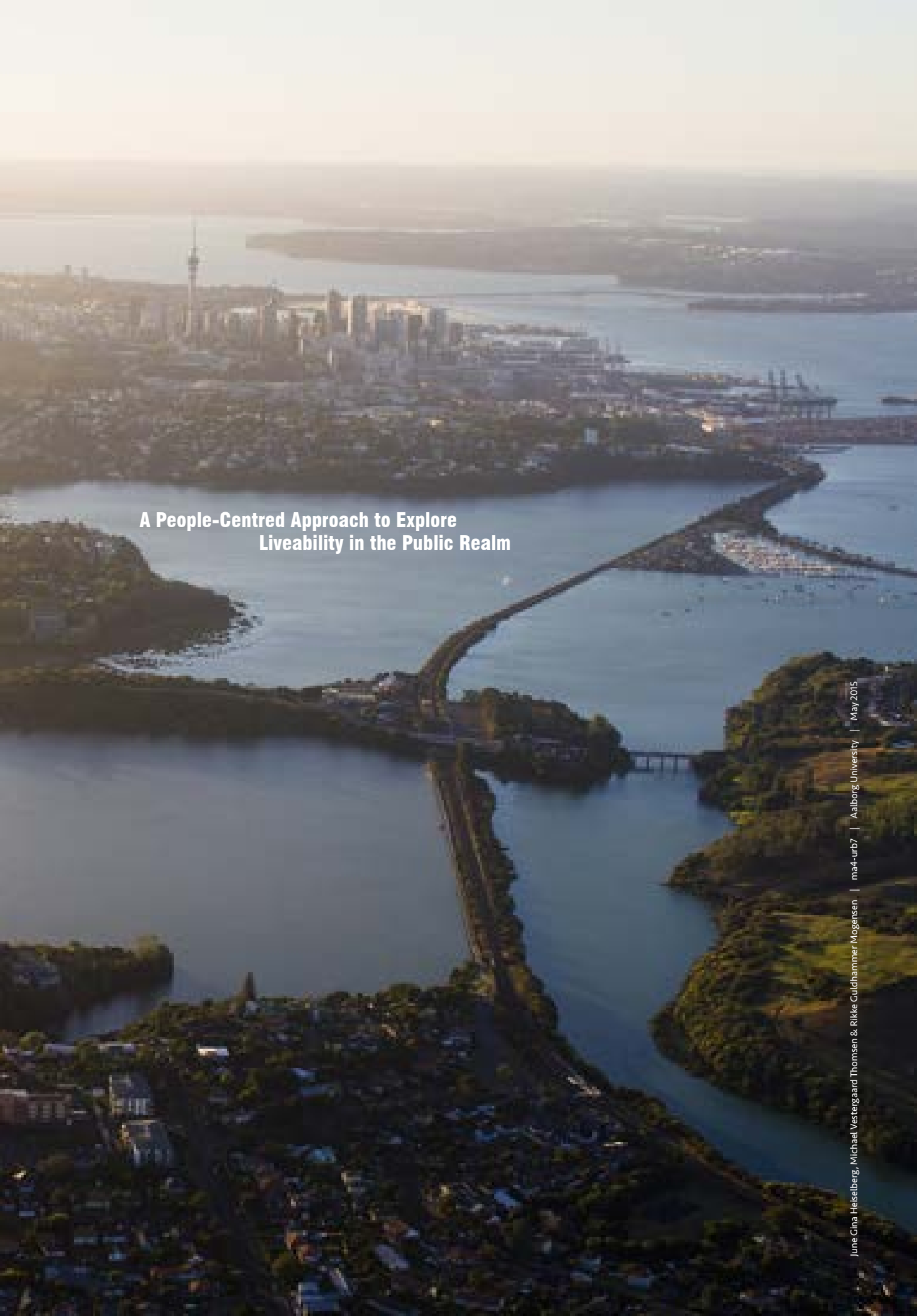


A People-Centred Approach to Explore Liveability in the Public Realm

June Gina Heiselberg, Michael Vestergaard Thomsen & Rikke Guldhammer Mogensen | ma4-urb7 | Aalborg University | May 2015

We want to design a liveable public space for people!

June Gina Heiselberg, Michael Vestergaard Thomsen & Rikke Guldhammer Mogensen

"Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody."

Jane Jacobs (Jacobs 1961:238)

Auckland

Design champion Ludo Campbell-Reid describes what the future holds for Auckland:

"What is planned for Auckland over the next two to three decades is more Back to the Future than Brave New World. A place where pedestrians and public transport rule. Where alleys and open spaces take precedence over cars. An inter-linking set of walkways lined with shops and restaurants, joining old and new city parks, creating people spaces above our motorway junctions and evolving a Kiwi urban lifestyle where residents can see the beautiful buildings and distinctive surroundings that give Auckland its character." (NZ Herald 2013)

Ludo Campbell-Reid and his urban design team at Auckland Council has set a goal of bringing Auckland into the 21st century and out of its 1950s auto-dependent past. Auckland is still haunted by the 1950s planning initiatives which create difficult challenges for urban development. Their goal is to become the world's most liveable city by 2040.

"I believe this (Auckland) is the greatest city on earth, but no one know yet."

Ludo Cambell-Reid (Cambell-Reid
[Auckland Council] 2015, meeting, 11 February)

Ill. 1. View from Mt. Wellington

Preface

This project is carried out as a Master's Thesis at the Urban Design MSc04 semester at Aalborg University, Department of Architecture, Design & Media Technology. The theme for the project is urban development in a world where more and more people constantly move to the urban areas. Liveability is a key notion in this project and the notion from where the urban development originates.

Point of departure has been a study trip to Auckland, New Zealand, which is the main case in the project. The trip has made is possible to experience the place and site firsthand and to meet and talk to the people currently working with urban development and city design in Auckland. In relation to the trip the waterfront in Auckland was observed as a preferable site for the project because of the central location in the city, and in the smaller scale Quens Wharf, a central wharf on the waterfront that currently is being developed.

In the process of the project a lot of people contributed with their assistence and knowledge, which is very much appreciated.

Acknowledgement

We would like to express our gratitude to our supervisors, Henrik Harder and Kristian Hegner Reinau for helpful comments, remarks, constructive criticism and engagement throughout the master thesis process.

Furthermore, we thank Noam Shoval and Amit Birenboim for lending us their smartphone application Sensometer for our tracking survey, which has become essential in the project and provided us with an understanding of the new tracking technologies in urban design. The implication of Sensometer in the project would not have been possible without Noam and Amit's technical assistance.

We thank Dermott McMeel at the University of Auckland, for showing interest in the project, introducing us to his urban design students and having them be a part of the tracking survey with Sensometer.

Additionally we want to thank Ludo Campbell-Reid, Design Champion and General Manager of the Auckland Design Office, Tim Watts, Hayley Fitchett, Sara Cody and the rest of Auckland Design Office as well as Alan Grey and Asleigh Vivier, Auckland Waterfront, for their great interest in the project, helpful knowledge of Auckland's situation and an interesting look into the ongoing projects in the public realm of Auckland.

We thank Lisa Spasic, Auckland Council, for helping us get an understanding of the city in eye height, by showing us around the city centre and explaining the development of the shared spaces, and Wendy Zapart, Strategic advice unit Auckland Council, for presenting Auckland Council's work with liveability and setting up an interesting discussion session on the liveability for Auckland.

Finally we thank the Dunning Family for their great hospitality, kindness and guidance throughout the trip to New Zealand.

Summary

The world is growing at a rapid speed. It is estimated that by the year 2050, 60 percent of the world's population will be living in urban areas. As the number of people living in cities continues to grow, urban planners are facing new challenges when maintaining and improving liveability in the city. The quest for liveability has resulted in multiple versions of a liveable definition and a lack of academic merit.

This thesis seeks to explore urban liveability, liveability in the public realm, as a design strategy and tool in urban planning through a constructed model for liveability. The purpose of the model is, through case specific mapping analyses and user involvement through new tracking technologies, to implement liveability in the city through a urban design of a chosen space. Auckland in New Zealand is the case for the project - a city dominated by its 1950s car oriented planning.

The results of the theoretical studies and digital and manual analysis defines liveability in Auckland and forms liveable design strategies for Auckland Waterfront, which is exemplified and reviewed in a design of Queens Wharf at Auckland Waterfront.

Liveability is a desirable branding tool for cities, nonetheless, urban planners need to make sure that improving the quality of life for its citizens is at the top of the agenda and that the notion of liveability it not merely a political motivation. Most importantly, urban designers need to ensure liveable environments for all citizens of any culture and not just the fortunate minority.

Reading Guide

The master's thesis report is divided into two separate reports; the academic report and the urban design case. In addition to the two reports, large drawing material is gathered in a separate folder. The two reports can be read separately, but we suggest that the academic report is read before the urban design case.

The academic report is divided into nine chapters apart from the introductional pages, that give an outline of the project. The first chapter "Theoretical Framework" explores the foundation of urban design history and the tools to analyse urban places to structure the understanding of the underlying visions and methods from which we create urban spaces. Most importantly, this chapter is an exploration on the notion of liveability in a search for liveable parameters, which will create the basis for the project and especially the design process.

The second chapter "Auckland" is an introduction to the case study of Auckland, which serves to give an understanding of the city, the natural context and the people in it. "The Liveability Model", chapter four, introduces the Liveable Approach to urban planning which is elaborated through the mapping and analysis methods and the digital applications. Chapter five "Liveability surveys" explains the two liveability surveys conducted in Auckland.

In chapter six, "Analysis", the project analyse the case of Auckland in two scales: the waterfront and a pier on the waterfront, Queens Wharf. The analyses are based on the theoretical found parameters and the results from the surveys performed in Auckland. Through the analysis, the parameters will be tested and create the foundation for liveable strategies for the case of Auckland and a design brief for Queens Wharf.

Chapter seven is a conclusion and assessment of the process and the final design case and if it is possible to design liveable spaces, bases on the liveable strategies. The chapter also concludes upon the project based on the research question and unfold reflections on the notion of liveability and the methodology of urban design.
In chapter eight and nine, references and appendix are found. The appendix is refered to throughout the report.

Content

Motivation

"Whatever creates or increases happiness or some part of happiness, we ought to do; whatever destroys or hamper happiness, or gives to its opposite, we ought not to do" Aristotle (Bak 2004:17)

The main motivation for this master thesis originates in an interest for people and how we design cities for people that improves their quality of life.

In the aftermaths of the modernism, many professionals and non-professionals have discussed the future planning of our cities and especially how to change the visions routed in the modernistic ideology with the car in the centre of the planning strategies. The most recent name for this people-oriented planning tendency is Liveability, and the quest for this liveability is currently a key issue throughout the world.

Multiple ranking systems each year nominates the World's Most Liveable City, and cities around the world are eager to win this title since it attracts business and investments, boosts local economies and real estate markets and fosters community involvement and pride (IMCL 2014). But the foundation of the selection is opaque, and no one is quite sure what the notion implies.

"It is like entering a race, where you do not know the rules."
(Strategic Advice Unit [*Auckland Council*] 2015, meeting, 4 March*)*

Cities around the world have been inspired by the people-centred approach to planning and several of them have implemented the concept of liveability in their visions for the future of their cities, but the definition of liveability is a fairly hard nut to crack and what is liveable at one place is not necessary liveable at another place.

An exploration of liveability is necessary to define the term and examine the concept's potential as a planning ideology and method.

Introduction

In the future, cities have a greater influence on the quality of life. Cities of today must be cities for people and take care of all aspects of life. They need to be liveable.

Research show that due to the increasing urbanization, a growing number of people will choose to live in urban areas in the future. UN states an annual increase of 1.8 percent dwellers in urban areas, meaning that in less than 40 years, our cities needs to facilitate twice the amount of today's dwellers. The tendency is related to large cities where it is expected that an additional one billion will live in cities of more than 500.000 citizens within 2030. (United Nations 2014)

With the increasing number of dwellers, it has become essential for cities to attract business and investments. To be competitive. Cities around the world has entered the race of becoming the World's Most Liveable City.

"In Auckland, there's a gap. On the one hand, the natural attractions and the magnificent early efforts of the city fathers; on the other, the paucity of the whole post-war built environment. This gap is so huge, everyone responsible should hang their heads in shame." (Wilson 2015)

From the mid-1980s until early this century developers were invited to "build what you can" and campaigners and some councillors fought to protect the city from cheap apartment blocks and carparks. They fought to keep heritage buildings that were either bulldozed or given tacky additions. In 2006 the city started to see a change, when Ludo Campbell-Reid was headhunted from London.

"Yeah. Auckland could be successful for the things it's worst at. The built environment, you know? Even if it takes 30 years. I mean, it's the renaissance of a city."

The renaissance is happening now. The city is currently undergoing an incredible urban transformation where the quality of the public realm and human centred design is put at the top of the agenda. Auckland Council are in an astonishing speed transforming the city centre from being a car-based city to a city that celebrates pedestrians and high quality urban spaces.

The development and actions taken now, will define Auckland in the future. We wanted to be a part of this and experience a city during complete transformation and confusion. A city that is trying to reinvent itself and its values.

Delimitation

"Everyone benefits from well-designed buildings, spaces and places. The built environment contributes a great deal to our quality of life and economic success, and delivers enormous value to society. Yet we often take it for granted, without appreciating its effect on our daily lives" (CABE 2005: 3)

The delimitation of this project is the public realm and thereby liveability in relation to the public space. Liveability is a broad concept in the society, but in this project the notion is related to the built environment, the public spaces - our physical surroundings in the city.

The project, and thereby liveability, takes place in three levels:
Auckland City Centre where liveability as a concept is defined for Auckland. Auckland Waterfront, where liveability is in the shape of development strategies and Queens Wharf level, which is a liveable urban design solution for the wharf.

The project does not include infrastructure and traffical solutions in detail in relation to liveability.

Methodology

This project is a theoretical experimental, evidence and empirical-based investigation of the concept of Liveability.

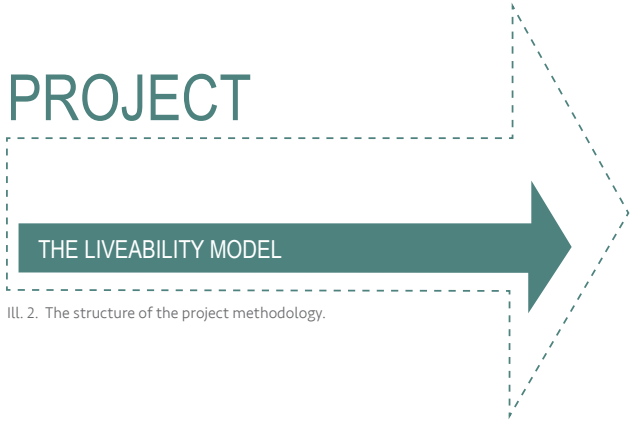
To explore the notion of liveability we have developed a Liveability Model to test the notion as a design tool, and the methodology of the project therefore consists of two overall interrelated methodologies:
1. The project methodology that focuses on testing and exploring the Liveability Model as a design tool for implementing liveability through parameters.
2. The Liveability Model where focus is on how to translate the theoretical definition of liveability in public spaces to a physical design in the city.

The two methodology courses are illustrated in ill. 2.

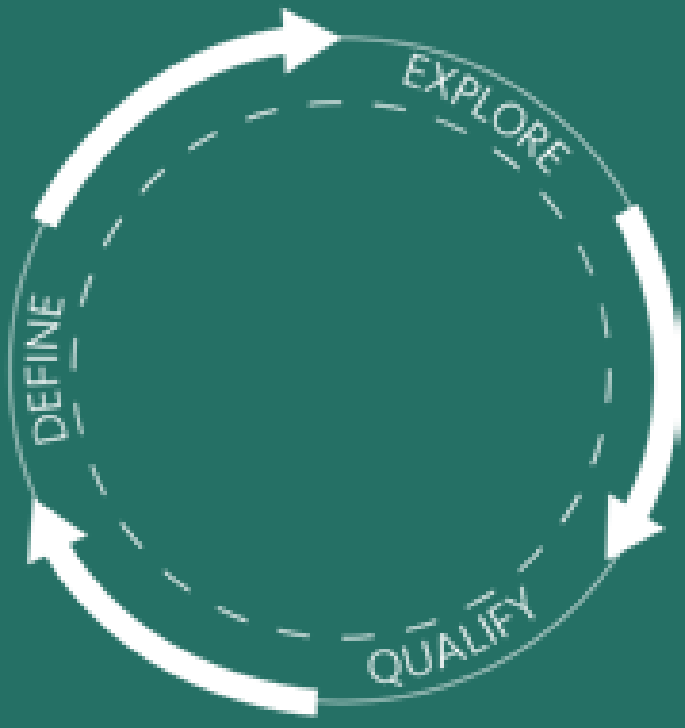
The methodology of the project is therefore centred on The Liveability Model that will be elaborated in chapter 04.

The two methodology courses are characterized by the same overall process shown in ill. 3. The project methodology deals with a definition of a model that is explored and tested through a design case, Auckland City Centre and more specific Auckland Waterfront. This creates the possibility to qualify the model and reflect upon its potential as a design tool.

The Liveability Model defines the notion of liveability that is explored through parametric analyses of Auckland Waterfront in the case of Auckland City Centre and results in a qualification of liveability in Auckland that finally informs the definition of liveability in Auckland and thereby a liveable design at Auckland Waterfront.



Ill. 2. The structure of the project methodology.



Ill. 3. Overall project process.

THEORETICAL FRAMEWORK

1.1 City Planning

The visions we build our cities upon

Urban planning has always existed, but the visions and ideas that lie behind it have changed over time. This text create an overview of some of the most influential visions in urban planning history, which will form an understanding on the foundations of urban planning.

The industrialization challenged the living conditions and the traditional structure of the city that was based on the life in the city. When people moved to the cities to find work, the living conditions deteriorated, the cities became overcrowded and the slums grew bigger. (Hall 2014) Between 1830 and 1880, the construction of road and railway buildings and the growth of the central business district of London, took working-class housing away and over 100,000 people were displaced. (Gauldie 1974) As a result, London was struggling with housing its 5.6 million people, resulting in housing densities, increasing land rents and transportation problems. The region of Paris experienced similar problems where poor people lived in overcrowded dwellings in slum areas. Neither the state nor the city had the economy for slum clearance and the housing congestion continued into the early 1900s. In Berlin, which was experiencing a growth at an almost American speed, had also become extraordinary compact and congested. In 1903, the average number of inhabitants to a building were 52.6, while it in London in 1891 was 7.6. (Hall 2014)

"We are becoming a land of great cities. Villages are stationary or receding; cities are enormously increasing. And if it be true that great cities tend more and more to become the graves of the physique of our race, can we wonder at it when we see the houses so foul, so squalid, so ill-drained, so vitiated by neglect and dirt?" (Howard 1902, p.11)

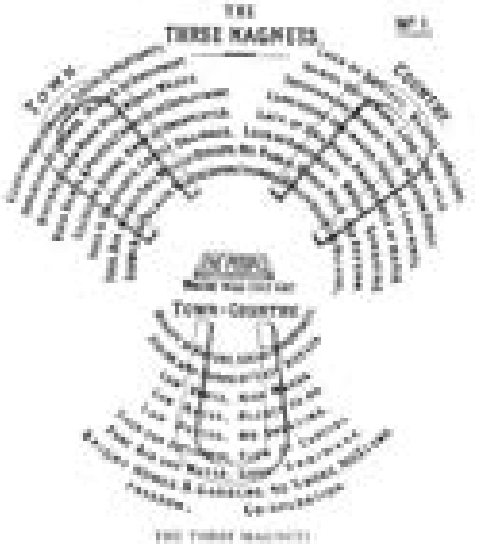
The city planning of the twentieth-century is according to Hall (2014) a reaction to the nineteenth-century living standard, where millions were trapped in the slums. He further argues that the twentieth-century planning is a result of just a few key visions, created by the founding fathers of modern city planning, which re-echo and reconnect. (Hall 2014) There are different opinions to whom the founding fathers of modern city planning are, but there is no doubt that Howard Ebenezer, Le Corbusier and Frank Lloyd Wright are three of them. They were all inspired by the prospect that a radical reconstruction of the cities would be able to solve the urban crisis of their time as well as the social. (Fishman 1982)

"The metropolis was the counter-image of their ideal cities, the hell that inspired their heavens."(Fishman 1982, p.12)

In 1880, the British theoretician, Ebenezer Howard introduced a new vision that changed the mind-set of urban planning and continued to be an inspiration to many planners. It was the Garden City. The welcomed concept proposed a solution to the problems of the Victorian city by moving people to self-contained constellations of new towns build in the open countryside, providing each family with a garden and fresh air. (Howard 1902) Howard based his vision of the Garden City on "The Three Magnets", where the town and the country should be regarded as two magnets "each striving to draw the people to itself – a rivalry which a new form of life, partaking of the nature of both, comes to take part in." (Howard 1902, p.15) The third magnet, Town-country, combines the qualities of both town and country:

"Town and country must be married, and out of this joyous union will spring a new hope, a new life, a new civilisation." (Howard 1902, p.18)

Two towns were built on the ideas of the Garden City, Letchworth in 1903 and Welwyn in 1902, which even today serve as models for Ebenezer's ideas (Fishman, 1982) The Garden City movement did not completely fulfil the ideal, but provided a model for controlling urban sprawl and the rapidly industrializing England. (Andersson 2002) The garden cities remain of critical relevance to the 21st century because they provide a foundation for high-quality in-



Ill. 4. The Three Magnets

clusive places. In England, the garden cities are described as some of the most desirable places to live in the UK today. (Back to the future 2011)

Many praise the ideas of Howard Ebenezer, but according to the American writer, journalist and modernism critic, Jane Jacobs, his visions, were the beginning of a series of threats to urban planning. She argues that Ebenezer hated the city and created gated communities for docile people with no plans of their own. (Jacobs 1961) She describes that his ideas were accepted in America in the 1920's and developed further by a group consisting of Lewis Mumford, Clarence Stein and Henry Wright. The group was later named the "Decentrists" as they decentralized great cities and dispersed their enterprises into smaller separate cities. (Jacobs 1961)

Le Corbusier

Another, who was critiqued by Jane Jacobs, was the Swiss-born French architect-planner, Le Corbusier, who brought Howard Ebenezer's ideas of the Garden City to a new level. Unlike Howard, he envisioned building up, not out. He argued, "that the evil of the modern city was its density of development and that the remedy, perversely, was to increase that density. Corbusier's solution, whereby an all-powerful master-planner, would demolish the entire existing city and replace it by a city of high-rise towers in a park." (Hall 2014, p. 8)

His plan La Ville Contemporaine (1922) was where he developed his principles of planning most fully. (Hall 2104) The key to Le Corbusier's planning principles was to decongest the centres of the cities by increasing the density, while improving circulation and increase the amount of open space. La Ville Contemporaine, also known as "Towers in the Park" proposed high-rise buildings each surrounded by green spaces and had wide avenues. (Le Corbusier 1929)

The contemporary city was made to illustrate a clearly differentiated spatial structure to correspond to a segregated social structure. (Fishman 1977)

The foundation for Le Corbusier's work needs to be seen as a reaction to the struggles, that Paris was going through, while Corbusier lived and worked here from 1916 until 1965.

Ill. 5. La Ville Comtemporary

Paris was in this time period, as the other big cities going through a period where slums and disease racked the city. The ideas of the Contemporary City later reappeared in public housing in the U.S. under the process of "urban renewal" and again in the modernistic city, Brasilia. (Hall 2014)

Brasilia

Brasilia was planned to be Brazil's new capital and was built from 1956 to 1960 as a part of President Juscelino Kubitschek's national modernization project. (Holston 1990) One of the pioneers of the modern architectural movement in Brazil, the architect Lúcio Costa won the competition for Brasilia's master plan. (Epstein 1973) The plan was described as an airplane, dragonfly or bird and the body was a monumental axis for the principal public buildings and offices and the wings were residential and other areas. (Epstein 1973)

Brasilia was according to Holston the ultimate political achievement of the modern movement and describes it as:

"a CIAM city ... the most complete example ever constructed of the architectural and planning tenets put forward in CIAM manifestos". (Holston 1990, p.31)

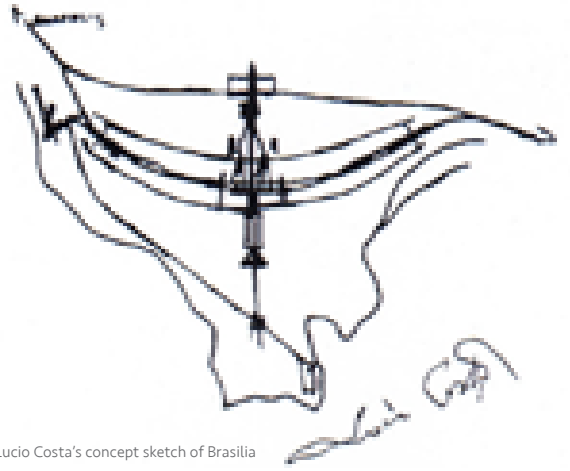
The fundamental vision for Brasilia was to create a built form that was to be a shell for a new society, without any reference to history. A city created on a clean slate where the past was completely abolished. Holston writes,

"Brasilia was built to be more than the symbol of this new age. Rather, its design and construction were intended as means to create it by transforming Brazilian society." (1990, p.3)

The plan embodies the key premise of the modern movement "total decontextualization", where the future becomes the means to measure the present without any sense of historical context. (Holston 1990, p.9) Brasilia is today one of the world's best preserved examples of modernistic urban planning and architecture and was in 1987 included on UNESCO's List of World Heritage Sites. (UNESCO 2015)

Brasilia is also an example of an unrealistic vision in a modern world. Under the construction, the planners of Brasilia experienced problems with sub-habitations or a so-called Free Town. The authorities tried to destroy it in 1961, but a law was passed permitting it to remain. In 1960, it was officially estimated that one-third of the population of the Federal District lived in sub-habitations around Brasilia. (Epstein 1973) Peter Hall writes,

"Such was the end of the dream of creating a



Ill. 6. Lucio Costa's concept sketch of Brasilia

classless urban society in a country where rich and poor had always been segregated. The difference, if anything, was that in Brasília they were more ruthlessly separated than in any of the older cities". (Hall 2014, p.252)

Another failed planning aspect of Brasilia was the infrastructure. The city was not build for pedestrians, but cars, which resulted in streams of pedestrians, cheating death daily, as they would weave between speeding cars on the central mall. (Hall 2014)

The car

Through the history of urban planning, the car is one of the elements, which changed the planning field dramatically. Around 1900, the motor car became a technological reality, but only due to the evolution wrought by Henry Ford, in 1913 when he combined the mass-production techniques, did the car become a reality for the masses. (Hall 2014) By 1927, America was producing 85% of the world's cars and in America; there was one car for every five Americans. (Flink 1975) The effects of the cars have already begin to show in the mid-1920s in America, but the rest of the world would not experience this until the 1950s and 1960s. (Flink 1975) At the end of the 1920s, it was found that being a car-owner, was allowing the ordinary worker to live farther from his work. Downtown commuters by automobile had outnumbered the commuters by public transit in Washington, Kansas City and St. Louis. (Dolce 1976)

At the end of the 1920s, it was noticeable that the suburbs were growing faster than the central cities, which established the need for a system for car commuters. In 1930, New York's master-builder, Robert Moses build The Henry Hudson Parkway, extending his parkway system, down the west side of Manhattan Island and established the world's first urban motorway. (Caro 1974) Because of the World War Two, only 10% of families owned cars in Europe.

However, it was in Germany, that the world's first true motorway was build: the AVUS (Automobil-Verkehrs- und Übungsstrasse). It was a 6-mile combined racing track and suburban commuter route build between 1913 and 1921. Later, 2400 miles of Autobahn, created by the Nazi's, connected Germany by the start of World War Two. The Autobahn created a new highway landscape that was later imitated around the world.

Los Angeles was undoubtedly, the place where the cars have had the greatest impact. The city was a laboratory for planners and architects to accommodate the car. From the beginning of 1920, Los Angeles began to experience the impact of mass car ownership and the pattern of development changed. New housing

Ill. 7. Model of Broadacre City

was built in areas inaccessible by rail and now spread more than 30 miles from the centre of the city. At the end of the 1930s the infrastructure pattern of Los Angeles had multiple travel corridors, origins and destinations. It was the product and the generator of an automobile-dependent economy and society and it had never been seen before.

Broadacre City

Presented by Fran Lloyd Wright was also a highly idealized version of the automobile city. Wright conceived Broadacre City in 1924 and as Peter Hall describes, the project managed in an extraordinary way to combine together almost every significant strain of American urban – more precisely, anti-urban thinking (Hall 2014). The project was a reaction to the conditions of its time and celebrated the liberating effect of new technologies.

"The three major inventions already at work building Broadacres are: 1. The motor car: general mobilization of the human being; 2. Radio, telephone and telegraph: electrical communication becoming complete; 3. Standardized machine-shop production: machine invention plus scientific discovery." (Pimlott 2007, p.164)

The project exposed his approach to the problems of the American city and territory, and illustrated a rejection of the big city and government and an argument for individualism. (Pimlott 2007) (Hall 2014) He called his idea 'a new freedom for living in America' (Sky and Stone 1976, p.292). However, Wrights criticism of the city was not because of overcrowding, but for him, the city was a manifestation of the American society, which was wrong. (Pimlott 2007)

The project draws parallels to Howard Ebenezer's vision of the Garden City and the Soviet deurbanists, but there are also differences: With Broadacre City, Wright claimed to liberate men and woman to live as free individuals and in comparison to Ebenezer, he desired not to marry town and country, but to merge them. (Fishman 1977)

The project proposed a wide middle class commuter suburb, a city for individuals. Its houses would be designed *"not only in harmony with greenery and ground but intimate with the pattern of the personal life of the individual on the ground. No two homes, no two gardens, none of the farm units on one – to two, three – to ten acres or more; no two farmsteads or factory buildings need be alike ... Strong but light and appropriate houses, spacious convenient workplaces to which all would be tributary, each item would be solidly and sympathetically built out of materials native to Time, Place, and Man." (Wright 1945, p. 66.)*

Then, after World War Two, a suburban building boom created a kind of Broadacre City all over America. The suburbs were growing at 10 times the rate of the central cities and by 1954, nine

million people had moved into the suburbs. The 1950s and 60s was the decades of the greatest suburban growth in American history. (Hall 2014)

This is also the time period, where academic city planning is developed and planning becomes a craft learned through formal education. During the late 1950s and most of the 1960s a link had been made between the world of theory and the world of practice.
"*The discipline of physical planning changed more in 10 years from 1960 to 1970, than in the previous 100, possible even 1,000 years.*" (Batty 1979, p.18) The planning practice changes from a kind of craft that was based on personal knowledge of concepts about the city, into a scientific activity, were precise information was gathered and processed. This way, the planner was able to handle very sensitive systems of guidance and control. Cities were beginning to be seen as complex systems, while planning was seen as a continuous process of control and monitoring of these systems. (Hall 2014)

In the 1990s, the main focus was the search for sustainability and sustainable urban development became essential in all urban projects, all in favour of it, but no one really knew what it meant. At the same time, cities and city planners were increasingly competing with each other in the reconstruction of their economy and rebuilding of previous industrial landscapes. Peter Hall describes that "the competitive city and the sustainable city, came together in a renewed focus on urban regeneration: forging an urban renaissance" (Hall 2014). Focus shifted towards a reclaiming of traditional public spaces; streets, squares and parks – the integration of urban planning and architecture as a reaction to abstract strategic planning (Hall 2014).

The Urban projects, public space and community facilities, became a means to "relaunch" cities, as part of their economic conversion from an industrial- into a service-based one, aiding their ranking in the "international urban league" (Hall 2014).

A radical change in city planning or attitude towards planning has recently surfaced, a vision that has loomed under the surface for decades. The vision is a post-modernistic approach lead by Jane Jacobs, William Whyte and Jan Gehl that puts people in the centre – cities should be designed and planned for people. We have reached a time, where people have become a lot more relevant for urban planning. We want to create social sustainable places that people love and want to use – places that are liveable. Compared to Le Corbusier's statement that "The design of cities was too important to be left to the citizens." (Fishman 1977, p. 190) citizens today are the key to designing cities, quality of life is essential to keep people happy in the city, and if it were not for the people there would be no cities.

Part conclusion

The historic development of urban planning, visions and approaches to city design are the basis for the knowledge of planning and cities we have today, and has more or less been necessary to come to the conclusion that cities are for people and should be designed for them.

What is important to realize also, is, that urban planners and city architects has always created visions based on what was liveable. Howard Ebenezer created the Garden Cities based on what he believed would be liveable for people. Brasilìa was built on the notion of being a moveable city to ease people's transit. The previous urban planning is neither irrelevant nor stupid, but simply the visions that answered the needs at the time.

Wheather we build on the basis of political new grounds or a vision to renew an existing city, one thing is clear. Town Planning will always aspire from a vision and in the world today that vision is people's quality of life and liveability, the question is simply what does liveability imply and it is possible to actually design and plan on the basis of the notion?

1.2 Exploring the Notion of Liveability

Throughout history, planners and architects have always strived towards creating the ideal city and thereby realise their understanding of "the world's most liveable city". Even though they not necessarily used the term, their plans and visions were expressions of their ideal world for people to live in. Everyone has different ideas of what the term liveability convers, and therefore it is exceedingly difficult to define.

The notion of liveability

Livable [liv-uh-buh l]: Suitable for living in; habitable; comfortable. (Dictionary 2015A)
Liveability: The quality of life, usually in an urban setting, where the accessibility to needs and services contributes to overall well-being. (Urbandictionary 2015)

The issues of 'Liveability' and 'Liveable Cities' are not new phenomenon. The concept has played various roles in different contexts of the society from policy making and economy boosting to urban planning over the past half century, and it goes back even further. (Kaal 2011) But, just what exactly is "liveability" in the first place? Jon Copestake, The lead author of the Economist Intelligence Unit reports, which find the world's most liveable city each year, admits that liveability is not an easy word to define.

"Essentially, we try and look at what cities present the fewest challenges to your life -- or what is the least challenging place to be in year to year. But -- and this is something that's important to differentiate -- the most liveable city isn't necessarily the best city in the world." (Johanson 2014).

He explains that if you asked 100 different people to choose their favourite city you could potentially get 100 different answers because the particulars of what makes each city great are extremely hard to measure and not necessarily compatible with what make them liveable. (Johanson 2014)

Liveability is most often used to describe the diverse aspects of society, surroundings, and shared experiences that shape a community (Porter 2015), and the way people understand the notion, depends on the time and context they are in. Liveability describes the frame conditions of a decent life for all inhabitants including their physical and mental wellbeing (Rambøll 2015) and is focused on the human experience of place, and is therefore specific to the place and time in question. The term includes an interrelated set of economic, spatial and social components that can be challenging to understand and measure in our defined world of planning and development, since the notion deals with many different aspect of the society. (Porter 2015)

For some, 'Liveability' is intrinsically tied to the physical environment such as parks and green spaces; for others to cultural offers, career opportunities, economic dynamic, or some degree of reasonable safety within which to raise a family (Ling et al. 2006). Young people may prefer great nightlife or active spots in the city while the older users favour a city with more green spaces and quit areas (Johanson 2014).

"...Livability is a normative concept that means that how people define livability or try to improve it reveals much more about their visions on society, on the relationship between human beings and the social environment in which they live." (Kaal 2011, p. 535)

However, the notion of liveability is best defined through a case; the state, region, city or community in question, where a definitional consensus about liveability can be found. (Porter 2015)

Where does the idea come from?

The origin of "liveability" was actually created as a barometer for employers assigning hardship allowances as a part of expatriate relocation packages. The Mercer liveability index describes that their "reports are based on annual responses to a questionnaire developed by international Mercer professionals working closely with major multinational companies and other experts in the field." Their factors for judging

liveability are considered "most relevant to international executives". (James 2013)

The three most influential lists, ranking the "best" cities around the world, are made by the Economist Intelligence Unit, Monocle magazine and the Mercer quality of life surveys. Each applies their own criteria, making it even more complicated to create a cohesive definition of the term. EIU and Forbes base their assessment mainly on crime rates, health statistics, sanitation standards, expenditure on city services, unemployment, income growth and cost of living. Monocle has in the past defined its highest-ranking cities as "Places that are benchmarks for urban renaissance and rigorous reinvention in everything from environmental policy to transport." (The landscape journal 2014)

Joel Kotkin argues in his article "Why the 'Liveable Cities' Rankings are Wrong" that the standards for judging the cities are mistaken:
"It seems to me what makes for great cities in history are not measurements of safety, sanitation or homogeneity but economic growth, cultural diversity and social dynamism." (2009)

However, EIU's Liveability Ranking and overview, like Mercer's Quality of Life Survey, was never intended to measure the quality of urban life from a permanent resident's perspective and it was certainly not intended to become a benchmark for a city's dynamism. However, what started as a 'hardship survey' quickly developed, after the top-ranked cities began to use the research as a marketing tool. (Johanson 2014) Copestake from the EIU explains that their global survey has slowly changed from being an assessment of hardship conditions for relocating executives into a "rough, touchy-feely guide to where your city sits in the global stakes of liveability" and he admits that the specific ranks are "meaningless". The important thing is the general spread of results. (Marshall 2011)

Copestake explains that "governments find it useful to have a broad benchmark of how their city lies in relation to others" and because "it gives them some sense of themselves and can also give them reasons to see how they are perceived and find ways to improve to counter those perceptions if they need to." (Johanson 2014)

Liveability has become a branding tool in urban planning as a result of globalisation processes playing a more important role in shaping city economics and encouraging competitiveness among cities. "Liveability" has become a marketable trait in policy making to attract tourism, investments and labour which is noticeable in Melbourne, Australia, which has been ranked the world's most liveable city for four consecutive years. (Melbourne 2014) The concept of liveability has become an important part of Melbourne's "brand" and it is a great tool for marketing the city internationally. Melbourne has been attracting more visitors from overseas and have had a 15 percent increase year-on-year in international visitation. (Gordon 2014)

Melbourne's liveability is something to celebrate, however there is also a backside to the bustling perfect city centre – the suburbs. The ranking system works very well as a marketing tool to attract highly paid executives, but for the residents in the suburbs, the rankings are meaningless. The suburbs of Melbourne has higher than average rates of mortgage stress, unemployment and family violence and council worker, Mary Agostino describes that:

"You've got young people out here who can't even access mental-health services, you can't even access health prevention, and we are talking about a liveable Melbourne. For the people living on the outer fringe, it's a different story." (Gordon 2014)

With a lack of access to public transport, long commuting times and a lack of access to services and increasingly unaffordable housing, the problems in the outer suburbs are getting worse and the residents in the suburbs are excluded from cultural and economic opportunities due to poverty and disadvantage.

The problems experienced in Melbourne are not excluded to Melbourne, but are also seen in other "liveable cities" and there is a risk that "the world's most liveable cities" will ignore the people in the suburbs outside the 10-kilometre radius of the city centre. (Gordon 2014)

It is important to remember that being ranked "the world's most liveable city" not necessarily equals liveability for all citizens. The idea of liveable cities should be the beginning of a people-focused remit aiming to improve quality of life, for all citizens.

This thesis focuses on the liveable aspect that is related to the built environment and is driven by a fundamental concern for life at the human scale.

Quality of Life

To understand liveability we need to understand a central term that undeniable is linked closely to the notion – Quality if Life. Quality of Life is as Liveability a difficult term to define, and it is related to multiple elements of the society and life in general: Wealth and employment, the built environment, physical and mental health, education, recreation and leisure time, and social belonging (Mohit 2013). As with liveability the focus here is quality of life in relation to the built environment - The Urban Quality of Life.

"The term urban quality of life is not used to describe some physical features but to describe all the relationship, the dynamics, and the reticular relationship that exist between those physical features." (El Din et al 2013)

The improvement of quality of urban life is not a matter of bricks an mortar, but:
"The human satisfaction with different urban attributes such as transportation, quality of public spaces, recreational opportunities, land use patterns, population and building densities, and ease of access for all to basic goods, services and public amenities." (El Din et al 2013)

It is a matter of social integration, promoting equality, respect for diversity and cultural identities, preservation of historic and cultural buildings, promoting spatial diversification and mixed use that encourage positive interaction and variety and respecting the local landscapes and local environment. (El Din et al 2013) Local cultures and traditions enrich a place making it different from any other and encourage pride and ownership. Culture can be seen through diversity of lifestyles, heritage, environment, foods and shared activities. (Abidin Idid 2004)

"The mixture of urban activities stimulates the social involvement of citizens and proper use of the urban space." J. Tanghe 1984 (Abidin Idid 2004)

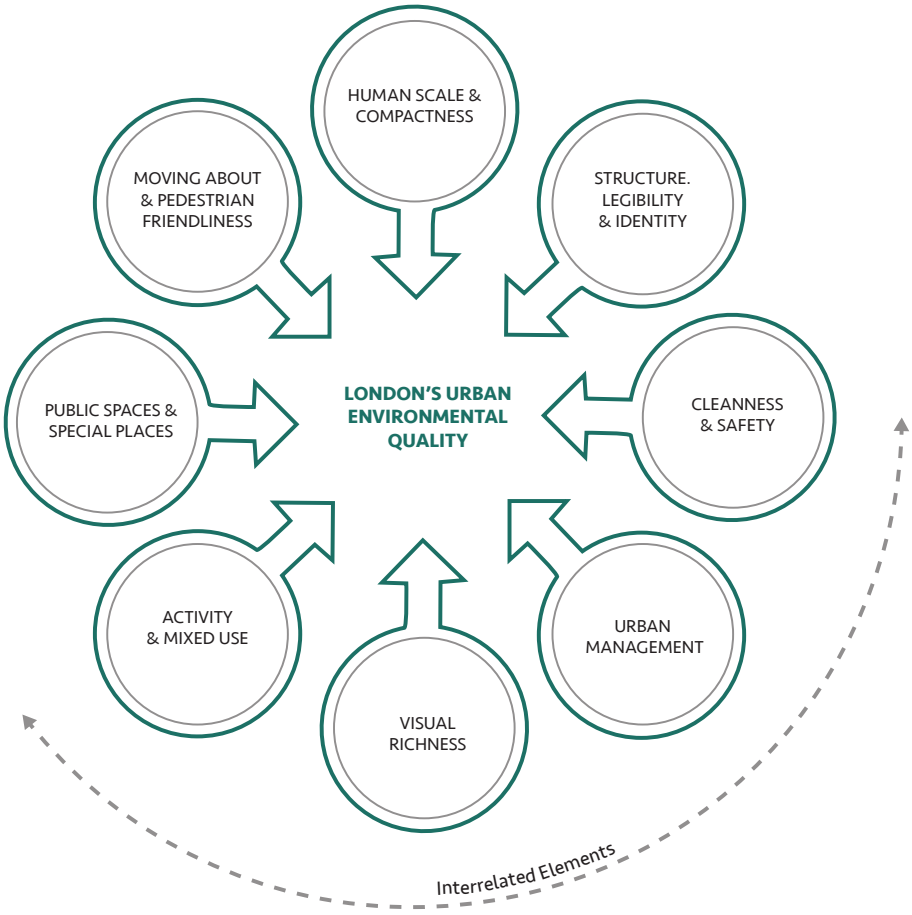
It can be argued that quality of space is reflected in quality of life, to enhance the quality of urban life we need to enhance the urban quality.

"The essential element of quality in urban environments it not something that can be readily measured, or even identified fully, as it may wall spring from a combination of factors relating to 'sense of place', such as legibility, collective memory and issues of historical continuum. To this we should nowadays include 'inclusiveness' and 'diversity' in a pluralistic society." (Chapman et al 1999)

In London the developed in 1993 8 factors for environmental quality, that should enhance the urban quality and thereby the quality of life in the city. The elements demonstrate the complexity in the term through inter-related components, from activities and physical form to management. (Chapman 1999) (se ill.)

But when improving quality of urban life through a space it is also necessary to understand the significant characteristics of the place and appreciate the essential components that shaped the uniqueness of the place initially, so they are protected and preserved from the process of change. Neglecting to do so will result in the loss of significant quality of the place that deteriorates the environment and represses the basic quality of life (Abidin Idid 2004).

The precondition for quality of urban life is a vibrant city. Optimal use of space and the com-



Ill. 8. Element for enhancing the quality of the urban environment.

plexity in the diversity of activities within the city, including people living in the city, generates vibrancy. People are the prerequisite of activities, and the human activity and buildings gives a place its significance and identity. (Abidin Idid 2004)

Planning for liveability

To understand the new planning vision, we first need to understand the situation of the cities around the world, especially the large cities planned from ideals of the modernism. Roughly put, there are two main types of cities, the historic city and cities planned from ideas of the modernism.

The historic cities, in Europe, has slowly naturally grown since the middle age from a dense city centre designed for the human scale with origin in the functions of everyday life; walkable distances, squares and market spaces that supported the cities as centres for trade and craftsmanship. The result is cities in a scale that is adjusted to the human senses and possibilities. (Gehl 2010)

The story is very different with the modern planned cities, especially the American cities that 'by contrast, sprang up as transitory settlements – places on the way to some place else' – Vice President Spiro Agnew (Kaal 2011, p. 534). These cities are planned on the drawing table 'from above', and the time of development is much denser. The fast growing economy, new

planning ideologies and the introduction of the automobile has resulted in large distances, tall buildings and fast architecture, where the dimensions of the city has gradually been more and more oriented towards the car. (Gehl 2010) The results here are cities with segregated functions and long distances (Larson 2012).

"First they built the road, then they built the town. That's why we're still driving round and round" – Arcade Fire, 'Wasted Hours'

Since the introduction of the cars in the cities, city development has been planned from the cars perspective, in both types of cities. The fast development and quickly grown size of the modern inspired cities has made the consequences of the development very clear.

People move to the suburbs to get cheaper accommodation and to get a single-family house with private garden. The city expands, and to maintain the growth, more highways and expressways are built – creating urban sprawl, which developed to be one of the main problems in major cities today.

"When the city becomes bigger, you have much greater pressure on your commuting, because you're commuting such long distance and it takes much more time out of you day. After dinner you will feel so tired – and nobody knows each other very well." – Jiangyan Wang, Director of China Sustainable transportation Centre (The Human Scale 2012, 13:00)

The time spend commuting leaves little time to do other things or spend time with people during the day, which decrease the quality of life and often result in loneliness (Montgomery, 2014)(the Human Scale 2012). There are great social sacrifices with this city structure.

A great deal of the large cities around the world, inspired by the modernism, especially in North America, have during the last few decades tried to change the car-focused development to concentrate about quality of life and environmental concerns. They are recognizing the need to compete against expanding suburbs to maintain a vibrant downtown and avoid the decay of the urban core seen in many North American cities (Ling et al. 2006). The notion of Liveability plays a central role in these future development strategies and the adoption of the term and the need for change is rooted in the recognition of limits to growth (Ling et al. 2006).
Liveability has changed the approach in urban planning and people have become the key to liveability.

"There is no logic that can be superimposed on the city; people make it, and it is to them, not buildings, that we must fit our plans." – Jane Jacobs (Jacobs 1961)

Liveability – a people-centred approach

The essence of this new vision and planning approach is people, as quality of life in the notion of Liveability refers to quality of life for the people living in the city. Cities should be a place for people and there is a need to make a shift from a planning- to a people-centred approach. (Gehl 2010) (ucgl 2014)

"The right to the city cannot be conceived of as simple visiting right or as a return to traditional cities. It can only be formulated as a transformed and renewed right to urban life" – Henry Lefebvre (Montgomery 2014)

Cities are places where people meet, to exchange ideas, trade, relax or simply enjoy themselves. A city's public domain, its streets, squares and parks, is the stage and the catalyst for these activities. If it was not for the people there would be no cities, the human being is essential for city planning – city planning has to have people as the starting point. The people-centred liveability approach is humanistic and social city planning where people that use the urban space in their daily routine are in focus. (Gehl 2010)

Historically the public realm in cities have functioned as meeting places for the citizens, all the way back to the ancient agora in Greece – the heart of the city-state – an invitation to participate in the life of the polis, a truly public place where commercial goods and ideas were traded

freely. (Montgomery 2014) The public spaces in the city are crucial for city life.

"(The city) should therefore enable us to build and strengthen the bonds between friends, families, and strangers that give life meaning, bonds that represent the city's greatest achievement and opportunity" - Charles Montgomery (Montgomery 2014)

Urban planning, an especially this 'new approach' demonstrates a respect for people and their quality of life, as well as accepting the city as a meeting place and a place for people. Therefore, to really understand the city and be able to create design in the city that will be used and that can have the potential for increasing the quality of life for people – people has to be a large part of the process.

The fact that the characteristics of liveability can vary from city to city means that liveability needs to be seen as policy of participation and inclusive planning. We should always strive to achieve a liveable planning approach, because it is people that shape and use the cities. Liveability is a "lens through which any 21st- century review of a city's built environment should be undertaken, because it starts with the needs of the people who live in it." (The landscape Journal 2014)

Moving toward a people-centred urban planning approach requires a restructuring of the planning and design process. Master planning needs to evolve into a dynamic process that enable and collaborate with citizens to respond to their needs.

"Projects should no longer be goals in themselves; the goal should be to achieve a functionality that enables attainment of shared values." (Designing cities for People 2014)

A change of paradigm brings important challenges, as it can be difficult to assess the needs of citizens. It is crucial to ensure to gather data from the excluded parts of the population to ensure that the planning is for all. (Designing cities for People 2014)

1.3 Can Liveability be Designed?

This section of the theoretic framework is the theoretic preparatory work for the first part of the Liveability Model which will be explained in chapter 04. The section is an analysis of what is important in relation to liveability in public spaces, which is the delimitatino for this project.

Can liveability be designed? The short answer is yes. The long answer requires an exploration of the existing theory on the subject. As described, the notion of liveability deals with many different aspects of the society and it can be complicated to create a cohesive explanation of the term. The tale is however different when researching liveability in relation to the public realm where it becomes clear that people are the key foundation for liveable design.

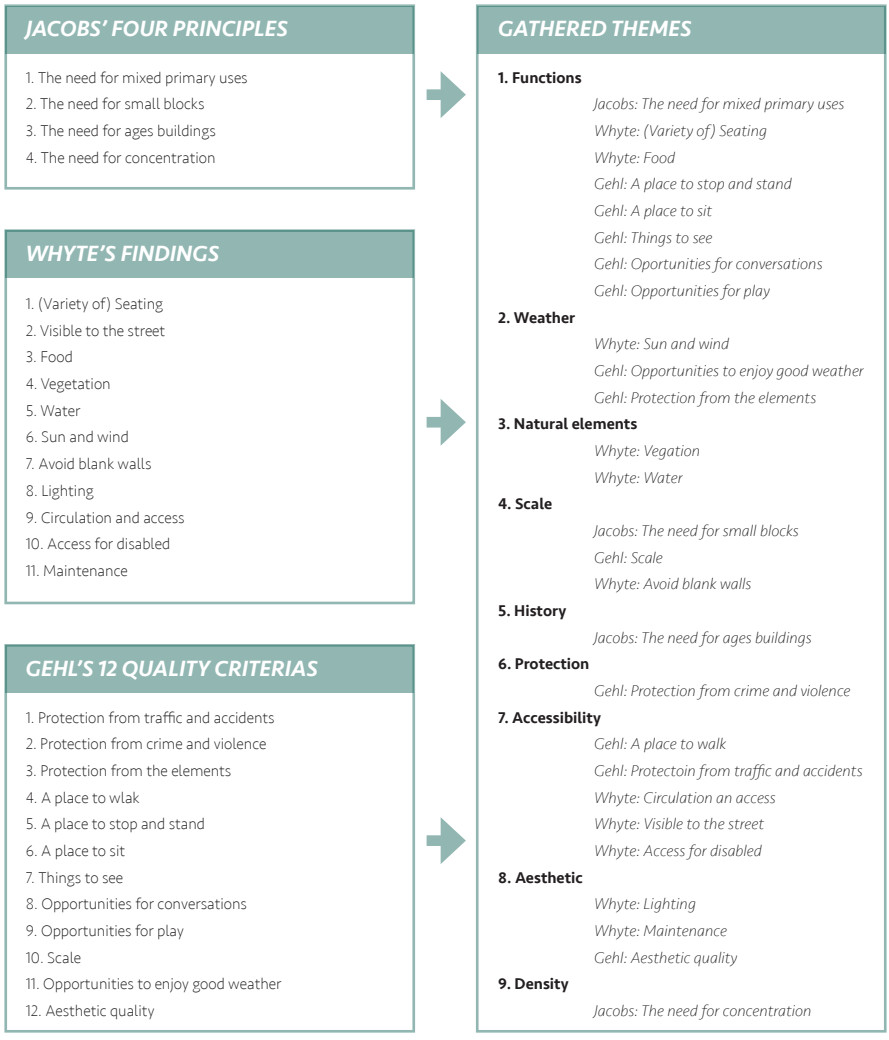
"You can't talk about liveable design without talking about people" (Jerome Frost - Designing the liveable city 2014)

To locate the essentials of what makes a place liveable, we will discuss the work of urban planners and theorists who has worked with observing and using people as the point of departure to create guidelines for good public spaces. The discussion will conclude with a list of parameters that are essential when designing liveable urban spaces.
The primary theorists, which work will be the foundation for this discussion is Jane Jacobs, Jan Gehl and William H. Whyte. They have all worked with people as the foundation for their work and have analysed how people experience and use public spaces and their work is some of the most influential in urban planning. Other theorists and case studies will be used as comparative reflections to the work of Jacobs, Whyte and Gehl to form a better understanding of the fundamentals when designing an urban space.

The American journalist, urban writer and activist Jane Jacobs (1916-2006) championed new community-based approaches to planning and argued against the modernistic infrastructure that destroyed local neighbourhoods. Jacobs had no professional training in the field of city planning and she relied on her observations and common sense to illustrate why certain places work and what can be done to improve those that do not. Jacobs gathered her ideas about 'the good city' in four principles in her book The Death and Life of Great American Cities (1961).
William H. Whyte (1917 - 1999) was an American urbanist and journalist who studied the human behaviour in urban settings. He treats all the basic questions for why people visit certain spaces, how they act in them and how they act among each other. With the research and book 'The Social Life of Small Urban Spaces', he formulated specific needs to the design of urban spaces.
The Danish architect and urban planner, Jan Gehl (1936-) has through his career systematically documented urban spaces and people's behaviour. His work focuses on improving the quality of the public realm based on twelve quality criteria that secures a good public landscape for the pedestrian.

The principles, findings and criteria of Jacobs, Whyte and Gehl are used as the foundation for the discussion of what makes a place liveable. Jacobs works in a larger scale than Whyte and Gehl, as her four principles addresses the whole city, which will be accounted for in the process. The diagram illustrate the key findings of the three theorist's work and gather their findings in nine themes, that presents an initial suggestion to what is central when designing urban spaces.

There is however a few themes, which is not covered by the three theorists.
As previous stated, liveability is a normative concept (Kaal 2011) and is focused on the human experience of place and is therefore specific to the place and time in question. (Rambøll 2015) To design liveable urban spaces it is crucial to have a local approach that uses the local realities to shape the design. The new theme 'Local Identity' is therefore added to the themes.
In relation to the theme of a local identity, is also heritage, which is not a focus for the theorists. However, Jane Jacobs argues for a mix of old and



Ill. 9. The findings from the three theorists gathered in themes.

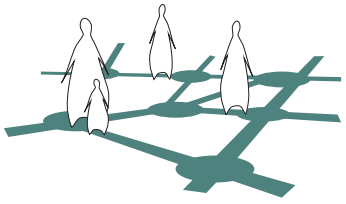
new buildings, but this in relation to economic development in neighbourhoods and it has in fact nothing to do about using the existing heritage to improve the quality of the public realm. The concept of liveability is strongly related to cultural heritage since the preservation of old buildings and maintenance of the traditional city provides continuity for people and make the environments more liveable. (Fusco, Nijkamp, 2009) 'Heritage' is therefore also added to the final list of themes.

As there were missing themes on the list, there are also some, which are removed. Jacobs describes in her fourth principle 'the need for concentration' that districts must have a dense concentration of people to create diversity in the city. (Jacobs 1951) Since this project very specific relates to the urban space, the concentration of people in the surrounding context is not taken into consideration and the theme 'Density' is removed from the list. So is the theme 'Protection' since again, it is not something this project takes into consideration.

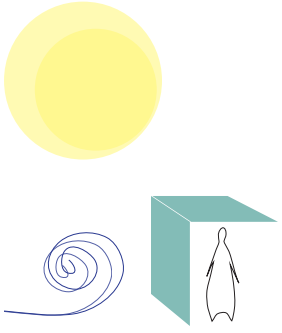
With these alterations, the themes from illustration 7 and the two new themes are combined into eight parameters, which are further elaborated.

Mixed Use

Visual Connectivity



Walkability

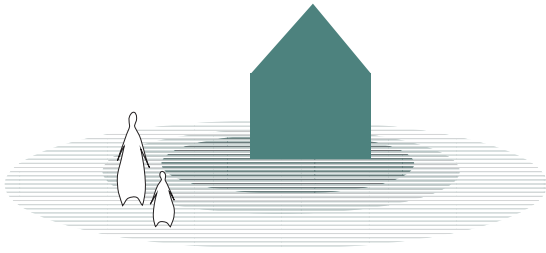


Comfort

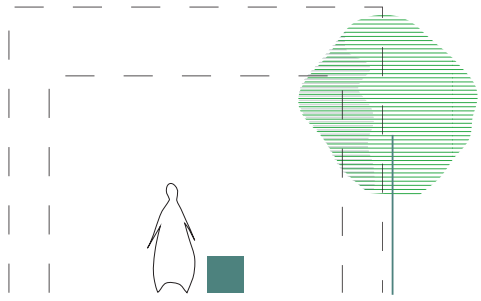
Natural Value

Local Identity

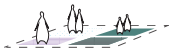
Heritage



Human Scale



Ill. 10. Liveability parameters



Mixed-Use

A mixed use of functions will ensure that everyone is invited to use the space and the different programmes will be activated by people at different times and for different purposes and create a vibrant atmosphere. The functions must facilitate for a combination of necessary, optional and social activities with an increased focus on the optional recreational activities.

One of Jacob's key principles to the good city is functional diversity and she argues that there must be a mix of uses for an area to thrive. Mixed uses in the city will ensure the presence of people at different times and for different purposes, and thereby create a living city buzzing with life. (Jacobs 1961)

To ensure mixed-uses and the multiplicity of choice it is necessary to create different types of spaces such as businesses, cultural activities and recreational areas that addresses people with different needs. Jacobs describes that an ongoing activity creates safer streets and offers multiple opportunities for the residents. (1961) A place should have the capacity to receive different activities and contents. A place, which is only fitted for one particular purpose, is more or less useless, as it cannot invite to more than one activity. (Norberg-Schulz 2006)

"The point of cities is multiplicity of choice." (Jacobs 1961, p. 340)

However, Jacobs does not give any detailed suggestions to which programmes, how many and of what quality is required to create a successful space. Here we must turn to Jan Gehl who describes that a successful urban space is created by a combination of necessary, optional and social activities. The necessary activities are those activities that people have to do such as walking to work, go shopping or waiting for the bus. The optional activities are those actions, which people do because they want to and if the space enables the activity. This category is the most important as it is the activities in this category that will attract people to use and spend time in the space. The activities in this category is most often of a recreational character such as going for a walk, sitting, enjoying the view, playing, exercising etc. The last category is the social activities and is activities created by the people in the space. It can be children playing with other children, greetings and conversations, shared activities and probably the most widespread of them all, is the passive social interaction – to see and hear other people. (Gehl 2007)

Mixed-used spaces match the current ideals of urban planning and in 1996, West 8 completed the Schouwburgplein or "Theatre Square" in Rotterdam which has become famous for its flexibility. With a variety of programmes, the space changes throughout the day and from season to season. The space offers seating, green spaces, play areas, flexible space for events, café's and the possibility to see other people.

"Concrete human actions in fact do not take place in an homogeneous isotropic space, but in a space distinguished by qualitative differences, such as "up" and "down". (Norberg-Schulz 2006)

Visual Conenctivity

An urban space must be visually connected to the city and its surrounding atmosphere to be able to attract people to use the space. The visual connection functions as an orientation tool in the city and can help guide people from place to place. Social viewing distances needs to define the spatial dimensions of to secure a comfortable sensorial experience of the space.

Both Jacobs and Gehl argues that the city must be well connected to be successful. Connectivity ensures that the city is connected in the human scale, physically and visually. Streets should be a continuous network through the city, and parks and squares used to intensify and knit together the fabric's complexity and multiple use. (Jacobs 1961)

An urban space needs to be linked together with the city and the surroundings spaces to guide people from one place to another. (Gehl 2010) This link can be achieved visually to attract people to use the space. There is a clear distinction between visual connections and the paths that connect the physical movement of people. Visual connections are necessary for orientation, and for creating a coherent picture of an urban setting and if people do not see a space, they will not use it. (Lynch 1960) (Whyte 1980)
The dimension of a space determines how the space is experienced. If the spaces are made to wide and big, the possibility to experience the room and the activities happening in it, from one place is more or less lost. The overview and sensorial experience of a large space is highly valued and it is therefore recommended to create spatial boundaries that outline the social field of view. In this way there is space for many activities to take place while it is possible to see everything at once. (Gehl 2007)

Gehl describes that it is beneficial to work with a combination of several social viewing distances at one time to create a better experience of the spatial dimensions. The maximal distance for viewing events or activities is 70-100 metres, which can be combined with the maximal distance to see face expressions (20-25 metres). (2007) (Lynch 1984)

Comfort

A comfortable urban space creates opportunities to enjoy the positive aspects of the climate and protects against bad weather conditions and uncomfortable noise levels.

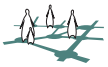
Both Gehl and Whyte addresses the problems and potentials of the weather in relation to creating comfortable urban spaces. A number of factors influence the experience of comfort in an urban space, according to the specific climate zone: Air temperature, wind chill, insolation, shade and noise. (Gehl 2010)

According to Gehl, one of the most important quality factors regarding people's use of the city's spaces is good weather, or as good as it can be in relation to situation, space and time of year. Good weather attracts people. (Gehl 2010) This observation is also the result of Whyte's studies of public spaces, however, he also discovers that good weather is not necessarily sunny. In the early spring months, sun was critical for the public life, but as temperatures rose in the summer months, the sun was no longer the critical factor. Temperature was. (Whyte 1980)

However, Whyte describes that the experience is much better when there is sun, since people then have a choice of sun, shade or in-between and he further argues that "the more access to sun, the better, and, if there is a southern exposure, it should be made the most of." (Whyte 1980, p.42)

The absence of winds and drafts are as critical for the comfort level in an urban space, as the presence of the sun. Whyte (1980) explains that with sun and protection from wind, urban spaces can be quite comfortable even during the cold months.

Additionally noise influences the comfort in a space and should influence the future programming of a space. Busy spaces for pauses in the city close to traffic can be noisy but agreeable, but with spaces for longer stay, relaxing and especially conversation noise will decrease the comfort. 60 decibel is the upper limit for background noise, for a normal, nuanced conversation to be possible (Gehl 2010). Whyte's studies proved however, that the noise is not a crucial factor in every situation. The famous Paley Park in New York are found to be peaceful and quite, when in fact, the waterfall is quite loud and have a noise level of about 75 decibel. (Whyte 1980) In conclusion, an urban space should consider the noise levels of the traffic, but not plan solemnly based on noise levels, as people still use spaces, if the activity attracts them.



Walkability

An urban space must facilitate good walking experiences through interesting and diverse spaces. The space should be walkable for everyone and invite to activities or short breaks during the walk.

Walkability in a city relates to accessibility, physically space for pedestrians and social contact. If the conditions for pedestrians improve, the walking activity will increase and create potentials for urban life (Gehl 2010). Areas with lots of people, shopping, hanging out and going to and from work are considered more desirable living places, which promote social connectedness, healthy, lifestyles and reduce car dependence than results in a safer walking environment.

Distances are another element in walkability, and it is different to dictate a specific length that is 'walkable' for everyone. Gehl mentions that 500 m is manageable for most, but the mentally distance is more interesting to focus on. Interesting and diverse spatiality's along a route, and possibilities to turn often, can make the experience feel shorter than the actual distance and thereby more comfortable to walk. (Jacobs 1961, Gehl 2010)

Regardless of purpose, walking is characterized by the many social activities that occur during the walk as an integrated part of the pedestrian activity; turning heads, stopping and talking. It is an opportunity for activity. (Gehl 2010)

Natural Value

Water, plantings and trees should be used to create spatial experiences and improve the climatic comfort level to attract people. The design must use native plants to create a reference to the surrounding landscape and nature to remind people of the beauty and necessity of the natural context.

Nature has proved to be essential in urban planning and especially in the last decade, green strategies, sustainability, urban farming and biodiversity are words often used in relation to urban planning. The Danish architecture company "Tredje Natur" base their entire ideology on the importance of natural value. They describe, that nature enhances the quality of life for people, the society and our physical surroundings. (Tredje Natur 2015)

Natural value is an argument to reintroduce nature's fundamental values in the work with architecture and landscape in recognition of the fact that the world and the human life is fundamentally dependent on nature. Nature gives value to the good life, aesthetics and human mental energy, creativity, health and sociality. (Tredje Natur 2015)

Steen A.B. Hoyer describes how the landscape have gained a new meaning in the last decades. Culture has become a part of the nature and vice versa, which provide landscape with a central role in people's lives. It forms a new balance between human and nature in a political correct and trendsetting way. (Hoyer 2003)

"The holistic scope has taken roots in our perception of nature and there is no longer a clear distinguish between nature and culture." (Laursen 2012)

Nature is essential to urban life and in urban design, it can be used as both a scientific concept that refers to the processes, connections and ecosystems and balances in the nature as well as a romantic perspective that is aesthetic, beautiful and evoke feelings. (Tredje Natur)

Whyte explains that greenery and trees provide a satisfying enclosure where people feel embraced and protected. Trees can be used aesthetically to form better spatial dimensions and create smaller paces within a space with soft transitions. (1980)

"Spaces influence us. They affect our mood, our behaviour, out thoughts and feelings. They affect the way we interact with each other and they play a vital role in our health and wellbeing." (Tredje Natur 2015)

Ann Whiston Sprin also describes these thoughts in 'The language of landscape' from 1998. Sprin describes that "landscape, as language, makes thought tangible and imagination possible" (1998).

Greenery improves the quality of an urban space as it connects people with the nature. It creates a link to the surrounding natural context and improves the identity of the place. Westphal (2003) describes that views of green spaces can have a dramatically impact on people by improve productivity, reduce violence, shorten healing times, reduce stress and create a greater sense of wellbeing. Urban greenery can even affect the psychological health of citizens (Lewis 1979; Francis et al. 1984) and their attitude to their surrounding environment (Rapoport 1977).

Greenery is also beneficial in urban design since it can enhance the climatic experience of a place. Urban greenery offer improvement in air, water, and land resources by absorbing air pollutant, increasing water catchment and stabilizing soils. (Westphal 2003) An urban forest can modify the microclimate and provide shade in the summer and break the winds in the winter months (Hutchinson et al. 1982), as well as reducing noise pollution and carbon dioxide (Smith and Staskawicz) and provide a habitat for wildlife (Gill and Bonnett 1973). Using native plantings further supports the ecological environment as they provide a hardy, drought resistant, low maintenance landscape. Native plants also save time and money as they reduce the need for fertilizers, pesticides and water. (Landscaping with native plants)

Local Identity

The design must to celebrate the local identity and culture in order to attract people to participate with the space and identify themselves with the character of the space. This can be achieved through the use of existing materials, colours, functions and plantings.

A local approach is crucial for urban liveability as the quality of life in the city may differ in relation to the specific location and culture. To improve urban liveability it is necessary to take all dimensions that are relevant to urban liveability into account: the physical, the social and the cultural. (Rambøll 2015)
Local Identity, 'sense of place' or 'authenticity' is an important concept in urban design, which derives from the term Genius Loci. The meaning of the term has changed over two centuries and have been developed to be applied to any landscape and any place, including urban ones. Its transition to modern use is well described by the influential American landscape writer J.B. Jackson:

"'Sense of place' is a much used expression, chiefly by architects but taken over by urban planners and interior decorators and the promoters of condominiums, so that now it means very little. It is an awkward and ambiguous translation of the Latin term genius loci. In classical times it means not so much the place itself as the guardian divinity of that place. ... in the eighteenth century the Latin phrase was usually translated as 'the genius of a place', meaning its influence. ... We now use the current version to describe the atmosphere to a place, the quality of its environment. Nevertheless, we recognize that certain localities have an attraction which gives us a certain indefinable sense of well-being and which we want to return to, time and again." (Jackson, 1994, pp. 157–158)

The Norwegian architect and phenomenologist Christian Norberg-Schulz is a key theorist in developing the concept of genius loci. Norberg-Schulz adopted Heidegger's phenomenology as a philosophical approach to define the genius loci as an existential space, being the relationship of man with the environment. (Norberg-Schulz, 1980)

"The existential purpose of architecture is to make a site become a place, that is, to uncover the meanings potentially present in the environment." (Schulz 1980, p.50)

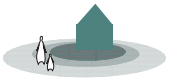
He describes that place is a totality made up of concrete things having material substance, shape, texture and colour and together these things determine an "environmental character," which is the essence of place. He further argues that place is a qualitative, total phenomenon, which cannot be reduced to any of its properties, such as spatial relationships, without losing its concrete nature out of sight. (Schulz 2006) 'Place' or space is a unique concept formed by identity, cultural context and character, which is directly related to the human experience. (Schulz 2006)

"The man made environment where he lives is not a mere practical tool or the result of arbitrary happenings, it has structure and embodies meanings" (Norberg-Schulz 1980, p.50)

'Space' however defines the three-dimensional elements that make up a space, while 'character' addresses the general 'atmosphere' of a place and is according to Norberg-Schulz the most comprehensive property of any place. (Norberg-Schulz 2006)
'Character' is essential in urban design and is important in the experience of a place. To determine and design 'character' of an urban environment, we must look at the physical construction of the place, since 'character' is determined by the material and formal construction of the place. Norberg-Schulz (2006) describes that we must ask "how is the ground on which we walk, how is the sky above our heads, or in general: how are the boundaries which define the place." (Norberg-Schulz 2006, p. 131)

People receives the environment and translate it to buildings and things. The things then become essential in the explanation of the environment and manifests its character. The things themselves become meaningful. (Norberg-Shculz, 1971, p.32)

"... you begin to realize that the important determinant of any culture is after all the spirit of place" (Durell 1969, p.156)



Heritage

The design must value the culture and heritage of the space and use design details that refer to the past. The design must be a combination of the past and the present, to embrace the genius loci of the place.

Genius loci is also represented in the discussion of heritage and preservation, since it deals with values towards past and contemporary places and especially how they are to change in the future. Those characteristics that make a place special is in large amount made up by cultural heritage – traces from the past, whether it is the built environment or cultural tradition. People as a society are also closely linked with the form and history of a place since they can create a sense of place or genius loci. (Jivén, Larkham 2003)

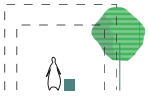
"Only when understanding our place, we may be able to participate creatively and contribute to its history" (Norberg-Schulz 1980, p.202)

Camillo Sitte renewed the vision of the city by proposing urban planning and management principles, which were based on the aesthetic observations and function of the existing urban spaces and on the integration of history into urban planning. (Sitte 1989) He believed that the Italian cities with Roman and Medieval influences portrayed the epitome of city planning. Sitte argues for the use of ancient planning techniques but he does not appeal for historical replication of what has been done before. He argues that Urbanism calls for solutions of the day and by applying principles from the past we can create better spaces for our cities. His work have been the inspiration for many generations of urbanists and planners and become the inspiration for the Townscape movement.

"in the course of time the landscape, whether that of a large region like a country or of a small locality like a market town, acquires its specific genius loci, its culture- and history-conditioned character which commonly reflects not only the work and aspirations of the society at present in occupancy but also that of its precursors in the area." (Conzen 1966, p.55-57)

The aesthetic function and the beauty of the historic city is an element, which can further strengthen and establishes a hierarchy and dialogue between old and modern urban forms. (Bandarin, F., Oers, R. V 2012)

"I shall argue that a desirable image is one that celebrates and enlarges the present while making connections with past and future. The image must be flexible, consonant with external reality, and, above all, in tune with our own biological nature." (Lynch 1972, p.1)



Human Scale

An urban space must be designed after the human scale and senses. Smaller intimate spaces are preferable to large open spaces. The aesthetic qualities of the space must please the senses with design details and good materials.

Urban spaces for people should be shaped after the human scale, spaces that are designed with respect for the possibilities and limitations the human body has. Therefore, it is essential to regard the human dimension when proportioning a space in the city. It is in the small scale, the 5 km/h cityscape that the individual meets the city up close (Gehl 2010).

The human senses are the point of departure for designing urban spaces (Gehl 2010) and it is only natural that urban spaces are created to please the human senses.

It is therefore central to work with the visual and aesthetic character of the urban space. Significant details can make a difference between and ordinary space and an outstanding one. Greater emphasis on design and details appear more engaging for people and of greater importance. (Public Space 2014) Urban spaces that contains all the practical necessities can according to Gehl (2010), still be unsuccessful, if the details, materials and colours lack in visual coordination.

Especially the visual aspect is important in the relation to how we experience a space. The visual field is developed for horizontal walking. The eye can see sharp and precise straight ahead and quite large distances, but little upwards. Within 100 meters, it is possible to see people in movement and within 25 meters, it is possible to recognize feelings and facial expressions. (Gehl 2010) If a public space is longer than 100 meters, it is preferable, to create spaces within the space that are of a smaller intimate character and relates better to the human dimension.

1. 4 Urban Design for People

In the debate of how to plan a city, the discussion of how to analyse it, also belongs. As the visions and possibilities have changed through time in urban planning, so have the tools to study city life, and the study of city life is essential in a people-oriented approach towards planning that liveability is.

City life studies in urban design

Before studies of city life appear as a professional field, there were several publications on the subject.

In 1989, Camillo Sitte publishes the book "Der Städtebau nach seinen Künstlerischen Grundsätzen" (English title: "City Planning According to Artistic Principles"), which focused on architecture and urban planning described from an intuitive and aesthetic perspective. Sitte researched the interaction between architecture and urban spaces and his work was inspired by Athens and ancient Greece. He used the agora and forum as examples of good urban spaces and conducted studies of the structures in cities. Through his studies, he aimed to achieve a unity between the modern methods and the artistic techniques of the past and he insisted that the key element to successful city planning was and is the plaza or public square. He argues that because of the historic use of these public spaces, they are vital to cities. (architectureandurbanism 2012)

In the mid-twentieth century, it is clear that urban spaces and city life does not develop by itself, but are affected by the physical boundaries. From the beginning of the 1960s, it was established that city life and the interaction with the urban spaces is a field, which needs to be studied closer. It was necessary to gather knowledge and develop tools to work with the interaction between life and space. This becomes the start of the city life studies as an academic field. (Gehl, Svarre 2013)

In the post-war years, the dominant planning paradigm is modernism, which is realized in large spacious plans. In spite of the good intentions, the modernism meets critique for being built in an inhuman scale and without the qualities from older towns, which has been built through many years. Life has been removed from the cities and as mentioned before, especially Jane Jacobs, William H. Whyte and Jan Gehl works with the issue of bringing people and life back into the cities. (Gehl, Svarre 2013)

In the following years, Le Corbusier continues to be the leading figure in the modernistic movement, but at the same time, planners and architects are continuing to work on the traditional town structures. The Gordon Cullen-inspired townscape movement, which is based in Sitte's ideas, criticise the deserted, inhuman areas in many new modernistic buildings. (Cullen 1961) Another, who criticise the planning of the 1950s and 1960s, is Jane Jacobs. Her book The Death and Life of Great American Cities (1961) was a warning for planners, politicians and people in general, that something is wrong with the modernistic urban planning, which is clearly stated in the first sentence of the book: "This book is an attack on current city planning and rebuilding." (Jacobs 1961, p.3)

Jacobs is against standard solutions created at the desk and explains that it is necessary to go out and explore the life in the city to learn what works.

"There is no logic that can be superimposed on the city; people make it, and it is to them, not buildings, that we must fit our plans. That does not mean accepting the present; downtown does need an overhaul, it is dirty, it is congested. But there are things that are right about it too, and by simple old-fashioned observation we can see what they are. We can see what people like." (Jacobs 1958, essay)

Jane Jacobs points out the problems in urban modernistic planning but does not develop tools to observe city life. This was however done by William H. Whyte who gathered data by observing people with his own eyes or with time-lapse camera's. Whyte (1980) catalogued intricate details on people's behaviour and

made conclusions on, why some areas became popular, others not so and gives recommendations for how to improve urban spaces. The simple explanation to, what attracts people the most, Whyte explains: "What attracts people most, it would appear, is other people". (Whyte 1980, p.19) The book The Social Life of Small Urban Spaces (1980) presents Whyte's methods and explains the basic observations studies of people's social activities. The book is a manual to public life studies and even comes with an appendix with a manual to film with time-lapse camera.

There are several other figures from the 1960s to the 1980s, who established the importance of the interaction between life and space. They were an inspiration for the pioneers of city life studies and especially Kevin Lynch's book The Image of the City (1960), which describes how we read the city and navigates in it, has become a classic in urban planning.

Another who developed tools to urban planning and architecture is Christopher Alexander, an architect and mathematician and his book A Pattern Language (1977) is still today an important inspiration for city life studies. The goal of Alexander's book is to make people design everything from furniture to architecture. He argues that the users know more about buildings and cities than architects and planners. A pattern Language is a guide with patterns, which makes everyone capable of designing cities, gardens, buildings, rooms, furniture's and doorknobs. (Alexander 1977) Alexander was a part of a professionally environment at the University of California. Several pioneers attended US Berkeley around 1970, which included Donald Appleyard (Liveable Streets 1981), Clare Cooper Marcus (Housing as if people mattered 1986), Allan Jacobs (Great Streets 1993) and Peter Bosselmann (Sun, Wind and Comfort 1984).

With the book Livet mellem husene (1971), the Danish architect and urban designer Jan Gehl placed focus on the human dimension in urban design and created guidelines to designing urban spaces. The book analyse the relation between the spatial boundaries and use. He catalogues where people want to be and why they want to be there and hereby analyses the uses of public spaces. (Gehl 1971)

The city life study area can be described as part of urban design, but it is not significant that it is the final design, which is the goal. The aim is through observations to gather data to understand more about the interaction between form and life in the city. This analytical grip can qualify design and other urban planning and building processes. City life studies occur in dialectic between research and practice. It is from the city, that the material is gathered - the city is the fuel, and the laboratory for developing methods to study the interaction between city life and space. (Gehl, Svarre 2013)

The knowledge gained in the time after the 1980s and to the millennium and the approach was transformed to urban design practice. This happens, as the cities grows more interested in the interaction between city life and urban spaces to meet the new challenges of creating attractive cities in a period where the competition between the cities is rising. (Gehl, Svarre 2013)

At the end of the 1980s more cities becomes interested in visualizing, analyse and discuss life in the city because creating well-functioning, lively cities has gained a higher value. In the years from 1985 to 2000, city life studies become a strategic tool in urban design. With the economic growth in the 1990s, investments are made in city environment and the quality of the city, to brand cities on an international market. The ideas created in the 1960s and 70s becomes relevant again and a new focus on diversity, pedestrians and an increased focus on human needs in the city forms the new agenda for urban planning (Gehl, Svarre 2013) – liveability.

From 1985-2000, cities become an active part of the methodology development. Given that urban life studies increasingly becomes part of

the urban planning practice, the studies are now included in a new urban policy framework. This means that many factors other than the purely professional and research based is influencing the design of studies and how and whether these studies are being used. (Gehl, Svarre 2013)

Cities by people

A part of this new methodology to design in the city is user involvement, questioning and observing people.

Questioning Techniques

The most significant questioning technique is interviewing, to get the first-hand experiences, needs and opinions.

"I am interested in other people's stories. Most simply put, stories are a way of knowing." (Seidman 2006, p. 7)

Cities remain healthy when they listen to – and meet – their inhabitant's needs, and one of the best ways to get to know their needs is to simply ask the people, therefore engagement of ordinary people in urban design can be seen as a critical component of functional cities, and in this case an essential component in creating liveable cities.

"The environment works better if the people affected by its changes are actively involved in its creation and management instead of being treated as passive consumers." (Sanoff 2000, p. X)

Involving the citizens make for a number of positive indicators: Information exchange, diversity of viewpoint and an increased sense of having influenced the design and planning decision-making process that all contributes to enhanced project acceptability. (Sanoff 2000) Since liveability is very much a site-specific notion it is necessary to involve the citizens to figure out their understanding of the notion and what is liveable for them in the specific city or location.

A basic assumption in relation to life studies is that the meaning people make of their experience affects the way they carry out that experience. Interviewing and thereby user involvement allows us to place behaviour in context and provides access to understanding their actions. (Seidman 2006)

Seidman gives in his book (2006) an example from the philosopher and sociologist Alfred Schutz (1967) that explains the relation between interviewing and observing from a man chopping wood:

"The observer can watch this behaviour and have an "observational understanding" of the woodchopper. But what the observer understands as a result of this observation may not be at all consistent with how the woodchopper views his own behaviour." (Seidman 2006, p. 9)

It is not enough just to observe people.

Questioning can be done through manual paper survey's, interviewing face-to-face, workshops or more efficient and effective through new digital opportunities.

Observation Techniques

As the process with user involvement has positive outcome it also involves a number of pitfalls. It is important not to force their involvement beyond their competences. One needs to be aware of where in the process and for what the users insight is most useful. Randomly involvement of people can result in chaos and useless data. (Sanoff 2000) Additionally the users may not be aware of their needs, or they may not be able to articulate their needs or even be willing to speak about them. (Steen et al. 2007) It is therefore not enough just to ask people.

Observation techniques are many things, and depend on the size of the specific area that is observed. With direct observations techniques the user involvement does not take place through interviewing but indirect through the mapping of activities and behaviour that documents the city life (Gehl, Svarre 2013). Through observation, the human behaviour is documented, to

analyse and interpret the situation. The most significant tool is the naked eye, paper and a pen, and tools that can freeze the moment or zoom in on a situation – photo or video.

The observer can take on different roles depending on the character of the study; recording, counting numbers, evaluating observer, for example by segregating people into age groups, or the analytical observer that keeps a journal though professionally evaluating the importance of different elements. (Gehl, Svarre 2013) The manual registration always bring back more than cold facts.

Part Conclusion

It is essential to be able to place behaviour in context to fully understand the situation; a combination between the two methods, observation and interviewing, has the potential for viewing the same situation from two different angles, and thereby result in a more realistic picture of the situation.

Previously user involvement techniques with manual questionnaires and manual observation techniques, besides requiring planning time and a lot of people on location, has been very time-consuming, inefficient and not very productive (Sanoff 2000). However, with the new technological development it is now possible to combine user involvement with the technology and thereby gain data in a more efficient way, depending on the method and technology used.

This approach to life studies in the city, using two types of methods, observation and interviewing, create the opportunity for exploring a situation or a research problem from two different angles, which thereby result in a more holistic representation of the situation.

This approach to city life studies can be compared to Brewer and Hunter's (2006) explanation of the Multimethod Approach, with the fundamental strategy to "Attack a research problem with an arsenal of methods that have non overlapping weaknesses in addition to their complementary strengths" (Brewer, Hunter 2006, p. 77). The individual methods might be flawed, but the flaws are not identical and the diversity of imperfections makes it possible to combine methods. This not only achieves their individually strengths but also compensate for their possible faults and limitations. (Brewer, Hunter 2006)

Digital opportunities

Gordon Moore who in 1968 co-founded Intel with the inventor of the microchip Robert Noyce, gave in 1965 a visionary bid on the future in relation to the expressive future of computer hardware to Electronics Magazine. Every 12 months twice the amount of components per chip can be bought for the same cost. Moore's Law is the driver of the hardware and software industries, that theoretically allows the end-user to have a twice as fast product each year. (Computer History Museum 2014)(Digital trends 2015)

The digital opportunities are also emerging in urban design.

"The need for an ICT toolbox reaches across all disciplines engaged in the complex endeavor of planning and designing cities. City planners, architects, urban designers, and various engineering fields thus need to factor in the meaning of networked technologies and their repercussions for contemporary urban life." (Jensen 2015, pp. 228)

The phenomenon of Smart City is well-known in the urban design profession and is implemented in larger cities globally. These smarter cities are implementing Information Communication Technologies (ICT) to increase their performance through data mining to construct smarter solutions based on measuring different parameters. Copenhagen won in 2014 the 'World Smart Cities Award' in Barcelona and Copenhagen plan for a smart city system to cover all of the capital. The system that measure traffic, pollution, sewers and trash facilities, is one of the main initiatives in transforming Co-

penhagen into a city that continuous adapts to its citizens needs in an economic manner. (Ministry of Foreign Affairs Denmark 2014)

Smart cities is possible due to the effect described in Moore's Law and will continue to occupy decision-making worldwide. Major of Rio de Janeiro (Brazil, 6.5 million inhabitants) Eduardo Peas, who won the race against Chicago, Tokyo and Madrid for hosting World Olympics in 2016, gives four commandments for a city of the future: Environmentally friendly, deal with Mobility and Integration, Socially integrated and it has to use technology to be modern (Paes, 2012). In 2010 Paes established The Operations Centre, to make Rio a smart city. The centre includes a 80m wall that streams video from more than 900 cameras around the city. Measurements and climate data is mapped into satellites photos and it automates flood risk warnings to one of the 30 different city agents who monitors inside the operations centre (BBC Technology, 2013). The system is based on the term Big Data - a new term describing large data systems as the one in Rio.

Rob Kitchen describes how these systems often are limited to a relatively coarse spatial scale and often inaccessible to other than the collector. The big data system is often complemented by small data studies such as questionnaire surveys, case studies, city audits, interviews and focus groups. The concept of small data studies is a limited amount of data, which aims for a target group or a much tight focus restricted by a territory or demographic group. These qualitative oriented small data concepts often take advantages of GPS technology. GPS-registrations have made it possible to trace people's behaviour, movement in the city and to locate where they would stay and for how long. The new technology has also made it possible to involve people, question them in a much more efficient way, through digital questionnaires.

"GPS devices offer researchers the opportunity for continuous and intensive high resolution data collection, never before possible in spatial research". (Van Shaick et al 2008, p.17)

GPS tracking makes it possible to get a detailed insight into people's behavioural patterns and can be used to explore the vitality of a city centre. GPS technology can trace large movements in the city and is most commonly used to give an overall image of the use of the city. With automatic data collection, the observer does not have to be present in the city anymore, which makes a difference in the conclusion of the data.

The digital opportunities now allow research of neuro-cartography, which map the streetscape for perceptions and feelings. Through such research it becomes possible to determine the effect of different phenomena's phenomenological affect on our urban spaces. Research in the making by the Van Alen Institute in New York and the Sustainable Society Network+ in London question how the built environment affects individuals vulnerability to impulsive behaviour as drug use, alcohol consumption, internet-use habits and shopping. The GSAPP Cloud Lab from Colombia University creates neighbourhood mental life cartography, that are able to generalize zones of the streetscape where high attention levels occurs, and might be pointed out for redesign.

1.5 Part Conclusion

At this point in the project, we both love and hate the notion of liveability. Some of the first descriptions we came across stated that, liveability is exceedingly difficult to define. And here we are, trying to define liveability. This is also the reason why we love it. The challenge of unfolding this non-descript notion and uncover its potentials and boundaries within urban planning.

In the discussion of whether or not, the notion of liveability, is just a new 'trend' in urban planning, or if it always has been present in urban planning, simply under different terms, is still unclear. We argue that planners and architects have always designed for solutions, which were 'liveable' at the time and that liveability is a term that is changeable to fit the needs of the development. New directions in urban planning is a reaction to the events taking place in the city and as a result, we start to look towards new and better solutions to our problems.

It is arguable whether or not liveability is a 'trend', however there is no doubt that the notion will re-echo in future planning. It might have a new name, but it will have traces of the essential elements of liveability. Even though it is still not fully defined, the notion have within the recent years had a major impact on urban planning and cities around the world are working towards a 'liveable future', without realizing what it holds. The cities are particular fond of the word, since it attracts people, development and investments. The problem however, is that the understanding of how to work with the term proves to be challenging. When visiting the Strategic Advice Unit at Auckland Council, we asked, how they work with liveability. They answered that they used it on a conceptual level and that it was more like a common understanding than an actual ruleset. Is it possible to create liveability from a common understanding that is not defined?

If we want to see liveable results, measurable results it is essential to define and create a model for how to work with liveability. If liveability needs to be able to answer the need of the cities current situation, the notion needs to be more tangible.

From our research, we found that:

- *Quality of urban life and liveability are undeniable closely related.*
- *Liveability is site-specific.*
- *The essence of liveability is people and their experience of the urban environment.*

By improving the urban environment the quality of urban life, and thereby liveability, is enhanced. To improve the quality of the urban environment, we need to understand the characteristics of the place and in that relation, we turned to the urban guru's; Gehl, Jacobs and Whyte and based on their research, we present eight 'liveable parameters' that will shape the foundation for the project. Through analyses, based on the eight parameters, the research will be site-specific and with user involvement, the findings will be based on the citizen's opinion of the urban environment.

AUCKLAND

2.1 Auckland City

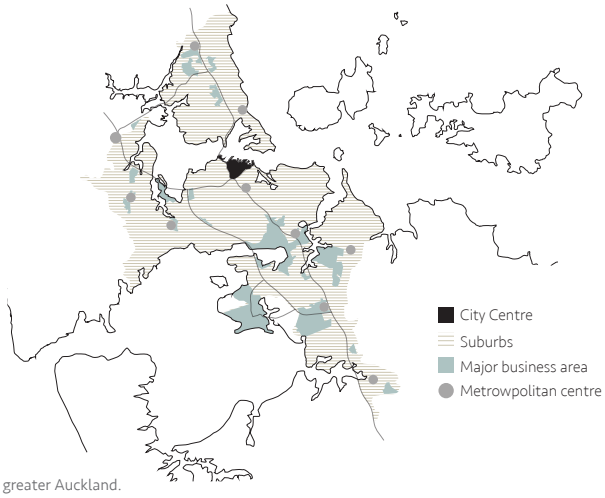
Auckland is the largest city in New Zealand and home to around a third of the country's population. 1.5 million people live in Auckland Region, and only 29,301 of them live in Auckland City Centre, where 94,554 work (Auckland Council 2015). Auckland is New Zealand's commercial centre, leading the finance, insurance, transport, logistics, and business services industries and the gateway to and from the rest of the world because of the international airport.

Auckland is the most ethnically diverse region in New Zealand (Auckland Council 2012), and has more than 180 different ethnicities that characterize the multicultural city Auckland is. The main groups are European descendants, Maori, Pacific people and Asians. Auckland region is home to the largest population of Maori in New Zealand and the largest Polynesian population in the world, two thirds of New Zealand's Pacific people. Because of the many different cultures, traditions, customs, arts and music, Auckland is a very rich place regarding culture and lifestyle and it makes the city distinctive. (Auckland Council 2012) But it is also a city that deals with a lot of social issues and tensions between the different ethnical groups, which will be elaborated in a following paragraph.

The structure of Auckland City resembles the car-based cities of America, with large areas of suburbs connected internally and to the city centre through huge networks of motorways. Auckland consists of a small dense city centre that is cutt off from the rest of the districts through the major road network.

Most of the challenges Auckland and New Zealand in general face in relation to their city structure and city planning are results of the "New Zealand Dream" - the dream of the right to a single-family house on a quarter acre section with at least one car (Gibellini 2001). In addition to resulting in great urban sprawl this dream has placed New Zealand 4th in the race of most motor vehicles per thousand population, 700 per thousand residents of New Zealand has a car (OECD 2006), and therefore the cities are designed after the cars with them as the priority, and Auckland is no exception. The cars are not only very present in the city centre through number, road dimensions and as barriers for pedestrian, but they also take up a lot of space through parking, creating a hierarchy that favours the private car. This results in massive traffic congestions creating an inefficient public transport system because of the many delays. The cars cut off the city in small islands, and separate the different parts of the city from each other. There is a need for a new 'New Zealand Dream'!

The development is in the right direction and needs to be pushed forward. More people are buying apartments instead of the house. In the 90s it was 1%, in 2000 it was 4% and in 2010 8% (Barfoot and Thompson 2015). And Auckland is a city where the public spaces have become a focus area and events throughout the year create a vibrant and bussing city filled with people.



Ill. 11. The greater Auckland.

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Ill. 12. Cultural diversity in Auckland.

Ill. 13. Positive development of public spaces.

Ill. 14. Events implemented in the city.

Ill. 15. A rich natural context.

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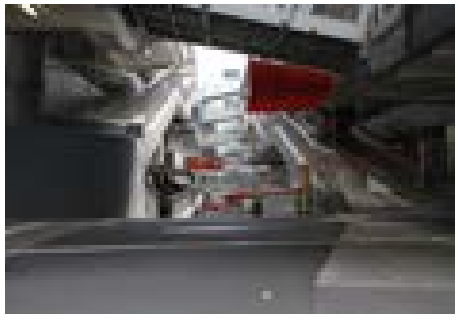
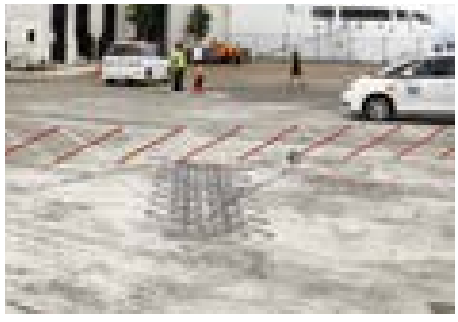
Ill. 16. Car is king.



Ill. 17. A city dominated by parking.

Ill. 18. Lack of connection between the waterfront and the city centre.



Ill. 19. Little or bad implementation of heritage.

Natural context and climate

Auckland has a natural environment, which is hard to match. The surrounding landscape is rich on beaches, harbours, waterways – a spacious landscape with 'low land, high sky and wide water' (Auckland Council 2012).

New Zealand has been isolated for million of years and because of that, a unique native flora and fauna has evolved that are endemic to the country, which means they occur naturally nowhere else in the world and thereby are a large part of the country's identity (Eadie 2014).

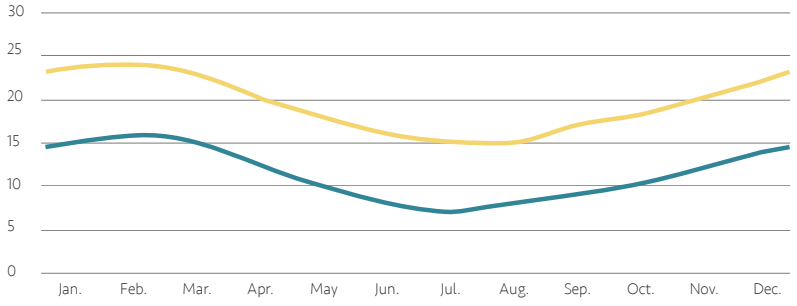
Even though a lot of the native forests has been chopped down to make way for farmland, there are still areas in New Zealand that are untouched by human - unlike most of earths area (ENZ 2015B). The native planting and landscape is therefore a big part of the New Zealand identity and for the rest of this world.

The city of Auckland is characterized by volcanic cones and islands that are treasured and easily identified landscape features that provide opportunities for recreation and enjoyment, and contribute to the sense of place and identity of Auckland as well as the neighbourhoods in which they are placed. The coast and sea have shaped Auckland's history as the islands, beaches and harbours have shaped its urban and rural land uses (Auckland Council 2012). The scenic landscape and beaches are the main recreational destination for Aucklanders (ENZ 2015C).

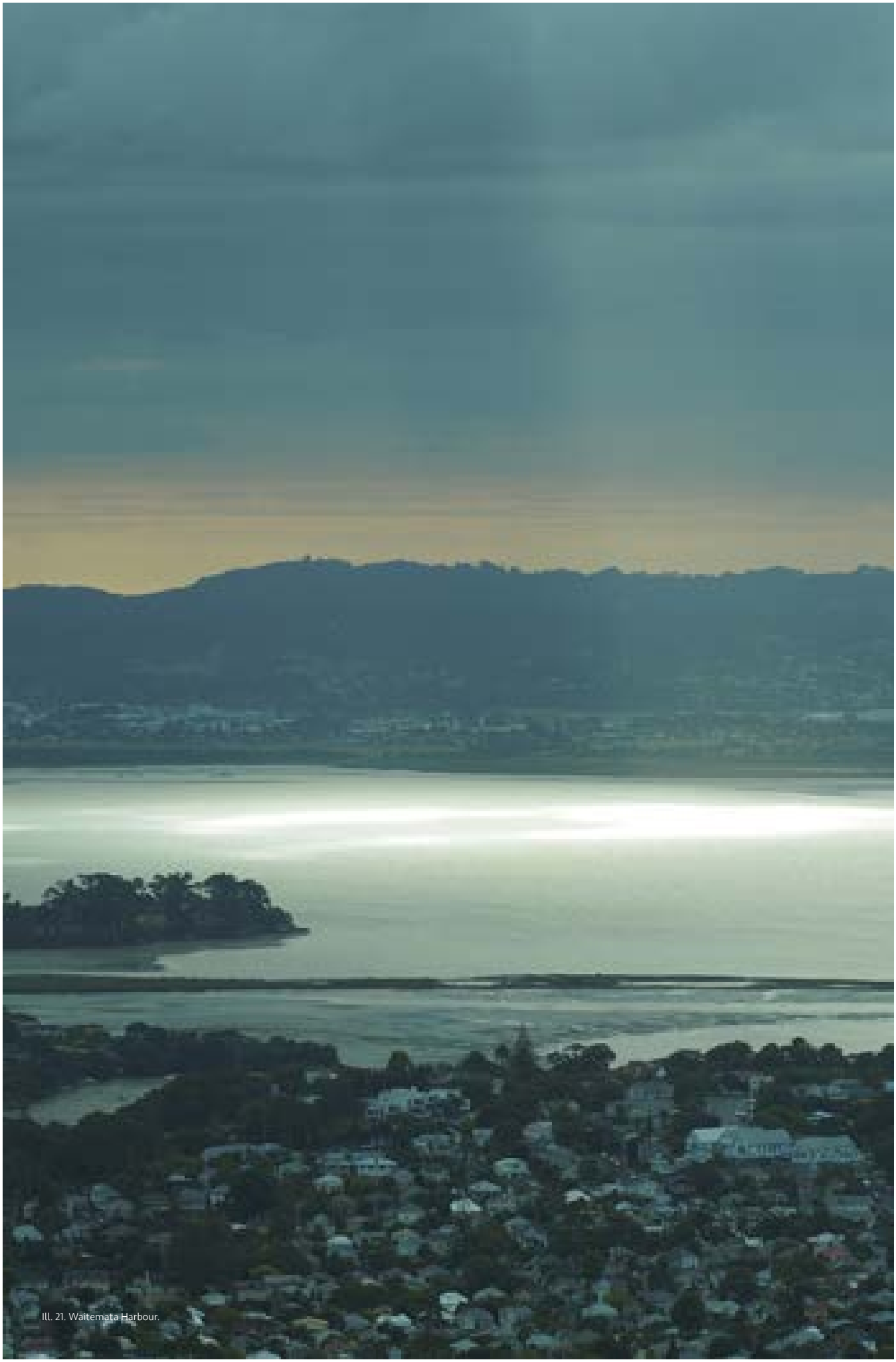
Auckland is in the temperate climate zone, with warm rather dry summers and mild, wet winters - and therefore not a tropical paradise. (ENZ 2015A) Because of the oceans, Auckland is never extremely hot or cold, and the temperature in most of the area does not exceed 32° C or fall below zero.

The rain in Auckland can be torrential and brief, a relief from the clammy humidity that commonly precedes it, the storm cloud is likely to quickly give way to sunshine – the fabled "four seasons in one day" (NZ Herald 2010). Auckland actually seems to only have two seasons, the first half of the year the city is tropically warm and dry and in the other half the weather is cooler and wet.

The sun in New Zealand is the main weather hazard, there is less ozone and less pollution in the southern hemisphere to block the UV rays and therefore the sun is strong and easier burns the skin. (ENZ 2015A)



Ill. 20. Maximum average temperature and minimum average temperature in Auckland.



Ill. 21. Waitemata Harbour.

2.2 People of Auckland

Auckland is as mentioned a multicultural city and the most ethnically diverse region in New Zealand, with more than 180 different ethnicities, see ill. 22. Auckland is further more the New Zealand city that attracts the largest percentage of immigrants – a percentage that is continually growing.

Auckland is the city with the largest Polynesian population, and is therefore often called the Polynesian capital of the world (Gagné 2013):

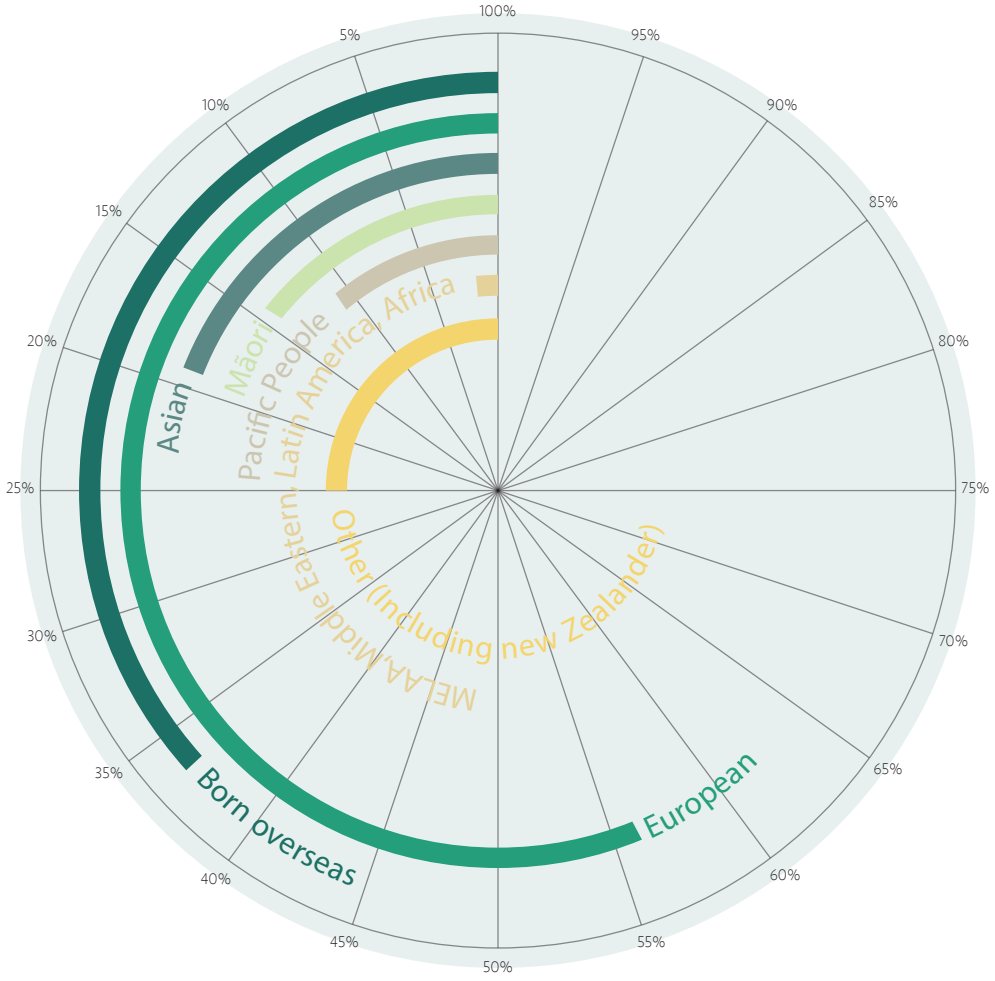
"About 67 per cent of 336,000 Pacific people are concentrated in Auckland, making up more than 14 per cent of the region's population" (Misa 2010).

The many different backgrounds and cultures create a rich multicultural environment but also brings along a number of challenges and tensions.
Jovana Balanovic argues in her article (Balanovic 2013) that New Zealand may have "symbolic bioculturalism" but in practice the European New Zealanders are still, to some extent, unwilling to redistribute their resources. Despite the improvement of the position of Maori in today's society they continue to lag behind in statistics (Balanovic 2013) and Polynesian, Maori, Pacific and refugees are overrepresented among those with lower living standards (AUT 2015).
The Pacific island families and the Maori have since the 1970s steadily been gentrified out of the richer suburbs as Parnell, Ponsonby and Grey Lynn (Brown 2014) and the population is now concentrated in southern Auckland far from the city centre (Auckland Council 2012), which furthermore have contributed to the tension between the two groups.

But it is not only between the European descendants and the Maori that there is tension.
In Auckland there is almost double the amount of Asians, 23 per cent, compared to Maori, 12 per cent. And if trends continue Asians will outnumber the combined Polynesian population, Maori and pacific people, soon (Spoonley 2014). Many see the Asian immigrants as a benefit but more and more are concerned that they will undermine aspects of New Zealand society and values through their culture and the use of non-English languages, since they often group in particular suburbs (ethnoburbs) or business areas (ethnic precincts) and 'stick together' (Spoonley 2014). Especially the Maori concerns about Asian immigration have grown since 2000, and raises issues about the relationship between some Maori and Asian communities.

Maori
The original people of New Zealand, Maori, have an important role in the culture of New Zealand, and to truly create a 'multicultural' society, Maori values have to be considered in planning and urban design as well as the other cultures.
The Maori society is centred on their Whānau (political or family unit) and Warae (the traditional meeting place and ceremonial centre). Both words are ambiguous but central to the notions are that there are forums for discussion and exchange, and ideal of openness and inclusiveness, spaces where you meet to be together with people and your family – social meeting spaces. (Gagné 2013) They are central to the expression and imagination of Maori identities and relationship is the endpoint. The purpose is to connect people, places and spaces (Gagné 2013).

Even though Maori and Pacific are among those with lower living standard, this is changing. A lot of initiatives and programs focuses on education the Maori and Pacific youth (Foundation North 2015). Additionally the government in New Zealand gives a student allowance to students with few resources, to create equal oppotunities for education. This has resulted in more and more Maori getting higher education and less with no qualifications. See app. 9.2 Qualification by Ethnic Group.



Ill. 22. Ethnicity in Auckland. (Statistic NZ 2015)

2.3 Auckland's History and Future

Auckland was settled by Māori around 1350. The land was a strategic location with fertile soil and access to the sea on both the west and the east coast. (McClure 2012A)
In 1820, European traders and missionaries arrived, and in 1840, Governor William Hobson set up the town of Auckland and it remained the capital of New Zealand until 1865, when it changed to Wellington. He was, as the Māori, attracted to the fertile soil and the waterways. In 1840, Māori sold the central part of their land to the Crown and in 1841 Hobson resold the land to newcomers including officials, soldiers and merchants. Half of the immigrants came from Australia and many came from Ireland. The church commissioners who wanted to convert Māori to Christianity had their headquarters in Auckland because of the strong Māori presence. (NZhistory 2015) During the 1840s and 1850s, Māori owned a third of Auckland's shipping fleet and they provided timber, labour, food and export and were essential to the city. The Europeans were envious of Māori success and Māori was faced with competition and with the arrival of the steamship, which was too expensive for most Māori to buy, their share in the trademarked declined. (McClure 2012C)

With the establishment of provinces in 1853, Auckland became the centre of a large area and the city was offering free grants, to encourage immigration. The Māori-European conflict over the land, led to war in the 1860s making Māori a minority in the Auckland Area. (McClure 2012B) Until the 1900s, gold, kauri timber and kauri gum became Auckland's biggest export and the forests, that had taken over 800 years to grow were stripped bare. The ports became essential to Auckland since the export of gum and timber grew. The ports had been the making of the city and made Auckland a hub of coastal and overseas shipping. New industries blossomed with boat building and marine engineering and ferries linked the city with the North Shore and encouraged new suburbs. (McClure 2012C)

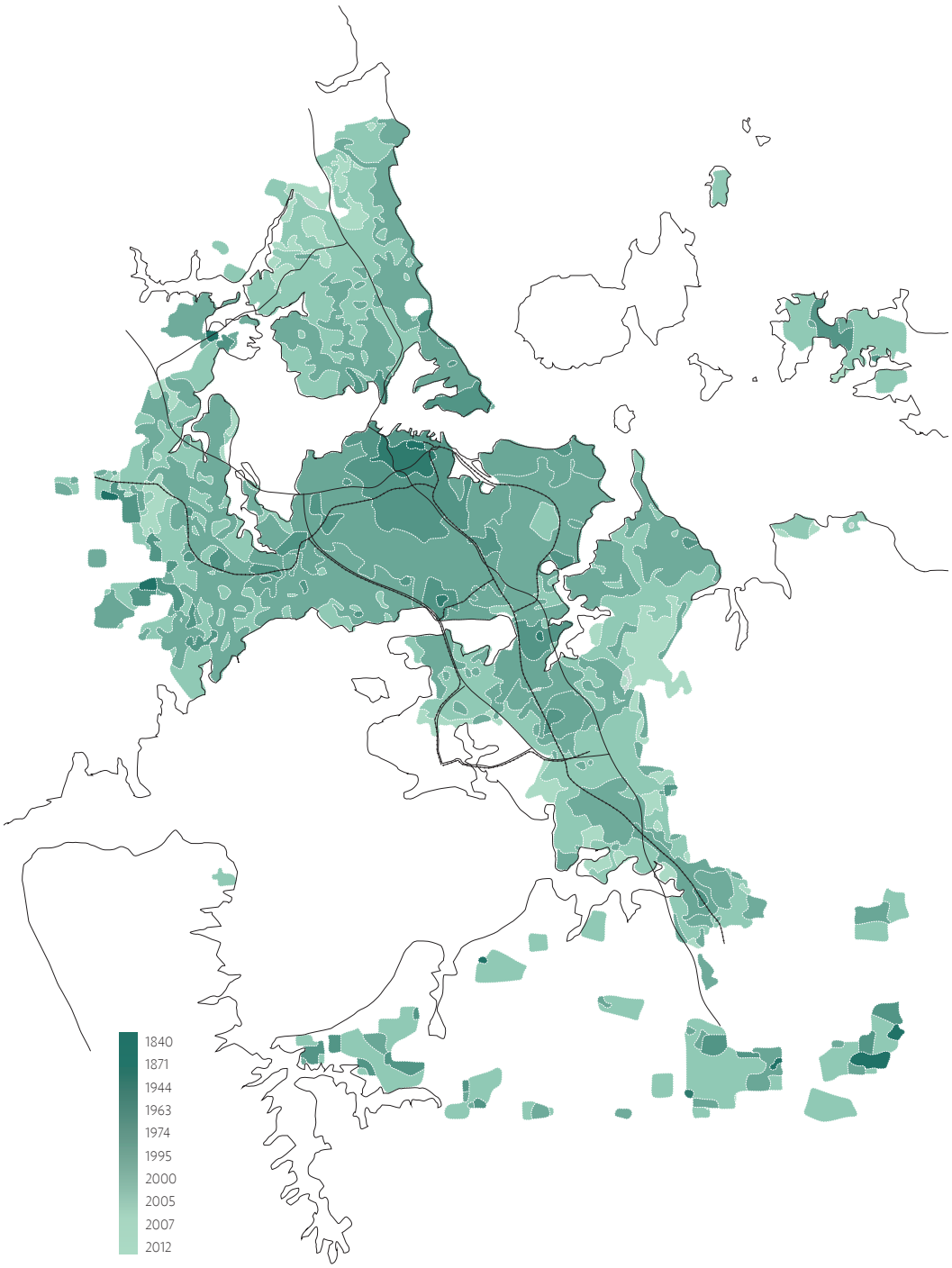
Encouraging suburban sprawl
In the early 1900s, tramways and suburban railways added growth to the suburbs and middle-class families left the crowded inner-city for new spacious neighbourhoods. The poor remained in the central city.

By 1900, the natural resources, timber, gold and gum had been used up. Dairy farming became the new source of wealth and the farms around Auckland were growing at a rapid speed. (McClure 2012D)

The population growth continued and was powered by the post-war baby boom and immigration. With the opening of the International airport in 1966, Auckland became New Zealand's main gateway and an increasing trend for overseas immigrants to come to Auckland and go no further, had begun. The new British immigrants made up 20% of North Shore residents and many Dutch and Yugoslav's settled in West Auckland. This was also the time when thousands of young Māori migrated from Northland to find work and several urban marae (communal sacred and social space) was established and Auckland became the largest Polynesian city in the world. (Te Ara 2015)

The landscape of Auckland was transformed in the post-war years. When factories moved out to rural land areas, new low-cost housing followed the growth of the industries. In the 1970s slum clearance and gentrification of the inner city exiled large number of Māori and Pacific Island worker to outer suburbs. The city continued to spread, since Aucklanders was unwilling to abandon suburban space for apartment life and the central city became a desert at night. (Te Ara 2015)

Aucklanders love for cars is what has shaped the sprawling nature of the city's landscape and continues to do it today. Aucklanders believed that those without cars were socially deprived and today many still see the car as a necessary extension to the house. The motorway system, inspired by the planning-concept of the U.S, was extended after 1955, when the government rejected the light-rail alternative, but what



Ill. 23. The historic settlement patterns of Auckland, post 1840. (Auckland Council 2012)

made the largest impact, when the Harbour Bridge was completed in 1959, which opened up the North Shore to new suburban development. In the following years, the number of cars rose dramatically and fewer Aucklanders took public transport and the city eventually became congested by traffic. (Watson 1996)

A new city

In the mid-1980s, Auckland experienced dramatic changes because of the economic deregulation. Banks and finance companies started to invest in construction and the city transformed into a developer's paradise. Many of the Victorian buildings were removed to make room for mirror-glass tower blocks. (McClure 2012F)
In the 1980s the landscape in the city centre was changed with the apartment buildings. The apartment blocks in the central city, the changed liquor laws and the explosion of cafés and nightclubs enlivened the inner city in a way not seen yet. In 1999 the America's Cup challenges, initiated new urban projects in the city and public places and public life came on the agenda. (McClure 2012F)

Already in the early 20th century, commercial and passenger traffic was busy with passenger liners from Europe and the U.S arriving regularly. In the 2012/2013 season, the ports of Auckland catered for 100 cruise ship visits and welcomed 178,000 passengers and 78,000 crew resulting in an economic injection of $114.9 million GDP. (The Aucklander 2013) Generally, Auckland benefits from a surge in tourism and because of its international airport, the city is the most visited destination in New Zealand. In 2013, more than 1.8 million people arrived in Auckland from overseas and tourism employees more than 50.000 people in Auckland. (Tourism key data 2014)

The way to 2040

In 2010, the existing district allocation of Auckland was changed and unified in one council. Auckland Council was established to manage the entire Auckland region. The Council replaced the existing seven City and District Councils and created the Auckland Super City, to strengthen the regional planning and the progress of Auckland. (Thompson 2006) One of the major tasks of the new Auckland Council was to prepare a 'spatial plan' to guide Auckland's growth and develop a plan for Auckland CBD (city centre) and waterfront, to strengthen the heart of Auckland. (Orsman 2011)

Looking to the future Auckland is facing major changes over the next 25 years. Auckland will experience substantial population growth due to immigration and natural population increase. Auckland's population is set to grow to an estimated 2.5 million in 2041 from the current 1.5 million. The increase in population will create major impacts on transport, general infrastructure and it is feared that urban sprawl will result from the growth. (Auckland Council 2012) Issues that are confronted in the Auckland Plan from 2012, a plan that describes the vision and strategy that will steer the future development of Auckland Region over the next 30 years. (Auckland Council 2012)

The Auckland Plan

The Auckland Plan is the frame for urban development in Auckland region. Reading the plan, it is clear that Auckland is facing three main challenges over the next 25 years:

1. Auckland's infrastructural network does not live up to the standards of a major city in development and transport is Auckland's biggest issue. The city is currently focusing on increasing public transportation and downscaling the use of private cars.
2. With the population growth over the next 25 years, Auckland will need to build up and not out to limit the already severe suburban sprawl. This will happen in the city centre and in the neighbourhoods.
3. The city centre faces major changes since it will need to play a greater role in Auckland and facilitate a 24-hour life to attract people to live and spend time in the city centre. The public spaces will need to provide high-quality spaces of different qualities to invite everyone to spend time and

care for the city centre. (Auckland Council 2012)

This project focuses on the last of the three challenges dealing with the public spaces in the city centre.

The world's most liveable city?

"Auckland's time has come. We have a widely-shared vision to be the world's most liveable city." – Len Brown, Mayor of Auckland (Auckland Council 2012)

A bold statement! Auckland council want to create a city where people can enjoy a high quality of life, a city that is attractive to people and investors and a place where the environment and heritage is respected.

The vision is bold, not only because Auckland wants to be the most liveable city in the world. But because the planning and city development problems Auckland is facing are major restructurings and reorganizations, problems that cities around the world has worked with in decades. These problematics, transport, urban sprawl and quality urban spaces, are necessary to solve before the goal is even remotely in sight. Additionally it is not only the dense city centre that has to be liveable it is the many suburbs as well.

As previously mentioned the car has a special place with the Aucklanders as well as the possibility for an attached house with a private garden. Therefore to implement the vision it is not just enough with new planning approaches and budgets, a change in the citizens mind-set is necessary to restructure the way people live and thereby use the city and its facilities. It is necessary to show the citizens alternatives to the way they live today to convince them that there is another way; public transport with shorter travel time due to the decrease in private transportation, shorter distances that comes from a denser city and quality urban spaces that provides alternatives and reinterpretations of the suburban activities and possibilities. And that this benefits their quality of life in the city.

At last this 30-year vision is supported and implemented by two regulatory tools; the Long Term Plan, a 10-year plan and budget, and the Unitary Plan. (SGS 2014) The vision is based on a 10-year budget, which means that in principle, the budget and thereby the implementation of the vision can be changed after the 10 years and oriented towards a new goal. A possible result caused by the political situation with possible turnover in the staff.

2.4 The Waterfront's Role in the City

Historically, as the starting point of the city, and due to the location close to the city centre, Auckland Waterfront is an important space and place in city.

Waterfronts around the world have in the latest decade become key elements in urban development.

"Traditional industry is moving to areas with low wages and less environmental regulations. An explosion in the global transport, communication and entertainment is taking place" (Kiib 2007).

The spaces are changing from industrial brownfields to new types of recreational spaces in the city. Cities position and brand themselves and define a new agenda for spatial reorganisation. (Kiib 2007)

The harbour and the waterfront are the grand meeting between the city and the sea, historically representing the connection between the local life and the big world, the gateway for hopes for a better life and a meeting place between "tradition" and "the new" (Kiib 2009).

Currently Auckland Waterfront is in an on-going transformation from this industrial brownfield and transit hub to a new space in the city, and therefore the waterfront is chosen as the first space in the city to be planned and designed based on liveability, and thereby the physical focus for this project.

The following is an introductoin to the city centre and the waterfront trough mappings of the city centre.

Ill. 24. Auckland Waterfront and City Centre.

Mixed-Use

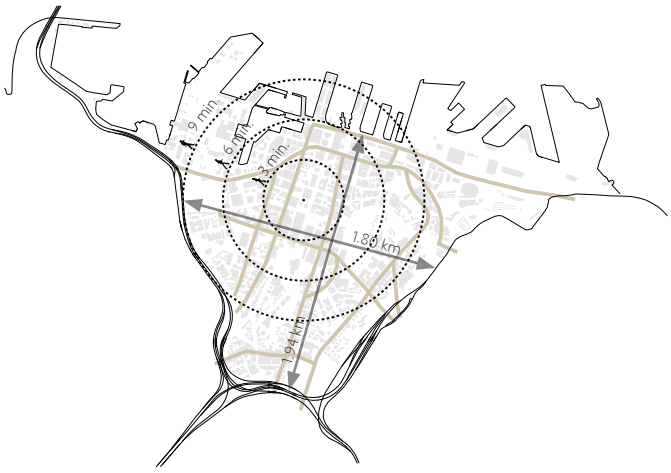
The city centre and the waterfront is characterized by very different combinations of programs.

Mixed-Use

The urban spaces in the city centre is connected through a network of shared spaces but do not include the waterfront.

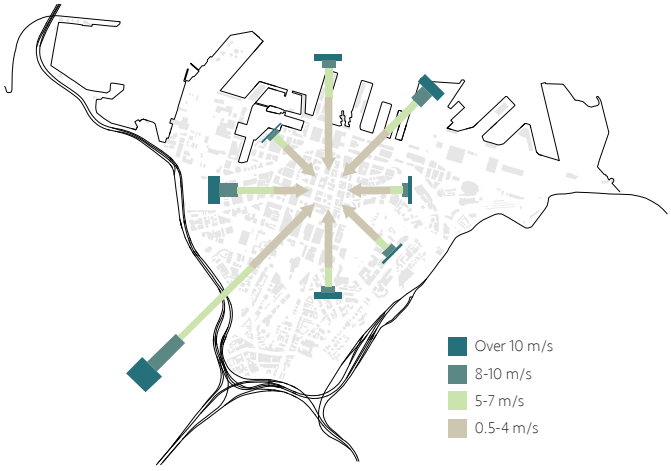
Visual Connectivity

The waterfront is a continuation of the main streeet in the city, Queens Street, but is cut off by Quay Street, a six-laned road.



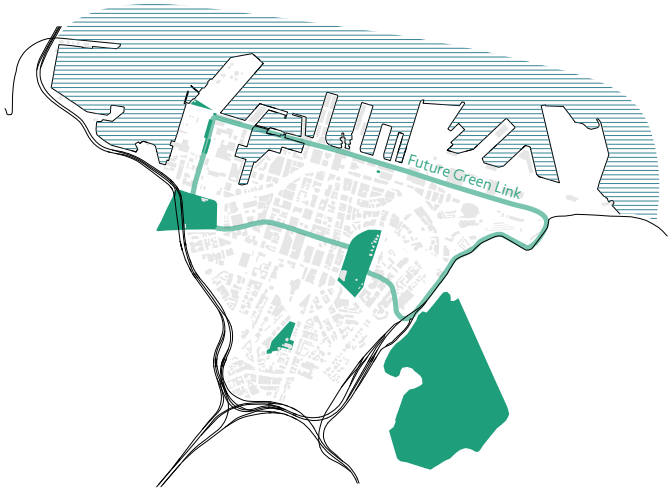
Walkability

Auckland City Centre is a small area - just 3.5km^2, and most of the city can be reached within 15 minutes of walk.



Comfort

The strongest wind is from southwest, and the city shelters for most of the wind at the waterfront.



Natural Value

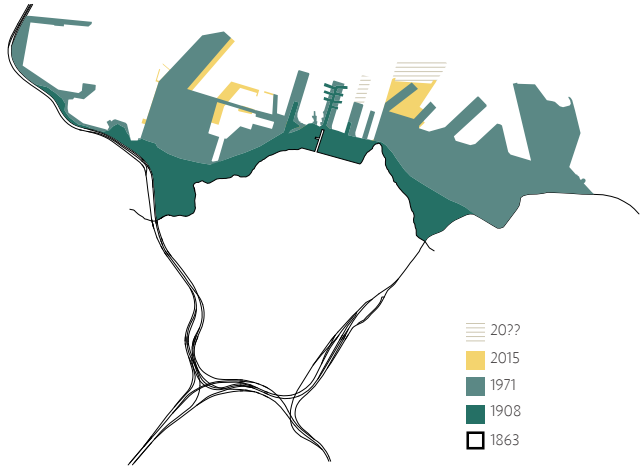
Auckland is characterized by the scenic location, a location most present at the waterfront.

Local Identity

Auckland has the larges marina is the sourthern hemisphere and is known as 'The City of Sails'.

Heritage

The city begun at the waterfront, and it is thereby a significant space and place in the city.



Human Scale

The scale of the city centre is vertically oriented with high-rises, whereas the waterfront has a horisontal orientation with low building heights and wide open spaces.

2.5 Part Conclusion

Auckland Waterfront
The waterfront is a special place in Auckland, a historical site where the city begun and an important link between the city and the surrounding waterscape. The location of Auckland Waterfront close to the city centre and the main functions as transport connections and recreation creates a huge potential in gathering the waterfront as a new area complementing the city centre. As a water entrance to the city and with the multiple functions and uses, the waterfront is key element in creating a vibrant city.

The waterfront has an important role in branding the city through the scenic location and historically significance and thereby enhancing the specific qualities and the identity of Auckland City. The most significant characterization of the relation between the city and the waterfront is the missing connection between the two, creating two separate district instead of one connected city centre. The future green link and potential network of public spaces is a great potential, a necessity for the city's development. The city must take advantage of linking its city centre physically and mentally to the waterfront. The transformation will benefit best by implementations that advantage of natural potentials and public spaces.

Designing for multiculturalism
Auckland is a multicultural city with many different ethnic groups, which as long as New Zealand have existed, have been 'forced' to live with each other – immigration is the starting point for the country and the essence of its history. When designing a central public space as the waterfront, and especially in New Zealand, it is essential to design for multiculturalism and diversity.

"Multiculturalism is the state or condition of being multicultural, the preservation of different cultures or cultural identities within a unified society." (Dictionary 2015B)

The design has to have room for different cultures but also for different life styles and age groups. A design for diversity, with equal access that exclude no one. Creating smaller spaces in the space creates the possibility for many different people and cultures to be together in the same space

PROBLEM STATEMENT

3.1 Problem Statement

Can the concept of liveability create design for the public realm in Auckland, and thereby enhance the quality of urban life for the citizens?

3.2 Research Questions

The Notion of liveability
Liveability - as introduced in 1.2 "Exploring the notion of liveability" – is wanted by politicians, planners, designers and citizens around the world. A factor within the contemporary metropolis is liveability, the liveability factor attracts people, investments and boost development of the urban settings as a higher prioritized task in city development. Liveability is ranked by multiple logics, systems and organizations, but the foundation of the ranking is opaque and does not offer any solutions for how to practically improve liveability. To qualify the notion of liveability and be able to practice liveability design, the general definition has to become site specific through an actual case – Auckland. Therefore first research question is:

1. What is the definition of liveability in public spaces in Auckland?

The role of the urban designer
This project introduces a new model to explore and design liveability – described in 4.1 A model for liveability" – with the goal that the model can be used to implement liveability in any city in the world. The Auckland case is used to investigate the model and our second research question therefore is:

2. How can the liveability model contribute to the creation of liveable design solutions for a public space in Auckland?

Quality of life
As presented in the external report 'Liveable Auckland, Recommendations for Liveable Design Solutions' this project translates the theoretical and analytical results to physical design solutions. Quality of urban life in relation to the built environment, – as discussed in 1.2 'Exploring the Notion of Liveability' – is about improving the urban environment and by this improve urban quality of life. To assess the quality of the design, the third research questions is:

3. How can liveability design solutions in form of strategies for the waterfront and a specific transformation design of Queens Wharf, enhance the quality of urban life in the city centre?

THE LIVEABILITY MODEL

4.1 A Model for Liveability

4.1 A Model for Liveability

The Liveability Model is developed to analyse the city of Auckland from the notion of liveability to figure out how to improve it and finally implement and exemplify liveability in the city through a physical design. The Model consists of four phases; the theoretical, the extracting, the analytical and the design phase, and the purpose of the model is to use the definition of liveability as an analytical and design informative tool in the city, see ill. 25. The model has undergone a few adjustments since the first draft. This is illustrated and explained in app. 9.3 The Liveability Model.

The Liveability Model is somewhat generic, the first two phases of the model, the theoretical and the extracting phase, are the same no matter what city in the world the case is. The essence of liveability in public spaces is site-specific design and therefore the whole model can never be generic. The idea is that the model can be used to implement liveability in any city around the world, but the two final phases of the model, the analytical and the design phase, are site-specific, and because of the great difference in cities around the world, in relation to context, climate and culture a site-specific approach is crucial for a positive result.

The main scientific theoretical approach used in this model, and the root in our approach, is the phenomenological approach. The focus of the model is liveable design for people, and therefore people's experience and opinion of space is crucial.

The phenomenological approach

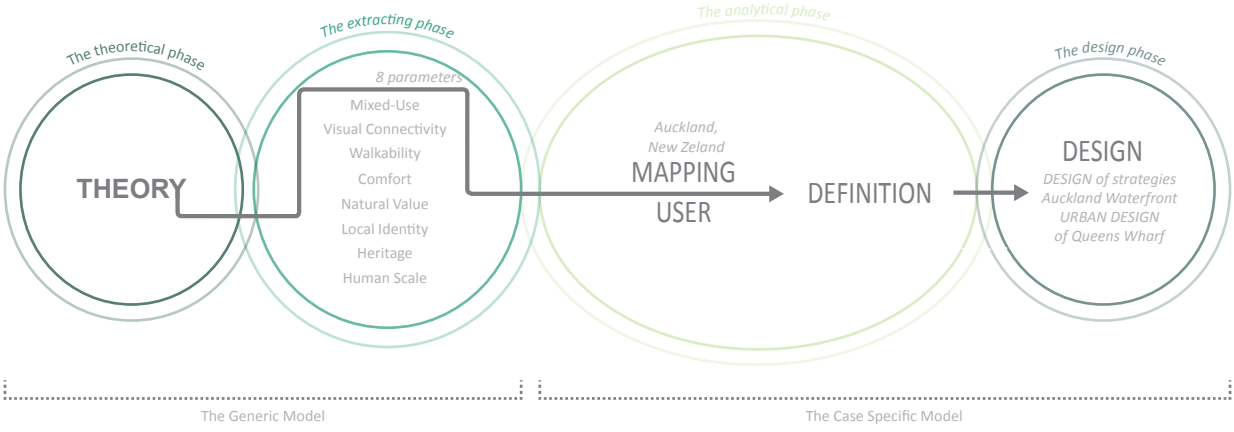
"The discipline of phenomenology may be defined initially as the study of structures of experience, or consciousness. Literally, phenomenology is the study of "phenomena": appearances of things, or things as they appear in our experience, or the ways we experience things thus the meaning things have in our experience." (SEP 2003)

Phenomenology studies conscious experience as experienced from the first person point of view – the subjective. The historical movement of phenomenology is the philosophical tradition from the 20th century by Edmund Husserl, Martin Heidegger, Maurice Merleau-Ponty, Jean Paul Sartre, et al. (SEP 2003) The methods and characterisation of the discipline were widely debated and the debate continues to the present day. (SEP 2003) Herbert Spiegelberg, a phenomenological philosopher and historian of the movement, stated that there are as many styles of phenomenology as there are phenomenologists (Spiegelberg 1982) – a statement that makes it difficult to create a specific definition of the notion and the movement.
The purpose of phenomenology is to reduce individual experience with a phenomenon to a description of the universal essence, the meaning for several individuals of their lived experience of a concept or phenomenon (Creswell 2006).
Other opinions is that phenomenology is:

"...the characterization of sensory qualities of seeing and hearing etc.: what it is like to have sensations of various kinds. However, our experience is normally much richer in content than mere sensation. Accordingly, in the phenomenological tradition, phenomenology is given a much wider range, addressing the meaning things have in our experience, notably, the significance of objects, events, tools, the flow of time, the self, and others, as there things arise and are experienced in our 'life-world'. " (SEP 2003)

In this project, we can only present our understanding of phenomenology and its significance for our user surveys. In our studies, we try to influence the users through questionnaires to reflect upon their experiences of a good space, a liveable space, for them by forcing them to be conscious in and of the experience. The approach is therefore to force them to be aware of the experience and what they in the experience and the context interpreted as important phenomenon for creating quality urban spaces.
This relates to the Hermeneutic Phenomenology which studies interpretive structures of experience, how we understand and engage things around is in our human world – including ourselves and others (SEP 2003).

"Every type of conscious experience has its distinctive phenomenal character, its "phenomenology" – and the task of phenomenology (the discipline) it to analyse that character." (SEP 2003)



Ill. 25. The Liveability Model.

All the classical phenomenologists practiced analysis of experience, factoring out notable features for further elaboration (SEP 2003). And this is the main inspiration for the approach used in the analytical phase of the model.
The following is an explanation of the four phases in the Liveability Model.

The Theoretical and the Extracting Phase
The Liveability Model is based on a theoretical hermeneutic analysis of the notion Liveability.
The hermeneutic method allows us to get an in-depth understanding of the notion through multiple interpretation processes – the hermeneutic spiral. Interpretations of details affect the interpretation of the entire phenomenon and thereby create a thorough understanding of the concept (Koppa 2015). The notion of Liveability is the point of departure for the model, and therefore an essential precondition.
Through a discussion of the three most prominent theoretic dealing with the subject of city design for people and thereby liveability, Jan Gehl, Jane Jacobs and William Whyte, the theoretical definition of liveability is segregated into 8 parameters that operationalize the notion.

The Analytical Phase
The 8 parameters function as the main structuring element through the analytical part of the project to get an understanding of liveability in the city.
The analytical part consists of two interacting parts: Analyses of the city in the form of mappings and user involvement analyses. Mappings are used to analyse the city in two levels: The Waterfront and Queens Wharf, and the user involvement consist of two surveys, The Target Group Survey that tracks students at a city level and ask questions through a smartphone application and The On-site Survey that is a digital questionnaire used at people situated at the specific site, in this case Queens Wharf at Auckland waterfront.

Analyses of the city - Mappings
The main analyses method used in this part of the analytical phase is mappings. The mappings are based on background knowledge of the place and site and our professional experience of the space.
Mapping are a form of mapping out, but a subjective approach that can reveal and realize hidden potentials, and uncover realities previously unseen or unimagined (Corner 1999).
"Thus, mapping unfolds potential; it re-makes territory over and over again, each time with new and diverse consequences. Not all maps accomplish this, however; some simply reproduce what is already known. These are more 'tracings' than maps, delineating patterns but revealing nothing new." (Corner 1999, pp. 213)

The subjective mappings are interpretation of the existing realities and thereby a qualitative approach, whereas tracings are based on objective facts an actual situations and therefore are more quantitative, because they are executed with a systematic approach. Tracing are none the less never fully quantitative because we as designers and analysts choose what to trace.
Mappings are often executed in plan and show a spatial zoning or disposition, and it is mappings in plan that mainly is used throughout the analysis to present the situations at Auckland Waterfront and at Queens Wharf in Auckland.

Analyses of the user - surveys
The main parts of the user surveys are the questionnaires used in the two surveys. The questionnaires are based on the parameters and ask questions in relation to the liveability themes.
Interviewing and questionnaires are qualitative research, interviewing are often more in-depth, but questionnaires are used to collect information from a wider sample than personal interviewing can reach (Woods 2006).

The questionnaires are the user's qualitative experience or opinion of the specific topic that is processed quantitatively through statistics, and then evaluated qualitatively by us as the professionals. It is therefore difficult to state if the surveys are quantitative or qualitative because it is a mixture of the two that results in qualitatively evaluations of the data.
The questioning method behind the design of the questionnaires is to qualify the answers but creating more than one question that deals with the same topic. We thereby circle around the topic and get a more in-depth understanding of the users experience and opinion towards that specific subject.
The questioning technique is based on an approach that is a combination between two types. The first is to model the question to find out factual details or to seek responses to specific categories – the parameters. An example

of the type of question:
Do you think it is important that the surrounding context of a city is reflected in the urban planning?

a. *Yes, I think that is essential to create an identity for a city*
b. *Yes, It is always nice with nature elements in the city*
c. *No, not at all*
d. *I don't know*

The second type of question is created to discover new qualitative material with more open, unobtrusive and unstructured questions (Woods 2006). The following is an example of that type of question:

Auckland should be...

The first type of question gives answers and thereby data that quantitatively can be processed in statistics of how many answered respectively a., b., c. and d. fx. Whereas the second type of question gives more qualitative answers as: "...the most environmentally friendly city.", "...the central hub for innovative work and experimentation." or "...the greenest city." The second type of question is to generate ideas but the risk here of getting useless data is higher than with the more specific question technique.
The two user surveys will be elaborated in chapter 05, with explanations of the surveys, thought and reflection on the process and results from the two surveys.
The two approaches: mapping/tracing and user involvement will complement each other and give us a deeper understanding of what liveability is in Auckland, what we, in this project, have named the Mixed Method Approach.

Mixed method approach
The purpose of the Mixed Method Approach is to use multiple methods to view an aspect or problem from different angles, and thereby gain a more thorough understanding of the situation. It derives from a combination of the concepts of mixed-method and triangulation. In this case the two methods are observations in relation to registrations and spatial analyses and user involvement in relation to questionnaires. The situation is thereby viewed from two different angles, us as the professional and the users as the people that use the space everyday. By viewing a situation from different angles the method produces knowledge that is "greater than the sum of the parts"(Franz et al. 2013).
Originally the mixed method approach gathers the in-depth and contextualised but more time-consuming insight of qualitative analyses with the more efficient but less rich or compelling predictive power of quantitative analyses (Lieber et al. 2013). But our analyses is not divided in a strictly quantitative analysis and a strictly qualitative analysis, they both have quantitative and qualitative elements.

"...(any) kind of polarized debate has become less than productive. Additionally, it obscures the fact that qualitative and quantitative data are intimately related to each other. All quantitative data is based on qualitative judgements; and all qualitative data can be described and manipulated numerically." (Trochim 2000)

Even though the analyses are not divided in the different methods, they still tell different stories of the same aspect, and thereby give a deeper understanding of the liveability situation in Auckland.
What the two analytical methods can do, is to complement each other. The user surveys can make the theoretical subjects site-specific and give us an insight into what is important in relation to climatic conditions, cultural and contextual preferences. The mapping analyses, and us as professionals, can see elements and factors that the users might not think means anything in the public space, which we can put into context of the city.

The findings of user involvement are used to emphasize, elaborate or put in perspective the findings through mappings, tracings and observations, and create the possibility for user argued design choices.

The Design phase
The Design phase includes the design process of the chosen site using the liveability parameters from the model and the results found in the analytical phase of the model that is gathered in a collected design program for the site.
In this project the design consist of a strategic design of Auckland Waterfront and an urban design project of Queens Wharf at Auckland Waterfront. The purpose of the design is to physical exemplifying liveability in Auckland.

LIVEABILITY SURVEYS

5.1 Introduction

Our motivation and interest in user participatory design has developed through years of participation and observation of research conducted by The Centre for Mobilities and urban Studies, C-MUS, and The Research Cluster Mobility and Tracking technologies, MoTT, at Aalborg University. In relation to this project we got the opportunity to use a smartphone application developed by a research team in Israel, Prof. Noam Shoval and Amit Birenboim, from the Hebrew University of Jerusalem. The application is named Sensometer and is state-of-the-art within tracking technologies, that track human behavior. Additionally we have used a questionnaire application for tablets as a site-specific survey. These two technologies are the basis for the two Liveability Surveys.

The chapter describes the effort in gaining new knowledge and trying new tools within the field of urban design through user involvement via the two technologies, smartphone tracking and tablet interview. The surveys are a Target-group Survey involving local university students responding on their perception of liveability and an On-site Survey digitally interviewing and observing the behaviour at Queens Wharf and the people at Queens Wharf's perception of liveability.
The chapter consist of a glossary defining terms and expressions used in the chapter, descriptions of the two technologies, explanation of the design and planning of the liveability surveys, survey setup descriptions and reports from the data collection. Additionally is the data qualification and presentation techniques followed by results and the part conclusion.

There will be no explanation of how a GPS-database stores data and the data format, nor how the smartphone and application is coded. Description of programming is limited to the basic understanding necessary to carry out the data collection as an urban designer through the use of the technologies.

Due to the large amount of data, only selected results are presented in this chapter, for additional data results see appendix.

Since most of the data is raw data, there is a need for presentation techniques to translate the data into simple, readable and visual illustrations.
All questions from the QuickTapSurvey are translated into statistics in single question diagrams, as are the questions from Sensometer, but these are also segregated into entries from Android and IOS system.
Cross referencing the answers has not been carried out, for example to find out, how large a percentage of the 50+ want native planting, since the questionnaires and surveys not have been designed with more complexity and secondly since the amount of participants is very low. The cross-referenced conclusions would therefore be based on very little data entries resulting in poor quality of the conclusions.

Qualified positions are presented on 2D maps in two scales, Region and City Centre. The presentation techniques for the tracking data is through, Heat maps, points and tracks and grid count maps. Heat maps illustrate the point density within a defined territory, 100 meter, through an exponential scale with color gradient. The Points and tracks present actual positions and the path between the positions. The path illustrates the logging time chronologically, from point to point, and not the actual physical travel path.
The grid count map is related to the heat map but illustrates the density of points within a grid defined by 150x150 meters and reprojected to WGS84 from NZTM2000.
When the data complexity is high the map presentation is harder to perceive. Heat maps for single respondents are easy to understand: high intensity corresponds to places the respondent spends most time, often home, work etc. When tracking a large amount of respondents these everyday life patterns become hard to understand, it is hard to determine whether a heat spot is a person that stays there or a transit spot of ten respondents. Therefore this can be helpful to drag data of individuals out and analyze. In this, stay is defined as accumulated time at the same location.

Glossary

Approaching is the process of one or more people approaching a person to inform and invite to participation in a survey.

Component is one or more main perceptual elements of a setup, can be physical as well software-based.

CSV Comma Seperated Value is a file format often used for table operative data.

GUI stands for Graphical User Interface and is a term created in the 70s to describe the back then, newly program interfaces, that differs from the until then only text-based interfaces. GUI describes the layout, its elements as windows, buttons, icons etc., and its interaction with the user, the functionality. (Christensson 2015)

Interface refers to the visual of an application, either referred as the general interaction between application and respondents, or to a specific layout such as Home Screen.

Latitude is a numerical describtion of the distance from equator to north (positive) or south (negative) in degress. For Auckland -36.8666700.

Longitude is a numerical description of the distance from the Greenwich meridian measured in degress. For Auckland 174.7666700.

NULL is non-existing data not to be compared with the value of zero.

NZTM2000 is the newly conducted projection system for topography and small mappings in New Zealand (in project used for metric distances).

On-site survey is our Questionnaire-based liveability survey executed 2. March 2015 at Queens Wharf Auckland.

QGIS, former Quantum GIS, is an open-source geopgraphic information system software.

Satellite is an electronic device send into space that moves/floats around the earth for communication by radio, television and positioning on ground.

Sensometer report is position registration of a user/respondent measured and stored through the smartphone application Sensometer.

Sensometer survey is a questionnaire consisting of one or more questions that is a part of a data collection survey through smartphone application Sensometer.

Target group survey is our GPS-based liveability survey executed in March 2015 Auckland.

The researcher is the programmer whom conduct his/her research into the application.

The respondent, respondent *or* **respondents** refers to the subjects whom are a part of the research project through participation through either the smartphone-interface, iPad-interface or sending us feedback through one or more mediums.

Triangulation is a method of finding the distance and position by using known positions to measure from.

Unix time is the time since first of january 1970 in seconds. Unix time is used a generic clock time wihtin GPS-systems.

WGS84 is standard used coordinate system for the Earth (in project latest version EPSG:4326 is used).

5.2 The Two Technologies

Sensometer
Sensometer is the main technology used in this project, and therefore there is an extensive focus on this technology. Sensometer and its system can be described in four main phases. The application can only gather data and not process it; therefore extra tools are needed for presenting the data result. The tools used for this can be GIS-software, Excel or similar.

Design
The design of the empirical research setup requires questionnaires, positioning configurations, time-period and strategies of communication. Programming the setup is necessary before moving to the second phase. There are two main challenges that has to be considered before using the application:
To use Sensometer one has to 'learn by doing' as there is no 'how to'-book, the familiarization of Sensometer is through experience or experience from other researchers. Secondly the context of research influence the quality of the data, and there are a number of pitfalls that has to be considered as: Is there data infrastructure in the context? Is the context full of high-rise buildings that interrupt the accuracy? Can the system handle the wanted territories? To avoid some of the pitfalls a pilot-project can be beneficial, to test the contextual circumstances.

Contact
The most important element of Sensometer is finding respondents who are willing to participate in the research. The contact can be carried out in different ways through different choices of strategies depending on the research. Again there are a number of questions to consider: Does the research require a certain amount of respondents? Is the research limited to a cultural group? Additionally a gift or a benefit for participating is often necessary to get participant.
A precondition for participating in a Sensometer survey is having a smartphone, with Apple IOAs or Google Android platform installed, which limits the possible participants. Additionally the smartphone has to connect to the Internet, have an included GPS responder and the ability to connect to Wi-Fi. Connection to the Internet is essential, but the data-package is highly context based. Even though the data traffic increased by 55 % in a year world-wide, there is still locations where data-package subscriptions is not standard when having a smartphone (Cerwall, 2015). To avoid a major consequences it is necessary to investigate the amount of data people with smartphone in general have. The other essential element is getting people to install the application, which is easiest face-to-face, where questions easily can be answered.

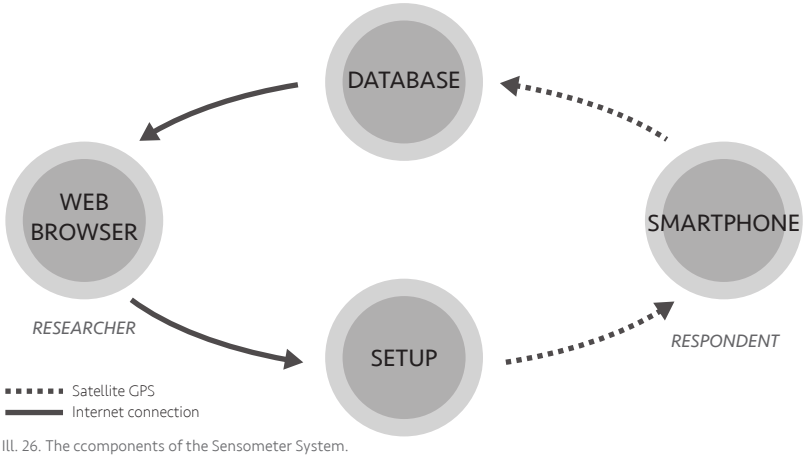
Respond
This phase is the data collection. The respondents can install the application when contacted, so it is not possible to start the data collection at a specific time during a day. The respondents can be contacted through the app, and information can thereby be giving after the survey has begun. During the survey it is possible to review the incoming data, and make adjustment of the setup.

Data extract
The data is downloaded in CommaSeparated-Values-format (CSV) which is a valid format in software programs related to GIS and statistics.

The System
The system in relation to Sensometer consists of different components. Ill. 26 shows a conceptual understanding of the system, but does not reflect the actual data flow. The main components in the system are Database & Setup, Web browser and the smartphone.

The data is stored in the database where the setup also is located. The size of the data is relatively small, usually less than 10 MB for a research project's results. The setup-database contains the code of functionality of navigation of Sensometer, and does also store the programmed content of a specific research survey.

From the web browser the surveys can be designed and programmed. The interface allows accessing the data, which either is surveys, questionnaires, or reports, the tracking data, and it is from the web browser the data is downloaded. From the interface it is possible to do different operations; message the respondents, see the amount of surveys and the results and



Ill. 26. The ccomponents of the Sensometer System.

see the results of the reports; latitude, longitude, accuracy, source and battery etc.
See app. 9.4 for Sensometer's GUI web browser.

The application is installed through Google Play Store or Apple App Store on iTunes, and everybody can download, but to enter a survey a specific activation code for the survey is necessary. See app. 9.10 for application interface. The most important function in the app is the 'follow me' function which dictates if the smartphone is being tracked, this can be switched on and off in relation to privacy of the respondents. Through surveys, the respondent can answer questions and/or send pictures. The application is very flexible and allows customizing the settings and content of the survey. When a questionnaire is responded there is a function 'send' as with an sms.

QuickTapSurvey
QuickTapSurvey is an offline Survey and Data Collection App to tablets and smartphones. (QuickTapSurvey 2015) The application is easy to use, and because of the data collection can be done without Internet, it is optimal for field surveys.

The data collection consist of 3 phases; Survey creation, collection of responses and analysis of data.

Survey Creation
The surveys are created online through the webpage. The site has a number of templates for different types of question from years and no questions, to questions with multiple possible answers. The questions can furthermore be programmed so the respondent has to give a least one answer before the survey can continue. Open questions, where the respondent has to write an answer is also a possibility. The survey has a flexible design, and it is possible to create a survey where all the questions are on one screen, or where there is one question per 'screen'.

The questions can be corrected while making the survey, but when it is saved, it is not possible to change or correct anything in the survey. When the survey is saved it can be downloaded to the tablets.

Respondent Collection
The survey can be downloaded to the number of tablet needed in the survey. Each respondent starts a new survey, and when they are done answering the questions the survey is saved on the tablet, and a new respondent can answer. The tablet and flexible design with one question per 'screen' and a simple interface makes this survey very intuitive and quick to answer.

Analysis of Data
The data is automatically uploaded to the Internet as soon as the tablet has connection. The answers are gathered in one document with all the data that is easily downloaded, even though the surveys are conducted on multiple units. The already gathered data makes the data analysis easy, as it is easy compared and looked through.

5.3 Designing Liveability Surveys

To create the best and most evidence based result, all of Auckland had to be a part of the research to create a 'correct image' of the situation, but this is not possible. Therefore two liveability surveys have been conducted to create the best possible image.

The liveability surveys in Auckland are used to inform the project in 3 design related levels: The definition of liveability in Auckland, liveability strategies for Auckland Waterfront and an Urban Design at Queens Wharf. The choice of using two survey methods to gain the data was made early in the process to cover as many unforeseen problematics as possible; cultural differences, data infrastructure etc. To avoid as many pitfalls as possible we had two main precautions: Using two independently surveys to minimize critical empiric failure and secondly, a pilot research project to eliminate technical surprises with the GPS-based survey. See app. 9.6 Pilot Project.

The two surveys compliment each other. The Target group Survey follow the respondent's everyday life, and it is possible to see where they spend time in the city, and it ask them questions on a daily basis through the survey, but this survey cannot provide representational data for specific places. To cover this, the Onsite survey deals with the selected space for urban intervention, it is an interview-based survey at Queens Wharf that gets the specific opinion and behaviour from people staying at the wharf. Through a combination of the two, the expected outcome was to be able to hypothese preferences in relation to urban space and what makes Auckland liveable.

Planning the liveability surveys

Both of the surveys require great planning, Sensometer more than the tablet application, since the programming and setup of this is more complicated than the other, additionally the questions for the two surveys need preparation. The planning process deals with themes as design of the research – the project, technical preparation, ethics and communication, see app. 9.5 and 9.7 for ethics of the two surveys and communication, and therefore the planning initiated almost 6 months before the conduction of the surveys.

Design of the research

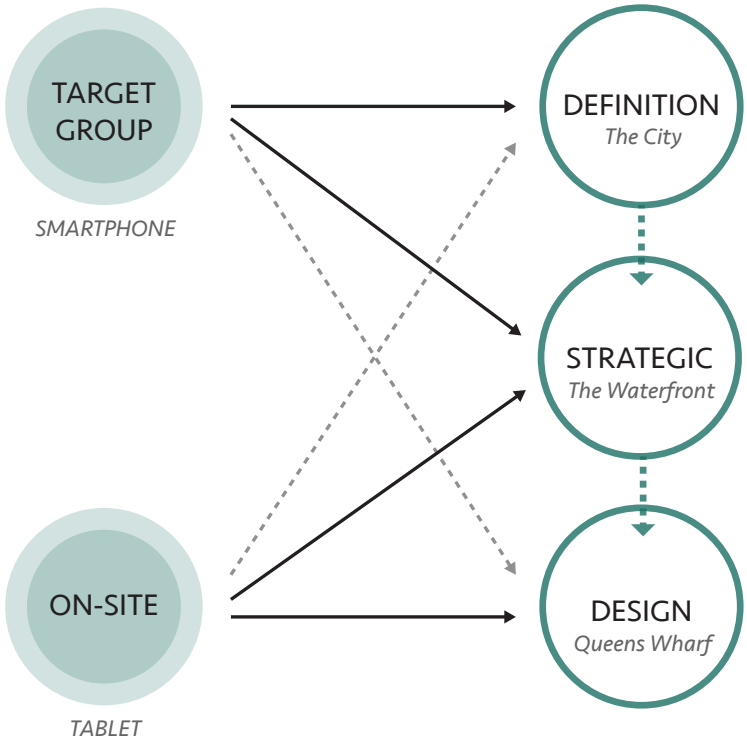
The design of the research has to be in order before constructing the surveys, since it is the content related to the project and research that needs to be addressed. A precise formulated project and research give better results of the surveys.

Technical preparation

In correspondence with the developer of the Sensometer application, the setup was learned to be able to program the technical aspects of The Target Group Survey. Sensometer is a new application and has not been used in a research setup dealing with urban design before. The application is designed for purposes dealing with the regional scale and therefore it was necessary to test it in relation to urban space design, see app. 9.6 for pilot project. The test revealed issues in relation to logging frequency and the battery consumption especially regarding IOS-based devices. Therefore the IOS was programmed to only logg every third minute, where Android loggs a position every minute.
When in Auckland a series of Sensometer surveys was carried out to experience Snsometer applied in the context of Auckland with high-rises.

Ethics

In 1995 a EU directive regarding personal data was adopted in the European Parliament, and since 1985 a similar law has been in force in Denmark. Both laws describes collection of data that can be related to an identifiable person as sensitive data, data which may not be used unless the respondents are informed of the purposes from the beginning, and to which extend their personal data is used.(The European Parliament and The Council of the European Union 1995)(Ministry of Justice Kingdom of Denmark



Ill. 27. Information channels from surveys to project's levels.

2000) This information from the beginning will also enhance the trust between the researcher and the respondents and decrease potential rejections due to skepticism of surveillance and violation of personal data. See app. 9.5 for communicated ethics.

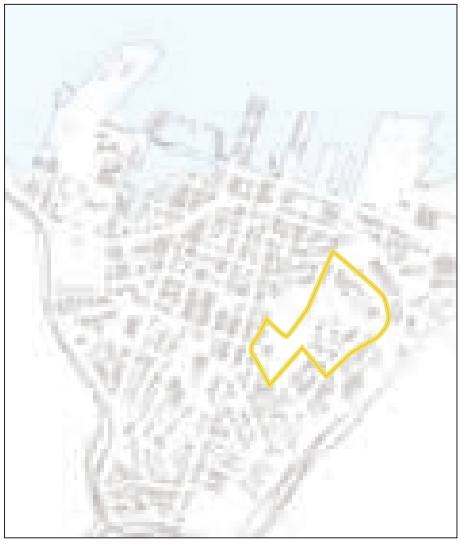
Communication

Learning from and acknowledging experiences from data collections carried out by C-MUS and MoTT, it is important with personal contact between the respondents and the researcher, and this is commonly used as standard procedure when possible.

In the Sensometer survey small posters and handout flyers was designed to support the face-to-face approach. The posters and flyers had brief information about the survey, participation instructions and a QR code for guidance to installation and with contact information. A Facebook page was created to make a contact forum for the respondent where they were updated about the course of the survey and the competition, to get them to participate. See app. 9.7 for online communication.

Additionally a website was created with ethnical commitments to build trust and send a professional signal to the respondents. The web page additionally had information about the project mission, contact information and installations instructions. See app. 9.7 for information upon the webpage and the Facebook page. In the following is the setup explained for the two different surveys.

Setup: Target group survey



Ill. 28. University Campus area

Name on Survey:	Target Group Survey
Technology used:	Sensometer, smartphone application
Function:	Tracking and daily questions
Location:	Wherever the respondent goes
Target group:	University Students
Time period:	7 days, from the 3rd to the 9th of March
Duration:	24 hours each day
Approach:	Face-to-face at the university
Theme:	Liveability in Auckland

The Target Group Survey using Sensometer, was a seven day tracking data collection, targeting students of Auckland University.
University students as the target group was chosen mainly because of their technological opportunities, most of young people, students or not, have smartphone, the technology needed to conduct this survey, and it was estimated that the participation would be highest using this target group. Additionally there are the life style group with most time, in relation to no family to take care of and children to pick up and they are easy to get to participate through the possibility of winning a gift.

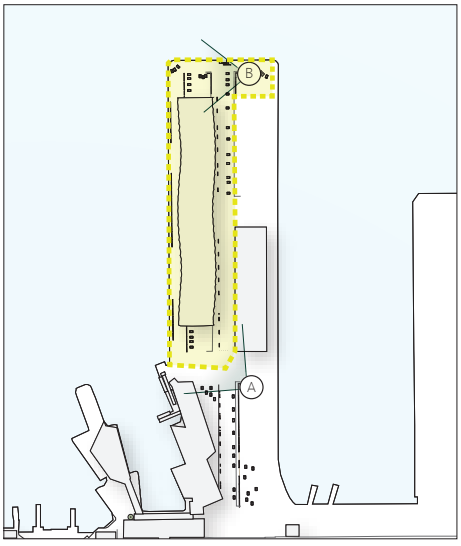
Research Structure

The subjects of the survey, in relation to the questionnaires dealt with seven themes, one every day. The themes were; The notion of liveability, Identity, Spaces and their Functions, Comfort, Connectivity, Natural Potential and the last one Survey Participation. The themes derive from the theoretical framework of the project, but the questions were formed before the final parameters were determined, and therefore the questions of the survey do not cover all the eight parameters. The questions are constructed from the method described in Chapter 04: The Liveability Model. See 9.8 for the questions and the surveys in the Target group Survey.
Besides the daily themes, the respondent could always send a picture and text of the place they thought was liveable; "Show us liveable urban spaces in Auckland City". Additionally four territory operative surveys popped up when they entered the marked territory, asking why they were there. The territory-based surveys are left out of the survey results, as only three registrations were recorded during the survey period.

Strategy for approaching participants

The strategy for approaching participant was face-to-face, where the survey and participation conditions were explained to the possible respondents, with flyers and posters to give to the respondents with instructions and contact info to ease the installation. Because of assistance from a professor at the university the face-to-face approach was complemented with a presentation for a studio of first year student of the Architecture School at Auckland University see app. 9.10 for the presentation. A motivation in form of a daily draw amongst the participant of a 40 NZ dollars voucher to the local university bookstore should increase the number of participants by giving them a reason to participate.

Setup: On-site survey



Ill. 29. On-site survey location, Queens Wharf.

Name on Survey:	One-Site Survey
Technology used:	Tablet and video camera
Function:	Interviewing questionnaires and observation
Location:	Queens Wharf
Target group:	People staying at the wharf
Time period:	1 day, the 2rd of March
Duration:	4 separate hours
Approach:	Face-to-face at Queens Wharf
Theme:	Liveability at the waterfront and Queens Wharf

The On-Site survey was one day with data collection through observation and interviewing at Queens Wharf during four separate hours, using the application QuickTapSurvey on two tablets and video cameras registering the behavior of the people at Queens Wharf.
The survey was conducted to gain knowledge of site-specific liveability preferences and to get an image of a everyday scenario at Queens Wharf, including flows and activity.

The target group of this survey was the people who stayed at Queens Wharf, and therefore not a specific age group or lifestyle.

Research Structure
The survey was restricted to the larger end of the wharf. The southern part of the wharf is very busy place due to the high amount of commuters to and from the ferry terminal, and with the limitation of three observers and interviewers a survey including the transit zone would have been very hectic. Transit numbers are easier to estimate and the behavior of commuters easier to predict.

The surveys consisted of one posts with one person counting and registering behavior through video footage and manual pen-stroke-schedule of the entrance of the limited site, one person interviewing people and the last person at a post at the end of the wharf with a video camera set up that also interviewed people close to the post.

The themes of this survey was the same as the themes in the Target Group Survey with a few addition because of the wide target group, and consisted of the following structure: Welcome and introduction, including ethics, see app. 9.5, Personal Questions, Tourism, Your visit to Queens Wharf, Liveability, Connectivity, Comfort, Identity, Spaces and their Functions, Thank you, including contact information. See app. 9.9 for the questions in this survey.

Strategy for approaching participants
The strategy in this survey was one person per fixed post, recording the entrance area and the recreational spot at the end of the wharf. The last person interviewed people on all of the survey area. The two posts noted flow of incoming and outgoing people divided into categories of kids, youth, adults and senior, evaluating the age of the people. Post B also observed and notated the amount of people sitting and standing. All notations are concluded every 15 minutes during the hour.

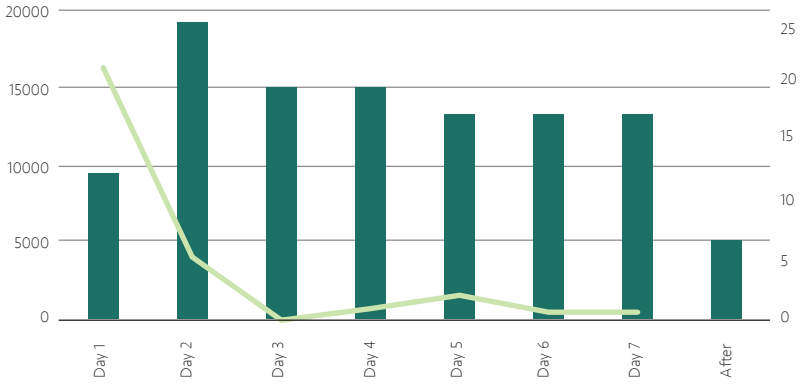
5.4 Report: Target Group Survey

The seven day Target Group Survey started the 3rd of March 2015 at Auckland University and was active until the evening of the 9th of March. Getting participants started out with a short presentation for 30 first year student at the architecture school in their studio through assistance from Professor Dermontt NcNeel. Secondly students at Auckland University Campus were approach in their common areas. During 6 hours almost 600 students was approach and asked to participate in the survey, and 581 flyers with information were handed out.

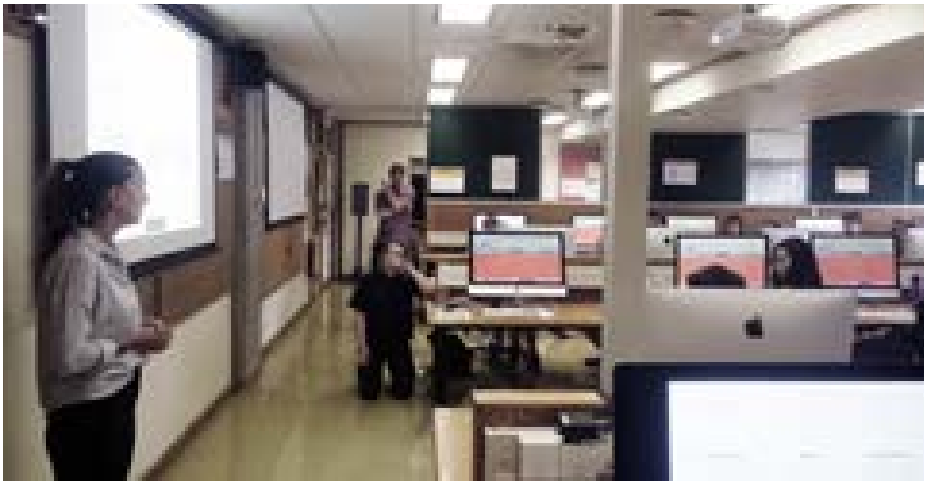
Around 2% of the approached students did not have access to an Android- of IOS-based smartphone, and were therefore not able to participate in the survey. And a number of the approach students rejected the presentation of the survey.
Due to the day the survey was introduced, which was the first day for many new students, the campus central area where filled with different small events and students. Due to the semester start-up the local mobile network and the university Internet was overloaded, and because of the poor connection a lot of the approached students were therefore not able to download the application for the survey.
After two hours the amount of approached students that had installed the app were a lot lower than anticipated. And the approach strategy was changed to get them to try to install the app while talking with them, to ensure participants. This unveiled the issues with downloading because of the poor connection.

At 18:00, 45 had installed the application and was providing data. The day after, the number had increased to 53 and in total 60 installed the application during the survey period of the seven days, a lot less than the 100 participant in the pilot project, and a lot less than expected. Of 60 participants 57 provided reports, tracking data, and 41 provided surveys, questionnaires. With one third on Android and two third IOS the total of 71875 reports, 564 survey responses and 31 photos related to reports and 25 related to surveys, the total of 56 uploads of pictures.

During the survey period a small decrease of reports was registered, a normal decrease caused by lack of interest and it can be the result of the battery-consumption issues related to the IOS-based Sensometer application. In the statistic a tendency showed less survey responses from the IOS users. The amount of photo upload related to reports has a clear 'first-day interest' where it peaked and decreased to a more stable level from day 3.
When comparing the data collection in Auckland with the pilot project in Aalborg, the data collection in Auckland was harder and more challenging, mainly due to expensive data-packages and poor Internet connection.
The daily winner was contacted through Sensometer, and all respondents received a message stating that the draw of the day was done. This was complemented with an update on the Facebook page. Six out of seven winners received their voucher in the first week after the survey, the last winner did not respond immediately.



Ill. 30. Position loggings and photos during the survey period.w



Ill. 31. The presentation for the students at the architecture school.

Ill. 32. Rikke approaching a small group of students.

Ill. 33. The outdoor campus square near the cantine.

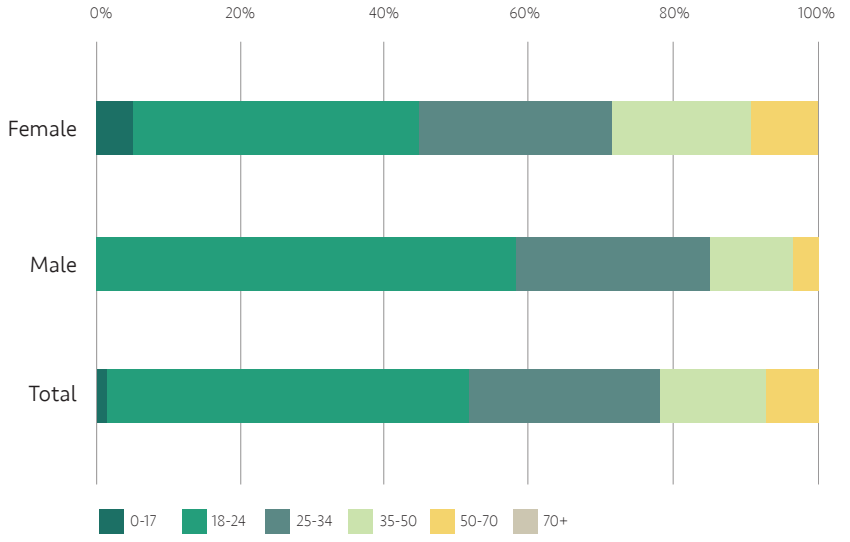
5.5 Report: On-Site Survey

The On-Site Survey was carried out the 2rd of March at Queens Wharf in Auckland. The weather was sunny with no clouds and the temperature peaked at 14:30 with 25 degrees celcius. It was a normal weekday, work- and school-day, and no cruise ships had docked at the wharf.
4 times 60 minutes observation periods was spread out during the day, at 8, 10, 14 and 17 o'clock, and the survey was performed alike each hour.

The surveys were conducted as explained in the setup: two posts with camera, observing and noting people walking in and out of the survey area. The registering was done manually and recorded by cameras. Some of the different behaviors registered are illustrated on the next page. The position of the posts allowed an overview off all incoming and outgoing people, and an overview of the behavior at the recreational area at the end of the wharf.

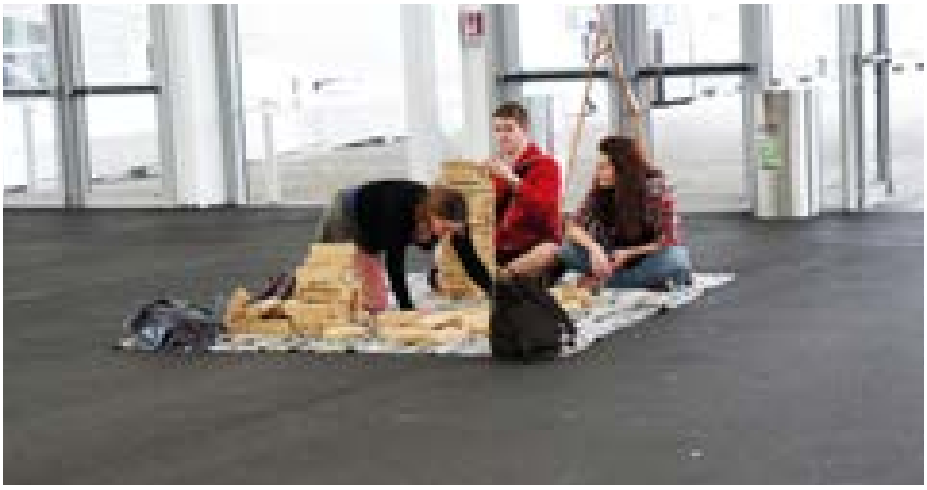
The interest in the survey at the wharf was very different from person to person, some rejected the survey immediately and others were very interested in the survey and the project. Both people walking, lying and sitting were approached, outdoors and inside The Cloud building. In total 46 people answered the questionnaire, both citizens from Auckland and tourists. The time people took to fill out the questionnaire varied from 5 to 9 minutes.

An error in the programming resulted in confusing in relation to one specific question. The question requested to tick off multiple boxes, but it was only possible to pick one. After three interviews a respondent informed about the question, but since the survey was already saved in QuickTapSurvey, it was not possible to correct it at the site. The mentioned question was "Which clothing items are you wearing?" and was removed from the results.



Ill. 34. The age of the respondents.

Ill. 35. Calm recreational activity at the end of the wharf.



Ill. 36. Playing games inside The Cloud.

Ill. 37. Fishing early in the morning at the end of the wharf.

5.6 Cleansing the Data

The two technologies and the surveys required attention in relation to the cleansing of the data, especially the Target group Survey using Sensometer, to get rid of the immediate wrong data. The data can intentional be misleading, for example a picture of a schoolbag or an age of 241 years old. Likewise can the technology have registered data with error, for example a single point in the middle of the water. Smartphone GPS-based data does not give accurate GPS-positions, and the respondents' phone setting additionally affects the preciseness of the data. It is therefore necessary to review, filter and eventually evaluate the conclusions in relation to the quality of the data.

Accuracy in GPS-based data collection
GPS technology is used down to millimeter preciseness, but the receivers in smartphones are often cheap and therefore have a more imprecise determination of position. Accuracy is defined by probability of distance and for the cheap receivers the accuracy is 68.3% within 6 meter, 95.4 % within 12 meters and 99.7% within 18 meters. This means that the GPS positions must be understood as estimation, and cannot with smartphone technology determine if a person was sitting on a bench or standing beside it.

A series of factors influence the accuracy. The atmospheric condition differs according to climate, sun position, atmospheric particles and electron-density, and they all influence the signal from the satellites to the earth.

Clock errors are used to describe when receivers might be out of synchronization. As the signal is travelling very fast, small differentiations in the clock gives imprecise distances and thereby a poor accuracy. To create a accurate position a triangulation between four contributing satellites must occur, these conditions can estimate the clock differentiation.

DOP - Dilution of Precision is a mathematical factor that describes the clustering of satellites. If the satellites are too close to each other the triangulation is week. The context on the ground influences this as well. If the receiver is inside a building the materiality of the roof and the walls create a poor positioning.

Multipath is when buildings reflect the signal and thereby extend the calculated distance from satellite to receivers. To avoid multipath most smartphone use Assisted GPS (aGPS), which means that the triangulation is compared to a nearby outside source, to validate the accuracy. The situation with multipath is commonly known in urban settings.

Each described factor can make the data inaccurate with up to 2 meters, and the atmospheric conditions can create an inaccuracy of up to 50 meters. (Dueholm, Laurentzius and Jensen 2005)

Filtering Sensometer
To filter the data from Sensometer, the data is downloaded and gathered in one file, with reports and surveys separated.

Filtering and hereby excluding data through the following filters cleaned the tracking data reports:
Accuracy above 50 meters, coordinates of NULL values, coordinates outside New Zealand territory (latitude outside 165 to 178, and longitude outside -38 to -48), 68982 report-index of the total 104105 made it through the cleansing. 17.2% contained no coordinates, 16.5 % where above 50 meter in accuracy and 17.3 % where outside New Zealand territory. In total 33.7% is filtered and disqualified.

Compared to the pilot project the level of accuracy is 1.1 percentage points higher and filters of disqualified coordinates are almost the double, 9.3 percent in the pilot project and 17.3 percent in Auckland. This is significant and is due to coordinates of NULL-values. A possible reason is the data-package issue, with expensive data often not included in the mobile plan.

Five individual tracks are extracted to look closer at the data and their paths. The quality data from the five individuals range from 98.1 % quality data to only 15.1%. User 1335 has a high percent of coordinates with NULL-value, which

	Qualified	nReports	Null position	>50m accurancy	Location not NZ
All reports	66.3%	104.105	17.2%	16.5%	17.3%
Pilot project	73.1%	166954	9.2%	17.6%	9.3%
User1335	15.1%	9102	60.0%	3.9%	60.0%
User1336	52.6%	8513	7.1%	40.2%	8.0%
User1362	64.3%	8676	0.2%	35.5%	0.2%
User1363	88.5%	8957	5.3%	6.3%	5.3%
User1378	98.1%	8867	0.0%	1.9%	0.0%

Ill. 38. Statistics of cleansing REPORT data.

may be a result of not having a data-package. All five respondents reported between 8513 and 9102 positions, which is considered as reporting throughout the full survey period.

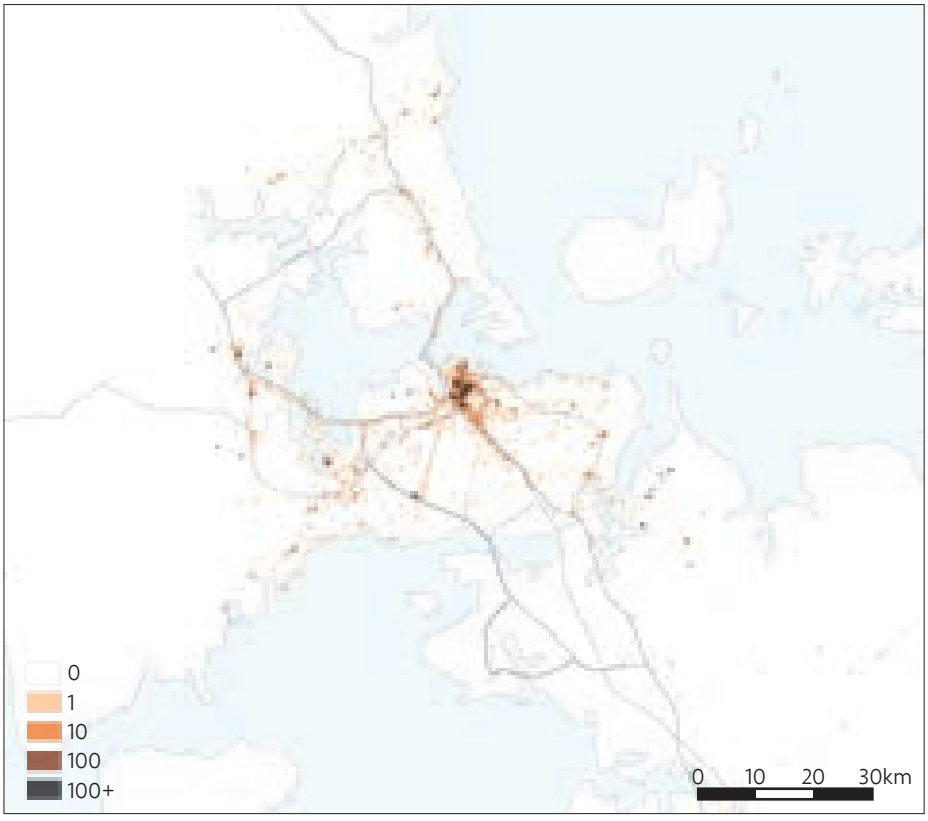
Because the Target Group Survey is conducted as an informal survey, optional, with the target group of 15-25 year old frivolous responses must be expected, both in relation to text answers and photos, and are sorted out of the material used to conclude on.

In relation to creating maps from the data there are a number of factors that needs adressing. Some smartphones provide the same coordinates if it does not calculate movement in a certain tolerance, therefore identically coordinates are accepted.
Clock error as delays of time registrations occur. The android sends a position per minute whereas the IOS system only sends position every third minute. In this project the tolerance is +-10%, for example if the Android loggs a position after 66 seconds or before 54 seconds after the last position the data is removed.

The equation for the filtering of the data is the following: Identical respondent, Great sphere distance calculation of decimal coordinates into metric distance, Distance below 100 meters within three minutes prior and past a log, Sequential identical coordinates, Clock error and Frequence logging within tolerated time criteria (+-10%)

QuickTapSurvey
To try to avoid frivolous or impulsive answers the questions in the On-Site Survey that requires consideration are designed with the option of 'Other' or 'I don't know'. As with Sensometer there is always a risk for useless answers, therefore all the data is evaluated, and the useless removed.

5.7 Results: Target Group Survey

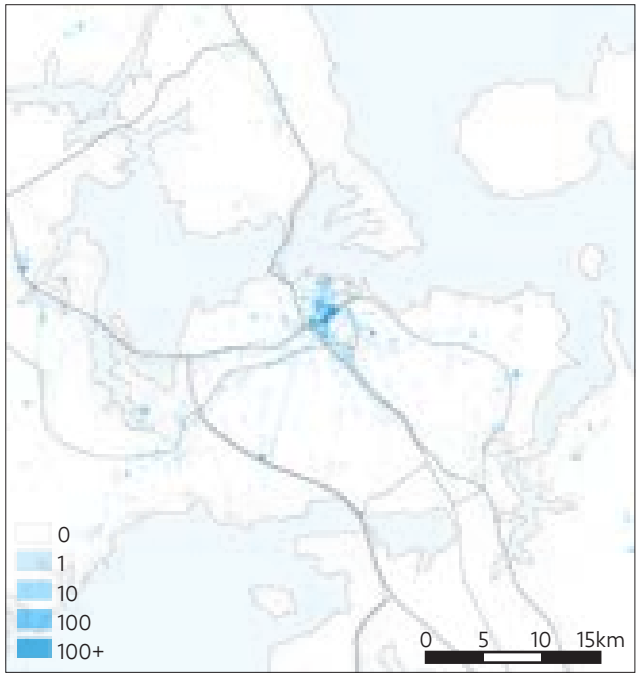


Ill. 39. Heatmap. Density wihtin 250 meters, scale 1:400.000.

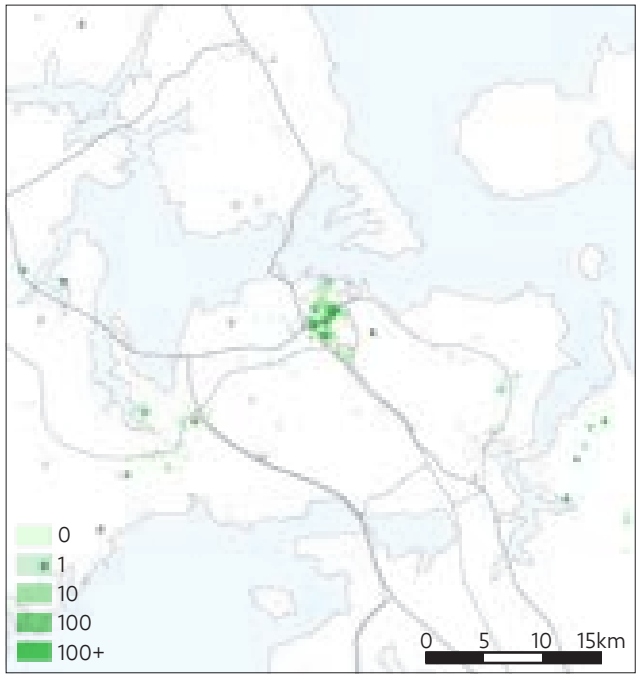
Patterns outside the City Centre

48 respondents, 24 men and 24 women have provided data for tracking in the period of seven days.

Ill. 40 shows that the students of Auckland University indeed travel outside their city during a week. There is a central gathering of activity in the city, with clear travel patterns into the countryside. Segregating all positions intro travel patterns ill. 41 and patterns of stay ill. 41 illustrate that they also stay far from the city centre. On a regional scale, such travels take hours and might be related to the culture of travelling to the holiday homes in the weekends. Stay closer to the city centre, 10-30 km, indicates possible homes. Although the distance seems small, 15 km in Auckland City, take because of the traffic easily more than an hour in peak hour. The patterns indicate, that the city does not capture the total everyday of the students, not as a city or city centre. It is no surprise that students live outside the expensive city centre, but it does result in travel time of easily two hours per day that decreases the quality of life.



Ill. 40. Heatmap of travel behavior. Point density wihtin 250 meters, scale 1:400.000.



Ill. 41. Heatmap of stay behavior. Point density wihtin 250 meters, scale 1:400.000.

Ill. 42. Heatmap. Point density wihtin 100 meters, scale 1:25:000.

The Patterns of City Centre

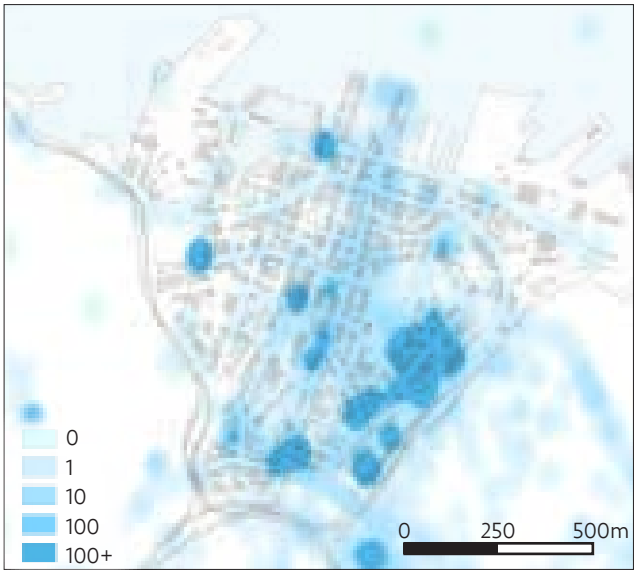
The patterns of the students are clearly related to their occupation, studying at the University. Ill. 43 illustrates the dark zone of campus as the main activity, and the Architecture School (A) where the presentation for 30 student was done, is indicates as a heated zone. In the city centre "islands" of heat occur. Some are homes or other indoor activity of a single respondent (I) and the rest are places of travel pattern and stays. Buss tops of one two or three respondents with daily waiting time of just 5 minutes are also illustrated as stay (T). Related to some of these spots are urban spaces that afford waiting time. Two pocket parks (PP), Queens Wharf and Elliot Street are parts of respondents stay before stepping onto the bus, ferry or train.

Campus and mobility are main elements in how the students use the city, even though campus is located in the eastern part of City Centre and mostly all travels are towards east and south, an axis along Queen Street is illustrated. From Aotea Square and down to Queens Wharf along Queen Street is a medium heated large area. This zone consists mainly of shopping and restaurants. Queen Street is mentally the main axis of the city and the heat map pattern clearly states that Queens Street is used by the students.

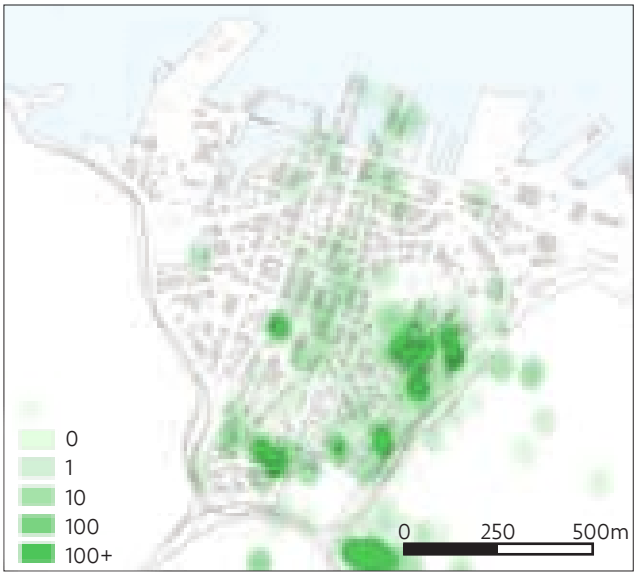
Waterfront

The zone around the ferry terminal at Queens Wharf is part of the main pattern. The area next to the waterfront, Britomart, contains a high amount of public transportation stops, shops and restaurants. The area has a busy atmosphere with busses, crowded pedestrian crossings and car traffic along the two west east going streets: Quay Street and Customs Street. Activity at Queens Wharf might be the calm alternative to this massive sensorial and hectic atmosphere.

Wynyard Quarter, Silo Park and the Marina area does not have much activity. A respondent lives at the corner to the marina, another is registred walking to the end of the Waterfront and back again looping the marina.

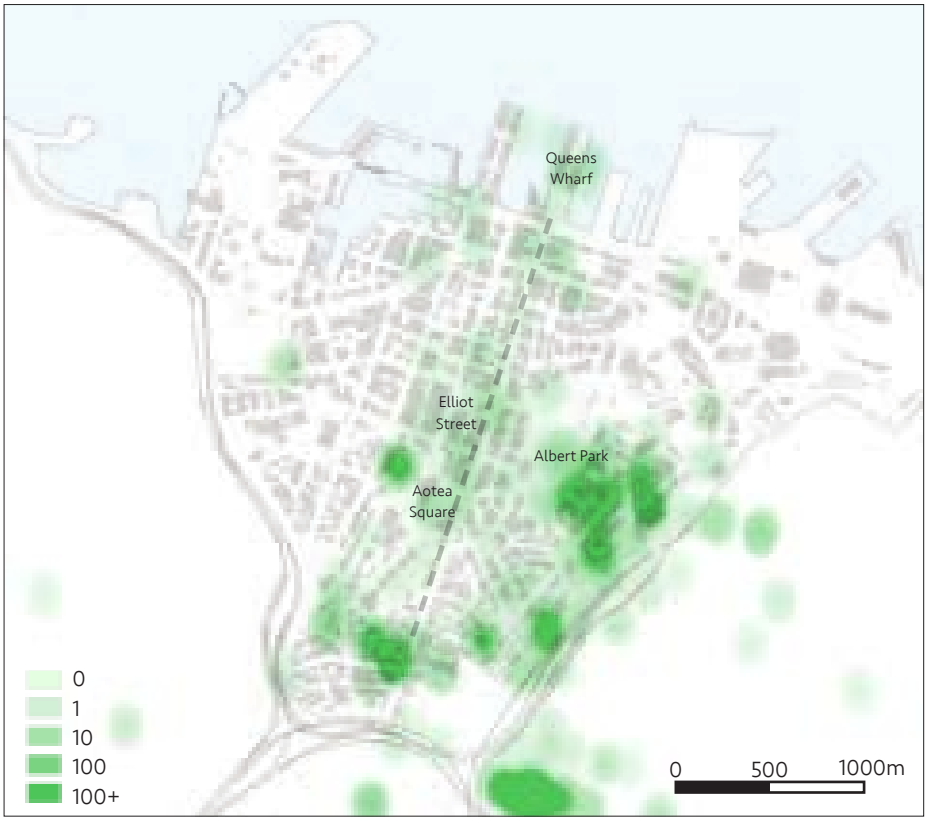


Ill. 43. Heatmap of travel behavior. Point density wihtin 100 meters, scale 1:50.000.



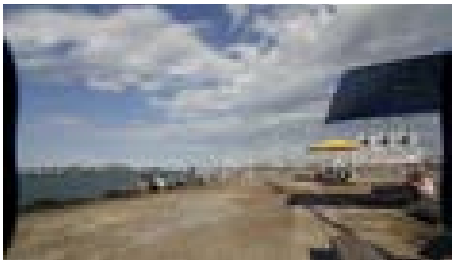
Ill. 44. Heatmap of stay behavior. Point density wihtin 100 meters, scale 1:50.000.

Top five urban spaces



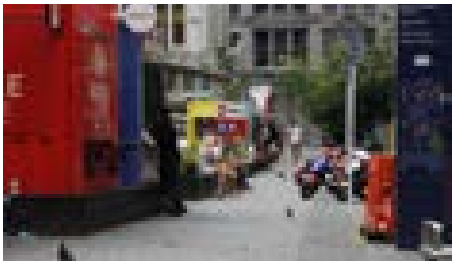
Ill. 45. Heatmap of stay behavior. Point density within 100 meters, scale 1:25.000.

Albert Park
Between downtown and campus is the city centre's green lung. The former military fortification turned into a gothic styled garden and park around 1900, and contains besides large trees and water fountains, big lawns, pavillions and lots of flower beds. The park is right next to the university campus.



Queens Wharf
Along with Albert Park the most calm urban space, the surrounding waterscape and low level of traffic, makes this an escape from the bustling down town area. The wharf is a big public space, with space for pop-up activities along with relaxing affordances at the end of the wharf.

Queens Street
As the main axis of the city this 1000 meter long street affords all kinds of shopping and restaurants. The street scape has wide pedestrian zones with benches and trees covered with overhangs from the facades. Cars and busses results in pollution and noise in the streetscape.



Elliot street
At the end of the newly established shared space street is an unbuilt plot, the sun and small scale inbetween the highrise buildings, have with the implementation of small container restaurants made this a very popular place to grap a bite to eat or a coffee.

Aotea Square
Next to townhall is the biggest square of the city. Peripherical to Queen Street and close to shopping malls, this Square affords daily lunch break and host medium size events.

Ill. 46. Students top five urban spaces in the city.

Liveability according to students

Defining liveability
The question of what liveability in the city and quality of urban life is, is a question where the answers from the students vary. Some answers are quite specific to a certain problem, need or wish and other more social minded. Although, green spaces for relaxation, public spaces for physical activities and clean environmental friendly spaces are major themes, one student define "Places to relax and places to interact" as quality of life in the city, another seems to experience pollution as a big problem,

"Smog. Love me some smog. Or was it Smaug?" (Smaug – the dragon from 'The Hobbit').

Problems as smog and pollution are large planning problematic that requires large efforts to change, it is far easier to add more seating, events, greenery and shade in the public spaces.

The vision of Auckland as the most liveable city in 2040 has major challenges, and according to the students, transport is without doubt the biggest challenge towards reaching this goal. Environmentalism, resources and house prices are themes as well, and some mentions the crowded inner city and narrow pavement.

Identity
The students define Auckland's identity as a business, student, sprawling, tourist and harbor city. There seems to be many identifiable faces of Auckland as a city. As a vision they think Auckland should be a friendlier city towards people and the environment. An accessible city with friendly driving behavior is wanted too along with a green and welcoming city.
When asking questions in relation to the identity in a smaller scale, the respondents are divided between the importance of identity or not. More than half does not prefer spaces with a special identity or character, and only a few believe that identity makes people feel ownership of a space.
Spaces with identity and a special character in the city, they prefer, are Queens Street and Albert Park, which are mentioned the most.

Spaces and their functions
The student's top five of types of spaces that are missing in Auckland are; Activity space, Green space, Playgrounds, Place for relaxing and Quiet space. These spaces are also what they prefer and/or use most frequently. On a scale of 1-5 of how important different spaces in the city are, the answered an average of 4.37 (1: not important at all, 5: very important), it is therefore important with different spaces.

Comfort
7 out of 10 answered yes, if noise has an effect on their use of public spaces. The majority think that noise affect their relaxation in urban spaces, and undoubtedly wind and sun has a clear effect on their behavior in public spaces. Questioning specific to wind as a problematic no one concluding yes or no, but on a scale on 1-5, a few answered that wind had a high impact.

Connectivity
The students believe that getting to the city is averagely easy. The main challenge of getting to the city is the public transportation waiting time and traffic jams, where two thirds stated that this affected the amount of time they spend in the city negatively.
The different areas of the city centre are averagely connected, but most think that they would use the city more if the walking connections were improved.

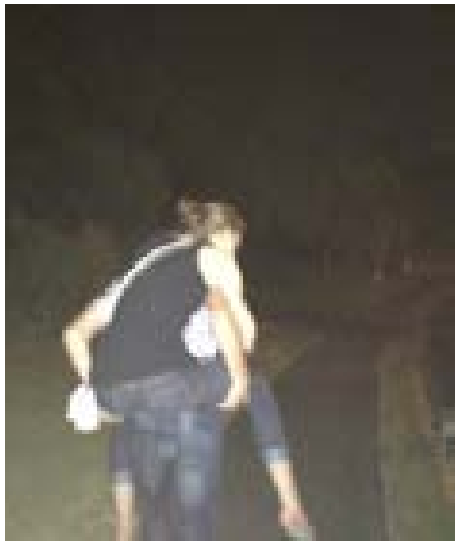
Natural potential
6 out of 8 believe it is important that the surrounding context is reflected in the urban planning, and that Auckland's surrounding landscape is averagely present in the city now. Greenery in the city is very important and only a minority believes that native planting in the city centre is not important at all.
For all statistics and results on Sensometer see app. 9.11.

Ill. 47. A scenic view uploaded by a respondent.

Ill. 48. Events in the city, uploaded by respondents.

Liveable urban spaces in eye-perspective

Ill. 49. A shaded green space in the city.



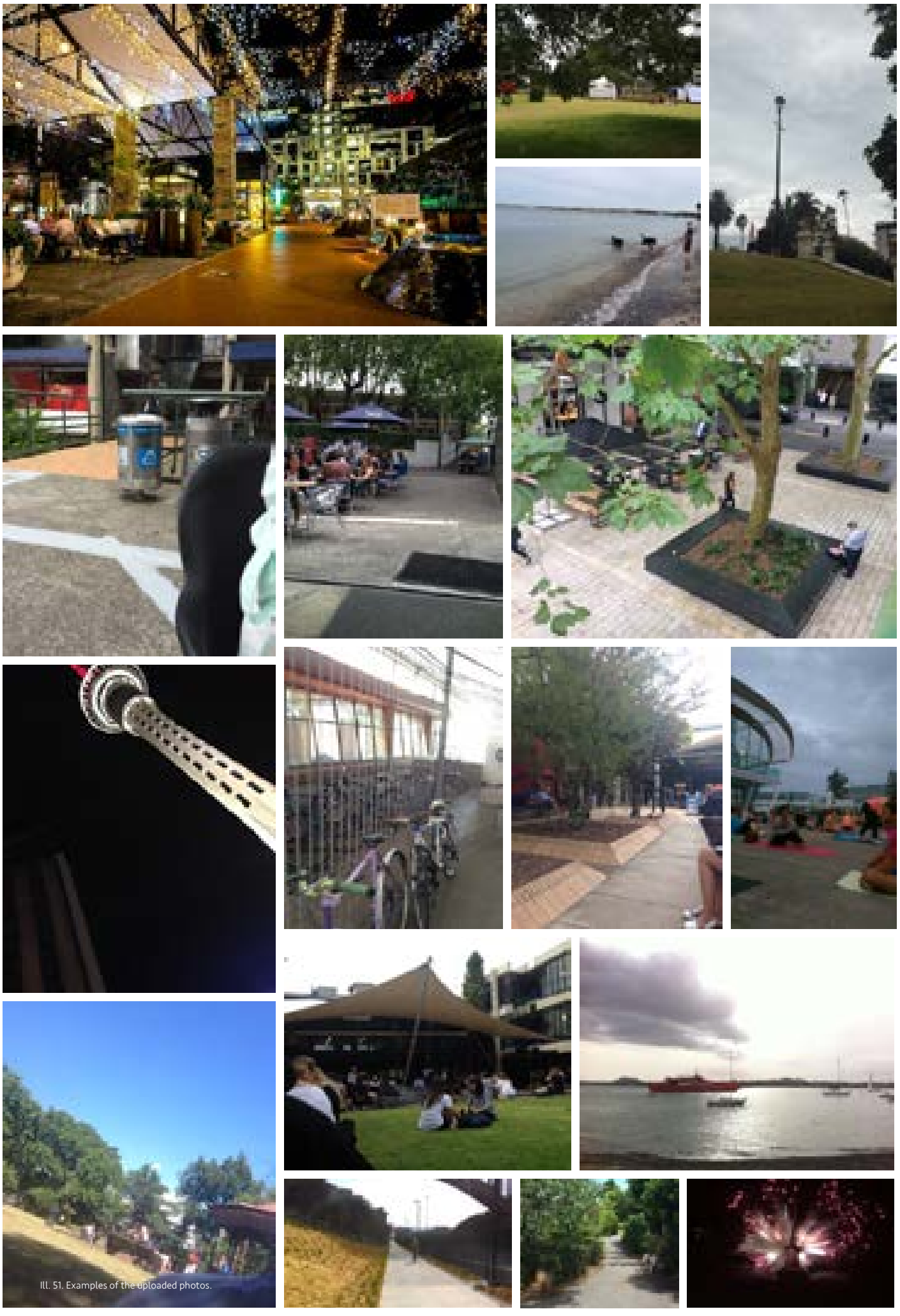
Ill. 50. A liveable walk home.

In total 56 photos were uploaded, 75% at the first day. The Uploaded pictures are responses to liveability in general. The quality of the photos is fluctuating, and varies from pictures of a schoolbag to a picture of a green spot. Creating a quantitative analysis of such week data would not make sense, and they are therefore used as inspiration and as an element of reflection.

27 out of 56 photos were categorized as serious material. Generally tendencies of greenery and water are what make urban spaces livable in relation to the respondents.
At eye level Auckland is a city of asphalt, pavement and the sky. This is not uncommon in cities, but nonetheless it would seem that views of greenery is vital in the perception of a liveable urban space.
A few of the pictures illustrates a social activity such as an outdoor yoga activity at Queens Wharf or an event space at campus, the social interaction and activity of a space seems to affect whether a place is liveable or not.

Scenic views of the natural context and even beaches figures too. A beach does not have much to do with urban spaces, but the importance of the beach as a recreational spot is clear.

What can be concluded from the uploaded photos is that liveability is indeed a subjective matter, but tendencies can be drawn as the importance of greenery.
See app. 9.11 for all the uploaded photos.



Ill. 51. Examples of the uploaded photos.

5.8 Results: On-site Survey

Multicultural

Queens Wharf is a diverse multicultural space regarding the people visiting. One third of the visitors questioned are New Zealander (ethnic: European, Maori and Polynesian) and one out of seven from India. The remaining 50% is represented by various nationalities from Asian, Europe, North America and the Pacific Region: A more multinational representation than in Auckland or New Zealand. The many tourists at the site, are a reason for this result.

Less than 20% questioned lives in Auckland City Centre. 40% are tourists, with two thirds from out of the country. There is a clear tendency of young people, more than half is below the age of 25. During the survey few kids was seen at Queens Wharf Wharf, and only accompanied by adults.

The young people is unquestionable the biggest user group at Queens Wharf. University and college students spend time here after school, some reading other playing board games, table tennis or relaxing. The small distance to the city centre and the transit hubs makes this a hang-out place for ethnic Asian, Indian, Maori and Europeans before going home after school.

Tourists might be the biggest user group at all. Almost half that are visiting on a day with no events are tourist. Most of them are taking a walk to the end and back, others visiting The Cloud as an Architectural sightseeing.

Most people arrive by foot (58.7%), a quarter by public transportation (26.1%) and only 10% by the "popular" car. Biking is a rare phenomenon in the city.

Recreational everyday

A third have a weekly visit at Queens Wharf, and a third of them visit daily. Most plans to spend between 15 and 60 minutes at Queens Wharf, 15% more than 60 minutes, and it is therefore safe to characterize the space as recreational. Relaxing is the main purpose (72%) followed by sightseeing (50%). Waiting, writing/reading, and eating are popular activities too (20-22%).

The daily rhythm peaks at the afternoon till early evening with 350 people during an hour. At ill. 53 the counted numbers from the wharf are compared to two nearby pedestrian counting, which indicates a clear peak of pedestrians at midday.

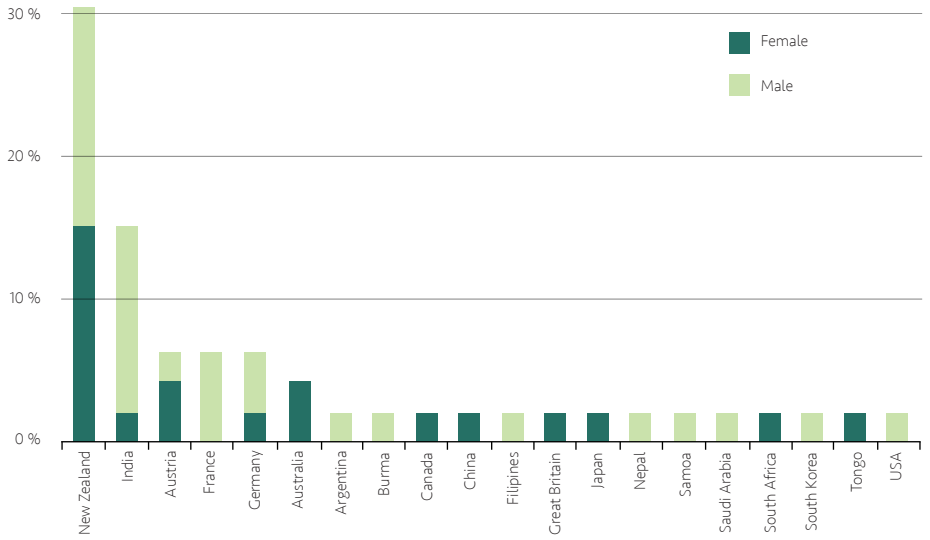
Compared to our counts there is a tendency of lower presence before midday and higher presence of people after midday at Queens Wharf. When relating those numbers to the recreational activities taking place at Queens Wharf, it makes sense that the activity here, peaks in the afternoon when people are off school and work.

The survey was conducted on a sunny day with little wind. A third answered they were feeling warm, no one felt cold. Shaded places as inside The Cloud and underneath parasols were popular and afford comfortable spaces in the hot sun. Wind was not a huge comfort problem, only a few sought towards sheltered spaces, this may be because of the warm weather, were the wind is warm and therefore does not affect the comfort in relation to temperature. Today the spaces are centered on The Cloud building, there is not spaces within the spaces with different comfort possibilities. If the sun is coming from one direction, one must go inside the building or to the opposite side of the building to find shade, unless one of the few parasols is available. Vertical greenery, as trees, also creates shade, but they are few at Queens Wharf and placed individually.

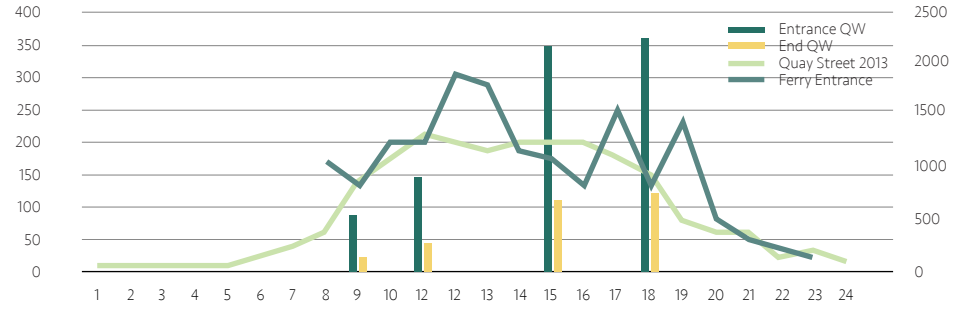
Events and cruise ships

From informal yoga classes, fishing, pop-up cinemas to Firefighter day and ITU World Triathlon Series, Queens Wharf occasionally host events of different scale and character. The partly private owned Queens Wharf will under some events exclude the public of some areas, the same exclusion happens when cruise ships dock at the wharf. Approaching locals inside The Cloud a lot were questioning if they were allowed to be there and thought we were asking them to leave – a sign of confusing in relation to the use of the space. Asking if Queens Wharf should be a 100% public space only 15% thinks the existing layout is good (8% Don't know), the remaining wants more public space and 26% think both indoor and outdoor spaces should be a 100% public.

For statistics and results from this survey, see app. 9.12.



Ill. 52. The demography of the survey.



Ill. 53. Comparison of pedestrian counting peeks at Queens Wharf, The Ferry Entrance and Quay Street.

Defining liveability

The respondents in the On-Site Survey's answers to the question of what is liveable are centered on recreational experiences often with friends and family in a green environment. The New Zealand tradition of driving to their batch (summerhouse) in the weekends to relax and enjoy the natural environment does also affect what they think is liveable in the city. A minority of the responses does not relate to relaxing and recreation, but describes liveability of the city as 'party', 'activities after school' and 'activities for families'. In general most of the answers are in relating to leisure and relaxing recreation activities.

"(Liveability is) Places that allow you to escape from whatever is going on in your life and have some quiet time." (Male 33)

The words that describe a liveable urban space, in relation to the respondents if they could design a space themselves, supports the hypothesis of the liveable city as recreational. 'Green' scores the most, followed by 'Quiet', 'Activity' and 'WiFi', in relation to a new program at Queens Wharf more than 70% wants a 'Place for relaxing' with 'cafés', 'Quiet spaces' and a 'Park'.

Social activity is another tendency in the survey responses. A large group wants relaxing and few-people spaces, while other wishes 'Activities for friends and families', 'people gatherings', 'socialize' and 'places to do things with other people'.

"(Liveability is) A place where everyone can find something that they enjoy." (Female 24)

"(Liveability is) A place for all open minded people, no matter of age, religion, sexual orientation." (Male 34)

There seems to be a social understanding of what the urban spaces must be able to afford, and that people do want others to have a pleasant time as well. Observations show that people do not actively interacts with strangers, but do observe fishing, playing and exercising etc.

It can be concluded that the liveable city is about recreation and especially relaxation, a city should thereby afford relaxing and recreation to be liveable. Urban spaces does have an effect in the everyday life, a liveable city should not just afford great public transportation and activity, but human interaction and recreation.

Designing for liveability

'Green', 'Quiet' space with 'Activity' and 'WiFi'. These four words are mentioned in more than 25% of all visitors top five of words that describe their own liveable urban space.
Translating wants and meanings into physical design is quite difficult when it comes to the tangible elements, the programming of a site is easier from the answers. The survey has clear limitations in the translation of the answers to an actual design, the survey does not answer how to design green or relaxing spaces, or even what relaxing spaces in reality contain, but it function as a driver for developing a liveable contextual program for a specific site, and it gives a clear image of wants and needs in the city.

Actions towards a liveable waterfront

The waterfront should afford green and blue experiences that allow escaping from the pollution and noise inside the busy city. Scenic views and water accessibility is highly related to the waterfront's recreational purpose. 50% would visit the waterfront more often if the water interactivity was improved. Greenery of relaxing character is highly requested, and must be considered the best investment to create liveable urban spaces. The importance of greenery and native plantings scores very high, yet it is not enough to plant native greenery, the atmosphere of such places must be relaxing and thereby comfortable, both thermal and in relation to noise and pollution.

5.9 Part Conclusion

The previous conclusions are our conclusions on the data, our understanding and interpretation of the gathered data. In theory the data can be interpreted in various ways, but by relating the understanding of the data close to the actual conclusions, our conclusions are based on actual data.

Survey success

Both surveys have contributed with knowledge of liveability, especially the site-specific On-site Survey have informed the understanding of liveability preferences in the urban space. The On-site Survey has given a more detailed image of Queens Wharf and preferences in relation to the use of the waterfront as a recreational place within a large city. The effort of conducting a questionnaire data collection by the use of tablet-computers in urban design is relatively easy and the time spend is low. Our setup set in account, the amount of people and registrations of their behaviour, the physical setting of surveying a peninsula as a wharf have a high influence on the outcome.

GPS tracking through Sensometer have without doubt been time consuming, and the effort of gaining responses from less than 50 people is enormous. It is doubtful that 50 students give a correct image of the behaviour in the city for this user group - but tendencies can be concluded for further investigations. In other words, the survey in itself cannot be used to conclude on liveability at a definitional level. To qualify such an influential statement as what liveability is in Auckland, a more representative survey is necessary, with wider representation of the demographic through age, lifestyle and ethnicities conducted.

The pattern of the city and the top five urban spaces, illustrate that the urban spaces are used in relation to everyday purposes, and that the location and the nearby functions most likely have a larger effect than the actual design of the space. The tracking data and uploaded photos are a poor basis in relation to informing an actual design. From the surveys, it has been clear that green for example is important, but not how such green should be placed, or what precise kind of green atmosphere is wanted. To create surveys that are able to inform the design require a higher specificity and most likely a higher level of simplicity. One or two parameters per survey, to get thorough and specific data, and the obvious question is, if the respondent would have been able to provide specific results.

The usability of the technologies

The process of applying Sensometer into our master's thesis has been extensive and challenging. Many hours have been spent on learning the technology and the period of data processing have resulted in failures and the need for GIS software tutorials. Sensometer is designed for high adaptability in relation to different data collection setups and is limited to the collection of data. Applying Sensometer to research requires knowledge of GPS and GIS technologies and an understanding of data processing in general.

The general feedback from the participants has been good and contributed with a lot of knowledge on liveability and the content of urban spaces in Auckland. The smartphone GUI is easy to navigate and allows quick responses with low effort. The IOS issue of Sensometer affects the gathered results, the battery consumption when Sensometer is tracking is too high for data collection, and a shorter logging frequency results in a more precise result. The data from Android has been more accurate and hereby better than the IOS data.

The conclusions illustrate that liveability is a normative concept - each respondent have their own udnerstanding of the notion. Additionally liveability is an everyday concept, and it is the everyday life that has to be liveable.

ANALYSIS

6.1 Auckland Waterfront

The following chapter are analyses of Auckland waterfront and analyses of Queens Wharf. The analyses are struktured from the 8 liveability parameters: Mixed-Use, Visual Connectivity, Walkability, Comfort, Natural Value, Local Identity, Heritage and Human Scale.
The analysis chapter is structured with the analyses of the waterfront that concludes in potentials for each parameter. Hereafter is the analyses of Queens Wharf.

Liveaility strategies for Auckland Waterfront and design parameters for Queens Wharf are conclusions on the analysis chapter, these are presented in the external report with recommendations for a liveable design.

The part of the waterfront that is analysed is the stretch from Wynyard Wharf to Marsden Wharf, just before the port area. The beginning of the port area is in the section because the functions are important as context, but is not as such a part of the liveability strategies.

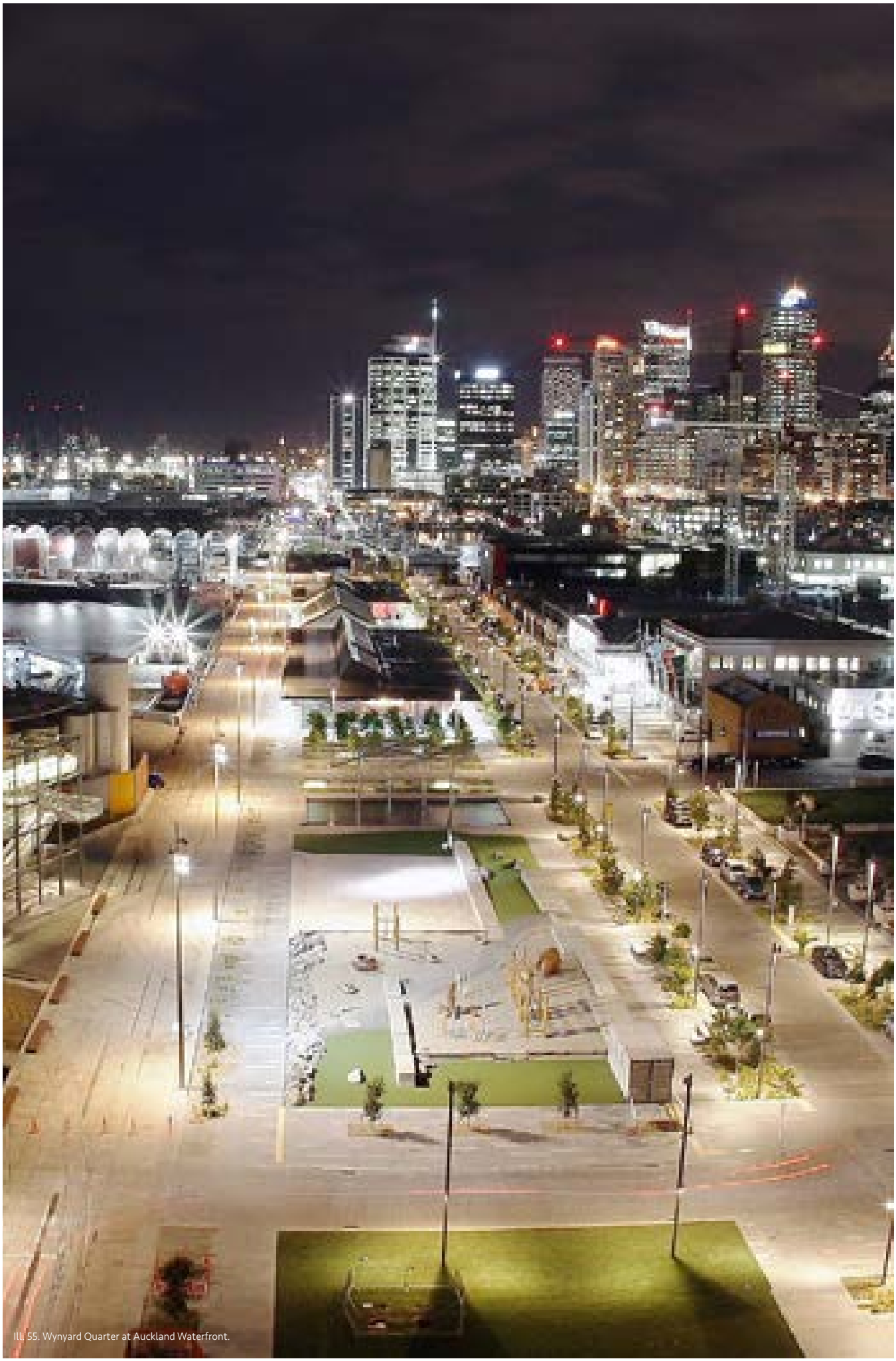
The Westhaven Marina is omitted as a place of analyses since it is already is a well etablished space, but it is still considered as an important context.

Mapping are used throughout the analyses as the main communication method.

The Waterfront
The waterfront's importance in the city and the location's great potential makes the area an important element in enhancing the liveability of Auckland. The purpose of analysing the waterfront is to examine Queens Wharf's role in making the waterfront and thereby the city more liveable.

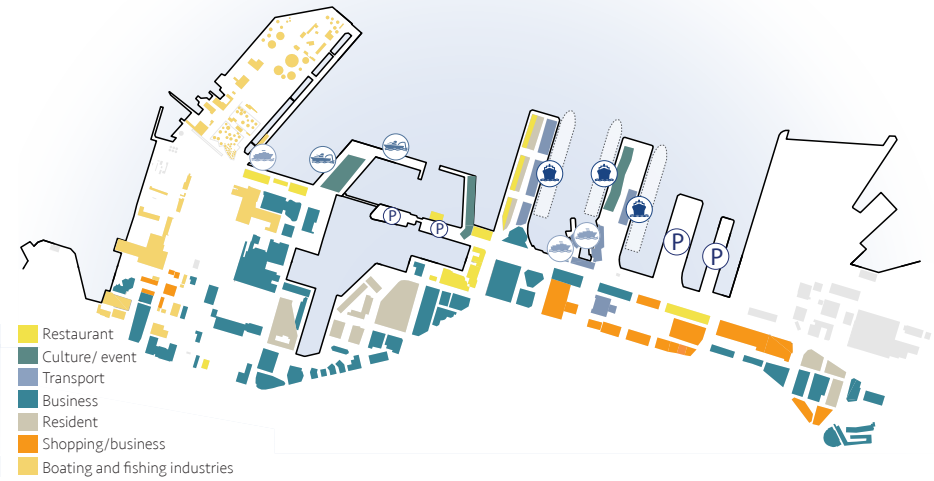
"The vision for Auckland Waterfront is a world-class destination that excites the senses and celebrates our sea loving pacific culture and maritime history. ... and is a place for all people, an area rich in character and activities that link people to the city and the sea." (Auckland Council 2013)

Ill. 24. Auckland City Centre and the waterfront.

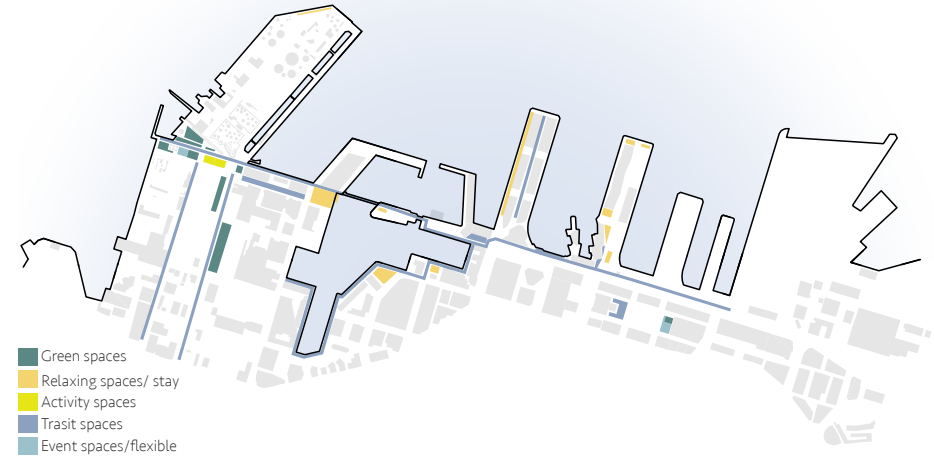


Ill. 55. Wynyard Quarter at Auckland Waterfront.

Mixed Use



The functions of the buildings characterize the different areas of the waterfront, Wynyard Quarter is an area of boat and fishing related industries, the city center is characterized by shopping and the area around Queens Wharf and princess Wharf is largely caracterized by the cruise terminals - important elements in Auckland's tourisme and economy. But currently half of the public space is cut of when a cruise ship docks, clearly stating a hiearachy that favors the visitors. The location of Queens Wharf as a continuation of Queens Street and the entrance to the city from the ferries makes it a preferable site for a public place, supported by the users that want the space to be 100% public, See app. 9.12.31.



The wester part of the waterfront at Wynyard Quarter is characterized by a diversity in types of spaces whereas the public spaces close to the city centre and Queens Street are monofunctional as waiting or spaces for stay. Conclusions from the user involvement surveys dictates three types of spaces at the most important in the city, that kind of spaces that is most used and the types of spaces that is missing in the city: Activity spaces, places for relaxing and green spaces, see app. 9.11.11. - spaces for optional and social activities.

Ill. 56. Cruise terminal at Queens Wharf with docking cruise ship.

Ill. 57. Ferry terminal.

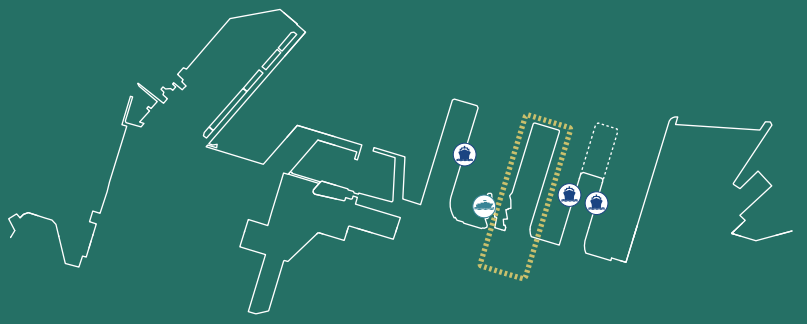
Ill. 58. The recreational area at Wynyard Quarter.

Ill. 59. The temporary furnitures at the end of Queens Wharf.

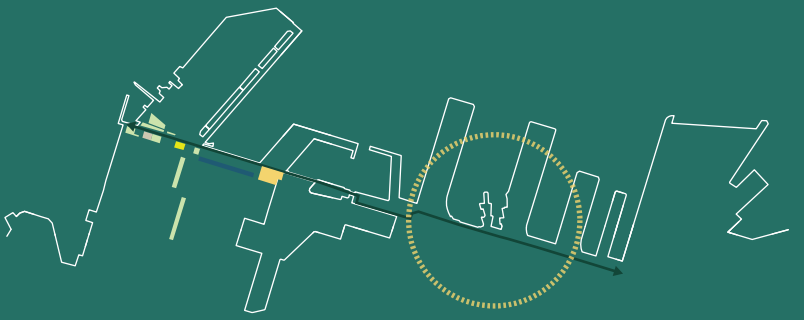
Conclusion

The waterfront is an important site in relation to tourism; many people go through the harbour, cruise terminal and ferries each year. That result in a space that often it cut off from the public, stating a clear hierarchy in the right to the space that favours tourists and not the residents. At the same time, the cruise ships and ferries bring a lot of life and create a vibrant space that gives life to the city. There is a lack of different invitations to use the public spaces, and a lack in different types of spaces close to the city centre that create a monofunctional space.

Potentials

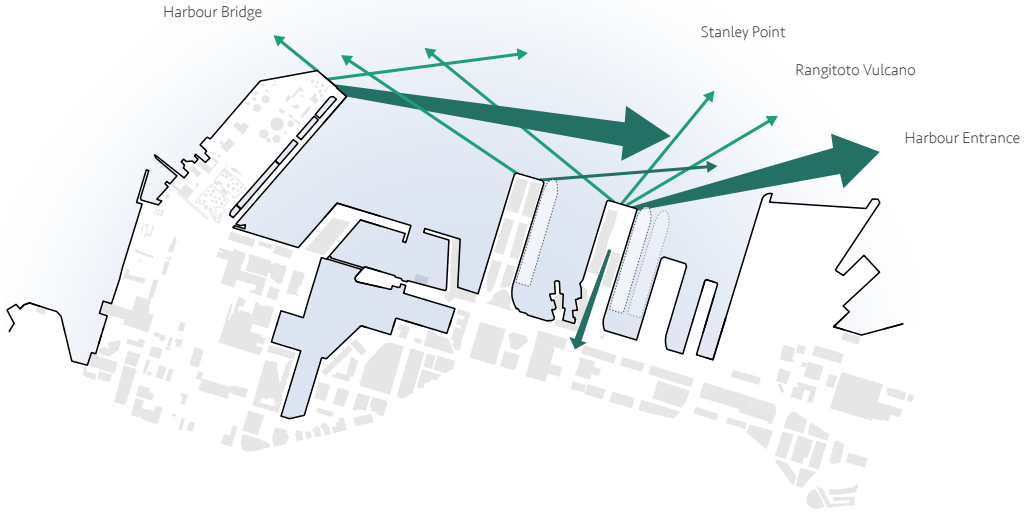


Potential 1: Restructuring the cruise terminals from Queens Wharf to an expanded Captain Cook's Wharf, will free more space and open up the Queens Wharf as a public place for people at all time.

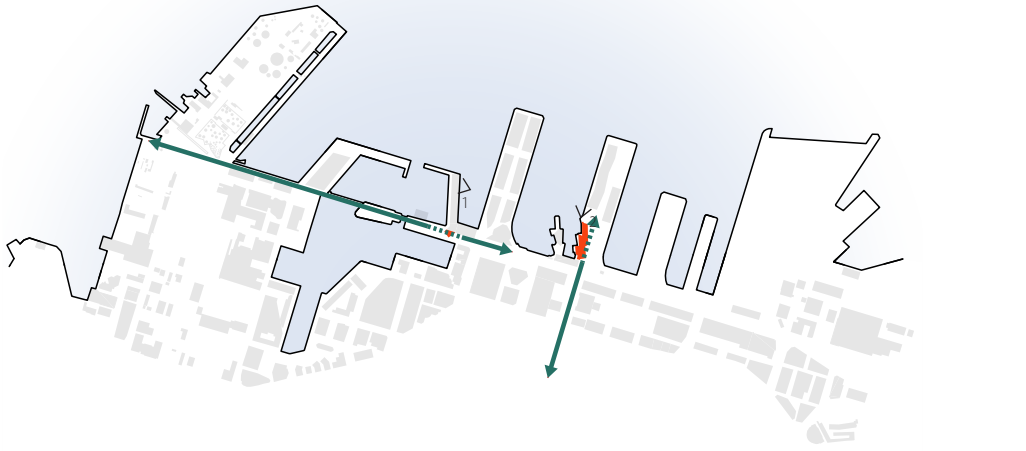


Potential 2: Implementing multiple urban functions, activities and uses at the area around Princess and Queens Wharf will activate the eastern part of the waterfront as a space for urban recreational activity.

Visual Connectivity



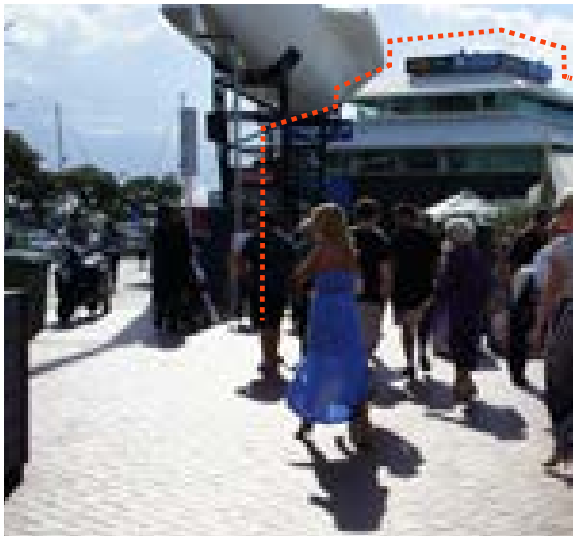
The waterfront is characterized by the great scenic views and the visual connections to the surroundings; The Harbour Bridge, the city at the opposite shore and the most significant views to the Rangitoto Vulcano and the Harbour entrance. The views are important tourist attractions and oritation tools for the city, and are also enjoyed by walking and running people. The view from Queens Wharf towards the city is also a significant scenic urban view.



Visual connections are important to connect the districts internally in the city, and the districts are currently not well connected app. 9.11.20. Beginning with the waterfront two buildings block the visual connection and disturb the continuation internally and between the waterfront and the city centre; the museum entrance and the ferry building at Queens Wharf. According to the users the waterfront seems as further away from the city than the actual distance, see app. 9.11.19., something the visual blockages can be blamed.

Ill. 60. The view to the harbour entrance from Queens Wharf.

Ill. 61. The view to the habour bridge from Queens Wharf.



Ill. 62. The museums entrance that block the visual conenction to the waterfront promenade. 1.

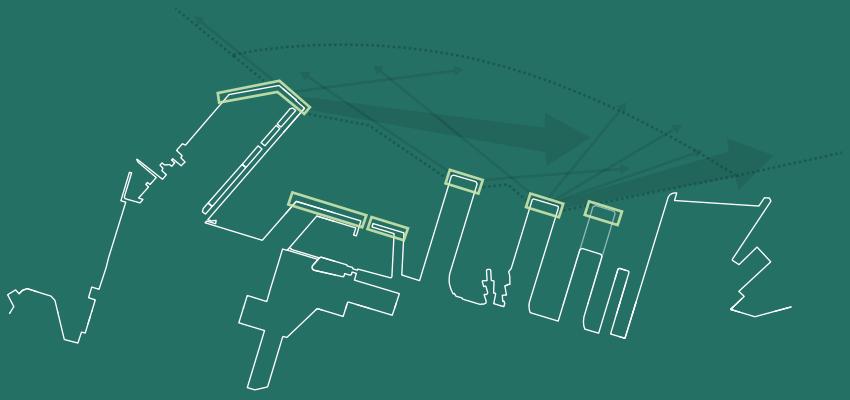
Ill. 63. The ferry building that block the visual connection between Quuens Street and Queens Wharf. 2.

Conclusion

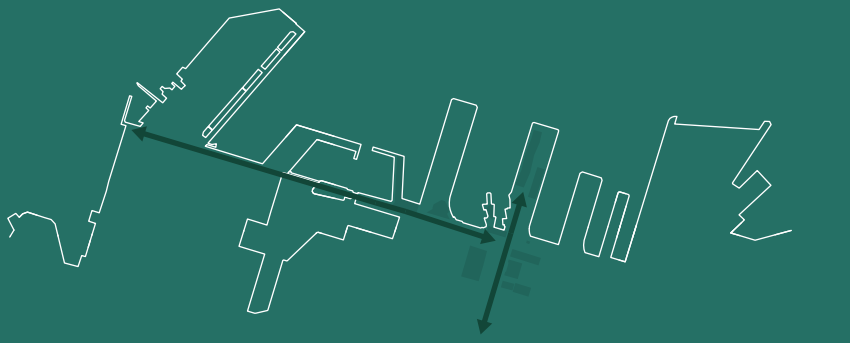
The wharfs hide the scenic views from each other because of their composition and the volumes placed on the wharfs. The scenic views and visual connections to the context is therefore present at the end of the wharfs, making them a destination in themselves.
The cruise ships occasionally blocks for the views and a removal of the functions at Queens Wharf will create a strong viewpoint at the end of that wharf.

Two buildings block the visual connection at the waterfront internally, and from Queens Street to Queens Wharf, removing these buildings or creating transparency make it possible to see further and create awareness of the courses.

Potentials



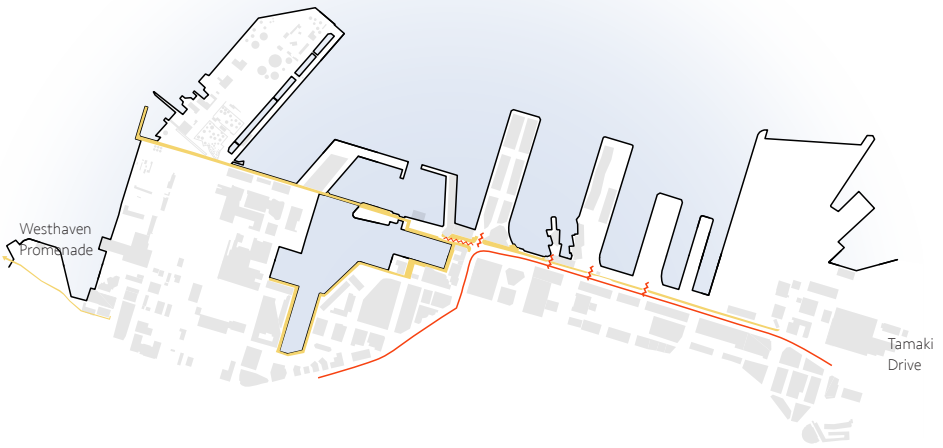
Potential 3: By creating a free zone at the harbour the scenis sight lined are ensured in a possible extension of the harbour. The end of the wharfs should allow a 100% clear visual lookout.



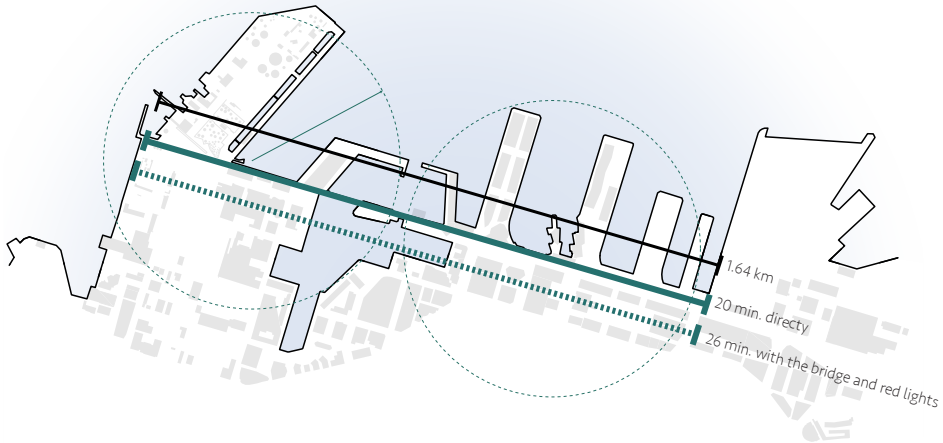
Potential 4: To enhance the connection internally at the waterfront and to ensure that Queens Wharf becomes a visually natural continuation of Queen Street the two buildings, the museum entrance and the ferry building are suggested removed.

Potential 5: The ends of the wharf should be visual from the waterfront promenade, to attract people.

Walkability



The main walking path at the waterfront is constantly interrupted visually and physically by the cars driving across the path disturbing the walking experience and flow. The path has missing links along at the viaduct and betweent Wynyard Wharf and Westhaven Promenade. The spatialities along the waterfront changes and vary from open recreational spaces, small adjacent spaces, narrow promenades to the more urban strecth with the fast cars on one side and the calm water and connecting wharfs to the other. Quay Street, in red, is a large barrier between the city and the waterfront. According to the users their will use the city more, if the walking connections are improved. See app. 9.11.24.

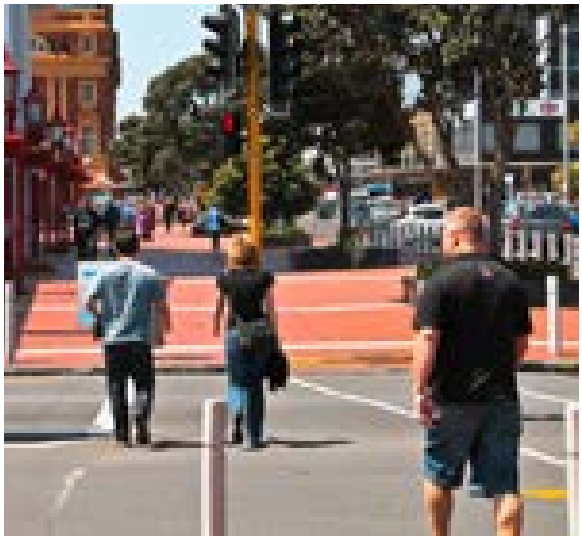


The public waterfront stretches over nearly 1.7 km from Wynyard Quarter to the small Marsden Wharf. The radius with 400-500 meters that most people can manage, in relation to Jan Gehl, devides the waterfront into two smaller walkable areas. The red lights along the route break the walking flow and puts the car highest in the hierarchy.

Ill. 64. The open Silo Park, Wynyard.

Ill. 65. The promenade between Wynyard and Falsey Wharf.

Ill. 66. The plateau between Queens and princess Wharf.



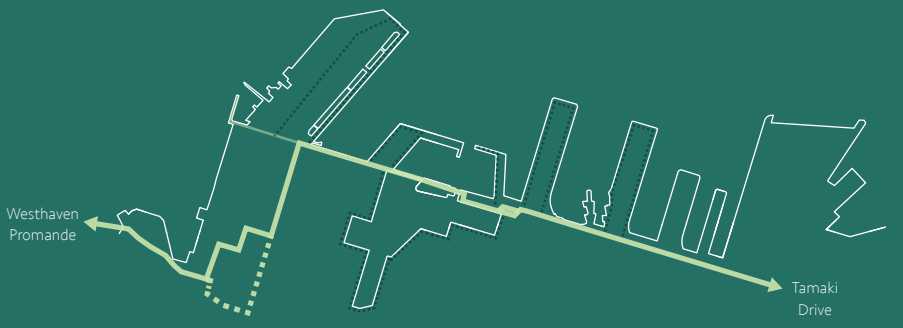
Ill. 67. One of the breaks in the walking experience, at Princess Wharf.

Conclusion

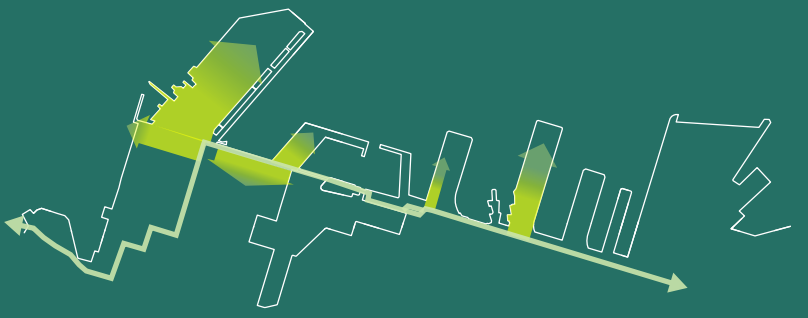
To create a coherent pedestrian walkway and promenade, it is necessary to continue the pathway at the viaduct and between Wynyard and Westhaven Promande. To enhance the walking experience different spatialities along the way can be connected to the main flow.

The waterfront is a long strech to walk, and to create an interesting experience that is experienced shorter that the actual distance is it necessary to create a variation is spatialities along the route, and to place the pedestrian and bicycles highest in the hierarchy to state their importance in the city.

Potentials

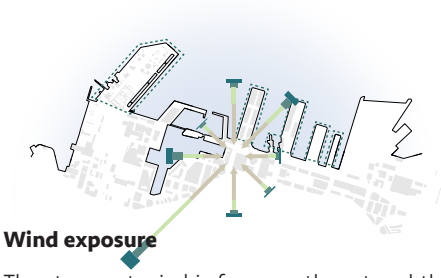


Potential 6: A continuated connection though the waterfront for pedestrian and bicycles, will improve the experience for the vunable road users and create a spine through the waterfront. Adjacent walkways will connect the wharfs internally at the waterfront creating a long recreational path through the area.



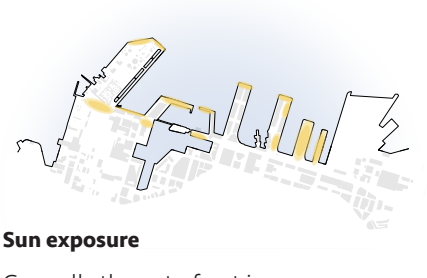
Potential 7: Linking different, horizontal and vertical, spatialities to the walking path will create a variation along the route improving the walking experience and enhancing the already existing different spatialities.

Comfort



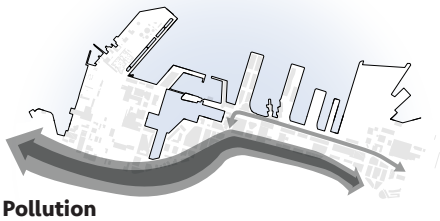
Wind exposure

The strongest wind is from southwest and the city therefore protects the waterfront from most of the strong winds. The wharfs are more exposed because of their location in the water away from the city, and because of the large surfaces with few buildings to break the wind. In the city, because of the large buildings, downwash and windtunnels may occur, at the waterfront the wind is more predictable.



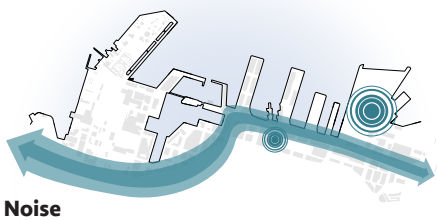
Sun exposure

Generally the waterfront is a sunny space, only close to the buildings are a descrease in hours, and the building height at the waterfront is relatively low and the sun high and therefore the buildings cast a short shaddow. The diagram shows the large free surfaces with no building to create shade and space for people.



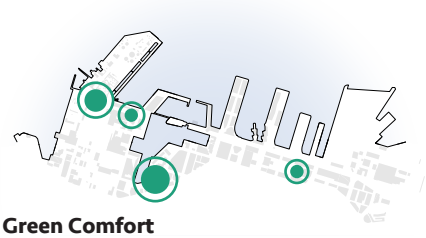
Pollution

There has been no pollution sampling done on Quay Street, but samples in lower queens street and lower Albert Street has shown low concentrations relative to Customs Street. Quay Street is heavely trafficated and the low concentrations is speculated due to the open nature of Quay Street with more efficient dispersion, escpecially in notherly winds. (Auckland Council 2014)



Noise

The noise illustrated in this analyses is the negative noise, mainly traffic noise. Quay street is the main noise source, a great noise barrier that seperates the waterfront and the city. Additionally Britomart, the transport center and the port are large noise sources.

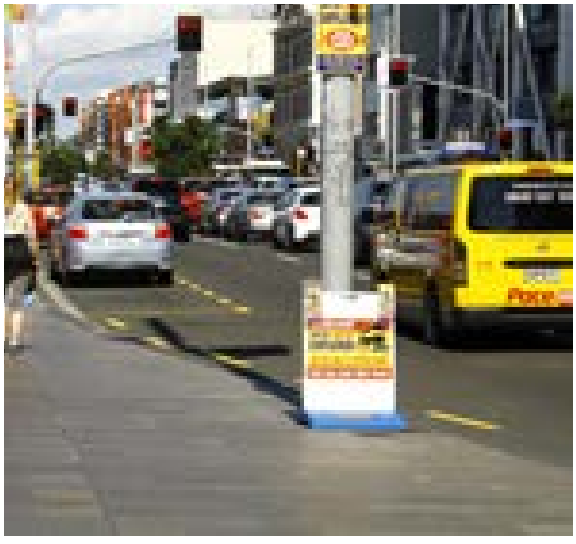


Green Comfort

Green islets create comfortable areas because green areas do not accumulate the same heat as paved surfaces, the planting create spaces with shade and the evatranspiration from the plants, the evaporation, cools the air locally.
This occurs on spaces with gathered greenery.

Ill. 68. People sitting in the shade from a tree.

Ill. 69. Sunny, calm spots at the end of the wharfs.



Ill. 70. Noise from the large amount of traffic at Quay Street.

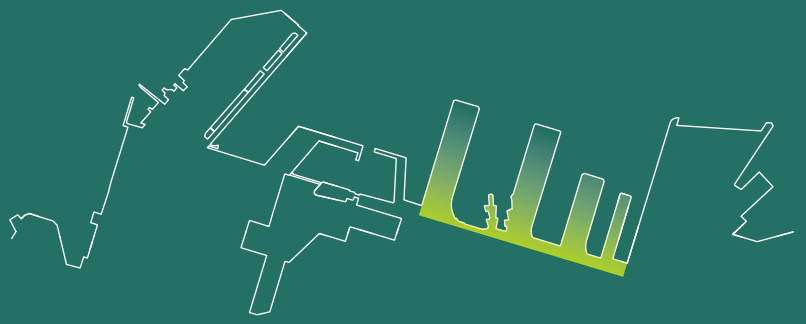
Ill. 71. The cars area the main reason for pollution.

Conclusion

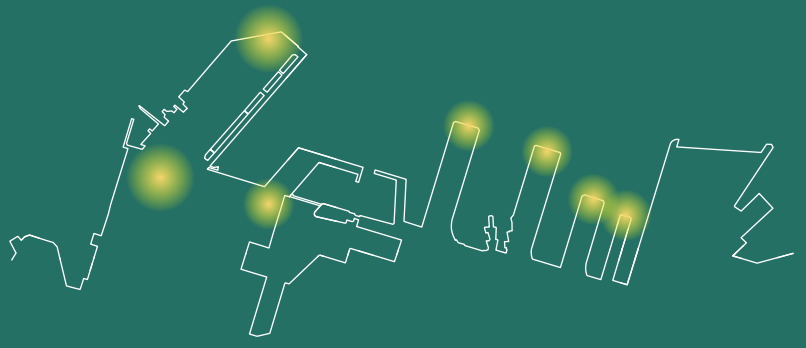
Quay Street is a dominating player in relation to noise and pollution and characterize the comfort and atmosphere at the areas of the wharf closest to the city. The end of the wharfs are great sun spots and the comfort factors investigated, dictate a graduation in comfort. A graduation from the noisy, more polluted part close to the city, to the sunny, a bit more windy spots, at the end of the wharfs.

The wind in New Zealand, especially in the summer are warm, and because the temperature rarely gets below freezing, the wind does not have the same chill factor as in the northern part of Europe.

Potentials

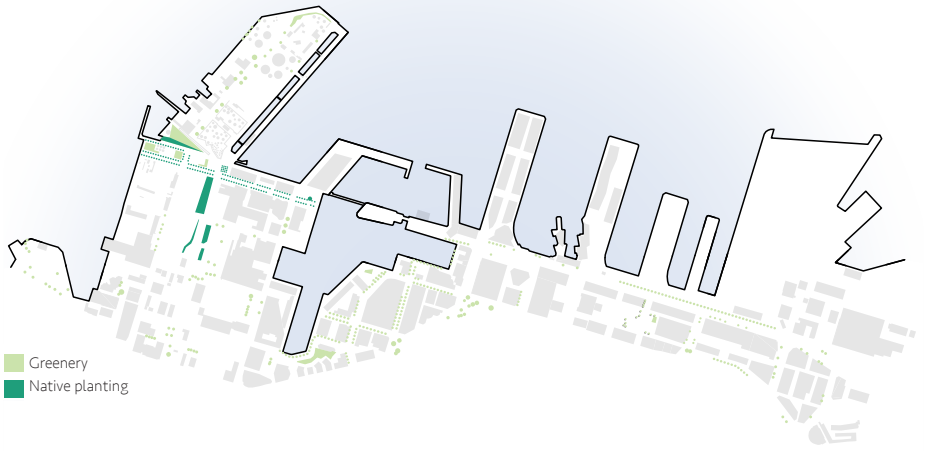


Potential 8: The noise and pollution from Quay Street creates a potential in graduating the future programming of the wharf, with the quiet relaxing spaces distanced from the street, and shorter stay and activities closer to the street.

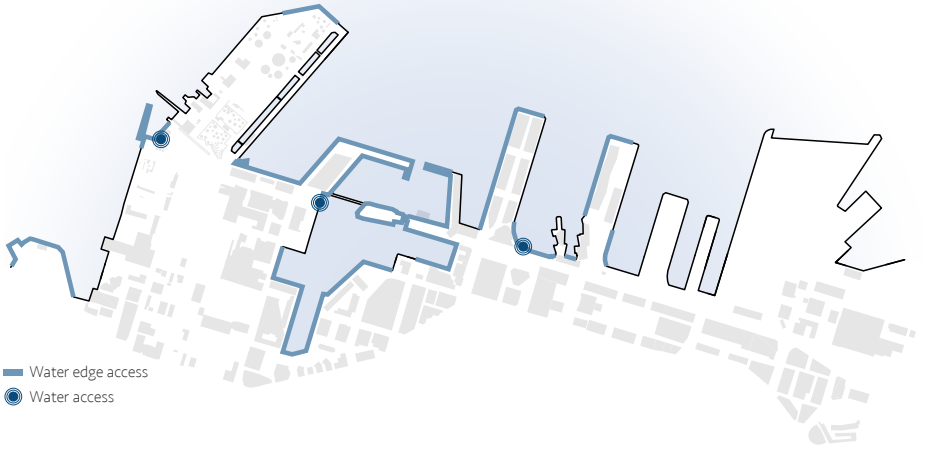


Potential 9: The sun spots at the larger surfaces and especially at the end of the wharfs creates potential for recreative activities and calm sunny spaces in the city.

Natural Value



Trees are present at most of the waterfront, but mostly planted in a very culturally idiom. Green areas are accupuncturally limited to a sub-part of the promenade by Wynyard Quarter in west. Native planting is mostly found at Wynyard Quarter where an intentionally focus on the native green has been planned to enhance the New Zealand atmosphere. Greenery is accoring to the users very important in the city, and especially native planting, see app. 9.11.27 and app. 9.11.28.

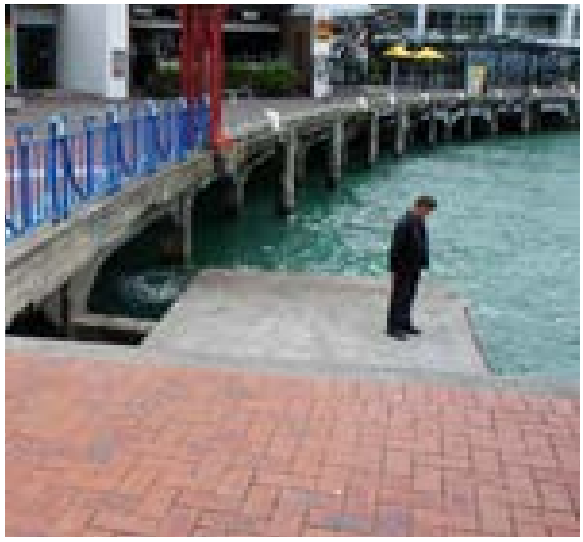


The surrounding landscape is according to the users important as an element reflected in the city app. 9.11.25. Therefore the water is an important element at the waterfront, to give character to the space. The sensorial registration of the water is highly present. The accessibility to the water edge is interrupted by private use along the waterfront, with few possibilities for water access. The two western located water access are large sloping stairs where the third is an old ferry platform. An enhancement of water accessibility would according to the respondents increase their use of the waterfront, see app. 9.12.28.
The water in the harbour is polluted and therefore not a place for swimming (Auckland Waterfront 2013).

Ill. 72. The green surface at the Silo Park.

Ill. 74. The vertical pocket park at Wynyard Quarter.

Ill. 73. Steps down to the water, Wynyard Quarter.



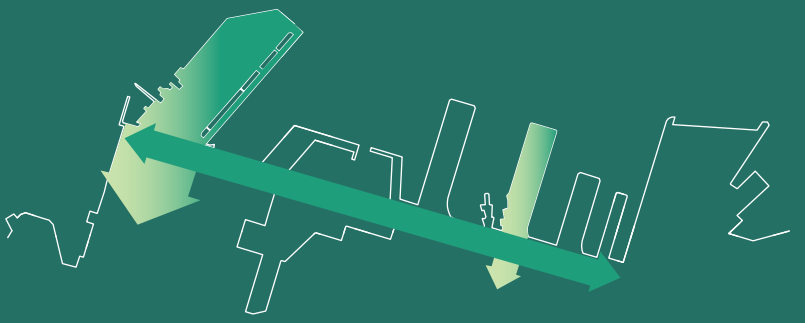
Ill. 75. Surface closer to the water, Princess Wharf.

Conclusion

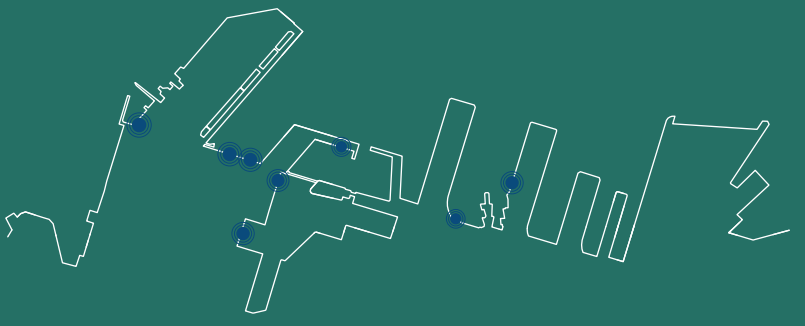
Auckland is in eye level a relatively green city, with trees along most of the streets, but in a city with very high scale and densisty, there has to be a lot of green spaces vertical as well as horizontal to enhance the presence of greenery.
There is a lack of coherency of the green spaces at the waterfront, a larger grib that connects the segregated greenery will gather the green and create green spaces closer to the city centre.

In New Zealand water recreation is often associated with beaches, there is not a culture for interacting with water in the city other than with boats. To interpret the water recreation, where accesses can be improved and multiplied to show the possibilities with water in the city and to make the water more present and a larger part of the functions and activites at the waterfront.

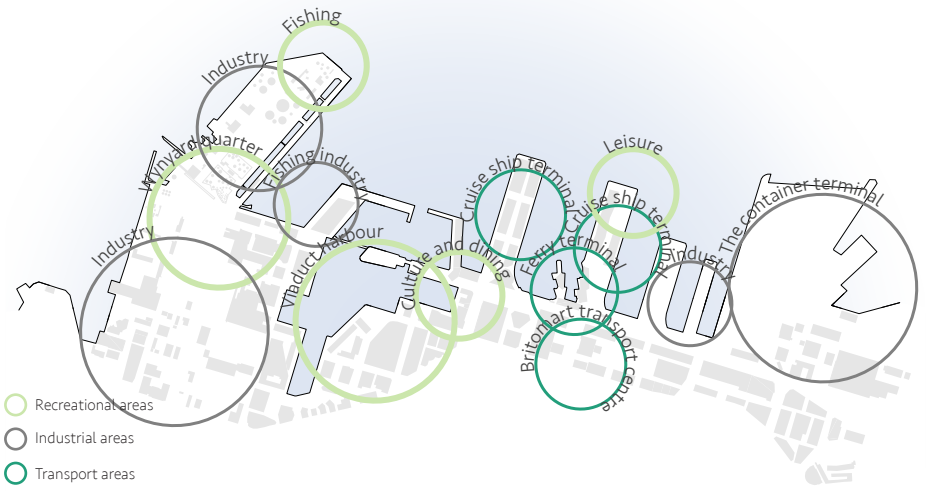
Potentials



Potential 10: By introducing larger green gestures with focus on native planting the greenery will be more present in the area and create combined green and blue spaces. There is a potential in differentiating the types of green after the location.



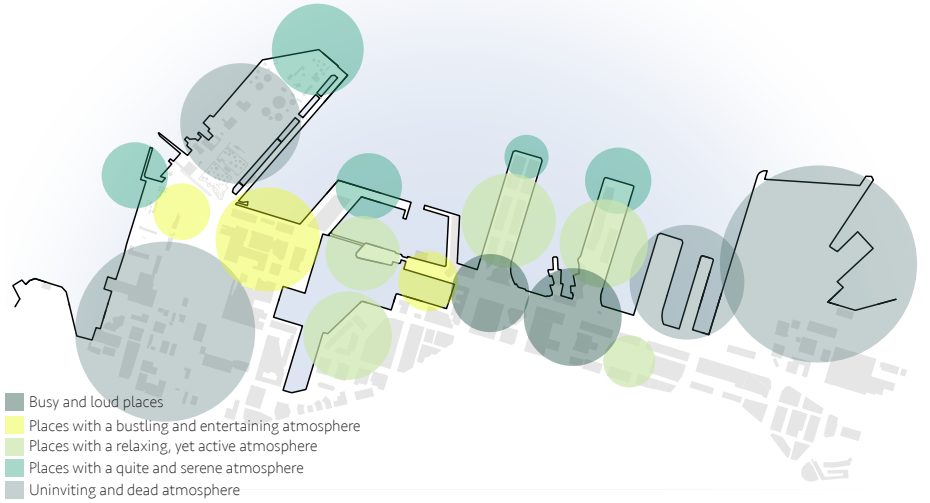
Potential 11: More possibilties for water access will draw people to the waterfront and create a possibility for interaction with the water, provided that the water is cleansed.



The waterfront is characterized by a combination of recreational, industrial and transport areas.

The transportation activities is primarily centered at the foot of Queens Wharf with the ferry terminal, cruise terminals and Brittomart transport centre. This area is affected by traffic, loud noises and a lot of people.

The recreational areas vary in character, but they are all spaces, that offers a range of activities to enjoy. These areas can be characterized as bustling, entertaining and relaxing.
The large industrial areas have a significant impact on the waterfront as they are not made for public use and the environments are therefore somewhat uninviting and unfriendly in character.



Since the waterfront is made up by a combination of very different areas, so are the atmospheres.
The general observation is that there is two combinations of atmospheres. In the western part of the waterfront, uninviting and dead atmospheres are in combination with bustling and entertaining atmospheres.
This contrasts two the area near Queens Wharf and Princess Wharf, where busy and load atmospheres are combined with relaxing and quite atmosphere.

Ill. 76. Wynyard Quarter recreation with old industrial siloes.

Ill. 77. Viaduct Habour, restaurants and cafés.

Ill. 78. Cruise ship terminal at Princess Wharf.

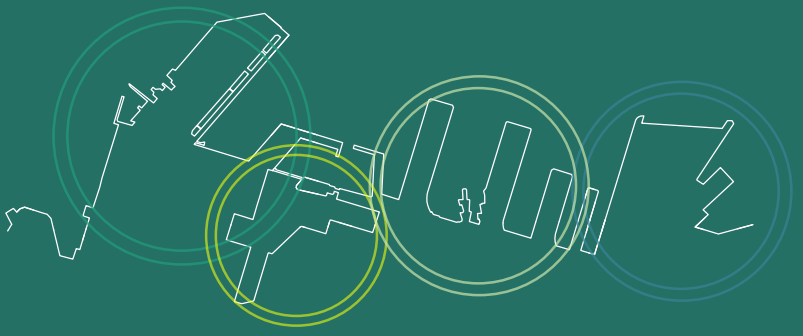
Ill. 79. Britomart transport centre.

Conclusion

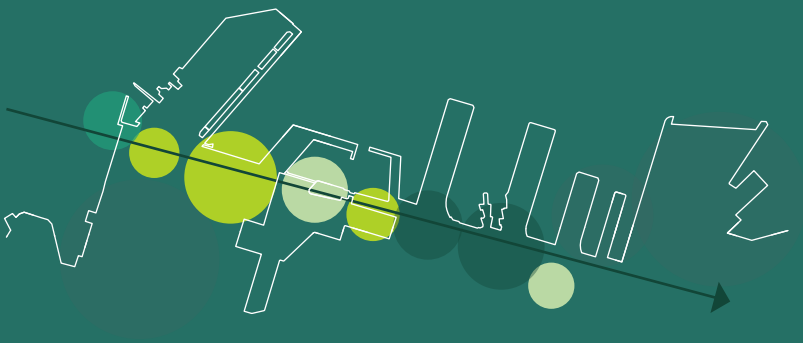
The waterfront is very rich in different atmospheres and thereby identities, which create an interesting and ever changing space along the waterfront.

In addition to the graduation in atmospheres along the waterfront the wharfs also offers interesting atmospheric transitions, from busy transit areas, to relaxing and active areas and finally quiet recreational areas.

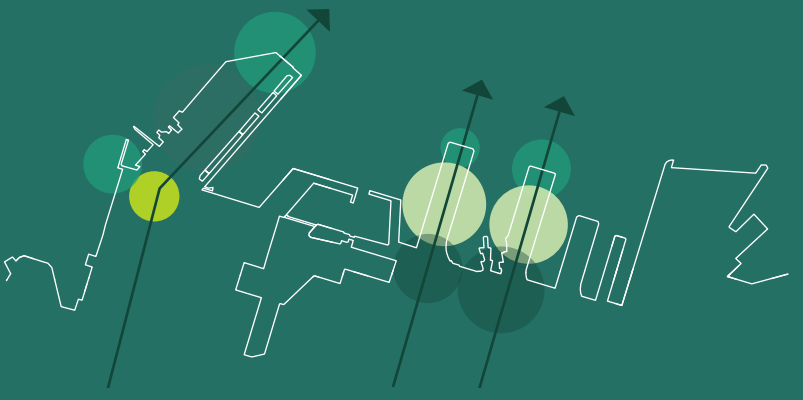
Potentials



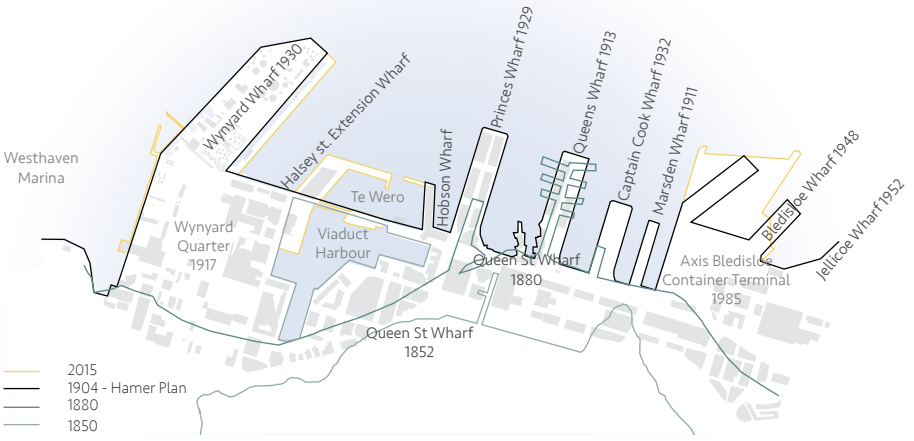
Potential 12: The waterfront is already characterized by very different identities due to the different areas and their atmosphere. There is a potential in strengtening this contrast to give people a better understanding of the places and give them a sense of community.



Potential 13: There is a potential in enhancing the atmospheric experience when walking through the spaces, by creating an axis along the waterfront where pedestrian will walk through very different identities. There is also a potential is using the graduation in atmosphere to program the wharfs.

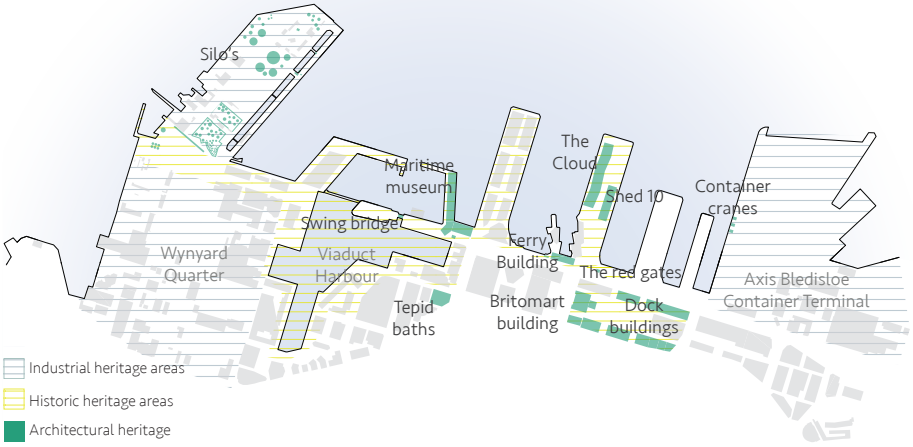


Potential 14: There is a potential in using the graduation in atmosphere at the wharfs to programme the sites.



Historically, the waterfront was the origin of Auckland because of trade and transport possibilities for Maori and early settlers. (Rose 1971) The first structure to be build on the waterfront was Queen Street Wharf in 1852 in a time when Auckland was establishing itself as an export for wool, kauri gum and timber. In the 1880s an extensive reclemation of the wharves took place and the new wooden Queen Street Wharf was established. The wharf was not only the commercial focus of the town but also its social centre with news from the world and was used as a promenade. (Barr 1926)

In 1904, an ambitious plan was drawn up by the Auckland Board engineer W.H. Hamer, due to future needs. It proposed further reclamation and a series of concrete finger wharves to support trade and transport. (Barr 1926) (Hamer 1904)
The first wharf to be build was the new Queens Wharf, replacing the old Queen Street Wharf made of timber. (Matthews 2009)
The Western Reclamation, Wynyard Quarter was constructed in 1930, to provide additional berthage capacity and flat land for port related activities. Initially the area was used for timber trade and in the 1930s it was transformed to be used for bulk petro-chemical storage. Also known as the 'Tank Farm'. (Wynyard Quarter)



There is a concentration of important historical buildings near Queens Wharf. Especially the Ferry building, the red gates and Shed 10 are important buildings in the waterfront area as they are closely related to the maritime history of Auckland. Shed 10 is the only surviving example of the numerous storage facilities developed as a part of the Hamer Plan. (Matthews 2009)
Wynyard Quarter houses a different heritage as this is the location for marine activity and home to the Fish Market and the 'Tank Farm'. The silo's are currently being planned to be removed, but is in fact an important industrial landmark for the waterfront.
The yellow markings highlights the places where there is an established cultural atmosphere worth to maintain and preserve. The new Wynyard Quarter development have created a bustling environment, which has proved to add a new dimension to the city centre.
The older area around Viaduct Harbour is a well established area, which serves as a popular dining area right next to the water.
It is clear from the users that the historic references area important to mix with new functions when creating a space.

Ill. 80. Shed 10, a building of great historic significance.

Ill. 81. The historic red gates at Queens Wharf.

Ill. 82. Industrial heritage. The cranes at Auckland Port.

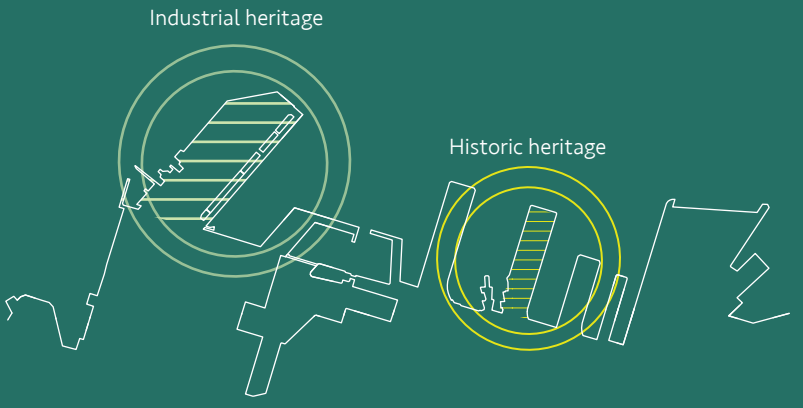
Ill. 83. Insutrial heritage. The silos at the 'Tank Farm'.

Conclusion

Queens Wharf was the first wharf at the waterfront, and has great historical significance for the city in relation to the function as a space for trade and contact to the world, but the space also has great social significance as a meeting space for the citizens.
Near Queens Wharf is also a concentration of historical buildings, the ferry building and shed 10, and the red gates that give character to the space.

The industrial heritage of the site is as important as the historic in relation to the city development. The industrial heritage is a newer form of heritage, and will at some point be a part of the historic heritage in the city. Industrial buildings are therefore also important to maintain and use in the further development. Industrial structures tells an important story in the history of the city and one that should not be overlooked.

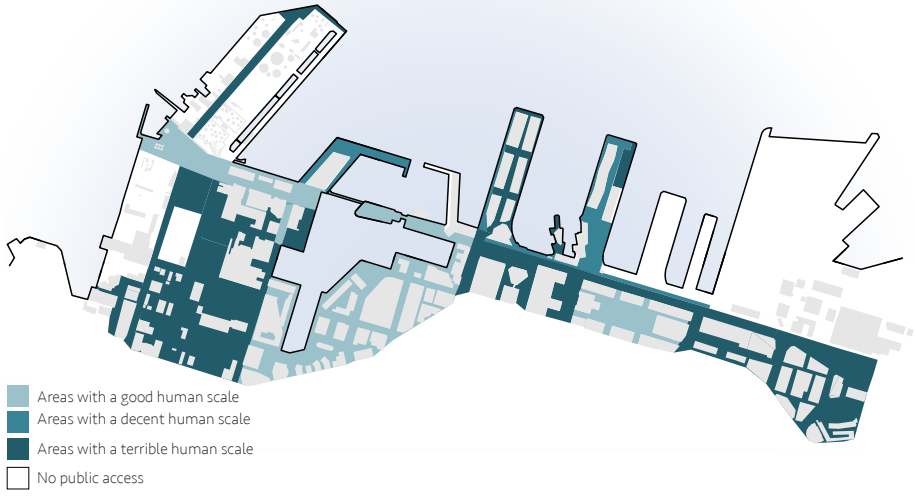
Potentials



Potential 15: There is a strong potential in focusing equal on industrial and historical heritage, creating two heritage centres, as they contrast and compliment each other. As the historical core of the city, Queens Wharf can form the centre for historical heritage, while Wynyard Quarter focuses on telling the industrial history.

Human scale

Compared to the city centre, the build environment on the waterfront is low. The waterfront has a few large volumes but is primarily characterized by 2-5 stories buildings and large open spaces that is enhanced by the connection with the water edge. The city centre is characterized by tall building volumes and dense spatialities.



The diagram illustrates how good the experience is, when walking around on the waterfront and the city centre. The light blue color describes places that are well designed and have a high quality of human scale experiences. In these areas there is something to look at (shops, cafees eg.) and there is furniture and activities for people to use. The next colour are the areas, which offers something to look at, furniture and a few activities. These areas are still affected by a high amount of traffic and some dead facades. The dark blue colour are places where the pedestrian experience is very low. There is little to look at, and there is a lack of furniture and the place is disturbed by traffic, dead facades or industrial areas.

Ill. 84. Relatively low watefront compared to the height of the city.

Ill. 85. Good human scale space at the waterfront.

Ill. 86. Decent human scale space at the waterfront.

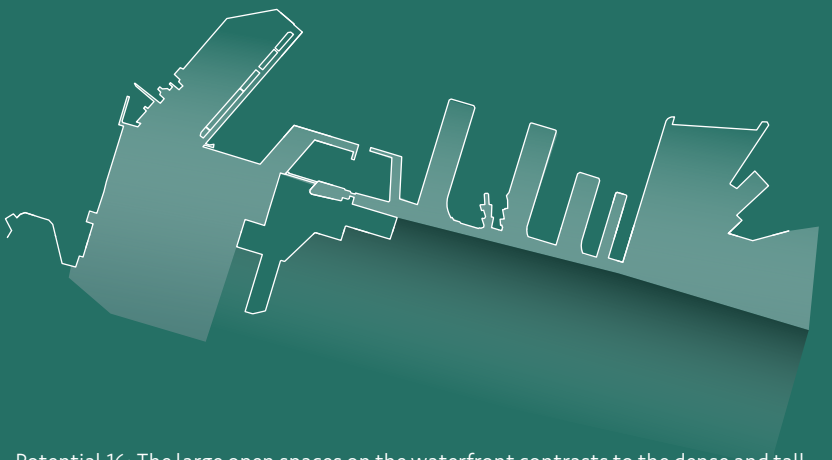
Ill. 87. Terrible human scale at the waterfront.

Conclusion

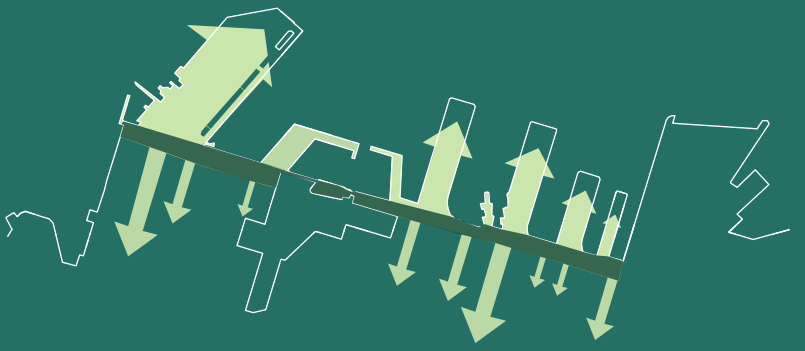
The waterfront area is seperated from the city centre through much wider horizontal spaces and relatively low building heights compared to the very dense and tall city centre. A horizontality that is supported by the large horizontal water surface.

Even though there is a significant horisontal orientation there are still good humans scale spaces at the waterfront, where space and furniture creates an environment that are related to the human body. But there is also many spaces that are related to the size of industries, cuise ships and cars that makes the human being a tiny element in the huge spaces.

Potentials



Potential 16: The large open spaces on the waterfront contrasts to the dense and tall city centre and there is a potential in supporting this contrast in order to make the waterfront stand out and offer new spaces to the city.



Potential 17: To invite people to use the waterfront as an active part of the city it is important to create spaces that are created for the human scale. An axis along the waterfront can shape the foundation for an urban space where pedestrians and bicycles can enjoy a slower atmosphere. The axis connects the waterfront with the city centre and invite people to use the wharfs.

Ill. 88. Auckland Waterfront

6.4 Waterfront Part Conclusion

From the analyses, it is clear that there is a potential in creating a connection along the waterfront that will bring the areas with different identities together.

The waterfront is undergoing a large transformation with the restructuring of the cruise terminals. In the future, more cruise ships will berth in Auckland and the waterfront will need to make room for bigger and more cruises than it can, in its current layout. With Queens Wharf as the new urban place in the City Centre, there is a potential in moving the cruise terminal from Queens Wharf, to Captain Cook's Wharf, to create a place on the waterfront, which allow the public to visit at all times. It is further recommended to restructure the ferry terminal on Quay Street, since this area creates a visual and walkable blockage on the waterfront.

The end of each wharf have a unique view to the landscape, the harbour bridge and the harbour entrance. It is argued, that these places should be protected and only be used for recreational purposes, where people can enjoy the view.

The potentials for the waterfront is presented in the presentation report; Recommendations for Liveable Urban Solutions and conclude with a strategic plan for the waterfront.

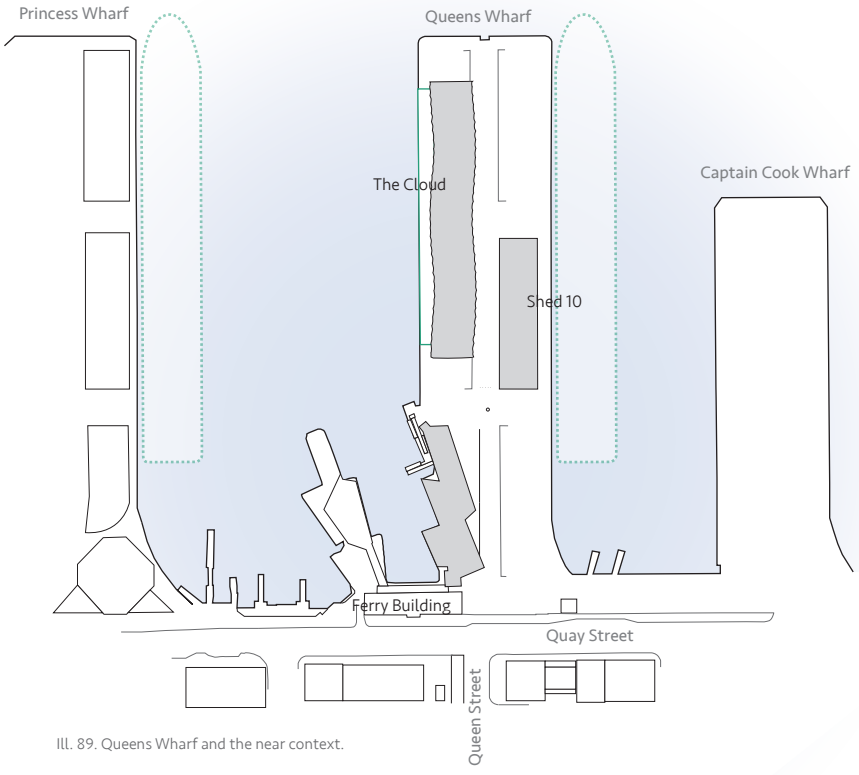
6.3 Queens Wharf

Queens Wharf is a central space in the city because of the location as a direct continuation of the main street - Queen Street. Queens Wharf has great historic significance as the beginning of Auckland and is an important element in linking the city centre with the waterfront creating a connected and coherent city centre.

Queens wharf is currently under development and Auckland Council and Auckland Waterfront is trying to figure out what the space shall hold in the future. While waiting, the space is used as a sort of urban space exploratorium where the Council implement moveable funiture, parasols and BBQ tables to test the interst from the public.
The main functions at Queens Wharf are currently the Cruise and Ferry terminal and a space for large city events because of the huge bare surfaces. The space is however also used as a promande and the furnitures at the end of the wharf have proved to be very popular and invites for relaxing and enjoying the scenic view.

The following section initiates with an investigation of the previous and future plans for Queens Wharf to discover to what extent this design should relate to these plans. Additionally analyses of Queens Wharf based on the 8 liveability parameters are found here. The analyses are made as mappings, sections, pictures and statistics.

The analyses are concluded with recommendations to improve the design of Queens Wharf.



Ill. 89. Queens Wharf and the near context.

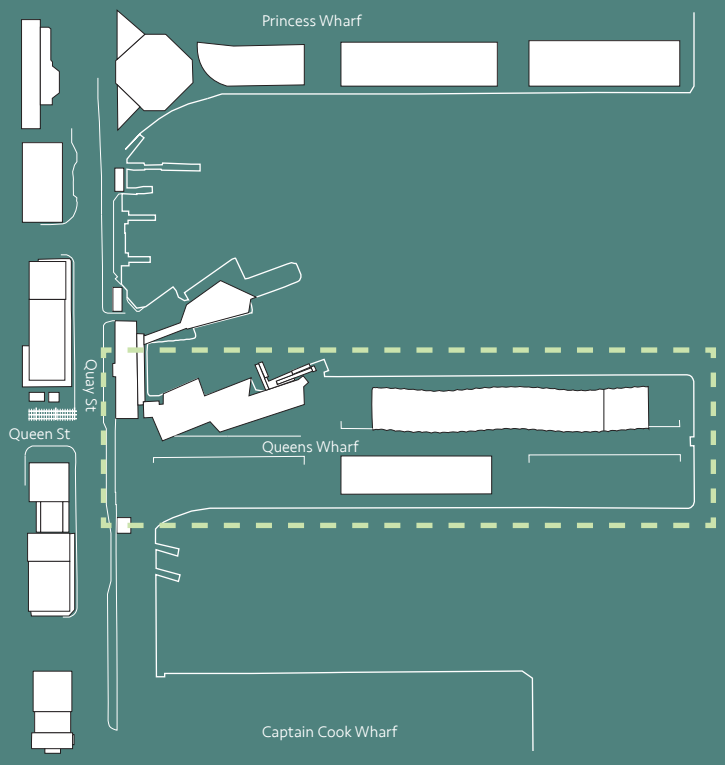
Ill. 90. The temporary urban funitures at Queens Wharf.

Background Knowledge

The background knowledge section initiates with a description of Auckland Councils framework for Queens Wharf, a description of Queens Wharfs role on the waterfront and in the city as well as an introduction of the Queens Wharf competition. The purpose of this is to clarify to what extent, our design should relate to the previous and existing plans for the wharf.

The design case for this project is Queens Wharf. The focus for designing a liveable urban space is therefore primarily on the marking illustrated to the right, with the near context considered in the analyses and the potential design.

Site definition



Ill. 91. Site definition

Auckland Council framework

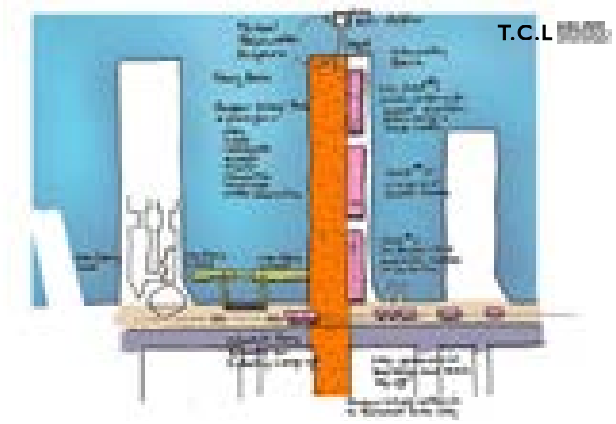
Auckland Waterfront framework
In 2009, the architecture firm T.L.C. made a design proposal for the waterfront and Queens Wharf. The plan (illustrated below) marks a clear gesture to keep the western part of the wharf free for build structures and create a promenade for recreational use. The plan furthermore re-established the previous cargo sheds to be used for event centre, cruise terminal and people's shed with markets.

Overall, the plan creates some important gestures, with connection to Queen Street and the city centre and the establishment of a waterfront promenade, which will link Queens Wharf to the city. Also, with the removal of the ferry terminal, the Ferry Building is giving a more prominent character on the waterfront. However, the plan is somewhat rigid and have some issues with scale. The scale provided by The Cloud, which has been removed on this plan, created edge zones and places that people could relate to and feel comfortable in. These places are lacking in the plan, which is characterized by open spaces, which will be a challenge to fill in with only recreational uses as they propose.

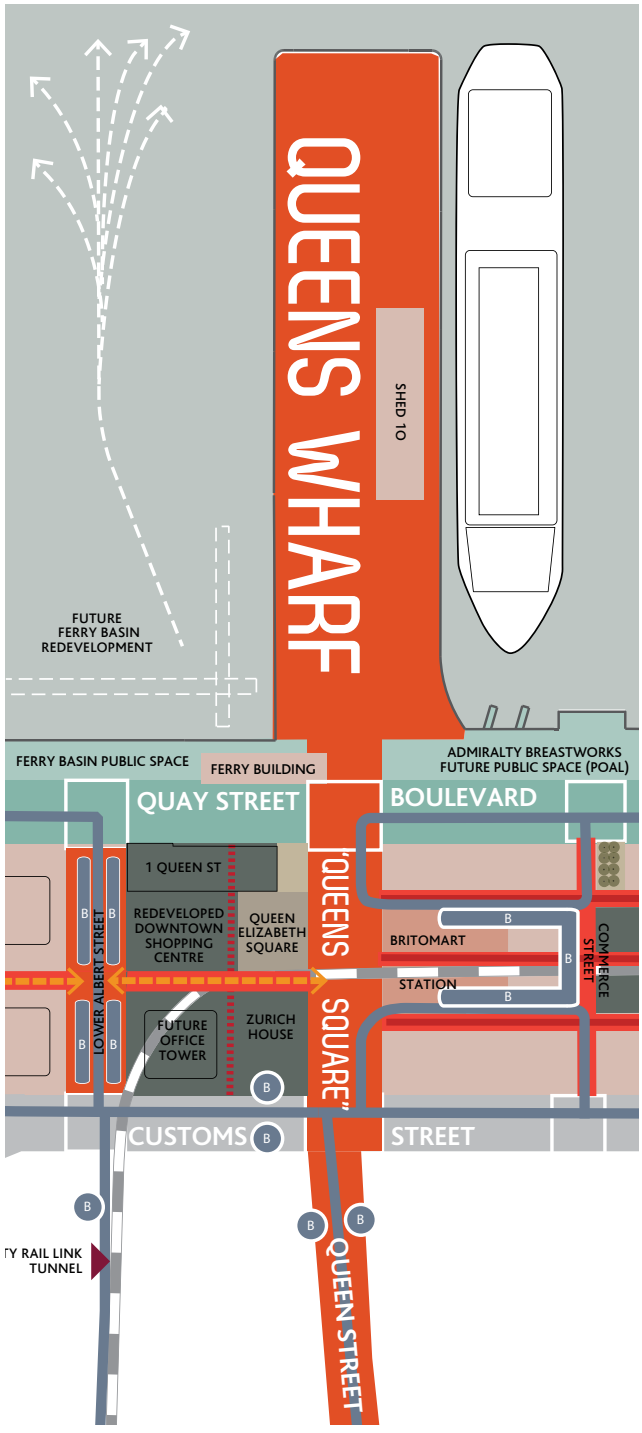
Since this plan have been created, the waterfront are still in the process of finding out, whether or not the cruise terminal should be located on Queens Wharf or alternatively, be moved to either Captain Cooks Wharf or Wynyard Wharf.

Downtown framework
The plan to the right illustrates Auckland Council's framework for the downtown area. The plan is mainly focused on how to solve the infrastructural challenges, but does however, support the ideas of creating a waterfront Boulevard on Quay Street and removing the current ferry terminal to a new location.

The framework describes that Lower Queen Street need to reflect its significance as a public space where the city centre meets the waterfront. It is proposed that Queen Street, a new "Queens Square", and Queens Wharf will be a strong pedestrian spine through the city centre. (Auckland Council 2014)



Ill. 92. Design solution for Queens Wharf by T.C.L. Architecture



Ill. 93. Framework for Queens Wharf by Auckland Council

People at the Wharf

Auckland is a city with great diversity,as described in the case study of the city, and therefore there is also a great diversity in people using the space at Quens Wharf. Different ethnicities, ages and life styles.

People are at the wharf for multiple reasons, young and elderly men come to catch fish early in the morning, business men and women eat their lunch in the warm shade, school girls sit and relax at the wharf in the afternoon after school, young boys play street soccer between the buildings, Shed 10 and The cloud, and people of all ages and ethnicities enjoy a quiet calm time lying on the benches in the sun. There is a great mix of people, and the only age group and life style group that are missing and the families and escpecially children.

Besides the local multicultural citizens, the wharf is also a central destination for tourists, who tend to walk to the end of the wharf to see the harbour, the harbour bridge and the surrounding landscape.

Ill. 94. Tourists and local New Zelanders

Ill. 95. A local Maori couple and local chinese girls

Ill. 96. Local chinese fisher

Queens Wharf Design Competition

Under the former city Mayor John Banks, Auckland City Council initiated a two-stage design competition of renewing Queens Wharf for the Rugby World Cup. First stage was an open competition format and received 237 entries of which five was elected to continue to stage two. (NZ Herald 2009b)

The design brief was to host fans at events like the World Cup, to create facilities for cruise ships and to celebrate New Zealand's history, geography and cultures, but overall the brief lacked functional argumentation. This resulted in very abstract conceptual entries, which mainly focused on the heritage assessment and large gestures. The five chosen entries had three weeks to redesign their proposal after a brief meeting with technical and design experts. (NZ Herald 2009a) (3News 2009)

With a construction budget of less than 40 million NZ dollars and three weeks to complete an ambitious project, the quality of the outcome was expectable poor and was criticized by the Council as well as the public. The public debate amongst architects, politicians and citizens was huge and the sponsors were clearly not convinced about the process of the competition and were, if possible disagreeing even more about the quality of entries and the winner. "It is depressingly clear that the best ideas are likely to be culled, due to lack of funding", writes Associate professor Dushko Bogunovich on homepage of Auckland Architecture Association (NZ Herald 2009). Continuing that the problem is not the designer's level of ambition and imagination, but a stingy budget and an impoverished project brief. (Economist 2013)(Butterpaper 2009)(SVB 2010)

Due to the lack of quality in the design proposals, an official winner was never found and the competition was terminated. A unofficial winner was however announced and the team of Jasmax and Architectus "won" with their design proposal keeping the west part of the wharf open and creating a large event and cruise ship terminal on the entire east side. The end of the wharf steps down to the water with a large platform.

This proposal was however not favoured by the public and instead, the temporary multifunctional "The Cloud" was created at a cost of about $10 million dollars, while Shed 10 was renovated to become the new cruise terminal.

Ill. 97. Visualization of The Cloud that was build instead

The unofficial winning proposal

Ill. 98. Visualization of Queens Wharf by Architectus

Ill. 99. Plan for Queens Wharf by Architectus

A positive outcome

In spite of the failed competition and the debate about Queens Wharf, something good came out of the debacle. During the Rugby World Cup, Queens Wharf was opened for the public and the opening ceremony was held at the wharf. Queens Wharf became alive again during the six-week event, where people could visit the fan zone, the giant rugby ball, and watch the games on screens.

John Banks the city Mayor at the time described his opinion about the competition to the Herald:

"I have not yet jumped to a conclusion that the whole show has been a waste of time, because at the very least, at not very great cost, we have got people thinking of this." (NZ Herald 2009a)

Looking forward, committee for Auckland chairman Sir Ron Carter describes that a long-term solution for Queens Wharf should not be rushed. It is essential that we do not design primarily for an event, but for the future use of the wharf. (NZ Herald 2009b)

Ill. 100. The Rugby ball on Queens Wharf

Ill. 101. Live watching in front of The Cloud

Ill. 102. The crowds on Quay Street

Background Compilation

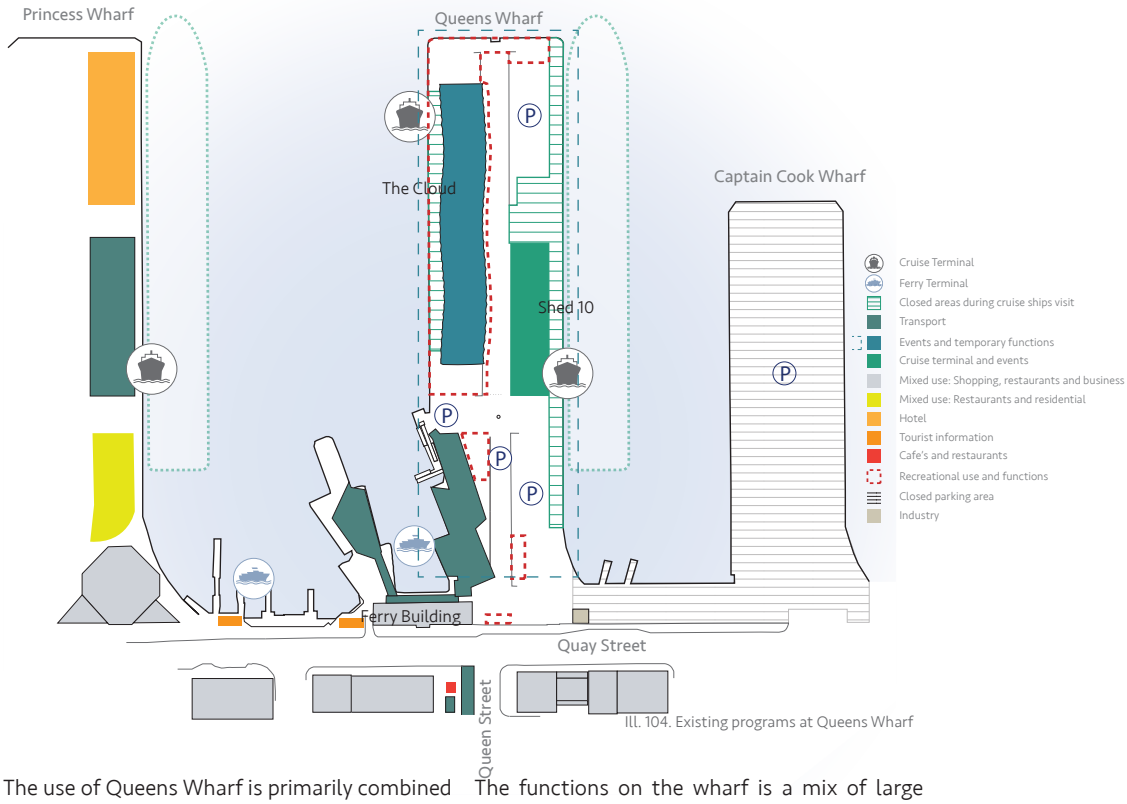
From the background information there are elements, which can be important for the future process in this project. As described by the Council, Quay Street plays an important role in the development of the city centre and the waterfront and the potentials to create a promenade for pedestrians will be further emphasized in the analyses.

Since the wharf was opened, in relation to the World Rugby Cup in 2011, it has been clear that there has been a great interest from the public to use the wharf. The competition that was supposed to give Auckland a new landmark on the waterfront was a big failure and the proposals received large criticism from the public that Queens Wharf not should be an event space. Auckland Council has since then proclaimed that the future development of the wharf will focus on public recreational use and give the city a new space. The opening up of the wharf as a public space is also a very important gesture for the people of Auckland. It puts focus on pedestrians as an important player in the future of the city and can help to change the view on the massive car transportation.

Everyday use, recreation and pedestrians is the three key words that are important to remember when analysing and designing Queens Wharf. This is a place for people.

Ill. 103. Queens Wharf before the current transformation, before the Red Gates were opened in 2011.

Mixed-Use

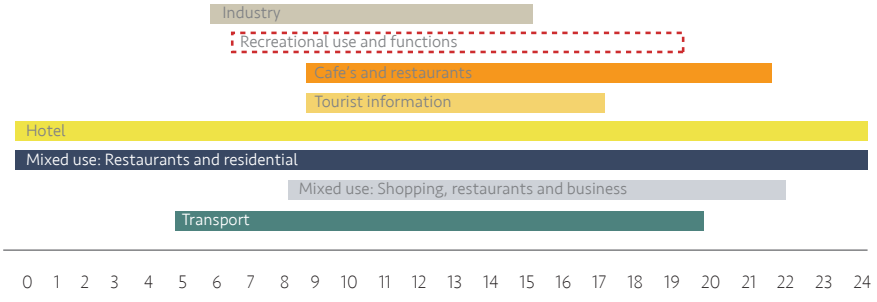


Ill. 104. Existing programs at Queens Wharf

The use of Queens Wharf is primarily combined with ferry transport, cruises and temporary recreational stays. Auckland's ferry terminal with connections to all the surrounding suburbs and islands result in a heavy activity at the bottom of Queens Wharf, with a combination of tourists and residents commuting every day. The area is furthermore affected by transport, as busses and taxi's use the area next to the terminal for short term parking.

Since Queens Wharf was opened up in 2011 for public use, the temporary solutions have been created to fill the gap, while the council decides which functions Queens Wharf should have.

The functions on the wharf is a mix of large public events, concerts and receptions as well as smaller functions, which the people of Auckland initiates. In the mornings, the end of the wharf is used by a local yoga class, asian seniors doing tai chi and fishers. During the day tourists and visitors come to eat lunch, enjoy the view and relax and as soon the sun disapears, so does the activity. Queens Wharf is more or less empty in the evenings, in contrast to the surrounding programs, which has a rich night-life.
When the cruise ships docks a huge very private space is located right next to the 'public' wharf and is in someway 'put on show' for the many curious eyes in the large ships.



Ill. 105. Programs over time

Ill. 106. The ferry terminal at Queens Wharf.

Ill. 109. Closed cruise area.

Ferry and cruise terminals

The ferry terminal at the foot of Queens Wharf is an important asset to the wharf, as it brings people to the wharf on a daily basis. The increasing need for the ferries have however created a complicated situation around the terminals and people experience to be having a difficult time moving through the space. When the cruise ships dock at Queens Wharf they close of a large area and dominates the functions on the wharf. During arrival and departure, the wharf is completely crowded and there is little room for other's than cruise passengers, as they take up all the space. This supports the conclusion from the waterfront of moving the cruise terminal to Captain Cook's wharf.

Ill. 107. The Cloud.

Ill. 110. Shed 10.

The Cloud and Shed 10

The Cloud is a temporary structure, designed to last for 20 years and was built to support the events during the Rugby World Cup 2011. The structure is currently being used for events and temporary activities, such as indoor badminton and games. The Cloud have proved that there is a need for indoor activties at the wharf as well as toilet facilities.

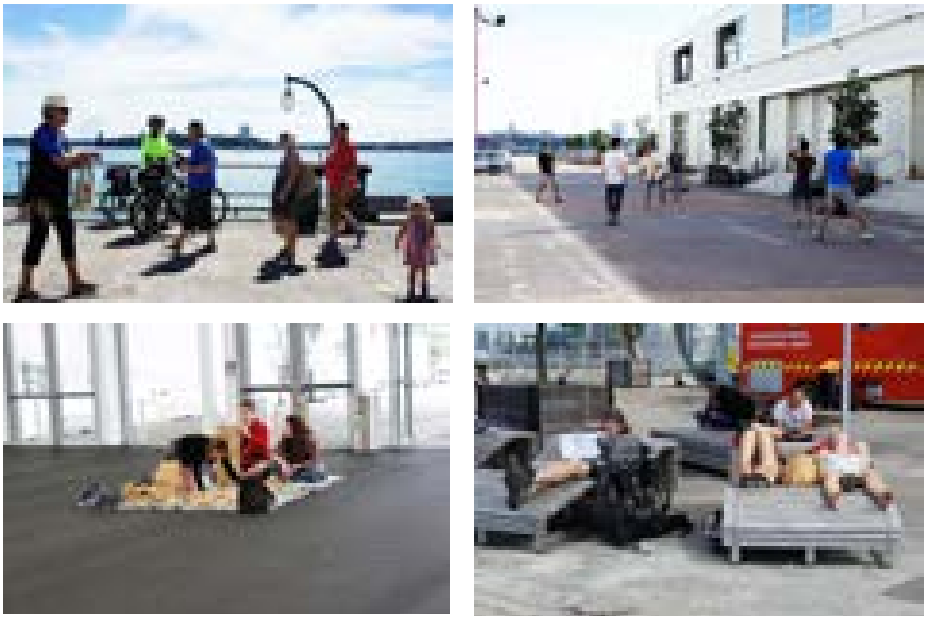
Shed 10 was built in 1910 and is a historic cargo shed and is the only original building left on the wharf. The Shed was refurbished and is now used as an event space and Auckland's primary cruise terminal and is therefore not open for public use.

Ill. 108. Moveable furniture.

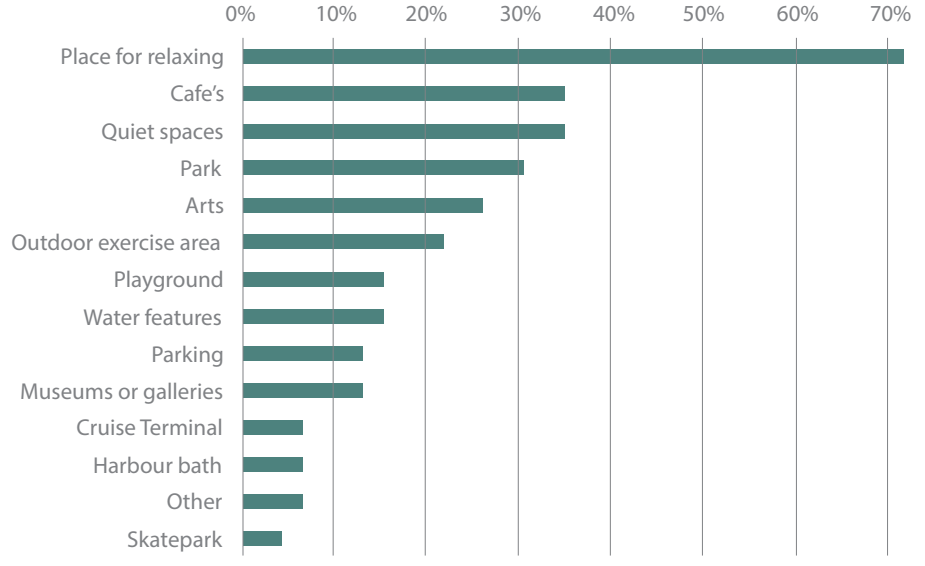
Ill. 111. Moveable furniture.

Temporary recreational areas

Smaller areas with temporary furnitures and plantings have been installed on Queens Wharf to test the need for recreational areas. The small installations have become highly popular and people especially use the wharf to eat lunch, fish and relax in the sun.



Ill. 112. (Photo 1-4) Temporary uses on Queens Wharf.



Ill. 113. Functions people would like to have at Queens Wharf.

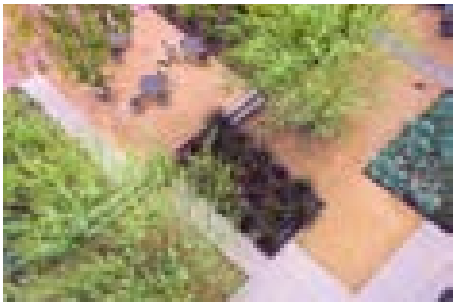
The temporary installations with furniture and plantings is what attracts people to Queens Wharf. People go there to have lunch, sleep on the benches or to enjoy the sun. If the installations had not been there, the activity would be very little during the day and consist of fishing, walking and taking photos.

The surveys showed that people prefer Queens Wharf to be a green recrational place for relaxing with places to buy food. However, the result needs to be seen in perspective to the people that participated in the survey, who were primarily relaxing in the sun.

Nevertheless there is a clear tendency that people prefer, that the wharf is used for recreational uses and not as a cruise terminal or transport.

Recommendations for mixed use

A mixed use space, should facilitate functions for all people of all age. By creating a variety of programs, which attracts people, the wharf is activated at different times a day. In this way, the experience of a place is increased, since the different programs gives value to one and another.



Ill. 114. The Annenberg Center, California.

Ill. 117. The Annenberg Center, California.

Urban Park

An urban park can create quite spaces where people can relax among plantings away from the bustling city centre.

Ill. 115. Art and play structure, Copenhagen.

Ill. 118. Multicourt at Aalborg Waterfront, Aalborg, Denmark.

Play, art and activity

New functions can attract people of all ages to Queens Wharf and give more life to the wharf.

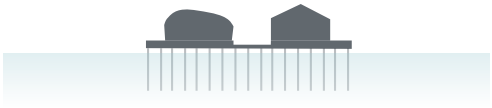
Ill. 116. Structure in Nantes, France.

Ill. 119. Structure Bucharest, Romania.

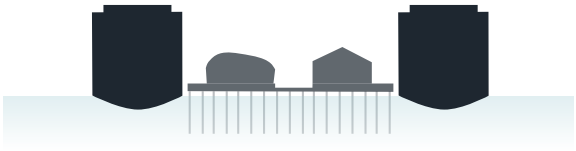
New structures

As The Cloud is designed to last for 20 years, new structures with cafe's and indoor functions can give life to the wharf during cold or hot weather. The structures can be semi-tranparent and with the possibility to be closed some places.

Visual Connectivity

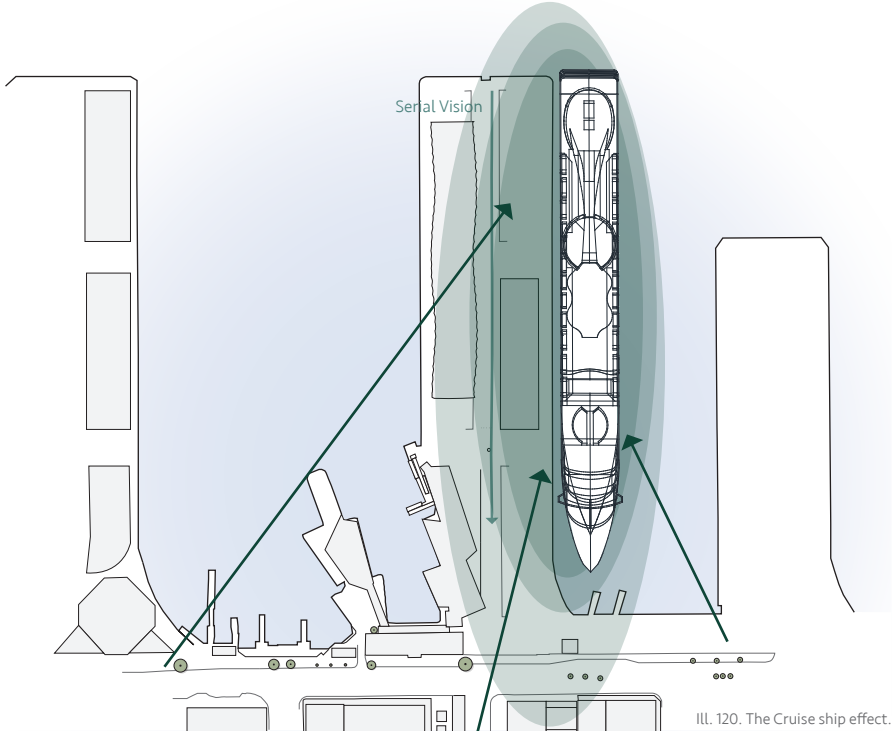


Ill. 122. Spatial scenario without cruise ships.



Ill. 123. Spatial scenario with cruise ships.

Ill. 121. Serial Vision with cruise ship.

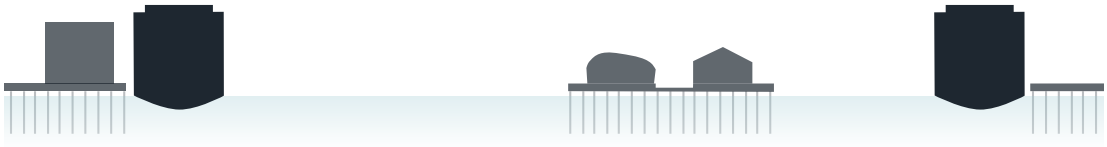


Ill. 120. The Cruise ship effect.

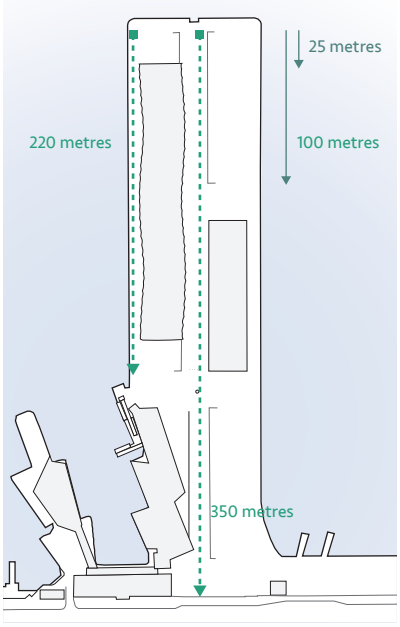
The cruise ship effect

Shed 10 on Queens Wharf is currently being used as a cruise terminal with over four arrivals a week, depending on the season. When a cruise ship docks, a wall is created along the eastern side of Queens Wharf, which changes the visual appearence of the wharf completely. The ship dominates the wharf, which appear less public as there are places where people are not allowed to be and security tells people where to go. However, the large cruises creates an interesting spatial difference to the whole area, which attracts people that want to see the ships. And they give the space dynamic because of the change with or without the ships. The ships enclose the space but also hide a lot of the views to the context.

It is therefore recommended that the cruise ships are moved to Captain Cooks Wharf, so that the cruise ships are still close to the city centre, but leave Queens Wharf as a public place. Thereby the ships will still have a space defining character on Queens Wharf but not block the surrounding context.



Ill. 127. Spatial scenario with cruise ships moved from Queens Wharf.



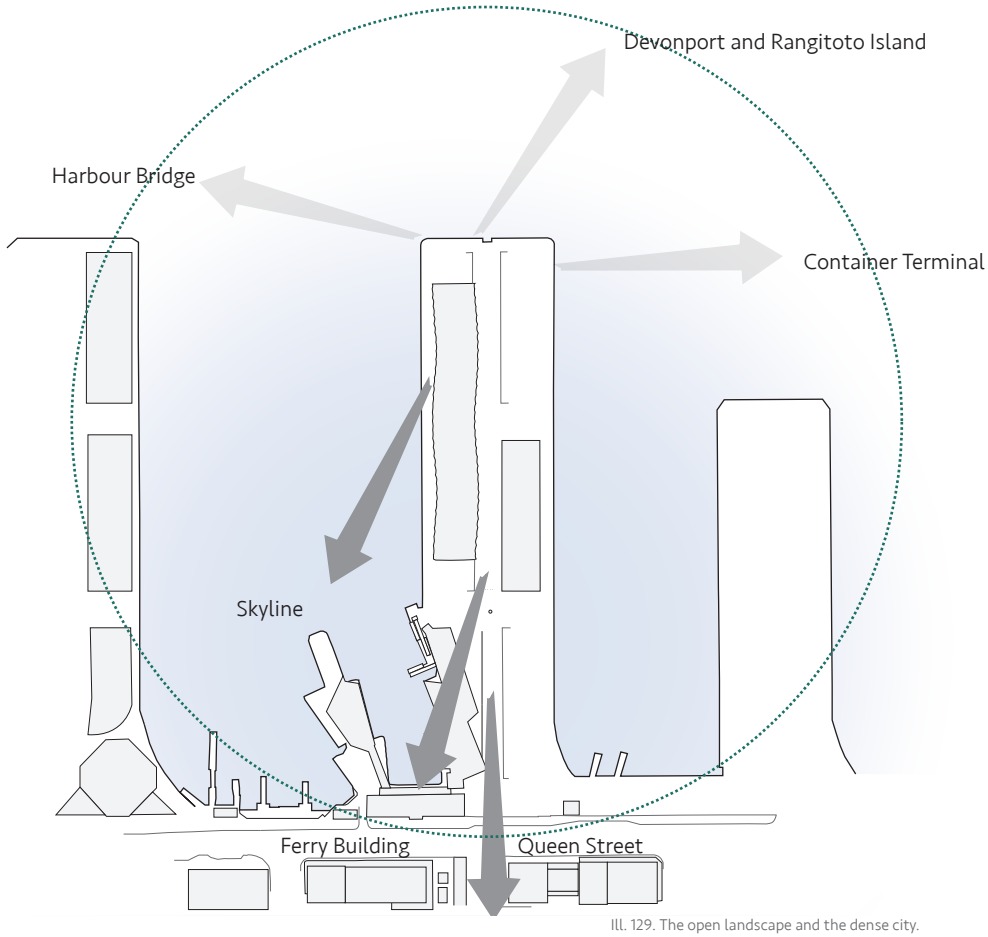
Ill. 126. Visual field of depth.

Ill. 124. View towards the city.

Ill. 125. View towards the harbour.

Visual field of depth

According to Jan Gehl, 100 metres is the maximum distance for people to see events and 25 metres is the maximum for noticing facial expressions. Queens Wharf offers very long visual sightlines, without any activity. The long spaces makes the walk to the end of Queens Wharf feel very long. The spaces needs to be broken down into smaller spaces, so that people get a better experience of the visual connections and be visually attracted to the wharf.

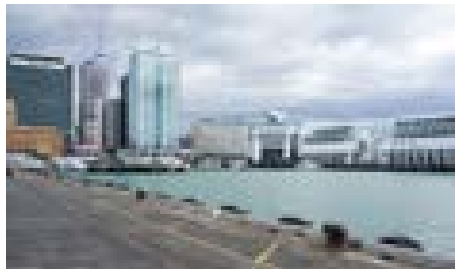


Ill. 129. The open landscape and the dense city.

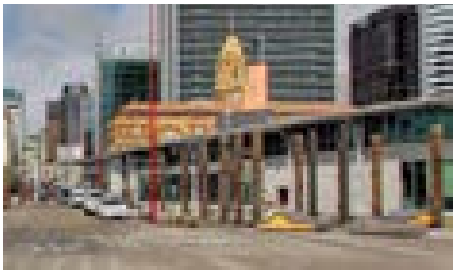
Ill. 128. Harbour Bridge.

Ill. 132. Devonport and Rangitoto Island.

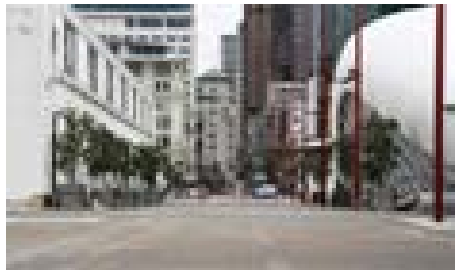
Ill. 130. Container Cranes.



Ill. 133. City skyline.



Ill. 131. Ferry Building.



Ill. 134. Queen Street.

Queens Wharf offers several stunning views of the harbour as well as the city. Tourists use the end of the wharf to take photos of the harbour bridge and the many yaths that are always present on the water. Local residents enjoy the view when biking, running or going for a walk and people often stop at the end.

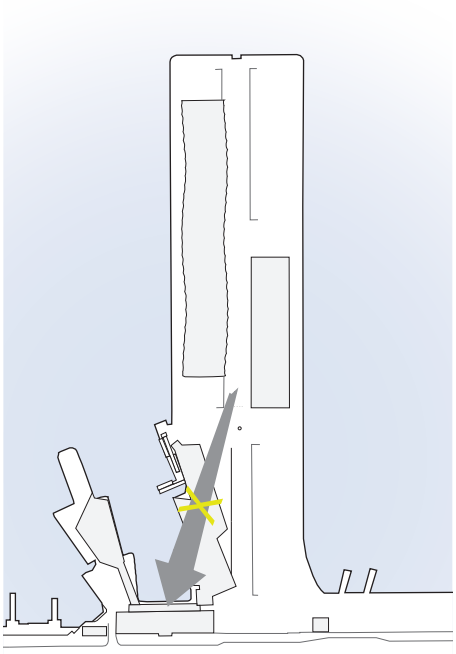
The end of the wharf is a popular viewpoint and whatever people's purpose of going there, they always tend to stop and look for a moment. The end of the wharf is a destination and gives overview of the entire harbour. The view attracts everyone from kids and teenagers to seniors and needs to be valued highly in the future design.

When turning to look at the city, the view changes completely and the highrise meets the eye instantly. At the end of Queens Wharf it is possible to look all the way down to Queen Street and the open spaces dissapear in the city centre, ill.134.

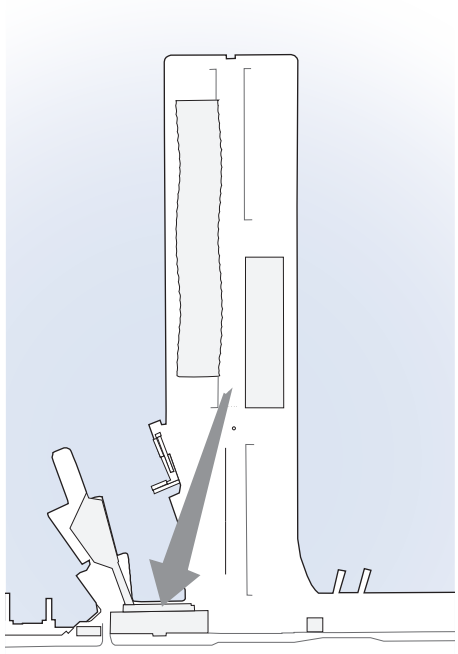
There is a strong contrast, which gives potential to Queens Wharf as being able to facilitate public spaces near the dense and busy city centre as well as quite and recreational areas in the large open spaces where the view seems endless.

At the foot of Queen Street lies the historical Ferry Building, which unfortunatly is blocked by the ferry terminal and it is almost impossible to get a view of the whole facade besiden when on a ferry. It is recommended that the ferry terminals functions is moved back into the ferry building, so that the ferry terminal building can be removed and the view restored. (Waterfront 2015)

Recommendations for visual connectivity

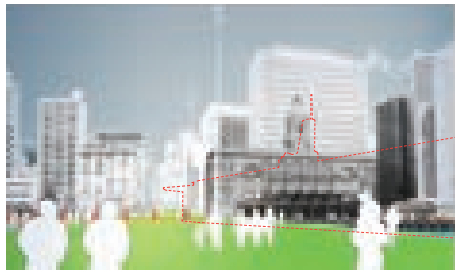


Ill. 135. The ferry terminal as an obstacle.



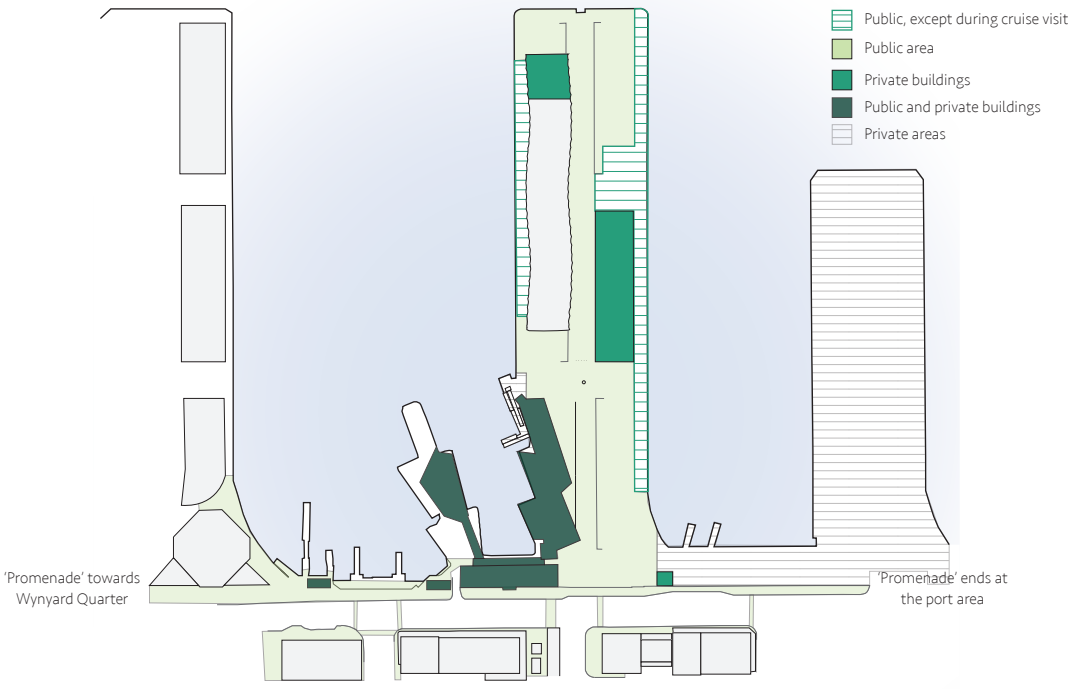
Ill. 136. Visual connection to the Ferry Building

Ill. 137. The current situation



Ill. 138. New identity to the Ferry Building

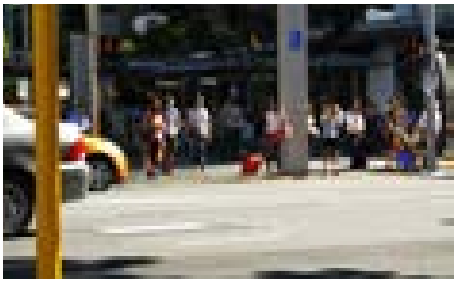
Walkability



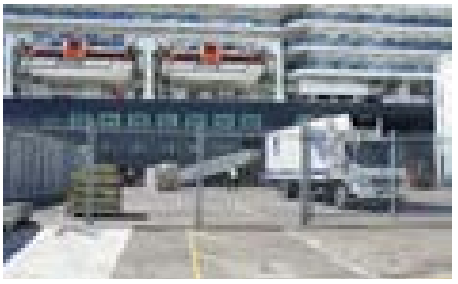
Queens Wharf was in relation to the World Rugby Cup in 2011 opened up for public use and is today primarily a public space. Large areas is however still used for transport and parking and delivery areas for the cruise ships and ferry terminals and the wharf only seems public, where the temporary furniture installations are placed.

This affects the experience of walking on the wharf as people are unsure of where they are allowed to walk. It is especially the entrance of Queens Wharf, which is uninviting and closed of because of furnitures placed directly in the entrance. The Cloud, which is a public building, also raises questions among the visitors, who are unsure if the spaces are public or not. When asking people to participate in the survey, people inside the Cloud, though we were there to throw them out. It has never been established as a public space and people are unsure of its function.

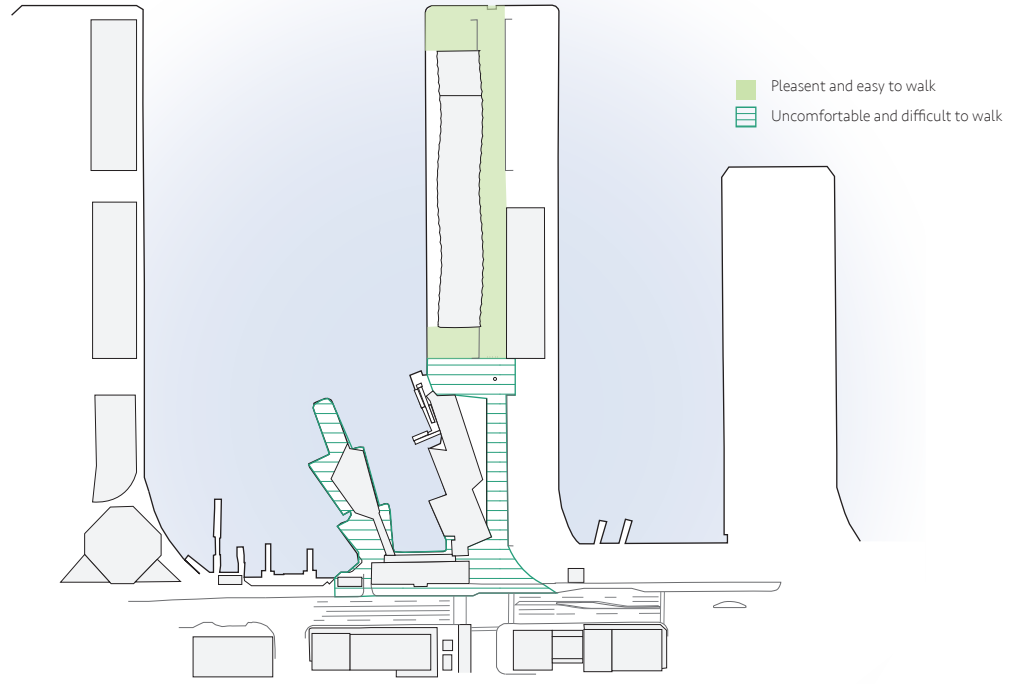
Quay Street, the road between the waterfront and the city centre is a great barrier in relation to the walking connections.



Ill. 139. The pedestrian barrier between the wharf and the city.

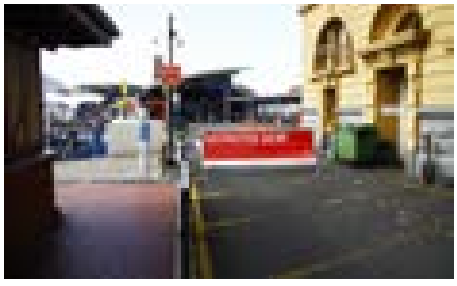


Ill. 140. One of the areas that are cut off while the cruise ship is docking.



The foot of Queens Wharf around the ferry terminal is often crowded and difficult to navigate in. The spaces are narrow and in rush hours in the morning and afternoon when people are going to and coming from work, the area becomes unreadable. The historical ferry building has become an obstacle in the new layout and its presence is undermined. When walking along the waterfront, the area around the ferry terminal is confusing and blocks the experience of walking near the water.

A new layout of the ferry terminal, would create a better expereince for pedestrians, travellers and the ferry building could reclaim its position on the waterfront. The Wharf can be difficult to get to, as the wide Quay Street cuts of the wharf from the city, which is generally the situation along Quay Street. There is a potential in changing the road layout to decrease the amount of traffic.

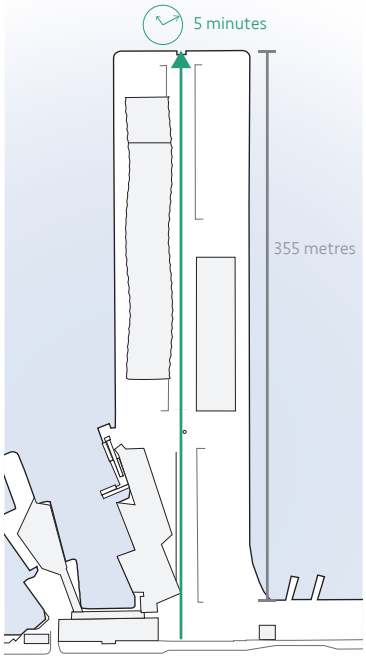


Ill. 141. Promenade strech behind the ferry building.

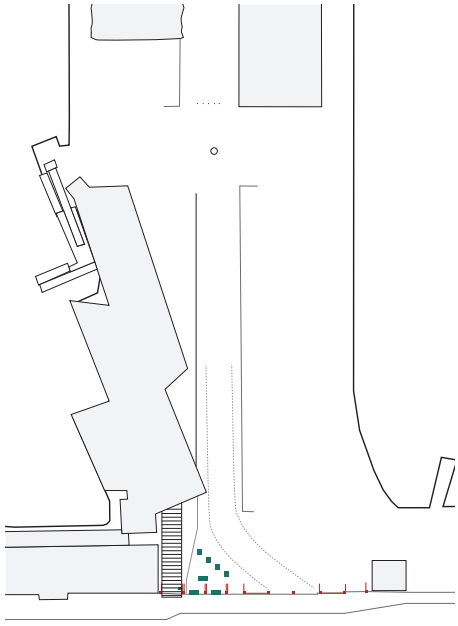
Ill. 142. The 'shared' (cars and pedestrian) space at the entrance.

Ill. 143. ??

Ill. 144. ??



Ill. 145. Walking time back and forth.



Ill. 146. Obstacles at the entrance to the wharf.

Walking from Quay Street to the end of Queens Wharf takes about 5 minutes, and a trip back and fourth therefore around 10 minutes. People sitting, waiting, staying or going to the end of the wharf are therefore not people who are on a short break or waiting for a short while, it is therefore necessary to facilitate stay and waiting facilities close to the street and the ferry function.

At the entrance to the wharf from the city, large urban furniture are blocking the pedestrian flow and create confusion in relation to the entrance. The furniture are likely placed there to avoid cars driving in and out that way, since it used to be a driveway.

But this situation makes it difficult for pedestrians to arrive to the wharf and the place seems somewhat uninviting. It is recommended to restructure the layout of the ferry terminal to free space for both commuters and visitors.

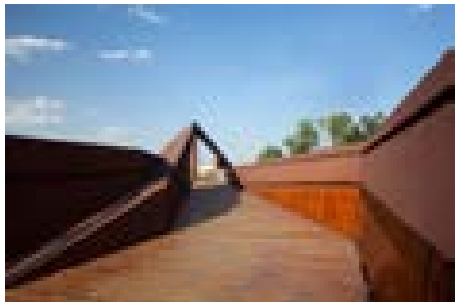
Ill. 147. The un-inviting entrance to Queens Wharf.

Ill. 148. The furniture to prevent cars driving through.

Recommendations for walkability

A walkable space should favour the pedestrians and facilitate a coherent but differentiated experience with multiple spacialities along the route that relate to the human body.

Ill. 149. Edge Park, Brooklyn, NY.



Ill. 152. Waterfront park, China.

Spatial experiences

The experience of walking through a space is enhanced, if the spatial dimensions changes. The design should both offer large open spaces with an overview and smaller enclosed spaces, where you have to walk around the corner, to see what is waiting.

Ill. 150. Melbourne, Australia.

Ill. 153. Fotomuseum.

Something to look at

Whether it is people or facades, a walkable space needs have something to look at, to entertain people on their walk.

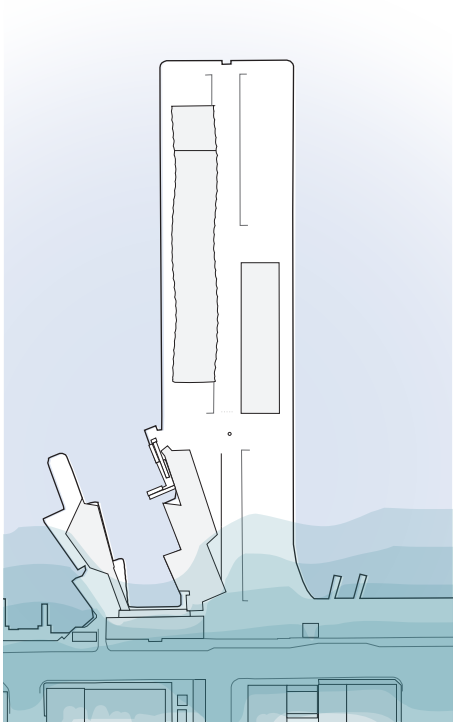
Ill. 151. New Road, Brighton, England.

Ill. 154. Square in Budapest, Hungary.

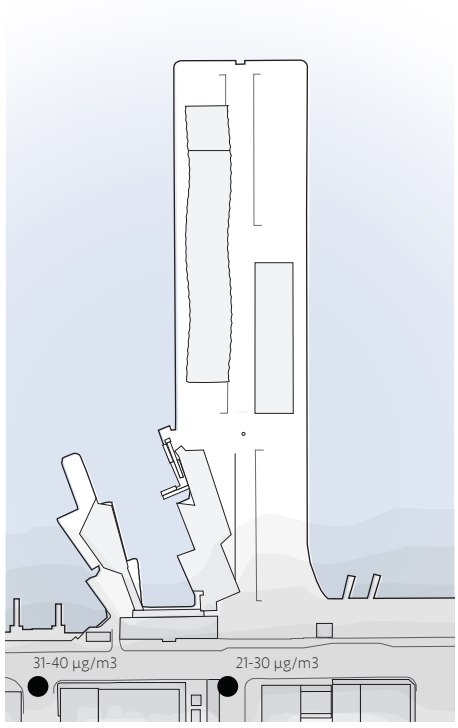
Street design for people

A walkable space should create the possibility to stop several times during the walk with an intersting offer of seatings and furniture. The space should furthermore be a combination of different pavements, which can enhance the idea of walking in a new place and shorten the distance.

Comfort



Ill. 155. Noise at Queens Wharf.



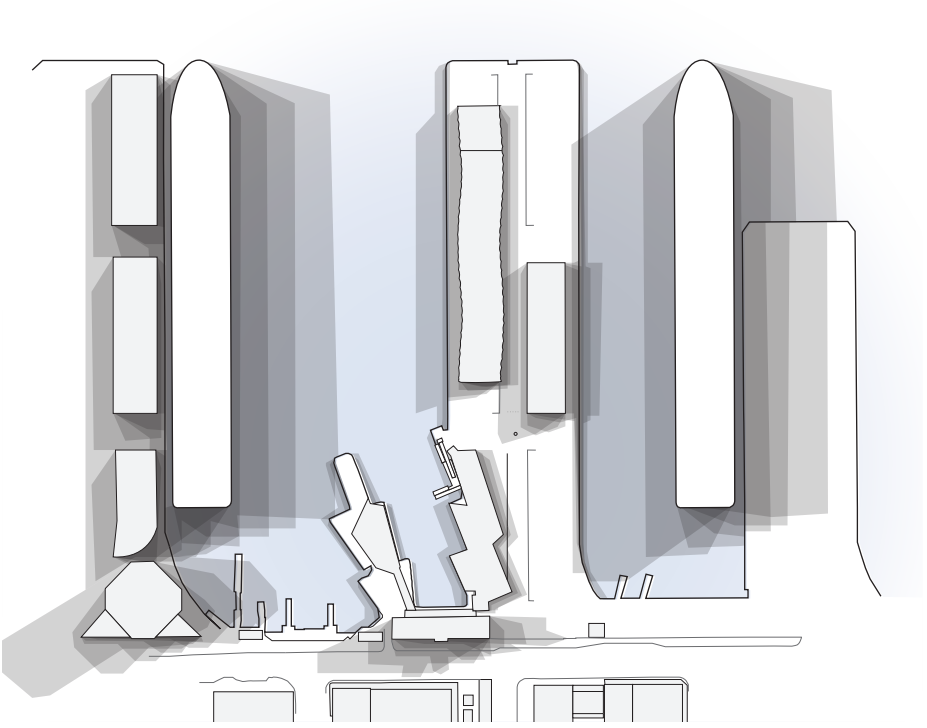
Ill. 156. Pollution at Queens Wharf.

Quay Street causes both noise and pollution on Queens Wharf. However noise was not a problem at Queens Wharf, as people mainly used the area close to Quay Street for waiting and transport and was therefore not disturbed by it. In the survey, people answered that noise only was a problem when they wanted to relax 9.11.18. If the area close to Quay Street is meant for recreational spaces, the noise from the street needs to be decreased.

The ferry terminal also generate noise, when the ferries docks, but the noise from their engine is soften from the water and therefore not as annoying as noise from car traffic. The cruise ships generate very limited noise because they are pulled into the harbour slowly by smaller boats.

The two points at the pollution illustration shows two measured points in Auckland close to Quay Street. According to the european commission if the pollution exceed 40µg/m3 as a average pr. year it is harmful to health (European Commission 2015). The measurements close to Quay Street are therefore close to the recommended limit.

Ill. 157. The traficated Quay Street south of Queens Wharf.



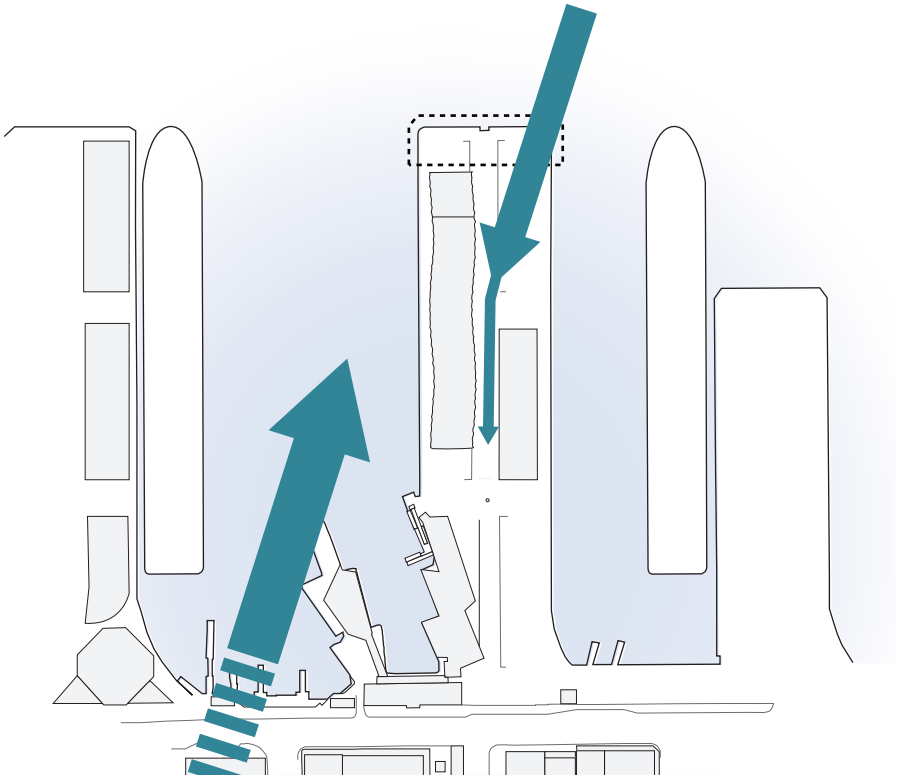
Ill. 158. Sun at Queens Wharf.

Generally there is a lot of sun at Queens Wharf. The buildings have a north-south orientation and there is almost no place with constant shade. The yearly average sun energy on the wharf is 1500 kWh/m3 where the maximum in Denmark as comparison is only 1000 kWh/m3. Even though the cruise ships are very large volumes, they do not cast shadow at the wharf because of the large distance, only very early in the morning and late in the evening.

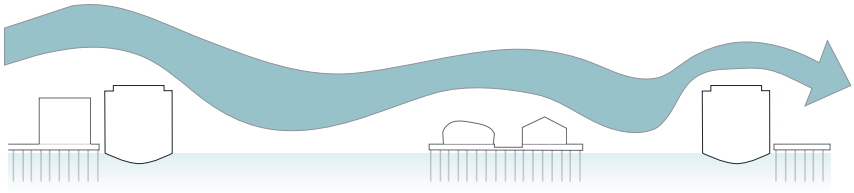
The end of the wharf is a very sunny space because of the northern orientation, and is a potential place for long term recreation.

Ill. 159. People enjoying the sun and especially shade.

Ill. 160. A light breeze at the end of Queens Wharf.



Ill. 161. Wind at Queens Wharf.



Ill. 162. Conceptual illustration of the wind flow at the waterfront.

The strongest wind at Queens Wharf is from southwest and north-east, the city shelter for most of the wind from southwest but because of the wharfs distance to the city it get some of the strong wind. The other wind from north-east makes the end of the wharf an exposed place, and the wind create a wind tunnel through the two buildings at the site, Shed 10 and The Cloud.

The wind however, does not seem to be a problem for the visitors, who on a summer day, enjoy the sun, despite of a strong wind.

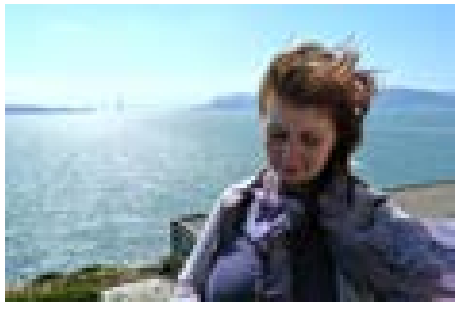
When asked if the wind affected their stay on Queens Wharf, 39% procent answered that it did not have an impact, but 23% answered that it had an impact (a small disturbance), see app. 9.12.25. The observations and survey results indicates, that wind is very subjective and a future design should create the possibility for a light breeze but also possibilities for shelter.

Planting, large furniture or small point block buildings can be implemented to break the wind and disperse it.

Recommendations for comfort

To create comfortable spaces, the spaces has to be designed to a great extent in relation to the existing comfort situations. Since comfort is a very subjective matter, it is necessary to create different spaces with different forms of comfort.

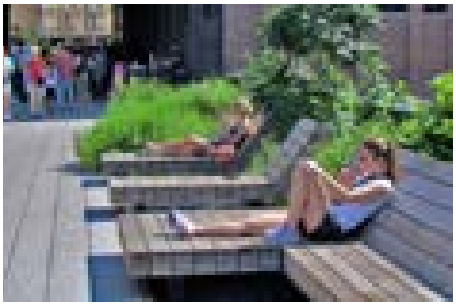
Ill. 163. Shelter from the strong winds.



Ill. 164. A light refreshing breeze.

Shelter from winter wind and create spaces with breezes

Fierce wind can be annoying but a light breeze in warm weather is only a pleasant surprise, therefore it is important to consider both scenarios and design different spaces in relation to wind shelter rather than shelter for all wind.



Ill. 165. Sun benches at the High Line, New York.

Ill. 166. Urban parasol forest.

Sun and shelter from the sun

It is important to create the multiplicity of choice when designing for at with the sun. Sun spots that use the sun to create pleasant warm spots in the city and spaces with shade that protects from the heavy sun.

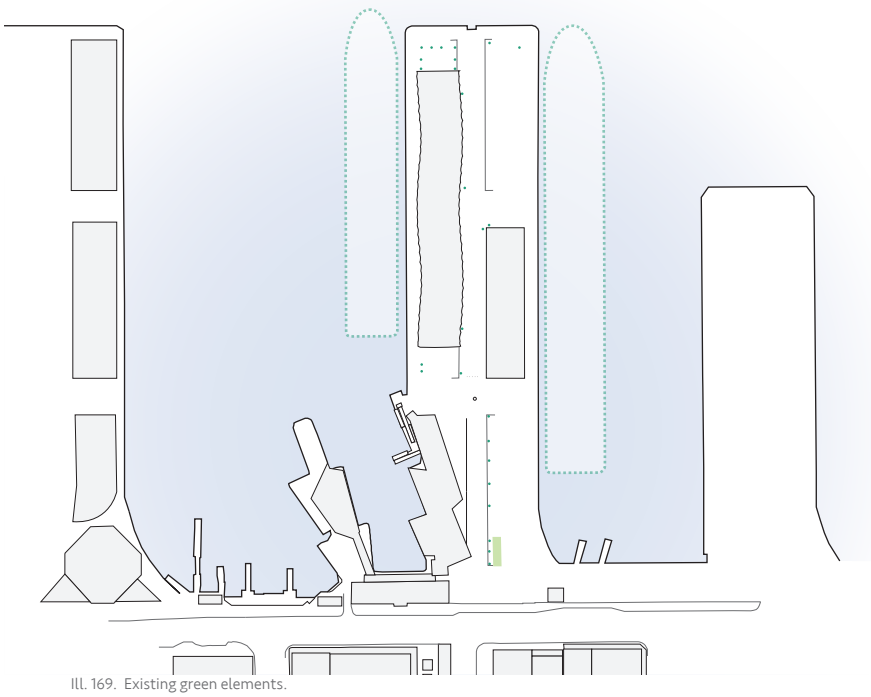
Ill. 167. Short term waiting.

Ill. 168. Skatepark between two lanes, Rotterdam, Holland.

Programming with noise

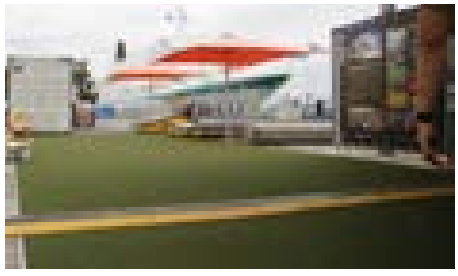
Noise is not necessary a bad thing, it depends on what kind of noise, noise from people and activity are more pleasant than noise from cars and loud machinery. Dealing with noise is about structuring the programs. Active programs and short term waiting can easily be placed in noisy areas.

Natural Value



Ill. 169. Existing green elements.

Ill. 170. Moveable planting boxes.



Ill. 171. Artificial green surface.

The greenery at Queens Wharf is limited to moveable planting boxes and an area with an artificial green surface to mark a recreational area. The planting boxes with trees are flexible and function as space dividing elements through volume and height, but the elements are small in the large bare context they are in and therefore they disapear as green elements.

The wharf is built on poles, and the ways to implement more green at the waterfront is therefore limited, and large trees with huge root systems are eliminated. The greenery has to be able to grow in a relatively thin soil layer.

The cruise ships at the wharf has an effect on the natural value on the site. The ships hide the water and creates an enclosed space that is not related to the surrounding water because it is not visually present.

Recommendations for greenery

Implementing natural greenery at a structure built on poles demand a certain kind of planting and structure when implementing: grow in a thin layer of soil, vertical volume or as a raised park.

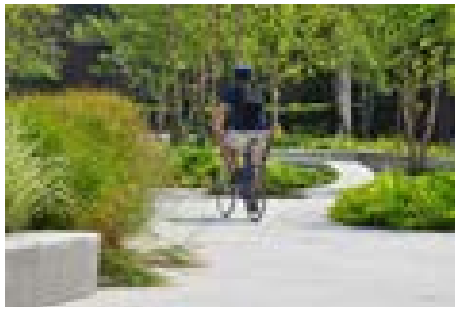
Ill. 172. Landscape at SEB Bank, Copenhagen.

Ill. 173. SEB Bank, Copenhagen.

Thin soil layer

Queens Wharf is built on poles, and the depth the plants can reach is therefore very limited. The landscape around the SEB bank in Copenhagen, Denmark, is built on top of a basement car parking and the plant grow in a thin soil layer with 0,5 - 1 meter of polystyrene for the roots to grow in. It is thereby possible to find greenery that does not need a deep layer of soil to grow in.

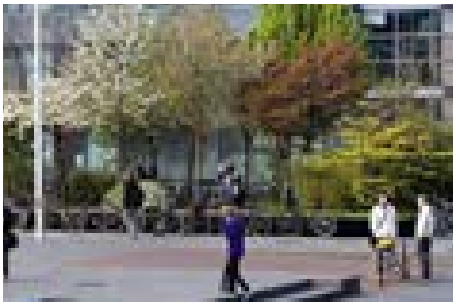
Ill. 174. Joel Weeks Park, Toronto.



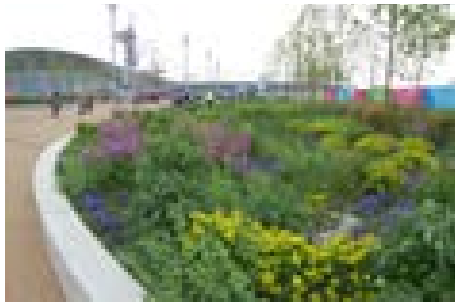
Ill. 175. SEB Bank, Copenhagen.

Green volume

It is possible to create green volumes that fill up the spae without implementing a green 'park' at the surface. A vertical park can be as green, if not more than a plain green surface.



Ill. 176. Park in a large planting pot, CBS, Copenhagen.



Ill. 177. Raised greenery. Queen Elisabeth Olympic Park, London.

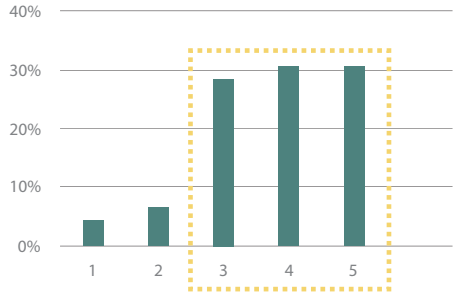
Raised urban park

The small green pocket park at Copenhagen Business School in Copenhagen creates a green park without planting into the surface but using a large planting box and thereby marking the area as park in inself.

Native greenery

On a scale of 1 to 5 how important is it for you, that Auckland Waterfront has green areas?

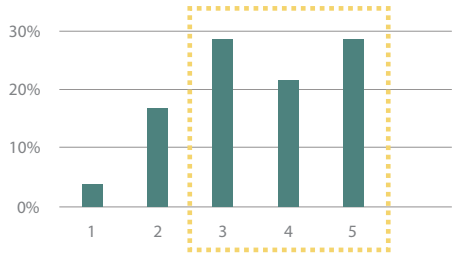
(1: It does not make a diference for me, 5: it is very important)



Ill. 178. The importance of greenery.

On a scale of 1 to 5 how important is it for you, that the planting at Auckland Waterfront is native plants?

(1: It does not make a diference for me, 5: it is very important)



Ill. 179. The importance of greenery as native plants.

Ill. 180. Native green used in vertical park, Wynyard Quarter.

Ill. 182. Low plants combined with small trees in plant boxes.

Ill. 181. Native planting in Wynyard Quarter.

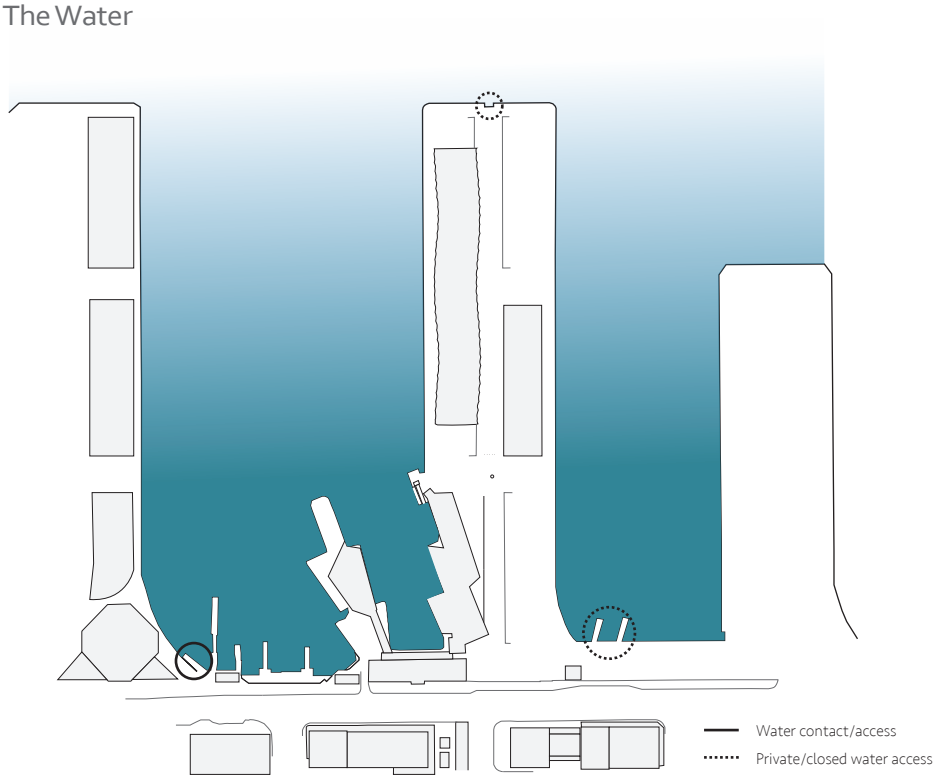
Ill. 183. Native planting in Wynyard Quarter.

From the liveability surveys it is clear that greenery is important in the urban spaces, in both of the surveys green is ranked as fairly important, see app. 9.11.27 and app. 9.11.28.. Native planting is also ranked as important when dealing with greenery in New Zealand. The native plants creates a certain identity since most of the plant are endemic to the country and the use of the native plants express a respect for the natural environment.

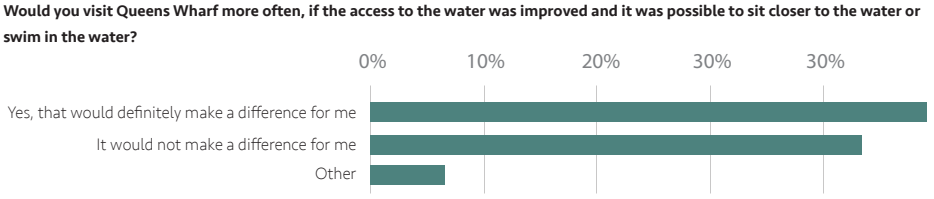
The plants used at Queens Wharf has to require little maintenance, be able to grow in full sun and be wind and coastal hardy because of the environment at the waterfront.

The pictures above illlustrates the use of native plants in landscaping, the native plants of New Zealand are very green with little blossom.

The Water



Ill. 184. The water elements at Queens Wharf.

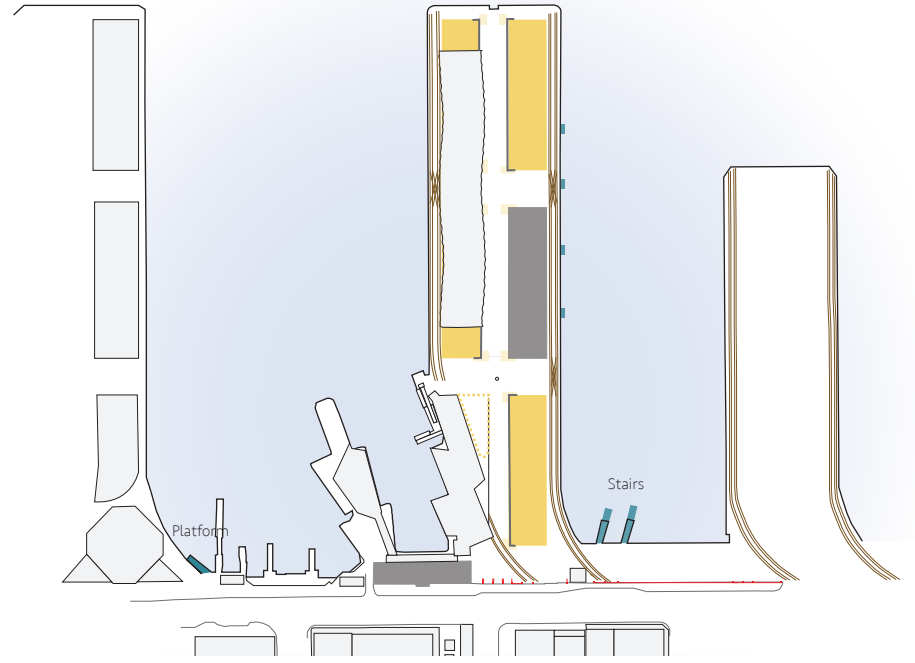


Ill. 185. The importance of water access.

The water has a graduation effect along the wharf. Close to the city centre with ferry and bus traffic the water has a functional character as a connecting element where the ferries and the transit are in focos and the orientation is inwards. Toward the end of the wharf the water shift from a functional character towards a recreational character, where the water enclose the space and the orientation is towards the landscape and the scenic views.
The water contact and access are minimal, the only accessible spot is a concrete platform 2 meters closer to the water than the actual edge, placed between Princess Wharf and Queens Wharf, the other historic water access are closed off from the public.

The survey showed that there is a potential for attracting more people to the waterfront by enhancing the accessibility to the water. The current culture is not to interact with the water in the city but to use the beaches outside the city. Therefore to get more people to live in the city centre it is necessary to offer more water activities and blue recreational activities to make the life in the city more attractive.

Heritage



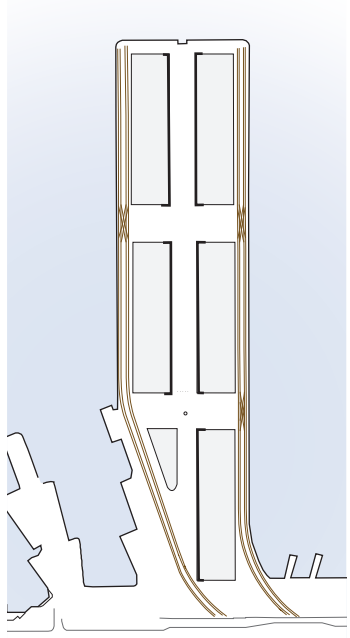
Ill. 186. Heritage elements at Queens Wharf.

There are multiple historical trails on Queens Wharf. The most significant are the footprints and trails from the old storage sheds, where Shed 10 is the only one still standing. The composition is very clear with a central street down the middle and the old train tracks that enabled loading. (Matthews 2009) The 5 plots where the sheds use to be are defined through a leveled edge towards the commen street in the middle, differenciating the plots from the street.

The original composision was with 5 sheds and a wedge shaped building that housed the Wharf Police, see ill. 187.

Other historical trails are the steps down to the water and the newer wooden structures that avoids the cruise ships from hitting the the edge of the wharf.

Additionally there are the signifacant red gates that mark the transition from Quay Street to Queens Wharf, and the concrete pavement that tells the story of an expanded wharf.



Ill. 187. The historical composition of Queens Wharf.

Ill. 188. The elevated marks of the old sheds.

Ill. 190. Historic train tracks.

Ill. 189. Trails from cruise docking.

Ill. 191. The red gates.

The historical trails as they are seen today, telling the store of Queens Wharf as an important site in the city for trade and contact with the international world.

Ill. 192. The historic sheds at Queens Wharf.

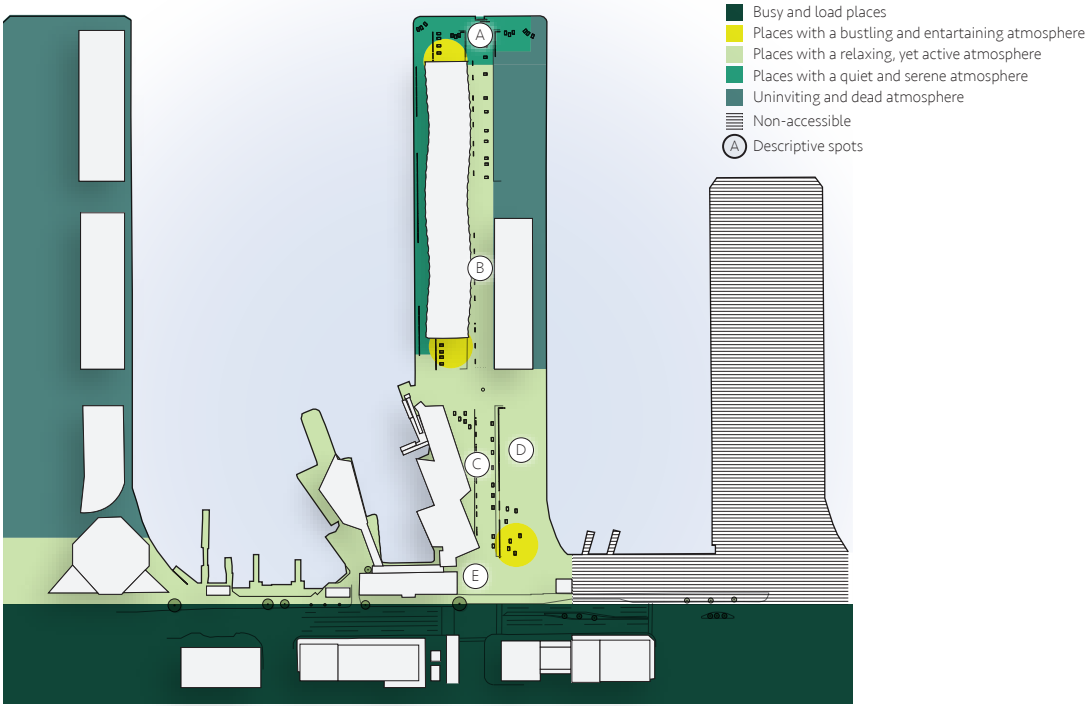
Ill. 193. Old farming shed, New Zealand.

Ill. 194. Farming shed, NEw Zealand.

Ill. 195. A sculpture of corrugated iron.

The shed structure is a structure with great historical reference, not only at the Wharf itself, but also as a structure used thoughout history in New Zealand and still used today. New Zealand is a farming culture and the sheds used in farming throughout history resembles the ones at Queens Wharf. The material often used is corrugated iron and is used to buildings as well as scultures around the country.

Local Identity



Ill. 196. Different identities at Queens Wharf.

The location next to Auckland's transit hub, the ferry terminals and the combined bus and train station, makes Queens Wharf neighbour to the most busiest spots in the city. There are almost 15 million people on the door step of Queens Wharf every year: 6.9 million commuters, 7.28 million pedestrian, 0.02 million workers, 0.25 million cruise ship passengers and 0.47 venue guets (Auckland Waterfront 2015).
But Queens Wharf is also a quiet and calm space for relaxing. Moving towards the end of the wharf the atmosphere and identity changes from a busy transit space to a calm space for relaxing and ejoying the scenic view.

Queens Wharf is currently under development, and the recreational spaces implemented are therefore temporary and are seen as urban life experiments, which have an effect on the identity, that too becomes temporary. The temporarity also creates a flexible changeable space where the identity changes in relation to the activity or event taking place, or the amount of people at the wharf in relation to cruise ship tourisme or ferry commuters.

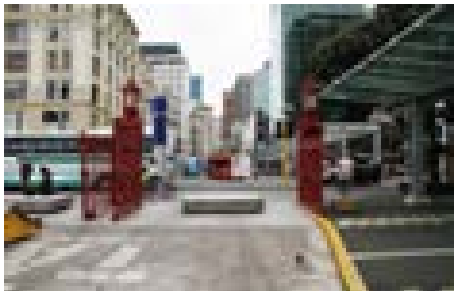
The many different spaces at Queens Wharf create a space with multiple identities and atmospheres, a space with a lack of coherency in the identities which results in a week identity or no identity at all. The lack or confusion in relation to identity make it confusing to relate the space to the city, and difficult to clarify which role Queens Wharf has in the city centre.

A - The view point
The open area at the end of Queens Wharf is characterized by a calm recreational atmosphere, that creates a calm atmosphere with an outwards orientation towards the surrounding landscape.

B - Cruise terminal area
When a cruise ships docks at Queens Wharf a large area of the wharf is fenced, creating a privatized area. The hiearchy at the wharf changes and favors the tourists and the visitors. The identity here is characterized by close, uninviting and unaccessible spaces the cruise terminal creates.

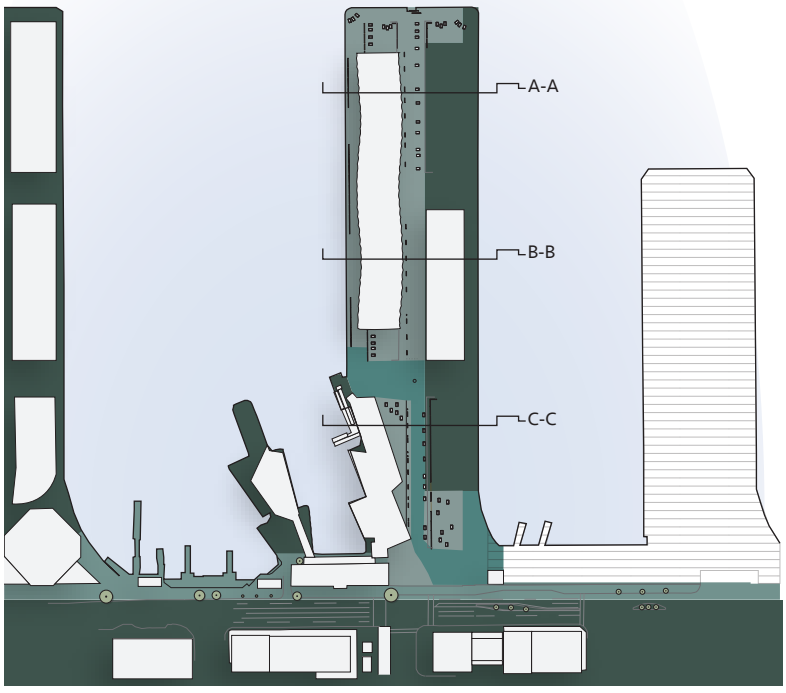
C - Kiss and goodbye
The kiss and goodbye space is dominated by the cars, and the footpath for the pedestrian is very narrow combared to the number of people using the space. Even though it is supposed to be the people's wharf, the cars rule the space.

D - The flexible space
The flexible space is a large open space that is used for stands, tourist information and commercials when there are cruise ships - a bustling place with life. But with no cruise ships the area is a large emphty space with no identity.



E - The red gate area
The entrance of Queens Wharf is a lively place with a lot of people in transit, and the opened red gates invite into the space. The space is also a very confusing space with furnitures placed in the direct flow lines, that creates confusing in relation to where it is allowed to walk.

Human scale



Ill. 197. Human Scale at Queens Wharf.

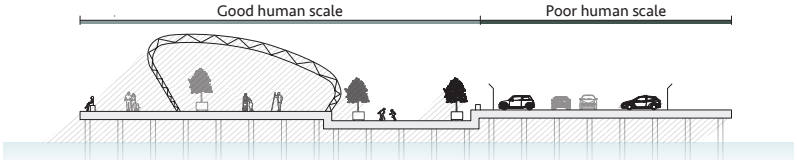
The two buildings on Queens Wharf, the Cloud and Shed 10, are well dimensioned in relation to the human scale and frame the space in between. Both buildings are designed with openings which makes it possible to look inside and follow the activity in the buildings.

The space between Shed 10 and The Cloud can be highlighted as a space with a good human scale (see section B-B). The space is framed by the two buildings and the edge offers many seating opportunities, shelter from the sun and planting boxes that create smaller spaces. The description of the quality of human scale is based on Queens Wharfs current situation and is not a general observation.

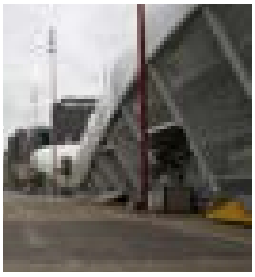
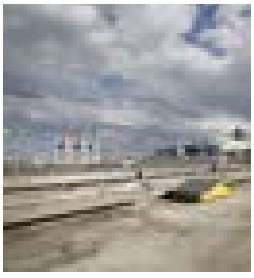
In general, the temporary furniture create a good human scale on the wharf, but if the furniture and planting boxes where not there, the scale would seem large and empty.

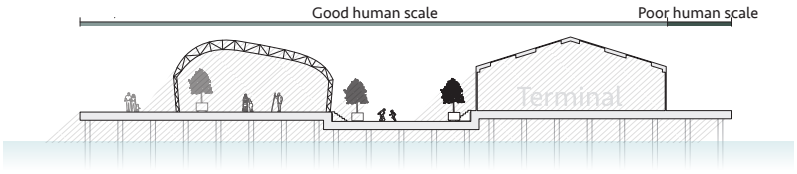
Especially the eastern part of the wharf is critical as the cruise terminal requires large open spaces for both parking and temporary spaces during a docked cruise.

Overall, Queens Wharf has a good human scale due to the temporary structures and planting boxes and the wharf have the opportunity to create a great human scaled, permanent design solution.

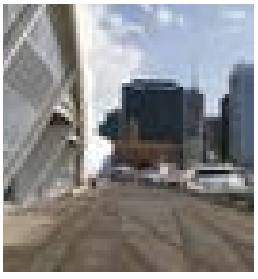
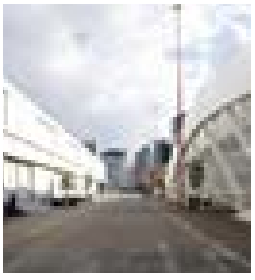


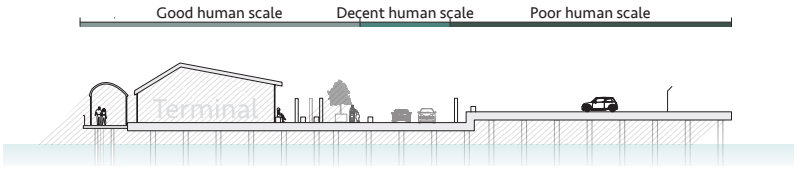
Ill. 198. Section AA in 1:1000



Ill. 199. Section B-B in 1:1000

Ill. 200. Section B-B in 1:1000



Ill. 201. The space between the two buildings at the wharf.

Ill. 202. Boys playing soccer between the buildings.

Framed by the built structures

The space created between The Cloud and Shed 10 has a good spatial dimension that attracts people to sit in the edges and play football. When The Cloud is removed, it is therefore recommended, that a new structure is added to the area, to establish a similar space to frame the promenade to the city and the end of the wharf.

Ill. 203. Moveable high quality urban furniture.

Ill. 204. Urban furniture.

Quality furniture

The temporary furnitures that are placed on Queens Wharf to attract people are custom made for the place and is of high quality. It is clear that the reclining benches attracts many visitors. Something a normal park bench would not have been capable of. Most importantly, there are a variety of different furnitures, that offers different experiences.

Ill. 205. A long edge with human scale caused by the furniture.

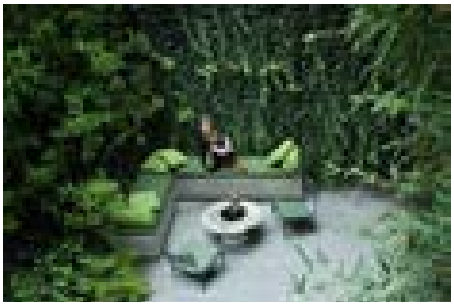
Ill. 206. Spaces for sitting along the edge.

The edge

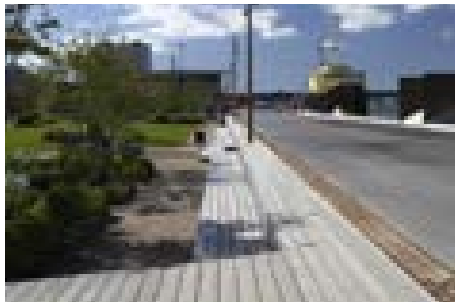
The exisiting structure of the wharf creates 60-100 cm edges on the areas that earlier had sheds on them. The edge provide a good space for people to sit, as the can sit with their back against a building and look over the promenade where people walk. In the future design, the edge can be furthere developed and interact more with the sorroundings.

Recommendations for human scale

Queens Wharf and the waterfront is characterized by large open spaces and by breaking down this scale with furniture, plantings and various spatial experiences, the wharf is transformed to a place for people and not transport.



Ill. 207. Small urban garden, New York.



Ill. 208. Aalborg Waterfront, Aalborg.

Spaces within a space

Spaces within a space can break down the scale of a space. This can be done through planting, creating a space with greenery or though meticulously working with the edges of the spaces, as here in Aalborg, Denmark, where two space are seperated through a difference in the surface levels.

Ill. 209. Large urban furniture.

Ill. 210. Urban Reef in Vancouver.

Urban furniture

Urban furniture shaped in relation to the human body, can break down the scale of a large scale by placing the furniture so they create spaces within spaces.

Ill. 211. MFO-Park, Zürich

Ill. 212. Vetical Park, Wynyard Quarter.

Greenery

Greenery is additionally an element that can break down the scale in a large space. In Zürich the green is used as large elements that divides the space and combined with greenery in human height creates spaces the human body can relate to. The greenery in Wynyar Quarter, Auckland, vertically frame small spaces within the space and thereby break down the scale.

Ill. 213. The view from Queens Wharf to the city at night.

6.4 Queens Wharf Part Conclusion

With its central location and history, it is natural that Queens Wharf should be connected with the city centre and offer citizens with recreational public spaces. Queens Wharf have the potential to become the missing link in the city that will connect the city centre with the waterfront.

Industrial heritage have not been valued highly in Auckland, which have resulted in an almost complete removal of all industrial and historical traces in the city centre. Queens Wharf still have some traces left of the previous use: the shed platforms, the trails, Shed 10 and the layered graphic prints in the concrete pavement. The history of Queens Wharf can be told by keeping the historical traces and enhancing and reinterpreting the materials can provide a new identity and character to the place.

By restructuring the wharf's current programs, especially around the ferry building and the entrance, and adding new functions and activities, the place can become an attractive recreational 'square' in the city that will invite the public onto the wharf. New visual connections will be created by removing the ferry terminal, and the new programs will create attractions on the wharf. Through varying spatial experiences and with affordances through urban furniture and green spaces that celebrate the native, the wharf will be transformed from a place for transport, to a place for people.

Queens Wharf needs to become People's Wharf.

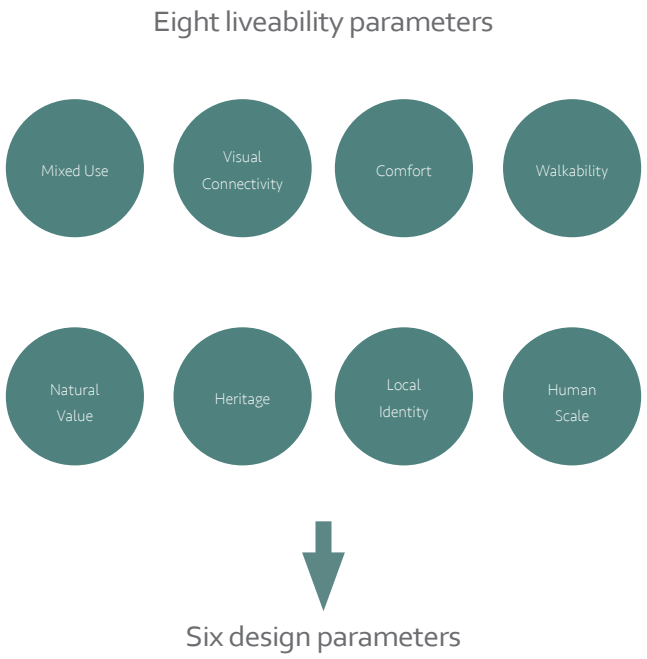
6.5 Design parameters

The design parameters are formed on the basis of the eight liveability parameters that were found using existing theory. The liveability parameters were used to analyse Auckland, the waterfront and Queens Wharf and it is through these analyses that the design parameters are created.

The design parameters are site specific in contrast to the liveability parameters, which are generic and can be used for any city. This is where the project is no longer generic since the design parameters cannot be imposed on other cities.

The six design parameters are a combination of the results from the analyses and the eight liveability parameters. It is therefore possible to trace some of the parameters guidelines directly to the liveability parameters, whereas others are results from the analyses.

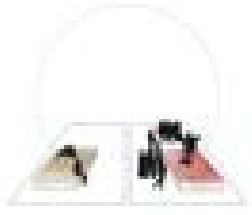
Continue to the presentation report: Recommendations for a liveable design.



Ill. 214. The eight liveability parameters

Peoples Wharf

Make new activities on Queens Wharf



A flexible space

Create diverse spatial experiences

Celebrate the history, heritage and native values

Enhance native greenery and connect with the water

Ill. 215. The six design parameters

ASSESSMENT

Can Liveability be Designed?

YES!

7.1 Conclusion

The conclusion is the answers on the following research questions:

1. What is the definition of liveability in public spaces in Auckland?

2. How can the 'liveability model' contribute to the creation of liveable design solutions for a public space in Auckland?

3. How can liveability strategies for the waterfront and a specific design of Queens Wharf enhance the quality of urban life in the city centre?

What is the definition of liveability in public spaces in Auckland?

Urban Liveability in Auckland is as urban liveability anywhere an urban environment that increases the quality of urban life for people living in and using the city. But liveability is site-specific and therefore urban liveability in Auckland only concerns Auckland. Liveability is quality of urban life for people, and therefore people are the essence of the definition of liveability.

Urban liveability in Auckland is a focus on people, a friendly city that favors the needs of the citizens, a city that wants to create a good and used urban environment and a city that places the people rather than the cars highest in the hierarchy. Liveability in Auckland is a city that increases the quality of urban life through a people friendly urban environment – a city for people.

Urban liveability in Auckland are spaces that create the possibility of multiple choices in relation to experience, functions and the comfort of the urban spaces, spaces that embrace a diversity in people. It is spaces that are visual connection to the scenic surroundings including the rich natural context, which must be reflected in the urban planning in amongst other things the use of the native planting and opportunities for interaction with water. It is coherent walking experiences with few barriers caused by the cars in human scaled spaces and it is the difference of identities using the specific character of the space, including the site-specific heritage, where industrial heritage is as important as historic heritage.

For Auckland Waterfront liveability is therefore coherency in the area through visual connections internally and a gathered walking experience, at the waterfront at to the network of shared spaces in the city centre. It is maintaining the scenic views and the enhancement of the local identities through functions, character and heritage.

Liveability at Queens Wharf is the creation of a space for people. It is the creation of new activities that facilitate flexibility and spatial diverse experiences. It is the enhancement of the existing natural value – the water, and the implementation of native green, and a celebration of the heritage, history and native values at the place.

How can the 'liveability model' contribute to the creation of liveable design solutions for a public space in Auckland?

The liveability model contributes to the creation of liveable design solutions through an operationalization of the theoretic notion liveability, and analyses of the space, context and people informs the design solutions.

The different methodological components of the model create vary information, in relation to site-specifies and scale. The model creates qualified information because of the different perceptions of the notion through a difference in methodological approaches within the model.

The theoretical part does not inform the design but structures the analysis and has thereby already delimited the focus and in someway the result through the eight parameters. The analytical part makes the future design argued by combining mapping and registration with tracking and user involvement. The situations are thereby viewed from different aspect and thereby create a more evidence-based foundation for the design.

The liveability parameters, which the liveability model is based on, are not concrete enough to inform the design directly, the parameters are based on theoretical definitions of elements that have an effect on a public space from an overall view. The information is instead on a programming level and the social aspect of the types of spaces. The liveability model can inform a design as far as to strategies for a space, but cannot inform the actual layout and design of a concrete solution. After the strategies the designer has to take over, and design the space based on the results found using the liveability model. The liveability model is more an analytical tool than a design tool.

How can liveability strategies for the waterfront and a specific design of Queens Wharf enhance the quality of urban life in the city centre?

Quality of urban life is enhanced through an improvement of the urban environment. The quality of urban life in Auckland is thereby enhanced through the design of Queens Wharf and the liveable strategies of Auckland Waterfront, because they create quality in the urban environment.

Improving quality of urban life is about creating quality urban spaces that are a part, or become a part, of the everyday life and are destinations in themselves. The design of Queens Wharf improves the urban environment, and thereby the quality of urban life, because it creates multiple choices and possibilities within the spaces, it facilitates different activities through the graduation and variation of programs and level of activity. The design also facilitates different amounts of people. As a space for the everyday life, few people at the end of the wharf only enhance the atmosphere of a quiet recreational space where focus is on the scenic views and the great surrounding natural context, and because of the design with spaces in spaces the design will not feel overcrowded with more people in it. When used for events the wharf changes character, and the wharf becomes a lively bustling place of activity.

The functionality, quality through materials and design, and the newly introduced programs at the site enhance the quality of the space.

Quality of urban life is to a great extent to invite people to use the spaces through enhancing the awareness of the space and introducing the citizens to new recreational functions in the city. New Zealanders love their rich natural context with beaches, native forests and the relaxing quiet atmosphere at the countryside. The design thereby enhances the quality of urban life in Auckland through the introduction of new interpretations of loved recreational program implemented in the city and, that gives examples of what the city can and should be used for other that shopping and business.

Quality of urban life and urban liveability are undeniable closely connected, if one of the two are enhanced the other will be as well. The design enhances the quality of urban life and thereby the urban liveability in Auckland.

7.2 Reflection

The following are reflections upon exploring the notion of liveability, and the paragraph is structured from three themes: The components of The Liveability Model, Methodologies towards liveable design and the future role of the urban designer.

The Liveability Model – The Components
In relation to the use and construction of the liveability model, a number of factors are important to reflect upon.

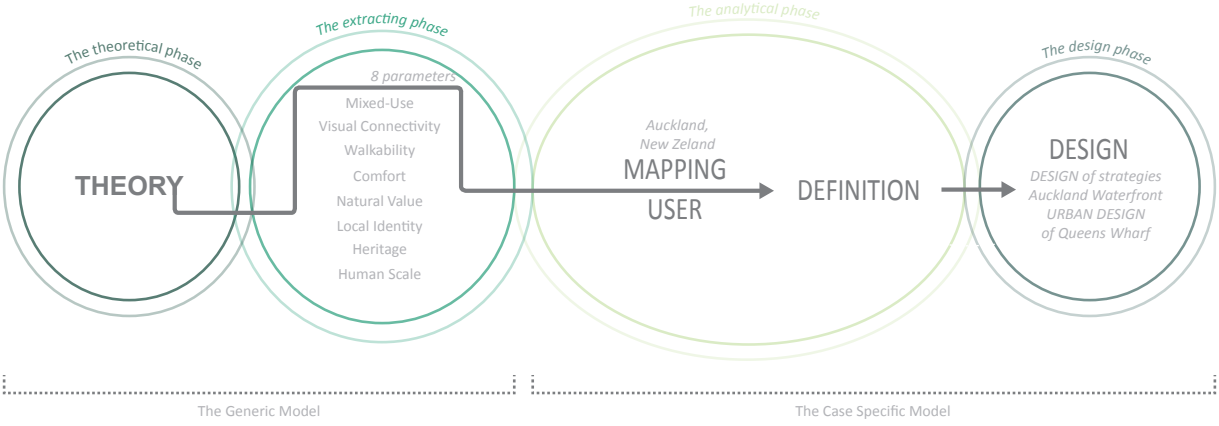
Theory
Already with the choice of analysing liveability from the three theoreticians; Jan Gehl, Jane Jacobs and William Whyte, the project, and the model, was delimited. During our studies, Jan Gehl and the rest of the 'people voyeur-movement' have fascinated us all, where actual life studies lies as the basis of the knowledge. However, the question is whether these three theoreticians uncover the true story and meaning of liveability in the public spaces? Or we already from the beginning left out important elements of liveability? The three are undeniable inspired by each other in some way, and therefore it can be discussed whether their results are facts or if they are coloured by their beliefs on the 'good society' as the rest of the city theoreticians before them, as none of the three really designs liveable cities. If the theoretical framework should be extended to uncover more of the possible definitions of liveability, it would have been interesting to include work and experiences of liveability from practice. Singapore is a city that works with liveability and by comparing the theoretical definition to actual results could possibly have created a more in-depth investigation of the notion.

The analysis
In the analytical part of the project, we have used multiple analytical methods, as we believe that argued design solutions, which are informed by more than artistic principles are better design solutions, and therefore user involvement is a large part of the analysis. Nevertheless, the discussion is, how argued the actual user analyses are? There are multiple elements of the user involvement and data collection that is interesting to reflect upon, but this is focused on the representation of the data collected.

The two surveys focusing on user involvement has been a test to explore the technologies, but cannot actual provide real argued design information, since the respondents participating in the surveys were far from representative in relation to number, age, ethnicity or life style. The level of inquiry for data collection to create transformation strategies for a context like Auckland Waterfront would require a wide representation of Aucklanders and probably several different survey setups targeting neighbours, visitors, organizations etc., and this is where the limitation of Sensometer comes into play. The amount of work and time to programme and get people to install and use the application, not regarding the limited possibilities of respondents in relation to the need of smartphone technology, would require more than three people, our limited resources and four months, but is nonetheless an interesting thought.

The methodology used in the analyses has not been steered and structured other than from the eight parameters. This has resulted in a lot of analytical material with an experimental and investigating character, maybe even too much to structure and conclude upon, but it has also uncovered a lot of factors and elements present at the waterfront and Queens Wharf. Many of the conclusions overlap and thereby emphasize the result.

The Design
The actual design came fairly easy, which is most likely due to the huge amount of analytical work prior to the design or the great knowledge of the space, place, culture and city through research. The question is, if this is the 'correct' answer to the analysis, the 'correct' and only design? Would an urban designer from anywhere be able to create a liveable Queens Wharf as well? We believe yes, to some extent.



Ill. 216. The Liveability Model.

The analyses before the design has without a doubt speeded up the process and the decision-making. However, it is still us as urban designers, that have designed the space – not the liveability model itself.

Another reflection regarding the design is related to the essence of liveability: site-specificy. Is the design really site specific? Could this design be placed in any other city than Auckland and still have the same effect? Is the design really just, as explained in the quote by Kaal 2011, our 'visions on society, on the relationship between human beings and the social environment in which we live'? It is a 'Nordic Design' that might as well be a wharf place in Copenhagen or Stockholm? Yes and no, the point of departure is definitely rooted in Auckland's history, identity and culture, but at the same time liveability is about the human being and it is a social notion. The essence of the human being is the need for social interaction, a natural instinct and need that is the same no matter where in the world they are.

Methodologies towards liveable design

The purpose of the model is to use the definition, the eight parameters, as an analytical tool in the city to create recommendations for liveable design solutions. The model has undergone changes during the process and it is still very relevant to discuss how the model can be further explored, in terms of the detail level of the outcome.

The model can be altered into a variety of different setups. However, the most interesting discussion is to see how 'far' the model can work. Is it possible to use the model to create concrete design solutions? Do we want the model to design for us? And is it even desirable?

In this project, the outcome of the model is a definition of the design parameters and after this step, we, as designers take over, evaluate the information and create design solutions based on the parameters and our general knowledge as urban designer.
In a different scenario of the model, only one parameter could have been explored. In this scenario, we would have been able to argue for very precise design solutions regarding just one parameter. However, this is where we argue, that liveability cannot be created by a single element, but needs to be a holistic solution of multiple parameters. In that case, eight projects would have to be performed and the results gathered in a final conclusion, to define what liveability is. In conclusion, a very long process, for the reason of creating a liveable urban space.

In a max-scenario of the model, the model could be altered to create specific design solutions and the design outcome would describe how many trees to plant and where to plant them. In this scenario, it would be necessary to treat each parameter as a separate research project, to investigate existing research and case studies, which will transform the model to contain an exceeding amount of work.

We also argue that urban design is more than a model that dictates the final design outcome. Where is the fun in that? After all, we have chosen our degree based on interest and curiosity for the built environment and people. We want to be able to translate research, answers and results to physical design solutions. Hereby, the model have become a tool to test ourselves as designers, as we reflect on our qualifications and skills and how we want to use them and the research model.

These scenarios of the 'machine-model' would diminish the need for the urban designer. What would the role of the urban designer be?

The future role of the urban designer

Today it is possible to map experiences with sensors attached to peoples head. With this technology, user involvement is taken to a new level, where we can measure how people feel and respond to their surroundings. If a technology like this would be implemented in the Liveability Model, the model would be able to create design scenarios based on the preferred urban setting based on the average of people's experiences. When it is a software that is being used to measure urban design, who is then

qualified to translate the data? With an increasing amount of software and new technologies, urban designers, as well as other professions, needs to be changeable. There is an increasing interest in new solutions that can provide fast data and concrete answers and this will continue to develop.

We spend the last 1000 years to build mechanical muscles and researchers now predict that not even the creative professions is safe, with the progress of robotic technology. The human brain is a machine, the most complex there is and, it is now possible to simulate it. Artificial creativity is a developing field and it is happening fast. They are called Creative Bots and can write classical music, draw intricate paintings etc. (Humans need not apply 2014)

Even with robots and new mapping technologies it is essential to remember, that robots are not human and in this project, liveability, that deals with the quality of the urban life, humans are the central focus and in the technological development it can quickly be forgotten.

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8.2 List of Illustrations

Ill. 92: Auckland Council - Downtown framework 2014
Ill. 93: Auckland Council - Downtown framework 2014
Ill. 97: http://s1.eventfinder.co.nz/uploads/locations/transformed/186171-10242-34.jpg
Ill. 98: http://1.bp.blogspot.com/_VCVdBsbHtAs/SzGBWYSwSRI/AAAAAAAAAvQ/o5n-9Pwtxl0/s400/Winning+design.jpg
Ill. 99: http://practice.architectus.com.au/2012/02/queens-wharf
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Ill. 101: http://s1.eventfinder.co.nz/uploads/events/transformed/276515-148044-34.jpg
Ill. 102: http://cdn.3news.co.nz/3news/AM/0-Articles/226235/crowd.jpg?width=700
Ill. 103: http://www.poal.co.nz/news_media/gallery.htm
Ill. 110: http://www.queens-wharf.co.nz/queens-wharf/shed10/?redirect=1
Ill. 114: http://www.landezine.com/index.php/2015/04/campus-park-garden-office-of-james-burnett-landscape-architecture/the_annenberg_center-information_science_technology-ojb-03/
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The rest of the illustrations including photos are the authors own illlustrations and photos.

The Design Case

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Ill. 11: http://www.landezine.com/wp-content/uploads/2014/03/Ulus-Savoy-Housing-by-DS_Architecture%E2%80%93Landscape-10.jpg
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Ill. 16: http://www.landezine.com/index.php/2010/09/roof-of-oslo-opera/operahuset-oslo-opera-house-snohetta-13/
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Ill. 18: http://red-dot.de/pd/wp-content/uploads/onex_2013/big/12-7871-2013-2.jpg
Ill. 20: http://cdn.archinect.net/images/1200x/lr/lrfguccsijggzox1.jpg
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APPENDIX