GRADUATION PLAN

Master of Science Architecture, Urbanism and Building Sciences
TU Delft 2018 - 2019

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**Personal information**

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**Studio**

Name / Theme: Heritage & Architecture: Bandung Shared Heritage Lab  
Teachers / tutors:  
Job Roos (Architectural Design)  
Nicholas Clarke (Cultural Value)  
Paddy Tomesen (Building Technology)

**Argumentation of choice of the studio**

Bandung, the city of focus of this studio, is the third biggest city of Indonesia with an urban population of 2.5 million inhabitants within its city boundaries, which is even expected to double over the next 30 years. This rapid increase in the urban population, which is not only observed in Bandung but in many cities around the world, emerges significant urban challenges, as it results in unplanned cities, often characterized by chaotic flow of humankind undergoing unprecedented growth, migration, and an attendant diminution of natural resources beyond the limits of sustainable life. This creates enormous pressure on the city’s space, networks, services, security, equality, health and climate conditions. But it also often creates a battlefield of whether the cultural heritage of the city should be safeguarded for the future or sacrificed on the altar of new developments. It is my firm belief, that in the modern context, where the need for sustainable development of cities and for saving funds is stronger than ever, the utilization of the existing building stock is imperative. Not to mention the layers of history always inherent in such buildings, which can provide us with valuable information on how the city developed throughout the years. Bandung, with its colonial past, and its rapidly developing future landscape, offers for me the ideal opportunity to work on such a diverse environment and to explore ways in which heritage can become a driver for sustainable development, transforming the city into a healthier and more resilient environment. Heritage and Architecture is my particular focus during the whole Master program, but what makes this studio even more interesting, is the multiplicity of challenges that an architect is expected to face. Working on many different scales, with both Dutch and Indonesian history, and collaborating with people from such different backgrounds makes the challenge even bigger.
Graduation project

Title of the graduation project

“Community based transformation towards a resilient future.”

Goal

Location:
Jl. Gudang Selatan No.22, Merdeka, Sumur Bandung, Kota Bandung, Jawa Barat 40113, Indonesia

The posed problem

The former colonial city of Bandung faces many challenges. Its rapid growth has led to unstructured densification and the development of many informal settlements. Segregation between rich and poor is growing bigger and bigger, making Bandung non-inclusive to all its citizens. A substantial increase of motorized traffic, furthermore, has led to unhealthy living conditions and uncomfortable public spaces. People have lost their connection to nature and increasingly exceed the limits of its resources. Another big problem, however, is that nowadays the historic center of Bandung is treated as a museum piece, safeguarded only to attract tourists, and not to serve the needs of its citizens. New centers for working and living emerge, as the colonial legacy is still a sensitive political issue.

As part of the Heritage and Architecture team in this Shared Heritage Lab, I was assigned to research the impact of the Railway line for the development of Bandung as a city. While in the beginning it was on the borders of the city, during the years and the expansion of it, the Railway line ended up being a dead zone in the center of the city, causing subsequent problems. It splits Bandung into two, enhancing segregation and obstructing normal every-day activities. The selected site, which is a former military area along the Railway line, is an example of the colonial past of Bandung, now partly remoted and partly in use. The big problems that Bandung faces, are also evident in this area. The formal area north of the Railway and the informal settlements south of it, have nothing in common. From the one hand, urban planning and abundance of open space and social facilities, from the other hand, unplanned development, high density and lack of basic infrastructure.

Research questions

- How can adaptive reuse be used as an asset not to create gentrified new areas in the city, but to create the necessary environment for cultural resilience and development of the existing diverse communities in a smart and healthy way?
- How can the colonial heritage evolve in order to address the current needs of Bandung’s inhabitants?
- How to turn the former colonial city of Bandung into an inclusive, thriving and healthy environment for working, living and leisure?
- How can we transform the Railway line from a boundary dividing the city into two, to a connector of the different areas and programs along the city, and revitalize Bandung?
- How can we equip people towards a sustainable and “smart” future Bandung?

Design assignment in which these results.

From an early point, it was evident that we could not hope for a change in the Colonial city of Bandung, if we only focused on a particular spot of the city. A bigger masterplan was conducted, as part of a group work of the H&A students, that exhibits the opportunities and dilemmas of the Railway line. The nowadays dead zone in the center of Bandung is proposed to be transformed into a green area, with the necessary infrastructure for the mobility of its citizens. Various remoted areas along this line are selected to be transformed in order to serve current societal needs. The “Knal Magazijnen”, in which we focus for our individual projects is one of these selected areas that all together constitute a network.

My particular interest for this project, is to create a space where people from different backgrounds and different ages come together, work together, and learn from one another. A space where people come closer to nature again and are equipped with skills and motivation towards their future. The whole idea derives from the goal to make Bandung a healthy and smart city, and in order to achieve this, I believe that there should be a change in the mindsets of the people who live there. Taking initiative from the various events and projects that take place in Bandung and have established it as an innovative hub for creativity and entrepreneurship, my project will focus on creating a creative Community Center. The traditional activities of the people will be merged with modern activities and education, and will focus on maintaining and developing the cultural identity and critical cultural knowledge and practices of the community. Education, recreation, skills development and community support are some of the activities that the new community center will include. The “Knal Magazijnen” is going to be an example of a community-based transformation, that focuses on the elimination of segregation, and on communities development, through group activities that engage all different communities. From an enclosed military area, the space will be given back to the citizens of Bandung.

Process
Method description

The design-result should be developed in a thorough understanding of the existing spatial, cultural and socio-economical context of the (built) environment. Therefore, an extensive and designed, value-based research that requires deep study of the past, the present and the future of the place is necessary. The site visit, which we conducted during October offered to us a personal experience of the place in its current state and provided us with valuable information. Maps, photographs, archive material, related literature, drawings, all contributed to our investigation.

“Value-mapping”, was used to classify the specific heritage features distinguished in and around the heritage site, and gave a qualitative insight into the place by means of a matrix, as this is defined by the H&A department, and analyzed in the book “Designing from Heritage”. This research method, well-structured for a heritage-based design, helps to identify the obligations
for conservation, the opportunities for possible interventions, as well as the emerging dilemmas for the continuation of the heritage building, and in the end of this research process, concludes in an inclusive position statement, which guides the following design process. Parallel to this heritage-based research method, though, a more human-related method was used as well during the fieldtrip. The study of human action and conduct, scientifically described as praxeology, was used in order to better understand the actual users of my future proposal. By interviewing people from the local communities, and observing their daily habits, I tried to identify which are these indigenous characteristics that shape their built environment, how these people experience the space and what values they attribute to it.

Further research regarding the specific program should be conducted, as well as case studies of transformations of industrial heritage buildings.

Literature and general practical preference

Research on Past and Present Conditions

Books:


**Journals:**


**Interviews:**
Ardo Ardhana - Initiator of Spasial (a creative space on the selected site)

Koko Qomara and Adhi Tubagus – members of Bandung’s Shared Heritage Society for Conservation
Ressel – inhabitant of Kampung Pisang (across the selected site)

Prof.Dr.Ing.Ir. Widjaja Martokusumo - Dean at School of Architecture, Planning and Policy Development, Institut Teknologi Bandung (ITB)

Further research for the project


- Berkers, M., 'Praxeology', Lecture Series on Research Methods, Technical University of Delft, Q1 2018-2019


- Choenni, A., Public and Private Roles in Historical Inner City Revitalization, Cultural Heritage Agency of the Netherlands (RCE), November 2015


- Martokusumo, W., 'Urban Heritage Conservation: Experiences in Bandung and Jakarta’, The Indonesian Town Revisited, 2002


- Organisation for Economic Co-Operation and Development (OECD), Green Growth in Bandung, Indonesia, OECD, 2016


**Reflection**

This Shared Heritage Lab’s focus on the transformation of cities towards healthy environments that nurture resilient social systems, is an important theme in contemporary architecture and urban development. As an alternative to our ever-increasing throw-away society, adaptive reuse of urban heritage can offer multiple environmental and economic benefits for our cities. The successful management, of the cultural heritage of Bandung, a common, which is local (it takes a vital part in the creation of its identity) and global (it is part of a universal heritage) at the same time, can lead to an inclusive and healthy future city for working, living and leisure.

Through my graduation project, I will try to identify ways in which we can turn current problems into opportunities for the future city. Whether this is a “dead” Railway line, dividing the city into two, that is transformed into a new focus point for the whole city, or remnants of colonial legacy that were treated as museum pieces, and are now transformed to facilitate a second life. I want to emphasize on the balance between understanding the significance and accommodating necessary alterations to ensure the continued use and enjoyment of historic buildings, and to use them as the incentive for future development, having good knowledge of the past. Repurposing old buildings—particularly those that are vacant—reduces the need for construction of new buildings and the consumption of land, energy, materials, and financial resources that they require. In the contemporary context, because of the intense need for sustainable development of cities, the utilization of the existing building stock can provide valuable opportunities.

This studio gives me the chance to advance and adapt my knowledge as an architect within a completely diverse context, in order to make a positive difference in peoples’ lives through my contribution to the improvement of our built environment.
**Time Planning**

**Week 1.1 – Introduction**

Introduction to this studio’s general topic, of Bandung as a future inclusive and healthy city, which developed along three main backbones (Railroad, Cikapundung River, Grote Postweg). Small introduction to the Railroad as the H&A group focus.

**Week 1.2 to 1.4 – Research**

Research on the city of Bandung, regarding social, economic and environmental aspects, and different scale levels was conducted in collaboration with all Architectural Engineering, Heritage and Architecture, Landscape Architecture and Urbanism students. Through mapping exercises, literature and archival research, we gained valuable information regarding the three main backbones of the city. Moreover, workshops and lectures were conducted, focusing on the notion of shared heritage, the sensitivity of the Colonial past of the city and the importance of cultural values. Modern-day Indonesian approaches towards architectural reuse were also presented and informed us about the present conditions.

**Week 1.5 to 1.6 – Research**

Initial research regarding our specific fascination for our personal assignment, in order to be prepared of what to explore and where to focus during our trip.

**Week 1.7 to 1.10 – Research**

Field Trip to Indonesia, during which we continued our research on the Railway Backbone and its surrounding areas, and adapted our initial findings to our in-situ observations. We explored the city of Bandung, followed lectures and met professionals, and we interviewed everyday-people, in order to have a better understanding of how Bandung developed, and what are the challenges and the opportunities of the city today. During our stay, we decided upon our particular site, and we tried to gather us much information as possible. We measured the buildings and made simple sketches, we took photographs and videos, and we tried to observe different phases of the buildings. Finally, we had our P1 presentation together with the ITB students, where we presented our research as a group, and our focus as individuals.

**Week 2.1 to 2.6 - Research, Cultural Value Report, Programme and Concept Design**

During these weeks and after our fieldtrip to Bandung, we organized our findings and our previous investigations into a complete report, that includes our research documentation and conclusions.
in an attempt to understand the historic, cultural, socio-economic and urban development of the city of Bandung throughout its history and evolution, from the former Colonial City to the current mega-city. Part of this report is of course the Cultural Value Assessment, regarding our specific site, in which we tried to identify the tangible and intangible qualities of the monument as well as the context in which it is situated. Opportunities, challenges and conflicts were discussed, and led to a cultural value statement. Further architectural and building technology analysis of the buildings was conducted, in regards of the available information. Timelines, chrono-mapping, measured drawings, 3-dimensional models, sketches and photographs were utilized to have a better understanding of the specific area.

During this period, a masterplan for the Railway line was prosecuted as well, as an outcome of group work between the H&A students, in which a future scenario for the whole city was presented.

Regarding our individual projects, during these weeks we formulated the program for our projects, and set the starting points.

**Christmas Break**

**Week 2.7 to 2.9 - Programme and Concept Design**

Further development of the city-scale scenario, and the Backbone analysis in the group of H&A. In the course of these weeks, I also tried to identify the possible transformation approach, regarding the specific heritage site, according to the values which I have attributed to it. Study of various case studies of reused industrial buildings and analysis of their approach in relation to their program. At the same time, research on my selected program, and study of precedent buildings, in order to formulate a specific program in square meters and a general masterplan. Drawings, sketches and diagrams were used to present my concept design in relation to the program and the analysis that was conducted before, during and after the trip.

**P2 presentation – 22.01.2019**

**Week 2.10 - Programme and Concept Design**

Continue to work on my concept design, the specific program and master plan of the complex, according to the feedback I get from my P2 presentation. Re-evaluate and finalize.

**Spring Break**

**Week 3.1 to 3.3 - Developed Design**

After the P2 presentation, and when the concept-design phase is completed, further work on plans, sections, elevations and 3d drawings will be conducted. At the same time, meetings with our BT tutor will start, and the finalized concept design will be further developed to accommodate
the necessary structural and climate requirements, leading to a more comprehensive design approach. Sustainable strategies will become part of the design.

**Week 3.4 to 3.10 - Developed Design**

A P3 presentation will take place, in which I will present my progress to my tutors with drawings, sketches, diagrams and 3d-models. By then, the project should have developed equally in all different scales, including all different aspects. A clear connection between research, concept and design, as well as an integrated structural and climate concept should be developed.

**Week 4.1 to 4.4 - Detailed Design**

Taking into account the feedback I will get for my P3 presentation, I will continue to work on more detail for my project. Specific parts of it will be selected to be analyzed further in terms of the technical aspects of the design.

**Week 4.5 to 4.6 – P4 Presentation**

At this point, the goal is to have developed a coherent design that includes all different phases of this project, from research, to concept design and programming, to the development of a building technology strategy along with the architectural ideas, into a complete design solution.

**Week 4.7 to 4.9 - Final Editing**

Integrate possible alterations after my P4 presentation, and finalize my drawings, 3d-models and physical models for my final P5 presentation.

**Week 4.10 to 4.11**

P5 Presentation - Graduation