Public Vertical Transition
A thought experiment on a pre-emptive response to rapid urbanisation in urban centers in effort to de-privatise the sky
Mathew Philip

Explanatory Document
A research project submitted in partial fulfilment of the requirements for the degree of Master of Architecture (Professional). Unitec Institute of Technology, 2016
I would like to thank, first and foremost, my classmates and friends. For without them this project would be nothing more than an unpursued idea. Specifically to both Emily Stephens, Reagan Laidlaw, Daniel Young and Neil Craig Rodrigues for their patience, understanding and unwavering support.

I would also like to acknowledge the help I received from every tutor that walked through my door, offering pieces of advice and constructive criticism.

Finally, I’d like to thank my family, for without their support and understanding, I would definitely not have made it through the 5 years of architecture it took to write this paper.
Abstract

The continuing growth of the world’s population and the subsequent trend of urbanisation increase the fear that the gap between science fiction and reality is closing. The urban fabric of cities are becoming denser. The built form is growing rapidly. The public realm is becoming over-crowded and stagnant with petrol-fuelled congestion. How are we responding to these fears that science fiction has predicted and continually highlighted over the last century? Does our city architecture need a radical change in order to prevent this future? Or is this future inevitable?
CONTENTS

1.0 Introduction
1.1 Background
1.2 Project Outline
1.3 Aims and Objectives
1.4 Research Question
1.5 Scope and Limitations
1.6 Methodology
1.7 Results

2.0 Future
2.1 Trends
2.2 Science Fiction Precendents
2.3 Futurist Literature Reviews
3.0 Present

3.1 Public Realm - Literature Reviews

3.2 Public Realm - Precedents

3.2.1 Sky Gardens

3.2.2 Sky Decks and Bars

3.2.3 Elevated Networks

4.0 Design

4.1 Critique of Auckland City

4.2 Design Brief

4.3 Site Selection
1.1 Background

This research paper explores the potential future of our urban environments, following the trend of urbanisation. The future effects of this trend could occur instantaneously, evoking unwanted but necessary changes to the way we inhabit cities; or these effects could be seemingly non-existent, taking decades or centuries before they force change on urban society’s way of life. As it is impossible to predict which outcome will eventuate, this project will investigate both possible outcomes in a current response.

Over the last century, science fiction films have presented society with multiple scenarios of our future cities. Cinema’s long-dated infatuation with architecture recognises its potential to express social order and condition, reflecting the fears and hopes of their time. The fear of urbanisation has often been represented as a dystopian future city, depicting overcrowding and elevated streetscapes leading to the vertical stratification of the social classes. These dystopian scenarios are still being depicted in films. The effects of urbanisation are starting to been seen in our current cities, yet the mentality of the design of our urban centres isn’t changing enough, bringing the once distant science fiction future closer to reality.

“The effects of vertical isolation are further exacerbated by its dependence on private capital and investment – hardly any tall building is generated through public funds. The results are cities that no longer imbue a quality of public space as the guiding principle of their urban fabric, but that are collections of increasingly isolated and self-referential objects.”

- Ole Scheeran

---

Cities are becoming increasingly taller and denser but the built form remains the same: Tall buildings that are insular, inward-focused and disengaged with the people of the city. Urban dwellers are confined to the public realm of streets and parks which are slowly becoming more shrouded in shadow and de-prioritized by vehicular traffic. We are beginning to see the implementation of elevated streetscapes in heavily urbanised cities, like Hong Kong\(^2\), in order to segregate vehicular and pedestrian traffic. It is only a matter of time before we see elevated streetscapes all around the world in urbanised centres. This project is a proactive response to these elevated streetscapes and aims to avoid segregation between ground and raised streets.


fig 1.1 - Conceptual artwork based on the film *Blade Runner* by Aaron Whitehead.
1.2 Project Outline

This project will attempt to de-privatise the vertical environment of our cities using a transitional structure in an effort to bring balance between the public usage of the ground and future elevated streetscapes.

Auckland City Centre is the fastest growing city in New Zealand, but is still relatively young compared to the mega-cities around the world. The city’s existing urban infrastructure has been slowly developed, but the Auckland City Council recognises the need to increase the rate of change to radically improve the quality of urban living for all.3

Auckland City’s willingness to radically change its urban lifestyle makes it the perfect city to become the subject of this project’s thought experiment. The design will examine the development of Auckland’s current and future infrastructure growth, in order to initiate an appropriate response. A look at the current street quality and vertical density will determine the predicted evolution of elevated streetscape pathways.

1.4 Research Question

How can public architecture de-privatise the vertical plane as a pro-active response to the future effects of rapid urbanisation?

1.3 Aims and Objectives

This research project aims to develop an innovative pro-active response which will become a positive catalyst for change in our urban life, instead of allowing the effects of urbanisation to force a negative reaction. We, as a society, are aware of the issues urbanisation poses, yet are unwilling to compromise our current urban lifestyle before it is negatively impacted. We are primarily reactive creatures; cause and effect. In order to ensure positive results we must design a catalyst for change, evoking a positive lifestyle change for its inhabitants. On an urban scale the project aims to improve the pedestrian network of both the existing ground and future elevated streetscapes, as well as access to public amenities throughout the city. With the increase in population comes a shift in demographic, primarily increasing the amount of children and elderly inhabitants, which the project will need to address in order to improve the quality of life of all its inhabitants.

On a micro scale, the project aims to mitigate the effects of social class stratification that might occur with the inevitable rise of elevated streetscapes. Even the current urban environment displays a clear segregation between ground public plane and elevated private spaces. This project aims to facilitate the vertical transition of the public.

---

1.5 Scope and Limitations

This project is focused on responding the speculative effects of future urbanisation, as developed after studying a range of future depictions. This form of speculation is a complicated and imperfect methodology, as “human beings are terrible at predicting the future because of how our brain works.”

Essentially our memory and perception is inherently incomplete, creating gaps that our brain fills in with the familiarity of the surrounding perception/memory so that you don’t notice; imagining the future works in a similar way.

The limitations of this project lie within this prediction. Since there are too many variables which can extrapolate exponentially and infinite possible events that can result in unknown ramifications, this project will instead fill the gaps with something familiar and comprehensible. Specifically with regards to the future of climate change, rising sea levels, peak oil, etc. This project will not aim to respond to these events in an effort to highlight the social & urban issues instead.

Similarly, this research and design is narrowed to respond to the urban issues pertaining to the quality of life. However, it will still provide adequate structural and sustainability responses during the design process.

---

1.6 Methodology

Future Response

This project establishes a future scenario through research of current trends of our urban environments around the world, futurist theories and science fiction film and literature.

The research compares an array of science fiction film’s depictions of dystopian futures, to our city’s current trend towards it. *Blade Runner* and *Metropolis* portrayed strong depictions of heavily urbanised cities, which aligned with the futurist theories of Le Corbusier and Hugh Ferris.

The commonalities of all three sources of research (film, literature and current trends) formed a rapidly urbanised future of Auckland City, for this project to respond to.

Research Response

This architectural research looks at both past and present solutions to the future established in the prior research. The projects research was to concentrate on a social and urban response, which resulted in looking at both Jan Gehl’s theories on the design of public space and Ken Yeang’s theories on reinventing the skyscraper.

Design Response

The design response used precedents in current cities around the world that are facing issues of urbanisation: Hong Kong and Bangkok primarily. Analysing their architectural responses and using the research found in public design and vertical theories, formed the architectural response of a transitional tower.
Predicting the future is an impossible task, but imagining a future can be used as a productive tool to examine a city’s urban issues. While following the eventuality of a singular trend or projected event might not result in the most probable future, it helps highlight the urban issues at play and frames an urban condition in its most exaggerated state.
Urbanisation is the migration of people from rural areas to urban areas, intensifying city centres and leaving the hinterlands and rural areas devoid of people.

This phenomena of migration has been observed since the Industrial Revolution. The ‘revolution’ itself became the catalyst that sparked a radical change to the urban lifestyle, giving rise to the modern-day city and an industry-focused centre of life. People working in agricultural farming communities flocked to city centres for wage work as opposed to seasonal income, but the cities’ existing infrastructure could not cope with this drastic increase in population. This demand was quickly met with reactionary housing, creating compromised living conditions and urban life.

While cities have also seen a reversal trend, with people migrating to rural areas, we are currently seeing a recurrence of Urbanisation, not unlike the effects felt by the Industrial Revolution. This rural to urban migration is projected to increase drastically over the next 35 years. Currently 50% of the global population are living in urban areas. By 2050 that figure is projected to increase to 80%. Auckland (New Zealand) has an urban rate of 35%, with our CBD being made up of 6% of the regional population. Auckland would be considered a developing city, trending towards the 60-80% urban population by 2050. Will it follow the trend of other developed cities and develop as they do? Or will innovation allow it to adapt now, while the infrastructure remains plastic and malleable in its operation?

As a city we are aware of these eventualities and possible consequences, yet we choose to only react when it negatively affects our way of life. We are primarily reactive creatures and do not like change unless forced into it. If another revolutionary phenomena were to occur, our cities will be as ill prepared now as they were following the Industrial Revolution.

---


fig 4.0 - drawing from the *Blade Runner* storyboard book depicting a dystopian future ground street level.
fig 5.0 - Collaged high-rise artwork from the 1929 film *Metropolis.*
Rapid urbanisation inevitably comes with a shift in age demographic. Even without a revolutionary event to cause mass migration into the city centres, the population increase alone will be enough to change the breadth of the cities age range, creating a populous that has a vastly different set of needs.

Traditionally city dwellers have been those that choose to live and work in the city, predominantly the young-middle aged demographic. However, as the city becomes denser, people of all demographics start to move into cities, those who may have been previously unrepresented. Auckland City’s current median age is between 25.9 to 30.7 years old, with only 2.8-4.5% aged over 65 years and 3.0-5.2% below the age of 15 years. This suggests that the urban fabric is more catered towards this young to middle-aged demographic, with public amenities and working opportunities being more suited to their lifestyle.

As the population increases with urbanisation, the need for publicly designed spaces and amenities to cater to the shift in demographic is important, otherwise we condemn the younger and older extremities of the public to an unfulfilling urban life. The younger demographic may develop “nature-deficiency disorders with physical inactivity, resulting in social and psychological ramifications and an increase in chronic disease,” while the elder generation could lose out on being socially integrated within micro and macro communities.

---


2.2 Science Fiction Precedents

Science fiction writers are not futurists. Instead of trying to predict the future, their intent is to make a point or an interesting story with their often exaggerated, stylised and dramatised visions of the future; with the result not necessarily the most likely outcome. These futures can be categorized as either a combination of Cautionary tales (“if this goes on…”) or Thought experiments (“What if?”). Cautionary tales create dystopian future visions by highlighting a current issue in society and extrapolating their negative consequences into the future. Thought experiments are similar to cautionary tales but they explore both the positive and negative impacts of a current or projected event or trend.11

Fritz Lang created a dystopian cautionary tale with *Metropolis*. In the wake of the Industrial Revolution and the First World War, Germany was going through economic and political change and Lang expressed the fears and troubles of 1927 Germany in a heavily stylised future.

Lang’s future city is one inspired by his visit to New York in 1924. He perceived a growing concern of inequality and social problems waiting to arise beneath the city’s modern finish. He believed the cities of the future would be “synonymous with exploitation, power, corruption and greed.”\(^\text{12}\) His imagined city for Germany was no exception. It is literally built on inequality, creating a physical representation of the social hierarchy at play. The working class is placed underground, in close proximity to the machines, with the wealthy living up above in their towers. Apparent in the film, is an issue of vertical gentrification where the stratification of social class and creed is directly related to their relationship to the ground plane.

The public realm of the street develops into the machine realm, with cars, trains and buses taking priority on not only the ground plane, but also the elevated streetscapes between the endless rows of towers. This is not unlike how the modern cities of today have developed, with our once pedestrianised streetscapes becoming car-ridden; where traffic lights prioritise the traffic flow of machines over people.

The pedestrian and public amenities of the upper class are segregated from the working class. The upper class have access to gardens, libraries, theatres and stadiums, while the working class are confined to the “working city”\(^\text{13}\) underground, lit artificially with large industrial elevators as vertical transportation. While the upper class have more access to these amenities, the film’s first person portrayal of space does not express these public amenities in an urban scale, giving the city a very dystopian and claustrophobic mood.

*Metropolis* presents a future where the city is owned by corporations who create a state of inequality within the social hierarchy of its citizens. The overall quality of public life in the city is diminished by the reliance on and prioritisation of automobiles. While it must be said this future is heavily exaggerated, it still remains an important cautionary tale of urbanisation and an over-reliance on machines.

---


13 *Metropolis*, Dir. Fritz Lang, Universum Film, 1927, Film.
Blade Runner (1982)

Ridley Scott’s 1982 cult classic depicted a very dystopian Los Angeles, 40 years into the future. With the help of futurist Syd Mead, Scott managed to capture and exaggerate the negative qualities of urban life that American cities were feeling in the early 80’s. Similarly to ‘Metropolis’, the future is set in a world run by corporations, resulting in the inequality of social classes. Where it differs is in the architectural adaptations and response to cultural migration.

The architecture of the future adapts to the changes without a sense of pre-planning or order. It is based on the principle that it will become too expensive to simply tear down old structures and replace them. Instead they are “retrofitted with pipes, transformers, and services to keep them relevant as the rest of the city evolves.” This is an important principle to account for as it sets the tone for the future aesthetic as well as functionality.

The films response to the ever-growing issue of overcrowding is to simply increase the scale of the city. From within these retrofitted old structures, rise 3,000ft (914m) high mega-structures that are connected with elevated streetscapes running between them at 70-stories high to give them a sense of scale from the ground plane. While this gives an architecturally quantifiable use of these streetscapes, its intention was to shock the public on ground level at the immense size of these capitalist mega structures instead of creating a less dominating effect for those on the ground.

The film depicts a strong Asian dominance in the street culture in the future. During the 80’s, America had a growing fear that the rising Asian migration would lead to a loss of the American way of life. Blade Runner transforms streets of L.A into streets resembling downtown Tokyo or Shanghai. Using retrofitted shop fronts seemingly haphazardly-placed on the street edges, the radical demographic shift is shown through white noise of multi-lingual chatter and neon street signage, indicating a foreign occupation. While it is hard to predict this cultural dominance shift in the future, architecture is very directly used as the vessel by which foreign customs and language are communicated to the predominantly westernised viewer. If architecture can be used as a device to communicate customs and language, it can also attempt to create an urban life that transcends the barriers that language puts up.

Blade Runner becomes an iconic depiction of dystopian futures through exaggerating the noise, grit, textures and congestion of American cities giving the film a sense of familiarity and grounding it in reality. When combined with a dense and overpowering urban centre, these moments of familiarity are juxtaposed against foreign scale of construction leaving the viewer with only small moments of recognition.

14 Blade Runner, Dir. Ridley Scott, Warner Brothers, 1982, Film.
16 Scroggy, Blade Runner Sketchbook, 73
fig 7.0 - Graphical artwork recreating the city scenery of the film *Blade Runner*.
fig. 8.0 - A still from the 2012 re-imagining of *Total Recall*. 
The 2012 reboot of Philip K. Dick’s original version is a thought experimental of a future where the global population reaches critical mass, resulting in chemical warfare in an effort to gain land and resources. The war leaves the world almost uninhabitable and becomes a way to segregate the remaining population with regards to their social class; Britain being the upper class and Australia the working class. The film reinforces many of the ideas that both Metropolis and Blade Runner share, while also developing the ideas on vertical transportation and the reactionary evolution of city mass.

The dystopian city has become one united mass, where rules, order and ownership are hardly defined. Director, Len Wiseman, followed similar aesthetic qualities to Blade Runner when depicting the architecture of the dystopian side of the world, but the sheer size and tiered levels draws more comparisons to the Kowloon Walled City in Hong Kong. Both seemingly evolved rapidly out of necessity to house residents on the lower end of the socio-economic scale. The mass of the city increased in density and height which reduced the entry of natural light into the labyrinth network of tunnels and alleyways. An equilibrium of chaos seems to inhabit the urban culture, as everyone uses the built form in different ways, but it is there to be used by the inhabitants. This paints a strong contrast to our current urban life in cities, where towers share nothing but the ground they reside on.

With the city buildings depicted as large and united masses, elevators are seen as the primary form of both vertical

and horizontal transportation. Circulation throughout larger and more public structures are addressed with this feature to increase the feasibility and use of the spaces. The protagonist uses one elevator to transport him through a multitude of directions to reach his destination.

While all three films, predict similar socio-economic and architectural responses, it is the continual depiction of dystopian urban lifestyle which poses the most concern. These issues were highlighted in Metropolis in 1927 to act as a cautionary tale for urbanisation. However, our cities have not resolved these issues, allowing them to continue their trend, resulting in similar depictions being made over the following century. An intervention needs to be made to deviate the trend from its current trajectory into dystopia.

---


19 Total Recall, Dir. Len Wiseman, Original Film, 2012, Film.
Hugh Ferris was considered an American futurist and architectural delineator of the early-mid 1900s. In a book published in 1929, Ferris critiqued the current state of urban and skyscraper design in order to project future trends of the Metropolis of Tomorrow. He writes a cautionary tale of what our cities will look like if nothing is done about it.

Ferris envisions a future city “composed of buildings which, without any modification of their existing nature, have simply grown higher and higher” due to the trend toward centralisation – the lure of the city. He acknowledges this is a solution, but warns of the growing concern of a loss of connection with the ground plane or public realm.

“Between the colossal inanimate forms are those mote-like creatures darting in and out among their foundations, there is such a contrast, such discrepancy in scale...What is the relation between these two?”

This effect could be seen in 1929 as well as in modern cities today. Buildings become increasingly taller, but the private or corporate nature of them disconnects them from the greater context of the city. Ferris describes the city as a stage set that human life acts out in, but believes the set isn’t designed at all; instead it is the composition of a multitude of individual forms lacking cohesion. While town planners are now heavily involved in the way our cities are developed, the planning remains two-dimensional. With our urban structures getting taller and taller, Ferris hints at a need to plan in the third-dimension in order to bring scale back to the city.

Ferris’ visions of the future are architectural responses to his critique of the 1920’s contemporary city. Overhead traffic ways and elevated streetscapes, depicted heavily in the aforementioned science fiction films, are considered the inevitable response to traffic congestion. Ferris believes it eliminates the grade crossing, allowing free-flowing pedestrian movement throughout the city. While his depictions of using bridge structures for mixed-use developments are some of the more innovative ideas yet to be realized.

The entire book strongly advocates the need for innovation in our urban environment in an effort to steer cities away from the dystopian futures depicted in some of his sketches. Ferris also admits that it will not be his generation that is most likely to realise these innovations, but instead puts the hope in future generations to respond as the issues become more apparent.

---

21 Ferris, The Metropolis of Tomorrow, 62.
22 Ferris, The Metropolis of Tomorrow, 62.
23 Ferris, The Metropolis of Tomorrow, 15.
24 Ferris, The Metropolis of Tomorrow, 15-17.
26 Ferris, The Metropolis of Tomorrow, 60-61.
fig 9.0 - Overcrowding charcoal drawing from Hugh Ferris' *Metropolis of Tomorrow*

fig 10.0 - Set back High-ways from Hugh Ferris’ *Metropolis of Tomorrow*

fig 11.0 - Elevated Streetscapes from Hugh Ferris’ *Metropolis of Tomorrow*
Le Corbusier’s take on the future of tomorrow is radically different from that of Ferris’ dystopian cautionary tale. Instead, Corbusier’s future is a utopian thought experiment based on the event of designing entirely new cities. *The City of To-Morrow and Its Planning* was first published in 1929, with a translated English version being released in 1987. It contained Corbusier’s fundamental principles of modern town planning for his city of three million inhabitants.

The utopian ideology can’t be applied to our existing cities which Corbusier acknowledges, but it still attempts to solve the same issues that arise through urbanisation. The planning of the city is summarized into four simple principles:

1. We must de-congest the centers of our cities.
2. We must augment their density.
3. We must increase the means for getting about.
4. We must increase parks and open spaces.

While Corbusier aims to achieve these in the planning of his new city, they can still be applied to the current and future cities affected by urbanisation.

Corbusier establishes a set of quantifiable rules in his plan of this new city following his philosophy that “the result of a true geometrical lay-out is repetition. The result of repetition is a standard. The perfect form.” The layout consists of twenty-four centralised skyscrapers, surrounded by two types of residential blocks for 600,000 residents, followed by similar residential blocks in the Garden Cities for a further...
2,000,000 people. This repetitiveness may represent “perfect form” but would fail to create any character or urban identity. Spaces and buildings would lack any form of unique quality resulting in a homogenised reality. As utopian as it sounds, it was considered a way to create a classless society, however the level of control Corbusier exerted over the city to limit the expression of individuality in built form was rather draconian in its intended deployment.

Corbusier’s intent to increase parks and open spaces creates a vision of vast and un-enclosed outdoor areas. His theory dictates that 95% of the land area in the city centre should be given to open space, resulting in large 2,400 yard by 1,500 yard parks, gardens and avenues. While this does increase the amount of park and open spaces in a city, the relative size and proportion can be considered a poor public space. Instead increasing the frequency and variety might achieve a more effective improvement to the quality of urban life.

While Ferris looks at the growth of our existing cities, Corbusier looks at the design of a completely new city. The latter is completely unfeasible in the event of rapid urbanisation as the cost and timeframe required to respond to the influx of people would make the exercise futile. However, the point of difference is Corbusier’s emphasis on increasing the open space within the public realm, which Ferris and the other science fiction precedents overlook. As a result, Corbusier’s depiction is more utopian than the dark and brooding dystopias of the other science fiction models.

33 Corbusier, The City of To-Morrow and its Planning, 171-172
Fig 12.0 - A drawing from Le Corbusier's *The City of To-morrow and its Planning.*
The future of our cities, as explored in the above texts, can be depicted in a multitude of different ways. However, they share many commonalities that shape framework of a growing city under the effects of urbanisation. The inevitable rise of elevated pedestrianised streetscapes to respond to the rapid influx of people is common in all the imagined futures. Science fiction films suggest the elevated streets create vertical gentrification or segregation of classes. The vertical gentrification is caused just lifting (or lowering, in Metropolis) a new streetscape and creating two separate cities. An imbalanced relationship is created, as the upper streetscape gains access to all the desired amenities of natural light, air and beautiful vistas.

Vertical segregation is reinforced by the lack of vertical access and the relationship between the two streetscapes. The high-rise typologies connecting the two planes are based on the existing skyscraper typology. Commercially-driven efficiency of stacked floor plates and insular vertical circulation does not encourage the public transition between streetscapes.

An innovative response to this effect: a public skyscraper that will act as a transitional structure between the two streetscapes. It will increase and elevate the public realm in terms of streets, parks and amenities and provide balance between the existing ground plane and elevated realm.

Conclusion
This research into the future effects of urbanisation shows a distinct lack of equality to public amenities and urban lifestyle. To understand how Auckland City will react to these impending effects of urbanisation, the research needs to explore how cities are responding to the less-dramatized issues in our current architecture.
Ken Yeang is an architect who specializes in ecologically responsive high-rise and large-scale designs. He has developed a vertical theory on urban design which serves as a key precedent for the design of a transitional structure. Yeang understands the need for place-making in high rise structures as well as providing further exploration in improving the relationship and accessibility to the ground.

Yeang’s theory presents the idea to break up our existing skyscraper designs with de-compartmentalisation of space. Our existing tall building typologies are stacked spaces in spatial segregation. They do not interact with each other within the building, but instead are “isolated, homogeneous enclaves devoid of the diversity and richness of life that exists at the ground plane.”\(^\text{35}\) He proposes a more organic spatial arrangement that creates visual and physical linkages that can start to enhance the movement throughout a high rise building.

Yeang believes that these streets need to be clear links to their destination, promoting pedestrianised movement instead of using elevators. Elevators create isolation from social and physical engagements, and while they are a necessity in high-rise design, they don’t have to be the key form of vertical circulation. Instead create pedestrianised routes that are positive, safe, direct, accessible and free from barriers\(^\text{36}\) to promote this journey and leave elevators as the secondary form of transport.

The idea of a public structure is to limit the amount of control exerted on the way people use the space. Routes should lead to where people want to go, but still provide a variety of open-ended, well-connected networks to ensure users can move freely throughout the building without being herded down heavily trafficked streets. To achieve this, Yeang suggests the layout needs to have frequent points of access into and through the precincts, convenient and direct routes, clear views, easy orientations and wayfinding and a form of traffic dispersal and flexibility to allow long-term adaptation and change.\(^\text{37}\)

The journey needs to be activated, but not overrun. By completely segregating the high-speed and slow-moving traffic, it creates a safer space to move through, however this can lead to more instances of that space being inactive. Having both lanes of movement becoming visually connected can activate the space just by having more movement.\(^\text{38}\)

---


\(^\text{36}\) Yeang, Reinventing the Skyscraper, 156.

\(^\text{37}\) Yeang, Reinventing the Skyscraper, 156-157

\(^\text{38}\) Yeang, Reinventing the Skyscraper, 156-157
fig 14.0 - Conceptual designs of how to vertically elevate the public realm from Ken Yeang's text

fig 15.0 - Vertical elevation of the public plus the horizontal connections to surrounding buildings.
Jan Gehl is an architect who specializes in analysis and design of town planning and public space. His text, *Life Between Buildings* explores the relationship between people and spaces, defining how they move through and interact with a variety of spaces. Gehl discusses how to create lively spaces based on this analysis, which will inform how to activate spaces on the vertical plane.

The quality of a city’s public realm defines its ability to create instances of social contact or interaction. The public realm is used in everyday life, by everyone, so how well they are designed will determine the positive or negative effect it will have on urban life. Gehl believes the public realm needs to provide desirable conditions for three forms of activity in order to be successful: necessary outdoor activities, optional, recreational activities and social activities.

Where necessary and optional activities overlap is where social activities take place. Gehl describes necessary activities as a compulsory activity which usually linked with walking; going to work, school, shopping, anything that will happen regardless of the physical environment or conditions. In contrast, optional activities occur when these conditions are favourable; outdoor recreational activities, sitting, a leisurely walk, etc. The resultant of the two are social activities, a spontaneous reaction to the presence of others in the public realm participating in these activities. These social activities include “greetings, conversations, conversations, conversations.”

---

communal activities and finally – as the most widespread social activity – passive contacts, simply seeing and hearing other people.”

Gehl further analyses the levels of social interaction to define what isolates or engages people. He uses Edward T. Hall’s definition of social distances to understand the scale of spaces and how they will be used. While intimate distances (0 to 45 centimetres) and personal distances (0.45 to 1.30 metres) require an existing connection, it is the social distances (1.3 to 3.75 metres) and public distances (greater than 3.75 metres) that become important to create new social interactions. Public distances specifically allow someone to see or hear an event take place without having to be directly involved.

However, Gehl believes that these interactions are ineffective across shifts in the vertical plane. He suggests that interaction across multiple levels further isolates people as it becomes difficult to move upward or downward, converse upward or downward and look upward or downward. Gehl uses balconies at concerts as an example of this being the incorrect way to view the event as it designed to be viewed at stage level, directly engaging with viewer’s field of vision. While it conflicts with some of Yeang’s ideas on split floor and mezzanine public interaction, it reinforces the idea that the ground plane should remain continuous, even if it is at an increasing gradient, in order to strengthen the level of social engagement.

The culmination of his research results in 12 key design principles a public space should aim to achieve:

1. Protection from traffic and accidents.
2. Protection from criminal activity and violence.
3. Protection from unpleasant sensory experiences, (poor environmental conditions).
4. Possibilities for walking.
5. Possibilities for standing and staying.
6. Possibilities for sitting.
7. Possibilities for interesting views.
8. Opportunities for passive interaction/conversations.
9. Opportunities for inviting physical activities, play, entertainment.
10. Achieve human scale.
11. Opportunities to enjoy the positive aspects of the climate.
12. Overall aesthetic quality.

40 Gehl, Life Between Buildings, 12.
41 Gehl, Life Between Buildings, 69.
42 Gehl, Life Between Buildings, 65.
43 Gehl, Life Between Buildings.
fig 3.1.3 & 3.1.4 - Drawings from Jacob’s Great Streets.
Allan Jacobs is an urban designer who researched and analysed great streets around the world. He explains his take on the role a street plays in its societal context and builds list of criteria that make a street great. His theories on public space design in this book specifically targets the street, which provides a good research that supplements Jan Gehl’s research.

Jacobs goes through hundreds of case studies to determine the role a street has in society. He understands it is more than just a linear transitional element, more than a public utility, but in a “very elemental way, streets allow people to be outside.” It is the primary place for social encounters for all demographics, just requiring the public to engage with other and a desire to participate.

Jacobs admits that defining the physical characteristics of a great street is tricky. There are a vast array of “great streets” that are completely different. However, he explains some tangible and intangible criteria that great streets share:

- Primarily, Jacobs believes that a great street should help make community, facilitating in the engagement between the public.
- Accessibility to these streets should be easy to find and open to the engagement of “all kinds of people, not just one class or colour or age.”
- It should be the most desirable place to spend time and live, work and play.
- The street should be physically comfortable and safe from the harsh environmental conditions and mitigate overcrowding.
- The street should not present a sense of confinement.
- The best streets encourage participation aligning with the spectrum of engagement that Gehl explains.
- The great streets are the ones you remember, has a lasting memory of being better than the rest.

The culmination of his research explains the role of streets providing a public space that free the public from their social class system, and how it can be designed to achieve social participation and engagement. Jacobs presents the great streets of our time and explains how powerful they can be symbolically, ceremonially, socially and politically.

---

45 Jacobs, *Great Streets*, 8-9
46 Jacobs, *Great Streets*, 8
3.2 PUBLIC REALM

3.2.1 Sky Gardens

Reasons for Visiting Sky Gardens

Reasons for Not / Seldom Visiting Sky Gardens

Values of Sky Gardens

There has been an increasing desire for natural light and fresh air in our urban environments, stretching back to the 1920s.\(^47\) This led to the utilisation of the set-back zoning laws to create terraces with green spaces and became a frequent sight in the ever-increasing height of American cityscapes. These terraces, however, were a private outdoor space; an affluent amenity within the urban centres. With the built environment increasing in height and density, the public realm was reduced and what was left began being over-run by vehicles. Shrouded in shadow by these immense private buildings and clouded with smoke from the traffic pollution, the public realm on the ground level is increasingly undesirable while also reinforcing the socio-economic inequality of urban life in modern cities.\(^48\)

With that in mind, sky gardens and other elevated public spaces are being implemented in our existing skyscraper typologies to cater to the public need for increased natural light, fresh air and a sense of equality among the capitalist structures that dominate our cities.

“The higher we live from the ground level, the more disconnected we feel from the natural world and even from each other within a community.”\(^49\)

---

\(^{47}\) Ferris, The Metropolis of Tomorrow, 59

\(^{48}\) Ferris, The Metropolis of Tomorrow, 59-66

Sky Gardens in Hong Kong

In 2001, the Hong Kong government developed a set of design guidelines to promote the development of sky gardens and urban living. They believed it would improve the quality of urban life with benefits to the social, economic and environmental concerns of the city. Urban planner and architect, Tony Ip, heavily critiques the benefits and effectiveness of sky gardens in the city to see whether or not these guidelines have indeed, improved the quality of urban life.

The design guidelines give physical characteristics for sky gardens to maximize their social, economic and environmental effectiveness.

The key design aspects are:

- The maximum number of sky gardens should not exceed the number of storeys.
- It should be split into multiple levels, with the minimum height no less than one-third of the floor plate.
- The first sky garden should be no higher than 10 storeys from the street entrance.
- Needs to be open-sided to allow for cross-ventilation.
- A minimum 25% of the floor plate area to be vegetated.

Ip agrees with these design guidelines but believes they are not being implemented in the current design of sky gardens in Hong Kong. The monetary gain with these developments out-weigh their drive for improving the quality of urban life. Ip’s case study of 20 sky gardens showed that only 2-3% of the buildings overall height was being used for sky gardens and that two-thirds of them were placed within 80-150m above street level. He suggests that this level of street disconnect does not encourage ease of access or use.

Ip’s user group study shows that only 26.7% of residents visit the sky gardens on a weekly or monthly basis, with no residents visiting on a daily basis. The residents’ main purpose for visiting were for their landscaped gardens and scenic outlook, and also for a peaceful retreat. However, the main reasons for not visiting were: “too windy, difficult to access, safety concerns and insecure sense”.

The sky gardens only appeal to a specific demographic. Ip’s analysis show that the average age group of users is between 25-40 which leave out children and the elderly. The sky gardens are not designed to encourage these two demographics to use the space, even though they would be able to activate the space at different hours of the day.

While this research is primarily aimed at sky gardens in residential developments, it gives design parameters that can inform the bulk and location of these elevated public spaces along the vertical plane.

---


51 ibid.

52 ibid.

53 ibid.

54 ibid.
The Sky Garden, more commonly known as the ‘Walkie Talkie’, is a 38-storey building in the financial district of London. The top three floors are a self-proclaimed public park with 360 degrees of uninterrupted views across the city. It has sparked a lot of controversy over its design, but more importantly its public use.

The Sky Garden was marketed to the public and to town planners as a free public park, however the result falls short of this intent, and is arguably only a slight improvement on major elevated landmarks. The intent was to allow public “free access to the top with wonderful views across London”\footnote{Andy Dangerfield, Walkie Talkie skyscraper's public garden opens amid criticism, http://www.bbc.com/news/uk-england-london-30709757 (accessed 10th July 2015).} however, the building’s vertical access comes with many restrictions in attempt to privatise or control the clientele use. To gain access to the Sky Garden, patrons have to book a week in advance, be in a group of less than six, and leave before 6pm (unless they eat at one of the three restaurants)\footnote{Dangerfield, Walkie Talkie skyscraper’s public garden opens amid criticism.}

The garden or park aspect of the space is more of a novel addition to a stock standard observatory deck. The green space is primarily a visual feature, unable to be used like an outdoor park. The room temperature is artificially controlled, as it needs to be quite low in order to acclimatise the vegetation to the environment. Combined with the airport-lounge type foyer and seating\footnote{A Pigeon, The Sky Garden V The Shard, Talking Pigeons, 22\textsuperscript{nd} January 2015, http://talkingpigeons.com/pigeon-post/sky-garden-v-shard/, (accessed 25\textsuperscript{th} September 2015).}, it is not a place you can just wander down with your packed lunch and relax in. Instead it is an observatory that boasts one of the best views across London.
Conclusion

Individually, these sky gardens and elevated public spaces do not achieve the potential or the initial intent of their design intent due to the lack of accessibility to the elevated heights. However, used in combination with the science fiction and futurist depictions of elevated streetscapes, these streetscapes can increase the level of access and achieve truly public sky gardens.
3.2.3 Sky Decks and Bars

The key difference between a ‘Sky Garden’ and ‘Sky Deck’ is that the former presents itself as a free public space, while the other is commercially driven. This results in very different atmospheres and levels of accessibility between the two.

Bitexco Financial Tower
Ho Chi Minh City

The Bitexco Financial Tower is a 68-storey skyscraper with both a sky deck and sky bar, but the primary function is still an office building.

The first 6 floors are comprised of broken retail and food court elements with a cinema complex. These public floors are very disjointed as the shops are on multiple levels without multiple levels of access, there are multiple levels of security checks which provide you access to the different levels of private and semi-public areas which are hard to navigate through due to the chaotic array of escalators, stairs and elevators.

The sky bar is free to access on the level 52, but the access is hidden away not promoted from the main lobby. The public have to go up three floors, find an usher, and get taken for a walk to some hidden elevators on a floor below before being taken up to the sky bar. You are instantly ushered to some seats upon arrival so you feel obliged to engage after your vertical journey. While it is still free to access, the sky bar does not feel like a free experience. They restrict your movement and access throughout the “public” spaces, even more so than a bar you’d find on the ground.

The sky deck is accessed from the side of the tower, and can’t be entered through the main atrium which creates a clear disconnect between the buildings primary function and the elevated public realm. While the cost is relatively minimal, you’re paying to go up 49 floors to an empty and sterile floor where there a more staff than members of the public. It is purely a tourist attraction, where it commercialises an elevated view of the city of Saigon.58

58 Experienced first-hand in Ho Chi Minh City in January 2016
Conclusion

This is not an isolated typology, as the same experience can be seen all over the world, from the Shard in London to Auckland’s Sky tower. They all follow the same design mentality of commercialising city vistas, disregarding notions of public space and accessibility. Businesses are capitalising on the lack of public access to elevated spaces in urban centres. While if we increase their availability to the public, these spaces and vistas will lose their commercial and privatised exclusivity.

fig 21.0 - Photo taken from the Sky Deck Entrance around from the main lobby and shopping entrances.
3.2.2 Elevated Networks

Pedway - London

The effects of World War Two on the London infrastructure created an opportunity for city planners to innovate and attempt to realise the utopian vision of elevated streetscapes above the fast-developing car-centric cities. Developed by architect Charles Holden and William Holford in 1947, this network would repair the bomb-damaged areas of London and create a first floor pedestrianised network throughout the city. The success of the London Pedway was short-lived, largely in part, due to the lack of public awareness and relationship to the ground.

While the intent was to alleviate the pedestrian’s movement throughout the city, it failed to create a balance in its relationship to the existing street fabric on the ground. The network winds itself along and in between building’s podiums and secondary foyers, but lacked accessibility or visual understanding of its navigation from both ground and elevated streets. People had to find stairs that led to a pedestrian deck, which allowed them to access the second-floor lobby of an office building they were standing in front of to begin with.

Human beings are like water, they always move through the path of least resistance. The aim of the pedway was to increase the ease of movement throughout a city, but instead pedestrians often had to climb up stairs to an empty deck and down stairs to the other side. Human beings, in general, will not want to deviate from a more direct path unless it offers ample appeal that justifies the deviation. “It’s not laziness, it’s efficiency” that lead to pedestrians essentially choosing to remain on the ground rather than getting lost in the pedway above.

The pedway closes the gap between reality and the once-fictional ideas of elevated streetscapes. However it highlights the issue of planning rather than the architectural intervention, as it is the maze-like connections that led to the eventual abandonment of the project in the 1980s. If the elevated network can create a strong and more frequent connections with the ground and allow more connections to surrounding buildings, then it can become a successful innovation.


Calgary’s *Plus 15* is considered the world’s most extensive elevated pedestrian streetscape network. Developed in the 1960s by architect Harold Hansen, it was to become a social and environmental response to the decrease in pedestrian activity on streets due to the increase in car ownership in the city as well as Calgary’s harsh winter climate. The success of this network compared to the London Pedway came after more care went into the planning to improve the quality of life for the urban dweller in terms of street comfort and accessibility. The entire elevated network is an extension of the public realm allowing urban dwellers to engage with the built environment. The ever-growing network of streets – currently at 18km – are fully enclosed sky-bridges, publicly accessible 24 hours a day. At 15 feet above the ground, the network directly engages with the surrounding buildings, with the government promoting zoning bonuses to encourage the design of publicly accessible floors; which at this level usually becomes commercialised or turned into a public foyer. This aspect compared to the ‘London Pedway’ is the main reason for its success, as the network simply becomes an extension of the existing street and is not a deviation as the destinations are all above ground. The downside to the success of the 15+ network, in terms of street activation and usage, is that it has turned the ground plane, within the city centre, into a lifeless, car-ridden space. As commercial and retail gain is focused on the heavily populated elevated network, the entire pedestrian street cultures has just lifted off the ground, creating a clear segregation between car and pedestrian networks.

A solution to the imbalance of street activity vertically could be explored using Hugh Ferris’ idea of shop front innovation on an urban scale, where “a shop would in fact have two main entrances: one above for the pedestrian customer and one below for the customer in his car.”

---


fig 23.0 & 24.0 (above and below) - Photos of the connecting bridges that make up the 15+ Calgary Network.
fig 25.0 (right) - A map of the entire 15+ network of skywalks and elevated public spaces
Cities Without Ground - Hong Kong

Hong Kong’s elevated streetscape network is the closest realisation of science fiction’s future depictions of heavily urbanised cities. It is the product of top down planning with bottom up solutions resulting in an intricate level of three-dimensional spatial thinking. The network has evolved over time, “built by different parties, at different times, to serve different immediate needs”, the result is a piecemeal network.

However, this network is comprised of privately owned public spaces which creates an uncertain ownership of space. People are free to navigate through the complex network during the day, but as retail and commercial functions shut down, the public are often excluded from these spaces forcing them to navigate the ground plane, overrun by cars.

---

65 Adam Frampton, Cities Without Ground: A Hong Kong Guidebook, (Hong Kong: ORO Editions, 2012),

66 Frampton, Cities Without Ground

fig 26.0 - A drawing from the text of the elevated and depressed walkways in West Kowloon, Hong Kong.
Similarly to the conclusions drawn from the science fiction research (refer pg. 27), our cities’ response to urbanisation has been reactionary. Cities have responded to the trend of urbanisation only when it negatively impacts their way of life. This reactionary method results in a piecemeal city instead of designing the public infrastructure as one cohesive unit. In all examples of elevated streetscapes, the city has just lifted off the ground vertically, segregating itself from the existing ground. Except for the London Pedway, where the public rejected this change as it didn’t provide any of the positive qualities found on the existing ground. If a city pro-actively responds to a future issue, it will create a stronger integration into the existing urban fabric as it is not being dictated by the effects of change as they happen.

Conclusion

Similarly to the conclusions drawn from the science fiction research (refer pg. 27), our cities’ response to urbanisation has been reactionary. Cities have responded to the trend of urbanisation only when it negatively impacts their way of life. This reactionary method results in a piecemeal city instead of designing the public infrastructure as one cohesive unit. In all examples of elevated streetscapes, the city has just lifted off the ground vertically, segregating itself from the existing ground. Except for the London Pedway, where the public rejected this change as it didn’t provide any of the positive qualities found on the existing ground. If a city pro-actively responds to a future issue, it will create a stronger integration into the existing urban fabric as it is not being dictated by the effects of change as they happen.

fig 27.0 - A conceptual drawing from the text of a public tower.
DESIGN PROCESS 4.0
4.1 Critique of Auckland City

Auckland City has been critically appraised, by Jan Gehl, in its efforts to improve the quality of public space within its Central Business District (CBD) borders. Auckland has been putting forward new master planning initiatives with the aim of “creating a more attractive, liveable and diverse” city centre. However, Gehl believes Auckland is still a car-centric city, and while the plans to develop public space is excellent, it still needs to radically shift away from the prioritisation of cars and its streets.

Auckland City’s car-focused city have resulted in a disconnected pedestrian network through its streets. As Auckland City receives a high daily intake of vehicular traffic, the streets have been developed around this effect; widened arterial streets forming a series of one way traffic flow. This street development increases the speed of traffic flow, but increases the pedestrians’ difficulty in crossing these main roads.

The pedestrian flow is constantly disrupted throughout the city with the abundance of potential stops. This can be remedied by prioritizing pedestrian phases on traffic lights, which is seen on Queen St. Other arterial streets which are not pedestrianised create long waiting times and can exposes pedestrians to unfavourable physical conditions. This needs to be addressed in order to create a strong pedestrian friendly city.

Gehl also highlights the issue of a lack of urban open spaces and an incomplete network between existing opens spaces/parks. While we have an abundance of green space along the fringe of our CBD area, our urban open spaces make up a fraction of that. Considering these urban open spaces will be the most heavily used due to its location to the city epicentre, it becomes an opportunity to develop more in an effort to create a stronger network between the existing open spaces.

Auckland has identified with the trend of urbanisation, and has responded by trying to develop better public spaces within the city centre. However, it is disadvantaged by the way it has developed the city streets to cater to the city’s dependence on cars. These trends correlate with the research conclusion drawn from Chapter 2.0. While we could explore the event in which cars become obsolete, due to the focus of the design project, Auckland’s response can assume to align with that of Calgary and Hong Kong and give rise to elevated streetscapes.

---

71 Peak Oil, Global warming, and any number of unforeseen events that would render it impractical to drive a private car.
A disconnected waterfront

Separated from surrounding districts

A car dominated city

An incomplete pedestrian network

Lack of open space network

A high city
fig 29.0 - Diagram of the Current typology of elevated public space

fig 30.0 - Diagram of the Current typology elevated streetscapes.

fig 31.0 - Elevated streetscape with elevated public realm allows for just horizontal free-flowing movement, minimal and private vertical access.

fig 32.0 - Concept Diagram of *transitional structure* allowing the ease of public transition vertically to connect horizontally to the elevated streetscapes.
4.2 Design Brief

This research speculates a look into Auckland City’s future after establishing its current state, and predicts that the urban infrastructure will result in the addition of elevated streetscapes into the built environment as a response to urbanisation (see 2.4). This design project is thus a radical and innovative proposal in response to the issues of vertical gentrification and de-privatisation of the built environment, developed through the research.

The project proposes a *transitional structure* that aims to create a socio-economic equilibrium between the elevated and existing ground streetscapes. To mitigate the issue of the vertical stratification of the social classes, the *transitional structure* will provide the public with unrestrained opportunities to move vertically within our Auckland City.

The design will also look to elevate the public realm in an already thriving social area, as it establishes a strong baseline for projected use in the area. This project has previously established the expected growth that Auckland City will receive over the next 35 years (ref. 2.1 Urbanisation), so these spaces must look to provide public amenities for a younger and elder demographic, while maintaining or improving on the quality of life it already provides for the 25-65 year old range, as it will still continue to be the majority demographic in Auckland.

During the design development, the process will be continually evaluated against the principle of strengthening the relationship between public space and the built environment in a vertical nature.
4.3 Site Selection

Location – Within close proximity to existing or proposed transport services, and in a relatively dense site.

Accessibility – Prominent public location with an existing high pedestrianized traffic flow. High number of street frontages.

Existing State – Empty and under-developed section, typical of inner city parking developments

Form – Active typography creating multiple levels of accessibility.

Size – Large enough to accommodate 1:20 ramps circulating the perimeter, as well as provide adequate space for informal recreation spaces.

Vertical Density

Auckland has relatively low vertical density compared to other mega cities. These maps explore this density in order to find a suitable location.

Auckland has only 35 buildings in the city that stand at least 70m tall. To compare levels of urban growth, we have zero buildings over the height of 183m, while of a 5,845 high-rises in New York 101 are 183m or taller.\(^{72}\)

---

**Pedestrianized Zones**

These maps depict the heavily pedestrianized areas which highlight the currently thriving pedestrian zones around the city. The preferred pedestrian movement throughout the city.

The following maps depict the main pedestrian routes and cycle routes throughout the city.

---

**fig 34.0 (right)** - Map from Auckland's Central District Plan showing the pedestrianised zones.
- Purple = Pedestrian Orientated,
- Green = Non-Pedestrian Orientated,
- Grey Crosshatch = Precincts and Quarters

**fig 35.0 (middle)** - Map diagramming the key pedestrianised roads in the city.

**fig 36.0 (far right)** - Map diagramming the pre-defined cycle routes around the city.
Arterial Traffic Routes

This map depicts the classifications of road use running through Auckland City. The site should allow street frontage to at least two car-prioritised streets in order to provide a response to the pedestrian disconnect that occurs due to the nature of the road.

fig 37.0 - Map overlay drawn from the Auckland City District Plan highlighting the street types for vehicles.
New Public Transport Networks

This indicates the proposed underground Central Rail Link (CRL). The proximity of the chosen site to this network would provide the opportunity to increase the pedestrian flow throughout the site.
Public Space

This map identifies the spread of open space, as talked about in Chapter 4.1, and disconnect between these existing public spaces. The aim is to establish a site that can work to create more urban space, while also creating a network between it and the existing spaces.

fig 39.0 - Map diagramming all the open public spaces throughout the city.
Empty Sections

The final map highlights empty and un-developed sites around Auckland, primarily open top parking lots, which have the opportunity to be developed up. This responds to the aim of not demolishing a building in order to create this new typology of architecture.

fig 40.0 - Map diagramming all the empty sections throughout the city.
fig 41.0 - Map diagraming the potential two sites along the main arterial road Queen St. The blue line represents their CRL link opportunity and the red dotted line their potential elevated streetscape connection.
Site Analysis

Overlaying all the maps resulted in a few different sites that could work. This strengthened the idea that it would become part of a greater network throughout the city and not just an isolated response. However, the street frontage, proximity to existing tall buildings and an existing thriving ground streetscape meant that the Victoria-Albert Street site fulfilled all the site selection criteria. This site will be the origin point of the vertical extension of pedestrian network.
4.4 Programmatic Function

4.4.1 Vertical Circulation

The primary function of the transitional structure is to facilitate the vertical transition of the public within a city, creating clear and strong connections between the ground and elevated streetscapes. These streetscapes are depicted in the films stated earlier in the document, as well as many others, but the physical link between them is often left unimagined. This shows a clear dis-connect between the two streetscapes and the people who reside on them. Instead, this transitional structure will look to become an extension of the streetscape itself, extending the primary public realm of the existing streets up throughout the building connecting with the elevated streetscapes.

This vertical connection will be comprised of two main forms of circulation based on Ken Yeang’s theory on vertical and horizontal city movement73. Yeang explains the need to reprioritize pedestrian networks throughout a city, he believes that ramps and stairs within our tall structures need to be well designed in order to encourage pedestrians to take this path over the more direct elevator route. His theory aligns with this project’s idea to extend the street throughout the building in the form of a continuous ramp as the primary form of vertical movement.

The secondary vertical transition element will be lifts to support the ramp in a more direct manner. However, in order to prioritize the pedestrianised path, the design of these elevators will need to appear more chaotic and in-direct like the overpasses in Bangkok or the London Pedway. The difference is that the seemingly more direct path will be more comfortable than crossing the traffic laden streets of Bangkok.

Re-creating this effect of ordered chaos with regards to elevators, could be achieved with a combination of angled lifts and transitional floors. This will create very direct paths to the elevated streetscape levels as well as the internal semi-public levels; while also producing a visually confusing vertical path as the elevators will be disappearing through the floors above on angles. This will promote the pedestrianised streetscape being visually more direct and clear about it path and destination.

---

fig 42.0- Diagrams showing the the hierarchy of vertical transport throughout the *transitional structure*. 
4.4.2 Ownership

24/7 Access

In order to facilitate the vertical transition of the public without creating further privatisation and segregation from occurring, the transitional structure needs to be accessible 24/7. The public of all demographics should be able to move vertically unhindered and unrestricted, it is not a mall or train station, it is an extension of the public street. In order to create this level of openness internally, it needs to resolve issues surrounding security, maintenance and ownership.

Since the transitional structure is essentially an extension of the street, the internal environment will be treated much the same. The circulation ramps and public focal points will be government run and maintained; the internal businesses and accommodation will participate in the maintenance of their relevant areas.

Security will be treated the in the same respect as maintenance. In Hong Kong’s and many other skywalks that connect to retail malls type ‘public levels’, the public are ushered out after retail closing time and there is a level of uncertainty on whether the spaces should be open outside these hours to allow better accessibility to the pedestrianized network. Given the 24/7 accessibility of this project this level of security and uncertainty is unnecessary. Businesses and public spaces will employ light security to just keep an eye on the place, while police will deal with the more serious matters.

---

74 Adam Frampton, Cities Without Ground: A Hong Kong Guidebook, (Hong Kong: ORO Editions, 2012)
Elevated Network Ownership

The ownership of the transitional structure will be government owned and run much like any other public space developments but the surrounding buildings that connect to the tower are still normal business driven structures. The premise of these existing and future commercial towers will need to change to incorporate public levels and access into their design as part of a planning kickback/bonuses initiative.

The government offers bonuses in the form of relaxed building regulations that would normally restrict the height, occupation, design, etc to buildings that incorporate public space into their buildings design. Around the world, the retail podium or semi-public squares are seen in large towers where they were given extra height or monetary gain from the kickbacks. However, these are usually implemented on a relatively small scale, and near-exclusively two-dimensional thinking. With regards to this project, the planning initiative would offer similar bonuses to buildings that wish to become part of the elevated pedestrian network.

Similar to the Plus 15 network, it could become part of the planning regulations that new builds and renovations need to comply with, which will continue the growth and effectiveness of the elevated network. The government could lease the public floors that are owned by the companies in order to maintain the same design philosophy as the transitional structure.
4.4.3 Public Focal Points

Providing vertical access throughout a tall building is not only about the journey up and down, but the destinations encountered along the way. These destinations, public focal points, drive the journey and create opportunities for social contact and interaction\(^75\), recreating the positive aspects of public life on the ground level. This aligns with Yeang’s theory of designing a skyscraper as a “series of vertical events like a super burger”\(^76\) where these public focal points would be vertically dispersed through the building.

These public focal points are heavily used in this project in order to mitigate the social class stratification that could occur with the development and growth of the two streetscapes. By having the focal points be completely public spaces, it will shift the public/private ratio within our urban towers away from the existing commercially driven and privatised towers.

Streets

Urban streets are the primary public network to get between destinations and public focal points; but great streets become destinations themselves. This project will look to design its primary vertical circulation ramp to become a destination itself in order to promote its use. The street will follow the aim to achieve Allan Jacobs criteria for great streets (see chapter 3.1.3) along with Jan Gehl’s public space design principles (see Chapter 3.1.2). It will look to create a physically comfortable and safe environment, encourage participation and help make community.

Building a community and encourage participation from the public is a key aspect of the great street design. The buildings that surround the street need to engage with the with community events and moments of rest that everyone and anyone can take part in/use. Facilitating these aspects in the design of these streets will create opportunities for social contact and interaction, between all demographics, which will begin to break down the metaphorical walls that socially divide society.

These designed moments of rest and interaction will be employed along the journey, engaging with both the public on the street and the inhabitants of the buildings that surround it as well as strong consideration to how the street interacts with the other public focal points.

---

\(^75\) refer Chapter 3.1: Jan Gehl – Life Between Buildings, XX

fig 43.0 - Sketches from Great Streets by Allan Jacobs analysing the typologies and physical characteristics of great streets around the world.
Parks

Designing a park as an internal public focal point can be restricting as light and air are key features that make it a fulfilling public space. However, due to the height at which this project reaches and the nature of the building, you can design high ceilings to allow a lot of natural light to enter deep into the plan as well as opening high level windows for fresh air to circulate throughout the space.

A park provides the public with unrestrained movement throughout a space which instantly creates a truly public atmosphere. The park pathways are designed to be meandering throughout the space and relatively indirect; while the more direct route that cuts through the grass and trees engage with nature, either way they are engaging with the space. nature driven street. While it is primarily used for social interaction or moments of rest and relaxation, it can also facilitate unrestrained or controlled movement between surrounding streets.

fig 44.0 - Sketch of Albert Park highlighting the meandering pathways, large array of trees for shading, open green space and lighting. (by Daniel Young)
Wharf

A wharf or riverside street in urban centres has become a strong public focal point once the logistics industries moved to the outskirts. Places like Southbank in London, Rhine River in Basel and North Wharf in Auckland, have become one of their cities key public hubs. While the physical engagement with the water is not the main attraction, the exposure to the open air and expanse of space to one side contributes to the success of the public experience.

Recreating this spatial condition in a high rise is similar to the park design; allowing high ceilings, and a lot of sunlight and natural air to enter the space.

The expanse of water can’t be recreated at that height, but the expanse of space either side of the wharf can be expressed with full height glazing with large openings to take advantage of the expansive cityscape vista.

The main boulevard should be supported by eateries and other forms of retail in order to create a stronger focal point.

fig 45.0 - Sketch of North Wharf highlighting the layers of delineated public space along the wharf to show the different level of spectrum of engagement with the water and public. (by Daniel Young)
Beaches/Public Pools

This creates a public focal point with a physical engagement to the water; while the beach experience is exclusively an outdoor space, the public pool can be created internally as well as externally.

These spaces require a variation of depths to appeal to the full range of demographic. Shallow paddling pools for children, mid-depth pools for water-walking and laps, and deep pools for play. The public pools will also need to create various layers of level changes or buffer zones from the main circulation as the design should create a certain level of privacy, in the same way a beach has the sand, dunes or park space before the main pathway.

Pools create a classless environment. The early Greeks and Roman baths were for everyone, it didn’t matter what class or societal stature, it was a public amenity.
Public Squares

Public squares are a powerful public space. Much like the others, it can become a destination point, but holds stronger ties to the urban fabric. It is a man-made space defined by the buildings that surround it. Great squares make you feel connected to the rest of the city and, by extension, part of the community.

The square in front of the Pompidou slopes down towards the museum from the main pedestrianised boulevard. This creates a grand elevation of the museum from both a seated and standing position, as well as a gradient for water drainage. The sun warms up the square during the day and retains that during the night so it retains its vibrancy for public activities and social engagement at all hours.78

---

78 Experienced and analysed first-hand in July 2014.

fig 47.0 - Sketch of the Popidou square, highlighting the sloping square in relation to both the main boulevard and museum. (by Daniel Young)
fig 48.0 - Sketch of Silo Park’s basketball court, highlighting the delineated areas designed to allow the full spectrum of engagement to be used by the public. (by Daniel Young)
Jan Gehl believes that the public realm needs to provide necessary outdoor activities which creates opportunities for invitations to physical activities, play, unfolding and entertainment. Auckland’s own Silo Park in Wynyard Quarter, creates these opportunities with the design of its basketball court.

Sport is itself a universal language, it breaks the barriers of language, race, gender and even social class. Neither of that matters, just your desire to be engaged with the activity.

The main boulevard runs past the public sporting spectacle, but with a clear separation between the two. This offers pedestrians the opportunity to step off the main street and become engaged with the activity.

There are seating elements of varying proximity and height to the basketball court, to meet the pedestrian’s comfortable level along their spectrum of engagement.

In order to increase the sporting facility’s public nature, the space should be well lit 24/7 to allow the space to kept available and safely exposed at all times.

The project aims to provide public amenities for the entire public demographic spectrum, that also does not promote the development of social class stratification. This aim creates a need for clear delineation of public and private spaces throughout the transitional structure, with the former tipping the balance in its favour.

4.4.4 Schedule of Functions

Public Focal Points
- Public Square
- Park
- Wharf/Pier
- Public Pools/Beach
- Public Sporting venues: Football, Basketball and Netball.

Semi-Public Spaces
- Retail
- Food Retail
- Pools
- Markets
- Museums
- Libraries

Semi-Private / Private Spaces
- Offices
- Accommodation

Public Amenities
- Police station
- Information desks
- Public Toilets and showers
- Cycle parking

Sports/Physical Activity

4.5 Site Analysis

Site Address
106 Albert Street, Auckland, New Zealand, 1010

Context
The site is currently a two-tiered parking lot occupying 4417m² section which has an East to West level change of 9.9m. While there are plans to develop the site into a 209m skyscraper hosting an eight-level entertainment podium combining with a 52 floor hotel and apartment complex, its location and current state of under-development create the opportunity for the design of a public transitional structure.

The site is bordered by three streets: Albert Street, Victoria Street West and Elliot Street. Both Albert Street and Victoria Street West are primary vehicular traffic roads, supporting the arterial network of streets that cater for the traffic movements between major areas of the Auckland City. The traffic flow can range from 3,000 to 10,000 vehicles per day (Albert Street) and 5,000 to 25,000 vehicles per day (Victoria Street West). Elliot Street, however, is a pedestrianized shared street which creates a strong axis and deviated line of site through to Aotea Square, Auckland’s largest civic open space.

Combined with large width of roads, it creates a strong disconnection for pedestrian movement to and from the site. The implementation of elevated streetscapes will provide an improved circulation flow across these streets. In contrast, Elliot Street is a highly pedestrianized shared street that provides a high level of traffic flow coming from Aotea Square. It’s scale and proportion is quite wide to accommodate vehicular traffic flow in a shared zone which create a fairly unprotected zone from wind and rain. That

---


being said, it does still provide a full range of access points across the site.

Being only bordered on the southern side of the site, Elliot St has a row of eateries on the western side of the street, which has now spilled out into the site in the form of Pop-up container food stores. The site is also the home of a vertical bungee attraction bringing life to an otherwise quiet hole in the urban nightlife. While mainly a tourist attraction, it still shows the level of recreational appeal the existing site already fosters.

fig 49.0 - Concept for Ground floor for site access of the two car-focused streets and one pedestrian street.
The newly proposed Central Rail Link (CRL) network runs approximately 13m underneath Albert Street\textsuperscript{81}, with proposed entrances into the underground station being places on the South-East corner of Wellesley Street West-Mayoral Drive and North-West corner of Albert St-Victoria Street West. There is also planned to be an entrance to the train station from this project’s site\textsuperscript{82}, as the natural contours of the site and the public nature of this project’s proposed function create the opportunity for an integrated entrance to the underground train station within its form.


\textsuperscript{82} Matt L, \textit{CRL now consented & Aotea images}, 27\textsuperscript{th} August 2015, http://transportblog.co.nz/2015/08/27/crl-now-consented-aotea-images/
The future of Auckland City’s built environment will increase in density and height, but it will augment the existing height using retro-fitted and re-strengthened structures as discussed in Chapter 2.2 (pg 24). However, the site is surrounded by tall buildings that offer multiple opportunities for the elevated streetscape network to engage with the site, however through the design response it may result in some of the surrounding context to go through the augmentation process.

To the East of the site are a set of two glass office towers on top of a storey podium, climbing to a maximum height of 102m above Elliot St.

To the South, resides the 23-storey BDO office tower (87m) and Atrium on Elliot with (20m). This forms the context of the Southern elevated streetscape which will become the first accessible from the ground, running along the service deck on top of Atrium on Elliot, heading towards Aotea Square.

To the West is the 17 storey ‘AA’ office block tower, which in relation to the site creates a strong axis through to the Sky Tower one block away.
In the science fiction depictions of elevated streetscapes, the bridges seemingly enter into ordinary building’s façade without any visual relationship between elevated space and the ground. The design of this transitional structure will to create that relationship, allowing a pedestrianized (walking/cycling) route to be expressed throughout the building.

In order to achieve this, the vertical circulation will need to be comprised of a series of ramps connecting major public floors. Ken Yeang describes the acceptable shopping trip would be about 300-500m, or a 3-6 min walk⁸³; translated vertically on a comfortable 1:20 slope, it’d be the equivalent of a 15-25m vertical displacement between main public floors.

Using this as the basis for vertical circulation through-out the building, we need to create a public focal point every 3-6 floors, or create a continuous level of activation along the ramp.

---

The current proposed plan to build a 209m skyscraper 52 floor mixed-use hotel apartment complex, however this projects proposed transitional structure only needs to facilitate the public vertical transition to access the elevated streetscapes to other buildings. The overall massing of it will be approximately 120m across 30 floors high. This will be an exploration of its formal mass on site.
Rectilinear - Typical Box

This typology is the most efficient mass in terms of maximum floor area on site, and creates parallel walls to the surrounding buildings to create flush connections for the elevated streetscapes. However, the form does not allow any setback or gradual tapering towards the upper level which cause a negative impact on the ground plan and surrounding buildings with regards to shadow castings and its physical dominance from the lower street.

The form itself could be publicly perceived as being one of the many existing rectilinear office or commercial towers, which could come off as uninviting. For this to be a catalyst for change, a more dynamic form would be better suited to represent a public tower.
This typology is similar to the Rectilinear form, as it maximises the floor area on the site, but it respects the ground plane with its set-backs reducing the size of the upper floor plates. The design for perimeter running ramp would be difficult to express exteriorly with the rectilinear styled set-backs as its more suited for internal core circulation.

The overall form has a slight kinetic aesthetic as it tapers off towards the top it draws the public eye up, but portrays a very rigid and direct movement, instead of a more fluid and dynamic movement.
The cylindrical tower is perfectly shaped to achieve a ramp along the perimeter of its form, but remains too rigid in its section. There is no variation in its form producing the same profile as the rectilinear forms, and aesthetically it lacks the ability to draw your eye up, instead it pulls your round its curved facade.

Despite its circular form being a good fit for a circular ramp, the ramp itself would need variation otherwise it would lack a street like aspect at the human scale experience as well as the plan being extremely inefficient in terms of internal planning. The form needs to be more dynamic and varied.
Organic Form Tower

The varied curves and shifts in the floor plans will create issues with structure and internal planning, but achieves a very aesthetically kinetic form. It takes your eye on a meandering journey up the exterior curves which is very dynamic, but is too fantastical and hard to understand.

The public perception might view it more as an art sculpture than a habitable building they can use. To bring some familiar elements back into a slightly less organic form would give the public something to relate to, but still represent something different and dynamic.
**Concept**

- **Tapered Pyramidal Form**

This form reads like a stretched out segmented diamond on plan extruding up in a straight backed incomplete pyramidal form. This creates a dynamic form in all views, and the exterior is both kinetic and varied. It reads vertically and the internal ramp would be very diverse in its movements along the perimeter while also allowing vertical and angled elevators to be brought up throughout the tower.

The form is relatable with its rectilinear angles and planes, but is dynamic enough to represent something different to the traditional typology of our urban structures. It isn’t very efficient with its use of the site, but at the same time it offers a lot of set back from the ground streetscape for people to move around the building.
The journey throughout the structure is embodied by the circulating ramp and path. It is the key design element which represents the human experience transitioning throughout the structure. This chapter explores the different conditions and elements that will make this transition desirable to use, and hopefully effect the mentality on the design of internally elevated public environments.

The journey of the ramp circulating along the perimeter of the structure aims to become seamless extension between the streets on ground and above. It will recreate the urban street fabric internally and on an incline. This will chapter will explore the physical conditions and human scaled experience of this journey.
**Linear Street Clusters**

With the ramp or primary vertical circulation being an extension of the street, we can begin to create a linear journey recreating a normal urban street on ground level. Placing in clusters of usual mixed-use residential and commercial blocks to create a lively and vibrant street in an effort to keep street activated and safe.

The blocks could be comprised of residential units with a café or convenience store at either end and then a series of office units atop a varied retail podium at ground level. This would add diversity to the street as you walk past all these segmented facades.

---

**fig 53.0** - Concept Diagram of street block clusters, alternating between Residential and Commercial blocks.
**Public Focal Points**

Adding in the public focal points along the journey in between the clusters can determine what relationship these destination points and the street.

fig 54.0 - Concept Diagram of inserting the public focal points in between these cluster blocks
**Vertical Translation**

Applying this linear path in the vertical plane you get your journey which create public destination points throughout the structure which can be used as anchor points for the connecting elevated streetscapes.

*fig 55.0 - Concept Diagram of the cluster and focal point street mentality vertically.*
The following sections explore the relationship between the public focal points and the street; in an attempt to recreate the fulfilling aspects, found in these spaces on ground, internally and vertically.

The main circulation boulevard is clearly delineated, aiming to encourage the public engagement of public focal points/destinations.

The sections explore Gehl’s spectrum of engagement in relation to each public focal point, creating different physical proximity and participation levels of engagement in each area.
fig 56.0 & 57.0 - Conceptual sections of the pedestrianized ramp engaged with the public focal points.
Food and Retail: In store and spill-out on the street

Full Height Glazing with louvered openings to all fresh gusts of air, recreating the wharf environment

Reflective glass, to extend the view of the water.

3.6m Wharf

Access to the pools

Public Swimming Pool

Food and Retail: In store and spill-out on the street

Full Height Glazing with louvered openings to all fresh gusts of air, recreating the wharf environment

Perforated/dappled light to feel more enclosed
Semi-shaded facade to regulate water temperature against solar gain.

Terraced seating from path to give options to different levels of public engagement.

Limit height of glazing to minimize solar gain to sporting facilities.

fig 59.0, 60.0, 61.0, 62.0 - Conceptual sections of the pedestrianized ramp engaged with the public focal points.
Having the street running on the perimeter of the façade, means that it loses its sense of enclosure if the walls are full glazing. The exploration of the public focal point sections, depict how some of them will work, but the connecting streets in between these focal points need that varied sense of enclosure mimicking the conditions on the ground.

Recreating the alleys and windows along a street that's line with houses on both sides could be expressed with varied cut-outs of solid and void elements in the façade. Allowing light to burst through at the moments of windows and alleys.

The path needs to be expressed exteriorly to make it all visually clear and understandable of its meandering journey up to the streetscapes to the public. So having an extruded profile of the ramp, box portal extrusion or even just a colour façade change would begin to delineate the path.

**Facade Conditions**

fig 63.0- Extruded profile of the ramp path floor on the exterior of the facade. (by Neil-Craig Rodrigues)

fig 64.0 - Extruded box profile of the ramp and roof on the exterior of the facade. (by Neil-Craig Rodrigues)
Degrees of Enclosure

In the aforementioned public focal point sections, they all explore the maximum ceiling height from ramp to ramp, but you can create different degrees of enclosure depending function of the street. Intimate spaces can be achieved by pulling the buildings second or third floor across to create a lower roof and expose their interior to more natural light. While the full height achieves a more open and outdoors street space which can feel more comfortable and natural, despite it being very inefficient with space.

Diverted Paths

The ramp is the primary form of circulation but what makes streets great is that you are free to pick your own path throughout the city. Options to divert from the main path is what makes streets more publicly accessible and used. Allowing the internal alleyways between the cluster blocks can give you the opportunity to create a tertiary vertical transitional element: stairs, escalators or steeper ramps to give you direct access to immediate floors above.

---

Exploded Key Public Floors
Public Pools Levels
Public Park Levels

Public Swimming Pools
- Cold Water Swimming Pool
- Warm Pools

Cafe/Restaurant

Amphitheatre

Designated Pop-Up Areas

Service Lift

X-Press Lift
Conclusion

This project presents an analysis of our urban city’s future based on our current trends and futurist depictions over the last century, in both literature and film. This concluded that rapid urbanisation was the most commonly depicted fear and most relevant inevitability based on the state of our current cities.

Further research into the effects of rapid urbanisation, established the projected rise in overcrowding, demographic shift and need for elevated streetscapes which began to fuel the vertical stratification of the social classes. This project proposes a pre-emptive response, aiming to mitigate the eventuality of this dystopic future through public architecture.

The architectural response is to create a transitional structure to facilitate the vertical transition of the public. It is aimed to become a catalyst for change in the way we design public spaces vertically within our city as well begin to create and elevated pedestrianised network prior to the immediate and dire need. The transitional structure deals directly with the public experience, as it de-privatises the vertical urban realm it must not detract from the existing success of areas on the ground, instead it looks to add to the success and carry it through to the elevated streets.

As it is a speculative look into the future, the response deals with infinite amount of variables, but this project has narrowed its focus and scope to provide a social solution. While it doesn’t deal directly with the economic factors, it does aim to generate income from the building and considers these structures to become part of urban centres transport infrastructure. The project also considers lightly the structural and technological advancements and limitations that may occur in a future of rapid urbanisation, but as it detracted from the main focus of the social aspect, it looked to abide by our current construction limitations and availability.
Should this project be realised instead of being a speculative thought experiment, it could provide the wider public access to the vertical environment of our urban centres. People will be able to move vertically and horizontally freely, and it will appeal to a wider demographic. It will give every member of the public who reside in the city a feeling that they belong to the structures that tower around them, instead of feeling confined by them. By pre-empting the effects of rapid urbanisation, this project could shift our current projection towards dystopia, to a more utopian future.
Bibliography

12 Monkeys, directed by Terry Gilliam (1996; United States: Original Film, 2005), DVD.

Adam Frampton, Cities Without Ground: A Hong Kong Guidebook (Hong Kong: Oro Editions, 2012).


Elysium, directed by Neill Blomkamp (2013; United States: TriStar Pictures, 2013), DVD.

Equilibrium, directed by Kurt Wimmer (2002; United States: Dimension Films, 2003), DVD.


*Interstellar*, directed by Christopher Nolan (2014, United States: Paramount Pictures, 2015), DVD.


*Maze Runner*, directed by Wes Ball (2014; United States: Twentieth Century Fox, 2014), DVD.

*Metropolis*, directed by Fritz Lang (1927; Germany: Universum Film, 2001), DVD.


*Total Recall*, directed by Len Wiseman, (2012; United States: Original Film, 2012), DVD.

*Total Recall*, directed by Paul Verhoeven (1990; United States: Carolco Pictures, 2012), DVD.


ILLUSTRATIONS

Unless referenced otherwise:

All images are the authors own
All maps and satellite images are: From Auckland Council’s GIS viewer and Google Maps, edited by the author, not to scale.

Figure 1.0 - Conceptual artwork based on the film Blade Runner by Aaron Whitehead. http://hazzard65.deviantart.com/art/ Cityscape-3-338660301

Figure 2.0 - “Raised Up Detritus - l’illustrazione Italiana, 1993” http://www.anatomyofnorbiton.org/images/raised-up-detritus-fs.jpg

Figure 3.0 - drawing from the Blade Runner storyboard book. David Scroggy, Blade Runner Sketchbook, (San Diego: Blue Dolphin Enterprises Inc., 1982)

Figure 4.0 - drawing from the Blade Runner storyboard book depicting a dystopian future ground street level. David Scroggy, Blade Runner Sketchbook, (San Diego: Blue Dolphin Enterprises Inc., 1982)

Figure 5.0 - Collaged high-rise artwork from the 1929 film Metropolis. https://doarch342fa15.wordpress.com/2015/10/11/week-8-team-x-and-ciam-readings-posted/

Figure 6.0 - A still from the 1929 film Metropolis. https://niels85.wordpress.com/2012/02/02/architecture-and-film/

Figure 7.0 - Graphical artwork recreating the city scenery of the film Blade Runner. http://www.scified.com/sites/wallpapers/228931491914252.png

Figure 8.0 - A still from the 2012 re-imaging of Total Recall. http://www.bdonline.co.uk/Pictures/web/f/i/o/004_qub_0010_v182.0448-we_636.jpg

Figure 9.0 - Overcrowding charcoal drawing from Hugh Ferris’ Metropolis of Tomorrow

Figure 10.0 – Set back High-ways from Hugh Ferris’ Metropolis of Tomorrow

Figure 11.0 – Elevated Streetscapes from Hugh Ferris’ Metropolis of Tomorrow Hugh Ferris, The Metropolis of Tomorrow, (Mineola, New York: Dover Publications, 1929).

Figure 12.0 - A drawing from Le Corbusier’s The City of To-morrow and its Planning. https://classconnection.s3.amazonaws.com/866/flashcards/4227866/png/le_corbusier-contempoary_city_of_tomorrow_plan_voisin_for_paris-142C0F52A285EF57641.png

Figure 13.0 - Photo from the Sky Deck of the Bitexco Financial Tower.

Figure 14.0 - Conceptual designs of how to vertically elevate the public realm from Ken Yeang’s text.

Figure 15.0 - Vertical elevation of the public plus the horizontal connections to surrounding buildings.


Figure 17.0 - Exterior Photo of the Sky Garden building http://www.whatsamsawtoday.com/wp-content/uploads/2015/01/walkie-talkie-building.jpg

Figure 18.0 - Internal photo of the Sky Garden. https://andrea23sketcbook.files.wordpress.com/2016/03/walkietalkie_skygarden_br_04.jpg?w=640


Figure 20.0 – Bitexo Co Financial Tower Elevation showing the programmatic function of each floor http://www.bitexcofinancialtower.com/wp-content/uploads/2013/08/office-image1.png

Figure 21.0 - Photo taken from the Sky Deck Entrance around from the main lobby and shopping entrances.

Figure 22.0 - A series of photos depicting the relatively unused London Pedway in the Barbican. http://www.urban75.org/blog/a-spring-strut-through-the-barbican-estate-london/

Figure 23.0 - Photos of the connecting bridges that make up the 15+ Calgary Network. https://upload.wikimedia.org/wikipedia/commons/9/9f/Plus15-Calgary-7ave.JPG

Figure 24.0 - Photos of the connecting bridges that make up the 15+ Calgary Network. http://socks-studio.com/img/blog/plus-15-08.jpg

Figure 25.0 - A map of the entire 15+ network of skywalks and elevated public spaces.

Figure 26.0 - A drawing from the text of the elevated and depressed walkways in West Kowloon, Hong Kong. http://acdn.architizer.com/thumbnails-PRODUCTION/4f/bf/4fbf76af06923675b6b4c629666471b0.jpg
Figure 27.0 - A conceptual drawing from the *Cities Without Ground* of a public tower.

Figure 28.0 - Diagrams from Jan Gehl’s *Auckland Public Life Survey* criticising Auckland’s current state of public life.

Figure 29.0 - Diagram of the Current typology of elevated public space

Figure 30.0 - Diagram of the Current typology elevated streetscapes.

Figure 31.0 - Elevated streetscape with elevated public realm allows for just horizontal free-flowing movement, minimal and private vertical access.

Figure 32.0 - Concept Diagram of transitional structure allowing the ease of public transition vertically to connect horizontally to the elevated streetscapes.

Figure 33.0 - Figure ground drawing depicting the vertical density of Auckland City’s buildings starting at its lowest ground floor plan by the wharf.

Figure 34.0 - Map from Auckland’s Central District Plan showing the pedestrianised zones.

Figure 35.0 – Map diagramming the key pedestrianized roads in the city.

Figure 36.0 – Map diagramming the pre-defined cycle routes around the city.

Figure 37.0 - Map overlay drawn from the Auckland City District Plan highlighting the street types for vehicles.

Figure 38.0 - Map diagramming the future underground CRL link

Figure 39.0 - Map diagramming all the open public spaces throughout the city.

Figure 40.0 - Map diagramming all the empty sections throughout the city.

Figure 41.0 - Map diagramming the potential two sites along the main arterial road Queen St. The blue line represents their CRL link opportunity and the red dotted line their potential elevated streetscape connection.

Figure 42.0 - Diagrams showing the hierarchy of vertical transport throughout the transitional structure.

Figure 43.0 - Sketches from *Great Streets* by Allan Jacobs analysing the typologies and physical characteristics of great streets around the world.

Figure 44.0 - Sketch of Albert Park highlighting the meandering pathways, large array of trees for shading, open green space and lighting. (by Daniel Young)

Figure 45.0 - Sketch of North Wharf highlighting the layers of delineated public space along the wharf to show the different level of spectrum of engagement with the water and public. (by Daniel Young)
Figure 46.0 - Sketch of Mission bay west entry highlighting the placement of the pathway in relation to the water edge. (by Daniel Young)

Figure 47.0 - Sketch of the Popidou square, highlighting the sloping square in relation to both the main boulevard and museum. (by Daniel Young)

Figure 48.0 - Sketch of Silo Park's basketball court, highlighting the delineated areas designed to allow the full spectrum of engagement to be used by the public. (by Daniel Young)

Figure 49.0 - Concept for Ground floor for site access of the two car-focused streets and one pedestrian street.

Figure 50.0 & 51.0 - Images from Auckland’s Transport Blog, depicting the future Aotea Train Station of the CRL link. https://at.govt.nz/projects-roadworks/city-rail-link/city-rail-link-route/

Figure 52.0 - Concept design of vertical layout.

Figure 53.0 - Concept Diagram of street block clusters, alternating between Residential and Commercial blocks.

Figure 54.0 - Concept Diagram of inserting the public focal points inbetween these cluster blocks

Figure 55.0 - Concept Diagram of the cluster and focal point street mentality vertically.

Figure 56.0, 57.0, 58.0, 59.0, 60.0, 61.0, 62.0 - Conceptual sections of the pedestrianized ramp engaged with the public focal points.

Figure 63.0 - Extruded profile of the ramp path floor on the exterior of the facade. (by Neil Craig Rodrigues)

Figure 64.0 - Extruded box profile of the ramp and roof on the exterior of the facade. (by Neil-Craig Rodrigues)

Figure 65.0 - Concept of how to recreate the enclosure of the street with a curtain wall facade but using solid/void elements (by Neil Craig Rodrigues)