Learning Plan

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Studio
Theme
Hybrid Building
 Teachers
Esther Gramsbergen & Tamara Rogic
Argumentation of choice of the studio
The Hybrid Building studio focusses both on Architecture as well as Urbanism. These are both themes that interests me very much. I believe that the two cannot be seen separately. Architectural interventions aiming to be ‘urban’ cannot be defined outside the context of the existing urban development. I also like the fact that this studio starts with Urban analysis on a bigger scale, being the municipality of Zaanstad. This way you don’t just look at a given location and its nearby surroundings.

The studio is focused on villages instead of a big city. If you look at the Netherlands, the majority of the built environment is more comparable with villages than big cities. These different scales bring different parameters. So this is a good ‘test’ for the real deal after I graduate.

Title
Title of the graduation project
Train station Koog-Zaandijk as an entrance to the sports park

Product
Problem Statement
STUDIO RESEARCH
The Hybrid Building graduation studio focuses on multiple station areas in the municipality of Zaanstad. The Zaanlijn railway is an important artifact in the area. There are three main topics that the graduation studio deals with;
- Densification of dwellings near the train stations
- The quality of the train stations along the Zaanlijn
- Transformation of the industrial (heritage) buildings in Zaanstad

The municipality of Zaanstad is situated in the province Noord-Holland, just North of Amsterdam. The municipality was formed in 1974, when several villages in the region (Zaandam, Koog aan de Zaan, Zaandijk, Westzaan, Wormerveer, Krommenie and Assendelft) merged together.

Within the municipality of Zaanstad there are 6 train stations, situated along two different railwroads. The train station Zaandam-Kogerveld is situated along the railroad Zaandam – Enkhuizen. The other five train stations (Zaandam, Koog-Bloemwijk, Koog-Zaandijk,
Wormerveer, Krommenie-Assendelft) are situated along the railroad Amsterdam - Den Helder.

The Dutch government has started an initiative for a program to establish a high-frequency rail transport (Programma Hoogfrequent Spoorvervoer, PHS)\(^1\). The railroad between Amsterdam – Den Helder is part of this PHS program. The idea is that between 6:30 hours and 20:00 hours the line will be used by 6 intercity trains and 6 sprinter trains per hour. (Only the sprinter trains will stop at the train stations within the municipality of Zaanstad). In the current situation only 4 sprinters stop at the stations, and only 2 intercities go from Den Helder to Amsterdam. PHS is meant to stimulate travelers to take the train instead of taking the car. By increasing the train frequency, travelers can take the train without having to plan their journey in advance.

When the Zaanlijn was introduced, it was located along the Western edge of the villages. Through time the villages expanded in both Eastern and Southern direction, with the result that the railroad and the stations are now in the middle of the villages. There is a provincial road running adjacent to the railroad, which became more crowded from the 1930s. The railroad and the provincial road now form a border between the East side and the West side of the villages. At the cross-connections the road and tracks are situated on the same level and the tracks are regulated with barriers (slagbomen). During rush hour, the barrier is already closed 25 minutes per hour, which will only become longer if the amount of passing trains will increase.

An area around a station, with a radius of 800 meters, is interesting for development, because any destination within this 800 meter radius is reachable on foot within approximately 10 minutes and thereby establishing a good connection between the build development and other cities due to the railroad. Between 1970 and 2010 a large number of dwellings was build outside these station areas in Zaanstad, which effected the total coverage percentage around the train stations. At this moment the average coverage in Zaanstad is 31%. In order to fulfill the dwelling requirements, the coverage has to increase to 40% in the year 2030\(^2\). This densification is part of the ‘Program Densification around Public Transport nodes’ (Uitvoeringsprogramma Verdichting rond OV-knooppunten) set up by the Provincial States.

**PROJECT**

Sport has always played an important role for the inhabitants of Zaanstad. 56.4% of the inhabitants play sports. As comparison, 44.9% of the inhabitants of Amsterdam, and 39.9% of the inhabitants of Rotterdam play sports.\(^3\) Sport is an important aspect in life. Sufficient exercise is important for vitality. By sporting you can reduce health issues, from insomnia to reduced risk of myocardial infarction. But apart from your physical health your mental health also gets a boost. Exercise reduces stress, anxiety and depression. People are more likely to exercise if they are confronted with sports(activities).

One of the biggest problems for sport fields and sport facilities, is that sports & recreation have to compete with dwellings and offices. The building of dwellings and offices generate

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1. Rijksoverheid ‘spoorboekloos reizen’  
2. Engel & Waaijer, 22 Stationslocaties in Hollands Noorderkwartier  
3. Staat van de Stad
more income, with the result that sports fields often are moved to the outskirts of towns and cities. There are multiple sport-associations and -fields located directly next to the Koog-Zaandijk train station. The municipality of Zaanstad is already planning to redevelop this area. In the new plan, half of the sport facilities are moved and replayed by dwellings. I believe that this area can be redeveloped in a better way, where there is a densification of dwellings while keeping the sports facilities.

An additional program for the location next to the Koog-Zaandijk station is a sports hall. There are no sports halls near the Koog-Zaandijk station, but there are a lot of sport facilities in this area (six within a radius of 800 meters of the station). Within Zaanstad (from Krommenie-Assendelft to Zaandam) there are over 50 sport facilities nearby the train tracks. Many of them use external sports halls. But in the entire Zaanstreek there are currently only 6 sports halls, and the majority are in bad condition. They are often fully booked.

Another problem within this area is the position of the station in relation to the context. In the past the Stationsstraat of Koog aan de Zaan, perpendicular to the station of Koog-Zaandijk, played an important role within the area. The street formed the most important connection between the station and the village. Apart from nice big dwellings, there were several public function situated along it. There was among other a post office, an elementary school and some shops. During the second and last transformation of the station (in 1976), the platform of the station became an island platform. Because of this transformation, the Koog-Zaandijk station and the Stationsstraat lost the relation with one another.

Since the origin of the ADM-cacao factory, it has been growing. Through time the factory slowly bought all the buildings on the North side of the Stationsstraat. In the current situation, there are about three dwelling left on the North edge of the street and the rest is property of the factory, which has a fence around it.

The Stationstraat had an important function within the area, but because of the two mentioned arguments, the Stationstraat lost its importance.

Research questions
- How can I densify the sports fields area with dwellings, without removing the present sport facilities?
- How can I improve the sport park?
- How can I reestablish the connection between the station of Koog-Zaandijk and the Stationsstraat?
- How can I establish a connection between the train station and the sport functions

Goal
According to the Hybrid Building graduation studio, the railway stations and their surroundings should also be improved to upgrade the livability of the stations and to increase the amount of users.

My main goal of this graduation studio is to apply the needed urban densification, but not in expense of the sport facilities. On the contrary, I am going to add dwellings and at the same time improve and strengthen the sport facilities. Nowadays, the station only functions as a

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4 Nederlandse Instituut voor Sport en Bewegen
stop. You go to the platform, wait a few minutes for the train, and you leave. There are no other functions on/in the station. The station itself has become less dominant but its tracks are still very dominant. My goal is to make the station more important and make it more tempting to use the train. I will integrate the station into the sports park by establishing a connection between the station and the sports facilities.

Another goal is to improve the station and the surrounding area of Koog-Zaandijk by reducing the border effect between the East- and Westside of Zaandijk and Koog aan de Zaan which is currently created by the provincial road and the railroad tracks. The barriers at the cross-connection of the Guisweg and the Provincial road will be closed much of the time when the PHS is introduced. My goal is to do so by lifting the station of Koog-Zaandijk.

The last goal is to introduce a new connection between the East and the West side of Koog aan de Zaan and Zaandijk, thereby making it easier to go from the East side to the sports park on the West side. The new train station of Koog-Zaandijk will be the element that will connect the two sides.

An additional advantage is that this intervention will reduce/downgrade the use of the Guisweg and thereby the existing cross-connection.

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<th>Process</th>
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<tr>
<td><strong>Method description</strong></td>
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<td>During the entire design process, I used different methods and techniques of research and design. By using these methods and techniques I am able to answer the research questions formulated in the previous chapter.</td>
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<th>Typology</th>
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<td>The typological episteme is a study of types. The typological research that I carried out, was in different typologies of dwellings. Typological analyses can be made with different parameters. For this research I used a densification of 40 dwellings per hectare as a parameter.</td>
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By investigating historical maps and developments I explored the historical growth of the build environment of the area. The information was obtained from the rapport of ir H.j. Engel and ir. A. de Waaijer; 22 Stationslocaties in Hollands Noorderkwartier (TU Delft 2011) and a book ‘Portret van de Zaan’ by Con Monnich. With the typological research a division becomes clear between mass and void. With this, I can identify spatial qualities and qualifications.

<table>
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<tr>
<th>Frame, pattern, circuit – method</th>
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<td>This method can be used to analyze the connectivity of a certain location. With this method it becomes clear how good the starting point is connected with its urban frame and how far it extends. This is off course crucial for the accessibility of the station and its neighborhood it serves. The idea is to start by selecting an anchor point. You start in a direction from the starting point, this is the first order. As soon as you come to a junction where you have to make a choice in which way you can continue, the second order starts. The same goes for the third order.</td>
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**Phenomenology**
In the current situation, the area on the West-side of the Koog-Zaandijk station hardly contains any public space, especially within the areas with sporting facilities. My intention is to create a sequence of public spaces.

**Precedence**
I did a thorough research on comparable design assignment. I did research on comparable sport complexes, sports halls, hybrid building of dwellings combined with sport facilities, and stations.

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**Literature and general practical preference**

### Books
- Bois, P de. 2010, Stedelijke vitaliteit. Elba Media
- Ching, F.D.K. 1979, ARCHITECTURE; form, space and order, Van Nostrand Reinhold
- Cleassens, F. Engel, Ir H.J. 2007, OverHolland 5. SUN
- Dufour, R. 1979, De recreatieve stad, Staatsuitgeverij ’s-Gavenhage
- Engel, Ir. H.J. Waaijer, de, Ir D.A. 2011, 22 stationslocaties in Hollands Noorderkwartier
- Engel, Ir. H.J. Velzen, E van. Architectuur van de randstad; Frankfurt am main 1925-1930,
- Kleij, P. 2009, Zaanstreek; architectuur en stedenbouw 1850-1940, Waanders uitgevers
- Leupen, B. 2005, Ontwerp en analyse, 010 Publishers
- Leupen, B. 2008, Het ontwerpen van woningen, Centraal Boekhuis
- Lynch, K. 1971, The image of the city, Dunod
- Mizuya, H. 1996, Corporate housing & training facilities, Meisei publications
- Monestiroli, A, 2001, Opere,progetti, studi di architettura, Electa
- Peek, G.J. 2006, Locatiessynergie: een participatieve start van de herontwikkeling van binnenstedelijke stationslocaties, Eburon Uitgeverij B.V.
- Watanabe, H. 1996, Corporate housing & training facilities; new concepts in Architectura & design, Meisei publications

### Articles
- Bosch, N. 2003, sportpark v.d. toekomst vraagt om optimal gebruik, Absis

### Documents/reports
- Factsheet bevolkingsprognose Zaanstad 2010-2030
- Sportkrant, gemeente Zaanstad
- Sportief Zaanstad in scenario’s, gemeente Zaanstad
- Staat van de stad, gemeente Zaanstad
- Zaankanters in beweging, gemeente Zaanstad

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**Reflection**

6/21/2012
**Relevance**
The role of the train station and the station building changed during its existence within society. An influence is the change of the urban landscape, where different towns grow to one another, thereby more station appearing and thus a station becomes less ‘unique’. Another influence on this change is the acceptance of the train being a common way of transport.

By making the smaller train stations a node of hybrid functions, the station will serve both as mobility and a serve as a social role. This way people are more stimulated to make use of the public transport.

In combination with the sport fields and sport facilities on the West side of the Koog-Zaandijk station, the station will become unique within its area once again due to the additional function.

**Time planning**

Week 2.10 – P2 - Site 1:1000 and most interesting part 1:500

Week 3.1 – integrating comments of P2 and start with construction methods and first ideas of materialization
Week 3.2 – continuing modeling/designing of station and sports hall 1:500 construction and materialization
Week 3.3 – floor plans, sections and construction 1:200
Week 3.4 – floor plans, sections, construction and façade 1:200
Week 3.5 – floor plans, sections, construction and façade 1:100, schemes of materialization, installations, and other BT requirements
Week 3.6 – start model 1:100 for P3 details 1:20
Week 3.7 – façade, sections, floor plans, construction 1:100 details 1:20
Week 3.8 – prepare P3
Week 3.9 – P3

Week 4.1 – integrating comments of P3 start details 1:5
Week 4.2 – completing all 1:100 drawings details 1:5
Week 4.3 – details 1:5 start making models 1:200 and 1:100
Week 4.4 – preparing presentation, posters and model for P4
Week 4.5 – P4
Week 4.6 – integrating comments of P4
Week 4.7 – preparing presentation, posters and model for P5
Week 4.8 – preparing presentation, posters and model for P5
Week 4.9 – P5