Transit Induced Redevelopment To Kwa Wan, Hong Kong

Jose Vallejo Mateo, Weiping Wu, Rosalie Ray
Emily Junker, Ethan Hudgins, Guilherme Formicki, Livie Li, Lu Hao, Nengjing Deng,
Qianyu Xiang, Shelby Smith, Shulin Zhang, Yichen Ouyang, Yudi Liu, William Reis

Spring 2018
Graduate School of Architecture, Planning and Preservation
Columbia University

Table of Contents


洪
膠輪電池
緊急服務
發
出外救車
91900850

Executive Summary

As a group of urban planning students at Columbia University in the City of New York, we have been extensively researching the issues present in the neighborhood of To Kwa Wan in the Hong Kong Special Administrative Region of the People's Republic of China. Working with the Urban Renewal Authority (URA), the quasi-governmental body responsible for accelerating the process of urban renewal in Hong Kong, we have determined some key issues that we believe need to be addressed in the urban renewal process.

As a neighborhood historically hosting residents with lower incomes and lesser education, and immigrants, To Kwa Wan has largely been a haven for people unable to afford the rising rent prices in other areas of Hong Kong. However, with the introduction of a new Mass Transit Railway (MTR) station imminent, rents have been, and will continue, to rise. Many of the individuals living in, or operating businesses in To Kwa Wan have expressed their concerns about being unable to afford to remain in the neighborhood that they have lived in for years.

To Kwa Wan is also a neighborhood filled with buildings that are relatively old, and some have collapsed or had crumbling facades. This poses a threat to the residents and visitors to the area, and several fatalities have occurred as a direct result of these dangerous buildings. As a result, the URA has stepped in and acquired several properties that are in severe need of renewal. We recognize that the renewal process is a necessity for the To Kwa Wan neighborhood, and believe that it will bring a multitude of positive effects to To Kwa Wan. However, renewal is likely to exacerbate the problems of displacement and gentrification. As a consequence, we recommend several actions to take place in order to mitigate some of these problems.

To Kwa Wan is presently a neighborhood which has multiple areas that are not pedestrian friendly. Additionally, the neighborhood has a problem with traffic congestion, and private vehicles crowd the streets. In an effort to promote pedestrian traffic, we propose that several steps be taken in order to create an environment more suited towards non-vehicular use. By creating neighborhood slow zones, pedestrians will be safer. A hierarchical pedestrian street network will allow for safer, more leisurely travel in the neighborhood. Implementing a parking benefit district will allow the city to raise funds for these projects more easily, and allow the city to better control on-street parking.

With the advent of rising rent prices, many who have lived in To Kwa Wan for years will no longer be able to afford market rate housing in the neighborhood. In order to mitigate the displacement that will likely occur, we suggest implementing inclusionary policies that will allow lower-income residents to stay in the neighborhood. By creating both mandatory and voluntary inclusionary housing zoning policies, the ability for residents to remain living in the neighborhood will be increased.

Finally, during our interviews with residents, we found that there was often a lack of communication regarding projects in the area, and many were left in the dark. As a way to bridge this communication gap, we suggest creating a website and app called the NeighbOUR's network. This platform will allow residents to have a better understanding of the redevelopment projects happening in their neighborhood. Additionally, it will allow for better community engagement, and easier communication and discussion.

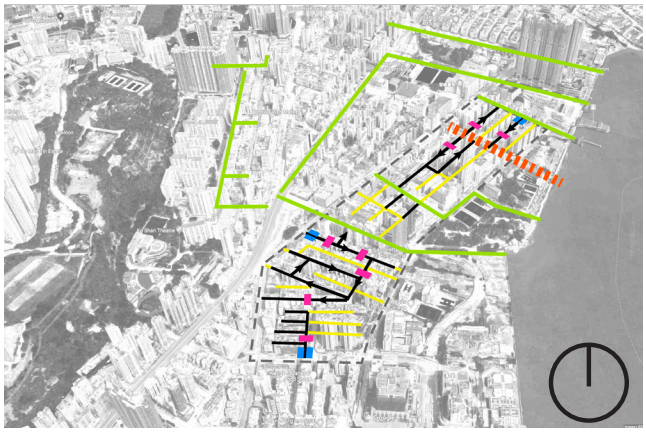


Figure 1 Summary of proposals related to Walkability

Figure 2 Summary of proposals related to Inclusionary Zoning

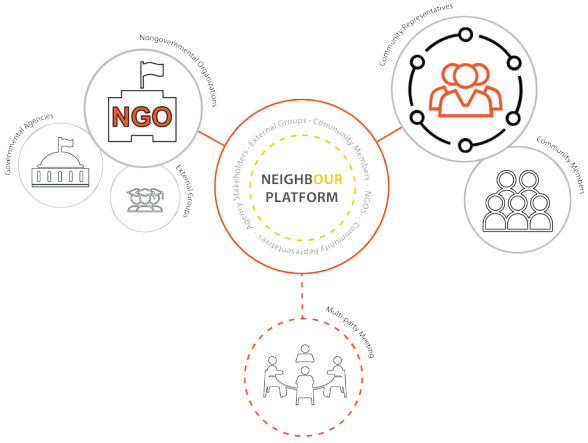
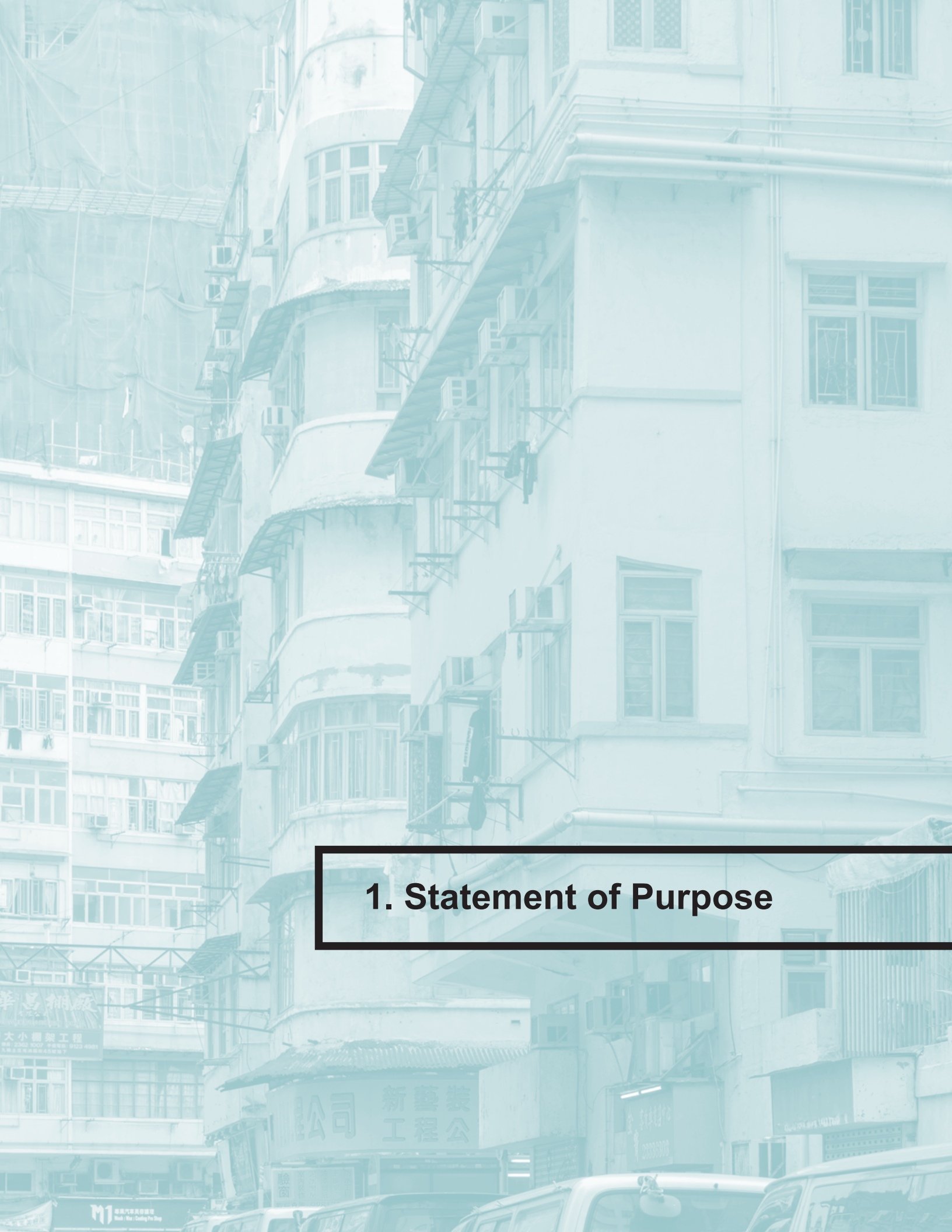


Figure 3 Scheme of NeighbOUR's Network and stakeholders


洪
膠輪電池
緊急服務
發
出外救車
91900850



1. Statement of Purpose

Statement of Purpose

Within the last several decades, Hong Kong's urban fabric has been transformed through a process of urban renewal and revitalization. The primary agency carrying out such efforts is the Urban Renewal Authority (URA), a statutory body that was established in 2001 under the Urban Renewal Authority Ordinance. One of the main strategies of the URA is to align the city's housing and development needs with the ongoing expansion of Hong Kong's public transit infrastructure. Execution of urban renewal is therefore tied to a comprehensive plan to continue Hong Kong's development as a future-oriented, global city.

This report is the product of a semester-long Urban Planning studio within Columbia University's Graduate School of Architecture, Planning and Preservation and its purpose is to detail our findings and share our recommendations with the URA for the To Kwa Wan redevelopment area. Specifically, we will share our research findings and offer strategies for improving upon the URA's existing renewal plans for the area surrounding the future Ma Tau Wai MTR station, in Kowloon City and, more specifically, in the neighborhood of To Kwa Wan.

In the following pages we will present the outcome of our work that encompasses extensive background research, field observations, interviews with current residents and business owners, and meetings with representatives of various stakeholder groups in Hong Kong, including governmental department heads and community group members. From these efforts we have identified a set of issues and challenges, which were deeply influenced by our site visit to Hong Kong in March 2018. Once there, we had the support of professors and students from the Chinese University of Hong Kong (CUHK), whose parallel research efforts and support were fundamental to our own study.

Ultimately, it is our hope that this report will prove to be helpful for planning and social purposes. After all, it is our primary understanding that urban planning cannot be truly envisioned without first and foremost turning its attention to people.

New York City, May 2018

市區重建局
URBAN RENEWAL AUTHORITY

COLUMBIA GSAPP URBAN PLANNING


洪
膠輪電池
緊急服務
發
出外救車
91900850

2. Background

Introduction

Throughout the last several decades, Hong Kong has been an active player in the state-led redevelopment realm. The URA (Urban Renewal Authority), which is the city's quasi-public agency that oversees these redevelopment efforts, has been directly involved in planning for key urban areas that are likely to enjoy the opportunity of aligning growth and social opportunities (such as housing).

The URA is a statutory body that carries out redevelopment in partnership with private stakeholders. This body usually acquires old buildings in neighborhoods that have value from a real-estate perspective – such as buildings in close proximity to new MTR stations – and then demolishes these edifications so as to replace them with new, profitable developments (La Grange and Pretorius 2014).

Apart from urban redevelopment – or urban renewal – strategies, the URA also conducts rehabilitation, revitalization and preservation projects in its targeted neighborhoods. This agency's interventions may threaten the housing stability of many low-income dwellers in old, inner-city neighborhoods. These dwellers usually enjoy affordable and well-located units, despite their low quality (ibid.). The threat imposed by URA developments may ultimately lead to gentrification, which is understood as the process that prices out dwellers from neighborhoods that face property appreciation. It should be said that, in Hong Kong's case, displacement of original, low-income dwellers does not only occur after land price increases, but also as direct consequences of the URA's purchase and subsequent demolition of old buildings.

Recent plans to build the Shatin to Central Link transit line in the Kowloon Peninsula have incentivized the URA to turn its attention towards the To Kwa Wan neighborhood. In the following sections, we will explain in detail these agency's plans for To Kwa Wan, as well as the likely impacts that may be observed in the area.

To Kwa Wan is a neighborhood located in the Kowloon Peninsula (see Figure 2.1). For the purposes of our work, we chose to set the boundaries of our To Kwa Wan Study Area so that they overlap with the five Constituency Areas that surround the future MTR Ma Tau Wai station. These areas are: To Kwa Wan North, To Kwa Wan South, Lok Man, Ma Tau Kok, and Hoi Sham (see Figure 2.2).

Given that the major force driving the area's redevelopment project comes from public transit expansion, and that the catalyst for the To Kwa Wan redevelopment plan is the installation of the new Shatin-Central Line To Kwa Wan MTR station, we used the future location of the new station as a central point in defining our study site boundaries. After reviewing demographic statistics and relative cultural heritage information, our team decided to incorporate the five immediate constituency areas surrounding the proposed station as the study area. These constituency areas have detailed data, since they are the smallest geographical unit in which data is available in Hong Kong. Further, these five constituency areas intersect a reasonable walking distance for commuters from the proposed station.

Current Conditions in To kwa Wan

The focus area for this report consists of five constituency areas that surround the future MTR station. The total population for this study area is 77,550. As of 2016, people over the age of 65 represent approximately 20 percent of the total population. This is a significant difference from the overall percentage of elderly individuals in Hong Kong as a whole (currently 15 percent). Together, the five constituency areas comprise an area of approximately 585,400 square meters, or 0.23 square miles. The total population density is about 132,474 people per square kilometer, or 343,105 people per square mile. This astonishingly high population density shows that the neighborhood has historically been a heavily residential area, though it has been relatively underserved by public transportation networks, particularly by mass railway transit systems. With the implementation of the Shatin to Central Link, it is estimated that residents will have the ability to travel to the Central Business District in approximately 10-15 minutes.

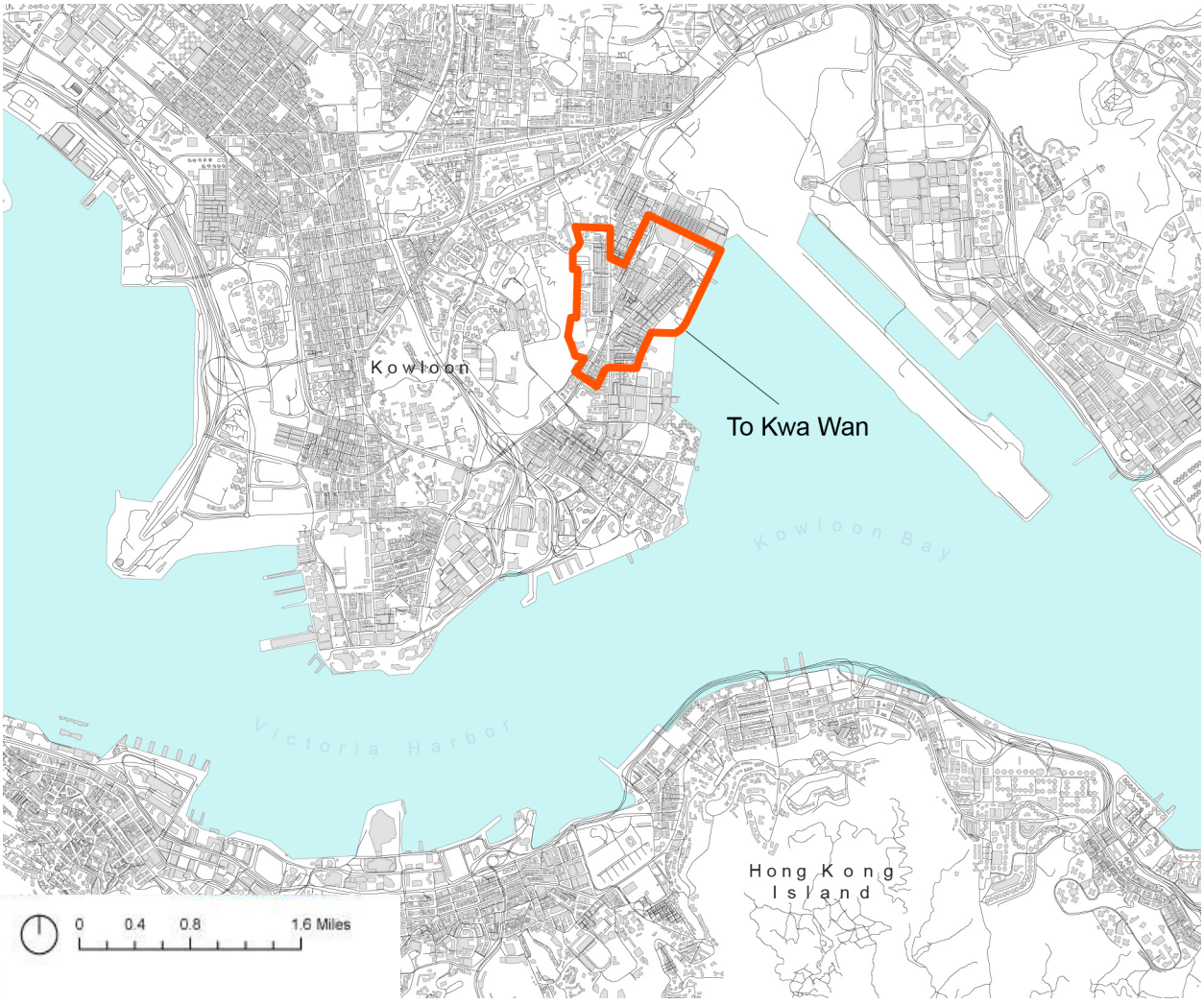


Figure 2.1 To Kwa Wan Study Area in Hong Kong

The To Kwa Wan neighborhood has also historically been an area of the city that is characterized by lower incomes and higher rates of poverty. The per capita income in Hong Kong is about 4,000 USD per month, whereas in To Kwa Wan, this is about $3,200. As a result, residents of To Kwa Wan have a more difficult time maintaining a similar quality of life to their counterparts in more wealthy neighborhoods of Hong Kong. On average, residents in our study area dedicate 25 percent of their income towards paying for their rents or housing costs, compared to a relatively paltry 14 percent from all of Hong Kong. This challenge is exacerbated by the lack of public, affordable housing present in the neighborhood. While all of Hong Kong boasts a 30 percent rate of public housing, To Kwa Wan has a meager 12 percent (Centamap 2018).

The built environment in To Kwa Wan are in neglectful conditions as many of the buildings are old, crumbling, and collapsing (Figure 2.3). Multiple fatalities have occurred as a result of the residential

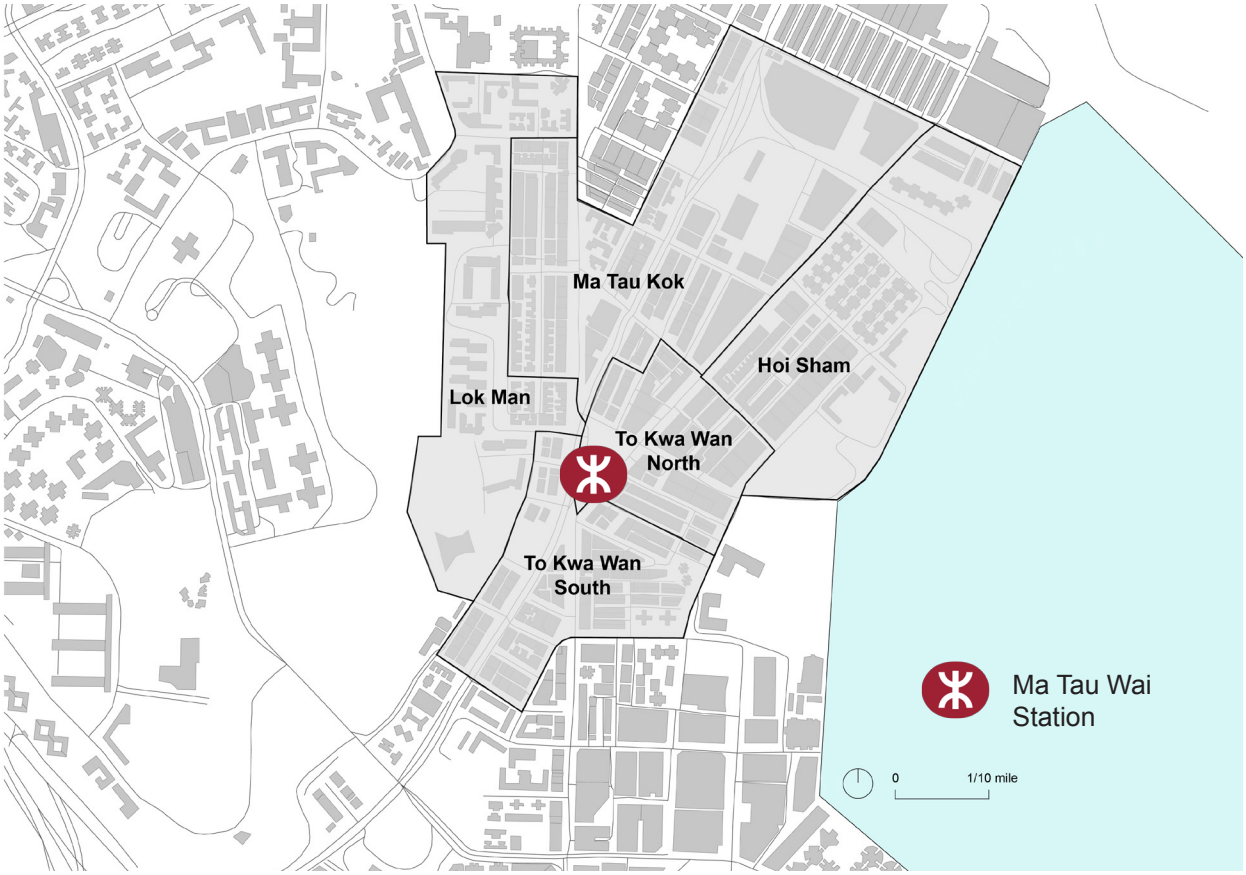


Figure 2.2 To Kwa Wan Study Area

buildings that have toppled from age. Most of the buildings take up entire block footprints, after available land in To Kwa Wan quickly diminished in the 1960s. Fire exits were often insufficient, with many buildings only having one exit. Higher floors of the buildings without elevators were typically less desirable, as ease of access waned with each additional floor. Informal housing structures were built on the tops of some walk-up apartment buildings.

Mixed-use residential and commercial buildings are the most common building type: 63 percent of the total land area is made up of buildings containing residential units, the majority of which also have commercial spaces at street level. Open space makes up another 20 percent of the land. About 9 percent is for government and community uses (Table 2.1).

Bus routes are the most common form of transportation available to residents. A large number of bus routes travel through the neighborhood, especially on Ma Tau Wai Road and To Kwa Wan Road. Additionally, minibuses provide services in the neighborhood. The combination of bus and minibus services provide the majority of public transportation in the neighborhood.

Figure 2.3 Deteriorating Conditions in the To Kwa Wan (Wan 2014)

Land Use Category	Area (sqm)	Share
Residential A	334,235	57%
Residential E	33,820	6%
Open Space	118,912	20%
Commercial	43,868	7%
Government, Institution and Community	51,303	9%
Other Use	3,257	1%
Total	585,398	100%

Table 2.1 Land Use Composition in To Kwa Wan (Town Planning Board 2018)

Note: Residential E areas are former industrial uses rezoned for residential use.

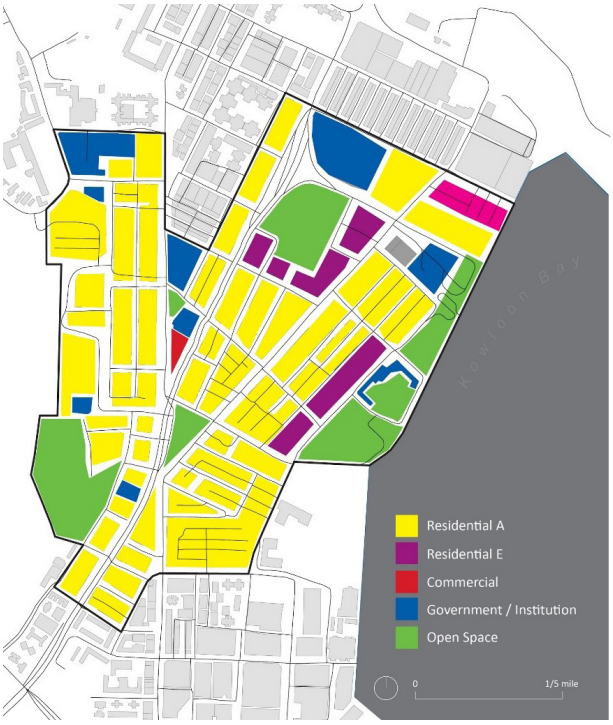


Figure 2.4 Zoning Map in To Kwa Wan (Town Planning Board 2018)

"To Kwa Wan is quite different, mainly older district, you can walk around the street, it's open not closed." - Wheel Thing Makers Founder

Urban Renewal Authority and Redevelopment

The URA's ultimate goal for Hong Kong is to expedite the process of urban renewal. Many buildings in Hong Kong are presently, or will soon be, over 50 years old. According to the URA's estimates, about 4,000 buildings throughout Hong Kong are over the age of 50, with additional buildings constantly being added to this number. The neighborhood of To Kwa Wan in particular has a large proportion of its buildings in advanced age, as the majority of buildings were constructed in the mid-20th century, characteristically 10 stories or lower. Poor standards in the construction of many of these buildings have led to crumbling structures and collapsing residences, leading to a number of fatalities directly attributed to building age in To Kwa Wan.

Whenever the Urban Renewal Authority undertakes projects, the stated purpose is always to follow the Urban Renewal Strategy, the major tenet of which is a "people first, district-based, public participatory" approach (Urban Renewal Authority 2011). These approaches are guided by the "4Rs": redevelopment, rehabilitation, revitalization, and heritage preservation. The URA has outlined their major objectives when it comes to urban renewal project outcomes, including:

- Redeveloping old, crumbling buildings with newer structures adherent to a modern standard of building quality and safety
- Creating and designing more efficient and environmentally friendly transportation networks
- Preserving local neighborhood characteristics and community social networks
- Maintaining and rehabilitating historically and culturally significant landmarks
- Providing the community with open space and promoting community welfare, including providing housing tailored towards special needs individuals, such as the disabled or the elderly.

When selecting sites, the URA sets out to determine the necessity and priority for redevelopment, taking into consideration such factors as: building age and decay, sanitation facility acceptability, fire hazard risks, satisfactory tenants' living conditions, and the potential beneficiary outcomes.

The URA conducts "freezing surveys" for each of their projects in order to assess the valuation of properties and to find the current residents of buildings. This is done in order to prevent opportunistic individuals from moving into URA properties and acquiring compensation unjustly. Following this, a two month consultation process is undertaken, in which public input, including objections and comments, from affected residents is taken into consideration. The following month is devoted to analyzing said commentary, and projects are accepted, rejected, or amended (Urban Renewal Authority 2011).

"You can see that new buildings are suddenly appearing one by one because of the urban renewal process...the property value is rising." - Paddy, Wheel Thing Makers Founder

The Redevelopment Plan for To Kwa Wan

The Urban Renewal Authority's overall aim for the To Kwa Wan neighborhood is to address the decaying built environment, and to improve and enhance the living conditions for the residents. Many of the buildings immediately surrounding the location of the currently under-construction MTR station are very old, with some being built in the 1940s or earlier. As the future site of a potentially major transportation hub for To Kwa Wan and the Kowloon Peninsula, the Hong Kong Government would ideally like to create a city environment that is more structurally sound, yet maintains the vibrant street life and character of the neighborhood.

In Hong Kong, redevelopment projects require off-street parking and loading facilities for each project. Often, ingress and egress portals for these parking facilities are built into the building, depriving the neighborhood of vitality and commercial spaces.

Figure 2.5 Rendering of the Future Ma Tau Wai MTR Station in To Kwa Wan

(Source: Mass Transit Railway 2013)

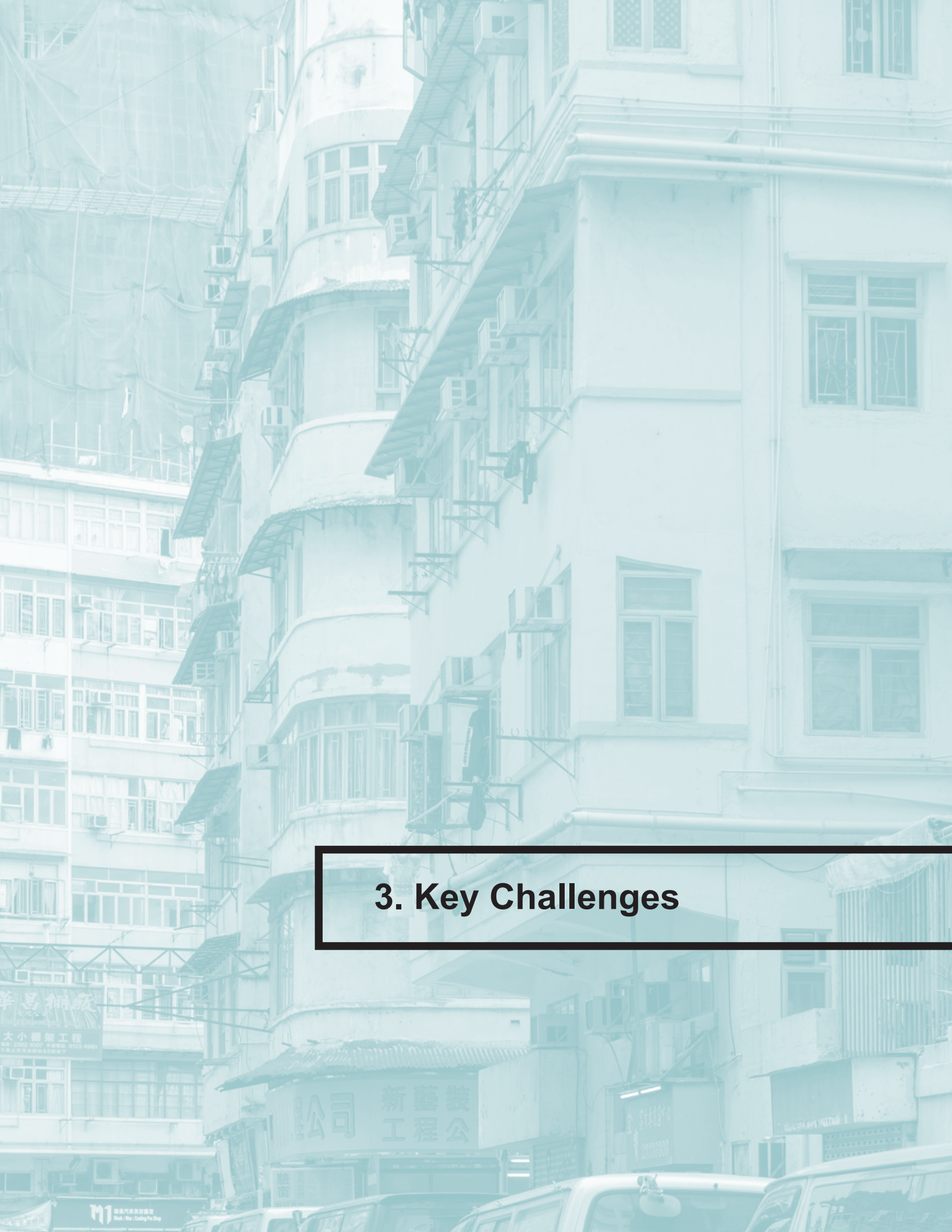
Figure 2.6 Rendering of the Future Ma Tau Wai MTR Station in To Kwa Wan

In areas such as To Kwa Wan, with large numbers of buildings that need to be developed, the additive deleterious effects of said parking portals detract from the neighborhoods livelihood and reduces the amount of commercial real estate available.

The Urban Renewal Authority has possession of multiple properties within a close distance from the future MTR station that they have consolidated into a larger renewal project. An approach such as this allows the URA to construct a singular car park that minimizes the removal of street activities and shops. Additionally, the connection of these sites allows for the URA to make efforts towards calming the traffic of the area, promoting pedestrian traffic and improving walkability, as well as increase the available public space in small side streets.

With an increasing life expectancy and a growing aging population, it is estimated that approximately a third of residents in Hong Kong will be above the age of 60 by 2040. Due to the oftentimes specialized nature of housing required for elderly and those with ambulatory difficulties, certain measures are necessary in order to accommodate this population. Many existing buildings in the area do not contain elevators for those who have difficulty ascending and descending stairs. Providing more accessible housing, as well as better walkable streets, is a desire for the URA, which will ensure that elderly residents won't have to climb many levels of stairs in order to enter their homes (Ma 2018).


AA 4934
洪
膠輪電池
緊急服務
發
出外救車
91900850



3. Key Challenges

Palimpsest: Collective Memories and the Future of To Kwa Wan

Figure 3.1 To Kwa Wan in 1935 (Source: Gwulo)

A palimpsest is a writing surface on which the text are erased, then the later writing will be superimposed over the previous traces. Within the urban context, palimpsest metaphorically refers to a concept of observing the city as a multi-layered construction, and it describes the complexity and vibrancy of the urban area. The urban landscape can be thought as a parchment which can be erased and rewrite several times over, leaving many traces which could be either observable or intangible (Khirfan 2010). Buildings, landmarks, symbolic heritages and other physical structures may have gone with time, but a trace of them can remain in the form of either tangible typological features, such as building types and colors, or intangible way such as the distinctive local custom and social norms. Our research and observations have identified several layers ranging from urban physical landscape to intellectual activities and history which accentuate the palimpsest in To Kwa Wan (Figure 3.1).

The building morphology is one layer reflecting the various styles in the study area developed across different decades:

- **Shop-house**: a structural form of common in the To Kwa Wan area, and was the dominant building type beginning in the British Colonial era and through the 1950s. This type of structure, which features a commercial ground floor open to the street, is very typical in To Kwa Wan. Retail stores, convenience stores, authentic Hong Kong style cafés, barber shops and salons are crowded along the street frontage, comprise a vibrant street life around these older structures in traditional style.

- **Mass buildings and slab blocks**: Since the 1950s, when To Kwa Wan became an industrial district, a different type of structure was introduced to the study area, driven by

the industrialization demands. They were constructed in To Kwa Wan in order to accommodate the industrial sectors and provide residential space for workers from the factories (Figure 3.2). Some of those large scale buildings have disappeared over time, but there are still numbers of them that can be found along Yuk Yat street. Remnants of the industrial area can also be seen in retrofitted buildings such as the Cattle Depot (Figure 3.3). Once a slaughterhouse, the now landmark Cattle Depot is used by local artists as a collective studio space and public meeting place.

- **High-rise modern towers**: in the 1980s and 1990s, following the closure of the Kai Tak Airport just north of the study area, these began to appear in To Kwa Wan as the district was up-zoned for higher density. These high-rise luxury buildings now tower over the aging, yet historic, shop-houses and mass houses and intermigle alongside family-owned commercial businesses.

The physical aspects of the To Kwa Wan's urban landscape represents a significant part of the history of the community. However, an urban palimpsest is not solely comprised of a place's morphological history; it also contains layers of cultural history and social memories. Hong Kong is a 'city of immigrants' which has become home to Chinese mainlanders, Europeans and South Asians for decades. To Kwa Wan has historically acted as a gateway community for many of the incoming South Asian migrants, from Pakistan, Indonesia, India, Philippines and others. The ethnic minority concentrating in To Kwa Wan takes up about 40.4% of total population, among which Phillipino is the largest group.

"Back then [To Kwa Wan] was more friendly. I grew up playing soccer with my neighbors. Back then you don't lock your doors, you don't close our gate. You yell "supper time!" and everybody come home for supper." - Arthur, Repair Shop Owner

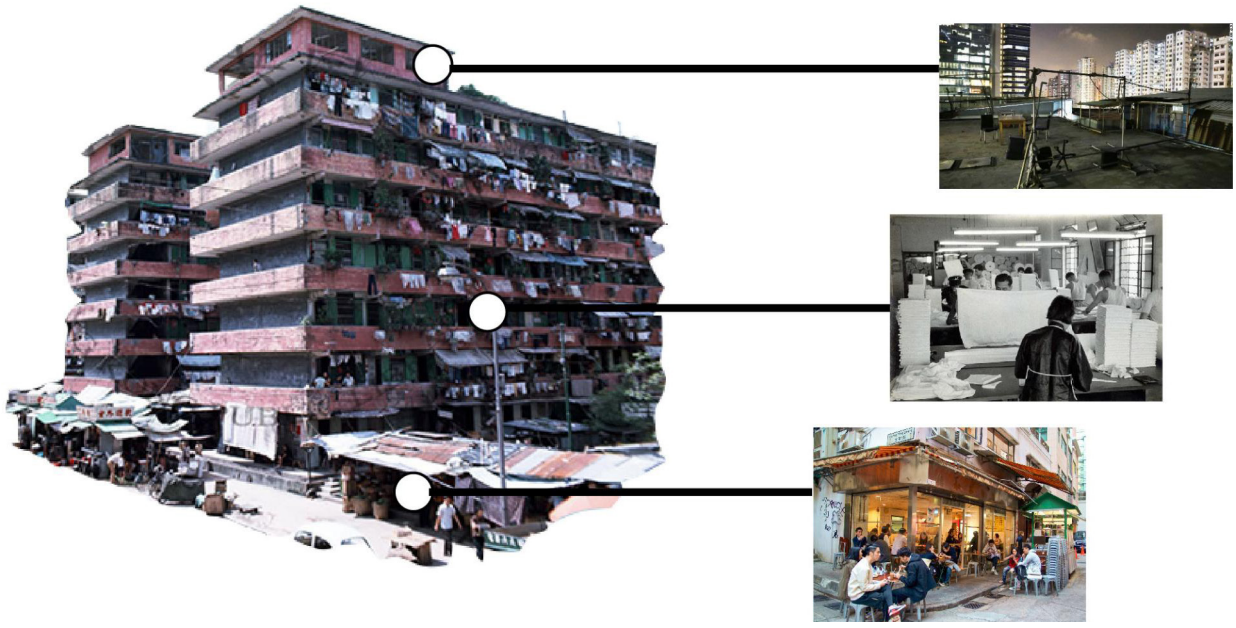


Figure 3.2 Mass Building

Understanding To Kwa Wan as a palimpsest has been a key concept to our studio's research as the current redevelopment process will inevitably bring substantial changes to the neighborhood and add a new layer to the already complex urban landscape. We use palimpsest as a way of thinking about the complex fabric that comprises the community and creating a future plan that will respect and better accommodate To Kwa Wan's diversity and complexity. At the same time of building the connection between layers, it is necessary to generate more potential to grow and evolve To Kwa Wan's distinctive spirit, social identity and cultural diversity.

Due to the new subway station and extended Sha Tin Central Line across the community, a new layer is forming and expected to superimpose on the older layers. For these reasons, one key issue we have identified throughout our research and site visits is that To Kwa Wan is confronted by the erasing of the community's collective memories and social culture as a result of the upcoming redevelopment. The new subway station attracts residents, investors and developers coming from outside of the community, which has the potential to lead to a significant demographic shift and the introduction of new people and businesses in To Kwa Wan at the expense of the current residents and community. It is critical to reconstruct and reinterpret those memories and symbolic social history into the design of its future during the redevelopment process.

Socio-economic Conditions in To Kwa Wan

Located in the populous Kowloon peninsula, To Kwa Wan is simultaneously a traditional area and a vulnerable neighborhood facing challenges related to the upcoming redevelopment. Our research on the socio-economic conditions is based on data derived from the Census and Statistics Department

Figure 3.3 Cattle Depot Artists Village

of Hong Kong at the constituency area level and at the Large Street Block Group level. Specifically, the constituency area refers to sub-districts under Hong Kong's eighteen administrative districts, and Large Street Block Groups are block-level administrative units under the constituency area. In order to gain more specific insights and perform a spatial analysis of the study area, we digitized data for each To Kwa Wan block into tables and then created a GIS dataset. This was necessary because data availability in Hong Kong is limited and the constituency area level is the smallest spatial unit for official data. By digitizing this data at the Block Group Level, we were able to draw findings that reflect the different socio-economic composition within the various blocks in To Kwa Wan. We discovered a great deal of diversity in demographic and economic conditions by performing this block by block analysis.

First, compared to the rest of entire Hong Kong, To Kwa Wan is distinctive in its overall demographic composition and economic conditions:

- To Kwa Wan's population over 65 is 5 percent higher than the city average,
- Hong Kong accommodates 30.41 percent of its residents in public housing, whereas, in To Kwa Wan only 12 percent of residents live in public housing,
- The rent-to-income ratio is 25 percent in the study area compared to just 14 percent in Hong Kong, and

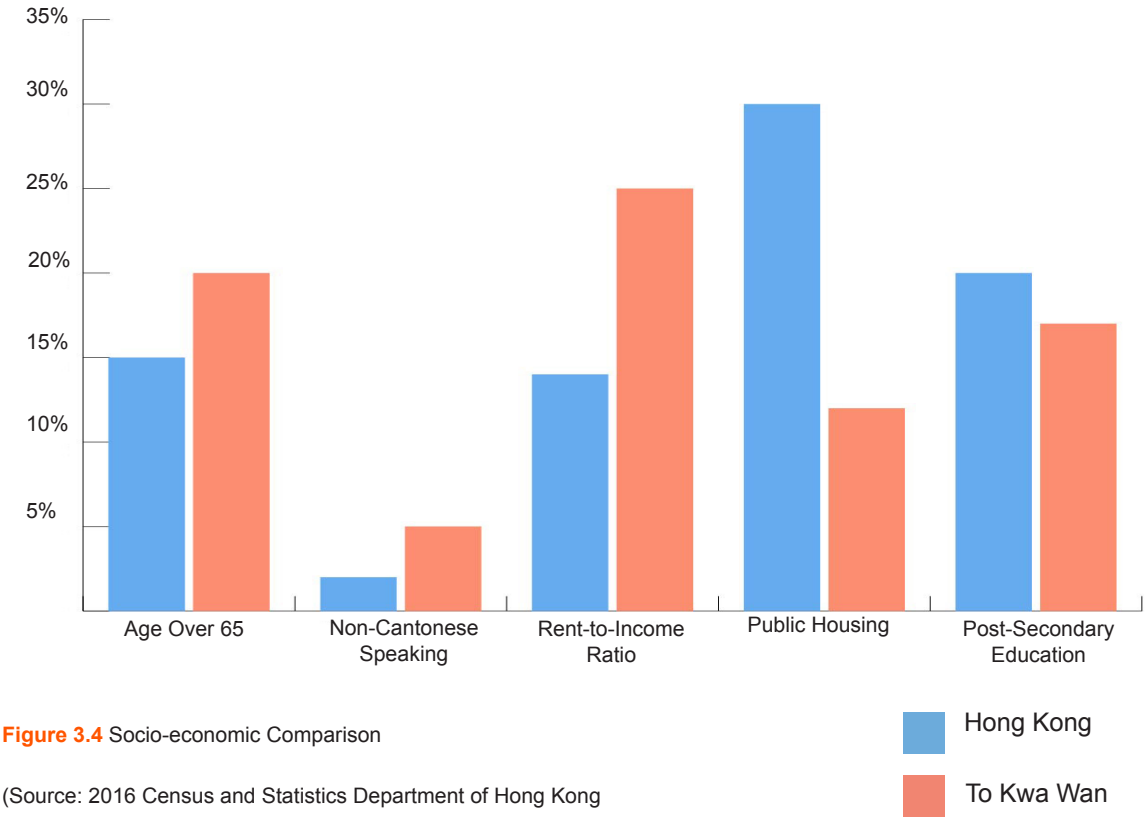


Figure 3.4 Socio-economic Comparison

(Source: 2016 Census and Statistics Department of Hong Kong

Figure 3.5 Median Income Distribution

"A third of the population will be about 60 by 2040, therefore a lot of this development we provide must be more accessible, more elderly friendly, more walkable area to cater to the aging population" - Michael Ma, URA Executive Director

- Only 2 percent of residents in Hong Kong primarily speak languages other than Mandarin or Cantonese, while closer to 5 percent of the population in To Kwa Wan primarily speak other languages, indicating the higher percentage of immigrants.

These differences demonstrate that To Kwa Wan faces challenges in multiple aspects, which range from accommodating the aging population, to providing more education opportunities, and to creating more affordable housing. Research elsewhere shows that, to achieve the same living standard, an aging community often faces more pressures of socio-economic development and education (Börsch-Supan, 2003). As compared to Hong Kong's 19.7 percent, only 16.6 percent of To Kwa Wan residents hold a post-secondary degree (Statistic Department of Hong Kong, 2016), such an insufficient education base could severely limits residents to pursue human capital development (Becker, 1994). In addition, Bentley and others (2011) indicate that unaffordable housing harms residents' mental health.

Figure 3.6 Post Secondary Education

Disparity also exist in To Kwa Wan at the individual block level. Based on the spatial analysis of specific blocks, there are inequalities and segregation in regards to the demographic and economic distribution. The indicators include each block's income distribution, employment sector, spoken language, and education background (Figures 3.5-3.8).

The population is considerably divided along Ma Tau Wai Road. With the exception of the Lok Man Sun Chuen public housing estate, residents to the west of Ma Tau Wai tend to enjoy higher income levels, work in white-collar industries, speak Cantonese as the first language, and are more likely to possess a post-secondary education degree or higher. In contrast, the population to the east tend to earn a lower income level, work in blue-collar industries, are more likely to speak Mandarin as the first language, and have received less education on average.

In detail, monthly, the median income to the west of Ma Tau Wai Road is HK$17,500, while the east side is only HK$8,550. The income to rent ratio is 23 percent on the west compared to 27 percent to the east. In regards to education, only 16 percent of residents to the west have earned a primary education whereas nearly 40 percent of them have a post-secondary education. On the east side, primary education level rises to 33 percent and post-secondary education levels rise to 20 percent.

Roughly 93 percent of residents to the west of the road speak Cantonese as their first language, while 86 percent of residents on the east side speak Mandarin Chinese as their first language.

Based on Massey and Denton's definition (1988), the residential segregation that exists around Ma Tau Wai Road in To Kwa Wan can be detrimental to the community in various aspects. For instance, the residential segregation can negatively affect

Figure 3.7 Blue Collar Workers

Figure 3.8 Cantonese Spoken as First Language

children's emotional development (Niles and Peck, 2008), undermine relatively vulnerable groups' health conditions (Subramanian and others, 2005), and trigger social polarization (Kaztman and Retamoso, 2005).

In the study area, we have identified four vulnerable sections, including the Lok Man Sun Chuen public housing blocks on To Kwa Wan's east edge, an industrial block on the south edge, a large low-income area on the central east side, and a block with a large minority population on the southwest corner (Figure 3.9). These neighborhood are particularly vulnerable to the upcoming changes being brought on by the introduction of the new MTR station and many of the residents in these sections of the study area will potentially be evicted in the process of the URA's urban renewal. Correspondingly, Arthur, the local repair tenant said "I wish I could come back, but it is impossible...you look at URA, their

projects...the rental is three times or four times what I am paying now". Additional consideration needs to be given to these communities to ensure that they are able to find affordable housing options in To Kwa Wan and to help these communities preserve their social networks.

"I wish I could come back, but it is impossible...you look at URA, their projects...the rental is three times or four times what I am paying now" - Arthur, Repair Shop Owner

Based on our study of past reports analyzing the pedestrian environment in To Kwa Wan, our observation of the current circulation patterns, as well as informal interviews with pedestrians, users of public space, and shop owners, we have identified several key issues that can become opportunities for redevelopment.

First, the pedestrian environment is poor in the current traffic circulation system in To Kwa Wan (Figure 3.10). This finding was based on indicators from Audi and others (2010), which ranked the neighborhoods surrounding Victoria Harbour in terms of walkability and pedestrian-friendliness. Based on local data and a weighted walkability score created by examining connections, directional signs, choke points, and breakdowns, Audi et al.

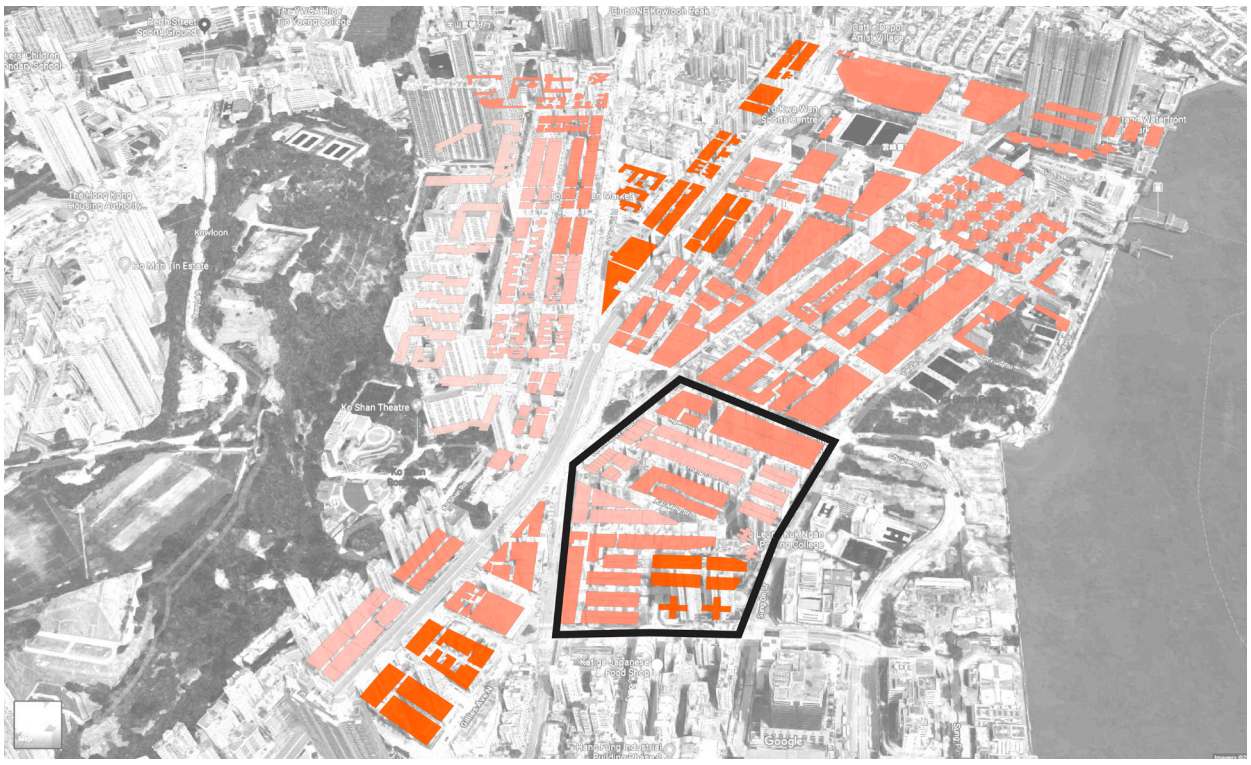


Figure 3.9 Rent-to-Income Ratio

have found To Kwa Wan to have the lowest pedestrian walkability score among all the communities that are distributed along harbour front. The study emphasized that To Kwa Wan is a residential and commercial district with a disconnected waterfront and few wayfindings signs.

To further our understanding of the pedestrian environment and examine what, if any, enhancements have been made over the past few years, our team closely observed and recorded the pedestrian environment during our site visit, confirming the poor pedestrian environment. Rather than improving as a result of the forthcoming MTR station, the ongoing construction of the Sha Tin to Central Link To Kwa Wan Station and corresponding exits have also left construction waste that blocks the paths of pedestrians.

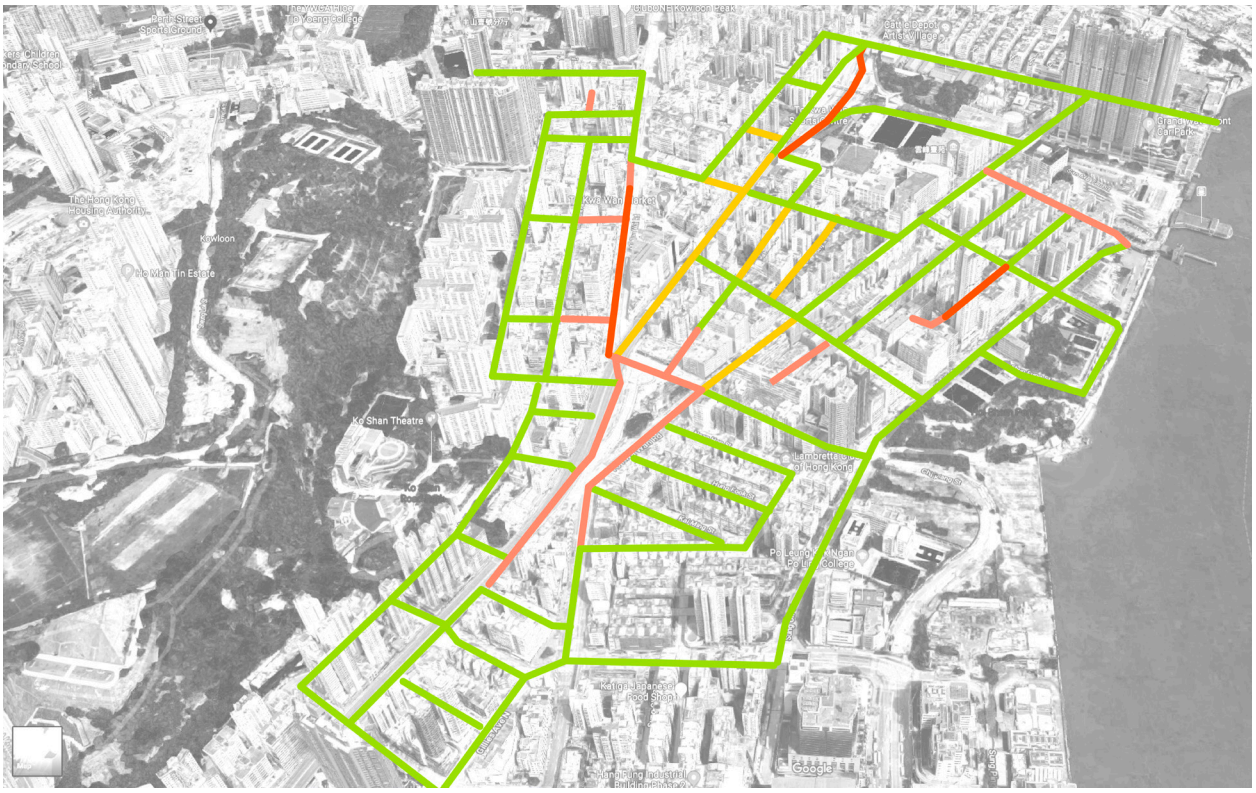


Figure 3.10 Walkability Overview

Street activities in To Kwa Wan, such as street markets, street food, and random chatting, while typically believed to promote walkability in most studies and theories, have actually done the opposite and are currently having deleterious effects on the pedestrian environment. This is especially true along the Kowloon City Road and next to the proposed station exits near Ma Tau Wai Road and Maid Stone Road. The storefronts are often occupied by boxes and rubbish from loading and unloading activities that make the pedestrian environment undesirable.

Moreover, the quality of the way-finding network in To Kwa Wan is considerably less developed than in other harbourfront neighborhoods in Hong Kong and, at times, even provides conflicting information:

- Obsolete signs that no longer provide accurate information are prevalent in To Kwa Wan,
- Traffic signals are not kept in good conditions and some of the signals at To Kwa Wan intersections are out of service, which results in conflicts between pedestrian and vehicles,
- The existing directional signage system in To Kwa Wan is also intended to be more for the use of drivers, as opposed to pedestrians, and
- Most of the traffic signals can be found suspended high in the air above main roads or located at traffic turning points and can not be easily seen by pedestrians located on the sidewalk.

Overall, the entire transit and signage system to To Kwa Wan has been designed with ease of automobile circulation in mind rather than pedestrian safety, which significantly reduces the level of walkability. Therefore, the poor pedestrian environment became a key concern for our studio to take on.

Vehicle traffic circulation in our study area also is in need of significant improvements. Traffic often congests on the two main roads, To Kwa Wan

Figure 3.11 Narrow Sidewalks

Figure 3.12 Blocked Paths

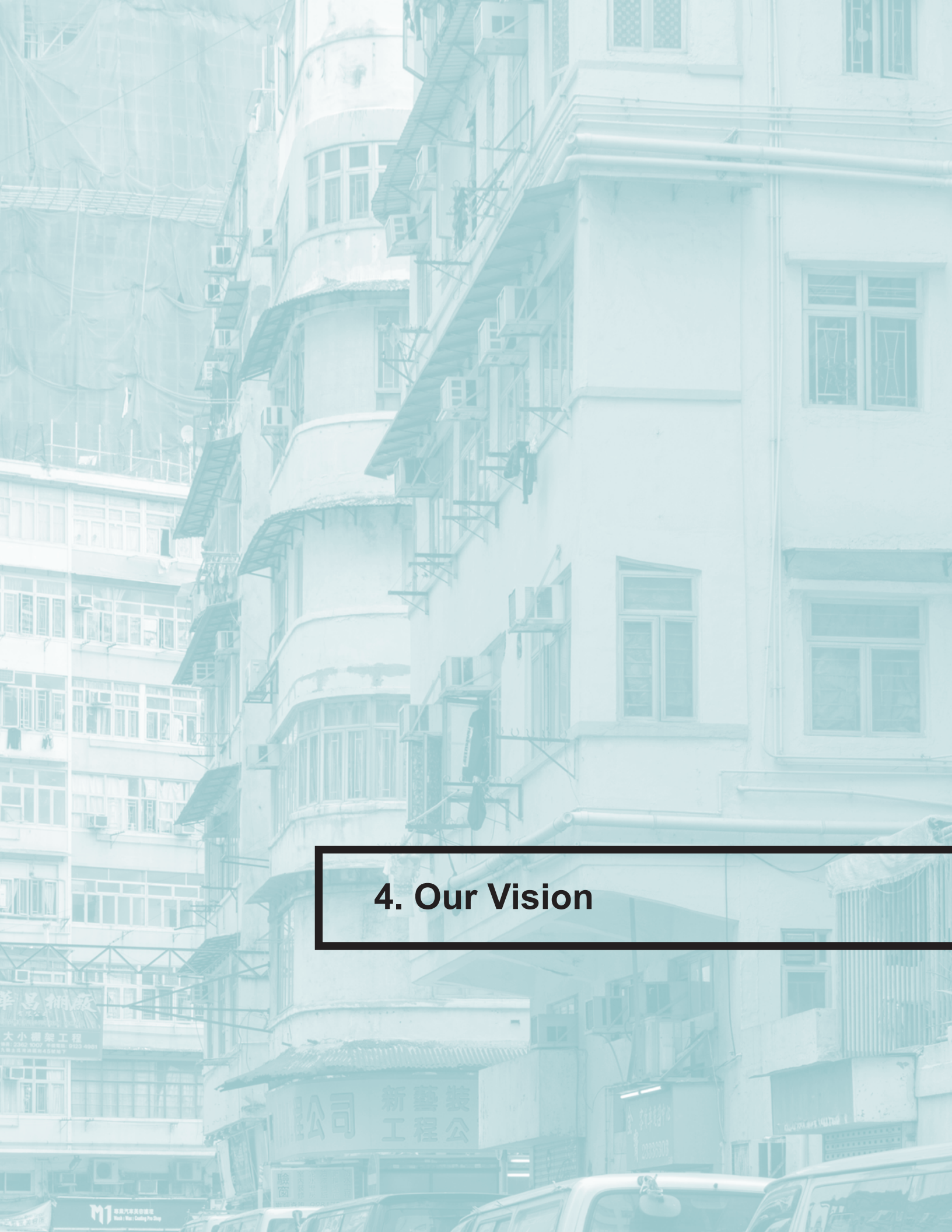
Figure 3.13 Illegal Parking

Road and Ma Tau Wai Road, especially during peak hours. The road infrastructure is outdated and is insufficient to meet current traffic demands. The number of cars and buses being routed through the study area has surpassing the estimated traffic level for which the neighborhood was initially designed. Moreover, besides the through traffic on the Kowloon Corridor Expressway, the traffic that infiltrates the small alleys and streets in To Kwa Wan's residential neighborhoods is resulting in unsafe environment for both pedestrian and drivers. The ongoing MTR construction further intensifies the traffic disorder level by re-orienting some routes and traffic flow, causing both confusion and congestion.

In addition to the challenges to walkability and the poor traffic conditions, we identified the need to reorganize the transportation system and better allocate public transit resources. By far, the demographic data shows that most of the local residents rely on public transportation. There is a need to accommodate the MTR station into the existing transportation system. Many people will likely shift from driving or riding buses to depending on the metro for their daily commutes as the MTR lines are high-speed, inexpensive and generally considered to be a world-class transit network. This means, however, that To Kwa Wan may experience a reduced demand for buses and increased demand for inter-mode transfers, such as bus-to-subway. Because some bus routes overlap with the new Shatin-Central line in terms of service coverage, these routes may need to be further studied following the opening of the station to reassess customer demand.

The fourth issue centers on the parking facilities. To Kwa Wan's supply of on-street parking is inefficient and poorly managed. This is evident based on the low availability of on-street parking combined with the low price. In fact, on-street parking rates have not increased since 1994 and are currently set at HK$8 per hour, or a little over $1 in US$. This rate is roughly 50 percent lower than nearby garage rates. While observing the To Kwa Wan neighborhood, our team noticed that most parking meters registered as "expired". Further, a representative we spoke with from the URA, Director Michael Ma, explained that parking violation tickets in Hong Kong are very low in fines, which makes drivers indifferent to getting parking legally and paying the meter or illegally and paying a equatable fine. Thus, the on-street parking is not well utilized as a public resource, and the supply-demand of parking, as well as the concern of illegal parking, need to be further addressed.


AA 4934
洪
膠輪電池
緊急服務
發
出外救車
91900850



4. Our Vision

Our Vision

After synthesizing all collected data, analyzing interviews with community members and agency representatives, and conducting on-site observations, the team has devised a set of proposals intended to improve upon the URA's existing plan. Two guiding principles have shaped our overall vision for To Kwa Wan. We discuss them in-depth in this section, prior to delving into a detailed description of specific proposals. Our recommendations for To Kwa Wan are shaped by our convictions that redevelopment should be planned by the principle of "people-first," and that urban revitalization is more successful when it is inclusive.

People First

First, our belief in a people-first principle is a product, in part, of a century long debate in urban planning theory. Practitioners and theorists alike, such as Certeau, Howard, Le Corbusier, Moses, and Jacobs, have, in one way or another, added to an ongoing debate about the scale at which cities should be built. Spanning the course of the 20th century, our understanding of the scale of city planning has evolved. At first, planners took a top-down focus, where cities were conceptualized according to their physical composition and infrastructure on a city-wide scale, as was the case in Howard's Garden City Movement and Le Corbusier's Radiant City. Following the advent of automobiles in cities, Moses and others began to plan cities around the use of cars, razing entire neighborhoods to make way for massive highways and road networks. This approach to urban planning put automobiles before people in the name of modernity and efficiency.

In response to this skewed prioritization, theorists emerged in the latter half of the 20th century arguing that city planning must prioritize people and be conceptualized on a human-scale. Advocating for planning that considers people over automobiles, Jacobs extensively observed the use of sidewalks to understand how the built environment is navigated and used by the *people* who comprise cities. She writes, "[t]he look of things and the way they work are inextricably bound together...It is futile to plan a city's appearance, or speculate on how to endow

Figure 4.1 People First Concept of Planning

Figure 4.2 Inclusionary Redevelopment Concept

it with a pleasing appearance of order, without knowing what sort of innate, functioning order it has" (1961, p.20). To plan a city, one must understand how a city functions on a human-scale. Davidoff adds, "[p]hysical relations and conditions have no meaning or quality apart from the way they serve their users" (1965, p.336). Cities are therefore not just physical and static, but also product of culture, place, and time. (Allen, 2010).

Conceptualizing cities as purely buildings, automobiles, and infrastructure is, therefore, a futile attempt at planning. Cities must be planned - first and foremost - for people. While visiting the study area in To Kwa Wan, we found that the area's planning is lacking a human-scale perspective. Pedestrians seem to be an afterthought to road networks, public transportation infrastructure, and developments that grow ever taller. We formulate the recommendations for To Kwa Wan as the outcome of these observations and shaped by the belief that city planning is most productive when it takes into account the functionality of sidewalks, streetscapes, and the built environment in regards to how people, not cars, will use them (Figure 4.1).

Inclusionary Redevelopment

The second guiding principle from which we have devised a set of proposals is that redevelopment, particularly on a neighborhood-level, is successful and sustainable only when it is carried out inclusively (Figure 4.2). This conviction is also shaped by historical events that occured in the United States during a process of urban renewal that lead to the displacement of tens of thousands of people, not unlike the process of urban revitalization currently unfolding in Hong Kong at the hand of the URA. Though the context of urban renewal in Hong Kong differs in many ways from what occured in cities across the United States in the 1960s and 1970s, the themes of displacement and state-led gentrification run common. The deleterious impacts of destroying community networks and wiping away entire city neighborhoods to make way for new development, which disproportionately targeted black populations, are still felt in U.S. cities to the present day.

The value of community and identity conservation that became apparent in the aftermath of these historical events holds particular relevance to what

is occurring in To Kwa Wan. Urban revitalization that has occured in Hong Kong over the last several decades is criticized (Law 2008) for “destroying cultural heritage, unique local character, and touchstones of collective memory.” Further, the renewal efforts will likely cause community and local business networks to be dismantled as the compensation scheme is rarely sufficient to allow residents and business owners to return to the revitalized districts following redevelopment.

The institutional framework enabling the urban renewal projects is arguably a chief cause. The URA has the ability to directly resume land, a power the Land Development Corporation, the agency the URA replaced, did not possess. The trouble is that many of the older neighborhoods targeted for renewal are home to a group of lower-income earning people who the redevelopment is intended to house. Due to the necessity of the URA to watch for its financial bottom line, lower density and lower income neighborhoods are disproportionately chosen to be redeveloped into higher density areas that, following the redevelopment, can only be afforded by a more affluent population.

With that said, however, the conditions of many buildings in To Kwa Wan are derelict and in need of repair and reconstruction. To that end, we recognize the need for redevelopment. Revitalization efforts, however, need to be performed in an equitable and inclusive way. Development and conservation are not necessarily opposing, and conflict between them can be mitigated during the redevelopment process. With this conviction in mind, we offer a set of recommendations aimed to promote inclusivity. Ensuring that the current residents have the option to move back following the construction period is vital to the sustainability of the neighborhood, as it will help maintain the existing, interwoven social fabric of great importance to immigrants and vulnerable populations who make To Kwa Wan their home. Additionally, by introducing policies designed to promote inclusivity and engage the community, we can help preserve the cultural identity and memories of To Kwa Wan.


AA 4934
洪
膠輪電池
緊急服務
發
出外救車
91900850

5. Pedestrian-Oriented Development Proposals

The entire To Kwa Wan redevelopment project should be carried forward based on the basic philosophy of "putting people and pedestrians foremost" in all cases. To reshape the community's vehicular environment, we emphasize on people-first planning, accommodating and integrating pedestrian life into the traffic environment and infrastructure redevelopment process as a whole. Meanwhile, we would reconstruct the hierarchy of transportation modes: from pedestrians, bicycle riders, public transportation riders, and finally personal motor vehicle drivers.

Our goal is to encourage walking by providing pedestrian-friendly environments, and to reduce the traffic congestion by supporting public transit and encouraging a shift towards stronger reliance upon public transportation as opposed to personal vehicles. Decreased usage of private vehicles by the installation of a parking benefit district will mitigate traffic congestion, while also improving the allocation of the public good - the public infrastructure of roads in To Kwa Wan. With the additional neighborhood slow zone strategy that will reduce street-level pedestrian-vehicle conflicts by slowing vehicles, the role of pedestrians in the whole traffic hierarchy will be further prioritized. While we thought of encouraging bicycle traffic by adding bicycle-only lanes and enhancing the biking environment, feedback from the Urban Renewal Authority emphasized the inopportune weather and climate for biking in Hong Kong. Thus, biking will not be further discussed or developed as a practical strategy in our proposal.

Recommendation 1: Neighborhood Slow Zone

Despite being a largely residential district, To Kwa Wan has several major roads, such as the East Kowloon Corridor and Ma Tau Wai Road, which allow for high speed traffic to pass through the neighborhood. This high volume and high speed traffic encumber pedestrians' safety and convenience. In line with our people-first principle, we propose several strategies to counteract this concern in order to create a more pedestrian-friendly environment.

Vehicle speed is the most critical indicator of street safety. As such, it is imperative to manage vehicle speeds in residential neighborhoods such as To Kwa Wan. Further, research suggests that drivers are more likely to yield to pedestrians when vehicle speeds fall to around 15 mph (Department of Transport, 2011).

Based on our observations, conflicts between pedestrians and vehicles are common in To Kwa Wan, particularly at intersections. Speed limit signs are difficult to find along these streets, and vehicles travel through the neighborhood with little regard to limits. Even at the intersections of some back streets, crosswalks have not been set up, which greatly reduces the safety of pedestrians.

Speed management will be achieved through design complemented by intersection controls and supported by enforcement, where possible. Speed interventions along Loc Shan Street, such as road narrowing and distinct paving treatments, will reinforce the slower speed limits. Further, speed limit should clearly be indicated at the gateway intersection at Kowloon City Road. Combining multiple speed reduction treatments, slow zones (also known as limited-speed zones or home zones) can be implemented in pedestrian priority roads with lower speed limits than the rest of To Kwa Wan. We recommend that To Kwa Wan introduce neighborhood slow zones by reducing the speed limit on residential streets to 20 mph in order to make neighborhoods safer and friendlier for walking. Only interior streets would have the speed limit of 20 mph, while boundary roads would retain their original speed limits as a result of their function of conveying traffic flow on primary distributors, as opposed to residential streets in neighborhoods.

The neighborhood slow zones could be regarded as a strategy akin to living streets, based on on the Danish street management model (Herrstedt 1992),

streets based on road function. In this model streets could be classified into two categories: Traffic Streets and Living Streets. Generally, traffic streets provide critical transportation links for movement, and also serve as destinations for commercial, cultural and institutional activities. They consist of the skeleton of the roadway system and provide important connections to expressways and other traffic streets so that it is appropriate to set the routes and stations of public transportation along them. In contrast, living streets are local and residential streets that are not located directly on transit routes and have a low frequency of traffic movement. Their primary role is to provide access to residents and local land uses. However, traffic streets have distinct traffic calming actions because it is more significant for them to alleviate traffic bottlenecks and improve access to businesses, arts, and institutions compared with the objectives of living streets.

In addition to the hierarchy of the street network and their corresponding speed limits, the slow zone sites should be primarily residential in order to avoid major commercial areas within the zones. Commercial areas will become attractions to the flow of people and traffic, resulting in the accumulation of pedestrians and vehicles and increased conflicts between them. The To Kwa Wan study area is divided into several sub-districts by primary distributors, and residential buildings are relatively centralized in a few neighborhoods. Some pilot sites could be chosen to implement the design of neighborhood slow zones in order to assess the feasibility of this program. To reduce the speeds in slow zones, some components or tools can be applied. Signs and markings are indispensable as a way to transmit information to both drivers and pedestrians. For example, gateway signage can be placed at entrances to the neighborhood slow zones to inform drivers who are about to enter the slow zone that they will slowed down soon. Clearly placed street signs indicating the 20 mph limit can be placed throughout the entire zone in order to remind motorists to drive slowly.

Physical deceleration devices can also be used to reduce speed, such as speed bumps and speed humps. The data shows that bumped streets have the possibility to attain a 20% reduction in speed and a 40 percent reduction in injury crash rates. Thus, we consider speed bumps and humps to be an optimal measure that can make the slow zones self-enforcing. Neighborhood slow zones are a traffic calming measure for communities, and its goal is to improve pedestrian safety and reduce traffic noise by lowering the speed of traffic in residential areas.

Implementation

Regarding the specific implementation strategy for this proposal, we looked to Downtown Brooklyn's practice in New York City as a precedent for slow zone site selection (New York City Department of Transportation 2018). We adapted three criteria when to considering which site to recommend for To Kwa Wan's slow zone. These criteria include:

- An ideal area size of a quarter square mile,
- Adjacent to arteries, highways, large parks, and elevated train tracks, and
- Avoiding arteries, industrial sites, and commercial areas.

Associated with the socio-economic analysis in previous chapters, we propose the area below as the slow zone (Figure 5.1). This area is adjacent to not only the artery, To Kwa Wan Road, but also the Hoi Sham Park which is the the main green space in the neighborhood and therefore attracts many pedestrians. Furthermore, this area is very densely populated and is almost entirely residential. A slow zone in this section of To Kwa Wan will assist in calming traffic and promoting safety in this highly pedestrian area.

From a feasibility standpoint, this walkability improvement strategy is plausible. According to the Transport Department of Hong Kong (2018), the main legislation related to road safety is the Road Users' Code published in 2000, which indicates that the inner-city speed limit has been universally set at 50 km/h in Hong Kong, or about 31 MPH.

Figure 5.1 Proposed Slow Zone in To Kwa Wan

Compared with the statistics conducted by the Department of Transport of U.K (2011), setting a single speed limit, particularly one that is relatively fast for such a high density area, increases risk of fatal accidents dramatically and fails to reflect different neighborhoods' specific circumstances and traffic needs.

In this case, we advocate to initiate the slow zone implementation with a legislative update of the Road Users' Code (2000). According to the legislature process provided by the Legislative Council of Hong Kong (2017), the Transport Department will need to submit the amended code to the Legislative Council and pass three rounds of reading in order to update the Road Users' Code. Admittedly, such a process will take a considerable period of time to accomplish. As a prospective timeline, we suggest beginning the legislative process by 2019 and estimate its approval by 2023. Thereafter, the Transport Department will gain the ability to set the the slow zone in To Kwa Wan, as well as other residential neighborhoods in Hong Kong that could benefit from walkability and pedestrian-safety improvements.

Recommendation 2: Hierarchical Pedestrian Street Network

The overall pedestrian environment in To Kwa Wan will be safer with the installation of the parking

benefit district and neighborhood slow zone. To further To Kwa Wan's transformation into a highly walkable, pedestrian-friendly neighborhood, additional pedestrian-auxiliary techniques would also be beneficial to consider. To achieve that, we recommend installing pedestrian-prioritized street, activating pedestrian-only zone, to construct a larger connected pedestrian road network.

Pedestrian Road Network

The goals and principles of pedestrian network design are comfort, safety and enjoyment. As the proposed MTR station and redeveloped waterfront will bring a large volume of pedestrian traffic, we hope that residents and tourists will find pedestrian roads in To Kwa Wan to be comfortable and safe to cross, and that they will enjoy the walking environment. Specifically, the pedestrian network proposal objectives are threefold:

- Attract walking trips by connected and permeable roads,
- Make vehicles on existing streets and lanes passing through neighborhoods safely and more comfortably, and
- Improve street aesthetics and visual quality.

One of the design concepts is to allow pedestrians to circulate freely through all areas in the To Kwa Wan neighborhood. By connecting the redeveloped waterfront and several tourist sites with pedestrian-only spaces and pedestrian priority roads, the network will be better suited to accommodate the increased volume of pedestrian who are entering the districts as a result of the new MTR station. Sidewalks and pedestrian crossings will offer a continuous clear path. We will create pedestrian links to shorten walking routes when possible, and pedestrian links will be built through large blocks to achieve a finer-grain urban fabric, and improve connectivity. Paths and streets that end in cul-de-sacs can be extended to connect to nearby streets.

People are more likely to walk, instead of driving, from one place to another, if the pedestrian experience along the way is comfortable, safe, direct, and enjoyable. Therefore, the pedestrian space within walking distance of key destinations, such as the MTR station, the To Kwa Wan market, and the waterfront, will be carefully redeveloped to improve street aesthetics and visual quality. Areas around key destinations and transit stops should include spaces that allow groups of people to congregate without blocking the paths of others.

Pedestrian-Priority Street

One of the key strategies in prioritizing the role of pedestrians in traffic design is to improve the pedestrian walking environment by reshaping the streets and ensuring that they primarily serve pedestrians, as opposed to motor vehicle traffic, by adding and upgrading necessary pedestrian infrastructure. Sidewalks are a necessary component of the urban environment and play an important role in facilitating community interaction.

Pedestrian sidewalks have three essential components: free zone, transition zone, and service zone:

- The free zone, as the name suggests, has no facilities and is where people actually walk,
- The transition zone refers to the space between the sidewalk and access to street shops and entrances to buildings lining the street, and
- The service zone has the necessary sidewalk facilities and street furnishings, such as benches or trash cans, providing pedestrians all of the necessary services that they may need while walking.

Well-designed, pedestrian-friendly streets need to incorporate use and space for the three pedestrian zones. During our site visit we recognized the need for the service zone in To Kwa Wan, as well as the interspace between the transition zone and the free zone. The service zone is unclear because very few streets have a complete set of street furnishings and

Figure 5.2 Pedestrian-prioritized Street Design Illustration

Figure 5.3 Pedestrian-only Street Design Illustration

facilities. The service zones on To Kwa Wan streets can really only be found along the Harbourfront. Moreover, once there are people accessing the sidewalk from a building the street's free zone is occupied, which adds to congestion. Therefore, we suggest that the redevelopment plan emphasizes the reorganization of sidewalks by improving the positioning of the transition, free, and service zones.

In addition to the three pedestrian zones, sidewalks need to be open and friendly to a wide spectrum of users, including people with limited accessibilities. A walkability enhancement project would need to take all forms of users into consideration. The design of the sidewalks should be planned in order to serve those in wheelchairs or crutches, pregnant women, the elderly, and all others with special accessibility needs. Given the fact that there is a large population of elderly and aging people living in To Kwa Wan, as well as the fact that this aging population is projected to continue to increase in the near future, the new design of the sidewalk should take into consideration the installation of ramps between between elevated stores, walkways, and spaces of uneven height.

Like all other modes of transportation, pedestrian need clear directional information and signs so that they can locate and orient themselves. Signage can also teach pedestrian the rules and guidelines of particular streets in order to avoid conflicts with vehicular traffic.

To fix the outdated and unclear signage system in To Kwa Wan, the redevelopment project should aim to upgrade the existing system with more accurate signage infrastructure. In addition to ordinary traffic signs, the new signage system could provide interactive maps, especially near the new MTR station, so that visitors to To Kwa Wan can better orient themselves. Since the redevelopment project may largely transform the neighborhood in shape and outlook, the new signage system would be very useful for all kinds of users.

Furthermore, connecting sidewalks in To Kwa Wan and integrating them within larger transport networks, for anyone traveling in between public transportation modes, will minimize unsafe sidewalk crossing. Specifically in the case of To Kwa Wan, the improved sidewalk network and connectivity can be achieved by reducing dead-ends, and removing unnecessary barriers between sidewalk segments, thus creating a more open and connected pedestrian network.

We propose to turn several local distributors that run perpendicular to the waterfront into pedestrian priority roads:

- Chi Kiang Road
- Lok Shan Road Eastern Sidewalk
- Yuk Yat Street
- Sam Ma Tau Street
- Maidstone Road
- Kowloon City Road under the East Kowloon Corridor

These pedestrian priority roads will give spaces back to the pedestrians and roadside stores to encourage residents and tourists to move at their own pace without worrying about conflicts with vehicles. Besides, more street facilities such as street lighting, bollards, seating and landscaping will promote street activity,offer a space of relief in dense urban areas, activate underutilized spaces, and boost the local businesses in To Kwa Wan.

Pedestrian priority road can also be lined with various types of commercial activity. When lined with commercial activity and supported by high volumes of foot traffic, pedestrian-priority spaces can allow businesses access for loading and deliveries at limited times. In some cases, smaller lanes or alleys can support local vehicular access at very slow speeds. The proposed network design maintains commercial loading along the west side of Kowloon City Road. Additional commercial loading area locations have been identified outside of the study area such as along Thirteen Street. Within the study area, the network design may adapt to accommodate additional space if required.

Pedestrian-Only Zone

In addition to the walkability improvements in the pedestrian-priority zones, we propose to turn Kwei Chow Street (the section between To Kwa Wan Road and the waterfront promenade) into a pedestrian only street. Kwei Chow Street currently has low volumes of traffic, whereas To Kwa Wan Road is a major street with several bus stops and a high influx of traffic. By creating a pedestrian-only zone, pedestrians can gain easy access to the street. The current width of the street is approximately 38ft (11m), and the length of the street is approximately 870ft (265m). The following users will be taken into consideration (in orders of priority) for the design of the pedestrian-only street:

- Mobility impaired and wheeled pedestrians,
- Able-bodied pedestrians, and
- Emergency vehicles.

The following users are not permitted access to the street:

- Public transportation,
- Commercial or business vehicular traffic (including delivery vehicles), and
- Vehicular-bound commuters or visitors.

Cross-streets would stay open to all traffic. Signage would need to be installed at the intersection of To Kwa Wan Road and Kwei Chow Street, posting speed limits, instructions to yield to pedestrians, and other information such as the name of the public space and pedestrian priority.

In order to create a sustainable and aesthetically pleasing environment on this street and to enhance economic vitality, we recommend adding:

- hard and soft landscaping areas
- seating
- public art

To improve safety and security for pedestrians:

- lighting improvements

To improve social interaction:

- places will be implemented for the purposes of social activities
- children's play areas
- promoting cultural activities

To better install streetscape facilities, three zones have been identified: frontage zone (the area adjacent to the property line that transitions between the sidewalk and building uses), furnishing zone (the portion of the street used for various streetscape amenities, such as planters, street lights, furnishings, and surface utilities), walkway zone (the portion for pedestrian travel along the street), and emergency vehicle pathway:

- **Frontage Zone:** there will be store displays, cafe seatings, furnishings aligned with planters (surface or above-ground) and overhanging elements, such as store signs. These signs are of sizes and positions which do not block the pedestrians' view to the street.

- **Furnishing Zone:** street trees should be the primary organizing element of the streetscape. Tree caliper, branching height, basin size, and tree basin edging treatment have to comply with the planning department's recommendation according to street width. The selection of tree species should consider the form, size at maturity, color, and texture to reflect the urban design

"If we can remove some of the vehicular ingress and egress to each individual site, there will be opportunity to pedestrianise and carry out some traffic calming on some of the streets therefore expanding on the walkability of the neighborhood." - Michael Ma, URA Executive Director

goals of a street. Other furnishings would be placed between these organizing elements. It should be noted that they are required to be at least five feet from any fire hydrant and two feet from a standpipe. Wherever possible, site furnishings should be of a contrasting color to the sidewalk so as to aid pedestrians with visual impairments.

- **Walkway Zone:** clear of obstacles, and possess an accessible walking surface.The paving should consist of paving materials and patterns distinct from traditional streets.They will appear as an integrated, coherent design of patterns, materials, and colors.It is important to keep paving textures smooth and vibration free, and surface materials are coarse enough to impede wheelchair circulation, because a continuous pedestrian path of accessibility requirement compliant smooth materials must be provided to lessen vibration impacts on individuals using wheelchairs.

- **Emergency Vehicle Path:** A clear path will be maintained within the pedestrian-only areas for emergency vehicles access. This path does not need to be straight, but it should account for truck maneuverability and required clearances for emergency vehicle operations. Removable or automatically retractable bollards at the intersection may be used to allow emergency vehicles to access areas otherwise closed to vehicular use.

Implementation

To install pedestrian-priority street, the essential element to be considered in the implementation process is how to advance the sidewalk. The minimum width of sidewalks is five feet, and this accounts for two people walking side by side. However, if the sidewalk is near a space that has high levels of foot traffic, in close proximity to cafes or shopping center for instance, the user requirement for the width of a sidewalk should be closer to 12 feet. Sidewalks must address user requirements of ease and functionality, as well as incorporate aesthetically pleasing features. As discussed above, sidewalks create many safety benefits, but they also produce many social benefits. It has been proved that people who live in the neighborhoods that have paths are 47 percent more likely to be active and exercise each day (Gan and others 2005). Though one could argue that sidewalks are expensive to build, generally around $2,000 for a 50-foot wide one, they usually return around 15 times the investment in resale value. Same for neighborhood slow zones and parking management, the Department of Transportation (DoT) should take the initiative in working through the entire project. As that have provided some sites as mentioned for the pedestrian-prioritized street project, so the DOT could start with these sites and conduct a demand analysis to estimate how much amount of pedestrian that these sites are expected to serve the future users. If the sites selected will be enough to satisfy the need, maybe no more sites are needed to be converted to pedestrian-prioritized street design, and the additional money will also be saved. The DoT will also require conducting surveys or interviews to see what exactly are the need of the users, especially the residents. Some street furniture may be demanded more, like trash bins, but some other kinds may have little demand and thus no need to be constructed. Given that some sidewalks already exist, but in a dilapidated status, the DoT will also need to have conversations with street-level stores and local community councils, to come up with a plan for future maintenance regarding protecting and supporting the sidewalk types of furniture.

The budgeting part still needs more work, based on how the previous steps will go through. For the motor vehicles that violate the regulations and policies, there should be a corresponding fine for that. The specific amount of punishment is still to be determined, but need to be at least sufficient in that it will warn the violators of the unlawful cost. The amount may be based on a location-by-location basis, so cars trespassing pedestrian-only zones will need to pay more fine. The collection of violation fine could be altogether management by the DOT, together with the other revenue and violation payment, can be redistributed to be used for future developments as well as existing project maintenance. It is certain that the budget part is one

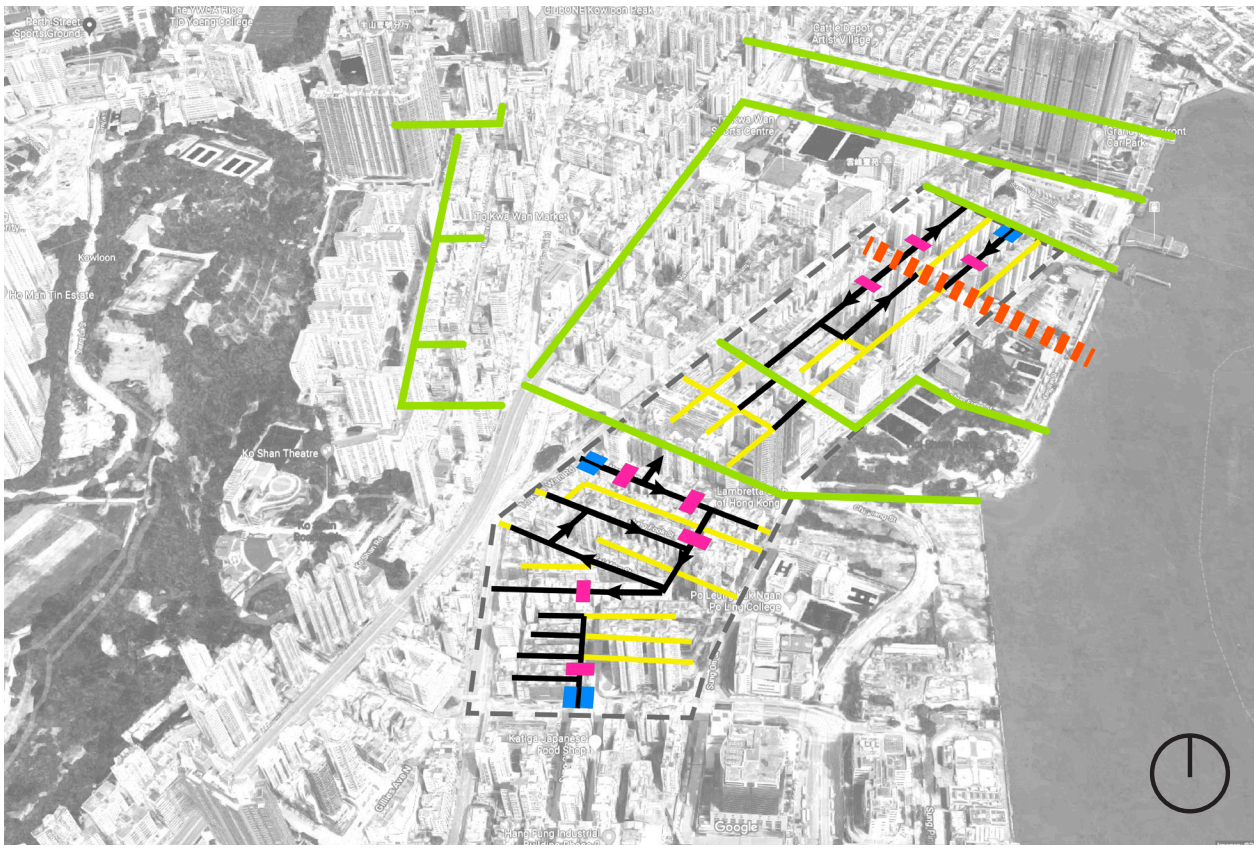


Figure 5.4 Walkability Enhancement Proposal

of the most important steps during all of progressing procedures.

For the implementation of a pedestrian-only zone into Kwa Wan, we suggest referring to the case study of Stroget of Copenhagen (see Box I). A key factor has contributed to the successful pedestrianization of streets in Copenhagen: the incremental nature of change, which gives people an adequate amount of time to change their pattern of driving and parking in the original neighborhood. People took time to get accommodated to the new regulations and to become familiar with the new community, which did not have any vehicular traffic anymore. Citizens gradually got used to using collective transport to access important destinations across the city. Moreover, the gradual change time-frame allowed people time to come up new ways of using this newly available public space.

Case Study I: Stroget, Copenhagen

Stroget, located in central Copenhagen of Denmark, has an approximate population of 0.5 million in a larger metropolitan area with 1.9 million population. Until 1962, all the streets and squares of central Copenhagen were used intensively for vehicle traffic and parking. The streets were under the pressure caused by the rapidly growing fleet of private vehicles.

The pedestrianization of Copenhagen started with Stroget, the city's main street, in the year of 1962 as a pioneer experiment. When it was initially proposed and installed, it faced much public debate. People argued that "pedestrian streets will never work in Scandinavia," which was also one main theory of that time. Local business owners also refuted the pedestrianization idea and said that "no cars means no customers and no customers means no business."

Despite so much debate, the project proceeded. Soon, Stroget proved to be a huge success case. Business realized that traffic-free environments provide increased business revenue.

Instead of the Department of Transportation taking the whole pedestrian-prioritizing street development, pedestrian-only development will require more intensive cooperation between a set of different city departments and local entities, as well as the help from the public. At least three departments need to involved to achieve the goal of the pedestrian-only zone. The Department of Transport, the Department of Leisure and Cultural Services, and the Department of Recreation and Sport will need to work together and take the lead of whole progress. Local citizen group entities and organizations will also be invited to discuss and help to spread and negotiate with the residents and the business owners.

After the successful completion of the pedestrian-prioritized streets and pedestrian-only neighborhood zones, the final step is to build a larger scale connected pedestrian road network, which will integrate all the elements proposed in this section of our report, and making the entire To Kwa Wan neighborhood connected as a close residential and commercial area. Following the order of building the pedestrian-prioritized street, pedestrian-only zones, and connected pedestrian road network, and with the previous efforts from neighborhood slow zones as well as parking management and development, the entire neighborhood will be eventually transformed to a pedestrian-friendly district.

Learning from the Copenhagen case, we suggest gradually implementing the idea of pedestrian-only zones, allowing time for pedestrian, drivers, and all other kinds of users to accept this concept and subsequently modify their habits and become adapted to the new neighborhood physical environment. This step may take much longer time compared to the pedestrian-prioritized street design, parking development, as well as neighborhood slow zone construction. The change of people's habit is hard and requires much longer time, but eventually, citizens will be aware of how pedestrianization benefit them, by providing peaceful yet lively public spaces. Local business will also recognize the increasing revenue from pedestrian-prioritizing strategies, and welcome the concept of the pedestrian-only street.

Recommendation 3: On-Street Parking Improvements

An effective and efficient on-street parking system could have influences on parking demand issue, pedestrian-friendly sidewalk environment to efficient land use patterns. We believe promoting a efficient on-street parking arrangement and pricing regulation system can help control traffic flow speed, reduce unnecessary congestion, and eventually create a pedestrian-friendly street environment.

On the one hand, feasible on-street parking is one of typical characteristics of pedestrian-friendly streets. Research shows that on-street parking help create a safer, more walkable street environment with a slow the speed of traffic. In addition to offering a excellent barrier for pedestrians from the automobile traffic, on-street parking can also reduce traffic speed which lowers fatal injury crash rate (Marshall, Garrick, and Hansen 2008). On the other hand, however, an excess of on-street parking can negatively impact the streetscape by taking away space from the pedestrians. Thus, it is also important to measure the optimal parking occupancy on streets while improving the parking system. Here, we take this problem into account and proposed a reasonable level of on-street parking occupancy in the study area integrating with the local street conditions.

We recommend creating a Parking Benefit District (PBD) as the primary strategy to address the on street parking issue in To Kwa Wan. It aims to generate revenue, which will in turn help fund the implementation of neighborhood traffic slow zones and pedestrian-only streets. So it is an integral part of the comprehensive "People-first" transit system in To Kwa Wan.

Parking Benefit District

A Parking Benefit District is a defined area where public parking meter revenue is used to finance public infrastructure improvements. These improvements focus on enhancing quality of life, supporting businesses and promoting walkability. PBDs accomplish this by using a sensible set of pricing tools to help keep on-street parking efficiently utilized. This is called "demand pricing;" it works by pricing parking resources based on the price people are willing to pay (Figures 5.5-5.7). The aim here is to price on-street parking at a price that results in one or two available parking spaces per block. This is done by setting the price for parking equal to the price drivers are willing to pay that results in the desired 85% occupancy rate, which is a rate suggested by Urban Land Institute. (Urban Land Institute 2012) As a result, readily available spaces significantly reduce the search time for parking spaces, reducing air pollution and congestion.

For To Kwa Wan, PBD will manage all the existing on-street parking spaces. After implementing demand pricing, meter revenue that exceeds operating costs will be directed toward investments exclusively for To Kwa Wan. These investments can range from transportation and accessibility improvements to street furniture. In To Kwa Wan, the on-street parking spaces already have meters, although these are not priced efficiently and many are out-of-service. This is evident based on the lack of available spaces and the low price of on-street parking relative to garage parking spaces: on-street parking is priced at HK$8 per hour, significantly less than the garage parking price. This signals to drivers to keep searching for a spot, creating a perception there is a lack of parking in the city.

Case Study II: Alleyways in Beijing, China

Xisi Beijing conducted an experiment to test the potential of parking benefit districts. The 52 available parking spaces along 7th Alley were distributed to the community based on a lottery system instead of a demand pricing scheme; this still works efficiently because it is a residential district with longer term parking. The government then invested $62,000 to provide more sanitary public bathroom facilities, landscaping, and parking regularization. The yearly operating costs of facility cleaners, neighborhood patrol and trash collectors were $24,600. Nearby garage parking costs approximately $80 each month; according to this study, that is a reasonable estimate for the on-street parking price. Revenue from 7th Alley could therefore be estimated to amount to approximately $50,000 yearly (52 parking spaces, $80 each month, 12 months). At that rate, parking would pay for the increase in public services and the improved parking system within two and one half years.

This experiment demonstrates how a parking

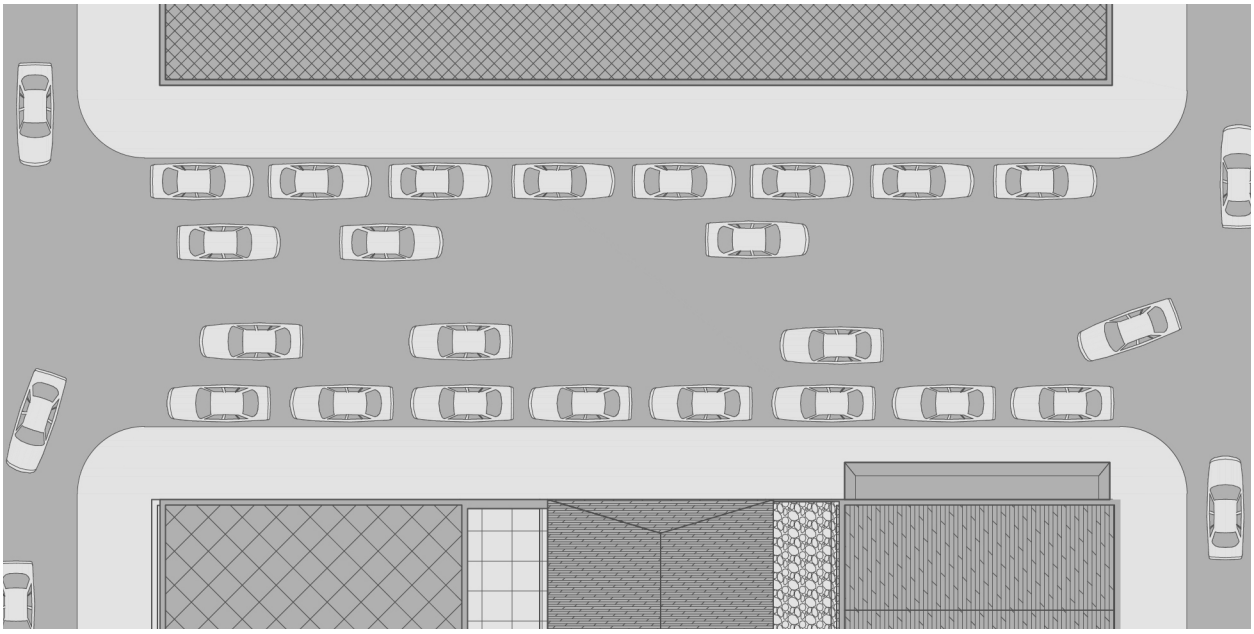


Figure 5.5 On street parking is priced too low in To Kwa Wan. All on-street parking spaces are taken, many stay longer than is allowed, and many drivers search for a lucky spot to open up.

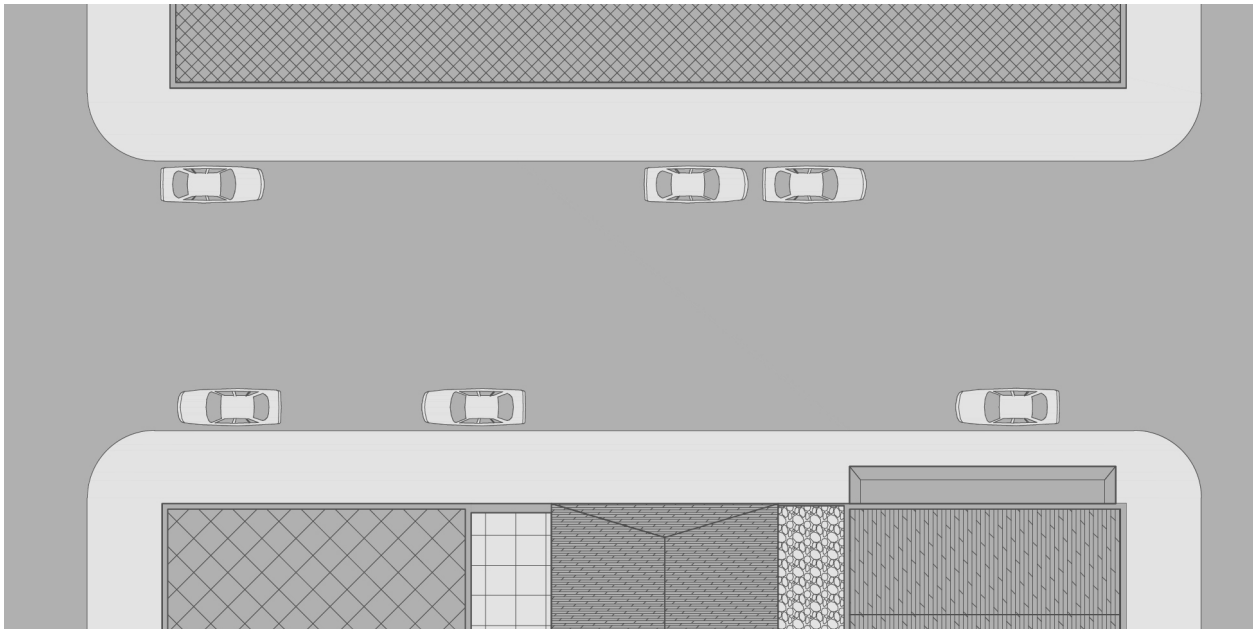


Figure 5.6 Adjusting the price of on-street parking too high will result in low usage, which is also an inefficient allocation of parking resources.

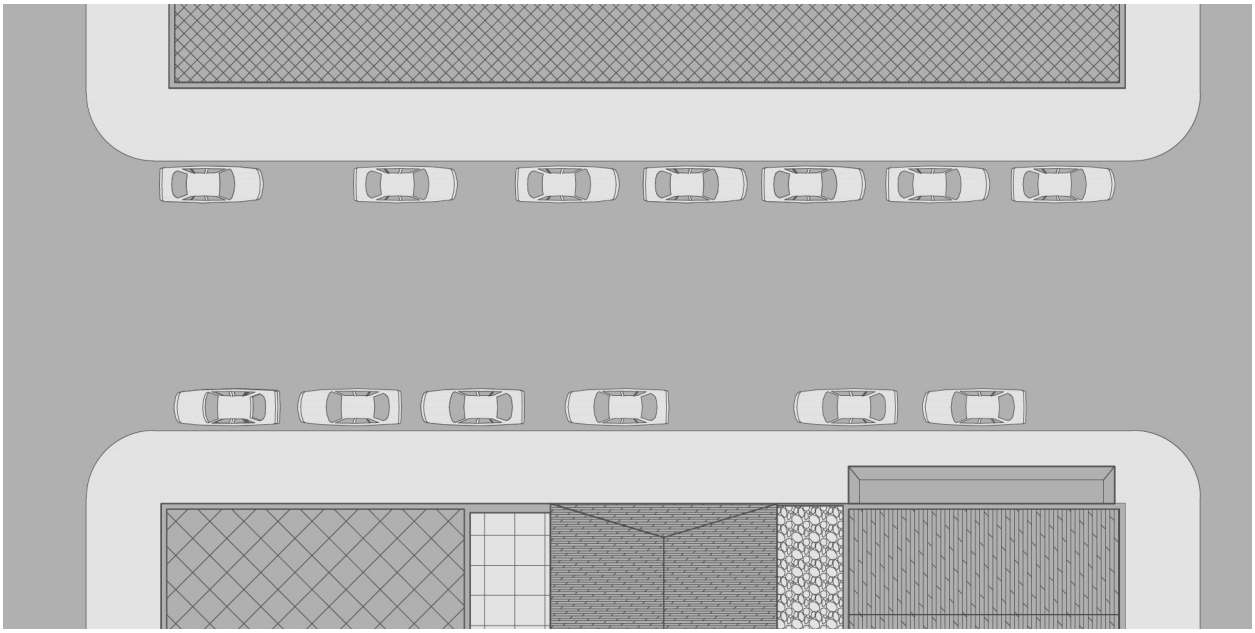


Figure 5.7 Parking policy should aim for approx. 85 percent occupancy, leaving one or two open spaces per block. This keeps congestion low, while keeping spots available and efficiently used.

benefit district can improve the quality of life of a neighborhood. The improved public services can be carried by car owners willing to pay the market price for a parking space. It must be emphasized that this is not price gouging; the neighborhood is within walking distance of multiple modes of transit, and owners are typically a smaller, wealthier portion of the population willing to pay the true market rate. Along Xisi 7th Alley, the income of car-owning households is nearly three times that of non car-owning households. Car-owning households represent only 35% of households in this neighborhood (Chang 2017).

The parking benefit district will provide a revenue stream to be used at the discretion of the neighborhood. This can include improvements such as improving the streetscape, adding street trees and street furniture, improving public sanitation and public facilities. In order to pay for these things, the market price for each space must be estimated. In To Kwa Wan, a simple scan of garage prices reveals garages typically charge between HK$10-20 hourly. Recognizing this price point, the Hong Kong government recently proposed changing the price for on-street parking to HK$20 per hour. This action will likely move the price of on-street parking closer to the market price.

Revenue Estimation for Demand Pricing:

- Assuming a 16-hour billable hour for a day, $20 per hour, 85% occupancy rate
- For average parking space in Hong Kong: HK$99,280 per year, or USD$12,659
- For Kowloon District alone:
    - 2,424 parking meters
    - Potential Revenue HK$240,655,000 (USD$31,285,000district)

Dynamic pricing works to maintain availability with the changing demand, keep congestion low, and increase revenue for To Kwa Wan.

Revenue Estimation for Dynamic Pricing:

- HK$25-30 during peak times (8-10 AM & 4-7 PM) to keep spaces available
- With priced at HK$25, total annual revenue of a parking meter would increase to HK$107,036.
- For our study area, this would produce HK$26,010,000 each year.

This revenue is insignificant compared to the overall Transport Department budget, but would be able to fund many of the improvements suggested in this report if revenue from meters were kept in the neighborhood.

Implementation

Implementation of PBD would be carried out by the Transport Department, which is responsible for monitoring and maintaining parking meters. It should dedicate parking meter revenue in the study area to fund the walkability improvements discussed in this report. This can be done by setting up a fund and an executive board to review proposed projects, or can be simply earmarked in the department budget for improvement projects. Either way, the revenue will be accessible for projects planned for improving the built environment in the study area. By implementing a PBD, congestion and parking can be better managed while increased funding is secured to improve the streetscape for pedestrians. This strategy enables PBDs to be more politically palatable to political leaders since community members can see the public improvements as a direct result of higher meter fees.


洪
膠輪電池
緊急服務
發
出外救車
91900850

6. Inclusionary Development Proposals

Introduction

The introduction of the new Ma Tau Wai MTR station in To Kwa Wan will cause property values to increase and rents to rise, leading to displacement of the original population within the area. Our estimations, based on the data provided on the URA website, suggest that, within the To Kwa Wan study area, there will be 2,635 affordable housing units displaced by 2026.

We understand that To Kwa Wan is a neighborhood with many properties that should undergo redevelopment, but we also believe that policies should be put forth to ensure that local residents will be able to stay in their neighborhood should they wish. Each neighborhood in Hong Kong has its own identity, and many residents lay social and economic roots where they live.

Currently, To Kwa Wan is relatively affordable when compared to other areas of Hong Kong. It houses diverse demographic groups (e.g. non-Cantonese minorities) that would not be able to afford moving to other areas within the city. In fact, To Kwa Wan has traditionally been homes to lower income and less educated groups of the Hong Kong population. Historically, the area acted as an arrival city, especially for mainland Chinese seeking refuge from the communist regime in Mainland China. The newcomers, in search of opportunities in the city, tend to concentrate in the informal urban areas because of the low cost of living and the proximity to jobs. They are considered as the most vulnerable group that is targeted and affected by the redevelopment process because they are likely to face many more financial challenges and language barriers in order to integrate into new communities if they are displaced.

Due to To Kwa Wan's unique socio-economic composition, affordable housing and mixed-income developments should be incentivized to help mitigate the property value increases following redevelopment. Therefore, we looked to New York City (NYC) Inclusionary Housing policies as a role model for introducing similar policies in Hong Kong.

After briefly reviewing the NYC policies, we will present our conception of inclusionary housing for the To Kwa Wan Study Area. More specifically, we propose two inclusionary housing programs: Mandatory Inclusionary Housing and Voluntary Inclusionary Housing.

Case Study III: New York City's Initiatives on Voluntary Inclusionary Housing and Mandatory Inclusionary Housing

NYC has been feeling the pressure for urban redevelopment since its first manufacturing jobs started leaving the city's boundaries. Currently, the city is seeing its population grow, creating the surge in housing demand for all income levels. Whilst the city's goal to create or preserve 300,000 affordable units by 2026 seems accomplishable, there are many complaints about the actual affordability of those units. The problem lies on the fact that, in New York City, the Area Median Income (AMI) is estimated upon income data that corresponds to a vast geographical area, which also encompasses rich suburbs. These wealthy areas are responsible for making New York's AMI go up, and thus, rise affordability thresholds.

The forerunner policy that New York City designed for inclusionary housing corresponds to the voluntary housing affordability programs in New York. These policies were optional rather than mandated. Thus, based on the existing voluntary housing programs, developers could choose whether to build affordable housing in their project sites.

Voluntary housing has been designed for specific zoning areas, such as R10, which corresponds to the highest housing density in New York. In this case, each square foot of affordable housing generates between 1.25 and 3.5 square feet of bonus Floor Area Ratio (FAR), depending on factors such as if the affordable housing is being provided on- or off-

site.

Mandatory Inclusionary Housing (MIH) became a major policy in 2016 in order to secure more affordable housing in NYC. It mandates that a certain percentage of affordable units are provided within projects that are at least 12,500 square feet, or have at least 10 units. This intensification of affordable housing provisions reflect that the City originally intended to create or preserve 200,000 units by 2022 and has expanded its goal to 300,000 until 2026.

The affordability of units (rent) is set based on the Area Median Income (AMI), which is calculated based on the entire city, and is currently $85,900. One critique of the AMI system is that it encompasses New York's rich suburbs, which makes the calculated median relatively high, and as a consequence, raises the regulated rents assigned for affordable-housing tenants.

Recommendation 1: Inclusionary Housing

Based on NYC's programs, we propose the adoption of an inclusionary housing program for Hong Kong. This would consist of increasing the Gross Floor Area (GFA) for developments that provide a certain percentage of affordable units. We propose the designation of two types of Inclusionary Housing programs: Mandatory Inclusionary Housing (MIH) and Voluntary Inclusionary Housing (VIH). We designated the zoning of these programs based on the local dwellers' income levels, as well as on the building's age, and on the current Outline Zoning Plan (OZP) specificities. Each program provides different percentages of three categories of housing we established: deep affordable, affordable, and market-regulated.

We propose that our Study Area AMI (area median income) be estimated upon income data solely from the five constituency districts that are within our study perimeter. By following this rule, we ensure that the local AMI will not be brought up by the wealthier areas that surround the Study Area. The median monthly income of the study area is US$1,520 ($12,000 in HKD). Having this AMI in mind, we propose two options for affordable housing provision:

Mandatory Inclusionary Housing Area

In To Kwa Wan, we recommend that 25 percent of housing units should be set aside for residents who have an income threshold of up to 30 percent of Hong Kong's AMI value (deep affordable housing threshold). This percentage corresponds to US$456. Overall, 10 percent of the provided housing units should be assigned to residents who have an income threshold between 30 percent AMI (US$456 or HKD $3,600) and 50 percent AMI (US$760 or HKD $6,000). This income range corresponds to the affordable threshold. The remainder of residential units should be market-regulated. Families who have been evicted from the study area should be prioritized for the allocation of these units. There could be a lottery in case there were not enough affordable units available for all of the eligible population.

The area where we have designated Mandatory Inclusionary Housing zoning intentionally overlaps with the section of the Study Area that presents a lower income range (from HK$8,000 to HK$10,500, or US$1,025 to US$1,346). Additionally, the MIH area is to the east of Ma Tau Wai Road, which presents a higher income-to-rent ratio (27.10%) when compared to the rest of the Study Area. (Please see Figure XX). Thus, the demand for affordable and deep affordable housing is likely more significant in this area. Also, the area designated for Mandatory Inclusionary Housing predominantly includes buildings older than those of other parts of the Study Area.

This means that there is a greater imminence for redevelopment within this sector, redevelopment

which should, for income reasons, assign priority to affordable and deep affordable housing provisions. Lastly, the Mandatory Inclusionary Housing area encompasses some areas which were originally zoned as Residential E, which means that they were previously designated as industrial areas but have recently been rezoned for residential use. Therefore, there is also a greater imminence for redevelopment in these parts, which, as previously mentioned, are among low-income areas and which thus should ascribe a bigger priority to deep affordable and affordable housing options.

Voluntary Inclusionary Housing

We recommend that 20 percent of the provided housing units should be offered to residents whose income ranges between 30 percent AMI (US$456) and 50 percent AMI (US$760), which is the affordable income threshold. The remainder of the units can be market rate.

The area designated as Voluntary Housing presents a higher median income (equivalent to HK$17,500 or US$2,243) and also a higher income-to-rent ratio (of 23.30%). This is therefore a wealthier area, which has a more significant demand in the study area for affordable thresholds (rather than deep affordable thresholds) and for market-rate units. However, mixed-income developments should still be pursued to some degree. For this reason, we have assigned VIH to this area which encompasses a percentage of affordable thresholds. Also, it should be noted that the VIH area encompasses newer buildings, as well as most of the study area is public housing. Hence, this will help make a more stable area, which does not face immediate potential of being redeveloped.

Estimation of Housing Provision

Based on information available from the URA, we estimated that 2,635 housing units will be demolished for redevelopment and 3,207 units will be built within the study area perimeter by 2026. In order to calculate this estimation, we considered the average domestic household size provided by the Hong Kong Census and Statistics Department for the period from November of 2017 to January of 2018. We also assumed that the physical size of the new units would be 52.76 square meters. Lastly, we did not consider private developments in our calculation (i.e. developments not led by the URA).

Currently, all ongoing or planned redevelopment work is within the area designated as Mandatory Inclusionary Housing (MIH). Therefore, we can only make estimations based on actual data for this program. However, we will assume that, apart from the 3,207 units predicted for the MIH area, there will be 1,000 additional units planned for the Voluntary Inclusionary Housing area. By doing this, we can simulate how the three affordability categories (deep affordable, affordable and market-regulated) would be distributed across the Study Area.

Based on all previous assumptions, the MIH area would have 802 deep affordable units, 321 affordable units, and 2,084 market-regulated units. The VIH area would have no deep affordable housing units, 200 affordable units, and 800 market-regulated units (Please see Table 6.1).

The relocation of dwellers that will be evicted should be carried out in phases. There should be units built in advance in order to house the evicted residents during the construction period of the new developments. After these developments are completed, and the first group of displaced dwellers are assigned their permanent residences, the second group of evicted citizens should be housed within the provisional housing units. This phasing should continue until all evicted residents are rehoused in the study area.

The revenue from additional GFA (to be proposed in the following Inclusionary zoning sections) could cover the costs of adding low-income housing, and increase developers' profit margins. Developers (including the URA) could receive other incentives, such as real estate tax breaks (similar to what is offered by New York City's 421a Exemption policy, through which developers may qualify for a property

	MIH area	VIH area
Total Housing Provision	3,207 units	1,000 units (assumption for simulation purposes)
Percentage of units assigned to dwellers within deep affordable threshold	25%	0%
Number of units assigned to dwellers within deep affordable threshold	802	0
Percentage of units assigned to dwellers within affordable threshold	10%	20%
Number of units assigned to dwellers within affordable threshold	321	200
Percentage of units within free--market range	65%	80%

Table 6.1 Proposed Mandatory, Voluntary and Market-Rate Rental Units

tax exemption if their property value changed because they did construction on a multi-family residential building). In Hong Kong's case, tax breaks could be offered in regards to the city's property tax. Additionally, leasehold agreements could be drafted to be more beneficial towards developers if they agree to build affordable housing. Benefits in this case could be actualized through offering cheaper premiums or extended leasehold terms. The agency that could enforce the implementation of Inclusionary Housing programs in Hong Kong could be the Planning Department.

We do not believe that our proposed inclusionary housing programs would prevent physical redevelopment from happening in the To Kwa Wan study area. Yet it can help to preserve the social component of the area, and thus, prevent the displacement of thousands of current residents.

Implementation

We propose that the Inclusionary Housing strategies (MIH and VIH) be implemented as an amendment to Hong Kong's Outline Zoning Plans (OZP). The amendment could be labeled "Inclusionary Housing Ordinance" and should be part of the zoning strategies for Planning Area KPA 10 (Ma Tau Kok), which is inside the Kowloon City District. It should be noted that we are proposing zoning strategies specifically designed for the To Kwa Wan Study Area, which is in KPA 10. However, should these strategies prove to be successful, and should the Hong Kong Government carry on with them, these strategies could be replicated in the entire city.

KPA 10 is zoned for Residential 1 (R1) purposes, which encompasses the highest housing densities in Hong Kong. R1 is ascribed for areas with high transportation capacity. The proposed Inclusionary Housing Ordinance would be an amendment to item 3.2 (Main Urban Areas), which sets the maximum Domestic Plot Ratio (DPA) for urban areas. Since our Inclusionary Housing policies are based on granting extra Gross Floor Area (GFA) to certain areas, MIH and VIH should be seen as building-density-related zoning policies.

Kowloon is currently assigned to a 7.5 Domestic Plot Ratio. In order to enable more (GFA) in Inclusionary Housing designated areas, the DPR should be amended to 9. This upzoning takes into consideration that greater infrastructure capacity is being added to the To Kwa Wan Study Area.

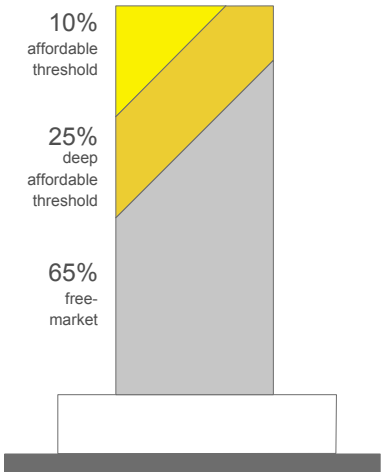


Figure 6.1 Mandatory Inclusionary housing distribution

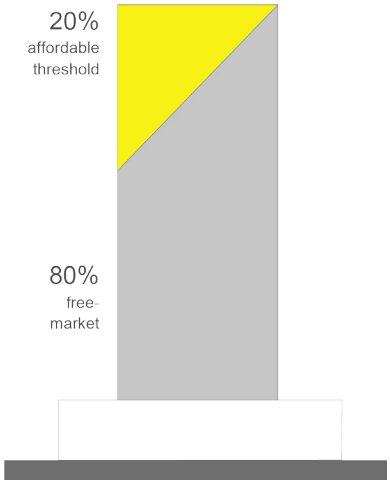


Figure 6.2 Voluntary Inclusionary housing distribution

Figure 6.3 Proposed Zoning of Inclusionary Housing Policies

Voluntary Inclusionary Housing

Mandatory Inclusionary Housing

The Inclusionary Housing Ordinance would be officially proposed by Hong Kong's Planning Department to the city's Town Planning Board. This Planning Department acts as an executive planning branch, which prepares plans for the territory of Hong Kong. The Town Planning Board is the legislative body that drafts the plans in legal terms, and submits them to the Chief Executive in Council. This is the head of the Executive Council of Hong Kong, which is constituted by policy advisors.

After approval, the ordinance would be carried out by all developers in Hong Kong, which includes the URA, as well as other developers.

Three major types of businesses are apparent from our analysis of To Kwa Wan. First, vibrant businesses such as local grocers, pharmacists, restaurants, and retail shops are the nodes of social connections and identity. Second, the most defining industry of this neighborhood is that of auto-repair.

Recommendation 2: Fostering Community Business

Third, creative industries and community groups are on the rise in the neighborhood, and their innovative contributions to retaining and developing the identity of the neighborhood for the new century should be encouraged. Each type of business will require a different approach. We will explore precedents from NYC, and propose tailored policies for Hong Kong with To Kwa Wan as a pilot neighborhood. Specifically, we will use inclusionary zoning to create a system of bonuses to incentivize developers.

We recognize that building shopping malls in future developments is not a constructive use of podium spaces. While the upward trend in online shopping and the impacts of global finance influence chain businesses, our strategy creates sustainable businesses that foster the existing neighborhood while allowing for growth and providing convenience, services, and jobs that the internet cannot replace. Our business proposals promote ground floor vibrancy and social networks, and uphold the values of independent business.

Promote Vibrancy

While walking the streets of To Kwa Wan and crossing between the buildings, people find a lively, energetic neighborhood filled with local markets, retail shops, convenience stores, Hong Kong style cafés, and barber shops. This group of businesses in To Kwa Wan includes the locally owned retail, food-and-drink, and services which are the nodes of social connections and identity. To Kwa Wan's mix of immigrants has historically created an underlying fabric of ethnic social networks that are most apparent through the prevalence of Indian grocers, Thai restaurants, and specialized retail. These more culturally-specific shops mingle with traditional grocers, butchers, fishmongers, and herbal medicine shops and stands. Retail is often open to the sidewalk, and displays a variety of offerings, from clothing, to daily items. This creates a vibrant streetscape on main streets such as Kowloon corridor.

These types of business are often threatened by global market forces that homogenize variety with chain stores that are closed to the street and alienate customers. Furthermore, as the redevelopment projects proceed, these traditional businesses in To Kwa Wan are likely to be transformed, and even torn down. We propose a multi-pronged strategy to create a sustainable space for them in To Kwa Wan.

First, we propose to restrict the amount of ground floor street frontage that may be occupied by non-active uses. Non-active uses are uses not turned to the street liveliness. Such as big residential walls, hotel lobbies and bank agencies. Second, we propose to restrict the size of ground floor retail spaces to promote their occupation by local small businesses. As observed, most local businesses in To Kwa Wan have relatively small spaces. This protects them from being bought out by chain stores that would generally require more space to operate.

Third, we propose incentives for developers to prioritize ground floor frontage on main streets to existing local businesses, or locals who want to start such businesses. This would require the developer to work with a city agency that supports small businesses to ensure that local business owners have a fair chance. In exchange for reduced, affordable rents, developers can get bonus points towards increased GFA. These vibrant street regulations would apply to the length of the major streets of Ma Tau Wai Road and To Kwa Wan Road, and secondary streets such as Yuk Yat Street and Bailey Street.

Auto-Repair Industry

To Kwa Wan has a unique agglomeration of auto repair shops and parts shops that serve the greater city. Car mechanics were attracted to the existing industrial neighborhood and the proximity to the now closed Kai Tak airport, and have provided their services to the greater Hong Kong area since the mid-20th century.

While precedents for inclusion of the auto repair industry are not easily found, we believe that similar policies incentivizing their inclusion — at least for the foreseeable future in which auto-repair is a necessity — can be tailored to fit the unique needs and challenges of the industry. This will partially be done through the organization of the workers, the provision of building space, and economic support during the redevelopment process.

Globally, auto repair shops are viewed as nuisances or blight-causing, and are zoned out of residential neighborhoods. People usually do not think that auto repair shops are a compatible use with luxury residences. Arguments against keeping such an industry in residential districts include the potential to decrease property values, causation of street blockage and illegal parking, noise pollution, dirt and litter, and an unsafe environment for pedestrians and children. However, these negative impacts can be avoided through the use of proper regulations.

The value of the auto repair industry at this time is great. Although the trends in the use of motorized vehicles in the future is skeptical, it is a necessary industry for now, and will continue to exist into the foreseeable future. Simply put, the auto-repair industry supplies a service that consumers demand. Furthermore, the owners of auto-repair business have built their businesses and spent decades refining their skills and specializations, and have adapted as technology has changed. Their status as successful business owners and skilled mechanics is their source of pride, dignity, identity, and life-support for themselves and their families. Without this industry, they will be forced into early retirement, precarious situations as they compete for limited spaces elsewhere, or they could be forced to work in industries that are demeaning to their experience and training.

Additionally, the agglomeration of the auto industry in To Kwa Wan is a great advantage. People, not just those who live in the neighborhood, but throughout the greater Hong Kong area, know where to take their car to be serviced. Agglomeration allows for healthy competition between auto-repair shops, specialization in particular models, supporting industries located nearby, and parts can be easily distributed throughout the industry when it is focused in one locality. Furthermore, the existence of the industry in this location for the past several decades has created relationships between repairmen and the customers who are from both within and outside of the To Kwa Wan.

While the Willets Point case study (please see next page) does not exemplify a success story, there are lessons to be learned. First, location is the number one priority for the auto-repair industry. It should be located where customers know to find it. As evidenced through the Willets Point case agglomerations of small businesses are necessary to maintain the industry, and moving the industry to a distant neighborhood would be a great risk that has the potential to wipe out the entire industry, as it changes accessibility and cuts supplier-customer ties. Second, group compensation is an option to be explored. Rather than offering individual

Case Study IV: Willets Point

In NYC we have had our own dramatic story of a displaced concentration of auto-body shops. In 2015 Willets Point, a neighborhood abundant with auto-repair shops, was razed. Owners were offered compensation for their losses. However, a group decided to organize and collectively take a bulk compensation from the city to relocate. Relocation as a group was a priority because they said their success depended on their proximity to each other (Bagli 2016). By 2016, Willets Point was razed.

The group, which incorporated as a for-profit known as Sunrise Cooperative, consisted of 52 auto body shops. They negotiated with the city, and through cooperation with the Economic Development Corporation (EDC), they received $7.5 million in funding to relocate to and renovate a warehouse in the Bronx. An additional $2.4 million was provided by the EDC when they began to struggle with their rent (Honan 2017).

Issues with the building aside, a major cause of their struggle was the inability to attract clients to the new location, and the lack of support from the warehouse owner, even after the EDC offered more monetary support (Honan 2017).

compensation, a pooled fund can be used to keep the industry together to better serve the benefits of agglomeration. Third, the appropriate infrastructure should be provided for the business, meaning a well maintained and designed building that serves the specific needs of the industry is required. Fourth, even if the prior three conditions are met (location, group support, and infrastructure), a project can still fail without the support of the agency that is responsible for the displacement (whether the New York City Economic Development Corp. or Hong Kong's URA). In To Kwa Wan's case, the URA will be responsible for the provision and administration of this space.

Special Industrial Business Incentive Area

We propose a special district zoned for the preservation of the auto-industry that also incorporates future-oriented business growth: The To Kwa Wan Special Industrial Business Incentive Area (SIBIA).

The proposed To Kwa Wan SIBIA is bound by Ma Tau Wai Road, To Kwa Wan Road, Yuk Yat Street, and Bailey Street. Within this area, the existing auto-repair shops would be categorized as required industrial uses. New, mixed use buildings in a cluster that are designed to foster both the auto-industry and the emerging creative industries brings the historical neighborhood character forward, while also being conducive to growing innovative businesses.

- **Required Auto Repair:** Incentive use would be granted for those developments that host local traditional businesses (such as the Auto Repair one) and could be in the form of additional GFA for market rate commercial or residential space. The inclusion of commercial incentives uses, preferably in the form of lucrative tech industries or maker firms, can increase the availability of jobs and training in emerging industries, while being consistent with the creative and productive past of the neighborhood. Additionally, these types of businesses would mix well with the emerging creative industry in To Kwa Wan.

- **Commercial Bonus:** We have observed a trend of creative industries arising in the old factory spaces of To Kwa Wan. Additionally, several local community groups have been formed with the prospect of urban renewal in To Kwa Wan. These new creative industries and community groups are led by younger people who have innovative ideas that contribute to the sustainability and welfare of the neighborhood.

Wheel Thing Makers is a model of this type of new industry/social enterprise hybrid in To Kwa Wan. In their space, they have the Wheel Thing Maker's workshop, a filmmaking business, and a woodshop.

Case Study V: Kent Avenue

NYC also has experienced a changing industrial landscape. In Williamsburg, Brooklyn, an area that was previously zoned for heavy manufacturing uses, was rezoned as a light manufacturing and mixed use district. Heavy industry had naturally been moving out of the area as demand for certain outmoded technologies (such as typewriter ribbon) sought less expensive space outside of the city. A new landscape of tech firms and light manufacturing was appearing in the neighborhood.

To foster and promote the growth of this emerging industry, and to maintain the existing industrial uses, the area was zoned as the Kent Avenue Industrial Business Incentive Area (IBIA). The zoning of this area has a base FAR of 2.0 and a maximum FAR of 4.8. Thus, the strategy used was to designate "Required Industrial Uses," meaning light industrial and manufacturing uses and "Incentive Uses," capital generating commercial space that is consistent with the neighborhood character, specifically tech and maker companies ("C 160124 ZSK - 19-25 KENT AVENUE" 2016). A similar structure could be used in To Kwa Wan to maintain the area's character as an auto-repair locus with a light manufacturing and industrial history.

Additionally, urban planning consultants are using desk space in their office as they evaluate public space in the area. Wheel Thing Makers recycles waste produced by the auto-industry. They provide woodworking classes to the local community and youth. As evidenced by their work, these type of businesses both take in and give back to the community, generating a sustainable ecosystem of small business and socially conscious services. Additionally, their multi-purpose space is a model for the interaction of nonprofits, creative industries, and the community that we would like to see develop in To Kwa Wan.

In To Kwa Wan, the history of industrial and creative production is what we aim to preserve and allow toevolve. Rather than an "Arts Bonus," we propose a "Community Bonus" to encourage occupation by non-profit creative industries and community organizations. This would allow for space either on the ground floor of a development or on the second or third floors of the building podium, depending on the nature of the organization. An outreach group that works to give the community information and services, such as small business support, may be better situated at street level. A language study center or a woodworking workshop may be better suited for the upper floors of the podium.

Case Study VI: Arts Bonus Mechanism

Another zoning policy from NYC can help us respond to the spatial needs of non-profit creative industries and community organizations in the To Kwa Wan SIBIA can be modeled off of the "Arts Bonus" mechanism used in Manhattan's Special 125th Street District ("Zoning Resolution. Article IX: Special Purpose Districts. Chapter 7: Special 125th Street District. Web Version." 2017).

In NYC, rezoning in areas of the city that have great community value are called "Special Purpose Districts." Manhattan's 125th street has been recently rezoned to favor arts and entertainment spaces to enhance Harlem's history as an entertainment mecca. NYC established a new zoning tool called the "Arts Bonus" which provides floor area for non-profit visual and performing arts organizations. In exchange for an increase of floor area in the development, the bonus is an "increase in floor area, up to the maximum FAR, of four square feet for every one square foot of floor area provided for visual or performing arts core and shell space within the bonused development" (Ibid).

General Policies for Commercial Space in To Kwa Wan

While one may expect the market to take over when we try to regulate too tightly which industry occupies a space, especially when it does not appear to be the most lucrative, there are three controls which we propose for the sustainability of our preferred local business model.

First, we propose affordable retail space be mandated for the first 25 years of the redevelopment. After this period, in face of changing times, this restriction could be renewed or lifted, depending on the direction of future industries and retail models. This will give businesses time to 'stick' in the locations that we propose for them in the renewed neighborhood. In the Kent Avenue IBIA, a 20% reduction in market rate rents was applied for the required industrial use businesses ("C 160124 ZSK - 19-25 KENT AVENUE" 2016). Additionally, a monitoring structure was put in place that requires the NYC Small Business Services and a local advocacy group to work together to ensure that the space was being rented to qualified tenants according to the IBIA zoning regulations (Ibid.). This policy would be well suited for the vibrant storefronts of To Kwa Wan, and for auto-repair shop owners who don't opt for the following condominium scheme.

Second, we propose a model of "condo-ization" for commercial spaces to allow for small business owners to purchase their retail spaces ("Small Business Big Impact: Expanding Opportunity for Manhattan's Storefronters" 2015). We would advise that the URA give the auto repair owners and displaced storefronts this option as an alternative to compensation. The new space and a percentage of a 10% down payment could be offered in lieu of the current compensation structure. The remaining price of the space could be paid down as a low-interest, long-term mortgage. In this way, their compensation is invested into their future, and they and their families can benefit from profits when and if they do choose to close or move their business elsewhere.

Third, we suggest that a support network for small businesses be administered by the Hong Kong Government. NYC's Small Business Services department plays a role in providing small business loans and training, and connects businesses to local and industry specific advocacy groups and services to help them grow their businesses.

Table 6.2 shows the correspondence between one provided square meter of a type of use we want to incentivize and the bonus square meters that the complying developer would get in return.

Recommendation 3: Integrating Inclusionary Housing and Community Business Policies

Design Guidelines for Inclusive Space

The existing typology of the buildings that the auto repair shops occupy, as well as our conversations with those owners teach us much about the physical demands of and auto-repair shop, and can lend to design guidelines for fostering of this type of business. The owners of these shops are ground floor tenants. Many of them also live in the residential spaces above, or nearby. They benefit from the small side streets, some that are closed to through traffic— reflecting their historical use as gathering spaces — and allowing the repair shops to park cars on the street without causing traffic. Keeping the auto repair shops on the back side of the podium, and the setback provided by the podium, will distance them from the residential uses in the towers high above, and obscure them from the view of vibrant main streets. Additionally, the old buildings from the late 1950s and early 1960s provide high ceilings that allow the repairmen to lift cars up and work on the undersides. New typologies can be incentivized in the neighborhood to foster all of the requirements for the auto-repair shop, for the convenience of the consumers, and the aesthetics of the new residents.

The creative industries, community organizations, and incentive industries we plan to situate within the To Kwa Wan SIBIA benefit from flexible space that

Regulation	Provision	Bonus
Affordable Commercial	1 M^2	3 M^2
Required Auto Repair	1 M^2	2 M^2
Community Bonus	1 M^2	3 M^2

Table 6.2 Overview of zoning bonuses for businesses:

*The incentive can be used within or outside of the SIBIA in either commercial or residential GFA bonuses. However, the purpose is to focus the industrial and creative uses within the SIBIA, making a vibrant, mixed, work/live environment.

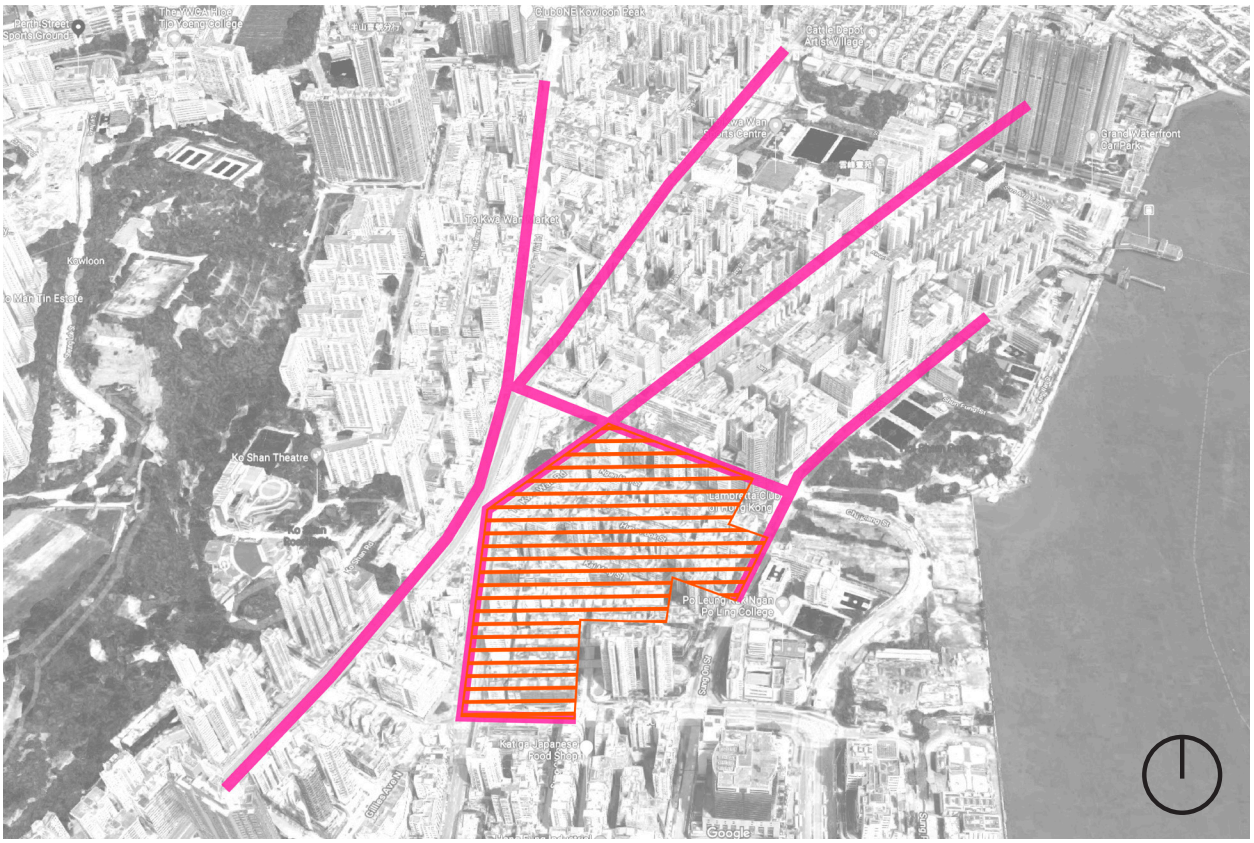


Figure 6.4 Proposed Zoning of Inclusionary Business Policies

Affordable Commercial

Special Industrial Business Incentive Area (SIBIA)

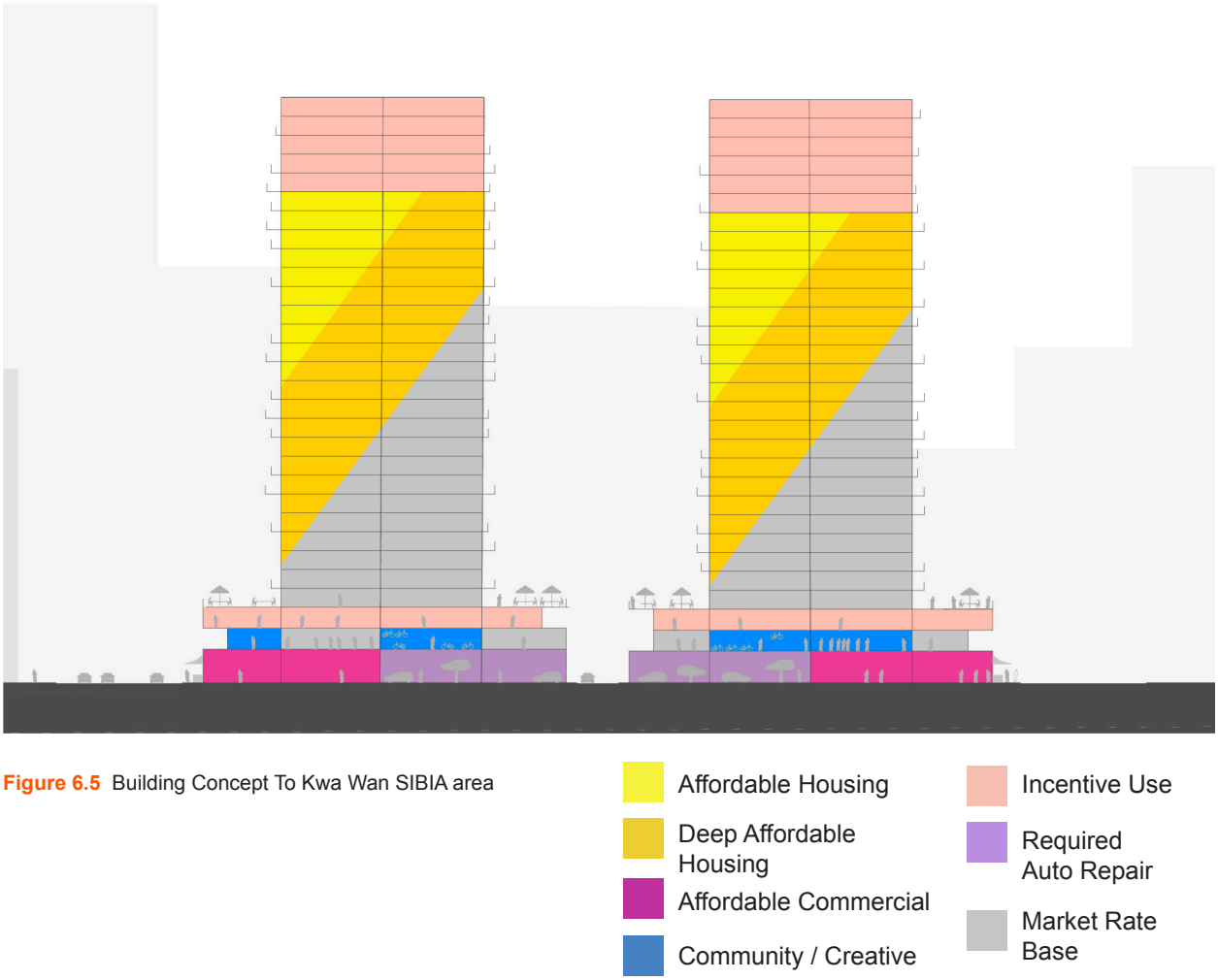
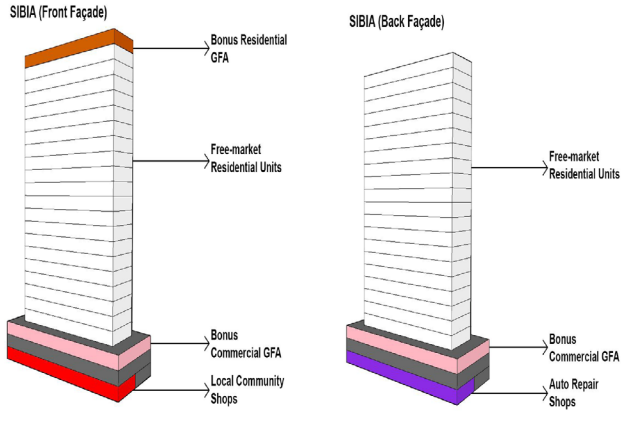


Figure 6.5 Building Concept To Kwa Wan SIBIA area

allows them to interact and to adapt the space to their very particular needs. “Large, open floor plates with flexible partitions and 16 foot floor to ceiling heights encourage firms engaged in research, development, production, and manufacturing to work collaboratively and exchange human resource capital. Tall floor to ceiling heights help accommodate the technology needed by modern light manufacturing tenants, and allows for flexibility in the installation (and replacement) of specialty mechanical systems that are needed for modern manufacturing and technology firms. Flex partitions allow firms to grow in place, and help keep expanding firms in the Proposed Development.” (“C 160124 ZSK - 19-25 KENT AVENUE” 2016)

Main-street-facing commercial spaces should be transparent at the pedestrian level, and yet allow for enough of a setback that sellers can display their goods on the street and allow for the unobstructed flow of passers-by. Additional considerations could include a sheltered walkway, such as those used in Taipei that merge comfortable, shopping, dining, and walking experiences in both rain and shine.

Figure 6.6 Proposed Zoning of Inclusionary Policies




AA 4934
洪
膠輪電池
緊急服務
發
出外救車
91900850

7. NeighbOUR's Network

Stakeholder Network and Communication Gaps

During our field work and interviews in Hong Kong, we found that communication gaps are quite prevalent in regards to the URA's current redevelopment projects. In To Kwa Wan, three primary groups of stakeholders play significant roles in the renewal process. They are the governmental agencies guiding the development, such as the URA, MTR, and Planning Department; To Kwa Wan based NGOs; and local residents, tenants, business owners and community members impacted by the redevelopment (Figure 7.1). Information sharing and communication between these three stakeholder groups is asymmetric and riddled with gaps.

Case Study VII: Obuse Project in Machizukuri and RioWatch from the Rio de Janeiro

In our search for a comprehensive solution to the communication challenges, we explored precedents attempting to combat similar issues. In other regions of the world. From our research, Machizukuri in Japan and the project of Riowatch in Brazil informed our own platform proposal.

The first case study, known as the Obuse Project, comes from the Machizukuri Institute of Tokyo University of Science and addresses the concept contemporary evolution. Specifically, the Obuse project applies cutting-edge techniques to enhance community communication quality. These techniques includes not only surveys, interviews, and workshops, but also photographic documentation, decision map analyzing and town modeling. The Obuse project has created a comprehensive network between the local population, the Machizukuri Institute and the administration.

The second case study we looked to, RioWatch, inspired our platform's NGO-lead structure. In detail, RioWatch is the abbreviation of Rio Olympics Neighborhood Watch, which as the name implies was originally established to enhance the Rio de Janeiro's overall urban condition in order to prepare for the 2016 Olympics, while the organization mainly focuses on the community of favela.The NGOs operating RioWatch document and publish urban planning strategies to the public. The policy scope of RioWatch expand across various disciplines, such as education, health, transportation, housing, and sanitation.

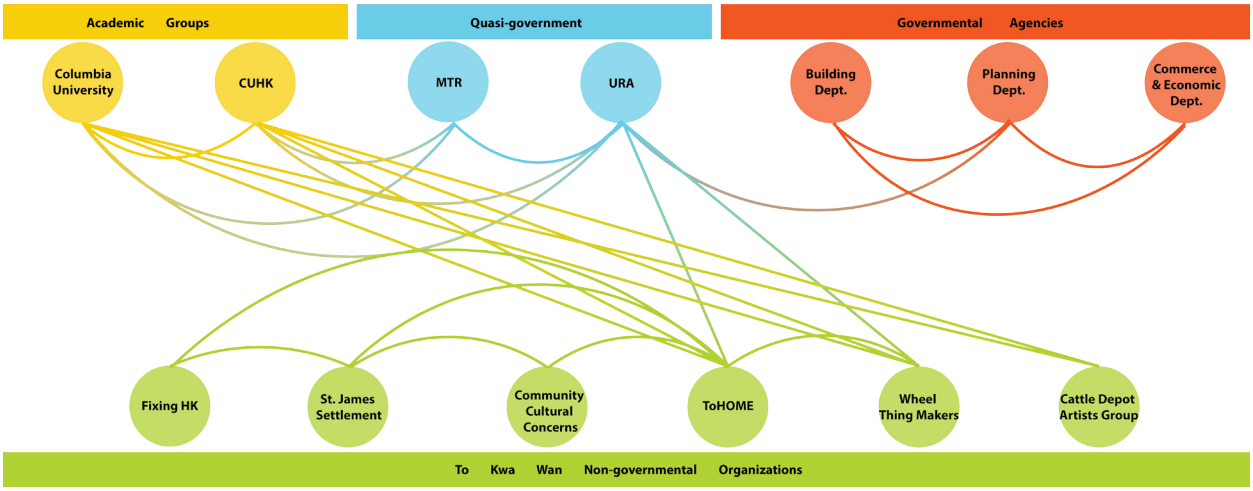


Figure 7.1 Current Stakeholder Network

Recommendation 1: NeighbOUR's Network Platform

In an effort to bring together the disparate groups of stakeholders and engage the community as a whole, we propose the creation of a website and app known as the NeighbOUR's Network. Existing in the digital realm but grounded by face-to-face meetings that take place in To Kwa Wan, the Neighbor's Network would have three primary aims (Figure 7.2):

- Improve the flow of information between various stakeholders,
- Increase the transparency of the redevelopment project,
- Create communication, discussion and engage community members and advocates.

The NeighbOURs Network has the potential to make one of the more traumatic experiences a person can endure - eviction - more humane and navigable. The democratization of information that would result from the external agencies sharing project updates with the community would help make the redevelopment process more transparent. The flow of information between the community members and the external agencies would also serve to show the URA that To Kwa Wan is a vibrant and interesting place.

Further, by providing a platform where the To Kwa Wan community can participate, engage and partake in cultural exchange, the community fabric that is being unraveled by the redevelopment can be reinforced. The information sharing between

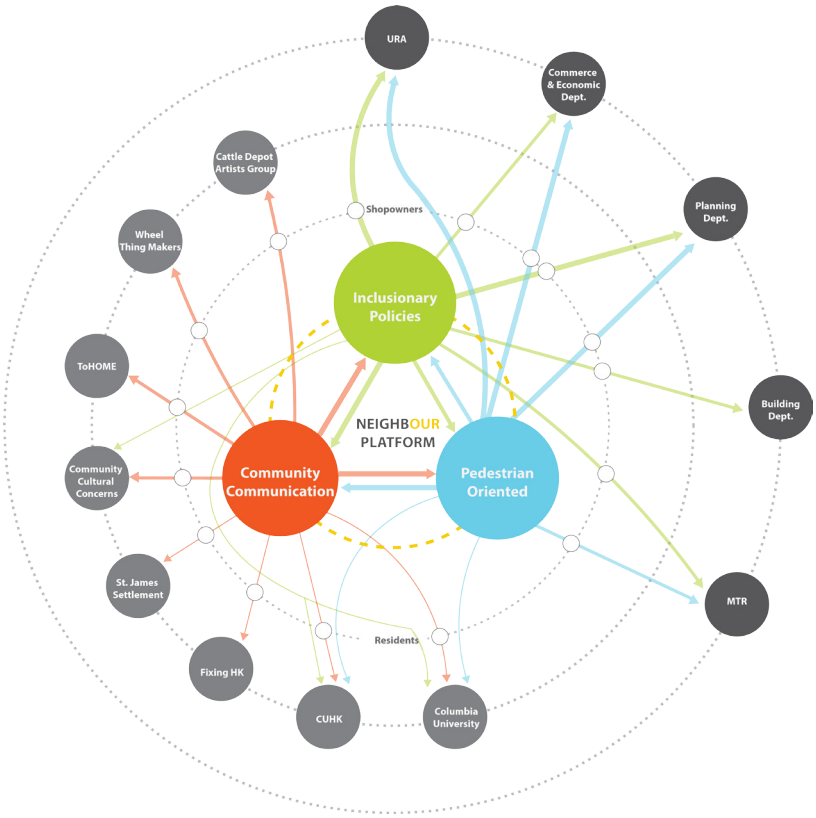


Figure 7.2 NeighbOUR's Network Information Flow Overview

the residents and the community groups would not only strengthen existing community ties, but provide an opportunity for new connections and group formations (Figure 7.3).

Functionality

Simply put, the NeighbOUR's Network is a quasi-decentralized digital platform that would be managed and operated by a coalition of To Kwa Wan NGOs. Everyone would be able to contribute to the Network, however, since the information that populates the website and app would come from community members, To Kwa Wan NGOs, other community groups, the external agencies, and governmental departments (Figure 7.3).

Though the NGOs would be responsible for managing and operating the website and app, their role would primarily be acting as a liaison between the To Kwa Wan community and the external

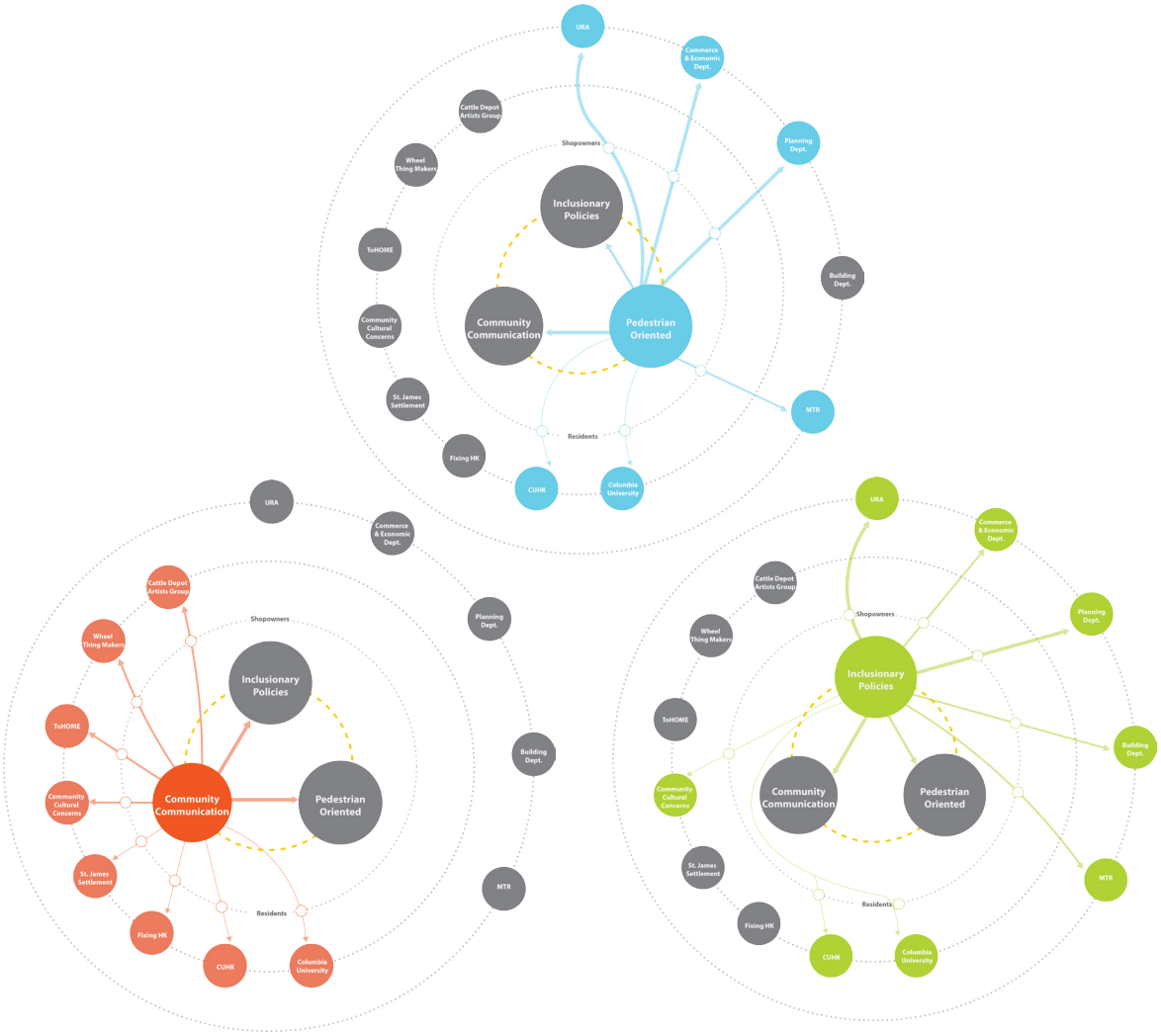


Figure 7.3 NeighbOUR's Network Bridging Communication Gaps

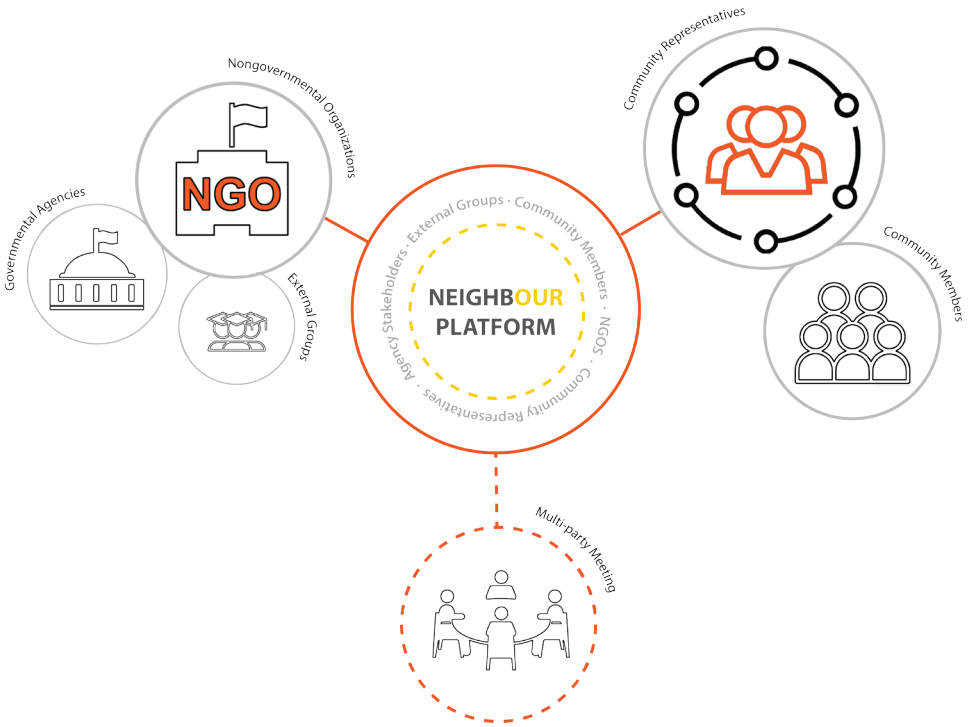


Figure 7.4 NeighbOUR's Network Functionality

stakeholders (i.e. MTR, URA, and the various governmental agencies). On a monthly basis the NGOs would send a routine request to all the external agencies for information and updates on the To Kwa Wan redevelopment project. The NGOs would then filter through the responses and post any pertinent information on the NeighbOUR's Network, making it publically available and easily accessible.

Whereas the NGOs would need to approve and manually post any communication coming from the external groups, community members of To Kwa Wan would have instant posting access, similar to an online discussion board. By creating varied levels of posting permissions, we can ensure that agencies like the URA and MTR do not have the ability to mislead or curb engagement in any way. Despite democratic improvements over the last decade, these quasi-governmental agencies still have a reputation for self-editing and obscuring public opinion in Hong Kong. For this reason, we want to ensure that the NGOs and the community members are in a position to control what is made public on the Network and by whom.

Features

The NeighbOUR's Network would consist of four main features (Figure 7.4):

- ***Project Alerts***: This page would contain real-time updates of the redevelopment. It would be the space for the NGOs to share any communications they receive from external agencies, including things like timeline updates, new policy considerations, news about construction, road closures and parking plans (Figure 7.5).
- ***Residents' Hub****:* This would be the space where the To Kwa Wan community could communicate freely with one another by exchange ideas, ask questions, and openly discuss the redevelopment. Again, community members would be able to instantly post comments in this section as well as create discussion threads for the whole community to see, allowing them to do things such as compare URA compensation, share tips about new housing and ask for more information about specific topics. To protect the community members from any negative backlash that may result from criticisms of the redevelopment project, this section will only be available to To Kwa Wan community members

Figure 7.4 NeighbOUR's Network Homepage Rendering

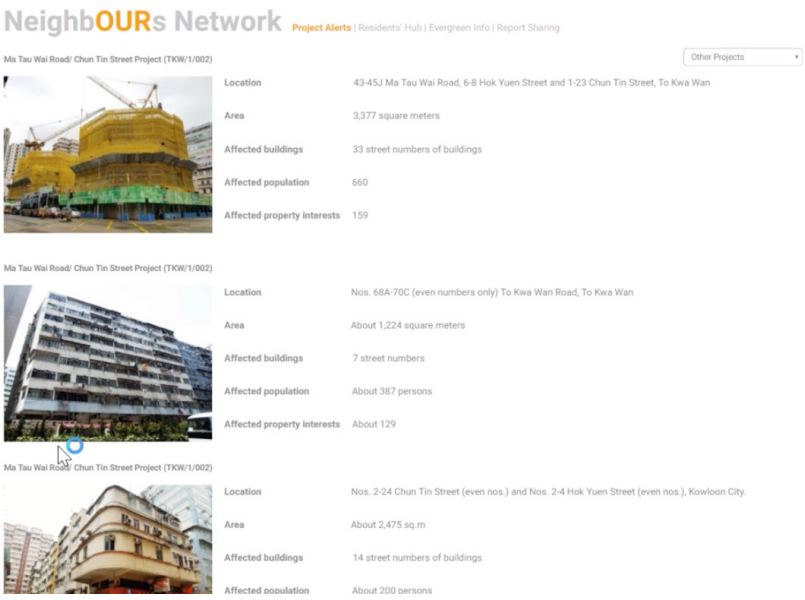


Figure 7.5 NeighbOUR's Network Project Alert Page

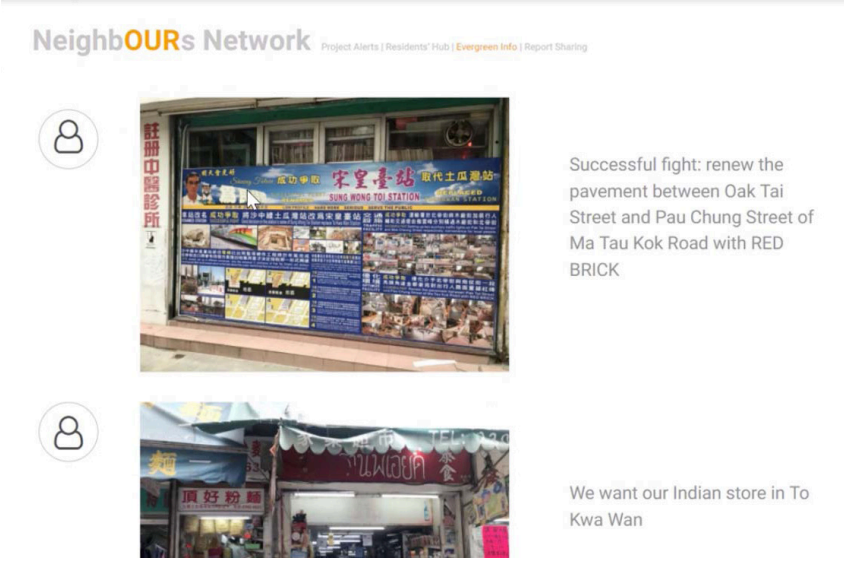


Figure 7.6 NeighbOUR's Network Residents' Hub Page

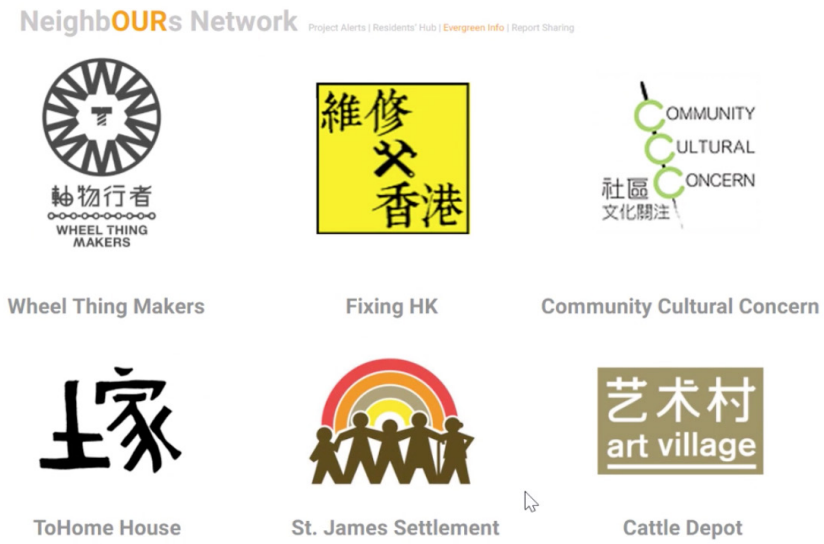


Figure 7.7 NeighbOUR's Network Evergreen Community Resources

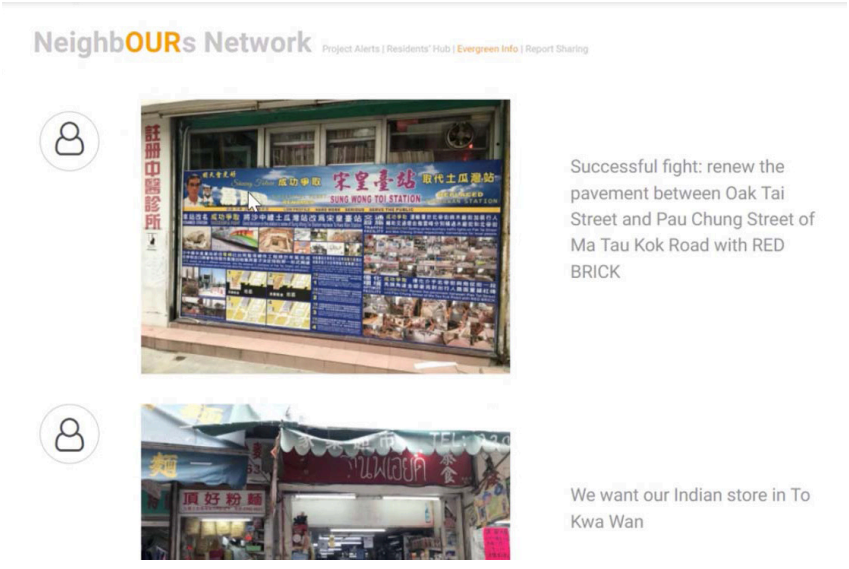


Figure 7.8 NeighbOUR's NetworkReport Sharing

and will require a verified login and username to access (Figure 7.6).

- ***Community Resources:*** This section would be predominantly run by the NGOs managing the Network. It would include evergreen information about a wide variety of community resources in To Kwa Wan, including contact information for support counseling, legal aid, language lessons, and a description of To Kwa Wan's community and small business groups and how to get involved (Figure 7.7).

- ***Report Sharing:*** The final pillar of the NeighbOUR's Network would be a digital storage and access center for anyone to upload reports or share data. Due to the redevelopment a number of academic and independent groups are studying To Kwa Wan. By creating a central space for groups to share their reports, findings and data, information will be made more available and open (Figure 7.8).

Each of these features serves to connect different stakeholder groups, with the ultimate goal of making information about the redevelopment project easier to find and providing a space for the To Kwa Wan community to engage with one another and strengthen community ties.

Implementaton

The NeighbOUR's Network is feasible from a financial, practical, and political standpoint. First, the estimated cost of the development of the app and website would be around $3,000 - $5,000 (HKD $23,500 - 40,000) and $5,000 - $8,000 USD (HKD $40,000 - $62,800), respectively. During the development of the platform, a freelance project manager could be hired for roughly $4,500 USD to guide the development and garner the evergreen information for the Community Resources section. The total cost to create the Network would be less than $18,000 USD, which could be funded by participating NGOs, larger Hong Kong-based charitable foundations, or crowdfunded. Further, low-cost tactics such as contacting landlords, business owners, tapping into existing community-based networks and hanging flyers with QR scan codes of the app in redevelopment zones could be utilized to advertise the Network.

From a practical standpoint, the operation of the NeighbOUR's Network would be a relatively small time investment since the Project Alerts section is the only feature that requires direct action from the NGOs and the operation of the website and app would be shared between several groups. The main hurdle that this Network faces in terms of practical feasibility is simply participation. In order for the Network to function as planned, several NGO groups in To Ka Wan would need to be willing to participate, the external stakeholder groupswould need to be willing to communicate with the NGOs, and the To Kwa Wan community members would have to be active and engaged to a certain extent.

While community engagement and interagency communication are no small feats, the recent political atmosphere in Hong Kong may actually lend itself to a platform such as the NeighbOUR's Network. Between an emerging civil society and reforms on the part of the quasi-governmental agencies in recent years, the timing for a community-based platform may be ripe. To a certain extent, the District Urban Renewal Forum (DURF) helped pave the way for something like the NeighbOUR's Network to thrive. DURF was created in 2011 in response to public outcry for more community involvement in the redevelopment process. Based off the new Urban Renewal Strategy, which was written into Hong Kong's legislature, DURF was the attempt at a "People First, District-based, Public Participatory" approach to redevelopment. Based on a bottom-up consultation process, DURF creates a report which the URA is issued to take into consideration. While the actual impact of this DURF consultation is not completely impactful, the fact that such a process now exists and is required by law is a positive sign that the various stakeholders in To Kwa Wan's redevelopment may be willing to engage with one another and participate.


洪
膠輪電池
緊急服務
發
出外救車
91900850

8. Next Steps

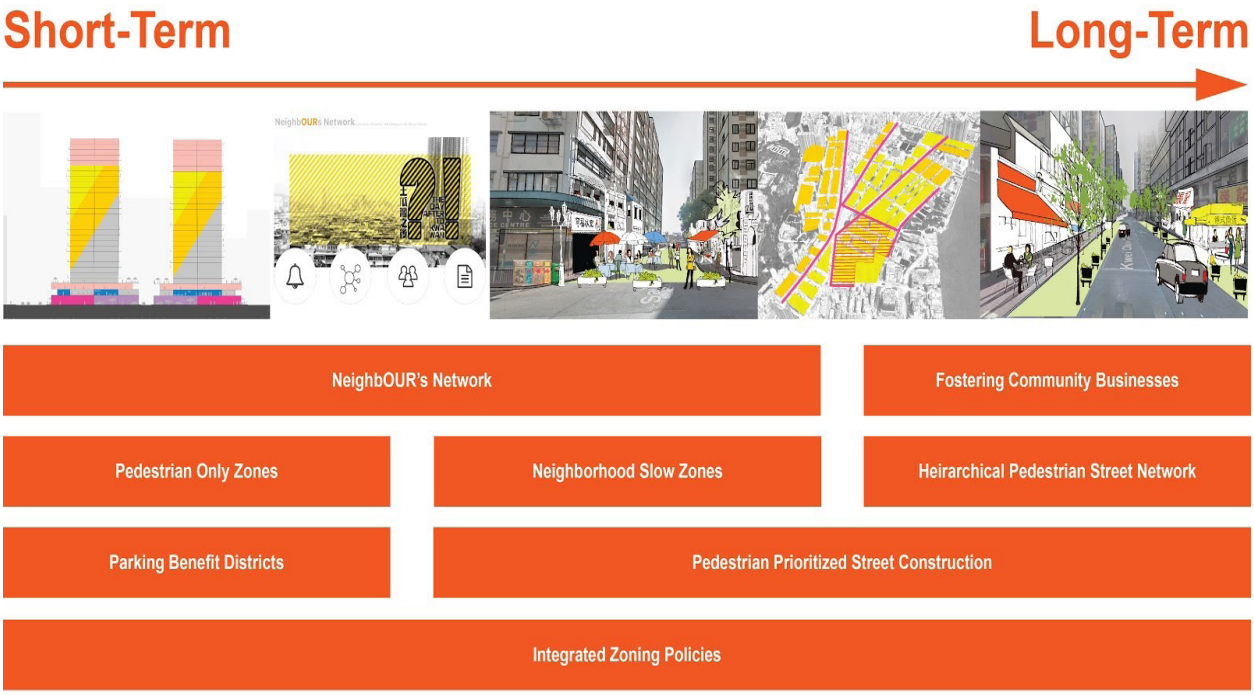


Figure 8.1 Summary of our proposals within a time frame.

"There are many people who like to work together with the local in To Kwa Wan, it's quite interesting. And that is why we have some informal platform sometimes we gather together and trying to discuss the future development in To Kwa Wan, one of the key hubs of urban renewal" - To Kwa Wan Resident

In our recommendations, the first few months of the plans for the neighborhood should be focused on implementing policies that will have an immediate impact on To Kwa Wan. A parking benefit district will allow for funding of other projects. Inclusionary housing, pedestrian only zones, and the NeighbOUR's Network will provide much needed services to the neighborhood's current residents.

After the implementation of several short-term policies, and while the NeighbOUR's Networks continues to be implemented and improved, efforts should be underway in order to create a more pedestrian friendly environment through slow zones and priority streets. Additionally, zoning policies should be put into place to preserve To Kwa Wan's social and commercial character.

Over the course of several years, To Kwa Wan should become a haven for safe pedestrian activity through the continued prioritization of walking. Continues zoning policies should be improved and implemented that will allow for current residents and business owners to continue their livelihoods in To Kwa Wan.

As a vibrant community, filled with residents of all types of backgrounds, To Kwa Wan is an important piece of Hong Kong. The neighborhood has been a home to immigrants, minorities, and people of low incomes for many years. With the advent of a new MTR station, and new projects being undergone by the URA, these populations' homes are under threat, and many will inevitably be unable to continue to live in the neighborhood that they have called home for their entire lives. Businesses that once thrived on the busy streets of To Kwa Wan will be forced to close their doors, and many will find it difficult to find a new place to set up their business.

Redevelopment in To Kwa Wan is clearly necessary, as crumbling buildings pose a threat to the population. However, this redevelopment will likely come at a cost if steps are not taken to protect the community Redevelopment in To Kwa Wan is clearly necessary, as crumbling buildings pose a threat to the population. However, this redevelopment will likely come at a cost if steps are not taken to protect the community

Every individual in To Kwa Wan has a story, and a connection to their community. Whether it's a resident, a business owner, or someone else, the people that we met and spoke to during our time in To Kwa Wan were all demonstrably attached to the community. Though many were distraught at the thought of being forced to relocate, people were hopeful that solutions could be found to both improve To Kwa Wan and allow them to stay.

ACKNOWLEDGEMENTS

We would like to express our gratitude to Professors Weiping Wu and José Vallejo Mateo. Their guidance was fundamental to our work. We are also grateful to Rosalie Ray, whose assistance also determined the result of the “Hong Kong as a Palimpsest: Transit-Induced Redevelopment” course. Last but not least, we also want to say how thankful we are to all people who assisted us in Hong Kong and who gave us their insights on the main issues that this metropolis is currently facing.

Contact Information:

Emily Junker - elj2130@columbia.edu

Ethan Hudgins - ejh2195@columbia.edu

Guilherme Formicki - gr2558@columbia.edu

Livie Li - sl4215@columbia.edu

Lu Hao - lh2857@columbia.edu

Nengjing Deng - nd2559@columbia.edu

Qianyu Xiang - qx2170@columbia.edu

Shelby Smith - sts2150@columbia.edu

Shulin Zhang - sz2586@columbia.edu

Yichen Ouyang - yo2286@columbia.edu

Yudi Liu - yl3804@columbia.edu

William Reis - war2120@columbia.edu

References

"1935 View towards Kowloon City from To Kwa Wan | Gwulo: Old Hong Kong." n.d. Accessed May 9, 2018. https://gwulo.com/atom/27884.

"2016 Population By-Census." n.d. Accessed May 9, 2018. https://www.bycensus2016.gov.hk/en/index.html.

About URA - Urban Renewal Authority - URA. (n.d.). Retrieved April 15, 2018, from https://www.ura.org.hk/en/about-ura

"By-census Results." 2016 Population By-census. Accessed April 23, 2018. https://www.bycensus2016.gov.hk/en/index.html.

CentraMap. "www.CentaMap.com." n.d. Accessed May 9, 2018. http://hk.centamap.com/gc/home.aspx.

Chang, Ashley. 2017. "Parking Benefit Districts in China." ACCESS Magazine (blog). May 29, 2017. https://www.accessmagazine.org/spring-2017/parking-benefit-districts-in-china/.

"Downtown Brooklyn Traffic Calming Report." NYC DOT - Downtown Brooklyn Traffic Calming Report. Accessed April 23, 2018. http://www.nyc.gov/html/dot/html/motorist/dntnbklyntraf.shtml.

Gan, Albert, Joan Shen, and Adriana Rodriquez. 2015. "Update of Florida Crash Reduction Factors and Countermeasures to Improve the Development of District Safety Improvement Projects." Updates of Florida Crash Reduction Factors and Countermeasures to Improve the Development of District Safety Improvement Projects. April. http://lctr.eng.fiu.edu/re-project-link/Project04.htm

Herrstedt, Lene. "Traffic calming design—a speed management method: Danish experiences on environmentally adapted through roads." Accident Analysis & Prevention 24, no. 1 (1992): 3-16.

"Hong Kong Government Proposes Doubling Metered Parking Fees to as Much as HK$20 per Hour | South China Morning Post." n.d. Accessed April 10, 2018. http://www.scmp.com/news/hong-kong/economy/article/2125327/hong-kong-government-proposes-doubling-metered-parking-fees.

"Kolozsvari Douglas and Donald Shoup 2003 Turning Small Change Into Big Changes." n.d. Accessed April 22, 2018. https://www.coursehero.com/file/p347dr4/Kolozsvari-Douglas-and-Donald-Shoup-2003-Turning-Small-Change-Into-Big-Changes/.

La Grange, A., & Pretorius, F. (2014). State-led gentrification in Hong Kong. Urban Studies, 53(3), 506–523.

Law, Katty (21 March 2008). "Urban renewal strategy ruining communities". South China Morning Post. Retrieved 9 May 2014.

Legislative Council of Hong Kong. "How Laws Are Made." Https://www.legco.gov.hk/education/files/english/Factsheet/Factsheet7.pdf. Accessed April 22, 2018 .

Marshall, Wesley E., Norman W. Garrick, and Gilbert Hansen. 2008. "Reassessing On-Street Parking." Transportation Research Record, no. 2046: 45–52.

Mass Transit Railway. 2013. Shatin to Central Link. Accessed 2018. http://www.mtr-shatincentrallink.hk/en/multimedia-gallery/photo-gallery.html#/images/multimedia_gallery/gallery/station/gallery05.jpg.

"MTR - Shatin to Central Link - Multimedia Gallery - Photo Gallery." n.d. Accessed May 9, 2018. http://www.mtr-shatincentrallink.hk/en/multimedia-gallery/photo-gallery-2.html#/images/multimedia_gallery/gallery/facilities/gallery02.jpg.

n.d. http://www1.nyc.gov/assets/planning/download/pdf/about/cpc/160124.pdf.

"Pedestrian Only Streets: Case Study | Stroget, Copenhagen | Global Designing Cities Initiative." n.d. Global Designing Cities Initiative. Accessed May 9, 2018. https://globaldesigningcities.org/

"Road Users' Code, Hong Kong." Transport Department - Road Users' Code. January 07, 2005. Accessed April 23, 2018. http://www.td.gov.hk/en/road_safety/road_users_code/index.html

Town Planning Board. Statutory Planning Portal 2. 2018. https://www2.ozp.tpb.gov.hk/gos/ (accessed February 2018).

"Transport Department - Octopus Operated Parking Meters." n.d. Accessed April 10, 2018. http://www.td.gov.hk/en/transport_in_hong_kong/parking/parking_meters/octopus_operated_parking_meters/index.html#1

Urban Land Institute. 2012. "Study on Parking Benefit Districts and Opportunities for New Orleans." Urban Land Institute. June 10.

Urban Renewal Authority. 2011. "Urban Renewal Strategy." Urban Renewal Authority. February. Accessed 2018. https://www.ura.org.hk/f/page/8/4835/URS_eng_2011.pdf.

Wan, Adrian. 2014. "Satellites reveal Hong Kong building 'sinking fast' before collapse that killed four." South Chin

COLUMBIA

GSAPP

URBAN
PLANNING