

US. OURS.

YU'I KÓRSOU.

WE. LOCALS.

NOS. MINE.

OURSELVES.

## **PLACES FOR US**

YDK. OURS.

Exploring Urban Design Principles for the locals of  
Willemstad

YU'I KÓRSOU.

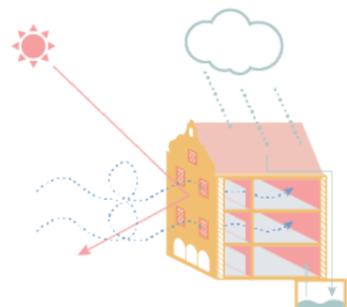
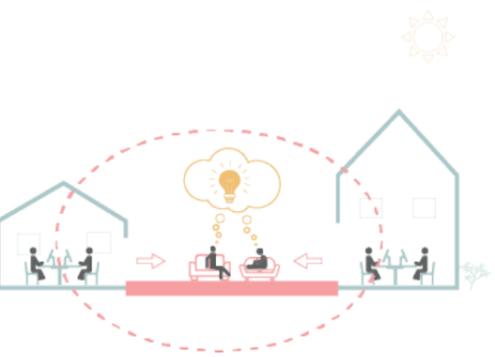
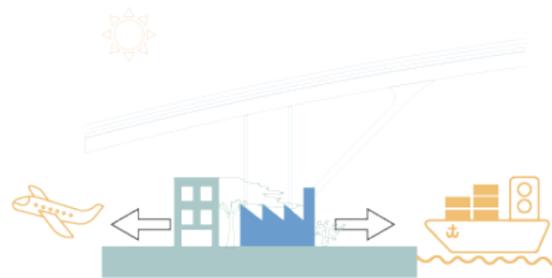
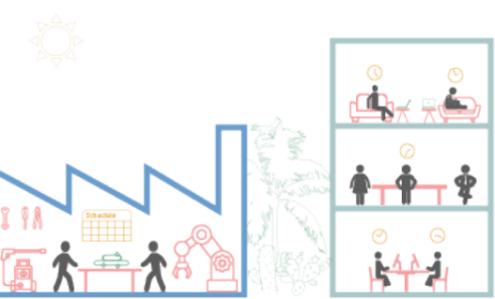
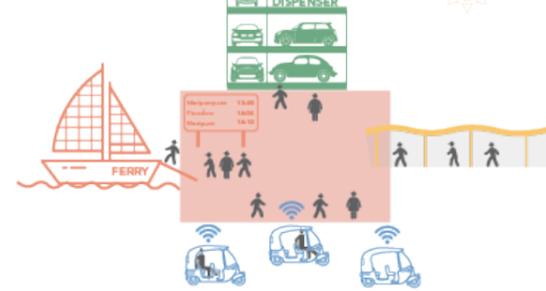
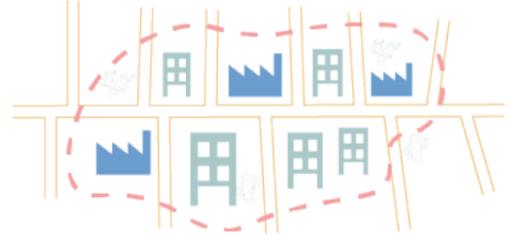
WE. LOCALS.

YDK. OURS.

NOS LUGÁ.

**RASHID AYOUBI**

YU'I KÓRSOU



## Master Thesis

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Oktober 2021

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Studio: Planning complex cities

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This project takes a critical look at the relationship between Willemstad's quality of place and the socio-economic, socio-cultural and environmental well-being of its local population. As a reaction, a set of Urban Design Principles for US (the locals) are proposed.

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## **PART A: CONTEXTUALIZE**

**Chapter 1: Small Island Cities**

**Chapter 2: Problem Definition**

**Chapter 3: Aims, Concepts and Methods**

# Small Island Cities

- 1.1 Small Islands in a Globalized World
- 1.2 Urbanization on Small Islands

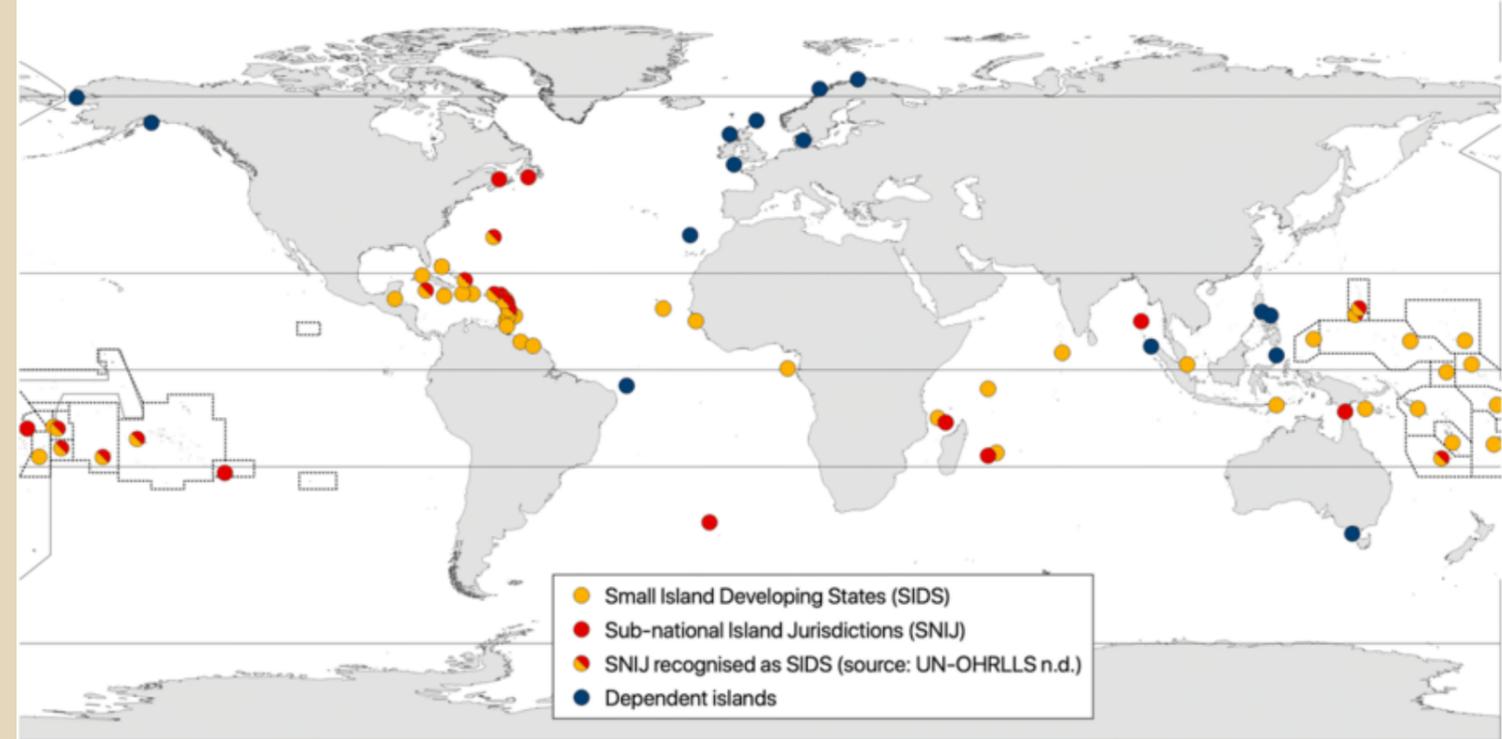


Fig.1: Distribution of Small Island Developing States over the globe (source: ResearchGate)

By now it has become clear through research that small islands deal with peculiar conditions due to their geographical characteristic of small scale and insularity. This geographical given tends to have specific effects on the economic, social and environmental context of urban settlements on small islands, that differ from cities located on the “mainland”. In recent years, there has been a rise in research that focuses on understanding these specificities. However, their physical built environment / urban spatial structure has not received as much attention in research and it remains unclear how this aspect is linked to small islandness and the lives of their inhabitants.

## 1.1 Small Islands in a Globalized World

We live in a globalized world where everything is connected. There are large streams of products, information, capital and people continuously crossing international borders. This goes hand in hand with a process of urbanization and the creation of large urbanized areas, housing millions of inhabitants at a time. In between these large and interconnected processes, we find the small island developing states (SIDS).

SIDS are defined by their geographical small scale and insularity from the rest of the world (Briguglio, 1995). For a long time, small islands have been studied from the perspective of ‘mainlanders’. Causing small islands to be peripheralized, or treated as a testing ground for new ideas (Grydehoj et al., 2015).

In recent years there has been a rise in research that tries to understand the world from the perspec-

tive of small islanders. This field of research goes by the premise that due to their geographical characteristics, small islands face unique economic, social and environmental conditions when participating in the globalized world.

It can be argued that typical approaches to development that function on the mainland and which are often superimposed onto SIDS by mainlanders, are bound to fail due to their misalignment with these unique conditions (Baldacchino, 2008). Therefore, SIDS require their own custom approach to development, that carefully takes these specificities into consideration.

In the following section I will discuss each of these layers of vulnerabilities separately in order to get a better understanding of the specific context and challenges facing Small Islands.

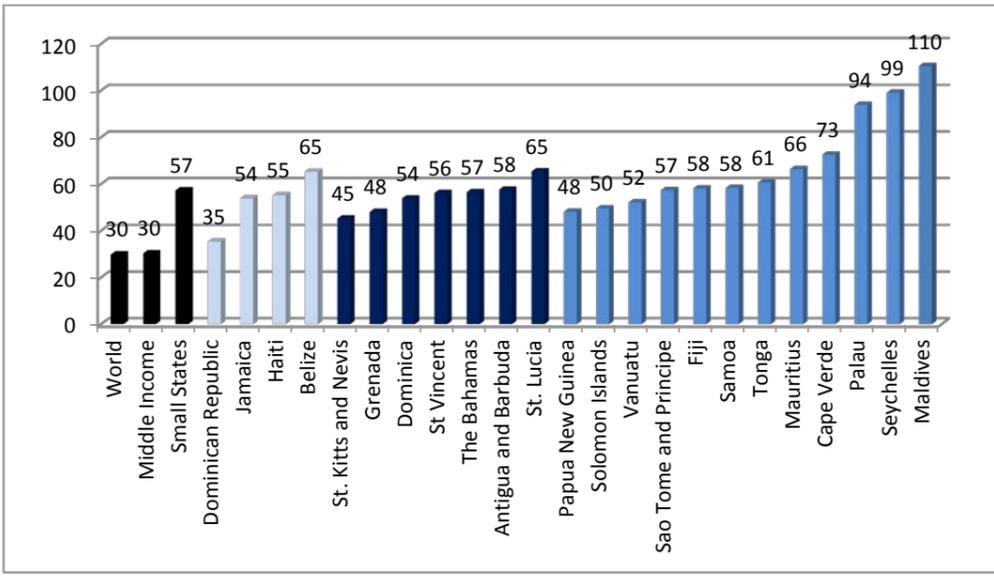


Fig.2: Imports of Goods and Services SIDS - Percent of GDP (2011) (source: World Bank Data)

### Small Island Economies

As a result of small scale, the majority of SIDS deal with an economic dilemma. They often lack the natural resources needed to produce enough quantity and variety of goods, to meet the consumption demand of their local population (Briguglio, 1995). This of course is common for any modern globalized state however, this dependency on imports is relatively high amongst SIDS (fig.2).

On the flip side, there is also a lot of pressure on the performance of their export sector, to compensate for the large outflow of capital spent on imports. Therefore, in order to achieve a scale of production that can compete with larger global states, exports on SIDS are typically concentrated in a very small number of products, usually in the service sector. This creates an all eggs in one basket situation, where the failure of one export product can have drastic negative economic consequences, causing an economic vulnerability for the island and its inhabitants. This can be caused by internal factors and unpredictable disturbances in the global economy. Furthermore, SIDS also have a relatively large dependency on foreign investments in order to keep

their economies going, especially in the export sector.

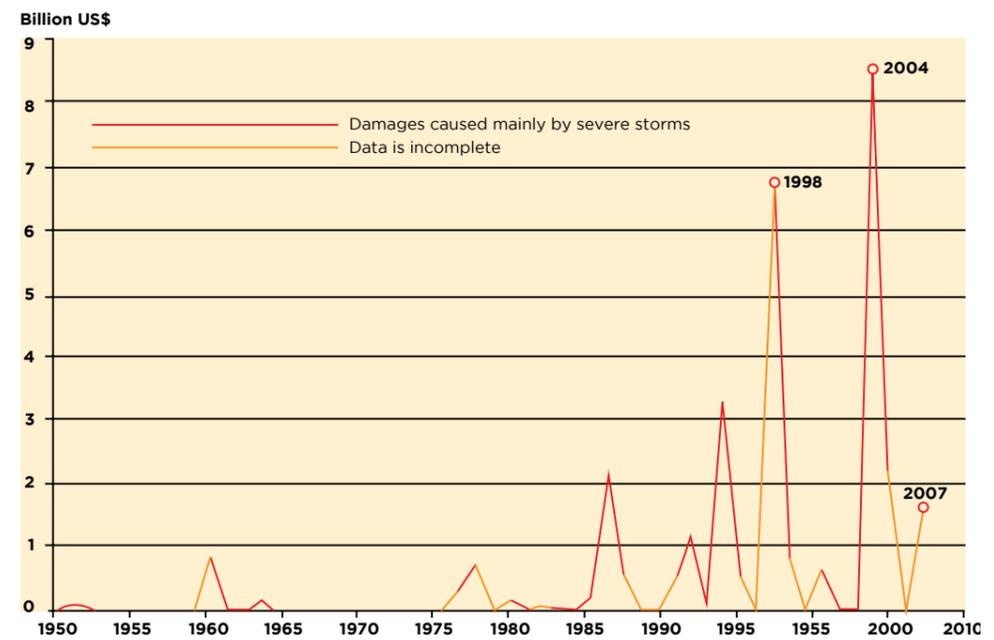


Fig.3: Natural Disaster economic damages in the Caribbean (source: Boto & Biasca (2012))

### Small Island Environments

When it comes to the environmental vulnerability of SIDS, a distinction can be made between natural threats as a result of climate change and environmental destruction as a direct result of economic activity (Briguglio, 2003).

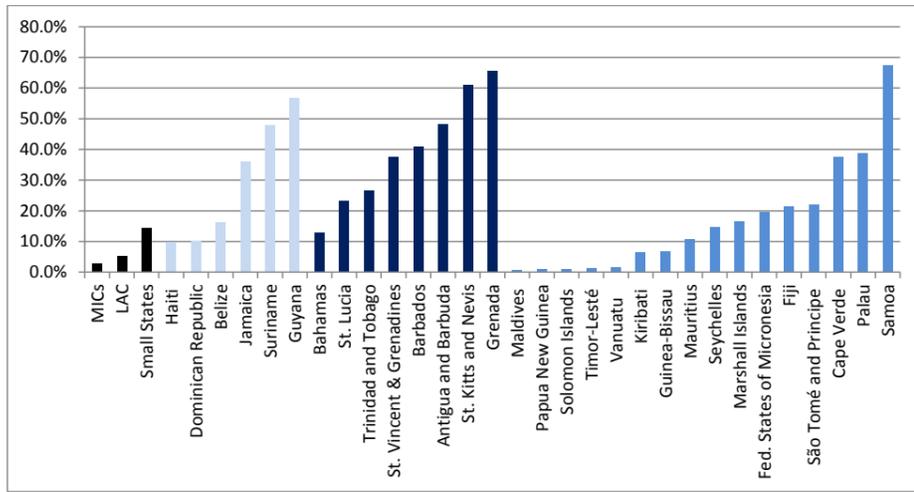
Small islands have a lot of activity occurring close to the coastline, due to their small size. Therefore, they tend to be very vulnerable to environmental threats coming from the sea, mainly rising sea levels, hurricanes and tsunamis. This vulnerability is intensified by climate change (fig.3). Research shows that SIDS are more susceptible to the negative effects of climate change when compared to mainland states, despite their relatively small contribution to this problem (Boto & Biasca, 2012).

The type of economic activities often conducted on SIDS, with tourism being the common denominator, are also known to put major pressure on the natural environments of Small Islands. Islands tend to have small populations of unique species in their ecosystems, due to their insularity (Briguglio, 1995). The destruction of these ecosystems caused by eco-

nomc development can quickly lead to extinction.

It is important for me to highlight here that there is a clear link to be found between the economic and the environmental vulnerabilities of SIDS. Where their dependency on developing a viable export sector, leads to economic activity that causes environmental threats like pollution and destruction of ecosystems. On the flip side, natural disasters can completely disable the economy of a small island.

Chart 3: Emigration Rates for SIDS – Percent of Population (2010)



Source: The World Bank: Migration and Remittances Factbook 2011

Fig.4: Emigration Rates for SIDS - Percent of population (2010) (source: The World Bank: Migration and Remittances Factbook 2011)

### Small Island People

In literature, the people of SIDS are often described as being vulnerable to the direct consequences of the economic and environmental vulnerabilities of SIDS described above. Meaning that the sudden economic downfall of an export sector, shortages in imports due to external factors or natural disasters for example, could all directly have a negative impact on the well-being of islanders.

While the economic and environmental conditions of SIDS are clearly defined within literature, the social and cultural context of Small Islands has received less attention. There is very limited or no research that grasps the overarching social context of SIDS inhabitants themselves. However, there is research to be found on specific geographical regions of SIDS. Here, I will briefly mention research on the people of SIDS in the Caribbean, as this thesis will focus on the city of Willemstad, located in this region.

Jaffe mentions that social and cultural conditions in the Caribbean are highly affected by their history of colonialism, unfree labor and institutionalized racism, quoting Trouillot; 'Caribbean societies are inherently colonial ... their social and cultural characteristics .. cannot be accounted for, or even described, without reference to colonialism' (Jaffe, 2008).

Furthermore, the World Bank highlighted the following specific socio-economic challenges facing the people of the Caribbean islands today (Williams et al., 2013);

- Lack of sufficient education for the labor market
- Emigration being larger than immigration, especially of high-skilled workers (Brain Drain) (fig.4)
- High poverty levels, especially amongst women and children.
- Large populations of elderly people in the near future

[Outside of literature, there does seem to be a type of culture/behavior associated with small islands. Terms like 'island time', refer to a certain sense of relaxedness, informality or even laziness that is often associated with small islanders. This is, however, posed upon small islands by 'mainlanders', yet it probably holds some truth but is not a complete picture. More research is needed on this topic.]

So, The health and well-being of Small Islanders, specifically those in the Caribbean, is threatened due to a unique combination of conditions; Economic dependency on imports, exports and foreign investments that are highly susceptible to external shocks. Natural disasters coming from the sea, pollution and destruction of ecosystems. While dealing with socio-economic and cultural conditions that have been shaped by a history of colonialism, racism and slavery. [All while the rest of the world generally misrepresents small islanders as people who are chilling and living the good life.]

The lack of attention that is given to the well-being of islanders and their need for developmental solutions that are custom made for their specific set of challenges is what inspired me to give them a central position in this thesis.

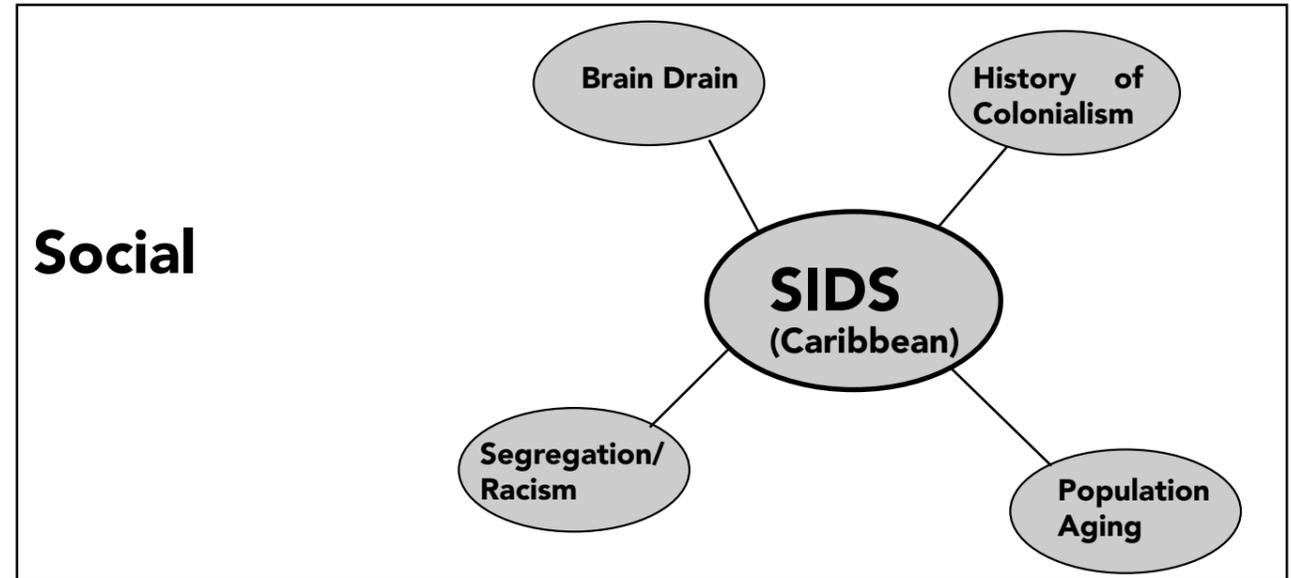
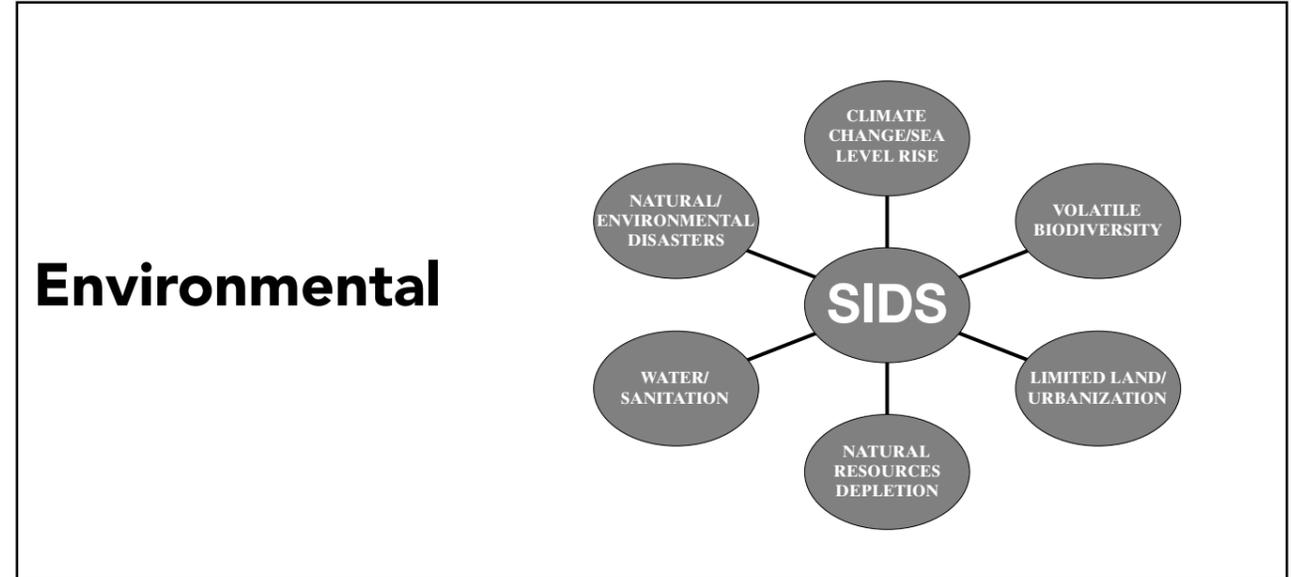
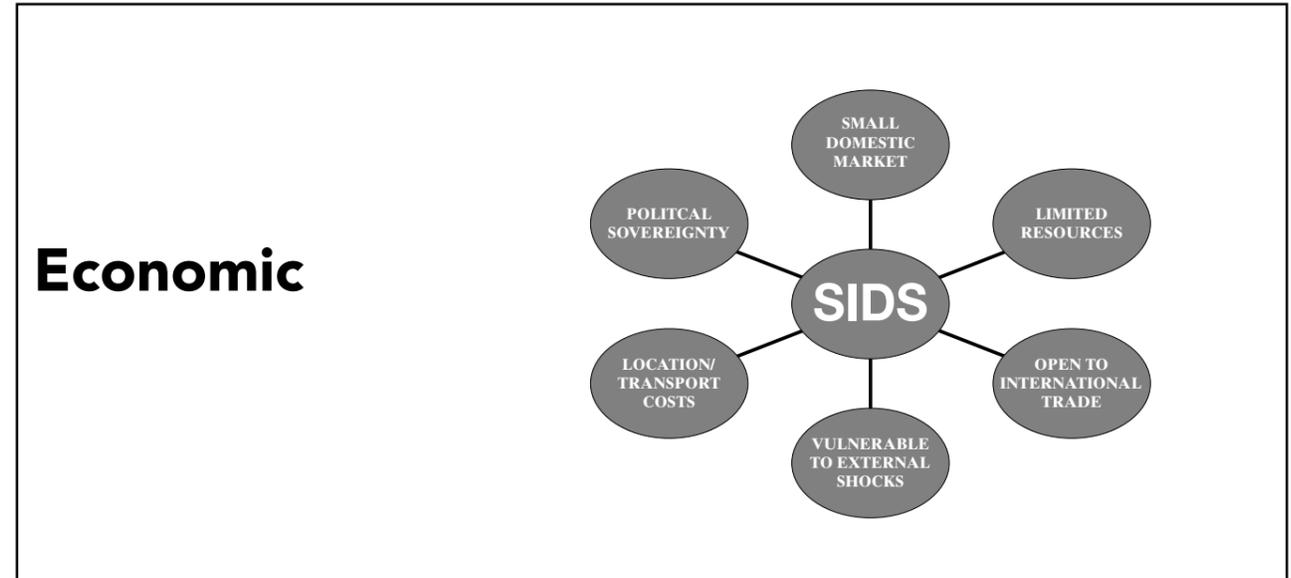


Fig.5: Overview of the Economic, Environmental and Social vulnerabilities of SIDS (source: Liam Campling + Author)



Fig.6: A variation of Small Island Cities: Bridgetown (source: Barry Haynes), Apia, Victoria City, Singapore City (source: Shutterstock), Male City (source: Vecteezy)

## 1.2 Urbanization on Small Islands: Knowledge Gap

This section discusses the knowledge gap on the built environments of small island cities and why it is relevant to address this gap.

In research about SIDS there is an aspect that really caught my attention; namely the divide that exists between how ‘mainlanders’ perceive small islands and the perception that ‘islanders’ themselves have of their own conditions (Chapman, 2011; Grydehoj et al., 2015). For many years islands have been seen by mainlanders as their periphery. Places that can be used by them to achieve their economic or social goals. Or testing grounds for their new ideas. They have failed to see that islands in themselves are centers of economic, social and cultural activities.

Speaking from my own experience as an islander who has moved to the mainland, the perception persists amongst many mainlanders that small islands are these beaches with coconut trees where people just chill and live a good life. Although admittedly there is some truth to that, it completely disregards the socio-economic and environmental struggles that many small island communities face. On the other hand, I have also experienced mainlanders who have been to islands and observed

these struggles. However, when proposing strategies for the development of islands, they fail to take into account the specific economic, social and environmental conditions of islands. Instead they try to impose strategies that have worked in the mainland onto islands. This is a recipe for disaster. Yet it happens a lot, as mainlanders in many cases still determine the development of islands due to neo-colonialism and economic dependencies.

This also counts for the spatial context of islands. Islands, for a long time already have been experiencing significant amounts of Urbanization (fig.6). However, little is known about how urbanization happens on islands (Chapman, 2011; Grydehoj et al., 2015; Jaffe, 2008). Within research, this knowledge gap has been acknowledged, however the field of ‘Island Studies’ is still emerging and much is yet to be discovered. “...The papers also, however, highlighted just how little research has thus far been performed on how islandness affects urban development and how urban development affects islands, thereby emphasizing the need for additional study” (Grydehoj et al., 2015). The main idea behind this new field of study, as I understand it, is that because small islands face very specific eco-

nomie, environmental and social conditions, so do their Urbanization. As there is a strong relationship between urban spatial structures and economic, social, environmental conditions in a city. However, it requires a complete rethinking of what we consider to be urban. To quote Grydehoj et al. (2015) again; “... ‘the urban’ now encompasses not just the usual suspects (like New York City and Mumbai) but also remote and sparsely inhabited islands (like Greenland and Kiribati). Indeed, small island spatiality may encourage exceptionally comprehensive urbanization even in communities typically regarded as extremely peripheral, highlighting the need for improved urban governance and understanding of the drivers and impacts of urban development.” At the same time (Chapman, 2011) also warns that there is great variety between the conditions found on the many small islands across the globe and therefore also great variety in the way they urbanize.

In this thesis I will be taking a closer look at the city of Willemstad, located on the Small Island of Curaçao.

# 2.

## Problem Definition

- 2.1 Historical Narrative of Willemstad: Spatial Development for who?
- 2.2 Willemstad's Locals: Specific Socio-Economic, Socio-Cultural and Environmental Conditions
- 2.3 Willemstad's Quality of Place: The Unknown faith of the built environment
- 2.4 Problem Statement

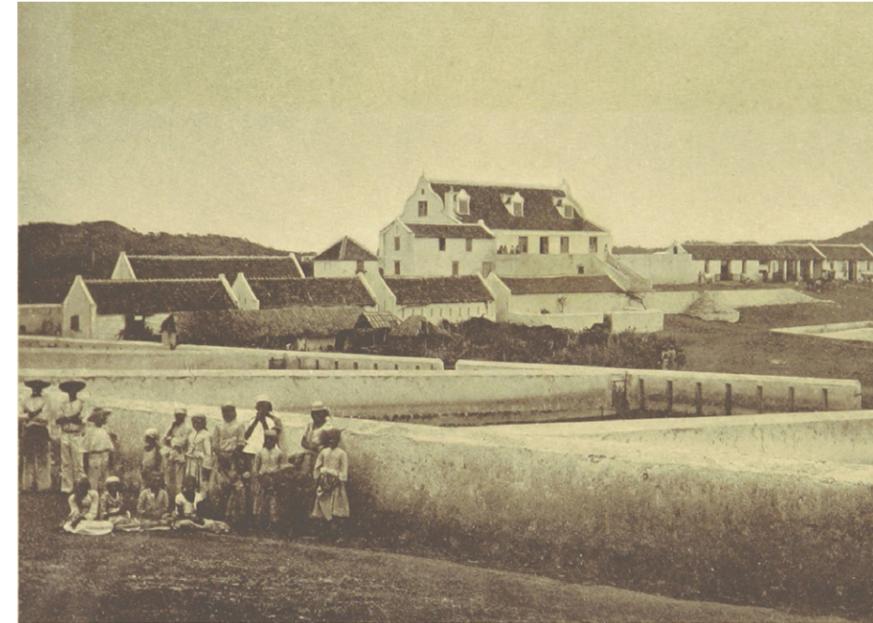


Fig.7+8: Contrast between housing for land owners and slaves on plantations outside of the historical city (source 1: Flickr) (source 2: n.a.)

### 2.1 Historical Narrative: Spatial Development for who?

This section will take a critical look at the history of spatial development in Willemstad and its effect on the well-being of different groups of people that have inhabited the island city since it was started back in 1634. This analysis will highlight 3 different era's of the city's history, where specific types of economic activities directly and indirectly caused spatial developments of the city to take place. The point is to show how the spatial context of the city is linked to the economic, social and environmental conditions of the island's inhabitants throughout its history. Input for this historical narrative was provided by (Allen, 2007; Gill, 2008; Goede, 2008).

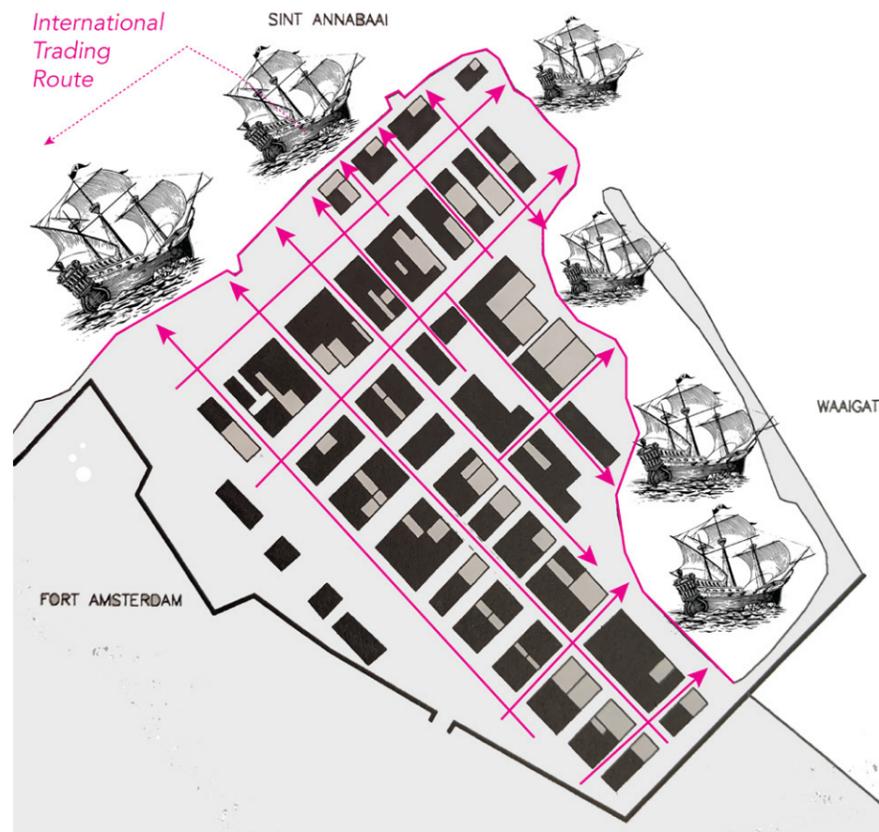


Fig.9: Spatial Structure of the old port city that facilitated its export function. (ca. 1700)

## 1634-1864: The W.I.C. Period

What is quite notable about Willemstad and to a certain extent concerning, is that the main goal behind building the city was purely an economic one, coming from foreign merchants who previously have had no other kind of (cultural/social) affiliation with the island.

Willemstad was established with a specific purpose by the Dutch West Indian Trading Company (W.I.C.) back in 1634; To be a strategically located and safe open port, where merchants can import goods coming from Africa and South-America and in turn sell them to other merchants headed toward the rest of the Caribbean region, North America and Europe. Unfortunately, a large percentage of these 'goods' were African Slaves. It did not take long before slave plantations were established on the island itself. During this time, there was a very clear systematic racial segregation between white Europeans, Jews, Afro-Caribbean slaves and the so called Mulatos (Mixed-Race). While the European and Jewish communities were allowed to participate and benefit from the profitable economic activities happening in the port, the Afro-Caribbean population were deprived of basic human rights. They were used for unpaid labor and were not al-

lowed to openly practice their cultural and religious activities. They were subjected to inhumane living conditions.

With this goal in mind, historical Willemstad was built. Analysis of the functional and morphological urban structure of old Willemstad also clearly shows that the city was optimized to fulfill its economic goal (fig.9). The city was also quite successful at doing so, becoming one of the most popular ports in the Caribbean when it came to trade.

However, when we take a look at the social conditions within the old city and compare them to the social standards and values that we hold today, the city all of a sudden becomes less successful. The main culprit here being the extreme forms of racial segregation that was present in the city. Generally speaking there was a clear division between the White European, Jewish and Afro-Caribbean (former African) people. This expressed itself in not only social interactions but also laws and human rights, with the black population being socio-economically, politically and culturally repressed and stripped from their freedom. Most notably for this

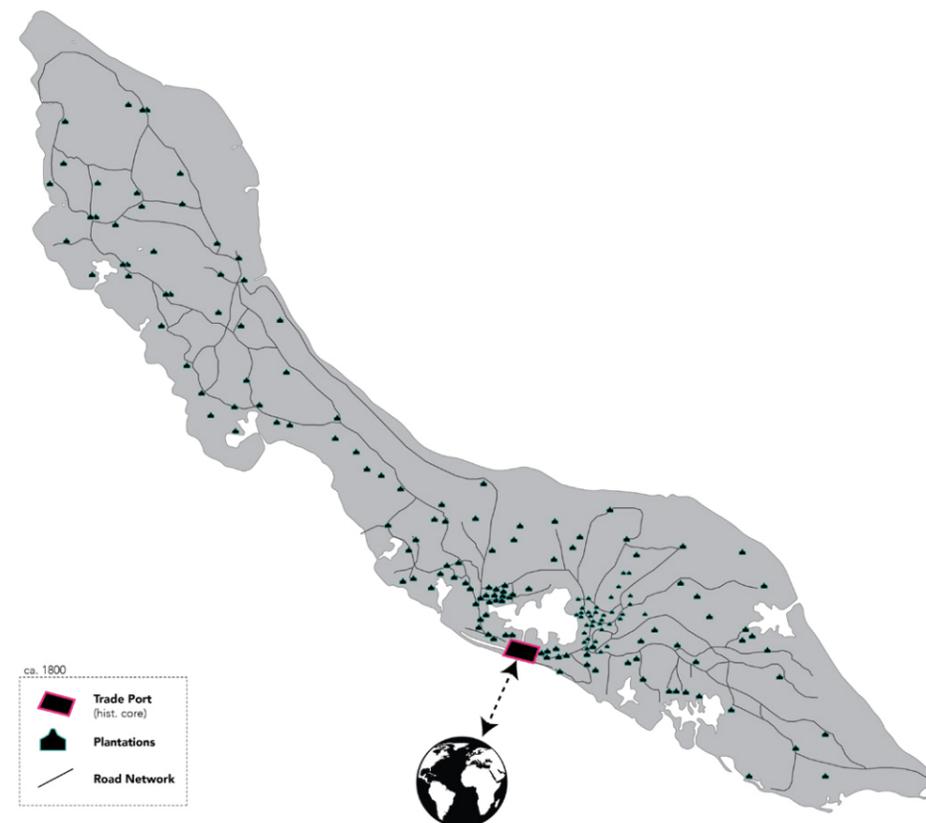


Fig.10: Network of slave plantations outside the walls of the historical city. (ca. 1800)

thesis, is that this segregation also expressed itself in the spatial structure of the city. Meaning that people from European, Jewish and Afro-Caribbean descent respectfully had their own segregated spaces within the city where they were allowed to live and participate in economic, social / cultural activities.

Furthermore, outside of the city walls, this segregation continued in the form of a widespread network of slave plantations (fig.10). A handful of these plantations served an economic purpose however, the majority of these plantations were used for leisure by merchants to temporarily escape the life within the port city.

On the plantation themselves, there was a clear distinction between luxurious living spaces for the European or Jewish owners and small living spaces for the Afro-Caribbean slaves. While on a larger spatial scale, the Afro-Caribbean plantation workers were not even allowed to enter within the confines of the port city in order to profit from its socio-economic and socio-cultural opportunities.

Also worth mentioning here, is that due to the dry and arid climate of the island and lack of natural

resources, plantations outside of Willemstad were not very successful at producing food and goods. Therefore, since initiation, all the people in and around Willemstad were highly dependent on imports to meet their consumption needs for both food and products. This became evident after the abolishment of slavery in 1864, when the port of Willemstad was no longer running on a profit and was unable to afford the import of foods and goods. This resulted in a 50 year long period of famine on the island.

In fear that the now free slaves would retaliate against their former owners and oppressors, the Dutch government instilled the Catholic Church to systematically tame their behavior through the fear of God. As they formed the majority of the island's population. With this came a period where hints of urbanization started appearing outside of the old city walls. As these free slaves would leave the plantation and start settling in housing adjacent to churches that were built outside of the city by the catholic mission. In combination with schools for their children.

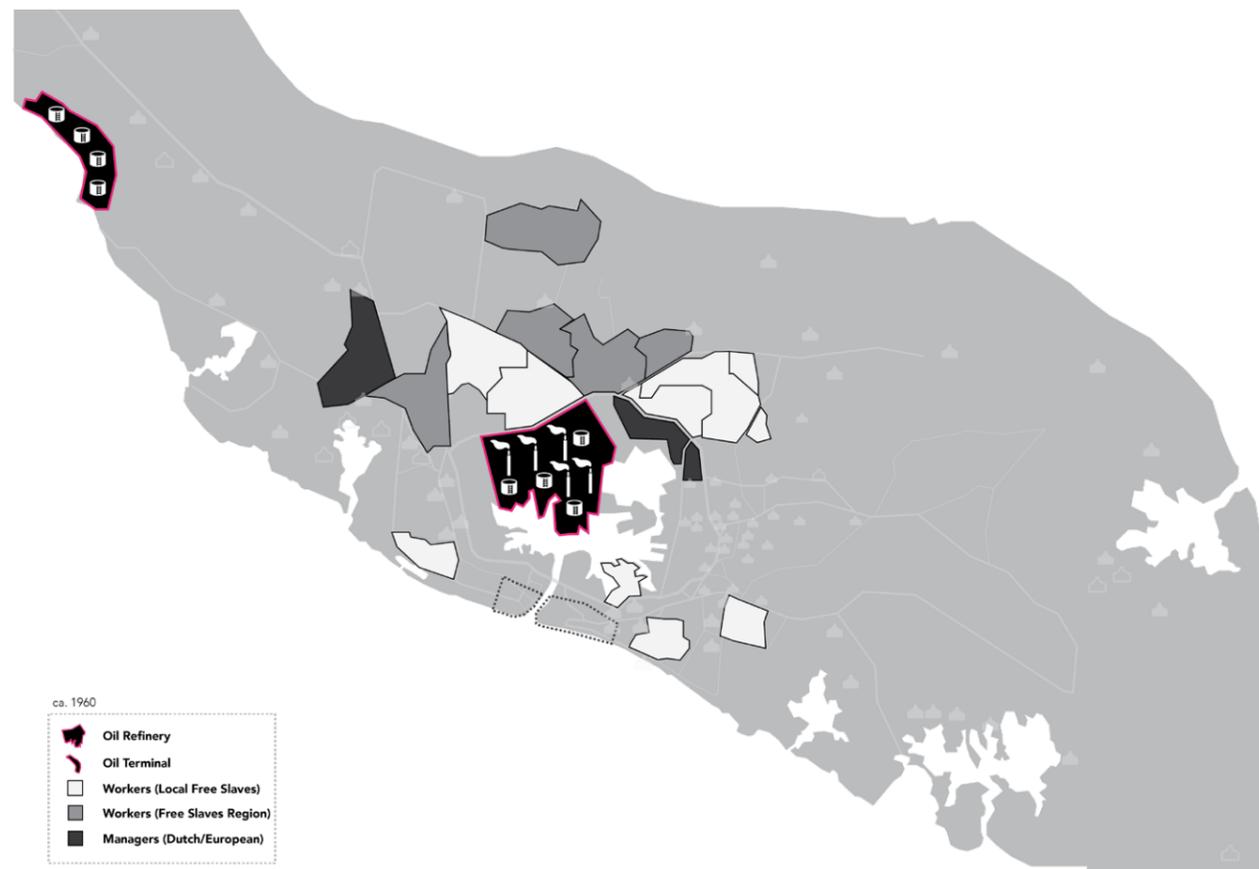


Fig.11: Segregated "oil neighborhoods" built between 1920-1960 to house the sudden influx of oil refinery workers

## 1920-1970: The Shell Period

In need of a strategic location to store, refine and sell crude oil from oil-fields of Venezuela to a wide variety of countries and companies across the world, the Royal Shell Company in collaboration with the Dutch government, built an successful oil refinery in the port of Willemstad in the 1920's.

This refinery of course needed workers and caused a large influx of migrants from Europe, the Caribbean region and even the Middle East and Asia. In a period of 50 years between 1920-1970, the population of the island grew from 20,000 free slaves and merchants, to 150,000 inhabitants.

Following the same pattern as the W.I.C. in the previous 250 years, this expansion was also formed on a basis of systemic socio-economic and socio-cultural segregation. With a general divide between European workers, who took high paying managerial functions and Afro-Caribbean workers who were only allowed low-wage functions within the company.

This economic development also came hand in hand with spatial development. On the one hand there is the refinery itself and adjacent shipping infrastructures, which took up a relatively large

amount of space, when compared to the historical city center. At the same time, the large influx of migrants also needed a place to live. As a result, housing neighborhoods were built adjacent to the refinery. These new neighborhoods, of course, were also segregated. With a distinction being made between neighborhoods for the European managers, with larger houses and gardens, neighborhoods for local ex-slaves turned refinery workers and neighborhoods for low-wage workers who migrated to the island for this purpose (fig.11).

Life on the island was no longer only concentrated in the old Willemstad however, most of the urban functions, especially the essential local commercial functions (due to import dependency) were still concentrated in the historical Urban Core.

Also worth mentioning is the fact that the oil refinery also brought copious amounts of air-pollution, which affected all inhabitants of the island due to them living in close spatial proximity to the refinery.



Fig.12: Gated Community with high concentration of foreign-born owners and managers of internationalized businesses (source: Bonbiba)

## 1970-2000s: Offshore Banking and Tourism

In the 1970s, as the oil refinery was nearing the end of its glory days, the craze of using small islands as tax-havens, also hit Willemstad and an offshore banking sector was created on the island. As the local Afro-Caribbean majority of the population did not have the education needed to fulfill these new economic functions and remnants of racial segregation still lingered, there was an influx of foreign, high-skilled entrepreneurs and workers who took these functions and the corresponding financial gains.

It was also around this time that the tourism sector of Willemstad started to settle, though it would take till the 90's for it to start experiencing significant growth. This new export sector also contributed to the influx of foreigners who migrated to the city to work in these establishments. On the one hand there were European migrants who took ownership and managerial functions in new hotels and resorts, while people from the region (Caribbean, Latin-America) came to do low wage labor.

The obvious spatial consequences of these devel-

opments were; Office building being made and the reuse of monuments from the slave-trade era as offices. This also started the trend of building large hotels and resorts mainly along the south coast of the city.

On the other hand this also started a trend of building gated communities to house the high skilled and high earning foreign workers (fig.12). The reasoning behind this was to provide some type of protection against the rest of the local population of the city, who during this time was experiencing a rise in crime and violence as a result of difficult socio-economic conditions.

The hotels and resorts mentioned above, would later also turn out to be a significant source of pollution, especially for the city's marine ecosystems.

During this period, Willemstad expanded from being an oil refinery with a couple of 'oil neighborhoods' around it, to the continuous low density urban area that it is today.



Fig.13: Blue Bay Beach as accessible public space in the 1970's. (source: 'Cirkel' on autoweek.nl)

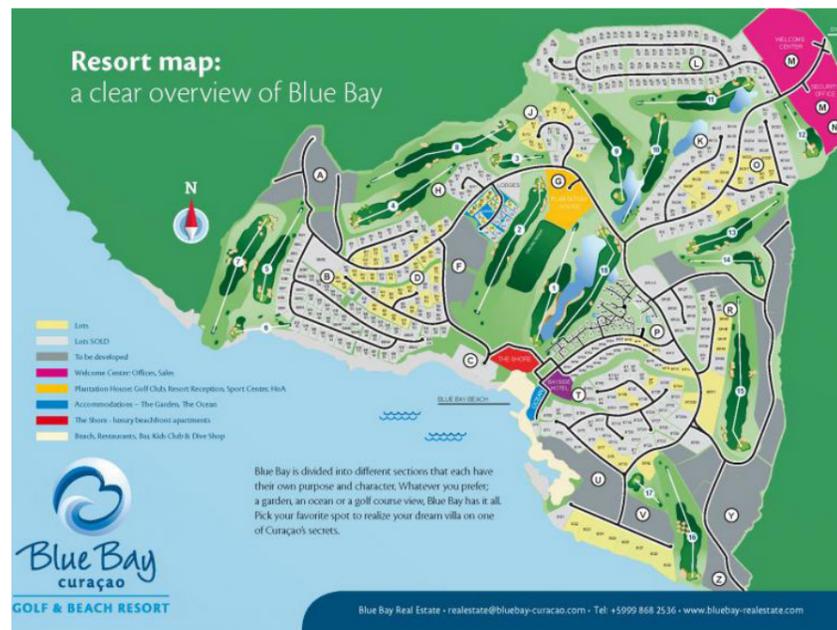


Fig.14: Gated luxury housing and hotel built around the Blue Bay Beach in the 1990's. (source: Blue Bay Curaçao)

### Spatial Development for who?

This historical narrative serves as the motivation for the rest of this thesis. It shows that throughout the history of Willemstad, there has been a repeating pattern; Foreigners, interested solely in bettering their own financial situation, using the city's resources to successfully establish their international (export) business. While a marginalized majority of the city's population unwillingly has to deal with socio-economic, socio-cultural segregation and environmental pollution as a result of these activities.

Furthermore, and most interesting to me as an urbanist, is that the spatial context of the city has consistently played a significant role in this repeating pattern; The urban structure of the city and its spatial resources were built and used to support the economic activities of foreign developers. At the same time, the different forms of segregation that were going on within the city's population were also embedded within the city's urban spatial structure. Additionally, these spatial structures have also caused pollution and depletion of the city's ecosystems, which in turn has affected the health of inhabitants then and now.

As a local of Willemstad, I know that most of the economic, social and environmental conditions mentioned above, that in the past have challenged the well-being of our ancestors, still echo in the city till this day. At the same time they have shaped us into who we are today, a community of people that I dare say are proud of who we are.

However, uncovering the close interconnectedness between Willemstad's spatial context and the well-being of it's inhabitants in the past, sparked a curiosity in me to further explore this relationship between the locals and their quality of place now and in the future.

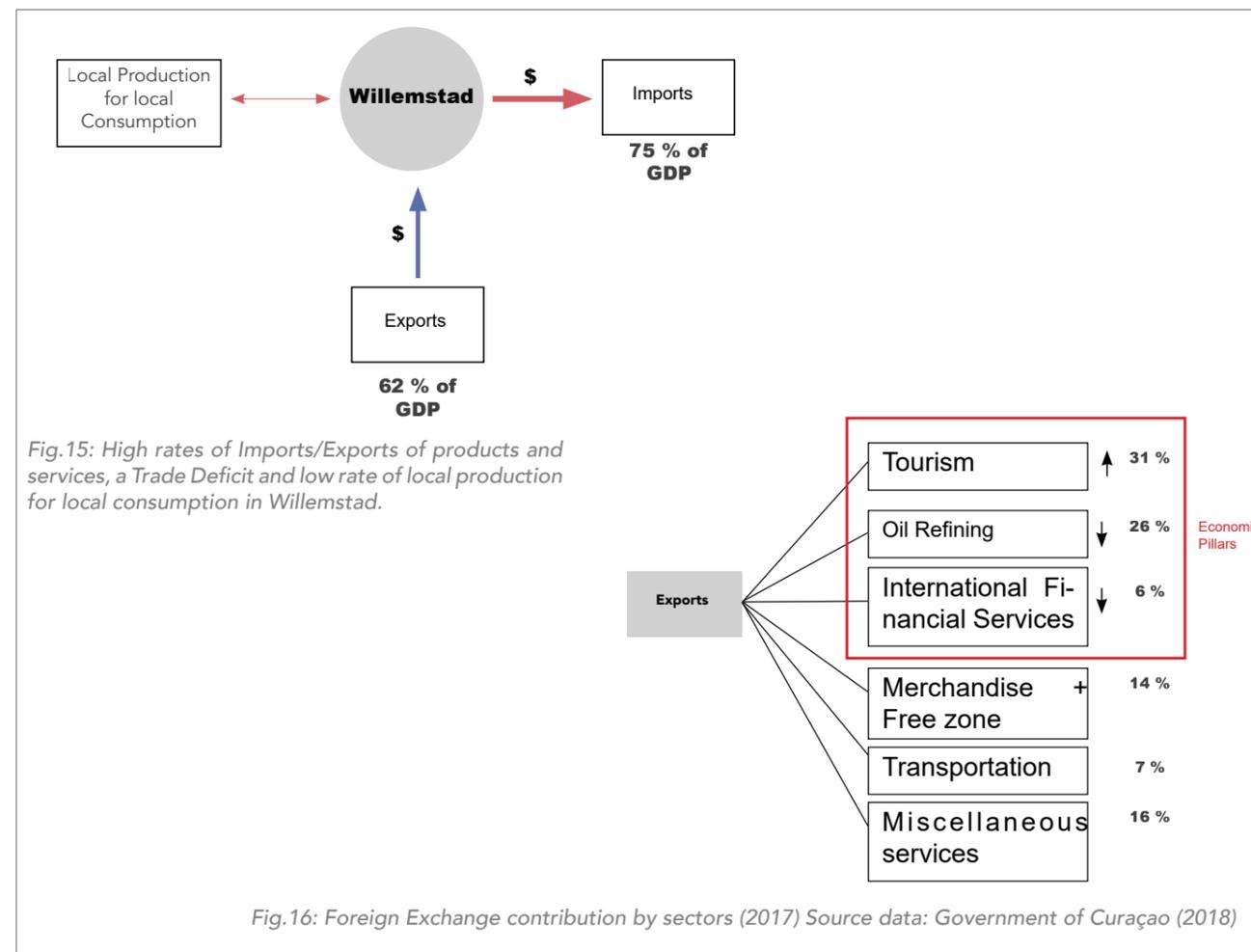
## 2.2 Willemstad's Locals: Specific Socio-Economic, Socio-Cultural and Environmental Conditions

This section will introduce the current social, economic and environmental conditions of Willemstad. These are the non-spatial conditions that will be the focus of this thesis. As I am a local of Willemstad, interested in improving our living conditions, the focus of this project is on how these specific factors affect the well-being of locals. Later in this thesis I will be taking a closer look at how these conditions are embedded in the spatial context of Willemstad.

### Specific Context of Willemstad's Locals

The previous section has shown how Small Islands and their inhabitants deal with a set of unique living conditions. This section will zoom in on Willemstad. Willemstad is the only city located on the small island state of Curaçao. Having grown up in Willemstad myself, I have observed how the side effects of living on a small island in the Caribbean have affected the economic, social and environmental well-being of our people. Though living on a tropical island definitely has its advantages, there are also specific challenges and vulnerabilities facing the people of Willemstad that can oftentimes overshadow the advantages. Furthermore, the persistent lack of tailor made solutions, that take into account the uniqueness of these challenges, has been a continuous source of frustration for me as a local of Willemstad. And I am not alone, as conversations between locals of all ages and socio-economic backgrounds reveal that this frustration is common knowledge and has been for a few decades already. So much so that there seems to be a sentiment of powerlessness and hopelessness amongst locals when it comes to the future of the city's overall development.

In this section I will highlight some of the most relevant economic, social and environmental conditions that are currently affecting the local population of Willemstad. Then, inspired by theories on 'the right to the city', I will question the role that the spatial context of the city currently plays when it comes to the well-being of locals. These factors of course are not the only factors affecting the livelihood of locals, however due to the lack of research that summarizes the most relevant factors, these are the factors that I have found during my exploratory research and that have some kind of interconnectedness with the spatial context of the city.



### Import Dependency

As we learned, small islands have a particular economic vulnerability that is summarized here as a relatively high dependency on imports and exports when participating in the global economy. Willemstad is no exception.

The city and its population almost exclusively relies on imports to get consumer goods and support their current living standards. The import of goods in Willemstad is currently 45% of the GDP, while the import of services amounts to just over 30% of the GDP, summing up to \$1.7 billion USD in 2018 (Government of Curaçao, 2020).

In 2018 there was a food shortage in the city, caused by political turmoil in Venezuela. As Venezuela at that time was one of the main suppliers of fruits and vegetables to the city, their decision to shut off borders had a direct effect on the food supply and with that, the well-being of the local population of Willemstad. Though alternative suppliers were eventually found in other countries, this shows that larger-scale turmoil in the global economy or geo-political processes could potentially leave the

local population without food.

On a day to day level, locals of Willemstad do not benefit from the growing phenomenon of e-commerce, when compared to inhabitants of larger, more connected cities. Due to small islandness, shipping times for products that are ordered online by individual locals on platforms like Amazon, can often last weeks. While in other cities it will be there the next day. Furthermore, locals end up paying significantly more for their products due to high shipping costs and taxation.

### Exports as Main Source of Income

This means that there is a large flow of capital leaving the city to pay for these foreign goods and services. This is compensated for by selling products and services to international consumers i.e. exports. This puts a lot of pressure on the export sector to perform, as its failure to generate capital will result in a negative trading balance. To quote the Government of Curaçao (2020); "Curaçao is running a large current account deficit. This deficit is being driven by a large trade in goods deficit (i.e. the country is importing more goods than it is exporting)".

In the past there has been a large emphasis on economies of scale in the global economy. Meaning that the ability to compete against other cities in the export sector, relied on making as much as possible of one product in order to reduce production and transportation costs. Willemstad is no different. In the past decades it has had 3 pillars supporting its economy, all of them being in the export sector; Oil Refining, Financial Services and Tourism. In 2017 tourism alone accounted for 31% of income from foreign exchange (Government of Curaçao, 2020). Unfortunately, the other two pillars have been experiencing a downfall and their future remains unclear. The oil refinery is caught in the middle of a geo-political battle and the infrastructure itself is in bad technical condition. At the time of writing this thesis it is closed, awaiting its fate. The financial sector, which specializes in offshore banking, has been experiencing a slow decline since the 80's, as favorable global financial loopholes get patched.

These export sectors do not only give locals a significant amount of employment, but they are also the main source of income for the city and its government. Therefore, it is essential that the export sector functions well, as locals directly get paid for working within this sector and the government uses money that they earn from taxing export businesses to support the city's further development. However, the export sector, in the last few decades, is continuously in a state of struggle and uncertainty, leaving the financial well-being of locals in a similar state. It is clear that a solution is needed and the government has recently emphasized this by publishing a new National Export Strategy (NES). In this document they call for a diversification in the city's export sector and facilitation of entrepreneurship and innovation (Government of Curaçao, 2020). According to this document the national government will be putting its efforts into creating and facilitating new export products for the city.

### Colonial Past and Segregation: Locals vs Foreigners

The historical narrative above has show how throughout the history of Willemstad, there has been a racial segregation and systematic oppression within the local community. This systematic oppression, at least symbolically ended with the riots of 1969. These riots brought an end to institutional oppression through laws. Throughout the history of the city a transition has taken place in how this segregation manifests itself. In the beginning there was a clear segregation between the Black Afro-Caribbean majority and the upper-class white European (mostly Dutch). Furthermore there was a very clear segregation within the social, cultural and economic spheres. Now this has changed and transitioned to segregation between "locals" and "foreigners". In reality this distinction is complex, as there are white families who have been on the island for centuries, who are still seen as foreigners within the social fabric. While there are families of Afro-Caribbean descent who have lived on the island for all but 2 generations, who are seen as locals. And to be honest it is difficult for me to provide a confident definition of who is a local and who is a foreigner. The way I see it, being a 'local' derives from a combination of Behavior, Socio-Economic position and the extent to which one can identify with the dominant cultural customs that are unique to the island. And foreigners being those who come from outside of the city

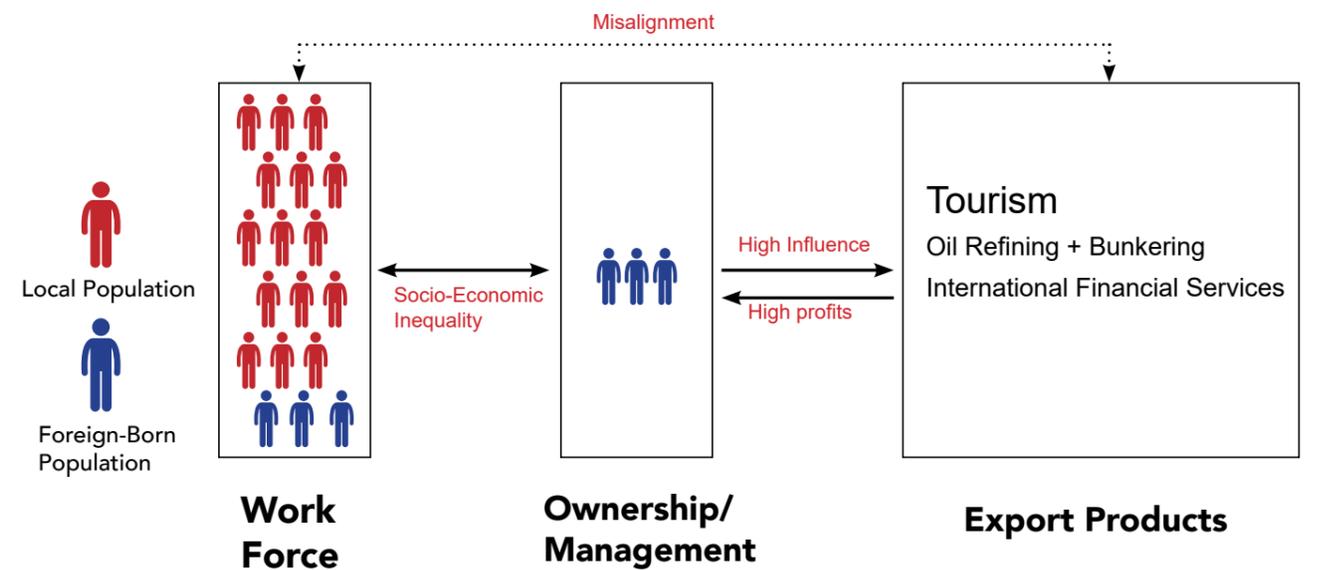


Fig. 17: Abstract representation of observed socio-economic inequality within the export sector. Internationalized businesses are owned and operated by foreigners. They have a high influence on what products the city exports and are the main profiteers.

and represent a different culture and upbringing.

What is clear is that there is a tension within the social fabric of the city between locals and foreigners. This tension derives from the city's sensitive history, however there is also a sense of economic segregation that still remains in the city between the locals and foreigners.

It is observable in Willemstad that the largest proportion of companies who are currently directly involved in import and export are owned and operated by foreigners. These foreigners are highly skilled workers, who were not born or raised in Willemstad, but migrated to the city to start or work for an internationalized business or started one of these businesses and continue to live outside the city. In the tourism sector for example, as was explained to me during an interview, the majority of hotels, souvenir shops, restaurants and other businesses who directly interact with tourists are owned by foreigners, while locally-owned businesses play a more supporting role. They take care of things like gardening, building maintenance and local transportation. Since internationalized businesses are the main source of economic growth, there is a dependency on foreign entrepreneurs to keep the economy of the city going.

The small domestic market on the other hand, of-

fers limited opportunities for local entrepreneurs to grow their businesses. This has caused a sentiment of economic exclusion within the local population. This is also fueled by the memory of social and economic segregation in the past based on race, where large portions of the population were systematically excluded from participation and business ownership. It is clear through conversations between locals that a certain misalignment and distance exists between them and direct participation in the global economy. There is a perception that only foreigners can profit from the export sector and therefore thrive financially.

It is my observation however, probably through the influence of international movements like 'black lives matter', that there is a reemerging interest in local entrepreneurship. A rise in businesses owned and operated by locals. The challenge is to make locals aware of the opportunities that lie in participation in the global economy. What is still missing is the financial, juridical and educational support. In the local government's new National Export Strategy mentioned above for example, though it's filled with economic opportunities, the topic of local ownership and bringing those benefits directly to the local population does not come up.



Fig.18: Photo taken during an introduction day for students from the ABC-islands who came to study at the TU DELFT (source: ABC Compas)

### Brain-Drain & Education

There is a persisting pattern within highly educated locals of Willemstad; A lot of them leave Willemstad after high school to go study abroad, mainly in the Netherlands and also the USA. One of the main reasons behind this move is the limited amount of higher education opportunities in the city.

After their education abroad, when they have become high-skilled workers, who actually have the potential to largely contribute to the economic development of the city, they choose not to return. I myself fall into this category and so do many of my friends and acquaintances in my age group. The main arguments for not returning, that keeps coming back every time I have this conversation with my peers and that are well known amongst locals are; 1.) There are no jobs within our field of expertise. 2.) We feel like we will be limited in our opportunities to grow our career and develop our interests. 3.) The current established order is too rigid and will not accept our new ideas for the development of whatever it is we're trying to improve. Daal (2010) and Rosa-

lia (2017) also address this problem and go deeper on economic and social factors contributing to brain drain in Willemstad.



Fig.19 / 20: Pollution caused by the oil refinery (source: antilliaans dagblad) / Coastline of Willemstad during heavy storm (source: Curacao Chronicle)

### Climate and Pollution

A distinction between; natural climate threats to the population and pollution caused by activity in the city itself that in turn affect the health of the local population.

First there is the hot and dry climate. This is not only a constant threat for sunburn, it also makes the island inefficient in the production of foods, especially without the use of technology. This increases the city's dependency on imports.

There is the rising sea levels. This poses an extra threat when compared to many mainland cities, as many activities in Willemstad, especially economic ones are concentrated along the coast.

Willemstad is outside of the hurricane belt, but just barely. Climate change could possibly change this and put us in the same danger as our Caribbean counterparts.

Then there is also significant air pollution. The main source being the oil refinery, who for years has dumped illegal amounts of dangerous gasses in the air as well as making the soil and port water toxic.

Furthermore, the rise in coastal infrastructure to support tourism i.e. hotels and shipping docks has significantly damaged coastal ecosystems (corals and mangroves)

Finally, transportation in the city is very car based, with very little alternatives. This not only costs a lot of energy but it also contributes to air pollution.



Fig.22: Local Fisherman (source: Quentin de Graaf)



Fig.23: Street Art showing a local woman wearing traditional head scarf (source: Kim op reis)



Fig.21: Photo taken during Willemstad's annual Carnaval celebrations (source: Quentin de Graaf)

### Local Culture and Identity: Who is a Local?

The people of Willemstad identify as being Kriyoyo (Creole). In the context of Willemstad, this is interpreted as being multicultural. A place where people and customs from all-over the world have come and mixed. In day to day language the word Kriyoyo however has lost that meaning and is mostly used to identify anything that is 'local' and not from outside of the city.

As a result of our rich history we now have our own unique culture, with the most obvious cultural customs being our own music, dance, language, food and art.

However, there are also more subtle cultural traits that only locals can relate to. One of those traits was explained to me by Lyongo Juliana, a local Architect. He explained that locals do not have the tendency to engage in planned social interactions. As where the Dutch 'foreigners' in the city tend to make formal plans to meet and socialize with specific people, the locals rely on chance encounters for their social interactions. This might happen while walking on the streets or in the supermarket, but the main activity for this in my experience are cultural events

i.e. parties and celebrations. These events are an essential part of the social fabric of the city and the local experience. From the outside, this gives the island the reputation of being a Party Island and in many ways it is. This social informality in turn is also what makes the island so attractive for foreigners to visit and settle in Willemstad.

Another word used by us to identify ourselves is "yu'i Korsou" (Child of Curacao). As mentioned above it is difficult to define who exactly is a local within the context of Willemstad as even among locals there is no clear consensus (Girigori, 2009). The question of who is a local of Willemstad?, can also be a polarizing question.

Therefore, for this project I propose my own definition of "locals", that tries to unite as many people as possible; A local of Willemstad is someone who is subjected to and can identify with the specific economic, social and environmental conditions found in Willemstad.

Fig.24: Taken during the Kaya-Kaya street party. All shades of locals and foreigners celebrating together (source: Kaya-Kaya)



**KAYA KAYA**  
STREET PARTY  
SER'OTROBANDA

### 2.3 Willemstad: The Unknown faith of our built environment

#### Introduction to Willemstad's Morphological Urban Structure

Before getting into the specific topic of this thesis, here a few of the general main characteristics of Willemstad's built environment will be quickly introduced.

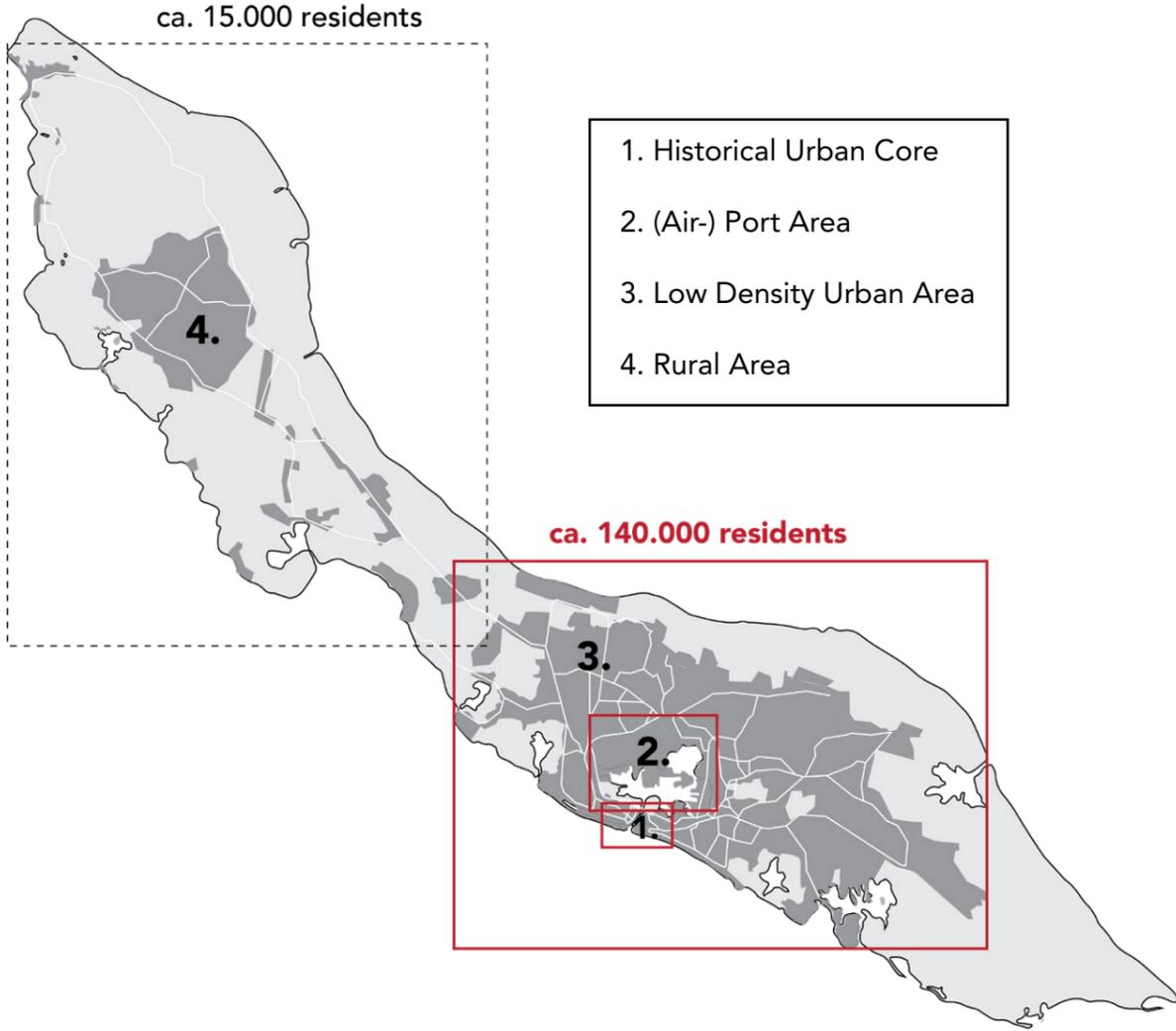


Fig.25: The 4 types of Urban areas observed in Willemstad

#### 4 types of urban areas

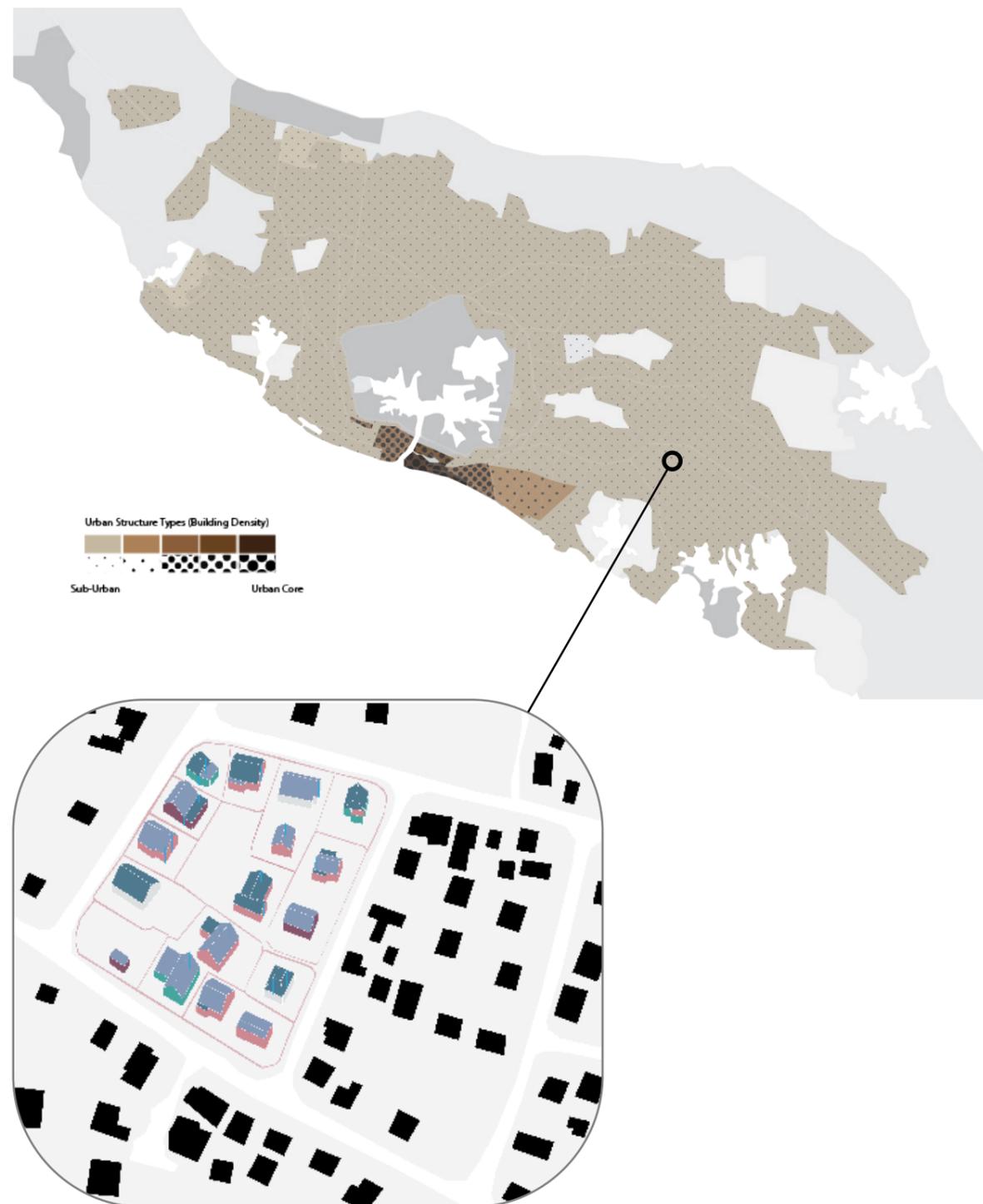
When looking at the city as a whole, 4 types of areas can be distinguished. 3 of these areas can be found within a continuous patch of urbanization surrounding the schottegat bay; 1. The historical urban core, located at the entrance of the bay. 2. The port area, who uses the bay 3. A low density urban area that expands outwards around area 1 & 2. Then, there are a couple of even lower density rural areas (4) that is detached from the continuous urban area.



Fig.26: Willemstad's extensive road network

#### Well developed transportation infrastructure

Compared to other small island cities in the Caribbean region, Willemstad has a well developed transportation infrastructure. There is global transport infrastructure in the form of a deep, protected port and an international airport. The city also has an extensive road network making most of the city well accessible by car.



### Low density neighborhoods

The largest chunk of Willemstad (urban area type 3) consists of living neighborhoods, also known as barios. It is here that the overwhelming majority of locals live. These neighborhoods are characterized by their low density and almost exclusively stand-alone housing type



Fig.28: High concentration of monuments in the historical urban core of Willemstad



Fig.29: The Kura Hulanda hotel. When it was still open, this hotel used an agglomeration of monuments as hotel rooms, restaurants, lobby, etc.

### Monuments

The city of Willemstad, especially in its historical urban core, has an impressive concentration of tangible cultural heritage in the form of monumental buildings. The majority stem from the colonial slave-trade period before the 20th century.



Fig.30: The bapor kibra beach area. (source: pixbay)

### Beaches & Nature

Both inside the confines of the city and outside of the city there are many beaches on the south coast of the island. The island is surrounded by coral reefs. And there is large a nature park outside of the city holding large biodiversity compared to the city itself.

### Infrastructure for Economy

There is also a tendency to do economic development along the southern coastline of the city. This consists of the oil refinery, a free-zone, port activity and many different hotels and resorts for tourism.



Fig.31: Oil Refining and Storage infrastructure (source: Vincent Jannink)



Fig.31: All inclusive hotel development along the south coast of Willemstad (source: Corendon Hotels)

## 2.4 Problem Statement

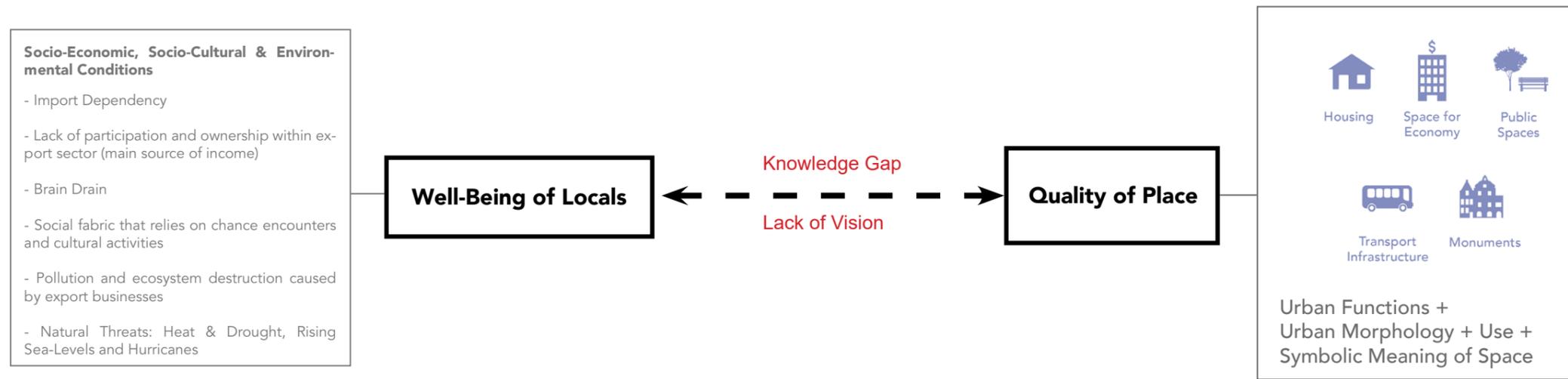


Fig.32: Knowledge gap between the specific conditions affecting the well-being of locals and the Willemstad's spatial context (quality of place)

### Problem: Knowledge Gap & Lack of Vision

Historical analysis of Willemstad's spatial development, shown above, uncovers that in the past there has been a persistent close connection between the small island city's spatial context and the specific conditions that dictate the well-being of its local population. The analysis shows a narrative where foreigners looking to expand their power and achieve financial gains have been the main driving force behind the city's development. This was done through the establishment of internationalized (export) businesses that developed and used the city's spatial resources (deep protected port, network of plantations, high density grid structure of the historical urban core, oil infrastructure, hotels and resorts, etc.). These economic activities through the years have caused people from around the world to come settle in the city, making urbanization happen on the island. They have also been the main source of economic growth and maintaining the livelihood of its inhabitants, who have to deal with vulnerabilities like import dependency.

At the same time, they have also come paired with negative effects on the local population, like the socio-economic and socio-cultural segregation between the marginalized afro-Caribbean majority and white European elites, who owned and operated most of these businesses. This segregation was also embedded within the spatial development of the city, through the creation of segregated neighborhoods and selective access to economically and socially beneficial spatial resources, like the old port of Willemstad.

Being a local of Willemstad, growing up there in the modern day and age, I have often been involved in conversations where locals are critical about their own built environment. They often complain about a wide range of factors; "There are too many holes in the road." "They (foreign developers) are building another hotel, so we (locals) are going to lose yet another beach." "Our monuments are deteriorating and no one is doing anything about it." "I need to go to the city center to buy something, but I'll have to park far and walk in the hot sun to get there."

Also being an Urbanist, who has recently discovered theories like 'Right to the City', I became interested in understanding the interaction between our built environment and our well-being and contributing to creating a more sustainable relationship between the two. However, as is the case with many small island cities, there currently is a big gap within available research, on the spatial context of Willemstad. Let alone research that explicitly examines the current relationship between us and our city. In this thesis I see this gap as the problem that I want to address. A good understanding of the current relationship is key for developing future plans that effectively benefit locals.

Speaking of future plans. During the process of this thesis, I have interacted with different relevant stakeholders involved in the spatial development of Willemstad. Both people from the government, private developers and urban designers and planners. I have come to the conclusion that for a long time already, there has been a big lack of coherent visions for the spatial development of the city in general. It is caused by a combination of different political and institutional problems happening in the governance system of the city. This logically also includes a lack of a vision or any sort of plans for spatial development that puts the well-being of us locals at the forefront. This is also a problem that will be addressed in this thesis.

While the situation described above might seem tragic, there is also hope. I have found during this thesis that while there is a knowledge gap in research, there is quite a lot of implicit knowledge about the spatial context of the city to be found in conversation with different local practitioners.

Furthermore, very recently, there have been a few spatial developments happening in the city that seem to be prioritizing the specific conditions of locals.

These are used in this thesis as opportunities to build upon in order to counter the problems described above.

# 3.

## Aims, Concepts and Methods

- 3.1 Research Goals
- 3.2 Research Questions
- 3.3 Literature Review
- 3.4 Overall Approach
- 3.5 Data Collection and Analysis Methods
- 3.6 Conceptual Framework

### 3.1 Research Aims

Main Goal:

Explore design principles for future spatial transformations of Willemstad that prioritizes the well-being of locals, by integrating some of their unique economic, social and environmental challenges and opportunities.

Sub Goals:

1. Get a better understanding of the extent to which the spatial structure of Willemstad is currently linked to the unique economic, social and environmental conditions that affect the well-being of the local population.
2. Identify the hurdles within the spatial planning system of Willemstad, that are currently preventing spatial developments that prioritize the well-being of locals to take place.
3. Identify opportunities for both the future spatial transformation and the spatial planning approach of the city, that can potentially lead to urban environments that actively benefit the locals.
4. Use design to create and test urban design principles, for future spatial transformation of Willemstad that benefit the economic, social and environmental well-being of the local population.

### 3.2 Main Research Question

**To what extent can a spatial planning approach that prioritizes the well-being of the local population of Willemstad, create urban developments in the city that integrate their specific/unique economic, social and environmental challenges?**

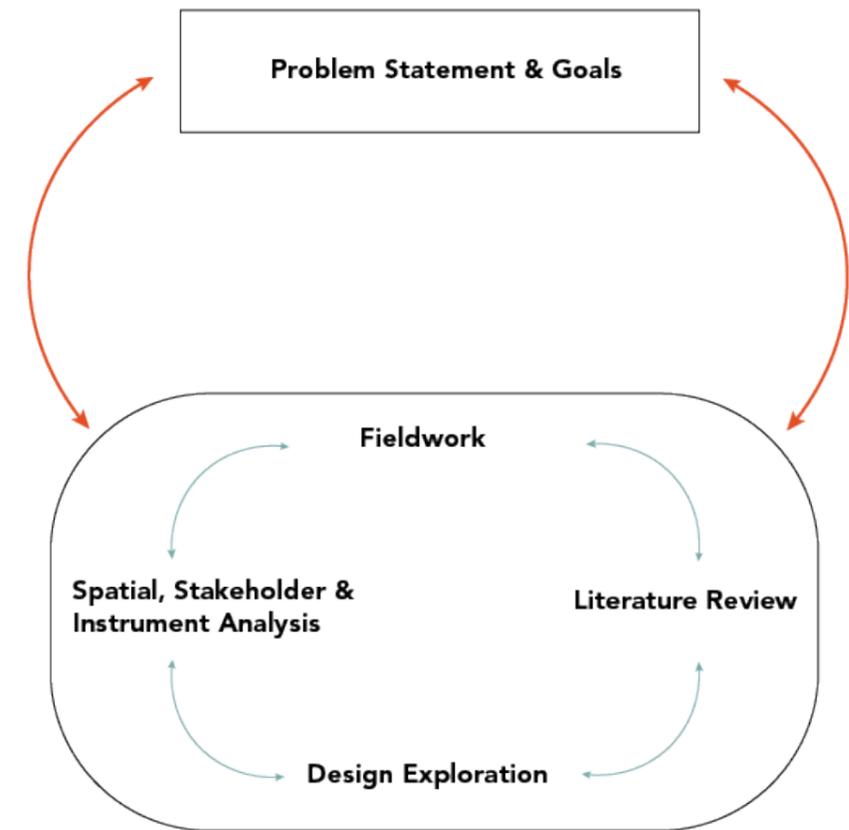


Fig.33: Overview of the iterative and unstructured process behind this thesis

### 3.3 Overall Approach

#### Exploratory Research

The overall approach of this project is very exploratory. Exploratory research is used in cases where the problem being tackled is not yet clear. The purpose of this type of research is to get a first understanding of the problem and the key factors contributing to this problem. Exploratory research is often used in cases where the researcher has an idea or observations on a topic that is previously unexplored and/or limited data is available on this topic. The conclusions of this type of research are preliminary and still subjected to change and further refinement. These conclusions can be seen as hypotheses to be investigated through additional research. Furthermore, a common characteristic of the process behind this type of research, is its unstructured nature (Pollfish, n.d.; QuestionPro, n.d.; SMstudy, 2016; Swedberg, 2020).

At the start of this project I only knew that I wanted to investigate the spatial context of Willemstad. As a local of Willemstad and an urbanist, I am personally invested in this topic and I have made many implicit personal observations of issues and inequalities within the spatial structure of the city. However, I did not have a clearly defined problem to tackle with this thesis. By doing literature research I was quickly faced with the knowledge gap described above; The reality that there currently is very little theoretical or analytical frameworks for the spatial context of Willemstad to fall back on. Meaning that existing literature also did not provide a clear problem for this thesis.

As a result, the process behind this thesis ended up becoming an exploration of relevant problems and solutions within the spatial context of Willemstad. The problems and aims that are framed and presented in this report, should be seen as the end result of this exploration. Also, the conclusions of this thesis are preliminary and meant to inspire further research using more accurate data.

This project therefore did not follow a linear process where the problem statement and relevant theories were determined first, followed by analysis based on these theories and then a design that reacts to the analysis. To the contrary, it was an unstructured and iterative process of going back and forth between these actions on a quest for finding; 1. relevant problems within the spatial context of Willemstad, 2. urban design and planning approaches and solutions and 3. relevant spatial theories that can be applied to this specific context of Willemstad (fig.33). For this approach, more arbitrary research methods like fieldwork (interviews and observations) and mapping based on local knowledge play a leading role, while spatial theories play a background function.

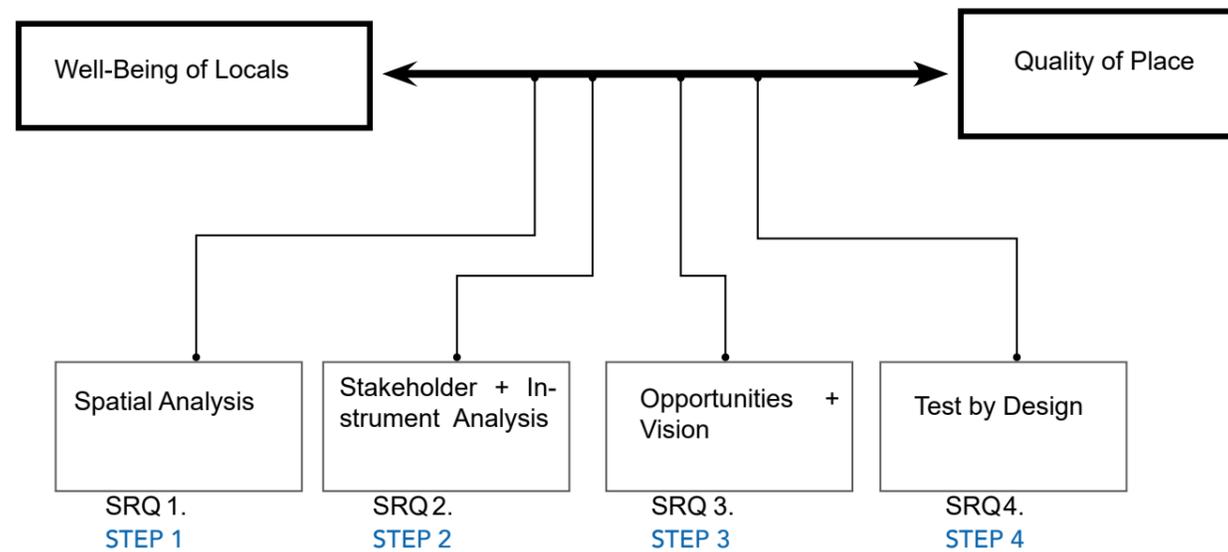


Fig.34: Overview of the research design of this thesis

### Sub Research questions

[SRQ1: HOW IS THE CURRENT SPATIAL STRUCTURE OF WILLEMSTAD LINKED TO THE SPECIFIC ECONOMIC, SOCIAL AND ENVIRONMENTAL CHALLENGES OF THE LOCAL POPULATION [THAT ARE STRONGLY INFLUENCED BY LIVING ON A CARIBBEAN SMALL ISLAND CITY?]

Personal observations as a local inhabitant and urban researcher on various forms of inequalities embedded within the spatial structure of Willemstad form the starting point of this research. Inspired by theories like Rights to the City and Splintering Urbanism, exploratory spatial analysis was done from the perspective of the historically [marginalized] local population. It identifies how and to what extent different layers of the built environment are currently affecting our well-being. Due to the fact that the local population deals with a unique set of economic, social and environmental conditions, as a result of living on a former colonial city, on a small island in the Caribbean, literature on Small Island Developing States and Caribbean cities is used to assist this analysis. For the spatial analysis itself, a combination of mapping and field work is used. This analysis leads me to the conclusion that there is an urgent need for urban developments in the city that predict and react to the specific needs of the local population in order to make a positive contribution to our well-being.

[SRQ2: WHAT ARE THE CURRENT PLANNING INSTRUMENTS USED BY THE SPATIAL PLANNING SYSTEM OF WILLEMSTAD? AND HOW EFFECTIVE ARE RELEVANT STAKEHOLDERS AT INTEGRATING THE WELL-BEING OF LOCALS INTO SPATIAL DEVELOPMENTS?]

A critical analysis of the planning instruments and tools currently used by the local spatial planning system and urban designers, expose some key problems getting in the way of both the design and implementation of urban developments that integrate the well-being of the local population as an explicit goal. Furthermore, a quick analysis of typical forms of stakeholder cooperation, show a lack of power for those who represent the well-being of the local population within urban development projects.

[SRQ3: WHAT ARE SOME OF THE OPPORTUNITIES FOR THE SPATIAL PLANNING AND URBAN DEVELOPMENT OF WILLEMSTAD FOR BETTER INTEGRATION OF THE WELL-BEING OF LOCALS?]

Quick case studies are done of a few recent spatial developments in Willemstad, that seem to be putting the well-being of locals as a central goal. Spatial solutions are extracted here, to be used in the design section.

[SRQ4: WHAT ARE SOME URBAN DESIGN PRINCIPLES THAT REACT TO THE SPECIFIC ECONOMIC, SOCIAL AND ENVIRONMENTAL CONDITIONS OF THE LOCAL POPULATION?]

Using an iterative design process, where scenario planning is used to test and explore both non-spatial goals for the well-being of locals, as well as spatial transformations that react to these goals, Urban Design Principles for US (the locals) are generated. To illustrate their use, they are then applied to a specific area in Willemstad using urban design.

### 3.4 Data Collection and Analysis Methods

This section gives a general description of the research methods used in this thesis.

#### Method 1: Field Work

SRQ Used: 1, 2, 3

Actions described under this method are mainly used for the collection of qualitative and quantitative data regarding current local conditions in Willemstad. As there is a big gap in research and data regarding the socio-economic, socio-cultural, environmental and spatial conditions in Willemstad, the methods described here played a major role in developing the analytical framework of this thesis;

##### 1.) Interviews:

Semi-formal interviews were held with local Urban Designers, Architects, members of the spatial planning department, downtown management organization, tourism board, as well as other members of the local community. These interviews were used to gather information on the quality of place of Willemstad as well as the ins and outs of its current spatial planning system

##### 2.) 'Invest in Willemstad' Summit:

Participation in this 2 day summit, where the historical core of Willemstad is promoted to international investors as an attractive investment opportunity. Presentations were given from many different relevant actors involved in the development of the urban core of Willemstad, along with discussions regarding the main obstacles and opportunities facing the spatial planning system of Willemstad.

##### 3.) Site Visit:

Personal visit to the city for pictures, sketches and observations on the interaction between locals and the spatial context of the city.

##### 4.) Local Knowledge:

Inherent knowledge and personal observations as a native and frequent visitor of the city and its people.

##### 5.) Internet Searches:

Most of the quantitative data used especially for mapping, is gathered through consultation of web mapping services like Google maps and various websites with data on specific topics. These were then pieced together to make the maps used for the spatial analyses of this project.

The methods above generate data input, covering a wide range of topics relevant in this thesis. Unlike the rest of the methods here, which are used to answer specific questions, this first method has a more general application.

#### Method 2: Mapping

SRQ Used: 1

Spatial analysis is the main method used for discovering and understanding different relevant aspects of the spatial structure of the city, as it relates to socio-economic, socio-cultural and environmental conditions in Willemstad. Mapping was used to find the link between;

- The spatial distribution of metropolitan functions (import/export).
- The spatial distribution of social and cultural functions
- The morphological structures related to these functions
- Access to, ownership and use of these functions and structures by different socio-cultural groups (locals and foreigners).
- The interaction between different relevant users and spatial structures within the city.

The data for this mapping is collected from many different sources found in the previous method 'field work'.

This mapping therefore is exploratory. It is more aimed at discovering links and developing a preliminary understanding of the spatial structure of Willemstad, rather than aiming for detail and accuracy. This would require further research outside of this thesis, using more resources.

#### Method 3: Literature Review

SRQ Used: 1, 2, 4

Spatial and non-spatial theories found in literature were used during this exploratory research for several purposes. More on this in the next section of this chapter.

#### **Method 4: Stakeholder analysis**

SRQ Used: 2, 3

The objective of using this method is to gain insight on the reason why there is a lack of spatial developments that prioritize the Locals as well as developing a better understanding of the current position and power of local urban planners and designers within the local planning tradition and governance structure. This is done by finding and comparing relevant stakeholders involved in relevant spatial developments, governmental institutions and the public.

The data for this analysis was gathered through field work.

#### **Method 5: Instrument analysis.**

SRQ Used: 2, 3

This method identifies and examines the current spatial planning instruments used by the stakeholders found in the previous method.

The main regulatory instrument of the government, the city scale land-use plan, is examined through a document review.

Finally, The role of Urban Design as a planning instrument is then highlighted; A short analysis is done on the role of Urban Design in the spatial development of Willemstad. Followed by some recent changes in the role of urban design, found through a case study.

#### **Method 6: Design Exploration**

SRQ Used: 3, 4

As a reaction to the analytical framework of this thesis, I developed a vision for future spatial developments in Willemstad, where there is alignment between the city's quality of place and the well-being of the local population.

As a first step towards achieving this vision, the final product of this thesis is a booklet containing a set of Urban Design Principles for improving the well-being of locals, in the form of a pattern language. Besides this booklet there is also an exemplary design that shows how these principles can be applied in a specific area in the city.

The process behind the development of these patterns was an iterative design exploration, where several urban designs were made on different locations in the city. Each design reacts to slightly different problems, opportunities and conditions found in the analytical framework of this thesis, throughout the exploratory process. The patterns were extracted from these designs at the end of this process. The designs were made with the help of the scenario method.

### **3.5 Literature Review**

Spatial and non-spatial theories found in literature were used during this exploratory research for several purposes. This section will highlight the most relevant ones and their roles;

#### **Small Island Developing States (SIDS) & Urban Island Studies**

These two related fields of research were used for two purposes; Firstly, they provided the meta-problem that influenced the process and outcome of this thesis. As was mentioned several times, there is a knowledge gap on the spatial context of Small Islands. This has to do with the fact that small islands face very specific economic, social and environmental conditions that are not found on mainland cities. They hypothesize that because of the known close interconnectedness between these types conditions and urban spatial structures, that the spatial contexts of (small) island cities also face specific conditions. Yet, we do not have a grasp over the further details of these spatial conditions, due to the knowledge gap.

Secondly, SIDS theory was used intensively during the spatial analysis conducted in this thesis. This theory provided me with the non-spatial conditions of small islands and their inhabitants. This information was used in combination with some literature on the non-spatial conditions in Willemstad specifically, fieldwork and my own local knowledge to guide the spatial analysis of this project.

#### **Spatial Justice & Right to the city**

This set of related theories were found during this exploratory process to be relevant for Willemstad's locals. Their main purpose was as an inspiration for me to hone in on the locals of Willemstad and their well-being as the main focus of the final product. For the majority of this exploration, my analysis investigated the general relationship between Willemstad's economic conditions and it's spatial context, while the social and environmental factors remained in the background. However, as the spatial analysis kept developing and more data and observations were compiled and interpreted, it kept pointing towards segregations and injustices within the spatial structure of the city.

Then, towards the end of my exploration I stumbled upon the "Right to the city" theory. This theory inspired me to transform my spatial analysis and really view the city and its many spatial resources through the perspective of the locals. It made me explicitly question who has access to and benefits from these spatial resources.

#### **Spatial Economics & Global Economy theories**

Throughout the spatial analysis exploration process, I encountered several problems that I did not yet fully understand. In these cases, literature was used in order to better interpret these findings and inspire solutions that are proposed in my design. There was an iterative process of going between analysis and literature.

For example, I found through spatial analysis that export businesses in the city tend to form spatial agglomerations. This led to internet searches where I found the report by (Lundequist, 2002) explaining the spatial economic theory of spatial agglomerations and how this is advantageous for globalized businesses. Then, through my own observation, I knew that there is a sentiment within the city that these export businesses tend to be owned and operated by foreigners. Furthermore, literature suggests that there is a lack of locally-owned small and medium sized businesses in the city that are participating in the international economy. By reading theories on SIDS it became clear that exports are the main source of income for small islands and their people. This led to the conclusion that locals are currently being excluded from access to these precious spatial resources. Then as a reaction to this, in my design, one of my proposed solutions is a cluster of locally owned export businesses. By exploring this idea in the design process, I eventually encountered future literature on the participation of small enterprises (SME) in the global economy, where I learned that having public spaces within these economic clusters, where workers and owners can have chance encounters and discussions, is important for promoting innovation and thus successful businesses. These types of public spaces were then added to my design proposal.

This thesis takes a look at a variety of economic, social and environmental issues as they relate to the spatial structure of Willemstad. However, during the majority of the exploration process, the main focus was the economy of the city. Therefore, most of the theories used during the analysis center around economic factors. While the social and environmental factors have little to none theoretical backing and are much more based on field work and local knowledge. In the future, this spatial analysis can be expanded to also include social and environmental theories that are relevant to the context of Willemstad.

**Speculative Design & Scenario Planning**

These theories played an essential role in the design process of this thesis and supplemented the exploratory nature of this project.

First of all, they inspired me to have a new perspective on the role of urban design (or design in general). Both of these theories break away from the traditional form of using design, where in this case Urban Design would be used to create a final product i.e.: a blueprint for real life implementation. Instead, they highlight the notion that design can also be used as a tool for other purposes like developing new ideas, communication and also collaboration. This falls in line with the exploratory nature of this project. The design process of this project was an exploration to find the relevant spatial problems of Willemstad and the solutions that can possibly react to these problems. They are preliminary solutions and ideas that should be further researched in the future. The final product of this thesis therefore also is meant to be used to communicate and inspire collaboration. It is not a plan for implementation.

Secondly, scenario planning specifically was used as a tool during the design process of this thesis. Due to the many unpredictabilities when it comes to the futures of both the spatial and non-spatial context of Willemstad and its locals, scenario planning served as a valuable tool for dealing with these uncertainties. More on this in the design chapter.

**Pattern Language**

Pattern Language is a long standing tradition in the Urbanism sphere, popularized by Alexander et al (1977). It presents a set of urban design principles to be used to improve the cities that we live in. One modern interpretation of this method is by Croxford et al (2020). Here a pattern language was made for the specific theme of Urban Manufacturing. The patterns introduced in this book can be used for different purposes; Analyzing, Visioning, Designing and Monitoring. The patterns “provide a base for a useful discussion and decision making” (Croxford et al., 2020).

Similarly, the final product of this thesis proposes a preliminary pattern language for the specific purpose of improving the well-being of the locals of Willemstad, by reacting to their specific conditions. These patterns also have a communicative purpose and are meant to assist in the collaborative decision making processes behind the spatial development of Willemstad.

Due to the exploratory nature and scope of this project, most of these theories are often not explicit, especially in the analyses shown in this report, rather they play a background function in the process. Figure 35 shows the conceptual framework of this project. Included is an overview of what theories were used at what stage of the project and whether they were used as input for a particular step, or are an outcome of a step.

**3.6 Conceptual Framework**

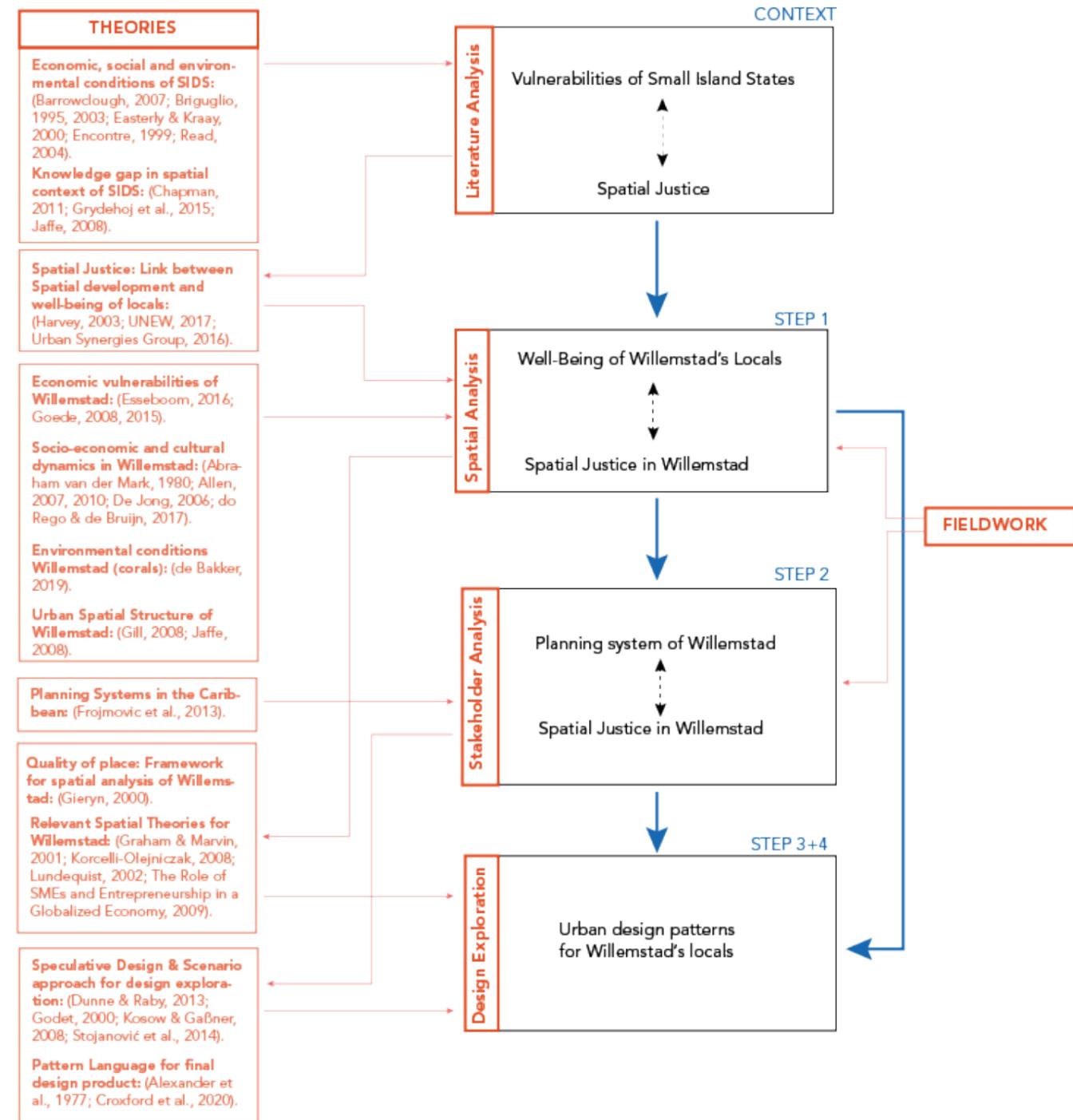


Fig.35: Conceptual Framework of this thesis, including relevant methods

## **PART B: ANALYZE**

**Chapter 4: Spatial Analysis**

**Chapter 5: Stakeholder + Instrument Analysis**

**Chapter 6: Potentials and Visions**

# 4.

## Spatial Analysis

- 4.1 Quality of Place and the Well-Being of Locals
- 4.2 Economic Dependency & Segregation
- 4.3 Social Interaction, Leisure & Culture
- 4.4 Brain-Drain & Education
- 4.5 Ecosystems & Pollution
- 4.6 Conclusion

### 4.1 Theoretical Backing

#### Motivation: Spatial Justice & The Right to Our City

During my studies at the TU Delft, I have learned that there is a close interconnectedness between non-spatial aspects (economic, social and environmental) and the spatial context of our cities. During the process of this thesis I've been introduced to theories in literature that put people, the actual inhabitants of cities, in a central position when observing this interconnectedness. Theories like 'right to the city' and 'spatial justice' question; who are the people who are actually benefiting from our built environments. Urban environments across the world are full of spatial resources (housing, physical amenities, public spaces, infrastructures, etc.) that can prove to be very beneficial to the lives and well-being of those who have access to these resources. Unfortunately, within the current system that we live in globally, where neo-liberal forces control the creation, distribution and access to these precious spatial resources, our built environments are filled with a plethora of injustices (Harvey, 2003; UNEW, 2017; Urban Synergies Group, 2016).

These theories inspired me to look at Willemstad, my own city, through this perspective. They made me question to what extent the locals of Willemstad are actually benefiting from the spatial resources that our city has to offer and if this is just? And looking ahead, who will benefit from the spatial developments that are yet to come in the future? Therefore, in the spatial and stakeholder analysis that follows, the locals of Willemstad are placed in the central position.

#### Quality of Place and the Well-Being of Locals

The previous chapters introduced some of the specific socio-economic, socio-cultural and environmental conditions facing the local population of Willemstad, caused by factors such as being on a small island and a history of European colonialism. This section will address the relationship between these specific conditions and Willemstad's 'Quality of Place'. Quality of place is an umbrella term I use in this project to describe different aspects of the city's built environment that are relevant to this analysis; 1. The distribution of urban functions, 2. The morphological structure of the city, 3. The use of these functions and structures by users 4. The meaning and value of the built environment to users. My choice to use the term 'place' instead of something like 'urban spatial structure' is because the more symbolic relationship between locals and their built environment is something that is not often discussed in Willemstad, yet in my observation it plays a keen role in the well-being of locals. For a more detailed explanation of 'place', check out (Gieryn, 2000).

This analysis is divided into 4 themes, with each theme containing a related set of socio-economic, socio-cultural and/or environmental (non-spatial) conditions that affect the well-being of locals. Per theme, the relationship with the quality of place is then determined.

The overall point of this analysis is to figure out what aspects of the city's quality of place have a negative impact on the well-being of locals, but also what aspects have a positive impact. This will be summarized in the conclusion of this chapter.

## 4.2 Economic Dependency & Segregation

As a result of being a city on a small island, Willemstad and their inhabitants have a large dependency on imports and exports. With import being necessary to full-fill the consumption needs of locals and exports being the main source of income and economic growth. At the same time, there is a sense of economic exclusion and segregation within the local community, as it appears that foreigners run and operate the majority of these import and export businesses. Making them the main profiteers of these economic activities, while the well-being of locals depends on how well they run their businesses. This section shows the spatial implications of these economic activities and the related spatial segregation between locals and foreigners.

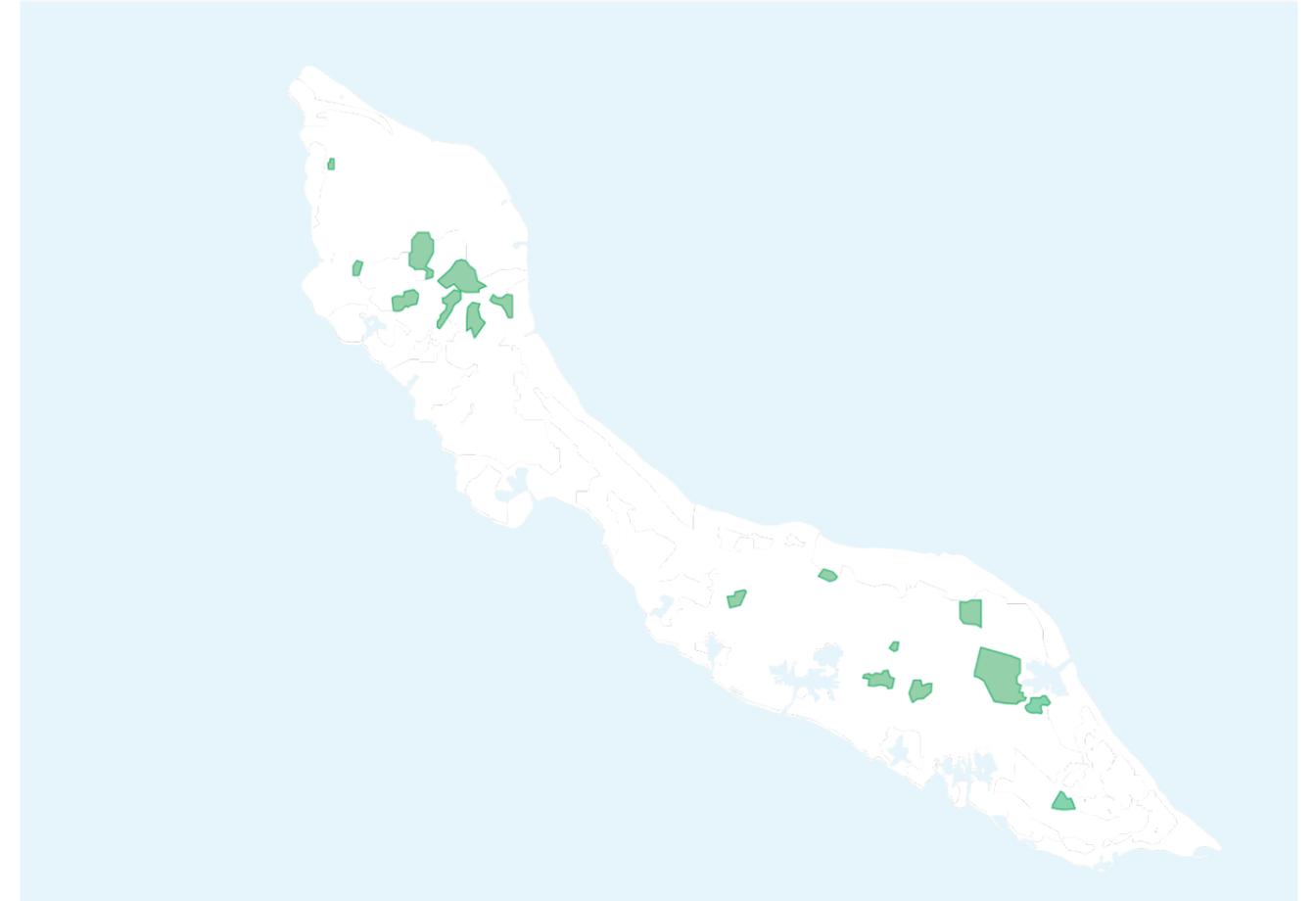


Fig.36: The limited amount of areas in Willemstad designated for agriculture

### Lack of Production Places for Local Consumption

The reason we have such a big dependency on imports is due to the lack of quantity and variety of local production. There is a small amount of space in the city that is actually being used for production facilities that make goods for the locals to consume. This makes it very difficult to compete with much larger scale production facilities in the region and around the globe.

On the other hand, I have observed that there is a different, much smaller scale type of production happening in the city. This is the production of cakes, sweets and foods for parties constantly hap-

pening all around the city. Here, the kitchen inside the houses of locals are the production space and their own personal car is the transportation, where those who partake in this informal economic activity, use the city's vast road network to transport their delicious goods to their customers. Or their customers come to them to pick up their order. However, the ingredients used to make these goods are still imported and require these entrepreneurs to drive to supermarkets to pick them up.

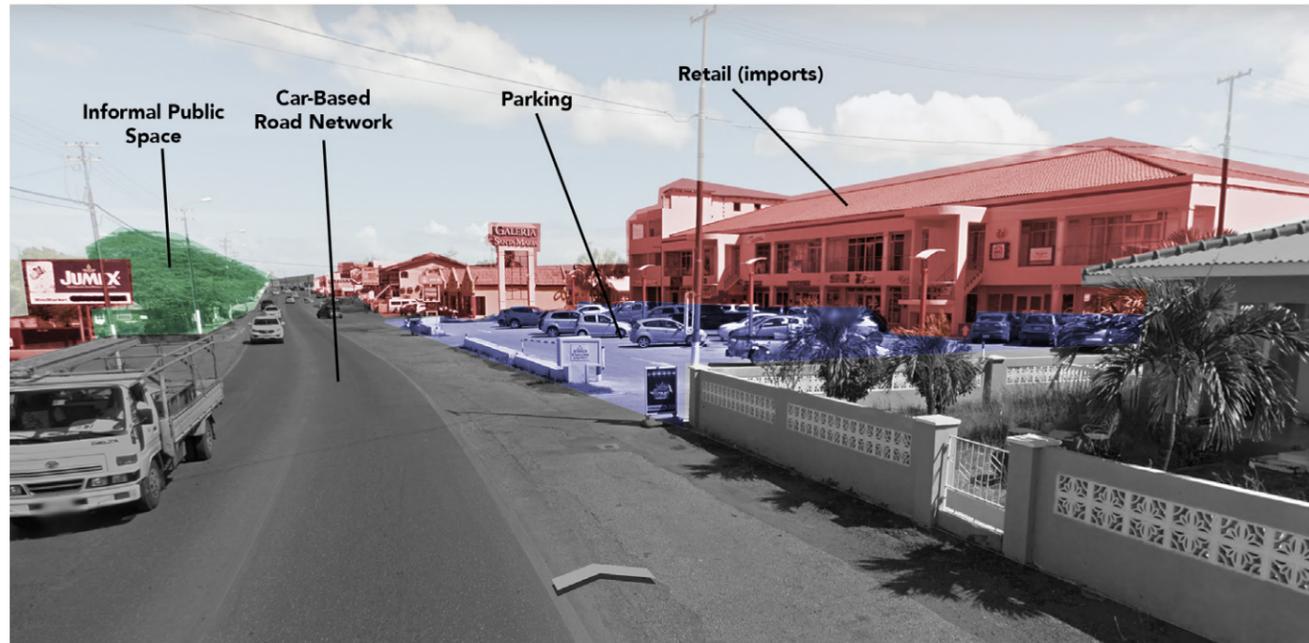


Fig.37: A typical shopping street in Willemstad: Adjacent to a main car road, parking lots in front of store, clusters of buildings used as retail spaces often separated by gates, a lack of public spaces and shaded walkways between buildings

## A Decentralized Network of Import Functions

Locals of Willemstad have a high dependency on imports to fulfill their consumption needs in order to maintain their living standards. This includes the basic needs, like food, clothing, cars and furniture. But also specific more specific products, like equipment for hobbies, supplies for parties etc.

This analysis shows that currently there is a decentralized network of retail locations in the city, where locals can go to buy imported goods (fig.38). In the past, most stores selling imported goods were located in the historical city center, making it a one stop shop for retail. However, with the rapid expansion of the city and a switch to a car based transportation system since the 1970's, these stores started popping up all over the city.

Some form of clustering of import businesses can be found along major roads (fig.37) and a couple of shopping malls located in the city. However, these clusters often do not provide the variety of products needed to fulfill the consumption needs of locals. Therefore, in combination with the low building density of the city, we often find ourselves having to constantly drive from one location to another to buy the imported products that we need. This is both time consuming, it costs us gas money and contributes to the pollution of our air. Furthermore, the lack of public spaces in most of these shopping locations diminishes the quality of the shopping experience and increases the dependency on cars for shopping.

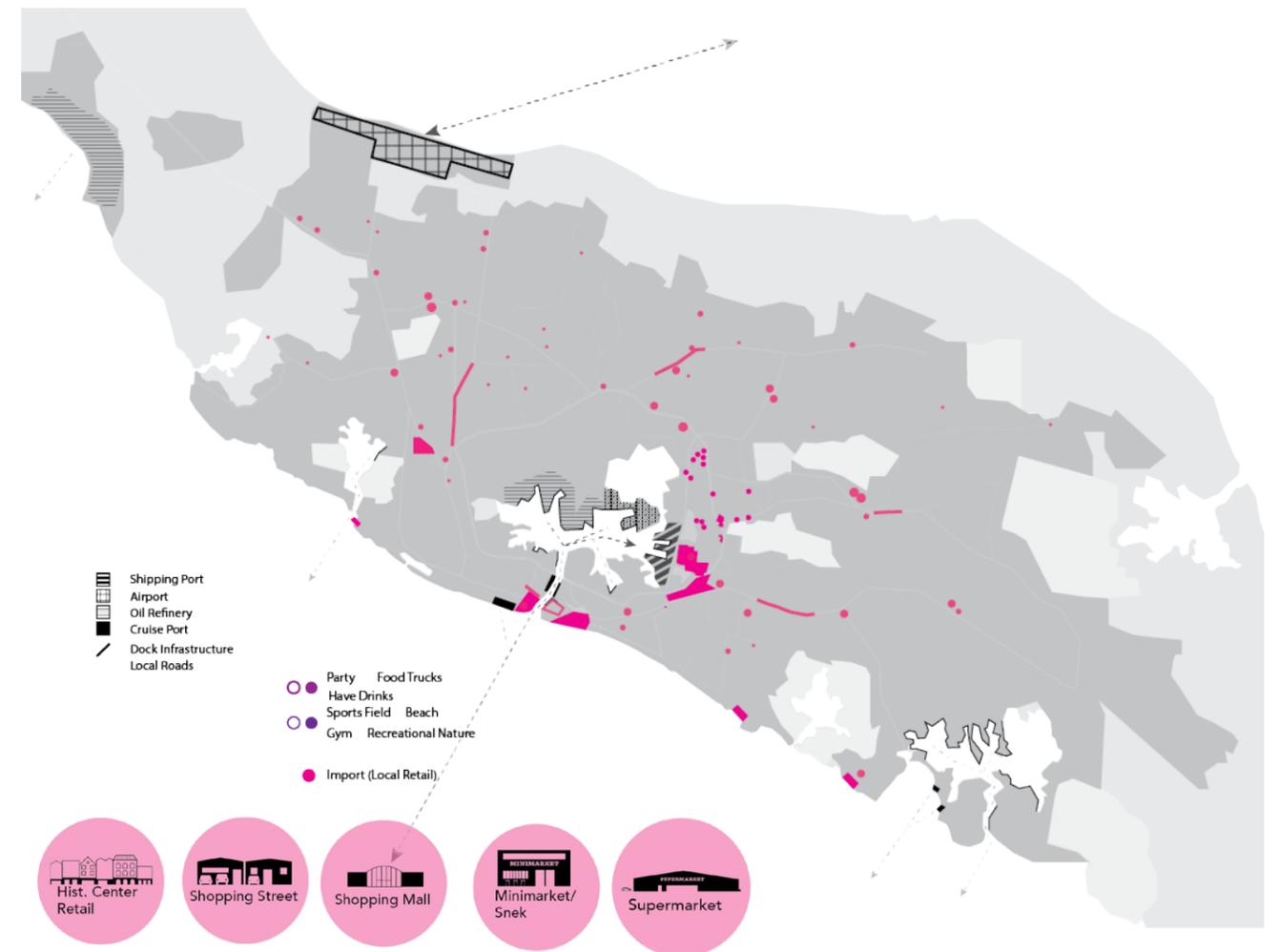


Fig.38: Distribution of retail functions selling imported goods and Global shipping infrastructure

## Global Shipping Infrastructure

When it comes to our import dependency, the city's well-developed infrastructure for the large-scale import of shipped goods, found both in the port and the airport, is a key spatial resource for maintaining our living standards.

However, on a larger scale, when we take a look at the global streams of goods transportation, I see a problem arising. Currently, e-commerce is becoming very popular around the world and replacing more traditional forms of retail. Companies such as Amazon are able to provide their customers with a wide variety of products and customers in some places are able to receive their products the day after they place their order.

In Willemstad however, due to the small scale and insularity, these services do not yet exist. Locals who

want to participate in e-commerce would have to do so using detours to bypass the system, by shipping to a fake address in the USA and waiting sometimes weeks for it to arrive in Willemstad, then they have to drive to pick it up themselves at a select few delivery points in the city. This is a completely different experience from a next day delivery at your doorsteps. This leaves locals lagging behind on the rest of the developed world, unless a new approach is introduced for how these large scale shipping infrastructures are used in Willemstad. This however, is a large-scale problem. I suspect that a solution can only come from some form of regional collaboration with other small island cities who face similar problems, in order to achieve economies of scale, by creating a shipping network.

## Offices



## HOTEL

## Oil Refinery



## Free-zone

Fig.39: Buildings and Infrastructures used by export businesses

## Export Dependency and Spatial Resources

Willemstad's export businesses are the main pillars of its economy. Spatially, as shown in the figure above, export businesses come in clusters i.e. spatial agglomerations of similar businesses that can benefit from being in close proximity to one another. It also seems to be working, as it appears that most of these export businesses at some point in time have been very successful at generating income. The clustering is one general spatial aspect that contributes to this success, but there are others spatial resources that also play a significant role, depending on the type of export business.

Each type of export business has its own specialized spatial resources needed to operate; The Oil sector uses large infrastructures for refining crude oil and also global shipping infrastructures for the import and export of oil products.

The financial sector mainly depends on office spaces. While some of these are placed inside office buildings, there are also quite some financial institutions and related businesses who choose to put their offices inside monumental buildings. Tourism uses a wide variety of spatial resources; buildings like hotels, restaurants and museums. They also depend on a well functioning global shipping infrastructure (Flights and cruise ships). Also natural places like the beaches and nature areas. The large amounts of tangible cultural heritage in the form of monuments are also a key aspect in attracting tourists.

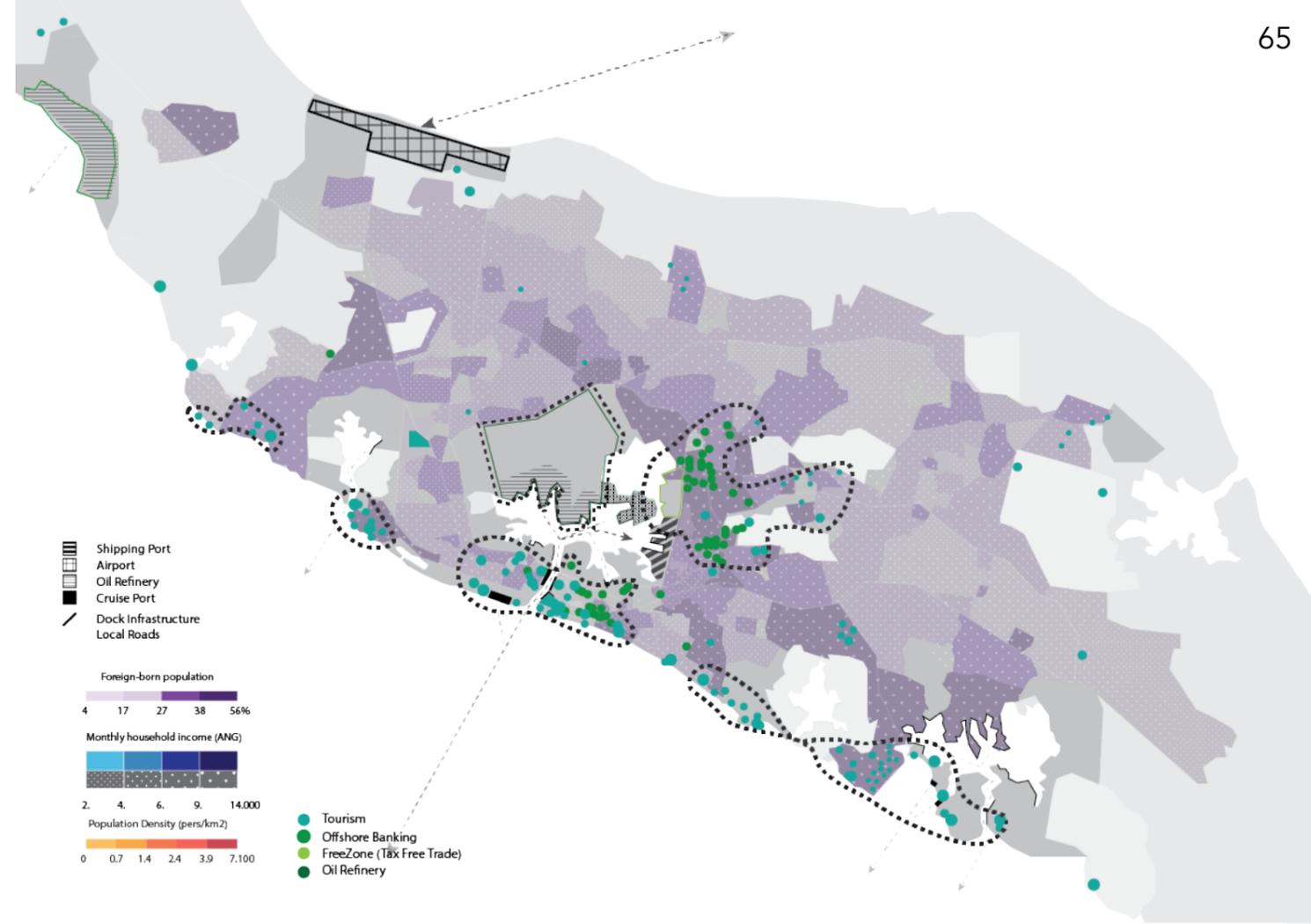


Fig.40: Spatial Clusters containing high concentrations of specialized export businesses, global transport infrastructure and housing for foreigners with high-income

## Export Dependency and Segregation

There is a sense of economic segregation between locals and foreigners, where foreigners own and operate the majority of export businesses. Currently there are no available statistics proving this, however the sentiment exists among locals. Spatially however, this segregation is quite visible.

This map shows how there is a concentration of foreign-born people living adjacent to the export clusters introduced above. Furthermore, these also happen to be the areas with the largest concentration of income. Within the experience of the locals, this makes these areas feel like exclusive areas that belong to wealthy foreigners. This strengthens the sentiment within locals that direct participation in export businesses is not for them but for foreigners. At the same time, these exclusive export clusters use most of the spatial resources needed to suc-

cessfully participate in the global economy. This is briefly discussed here (Jaffe, 2008).

This sentiment of exclusion is strengthened by the many physical borders that exist within these clusters. Like the walls around gated communities, hotels and resorts. They symbolize a need to keep the locals out and the foreigners in.

The existence of these exclusive clusters has been highly necessary for the economy of the city and also indirectly benefits the well-being of locals. However, what concerns me, is the lack of such an export cluster, containing the necessary spatial resources, that is owned and operated by locals. A place where we can directly benefit from this source of income.

## 4.3 Social Interaction, Leisure and Culture

This section focuses on an aspect that is very important for the well-being of locals and that is their free time. It takes a look at the relationship between the social fabric and culture of locals and city's the quality of place. Therefore, the main focus of this section is the city's public places.

### Chance Encounters and Informal Public Spaces

During a conversation with a local architect and urban designer, it was mentioned to me that the entire social fabric of Willemstad's locals is highly dependent on chance encounters. This means that locals do not tend to make appointments to meet up with each other. Instead, we go to different places and activities around the city and expect to encounter one another there by chance. Therefore these places become an essential part of the social well-being of locals. Here I discuss 3 types of places that are relevant for the social interactions of locals.



Fig.41: Informal public spaces within the bario's (housing neighborhoods) of Willemstad being used for a game of domino's. These spaces typically contain self-made furniture improvised by locals themselves or furniture from somebody's house. They are often located in shaded areas, caused by either a tree or another self-made structure (source: Sinaya R. Wolfert)

## Informal Public Places in neighborhoods

Informal public spaces are defined here as places that were not intentionally made by the governance structure with the purpose of being a public space. Rather, these places were improvised by locals or have organically become public spaces.

Generally there are very few formal public spaces in the city. Most of them are located within the historical urban core, where locals currently are not living or within tourism clustered i.e. hotels and resorts, where they are semi-public spaces, as owners of these resorts can determine who gets in and when.

Within the low density, car-based neighborhoods, where most locals reside, there is a huge lack of formal public spaces. To cope with this, locals have improvised their own public spaces (fig.41). These are known amongst locals as "bou'i palu", meaning 'places under the tree'. These shaded places, with different combinations of chairs and tables, sometimes random objects that are used as chairs and

tables, become central points in the neighborhood for conversations and leisure/cultural activities like playing dominoes or making music. Unfortunately, these places through time have gained a negative connotation within the collective imagination of locals, as these places are also commonly used for illicit activities, like the selling of illegal substances. However, due to a lack of a safer alternative, it remains one of the only options for locals, especially the young ones, to entertain themselves in their own neighborhoods. Close to home. I see this as being damaging to the well-being of locals, as it exposes us to dangerous circumstances because of lack of options.

Another place for social interactions found within neighborhoods are the so-called 'snèks'. These are places where one can buy snacks and alcoholic beverages. The spaces in front of these 'snèks' are often used as a gathering place to drink and have conversations and at night they play bachata music



Fig.42: Sporting field inside of a bario (housing neighborhood) being used for playing baseball, a popular sport amongst locals. Despite their often low quality, these spaces play an important role in the social and sometimes even professional development of many local youth (source: Volkskrant.nl)

to dance. Though a good example of the informal character of Willemstad's public places, they only tend to attract a specific subsection of the local population, namely older men.

On the other hand, there is one type of public space that can be found inside many neighborhoods, that is planned; the sports fields (fig.42). As an exception to the rule, the governance structure has invested time and effort into creating these places for leisure, especially amongst the youth and they are successful, even though not always of high quality. And it works, as the city has produced a relatively large number of professional athletes.

Furthermore, there are neighborhoods that also have so called 'Buurtcentrum', that offer spaces for activities like playing music, dance classes and lectures. However, these spaces are not so popular amongst locals.

For both these spaces and the sports fields, accessibility is a big issue. Due to the low density of neighborhoods, the distance that a local needs to travel to reach these places is too much to walk. This is strengthened by the lack of shaded walkways as it is very uncomfortable to walk outside in the middle of the day. Furthermore, it is not safe to bike, due to traffic and lack of biking infrastructure.

My conclusion here is that within neighborhoods, so close to home, locals do have much choice when it comes to places for interactions, leisure and cultural expression. Unless you are part of the specific demographic, who likes to drink, expose themselves to the potential dangers of illegal activities or you like doing sports, there isn't really a public space for you. Furthermore, the low density of neighborhoods and lack of shaded walkways, makes the public spaces who are there, very inaccessible.

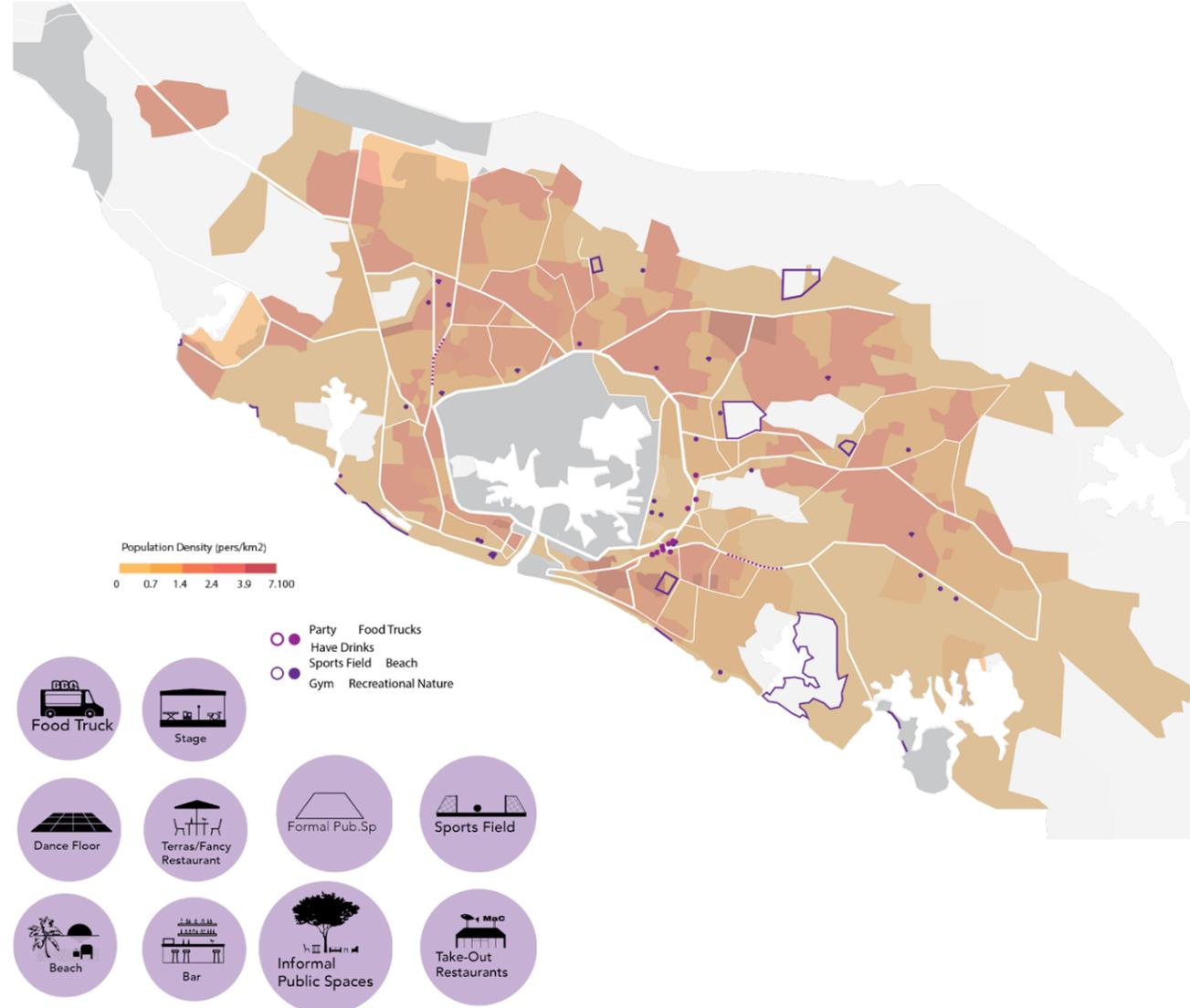


Fig.43: Distribution of leisure and cultural functions, along with the population density.

## Temporary Places for Cultural Events

While neighborhoods do not provide sufficient public places. Larger events, with a catchment area the size of the entire city, are a much more popular place for locals to do their chance encounters. The most popular type of activity are parties. Here is where locals can come and enjoy the music, dances and foods that are an essential part of the collective local culture. The catch is that these places are elusive. They are constantly changing location and as a local you need to be in touch with the rest of the population to know where the hot spots are at any given time. In urbanism terms, these public places are temporary. As mentioned above, these places also have an informal character. They often happen on the city's road infrastructure (fig.44). Usually places which during the day function as parking lots, at night, when the sun is down and the

temperature cooled down just a little bit, get transformed into party places. To facilitate these parties, some spatial elements are essential; a stage for musical performance, an area designated as the dance floor, a temporary bar that also serves food and also enough empty space for locals to walk around and find each other and engage in casual conversations.

Drive from around the entire city to these events to encounter their people. Since the parking lot is being used for the party, parking is a nightmare and people end up parking along the streets. These types of events are especially popular during holidays, like the Christmas/new years period and carnival period.

While these improvised places described above re-



Fig.44: Car road being used as a temporary public space during new years celebration. (source: Pietermaai District)

main popular, there has also been a rise in the use of touristic areas to host these large parties for locals. While hotels during the day do their best to restrict the amount of locals allowed on their property, every now and then they throw parties or concerts that attract a large number of locals. These parties contain the same spatial elements as the other parties described above, except for they happen on the beach and not on a parking lot. These parties are enjoyed by both locals and tourists alike and shows that within the tension that exists between locals and foreigners, there are also places where we can party and have a good time together.



Fig.45: Stand-Alone housing with a shaded balcony and yard (source: Casa Cama)

## The Stand-Alone house as a meeting place

It is also important to mention that the houses of locals themselves are also an important place for social interactions. Used for more intimate interactions, in contrast to the big parties. As spending time with family and close friends, who do not live in the same household, is a very important part of the daily life of locals. While the conversations during the big parties are more casual. It is here that the deeper conversations happen. Local politics and gossip are often the subject of discussion. To facilitate these interactions, most houses have a shaded and well ventilated porch in the backyard where families and friends can sit, eat and drink together (fig.45).

As most houses are stand-alone housing with gardens, these gardens are also often used to host birthday parties. This gives enough space to make a dance floor, a bar, a buffet and sometimes even a stage for a band or dj. These porches and gardens are also an essential part of the social fabric of locals.

Furthermore, locals who live inside these bario's (housing neighborhoods) have the freedom to paint their house in any color that they want, as there are no building regulations preventing this. As a result, the ability to customize our own house exterior and make it our own has become a form of personal and cultural expression in the city. Besides the color of the house, locals are also given quite some freedom to expand their homes to fit their changing demands. This made possible by the stand alone housing type.



Fig.46: The contrast in quality between a free public beach and a privatized commercial beach, where locals have to pay to enter



## Beaches and Nature

Besides parties and chance encounters, we also enjoy spending time with our nature. The many beaches in and outside of the city, play an important role in this. Weather alone, with family or friends, going to the beach is a staple leisure activity for the majority of locals. Next to the partying, it also symbolically is ingrained into the identity of a local of Willemstad.

Unfortunately, there is a growing amount of hotels, resorts and gated communities, used by foreigners, who also depend on these beaches to be successful. Therefore, in recent years many beaches in and outside of the confines of the city have been privatized. Locals therefore have less and less access to this precious spatial resource, having to pay to visit many beaches, while some beaches have become completely inaccessible. Also concerning is the gap in spatial quality between the private and public beaches (fig.46).



Fig.47: The Sambil shopping mall in Willemstad: This relatively new branch of a chain of international shopping malls has become a popular place for locals to not only do retail but also leisure activities like visiting the arcade, food court and movie theater. It also facilitates chance encounters between locals (source: Sambil Curacao / Ariel Mezquita)

## The Rise of Shopping Mall

The public places described above, reflect a somewhat unique way of using space or they stem from old traditions or are the result of a need for cultural expression. There has recently been a rise in public spaces which are directly imported from abroad and reflect a more modern, globalized culture and way of using space. Shopping malls, especially the Sambil shopping mall (fig.47), have become a popular leisure place for locals. While the historical city center is supposed to be the place for this type of activity i.e. retail combined with horeca and fun activities, these shopping malls have taken over this role. In conversation with a few locals on my field trip I have asked why they do not often go to the city center to do shopping? The common answers

are; 1.) It's too hot there, I would rather go to an air conditioned shopping mall and 2.) There are not enough fun activities, it's boring for the kids, the shopping malls are better at doing this.



Fig.48: The contrast between a monument that has been transformed into a restaurant used mostly by tourist and foreigners and a vacant monument in ruins. (source: Dolfjingo.com / Simone van den Berg)

## Tangible Cultural Heritage

Willemstad has relatively a lot of monumental buildings, especially within the historical urban core. Within the imagination of locals these monuments represent the bitter-sweet history of colonialism that has made the basis for the current socio-economic and socio-cultural conditions of locals. They embody the past that has caused the current tensions that exist between the local and the foreign. In theory these spatial resources are an unmissable part of the culture of locals. However, in practice, in my observation, locals generally do not acknowledge the cultural value of these monuments. On the other hand, foreigners do seem to appreciate their value. These monuments clearly hold economic value to foreigners as they are used to attract tour-

ists. On top of that, foreign lawyers, accountants, banks and other financial institutions have the tendency to place their offices inside our monuments. The exact reason for this remains unclear. What is clear is that monuments have value. At the moment this value is either being used by foreigners or the monuments are left to deteriorate and become ruins (fig.48). In my view there is clearly a task to let locals also benefit from these monuments. Whether it is socio-culturally, by using it to reconnect with their actual history, symbolically by reclaiming them from foreigners or purely for economic benefits.

### Is there more?

During a conversation with a Dutch landscape architect, who went to Willemstad for a project and got to experience the local culture through its public spaces, he told me the following. Something along the lines of; 'The people in Willemstad are quite simple, all they need is a place to dance, play music, eat and drink. So if you can provide this, you will have a successful public space in the city.'

Though I completely understand this observation and to a certain extent I agree with this observation, it is my personal experience that us locals are not so shallow. There is a much deeper, richer culture that exists, that can not currently be expressed through the limited amount of public spaces that we have. There is art, design, history, intellectual conversations about our future, people who just need to go for a quick walk and who knows what else that does not get expressed and remains behind closed doors, due to this lack of public spaces that exists in Willemstad.

## 4.4 Brain Drain and Education

There is a persisting pattern within highly educated locals of Willemstad. A lot of them leave Willemstad after high school to go study abroad, mainly in the Netherlands and also the USA. After their education, when they have become high-skilled workers, who actually have the potential to largely contribute to the economic development of the city, they choose not to return. I myself fall into this category and so do many of my friends and acquaintances in my age group. The main arguments for not returning, that keeps coming back every time I have this conversation with my peers and that are well known amongst locals are; 1.) There are no jobs within my field. 2.) I feel like I will be limited in my opportunities to grow my career and develop my interests. 3.) The current established order is too rigid and will not accept my new ideas for the development of whatever it is I'm trying to improve. However, I found that there potentially are also some aspects of the city's quality of place that contribute to the brain-drainer's decision not to return to Willemstad. The aspects that I'm about to show were compiled with the help of a group of 5 other (ex-) TU Delft students from Willemstad (KREA), with whom we have had frequent discussions and even wrote articles about different issues within the city's built environment. However, they are still speculative and based on personal experiences, and like most of the topics discussed here, more actual research is needed in the future.

The main issue that I see here, is by being some of the few types of locals who actually get a chance to live in another country, brain-drainers get to experience places like the Netherlands where they have access to much more variety of spatial resources to use in their lives and careers.

## Lack of Housing Options

When contemplating their return to Willemstad, brain-drainers actually have two options when it comes to housing. They either have to buy a plot of land and build their own house or they have to go live back in the house with their parents. Due to their high income they are not able to rent as renting options outside of social-housing are scarce.

This lack of variety, when it comes to housing can be seen as a big hurdle for them to return to their home city. Being able to rent an apartment or a studio for example would be a great option for a brain drainer who is just starting a career. While, the more experienced brain-drainers for example, with high income, might want to rent a more luxurious family house, without making such a permanent investment in building a house.

## Lack of Transportation Options

Similarly to housing, a brain-drainer would also need to buy a car upon their return to be able to use the city optimally. This is also quite an investment and forms a hurdle. This is due to a lack of other forms of transportation that would require less of an initial investment. This especially counts for those who are just starting their careers.

On a larger scale, due to the insularity of the city, it is also harder to travel to other cities around the world, something that most brain-drainers have gotten used to by living in larger, more connected areas. Going anywhere else except for Willemstad, means buying a relatively expensive plane ticket. While living in a place like the Netherlands, experiencing another city is a bike or train ride away.

## Lack of Places for Business

For those who would want to return to the city to start a business, there are quite some hurdles when it comes to finding a place to run that business. Especially if it is a start-up business. The initial investment in all the spatial resources required to do this might be too much. There currently are not many explicit, easily accessible places for the incubation of startups, where necessary resources can be shared amongst a group of similar entrepreneurs.

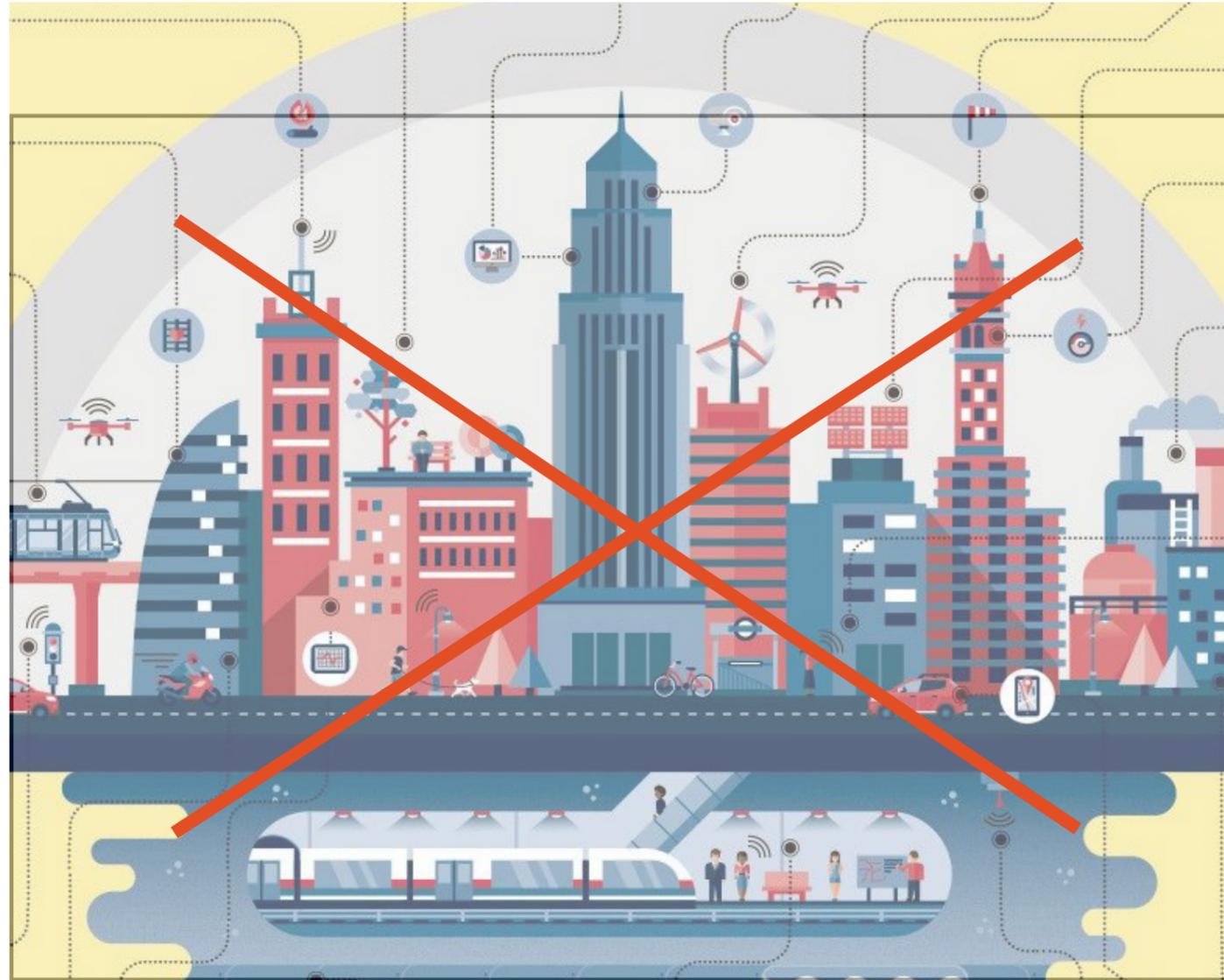


Fig.49: Variety of Spatial Resources encountered and used by brain-drainers in foreign cities, that are not available or accessible in Willemstad. (source: Raconteur)

## Our Informal Public Spaces

On the other hand, spatial resources like the informal public space for cultural activities and beaches are a main attraction of the brain-drainers. Many of us spend our days abroad dreaming of the moment when we can return to the city to be in these places. It is also the place we frequently visit when we go there on vacations.

## 4.5 Ecosystems & Natural Threats

This section quickly introduces some of the main links found between the spatial context of Willemstad and its natural environment



Fig.50: An informal and temporary shaded public space in Willemstad (source: Renske Spijkers)

### Sun & Wind

Firstly, because of the hot and dry climate of Willemstad, shade is an essential factor in the daily lives of locals. It is an unmissable factor when it comes to usable and successful public spaces in the city. The resulting heat also creates uncomfortable condition inside of buildings.

In the past, this was combated with ventilation by the consistent North-Easterly trade winds. However, in the past decades this natural ventilation has been largely replaced by air-conditioning.

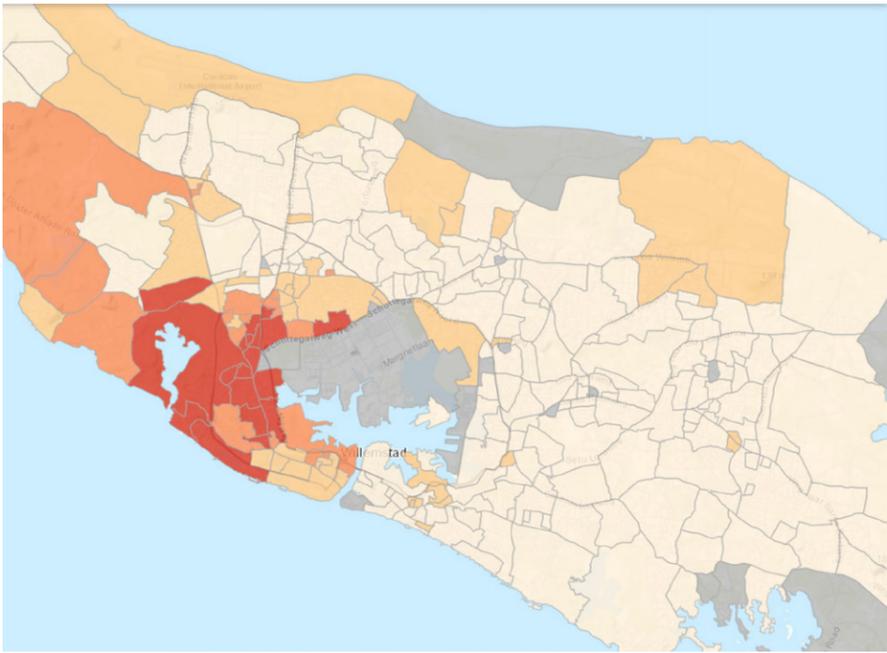


Fig.51: Areas marked in red receive the most air pollution due to their being located close to the oil refinery and the consistent North-Easterly trade winds (source: CBS Curacao)

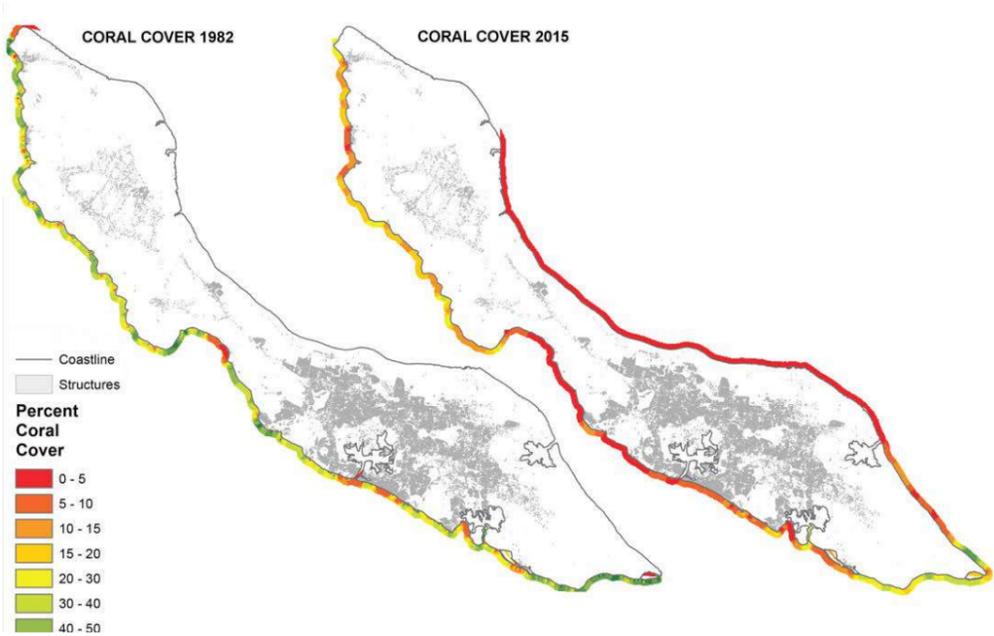


Fig.52: Massive, island wide declines in coral cover over the past 30 years (source: WAITT Institute)

**Pollution of Ecosystems by Export Businesses**

The ecosystems of Willemstad are subjected to a great deal of pollution. The most known source of pollution in Willemstad is the oil refinery, located in the middle of the city. For almost 100 years this refinery has polluted the air of our city with illegal amounts of dangerous gases. Due to the NE trade wind, neighborhoods located in the south-west areas of the city are particularly affected by this pollution. Furthermore, because of the increasing amounts of urbanization and activity along the island's coast line, our marine ecosystems also experience a great deal of destruction.

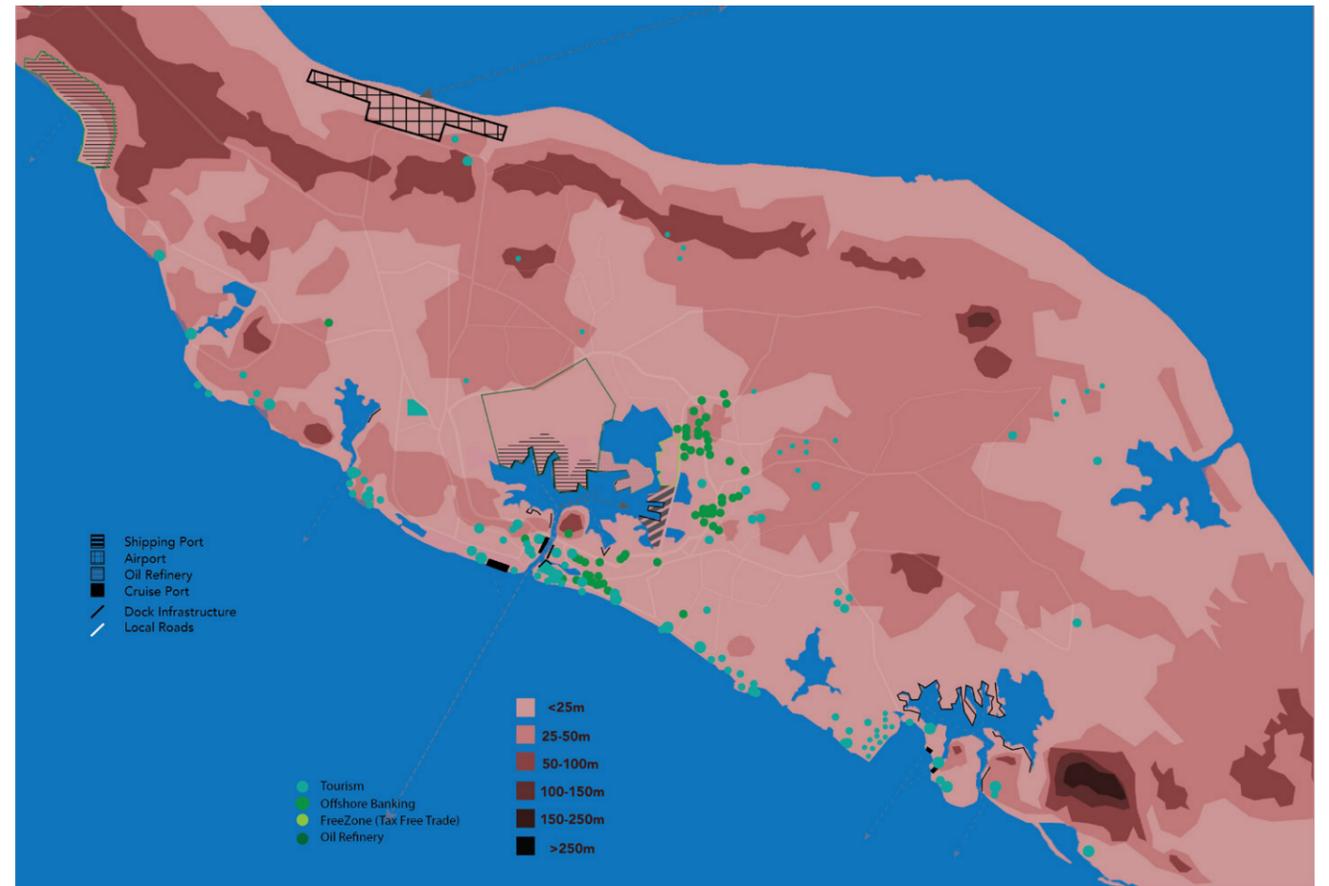


Fig.53: Elevation map showing that export functions as well as global shipping infrastructure are amongst the first to be affected by drastic sea level rises caused by global warming or natural disasters.

**Rising Sea Levels & The occasional Hurricane**

Finally, Willemstad's urbanization along the coastline also creates a vulnerability for rising sea levels, as a result of climate change. Without intervention, this will not only affect some housing neighborhoods, but also export businesses along the coast who are important for the city's economy. Global transport infrastructure will also be affected preventing the import of essential products for locals. Climate change can also increase the frequency and intensity of hurricanes on Willemstad. This will uncountably cause destruction to structures in the built environment that are not strong enough to handle strong winds. Here also, structures close to the coast are subjected to the most damage.

# 4.6 Spatial Analysis: Conclusions

Housing	Segregation between neighborhoods with High Income/High Foreign-Born population and Low-Mid-Income/High Local-Born population -	Limited Housing options for Brain-Drainers who want to return to the city. -	Stand-Alone housing type with garden and balconies offer protection against sun and space for social interaction +	High Levels of Air Pollution in neighborhoods, especially in the South-West areas of the city -	Many Neighborhoods at risk for flooding if sea-levels rise drastically -
Space for Economy	Spatial Clusters of specialized, foreign-owned export businesses are essential for economy. They are segregated from the rest of the city. Limited spatial resources left for local-owned export businesses. - +	Decentralized network of import-businesses spread out across the city. Strong effect on how locals use their city. Constant driving around, increasing costs and air pollution - +	Climate protection (shade/cooling) combined with space for social activities is a determining factor in the success of shopping areas in the city. +	Export Businesses/ Clusters have a high contribution to air-pollution and destruction of ecosystems in the city -	Export Clusters are located along the coast and are vulnerable to rising sea levels. -
Public Spaces	Due to a lack of formal public spaces, locals use informal and improvised public spaces used by chance encounters and social/cultural activities. - +	Formal Semi-Public Spaces are within export clusters mimic the informal public spaces used by locals. This is done to attract foreigners (high skilled workers and tourists)(Economic Value) - +	Shade/Cooling, Informal vibes, Space for cultural activities and chance encounters determine the success of a public space. +		
Transport Infrastructure	Global Transport Infrastructure is essential for supporting the export/import dependency of the city. Locals do not have access to these infrastructures. - +	Global Infrastructure is limited to ship and airplane. Limiting the cultural and social interaction of locals and the rest of the world. (Barrier to developing social capital and education) -	Global Infrastructure is also located along the coast and has a flood risk -	There is an extensive local road infrastructure that is used both for the transportation of goods as well as by locals for their day to day life. There is a car culture. Public transport is weak/ Lack of other options - +	
Monuments	Monuments are used for export businesses or as housing by rich people. Monuments rarely have a social/cultural function for locals -	Monuments are built to resist the harsh hot and dry climate. +			

Fig.54: Overview of the spatial analysis, showing the main findings and whether they negatively or positively impact the well-being of the local population of Willemstad

## Summary and evaluation of findings

The scheme above summarizes the findings from the spatial analysis (fig.54). To organize the findings I categorized them into different relevant (morphological) aspects of the city's spatial context (public spaces, transport infrastructure, monuments etc.). Per category I then listed the most important findings. As the goal of the spatial analysis is to understand the relationship between the locals and their quality of place, I also added a + and/or - to signal whether each finding negatively or positively affects the well-being of the locals.

The positive ones can be seen as aspects of the built environment that need to be protected and further developed in the future. While the negative ones would need to be replaced if we want to improve the conditions of locals.

However, there are also quite a few aspects that I have labeled both positive and negative. These aspects are more complex as they simultaneously provide benefits for locals and disadvantages. One of these aspects, for example, is the decentralized network of retail stores that sell imported goods. This network is essential for supporting the daily consumption needs of locals, as well as all the cul-

tural activities, like parties etc., who will not be able to take place without them. The decentralized character makes it so that these places are in relatively close range to everybody in the city. At the same time, the fact that there is a wide variety of displacement of certain products within the network itself, creates a reality where locals are constantly driving from one point to another within the city to get all their necessary goods. This is inefficient and costs the locals extra transport costs, as well as polluting our air.

Therefore, in the future, rather than keeping it as it is or completely replacing it, there needs to be a careful reconsideration of this aspect in order to boost the positive effects and minimize the negative. This counts for all the other aspects labeled as such in the scheme above.

As general conclusion, it has become clear through this analysis that although there are definitely some aspects of the city's quality of place that contribute positively to lives of locals, there is still much more room for improvement in the spatial context of the city, if we want to promote sustainable socio-economic, social-cultural and environmental conditions for our local population.

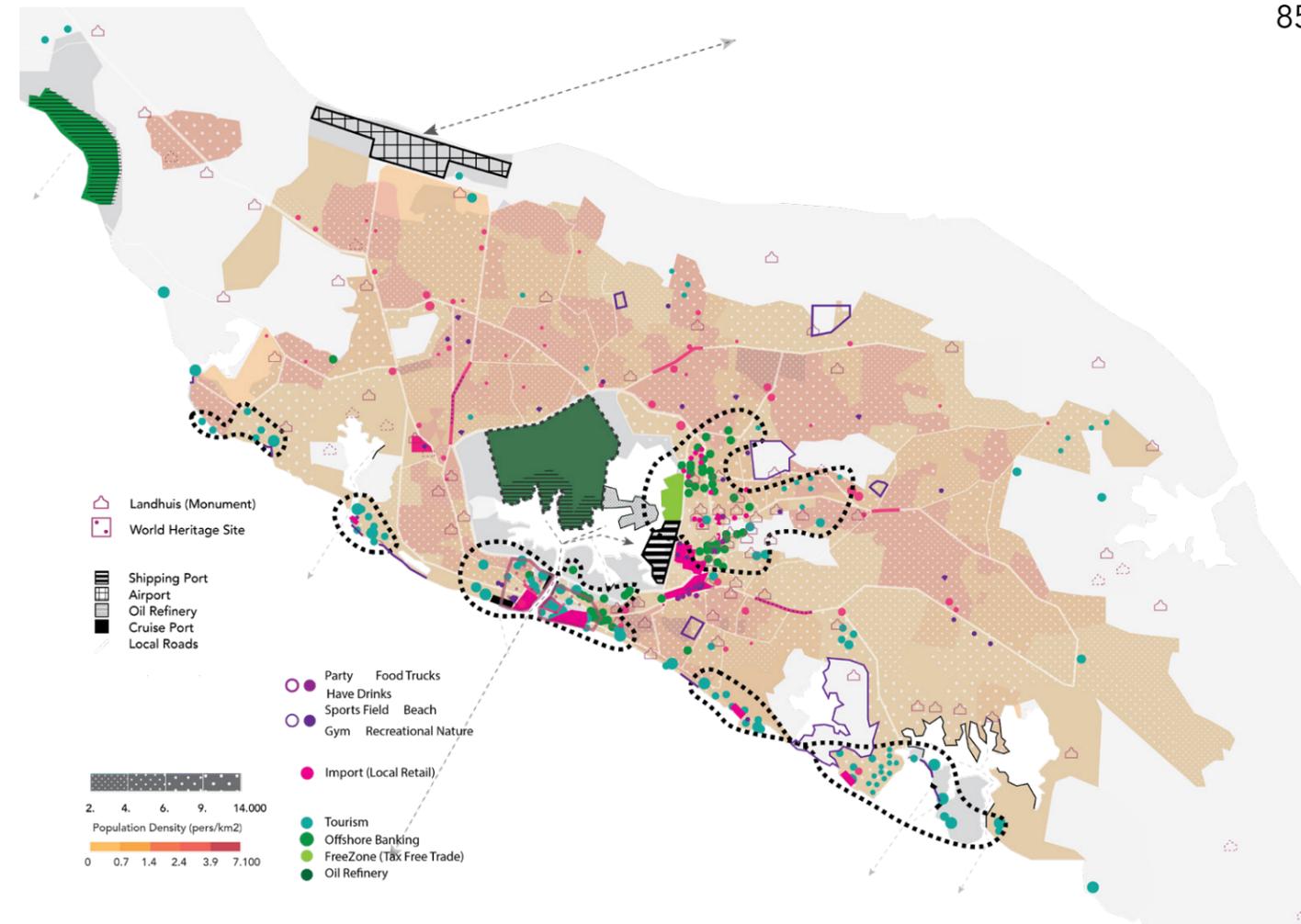
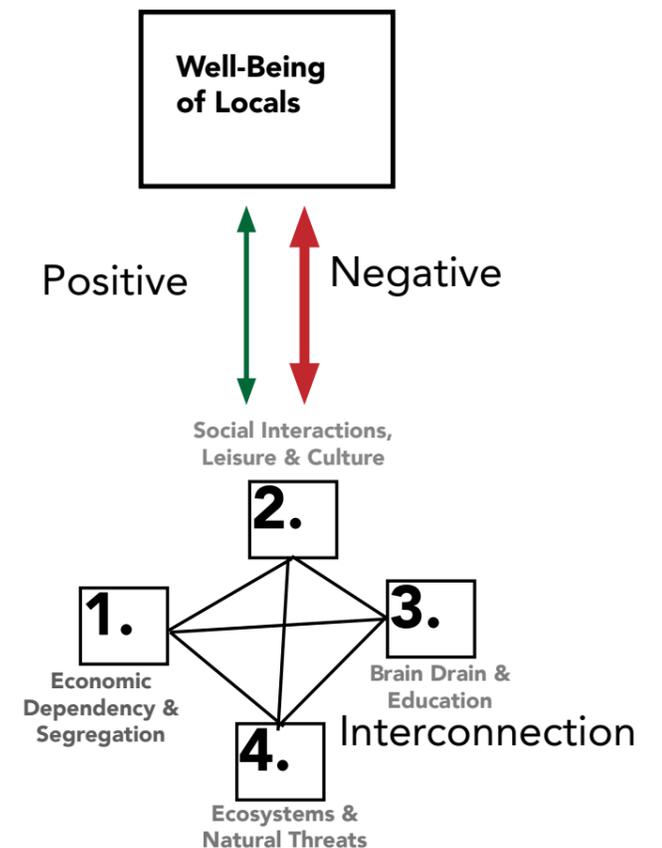


Fig.55: Map illustrating the interconnectedness between different factors found in the spatial analysis

## Interconnectedness of Layers

Another conclusion that I want to highlight here, is the fact that there are a lot of relations to be found between the different conditions in the quality of place. For example; The export clusters of internationalized businesses, also contain the highest concentrations of housing for high earning foreigners, while also containing large concentrations of monuments and privatized beaches, while being at most risk for flooding due to rising sea levels. Another example; The stand-alone housing type that is so important for facilitating social interactions, creates low density neighborhoods, which in turn contributes to the lack of public spaces within these neighborhoods, the need for the decentralized network of import functions and car dependency. This also causes pollution.

When thinking about the future of our city and proposing urban development, this integration between all these layers needs to be taken into account.



## Instrument + Stakeholder Analysis

5.1 Stakeholders and their priorities

5.2 Planning Instruments: the E.O.P.

5.3 Conclusion

# 5.

In the spatial analysis above, it became clear that there are many aspects of Willemstad's current quality of place that do not promote sustainable living conditions for locals. In this section I make an attempt at understanding the underlying problems within the local spatial planning system that cause this to happen. In the first part of this section I do a stakeholder analysis. In this stakeholder analysis I take a look at the position of relevant stakeholders within spatial developments in Willemstad, their power to influence spatial developments and the extent to which they include the well-being of locals as a main priority.

In the second half of this analysis I critically examine the main planning instrument of Willemstad, the infamous 'Island Development Plan' (E.O.P.). Here I also focus on its effectiveness in promoting sustainable spatial developments for locals.

### 5.1 Stakeholders: Locals as a priority?

What follows is a summary of the position of the most relevant stakeholders when it comes to the spatial planning system of Willemstad, found during my fieldwork;

#### VVRP (Spatial Planning Department):

We do not get a coherent vision from the government on the future socio-economic and environmental development of the city. Therefore, we can not create a vision or any type of plan on the future spatial development of the city. Let alone one that directly integrates the well-being of the marginalized locals.

Also, we lack capacity and are completely preoccupied with keeping the city's infrastructure functional.

#### Urban Designers:

There is no point in making spatial designs on a urban scale (larger than individual buildings or plots). It will be shoved into a government drawer, never to be seen again. The whole concept of urban design for the sake of locals, is not yet know in the city. Larger scale master-plans are usually drawn for specific economic sectors (tourism) or for specific developers (apc, cpa, foreigners). Seldom do they get executed.

Urban Designers have stopped dreaming about a desirable future for the city and its locals. They gave up.

However, they are the only stakeholders I found who simultaneously understand the spatial context of Willemstad and have the well-being of locals at heart.

#### Government:

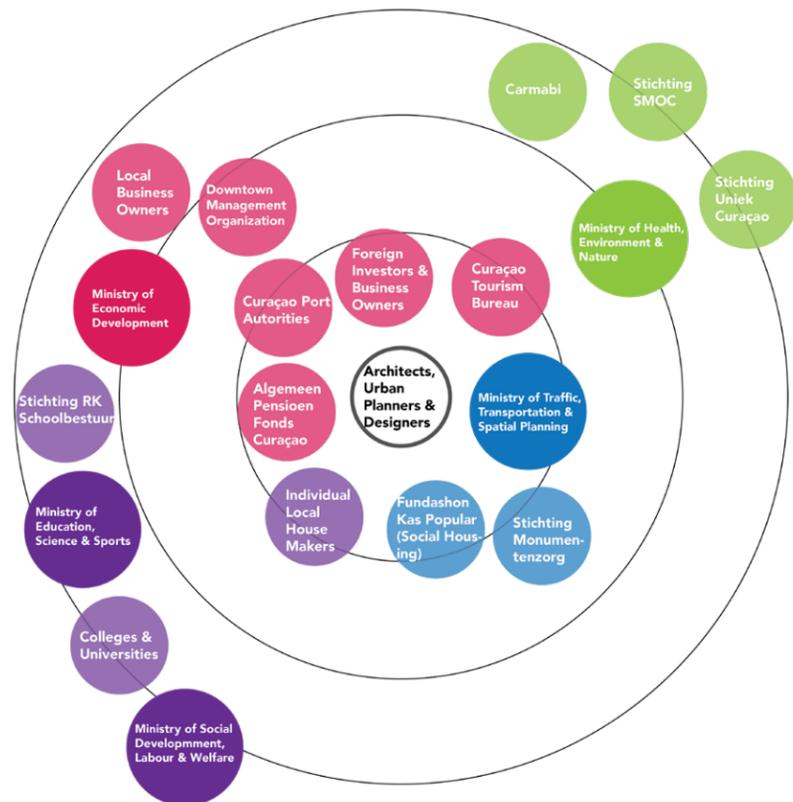
When it comes to spatial development, we can not do it ourselves and do not trust local developers therefore, we need foreign developers to come and do it for us.

#### Foreign Developers:

My primary goal is to use this city and its resources to make myself richer. Seldom is the well-being of the local population a goal for my developments. I already pay (reduced) taxes.

#### Locals:

I do not yet have any agency in how my city is developed. If I want to develop anything myself, it usually goes against regulations. Sometimes I do it anyway and hope that the government turns a blind eye.



### Main Goal:

**Healthy Social, Socio-Economic & Cultural conditions for the local population**

**Prosperous and Well-Functioning Small Island Economy**

**Reduce Pollution/Energy Use & Protection of Ecosystems**

**Efficient Use of the Built Environment (Space), good Living Conditions for Locals & Protection of Physical Cultural Heritage**

Fig.56: Based on interviews and local knowledge I made this map of stakeholders, the goals they represent and their level of involvement / power within spatial developments. It shows that the stakeholders who determine spatial developments mainly have economic interests. Either individual developers who want to earn money or government agencies who want to improve the overall economy of the city. Except for the urban designers themselves, there is no one taking the specific conditions of locals into account during spatial developments and making it a priority.

## 5.2 Planning Instruments

### The EOP: Outdated

The Island Development Plan (EOP) is Willemstad's main spatial planning tool. It is the main land-use plan utilized by the government's spatial planning department who gives out building permits for construction. It dictates what can be built where.

The main problem with the EOP, and this is a sentiment that is unanimous amongst all stakeholders that I have interviewed, is that it is outdated. This plan was published in 1995 and it is based on a spatial model for the urban structure of the city that was designed in the 1950's. The intention behind the EOP was for it to be updated every couple of years, in order to keep up with changing conditions in the city. However, due to a lack of capacity in the governance system, this has never happened.

The EOP follows a model where the historical urban core (old Willemstad) is designated as the center for economic and cultural functions and is surround-

ed by low density neighborhoods with exclusively housing as a function.

Currently, there is a complete misalignment between the EOP and the reality of Willemstad's urban structure. The city center no longer is the center of activity and many economic and cultural functions have decentralized and spread out across the living neighborhoods. However, the spatial planning department is still trying to enforce this outdated model.

Logically, this land-use plan does not take into account the current challenges that are facing the local population of Willemstad. Therefore, any spatial development in the city will not automatically integrate this as a goal.



Fig.57: Digital reconstruction of the Eilands Ontwikkeling Plan (E.O.P.). A land-use plan designed in the early 90's, that currently serves as the main spatial planning instrument of Willemstad, regulating spatial developments.

### Lack of Spatial Policies for locals

Besides the EOP, other types of spatial policies are scarce. There are rules for developments in the historical urban core, in order to protect its status as a UNESCO world heritage site. Except for this I have not been able to encounter policies or plans coming from the public or private sector that explicitly connect the goal of improving the well-being of locals, with spatial development.

### Lack of Urban Development

There is generally a lack of planned urban development in the city. With this I mean the process where a strategy is made and implemented for the development of an area larger than an individual plot. Sometimes, like with the development of resorts, it may seem as if there is urban development taking place, however, this is just one large plot owned by one developer. The only exception being plans for mono-functional housing neighborhoods, where roads are made and plots are divided to be sold to future house owners, where each will develop their own house according to certain rules.

The act of developing an area that requires cooper-

ation between multiple stakeholders, where there is a combination of economic, social and environmental interest being integrated into a strategy, that in turn also gets implemented, is a foreign concept to Willemstad.

### Future Role of the Urban Designers

Here I want to pay special attention to the local urban designers and planners. This includes those who have their own design studios as well as those who are currently working within the spatial planning department of the city.

It has come to my attention during interviews I had with a few local planners and designers, that they are well aware of all the different problems within the entire governance system that are currently preventing spatial developments for locals. Furthermore, they themselves being locals, have an underlying passion and desire for improving the living situation of locals.

However, due to the many political and institutional

issues within the current governance system, they currently do not have a lot of agency in using the power or urban design and development to fulfill this desire. This has been going on for a while, if not forever. As a result, I sense this overall sentiment that they have given up.

One urban planner that I interviewed told me that there is no point to making urban design in this city, as it will be put in a drawer and forgotten about. Another one explained a set of great ideas for the sustainable development of the city center, then told me that the ministers and 'invisible hands of power' would never allow such new ideas to be implemented.

It seems like they have given up on the idea of using urban design and planning as a tool for creating sustainable conditions in the city. And it's sad, because out of everybody I interviewed, they seem to be the ones who are most aware of the problems facing the locals, the relationships with the quality of place and potential solutions.

### 5.3 Conclusions

The main conclusions of this chapter are;

There currently is a lack of an approach towards urban planning and design that prioritizes the well-being of locals.

The current planning instruments of Willemstad are outdated and do not explicitly take the specific conditions of locals into account.

Separate from the spatial context, there are not even any clear visions or plans coming from the governance system on how to improve the socio-economic, socio-cultural and environmental conditions of locals. Therefore, spatial planners do not have anything to base their potential designs on.

The whole concept of Urban development, where different stakeholders representing different economic, social and environmental goals work together to develop an area larger than an individual plot, is a foreign idea to Willemstad.

The local Urban Planners and Designers are among the few who actually understand the spatial context of Willemstad and are interested in bettering the situation of locals, unfortunately they currently do not have much agency in spatial developments and seem to have given up.

Most of all, locals currently are not being included into the collaborative process of Spatial Planning in the city. Except for their own house, locals currently do not have a say in how the spatial structure of their city is developed (fig. 58).

As an aspiring urban designer and local of Willemstad, I saw this coming. However, actually doing these interviews and confirming this reality personally took a toll on me. I almost fell into the rabbit hole of hopelessness that persists amongst many locals. One where we must accept that our future is not in our hands.

Thankfully, during the time that I have been working on this thesis, some spatial developments have been taking place in the city that gave me hope again. They will be discussed in the next chapter.

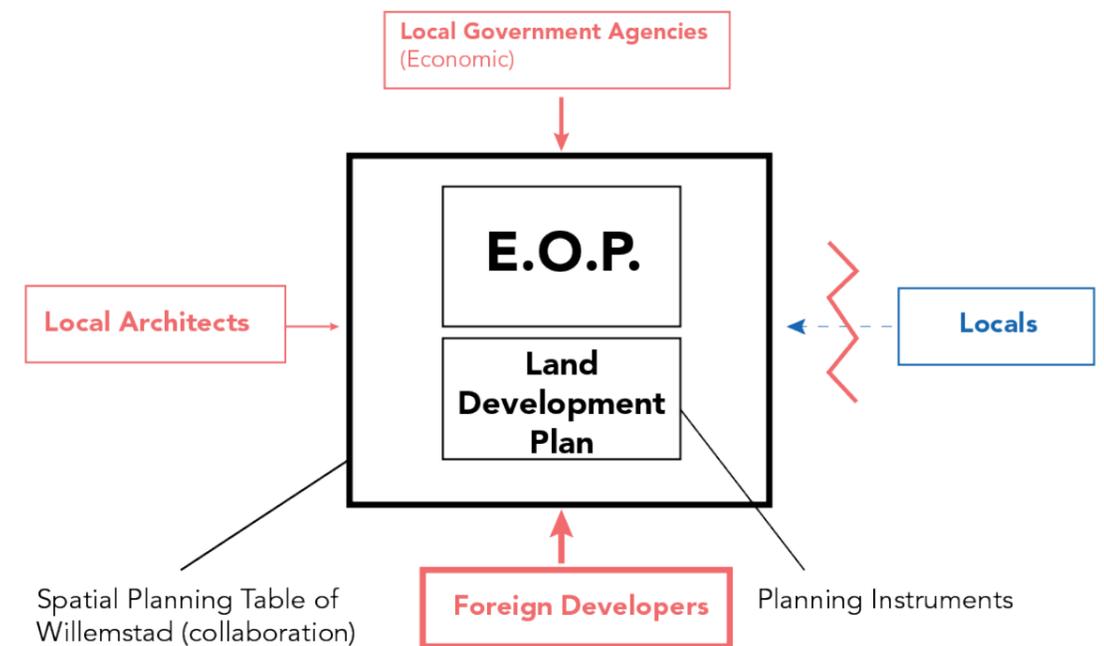


Fig.58: Stakeholders currently participating in the spatial planning process in Willemstad and their planning instruments. Locals are being excluded.



## Potentials + Vision

- 6.1 Recent Spatial Developments for The Locals
- 6.2 Vision



## 6.1 Recent Spatial Developments for The Locals

The spatial and stakeholder analysis done so far paints a dark picture, where spatial developments in the city are mostly done by foreigners for their own profit. While the locals of the city are deprived of spatial developments that set their well-being as a priority, by integrating their specific conditions.

In the last couple of years (3-4 years) there have been a few planned spatial developments going on in Willemstad that give me hope. Though most of them are still being developed or are recently done, so we are not sure yet to what extent they will actually benefit the locals, the goal behind them seems to actually put the focus on US for once. This section is meant to discuss a few of these developments. For now I will only highlight their main feature. In the next report it's the intention that I go a bit more in depth, as they were used to inspire some of my design decisions in the next chapter.



Fig.59: Design for the Maripompoen beach development: A high quality public space made specifically for the leisure of locals (source: Heren2)

### Maripompoen: Beach Development for Locals

As a response to the persisting complaints coming from locals about the fact that our beaches are being privatized by hotel developments, our government gave the Curacao Tourism Bureau the task and budget to develop a beach area for locals within the city. It is supposed to be a public place to be used by us for a wide range of cultural and leisure activities. The planned development of actual public places, especially on this scale, is something quite new for the city. Parts of this plan have already been built and it seems to be successful. Someone closely involved with this project explained to me how they are seeing new ways of locals using public spaces that are not yet known in the city, because the public places were never there. For example people are using them for weddings, something that was previously only done in private spaces. Inhabitants of that area also observed that on several occasions they have observed different people taking a walk here, around sunset and crying.



Fig.60: New form of social housing in Willemstad (source: Lyongo Juliana)

## Social Housing that integrates local conditions

This new social housing being built in the Montan'abou neighborhood was designed by architect Lyongo Juliana. During a conversation with him he explained the concept behind the housing. It shows how some of the specific conditions of locals explained in the previous chapter are integrated into the design of these housing units.

- 1.) There are each time 2 separate volumes of housing, which are connected by a staircase. These open staircases were given ample space in order to encourage the chance encounters that are so important to the social fabric of locals.
- 2.) Furthermore, each housing unit has openings on 3 sides and placed in an orientation where they can be naturally ventilated, in order to combat the hot climate, that would usually make higher density developments like this need to depend on air-conditioning. With all the attached cost and negative environmental effects.



Fig.61: Map of the kaya-kaya party in Otrobanda (source: Kaya-Kaya)

## KAYA-KAYA Party

The last project I want to draw attention to is the so-called 'Kaya-Kaya' party. During this party, the streets and buildings of Otrobanda, in the historical city center, are transformed into a party for locals from across the entire city. This bottom-up initiative gives agency and the necessary resources to locals, especially the inhabitants of this area, to temporarily physically transform their neighborhood themselves, into the ideal place for locals to have a good time. Besides the main socio-cultural contribution, there are also places made for local entrepreneurs to sell products to both locals and tourists. Simultaneously, this party is also environmentally conscious and tries to teach locals the importance of recycling and reuse. Fig.61 shows some of the many spatial interventions found in this party. While most are temporary, there are also some permanent interventions that improve the quality of this neighborhood even after the party ends.



Claim Ruined Monuments



Public Places made by Locals



Places for Local Artists to get Exposure and sell art



Places for Local Entrepreneurs



New forms of Public Transportation



Places for Chance Encounters



Urban Farming

Fig.62: Different spatial interventions found at the Kaya-Kaya party (source: Kaya-Kaya)

### 6.2 Vision

Previous chapters have shown that there is much space for improvement in the quality of place of Willemstad, when it comes to its relationship with the sustainable development of the socio-economic, socio-cultural and environmental conditions of its locals. It has also become clear that the current spatial planning and governance system does not have an approach towards planning that integrates the conditions of locals. Furthermore, local urban planners and designers understand this problem and are interested in improving the well-being of locals, yet they lack agency within spatial developments.

As a reaction to these findings, I want to use this section to propose my vision for the future of spatial developments in Willemstad, its spatial planning system and the role of local Urban Planners and Designers in creating this future.

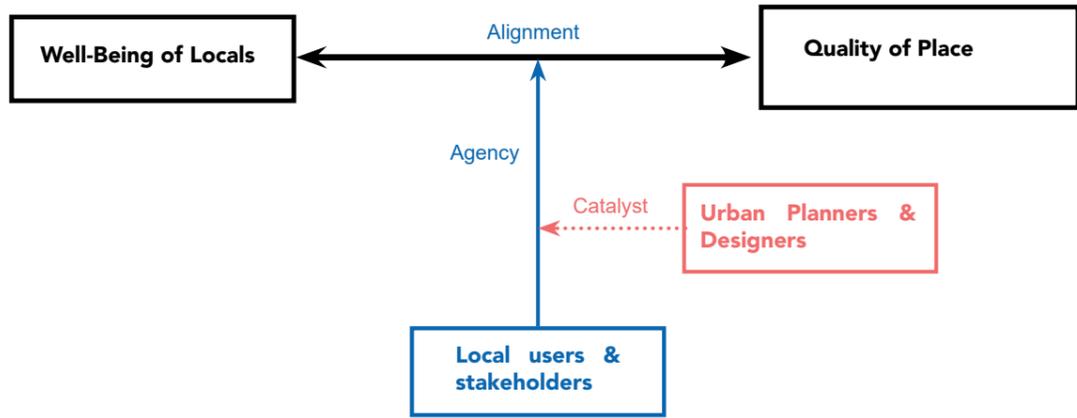


Fig.63: Vision: Alignment between Willemstad’s quality of place and the needs of its local population, more agency to locals to create this alignment, Local urban planners and designers as catalysts of this agency.

### Spatial Developments for US

My vision is actually quite simple; That in the future, spatial developments in the city will integrate the economic, social and environmental sustainability of the local population as a primary goal. Meaning that the main purpose of spatial transformations in the city is to directly connect locals with the spatial resources that we need to improve our own well-being.

I imagine a situation where we not only physically have access to these places, but where in our identity and culture we become aware of the benefits that the city’s spatial resources can bring to us and where we can proudly claim these places as being truly ours. To most of us, especially those involved in spatial developments (I’m talking to you Urban Designers) this may seem far fetched. But this research has shown the importance of the spatial context and I dare say that without claiming these ‘places’, we will never be able to improve and protect our own quality of life.

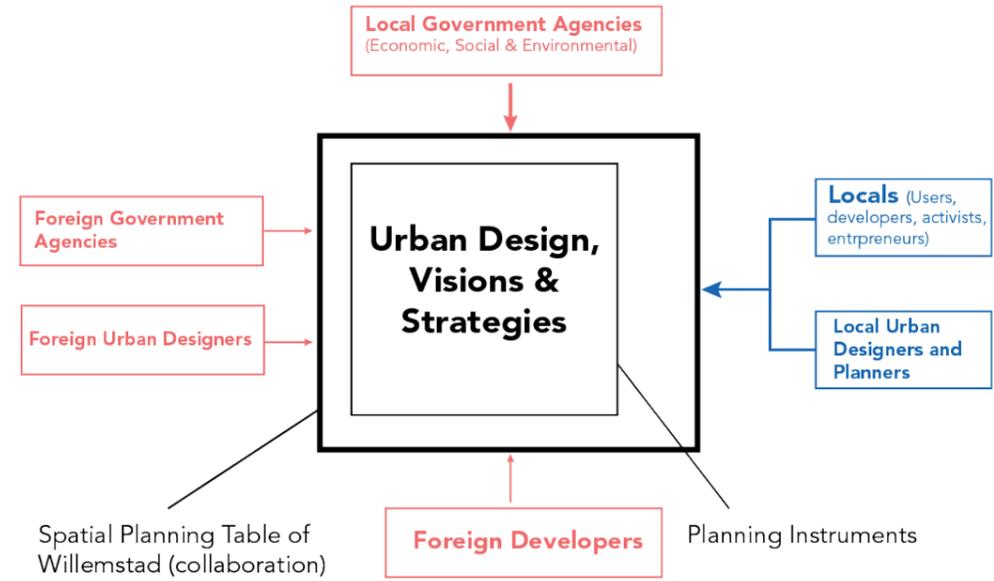


Fig.64: Vision: With our urban designers and planners by our side, we the locals finally get a seat at the spatial planning table of Willemstad and are able to influence spatial developments to benefit us.

### Future of Spatial Planning & Design in Willemstad

In this future, locals are directly involved in the process of spatial planning. Instead of standing on the side lines and helplessly watching our city transform into a place that does not benefit us, we the locals finally will have (a few) seats at the table of spatial planning in Willemstad. Spatial development will not be possible unless relevant locals are deeply involved in the urban design process behind the development and they give their approval. This does not mean that foreigners are excluded. To the contrary, they will become an essential part of the team, as their expertise, input and resources can potentially play a significant role in improving the situation of Willemstad’s locals. However, we need to strive for the day where this becomes a fair collaboration and as it is our city, we as locals will have to take the lead!

Now it is easy to dream. Getting there is something else. I am well aware that the current challenges within the city’s governance system are plenty and getting to the point where urban designs for locals are made and it will actually be implemented and built, is a steep uphill battle. Understanding and finding solutions to all these challenges will require years of hard work.

However, we can start by taking small steps and I believe that the local urban designers and planners, whether they have their own practice or are working for the government, are the ones that secretly hold the power to do this. It is my observation that they are currently the ones who understand the spatial context of Willemstad and simultaneously have an interest in improving the lives of locals. They can become the catalysts to this movement.

To do this however, it would require them to step out of their comfort zones. If the government doesn’t give you socio-economic goals to work with, make your own, even though it is not your job. If a foreign developer wants you to design a plan that does not include the well-being of locals, refuse to work with them. If the locals are not aware that they are being excluded from access to certain spatial resources, become an activist and raise awareness. As long as you remember the end goal which is, Places for US!

## **PART C: DESIGN**

# 7

## Design Principles for US

7.1 Design Goal & Process

7.2 Places for US: Urban Design Principles for Locals

7.3 Test by Design: Otrobanda Wharf Area

7.4 Conclusions

### 7.1 Design Goal & Process

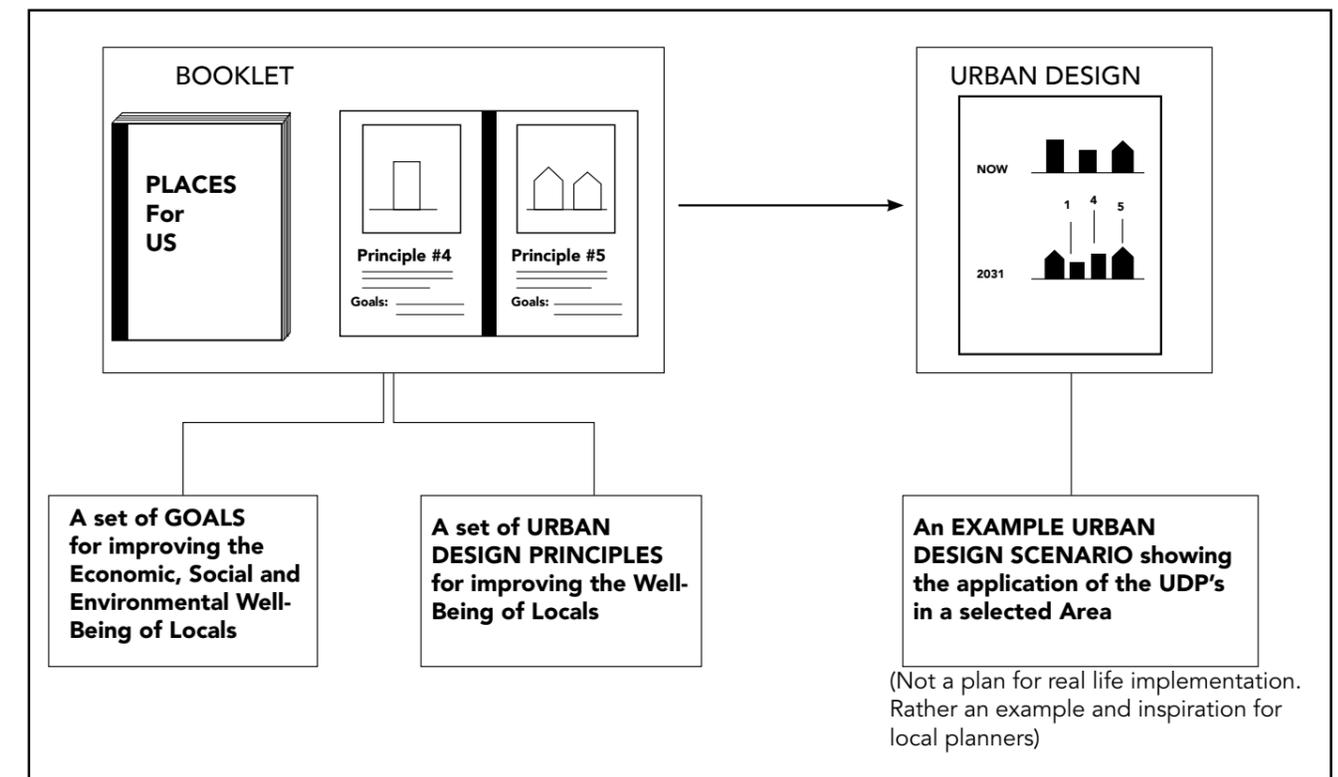


Fig.64: The final design product of this thesis is a booklet containing a set of goals and urban design principles for improving the well-being of locals. Next to this booklet, an exemplary urban design applying these design principles to a specific urban area.

#### Design Goal

The previous chapters have shown that currently, the urban spatial structure of Willemstad contains a vast combination of conditions that do not benefit the well-being of its local population. Furthermore, it has become clear that there is currently a lack of an approach towards urban design and planning that incorporates the well-being of locals as a main starting point for future transformations of the city.

The main goal of this section is to make a first attempt at creating a set of custom Urban Design Principles for Willemstad, that do benefit the socio-economic, socio-cultural and environmental well-being of its marginalized local population. **The point of these Urban Design Principles is to be used by locals during the collaborative spatial planning process, in order to inspire and assist the integration of our needs into future plans and strategies for the spatial development of the city.**

Secondly, in order to evaluate and show the effectiveness of these Urban Design Principles, I will test them on a selected area in the city. This is done

by incorporating them into an urban design for a transformation of this area, within a plausible future scenario. This design is not a plan meant for real life implementation, rather it is an example of how these Urban Design Principles can function within the city. It is meant for me to test the principles first and foremost, secondly inspire local designers to use within actual implementable plans and further develop them.

The previous chapter has also shown that the future socio-economic, socio-cultural and environmental conditions of locals is unpredictable. Furthermore, the current governance structure does not have any concrete plans for the future development of these conditions in order to ensure the well-being of its people. Therefore, even though as an urban planner I am tasked with spatial design, this section also aims to 'design' a few goals for the non-spatial (i.e. socio-economic, socio-cultural and environmental) development of locals. This is necessary in order to support the creation of the Urban Design Principles mentioned above.

### Design Process

Here I will describe the design process behind the creation of the 'Urban Design Principles for US'

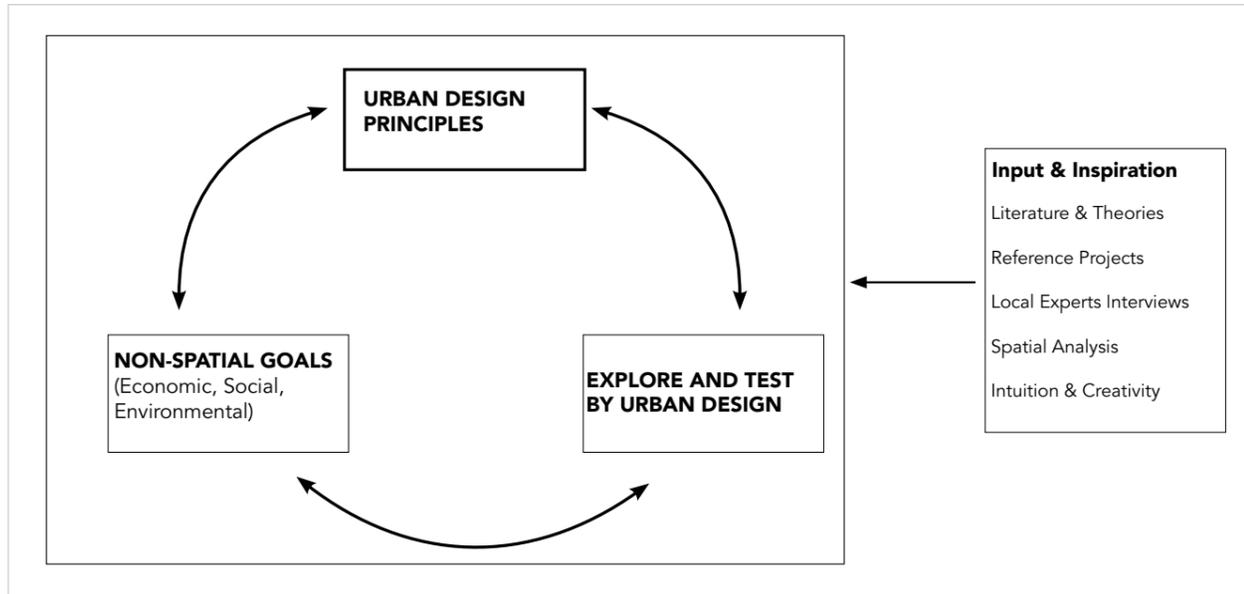


Fig.65: The design process behind the creation of the "Urban Design Principles for Locals" consists of iterations between 3 design actions.

### Iterations of 3 main design actions

The UDP4Ls were conceived using an exploratory approach to urban design. They are the result of a process involving several iterations. In retrospect, three main actions can be identified that were done several times in succession in order to reach the final product (fig.65); 1.) Designing Economic, Social and Environmental goals for the future development of Willemstad and its locals. 2.) Using urban design to test and explore how the urban spatial structure of the city can react to and contribute to these non-spatial goals. 3.) Identifying and Designing Urban Design Principles.

It is important to mention here that due to the exploratory nature of my design process, these actions became explicit towards the end of the process. In the beginning it was still quite implicitly and intuitively done.

Furthermore, it was an iterative process, meaning that these 3 actions were not executed in a specific order and were done multiple times. For example, in the beginning of the process I was only going back and forth between designing non-spatial goals and

testing them on different areas in the city. The creation of urban design principles became an explicit step only later in the process.

The choice to focus on the well-being of locals as the main goal for the design process also came later in the process. At first I was taking a much more general approach, looking at the well-being of the city in general. Throughout the process of doing different design iterations the locals slowly emerged as the main focus.

### Input

To inform my design decisions, several sources were used as input; Theories found in literature, reference projects, interviews with local experts, my own spatial analyses and most importantly; my own informed intuition and creativity.

	Economy	Social	Environment
Variation A	<b>Ec.A</b>	<b>So.A</b>	<b>En.A</b>
Variation B	<b>Ec.B</b>	<b>So.B</b>	<b>En.B</b>
Variation C	<b>Ec.C</b>	<b>So.C</b>	<b>En.C</b>
Variation D	<b>Ec.D</b>	<b>So.D</b>	<b>En.D</b>

Fig.66: Scenario Planning was used during the design process especially to come up with plausible combinations of future economic, social and environmental conditions in Willemstad. These combinations of conditions were then used as input for urban designs explorations, where the spatial structure would react to these conditions.

### Scenario Method

The scenario method has played a crucial role throughout my entire design process. As was made clear above, the future of Willemstad, its inhabitants and its urban structure are filled with uncertainties, due to both external and internal factors. Making it a very big challenge to design a single certain future for the city. The scenario method has proven itself to be a valuable tool for dealing with these uncertainties.

The scenario method embraces this uncertainty. Being popularized as a valuable tool used by businesses for their predicting and reacting to future developments, it has by now also made its way into the realm of urban planning. At its core, the scenario method accepts that within complex processes that depend on multiple factors with varying degrees of predictability, different future outcomes are possible for the set process. The scenario method is an exercise where one explicitly identifies these factors and makes informed predictions on the multiple possible future states of these factors and their interactions with each other in the future. By doing this you can then synthesize multiple different future scenarios for the development of the process in question.

In practice, this allows you, as the developer of a business or in this case a city, to have a range of different strategies that react to changing future conditions, instead of gambling on just one (Kosow & Gaßner, 2008).

Due to its broad use, the scenario method can take various forms. Literature on this method even de-

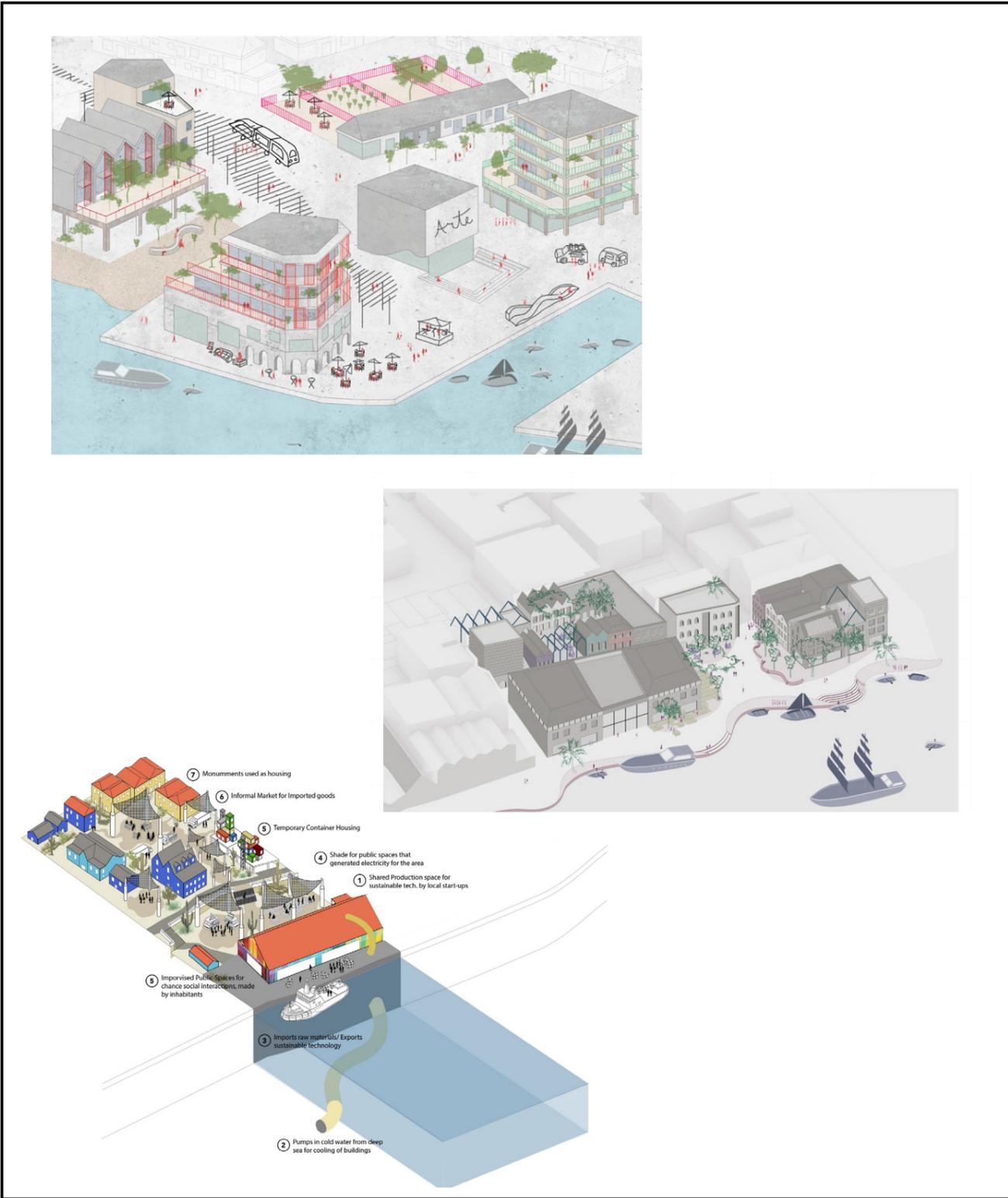
mands users to create a custom made scenario planning approach that fits the specific goal of the exercise. In general however, the following steps are common for the scenario approach;

In my process of creating the UDP4Ls, scenario planning was used throughout and has taken several forms;

In the final product of this thesis, the scenario method plays a specific role and is not as explicitly present as in previous design iterations shown above. However, the explicit use of the scenario approach during my design process was crucial (fig.66);

1) When developing economic, social and environmental goals for the city and its locals. Due to the fact that the future of these factors is currently so unclear, using this method to freely explore many different future possibilities for all of these factors was a must. Without these non-spatial goals, the urban design would not have anything to react to and no added value for the local population. For the final design, a selection was made from goals and conditions found in previous design iterations.

2.) By playing around with different combinations of future non-spatial conditions, I was able to explore many different spatial transformations that react to these conditions in an integrated way. It is by doing this several times that I discovered many of the Urban Design Principles that were then extracted from these test designs and transferred into the final product of this thesis.



**EXPLORE AND TEST BY URBAN DESIGN (Scenario Method)**

	Housing	Space for Economy	Public Spaces	Leisure Buildings	Transport Infrastructure	Monuments
<b>Embracing Import Dependency</b>	X	1	17	X	18	X
<b>Export Businesses by Locals</b>	X	2	9	X	6	3
<b>Brain Drainers Return</b>	11	2	4 22	7	8	14
<b>&gt;51% Locals</b>	21	2	4 22	7	X	13
<b>We Protect Our Nature</b>	16	10	12	X	8	X
<b>Protect Us from Nature</b>	16 19 20	16 19 20	5	16 19 20	20	15

1. Import Pick-Up points

2. Spatial cluster of local-owned export businesses

3. Shared production Facilities and workplaces for local-owned start-ups.

4. Flexible public spaces for local cultural and leisure activities

5. Shaded public spaces

6. Accessible global shipping infrastructure

7. Clusters of buildings that host local cultural and leisure functions

8. A variety of sustainable modes of transportation

9. Places for knowledge exchange between local start-ups

10. Low waste production facilities

11. Variety of housing options (types)

12. Incorporate places for nature in public spaces

13. Claim OUR monuments as part of our local identity

14. Monuments as places for US to work, live, learn & play

15. Monuments are already good at dealing with local climate

16. Nature inclusive buildings

17. Urban Farming

18. Automated land and maritime imports distribution network

19. Robust materialization of buildings

20. Coastal protection against rising sea levels

21. Multi-cultural living areas with >51% housing for locals

22. A network of flexible/Informal public spaces

**URBAN DESIGN PRINCIPLES & NON-SPATIAL GOALS**

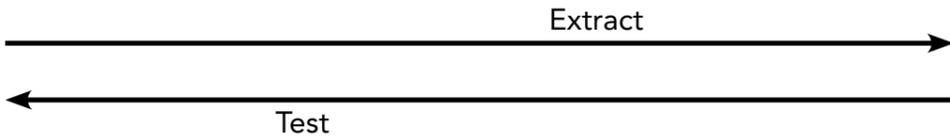


Fig.67: Overview of the "Design Principle for Locals", that were extracted from several different urban designs made throughout the design exploration process of this thesis

**7.2 Places for US: Urban Design Principles for Locals**

What follows is the main final product of this thesis. This should be seen as a separate booklet.

**PLACES  
FOR US**

URBAN DESIGN PRINCIPLES FOR THE  
LOCALS OF WILLEMSTAD



# PLACES FOR US

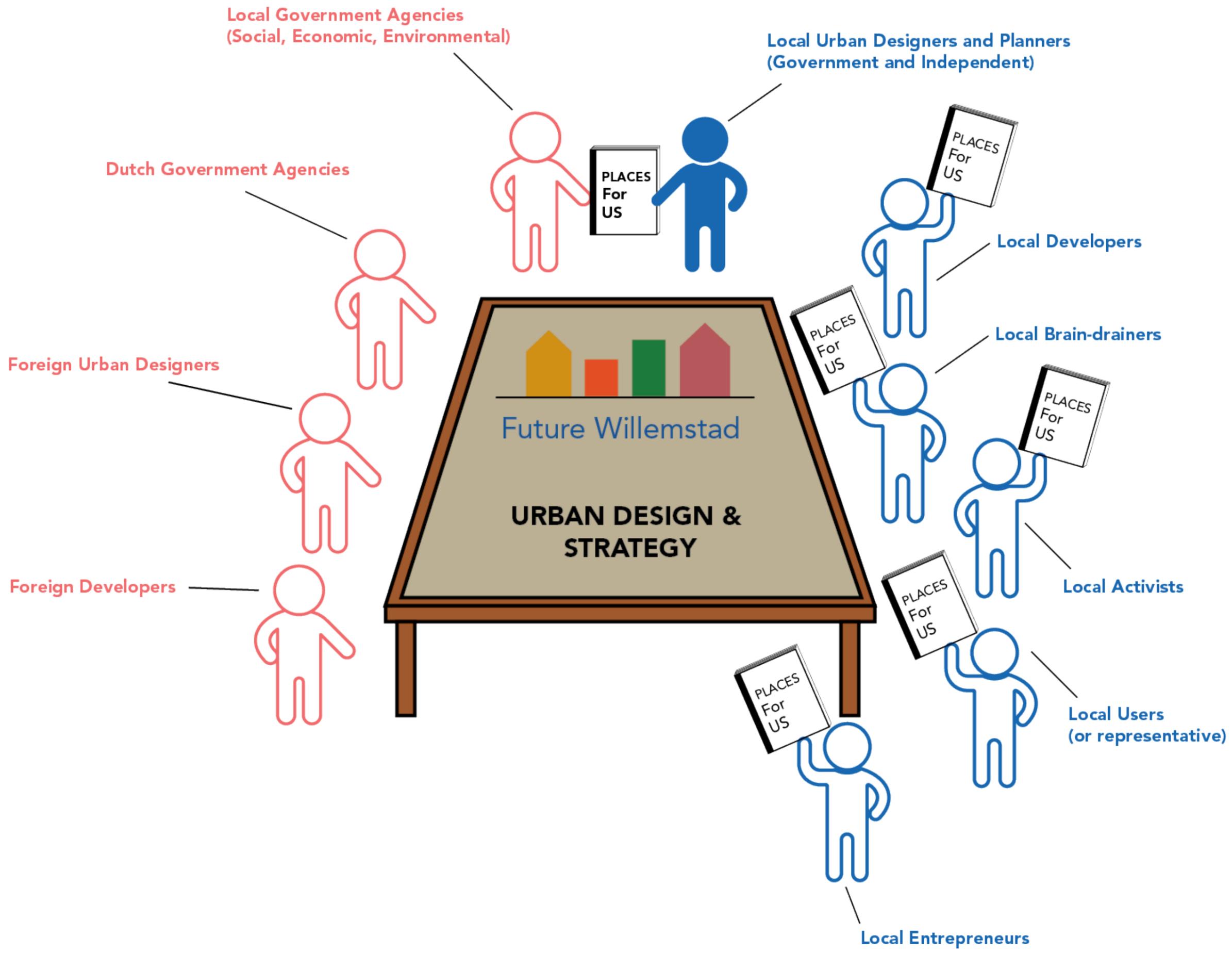
As locals, our well-being is dependent on a unique combination of factors; Our city is located on a small island and because of this we face very specific socio-economic challenges. We have a high dependency on Imports to put food on the table, clothes on our backs and pretty much any other consumption needs that we may have. Our Export sector on the other hand is the main source of income for our city. However, the sentiment exists amongst us that we are excluded from participation within this sector, especially when it comes to business ownership and leadership positions. We do not seem to be profiting optimally.

Because of our dependence on exports and our small islandness, we are also subjected to environmental vulnerabilities. We deal with dangerous amounts of air-pollution and our marine and coastal ecosystems are also subjected to a great deal of damage. We are also at extra risk to the dangers of climate change, especially rising sea levels, drought and the occasional hurricane. We also share a tough history of colonialism and slavery, that has shaped us. Luckily as a result of this we now have our own unique culture. We have our own language, music, food, dance, art and attitude towards life that we are proud of. We enjoy expressing this culture during our many celebrations across the city throughout the year. These celebrations play an important role in our community. It is during these chance encounters that we get the chance to interact, catch-up with each other and enjoy life.

Unfortunately, we are not aware of the important role that our built environment plays in supporting our well-being. This counts for both the positive and negative aspects of our lives. Most of us do not even acknowledge that we are living in a city, instead we identify ourselves as living on an island. We are also negligent of the fact that having access to the right spatial resources can drastically improve our economic, environmental and social conditions. Currently, we have very little input on how our built environment is developed. Spatial developments are dictated by foreign developers to fulfill their own goals, which usually do not directly include our well-being.

This booklet contains a set of socio-economic, socio-cultural and environmental GOALS and corresponding URBAN DESIGN PRINCIPLES for improving the well-being of US, the locals in Willemstad. The purpose of these urban design principles is to be used during the collaborative spatial planning process of making urban designs and strategies for the spatial development of Willemstad. As locals, it is our collective right to have a (few) seats at the city's spatial planning table.

I encourage you as a local to find the urban design principles that resonate the most with you, take them to the current established spatial planning system and demand urban designs and developments that include these principles. If you have your own demand for our future city that is not in this booklet, create your own urban design principle and add it to this growing collection of Places for Us!



# GOALS *FOR IMPROVING OUR WELL-BEING*

## Embrace OUR Import Dependency

Our Import Dependency is unavoidable. We can fight it or find ways to make the best out of it, by acknowledging its risk and building resilience. This includes symbiotic collaborations with big and small global and regional powers. It also includes efforts to achieve some forms of self-sustainability where possible.

## Brain-Drainers Return

Our brain drainers have gone abroad and acquired a vast amount of knowledge on how the rest of the world works. Many of them have managed to acquire much success internationally. Their knowledge can play an important role in assisting the sustainable economic, social and even environmental development of locals. They are the ones who truly understand both the local and the global and can connect these two worlds, who are currently clashing in the city.

## We Protect OUR Nature

Our city's own nature is essential for supporting our health and also our social interactions and leisure. However, both our own behaviour and that of foreigners developers have made significant contributions to its destruction. In the future, when we have control over developments, protecting and rebuilding our ecosystems should become one of our priorities.

## Export Businesses By US

In order for us to profit optimally from this main source of income, we should start participating directly in the global economy. This goal proposes that we as locals start owning and running our own export businesses. This way we can determine our own export sector and sell products and services to the world that reflect our own identity and skills. To take on this challenge and navigate the complex world of internationalized business, collaboration between us is key.

## >51% Local Power

This goal is all about leadership and taking ownership. When it comes to especially economic and spatial processes in the city, locals often take the back seat, while foreigners determine developments. In the future, locals need to take the leading role. This does not mean that foreigners are no longer welcome in the city. To the contrary, they can play an important role in the development of local conditions. However, their decision making power should not be more than that of locals.

## Protect US from Nature

With the looming threat of climate change, we should take a proactive role in protecting ourselves from the increasingly dangerous threat coming from nature. This means that we should start taking preventative measures in minimizing the negative effects of natural disasters on locals.

***URBAN DESIGN  
PRINCIPLES FOR  
THE LOCALS OF  
WILLEMSTAD***



1

### Import Pick-Up Points

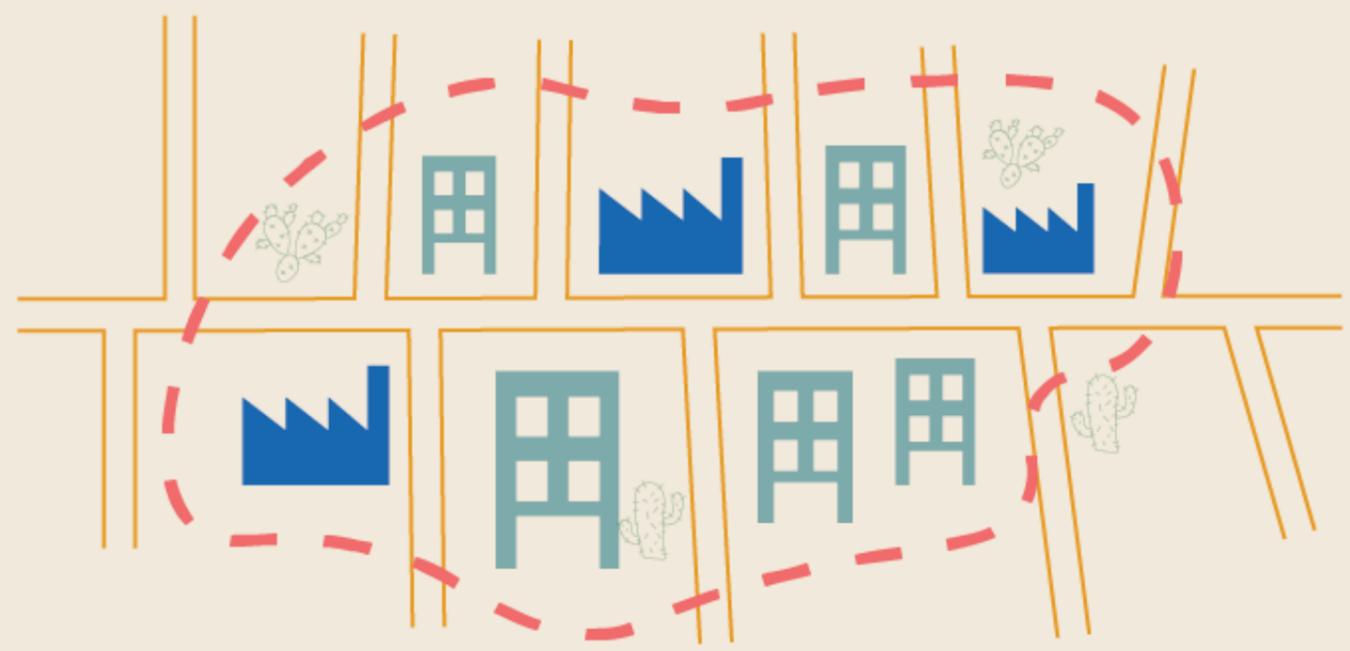
Places within neighborhoods where locals can go and pick up products that they ordered online and have been shipped to the city from abroad through special deals with large global e-commerce business (Amazon). Which guarantee frequent shipping of products to the city at a price that is affordable to us locals.

**Goals:**

- *Embracing Our Import Dependency*
- *Brain-Drainers Return*

**Combine with..**

- 6
- 8
- 18
- 11
- 21



2

### Spatial Cluster of Local-Owned export businesses

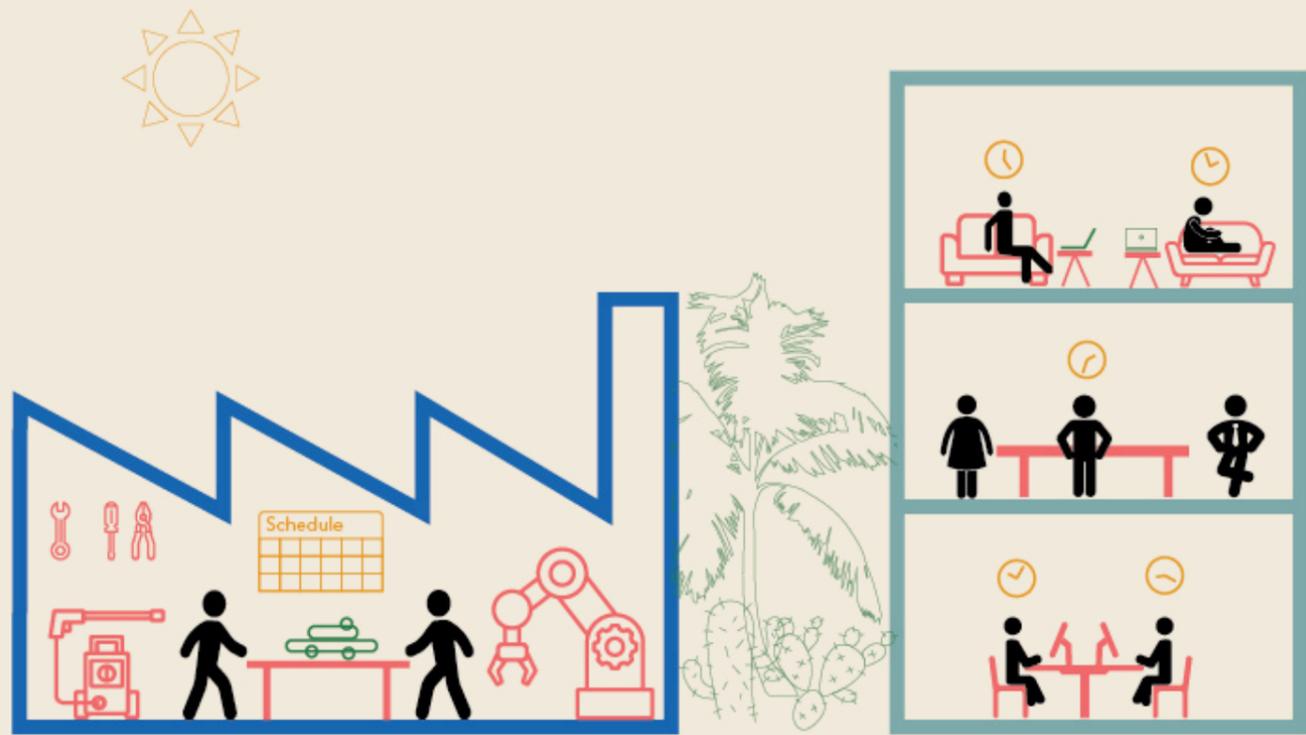
Agglomerations of complementary businesses are advantageous for their overall performance. Willemstad historically has only known clusters of export businesses owned by foreigners. As exports are the main source of income in Willemstad, a cluster of local-owned export businesses is a must.

**Goals:**

- *Export Businesses by US*

**Combine with..**

- 3
- 6
- 8
- 9
- 10
- 14
- 16
- 19
- 20



3

## Shared Production Facilities and Workplaces for Local-Owned Start-Ups

This is to facilitate local start-up businesses, who on their own do not yet have the money to afford their own workplaces, let alone high-tech production facilities. By sharing these spatial resources, each start-up business can worry more on improving their own products. These places are flexible and modular in order to support the varying needs of each business.

**Goals:**

- *Export Businesses by US*
- *Brain Drainers Return*

**Combine with..**

- |    |    |    |    |
|----|----|----|----|
| 2  | 4  | 6  | 8  |
| 9  | 10 | 11 | 14 |
| 16 | 19 | 20 | 21 |



4

## Flexible Public Spaces for local cultural and leisure activities

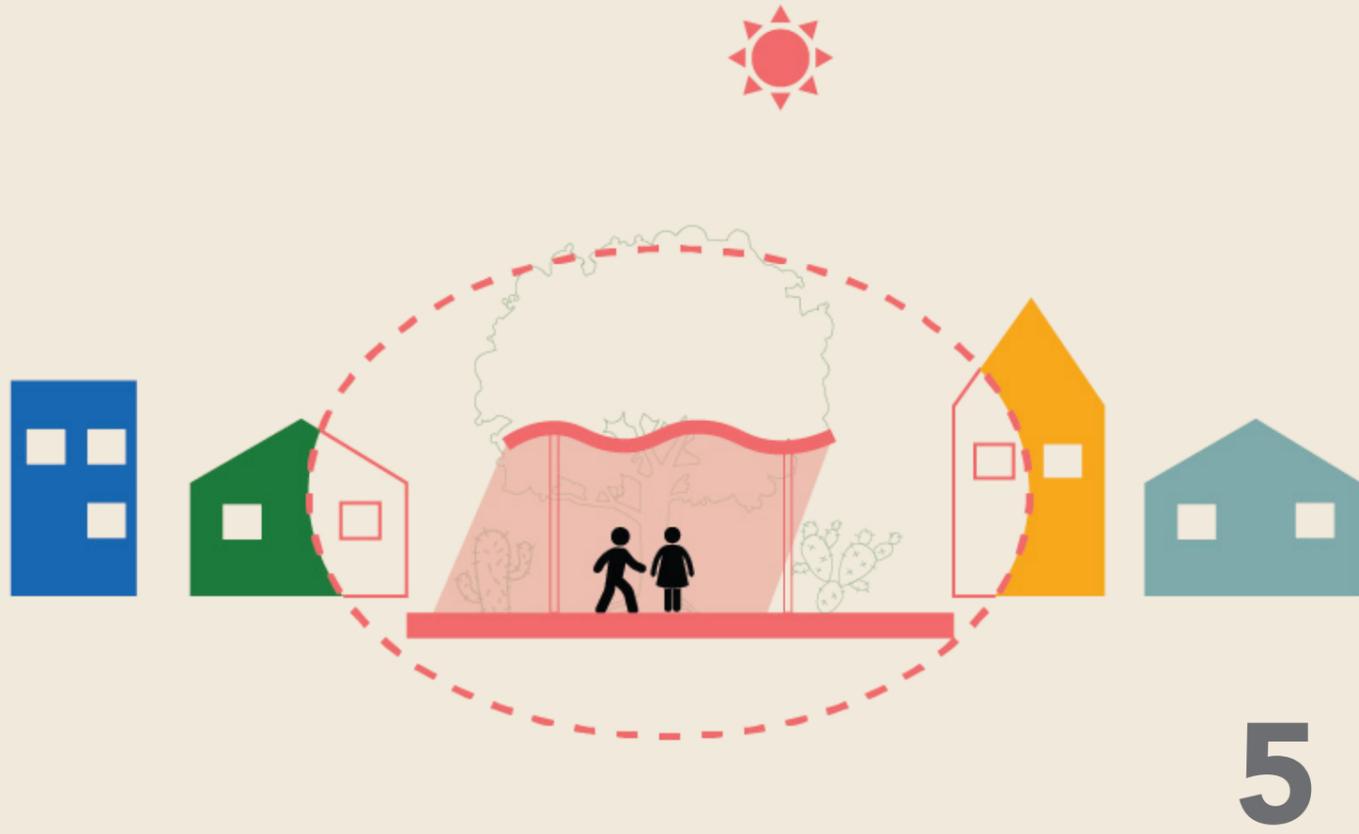
These public spaces are not set in stone. They can host a wide range of activities that are dear to locals. Furthermore, they allow for locals to find new activities that they like to do in public spaces, as they lack of public spaces in the past did not allow for this exploration.

**Goals:**

- *Brain-Drainers Return*
- *>51% Locals*

**Combine with..**

- |    |    |    |    |
|----|----|----|----|
| 5  | 7  | 8  | 9  |
| 11 | 12 | 14 | 16 |
| 20 | 22 |    |    |



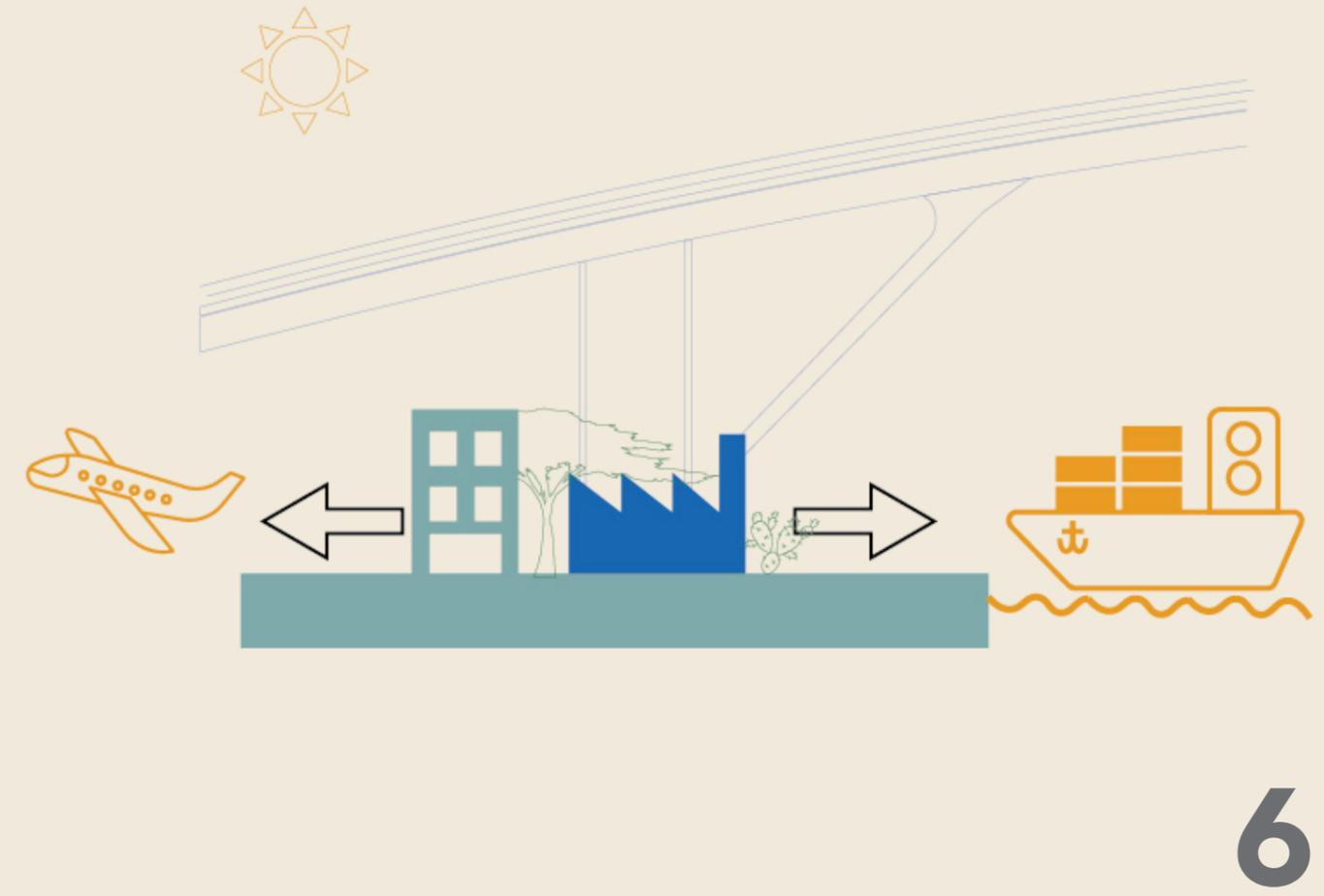
5

### Shaded Public Spaces

Its simple, yet essential for the success of any public space that WE want to use during the day time.

- Goals:**
- *Export Businesses by US*
  - *Brain-Drainers Return*
  - *>51% Locals*
  - *Protect US from Nature*

- Combine with..**
- 4
  - 8
  - 9
  - 12
  - 17
  - 22



6

### Accessible Global Shipping Infrastructure

An essential aspect of being a successful export business is the ability to efficiently ship products to customers abroad. By giving local-owned business easy access to these shipping infrastructures, their chances of success will significantly increase. This includes docks, storage spaces and shipping/ flight routes.

- Goals:**
- *Export Businesses by US*
  - *Brain-Drainers Return*

- Combine with..**
- 3
  - 8
  - 18
  - 20



## Clusters of Buildings that host local cultural and leisure functions

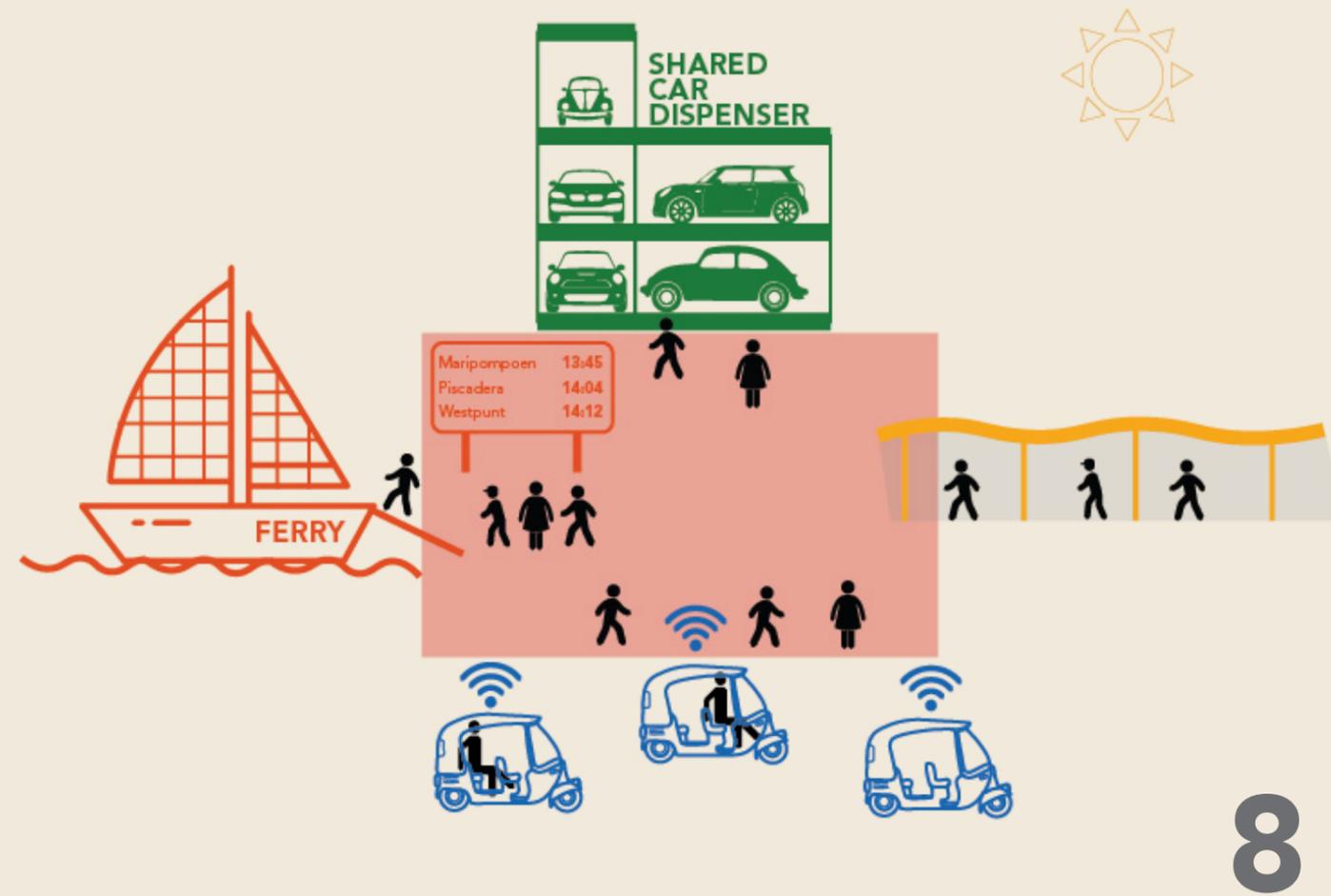
By clustering buildings that host cultural and leisure functions, locals have a designated place where they can go and enjoy their selves in their free time. This is a pretty new way of doing leisure as we usually have to drive around from place to place.

**Goals:**

- >51% Locals
- Brain-Drainers Return

**Combine with..**

- |    |    |    |    |
|----|----|----|----|
| 4  | 8  | 11 | 13 |
| 14 | 16 | 19 | 21 |
| 22 |    |    |    |



## A Variety of Sustainable modes of Transportation

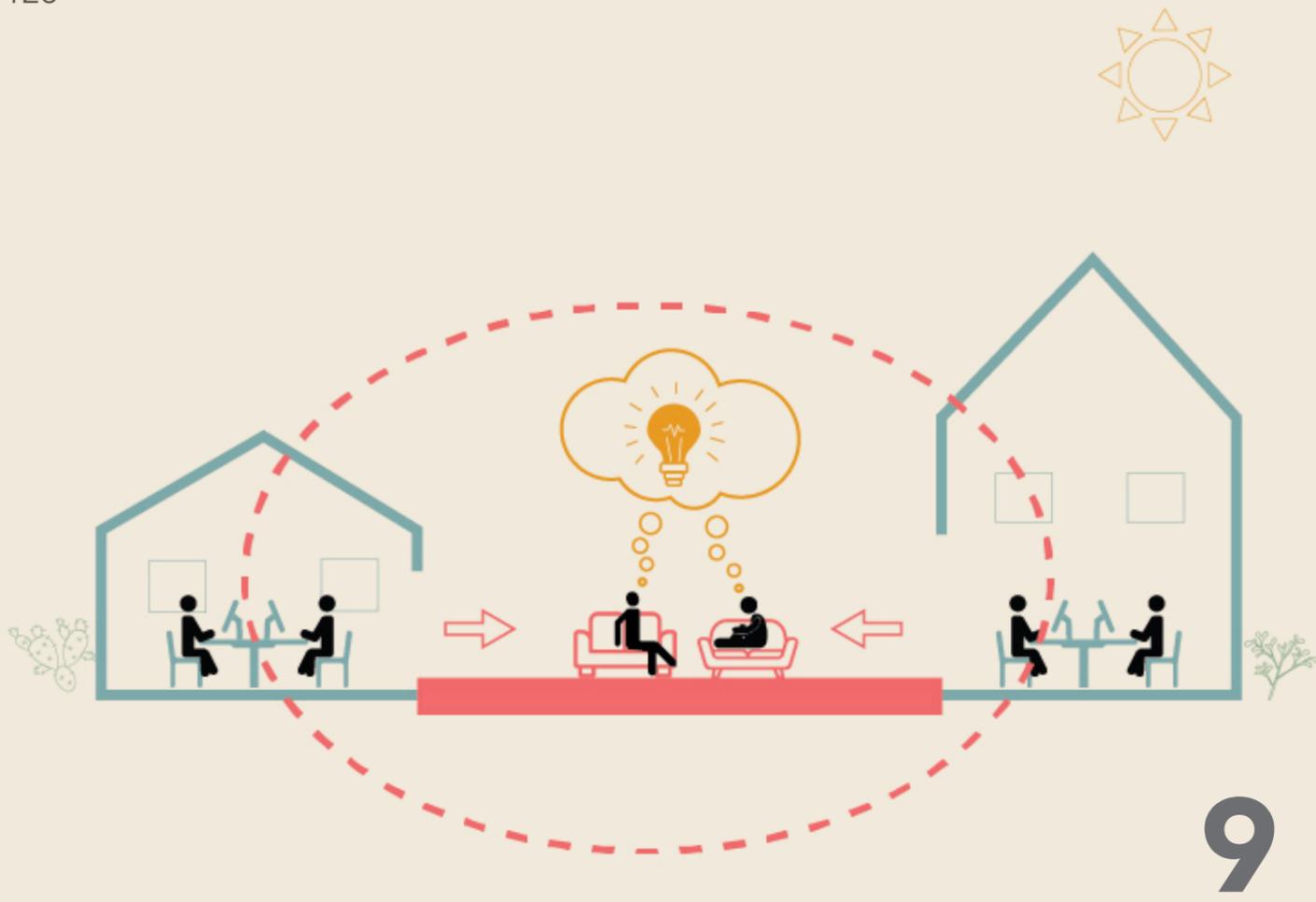
The car by now has become part of our culture therefore, getting rid of cars in the city is not a realistic options anytime soon. However, it can be done more sustainable and other options can also be introduced for those of us who want to do things differently, like brain-drainers who have experience different modes of transportation abroad and care about protecting our ecosystems.

**Goals:**

- Export Businesses by US
- Embracing OUR import dependency
- Brain-Drainers Return
- >51% Locals
- WE protect OUR Nature

**Combine with..**

- |    |   |    |    |
|----|---|----|----|
| 1  | 2 | 3  | 4  |
| 6  | 7 | 11 | 18 |
| 21 |   |    |    |



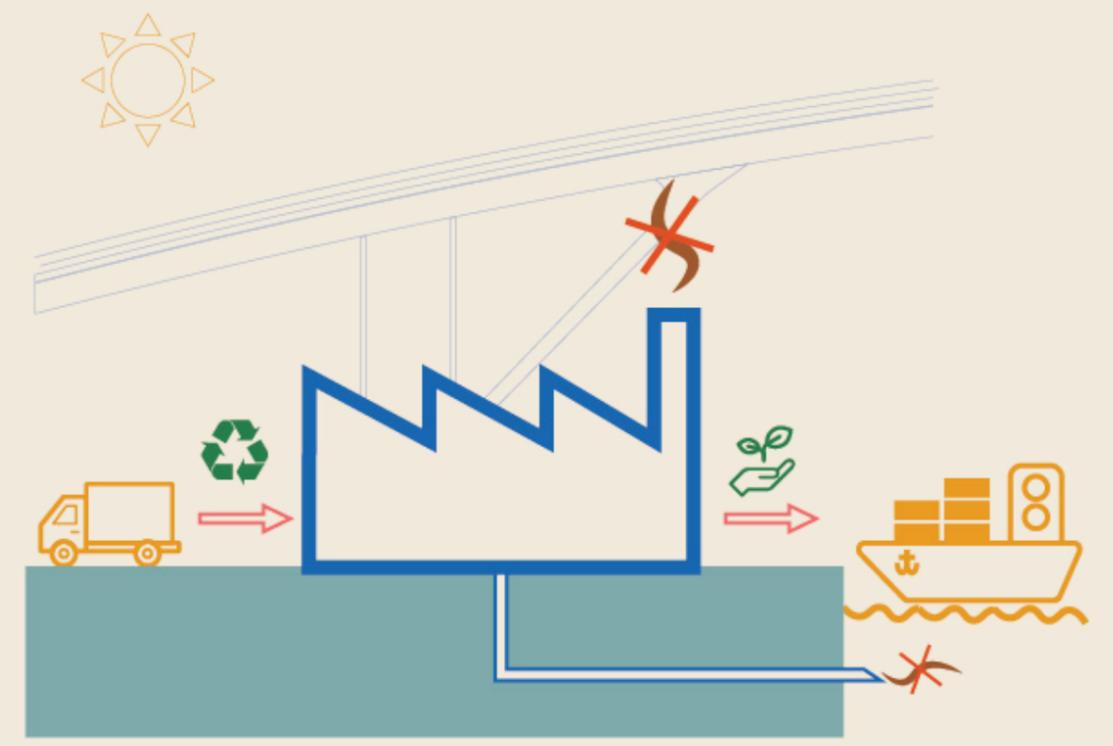
9

### Places for Knowledge Exchange between local Start-Ups

These public spaces, adjacent to clusters of local-owned start-ups, encourage chance encounters between workers and owners. During these casual encounters, knowledge can be exchanged that can ultimately lead to innovations and collaborations between these local businesses. Especially for the sake of being successful within the global economy (exports)

- Goals:**
- Export Businesses by US
  - Brain-Drainers Return

- Combine with..**
- ②    ③    ④    ⑤
  - ⑫   ⑭



10

### Low Waste Production Facilities

In order to protect US and our ecosystem's healthy from pollution, it is mandatory that any production facility that is owned and operated by locals, to release as low as possible amounts of waste and pollutants.

- Goals:**
- Export Businesses by US
  - WE protect our Nature

- Combine with..**
- ③    ⑥



## Variety of Housing Options (Types)

Brain-Drainers of Willemstad have had the chance to live abroad and experience a wide range of housing options. Due to their high-skill level and sometimes high income, they have the choice to live and work anywhere they want. By increasing the variety of housing options, brain-drainers can have a comfortable living place in their own city, that matches their varied needs. Making Willemstad a more attractive place for them to settle.

**Goals:**

- >51% Locals
- Brain-Drainers Return

**Combine with..**

- |    |    |    |    |
|----|----|----|----|
| 3  | 4  | 7  | 8  |
| 12 | 14 | 16 | 17 |
| 19 | 20 | 21 | 22 |



## Incorporate places for nature in Public Spaces

Our nature and ecosystems are unique and essential for our well-being. By incorporating nature into our public spaces, we can have more nature and it will be close to us at any given time. It does have to be OUR nature and not imported nature.

**Goals:**

- >51% Locals
- WE protect OUR Nature

**Combine with..**

- |    |    |    |    |
|----|----|----|----|
| 5  | 9  | 11 | 16 |
| 17 | 22 |    |    |



13



14

## Claim Monuments as part of OUR local identity

The large amounts of tangible cultural heritage in Willemstad certainly has an added value. This value can be very practical (i.e. economic), however it can also have a more symbolic and emotional value. By claiming these spatial resources from foreigners, locals can directly benefit from this added value.

### Goals:

- Export Businesses by US
- Brain-Drainers Return
- >51% Locals

### Combine with..

- ③    ⑦    ⑪    ⑭
- ⑮    ⑯    ⑲

## Monuments as places for US to work, live, learn and play

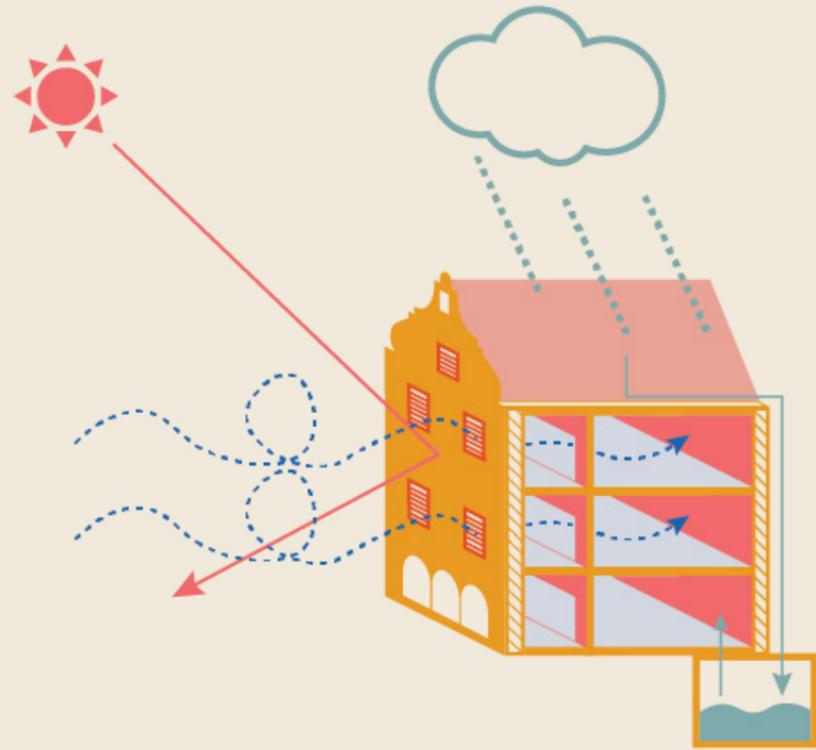
Our monuments are great places for us to start settling and using for our own benefit. They can be transformed to house a wide variety of functions that we need.

### Goals:

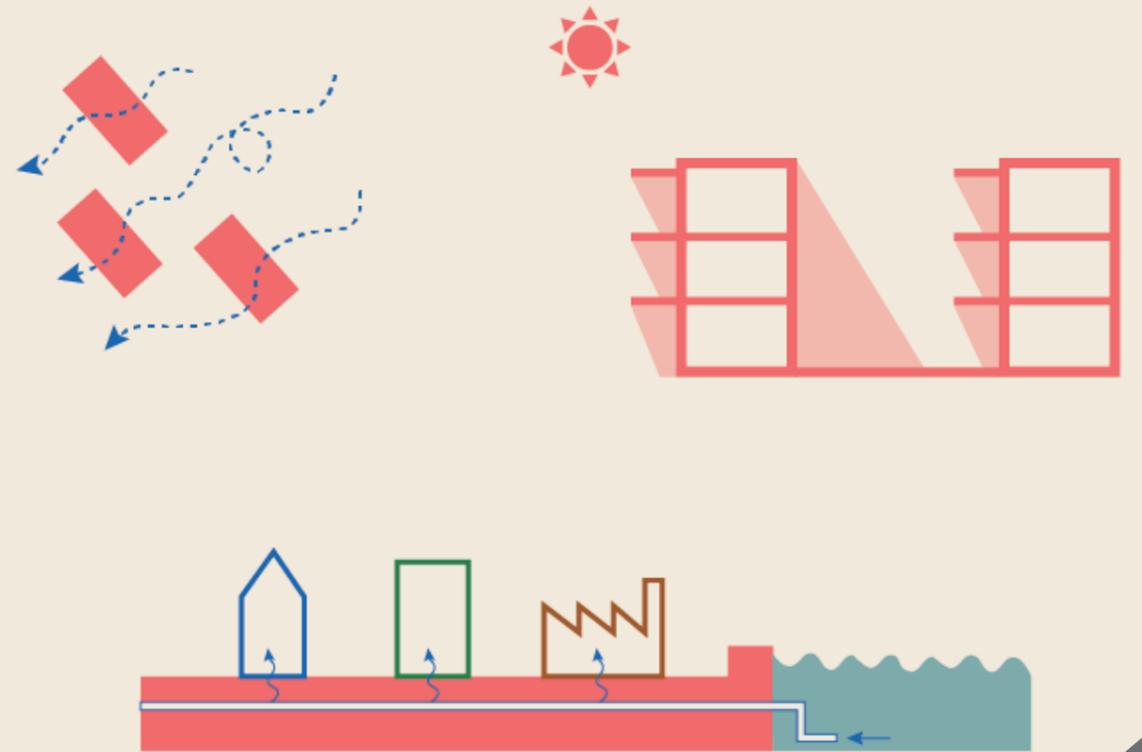
- Export Businesses by US
- Brain-Drainers Return
- >51% Locals

### Combine with..

- ②    ⑦    ⑨    ⑪
- ⑬    ⑮    ⑲    ⑳



15



16

## Monuments are already good at dealing with local climate

Our monuments, through years of trial and error by our colonizers, have been developed to do a pretty good job at dealing with the city's harsh climate. Therefore, reusing these buildings do not require much adjustments when it comes to climate protection.

**Goals:**

- *Protect US from Nature*

**Combine with..**

- 13
- 14
- 16
- 19

## Nature Inclusive Buildings

Buildings that take nature into consideration in order to protect locals from the sometimes harsh climate of Willemstad and create comfortable places for US to function at our best.

**Goals:**

- *Protect US from Nature*

**Combine with..**

- 2
- 3
- 7
- 10
- 11
- 12
- 15
- 17
- 19
- 20



17

## Urban Farming

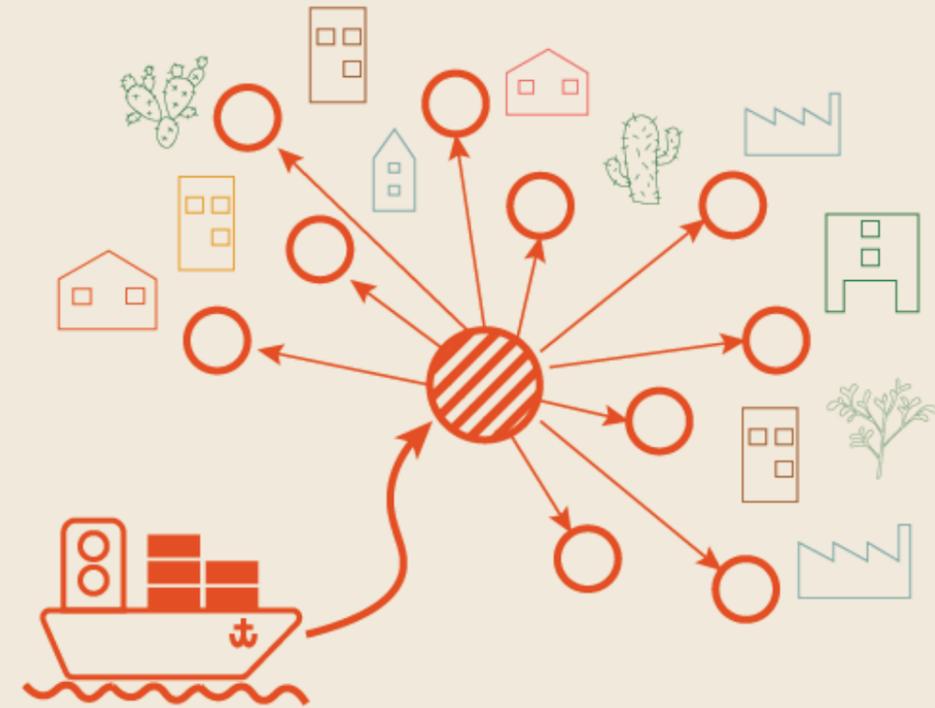
Although we have a strong dependency on Imports and we need to embrace this as long as it is possible, urban farming can be one of the first steps towards creating more self-sustainability.

**Goals:**

- *Embracing our import dependency (self sufficiency)*

**Combine with..**

- ①①
- ①②
- ①⑥
- ②①



18

## Automated Land and Maritime Imports Distribution Network

A spatial network of automated delivery vehicles that transport imported products, ordered online by locals on Amazon, from the port, to import pick-up points in neighborhoods, where locals can collect their order.

**Goals:**

- *Embracing Our Import Dependency*
- *Brain-Drainers Return*
- *>51% Locals*

**Combine with..**

- ①
- ⑧



19

## Robust Materialization of Buildings

Being at the edge of the hurricane belt in times where the climate is becoming increasingly unpredictable, our buildings need to be able to take a beating by nature. Using strong materials to make our buildings will help protect us. Furthermore, it stand as a symbol for places that are safe for its inhabitants.

**Goals:**

- *Protect US from Nature*

**Combine with..**

- 3
- 7
- 11
- 14



20

## Coastal Protection Against Rising Sea-Levels

This gives us protection against the lurking danger of rising sea-levels. This will protect our housing, public spaces and also the essential infrastructures used for import and export of goods.

**Goals:**

- *Protect US from Nature*
- *Export Businesses by Locals*
- *Embrace OUR import dependency*

**Combine with..**

- 2
- 3
- 4
- 6
- 7
- 11
- 14
- 16
- 18
- 21
- 22



21



22

## Multi-Cultural living areas with >51% housing for locals

Locals need foreigners in order to develop their city into an socio-economical and culturally viable place. However, when foreigners get too much power, it becomes disadvantageous to US. By creating areas living areas where WE are in the majority, there is a symbolic feeling that WE are the priority.

### Goals:

>51% locals

### Combine with..

- |    |    |    |    |
|----|----|----|----|
| 4  | 6  | 8  | 11 |
| 12 | 14 | 16 | 17 |
| 20 | 22 |    |    |

## A network of Flexible/ Informal Public Spaces

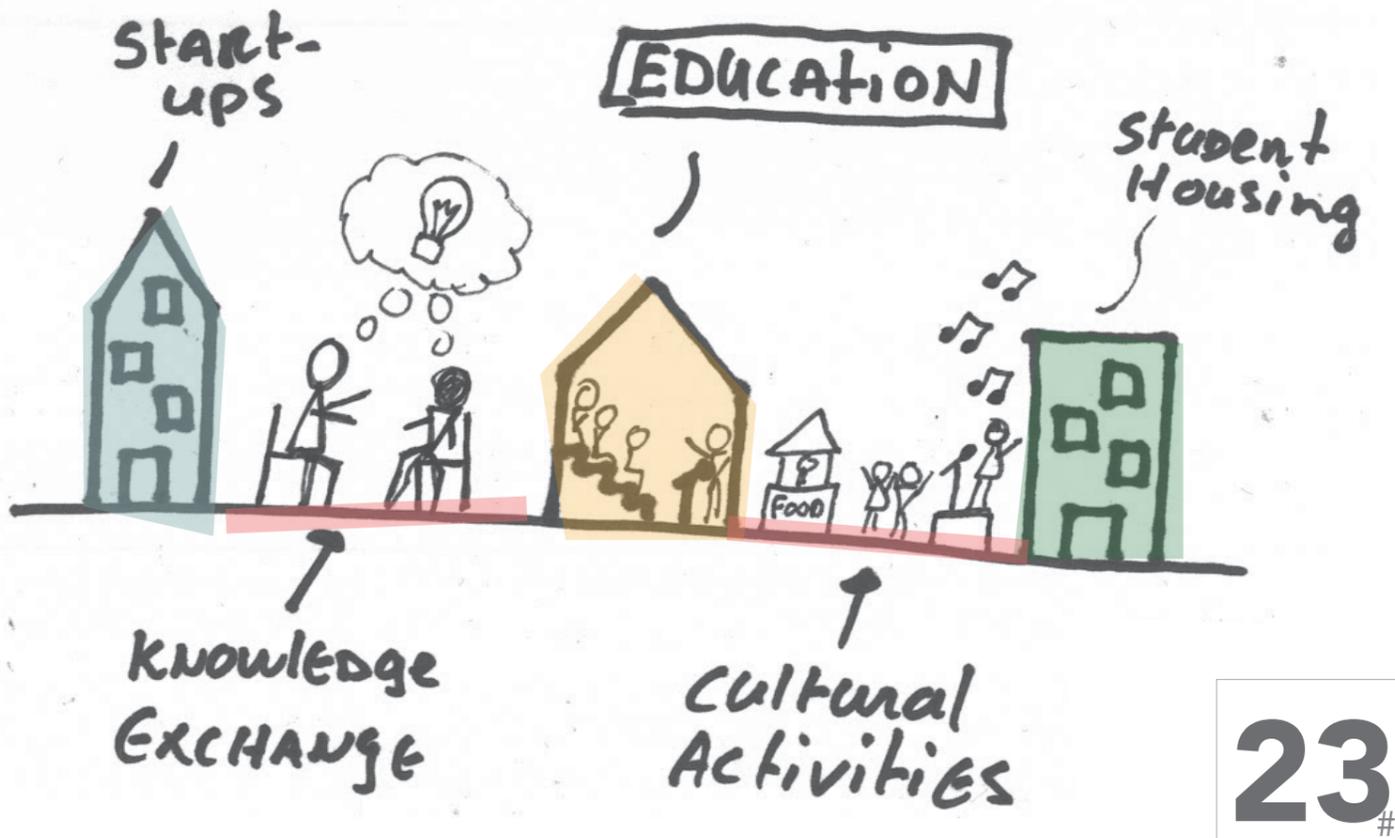
WE are not used to moving around in our neighborhoods. WE grab cars and go to destinations. This can create more movement.....

### Goals:

- Brain-Drainers Return
- >51% Locals

### Combine with..

- |    |    |   |   |
|----|----|---|---|
| 4  | 5  | 7 | 8 |
| 12 | 21 |   |   |



Title  
**CAMPUS FOR LOCAL KNOWLEDGE**

Description  
 A place in the city THAT generates knowledge that is relevant for the city's unique conditions. Spaces for education combined with Housing and public spaces for the cultural activities we enjoy.

**Goals:**  
 BRAIN DRAINERS RETURN.  
 >51% Locals  
 EMBRACE import dependency.  
 EXPORT BUSINESSES BY US.

**Combine with..**  
 (3) (4) (5) (7) (8)  
 (9) (11) (12) (14)  
 (21) (22)

Title

Description

**Goals:**

- 
- 
- 
- 

**Combine with..**



US. OURS.

YU'I KÒRSOU.

WE. LOCALS.

NOS. MINE.

OURSELVES.

YDK. OURS.

YU'I KÒRSOU.

WE. LOCALS.

YDK. OURS.

NOS LUGÁ.

YU'I KÒRSOU

### 7.3 Test by Design: Otrobanda Wharf Area

#### Design Location Analysis

To illustrate how these Urban Design Principles can be applied to a specific area in the city of Willemstad, under specific economic, social and environmental conditions, in a specific time, I will use Urban Design. In this design I will create a fictional future scenario. In this scenario, the non-spatial goals found in the Urban Design Principles for US booklet are first used to create a coherent, plausible story describing the economic, social and environmental conditions of locals in the future. Then the design will show how the quality of place of the chosen area is transformed as a reaction to these new conditions. The point of this design is to show an example of how the Urban Design Principles can be combined and coherently integrated to an area and contribute to the well-being of the local population. The location chosen for this scenario is the "Otrobanda Wharf Area" and it is set in 2028.



Fig.68: Design Location: Current functions

- The "Otrobanda Wharf Area" location was chosen for the following reasons:
- It Already Contains Spatial Resources that can be used to improve the well-being of locals in the future
  - Locals are already living in this area and there are some small scale, bottom-up initiatives (Kaya-Kaya) currently happening that have potential for having a positive impact on the conditions of the local population
  - The location is also at risk for gentrification by foreign developers, if the current approach to urban development does not change



Fig.69: Design Location: Former port infrastructure currently used as performance space for local artists (image: Favela Painting)

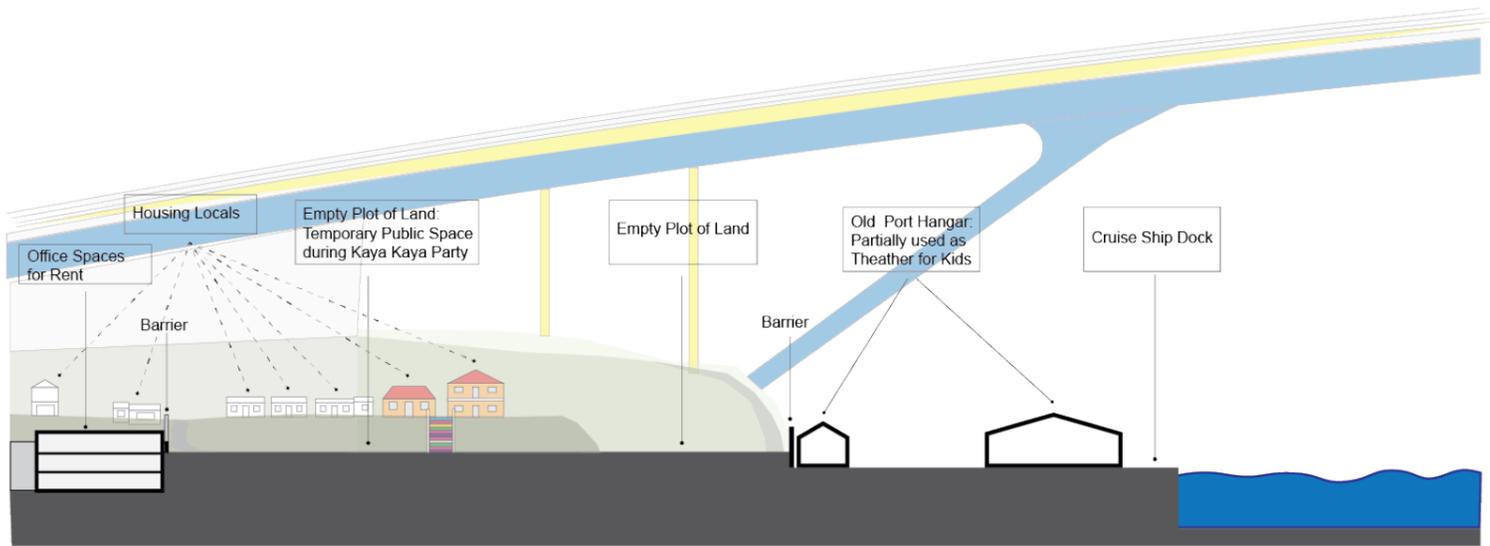


Fig. 70: Design Location: Current situation (Section A)



Fig. 71 Design Location: Vacant Kura Hulanda Hotel (image: Kim Annemarie)

Exemplary Design

SCENARIO DESCRIPTION:  
(Non-Spatial Conditions)

### The Return of the Brains

In an attempt to strengthen their corporate responsibility image, the e-commerce and shipping company Amazon, decided to start a Caribbean branch of their company. They noticed that due to their small scale and insulation, small islands can not profit from the benefits that doing retail via e-commerce brings. At this point in time e-commerce has become the standard form of shopping in the rest of the more connected world. To strengthen their public image, they decided to be more inclusive of these marginalized small island communities, by reducing transportation costs and increasing shipping times to these locations, even though as a company this is not profitable for them. (Goal: Embrace import dependency)

After a few local businesses successfully internationalized, word started getting around between locals that selling products to the rest of the world is the new way to earn money. This started a trend in the city of locally owned start-up businesses in the export sector. Selling a wide range of products depending on their expertise and interests. (Export businesses by US)

This new economic opportunity opened the door for brain drainers around the world to move back to the city and start their own start-up businesses. With most of these businesses specializing on the development of sustainable technologies. (Brain-Drainers Return)

Realizing that collaboration and exchange of knowledge is the key to success in the global economy, which relies on constant innovation of these export products, the brain-drainers decided to create a collaboration platform where they exchange knowledge amongst each other and encourage collaboration. (>51% locals)

Globally sea levels continue to rise dramatically and the hurricane belt has now expanded to include Willemstad due to climate change. (Protect US from nature)

Realizing the impact that the Oil Refinery, which is now finally gone, has had on the health of locals for the past 100 years, brain-drainers make a pact to only run businesses that have minimal impact on the local environment. (Protect nature from US)

In an attempt to stop further brain drain and create locals who have the relevant knowledge to deal with the specific problems of Willemstad, the government founded the Small Island University. Here research is done on the specificities of Small Island States and their challenges.(New Goal: Education that's relevant to US)

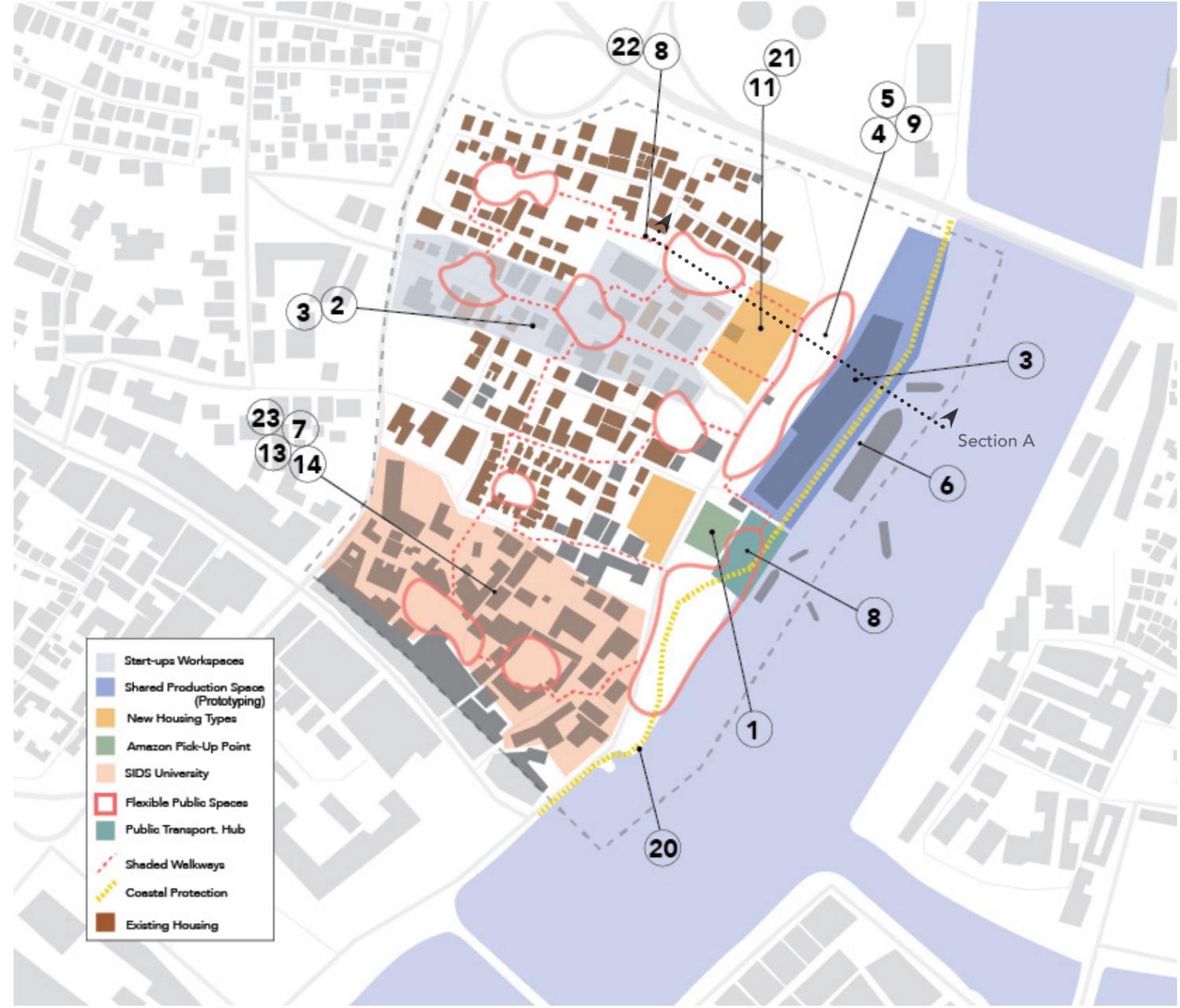


Fig. 72 Example Design: Neighborhood scale: Floor plan showing main spatial interventions. The numbers each correspond to one of the Urban Design Principles found in the booklet

The following is an overview of the main spatial interventions in the Otrobanda area. The numbers each correspond to one of the Urban Design Principles found in the booklet ;

There are new housing types that fit the needs of the growing group of brain drainers who chose the Otrobanda wharf area as the place for them to settle.

The monuments in the Hoogstraat have been transformed into workplaces for start-up businesses in the export sector, owned and operated by returning brain-drainers and locals.

The abandoned hangar close to the wharf itself has been transformed into shared production facilities that have a whole bunch of advanced machinery that start ups can use to make prototypes for their technologies, that can later be mass produced in factories around the world.

The old "Kura Hulanda' hotel and its monuments are now being reused as a campus for the Small Island University.

There is a network of flexible public spaces in the area that is used for chance encounters. During the day, it facilitates casual knowledge exchange between entrepreneurs, workers and students. At night they become places for parties and cultural activities.

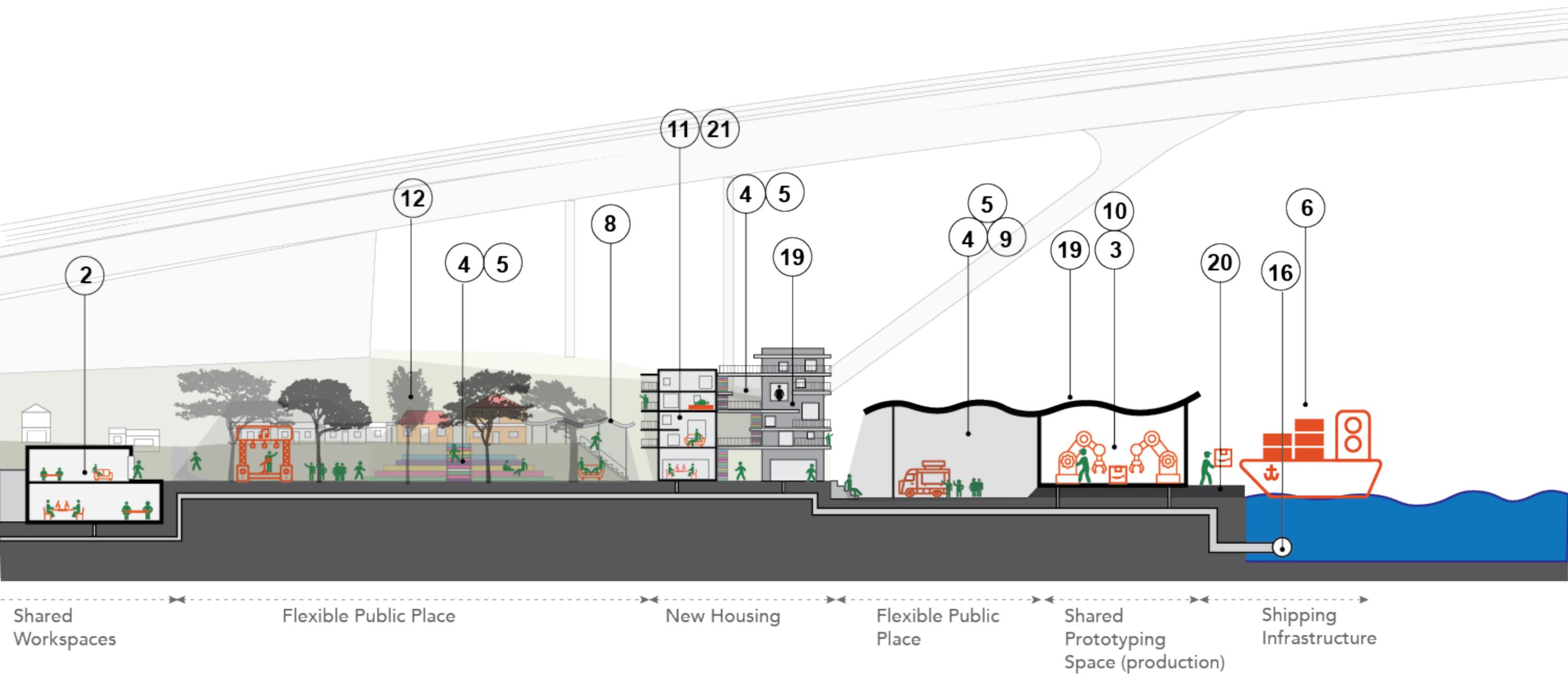
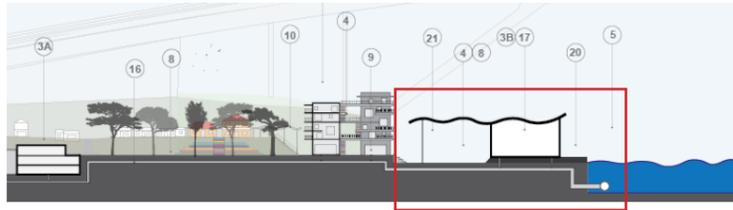


Fig. 73: Example Design: Street scale: Section showing main spatial interventions. The numbers each correspond to one of the Urban Design Principles found in the booklet (Section A)



- ⑩ Low waste production facility that uses recycled materials to make products
- ③ Shared Production Spaces for Local-Owned Start-Ups to Prototype and develop new sustainable technology

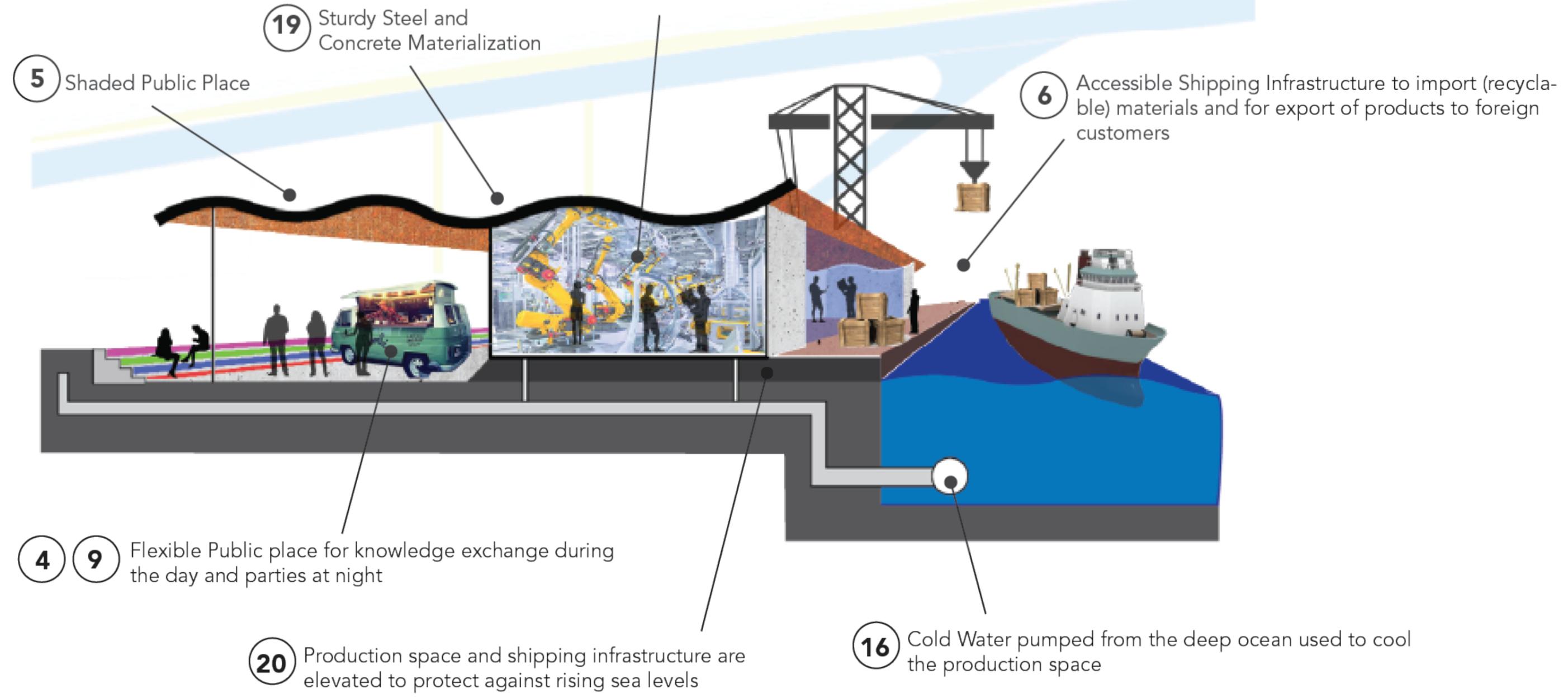
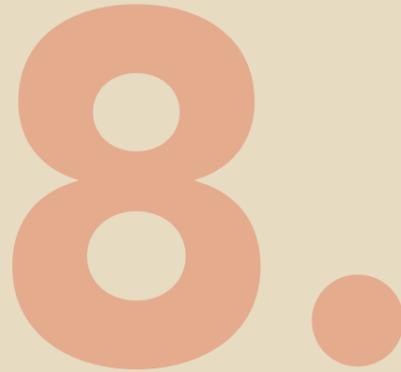


Fig. 74: Example Design: Building scale: Section showing main spatial interventions. The numbers each correspond to one of the Urban Design Principles found in the booklet

# Conclusions

## 8.1 Main Conclusions

### 8.2 Reflection and other Suggestions



## 8.1 Main Conclusions

This section gives the main conclusions of this thesis

### Conclusions Analytical Framework

This thesis made a first attempt at exploring the knowledge gap that exists between the spatial context of Willemstad and the specific socio-economic, socio-cultural and environmental conditions affecting the well-being of locals. It found that although there are aspects of the city's quality of place that make a positive contribution to the Well-Being of locals, there are still many that don't. These need to be taken into consideration in future spatial developments.

There is also a lot of interconnectedness between the different aspects of the built environment that affect the sustainable development of locals.

The second half of the analytical framework focused on the relevant stakeholders and planning instruments involved in current spatial development of the city. It was found that there currently is a lack of an approach towards urban planning and design that prioritizes the well-being of locals. Separate from the spatial context, there are not even any clear visions or plans coming from the governance system on how to improve the socio-economic, socio-cultural and environmental conditions of locals. Therefore, spatial planners claim to not have any input to develop a new spatial approach.

The spatial planning instruments of Willemstad, mainly the E.O.P. land-use plan, are outdated and do not explicitly take the specific conditions of locals into account. Furthermore, the whole concept of Urban planning, where different stakeholders representing different economic, social and environmental goals work together to develop an area larger than an individual plot, is a foreign idea to Willemstad.

During my fieldwork I observed that the local Urban Planners and Designers are among the few who actually understand the spatial context of Willemstad and are interested in bettering the situation of locals, unfortunately they currently do not have much agency and seem to have given up.

Overall, the "spatial justice theory" turned out to be an appropriate perspective for analyzing the spatial context of Willemstad. Through a combination of small islandness and a history of colonialism, Willemstad and its people have had to endure significant amounts of environmental, social and economic injustices throughout its history, some that still persist to this day. The analytical framework of this thesis makes a first attempt at showing that these injustices are also embedded within the spatial context of Willemstad. On the one hand these injustices can be found in the quality of place of the city, where locals lack access to many spatial resources that are important for improving our quality of life. On the other hand and more concerning to me, is that we still do not have agency or participation in the spatial planning process of our own city. Resulting in a situation where the future spatial development of our city remains in the hands of foreign powers.

Though the situation shown through the analytical framework paints a dark future for the locals, there is hope. Recently there have been a few spatial developments going on in the city that do put the needs of us locals in a central position.

### Conclusions Design Exploration

Based on the analytical framework, I came up with a vision for the future of Willemstad. In this future, there is alignment between the city’s quality of place and the well-being of locals. New spatial developments prioritize locals and take their specific conditions into consideration. On top of that, locals are active participants within the spatial planning system of Willemstad, playing a leading role within collaborations with foreign developers and governments.

Although this vision may seem far-fetched, I believe that it is necessary in order to achieve spatial justice for our locals and we can get there by taking small steps. Based on my observations, local urban designers and planners, both in the government and private sector, have the potential to be catalysts in achieving this vision. By combining their knowledge of the spatial context of Willemstad, interest in improving the situation of locals and creativity, they can provide locals with the necessary tools to claim our seat(s) at the spatial planning table of Willemstad.

With the final design product of this thesis I propose such a tool; A booklet containing a set of custom Urban Design Principles for improving the well-being of the local population of Willemstad. It is called “Places for Us” and it’s a pattern language. These patterns are to be used by locals during the collaborative process of urban planning. Locals can use these patterns as a tool to communicate their spatial needs, when sitting at the table with stakeholders like foreign investors and governments or even the local government. During these talks, the patterns can inspire new ideas and forms of collaboration that can then be translated into spatial designs, visions, strategies or even policies in a later step.

Finally, these Urban Design Principles were applied to the “Otrobanda Wharf Area” using urban design in a specific exemplary future scenario. The design illustrates how these patterns have the potential to be integrated into a coherently functioning urban area, where locals have access to the spatial resources that they need to succeed in life. A place for us

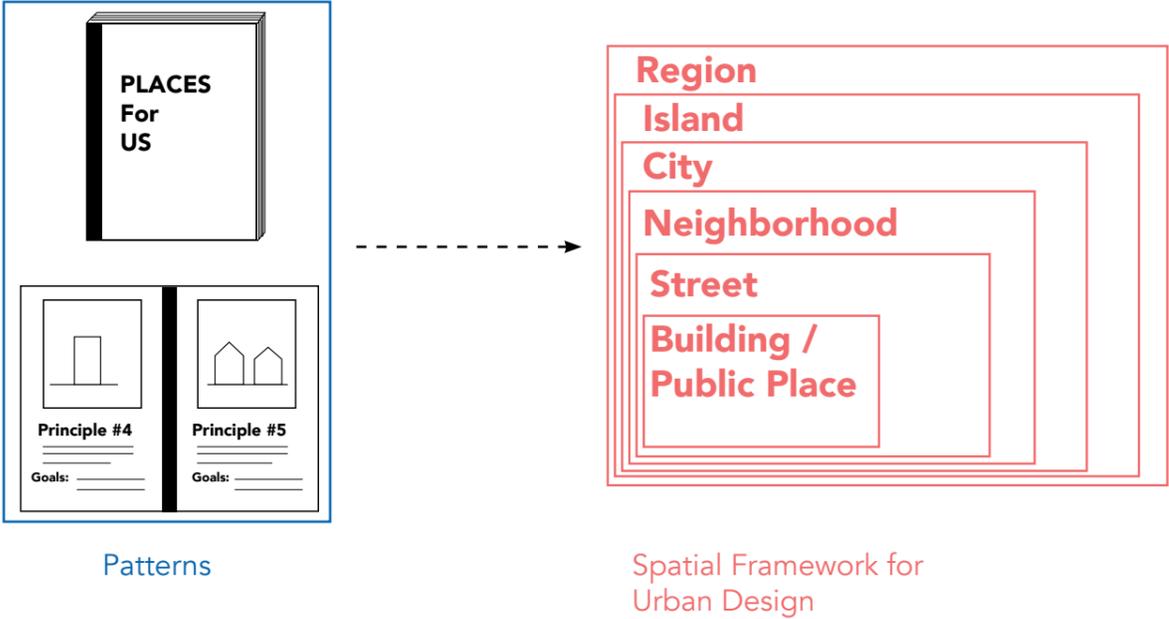


Fig. 75: The patterns developed in this thesis should be used to assist in the process of developing a multi-scalar urban design framework for Willemstad

### Suggestions for the Patterns

The urban design principles (patterns) proposed in this thesis can be seen as a new form of urban planning instrument for the city of Willemstad. However, the analysis has shown that the rest of the city’s planning instruments are outdated and inefficient. Therefore, it is my opinion that they also need to be updated, in order for the patterns to work optimally. Figuring out the exact form that a new system of planning instruments would need to take, in order to combat the wide range of issues facing the current spatial planning system, would take further research as it is a complex problem worthy of its own separate thesis.

However, for the patterns to work, they should be applied within a multi-scalar spatial framework for urban design. This implies that the patterns can be used in the process of making visions for the future of the city on a couple of different spatial scales. These scales need to be connected and rely on each other to function. There needs to be a combination of small- and large-scale spatial developments in order to create places in the city that are good for locals. This urban design framework should also take the interconnectedness of economic, social, environmental and spatial conditions into account and strive for integrated spatial solutions. Fig.76 shows a preliminary model for such a spatial framework. Fig.77 shows another preliminary example of how the patterns could be applied in an urban design vision for the scale of the entire city. Further design explorations are needed to develop more urban design principles on higher scales, as the ones used here were developed while designing on the neighborhood scale or smaller.

The urban design principles are meant to be expanded on. The ones presented here are the ones I found during my design exploration and are affected by my own creativity and intuition. It is the idea that other urban designers and/or locals add their own patterns as they discover them through their own explorations. That way we can discuss them amongst each other and develop a collective pattern language.

The patterns now are presented in the form of a booklet. In the future I would like to develop this into a product that is more interactive and thus easier to be used for collaborations. Currently, two options stand out; 1. Turn them into a deck of cards. 2. Create a digital app for the patterns that can be accessed, discussed and expanded upon remotely.

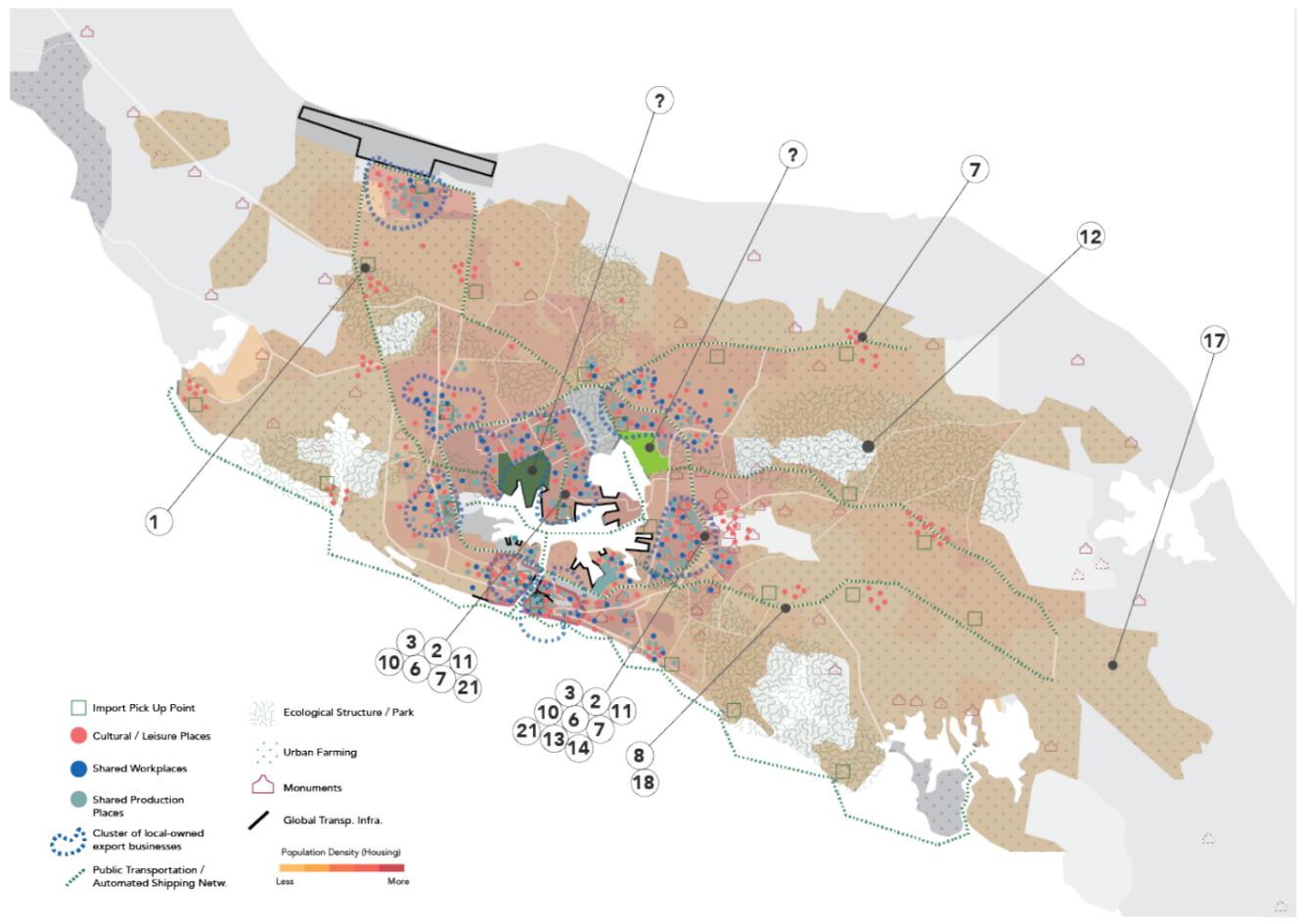


Fig. 76: Example Design: City Scale: Preliminary design for the city scale of Willemstad, using the "Places for Us" patterns to create a design for locals

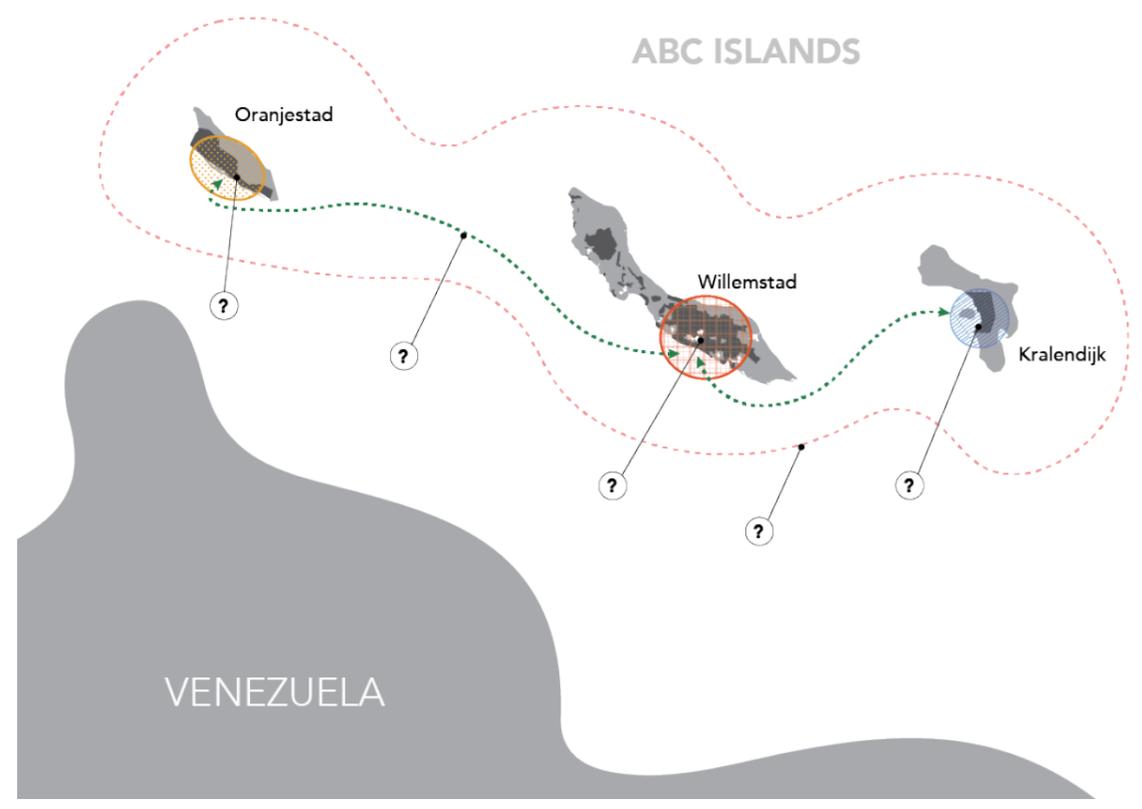


Fig. 77: Set-Up for a design on the regional scale. Further design exploration is needed to discover urban design principles for locals on this scale

## 8.2 Reflection and other Suggestions

### Limitations of research approach and further research

Throughout this process I was faced with one problem that brought a lot of limitations to my research; There is very limited amounts of research on the current spatial context of Willemstad. At the start of my research I made a conscious decision to do my project in Willemstad as I am a local of this city. However, when trying to find a relevant problem statement for my project that can be solved through design, I struggled.

This was a big limitation as I then had to go find a relevant problem myself. I had to jump into the unknown. Therefore, the approach to this research was highly exploratory. It has been an iterative process of doing spatial, governance, theory and design research, in order to find relevant problems and design solutions. This project therefore is a preliminary research that can be used to inspire further, more accurate research.

The main problem of this project; the misalignment between the spatial context of the city and the well-being of the locals, was determined at the end of the process. This problem was found through my research and not predetermined at the start of the research.

One of the main limitations of this approach is that it is very time consuming. The topic and research design has changed several times throughout the process.

The lack of existing research and data on the context of Willemstad strongly determined the research methods of this project. Data for this project was gathered through a quite arbitrary process.

The spatial mappings were done by combining census data, with google map searches combined with my own local knowledge. This affects the accuracy of my mappings and I am sure there is data that was missed or overlooked in this process.

This project focuses on the well-being of locals, which is determined by a wide range of economic, social and environmental factors. Currently, there also is a lack of research on most of these topics, nor is there research that summarized these very specific factors. SIDS research gives an indication of what to look at, but they also mention that every island has its own specificities and warn against generalization. Therefore, also for these non-spatial topics I had to piece together information from different sources, with varying degrees of reliability. Often, when data was missing I had to insert my own local knowledge. My spatial research was in turn based on these combinations of non-spatial factors. This is seen as a limitation, as someone else were to do this research, they might find a different combination of non-spatial factors, resulting in different conclusions for the spatial research. However, the current research does give an accurate indication of at least of the relevant problems facing the island, as I have looked for confirmation with local experts.

Speaking of which, the main method used for governance analysis was interviews with local experts, mostly practitioners and not researchers. There is therefore unavoidable subjectivity and bias. Here and there, there were even small contradictions between information given by different experts.

I want to emphasize that this research is exploratory. Its main purpose is to point out relevant problems and solutions. However, further research is definitely required to get more specific insights on the link between the quality of space and locals of Willemstad. My suggestion is that a multidisciplinary team must be assembled consisting of local experts on the economic, social, environmental and spatial context of the city. Such a collaboration must also be given the necessary resources. The resulting Urban Design Principles will then also be backed by more accurate data and conclusions. Only then can they actually be used for implementation in spatial policies and such. For now, they can serve as inspiration for local designers, planners and developers.

### Relation between Research and Design in my graduation project

Here I want to make a distinction between the relation between research and design in the research process and the final product;

Final Product:

In the final product, more general theoretical research was used to inspire the main problem and approach of the entire research.(i.e.; to explore the relationship between locals and spatial context). Spatial research and governance research were the main forms of research used to understand the current relationship between space and locals in the specific context of Willemstad.

The final design product reacts to both the spatial and planning research. Spatially, it offers urban design principles that can be used to improve the economic, environmental, social and spatial conditions of locals that were discovered in the spatial research. At the same time, these urban design principles are presented as a tool to urban designers that reacts to the governance and planning problems found in my governance research.

Process: In retrospect I can look back and say that there has been a very iterative relation between research and design in my project due to the exploratory approach. It resulted in a back and forth process of doing theoretical, spatial and governance research to come up with relevant research problems and then using design to test if that problem is something that urbanists can tackle. Most of these designs used the scenario method as a tool. Based on the spatial, theoretical and governance research, every iteration scenarios were used to generate non-spatial future conditions for the city, that the spatial design would then react to.

With every iteration I used feedback from my mentors, peers, local experts and my own reflection to check if the alignment between research and design. Many times it did not work and I would have to go back to doing spatial and governance analysis, finding relevant theories and re-framing my problems statement and research approach. This happened a few times during the process, where I would drastically shift the focus of my research, until I ended up with the current topic that I settled on.

Keep in mind that this happened implicitly and was not an explicit part of my research. It is now at the end, as I am reflecting on the process, that I can look back and realize what happened. In any future project, where I would do exploratory research, I would like to be more explicit about it from the beginning. It is now at the end of the project that I learned that there are methods that can be followed even for exploratory projects. If I would've acknowledged and embraced this nature of my project from the get go, it would have probably brought more structure to my process and reduced the time.

The theoretical research played a background role in my thesis. Theories like spatial justice and right to the city, played an essential role in inspiring the problem, goals and final design however, the analytical framework of this thesis is mostly based on observations and fieldwork. Although a few economic theories were used, they are not explicitly stated in the analysis. In the methodology chapter I show an overview of theories I found to be relevant for Willemstad. In the future, more explicit theoretical research is needed, where relevant spatial theories are interpreted to fit conditions in Willemstad.

## Academic and Societal value of my project

**Academic:** The project addresses the big knowledge gap that currently exists within research on the current and future spatial context of Willemstad. Although the knowledge does partially exist, it is implicit and known only to experts in practice. By doing this research I contributed to making some of this knowledge explicit and accessible. Even Though it only is the tip of the iceberg and much more research needs to be done to actually understand the full scope of Willemstad's built environment, I hope to have inspired others to continue doing so and turn this into a trend. Filling this knowledge gap is essential for those who want to contribute to the future spatial development of Willemstad to make informed decisions. It also prevents situations where urban designers like me, would have to go do all the research themselves to figure out the ins and outs of this city. It creates a situation where the relevant problems and opportunities are already there and the focus can be much more on designing solutions.

**Societal:** The main societal contribution of this project is that it found and shows a problem that was previously hidden in research; that there is a close interconnectedness and misalignment between the well-being of locals and the spatial context of Willemstad. Although this interconnectedness is known and explicit in many cities around the world. This is not the case in Willemstad and the built environment is usually neglected when discussing the future development of the local population. This has continuously had a negative effect on locals. In my design I propose urban design principles with the specific purpose of increasing the economic, social and environmental well being of locals. With that this project has a strong social aspect.

## Transferability

The spatial and governance research, as well as the spatial design propositions of this thesis were done in the specific context of Willemstad. This was done purposely as the whole premise behind the research is that the city and its people deal with very specific conditions. Therefore, it would go against my own research to say that these analyses and design solutions can easily be transferred to other cities.

However, many small island cities, especially those in the Caribbean, have dealt with similar historical conditions as Willemstad. Therefore it can be assumed that some of the Urban Design Principle could be transferred to these cities. However, due to the current knowledge gap on the spatial context of these cities, this can not be said with complete certainty and further research would be required.

However, the theoretical research of this project is something that is transferable and relevant for Small Island Developing States in general. Mainly the following two theories: 1.) SIDS literature emphasizes the marginalization of island people and the knowledge gap in the spatial context of small islands. 2.) 'Right to the city' theory encourages one to question the accessibility of essential spatial resources by marginalized people. When combined, a perspective arises where one can look at spatial structures, both local and global, through the perspective of islanders and question the extent to which they benefit these communities. Especially their (spatial resources) ability to create resilience to the specific economic, social and environmental vulnerabilities of island people. This has not yet been done in research, yet it could prove to be very beneficial.

## Relation between my graduation topic, the Complex cities graduation studio and Urbanism master track

This project has a strong social component. It looks at the locals of Willemstad who as part of the global south, for a long time now have been marginalized as a result of the process of neo-liberal globalization. It takes a critical look at the role that the spatial context of the city plays in this process. In the end it proposes solutions for giving locals more access to the spatial resources needed to promote more sustainable economic, social and environmental conditions. This is in line with the outlook of the complex cities studio.

Furthermore, in this project I highlight the key role of the Urban Designers of Willemstad in improving the well-being of its locals. I encourage them to take a more active role within spatial development and emphasize their need for more agency. To do this they need to be able to take on multiple roles and step out of their comfort zone of being just spatial designers. In the current situation, where the governance system does not have a clear vision for the economic, social and environmental development of locals, local urban designers have the capacity to step in and make them themselves. Even though it is not part of their job description. When certain stakeholders do not want to cooperate, they can choose to step in and mediate this personal relationship. This concept of the urban designer stepping out of their own comfort zone and seeing the process of sustainable urban development as a holistic process is one of the most valuable lessons I have learned during my time in the Urbanism department.

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# Appendix

The Appendix contain a selection of Urban Designs made during the Design Exploration of this thesis. The majority of patterns shown in the final design product were extracted from these deigns.

# SCENARIO 1: Sustainable Black Market

Economy (Export)	Locally owned, Start-Up businesses sell sustainable tech to the world
Social	Population decreases??
Environment	The climate becomes even hotter and dryer

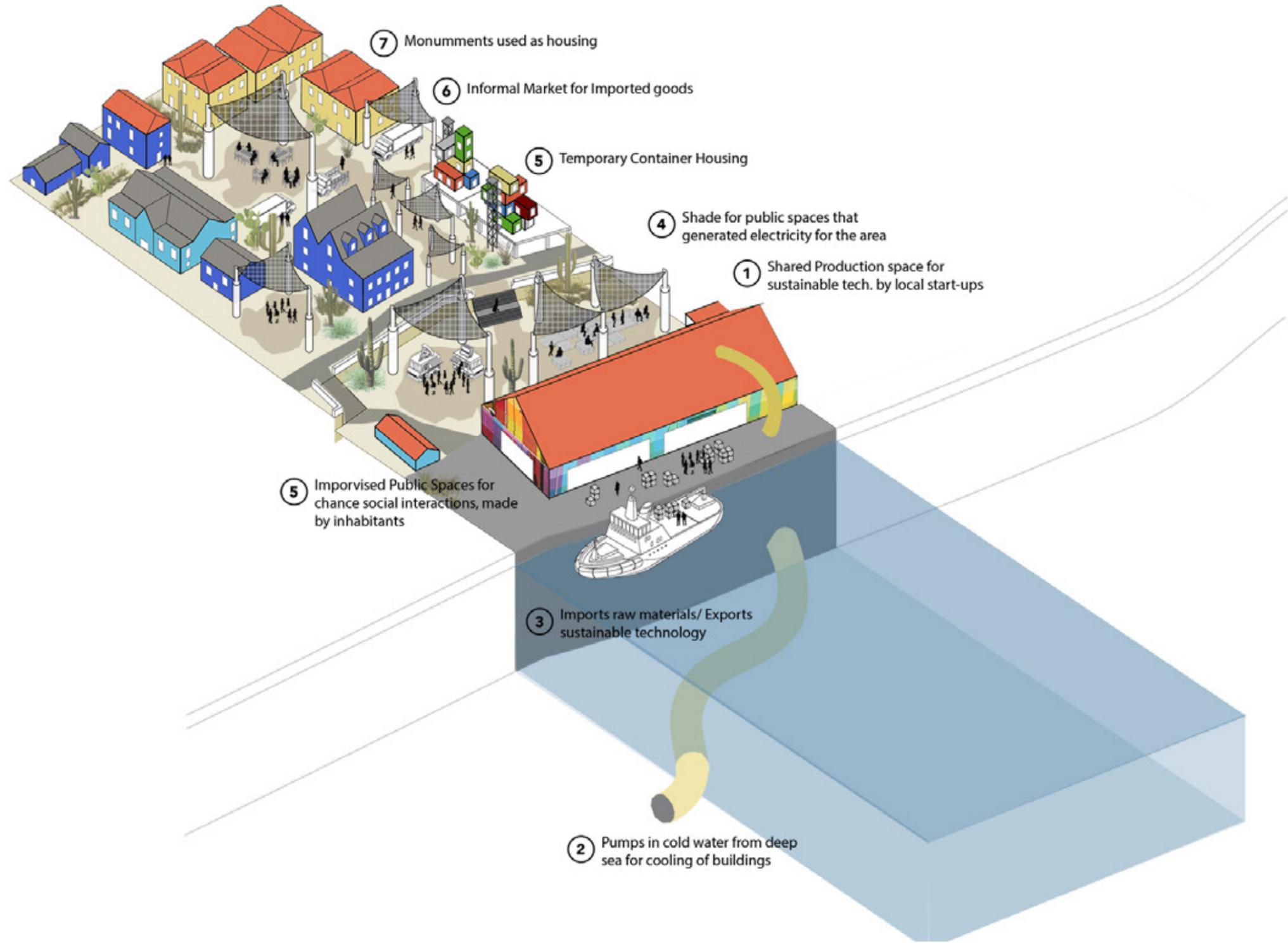
## The Story....

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- 7 Monuments used as housing
- 6 Informal Market for Imported goods
- 5 Temporary Container Housing
- 4 Shade for public spaces that generated electricity for the area
- 1 Shared Production space for sustainable tech. by local start-ups
- 5 Improvised Public Spaces for chance social interactions, made by inhabitants
- 3 Imports raw materials/ Exports sustainable technology
- 2 Pumps in cold water from deep sea for cooling of buildings

# SCENARIO 2: Under Water Amazon

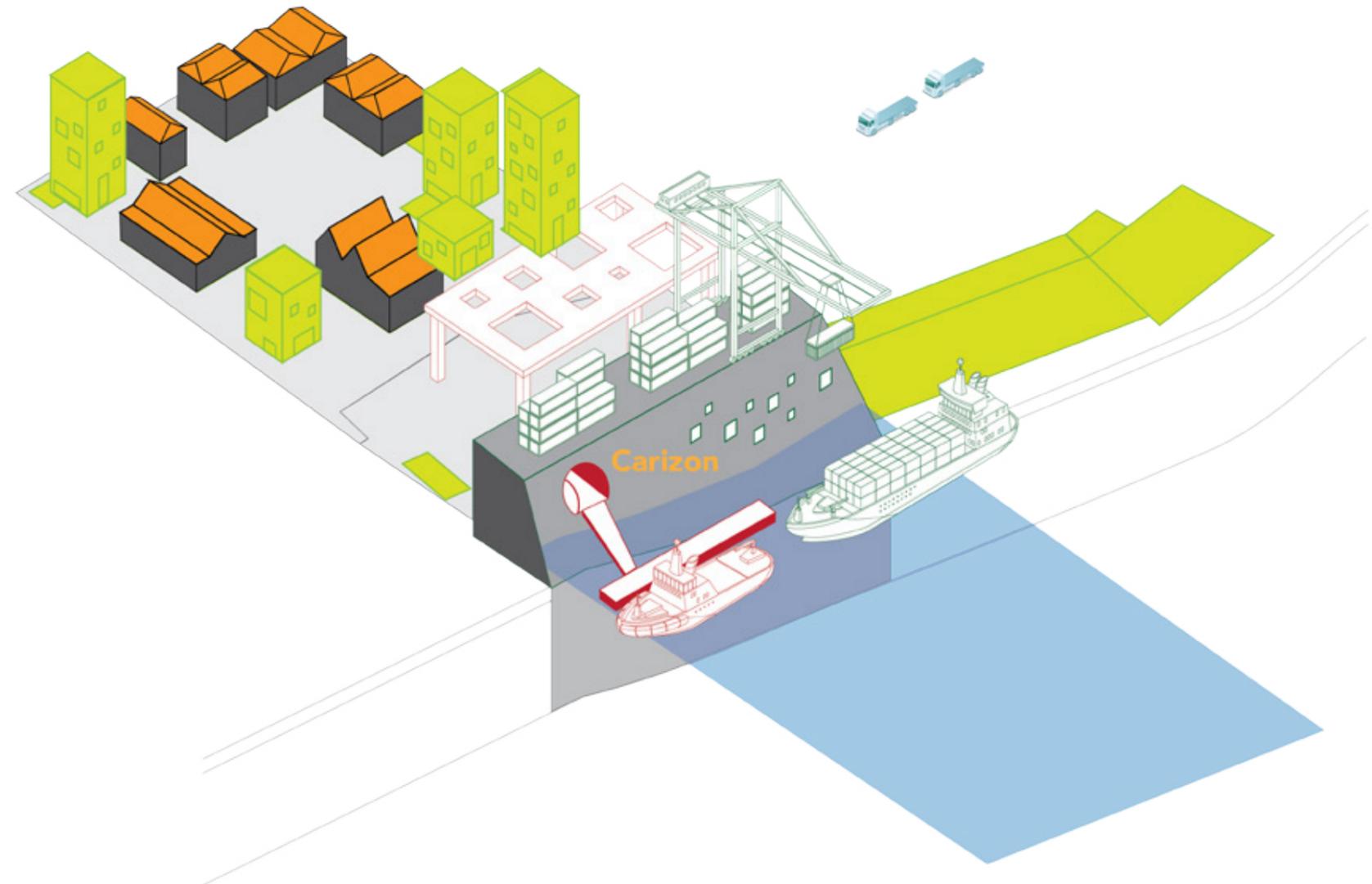
## The Story....

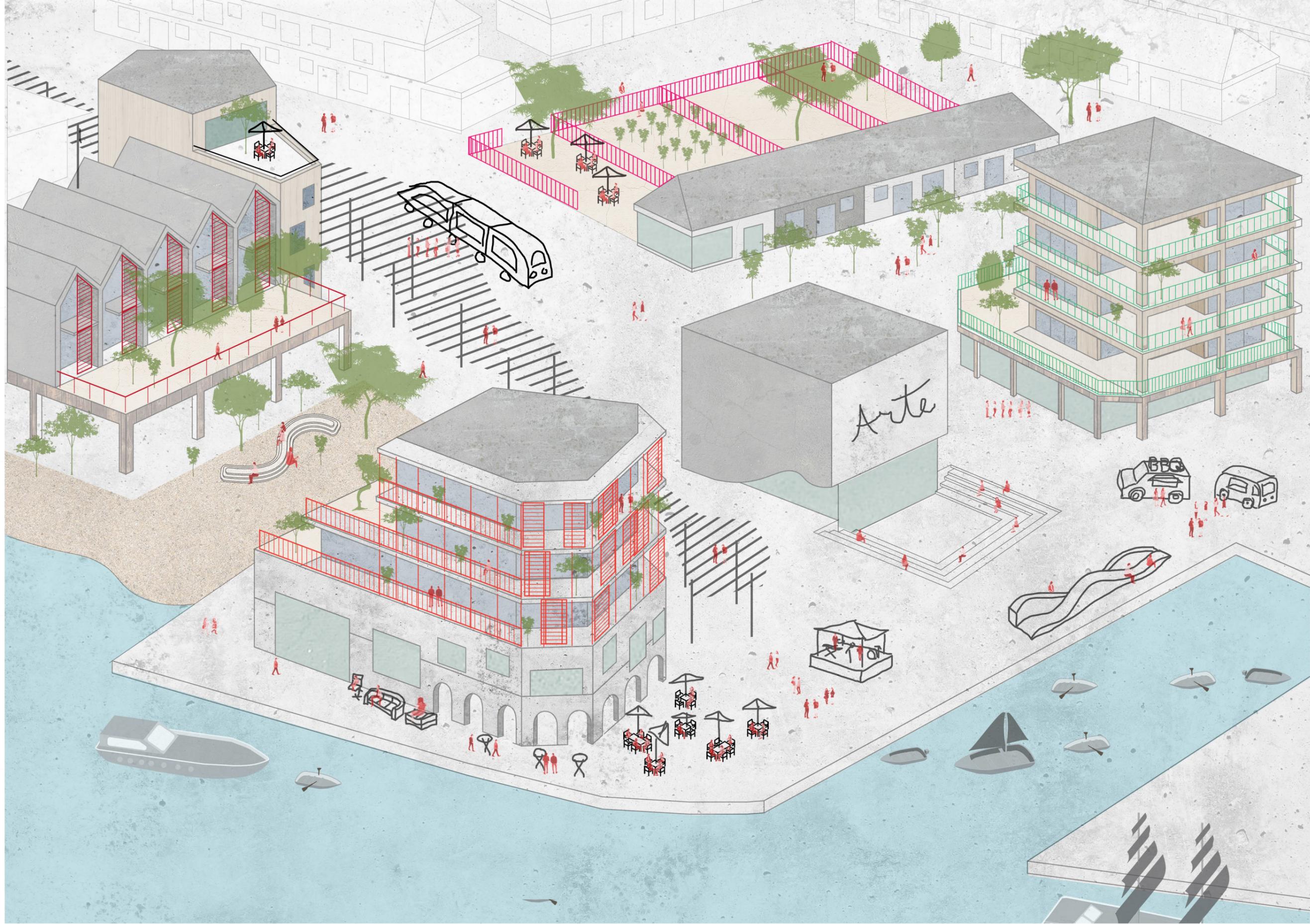
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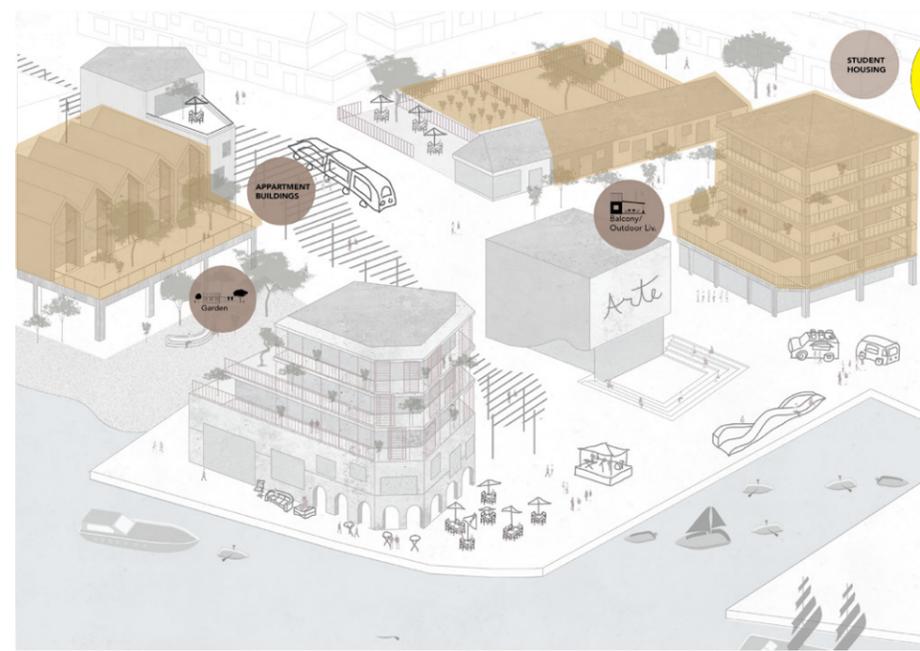
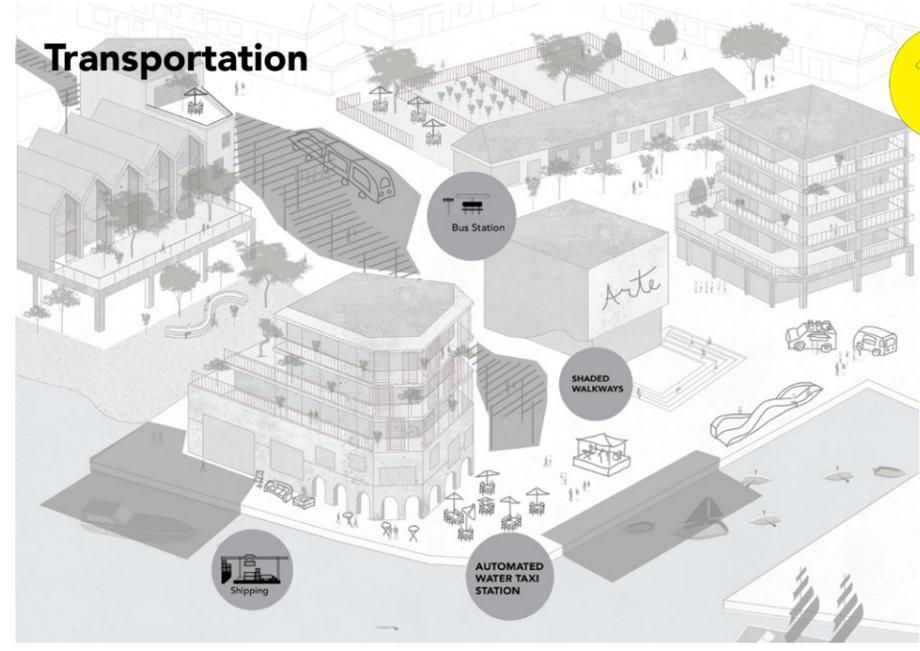
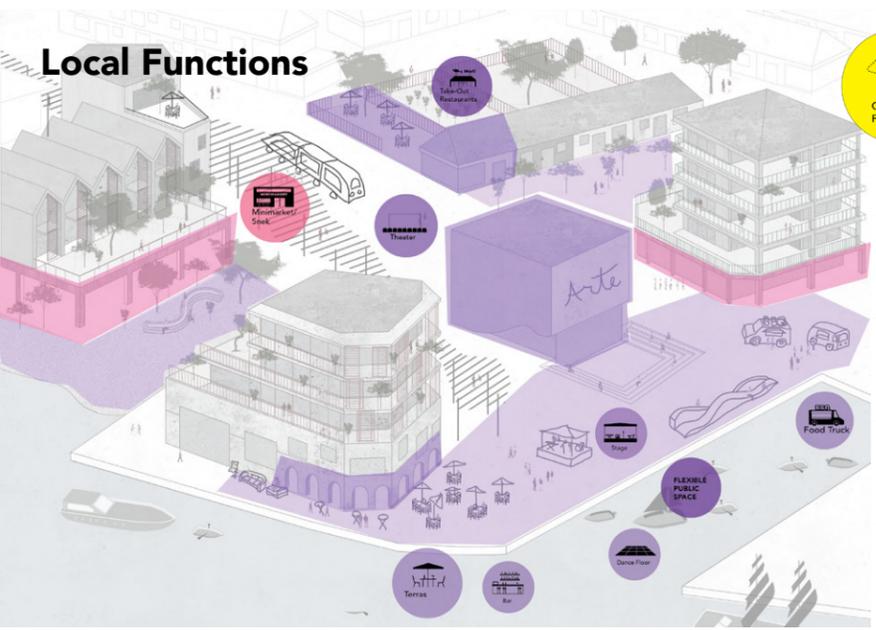
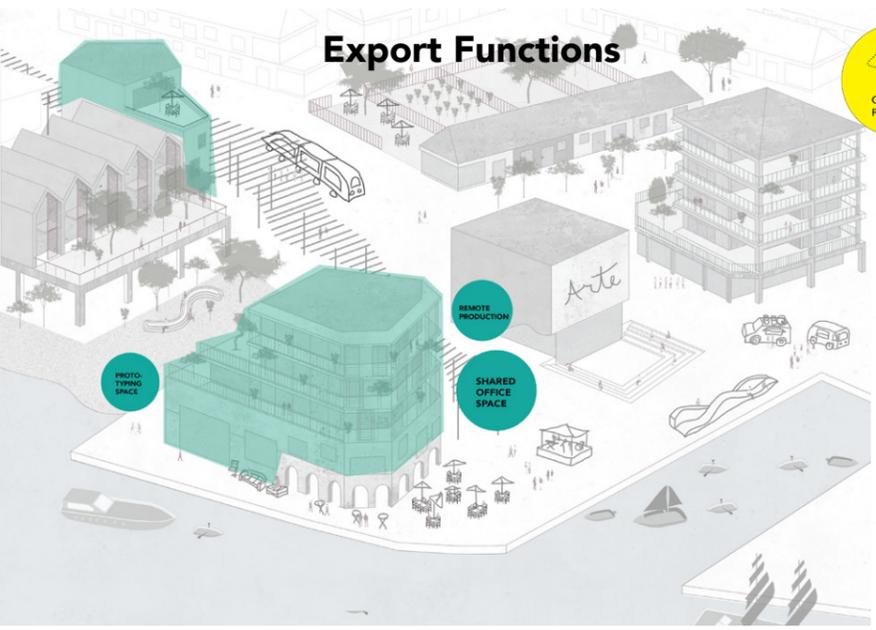
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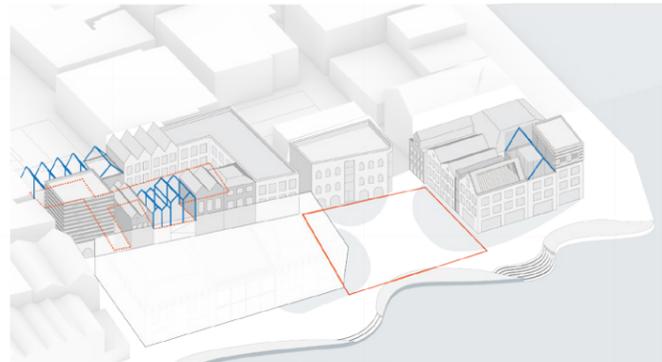


Spatial Strategies:

- 1. Mix-Use
- 6. Shared Work Spaces for SMEs

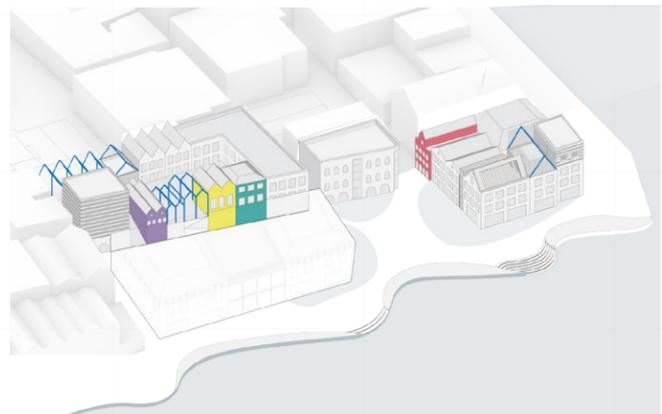


- 2. Public Transport Hub
- 3. Walkability

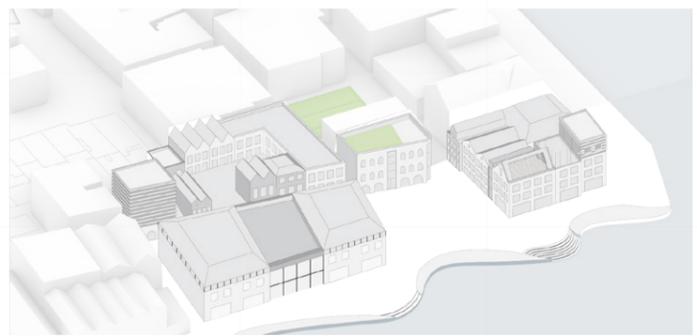


Spatial Strategies:

- 4. Public Space: Knowledge Spill-over

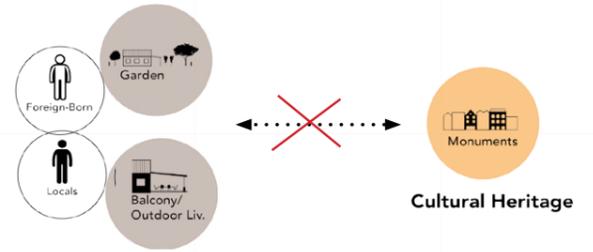
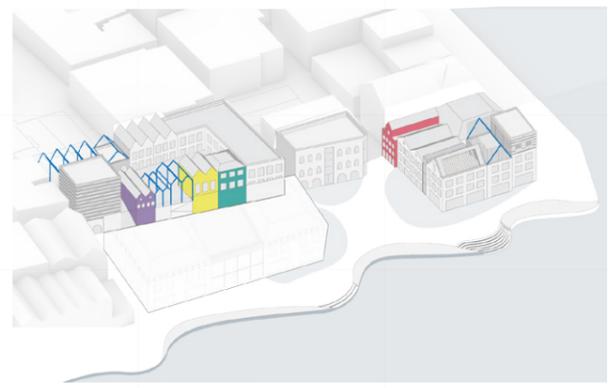


- 7. Unique Functions to Monuments



Spatial Strategies:

- 8. Shared Gardens / Urban Farming



New System

