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by Tiffany Hui

University College London

Faculty of the Built Environment

The Bartlett School of Planning

Is Tseung Kwan O Town Centre being gentrified by state-led transit-oriented development? Understanding neighbourhood changes and social inclusion in Hong Kong

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Being a dissertation submitted to the faculty of The Built Environment as part of the requirements for the award of *MSc International Planning* at University College London:

I declare that this dissertation is entirely my own work and that ideas, data, and images, as well as direct quotations, drawn from elsewhere are identified and referenced.

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List of Abbreviations

TOD – Transit-oriented development

R+P – 'Rail plus property'

MTRC – Mass Transit Railway Corporation

HKCSD – Hong Kong Census and Statistics Department

TKOTC – Tseung Kwan O Town Centre

Abstract

The state frequently makes use of the transit-oriented development initiative to promote economic growth and revitalization. The Mass Transit Railway Corporation in Hong Kong uses the "Rail plus property" development model to make public transportation networks self-sufficient financially and promote sustainable urban expansion. Due to increased residential construction and the alteration of retail spaces and social services, however, it also serves as a catalyst for neighbourhood change in nearby neighbourhoods, resulting in transit-induced gentrification or parallel processes like suburbanization and professionalisation. Studies on gentrification brought on by TOD, particularly at the neighbourhood level and its relationship to social inclusion, are, nonetheless, underdeveloped in the Asian context. This raises the question the extent to which state-led new transit investment in Hong Kong accounts for neighbourhood changes (gentrification, suburbanisation and professionalisation) and whether such changes create a more socially inclusive neighbourhood in Hong Kong.

To understand the changes in the socio-demographic characteristics, perceived neighbourhood change, and social inclusion of residents, qualitative (primary and secondary data) and qualitative (semi-structured interviews) methods were used based on the Tseung Kwan O Town Centre case study, which has undergone significant changes over the past 20 years after the opening of the MTR station in 2002. The results from the housing price for owner occupation and census data indicated that there may be some overlap between the three neighbourhood transformation processes in the neighbourhood. Long-term inhabitants have noted the suburbanization of families and the commercial gentrification of stores, although due to the presence of public housing estates prior to the station's construction, there has been limited residential gentrification. Although accessibility and the quality of living environment have improved, however, long-term residents still struggle as the shops are less affordable.

1. Introduction

1.1. Context and Purpose of the study

Large-scale urban programmes such as transit-oriented development are often used as a tool by the government to promote economic development and regeneration (Shmaryahu-Yeshurun and Ben-Porat, 2021). Transit-oriented development is a dense, mixed-use, and pedestrian-friendly construction that can reduce the use of cars and encourage the use of sustainable transportation methods (Ibraeva et al., 2020). However, it also acts as a catalyst for neighbourhood change in nearby areas due to reinvestment processes that changes the degree of accessibility to transportation, spatial patterns, and urban visual environment, as a result leading to transit-induced gentrification or parallel processes such as suburbanization and professionalization taking place at the neighbourhood scale.

In Hong Kong, the 'Rail plus property' (R+P) development strategy is an approach of the Mass Transit Railway Corporation (MTRC) that integrates railway expansions with property development which makes public transit systems financially self-sufficient and encourage sustainable urban growth (Leong, 2016). By making money off the model, it can finance transit-oriented development that includes residential development, shopping malls and green space close to the station. It also makes the neighbourhoods around the station more accessible, connected to the wider city and opportunities for employment and services, and thus seen as a strategy for social inclusion. Despite having many advantages, the MTRC, a state-owned company that the Hong Kong government owns around 75% of, has drawn criticism for driving up land values and facilitating state-led gentrification and displacement (He et al., 2018). For instance, previous studies have found that the expansion of transit stations in Hong Kong has pushed up the housing price (Cervero and Murakami, 2009); attracted private housing development (He et al., 2018); and driven low-income residents away from the region (Liang et al., 2022). Although there is more research on TOD-related gentrification in Hong Kong, most studies have been focusing on the territory-wide context and the question of whether this will lead to residents becoming socially excluded, particularly at the local level, has not yet been thoroughly addressed.

Studies on neighbourhood transformation and displacement are also largely in the western context; due to geographical and historical variations, more research is needed in Asia. Thus, the Tseung Kwan O Town Centre (TKOTC) neighbourhood which is a formerly low-income neighbourhood has undergone significant changes over the last 20 years following the opening of Tseung Kwan O MTR station in 2002 is used in this study which is expected to provide a broader understanding of the relationship between transit-oriented development, neighbourhood change and social inclusion. Additionally, due to the long-lasting effects of displacement and the difficulty of identifying forced migration, studying displacement quantitatively is still hard, therefore, the perception of the residents on neighbourhood changes was explored.

1.2. Research Questions

This dissertation aims to explore the extent to which state-led new transit investment in Hong Kong accounts for neighbourhood changes (gentrification, suburbanisation and professionalisation) and whether such changes create a more socially inclusive neighbourhood in Hong Kong, using the case study of TKOTC.

To achieve this aim, the following research objectives were set to operationalise the main research question and organise the structure of the analysis:

1. To what extent do neighbourhood changes represent a process of gentrification, suburbanisation or professionalisation and lead to displacement,
    1.1 In particular, in terms of changes in the socio-demographic characteristics (age, educational level, income, occupation) and housing prices for owner-occupation?
    1.2 And in terms of the perceived neighbourhood change of residents?
2. Are these changes leading to a more or less inclusive neighbourhood in terms of accessibility, affordability, and quality of the living environment?

1.3. Dissertation Structure

The next chapter will bring together scholarship on neighbourhood changes, transit-induced gentrification, and social inclusion, both in Hong Kong and internationally. Drawing from the literature, Chapter 3 presents a new methodological framework and justification for the qualitative (primary and secondary data) and qualitative (semi-structured interviews) methods and the TKOTC neighbourhood case study. Chapter 4 is organised in two parts: to examine whether the neighbourhood changes brought by the TOD investment represent a process of gentrification, suburbanisation or professionalisation and whether the changes lead to the social inclusion of residents. Finally, Chapter 5 concludes with the key findings and limitations of the study and suggestions for future research.

2. Literature review

Although research on neighbourhood change and displacement are well-developed in the Global North, it is under-research in Asia. Interestingly, despite increasing studies on state-led TOD-induced gentrification in Hong Kong, these literatures often focus on the territory-wide context, and the social impact, particularly on the social inclusion of residents in the neighbourhood is rarely documented. This research is bringing together such diverse literature and identify gaps and key aspects to develop a methodological framework to operationalise the research objectives in the Hong Kong contents.

2.1. Neighbourhood changes: discerning processes of change between gentrification, professionalisation and suburbanisation

2.1.1. Gentrification

Gentrification is a neighbourhood change concept that is first created by Ruth Glass in the 1960s it refers to 'a process of socio-spatial change where the rehabilitation of a residential property in a working-class neighbourhood by relatively affluent incomers leads to the displacement of former residents unable to afford the increased costs of housing that accompany regeneration' (Pacione, 2001, pp.211-212). The concept was later described by Warde (1991) as having four features, including social concentration and resettlement, which result in the displacement of low-income residents with high-income residents; changes in the built environment that show some distinctive aesthetic features and the supplies of new local services; the reordering of property values which presents an opportunity for the building industry; and gathering together of people with a shared culture, lifestyle, or class related consumer preferences.

To measure gentrification, Landis (2016) has identified three dimensions of characteristics. The first dimension is the socioeconomic dimension which involves the characteristics of income, educational level, and occupation level of residents. The second dimension includes house prices and rent characteristics. While the final dimension encompasses the residents' migration and moving patterns. However, as suggested by Grube-Cavers and Patterson (2015), it is important to note that a neighbourhood that is experiencing gentrification due to urban development should undergo greater changes in migration patterns, housing prices and rents, and socio-economic characteristics than those areas without undergoing such changes.

In the mid-2000s, a type of gentrification 'state-led gentrification' or 'third-wave gentrification' was identified by North America and UK scholars which refers to 'a form of gentrification planned, commanded, or promoted by state agencies at the national, regional, metropolitan or municipal level, as part of either a nationwide or local-level restructuring agenda, aimed at generating specific urban and land conditions for gentrification to occur' (López-Morales et al., 2021, p.1). According to Hackworth and Smith (2001), the state is the dominant actor who plays an active role in supporting the market to drive gentrification. However, these literatures mostly focus on the western context and studies on gentrification in non-Anglo-American cities are underdeveloped. As stated by Ley and Teo (2016), the naming and identification of gentrification are absent in Hong Kong, where the term is usually directly translated from English to Chinese and the actual meaning of the concept is loss through the translation process. He further argued that the term gentrification has been unduly expanded to include urban development processes that occur outside of Anglo-American cities. Build upon this, Lui (2017) discovered that rather than moving into working-class neighbourhoods and converting old buildings into new apartments building, the middle class in Hong Kong is interested in buying newly constructed

units with significant value growth potential. Therefore, due to the different in local complexities and specificities, the scale and social impacts of gentrification may develop differently in East Asia, and further research in Hong Kong is needed.

2.1.2. Professionalisation and suburbanisation

Nonetheless, other studies have argued that gentrification is not the only factor contributing to neighbourhood change. As stated by Hamnett (2003), the change in the industrial structure of western societies since 1970 has led to the rising proportion of professionals, which is known as professionalisation. He undertook a study in London and discovered that due to the industrial restructuring of the housing market, employment and the economy, population replacement rather than displacement occurred between 1961 to 2001 (Hamnett, 2003). Other studies have found the suburbanisation by which the movement of the middle class from dense inner-city regions to suburban areas has also contributed to neighbourhood change in Europe (Hesse and Siedentop, 2018).

Thus, to differentiate gentrification from other neighbourhood change processes, Marcuse (1985) argued that evidence of displacement is important to be identified. The first type of displacement is direct economic or physical displacement, where a household is forced out of the apartment due to a rise in rent or physical means. Secondly, exclusionary displacement happens when a household moves out voluntarily, but because the unit has been gentrified, another similar household is unable to move in. As a result, the number of units available on the housing market for the second household is reduced. The final type of displacement is the pressure of displacement, where current residents find the area less liveable due to the dramatic transformation of the neighbourhood environment and consider moving out (Marcuse, 1985). Pacione (2009) further suggested that gentrification should be distinguished from both neighbourhood revitalisation with 'incumbent upgrading' and existing high-status district intensification, as no spatial mobility occurs in these processes of social change. This idea highlights the importance of mobility in gentrification, where gentrifiers move in and poor tenants move out of the neighbourhood.

However, studies on displacement have found it is methodologically very difficult to analyse displacement (Atkinson, 2003; Atkinson, 2004; Easton et al., 2020). Easton et al. (2020) suggested that due to the long-gone processes of displacement and the difficulty in identifying involuntary migration, the quantitative study of displacement remains challenging, and data can be derived from those who have experienced displacement. Moreover, due to the 'place-based geographical and historical specificities', the outcome of urban development and the resulting displacement is variegated in Asia compared with the Global North (Shin et at., 2016). For instance, Ley and Teo (2016) identified that the existence of large-scale public housing programs in Hong Kong supported by a dense living environment and substantial public transportation network has reduced the resistance to displacement during periods of redevelopment. According to Ley and Teo (2014), residents in Hong Kong did not feel they were subject to gentrification and displacement during urban development as buildings in Hong Kong are constructed with the expectation of being replaced after 50 years, which promotes a comparatively high occupant turnover. Hence, not only quantitative census data but both shopkeepers and residents will be interviewed in this research to examine the perceived neighbourhood change and displacement in the Hong Kong context.

2.2. The social impact of transit-induced gentrification

Transit-oriented development (TOD) combines nodes and places for sustainable urban

development (Kamruzzaman et al., 2014). It is a dense, mixed-use, pedestrian-friendly urban development around transit stations integrating transport and land use planning (Cervero and Murakami, 2008; Loo et al., 2017). This large-scale transportation-related investment is often supported by the state to redevelop, renovate, rehabilitate, or revitalise facilities, transport services and private properties in these neighbourhoods (Liang et al., 2022). Nevertheless, as stated by Padeiro et al. (2019), neighbourhood changes are expected to occur when a new station is built due to reinvestment processes that change the spatial patterns, transportation accessibility and urban visual setting, causing transit-induced gentrification.

Numerous studies have explored the link between TOD and residential gentrification focusing on the change in socio-economic characteristics of residents and housing prices. Rayle (2015) found that the metro station in Portland, United States has increased the shares of childless single and couples, working professionals and attracted a younger population. Furthermore, Pollack et al. (2010) studied neighbourhood change in 12 US cities with new rail stations and discovered that areas near rail stations have a faster increase in median rent, housing costs and median household income compared with the wider city region. While Kahn (2007) discovered regions within a mile of transit stations had a higher proportion of college graduates than those without in 14 US cities between 1970 and 1990. Grube-Cavers and Patterson (2015) further investigated the average household income, number of advanced degrees, average monthly housing rent, percentage of professionals and owner-occupied housing shares in Canada, and found a positive association between transit and gentrification. In terms of housing prices, research in Atlanta, Georgia showed the proximity of new rail stations in low-income neighbourhoods raised housing prices by 15% to 30% (Immergluck, 2009).

However, in contrast to residential gentrification, Chapple et al. (2017) argued that the relationship between TOD and 'commercial gentrification', which refers to the displacement of local and traditional shops by boutiques, fashionable cafes and franchises is largely understudied and only few research has addressed this. For instance, a study in Los Angeles has discovered that the increase in land values and rent after TOD expansion has displaced locally serving businesses, leading to an increase in boutique retail outlets that don't match existing residents' budgets and cultural preferences (Cranor et al., 2015). Another study has found the neighbourhood change caused by the new TOD station didn't benefit the existing residents, as they could not afford the new goods and services bought by commercial gentrification (Lees et al., 2012). Chapple and Jacobus (2009) further stated the change in businesses is both the causal factor of and an outcome of residential gentrification. Nonetheless, these literatures are largely dominated by experiences in North America and Europe, and there is no research on commercial gentrification and TOD in Hong Kong, therefore further study is required.

2.3. The relationship between social inclusion and neighbourhood changes in TOD neighbourhood

2.3.1. Social inclusion

Social inclusion is a concept that was first coined in France in 1974 when the poor were labelled as a 'social problem' (Rodgers et al., 1995; Rawal, 2008). The term was later used by the European Union in the late 1980s as an important social policy concept and replaced the concept of poverty (Rawal, 2008; Allman, 2013). It refers to people's ability to fully participate 'in all aspects of life', such as education, employment, and recreational activities' (Davey and Gordon, 2017). On the contrary, the opposite of social inclusion is social exclusion. As stated by Levitas et al. (2007), social exclusion involves the absence or denial of resources, goods and services, rights, and the

lack of ability to engage in normal activities in economic, social, cultural, or political aspects.

In terms of the factors affecting social inclusion, Litman (2003, p.2) defines physical accessibility as one of the key factors, which refers to 'people's ability to access desired goods, services, destinations, and activities'. It includes access to basic food and clothing, transport, and social and recreational activities (Litman, 2003). Additionally, Labonté et al. (2012) suggested affordability as another factor, implying that individuals have the income to afford material resources and participate in non-material activities such as socialising. Levitas et al. (2007) further argued that the quality of the living environment is a factor affecting social inclusion, referring to the resident's neighbourhood satisfaction and access to open space.

Nevertheless, studies on social inclusion are mostly related to societal groups such as minority and immigrant populations, children, older people, those with physical or mental health conditions, and the unemployed (Devasthanam et al., 2017), and the link between social inclusion and the neighbourhood changes caused by TOD are underexplored. Interestingly, while the concept of social inclusion originated in the west, a focus group study investigating how Hong Kong citizens comprehended the idea of social inclusion has found that due to the common understanding about the resources access, the importance of work, material well-being and participation, the term of social inclusion is applicable in the Hong Kong context (Chan et al., 2014). Thus, this research will examine whether the opening of the TOD station has led to social inclusion or exclusion in TKOTC.

2.3.2. Neighbourhood change and social inclusion in TOD neighbourhood

Theoretically, changes caused by TOD expansion can enhance the social inclusion of residents in a neighbourhood. In terms of the quality of the living environment, Padeiro et al. (2019) stated that the provision of new, higher-quality goods and the upgrade of local infrastructure can positively improve the quality of life of residents. In terms of accessibility, residents can have more access to various types of urban resources and transportation networks, leading to social inclusion in the neighbourhood (Padeiro et al., 2019). Conversely, neighbourhood changes due to the opening of new TOD stations may also theoretically lead to the social exclusion of residents. In terms of affordability, the rise in food and amenities may contribute to social exclusion as long-term residents are unable to afford it (Chaskin and Joseph, 2013). In terms of accessibility, residents may have less access to facilities and services due to the replacement of small family-owned stores by new businesses, diminishing the sense of place for long-term residents (Tehrani et al., 2019). However, there is no actual empirical evidence on the social inclusion of residents in a neighbourhood that has undergone changes by TOD development and will be further examined in this study.

2.4. 'Rail plus property' model, neighbourhood change, and social inclusion in Hong Kong

R+P model is a TOD strategy of the MTRC in Hong Kong integrating railway expansion with property development that allows public transport systems to be financially self-reliant and at the same time stimulating sustainable urban growth (Leong, 2016). Through the model, the state grants MTRC land 'development rights' at stations or depots along the line (Liang et al., 2022). Following then, MTRC received exclusive land development rights from the government without getting any subsidies (Cervero and Murakami, 2008). Next, MTRC constructs the new railway line and cooperates with different private developers through public tendering to build properties (Leong, 2016). Finally, developers share a proportion of the profits made from these properties with MTRC (Tang, 2017). For example, revenues from R+P projects along MTR's Tseung Kwan O

line have funded the extension of the line to serve a new town with a population of 380,000 (Leong, 2016).

Despite numerous benefits, the MTRC, which is a state-own enterprise by which the Hong Kong government controls around 75%, has been criticised for being a catalyst for state-led gentrification and displacement by raising land value (He et al., 2018). Cervero and Murakami (2009) found that an R+P station with a TOD design would increase the housing price range from 5 to 30%. While He et al. (2018) discovered that the expansion of the MTR line has attracted private housing development. Another study in Hong Kong also discovered that access to rail stations has raised property values significantly (He, 2020). Liang et al. (2022) further identified that MTR construction was more likely to cause high-educated people to relocate and low-income households to leave areas served by the MTR. Nonetheless, these studies usually focus on the territory-wide context, and the social impact particularly on the social inclusion of residents in the neighbourhood is under-researched.
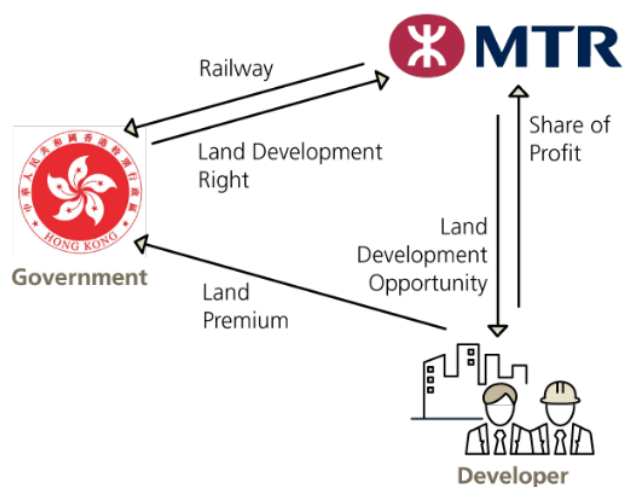
Figure 1: MTRC R+P model (MTRC, 2022)

2.5. Research gap

Overall, although there are growing studies on state-led TOD-related gentrification in Hong Kong, the social inclusion of residents in the neighbourhood has not been fully discussed. Studies on neighbourhood change and displacement are mostly in the western context, and due to the differences in geographical and historical specificities, further research in Asia is needed. While the literature on social inclusion is often related to societal groups, the link with neighbourhood changes caused by TOD stations is under-researched. There is also no empirical evidence on whether changes due to TOD expansion can enhance the social inclusion of residents in a neighbourhood. Thus, this paper will address these gaps by exploring to what extent state-led new transit investment in Hong Kong led to gentrification, but also other neighbourhood changes processes such as suburbanisation and professionalisation and how residents consider this as a sign of social inclusion.

3. Methodology

3.1. Methodological framework

Stemming from the literature review, a new methodological framework has been developed:
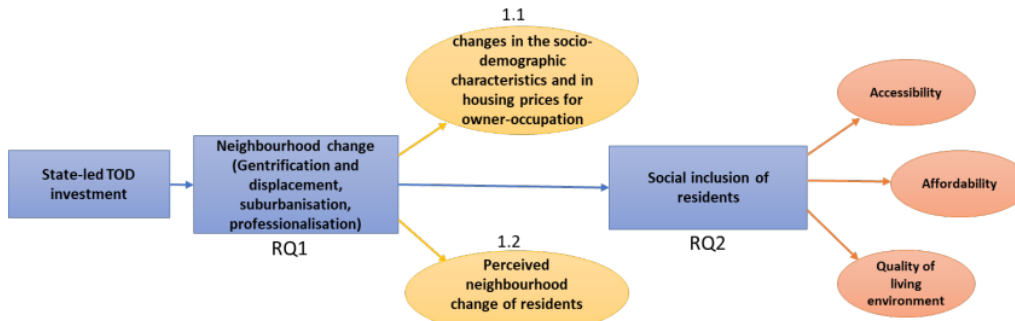
Figure 2: Methodological framework (Author, 2022)

3.2. Research design

As shown in Table 1 below, this research requires a set of longitudinal analyses (understanding changes) through a mixed method approach that combines quantitative method (statistical analysis of primary and secondary data) with qualitative methods (semi-structured interviews), to address the research questions and objectives set in the introduction and provides a complementary understanding of the changes, perception of changes and urban processes.

Research objectives	**Methods and data sources**
1.1 To what extent do neighbourhood changes represent a process of gentrification, suburbanisation or professionalisation and lead to displacement, in terms of changes in the socio-demographic characteristics and housing prices for owner-occupation?	Quantitative primary data: 2001 and 2016 census and by-census data in TKOTC at the neighbourhood level to analyse changes in age, educational level, income, and occupation of residents Quantitative primary data: Price trend on Housing from Centaline property to analyse the change in housing prices in 2001, 2005, 2010, 2016 and 2022
1.2. To what extent do neighbourhood changes represent a process of gentrification, suburbanisation, and professionalisation and lead to displacement, in terms of the perceived neighbourhood change of residents?	Qualitative semi-structured interviews with 7 residents and 4 shopkeepers of the neighbourhood Quantitative primary data: 2001 and 2016 census and by-census data in TKOTC at the neighbourhood level to analyse changes in housing types of domestic household
2. Are these changes leading to a more or less inclusive neighbourhood in terms of accessibility, affordability, and quality of the living environment?	Qualitative semi-structured interviews with 7 residents and 4 shopkeepers of the neighbourhood

Table 1: Research objectives, methods, and data sources (Author, 2022)

3.2.1. Primary and Secondary data

Secondary data including the 2001 Hong Kong population census and the 2016 Hong Kong population by-census conducted by the Hong Kong Census and Statistics Department (HKCSD) were used (Table 2). The benefit of using secondary data from official sources is their accuracy (Clifford et al., 2016). And reduced the time cost of collecting primary data (Bryman, 2016). Census data on population (age, educational level, income, and occupation) and housing type of domestic household in 2001 and 2016 were extracted and compared for longitudinal analysis since the statistical unit are the same for these years. These are available for both the whole city and the neighbourhood level.

In terms of the web documents, data sources including housing prices for owner-occupation in 2001, 2005, 2010, 2016 and 2022 from a real estate brokerage company website: Centaline property were extracted and compared for longitudinal analysis. The reason for using this website is because it is one of the largest real estate companies in Hong Kong, which can provide reliable data on price trends in Hong Kong.

Population census and by-census data employed			
Data	Data used	**Year produced**	**Data Source**
Hong Kong population census and by-census in Tseung Kwan O	*Population by age*	*2001* *2016*	*HKCSD*
	Median Age		
	Aged 15 and over having attained post-secondary education: Degree course (Highest level attained)		
	Monthly domestic household income		
	Median monthly domestic household income		
	Working Population by Occupation		

Table 2: Population census and by-census data employed (Author, 2022)

3.2.2. Fieldwork: Interviews

Qualitative resident interviews

To understand the perceived neighbourhood change of both long and short-term residents in the TKOTC neighbourhood and their social inclusion after the opening of the new station, semi-structure interviews were conducted with the residents. Long-term residents refer to residents living in the neighbourhood *before* the opening of the Tseung Kwan O MTR station in 2002, while short-term residents are the residents living in the neighbourhood *after* the opening of the station. In terms of the sampling method, snowball sampling was used, starting from the researcher's connection in the neighbourhood. However, the problem with snowball sampling is that 'it is unlikely that the sample will be representative of the population (Bryman, 2016, p.178). Thus, purposive sampling of long and short-term residents through fieldwork in parks and public space were also applied, to ensure there is a 'good amount of variety in the resulting sample, so that sample members differ from each other in terms of key characteristics that are relevant to the research questions' (Bryman, 2016, p. 379). The interviews were also conducted in a semi-structured way, which allows the researcher to explore issues related to the research, but also allows flexibility for follow-up questions. Each interview lasted for around 30 minutes to an hour. Moreover, interviews were conducted in Cantonese as 94% of the residents living in the

neighbourhood are Chinese (HKCSD, 2016). Owing to the Covid-19 pandemic, both face-to-face and online interviews were conducted.

Code	Resident	Profile	Housing characteristics	Long- or short-term residents, length of residences in TKOTC
R1	Resident 1	Male, ~60, Manager	Owner of private permanent housing	Short-term, 4 years
R2	Resident 2	Female, ~50, clerk	Renter of public rental housing	Long-term, 24 years
R3	Resident 3	Female, ~27, civil servant	Owner of private permanent housing	Short-term, 4 years
R4	Resident 4	Female, ~68, retired person	Owner of Subsidized Home Ownership Housing	Long-term, 23 years
R5	Resident 5	Female, ~21, student	Owner of Subsidized Home Ownership Housing	Long-term, 18 years
R6	Resident 6	Male, ~48, social worker	Renter of public rental housing	Long-term, 23 years
R7	Resident 7	Female, ~30, housewife	Owner of private permanent housing	Short-term, 3 years

Table 3: Qualitative resident interviews -residents' profiles

Qualitative shopkeepers interviews

To understand the neighbourhood changes impacts, qualitative shopkeeper interviews were also conducted. Shopkeepers operating a business in TKOTC are invited to participate because they have been interacting with customers and witnessing the neighbourhood change in the area. They are aware of what's happening in the public sphere, the change in consumption behaviour and the changes in the type of shops in the area. Purposive sampling of businesses operating within TKOTC was selected, and interviews were conducted in Cantonese. Semi-structured interviews were applied to ensure some consistency in interviewing style but also allow the researcher to address more specific issues (Bryman, 2016). Each interview lasted for about 15 minutes, which would not affect the normal operation of the businesses. By interviewing both the shopkeepers and residents, it can provide a rich amount of data for research.

Code	Shopkeeper	Profile	Business, year of operation
S1	Shopkeeper 1	Male, ~63, owner	Stationery store, 1998
S2	Shopkeeper 2	Female, ~40, worker	Clothing store, 1999
S3	Shopkeeper 3	Female, ~54, owner	Optical store, 1999
S4	Shopkeeper 4	Male, ~57, owner	Furniture store, 1998

Table 4: Qualitative shopkeeper interview – shopkeepers' profiles

3.2.3 Data Analysis

To address research question 1.1, figures extracted from the Hong Kong population census except the median monthly household income were converted into a percentage, rounded off to the first decimal place and shown in tables, facilitating comparisons across years. In terms of housing prices, housing price trends from all housing estates built before the opening of the MTR station were extracted from the webpage of Centaline property and percentage changes were calculated. A graph comparing the price of the neighbourhood with the whole Hong Kong territory was also made based on the average housing prices in 2001, 2005, 2010, 2016 and 2022. A framework for distinguishing the three types of neighbourhood changes (Figure 3) was set up based on previous

studies. Another framework accessing whether neighbourhood change represents a process of gentrification, suburbanisation, professionalisation and leads to displacement (Table 5) was also set up based on pervious literature. For research question 1.2, thematic analysis was used, which extract key themes from the interviewees and coded them into themes associated with 'suburbanisation', 'residential gentrification' and 'commercial gentrification'. Figures on housing type of domestic household are also extracted from the Hong Kong population census to support what the interviewees are stating. For research question 2, thematic analysis was also used which extract key themes from the interviewees and coded them into themes related to 'accessibility', 'affordability', and 'quality of living environment'.
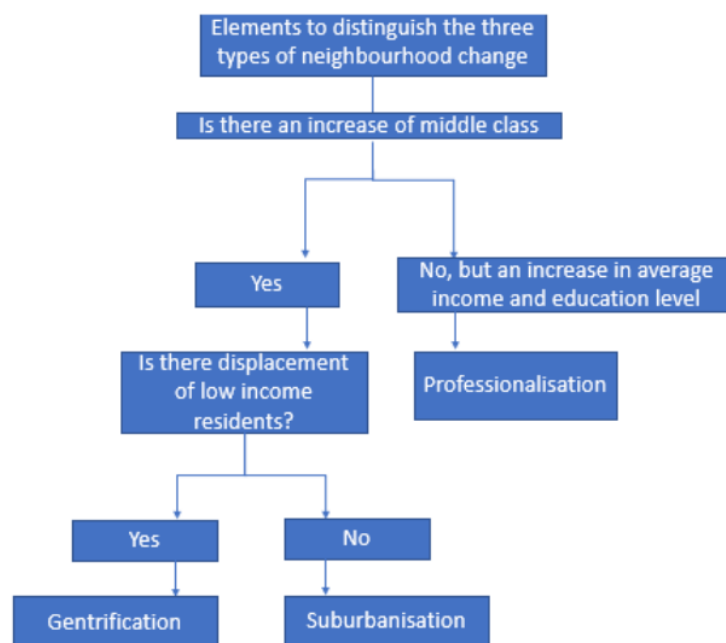
Figure 3: Elements to distinguish the three types of neighbourhood changes (Author, 2022)

Socio-demographic characteristics	Gentrification	Suburbanisation	Professionalisation
Age: Changes towards a population with younger age	✓	✓	
Educational level : Changes towards population with higher educational level	✓	✓	✓
Income level: Changes towards middle and higher-income level	✓	✓	✓
Occupation: A higher percentage of professionals	✓		✓
Housing prices for owner-occupation: rising price in the owner-occupation market	✓	✓	✓
Displacement: loss of low-income residents	✓		

Table 5: Framework to access whether neighbourhood change represents a process of gentrification, suburbanisation, professionalisation and leads to displacement (Author, 2022)

3.3 Tseung Kwan O Town Centre case study

This dissertation employed case study analysis to provide an 'in-depth understanding of a single or small number of 'cases', set in the real-world context' (Yin, 2011, p. 292). In this research, the case study of the TKOTC was chosen as the geographical focus of this study due to various reasons. It is a formerly low-income neighbourhood which has undergone massive changes over the last 20 years in terms of population change, new residential development and transformation of the retail areas and social services, which points to a potential process of gentrification following the opening of the station and at the same time may also be the result of concurrent processes such as suburbanisation and professionalisation taking place at the neighbourhood scale.

Located in the Southern part of Sai Kung District in the Southeast New Territories of Hong Kong (Figure 4), it is originally a new town area initiated by the public housing and Subsidized Home Ownership Housing programme and at the early stage of development, with only one public housing estate (Sheung Tak estate) and five Subsidized Home Ownership Housing (Beverly Garden, Kwong Ming Court, Po Ming Court, Tong Ming Court, Bauhinia Garden) in 2001. Since the opening of the Tseung Kwan O MTR station in 2002, as part of the Tseung Kwan O Line project launched by the Hong Kong government (Figure 4), the neighbourhood has changed drastically with the development of private housing and waterfront (CEDD, 2022). Such a timeframe and substantial involvement of the state make it a useful case study to investigate neighbourhood changes that followed or have been directly triggered by the new transit investment in the last 20 years.

Figure 4: Location of TKOTC in Hong Kong (Google map, 2022)

Figure 5: Tseung Kwan O Line (Chamois, 2022)

Figure 6 shows the neighbourhood of the TKOTC. The neighbourhood is situated to the south of Po Lam, southwest of Hang Hau and east of Tiu Keng Leng. The Tseung Kwan O R+P model is located in the middle, with three shopping malls and private residential building blocks. The northern part of the area is public and Subsidized Home Ownership Housing built before 2002. While the southern part of the area is mostly private housing built after the opening of the MTR station.

Figure 6: TKOTC neighbourhood map (Source: Open Street Map contributors, adopted by author)

3.4 Limitations

As data from the 2021 Hong Kong population census which was conducted last year has not yet been released, the researcher could only use data from 2016 which may not accurately reflect the neighbourhood's current socioeconomic makeup. Besides, the researcher wasn't able to compare the housing price for rent between 2001 and 2022, as housing built before the opening of the MTR station is all public housing (government heavily subsidise the rent) and subsidized home ownership housing (government heavily subsidise the housing price). Moreover, the researcher was also unable to find any young professionals who had resided in the neighbourhood before the installation of the MTR station, making it impossible to further investigate the phenomena of professionalization. Finally, it is important to note that the perspectives of the residents and shopkeepers in this research do not reflect the experience of all locals.

3.5. Ethical considerations

There are no significant ethnical risks involved in this research. There was no personal data collected from respondents that could be used to identify them except general demographic data. All interviews were conducted with the full and informed consent of participants and no vulnerable population has been interviewed. The confidentiality of participants were respected and in line with UCL's Data Protection Principles and Research Ethics Committee and anonymity was maintained when analysing data and reporting information from interviewees. Appendix 2 contains a copy of the information sheet and informed consent form, while Appendix 3 has the risk assessment form.

4. Analysis and Discussion

4.1. To what extent do neighbourhood changes represent a process of gentrification, suburbanisation or professionalisation and lead to displacement, in terms of changes in the socio-demographic characteristics and housing prices for owner-occupation?

4.1.1 Age

Population by age in TKOTC					Whole Hong Kong territory
Age	**2001**	**2016**	**2001-2016 change in absolute number**	**2001-2016 % Change**	**2001-2016 % change**
0-14	13,685	12,800	-885	-6.5%	-25.1%
15-29	12,708	19,418	+6,710	+52.8%	-10.4%
30-44	19,272	26,996	+7,724	+40.1%	-11.6%
45-59	8,866	26,336	+17470	+197%	+51.7%
60+	5,972	21,086	+15,114	+253.1%	+65.7%
Total	60,503	106,636	+46,133	+76.2%	+9.4%

Table 6: Population by age in TKOTC (Author, 2022)

Median Age in TKOTC			Whole Hong Kong territory
	2001	**2016**	**2016**
Median Age	32	42	43.4

Table 7: Median Age in TKOTC (Author, 2022)

The majority of the population has an older age after the opening of the Tseung Kwan O MTR station in the neighbourhood in 2002. Table 6 shows that the percentage of the child population aged 0 to 14 has decreased by 6.5% from 2001 to 2016; while the percentage of the working population aged 15 to 59 has increased significantly. Surprisingly, among all age groups, the older population aged 60+ has the largest percentage change, with an increase of 253%. The median age of residents has also increased sharply from 32 in 2001 to 42 in 2015 as shown in Table 7. Although the median age of Tsang Kwan O Town Centre has increased, however, the median age of the neighbourhood in 2016 (42) is still slightly lower than the whole Hong Kong territory average (43.4). This is similar to the findings of Rayle (2015), by which the opening of TOD station has increased the percentage of childless singles and couples, and also has a younger age structure than the whole territory, potentially representing a process of residential gentrification. But the growing population of the aged 60+ contradict previous studies which found that gentrification mostly attracts young people. One possible explanation for the neighbourhood's ageing population between 2001 to 2016 maybe related to the post-war baby boomers reaching old age (HKCSD, 2016).

Nevertheless, the changes in age may also be explained by other processes. The reduction in the child population and the increase in working population may imply that the phenomenon of professionalisation as stated by Hamnett (2003) is happening in the area. Besides, compare with the whole Hong Kong territory with only a 9.4% increase in total population, the neighbourhood has a huge increase in total population of about 76.2%. This may indicate that the process of suburbanisation is happening in the TKOTC.

4.1.2. Educational level

Aged 15 and over having attained post-secondary education: Degree course (Highest level attained) in TKOTC					Whole Hong Kong territory
	2001	**2016**	**2001-2016 change in absolute number**	**2001-2016 % Change**	**2001-2016 % change**
Aged 15 and over having attained post-secondary education: Degree course	3,463	23,175	+19,712	+569.2%	+104%

Table 8: Aged 15 and over having attained post-secondary education: Degree course (Highest level attained) in TKOTC (Author, 2022)

The educational level of residents has increased after the Tseung Kwan O MTR station is opened in the neighbourhood. Table 8 demonstrates that the percentage of the population aged 15 and over having attained degree courses has increased by about 569.2%, from 3,463 in 2001 to 23,175 in 2016. Compared with the percentage change of aged 15 and over having attained degree courses in the whole territory between 2001 to 2016 which is only +104%, there is a massive increase in the number of university graduates in the neighbourhood. This supports the findings of Kahn (2007) and Grube-Cavers and Patterson (2015), where new transit investment may increase the share of college graduates in an area, potentially representing a process of residential gentrification.

However, the rise in educational levels in TKOTC may also be explained by other processes of neighbourhood changes. Due to the greater educational opportunities available in post-secondary institutions in recent years, more young population continued their higher education (HKCSD, 2016), leading to professionalisation. Additionally, since the number of aged 15 and over having attained degree courses in the area has increased drastically in 2016 (5 times the original value in 2001), this suggested that suburbanisation maybe happening in the neighbourhood.

4.1.3. Income level

Monthly domestic household income in TKOTC				
Monthly Domestic Household Income (HK$)	**2001**	**2016**	**2001-2016 change in absolute number**	**2001-2016 % Change**
Less than 2,000	220	1,120	+900	+409.1%
2,000-3,999	440	373	-67	-15.2%
4,000-5,999	345	1,542	+1,197	+347%
6,000-7,999	686	1,093	+407	+59.3%
8,000-9,999	702	724	+22	+3.1%
10,000-14,999	2,677	2,798	+121	4.5%
15,000-19,999	3,166	2,718	-448	-14.2%
20,000-24,999	2,483	3,017	+534	+21.5%
25,000-29,999	1,793	2,103	+310	+17.3%
30,000-39,999	2,330	4,467	+2,137	+91.7%

40,000-59,999	1,289	6,689	+5,400	+418.9%
60,000+	373	7,388	+7015	+1880.6%
Total	16,504	34,032	+17528	+106.2%

<div align="center">Table 9: Monthly domestic household income in TKOTC (Author, 2022)</div>

In terms of the monthly domestic household income, the population of all income groups except $2,000-3,999 has increased from 2001 to 2016 after the opening of the Tseung Kwan O MTR station. As shown in Table 9, the number of middle to higher-income households (monthly domestic household income above $10,000) has increased in the neighbourhood, with households earning more than $60,000 a month having the largest percentage increase (+1880.6%). Interestingly, the number of lower-income households (monthly domestic household income below $10,000) has also increased, with households earning less than $2,000 a month having the greatest percentage change (+409.1%). Only the number of households earning $2,000-3,999 has decreased in the area (-67). This implies that there may be limited displacement of the poor tenant in TKOTC, with an increase of both lower- and middle-income households.

Median monthly domestic household income in TKOTC				Whole Hong Kong territory
		2001	2016	2016
Median Monthly Domestic Household Income	HK$	20,000	32,660	25,000

Table 10: Median monthly domestic household income in TKOTC (Author, 2022)

Moreover, the median monthly domestic household income has also increased after the opening of the transit station in 2002. Table 10 shows that the median monthly domestic household income of TKOTC has increased from $20,000 in 2001 to $32,660 in 2016. The medium monthly domestic household income of the neighbourhood in 2016 is also much higher than that of the whole Hong Kong territory ($25,000). This is similar to the findings of Pollack et al. (2010) and Grube-Cavers and Patterson (2015), which discovered that areas near TOD station would attract higher-income household and contributes to a higher median household income, potentially representing a process of residential gentrification.

Nonetheless, the increase in the monthly domestic income may be explained by other processes of neighbourhood change. The increase in the total number of households (+17528) may indicate that there is a huge inflow of population, demonstrating the occurrence of suburbanisation. Besides, the increase in the higher income household may be because of the higher educational provision for the children who are originally living in the area. They stayed in the neighbourhood when they growth up, leading to professionalisation.

4.1.4. Occupation

Working Population by Occupation in TKOTC				
Occupation	2001	2016	2001-2016 change in absolute number	2001-2016 % Change
Managers and administrators	1,682	6,080	+4398	+261.5%
Professionals	737	4,431	+3,694	+501.2%
Associate professionals	3,765	12,996	+9,231	+245.2%
Clerical support workers	5,758	9,079	+3,321	+57.7%

Service and sales workers	5,462	9,046	+3,584	+65.6%
Craft and related workers	3,965	2,955	-1010	-25.5%
Plant and machine operators and assemblers	2,708	1,781	-927	-34.2%
Elementary occupations, Skilled agricultural and fishery workers; and occupations not classifiable	5,034	9,228	+4194	+83.3%

Table 11: Working Population by Occupation in TKOTC (Author, 2022)

There is a significant increase in the number of professionals in TKOTC after the opening of the MTR station in 2002. As shown in Table 11, the number of populations working as professionals has increased from 737 in 2001 to 4,431 in 2016, which has increased by about 501.2%. This aligns with Rayle's (2015) and Grube-Cavers and Patterson's (2015) studies, which suggested that the new TOD investment would increase the share of professionals in the neighbourhood, representing a process of residential gentrification. However, the increase in the percentage of professionals may be caused by professionalisation, by which there is upward mobility of low-income residents.

4.1.5. Housing prices in the owner-occupation market

Average housing prices for owner-occupation in TKOTC (Average Unit Price/ft^2)						
	2001	**2005**	**2010**	**2016**	**2022**	**% Change**
Beverly Garden	2,295	2,522	3,100	6,976	9,924	+332.4%
Kwong Ming Court	2,354	1,987	3,025	7,700	10,183	+332.5%
Po Ming Court	1,906	2,550	3,556	10,496	10,235	+437%
Tong Ming Court	2,019	2,216	3,022	8,874	10,101	+400.3%
Bauhinia Garden	2190	2,188	3,116	8,902	12,527	+472.5%
Overall TKOTC Neighbourhood Average	2,152.8	2,292.6	3163.8	8589.6	10,594	+392.1%
Hong Kong Average	3,213	3,997	5,839	10,617	15,594	+385.3%

Table 12: Average housing prices in the owner-occupation market in TKOTC (Author, 2022)

The average housing price for owner-occupation in TKOTC has a much greater percentage increase (+392.1) than the Hong Kong average (+385.3%) from 2001 to 2022. Table 12 and Figure 7 illustrates the average housing prices for owner-occupation among five Subsidized Home Ownership Housing in the neighbourhood. As stated by the Hong Kong Government, The Home Ownership Scheme is a government-subsidised program that offers eligible public housing tenants and low-income residents the opportunity to purchase apartments in the public housing complexes overseen by the Hong Kong Housing Authority at a price below the apartments' market value, thus the absolute housing price is lower than the Hong Kong average (GovHK, 2022). These housing estates were all chosen for comparison because they were completed between 1998 and 2001- before the establishment of the Tseung Kwan O MTR station in 2002. When compared with the Hong Kong average, the average housing prices for owner-occupation in the area have a higher percentage increase (6.8% more than the Hong Kong average). This corresponds with Immergluck's (2009) findings, which highlighted that new transit investment would increase the housing price of a formerly low-income neighbourhood, potentially leading to residential gentrification. However, suburbanisation, whereby families from inner cities migrated to the Tseung Kwan O new town in the suburbs, may also account for the rise in average housing price for owner occupancy. While the professionalisation of the young population in one or two-

person households with large housing demand would also contribute to the increase in housing prices in the area.

Besides, the price of the housing estate increases with its proximity to the MTR station and has a larger percentage increase than those further away from the station. For example, Bauhinia Garden which is the closest to Tseung Kwan O station (300 meters from the station), has the highest average housing price for owner occupation ($12,527) and the largest percentage increase (+472.5%) among the five housing estates.
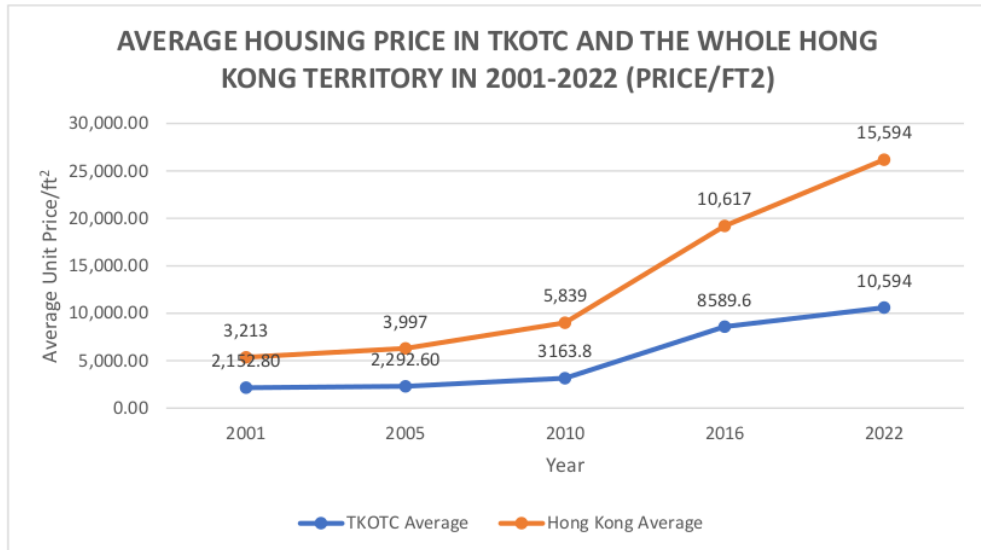
Figure 7: Average housing price in the TKOTC and the whole Hong Kong Territory in 2001-2022 (Author, 2022)

4.2. To what extent neighbourhood changes represent a process of gentrification, suburbanisation or professionalisation and lead to displacement, in terms of the perceived neighbourhood change of residents?

4.2.1 Suburbanisation with a limited displacement of residents

Regarding the perceived neighbourhood change of residents, many of the long-term residents have mentioned suburbanisation, by which more middle-income families have moved into TKOTC. As said by R4 who lived in the neighbourhood for 23 years, she observed that more private luxury apartments such as Oceans Wings, Corinthia by the Sea and Alto Residences have been built near the Tseung Kwan O South Waterfront promenade located at the South of Tseung Kwan O MTR station in recent years, thus, attracting more people to move in (Figure 8). For the short-term residents, a private housing resident R1 who moved into the neighbourhood after the opening of the TOD station, further explained that due to the 'nice environment along the promenade and the well-equipped amenities such as the proximity to the MTR station', he decided to move in the area 4 years ago from Kowloon. While R7, a housewife with a 4-year-old daughter, has said that her reason for moving to the neighbourhood is because of the availability of various International Schools and Kindergartens such as the Invictus International school and

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the French International School. This demonstrated that the concept of suburbanisation that Hesse and Siedentop (2018) have identified in Europe, may occur in the neighbourhood.

Figure 8: New private housing development along the promenade TKOTC (iStock, 2022)

On the other hand, when asked whether their neighbours had moved to another neighbourhood as a result of the rise in housing costs and rent brought on by the opening of the new MTR station, all of the long-term residents revealed that such phenomena are not occurring. In R6's opinion who is a public housing resident, he said that 'All the neighbours that I knew are still living in Tsung Kwan O Town Centre'. Additionally, a Subsidized Home Ownership Housing resident, R5, said that 'all my childhood friends are still living in the district, and we still hang out together when we grew up'. This entails that displacement that Marcuse (1985) identified in the residential gentrification process may be limited and can be explained by the following table which shows the housing type of household in TKOTC between 2001 to 2016.

Housing type of domestic household in TKOTC				
Type Of Housing	**2001**	**2016**	**2001-2016 change in absolute number**	**2001-2016 % Change**
Public rental housing	5,264	7,454	+2,190	+41.6%
Subsidised home ownership housing	11,612	13,727	+2,115	+18.2%
Private permanent housing	0	12,713	+12,713	---
Non-domestic housing	6	138	+132	+2200%
Overall	16,882	34,032	+17150	+101.6%

Table 13: Housing type of domestic household in TKOTC (Author, 2022)

As shown in Table 13, there are only public rental housing and subsidised home ownership housing in TKOTC in 2001 when the MTR station was not yet completed. The rental prices for public housing are heavily subsided by the government, while the selling price for subsidised home ownership housing is lower than the market value (GovHK, 2022). Even though a large number of private permanent housing is being introduced to the neighbourhood after the new transit station investment (+12,713), the existing residents, especially those who are living in public housing estates, can still live in the area as the rental prices would not be affected by the market price. This emphasizes the need of establishing public housing estates before the building of TOD stations, which may potentially reduce eviction resistance. This is also consistent with Ley and Teo's (2014) and Ley and Teo's (2016) findings, by which Hong Kong's public housing program would lessen resistance to displacement during times of development and the residents do not feel that they were being displaced.

4.2.2 Commercial gentrification

Another neighbourhood changes process that the residents perceived is the commercial gentrification of TKO Spot near Tseung Kwan O station, which is a shopping centre next to public housing estate (Sheung Tak estate) and Subsidized Home Ownership Housing (Beverly Garden, Tong Ming Court, Kwong Ming Court). Built in 1998, it was originally named 'Sheung Tak Plaza' and mainly serves lower-income residents living in the neighbourhood (Link, 2022). In 2011, a renovation project has been carried out in the shopping mall which included reorganising the shopping mall layout, improving barrier-free facilities, and renovating entrance passages and other facilities (Figure 9). The second renovation project, however, was started in 2017 and finished in 2019. According to R2 who is a public housing renter and has been living in the area for over 20 years, the third floor of the shopping mall was formerly a supermarket, 3 clinics, a laundry store, and a banking centre (Figure 10). The supermarket – ParknShop is the only supermarket within the Sheung Tak estate and Kwong Ming Court. She used to buy fresh fruits and daily products and 'there are often long queues at the six checkout lines'. It is conceivable how important this supermarket is to the locals' daily lives. On the hand, another resident R4 mentioned about the doctors in the three clinics have been in business for more than 20 years in the neighbourhood, 'have mutual trust with the neighbours and know their medical records'.

Figure 9: TKO Spot before and after refurbishment (Link, 2022)

However, due to the construction of the pedestrian bridge connecting the second floor of TKO Spot to the Popcorn shopping mall at Tseung Kwan O MTR station in 2018, the owner of the shopping centre decided to increase the rental price and refused to renew the rental lease of these local shops. The whole third floor of TKO Spot was then replaced by a French sports company, Decathlon, which is the biggest sports retail store in Hong Kong. As stated by R6 who is the renter of public housing, 'I don't work out, so I have never been to Decathlon'. He further said that due

to the displacement of local clinics and shops on the third floor, he had to shop in other places that are further away from where he lives. This is consistent with Cranor et al. (2015) and Lees et al. (2012) findings, which suggested that TOD expansion would displace local businesses, and the new chain stores could not accommodate the budget and needs of existing residents.

Figure 10: Existing clinics and supermarket in TKO Spot (Lee, 2018)

Figure 11: New Decathlon on the third floor of TKO Spot (Link, 2022)

The shopkeepers also share similar thoughts as the residents and agreed that there is an increase in the rental price and the displacement of small local shops in the neighbourhood. For instance, S1 who is the owner of a stationary store reported that due to the rent increase, 'I had no choice but to decrease the amount of floor space that I was previously renting. While both S2 and S3 said that although the MTR station has attracted more consumers from other neighbourhoods, it has pushed up the rental price and some small private businesses, e.g., clothing stores and stalls in the wet market on the ground floor, were being displaced by the large chain stores. Interestingly, R5 who has been living in the neighbourhood since she was 3 years old, commented that despite there are lots of changes happening in the plaza, some local shops which she used to shop at when she was younger, e.g., 'the optician store that I bought my first pair of eyeglasses and 'the furniture store that sells affordable furniture are still locating in the shopping mall. This suggests that even though commercial gentrification is taking place in the area, as gentrification is a long-term process, whether other local businesses would be displaced by franchise and chain stores is yet to be seen.

4.3. Are these changes leading to a more or less inclusive neighbourhood in terms of accessibility, affordability, and quality of the living environment?

4.3.1 Accessibility

In terms of the accessibility to various sorts of facilities and transport, a lot of the residents have claimed that the opening of the MTR has made travelling to other districts in Hong Kong relatively simple, resulting in a more socially inclusive neighbourhood. R4 reported that there used to be only a few bus routes connecting TKOTC with Kowloon and it is very inconvenient if she would like to go to Hong Kong Island. She mentioned how convenient it is to get to different areas thanks to the new Tseung Kwan O station. For instance, if she had a medical appointment at Queen Mary Hospital, she could 'simply board the MTR, travel to Kennedy Town, and take a 7-minute minibus'. Besides, the new Tseung Kwan O station public transport interchange with more bus and minibus routes also improves the accessibility of the district. Another resident, R2, has pointed out that there are more restaurants located in the neighbourhood, and 'you can almost find any cuisine such as western or Japanese cuisines here'. While R3 said that Hong Kong Velodrome Park, where she could go jogging, was available for social and leisure activities. Additionally, there are skateparks, tennis courts, basketball courts, and badminton courts available for use by locals. This supports the theoretical ideas of Padeiro et al., (2019), suggesting that residents have more access to different amenities and transport in the neighbourhood.

Figure 12: Hong Kong Velodrome Park (LCSD, 2022)

However, access to amenities for long-term residents is often hampered by commercial gentrification and the closing of local stores. R6 said that he once frequented TKO Spot, which is close to his residence. Since the opening of the TOD station, the majority of the 'traditional small family businesses in the district' have been displaced by large chain establishments. He must travel to a nearby neighbourhood called Hang Hau if he wants to access local stores. This affected the livelihood of existing residents as the shops that they used to buy necessities are gone, leading to social exclusion.

4.3.2 Affordability

Regarding the affordability of shops and amenities, many long-term residents have argued that the necessities are significantly more expensive, and it is hard to afford. Following the opening of the O MTR station, three shopping mall – Park Central, Tseung Kwan O Plaza and Popcorn (Figure 13) – which is part of the Tseung Kwan O station TOD complex has been developed. However, R6 said that the types of stores in these malls are similar, with a majority of high-end restaurants and large chain stores such as 'Starbucks, Café de Coral and Arome Bakery'. He further stated that he had to 'pay $60 for a lunch set in TKOTC that would have cost $30 or $40 in another district'. This demonstrates that the stores in the neighbourhood are becoming less affordable for residents. Additionally, R2 mentioned that she used to shop in a wet market near Tseung Kwan O Plaza. After the renovation of the market in recent years, the fruit and vegetables are much more expensive, e.g., 'compared to the neighbourhood's $160 price for a lobster, I can purchase the same thing in Kwun Tong for $100'. While R5 noted that there are more large chain clothing stores such as Uniqlo and Timberland in the neighbourhood which are extremely pricey, and she could only buy clothing in TKO Spot that is much cheaper. This implies that the change brought by TOD investment may not benefit the existing residents as they may not be able to afford expensive food and amenities within the neighbourhood, causing social exclusion, which supports the theoretical idea of Chaskin and Joseph (2013).


Figure 13: Popcorn shopping mall which is part of the TOD complex (Expat living, 2021)

Figure 14: Large chain stores inside Park Central (Park Central, 2022)

Interestingly, the short-term residents living in private permanent housing said that they feel the restaurants and shops are quite affordable. According to R7, 'I don't think the shops are expensive and I think the price is reasonable'. This indicates that as there are more middle- and high-income households moved into the area as a result of the private housing development following the completion of the MTR station, they are the target consumers of these large chain stores, while the existing residents' needs are being neglected.

4.3.3 Quality of the living environment

Concerning the quality of the living environment, all of the locals agree that the quality has improved, and the existing infrastructure has been upgraded. R4 commented that the construction of the Tseung Kwan O South Waterfront promenade has provided a better place for people to run and cycle (Figure 15). For instance, she can 'go for a walk relaxingly along the promenade' and 'you might not feel this kind of vibe in another neighbourhood'. Next to the seafront area, there is also the Tseung Kwan O Waterfront Park with pet-friendly facilities where dog owners used to take their dogs for walks. Another resident R5 mentioned that the new cycling track in the promenade stretching to the nearby neighbourhood such as Po Lam and Lohas Park enables her to cycle around the neighbourhood and beyond. On the other hand, R5 stated that due to the new footbridges connecting the shopping malls and the MTR station, she 'does not need to worry about getting wet when it is raining' (Figure 16). It also shortened her distance from going back home. This support Padeiro et al. (2019) theoretical claims that the infrastructure upgrade brought about by the new TOD station may enhance inhabitants' quality of life.

Figure 15: Tseung Kwan O South Waterfront promenade (LCSD, 2022)

Figure 16: Footbridge connecting shopping malls and residential buildings (Ho, 2017)

Nevertheless, even though the restaurants and services are of higher quality, R6, a resident of public housing, said, "I can't fully enjoy it because the costs are too expensive for me." This showed that, although the quality of the living environment has increased since the opening of the Tseung Kwan O MTR station, long-term residents may still struggle and be unable to benefit from the improvement due to the increase in the cost of these facilities and services.

5. Conclusion

This study looks at whether new transit investments initiated by the state in TKOTC, Hong Kong have led to gentrification, but also other changes in the neighbourhood, such as suburbanisation and professionalisation over the last 20 years. It also looks at how residents see these changes as a sign of social inclusion. Due to the lack of academic literature on the neighbourhood changes and displacement in the Asian context, an under-researched link between state-led TOD intervention and social inclusion and limited empirical evidence on whether changes caused by TOD expansion can enhance the social inclusion of residents in a neighbourhood, this study contributes to the literature by examining the association between transit-oriented development, neighbourhood change and social inclusion.

After the Tseung Kwan O MTR station was built in 2002, the socio-demographic characteristics (age, education level, income, and occupation) and housing prices for owner-occupation changed. The results of this discussion suggested that the three neighbourhood change processes— gentrification, suburbanization, and professionalization—might be overlapping in Tseung Kwan O Town Centre. Regarding the shift in age, the proportion of children has declined, and the neighbourhood's age distribution is younger than that of the entire region, which is consistent with Rayle's (2015) earlier research on residential gentrification. The rise in the number of persons in their 60s and older, however, runs counter to the Global North studies that found gentrification used to draw in young people. But the fact that there are more people working and fewer children in the population may also indicate that professionalization is taking place. While the dramatic growth in the overall population may be a sign of suburbanization. Secondly, there has been significant growth in the population of people with a degree, which can be attributed to the gentrification of the educated, better educational options at post-secondary institutions, or the migration of educated young families from inner cities. Moreover, there has been a noticeable rise in the number of both low- and high-income households in terms of income, although the number of low-income households has decreased only slightly. This indicates that there may not be much displacement of low-income tenants in the neighbourhood. Besides, the number of professionals has significantly increased in terms of occupation, suggesting that both professionalization and residential gentrification may be taking place. Greater than average growth in property prices for owner-occupied homes in Hong Kong raises the possibility of suburbanization, gentrification, and professionalization in the area. It's interesting to note that a home estate's price increases proportionally to its proximity to the MTR station.

Regarding the perceived neighbourhood change of residents, many long-term residents have emphasized the suburbanization of middle-class families concerning how they see their neighbourhood to be changing. Some interviewees claimed that the growth of private luxury apartments along the promenade to the south of the MTR station was responsible for the pleasant environment drawing in more people. On the other hand, the long-term inhabitants noted a minimal amount of relocation. The fact that their neighbours and established connections are still residing in the neighbourhood may have shown that the displacement Marcuse (1985) identified is limited. This is explained by the housing type of domestic households from the census data, which reveals that in TKOTC in 2001 when the MTR station wasn't yet finished, there was only public rental housing and subsidised homeownership housing. Even though many residents of private housing moved in after 2002, the current inhabitants could still dwell in the neighbourhood with little displacement since the rental price and housing price for these homes are set by the state lower than the market price. This suggests the importance of establishing public housing estates in Hong Kong before the building of TOD stations, which may reduce eviction resistance and counter recent findings in the Global North that TOD investment

frequently displaces low-income residents (Kahn, 2007; Immergluck, 2009; Pollack et al., 2010; Rayle, 2015; Grube-Cavers and Patterson, 2015).

The commercial gentrification of a shopping mall, which is adjacent to public and subsidised home ownership housing estate that formerly catered to long-term residents, is another neighbourhood transformation process that the inhabitants have brought out. The findings of Cranor et al. (2015) and Lees et al. (2012) on transit-related commercial gentrification in North America are supported by the displacement of small businesses like supermarkets and clinics, which results in the demands of long-term residents being disregarded and the huge chain stores being unable to match their budget. Additionally, the shopkeepers concur that the rent has gone up and that chain stores have taken the place of tiny, privately owned enterprises. However, although some family-owned businesses are being relocated as a result of the rental price hike, some small shops are still within the mall, as suggested by one long-term resident. It remains to be seen if franchise and chain stores will displace other local companies because gentrification is a long-term process.

The last set of research questions focuses on whether the neighbourhood change process described above resulted in a neighbourhood that was more or less socially inclusive and the result is correlated with the theoretical findings in the literature (Chaskin and Joseph, 2013; Tehrani et al., 2019; Padeiro et al., 2019). Numerous interviewees spoke about how the opening of the MTR station had significantly improved access to other areas when it came to accessibility. The TOD station opened up more restaurants in the area, and the locals concur that there are now more options for dining out. In addition, the development of the new park could increase residents' access to social and recreational facilities, fostering a sense of social inclusion. Long-time residents, however, claimed that they have limited access to nearby small businesses. In terms of affordability, long-term residents have argued that the necessities are much more expensive and less affordable because there are mainly high-end restaurants, while short-term residents claimed that the shops are quite affordable. This contrasts with claims made by short-term residents that the shops are quite expensive, demonstrating that the basic needs of long-term residents are being disregarded in favour of the needs of residents living in private housing estates. In terms of the quality of the living environment, all locals said that the existing infrastructure and open space such as the promenade and the footbridge have been improved. It is crucial to remember that even though the quality of services has improved, long-term residents may still struggle and be unable to take advantage of the improvement as a result of the rise in the price of these facilities and services.

Although the primary focus of this study is on the social implications of transit-induced gentrification in Hong Kong, it is important to remember that other Asian cities' neighbourhood transformation processes differ from those in Hong Kong and that additional research is necessary. Additionally, this study was unable to interview any of the young professionals that reside in the area, therefore it would be interesting to interview some of them to evaluate the phenomena of professionalisation.

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Appendices
Appendix 1: Qualitative interviews Questions

For Long-term residents: living in the neighbourhood before the opening of the station

Basic information

A.   What is your gender?

B.   What is your age?

C.   What is your occupation?

D.   What is you educational level?

E.   What type of housing are you living in?

F.   Are you the owner or renter of the flat that you are living?

Perceived neighbourhood change (gentrification, suburbanisation, professionalisation)

A.   How long have you been living in Tseung Kwan O?

B.   Did you live here before the opening of the MTR station on 18 August 2002?

C.   What is your reason for living in/ moving in the neighbourhood?

After the opening of Tseung Kwan O station in 2002:

A.   Do you feel that housing prices and rent have increased in your neighbourhood?

B.   Do you feel small shops and eateries has closed or move away?

C.   Do you feel that big chain stores are opening near your home?

F.   Do you feel that your neighbours are moving to other districts?

G.   If your neighbour are moving to other districts, what factors do you think has trigger such change?

H.   Do you feel that new people are moving in the neighbourhood?

J.   Do you feel that there is an arrival of the middle-income population?

K.   Do you think the above changes are triggered by the opening of the station? Or is it due

        to other factors?

Feeling of social inclusion or social exclusion

After the opening of Tseung Kwan O station in 2002 :

A.   In terms of accessibility, do you think living in Tseung Kwan O town centre is more accessible in terms of basic food and clothing, transport, social and recreational activities? Why?

B.   In terms of affordability, do you think living in Tseung Kwan O town centre is more affordable in terms of housing expenses and prices of goods and services? Why?

C.   In terms of qualities of living environment, do you think the qualities are better? Why?

For Shopkeepers

Basic information

A.   What is your gender?

B.   What is your age?

C.   What is your type of business?

D.   How long have you been operating a business in Tseung Kwan O?

Perceived neighbourhood change (gentrification, suburbanisation, professionalisation)

A.   Do you feel that rent have increased in Tseung over the past few years?

B.   Do you know any small shops and eateries has closed or move away and replaced by big chain stores over the past few years?

C.   Do you know whether there are any of your customers who has moved to other districts over the past few years due to the price and living expenses increase in Tseung Kwan O?

D.   Do you feel that new people are moving in the neighbourhood over the past few years?

G.   Do you feel that there is an arrival of the middle-income population?

H.   Do you think the above changes are triggered by the opening of the station? Or is it due to other factors?

For short-term residents: living in the neighbourhood before the opening of the station

<u>Basic information</u>

A.   What is your gender?

B.   What is your age?

C.   What is your occupation?

D.   What is you educational level?

E.   What type of housing are you living in?

F.   Are you the owner or renter of the flat that you are living?

<u>Perceived neighbourhood change (gentrification, suburbanisation, professionalisation)</u>

A.   How long have you been living in Tseung Kwan O?

B.   Did you live here after the opening of the MTR station on 18 August 2002?

C.   What is your reason for living in/ moving in the neighbourhood?

<u>Feeling of social inclusion or social exclusion</u>

After the opening of Tseung Kwan O station in 2002 :

A.   In terms of accessibility, do you think living in Tseung Kwan O town centre is accessible in terms of basic food and clothing, transport, social and recreational activities? Why?

B.   In terms of affordability, do you think living in Tseung Kwan O town centre is affordable in terms of housing expenses and prices of goods and services? Why?

C.   In terms of qualities of living environment, do you think the qualities are good? Why?

Appendix 2: Information sheet and consent form

Information and consent form

Project Title: <u>**Is Tseung Kwan O Town Centre being gentrified by state-led transit-oriented development? Understanding neighbourhood changes and social inclusion in Hong Kong**</u>

Researcher: <u>**Cheuk Ting Hui**</u>

1. Introduction

You are being invited to take part in a research project being undertaken by a Masters student from the Bartlett School of Planning, University College London (UCL).

Before you decide whether or not to participate it is important for you to understand why the research is being conducted and what participation will involve. Please read the following information carefully, feel free to discuss it with others if you wish, or ask the research team for clarification or further information. Please take time to decide whether or not you wish to take part.

2. Why is this research being conducted?

The aim of this project is to explore the extent to which new transit station investment in Hong Kong accounts for gentrification and whether neighbourhood change creates a more inclusive neighbourhood in Hong Kong, using the case study of Tseung Kwan O. New MTR station is often seen as a means by the state to encourage economic growth, regeneration, and promote sustainable transport, however, it is also a driving force for neighbourhood change. Therefore, the socio-economic characteristics, perceived neighbourhood change, and the social inclusion of residents will be investigated in this research, which aims to understand the relationship between neighbourhood change and social inclusion.

The project is limited to a period of five months, starting from April 2022, and will end in early September with the submission of a written dissertation.

3. Why am I being invited to take part?

For the residents:

    You are invited to participate because you are a resident of Tseung Kwan O neighbourhood who is affected by the neighbourhood change caused by the opening of Tseung Kwan O MTR station in 2002.

For the shopkeepers:

    You are invited to participate because you are a shopkeeper operating a business in Tseung Kwan O town centre who has witnessed the neighbourhood change in the area.

4. Do I have to participate?

Participation is entirely voluntary. If you do choose to participate and then change your mind, you may withdraw from the research at any time with no consequences and without having to give a reason.

5. What will happen if I choose to take part?

If you do choose to participate, you will be invited to face-to-face or online interview explore the issues highlighted above. The interview will be conducted at a mutually agreed location. The interview will last approximately 45 mins and will be audio recorded (and transcribed at a later date). You will have the opportunity to see the interview transcript and agree any amendments with the researcher after the interview is concluded. Travel and subsistence expenses are not offered for participation.

6. What are the advantages of taking part?

There are no immediate benefits for participating in this project and no financial incentive or reward is offered, however it is hoped that this project will provide a broader understanding of transit-induced gentrification and social inclusion in Hong Kong, which can help with future research.

7. What are the possible disadvantages of taking part?

We anticipate no significant disadvantages associated with taking part in this project. If you experience any unexpected adverse consequences as a result of taking part in the project you are encouraged to contact the researcher as soon as possible using the contact details on page 4 of this information and consent sheet.

8. If I choose to take part, what will happen to the data?

The interview data will be anonymised at the point of transcription and identified by a general identifier (e.g. 'Planning officer A' or 'Planning consultant B' or a suitable pseudonym). A record of participant identities and any notes will be kept separately and securely from the anonymised data. All data and information affiliated with this project will be securely stored on an encrypted computer drive and physical documents will be stored securely on University property.

The data will be only used for the purposes of this research and relevant outputs and will not be shared with any third party. The anonymised data may be utilised in the written dissertation produced at the end of this project, and this dissertation may then be made publicly available via the University Library's Open Access Portal, however no identifiable or commercial sensitive information will be accessible in this way.

9. What will happen to the results of the research project?

It is anticipated that the data collected in this project will be included in the dissertation produced at the end of this project, submitted for the award of a Masters degree at University College

London (UCL). You will not be personally identified in any of the outputs from this work, and attributions and quotations will be anonymised. If you would like to receive an electronic copy of any outputs stemming from this project please ask the contact below who will be happy to provide this.

10. Contact Details

If you would like more information or have any questions or concerns about the project or your participation please use the contact details below:

Primary contact	Cheuk Ting Hui
Role	MSc student
Email	ucbqc72@ucl.ac.uk

Supervisor	Sonia Arbaci
Role	MSc dissertation supervisor
Email	s.arbaci@ucl.ac.uk
Telephone	+44 (0) 20 7679 2000

Concerns and / or Complaints

If you have concerns about any aspect of this research project please contact the MSc student contact the student in the first instance, then escalate to the supervisor.

Informed Consent Sheet

Is Tseung Kwan O Town Centre being gentrified by state-led transit-oriented development? Understanding neighbourhood changes and social inclusion in Hong Kong

If you are happy to participate, please complete this consent form by ticking the boxes to acknowledge the following statements and signing your name at the bottom of the page.

Please give the signed form to the researcher conducting your interview at the interview. They will also be able to explain this consent form further with you, if required.

1.	I have read and understood the information sheet.	☐
2.	I agree to participate in the above research by attending a face-to-face/ online interview as described on the Information Sheet.	☐
3.	I understand that my participation is entirely voluntary.	☐
4.	I understand that I may withdraw at any time without giving a reason and with no consequences.	☐
5.	I agree for the interview to be audio recorded.	☐
6.	I understand that I may see a copy of the interview transcript after it has been transcribed and agree any amendments with the researcher.	☐
7.	I understand that the intention is that interviews are anonymised and that if any of my words are used in a research output that they will not be directly attributed to me unless otherwise agreed by all parties.	☐
8.	I understand the data from this project will be considered for repository in the UCL Open Access repository as described on the Information Sheet but that this will be anonymised data only.	☐
9.	I understand that I can contact the student who interviewed me at any time using the email address they contacted me on to arrange the interview, or the dissertation supervisor using the contact details provided on page 4 of the information sheet.	☐

Participant name: **Signature:**   **Date:**

Researcher name: **Signature:**   **Date:**

Appendix 3: Risk Assessment Form

RISK ASSESSMENT FORM

FIELD / LOCATION WORK

UCL

DEPARTMENT/SECTION: BARTLETT SCHOOL OF PLANNING

LOCATION(S): HONG KONG

PERSONS COVERED BY THE RISK ASSESSMENT: Cheuk Ting Hui

BRIEF DESCRIPTION OF FIELDWORK (including geographic location):

1. **Interviews**
2. **Census secondary data analysis**

COVID-19 RELATED GENERIC RISK ASSESSMENT STATEMENT:

Coronavirus disease (COVID-19) is an infectious disease caused by coronavirus SARS-CoV-2. The virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes. Droplets fall on people in the vicinity and can be directly inhaled or picked up on the hands and transferred when someone touches their face. This risk assessment documents key risks associated fieldwork during a pandemic, but it is not exhaustive and will not be able to cover all known risks, globally. This assessment outlines principles adopted by UCL at an institutional level and it is necessarily general. Please use the open text box 'Other' to indicate any contingent risk factors and control measures you might encounter during the course of your dissertation research and writing.

Please refer to the Dissertation in Planning Guidance Document (available on Moodle) to help you complete this form.

Hazard 1: Risk of Covid -19 infection during research related travel and research related interactions with others (when face-to-face is possible and/or unavoidable)

Risk Level - Medium /Moderate

Existing Advisable Control Measures: Do not travel if you are unwell, particularly if you have COVID-19 symptoms. Self-isolate in line with NHS (or country-specific) guidance.

Avoid travelling and face-to-face interactions; if you need to travel and meet with others:

- If possible, avoid using public transport and cycle or walk instead.

- If you need to use public transport travel in off-peak times and follow transport provider's and governmental guidelines.

- Maintain (2 metre) social distancing where possible and where 2 metre social distancing is not achievable, wear face covering.

- Wear face covering at all times in enclosed or indoor spaces.

- Use hand sanitiser prior to and after journey.

- Avoid consuming food or drinks, if possible, during journey.

- Avoid, if possible, interchanges when travelling - choose direct route.

- Face away from other persons. If you have to face a person ensure

that the duration is as short as possible.

- Do not share any items i.e. stationary, tablets, laptops etc. If items need to be shared use

disinfectant wipes to disinfect items prior to and after sharing.

- If meeting in a group for research purposes ensure you are following current country specific guidance on face-to-face meetings (i.e rule of 6 etc.)

- If and when possible meet outside and when not possible meet in venues with good ventilation (e.g. open a window)

- If you feel unwell during or after a meeting with others, inform others you have interacted with, self-isolate and get tested for Covid-19

- Avoid high noise areas as this mean the need to shout which increases risk of aerosol transmission

of the virus.

- Follow one way circulation systems, if in place. Make sure to check before you visit a building.

- Always read and follow the visitors policy for the organisation you will be visiting.

- Flush toilets with toilet lid closed.

-'Other' Control Measures you will take (specify):

NOTE: The hazards and existing control measures above pertain to Covid-19 infection risks only. More generalised health and safety risk may exist due to remote field work activities and these are outlined in your Dissertation in Planning Guidance document. Please consider these as possible 'risk' factors in completing the remainder of this standard form. For more information also see: Guidance Framework for Fieldwork in Taught and MRes Programmes, 2021-22

Consider, in turn, each hazard (white on black). If **NO** hazard exists select **NO** and move to next hazard section.

If a hazard does exist select **YES** and assess the risks that could arise from that hazard in the risk assessment box.

Where risks are identified that are not adequately controlled they must be brought to the attention of your Departmental Management who should put temporary control measures in place or stop the work. Detail such risks in the final section.

ENVIRONMENT	**The environment always represents a safety hazard. Use space below to identify and assess any risks associated with this hazard**
e.g. location, climate, terrain, neighbourhood, in outside organizations, pollution, animals.	Examples of risk: adverse weather, illness, hypothermia, assault, getting lost. Is the risk high / medium / low ? Fieldwork will be conducted in Hong Kong, which is not considered overseas for the researcher since she is a resident. LOW RISK: observations will be conducted in public space around the gentrified area and photographs will be taken during the visit. These are considered extremely safe.
CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**

	work abroad incorporates Foreign Office advice
	only accredited centres are used for rural field work
	participants will wear appropriate clothing and footwear for the specified environment
	refuge is available
	work in outside organisations is subject to their having satisfactory H&S procedures in place
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

EMERGENCIES	**Where emergencies may arise use space below to identify and assess any risks**
e.g. fire, accidents	Examples of risk: loss of property, loss of life

LOW RISK: Fieldwork will be online and in safe public spaces.

CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**

	participants have registered with LOCATE at http://www.fco.gov.uk/en/travel-and-living-abroad/
	contact numbers for emergency services are known to all participants
x	participants have means of contacting emergency services
	a plan for rescue has been formulated, all parties understand the procedure
	the plan for rescue /emergency has a reciprocal element
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

EQUIPMENT	Is equipment used?	NO	**If 'No' move to next hazard** **If 'Yes' use space below to identify and assess any** **risks**
e.g. clothing, outboard motors.	Examples of risk: inappropriate, failure, insufficient training to use or repair, injury. Is the risk high / medium / low ?		

NO RISK: Fieldwork will be mostly online and in safe public spaces with no equipment.

CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**

	the departmental written Arrangement for equipment is followed
	participants have been provided with any necessary equipment appropriate for the work
	all equipment has been inspected, before issue, by a competent person
	all users have been advised of correct use

	special equipment is only issued to persons trained in its use by a competent person
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

LONE WORKING	**Is lone working a possibility?**	**YES**	**If 'No' move to next hazard** **If 'Yes' use space below to identify and assess any** **risks**
e.g. alone or in isolation *lone interviews.*	Examples of risk: difficult to summon help. Is the risk high / medium / low?		

LOW RISK: Fieldwork will be conducted in high traffic public spaces, which is extremely safe.

CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**

	the departmental written Arrangement for lone/out of hours working for field work is followed
	lone or isolated working is not allowed
	location, route and expected time of return of lone workers is logged daily before work commences
x	all workers have the means of raising an alarm in the event of an emergency, e.g. phone, flare, whistle
	all workers are fully familiar with emergency procedures
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

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ILL HEALTH	The possibility of ill health always represents a safety hazard. Use space below to identify and assess any risks associated with this Hazard.
e.g. accident, illness, personal attack, special personal considerations or vulnerabilities.	Examples of risk: injury, asthma, allergies. Is the risk high / medium / low? LOW RISK: The level of risk is the same as normal daily routines.
CONTROL MEASURES	Indicate which procedures are in place to control the identified risk

	all participants have had the necessary inoculations/ carry appropriate prophylactics
	participants have been advised of the physical demands of the research and are deemed to be physically suited
	participants have been adequate advice on harmful plants, animals and substances they may encounter
	participants who require medication should carry sufficient medication for their needs
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

TRANSPORT	Will transport be required	NO		Move to next hazard
		YES	X	Use space below to identify and assess any risks
e.g. hired vehicles	Examples of risk: accidents arising from lack of maintenance, suitability or training Is the risk high / medium / low? LOW RISK: Public transport only. Extremely safe if ensuring social distancing.			
CONTROL MEASURES	Indicate which procedures are in place to control the identified risk			

x	only public transport will be used
	the vehicle will be hired from a reputable supplier
	transport must be properly maintained in compliance with relevant national regulations
	drivers comply with UCL Policy on Drivers http://www.ucl.ac.uk/hr/docs/college_drivers.php
	drivers have been trained and hold the appropriate licence
	there will be more than one driver to prevent driver/operator fatigue, and there will be adequate rest periods
	sufficient spare parts carried to meet foreseeable emergencies
x	OTHER CONTROL MEASURES: please specify any other control measures you have implemented: The researcher will follow Covid-19 precautions when travelling in public spaces.

DEALING WITH THE PUBLIC	Will people be dealing with public	YES	If 'No' move to next hazard If 'Yes' use space below to identify and assess any risks
e.g. interviews, observing	Examples of risk: personal attack, causing offence, being misinterpreted. Is the risk high / medium / low? LOW RISK: Observation only and no interaction with the public.		

CONTROL MEASURES	Indicate which procedures are in place to control the identified risk

	all participants are trained in interviewing techniques
	advice and support from local groups has been sought
	participants do not wear clothes that might cause offence or attract unwanted attention
x	interviews are conducted at neutral locations or where neither party could be at risk
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

WORKING ON OR NEAR WATER	Will people work on or near water?	NO	If 'No' move to next hazard If 'Yes' use space below to identify and assess any risks
e.g. rivers, marshland, sea.	Examples of risk: drowning, malaria, hepatitis A, parasites. Is the risk high / medium / low? NO RISK: The researcher will not be working on/ near water.		

CONTROL MEASURES	Indicate which procedures are in place to control the identified risk

	lone working on or near water will not be allowed
	coastguard information is understood; all work takes place outside those times when tides could prove a threat
	all participants are competent swimmers
	participants always wear adequate protective equipment, e.g. buoyancy aids, wellingtons

	boat is operated by a competent person
	all boats are equipped with an alternative means of propulsion e.g. oars
	participants have received any appropriate inoculations
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

MANUAL HANDLING (MH)	**Do MH activities take place?**	**NO**	**If 'No' move to next hazard** **If 'Yes' use space below to identify and assess any** **risks**
e.g. lifting, carrying, moving large or heavy equipment, physical unsuitability for the task.	Examples of risk: strain, cuts, broken bones. Is the risk high / medium / low? NO RISK: No manual handling activities.		

CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**

	the departmental written Arrangement for MH is followed
	the supervisor has attended a MH risk assessment course
	all tasks are within reasonable limits, persons physically unsuited to the MH task are prohibited from such activities
	all persons performing MH tasks are adequately trained
	equipment components will be assembled on site
	any MH task outside the competence of staff will be done by contractors
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

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SUBSTANCES	Will participants work with	NO	If 'No' move to next hazard
			If 'Yes' use space below to identify and assess any
	substances		risks
e.g. plants, chemical, biohazard, waste	Examples of risk: ill health - poisoning, infection, illness, burns, cuts. Is the risk high / medium / low?		
	NO RISK: No substances used.		
CONTROL MEASURES	Indicate which procedures are in place to control the identified risk		

	the departmental written Arrangements for dealing with hazardous substances and waste are followed
	all participants are given information, training and protective equipment for hazardous substances they may encounter
	participants who have allergies have advised the leader of this and carry sufficient medication for their needs
	waste is disposed of in a responsible manner
	suitable containers are provided for hazardous waste
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

OTHER HAZARDS	Have you identified any other hazards?	NO	If 'No' move to next section
			If 'Yes' use space below to identify and assess any
			risks
i.e. any other hazards must be noted and assessed here.	Hazard:		
	Risk: is the risk		
CONTROL MEASURES	Give details of control measures in place to control the identified risks		

Have you identified any risks that are not adequately controlled?	NO	X	Move to Declaration
	YES		Use space below to identify the risk and what action was taken

DECLARATION	The work will be reassessed whenever there is a significant change and at least annually. Those participating in the work have read the assessment.

Select the appropriate statement:

X	I the undersigned have assessed the activity and associated risks and declare that there is no significant residual

risk

	I the undersigned have assessed the activity and associated risks and declare that the risk will be controlled by

the method(s) listed above

NAME OF SUPERVISOR   Dr Sonia Arbaci

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Appendix 4: Ethical clearance questionnaire response

Are you satisfied with the **ethical clearance form** (yes/no)?

Please provide any additional comments about the form that may help the student.
(If the form is missing, the proposal must be given a mark of 0, and the student will have 48hours to resubmit the complete proposal. If the form is unsatisfactory, the student must amend their ethical questionnaire to your satisfaction before they can proceed with their research)

Are you satisfied with the **risk assessment form** (yes/no)?

Please provide any additional comments about the form that may help the student.
(If the form is missing, the proposal must be given a mark of 0, and the student will have 48hours to resubmit the complete proposal. If the form is unsatisfactory, the student must amend their ethical questionnaire to your satisfaction before they can proceed with their research)

Note: this is a copy of the proforma that each student MUST complete and submit directly on Moodle. Please reproduce your submission here for the purpose of your supervisor signing off on its review and approval.

Ethical Clearance Pro Forma

It is important for you to include all relevant information about your research in this form, so that your supervisor can give you the best advice on how to proceed with your research.

You are advised to read though the relevant sections of UCL's Research Integrity guidance to learn more about your ethical obligations.

Submission Details

1. Name of programme of study:
o MSc International Planning

2. Please indicate the type of research work you are doing (Delete that which do not apply):
o Dissertation in Planning (MSc)

3. Please provide the current working title of your research:

- Is Tseung Kwan O Town Centre being gentrified by state-led transit-oriented development? Understanding neighbourhood changes and social inclusion in Hong Kong

4. Please indicate your supervisor's name:
- Dr Sonia Arbaci

Research Details

5. Please indicate here which data collection methods you expect to use. (Tick all that apply/or delete those which do not apply.)

- Interviews
- ~~Focus Groups~~
- ~~Questionnaires (including oral questions)~~
- ~~Action research~~
- ~~Observation / participant observation~~
- ~~Documentary analysis (including use of personal records)~~
- ~~Audio-visual recordings (including photographs)~~
- ~~Collection/use of sensor or locational data~~
- ~~Controlled trial~~
- ~~Intervention study (including changing environments)~~
- ~~Systematic review~~
- Secondary data analysis
- ~~Advisory/consultation groups~~

6. Please indicate where your research will take place (delete that which does not apply):
    - ~~UK only~~
    - Overseas only
    - ~~UK and overseas~~

7. Does your project involve the recruitment of participants?
'Participants' means human participants and their data (including sensor/locational data and observational notes/images.)

Yes/ ~~No~~ (Please delete as applicable)

Appropriate Safeguard, Data Storage and Security

8. Will your research involve the collection and/or use of personal data?

Personal data is data which relates to a living individual who can be identified from that data or from the data and other information that is either currently held, or will be held by the data controller (you, as the researcher).

This includes:

- Any expression of opinion about the individual and any intentions of the data controller or any other person toward the individual.
- Sensor, location or visual data which may reveal information that enables the identification of a face, address etc. (some post codes cover only one property).
- Combinations of data which may reveal identifiable data, such as names, email/postal addresses, date of birth, ethnicity, descriptions of health diagnosis or conditions, computer IP address (of relating to a device with a single user).

~~Yes~~/No (Please delete as applicable)

9. **Is your research using or collecting:**
- special category data as defined by the General Data Protection Regulation*, and/or
- data which might be considered sensitive in some countries, cultures or contexts?
*Examples of special category data are data:
- which reveals racial or ethnic origin, political opinions, religious or philosophical beliefs, trade union membership;
- concerning health (the physical or mental health of a person, including the provision of health care services);
- concerning sex life or sexual orientation;
- genetic or biometric data processed to uniquely identify a natural person.

~~Yes~~/No (Please delete as applicable)

10. **Do you confrm that all personal data will be stored and processed in compliance with the General Data Protection Regulation (GDPR 2018)? (Choose one only, delete that which does not apply)**

    - ~~Yes~~
    - ~~No~~
    - I will not be working with any personal data

11. **I confirm that:**

    - The information in this form is accurate to the best of my knowledge.
    - I will continue to reflect on and update these ethical considerations in consultation with my supervisor.

Yes/~~No~~ (Please delete as applicable)

BPLN0039_RHNK2

FINAL GRADE

/100

GENERAL COMMENTS

Instructor

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