

Lead Instructor

Calvin Chua

Course Description

This seminar focuses of the paradigms of adaptation in the field of architecture and urbanism today. The course will introduce to students the various scales and challenges in adaptation from visionary proposals to actual built projects. Through a series of comparative case studies in Singapore and overseas, the course will equip students with a critical overview of the challenges and opportunities of adaptation within our built environment. Given the lack of a unified theory of adaptation, the seminar group will embark on a journey, attempting to formulate a theory or a position towards adaptation through architectural typologies and the prevailing socio-economic paradigm, which include: culture, informal, shrinking, landscape, resilience, etc.

Learning Objectives

- Recognise and appreciate the range and spectrum of adaptation projects, from the singular building to urban territory.
- Explain and apply key theoretical concepts of adaption of existing urban stock within local and regional context.
- Synthesize approaches to adaptation projects relating to different types of built form and its social, economic and political context.
- Develop decision-making methodologies in adaption projects.

Measurable Outcomes

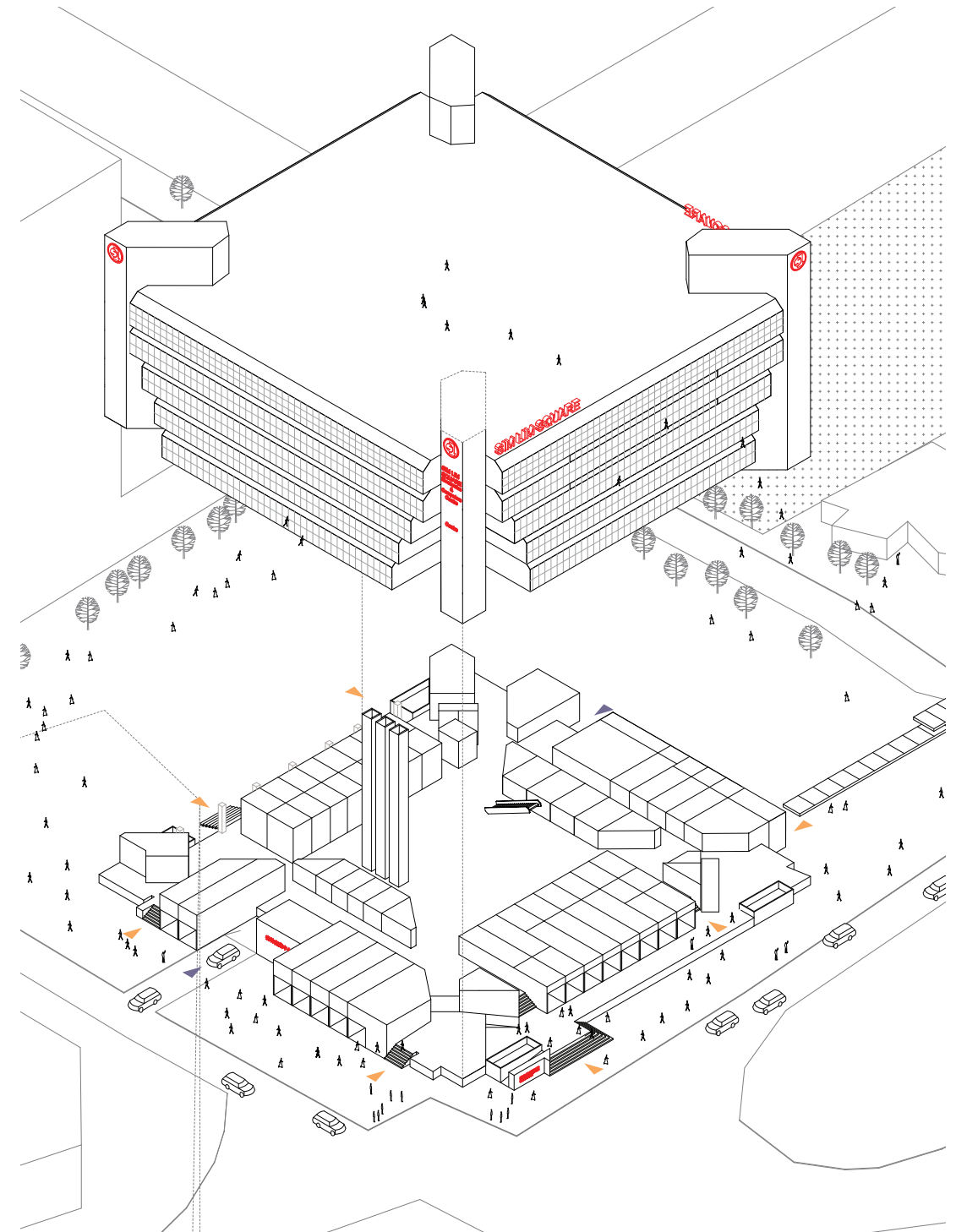
- Explain and apply adaptation principles and knowledge to case-studies.
- Interpret the impact of social, political and economic conditions in different contexts has on the understanding and application of adaptation principles.
- Describe adaptation as an emerging global discipline.
- Analyze methodologically how adaptation principles are utilized for each case-study.
- Formulate and evaluate design challenges when working with existing context within built and natural environments.
- Appraise and deliver a written, oral and graphic presentation of an architectural and urban case study on adaptation.

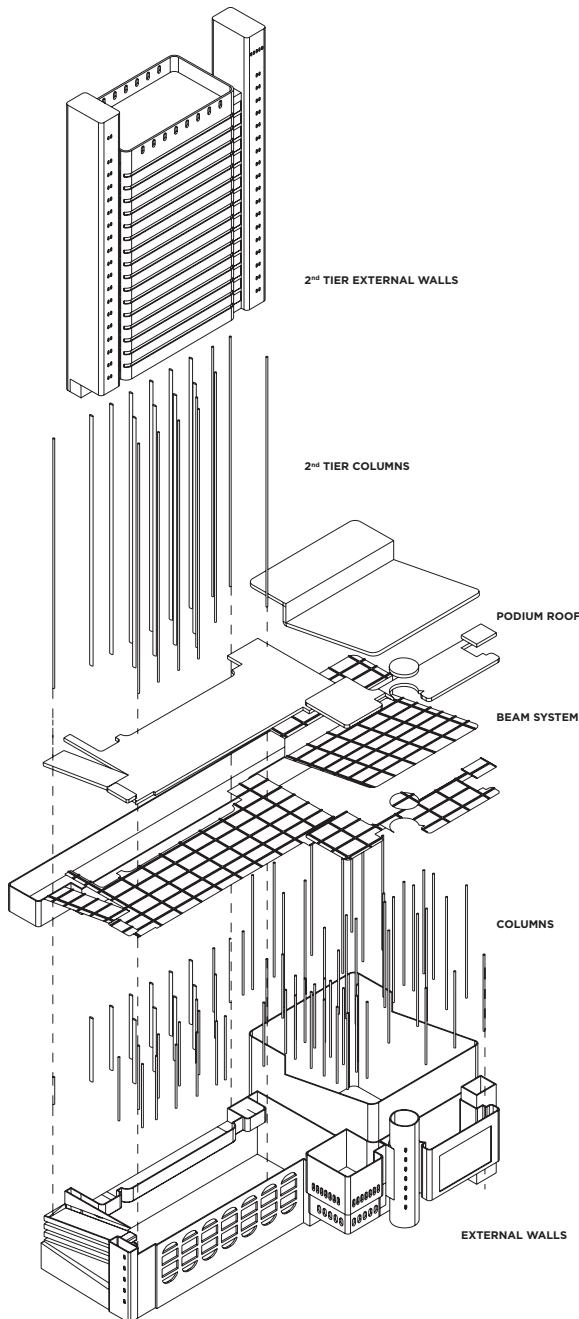
Deliverables (Individual Case Studies)

- Critical analysis and summary of the individual case study presentation through diagrams, illustrations and images and text.
- Develop a critical response towards the condition of adaptation in today's urban environment. Discussions should be framed within the selected paradigm and city.

Deliverables (Group Analysis on Strata Malls)

- Analyse the spatial elements and components of a selected strata mall building in Singapore. Discuss the fitness for reuse and value for adaptation.
- Write a brief to discuss the value of the building, ways to adapt and/or recycle building components





<Golden Mile Tower>

We chose to use the informal paradigm as a strategy to come up with a proposal and brief to rejuvenate Golden Mile tower because of how similar a strata mall's organisational system and principle is to an informal settlement.

PROGRAMMATIC PROPOSAL

The proposal is to create a sort of street scape on the first level by removing some of the fixed shop lots and nature of the kind of shop space that can be created would create a bazaar or street like atmosphere which is quite informal in nature where people would bargain with shopkeepers and browsing of goods usually require interaction between the shop keeper and the shopper.

SPATIAL ADAPTATION STRATEGY

To foster the sense of ownership, shop owners would build their shop out of modular elements. These modules are proposed to be simple demarcations of space that are easy to set up and are non-permanent in nature. This gives shop owners the flexibility to decide where to place their shops, what kind of shape the shop should have to best showcase their products, and the experience of experimentation to try out different configurations. By allowing for creative use of space, it gives rise to interactions between the stall owners and potentially the shoppers. These interactions arise organically and cannot be planned with a traditional organisational principle.

PRICING SYSTEM

The rent for the shop space could now be associated to the rental of the module instead which could be much cheaper than the current rent price. Stall owners can decide on the size of their shop based on requirement and purchase as many modules as needed to set up their shop space.

— Dion Teo, Elizabeth Yang, Janani Sundaram Mohan, Jayne Lim, Yu Jia Xin

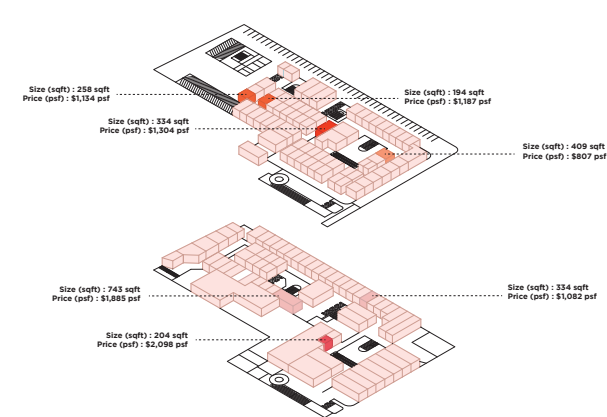
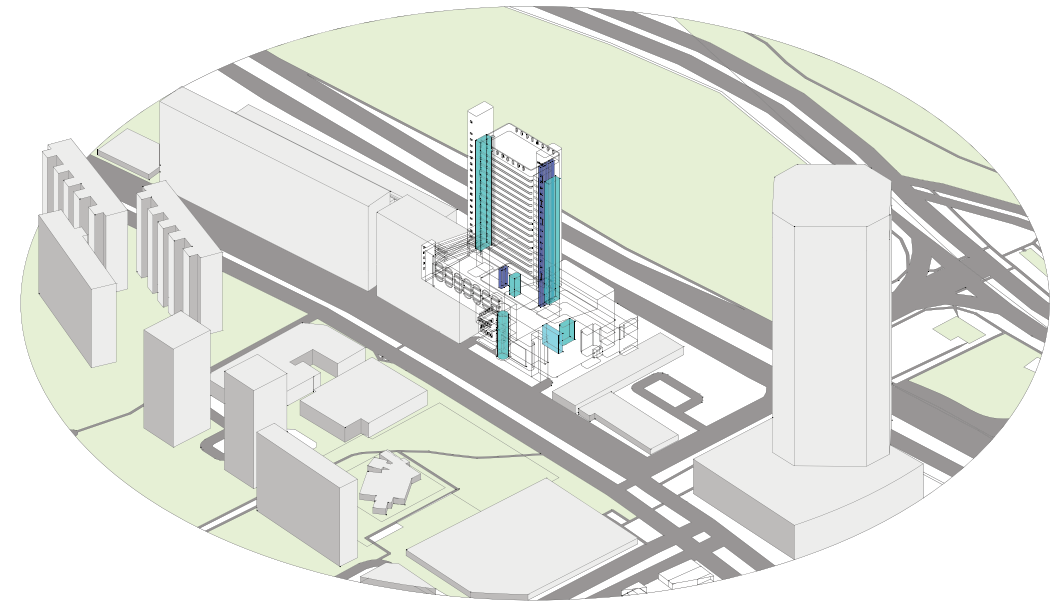
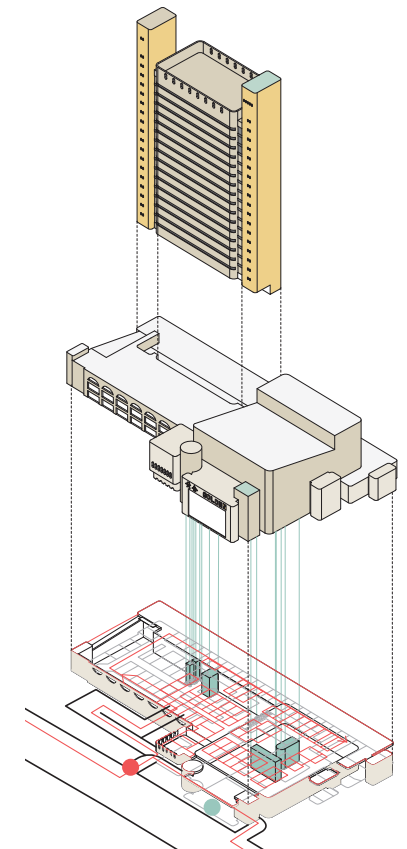


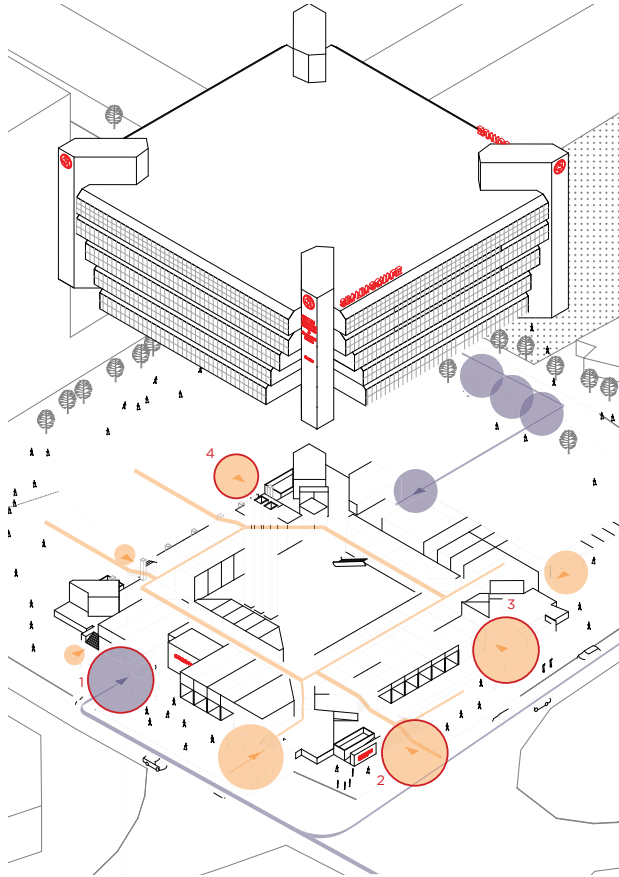
Figure 01 [opposite]: Building components including roof, beams, columns, external walls.

Figure 02 [top]: Urban context of Golden Mile Tower within Beach Road area

Figure 03 [below left]: Unit types and rent prices

Figure 04 [below right]: Vertical circulation of pedestrians and vehicles





<Sim Lim Square>

In the redevelopment of Sim Lim Square, the main idea is to increase connectivity between different groups of people and potentially repurpose it as a communal hub that integrates the arts and the sciences.

ENTRANCES

The entrances facing Albert Street and Rochor Canal Road should be paid attention to in order to create a through-way through Sim Lim Square to better integrate it with its surrounding environment.

FACADE AND STRUCTURE

At least half of the glass tinted facade should be retained, and the rest replaced with a more light permeable material in order to brighten up the interior spaces. An additional facade treatment is allowed in order to tie in the design, ensuring a cohesive design language for the facade. The structural grid should be retained due to the flexibility and the potential as a guide that it offers in the arrangement of interior spaces.

UNITS AND PROGRAM

Certain units within Sim Lim Square should be merged to create larger communal or social spaces, such as co-working spaces or a library, and where possible, voids can be added to the floor plates to allow for more vertical visual porosity throughout the building. Some units should be kept empty to facilitate the use for events/exhibitions, such that the purpose served by the atrium is replicated throughout the building, in an attempt to better integrate the various floors of the building. Existing electronic shops can be integrated with maker spaces or other programs to cater to a larger demographic and also facilitate exchange of knowledge.

— Neo Szemin, Zayar Lin, Denise Lee, Jeremy Chang, Shireen Yeo

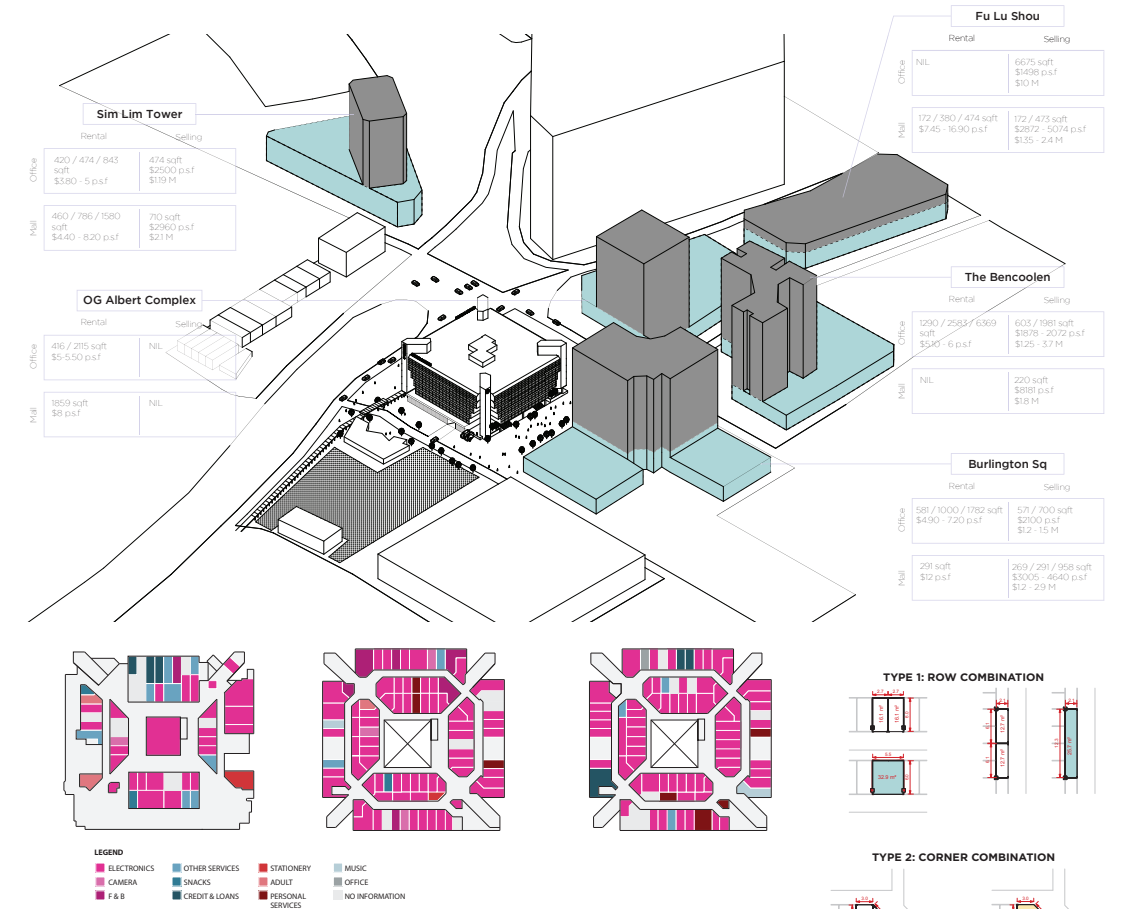
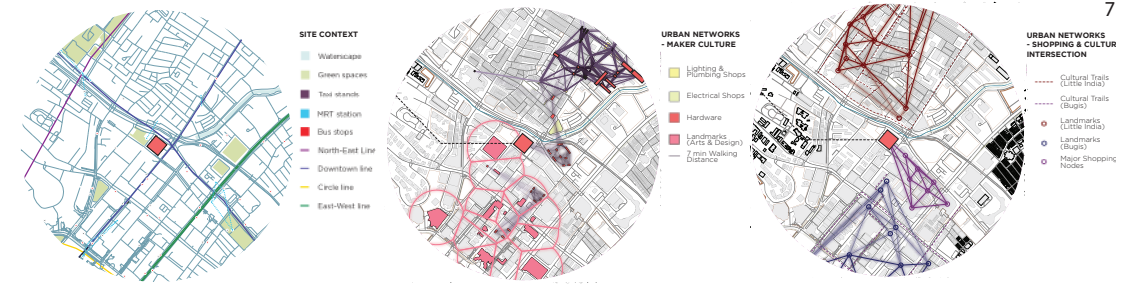
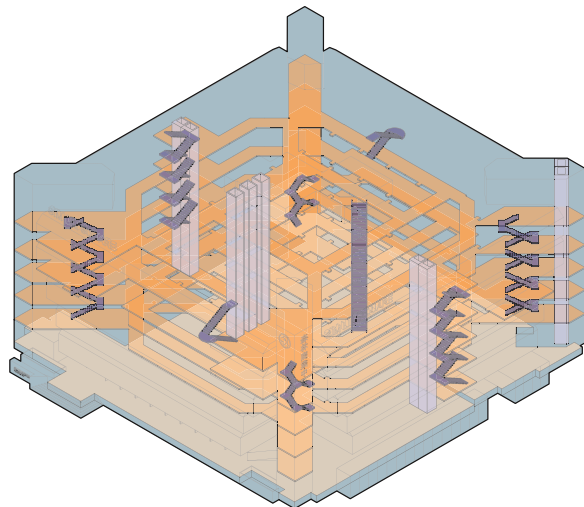


Figure 01 [opposite top]: Circulation and porosity of Sim Lim Square.

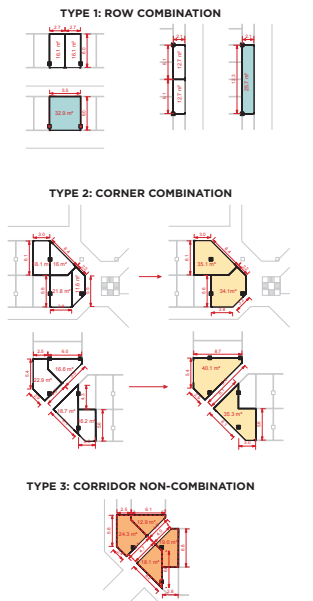
Figure 02 [opposite bottom]: Circulation core of building

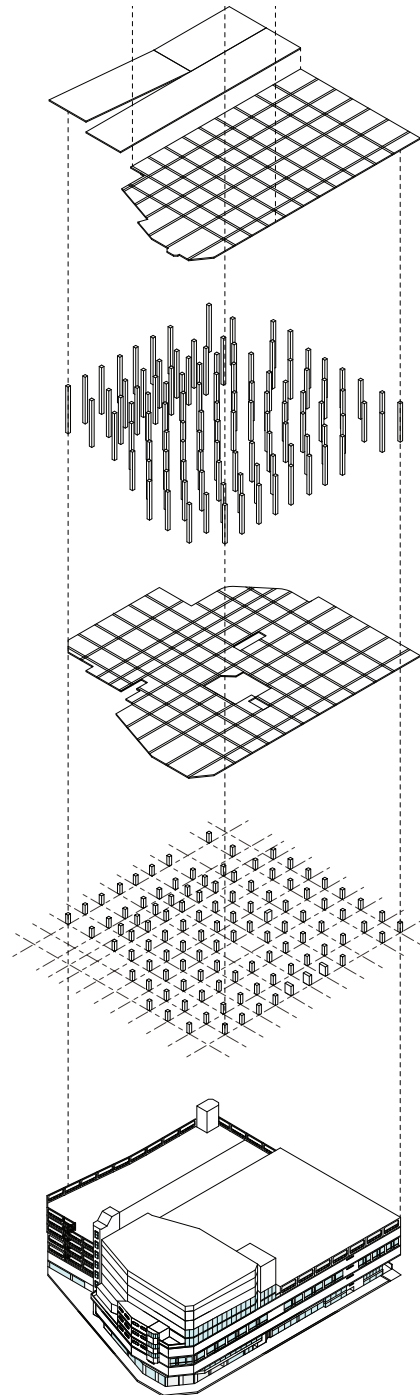
Figure 03 [top]: Urban Context and Production Networks

Figure 04 [middle]: Rent prices of surrounding context

Figure 05 [bottom left]: Programmatic layout

Figure 06 [bottom right]: Typological transformation





<Textile Centre>

ISSUE

The current circulation of Textile Centre is not well organised. The first being that there are two lift cores within the mall: a double-shaft elevator near the atrium space and the other that is slightly further off, housing four elevators that each only serve certain floors. This created two separate main vertical cores that were located in close proximity to one another, that could be slightly disorienting to patrons. Secondly, though there exists an atrium space, it is extremely small and does not provide adequate visual connection from one floor to the next. The atrium space only spans three floors and is barely 1/6 the size of the floor area.

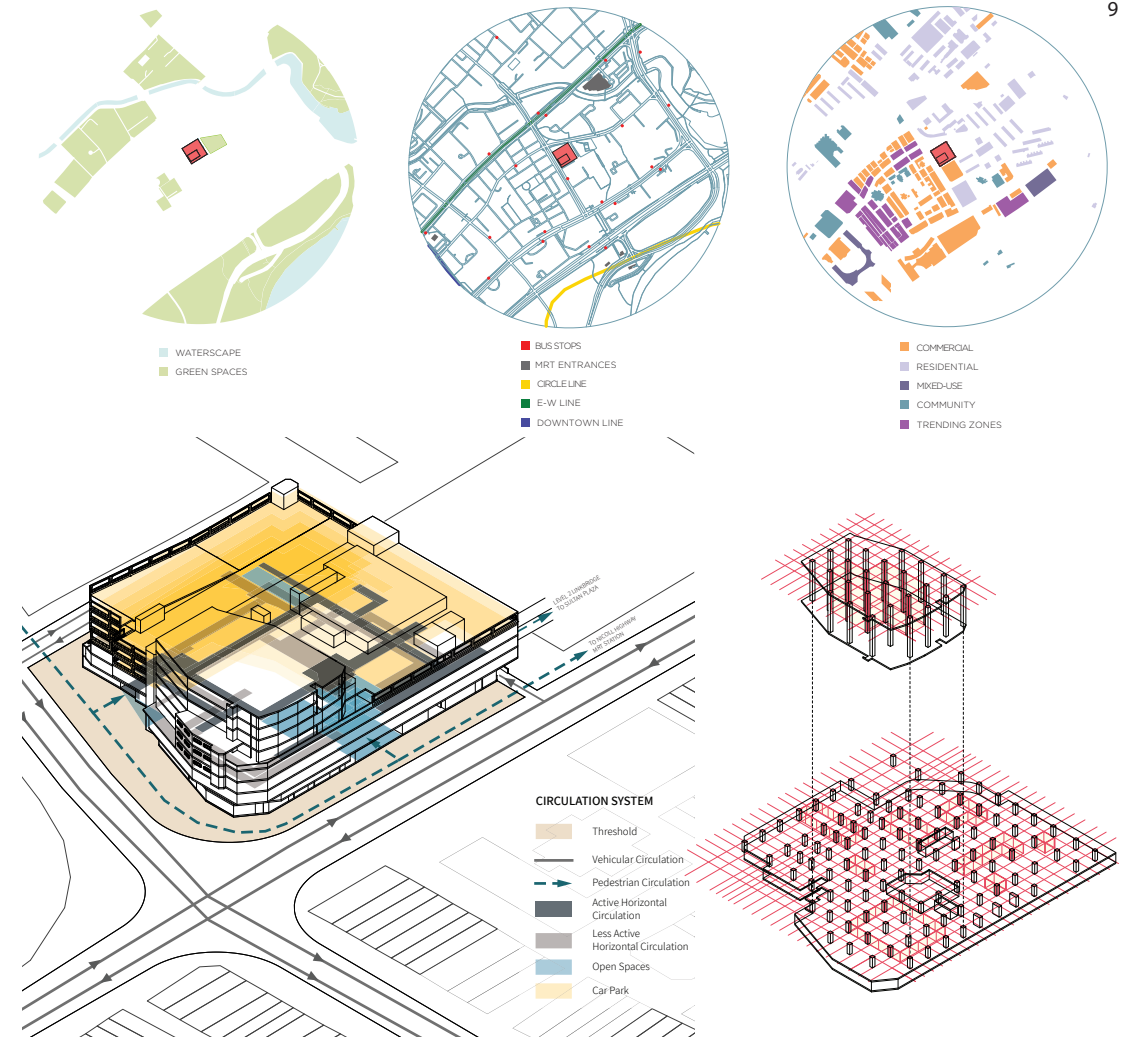
INTERVENTION

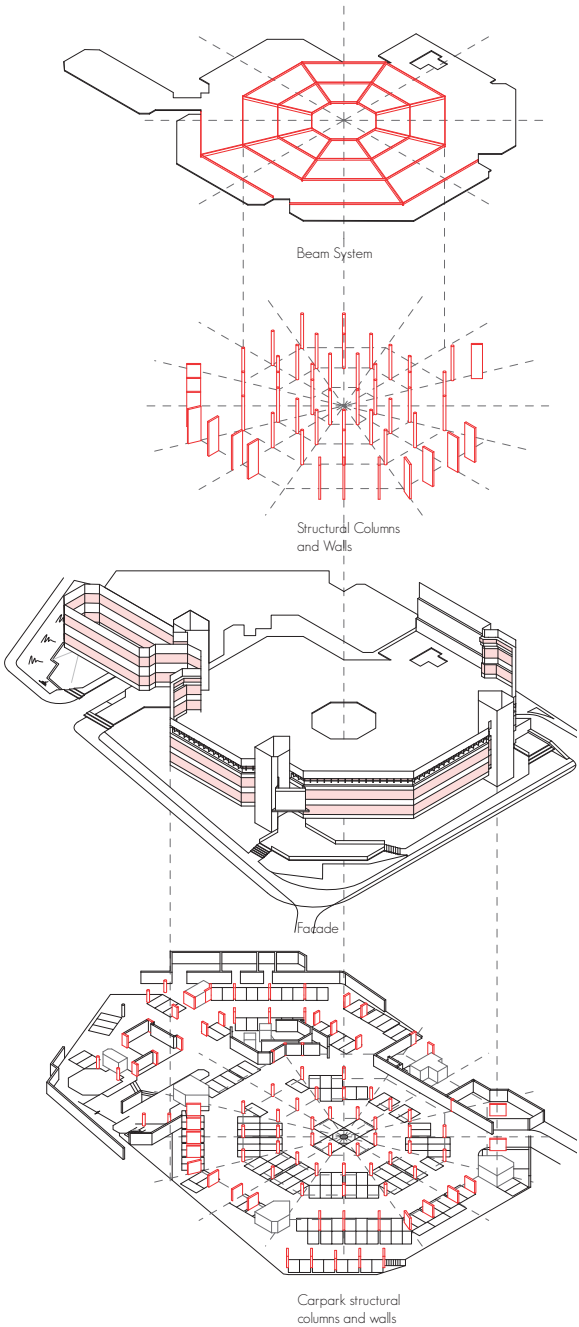
The intervention aims to utilize flexible spaces as an incubator to activate the zones within Textile Centre. Parameters are first defined as elements that are fixed, including the circulation routes and atrium spaces while the remaining spaces are then defined by the occupants and their required area. The proposal redistributes the 'activeness' of the different parts of the centre, preventing dead zones from forming.

FLEXIBLE SYSTEM

As with the current situation of the various subdivision of units in the Textile Center, it is logical to assume that the structural system of the mall is based on columns and beams. For the intervention to transform Textile Center, the proposal aims to remove all the existing partition walls and in place of these walls, the flexible partitioning system will be installed. Taking advantage of this flexible partitioning, spaces are potentially reactivated through the controlled subdivision, from the scale of the unit to the floor and to the building scale.

— Kerine Kua, Ong Ying Ying, Seah Wen Zhen, Shawn Low, Stella Loo





<Queensway Shopping Centre>

In a bid to retain the unique spatial quality which governs the mall while introducing elements which allow the shoppers to orient themselves and to bridge the gap between the frontiers of public and private, we propose the following series of measures:

The introduction of a green concentric ring bordering the mall which would extend greenery into the urban fabric while serving as a connection channel between the urbanity to the front of the mall and the green scape at the back. This creates a more layered experience which would not just reduce the abruptness between the frontiers of public and private, it would leverage upon the concentric circulation system and the effect it entails by building upon it.

Stripping the mall of its façade introduces the exterior into the mall. This retains the spatial quality of the concentric rings and the continued possibility to meander along its stretch but grants its users an ability to be aware of the paths they have crossed in relation to the views of the outside. This also allows natural daylighting to permeate the space which similarly reduces the divide between interiority and exteriority.

Removing certain clusters of shops which would slightly alter the spatial configuration of the space but allow the injection of differentiated programs as well as anchors in which its users can orient themselves. The disorientating effect which users experience in the space can be reduced by introducing greater differentiation along the concentric rings of the circulation system.

— Edison, Lim Kian Chong, Lee Xin Ting,
So Jing Wen, Zou Chu Chu

