprawling more and more into the outskirts, climbing up and down hills and even jumping a river, in the case of the *waalsprong* project. As a counter strategy for accommodating the ongoing growth of Nijmegen a look into the historic center and the undiscovered potentials for densification and revitalization seems advisable.

For my graduation project I wanted to choose a site with inherent problems regarding **density**, architectural quality, urbanity and mix of use to propose an architectural intervention that can showcase and make the best out of those concepts and qualities. The site should be close to the heart of the city and its urban life and it should preferably contain both great architectural qualities as well as bad ones, asking for a revitalization and rebuilding of its elements. With the western part of the perimeter block around the St. Stevenskerk, occupying one of the high points in the topography of Nijmegen, I found the site I was looking for. Heavily damaged in the bombing as well as the battle fights, both in 1944, followed by the removal of rubble and the teardown of a few buildings, this part of the city center was left empty for decades, seeing no new development till the end of the 1970s. The structures now replacing the historic building block, built in the in 70s and 80s lack much of the qualities their predecessors possessed.

Elaborate on the theme of diversity

Striking is a comparison between historical photographs and the current state of the site. Pictures primarily taken from the first half of the 20th century show a street-life much more vibrant and urban, standing in stark contrast to the present sub-urban and partly closed off character the site presents today. It seems clear that a new emphasis on **diversity** of different uses, i.e., functional **diversity**, as well as social, cultural and built **diversity** has to be incorporated into an architectural proposal bringing back the urban character the site once possessed. To achieve exactly that, certain questions need to be answered.

Research questions

Regarding the quality of urbanity, the question of uses is a central one, more specifically it implies a mix of uses. The building block already contains different uses, albeit not as much as is could or better should contain. Especially the St. Stevenskerkhof is characterized by its solely residential function and lack of public amenities.

At the forefront of those questions is therefore the all-encompassing question of **how** to create a vibrant **mixed-use** neighborhood. This primary question leads us to a multitude of sub questions:

How to integrate dwelling, culture, and commerce in one building sensibly?

How did the mix of uses change before and after the war in Nijmegen?

How should access be organized?

What are the benefits of mixed use?

How to create sustainable urbanity with the mixed-use typology?

What is the right integration of greenery for the mixed-use typology?

What should be the ratio between spaces of retreat, privacy and spaces of communal gathering?

How should the needs for porosity and delimitation be addressed?

What are critical architectural elements of mixed-use?

Site related research questions:

How is the steep topography defining the site and how is it encouraging and denying access?

How does the pre-war morphology of a small urban grain, containing of small townhouses and intricate courtyards compare to the existing and monotonous 80s structures?

What is the origin of the current layout and the logic of the Medieval Typology?

As those questions demonstrate there are two major focuses the research has to answer: firstly, the challenges and opportunities of mixed-use in architecture generally and on site specifically and secondly, the site has to be made sense of in its many other aspects of morphology, topography, history, architectural as well as social and cultural context.

Theory on Urban diversity

In its essence urbanity is characterized by a multitude of diversities. First and foremost is social diversity: a place can not be called urban if there is no variety or difference within the residents inhabiting said place. Those differences manifest themselves in aspects of origin, ethnicity, culture, income, age, occupation, political leaning etc. One of the major aspects mentioned is certainly culture, which itself can be classified into sub categories: culture as a set of certain social forms and beliefs practiced by distinct ethnic or social groups closely linked to a physical region where this culture developed or culture as a phenomenon less linked to a certain place or people, but more connected by a set of shared values and practices like the so called subcultures of punkers, skaters and yuppies for example. In an urban place a wide variety of different characters and cultures is present and can be encountered in the open. Another aspect of diversity is functional diversity, which refers clearly to the issue at hand: mixing of uses. To conclude this set of diversities we have to mention architectural diversity i.e. diversity in form and history. This is naturally at the core of designing and architecture in general. It is very difficult to plan a city at once and create an urban and vibrant place, it is easy to get lost in monotony and loss of meaning. The most remarkable urban places are decisively not the work of a few planners and architects, of a few ideas and objectives, but of an innumerable number of people shaping the city for centuries and sometimes even millennia. It is therefore most challenging to create architectural diversity and urbanity if there is not much architectural form present on a site or if one has to design on the green meadow.

Methods

To investigate the relevance and potential of mixed-use and its architectural implications, a literary research and the study of architectural precedents is paramount to get to grips with contemporary positions and practices. In his work *Reclaiming the City - Mixed use development* (1997), Andy Coupland makes his case for mixing uses to revitalize city centers, listing several advantages like reduction in travel, sustainability, reduction in crime, attractiveness and vitality, to name just a few.¹

Another, highly relevant type of mixed use building is the CRB, the Commercial-Residential-Building, which is commonly found in historic city centers in the Netherlands as well in a very similar version in Great Britain. In the *Architecture of Mixed Uses* Narvaez and Penn examine the relationship of CRB's and the urban layout in order to find common denominators in how and where to place buildings with mixed functions to create optimal economic and social synergies.²

In order to make sense of possible implementations and integrations of uses I primarily chose to look into three contemporary architectural projects. The first example is a city block in Zürich designed and planned by Müller Sigrist Architekten. In this prolific example an old tram depot is used as a base for a residential building block aided by a wide array of additional functions like cafés, restaurants, doctor's offices, work places, roof top terraces, a kindergarten etc. The architectural exterior might not be outstanding itself in this case but the diverse programming of the block is as unusual as it is effective.

Another relevant precedent is the building coined Silodam, situated in Amsterdam and designed by Rotterdam based office MVRDV. This example again might not be that convincing or exiting from a purely aesthetic point of view, it is essentially a box with a colorful exterior, but the diverse mix of uses and different apartments, coming in all kinds of sizes and price categories, sets a good example for not just mixing uses but also people. It puts an emphasis on social diversity, itself a cornerstone of urbanity as a quality.

The third precedent is situated again in Zürich: the Hunziker-Areal by FuturaFrosch and Duplex Architetten. This example sets itself apart from the first two precedents by an emphasis on the urban space between the building blocks themselves. Here the typology is characterized by several "thick" compact cubes defining squares and pedestrian streets in the consequence. Again, the integration of different functions is used to create a self-reliant neighborhood, with a wide array of functions and amenities.

¹ Andy Coupland. *Reclaiming the City: Mixed Use Development*. (London: E & FN Spon, 1997.), p. 4.

² Narvaez, L. and Penn, A. *The Architecture of Mixed Uses*. In *Journal of Space Syntax*. Vol. 7 (1), p.107-136. 2016.

To understand those precedents better I wish to carefully analyze the spatial configurations in plan and image as well as read up on the intention and reasoning of the architects and clients respectively.

To understand how to incorporate different uses spatially in a sensible and meaningful way the aspect of architectural form and morphology presents itself as one of the most intriguing subjects of the upcoming research. How does the form relate to use and what can be learnt from historical cities and typologies and what exemplary precedents are being built today? To analyze different forms, situations and sequences Gordon Cullen's *The Concise Townscape* provides a very good reference in how to understand the city's morphology and complexity.³

Regarding the analysis of the site itself I plan to analyze the present uses and practices in mappings and photographs. The mappings should make clear certain deficiencies in urban and/or architectural quality on a neighborhood scale, this analysis can then fuel and inform the exact definition of the different programs and uses I want to implement into the newly designed building block. Two focuses are important here: firstly, the uses of the buildings themselves, vertically and horizontally, and secondly the public urban space and its uses and appropriations by Nijmegen's citizens.

Drawing the existing situation in plan, section and perspective as well as learning about the history of the site and its people should further provide a solid base for a well-informed architectural intervention. As another method of analysis, I plan to make a physical model of the site, showcasing its remarkable topography as well as showing the most decisive changes in the urban form over the course of the last hundred years. This research by modelmaking can later be continued to discover different possibilities on how building volumes can or should be defined on this particularly site.

As I plan to implement different uses into the building block, some defined already, some still in need of more definition, I want to research the primary typologies I need to think of when designing. Those types are first and foremost, dwelling, primary schools, retail and sustenance amenities as well as cultural and community spaces. This research I want to conduct primarily by reading the relevant literature on those typologies. Another, more broader aspect of my research is the contemporary and historical discussion on urban life, street life, urbanity and other social aspects of the city, its public spaces, may they be interior or exterior. For that I plan to get acquainted with the work of Jane Jacobs *The Death and Life of Great American Cities*, Richard Sennett's *Building and Dwelling* and Janette Sadik-Khan's *Streetfight: handbook for an urban revolution*.

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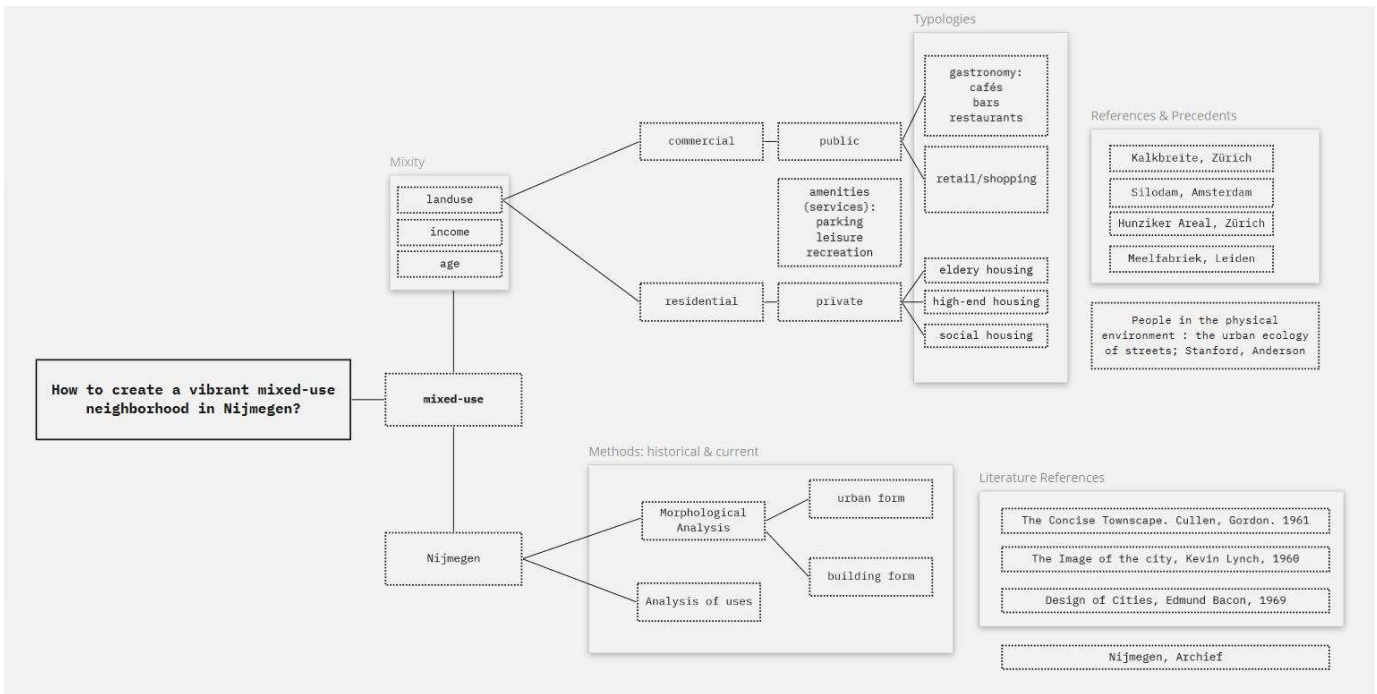
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